RESPONSE AND DEVELOPMENT WORK PLAN

AREA B: PARCEL B22, PHASE 1
TRADEPOINT ATLANTIC
SPARROWS POINT, MARYLAND

Prepared For:

ENVIROANALYTICS GROUP
1650 Des Peres Road, Suite 230
Saint Louis, Missouri 63131

Prepared By:

ARM GROUP INC.
9175 Guilford Road
Suite 310
Columbia, Maryland 20146

ARM Project No. 160443M-5

Respectfully Submitted,

Eric S. Magdar
Senior Geologist

T. Neil Peters, P.E.
Vice President

Revision 4 – January 16, 2017

TABLE OF CONTENTS

TABLE OF CONTENTS
(CONT.)

FIGURES

TABLE OF CONTENTS
(CONT.)

TABLES

APPENDICES

TABLE OF CONTENTS
(CONT.)

ELECTRONIC ATTACHMENTS

1.0 INTRODUCTION

ARM Group Inc. (ARM), on behalf of EnviroAnalytics Group (EAG), has prepared this Response and Development Work Plan for a portion of the Tradepoint Atlantic property that has been designated as Area B: Parcel B22, Phase 1 (the Site). Tradepoint Atlantic submitted a letter (**Appendix A**) requesting an expedited remedial plan review to achieve construction deadlines for the proposed development on this Site. Parcel B22 is comprised of approximately 130.8 acres of the approximately 3,100-acre former plant property located as shown on **Figure 1**. The Phase 1 Development Area consists of approximately 71.6 acres in the southern portion of Parcel B22.

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. Parcel B22 (with the exception of 23 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 United States Environmental Protection Agency (EPA), and the Maryland Department of the Environment (MDE) (effective October 8, 1997) as documented in correspondence received from EPA 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 Parcel B22 Phase 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 MDE 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 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 No Further Action letter 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 Phase 1 Development Area (Site) consists of 71.6 acres currently slated for development and use as a warehouse facility with development activities generally including grading, asphalt paving, construction of a slab on grade warehouse building totaling 1,225,600 square feet with an attached slab on grade 62,100 square foot office building, stormwater management and lighting and security improvements. Subsequent Site use would involve indoor workers in the warehouse and associated offices, and truck drivers entering and leaving the Site with goods.

This Response and Development Work Plan provides a Site description and history, summary of environmental conditions identified by the Phase I Environmental Site Assessment (ESA) and Phase II Investigations including work associated with the Parcel B22 Phase II Investigation and Finishing Mills 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 Phase 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 Site Response and Development Work Plan shall be described in closure certification documentation submitted to the MDE demonstrating that the exposure pathways on the sub-parcel (Parcel B22 Phase 1) are addressed in a manner that protects public health and the environment. The remaining 59.2 acres of Parcel B22 will be addressed in future work associated with completion of the obligations of the ACO and associated VCP requirements. This work will include assessment of risks and if necessary a Response and Development Work Plan to address unacceptable risks associated with future land use of this area.

2.0 SITE DESCRIPTION AND HISTORY

2.1. SITE DESCRIPTION

Parcel B22 includes an area of 130.8 acres and is shown in **Figure 1**. The Phase 1 Development Area consists of 71.6 acres in the southern portion of the parcel (**Figure 2**). The Site is currently zoned Manufacturing Heavy-Industrial Major (MH-IM), and is not occupied.

The Parcel B22 Phase 1 Development Area was formerly occupied by portions of steel finishing and coating operations with each containing numerous steel product manufacturing processes. The development area also included material storage and shipping buildings. All former buildings have been demolished, and the parcel has been cleared of all significant vegetation. Several pits and basements across the Site have been filled in. The concrete slabs remain on grade.

Parcel B22 is at an elevation of approximately 12 feet above mean sea level (amsl). Elevations in the parcel are fairly uniform between 11 and 13 feet over the majority of the central parcel area. Elevations across the Site appear to slope downward slightly to the north, with higher elevations between 13 and 16 feet typical near the southern end of the parcel and lower elevations between 9 and 11 feet amsl typical near the northern edge of the parcel. Surface runoff generally flows from the south to the north based on the observed elevations, but collects in low spots throughout the parcel.

There is no groundwater use on-site or within the surrounding Tradepoint Atlantic property.

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 Phase 1 Development Area formerly known as the Cold Mill, Coating Mills and the Finishing Mills Areas. The former facilities and processes generally included steel finishing operations including hot and cold milling and various plating operations including chrome, tin and zinc alloys. Prior to demolition, the Phase 1 Development Area was almost entirely occupied by steel finishing buildings and associated processing equipment and operations. More information regarding previous steel finishing activities can be found in the Phase II Investigation Work Plan – Area B: Parcel B22 (dated June 2, 2016).

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 Phase I ESA identified the following RECs within the Parcel B22 Phase 1 boundaries.

Coating Lines Blind Sumps (REC 1I, Finding 19, also listed as SWMU 54):

The coating lines blind sumps were located in the Coating Lines Area of the Cold Sheet Mill. The Cold Sheet Mill was located in the central portion of the Finishing Mills Area. This unit managed wastewaters within the Coating Lines Area, and included a concrete-lined pit in the basement floor for the containment of spills or leaks from the process area located above.

Cold Sheet Mill Piping (REC 1J, Finding 23, also listed as SWMU 58):

The piping within the Cold Sheet Mill transported process wastewater to the Tin Mill Canal discharge piping and other processing areas located outside of the boundaries of the Site. The system consisted primarily of concrete trenches with some brick sewers, and some open/box trenches. The piping system was present throughout processing buildings as identified via the use of historical steel plant drawings.

Acid Tanks (REC 1V, Finding 53, also listed as AOC J):

Six sulfuric acid tanks were located outside of the Tin Mill. The RFA report indicated that the acid tanks were approximately 30 years old and in poor condition, and two tanks were decommissioned due to leaks in 1990. The sump and gravel below the tanks had undefined staining during the 1991 VSI.

Tin Mill Sump (Acid Monitoring Area) (REC 1S, Finding 41, also listed as SWMU 86):

The sump in the acid monitoring area handled pickling wastewater. It was located beneath the acid tanks associated with AOC J, and discharged to the Tin Mill Canal. The sump was observed to have undefined staining during the 1991 VSI.

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. The SWMUs within Parcel B22 are cross-listed as RECs, and have been previously discussed. Several additional AOCs were identified within the Phase 1 Development Area further described as follows:

Former PCB Spill Area (Sheet Mill) (AOC D):

On January 28, 1986, an oil-bearing transformer leak was detected near the #1 and #2 Galvanizers inside the Cold Sheet Mill Building. The concrete floor was scrubbed with kerosene and soap and water during a three month period. No further remediation activity was reported, but the area was sealed with epoxy paint. The #1 and #2 Galvanizers are visible on several sets of historical plant drawings and were subsequently targeted for sampling efforts as part of the Phase II Investigation summarized below. Although available information does not identify a specific spill location, borings targeting this AOC were located at the northern end of the galvanizing lines. Borings targeting other features provided adequate coverage in the southern and middle sections.

Former Chromic Acid Spill Area (AOC S):

In September 1990, between 26,000 and 27,000 gallons of chromic acid overflowed from a process tank in the Coating Lines Section of the Cold Sheet Mill Building and discharged to a sump. The acid overflowed the sump and formed a thin stream which flowed beneath the #4 Coating Line into a basement. The sump and basement were pumped out and cleaned during remediation activities.

Former Diesel Fuel UST (Cold Sheet Mill) (AOC T):

The former diesel UST was located outside of the southwest corner of the Cold Sheet Mill Building, near Truck Dock 51A. The 10,000 gallon steel tank was removed on November 27, 1989. During removal, the tank exterior and end seams showed corrosion pitting, but no apparent integrity problems were noted. Some soil samples contained low detectable levels of BTEX constituents, but BTEX concentrations in groundwater were below detectable levels.

3.2. PHASE II INVESTIGATION RESULTS–PARCEL B22 PHASE 1

A Phase II Investigation specific to soil conditions was performed for the Site in accordance with the requirements outlined in the ACO as further described in the Phase II Investigation Work Plan – Area B: Parcel B22 (Revision 1) dated June 2, 2016. This Work Plan was approved by the agencies on June 16, 2016. Findings from the 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 Investigation was 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. The position of the RECs, SWMUs, and AOCs may have been adjusted for the field investigation based on a review of historical documents and aerial images, as appropriate. Samples were also collected at Site wide locations to ensure full coverage of the parcel.

A total of 386 soil samples (from the 179 boring locations shown in **Figure 3**) were collected and analyzed to assess the presence or absence of contamination in Parcel B22. A total of 211 of these samples (from 102 boring locations) were included in the Phase 1 Development Area. Soil samples were analyzed for the EPA 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), EPA Target Analyte List (TAL) Metals, hexavalent chromium, and cyanide. Shallow soil samples (0 to 1 foot bgs) were also analyzed for 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.

3.2.1. Summary of Soil Sample Results

Soil sample results for the Parcel B22 Phase 1 Development Area were screened against Project Action Limits (PALs) established in the site-wide Quality Assurance Project Plan (QAPP) dated

April 5, 2016. **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. The tables and figures include all analytical data within the proposed development area (Phase 1), and samples below the proposed building footprints are highlighted in grey. PAL exceedances in soil within the proposed Phase 1 Development Area consisted of six inorganics (arsenic, manganese, lead, thallium, vanadium, and hexavalent chromium), six SVOCs (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, dibenz[a,h]anthracene, and indeno[1,2,3-c,d]pyrene), five PCB groups (Aroclor 1242, Aroclor 1248, Aroclor 1254, and Aroclor 1260, and total PCBs), and TPH-DRO.

3.2.2. NAPL Investigation

Temporary piezometers were installed within three soil borings based on the potential presence of non-aqueous phase liquid (NAPL) in the soil cores. The potential presence of NAPL was identified in three soil borings within Parcel B22 Phase 1 during the field investigation (B22-057-SB, B22-161-SB, and B22-163-SB). At each location, a piezometer was installed and immediately checked for the presence of NAPL using an oil-water interface probe. NAPL was not detected in any location during the initial check, and each piezometer was allowed to equilibrate for at least 48 hours prior to a second measurement. Each piezometer was checked again after 30 days. No measureable NAPL was detected in any of the piezometers during any of the required gauging events. Based on these observations, it was determined that NAPL is not present at these locations and additional delineation or action is not required in accordance with the approved Parcel B22 Phase II Investigation Work Plan.

3.3. FINISHING MILLS GROUNDWATER INVESTIGATION RESULTS–PARCEL B22 PHASE 1

Groundwater at the Site has been investigated in accordance with the separate Finishing Mills Groundwater Investigation Work Plan (Revision 1) dated July 7, 2016. The Work Plan was approved by the agencies via email on June 28, 2016 following review of proposed responses to comments 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 Area. 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 and has been reported in the Finishing Mills Groundwater Phase II Investigation Report (Revision 0) dated November 30, 2016. A total of 14 groundwater samples (8 shallow and 6 intermediate) were collected from temporary groundwater sample collection points (piezometers) and permanent monitoring wells within and surrounding Parcel B22 Phase 1. The locations of the shallow and

intermediate groundwater sample points are shown on **Figures 4** and **5**, respectively. These 14 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) 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 showed evidence of NAPL during these checks.

Tables 3 and **4** present a summary of the organic compounds and inorganics detected in the groundwater samples, and **Figures GW-1** through **GW-8** present all groundwater sample results that exceeded the PALs. Groundwater PAL exceedances in the vicinity of Parcel B22 Phase 1 consisted of five inorganic compounds (cobalt, iron, manganese, thallium, and hexavalent chromium), two VOCs (1,1-dichoroethane and chloroform), three SVOCs (benzo[a]anthracene, naphthalene, and 1,4-dioxane), and TPH-DRO. Based on the sporadic and relatively low level results identified during this effort, significant ongoing sources of groundwater contamination have not been identified within the Phase 1 Development Area and further investigation and remediation work has been determined to not be necessary. While the concentrations of these PAL exceedances on site also 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.

Hexavalent chromium and naphthalene were reported at elevated levels in groundwater samples FM-013-PZI and FM05-PZM004, respectively. USEPA Method 7196A is used to determine the concentration of dissolved hexavalent chromium in groundwater via colorimetric reactions. Groundwater samples were initially collected as (unfiltered) total hexavalent chromium. Therefore, the FM-013-PZI sample (J-flagged 4,000 µg/L) had to be significantly diluted during laboratory procedures due to sediment and precipitated metals (matrix interferences) which produced an orange to brown color in the groundwater sample. In several cases on the property, elevated hexavalent chromium detections were noted in unfiltered groundwater samples across the Finishing Mills area. To verify the validity of these results, wells where uncharacteristically high concentrations were detected were resampled and filtered to measure dissolved hexavalent chromium. Based on this, several samples were shown to be false positives once they had been field filtered to reduce colorimetric interferences. In addition, the elevated hexavalent chromium result in the sample from FM-013-PZI is suspect because the dissolved chromium result in the same sample was below the reporting limit of 5 µg/L. The naphthalene detected in FM05-PZM004 was at a far lower concentration in the intermediate well at the same sample location (FM05-PZM024). The naphthalene concentrations decreased from 108 µg/L to 4.8 µg/L between the shallow and intermediate zones. A similar trend was observed for the DRO

detections in the same groundwater wells. Based on the relatively low magnitude of the naphthalene detection and the lack of elevated detections at surrounding sample locations, a significant source of naphthalene is not suspected in the Phase 1 Development Area. Groundwater concentrations have been further evaluated in the Finishing Mills Groundwater Phase II Investigation Report (Revision 0) dated November 30, 2016.

3.4. SUPPLEMENTAL SOIL INVESTIGATION RESULTS–PARCEL B22 PHASE 1

Additional investigation activities were completed to assess the magnitude and extent of elevated PCB, PAH, arsenic, and lead concentrations reported in borings B22-065-SB (PCBs), B22-061-SB (benzo[a]pyrene), B22-080-SB (PAHs), B22-084-SB (PAHs), B22-085-SB (PAHs), B22-074-SB (arsenic), and B22-107-SB (lead) located within the Phase 1 Development Area. In addition, boring B22-028-SB (PCBs) was selected for additional investigation based on elevated detections outside of, but directly adjacent to, the proposed Phase 1 development activity. Delineation levels were established for the supplementary fieldwork for total PCBs, benzo[a]pyrene, arsenic, and lead, as 50 mg/kg, 29 mg/kg, 300 mg/kg, and 2,000 mg/kg, respectively. This supplemental delineation fieldwork was conducted between July 13 and August 29, 2016 for each of the locations identified on **Figure 6**.

Following the identification of all utilities in the study area, a track-mounted Geoprobe® direct push rig was utilized to collect continuous core soil samples at designated distances (see below) from the location of each elevated soil detection. Laboratory analysis was performed on the soil samples submitted for PCB analysis via USEPA Method 8082. Laboratory analysis was performed on all soil samples collected for PAHs via USEPA Method 8270D. At inorganic delineation locations, continuous core soil samples were screened with a hand-held X-ray fluorescence (XRF) instrument; which provided real-time results. Calibration of the XRF is performed in the factory, but calibration checks were completed in the field at the start of each testing period using a calibration clip and NIST standard 2709a. After soil sampling or screening had been concluded at a location, each hole was backfilled with bentonite chips and down-hole soil sampling equipment was decontaminated according to procedures specified in the QAPP.

PCBs: Delineation borings were completed based on a grid with 25-foot spacing around the elevated PCB detection associated with B22-065-SB (61 mg/kg) on August 3 and 4, 2016. Directly to the north, available analytical data from B22-064-SB indicated that PCB levels were below 50 mg/kg, so the grid was shifted to provide more extensive coverage to the south. Additional borings were completed within 10 feet of B22-065-SB on August 29, 2016 to increase the resolution of the delineation. Delineation borings were completed to a total depth of 5 feet bgs. For each boring, soil samples were collected in each 1-foot interval from 0 to 5 feet bgs. The samples from 0-1 feet bgs and 4-5 feet bgs were analyzed initially, with the remaining samples held pending the results of the preliminary samples. **Table 5** presents the results of the total PCB concentrations

reported by the laboratory. All additional delineation samples were below the delineation criterion (50 mg/kg). **Figure 7** shows the lateral extent of the delineation borings, with no exceedances of the delineation level at any depth (with the exception of the initial Phase II Investigation sample B22-065-SB-1).

Delineation borings were completed based on a grid with 25-foot spacing around the elevated PCB detection associated with B22-028-SB (74.4 mg/kg) on August 5, 2016. Additional borings were completed on August 29, 2016 to increase the resolution of the delineation and expand it to the north and south. During the field investigation at PCB location B22-028-SB, reinforced concrete slabs approximately 2 feet thick were identified surrounding several open areas or courtyards of the former steel facility. Based on the thickness of the concrete, the delineation targeted the open soil areas. The initial detection at B22-028-SB was collected from a shallow pit in the concrete which had been filled with silt, presumably from the courtyards to the west during demolition. The delineation borings were completed to a total depth of 5 feet bgs. For each delineation boring, soil samples were collected in each 1-foot interval from 0-5 feet bgs. The samples from 0-1 feet bgs and 4-5 feet bgs were analyzed initially, with the remaining samples held pending the results of the preliminary samples. **Table 6** presents the results of the total PCB concentrations reported by the laboratory. **Figure 8** shows the lateral extent of the delineation borings, with four exceedances of the delineation level (50 mg/kg) noted in the shallow soil delineation samples (B22-028C-SB-1, B22-028E-SB-1, B22-028H-SB-1, and B22-028O-SB-1), in addition to the initial Phase II Investigation sample B22-028-SB-1.

PAHs: Delineation borings were completed based on a grid with 20-foot spacing around an elevated benzo[a]pyrene detection associated with B22-061-SB (72 mg/kg) on July 13, 2016. Directly to the east, available analytical data from B22-072-SB indicated that benzo[a]pyrene levels were reduced, so the grid was shifted to provide more extensive coverage to the west. **Figure 9** shows the lateral extent of the delineation borings. Delineation borings were completed to a total depth of 5 feet bgs. For each delineation boring, a shallow sample was collected from the 0-1 foot depth interval (or deeper if concrete slab or slag aggregate was present), and a deeper sample was collected from the 4-5 foot depth interval. **Table 7** presents the results of the benzo[a]pyrene concentrations reported by the laboratory. No exceedances of the benzo[a]pyrene delineation level (29 mg/kg) were identified at any depth (with the exception of the initial Phase II Investigation sample B22-061-SB-1).

Delineation borings were completed based on a grid with 25-foot spacing around the elevated PAH detections associated with B22-080-SB, B22-084-SB and B22-085-SB on August 2 through August 4, 2016. Analytical results for these three soil borings indicated elevated levels of benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene,

benzo[k]fluoranthene, dibenz[a,h]anthracene, and indeno[1,2,3-cd]pyrene. For each delineation boring, a shallow sample was collected from the 0-1 foot depth interval (or deeper if concrete slab or slag aggregate was present), and a deeper sample was collected from the 4-5 foot depth interval. **Figure 10** and **Figure 11** show the additional sample locations for the supplemental borings to assess the extent of the soil impacts associated with B22-080-SB and B22-084-SB/B22-085-SB, respectively. Analytical results for the PAH concentrations are presented in **Table 8**, **Table 9**, and **Table 10** for soil borings B22-080-SB, B22-084-SB, and B22-085-SB, respectively. The overall PAH impacts appeared to be less severe for each of the delineation borings associated with B22-080-SB and B22-085-SB. Only one shallow soil sample (B22-084DD-SB-1) and one intermediate sample (B22-084Q-SB-5) appeared to have elevated PAH detections comparable to the initial Phase II Investigation sample B22-084-SB-1, indicating that the extent of the PAH contaminated material was limited.

Arsenic: During the Phase II Investigation, boring location B22-074-SB had elevated arsenic detected in the 0-1 foot bgs sample (672 mg/kg). Delineation borings were completed at a distance of 25 feet to the north, south, east, and west of the elevated arsenic detection on July 14, 2016. In addition, the original boring location was recompleted on July 14, 2016. At each location, the concentration of arsenic was measured by screening the continuous core soil boring at 1-foot intervals with the hand-held XRF instrument. There were no detections of elevated arsenic in these four delineation borings. **Table 11** presents the results of the arsenic concentrations recorded with the XRF instrument. **Figure 12** shows the lateral extent of the delineation borings, with no exceedances of the delineation level (300 mg/kg) at any screening depth. A confirmatory surface soil sample (0-1 feet bgs) was collected and analyzed for arsenic via laboratory method 6010C at location B22-074-SB on July 14, 2016. Analytical data confirmed that arsenic was not detected at B22-074-SB-1 on July 14, 2016 above the laboratory's reporting limit of 2.1 mg/kg, despite the elevated detection (672 mg/kg) in the original Phase II Investigation sample.

Lead: Four delineation borings were completed based on a 25-foot square centered around the elevated lead detection at boring B22-107-SB (4,074 mg/kg) on August 8, 2016. At each location, the concentration of lead was measured by screening the continuous core soil boring at 1-foot intervals with the hand-held XRF instrument. There were no detections of elevated lead levels in any of these four delineation borings. **Table 12** presents the results of the lead concentrations recorded with the XRF instrument. **Figure 13** shows the lateral extent of the delineation borings, with no exceedances of the delineation level (2,000 mg/kg) at any screening depth.

3.5. HUMAN HEALTH SCREENING LEVEL RISK ANALYSIS (SLRA)

3.5.1. Analysis Process

A human health Screening Level Risk Analysis (SLRA) has been conducted for soils to further evaluate the Site conditions in support of the design of necessary response measures. The SLRA included the following evaluation process:

Identification of Constituents of Potential Concern (COPCs): Compounds that are present at concentrations at or above the EPA 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 COPCs to be included in the SLRA.

Identification of Exposure Units (EUs): Parcel B22 Phase 1 (71.6 ac), was divided into two EUs; the area Inside Building Footprints (29.5 ac) and the remaining area Outside Building Footprints (42.1 ac).

Exposure Point Concentrations (EPCs): The COPC soil data for each exposure unit were divided into surface (0-1 ft) and subsurface (>1 ft) depths for estimation of potential exposure point concentrations. An evaluation of pooled surface and subsurface soil data was also performed. Thus, for the Phase 1 Development Area of Parcel B22 there are three soil datasets for each EU. A statistical analysis was performed for each COPC dataset, using the ProUCL software (version 5.0) developed by the USEPA to determine representative reasonable maximum exposure (RME) values for the EPC for each constituent. The RME value is typically the 95% Upper Confidence Limit (UCL) of the mean. For lead, the arithmetic mean for each depth was calculated for comparison to the Adult Lead Model-based values, and any individual results exceeding 10,000 would be delineated for possible excavation and removal (if applicable). For PCBs, all results equaling or exceeding 50 mg/kg were delineated for excavation and removal. All PCB results less than 50 mg/kg are included in the EPCs and risk ratio calculations.

Risk Ratios: The surface soil EPCs, subsurface soil EPCs, and pooled soil EPCs were compared to the USEPA RSLs for the Composite Industrial Worker and to site-specific Soil Screening Levels (SSLs) for the Construction Worker based on equations derived in the USEPA Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites (OSWER 9355.4-24, December 2002). The risk ratios were calculated with a cancer risk of 1E-6 and a non-cancer Hazard Quotient (HQ) of 1. Site-specific risk-based evaluations were completed for a range of potential exposure frequencies. For each exposure frequency, risk ratios for the carcinogens were summed to develop a screening level estimate of the cumulative cancer risk. The risk ratios for the non-carcinogens were segregated and summed by target organ to develop a screening level estimate of the

cumulative non-cancer hazard. These calculated risk ratios were used to determine the exposure frequency that would result in risk ratios equivalent to a cumulative cancer risk of 1E-5 or hazard index of 1 for any individual target organ. This analysis indicated that an exposure frequency of 100 days would be allowable before additional worker protections or more detailed job safety evaluations might be needed.

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 exposure risk.

Assessment of Lead: For lead, the arithmetic mean concentrations for surface soils, subsurface soils, and pooled soils for each EU were compared to the applicable RSL (800 mg/kg) as an initial screening. If the mean concentrations for the EU were below the applicable RSL, the EU was identified as requiring no further action for lead. If a mean concentration exceeded the RSL, the mean values were compared to calculated Adult Lead Model values (ALM Version dated 6/21/2009 updated with the August 2, 2016 OLEM Directive) with inputs of 1.7 for the geometric standard deviation and a blood baseline lead level of 0.7 ug/dL. The ALM calculation generates a soil lead concentration of 2,737 mg/kg, which is the most conservative (i.e., lowest) concentration which would yield a probability of 5% of a blood lead concentration of 10 ug/dL. If the arithmetic mean concentrations for the EU were below 2,737 mg/kg, the EU was identified as requiring no further action for lead. The lead data were evaluated as both pre- and post-delineation mean concentrations (see Section 3.4). The pre- and post-delineation averages are presented for each EU in **Table 13**. For lead, any results equaling or exceeding 10,000 mg/kg would be delineated for possible excavation and removal (if applicable).

Assessment of TPH-DRO/GRO: EPCs were not calculated for TPH-DRO/GRO. Instead, the individual results were compared to the PALs set to a HQ of 1 (6,200 mg/kg). Two sample locations exceeded the specified DRO limit (B22-162-SB-1 at 39,100 mg/kg and B22-163-SB-5 at 8,400 mg/kg). These two exceedance locations were delineated and excavated for disposal based on the magnitude of the exceedances and direct guidance from the MDE. In addition, three borings within the Development Area had physical evidence of the potential presence of NAPL in the soil cores which represent additional exceedances of the TPH-DRO/GRO PAL: B22-057-SB, B22-161-SB, and B22-163-SB (excavated). An evaluation of the potential for product mobility based on these detections and response actions is presented following the SLRA in Section 3.6.

Risk Characterization Approach: For each EU, if the baseline risk ratio for each non-carcinogenic COPC or cumulative target organ does not exceed 1 (with the exception of lead), and the sum of the risk ratios for the carcinogenic COPCs does not exceed a cumulative cancer risk of 1E-5, then a no further action determination will be recommended. The primary EPC comparisons to determine the need for possible remedial action will be the Construction Worker scenario comparisons to the surface and subsurface soil EPCs, as well as the Composite Worker comparison to the surface soil EPCs. However, no further action will only be approvable if subsurface soil EPCs are compared to the Composite Worker RSLs in addition to the Construction Worker SSLs, and the cancer and non-cancer risk estimates are equal to or less than 1E-5 and 1, respectively. Pooled soil data has also been evaluated and included for discussion.

If the baseline estimate of cumulative cancer risk exceeds 1E-5, but is less than or equal to 1E-4, then capping of the EU will be considered to be an acceptable remedy for the Composite Worker. For the Construction Worker, cumulative cancer risks exceeding 1E-5, but less than or equal to 1E-4, will be mitigated via site-specific health and safety requirements. The efficacy of capping for elevated non-cancer hazard will be evaluated in terms of the magnitude of exceedance and other factors such as bioavailability of the COPC. Similarly, for lead, if the ALM results indicate that the mean concentrations would present a 5% to 10% probability of a blood concentration of 10 ug/dL for the EU, then capping of the EU would be an acceptable presumptive remedy. The mean soil lead concentrations corresponding to ALM probabilities of 5% and 10% are 2,737 mg/kg, and 3,417 mg/kg, respectively. If capping of the identified area is not proposed, additional more detailed quantitative evaluation of risk will be required for the EU. This supplemental risk evaluation may include a selective removal (excavation) remedy to reduce site-wide cancer and/or non-cancer risks to acceptable levels.

The USEPA's acceptable risk range is between 1E-6 and 1E-4. If the sum of the risk ratios for carcinogens exceeds a cumulative cancer risk of 1E-4, further analysis of site conditions will be required including the consideration of toxicity reduction in any proposal for a remedy. The magnitude of non-carcinogen hazard exceedances and bioavailability of the COPC will also dictate further analysis of site conditions including consideration of toxicity reduction in any proposal for a remedy. In addition, if the ALM indicates that the mean concentrations would present a >10% probability of a blood concentration of 10 ug/dL for the EU, further analysis of site conditions including toxicity reduction will be completed such that the probability would be reduced to less than 10% after toxicity reduction, but before capping.

3.5.2. Parcel B22 Phase 1 Development Area SLRA Results and Risk Characterization

Soil data were divided into three datasets (surface, subsurface, and pooled) for each EU in Parcel B22 Phase 1 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 development activities that involve soil disturbances such as excavations or other intrusive earth-moving activities. The pooled data may be applicable for future development plans that involve disturbances of the surface soil, since workers would likely not be exposed solely to the subsurface soil.

The results for thallium and trichloroethene were eliminated as COPCs for risk assessment because these compounds were very infrequently detected in Parcel B22 (evaluated based on frequency of detection for the entire Parcel B22 dataset collected during the Phase II Investigation). Thallium was only detected in 2.6% of the samples analyzed for this compound (9 samples out of 340), and trichloroethene was only detected in 3.0% of samples analyzed for this compound (10 samples out of 337). If the detection frequency of an 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 thallium and trichloroethene from the risk assessment based on the relatively low magnitude of the detections. All remaining COPCs have been retained for the risk assessment based on the frequency of detections (>5%) in the overall soil dataset.

EPCs were calculated for each soil dataset (i.e., surface, subsurface, and pooled surface/subsurface). As indicated above, the EPCs for lead are the average (i.e., arithmetic mean) values for each dataset. The average lead concentrations are presented for each dataset in **Table 13**. ProUCL output tables (with computed UCLs) 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. The ProUCL input tables are also included as electronic attachments. Site EPCs and average (lead) exposure values include the analytical and field screening data obtained during the supplemental delineation activities completed in the Phase 1 Development Area. This supplemental data includes PAH and PCB analytical data, as well as surface and subsurface XRF screening data for inorganics. Since PCB impacts above 50 mg/kg were excavated from the Site, PCB detections above this threshold were omitted from the calculations. The results were evaluated to identify any samples that may require additional assessment or special management based on the risk characterization approach. The calculated EPCs are shown in **Table 14** (surface soils) and **Table**

15 (subsurface soils). **Table 16** presents the supplemental EPCs generated from the pooled surface and subsurface soils for each EU.

As indicated on **Table 13**, neither surface, subsurface, nor pooled soils exceeded an average lead value of 800 mg/kg. The screening criterion for lead was set at an exposure unit arithmetic mean of 800 mg/kg based on the RSL, with a secondary limit of 2,737 mg/kg based on the Adult Lead Model developed by the USEPA (corresponding to a 5% probability of a blood lead level of 10 ug/dL).

Composite Worker Assessment:

Risk ratios for the estimates of potential EPCs for the Composite Worker scenario for both exposure units are shown in **Table 17** (surface), **Table 18** (subsurface), and **Table 19** (pooled surface and subsurface soils). The results are summarized as follows:

Outside Building Footprint			
Worker Scenario	**Medium**	**Hazard Index (>1)**	**Total Cancer Risk**
Composite Worker	Surface Soil	none	9E-5
Composite Worker	Subsurface Soil	none	3E-5
Composite Worker	Surface & Subsurface Soil	none	4E-5

Inside Building Footprint			
Worker Scenario	**Medium**	**Hazard Index (>1)**	**Total Cancer Risk**
Composite Worker	Surface Soil	none	4E-5
Composite Worker	Subsurface Soil	none	2E-5
Composite Worker	Surface & Subsurface Soil	none	2E-5

The risk ratios indicate that the cumulative cancer risks for the Composite Worker scenario were equal to 9E-5 (Outside Building Footprint) and 4E-5 (Inside Building Footprint) for surface soils in the development area. The subsurface cumulative cancer risks were equal to 3E-5 and 2E-5

for the EUs Outside of the Building Footprint and Inside of the Building Footprint, respectively. When the pooled surface and subsurface soil data were evaluated, the carcinogenic risks were computed as 4E-5 (Outside Building Footprint) and 2E-5 (Inside Building Footprint). For the Composite Worker exposure to surface, subsurface, and pooled soils, no target organs had a cumulative non-cancer Hazard Index (HI) above 1 for either EU.

Based on the risk ratios for Parcel B22 (Phase 1), environmental capping (100%) is an acceptable remedy to be protective of future Composite Workers for the surface, subsurface, and pooled exposure scenarios. None of the carcinogenic risk estimates for the Composite Worker were greater than 1E-4, indicating that the proposed capping remedy will provide adequate protection from carcinogens in the soil. None of the non-carcinogenic hazards exceeded the regulatory standards identified in the Risk Characterization Approach. Capping and institutional controls (to maintain the integrity of the cap) are suitable measures for the protection of the future Composite Worker for both cancer and non-cancer risks.

Construction Worker Assessment:

The proposed duration of intrusive activities (i.e., activities that involve disturbance of impacted soil performed by Construction Workers outside of enclosed vehicle cabs) is expected to require 90 work days. According to the work schedule provided by Tradepoint Atlantic, 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

Risk ratios for the estimates of potential EPCs for the Construction Worker scenario (100-day exposure frequency) are shown in **Table 20** (surface)**, Table 21** (subsurface), and **Table 22** (pooled surface and subsurface soils). The variables entered for calculation of site-specific SSLs (EU area, input assumptions, and exposure frequency) are indicated as notes on the tables. The spreadsheets used for computation of the site-specific 100-day Construction Worker SSLs are included in **Appendix B**.

The risk ratio calculation completed using a site-specific exposure frequency of 100 days yields an acceptable level of risk for the Construction Worker exposure scenarios without requirements for further mitigative action or site-specific health and safety controls. An exposure frequency of 100 work days is equivalent to approximately 140 calendar days (20 weeks) based on an expected schedule of work for an individual who is employed on the Site (with comprehensive leave and holidays). The results for the 100-day exposure scenario are summarized as follows:

Outside Building Footprint			
Worker Scenario	**Medium**	**Hazard Index (>1)**	**Total Cancer Risk**
Construction Worker (100 work day schedule)	Surface Soil	none	5E-6
Construction Worker (100 work day schedule)	Subsurface Soil	none	2E-6
Construction Worker (100 work day schedule)	Surface & Subsurface Soil	none	2E-6

Inside Building Footprint			
Worker Scenario	**Medium**	**Hazard Index (>1)**	**Total Cancer Risk**
Construction Worker (100 work day schedule)	Surface Soil	none	2E-6
Construction Worker (100 work day schedule)	Subsurface Soil	none	1E-6
Construction Worker (100 work day schedule)	Surface & Subsurface Soil	none	1E-6

Using the 100-day exposure, the carcinogenic risks for surface soils were computed to be 5E-6 and 2E-6 for the exposure units Outside of the Building Footprint and Inside of the Building Footprint, respectively. For the 100-day exposure to isolated subsurface soils, the cumulative cancer risks were computed to be 2E-6 (Outside Building Footprint) and 1E-6 (Inside Building Footprint). When the pooled surface and subsurface data were considered, the carcinogenic risks for the exposure units were also equal to 2E-6 (Outside Building Footprint) and 1E-6 (Inside Building Footprint). Based on the 100-day exposure frequency, the carcinogenic risks for the surface, subsurface or pooled datasets evaluated for both EUs did not exceed 1E-5, the acceptable level for no further action as defined in the Risk Characterization Approach. 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 100-day exposure frequency. This assessment indicates that site-specific health and safety protocols or further action are not required for the proposed schedule of construction for intrusive activities. Therefore, additional worker protective measures beyond standard level D protection are not necessary for the intrusive development work planned for Parcel B22, Phase 1.

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

Results from the SLRA indicate that a remedy of capping 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 proposed capping 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 and institutional control remedy would eliminate risk to current and future industrial workers by preventing exposure to all areas of the Site where soil concentrations exceed the Composite Worker RSLs, or where the cumulative estimated risk to the Composite Worker would 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 will address the residual risk and will also protect hypothetical future Construction Workers by eliminating or controlling potential exposure pathways, thus, reducing potential intake and contact of soil and groundwater COPCs by human receptors.

Achieve Media Cleanup Objective: The assessment against this criterion describes how the remedy meets the cleanup objectives, which are risk reduction, appropriate for the expected current and reasonably anticipated future land use. The objectives are 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 Mill 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 TPH-DRO in soil at two boring locations (B22-162-SB and B22-163-SB) and PCBs in soil at two boring locations (B22-028-SB and B22-065-SB). The impacted areas associated with these soil boring locations have been delineated and excavated for appropriate disposal, as described in this Response and Development Work Plan. The potential groundwater impacts at the Site have been addressed within the Finishing Mill Groundwater Phase II Investigation Report (and will be further discussed in a future comprehensive groundwater study). The proposed environmental capping will prevent contact with soil COPCs reducing potential risks to within acceptable levels for future industrial workers. The 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 will permanently contain the contaminated media in place. In order for the cap to effectively act as a barrier, regular inspections will be required to determine if erosion or cracks have formed that could expose workers to contaminated soils. Institutional controls (deed restrictions) will be implemented to protect future Composite and Construction Workers against disturbances of the cap that might lead to inadvertent contact with impacted soils. The proposed remedy will maintain protection of human health and the environment over time by controlling exposure to the hazardous constituents 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 remedy 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 the capping remedy. The response actions have included the delineation and removal of TPH-DRO in soil at two boring locations (B22-162-SB and B22-163-SB) and PCBs in soil at two boring locations (B22-028-SB and B22-065-SB). The toxicity and volume of impacted material has been reduced by this removal and off-site disposal. The proposed capping remedy will avoid the short term risks associated with excavating and transporting large quantities of soil which might otherwise be removed for risk mitigation.

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 capping remedy will be implemented within several months of the start of work. The results of the SLRA indicate that risks to the Construction Worker during remedy implementation are mitigated based on the proposed schedule for intrusive construction activities (less than 100 work days). 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 soil and cap structures to be protective of site visitors. Proper installation of the cap will be performed in accordance with design specifications.

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. The proposed capping remedy uses readily available standard capping techniques including asphalt/concrete paving technology in surfaced areas and a geotextile marker fabric covered by clean fill in landscaped areas.

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 capping remedy has relatively low capital and O&M costs and much of the remedial costs would be incurred as part of the proposed site development, regardless of the presence of impacted soil.

Community Acceptance: Tradepoint Atlantic and MDE hold regular public meetings to foster open dialogue with the community. Community acceptance of the proposed remedy will be evaluated based on comments received during the public comment period.

State/Support Agency 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 with institutional controls would satisfy the CERCLA Threshold 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.

3.6. MIGRATION ASSESSMENT FOR ELEVATED TPH-DRO/GRO

Elevated DRO was identified above the PAL (6,200 mg/kg) at two soil boring locations in Parcel B22, Phase 1 (B22-162-SB-1 at 39,100 mg/kg and B22-163-SB-5 at 8,400 mg/kg). Elevated detections of TPH represent locations which may possibly be impacted by free-phase NAPL that could potentially migrate along utility corridors. In response to these detections, petroleum-contaminated soil above the PAL has been delineated and excavated from both locations for disposal at the on-site Greys Landfill. A report on the excavation and removal of elevated DRO soils has been prepared and submitted to the agencies (Parcel B22 – PCB and DRO Excavation Completion Report dated December 22, 2016). In addition, three borings (B22-057-SB, B22-161-SB, and B22-163-SB) had physical evidence of potential NAPL in the soil cores during the Phase II Investigation. The borings with physical evidence of NAPL were evaluated for potential migration to groundwater by the installation of temporary piezometers. Of these three locations, B22-163-SB has already been addressed by excavating the impacted soil.

The potential mobility of NAPL to groundwater at B22-057-SB, B22-161-SB, and B22-163-SB (now excavated) was investigated via the gauging of temporary screening piezometers. Based on 0-hour, 48-hour, and 30-day measurements, free petroleum product (NAPL) was not detected and is therefore not present at quantities that are likely to migrate. Soils potentially impacted by NAPL have been present for many years and migration pathways associated with existing utilities that may cause off-site migration or surface discharges should be apparent by now. No

additional evaluation is recommended with regard to elevated detections of TPH or observations of free-phase NAPL in the soil cores.

3.7. MANAGEMENT OF PCB-CONTAMINATED MEDIA

Soils or contaminated media within the Phase 1 Development Area containing total PCB concentrations less than 50 mg/kg may be left in place if paved or otherwise capped. The Toxic Substances Control Act (TSCA) low and high occupancy standards will not apply to structures serving as engineered barriers. All soils exceeding 50 mg/kg of total PCBs were excavated and transported to a permitted off-site commercial landfill approved to accept TSCA-regulated waste. A report on the excavation and removal of soils with PCB concentrations in excess of 50 mg/kg has been prepared and submitted to the agencies (Parcel B22 – PCB and DRO Excavation Completion Report dated December 22, 2016).

One soil sample (B22-065-SB-1) within the Phase 1 Development Area exceeded the regulatory threshold of 50 mg/kg total PCBs, warranting additional action prior to development. A supplemental delineation was completed to define the horizontal and vertical extent of PCBs greater than 50 mg/kg. The soil exceeding 50 mg/kg at this location was excavated and transported off-site. **Figure 7** shows the horizontal extent of the completed delineation.

Soil sample B22-028-SB-1 (located in an open courtyard to the north of the development area) also exceeded 50 mg/kg total PCBs. A supplemental delineation was also completed in this area to define the horizontal and vertical extent of PCBs greater than 50 mg/kg. The soil exceeding 50 mg/kg surrounding this location was excavated and transported off-site. A small portion of the excavation extended south of the initial detection at B22-028-SB to within the Phase 1 Development Area. **Figure 8** shows the horizontal extent of the completed delineation.

4.0 PROPOSED SITE DEVELOPMENT PLAN

Tradepoint Atlantic is proposing to construct a Warehouse/Distribution Center on the Phase 1 portion of Parcel B22. Included in Phase 1 will be improvements on approximately 71.6 acres of land (the Phase 1 Development Area) in the southwestern portion of Parcel B22. The proposed future use is Tier 3B – Restricted Industrial. The remainder of Parcel B22 will be addressed in a separate development plan in accordance with requirements of the ACO that will include a Response and Development Work Plan, if necessary.

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

No significant groundwater impacts were identified in the Phase 1 Development Area. 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 (NFA) letter 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 at the Site. The findings of the SLRA indicated that the screening level estimates of Construction Worker cancer risks for the site-specific 100-day exposure frequency were all less than or equal to 1E-5 (the acceptable level for no further action) for the two EUs evaluated for proposed development. No potential non-cancer hazards above the HI of 1 were identified for any target organ in either EU using the 100-day exposure frequency. Given that the proposed schedule for intrusive activities will not exceed 100 days, no additional site-specific health and safety requirements are warranted.

The proposed Development Area, approximately 71.6 acres, will be completely capped and covered by building footprints, paving, lined detention ponds or landscaped cap areas. The cover

types are indicated in **Figure 14a**. General sections showing required minimum thicknesses for each type of cover are also provided on **Figure 14b**.

Drawings for the proposed parcel development are provided in **Appendix D**. The proposed building will cover 29.5 acres, or 41.3% of the Site. Processed slag aggregate sourced from the Tradepoint property will be transported to the Site to serve as sub-base for the building foundation.

Asphalt or concrete paving will cover 24.4 acres, or 34.0% of the Site. Heavy duty and standard duty paving sections that meet or exceed the minimum thicknesses specified in **Figure 14b** will be used in combination to cap the paved areas as shown in the proposed site development plans (**Appendix D**). The heavy duty paving section will consist of 6 inches of asphalt over a 10 inches aggregate base. The standard duty paving section will consist of 4 inches of asphalt over a 6 inches aggregate base. The heavy duty concrete section will consist of 7 inches of concrete over a 6 inches aggregate base.

A lined detention pond will cover 3.9 acres, or 5.4% of the Site. An impervious PVC (or equivalent) liner will be placed between clean fill and any existing impacted soils. Detention ponds will range from 4'-8' in depth with an impermeable liner between clean fill and native soils. See **Appendix D** for a typical detention pond section.

Landscaped capped areas will cover 13.8 acres, or 19.3% of the Site. Landscaped areas will consist of a minimum of 2 feet of clean fill over native soils, and trees will be installed with 2 feet of clean fill around the root ball. A geotextile marker fabric will be placed between clean fill and existing soils. See **Appendix D** for a typical landscaped areas section and specifications.

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 Parcel B22 Phase 1 Response Action Completion Report (Completion Report):

- **Response Phase**

1. **Well abandonment**

   Wells and temporary groundwater sampling points installed for the Phase II investigation will be properly abandoned in accordance with COMAR 26.04.04.34 through 36 prior to site work in this area. **Figure 15** (shallow zone) and **Figure 16** (intermediate/lower zone) show the wells and temporary groundwater sampling points (piezometers) in Parcel B22 Phase 1, indicating which are to be abandoned or retained.

2. **PCB & DRO contaminated media delineation and remedial action**

   Two areas with PCB-contaminated media in excess of 50 mg/kg were identified either within the Phase 1 Development Area or directly adjacent to locations planned for subsurface utility installations (**Figure 6**). The total volume of soil above the action level of 50 mg/kg for total

PCBs within these two areas was pre-delineated through additional soil borings and sampling as shown on **Figure 7** and **Figure 8**. Due to these high detections of PCBs in soils, and based on guidance from the agencies, PCB excavation was completed between September 15 and October 4, 2016 as described in the Parcel B22 – PCB and DRO Excavation Completion Report dated December 22, 2016. The total volume of soil that was excavated due to PCB impacts was approximately 175 cubic yards, and the excavation footprints for the impacts associated with B22-028-SB and B22-065-SB are shown on **Figure 17** and **Figure 18**, respectively. Soil that exceeded the action level criterion of 50 mg/kg of PCBs (subject to special requirements under TSCA) was removed and disposed of at a permitted off-site commercial landfill in accordance with relevant regulations.

One area with elevated DRO in excess of 6,200 mg/kg was identified within the Phase 1 Development Area. This area was identified by elevated detections in two borings (B22-162-SB-1 and B22-163-SB-5) which both targeted a former storage tank with unknown contents. Due to these high detections of DRO in soils, and based on guidance from the agencies, DRO excavation was completed between September 27 and October 10, 2016 as described in the Parcel B22 – PCB and DRO Excavation Completion Report dated December 22, 2016. The total volume of soil that was excavated due to DRO impacts was approximately 675 cubic yards, and the excavation footprint is shown on **Figure 19**. Excavation in the field was initially guided by a preliminary boundary around the former storage tank, but all soil with elevated PID hits or evidence of odors and/or staining was ultimately removed. Excavation was completed to a total depth of approximately 8-9 feet bgs based on the depth to groundwater observed at these locations. Soil that exceeded the acceptable level of 6,200 mg/kg was removed and disposed of at the on-site nonhazardous landfill (Greys Landfill).

- **Development Phase**

1. Sediment and erosion control installation for development.

Installation of erosion and sediment controls, as indicated on the grading plan provided in **Appendix D**, will be completed 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 slabs and foundations).

2. Grading and site preparation.

As indicated on the grading plan in **Appendix D**, site grading will include cut and fill which will ultimately raise the grade 3 to 6 feet above the current ground surface. Site grading will involve the excavation of approximately 33,000 cubic yards of material, (mostly associated with the construction of stormwater management facilities), and the placement of 420,000 cubic yards of processed slag aggregate material for the building and parking areas. 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. Foundations for the building are anticipated to be limited to depths of less than 5 feet below grade. 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 Tradepoint Atlantic wastewater treatment plant. If analytical results indicate the presence of levels of contaminants exceeding levels 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 at an appropriate off-site facility.

4. Placement of subbase.

Following the installation of stormwater and electrical utilities, the Site will be fine-graded and placement of subbase will commence. The building area, parking areas, and access roads will receive a 6-inch thick layer of subbase material, which will consist of processed slag.

5. Floor slabs and paving.

Much of the Site will be covered with floor slabs or paving as indicated in **Figure 14a**.

The full thickness of the pavement section (i.e., asphalt cap) to be placed over the existing soils will consist of 10 inches (6 inches of subbase and 4 inches of asphalt) in the standard duty areas and at least 13 inches (at least 6 inches of subbase and 7 inches of concrete or at least 10 inches of subbase and at least 6 inches of asphalt) in the heavy duty areas.

6. Security and lighting.

Following the completion of paving, the contractor will install site security fencing, and will install light masts and final electrical connections.

7. Stormwater management

Stormwater will be conveyed by new piping and inlets to new proposed lined detention ponds (**Appendix D**). Tradepoint Atlantic plans to submit a stormwater management plan to

Baltimore County that describes the new stormwater management facilities. The proposed lined detention ponds will be installed following installation of the temporary sediment and erosion controls, and the new stormwater management facilities will discharge to existing stormwater outfalls permitted under the current industrial stormwater National Pollutant Discharge Elimination System (NPDES) permit.

8. Landscaping.

Areas indicated as landscaped areas on **Figure 14a** and in the drawings provided in **Appendix D** will be covered with a marker geofabric and then surfaced with a minimum of 18 inches of clean fill material covered by 6 inches of clean topsoil, to provide a minimum total cover thickness of 2 feet prior to being planted. Greater depths of clean fill material may be added based on vegetation proposed for each area. Trees, if present, will be installed with 2 feet of clean fill around the root ball as indicated on **Figure 14b** and in the detail drawings provided in **Appendix D**.

5.0 DEVELOPMENT IMPLEMENTATION PROTOCOLS

5.1. RESPONSE PHASE

5.1.1. PCB & DRO Contaminated Media Delineation and Remediation

The extents of the excavation required to remove PCB-contaminated media in excess of the action level of 50 mg/kg were based on the laboratory results from the pre-delineation investigation and concrete boundaries in the immediate vicinity. Soil samples were collected from each side wall of each excavation (unless limited by concrete), as well as from the bottom of each excavation at a minimum of one every 2,000 square feet and were analyzed for total PCBs to confirm that all soils exceeding the action level criteria had been removed. If excavation was limited, laterally or vertically, by concrete, the concrete was cleared of soil and visually inspected for evidence of oil staining. As indicated in the Parcel B22 – PCB and DRO Excavation Completion Report dated December 22, 2016, all excavated material was temporarily stockpiled on concrete or plastic liners and covered by plastic tarps when not in use. A weighted cover system was used to keep the tarps in place. Two composite samples (one soil and one concrete) were collected using materials from multiple locations throughout each stockpile and summited for TCLP analysis to facilitate proper disposal. All excavated materials were appropriately manifested and transported off-site by a licensed hauler to a permitted TSCA treatment and disposal facility. All analytical results, disposal facilities, and volumes and type of generated hazardous waste have been provided to the agencies in the PCB and DRO Excavation Completion Report.

The extents of the excavation required to remove DRO-contaminated media in excess of the action level of 6,200 mg/kg were based on the historical location of a former storage tank with unknown contents, and were guided and modified in the field based on soil observations (odors, staining, etc.). Excavation was completed to a total depth of approximately 8-9 feet bgs based on the depth to water observed at these locations. A total of nine sidewall and one bottom confirmation samples were collected within the main excavation boundary, and confirmed that all soils exceeding the action level criteria had been removed. Soil that exceeded the acceptable level of 6,200 mg/kg was removed and disposed of at the on-site nonhazardous landfill (Greys Landfill). As indicated in the Parcel B22 – PCB and DRO Excavation Completion Report dated December 22, 2016, all excavated material was directly loaded into dump trucks for direct hauling to the landfill. Additional waste characterization sampling was not required based on the existing analytical data which indicated the soils in the vicinity to be nonhazardous.

5.1.2. Water Management

Groundwater was not encountered during the PCB remedial excavations due to the limited depth of confirmed excavation. The DRO excavation was completed down to the depth where the water table was encountered (approximately 8-9 feet bgs), but not below. Therefore, water management was not a factor during PCB and DRO excavation activities.

5.1.3. Health and Safety

A site-specific HASP (**Appendix C**) was developed and is attached to this plan which presents the minimum requirements for worker health and safety protection for the project. The existing Health and Safety Plan was followed by the prime remediation contractor.

5.2. DEVELOPMENT PHASE

This plan presents protocols for the handling of soils and fill materials in association with construction of the warehouse facility of Parcel B22 Phase 1. 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 PAL were identified in soil samples across the Site. The PALs are set based on EPA'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. Soils contaminated with total PCBs in excess of 50 mg/kg have been removed prior to development of Parcel B22 (Phase 1). Following completion of the SLRA, the screening level estimates of Construction Worker cancer risks for the site-specific 100-day exposure frequency were all less than or equal to 1E-5 (the acceptable level for no further action) for the two EUs evaluated for proposed development. 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 100 days. Therefore, general worker protective controls (Level D) and health and safety measures will be sufficient for the proposed development, with no additional site-specific requirements.

5.2.1. Soil Excavation – Mass Grading

Key soil excavation and capping activities will be monitored through daily inspections by the environmental professional (EP). Soil excavation and removal activities will occur during utility trenching (discussed below), light pole and inlet/manhole installation, and stormwater pond construction.

Prior to any earthwork being conducted on-site, a pre-excavation meeting shall be held to address proper operating procedures for working on-site and handling potentially contaminated material. This meeting shall consist of the construction manager and any workers involved with earthwork. The site-specific Health and Safety Plan for the project shall be reviewed and discussed.

In general, and based on the existing sampling information, all excavated materials are expected to be suitable for replacement on the Site beneath the proposed paved areas. However, the EP will monitor all soil excavation 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, waste materials, or other indications of contamination that may be different than what was already characterized.

To the extent practical, all earthmoving activities should be conducted in a manner to minimize double or extra handling of materials. If excavated materials need to be stockpiled prior to placement or other handling, any such 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.

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. If excavated and stockpiled, such materials should be covered with a plastic tarp to minimize potential exposures and erosion.

5.2.2. **Utility Installation**

Key utility trenching and installations will be monitored through daily inspections by the EP.

A pre-excavation meeting shall be held to address proper operating procedures for working on-site and monitoring the excavation and installation of utility piping in potentially contaminated material. This meeting shall consist of the construction manager and any workers involved with utility trenching/installation. During the pre-excavation meeting, all utility workers shall review the proposed utility excavation 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 borings which had evidence of free-phase NAPL in the soil cores (B22-057-SB, B22-161-SB, and B22-163-SB) or elevated analytical detections of TPH-GRO/DRO (B22-162-SB and B22-163-SB). The site-specific Health and Safety Plan for the project shall also be reviewed and discussed.

Utility trenches are to be over-excavated to a minimum of one foot on all sides of the proposed utility. In general, and based on the existing sampling information, all excavated materials are expected to be suitable for replacement on the Site beneath the proposed paved areas. All utility trenches will be backfilled with bedding and backfill materials meeting the MDE definition of clean fill.

Additional preventative measures will be required in Site areas exhibiting evidence of petroleum contamination to prevent the discharge of petroleum product or sheen associated with the installation of the utility system. Contingency measures have been developed to ensure that utilities will be constructed in a manner that will prevent the migration of the any encountered TPH/Oil & Grease, and that excavated material will be properly managed. This contingency plan specifies procedures to be followed if unidentified pockets of contamination (including NAPL) are encountered during excavation or utility construction. The Utility Excavation NAPL Contingency Plan (**Appendix E**) provides protocols and procedures to delineate elevated TPH/Oil & Grease and prevent mobilization of NAPL along the utility if NAPL is encountered during the construction activities. Approval by the agencies will be required for the use of preventative measures to prevent the discharge of petroleum product.

The EP will monitor all utility trenching 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 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 and covered with polyethylene until the material can be analyzed for TPH-GRO/DRO and PCBs (total) to characterize the material for appropriate disposal. MDE will be notified if such materials are encountered during utility work.

To the extent practical, all utility excavation activities should be conducted in a manner to minimize double or extra handling of materials. If excavated materials need to be stockpiled prior to placement or other handling, any such 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.

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. If excavated and stockpiled, such materials should be covered with a plastic tarp to minimize potential exposures and erosion.

5.2.3. **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. 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, except for the soils which were previously excavated for removal of PCBs or DRO above acceptable levels, 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 exposure unit where the excavated material would be placed. Following recalculation of the risk ratios, if the cancer risk is less than 1E-4, and the non-cancer risk (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.

For excavated materials that are sampled, if sampling indicates that the material is a hazardous waste, then such materials shall be shipped off-site in accordance with applicable regulations to an appropriate and permitted RCRA disposal facility. If the concentrations of excavated sampled materials indicate that the materials are not hazardous, they shall be taken to the on-site landfill (Greys) for proper disposal. 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.

5.2.4. **Fill**

Processed slag aggregate from the Tradepoint property will be used as compacted sub-base for the building and paving for this project. Soil excavated on the parcel has been deemed to be suitable for re-use as fill below the paved areas of the Site; with the exception of the material which was previously removed from the Site due to PCB or DRO levels. As seen in **Table 16** and **Table 17**, the risk ratios for COPCs in the development area indicate that soil contaminant concentrations do not exceed acceptable risk for a Composite Worker in capped areas of the Site. These materials are considered suitable for use as on-site fill below the proposed asphalt parking lot or concrete slabs and foundations. All over-excavated utility trenches and landscaped areas will be backfilled with material meeting the MDE definition of clean fill. Any clean fill material imported to the Site will be screened according to MDE guidance for suitability.

5.2.5. **Sediment/Erosion Control**

Erosion and sediment controls will be installed prior to commencing work, as shown on the Site development plans (**Appendix D**) and in accordance with 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control. The Sediment and Erosion Control 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 super silt fence, and sediment traps if applicable, shall be periodically removed and returned to the Site for containment below the proposed asphalt cap or building.

5.2.6. **Dust Control**

Overall dust control methods shall include:

- Daily site wetting and dust suppression of active work areas. Overspraying of water shall be avoided in order to prevent erosion or sediment control complications.
- Reduced vehicle speeds.
- Minimizing drop heights.
- Stabilizing exposed surfaces as soon as possible.

General construction operations, including removal of existing foundations or utilities, soil excavation and transport, soil grading, trenching for utilities, and cap 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 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 on Site will be 3.0 mg/m^3. 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 one 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 use of a hose connected to an available water supply or a water truck stationed on Site.

Dust control measures will be implemented as described above to address dust generated as a result of construction and response activities conducted on 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 of any groundwater or surface water that needs to be removed to facilitate construction of the warehouse facility.

5.3.1. Groundwater PAL Exceedances

A total of 14 groundwater samples (8 shallow and 6 intermediate) were collected from temporary groundwater sample collection points (piezometers) and permanent monitoring wells within and

surrounding Parcel B22 Phase 1. None of the temporary groundwater sample collection points or permanent wells showed evidence of NAPL during these checks.

PAL exceedances in groundwater in the vicinity of Parcel B22 Phase 1 consisted of five inorganic compounds (cobalt, iron, manganese, thallium, and hexavalent chromium), two VOCs (1,1-dichoroethane and chloroform), three SVOCs (benzo[a]anthracene, naphthalene, and 1,4-dioxane), 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 will likely be necessary for underground utility work and stormwater pond/sediment trap excavation. If dewatering is required, it shall be done in accordance with all local, state and federal regulations.

Water that collects in excavations 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 (Water Treatment Plant). The limitations and sampling protocols for water pumped to Water Treatment Plant 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 Water Treatment Plant:

- Total metals by EPA Method 6020A
- PCBs by EPA Method 8082
- SVOCs by EPA Method 8270C
- VOCs by EPA Method 8260B
- TPH-DRO by EPA Method 8015B
- Oil & Grease by EPA Method 1664

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

5.4. HEALTH AND SAFETY

A site-specific Health and Safety Plan (**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 Health and Safety Plan that provides a level of protection at least as much as that provided by the attached Health and Safety Plan. Alternately, on-site contactors may elect to adopt the Health and Safety Plan 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 Health and Safety Plan. 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 development and response plan approval, No Further Action (NFA) letter, 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 below areas designated for engineering controls. This written notice will be required at least 15 days prior to any planned excavation activities at the Site that will penetrate through the cap.
- Requirement for a HASP in the event of any future excavations at the Site.
- Complete appropriate characterization and disposal of any future material excavated from beneath the cap in accordance with applicable local, state and federal requirements.
- Implementation of inspection procedures and maintenance of the containment remedies as outlined the following section.

The responsible party will file the above deed restrictions as defined by the MDE VCP in the NFA Letter and COC. The proposed paved areas are subject to the proposed response action containment remedy and the maintenance requirement. 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. TPA will notify the Tenant of this requirement and will provide MDE with contact information for the Tenant prior to issuance of the NFA Letter.

5.6. POST REMEDIATION REQUIREMENTS

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

Maintenance requirements will include maintenance of the capped areas to minimize degradation of the cap and exposure to the underlying soil. An Operations and Maintenance Plan (O&M Plan) for the capped areas is included in **Appendix F**. The O&M Plan includes the inspection protocols and a maintenance schedule.

The responsible party will perform cap maintenance inspections, perform maintenance of the cap, and retain cap inspection records. Areas of the pavement cap that have degraded to a Pavement Condition Index (PCI) of 4.0 will be repaired within 30 days of discovery. MDE shall be notified within ten business days of any repairs that are the result of a PCI of 4.0 or greater or if damage to the landscaped capped area(s) exceeds one foot in diameter and/or two feet in depth. The notification will include documentation of the conditions being repaired and the location of the repair.

In addition, MDE will be provided with a written notice at least 15 days prior to any planned excavation activities at the Site that will penetrate through the cap. 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.

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 Development Plan. 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). Sediment and Erosion 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	January 31, 2016
Remedial Phase	
PCB Delineation and Excavation	October 4, 2016
DRO Excavation	October 10, 2016
Temporary Groundwater Sample Collection Point (Piezometer) Abandonment	October 11, 2016
Well Abandonment	February 20, 2017
Development Phase	
Slag Hauling and Placement	December 15, 2016
Installation of Erosion and Sediment Controls for Development	January 10, 2017
Installation of buildings (Starting)	January 19, 2017
Completion of site preparation/grading	March 1, 2017
Underground Utilities Domestic Water & Fire Loop – 6 weeks; Sanitary Lines – 4 weeks; Stormwater – 6 weeks; and Pond Excavation and Grading – 2 weeks	June 14, 2017
Installation of pavements (Starting)	August 16, 2017
Submittal of Completion Report/Notice of Readiness for Use*	April 11, 2018
Request for a NFA from the MDE	May 12, 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 Development Plan 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

Figure 2

drawing title: PARCEL B22 SITE DEVELOPMENT PLAN

designed	JMA	scale	1" = 200'
checked	TNP	date	8/17/2016
drawn	JMA	project no.	150300M-20

project title: SPARROWS POINT AREA B
ENVIROANALYTICS GROUP

SPARROWS POINT
BALTIMORE COUNTY, MARYLAND

0 200 400
SCALE IN FEET

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

Parcel B16

Parcel B14

Parcel B21

Parcel B15

Parcel B23

Parcel B2

Parcel B22

Parcel B6

Parcel B3

Limit of Disturbance

B22-026-SB
B22-159-SB
B22-153-SB
B22-115-SB
B22-178-SB
B22-100-SB
B22-152-SB
B22-119-SB
B22-166-SB
B22-071-SB
B22-158-SB
B22-099-SB
B22-174-SB
B22-117-SB
B22-121-SB
B22-116-SB
B22-062-SB
B22-118-SB
B22-120-SB
B22-031-SB
B22-148-SB
B22-114-SB
B22-149-SB
B22-112-SB
B22-113-SB
B22-032-SB
B22-125-SB
B22-126-SB
B22-012-SB
B22-127-SB
B22-011-SB
B22-023-SB
B22-024-SB
B22-006-SB
B22-155-SB
B22-154-SB
B22-157-SB
B22-144-SB
B22-005-SB
B22-176-SB
B22-101-SB
B22-102-SB
B22-109-SB
B22-156-SB
B22-145-SB
B22-110-SB
B22-067-SB
B22-069-SB
B22-025-SB
B22-106-SB
B22-111-SB
B22-030-SB
B22-033-SB
B22-029-SB
B22-034-SB
B22-028-SB
B22-027-SB
B22-068-SB
B22-059-SB
B22-097-SB
B22-070-SB
B22-060-SB
B22-167-SB
B22-096-SB
B22-098-SB
B22-036-SB
B22-088-SB
B22-089-SB
B22-054-SB
B22-035-SB
B22-107-SB
B22-053-SB
B22-087-SB
B22-014-SB
B22-013-SB
B22-108-SB
B22-168-SB
B22-169-SB
B22-095-SB
B22-085-SB
B22-090-SB
B22-086-SB
B22-084-SB
B22-162-SB
B22-094-SB
B22-163-SB
B22-051-SB
B22-052-SB
B22-164-SB
B22-165-SB
B22-038-SB
B22-015-SB
B22-064-SB
B22-037-SB
B22-016-SB
B22-043-SB
B22-065-SB
B22-047-SB
B22-017-SB
B22-057-SB
B22-058-SB
B22-104-SB
B22-018-SB
B22-161-SB
B22-160-SB
B22-150-SB
B22-092-SB
B22-105-SB
B22-003-SB
B22-076-SB
B22-135-SB
B22-093-SB
B22-091-SB
B22-080-SB
B22-004-SB
B22-134-SB
B22-002-SB
B22-151-SB
B22-103-SB
B22-075-SB
B22-001-SB
B22-147-SB
B22-050-SB
B22-074-SB
B22-146-SB
B22-049-SB
B22-081-SB
B22-083-SB
B22-136-SB
B22-133-SB
B22-066-SB
B22-073-SB
B22-082-SB
B22-063-SB
B22-022-SB
B22-021-SB
B22-123-SB
B22-122-SB
B22-009-SB
B22-010-SB
B22-008-SB
B22-019-SB
B22-042-SB
B22-020-SB
B22-124-SB
B22-045-SB
B22-007-SB
B22-044-SB
B22-046-SB
B22-061-SB
B22-072-SB
B22-039-SB
B22-040-SB
B22-039A-SB
B22-055-SB
B22-056-SB
B22-129-SB
B22-128-SB
B22-130-SB
B22-177-SB
B22-077-SB
B22-175-SB
B22-170-SB
B22-173-SB
B22-078-SB
B22-079-SB
B22-179-SB
B22-048-SB
B22-041-SB
B22-172-SB
B22-132-SB
B22-131-SB
B22-138-SB
B22-139-SB
B22-142-SB
B22-143-SB
B22-140-SB
B22-171-SB
B22-137-SB
B22-141-SB

Parcel B22 Soil Borings Final Field Locations

August 10, 2016

Figure 3

EnviroAnalytics Group

ARM Project 160443M-5

Tradepoint Atlantic

Baltimore County, MD

ARM Group Inc.
Earth Resource Engineers and Consultants

0 65 130 260 Feet

Soil Boring

Parcel Boundary

Limit of Disturbance

Parcel B14

Parcel B16

Parcel B15

Parcel B21

Parcel B23

Parcel B2

Parcel B22

Parcel B6

Parcel B7

Parcel B3

Limit of Disturbance

B22-059-SB-1
B22-059-SB-4
Benzo[a]pyrene: 0.42

B22-097-SB-1
B22-097-SB-9

B22-060-SB-1
B22-060-SB-4

B22-096-SB-1
Benzo[a]pyrene: 0.82
B22-096-SB-9

B22-098-SB-1
B22-098-SB-4

B22-054-SB-1
B22-054-SB-4

B22-053-SB-1
B22-053-SB-8

B22-036-SB-1
B22-036-SB-4

B22-035-SB-1

B22-107-SB-1
Benzo[a]pyrene: 0.8
B22-107-SB-5

B22-167-SB-1
B22-167-SB-5
B22-167-SB-10

B22-014-SB-1
Benzo[a]pyrene: 0.95
B22-014-SB-5

B22-013-SB-1
Benzo[a]anthracene: 11.4
Benzo[a]pyrene: 7.7
Benzo[b]fluoranthene: 14.6
Dibenz[a,h]anthracene: 0.91
B22-013-SB-4
Benzo[a]pyrene: 0.41

B22-108-SB-1
Benzo[a]pyrene: 0.68
B22-108-SB-5

B22-168-SB-1
B22-168-SB-4

B22-085-SB-1
Benzo[a]anthracene: 30.1
Benzo[a]pyrene: 23.7
Benzo[b]fluoranthene: 48.8
Benzo[k]fluoranthene: 42.4
Dibenz[a,h]anthracene: 3.2
Indeno[1,2,3-c,d]pyrene: 8.2

B22-095-SB-1
B22-095-SB-6

B22-090-SB-1
B22-090-SB-5

B22-086-SB-1
Benzo[a]pyrene: 1.0
Benzo[b]fluoranthene: 3.4
B22-086-SB-5

B22-084-SB-1
Benzo[a]anthracene: 34.6
Benzo[a]pyrene: 24.5
Benzo[b]fluoranthene: 50.3
Benzo[k]fluoranthene: 43.7
Dibenz[a,h]anthracene: 4.8
Indeno[1,2,3-c,d]pyrene: 11.7

B22-162-SB-1
Benzo[a]pyrene: 0.53
B22-162-SB-5

B22-163-SB-1
B22-163-SB-5

B22-094-SB-1
B22-094-SB-4

B22-051-SB-1
B22-051-SB-6

B22-165-SB-1
B22-165-SB-4

B22-052-SB-1
Benzo[a]pyrene: 0.94
B22-052-SB-8

B22-164-SB-1
B22-164-SB-6

B22-038-SB-1
Benzo[a]pyrene: 1.1

B22-037-SB-1

B22-064-SB-1
B22-064-SB-7

B22-065-SB-1
B22-065-SB-7

B22-016-SB-1
Benzo[a]pyrene: 0.67
B22-016-SB-5
Benzo[a]pyrene: 0.41

B22-015-SB-1
Benzo[a]pyrene: 0.31
B22-015-SB-4
Benzo[a]pyrene: 0.69

B22-058-SB-1
B22-058-SB-7

B22-057-SB-1

B22-017-SB-1
Benzo[a]pyrene: 0.31
B22-017-SB-6

B22-018-SB-1
B22-018-SB-6

B22-104-SB-1
B22-104-SB-4

B22-080-SB-1
Benzo[a]anthracene: 44.2
Benzo[a]pyrene: 35.3
Benzo[b]fluoranthene: 69.8
Benzo[k]fluoranthene: 60.6
Dibenz[a,h]anthracene: 2.7
Indeno[1,2,3-c,d]pyrene: 8.8
B22-080-SB-5

B22-161-SB-1
B22-161-SB-4,5
Benzo[a]pyrene: 0.53

B22-150-SB-1
Benzo[a]pyrene: 0.32
B22-150-SB-5

B22-160-SB-1

B22-092-SB-1
B22-092-SB-4

B22-093-SB-1
B22-093-SB-5

B22-091-SB-1
Benzo[a]pyrene: 0.7
B22-091-SB-4

B22-105-SB-1
B22-105-SB-4

B22-003-SB-1
B22-003-SB-4

B22-076-SB-1

B22-151-SB-1

B22-146-SB-1
Benzo[a]anthracene: 5.5
Benzo[a]pyrene: 4.7
Benzo[b]fluoranthene: 10.8
Dibenz[a,h]anthracene: 0.63
B22-146-SB-5

B22-147-SB-1
Benzo[a]pyrene: 1.6
Benzo[b]fluoranthene: 3.5
B22-147-SB-5,5
Benzo[a]pyrene: 0.39

B22-050-SB-1
Benzo[a]pyrene: 0.85
B22-050-SB-4,5

B22-049-SB-1
B22-049-SB-5

B22-074-SB-1

B22-103-SB-1
B22-103-SB-4

B22-004-SB-1
Benzo[a]pyrene: 0.61
B22-004-SB-4

B22-075-SB-1
B22-075-SB-4

B22-081-SB-1
B22-081-SB-4

B22-083-SB-1
Benzo[a]pyrene: 0.42
B22-083-SB-4

B22-022-SB-1
B22-022-SB-7

B22-009-SB-1
B22-009-SB-6

B22-073-SB-1
Benzo[a]anthracene: 6.0
Benzo[a]pyrene: 5.1
Benzo[b]fluoranthene: 9.8
Dibenz[a,h]anthracene: 0.99
Indeno[1,2,3-c,d]pyrene: 3.1
B22-073-SB-5

B22-021-SB-1
B22-021-SB-5

B22-082-SB-1
B22-082-SB-4

B22-122-SB-1
Benzo[a]pyrene: 0.53

B22-123-SB-1
Benzo[a]pyrene: 0.91

B22-124-SB-1
B22-124-SB-4
Benzo[a]pyrene: 0.36

B22-010-SB-1
Benzo[a]anthracene: 3.1
Benzo[a]pyrene: 2.4
Benzo[b]fluoranthene: 4.5
Dibenz[a,h]anthracene: 0.4
B22-010-SB-4
Benzo[a]pyrene: 1.4
Dibenz[a,h]anthracene: 0.42

B22-008-SB-1
B22-008-SB-4

B22-019-SB-1
B22-019-SB-6

B22-042-SB-1
B22-042-SB-4

B22-045-SB-1

B22-007-SB-1
B22-007-SB-4

B22-020-SB-1
Benzo[a]pyrene: 1.2
B22-020-SB-4
Benzo[a]pyrene: 0.43
B22-020-SB-10

B22-061-SB-1
Benzo[a]anthracene: 82.3
Benzo[a]pyrene: 72.0
Benzo[b]fluoranthene: 106
Benzo[k]fluoranthene: 46.0
Dibenz[a,h]anthracene: 9.6
Indeno[1,2,3-c,d]pyrene: 26.0
B22-061-SB-5

B22-072-SB-1
Benzo[a]anthracene: 9.5
Benzo[a]pyrene: 13.7
Benzo[b]fluoranthene: 25.3
Dibenz[a,h]anthracene: 2.0
Indeno[1,2,3-c,d]pyrene: 5.0

B22-044-SB-1
B22-044-SB-4

B22-046-SB-1
B22-046-SB-4

B22-039-SB-1
B22-039-SB-4

B22-039A-SB-3

B22-040-SB-1
B22-040-SB-4

B22-055-SB-1
Benzo[a]pyrene: 0.57
B22-055-SB-8,5

B22-175-SB-1
Benzo[a]anthracene: 13.9
Benzo[a]pyrene: 11.1
Benzo[b]fluoranthene: 21.6
Dibenz[a,h]anthracene: 2.2
Indeno[1,2,3-c,d]pyrene: 6.0
B22-175-SB-4
Benzo[a]anthracene: 19.0
Benzo[a]pyrene: 14.9
Benzo[b]fluoranthene: 31.1
Dibenz[a,h]anthracene: 3.0
Indeno[1,2,3-c,d]pyrene: 7.6

B22-056-SB-1
B22-056-SB-5

B22-077-SB-1
B22-077-SB-5

B22-173-SB-1
B22-173-SB-4

B22-170-SB-1
Benzo[a]pyrene: 0.4
B22-170-SB-4

B22-078-SB-1
Benzo[a]pyrene: 0.37
B22-078-SB-7,5

B22-079-SB-1
B22-079-SB-4

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

B22-048-SB-1
B22-048-SB-5

B22-041-SB-1
B22-041-SB-5

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

B22-132-SB-1
B22-132-SB-5

B22-131-SB-1
B22-131-SB-5

B22-138-SB-1
Benzo[a]pyrene: 0.5
B22-138-SB-8

B22-139-SB-1
B22-139-SB-4

B22-143-SB-1
B22-143-SB-5

B22-142-SB-1
B22-142-SB-5
Benzo[a]anthracene: 5.0
Benzo[a]pyrene: 4.7
Benzo[b]fluoranthene: 9.1
Dibenz[a,h]anthracene: 0.4

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

B22-171-SB-1
B22-171-SB-5

B22-137-SB-1
B22-137-SB-8

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

Parcel B22 Soil Borings Phase II SVOC Exceedances (mg/kg) September 30, 2016	Figure S-1
EnviroAnalytics Group	
ARM Project 160443M-5	
Tradepoint Atlantic	
Baltimore County, MD	

ARM Group Inc.
Earth Resource Engineers and Consultants

0 65 130 260 Feet

Phase II Borings

Parcel Boundary

Limit of Disturbance

Parcel B14
Parcel B21
Parcel B16
Parcel B15
Parcel B22
Parcel B6
Parcel B23
Parcel B2
Parcel B3
Parcel B7
Limit of Disturbance

B22-097-SB-1
B22-059-SB-1
B22-060-SB-1
B22-096-SB-1
B22-098-SB-1
B22-167-SB-1
B22-054-SB-1
B22-053-SB-1
PCB, Total: 7.32
B22-036-SB-1
B22-035-SB-1
B22-107-SB-1
B22-014-SB-1
B22-013-SB-1
PCB, Total: 1.949
B22-108-SB-1
B22-168-SB-1
B22-095-SB-1
B22-085-SB-1
B22-084-SB-1
B22-086-SB-1
B22-162-SB-1
B22-090-SB-1
B22-163-SB-1
PCB, Total: 1.0
B22-094-SB-1
Aroclor 1254: 1.01
PCB, Total: 7.69
B22-051-SB-1
B22-052-SB-1
B22-164-SB-1
B22-165-SB-1
B22-038-SB-1
PCB, Total: 0.99
B22-015-SB-1
B22-016-SB-1
B22-037-SB-1
Aroclor 1254: 7.93
PCB, Total: 7.93
B22-064-SB-1
B22-065-SB-1
Aroclor 1248: 50.9
PCB, Total: 61.0
B22-017-SB-1
B22-018-SB-1
B22-058-SB-1
B22-057-SB-1
B22-104-SB-1
B22-160-SB-1
B22-161-SB-1
B22-150-SB-1
PCB, Total: 1.634
B22-151-SB-1
B22-147-SB-1
B22-146-SB-1
B22-092-SB-1
PCB, Total: 3.18
B22-093-SB-1
B22-091-SB-1
B22-050-SB-1
PCB, Total: 1.7124
B22-049-SB-1
PCB, Total: 1.03
B22-074-SB-1
B22-103-SB-1
B22-105-SB-1
B22-003-SB-1
B22-080-SB-1
B22-076-SB-1
B22-004-SB-1
B22-075-SB-1
B22-081-SB-1
B22-083-SB-1
B22-082-SB-1
B22-073-SB-1
B22-022-SB-1
B22-021-SB-1
B22-009-SB-1
B22-010-SB-1
B22-122-SB-1
B22-123-SB-1
B22-124-SB-1
PCB, Total: 13.0
B22-008-SB-1
B22-019-SB-1
Aroclor 1242: 2.64
PCB, Total: 2.64
B22-042-SB-1
Aroclor 1248: 3.06
Aroclor 1260: 21.1
PCB, Total: 24.16
B22-045-SB-1
Aroclor 1248: 3.68
Aroclor 1254: 1.63
PCB, Total: 9.43
B22-007-SB-1
B22-020-SB-1
B22-044-SB-1
B22-046-SB-1
B22-061-SB-1
B22-072-SB-1
B22-039-SB-1
Aroclor 1248: 4.87
PCB, Total: 5.159
B22-040-SB-1
PCB, Total: 1.458
B22-055-SB-1
B22-056-SB-1
B22-077-SB-1
B22-175-SB-1
Aroclor 1254: 1.22
PCB, Total: 1.22
B22-170-SB-1
B22-173-SB-1
B22-078-SB-1
B22-079-SB-1
B22-179-SB-1
B22-048-SB-1
B22-041-SB-1
B22-172-SB-1
B22-131-SB-1
B22-132-SB-1
B22-138-SB-1
B22-139-SB-1
B22-143-SB-1
B22-142-SB-1
B22-140-SB-1
Aroclor 1242: 6.64
PCB, Total: 6.64
B22-171-SB-1
B22-137-SB-1
B22-141-SB-1

Parcel B22 Soil Borings
Phase II PCB Exceedances (mg/kg)

September 30, 2016

Figure S-2

EnviroAnalytics Group

ARM Project 160443M-5

Tradepoint Atlantic

Baltimore County, MD

ARM Group Inc.
Earth Resource Engineers and Consultants

0 65 130 260 Feet

Phase II Borings

Parcel Boundary

Limit of Disturbance

Parcel B14

Parcel B21

Parcel B16

Parcel B15

Parcel B23

Parcel B2

Parcel B22

Parcel B6

Parcel B7

Parcel B3

Limit of Disturbance

B22-097-SB-1 / B22-097-SB-9
B22-059-SB-1 / B22-059-SB-4
B22-060-SB-1 / B22-060-SB-4
B22-096-SB-1 / B22-096-SB-9
B22-098-SB-1 / B22-098-SB-4
B22-167-SB-1 / B22-167-SB-5
B22-054-SB-1 / B22-054-SB-4
B22-053-SB-1 / B22-053-SB-8
B22-035-SB-1
B22-036-SB-1 / B22-036-SB-4
B22-107-SB-1 / B22-107-SB-5
B22-014-SB-1 / B22-014-SB-5
B22-108-SB-1 / B22-108-SB-5
B22-013-SB-1 / B22-013-SB-4
B22-168-SB-1 / B22-168-SB-4
B22-095-SB-1 / B22-095-SB-6
B22-163-SB-1 / B22-163-SB-5 DRO: 8,400
B22-090-SB-1 / B22-090-SB-5
B22-086-SB-1 / B22-086-SB-5
B22-085-SB-1
B22-084-SB-1
B22-162-SB-1 DRO: 39,100 / B22-162-SB-5
B22-164-SB-1 / B22-164-SB-6
B22-094-SB-1 / B22-094-SB-4
B22-051-SB-1 / B22-051-SB-6
B22-052-SB-1 / B22-052-SB-8
B22-165-SB-1 / B22-165-SB-4
B22-038-SB-1
B22-037-SB-1
B22-064-SB-1 / B22-064-SB-7
B22-065-SB-1 / B22-065-SB-7
B22-015-SB-1 / B22-015-SB-4
B22-016-SB-1 / B22-016-SB-5
B22-017-SB-1 / B22-017-SB-6
B22-057-SB-1
B22-058-SB-1 / B22-058-SB-7
B22-018-SB-1 / B22-018-SB-6
B22-104-SB-1 / B22-104-SB-4
B22-161-SB-1 / B22-161-SB-4.5
B22-092-SB-1 / B22-092-SB-4
B22-150-SB-1 / B22-150-SB-5
B22-160-SB-1
B22-093-SB-1 / B22-093-SB-5
B22-105-SB-1 / B22-105-SB-4
B22-003-SB-1 / B22-003-SB-4
B22-080-SB-1 / B22-080-SB-5
B22-076-SB-1
B22-151-SB-1
B22-091-SB-1 / B22-091-SB-4
B22-103-SB-1 / B22-103-SB-4
B22-004-SB-1 / B22-004-SB-4
B22-075-SB-1 / B22-075-SB-4
B22-146-SB-1 / B22-146-SB-5
B22-147-SB-1 / B22-147-SB-5.5
B22-074-SB-1
B22-050-SB-1 / B22-050-SB-4.5
B22-049-SB-1 / B22-049-SB-5
B22-081-SB-1 / B22-081-SB-4
B22-083-SB-1 / B22-083-SB-4
B22-073-SB-1 / B22-073-SB-5
B22-022-SB-1 / B22-022-SB-7
B22-082-SB-1 / B22-082-SB-4
B22-008-SB-1 / B22-008-SB-4
B22-122-SB-1
B22-009-SB-1 / B22-009-SB-6
B22-010-SB-1 / B22-010-SB-4
B22-021-SB-1 / B22-021-SB-5
B22-019-SB-1 / B22-019-SB-6
B22-123-SB-1
B22-042-SB-1 / B22-042-SB-4
B22-007-SB-1 / B22-007-SB-4
B22-124-SB-1 / B22-124-SB-4
B22-045-SB-1
B22-020-SB-1 / B22-020-SB-4
B22-044-SB-1 / B22-044-SB-4
B22-046-SB-1 / B22-046-SB-4
B22-072-SB-1
B22-061-SB-1 / B22-061-SB-5
B22-039-SB-1 / B22-039-SB-4
B22-040-SB-1 / B22-040-SB-4
B22-055-SB-1 / B22-055-SB-8.5
B22-056-SB-1 / B22-056-SB-5
B22-077-SB-1 / B22-077-SB-5
B22-175-SB-1 / B22-175-SB-4
B22-170-SB-1 / B22-170-SB-4
B22-173-SB-1 / B22-173-SB-4
B22-078-SB-1 / B22-078-SB-7.5
B22-079-SB-1 / B22-079-SB-4
B22-179-SB-1 / B22-179-SB-6
B22-048-SB-1 / B22-048-SB-5
B22-041-SB-1 / B22-041-SB-5
B22-172-SB-1 / B22-172-SB-5
B22-131-SB-1 / B22-131-SB-5
B22-132-SB-1 / B22-132-SB-5
B22-138-SB-1 / B22-138-SB-8
B22-139-SB-1 / B22-139-SB-4
B22-143-SB-1 / B22-143-SB-5
B22-142-SB-1 / B22-142-SB-5
B22-140-SB-1 / B22-140-SB-5
B22-171-SB-1 / B22-171-SB-5
B22-137-SB-1 / B22-137-SB-8
B22-141-SB-1 / B22-141-SB-5

Parcel B22 Soil Borings
Phase II TPH-DRO/GRO Exceedances (mg/kg)

September 30, 2016

Figure S-3

EnviroAnalytics Group

ARM Project 160443M-5

Tradepoint Atlantic

Baltimore County, MD

ARM Group Inc.
Earth Resource Engineers and Consultants

0 65 130 260 Feet

- Phase II Borings
- Parcel Boundary
- Limit of Disturbance

Parcel B14

Parcel B16

Parcel B15

Parcel B21

Parcel B23

Parcel B2

Parcel B22

Parcel B6

Parcel B7

Parcel B3

Limit of Disturbance

B22-097-SB-1
Arsenic: 8.1

B22-097-SB-9
Arsenic: 20.9
Lead: 1,960

B22-059-SB-1
Arsenic: 13.1
Lead: 1,230

B22-059-SB-4
Arsenic: 18.6
Lead: 976

B22-096-SB-1
Arsenic: 4.1

B22-096-SB-9
Arsenic: 4.1

B22-096-SB-10
Arsenic: 7.8

B22-060-SB-1

B22-060-SB-4
Arsenic: 8.7
Manganese: 43,800

B22-098-SB-1
Arsenic: 8.8

B22-098-SB-4
Arsenic: 11.6
Lead: 1,790

B22-098-SB-10
Arsenic: 6.7

B22-054-SB-1

B22-054-SB-4
Arsenic: 3.3

B22-054-SB-10
Arsenic: 10.6

B22-053-SB-1
Arsenic: 19.1
Lead: 1,500

B22-053-SB-8
Arsenic: 5.9

B22-053-SB-10
Arsenic: 9.7

B22-036-SB-1
Arsenic: 4.4
Manganese: 27,000 J

B22-036-SB-4
Arsenic: 3.1
Manganese: 31,500 J

B22-035-SB-1
Arsenic: 5.9

B22-107-SB-1
Arsenic: 9.0
Lead: 4,070

B22-107-SB-5
Arsenic: 4.4

B22-107-SB-10
Arsenic: 7.3

B22-167-SB-1
Arsenic: 3.8

B22-167-SB-5

B22-167-SB-10
Arsenic: 12.3

B22-014-SB-1
Arsenic: 5.4

B22-014-SB-5
Arsenic: 4.3

B22-014-SB-10
Arsenic: 8.2

B22-013-SB-1
Arsenic: 3.7

B22-013-SB-4

B22-108-SB-1
Arsenic: 5.1

B22-108-SB-5
Arsenic: 6.2

B22-168-SB-1

B22-168-SB-4

B22-095-SB-1
Arsenic: 8.6

B22-095-SB-6
Arsenic: 3.9

B22-086-SB-1
Arsenic: 4.0

B22-086-SB-5
Arsenic: 6.3

B22-086-SB-10
Arsenic: 23.8

B22-085-SB-1
Arsenic: 5.8

B22-084-SB-1
Arsenic: 10.6

B22-163-SB-1
Arsenic: 4.2

B22-163-SB-5
Arsenic: 7.8

B22-090-SB-1

B22-090-SB-5
Arsenic: 5.0

B22-162-SB-1
Arsenic: 8.7

B22-162-SB-5
Arsenic: 3.9

B22-164-SB-1
Arsenic: 3.2

B22-164-SB-6
Arsenic: 6.0

B22-094-SB-1

B22-094-SB-4
Arsenic: 6.6

B22-051-SB-1
Arsenic: 14.0

B22-051-SB-6

B22-052-SB-1

B22-052-SB-8
Arsenic: 3.6

B22-165-SB-1
Arsenic: 4.3

B22-165-SB-4
Arsenic: 5.5

B22-038-SB-1
Arsenic: 11.3

B22-015-SB-1
Arsenic: 5.5

B22-015-SB-4
Arsenic: 6.8

B22-016-SB-1
Arsenic: 7.5

B22-016-SB-5
Arsenic: 7.6

B22-064-SB-1

B22-064-SB-7

B22-037-SB-1
Arsenic: 4.2

B22-065-SB-1

B22-065-SB-7

B22-058-SB-1

B22-058-SB-7
Arsenic: 22.3

B22-058-SB-10
Arsenic: 4.4

B22-057-SB-1

B22-017-SB-1
Arsenic: 4.1

B22-017-SB-6
Arsenic: 5.4

B22-017-SB-10
Arsenic: 5.0

B22-018-SB-1
Arsenic: 3.8

B22-018-SB-6
Arsenic: 19.2

B22-018-SB-10
Arsenic: 8.4

B22-161-SB-1
Arsenic: 6.0
Manganese: 36,500 J
Vanadium: 6,800

B22-161-SB-4.5
Arsenic: 5.0

B22-150-SB-1

B22-150-SB-5
Arsenic: 6.1

B22-160-SB-1

B22-092-SB-1

B22-092-SB-4

B22-093-SB-1
Arsenic: 7.6

B22-093-SB-5
Arsenic: 6.6

B22-093-SB-10
Arsenic: 21.7

B22-104-SB-1
Arsenic: 6.1

B22-104-SB-4
Arsenic: 9.4

B22-105-SB-1
Arsenic: 4.2

B22-105-SB-4
Arsenic: 4.0

B22-105-SB-10
Arsenic: 7.7

B22-003-SB-1
Arsenic: 4.3

B22-003-SB-4
Arsenic: 5.7

B22-080-SB-1
Arsenic: 7.1

B22-080-SB-5
Arsenic: 18.9

B22-076-SB-1

B22-075-SB-1
Arsenic: 3.7

B22-075-SB-4
Arsenic: 10.8

B22-147-SB-1
Arsenic: 7.9

B22-147-SB-5.5
Arsenic: 5.5

B22-151-SB-1

B22-091-SB-1
Arsenic: 15.4

B22-091-SB-4
Arsenic: 5.7

B22-050-SB-1
Arsenic: 5.9

B22-050-SB-4.5
Arsenic: 3.7

B22-146-SB-1
Arsenic: 13.0

B22-146-SB-5
Arsenic: 3.8

B22-049-SB-1

B22-049-SB-5

B22-074-SB-1
Arsenic: 672

B22-103-SB-1
Arsenic: 6.9

B22-103-SB-4
Arsenic: 3.3

B22-004-SB-1
Arsenic: 3.8

B22-004-SB-4

B22-081-SB-1
Arsenic: 4.5

B22-081-SB-4
Arsenic: 6.2

B22-081-SB-10
Arsenic: 8.5

B22-083-SB-1

B22-083-SB-4
Arsenic: 3.0

B22-122-SB-1
Arsenic: 14.5

B22-123-SB-1

B22-073-SB-1
Arsenic: 13.4

B22-073-SB-5
Arsenic: 14.3

B22-022-SB-1

B22-022-SB-7

B22-021-SB-1
Arsenic: 6.4

B22-021-SB-5

B22-008-SB-1

B22-008-SB-4
Manganese: 26,700 J

B22-082-SB-1
Arsenic: 11.7

B22-082-SB-4

B22-019-SB-1

B22-019-SB-6
Arsenic: 25.3

B22-019-SB-10
Arsenic: 7.2

B22-009-SB-1

B22-009-SB-6

B22-010-SB-1
Arsenic: 6.9

B22-010-SB-4
Arsenic: 11.2

B22-007-SB-1

B22-007-SB-4

B22-124-SB-1
Arsenic: 3.2

B22-124-SB-4
Arsenic: 12.4

B22-045-SB-1
Arsenic: 12.0

B22-042-SB-1
Arsenic: 3.9

B22-042-SB-4
Arsenic: 4.8

B22-042-SB-10
Arsenic: 20.1

B22-046-SB-1
Arsenic: 4.9
Manganese: 52,300

B22-046-SB-4
Arsenic: 6.7

B22-020-SB-1
Arsenic: 5.9

B22-020-SB-4
Arsenic: 110

B22-020-SB-10
Arsenic: 14.0

B22-061-SB-1
Arsenic: 11.1

B22-061-SB-5
Arsenic: 5.8

B22-072-SB-1
Arsenic: 6.6

B22-044-SB-1
Arsenic: 3.4

B22-044-SB-4

B22-039-SB-1
Arsenic: 4.4

B22-039-SB-4

B22-039A-SB-3
Arsenic: 4.8

B22-040-SB-1

B22-040-SB-4

B22-055-SB-1
Arsenic: 18.9

B22-055-SB-8.5
Arsenic: 5.9

B22-056-SB-1

B22-056-SB-5

B22-175-SB-1
Thallium: 17.3

B22-175-SB-4
Arsenic: 5.8
Lead: 3,340

B22-077-SB-1
Arsenic: 3.9

B22-077-SB-5
Arsenic: 3.0

B22-170-SB-1
Arsenic: 3.9

B22-170-SB-4
Arsenic: 12.2

B22-173-SB-1
Arsenic: 5.6

B22-173-SB-4
Arsenic: 3.4

B22-079-SB-1
Arsenic: 7.1

B22-079-SB-4

B22-078-SB-1
Arsenic: 8.3

B22-078-SB-7.5
Arsenic: 7.3

B22-179-SB-1

B22-179-SB-6
Arsenic: 3.6

B22-048-SB-1
Arsenic: 6.3
Manganese: 27,800

B22-048-SB-5
Arsenic: 5.2

B22-041-SB-1
Arsenic: 9.5
Manganese: 71,600

B22-041-SB-5
Arsenic: 4.9

B22-172-SB-1
Arsenic: 5.9

B22-172-SB-5
Arsenic: 3.9

B22-131-SB-1
Arsenic: 5.1

B22-131-SB-5
Arsenic: 12.5

B22-132-SB-1
Arsenic: 3.0

B22-132-SB-5
Arsenic: 11.8

B22-138-SB-1
Arsenic: 4.7

B22-138-SB-8
Arsenic: 4.9

B22-138-SB-10

B22-139-SB-1
Arsenic: 17.5

B22-139-SB-4
Arsenic: 8.8

B22-143-SB-1
Arsenic: 5.3
Manganese: 30,600

B22-143-SB-5
Arsenic: 5.1
Manganese: 27,900

B22-143-SB-10
Arsenic: 4.0

B22-142-SB-1
Arsenic: 4.8
Manganese: 28,500

B22-142-SB-5
Arsenic: 3.0
Manganese: 28,600

B22-140-SB-1
Chromium VI: 7.8 J-
Manganese: 29,900

B22-140-SB-5
Arsenic: 6.0

B22-140-SB-10

B22-171-SB-1
Arsenic: 6.5
Chromium VI: 11.4
Manganese: 35,900

B22-171-SB-5
Arsenic: 14.0

B22-137-SB-1
Arsenic: 5.5
Manganese: 30,400

B22-137-SB-8
Arsenic: 5.0

B22-141-SB-1
Arsenic: 4.2

B22-141-SB-5
Arsenic: 6.1

Parcel B22 Soil Borings
Phase II Inorganic Exceedances (mg/kg)
September 30, 2016

Figure
S-4

EnviroAnalytics Group

ARM Project 60443M-5

Tradepoint Atlantic

Baltimore County, MD

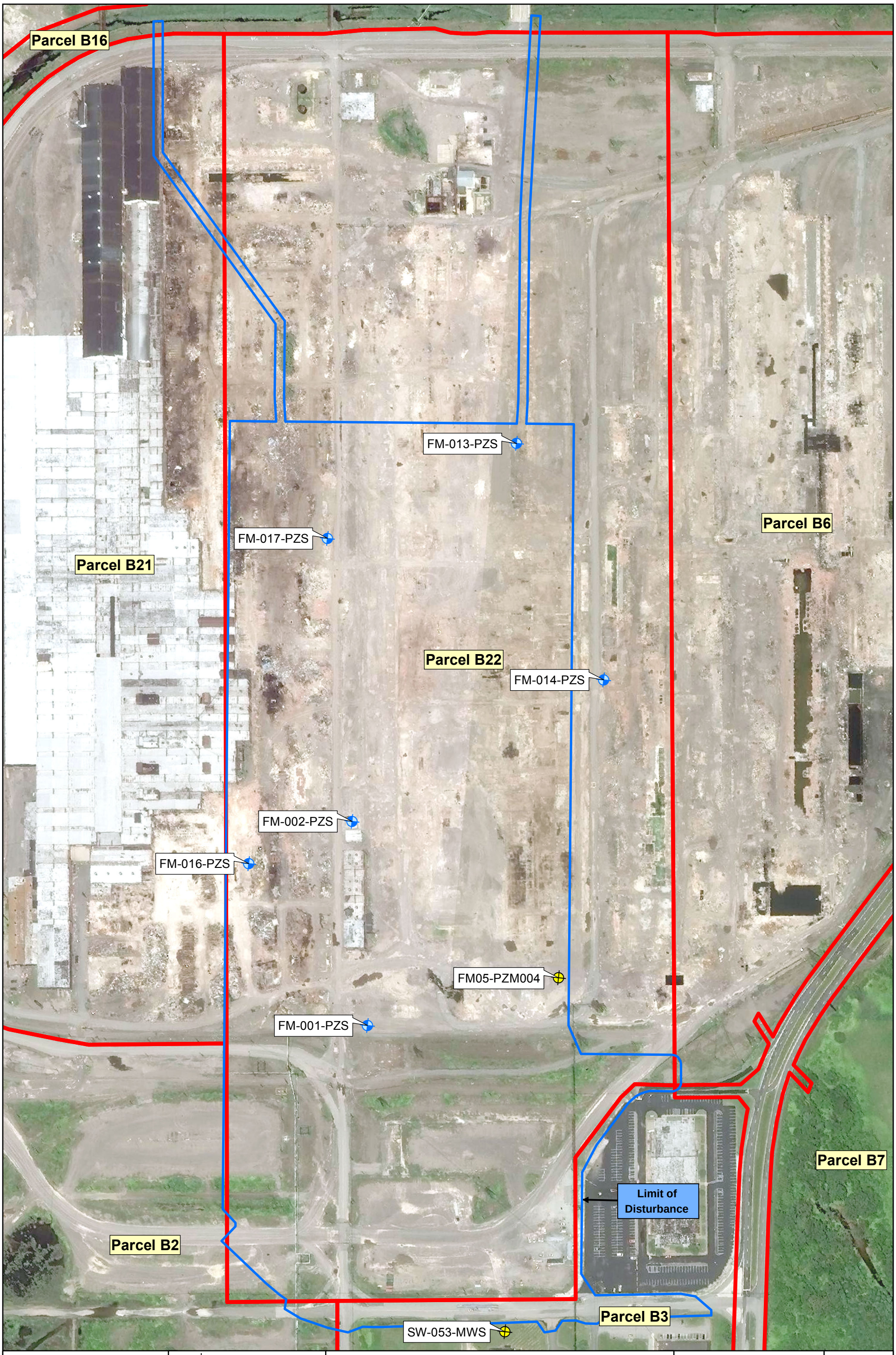
ARM Group Inc.
Earth Resource Engineers and Consultants

0 65 130 260 Feet

Phase II Borings

Parcel Boundary

Limit of Disturbance



ARM Group Inc.
Earth Resource Engineers and Consultants

0 105 210 420
Feet

Area B Groundwater Well
FMGW Piezometer
Limit of Disturbance
Parcel Boundary

Parcel B22: Proposed Development Area Groundwater Sample Locations - Shallow Zone (From Finishing Mills Groundwater Work Plan)

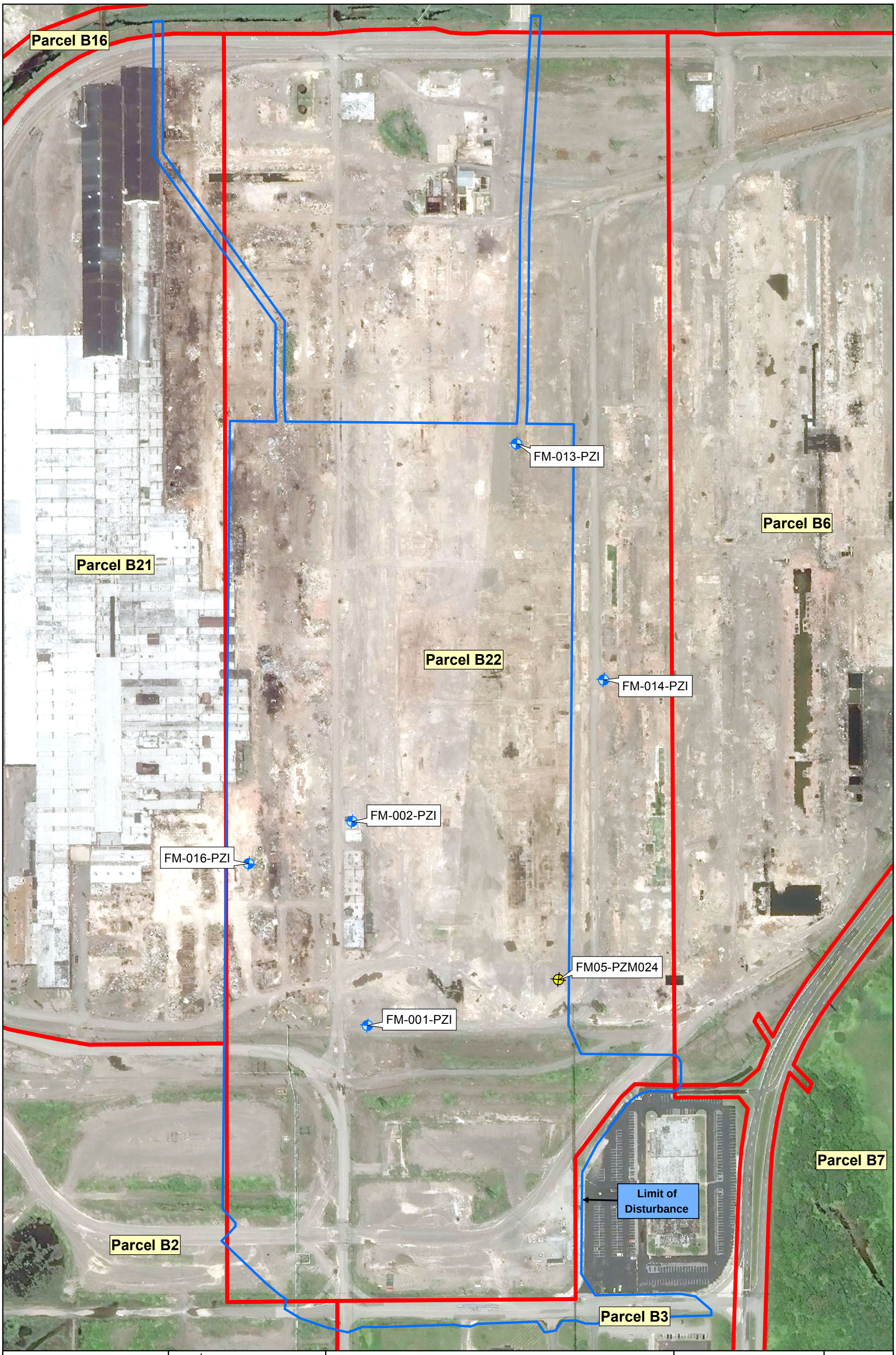
August 10, 2016

EnviroAnalytics Group
ARM Project 160443M-5

Tradepoint Atlantic
Baltimore County, MD

Figure

4



ARM Group Inc.
Earth Resource Engineers and Consultants

0 105 210 420
Feet

Area B Groundwater Well
FMGW Piezometer
Limit of Disturbance
Parcel Boundary

Parcel B22: Proposed Development Area
Groundwater Sample Locations - Intermediate Zone
(From Finishing Mills Groundwater Work Plan)

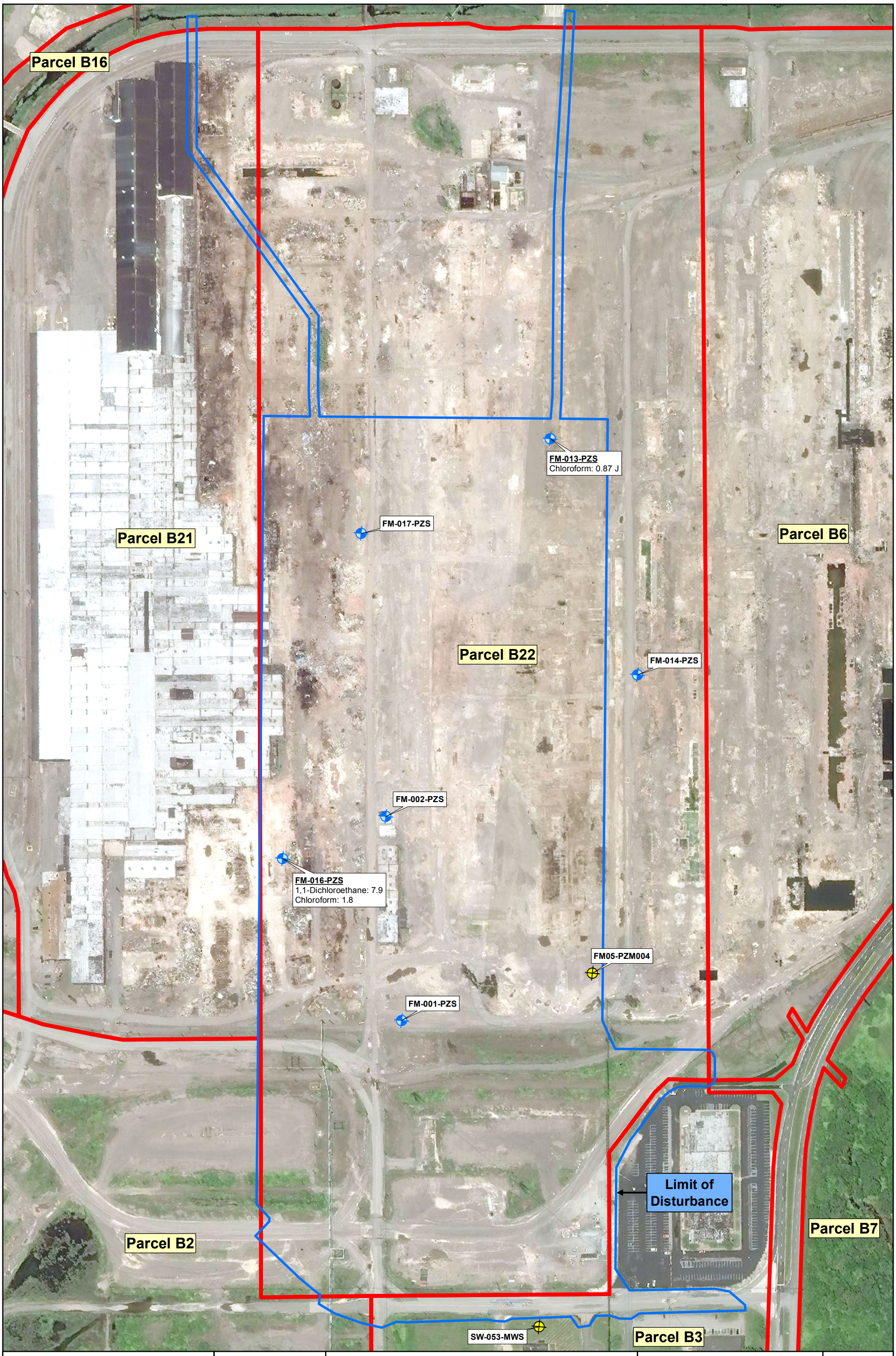
August 10, 2016

EnviroAnalytics Group
ARM Project 160443M-5

Tradepoint Atlantic
Baltimore County, MD

Figure

5



ARM Group Inc.
Earth Resource Engineers and Consultants

0 130 260 520 Feet

Area B Groundwater Well
FMGW Piezometer
Parcel Boundary
Limit of Disturbance

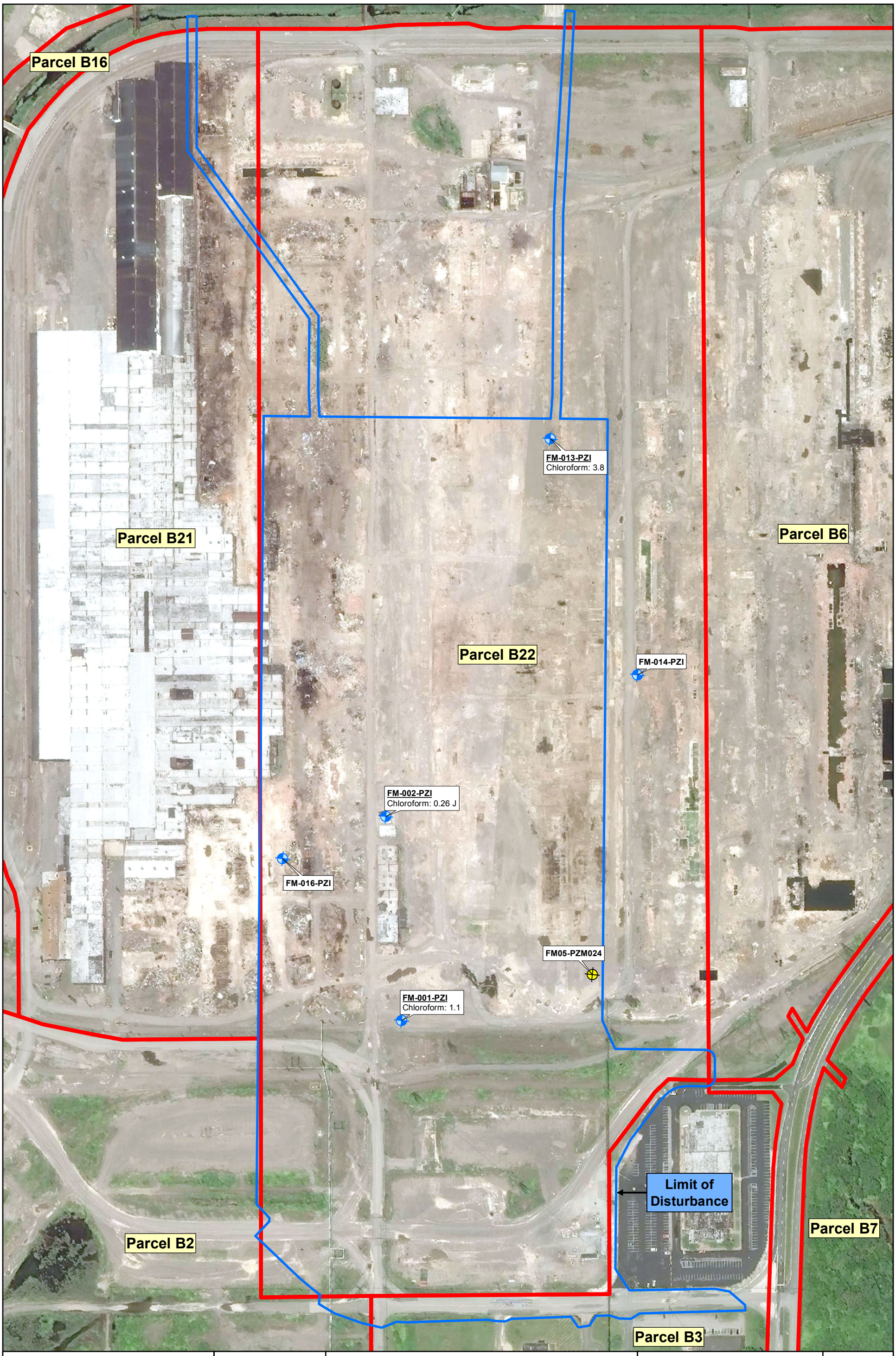
Parcel B22: Proposed Development Area Groundwater VOC Exceedances (ug/L) Shallow Hydrogeologic Zone

September 30, 2016

EnviroAnalytics Group
ARM Project 160443M-5

Tradepoint Atlantic
Baltimore County, MD

Figure
GW-1



ARM Group Inc.
Earth Resource Engineers and Consultants

0 130 260 520
Feet

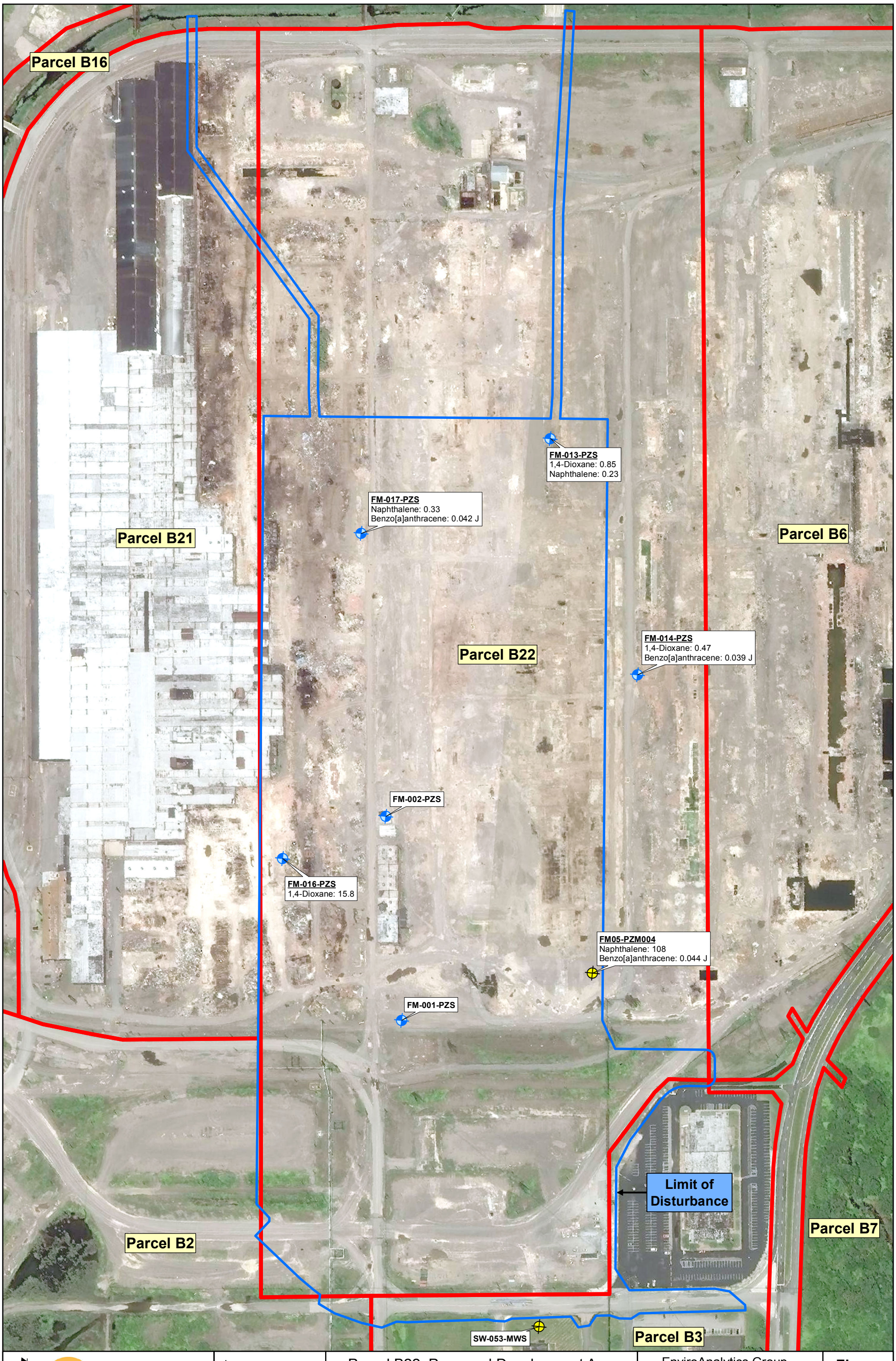
Area B Groundwater Well
FMGW Piezometer
Parcel Boundary
Limit of Disturbance

Parcel B22: Proposed Development Area
Groundwater VOC Exceedances (ug/L)
Intermediate Hydrogeologic Zone
September 30, 2016

EnviroAnalytics Group
ARM Project 160443M-5

Tradepoint Atlantic
Baltimore County, MD

Figure
GW-2



ARM Group Inc.
Earth Resource Engineers and Consultants

0 130 260 520
Feet

Area B Groundwater Well
FMGW Piezometer
Parcel Boundary
Limit of Disturbance

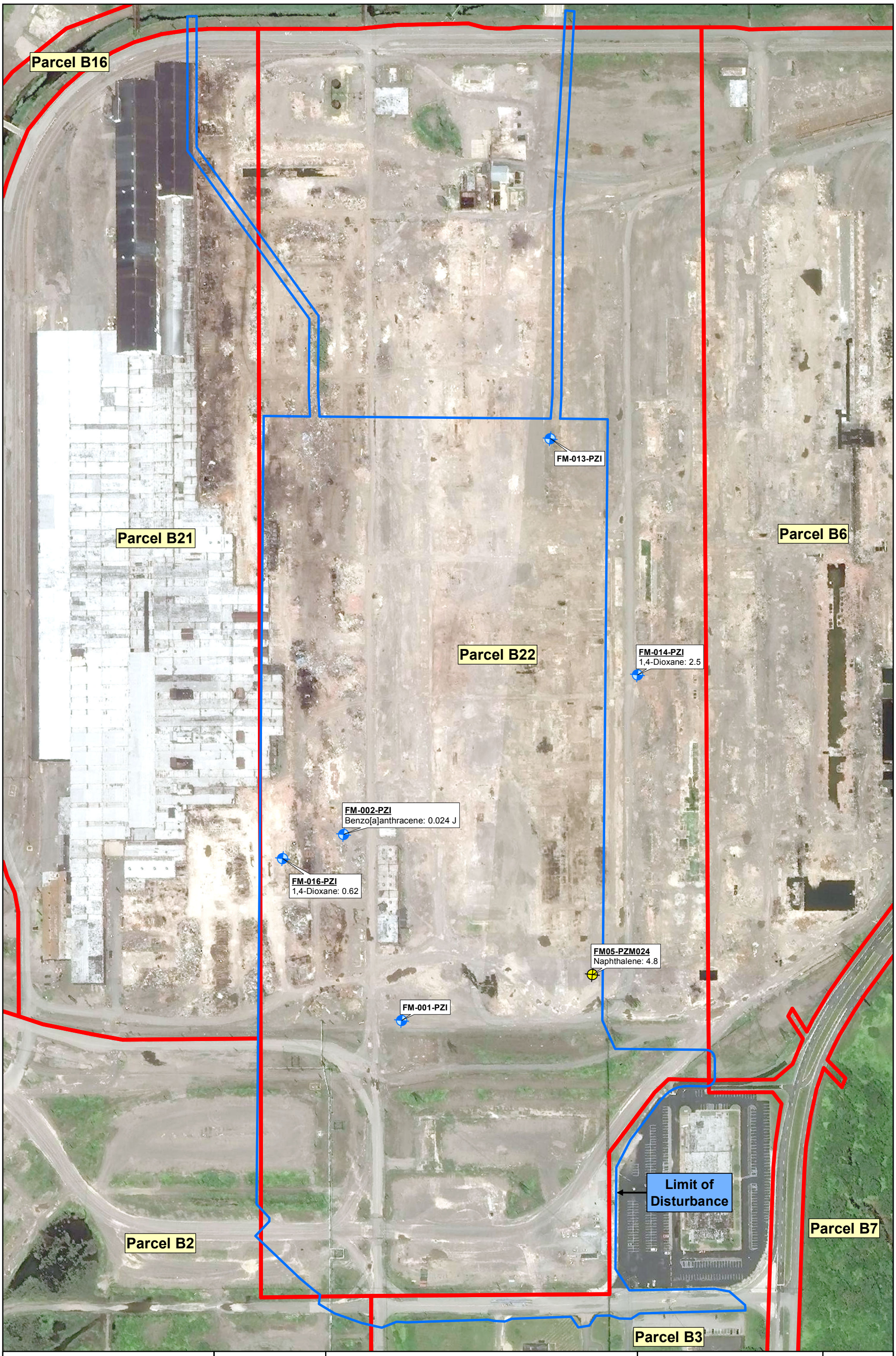
Parcel B22: Proposed Development Area Groundwater SVOC Exceedances (ug/L) Shallow Hydrogeologic Zone

September 30, 2016

EnviroAnalytics Group
ARM Project 160443M-5

Tradepoint Atlantic
Baltimore County, MD

Figure
GW-3



ARM Group Inc.
Earth Resource Engineers and Consultants

0 130 260 520
Feet

- Area B Groundwater Well
- FMGW Piezometer
- Parcel Boundary
- Limit of Disturbance

Parcel B22: Proposed Development Area Groundwater SVOC Exceedances (ug/L) Intermediate Hydrogeologic Zone

September 30, 2016

EnviroAnalytics Group
ARM Project 160443M-5

Tradepoint Atlantic
Baltimore County, MD

Figure
GW-4

Parcel B16

FM-013-PZS
DRO: 1,020 J

FM-017-PZS
DRO: 625 J

Parcel B21

Parcel B6

Parcel B22

FM-014-PZS
DRO: 156 J

FM-002-PZS
DRO: 184 J

FM-016-PZS
DRO: 59.1 J

FM05-PZM004
DRO: 1,610

FM-001-PZS
DRO: 48.4 J

Limit of Disturbance

Parcel B2

Parcel B7

SW-053-MWS
DRO: 56.8 J

Parcel B3

ARM Group Inc.
Earth Resource Engineers and Consultants

0 130 260 520
Feet

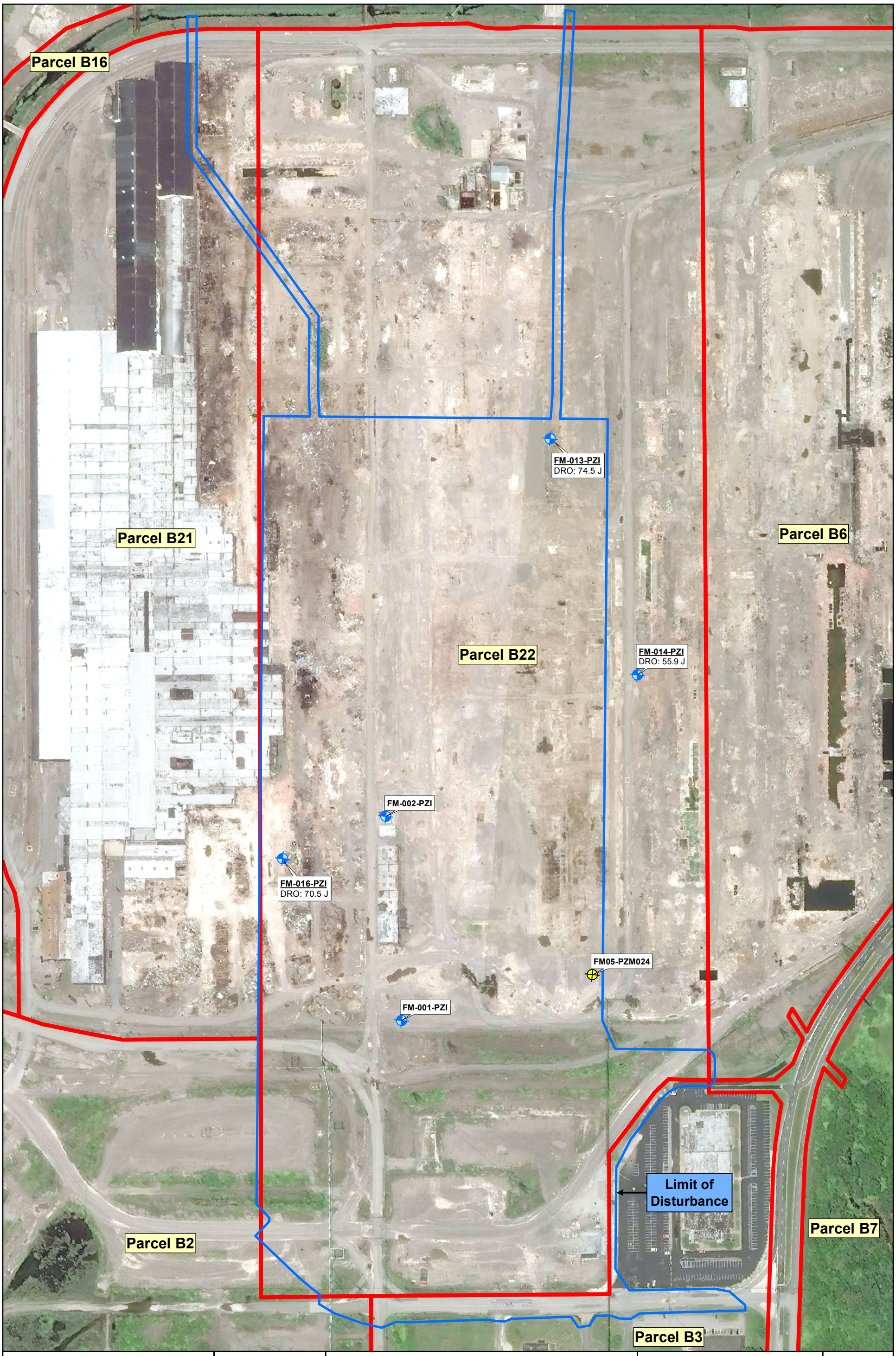
Area B Groundwater Well
FMGW Piezometer
Parcel Boundary
Limit of Disturbance

Parcel B22: Proposed Development Area
Groundwater TPH Exceedances (ug/L)
Shallow Hydrogeologic Zone
September 30, 2016

EnviroAnalytics Group
ARM Project 160443M-5

Tradepoint Atlantic
Baltimore County, MD

Figure
GW-5



ARM Group Inc.
Earth Resource Engineers and Consultants

0 130 260 520
Feet

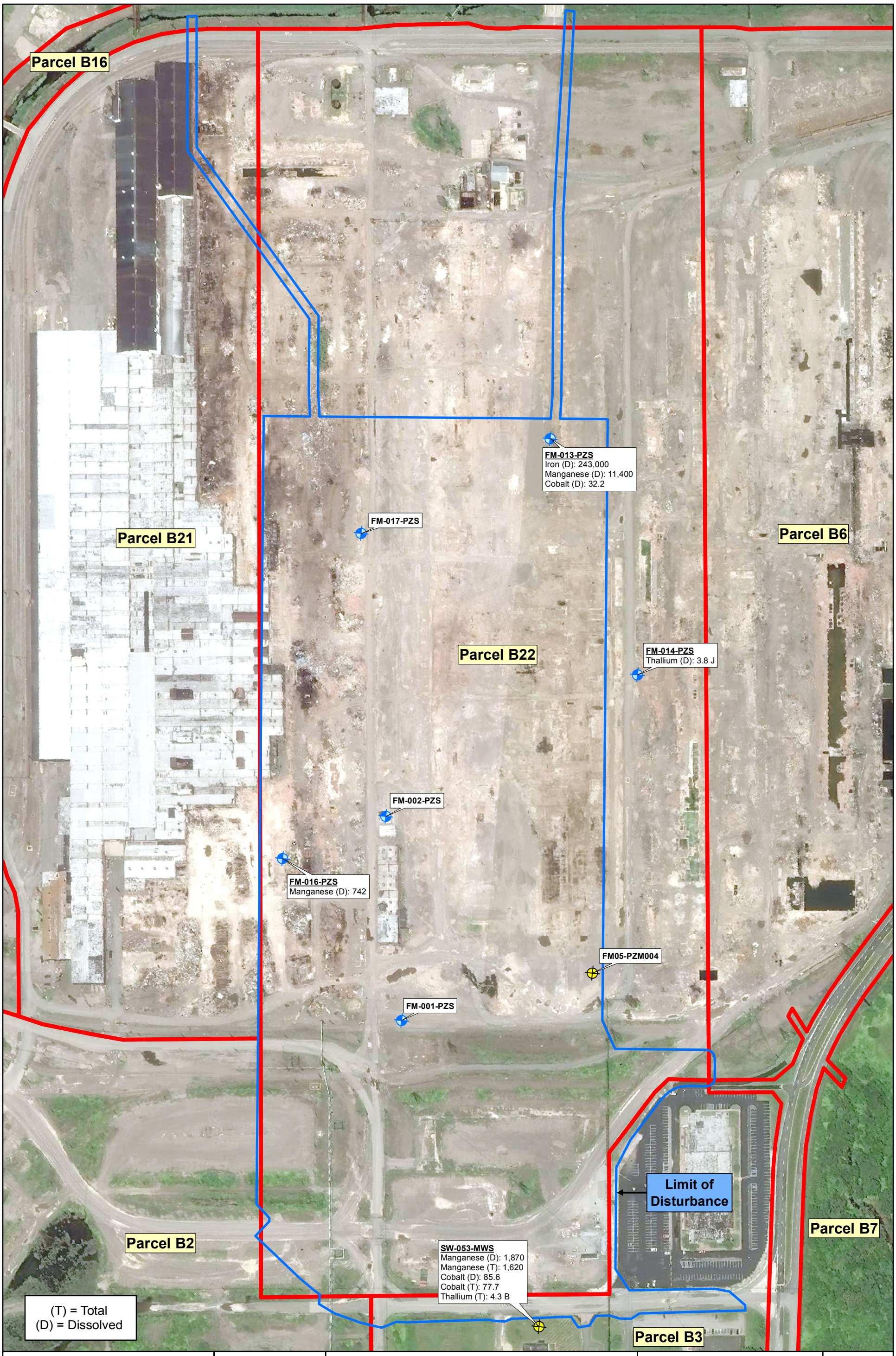
Area B Groundwater Well
FMGW Piezometer
Parcel Boundary
Limit of Disturbance

Parcel B22: Proposed Development Area
Groundwater TPH Exceedances (ug/L)
Intermediate Hydrogeologic Zone
September 30, 2016

EnviroAnalytics Group
ARM Project 160443M-5

Tradepoint Atlantic
Baltimore County, MD

Figure
GW-6



ARM Group Inc.
Earth Resource Engineers and Consultants

0 130 260 520
Feet

Area B Groundwater Well
FMGW Piezometer
Parcel Boundary
Limit of Disturbance

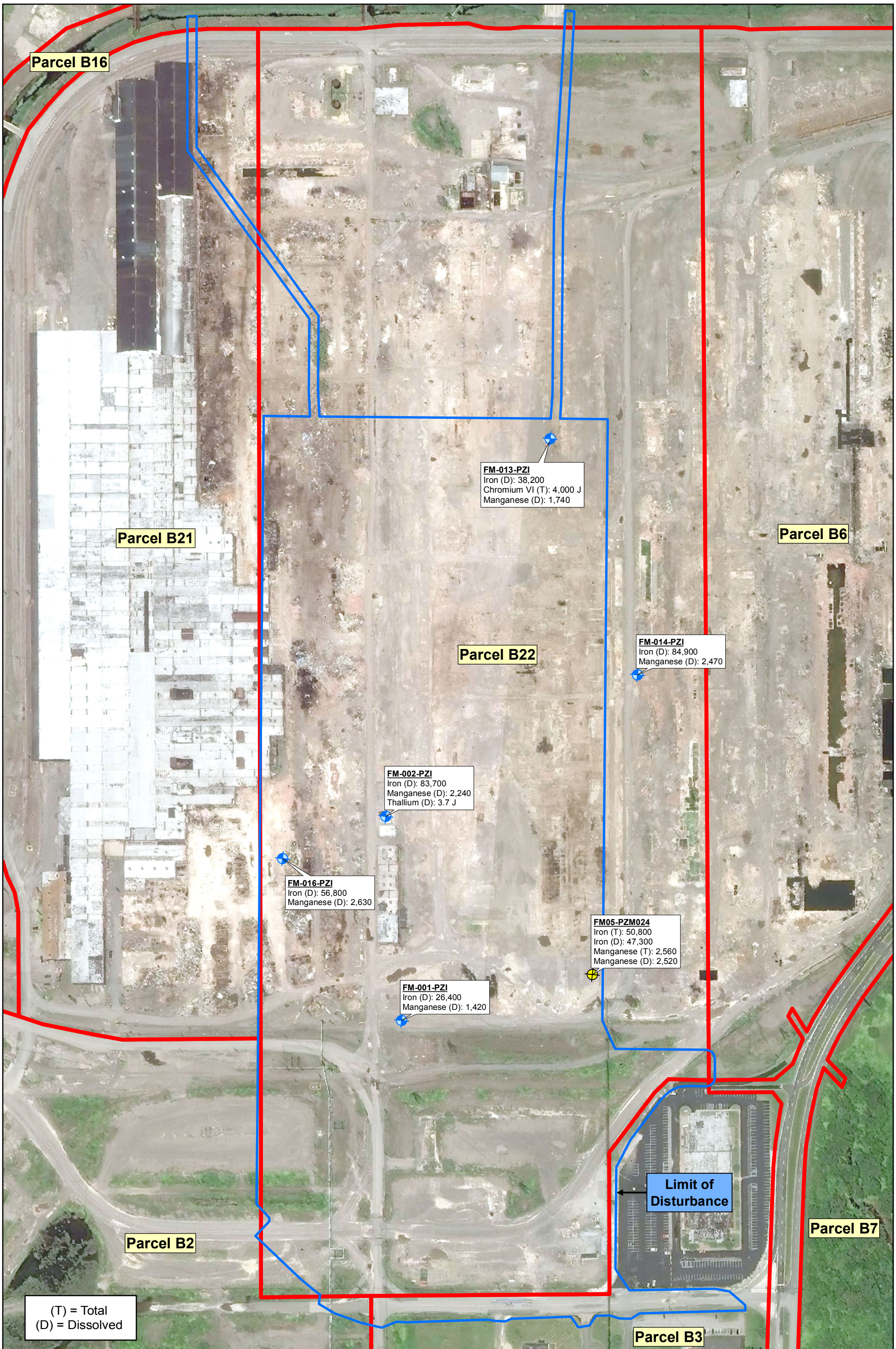
Parcel B22: Proposed Development Area Groundwater Inorganic Exceedances (ug/L) Shallow Hydrogeologic Zone

September 30, 2016

EnviroAnalytics Group
ARM Project 160443M-5

Tradepoint Atlantic
Baltimore County, MD

Figure
GW-7



ARM Group Inc.
Earth Resource Engineers and Consultants

0 130 260 520 Feet

Area B Groundwater Well
FMGW Piezometer
Parcel Boundary
Limit of Disturbance

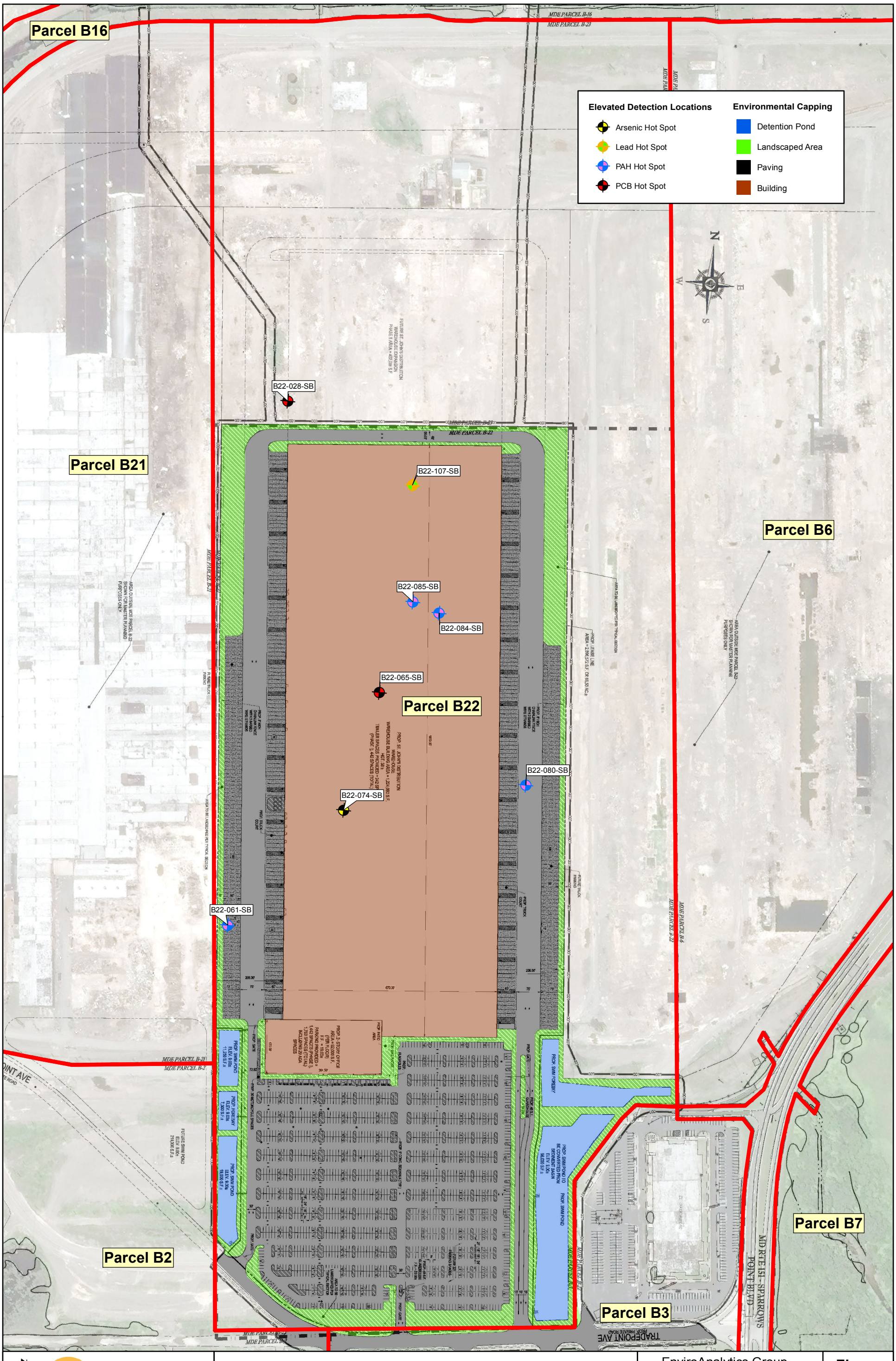
Parcel B22: Proposed Development Area Groundwater Inorganic Exceedances (ug/L) Intermediate Hydrogeologic Zone

September 30, 2016

EnviroAnalytics Group
ARM Project 160443M-5

Tradepoint Atlantic
Baltimore County, MD

Figure
GW-8



ARM Group Inc.
Earth Resource Engineers and Consultants

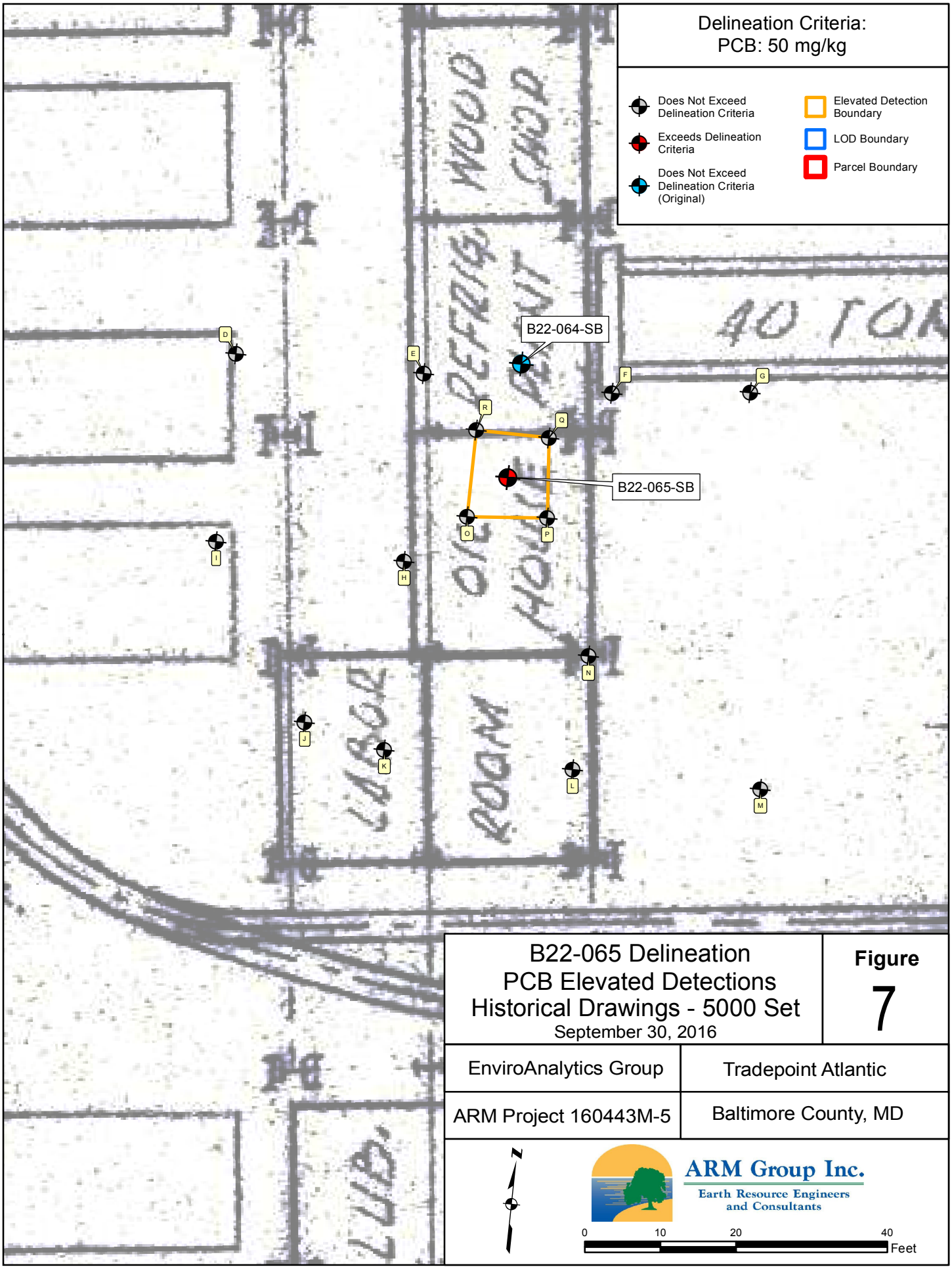
Parcel B22: Proposed Development Area
Elevated Detection Locations

January 11, 2017

EnviroAnalytics Group
ARM Project 160443M-5

Tradepoint Atlantic
Baltimore County, MD

Figure
6



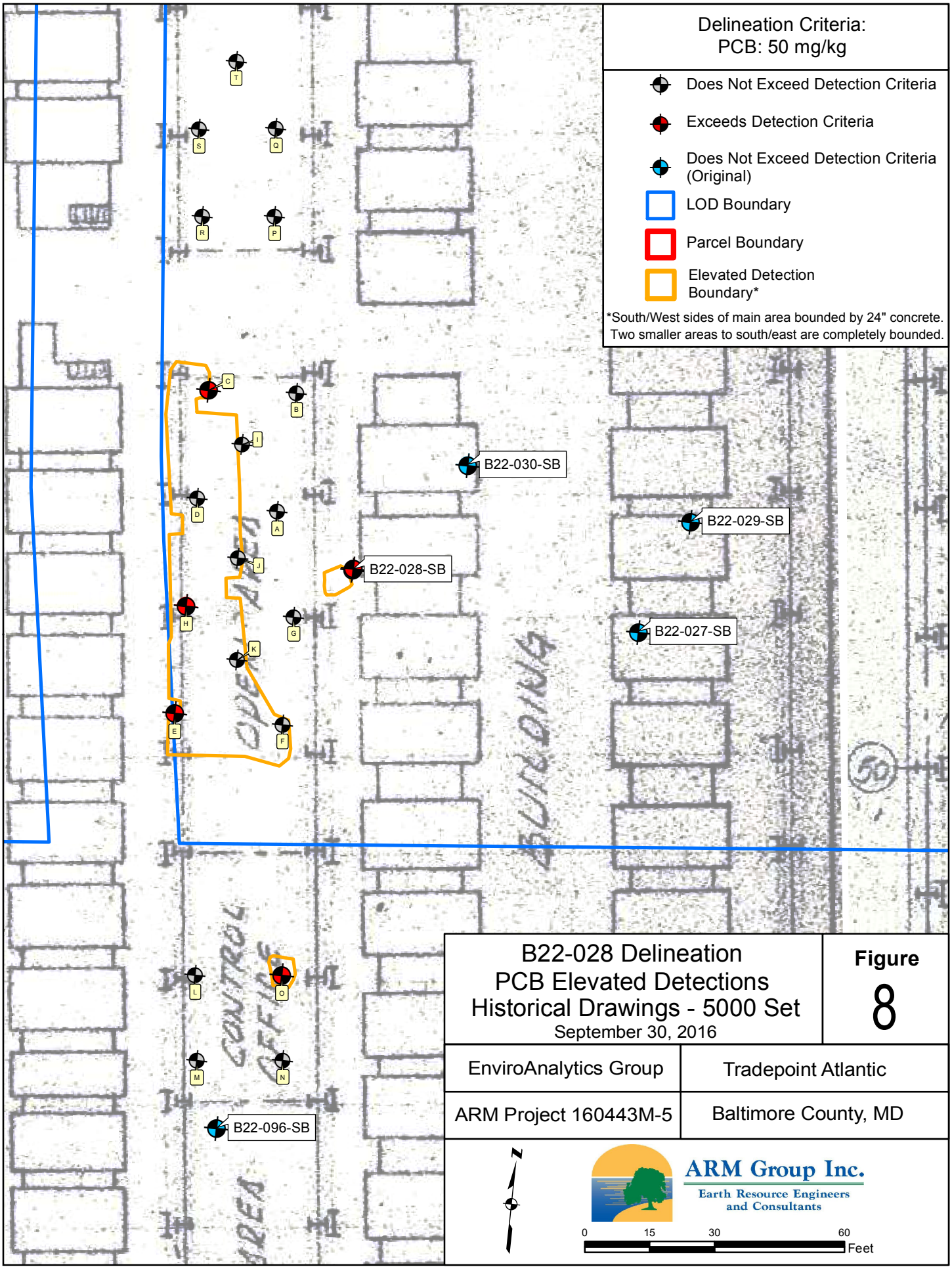
B22-065 Delineation
PCB Elevated Detections
Historical Drawings - 5000 Set

September 30, 2016

Figure
7

EnviroAnalytics Group	Tradepoint Atlantic
ARM Project 160443M-5	Baltimore County, MD

ARM Group Inc.
Earth Resource Engineers and Consultants



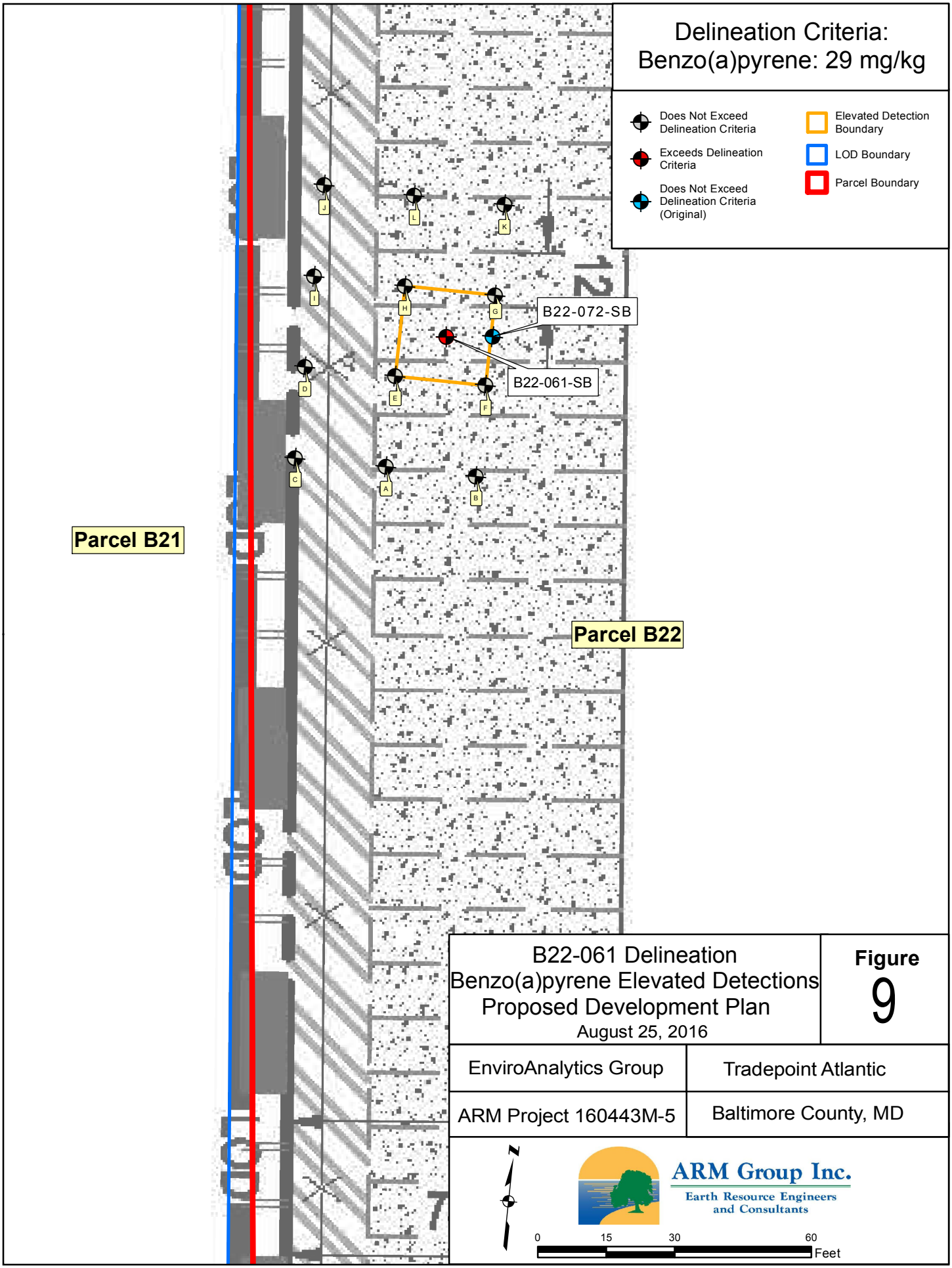
B22-028 Delineation
PCB Elevated Detections
Historical Drawings - 5000 Set

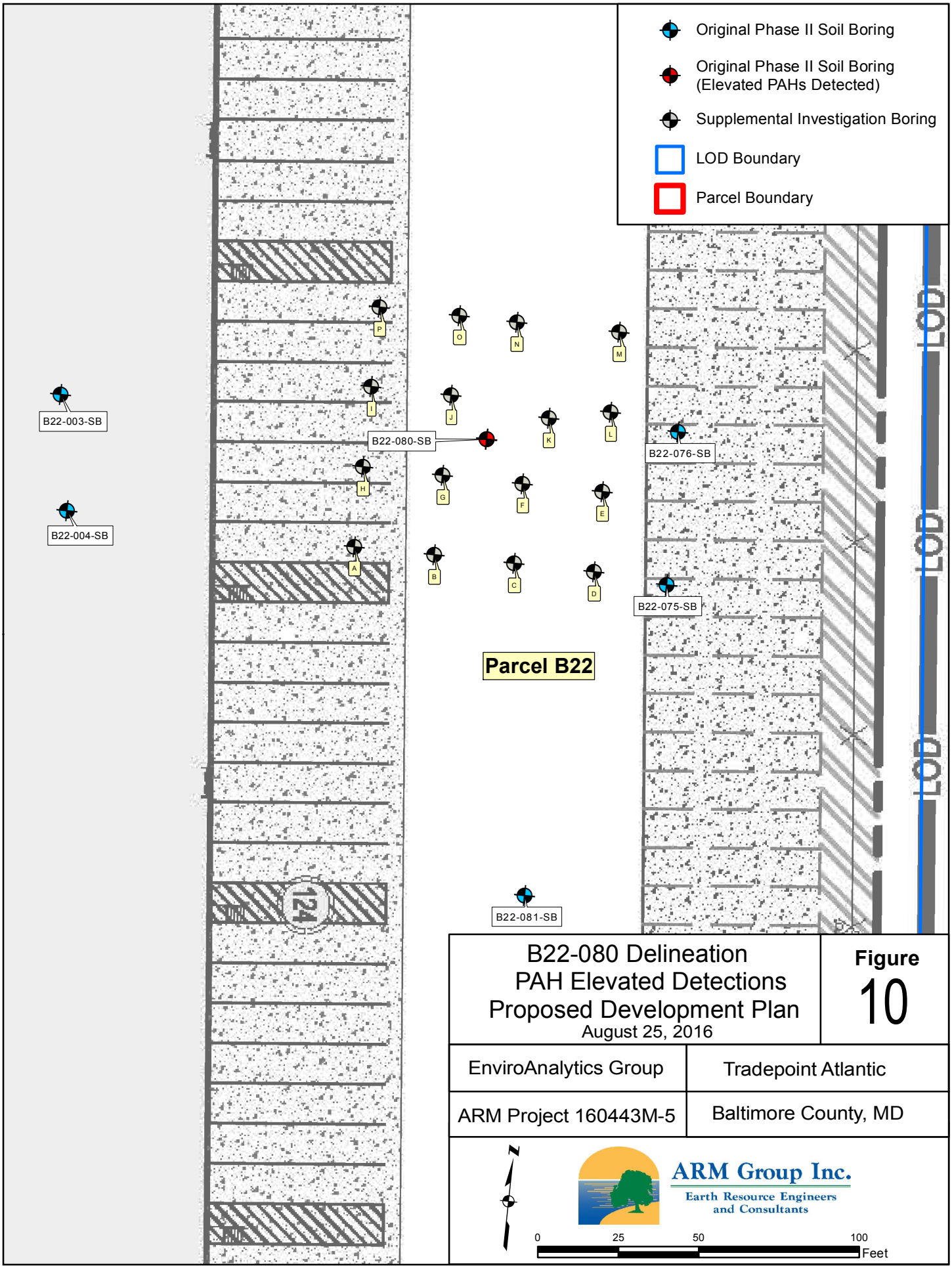
September 30, 2016

Figure 8

EnviroAnalytics Group	Tradepoint Atlantic
ARM Project 160443M-5	Baltimore County, MD

ARM Group Inc.
Earth Resource Engineers and Consultants


Delineation Criteria:
Benzo(a)pyrene: 29 mg/kg
Does Not Exceed Delineation Criteria
Exceeds Delineation Criteria
Does Not Exceed Delineation Criteria (Original)
Elevated Detection Boundary
LOD Boundary
Parcel Boundary
B22-072-SB
B22-061-SB
Parcel B21
Parcel B22
A
B
C
D
E
F
G
H
I
J
K
L
B22-061 Delineation
Benzo(a)pyrene Elevated Detections
Proposed Development Plan
August 25, 2016
Figure
9
EnviroAnalytics Group
Tradepoint Atlantic
ARM Project 160443M-5
Baltimore County, MD
ARM Group Inc.
Earth Resource Engineers and Consultants
0
15
30
60
Feet



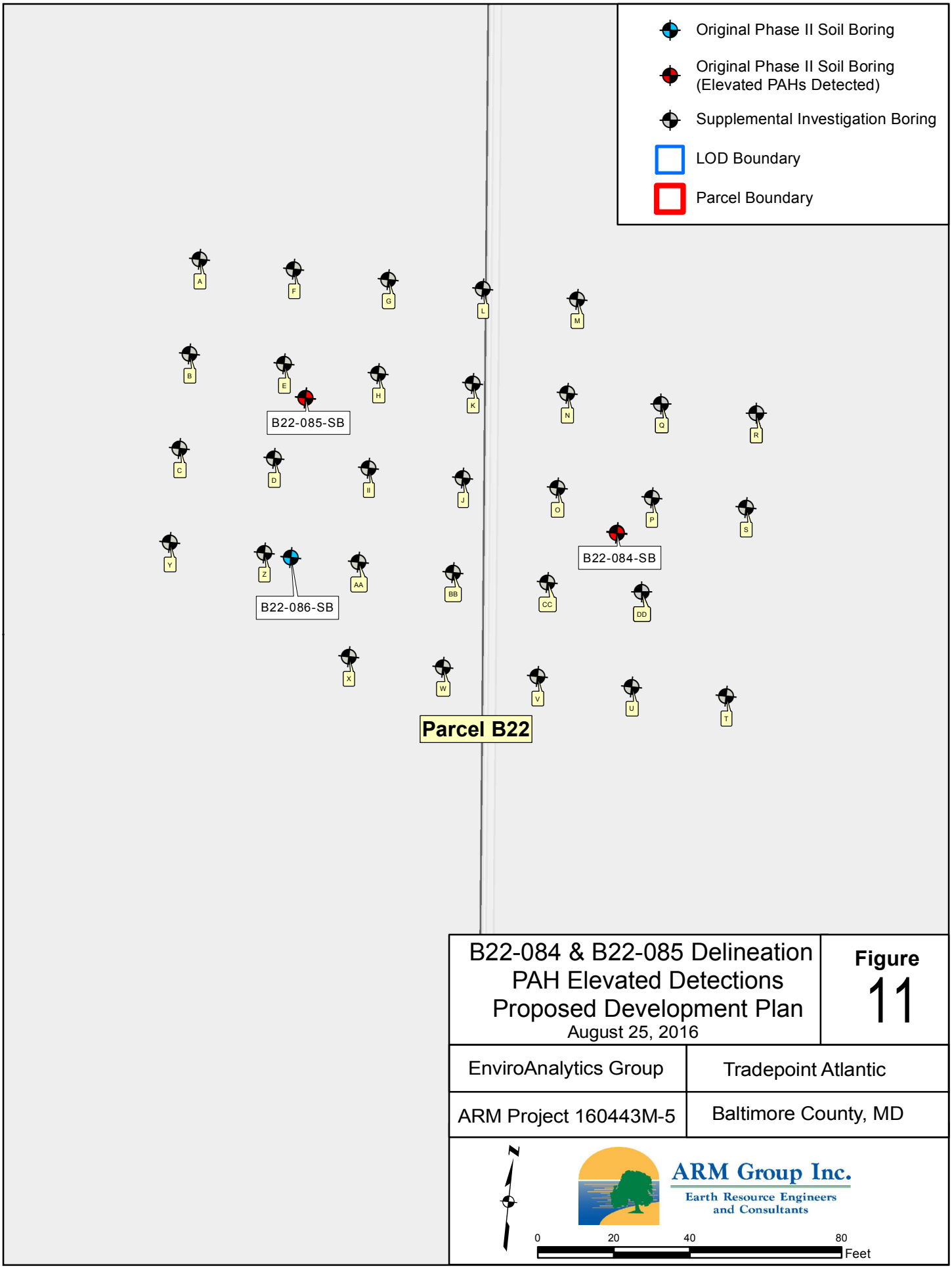
B22-080 Delineation
PAH Elevated Detections
Proposed Development Plan
August 25, 2016

Figure
10

EnviroAnalytics Group	Tradepoint Atlantic
ARM Project 160443M-5	Baltimore County, MD

ARM Group Inc.
Earth Resource Engineers and Consultants

0 25 50 100 Feet



B22-084 & B22-085 Delineation PAH Elevated Detections Proposed Development Plan

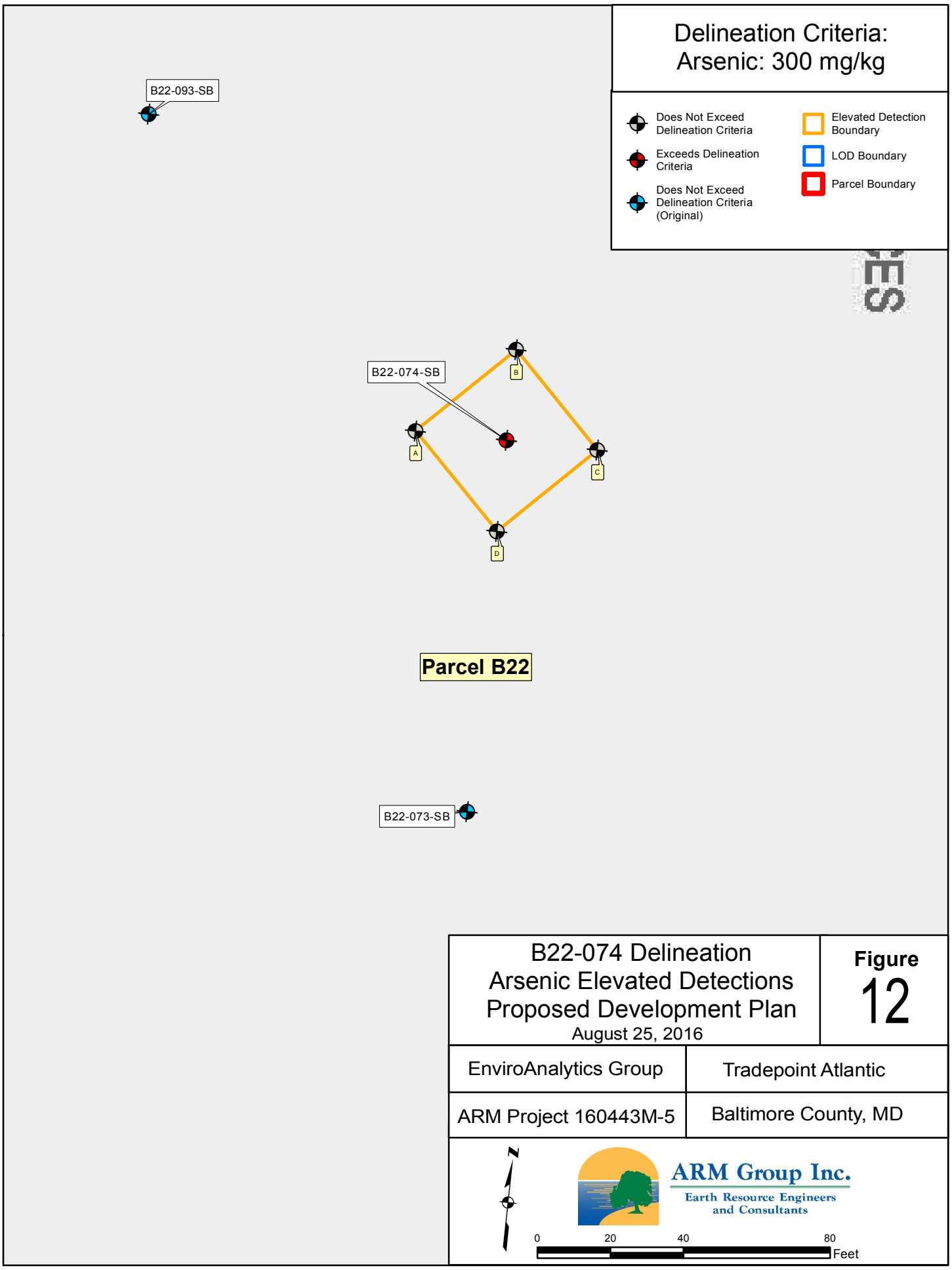
August 25, 2016

Figure 11

EnviroAnalytics Group	Tradepoint Atlantic
ARM Project 160443M-5	Baltimore County, MD

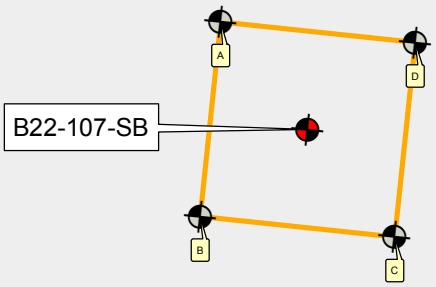
ARM Group Inc.
Earth Resource Engineers and Consultants

0 20 40 80 Feet


Delineation Criteria:
Arsenic: 300 mg/kg
Does Not Exceed Delineation Criteria
Exceeds Delineation Criteria
Does Not Exceed Delineation Criteria (Original)
Elevated Detection Boundary
LOD Boundary
Parcel Boundary
B22-093-SB
B22-074-SB
A
B
C
D
Parcel B22
B22-073-SB
B22-074 Delineation
Arsenic Elevated Detections
Proposed Development Plan
August 25, 2016
Figure
12
EnviroAnalytics Group
Tradepoint Atlantic
ARM Project 160443M-5
Baltimore County, MD
ARM Group Inc.
Earth Resource Engineers and Consultants
0
20
40
80
Feet

Delineation Criteria:
Lead: 2,000 mg/kg

- Does Not Exceed Delineation Criteria
- Exceeds Delineation Criteria
- Does Not Exceed Delineation Criteria (Original)
- Elevated Detection Boundary
- LOD Boundary
- Parcel Boundary



Parcel B22

B22-107 Delineation
Lead Elevated Detections
Proposed Development Plan

August 25, 2016

Figure 13

EnviroAnalytics Group	Tradepoint Atlantic
ARM Project 160443M-5	Baltimore County, MD

ARM Group Inc.
Earth Resource Engineers and Consultants

0 15 30 60 Feet

\\armgroup.lcl\CorpData\Projects\EnviroAnalytics Group\150300M EAG_Sparrows Point Area B\Drwg\B22\Site Development\Figure 6a - Environmental Capping Detail_8-23-16.dwg Plotted: August 23, 2016

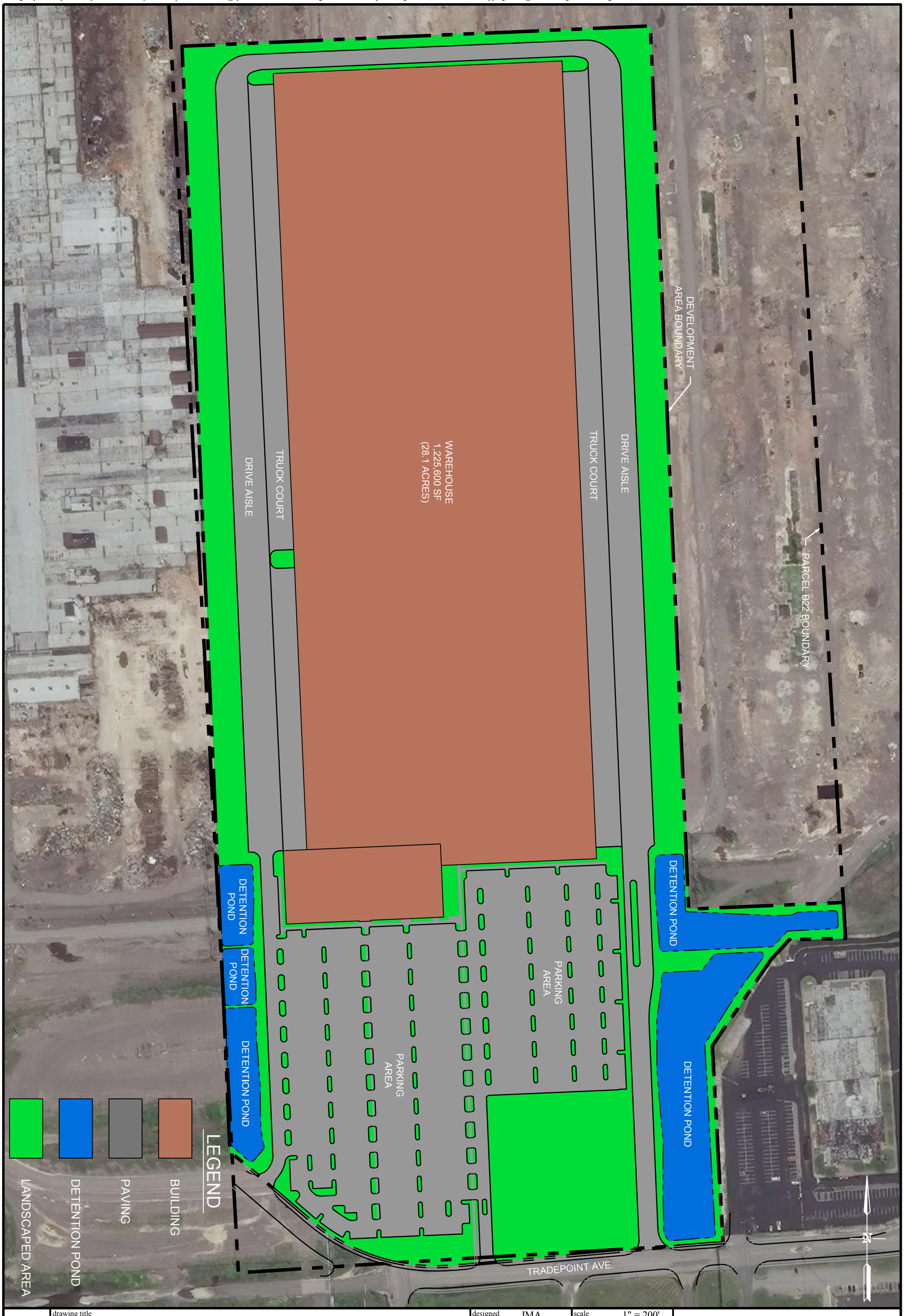


Figure 14a

drawing title: ENVIRONMENTAL CAPPING PLAN

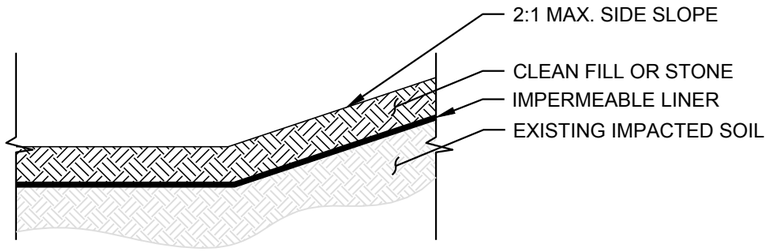
project title: SPARROWS POINT AREA B
ENVIROANALYTICS GROUP

SPARROWS POINT
BALTIMORE COUNTY, MARYLAND

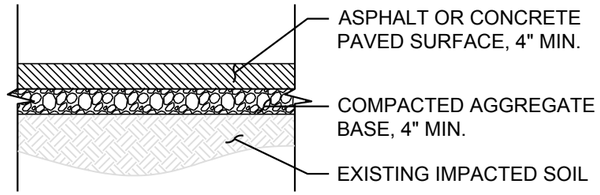
designed	JMA	scale	1" = 200'
checked	TNP	date	8/23/2016
drawn	JMA	project no.	160443M-5

0 200 400
SCALE IN FEET

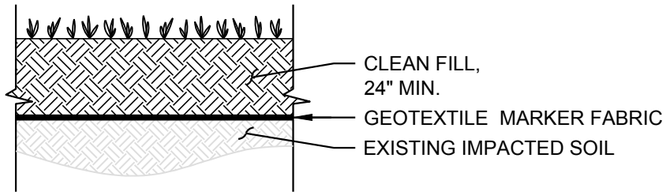
ARM Group Inc.
Earth Resource Engineers and Consultants
www.armgroup.net



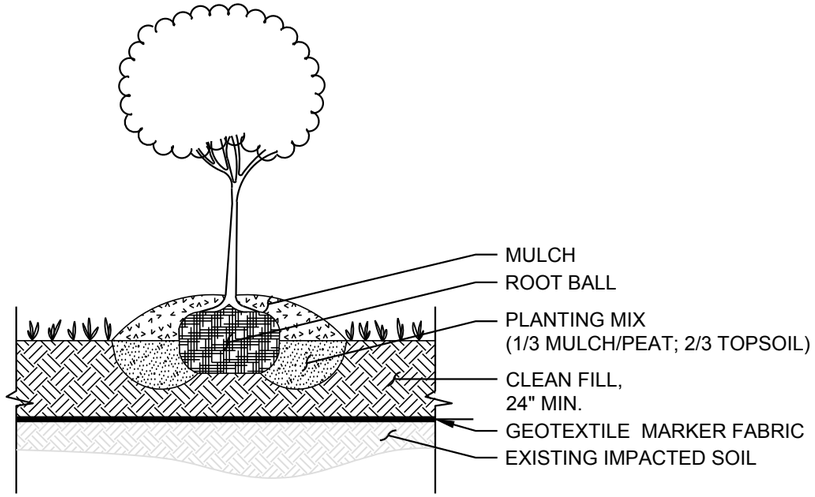
TYPICAL POND SECTION
NOT TO SCALE



TYPICAL PAVING SECTION
NOT TO SCALE



TYPICAL LANDSCAPE SECTION
NOT TO SCALE



TYPICAL PLANTING SECTION
NOT TO SCALE

GEOTEXTILE MARKER FABRIC SPECIFICATIONS

THE GEOTEXTILE MARKER FABRIC SHALL BE A NONWOVEN PERVIOUS SHEET OF POLYPROPYLENE MATERIAL. ADD STABILIZERS AND/OR INHIBITORS TO THE BASE MATERIAL, AS NEEDED, TO MAKE THE FILAMENTS RESISTANT TO DETERIORATION BY ULTRAVIALET LIGHT, OXIDATION AND HEAT EXPOSURE. REGRIND MATERIAL, WHICH CONSISTS OF EDGE TRIMMINGS AND OTHER SCRAPS THAT HAVE NEVER REACHED THE CONSUMER, MAY BE USED TO PRODUCE THE GEOTEXTILE. POST-CONSUMER RECYCLED MATERIAL MAY BE USED. GEOTEXTILE SHALL BE FORMED INTO A NETWORK SUCH THAT THE FILAMENTS OR YARNS RETAIN DIMENSIONAL STABILITY RELATIVE TO EACH OTHER, INCLUDING THE EDGES. GEOTEXTILES SHALL MEET THE REQUIRE,MENTS SPECIFIED IN TABLE 1. WHERE APPLICABLE, TABLE 1 PROPERTY VALUES REPRESENT THE MINIMUM AVERAGE ROLL VALUES IN THE WEAKEST PRINCIPAL DIRECTION. VALUES FOR APPARENT OPENING SIZE (AOS) REPRESENT MAXIMUM AVERAGE ROLL VALUES

TABLE 1

		WOVEN SLIT FILM GEOTEXTILE		WOVEN MONOFILAMENT GEOTEXTILE		NONWOVEN GEOTEXTILE	
		MINIMUM AVERAGE ROLL VALUE[1]					
PROPERTY	TEST METHOD	MD	CD	MD	CD	MD	CD
Grab Tensile Strength	ASTM D-4632	200 lb	200 lb	370 lb	250 lb	200 lb	200 lb
Grab Tensile Elongation	ASTM D-4632	15%	10%	15%	15%	50%	50%
Trapezoidal Tear Strength	ASTM D-4533	75 lb	75 lb	100 lb	60 lb	80 lb	80 lb
Puncture Strength	ASTM D-6241	450 lb		900 lb		450 lb	
Apparent Opening Size[2]	ASTM D-4751	U.S. Sieve 30 (0.59 mm)		U.S. Sieve 70 (0.21 mm)		U.S. Sieve 70 (0.21 mm)	
Permittivity	ASTM D-4491	0.05 sec^{-1}		0.28 sec^{-1}		1.1 sec^{-1}	
Ultraviolet Resistance Retained at 500 hours	ASTM D-4355	70% strength		70% strength		70% strength	

[1] All numeric values except apparent opening size (AOS) represent minimum average roll values (MARV). MARV is calculated as the typical minus two standard deviations. MD is machine direction; CD is cross direction.

[2] Values for AOS represent the average maximum opening.

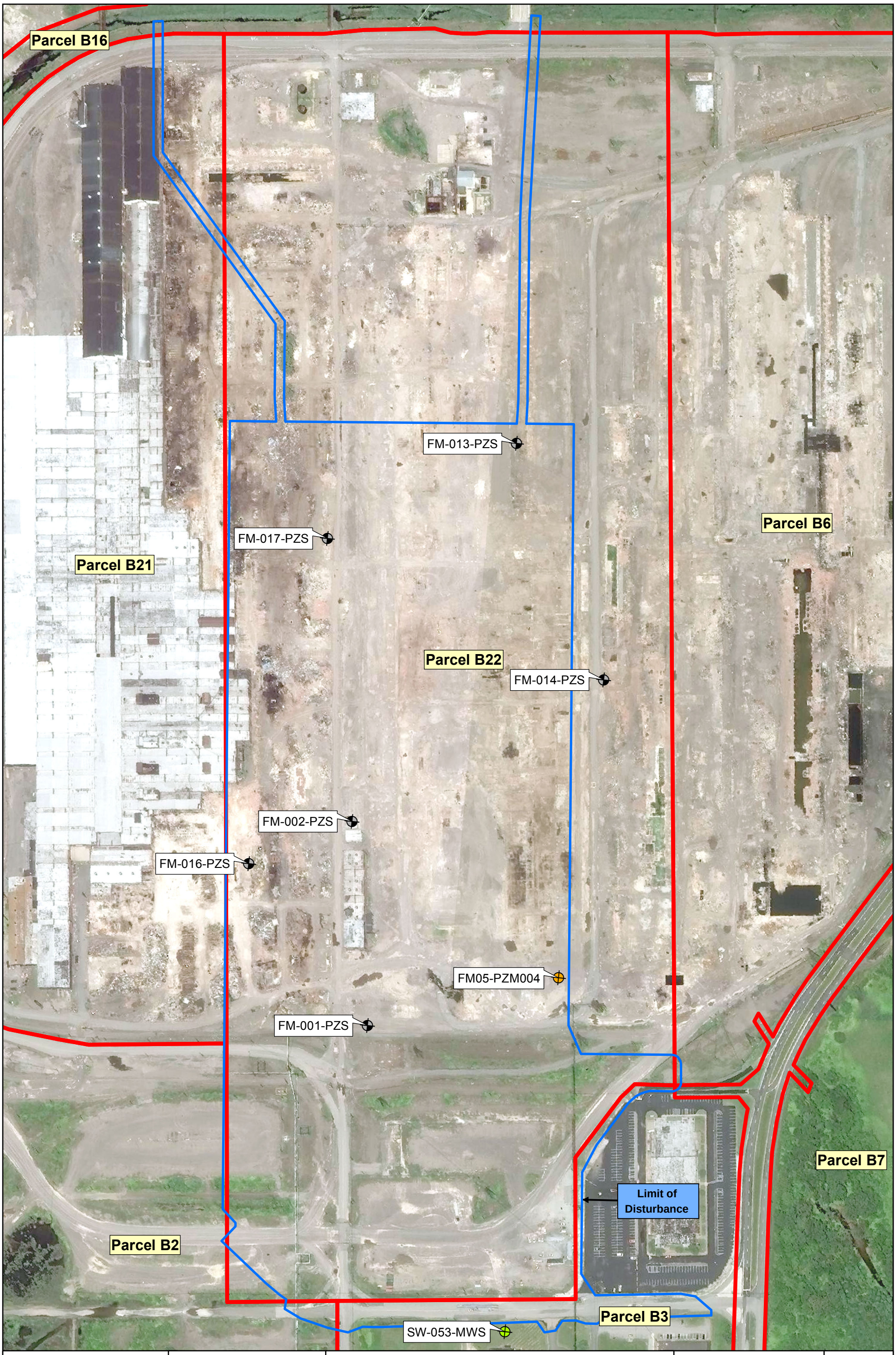
ARM Group Inc.
Earth Resource Engineers and Consultants
www.armgroup.net

designed JMA
checked TNP
drawn JMA
scale AS NOTED
date 8/23/2016
project no. 160443M-5

drawing title: ENVIRONMENTAL CAPPING DETAILS

project title: SPARROWS POINT AREA B ENVIROANALYTICS GROUP
SPARROWS POINT
BALTIMORE COUNTY, MARYLAND

Figure 14b



Parcel B22: Proposed Development Area
Groundwater Network Abandonment
Shallow Hydrogeologic Zone

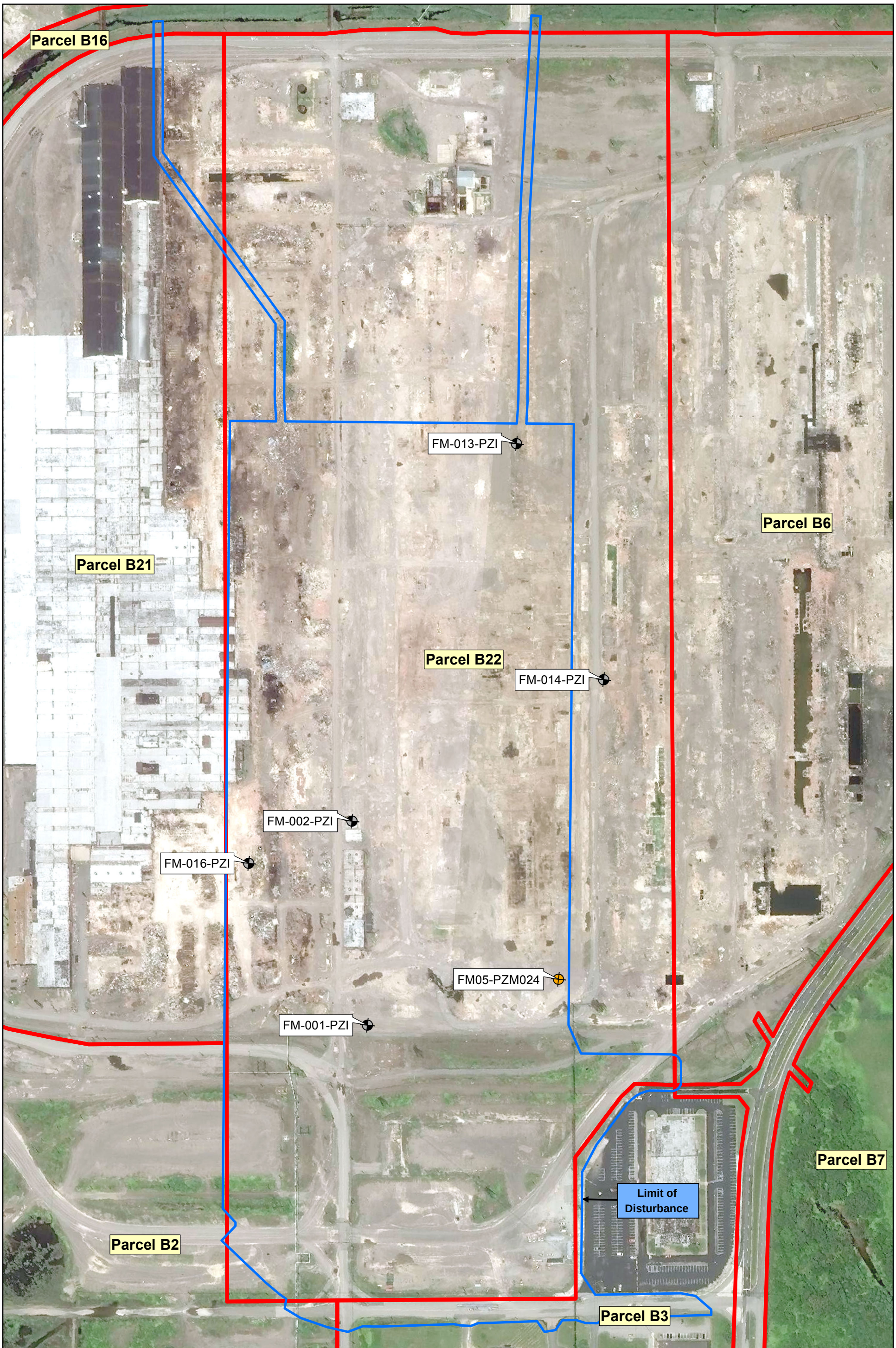
August 10, 2016

EnviroAnalytics Group
ARM Project 160443M-5

Tradepoint Atlantic
Baltimore County, MD

Figure

15



ARM Group Inc.
Earth Resource Engineers and Consultants

0 105 210 420
Feet

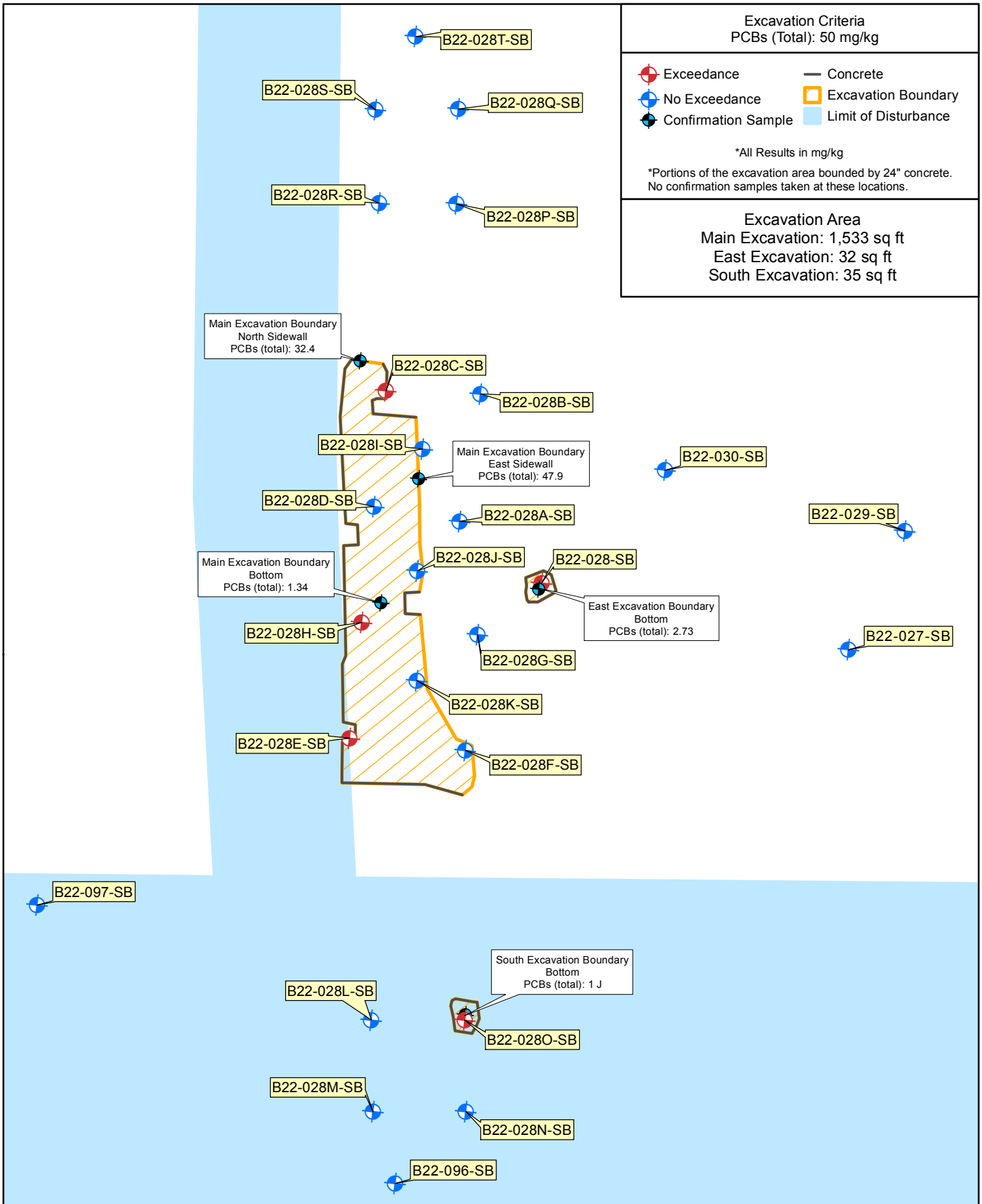
Area B Groundwater Well (abandon)
FMGW Piezometer (abandon)
Limit of Disturbance
Parcel Boundary

Parcel B22: Proposed Development Area
Groundwater Network Abandonment
Intermediate Hydrogeologic Zone
August 10, 2016

EnviroAnalytics Group
ARM Project 160443M-5

Tradepoint Atlantic
Baltimore County, MD

Figure
16



ARM Group Inc.
Earth Resource Engineers and Consultants

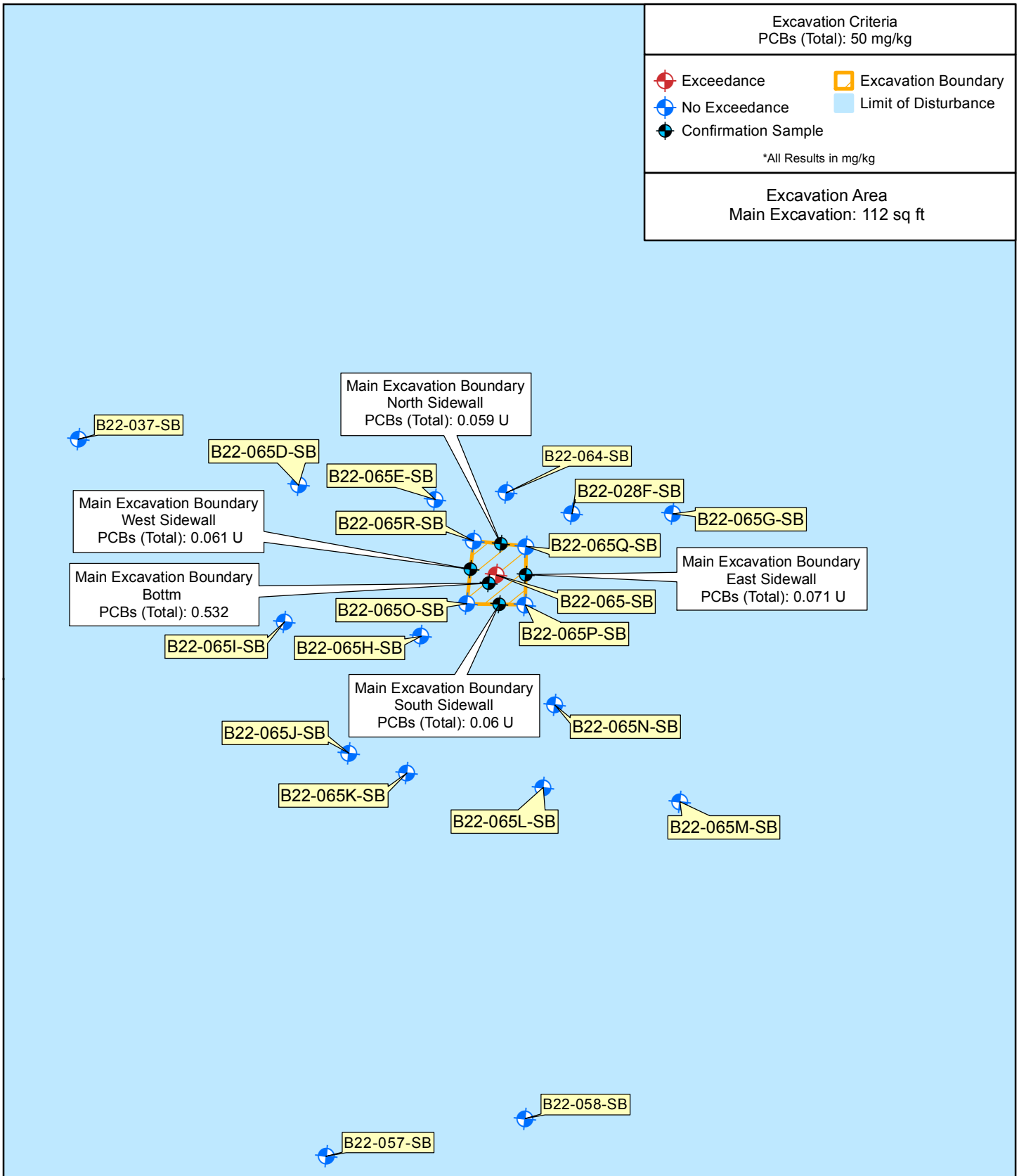
B22-028-SB Excavation
Aerial View

November 11, 2016

EnviroAnalytics Group
ARM Project 160443M-5

Tradepoint Atlantic
Baltimore County, MD

Figure
17



ARM Group Inc.
Earth Resource Engineers and Consultants

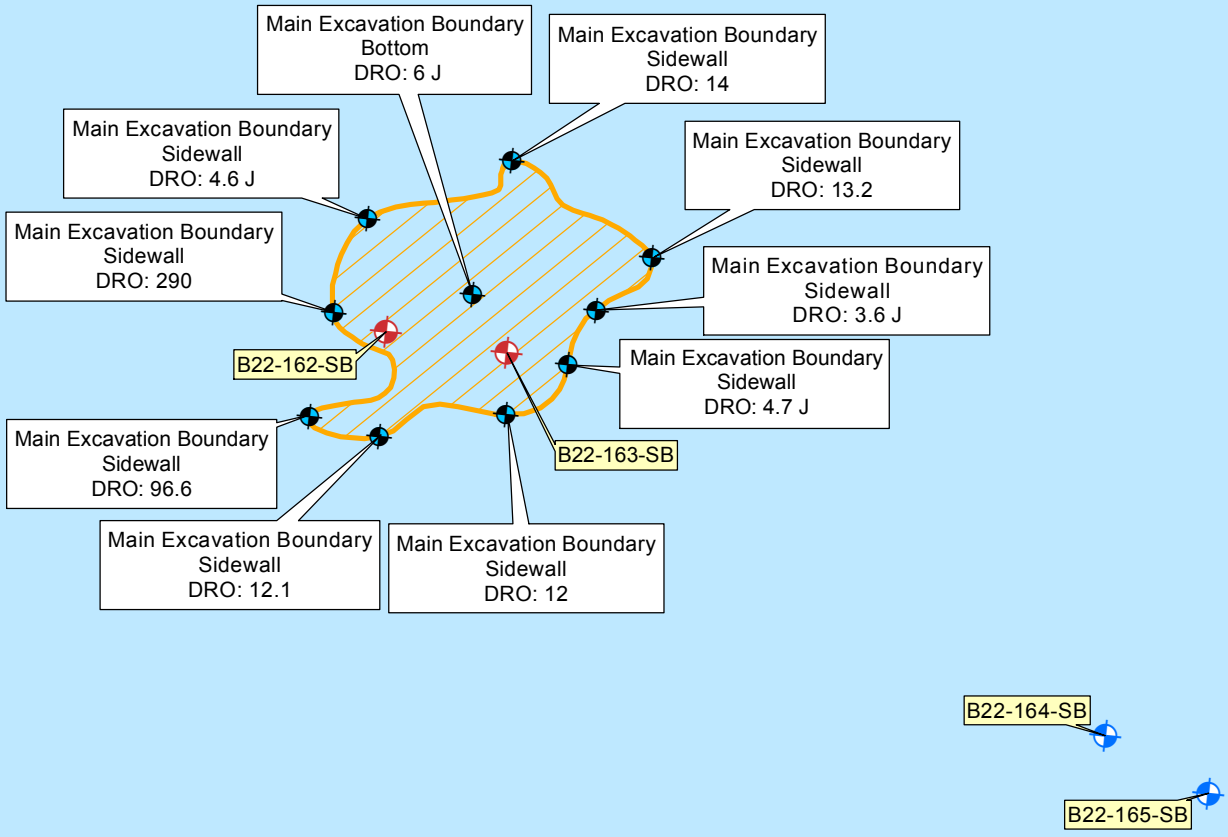
B22-065-SB Excavation
Aerial View

November 11, 2016

EnviroAnalytics Group
ARM Project 160443M-5

Tradepoint Atlantic
Baltimore County, MD

Figure
18



ARM Group Inc.
Earth Resource Engineers and Consultants

0 15 30 60
Feet

B22-162-SB & B22-163-SB Excavation
Aerial View

November 11, 2016

EnviroAnalytics Group
ARM Project 160443M-5

Tradepoint Atlantic
Baltimore County, MD

Figure
19

TABLES

Table 1
Summary of Organics Detected in Soil
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-003-SB-1	B22-003-SB-4	B22-004-SB-1	B22-004-SB-4	B22-007-SB-1	B22-007-SB-4	B22-008-SB-1	B22-008-SB-4	B22-009-SB-1	B22-009-SB-6	B22-010-SB-1	B22-010-SB-4	B22-013-SB-1	B22-013-SB-4	B22-014-SB-1	B22-014-SB-5	B22-015-SB-1*	B22-015-SB-4*	B22-016-SB-1*	B22-016-SB-5*	B22-017-SB-1*	B22-017-SB-6*
Volatile Organic Compounds																								
1,1,1-Trichloroethane	mg/kg	36,000	0.0056 U	0.0049 U	0.0049 U	0.0044 U	0.0054 U	0.0054 U	0.0076 U	0.0051 U	0.0043 U	0.0065 U	0.0052 U	0.0051 U	0.0054 U	0.005 U	0.0047 U	0.0051 U	0.0046 U	0.0044 U	0.0045 U	0.0061 U	0.0049 U	0.0049 U
1,1-Dichloroethane	mg/kg	16	0.0056 U	0.0049 U	0.0049 U	0.0044 U	0.0054 U	0.0054 U	0.0076 U	0.0051 U	0.0043 U	0.0065 U	0.0052 U	0.0051 U	0.0054 U	0.005 U	0.0047 U	0.0051 U	0.0046 U	0.0044 U	0.0045 U	0.0061 U	0.0049 U	**0.01**
1,1-Dichloroethene	mg/kg	1,000	0.0056 U	0.0049 U	0.0049 U	0.0044 U	0.0054 U	0.0054 U	0.0076 U	0.0051 U	0.0043 U	0.0065 U	0.0052 U	0.0051 U	0.0054 U	0.005 U	0.0047 U	0.0051 U	0.0046 U	0.0044 U	0.0045 U	0.0061 U	0.0049 U	0.0049 U
1,2,3-Trichlorobenzene	mg/kg	930	0.0056 U	0.0049 U	0.0049 U	0.0044 U	0.0054 U	0.0054 U	0.0076 U	0.0051 U	0.0043 U	0.0065 U	0.0052 U	0.0051 U	0.0054 U	0.005 U	0.0047 U	0.0051 U	0.0046 U	0.0044 U	0.0045 U	0.0061 U	0.0049 U	0.0049 U
1,2,4-Trichlorobenzene	mg/kg	110	0.0056 U	0.0049 U	0.0049 U	0.0044 U	0.0054 U	**0.0026 J**	0.0076 U	0.0051 U	0.0043 U	0.0065 U	0.0052 U	0.0051 U	0.0054 U	0.005 U	0.0047 U	0.0051 U	0.0046 U	0.0044 U	0.0045 U	0.0061 U	0.0049 U	0.0049 U
1,2-Dichloroethane	mg/kg	2	0.0056 U	0.0049 U	0.0049 U	0.0044 U	0.0054 U	0.0054 U	0.0076 U	0.0051 U	0.0043 U	0.0065 U	0.0052 U	0.0051 U	0.0054 U	0.005 U	0.0047 U	0.0051 U	0.0046 U	0.0044 U	0.0045 U	0.0061 U	0.0049 U	0.0049 U
1,2-Dichloroethene (Total)	mg/kg	2,300	0.011 U	0.0098 U	0.0098 U	0.0089 U	0.011 U	0.011 U	0.015 U	0.01 U	0.0087 U	0.013 U	0.01 U	0.01 U	0.011 U	0.01 U	0.0095 U	0.01 U	0.0093 U	0.0088 U	0.0091 U	0.012 U	0.0098 U	0.0098 U
1,4-Dichlorobenzene	mg/kg	11	0.0056 U	0.0049 U	0.0049 U	0.0044 U	0.0054 U	0.0054 U	0.0076 U	0.0051 U	0.0043 U	0.0065 U	0.0052 U	0.0051 U	0.0054 U	0.005 U	0.0047 U	0.0051 U	0.0046 U	0.0044 U	0.0045 U	0.0061 U	0.0049 U	0.0049 U
1,4-Dioxane	mg/kg	24	0.11 R	0.098 R	0.098 R	0.089 R	0.11 R	0.11 R	0.15 R	0.1 R	0.087 R	0.13 R	0.1 R	0.1 R	0.11 R	0.1 R	0.095 R	0.1 R	0.093 U	0.088 U	0.091 U	0.12 U	0.098 U	0.098 U
2-Butanone (MEK)	mg/kg	190,000	0.011 U	0.0098 U	0.0098 U	0.0089 U	0.011 U	0.011 U	0.015 U	0.01 U	0.0087 U	0.013 U	0.01 U	0.01 U	0.011 U	0.01 U	0.0095 U	0.01 U	**0.0048 J**	**0.0054 J**	0.0091 U	**0.0043 J**	0.0098 U	0.0098 U
2-Hexanone	mg/kg	1,300	0.011 U	0.0098 U	0.0098 U	0.0089 U	0.011 U	0.011 U	0.015 U	0.01 U	0.0087 U	0.013 U	0.01 U	0.01 U	0.011 U	0.01 U	0.0095 U	0.01 U	0.0093 U	0.0088 U	0.0091 U	**0.0021 J**	0.0098 U	0.0098 U
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	0.011 UJ	0.0098 UJ	0.0098 UJ	0.0089 UJ	0.011 UJ	0.011 UJ	0.015 UJ	0.01 UJ	0.0087 U	0.013 U	0.01 U	0.01 U	0.011 UJ	0.01 UJ	0.0095 UJ	0.01 U	0.0093 U	0.0088 U	0.0091 U	0.012 U	0.0098 U	0.0098 U
Acetone	mg/kg	670,000	0.011 U	**0.0057 B**	0.0098 U	0.0089 U	0.011 U	**0.02**	**0.03**	0.01 U	0.0087 U	0.013 U	0.01 U	0.01 U	**0.01**	0.01 U	0.0095 U	0.01 U	**0.12**	**0.12**	0.0091 U	**0.02**	0.0098 U	0.0098 U
Benzene	mg/kg	5.1	0.0056 U	0.0049 U	0.0049 U	0.0044 U	0.0054 U	0.0054 U	0.0076 U	0.0051 U	0.0043 U	0.0065 U	0.0052 U	0.0051 U	0.0054 U	0.005 U	0.0047 U	0.0051 U	0.0046 U	0.0044 U	0.0045 U	0.0061 U	0.0049 U	0.0049 U
Chlorobenzene	mg/kg	1,300	0.0056 U	0.0049 U	0.0049 U	0.0044 U	0.0054 U	0.0054 U	0.0076 U	0.0051 U	0.0043 U	0.0065 U	0.0052 U	0.0051 U	0.0054 U	0.005 U	0.0047 U	0.0051 U	0.0046 U	0.0044 U	0.0045 U	0.0061 U	0.0049 U	0.0049 U
Chloroform	mg/kg	1.4	0.0056 U	0.0049 U	0.0049 U	0.0044 U	0.0054 U	0.0054 U	0.0076 U	0.0051 U	0.0043 U	0.0065 U	0.0052 U	0.0051 U	0.0054 U	0.005 U	0.0047 U	0.0051 U	0.0046 U	0.0044 U	0.0045 U	0.0061 U	0.0049 U	0.0049 U
cis-1,2-Dichloroethene	mg/kg	2,300	0.0056 U	0.0049 U	0.0049 U	0.0044 U	0.0054 U	0.0054 U	0.0076 U	0.0051 U	0.0043 U	0.0065 U	0.0052 U	0.0051 U	0.0054 U	0.005 U	0.0047 U	0.0051 U	0.0046 U	0.0044 U	0.0045 U	0.0061 U	0.0049 U	0.0049 U
Cyclohexane	mg/kg	27,000	0.011 UJ	0.0098 UJ	0.0098 UJ	0.0089 UJ	0.011 UJ	0.011 UJ	0.015 UJ	0.01 UJ	0.0087 U	0.013 U	0.01 U	0.01 U	0.011 U	0.01 U	0.0095 U	0.01 U	0.0093 U	0.0088 U	0.0091 U	0.012 U	0.0098 U	0.0098 U
Ethylbenzene	mg/kg	25	0.0056 U	0.0049 U	0.0049 U	0.0044 U	0.0054 U	0.0054 U	0.0076 U	0.0051 U	0.0043 U	0.0065 U	0.0052 U	0.0051 U	0.0054 U	0.005 U	0.0047 U	0.0051 U	0.0046 U	0.0044 U	0.0045 U	0.0061 U	0.0049 U	0.0049 U
Isopropylbenzene	mg/kg	9,900	0.0056 U	0.0049 U	0.0049 U	0.0044 U	0.0054 U	0.0054 U	0.0076 U	0.0051 U	0.0043 U	0.0065 U	0.0052 U	0.0051 U	0.0054 U	0.005 U	0.0047 U	0.0051 U	0.0046 U	0.0044 U	0.0045 U	0.0061 U	0.0049 U	0.0049 U
Methyl Acetate	mg/kg	1,200,000	0.056 U	0.049 U	0.049 U	0.044 U	0.054 U	0.054 U	0.076 U	0.051 U	0.043 U	0.065 U	0.052 U	0.051 U	0.054 UJ	0.05 UJ	0.047 UJ	0.051 U	0.046 U	0.044 U	0.045 U	0.061 U	0.049 U	0.049 U
Methylene Chloride	mg/kg	1,000	0.0056 U	0.0049 U	0.0049 U	0.0044 U	0.0054 U	0.0054 U	0.0076 U	0.0051 U	0.0043 U	0.0065 U	0.0052 U	0.0051 U	0.0054 U	0.005 U	0.0047 U	0.0051 U	0.0046 U	0.0044 U	0.0045 U	0.0061 U	0.0049 U	0.0049 U
Styrene	mg/kg	35,000	0.0056 U	0.0049 U	0.0049 U	0.0044 U	0.0054 U	0.0054 U	0.0076 U	0.0051 U	0.0043 U	0.0065 U	0.0052 U	0.0051 U	0.0054 UJ	0.005 UJ	0.0047 UJ	0.0051 U	0.0046 U	0.0044 U	0.0045 U	0.0061 U	0.0049 U	0.0049 U
Tetrachloroethene	mg/kg	100	0.0056 U	0.0049 U	0.0049 U	0.0044 U	0.0054 U	0.0054 U	0.0076 U	0.0051 U	0.0043 U	0.0065 U	0.0052 U	0.0051 U	0.0054 U	0.005 U	0.0047 U	0.0051 U	0.0046 U	0.0044 U	0.0045 U	0.0061 U	0.0049 U	0.0049 U
Toluene	mg/kg	47,000	0.0056 U	0.0049 U	0.0049 U	0.0044 U	0.0054 U	0.0054 U	0.0076 U	0.0051 U	0.0043 U	0.0065 U	0.0052 U	0.0051 U	0.0054 U	0.005 U	0.0047 U	0.0051 U	0.0046 U	0.0044 U	0.0045 U	0.0061 U	0.0049 U	0.0049 U
Trichloroethene	mg/kg	6	0.0056 U	0.0049 U	0.0049 U	0.0044 U	0.0054 U	0.0054 U	0.0076 U	0.0051 U	0.0043 U	0.0065 U	0.0052 U	0.0051 U	0.0054 U	0.005 U	0.0047 U	0.0051 U	0.0046 U	0.0044 U	0.0045 U	0.0061 U	0.0049 U	0.0049 U
Trichlorofluoromethane	mg/kg	3,100	0.0056 U	0.0049 U	0.0049 U	0.0044 U	0.0054 U	0.0054 U	0.0076 U	0.0051 U	0.0043 U	0.0065 U	0.0052 U	0.0051 U	0.0054 UJ	0.005 UJ	0.0047 UJ	0.0051 U	0.0046 U	0.0044 U	0.0045 U	0.0061 U	0.0049 U	0.0049 U
Vinyl chloride	mg/kg	1.7	0.0056 U	0.0049 U	0.0049 U	0.0044 U	0.0054 U	0.0054 U	0.0076 U	0.0051 U	0.0043 U	0.0065 U	0.0052 U	0.0051 U	0.0054 U	0.005 U	0.0047 U	0.0051 U	0.0046 U	0.0044 U	0.0045 U	0.0061 U	0.0049 U	0.0049 U
Xylenes	mg/kg	2,800	0.017 U	0.015 U	0.015 U	0.013 U	0.016 U	0.016 U	0.023 U	0.015 U	0.013 U	0.019 U	0.016 U	0.015 U	0.016 U	0.015 U	0.014 U	0.015 U	0.014 U	0.013 U	0.014 U	0.018 U	0.015 U	0.015 U
Semi-Volatile Organic Compounds‡																								
1,1-Biphenyl	mg/kg	200	0.091 U	0.081 U	0.078 U	0.083 U	0.072 U	0.086 U	0.089 U	0.072 U	0.072 U	0.074 U	**0.028 J**	0.077 U	**0.10**	0.083 U	0.076 U	0.082 U	**0.034 J**	**0.09**	**0.10**	**0.12**	**0.10**	0.084 U
1,2,4,5-Tetrachlorobenzene	mg/kg	350	0.091 U	0.081 U	0.078 U	0.083 U	0.072 U	0.086 U	0.089 U	0.072 U	0.072 U	0.074 U	0.075 U	0.077 U	0.074 U	0.083 U	0.076 U	0.082 U	0.073 U	0.078 U	0.075 U	0.079 U	0.078 U	0.084 U
2,4-Dimethylphenol	mg/kg	16,000	0.091 U	0.081 U	0.078 U	0.083 U	0.072 U	0.086 U	0.089 U	0.072 U	0.072 U	0.074 U	0.075 U	0.077 U	0.074 R	0.083 U	0.076 U	0.082 U	0.073 U	0.078 U	0.075 U	0.079 U	0.078 U	0.084 U
2-Chloronaphthalene	mg/kg	60,000	0.091 U	0.081 U	0.078 U	0.083 U	0.072 U	0.086 U	0.089 U	0.072 U	0.072 U	0.074 U	0.075 U	0.077 U	0.074 U	0.083 U	0.076 U	0.082 U	0.073 U	0.078 U	0.075 U	0.079 U	0.078 U	0.084 U
2-Methylnaphthalene	mg/kg	3,000	**0.009 J**	**0.0022 J**	**0.06**	0.0084 U	**0.0061 J**	**0.01**	**0.03**	**0.0024 J**	0.073 U	**0.0032 J**	**0.22**	**0.04**	**0.53**	**0.061 J**	**0.15**	**0.02**	**0.065 J**	**0.27**	**0.26**	**0.20**	**0.16**	**0.01**
2-Methylphenol	mg/kg	41,000	0.091 U	0.081 U	0.078 U	0.083 U	0.072 U	0.086 U	0.089 U	0.072 U	0.072 U	0.074 U	0.075 U	0.077 U	0.074 R	0.083 U	0.076 U	0.082 U	0.073 U	0.078 U	0.075 U	0.079 U	0.078 U	0.084 U
2-Nitroaniline	mg/kg	8,000	0.23 U	0.2 U	0.2 U	0.21 U	0.18 U	0.22 U	0.22 U	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U	0.19 U	0.21 U	0.18 U	0.19 U	0.19 U	0.2 U	0.2 U	0.21 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.18 U	0.16 U	0.16 U	0.17 U	0.14 U	0.17 U	0.18 U	0.14 U	0.14 U	0.15 U	0.15 U	0.15 U	0.15 R	0.17 U	0.15 U	0.16 U	0.15 U	0.15 U	0.15 U	0.16 U	0.16 U	0.17 U
Acenaphthene	mg/kg	45,000	**0.01**	**0.0035 J**	**0.16**	**0.0015 J**	**0.0011 J**	**0.0077 J**	**0.11**	**0.0014 J**	**0.046 J**	**0.001 J**	**0.30**	**0.26**	**1.60**	**0.29 J**	**0.018 J**	**0.0086 J**	**0.018 J**	**0.04**	**0.04**	**0.04**	**0.13**	**0.02**
Acenaphthylene	mg/kg	45,000	0.0092 U	0.0082 U	**0.01**	0.0084 U	**0.0023 J**	**0.0052 J**	**0.02**	**0.00059 J**	**0.013 J**	**0.0013 J**	**0.068 J**	**0.18**	**0.037 J**	**0.0024 J**	**0.0096 J**	**0.0016 J**	**0.049 J**	**0.13**	**0.14**	**0.09**	**0.01**	0.0084 U
Acetophenone	mg/kg	120,000	0.091 U	0.081 U	0.078 U	0.083 U	0.072 U	0.086 U	0.089 U	0.072 U	0.072 U	0.074 U	0.075 U	0.077 U	0.074 U	0.083 U	0.076 U	0.082 U	**0.029 J**	0.078 U	0.075 U	0.079 U	0.078 U	0.084 U
Anthracene	mg/kg	230,000	0.0092 U	**0.002 J**	**0.33**	**0.00081 J**	**0.006 J**	**0.03**	**0.12**	**0.0024 J**	**0.12**	**0.01**	**0.92**	**0.87**	**4.10**	**0.5 J**	**0.15**	**0.038 J**	**0.11**	**0.27**	**0.25**	**0.20**	**0.16**	**0.03**
Benzaldehyde	mg/kg	120,000	0.091 U	0.081 U	0.078 U	0.083 U	0.072 U	0.086 U	0.089 U	0.072 U	0.072 U	0.074 U	0.075 U	0.077 U	**0.022 J**	0.083 R	0.076 R	0.082 R	**0.058 J**	**0.036 J**	**0.028 J**	**0.033 J**	0.078 U	0.084 U
Benzo[a]anthracene	mg/kg	2.9	0.0092 U	**0.0044 J**	**0.79**	**0.0015 J**	**0.02**	**0.09**	**0.14**	**0.01**	**0.29**	**0.24**	**3.10**	**1.60**	**11.4**	**0.68**	**1.30**	**0.14**	**0.33**	**0.81**	**0.85**	**0.50**	**0.39**	**0.03**
Benzo[a]pyrene	mg/kg	0.29	0.0092 U	0.0082 U	**0.61**	0.0084 U	**0.02**	**0.07**	**0.11**	**0.0053 J**	**0.20**	**0.15**	**2.40**	**1.40**	**7.70**	**0.41**	**0.95**	**0.094 J**	**0.31**	**0.69**	**0.67**	**0.41**	**0.31**	**0.02**
Benzo[b]fluoranthene	mg/kg	2.9	**0.0051 J**	**0.0035 J**	**1.20**	**0.001 J**	**0.07**	**0.17**	**0.23**	**0.01**	**0.44**	**0.29**	**4.50**	**2.80**	**14.6**	**0.83**	**2.20**	**0.22 J**	**0.82**	**1.60**	**1.20**	**1.00**	**0.64**	**0.05**
Benzo[g,h,i]perylene	mg/kg		0.0092 U	0.0082 U	**0.31**	0.0084 U	**0.03**	**0.05**	**0.07**	**0.0049 J**	**0.14**	**0.07**	**1.50**	**1.10**	**1.70**	**0.17**	**0.30**	**0.052 J**	**0.18**	**0.35**	**0.33**	**0.27**	**0.15**	**0.01**
Benzo[k]fluoranthene	mg/kg	29	**0.0043 J**	**0.0029 J**	**0.98**	0.0084 U	**0.06**	**0.14**	**0.20**	**0.01**	**0.38**	**0.25**	**3.90**	**2.40**	**12.7**	**0.72**	**2.20**	**0.19 J**	**0.72**	**1.50**	**1.10**	**0.91**	**0.56**	**0.05**
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.091 U	0.081 U	0.078 U	0.083 U	0.072 U	**0.026 J**	0.089 U	0.072 U	0.072 U	0.074 U	**0.017 J**	0.077 U	**0.14 J**	0.083 U	**0.028 B**	0.082 U	**0.26**	0.078 U	**0.024 J**	0.079 U	**0.039 J**	0.084 U
Carbazole	mg/kg		0.091 U	0.081 U	**0.048 J**	0.083 U	0.072 U	0.086 U	0.089 U	0.072 U	0.072 U	0.074 U	**0.37 J**	**0.12**	**2.00**	**0.24**	**0.023 J**	0.082 U	**0.041 J**	**0.13**	**0.11**	**0.15**	**0.075 J**	0.084 U
Chrysene	mg/kg	290	**0.0053 J**	**0.0028 J**	**0.72**	**0.00074 J**	**0.03**	**0.11**	**0.14**	**0.01**	**0.27**	**0.21**	**2.50**	**1.70**	**11.0**	**0.60**	**1.40**	**0.12**	**0.39**	**0.78**	**0.85**	**0.58**	**0.36**	**0.03**
Dibenz[a,h]anthracene	mg/kg	0.29	0.0092 U	0.0082 U	**0.11**	0.0084 U	**0.0064 J**	**0.01**	**0.02**	**0.0013 J**	**0.045 J**	**0.02**	**0.40**	**0.42**	**0.91**	**0.08**	**0.12**	**0.022 J**	**0.052 J**	**0.12**	**0.11**	**0.09**	**0.05**	**0.0031 J**
Di-n-butylphthalate	mg/kg	82,000	0.091 U	0.081 U	0.078 U	0.083 U	0.072 U	0.086 U	0.089 U	0.072 U	0.072 U	**0.09**	0.075 U	0.077 U	**0.037 J**	0.083 U	0.076 U	0.082 U	0.073 U	0.078 U	0.075 U	0.079 U	0.078 U	0.084 U
Di-n-ocytlphthalate	mg/kg	8,200	0.091 U	0.081 U	0.078 UJ	0.083 U	0.072 U	0.086 U	0.089 U	0.072 U	0.072 UJ	0.074 UJ	0.075 UJ	0.077 U	0.074 UJ	0.083 U	0.076 UJ	0.082 U	0.073 U	0.078 U	**0.032 J**	0.079 U	**0.027 J**	0.084 U
Fluoranthene	mg/kg	30,000	**0.03**	**0.02**	**1.90**	**0.0031 J**	**0.05**	**0.26**	**0.46**	**0.01**	**0.50**	**0.36**	**6.80**	**4.10**	**20.5**	**1.5 J**	**2.00**	**0.24 J**	**0.66**	**2.00**	**1.70**	**1.40**	**1.00**	**0.11**
Fluorene	mg/kg	30,000	**0.0031 J**	**0.001 J**	**0.14**	**0.001 J**	**0.00093 J**	**0.0059 J**	**0.08**	0.0072 U	**0.038 J**	**0.00095 J**	**0.33**	**0.36**	**1.70**	**0.33 J**	**0.014 J**	**0.0064 J**	**0.021 J**	**0.06**	**0.05**	**0.04**	**0.08**	**0.01**
Hexachlorobenzene	mg/kg	0.96	0.091 U	0.081 U	0.078 U	0.083 U	0.072 U	0.086 U	0.089 U	0.072 U	0.072 U	0.074 U	0.075 U	0.077 U	0.074 U	0.083 U	0.076 U	0.082 U	0.073 U	0.078 U	0.075 U	0.079 U	0.078 U	0.084 U
Indeno[1,2,3-c,d]pyrene	mg/kg	2.9	0.0092 U	0.0082 U	**0.31**	0.0084 U	**0.02**	**0.04**	**0.06**	**0.0035 J**	**0.11**	**0.06**	**1.20**	**1.00**	**1.90**	**0.16**	**0.31**	**0.048 J**	**0.16**	**0.34**	**0.33**	**0.27**	**0.13**	**0.01**
Naphthalene	mg/kg	17	**0.02**	**0.0031 B**	**0.04**	0.0084 U	**0.01**	**0.03**	**0.02**	**0.0027 B**	**0.023 B**	**0.0033 B**	**0.21**	**0.05**	**0.52**	**0.054 J**	**0.12**	**0.03**	**0.21**	**0.85**	**0.93**	**0.76**	**0.18**	**0.01**
N-Nitroso-di-n-propylamine	mg/kg	0.33	0.091 U	0.081 U	0.078 U	0.083 U	0.072 U	0.086 U	0.089 U	0.072 U	0.072 U	0.074 U	0.075 U	0.077 U	0.074 U	0.083 U	0.076 U	0.082 U	0.073 U	0.078 U	0.075 U	0.079 U	0.078 U	0.084 U
N-Nitrosodiphenylamine	mg/kg	470	0.091 U	0.081 U	0.078 U	0.083 U	0.072 U	0.086 U	0.089 U	0.072 U	0.072 U	0.074 U	0.075 U	0.077 U	0.074 U	0.083 U	0.076 U	0.082 U	0.073 U	0.078 U	0.075 U	0.079 U	0.078 U	0.084 U
Phenanthrene	mg/kg		**0.05**	**0.03**	**1.50**	**0.0068 J**	**0.03**	**0.11**	**0.58**	**0.01**	**0.41**	**0.03**	**4.10**	**2.90**	**15.1**	**2.4 J**	**0.50**	**0.11 J**	**0.43**	**1.60**	**1.20**	**1.30**	**0.92**	**0.11**
Phenol	mg/kg	250,000	0.091 U	0.081 U	0.078 U	0.083 U	0.072 U	0.086 U	0.089 U	0.072 U	0.072 U	0.074 U	0.075 U	0.077 U	0.074 R	0.083 U	0.076 U	0.082 U	0.073 U	0.078 U	0.075 U	0.079 U	0.078 U	0.084 U
Pyrene	mg/kg	23,000	**0.02**	**0.02**	**1.60**	**0.0025 J**	**0.04**	**0.24**	**0.37**	**0.01**	**0.46**	**0.32**	**5.60**	**3.20**	**16.2**	**1.1 J**	**1.80**	**0.18 J**	**0.56**	**1.50**	**1.20**	**1.00**	**0.97**	**0.09**
PCBs																								
Aroclor 1242	mg/kg	0.97	0.0577 U	N/A	0.0632 U	N/A	0.0571 U	N/A	0.0616 U	N/A	0.0541 U	N/A	0.054 U	N/A	0.0572 U	N/A	0.0585 U	N/A	0.0549 U	N/A	0.0582 U	N/A	0.0577 U	N/A
Aroclor 1248	mg/kg	0.94	0.0577 U	N/A	0.0632 U	N/A	**0.0496 J**	N/A	0.0616 U	N/A	**0.0386 J**	N/A	**0.35**	N/A	**0.12**	N/A	0.0585 U	N/A	0.0549 U	N/A	0.0582 U	N/A	0.0577 U	N/A
Aroclor 1254	mg/kg	0.97	0.0577 U	N/A	0.0632 U	N/A	0.0571 U	N/A	0.0616 U	N/A	0.0541 U	N/A	**0.23**	N/A	**0.23**	N/A	0.0585 U	N/A	**0.28**	N/A	0.0582 U	N/A	0.0577 U	N/A
Aroclor 1260	mg/kg	0.99	0.0577 U	N/A	0.0632 U	N/A	0.0571 U	N/A	0.0616 U	N/A	0.0541 U	N/A	0.054 U	N/A	0.0572 U	N/A	0.0585 U	N/A	0.0549 U	N/A	0.0582 U	N/A	0.0577 U	N/A
Aroclor 1262	mg/kg		0.0577 U	N/A	0.0632 U	N/A	**0.0416 J**	N/A	0.0616 U	N/A	**0.12**	N/A	**0.18**	N/A	**1.60**	N/A	0.0585 U	N/A	**0.37**	N/A	**0.08**	N/A	0.0577 U	N/A
Aroclor 1268	mg/kg		0.0577 U	N/A	**0.0467 J**	N/A	0.0571 U	N/A	0.0616 U	N/A	0.0541 U	N/A	0.054 U	N/A	0.0572 U	N/A	0.0585 U	N/A	0.0549 U	N/A	0.0582 U	N/A	0.0577 U	N/A
PCBs (total)	mg/kg	0.97	0.0577 U	N/A	**0.0467 J**	N/A	**0.09**	N/A	0.0616 U	N/A	**0.16**	N/A	**0.77**	N/A	**1.95**	N/A	0.0585 U	N/A	**0.65**	N/A	**0.08**	N/A	0.0577 U	N/A
TPH/Oil and Grease																								
Diesel Range Organics	mg/kg	6,200	9 UJ	8.2 UJ	**47.3 J**	**3.2 J**	**12.3 J**	**13.9 J**	**15.9 J**	**6 J**	**27.1 J**	**25.6 J**	**149 J**	**45.2 J**	**437 J**	**6.3 J**	**48.9 J**	**16.2 J**	**402**	**73.7**	**82.9**	**62.7**	**137**	**36.2**
Gasoline Range Organics	mg/kg	6,200	11 U	10.7 U	9.7 U	10.4 U	10.1 U	11.4 U	11.4 U	10.3 U	11.3 U	14.8 U	11.4 U	10.7 U	11.2 U	9.8 U	10 U	10.3 U	9.2 U	8.2 U	9.6 U	8.4 U	10.2 U	11 U

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

J: The positive result reported for this anaytle 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 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
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-018-SB-1*	B22-018-SB-6*	B22-019-SB-1	B22-019-SB-6	B22-020-SB-1	B22-020-SB-4	B22-020-SB-10	B22-021-SB-1	B22-021-SB-5	B22-022-SB-1	B22-022-SB-7	B22-028L-SB-1*	B22-028L-SB-5*	B22-028M-SB-1*	B22-028N-SB-1*	B22-028O-SB-1*	B22-028O-SB-2*	B22-028O-SB-3*	B22-028O-SB-4*	B22-028O-SB-5*
Volatile Organic Compounds																						
1,1,1-Trichloroethane	mg/kg	36,000	0.006 U	0.0051 U	0.0051 U	0.0048 U	0.0069 U	0.0047 U	N/A	0.0048 U	0.005 U	0.0057 U	0.007 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,1-Dichloroethane	mg/kg	16	0.006 U	0.0051 U	0.0051 U	0.0048 U	0.0069 U	0.0047 U	N/A	0.0048 U	0.005 U	0.0057 U	0.007 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,1-Dichloroethene	mg/kg	1,000	0.006 U	0.0051 U	0.0051 U	0.0048 U	0.0069 U	0.0047 U	N/A	0.0048 U	0.005 U	0.0057 U	0.007 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2,3-Trichlorobenzene	mg/kg	930	0.006 U	0.0051 U	0.0051 U	0.0048 U	0.0069 U	0.0047 U	N/A	0.0048 U	0.005 U	0.0057 U	0.007 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2,4-Trichlorobenzene	mg/kg	110	0.006 U	0.0051 U	0.0051 U	0.0048 U	0.0069 U	0.0047 U	N/A	0.0048 U	0.005 U	0.0057 U	0.007 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2-Dichloroethane	mg/kg	2	0.006 U	0.0051 U	0.0051 U	0.0048 U	0.0069 U	0.0047 U	N/A	0.0048 U	0.005 U	0.0057 U	0.007 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2-Dichloroethene (Total)	mg/kg	2,300	0.012 U	0.01 U	0.01 U	0.0096 U	0.014 U	0.0095 U	N/A	0.0096 U	0.01 U	0.011 U	0.014 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,4-Dichlorobenzene	mg/kg	11	0.006 U	0.0051 U	0.0051 U	0.0048 U	0.0069 U	0.0047 U	N/A	0.0048 U	0.005 U	0.0057 U	0.007 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,4-Dioxane	mg/kg	24	0.12 U	0.1 U	0.1 R	0.096 R	0.14 R	0.095 R	N/A	0.096 R	0.1 R	0.11 R	0.14 R	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-Butanone (MEK)	mg/kg	190,000	0.012 U	0.01 U	0.01 U	0.0096 U	0.014 U	0.0095 U	N/A	0.0096 U	0.01 U	0.011 U	0.014 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-Hexanone	mg/kg	1,300	0.012 U	0.01 U	0.01 U	0.0096 U	0.014 U	0.0095 U	N/A	0.0096 U	0.01 U	0.011 U	0.014 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	0.012 U	0.01 U	0.01 UJ	0.0096 UJ	0.014 UJ	0.0095 UJ	N/A	0.0096 U	0.01 U	0.011 U	0.014 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Acetone	mg/kg	670,000	0.012 U	0.01 U	**0.02**	**0.0085 B**	**0.0068 B**	**0.006 B**	N/A	0.0096 U	0.01 U	0.011 U	0.014 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzene	mg/kg	5.1	0.006 U	0.0051 U	0.0051 U	0.0048 U	0.0069 U	0.0047 U	N/A	0.0048 U	0.005 U	0.0057 U	0.007 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chlorobenzene	mg/kg	1,300	0.006 U	0.0051 U	0.0051 U	0.0048 U	0.0069 U	0.0047 U	N/A	0.0048 U	0.005 U	0.0057 U	0.007 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chloroform	mg/kg	1.4	0.006 U	0.0051 U	0.0051 U	0.0048 U	0.0069 U	0.0047 U	N/A	0.0048 U	0.005 U	0.0057 U	0.007 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
cis-1,2-Dichloroethene	mg/kg	2,300	0.006 U	0.0051 U	0.0051 U	0.0048 U	0.0069 U	0.0047 U	N/A	0.0048 U	0.005 U	0.0057 U	0.007 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cyclohexane	mg/kg	27,000	0.012 U	0.01 U	0.01 UJ	0.0096 UJ	0.014 UJ	0.0095 UJ	N/A	0.0096 U	0.01 U	0.011 U	0.014 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ethylbenzene	mg/kg	25	0.006 U	0.0051 U	0.0051 U	0.0048 U	0.0069 U	0.0047 U	N/A	0.0048 U	0.005 U	0.0057 U	0.007 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Isopropylbenzene	mg/kg	9,900	0.006 U	0.0051 U	0.0051 U	0.0048 U	0.0069 U	0.0047 U	N/A	0.0048 U	0.005 U	0.0057 U	0.007 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Methyl Acetate	mg/kg	1,200,000	0.06 U	0.051 U	0.051 U	0.048 U	0.069 U	0.047 U	N/A	0.048 U	0.05 U	0.057 U	0.07 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Methylene Chloride	mg/kg	1,000	0.006 U	0.0051 U	0.0051 U	0.0048 U	0.0069 U	0.0047 U	N/A	0.0048 U	0.005 U	0.0057 U	0.007 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Styrene	mg/kg	35,000	0.006 U	0.0051 U	0.0051 U	0.0048 U	0.0069 U	0.0047 U	N/A	0.0048 U	0.005 U	0.0057 U	0.007 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tetrachloroethene	mg/kg	100	0.006 U	0.0051 U	0.0051 U	0.0048 U	0.0069 U	0.0047 U	N/A	0.0048 U	0.005 U	0.0057 U	0.007 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Toluene	mg/kg	47,000	0.006 U	0.0051 U	0.0051 U	0.0048 U	0.0069 U	0.0047 U	N/A	0.0048 U	0.005 U	0.0057 U	0.007 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Trichloroethene	mg/kg	6	0.006 U	0.0051 U	0.0051 U	0.0048 U	0.0069 U	0.0047 U	N/A	0.0048 U	0.005 U	0.0057 U	0.007 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Trichlorofluoromethane	mg/kg	3,100	0.006 U	0.0051 U	0.0051 U	0.0048 U	0.0069 U	0.0047 U	N/A	0.0048 U	0.005 U	0.0057 U	0.007 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Vinyl chloride	mg/kg	1.7	0.006 U	0.0051 U	0.0051 U	0.0048 U	0.0069 U	0.0047 U	N/A	0.0048 U	0.005 U	0.0057 U	0.007 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Xylenes	mg/kg	2,800	0.018 U	0.015 U	0.015 U	0.014 U	0.021 U	0.014 U	N/A	0.014 U	0.015 U	0.017 U	0.021 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Semi-Volatile Organic Compounds‡																						
1,1-Biphenyl	mg/kg	200	0.082 U	0.086 U	0.078 U	0.081 U	**0.039 J**	0.076 U	N/A	0.079 U	0.084 U	0.075 U	0.071 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,2,4,5-Tetrachlorobenzene	mg/kg	350	0.082 U	0.086 U	0.078 U	0.081 U	0.074 U	0.076 U	N/A	0.079 U	0.084 U	0.075 U	0.071 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-Dimethylphenol	mg/kg	16,000	0.082 U	0.086 U	0.078 U	0.081 U	0.074 U	0.076 U	N/A	0.079 U	0.084 U	0.075 UJ	0.071 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-Chloronaphthalene	mg/kg	60,000	0.082 U	0.086 U	0.078 U	0.081 U	0.074 U	0.076 U	N/A	0.079 U	0.084 U	0.075 U	0.071 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-Methylnaphthalene	mg/kg	3,000	0.0085 U	**0.01**	**0.0055 J**	**0.011 J**	**0.10**	**0.025 J**	N/A	0.0079 U	0.017 U	0.0075 U	0.0072 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-Methylphenol	mg/kg	41,000	0.082 U	0.086 U	0.078 U	0.081 U	0.074 U	0.076 U	N/A	0.079 U	0.084 U	0.075 UJ	0.071 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-Nitroaniline	mg/kg	8,000	0.21 U	0.22 U	0.19 U	0.2 U	0.18 U	0.19 U	N/A	0.2 U	0.21 U	0.19 U	0.18 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.16 U	0.17 U	0.16 U	0.16 U	0.15 U	0.15 U	N/A	0.16 U	0.17 U	0.15 UJ	0.14 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Acenaphthene	mg/kg	45,000	**0.0012 J**	**0.02**	**0.0054 J**	**0.01 J**	**0.10**	**0.023 J**	N/A	0.0079 U	0.017 U	**0.00083 J**	0.0072 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Acenaphthylene	mg/kg	45,000	0.0085 U	**0.00088 J**	0.0077 U	**0.0014 J**	**0.026 J**	**0.029 J**	N/A	**0.0077 J**	0.017 U	**0.00071 J**	0.0072 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Acetophenone	mg/kg	120,000	0.082 U	0.086 U	0.078 U	0.081 U	0.074 U	0.076 U	N/A	0.079 U	0.084 U	0.075 U	0.071 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Anthracene	mg/kg	230,000	**0.0042 J**	**0.03**	**0.0057 J**	**0.026 J**	**0.37**	**0.10**	N/A	0.0079 U	0.017 U	**0.0034 J**	0.0072 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzaldehyde	mg/kg	120,000	0.082 U	0.086 U	0.078 U	0.081 U	0.074 U	0.076 U	N/A	0.079 U	0.084 U	0.075 U	0.071 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo[a]anthracene	mg/kg	2.9	**0.0073 J**	**0.03**	**0.01**	**0.078 J**	**1.40**	**0.34**	N/A	0.0079 U	0.017 U	**0.0063 J**	0.0072 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo[a]pyrene	mg/kg	0.29	**0.0021 J**	**0.01**	**0.0047 J**	**0.021 J**	**1.20**	**0.43**	0.0084 U	0.0079 U	0.017 U	**0.0045 J**	0.0072 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo[b]fluoranthene	mg/kg	2.9	**0.0077 J**	**0.04**	**0.02**	**0.14 J**	**2.50**	**0.76**	N/A	0.0079 U	0.017 U	**0.02**	**0.0015 J**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo[g,h,i]perylene	mg/kg		**0.0012 J**	**0.0043 J**	**0.0059 J**	**0.027 J**	**0.69**	**0.28**	N/A	0.0079 U	0.017 U	**0.0052 J**	0.0072 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo[k]fluoranthene	mg/kg	29	**0.0067 J**	**0.03**	**0.02**	**0.12 J**	**2.10**	**0.64**	N/A	0.0079 U	0.017 U	**0.02**	**0.0014 J**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.082 U	0.086 U	0.078 U	0.081 U	0.074 UJ	0.076 UJ	N/A	0.079 U	0.084 U	0.075 U	0.071 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Carbazole	mg/kg		0.082 U	0.086 U	0.078 U	0.081 U	**0.063 J**	**0.029 J**	N/A	0.079 U	0.084 U	0.075 U	0.071 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chrysene	mg/kg	290	**0.0056 J**	**0.02**	**0.02**	**0.098 J**	**1.40**	**0.30**	N/A	0.0079 U	0.017 U	**0.02**	**0.00088 J**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dibenz[a,h]anthracene	mg/kg	0.29	0.0085 U	**0.002 J**	**0.0017 J**	**0.0091 J**	**0.22**	**0.09**	N/A	0.0079 U	0.017 U	**0.0016 J**	0.0072 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Di-n-butylphthalate	mg/kg	82,000	0.082 U	0.086 U	0.078 U	0.081 U	0.074 U	0.076 U	N/A	0.079 U	0.084 U	0.075 U	0.071 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Di-n-octylphthalate	mg/kg	8,200	0.082 U	0.086 U	0.078 U	0.081 U	0.074 UJ	0.076 UJ	N/A	0.079 U	0.084 U	0.075 U	0.071 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fluoranthene	mg/kg	30,000	**0.02**	**0.11**	**0.05**	**0.4 J**	**3.50**	**0.64**	N/A	**0.00063 J**	**0.0016 J**	**0.04**	**0.001 J**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fluorene	mg/kg	30,000	**0.0009 J**	**0.01**	**0.0034 J**	**0.01 J**	**0.048 J**	**0.022 J**	N/A	0.0079 U	0.017 U	0.0075 U	0.0072 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hexachlorobenzene	mg/kg	0.96	0.082 U	0.086 U	0.078 U	0.081 U	0.074 U	0.076 U	N/A	0.079 U	0.084 U	0.075 U	0.071 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Indeno[1,2,3-c,d]pyrene	mg/kg	2.9	0.0085 U	**0.0043 J**	**0.0057 J**	**0.028 J**	**0.65**	**0.26**	N/A	0.0079 U	0.017 U	**0.0033 J**	0.0072 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Naphthalene	mg/kg	17	0.0085 U	**0.01**	**0.0063 B**	**0.007 B**	**0.11**	**0.026 B**	N/A	0.0079 U	**0.0064 B**	**0.0024 B**	0.0072 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N-Nitroso-di-n-propylamine	mg/kg	0.33	**0.074 J**	0.086 U	0.078 U	0.081 U	0.074 U	0.076 U	N/A	0.079 U	0.084 U	0.075 U	0.071 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N-Nitrosodiphenylamine	mg/kg	470	0.082 U	0.086 U	0.078 U	0.081 U	0.074 U	0.076 U	N/A	0.079 U	0.084 U	0.075 U	0.071 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Phenanthrene	mg/kg		**0.02**	**0.10**	**0.06**	**0.52 J**	**2.80**	**0.40**	N/A	**0.00081 J**	**0.0033 J**	**0.01**	**0.001 J**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Phenol	mg/kg	250,000	0.082 U	0.086 U	0.078 U	0.081 U	**0.032 J**	0.076 U	N/A	0.079 U	0.084 U	0.075 UJ	0.071 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pyrene	mg/kg	23,000	**0.02**	**0.08**	**0.04**	**0.28 J**	**3.20**	**0.55**	N/A	0.0079 U	0.017 U	**0.03**	0.0072 U	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PCBs																						
Aroclor 1242	mg/kg	0.97	0.0666 U	N/A	**2.64**	N/A	0.059 U	N/A	N/A	0.0581 U	N/A	0.057 U	N/A	0.0553 U	0.0632 U	0.17 U	0.0597 U	8.47 U	0.0562 U	0.0541 U	0.0589 U	0.0606 U
Aroclor 1248	mg/kg	0.94	0.0666 U	N/A	0.116 U	N/A	0.059 U	N/A	N/A	0.0581 U	N/A	0.057 U	N/A	0.0553 U	0.0632 U	0.17 U	0.0597 U	8.47 U	**0.0406 J**	0.0541 U	0.0589 U	0.0606 U
Aroclor 1254	mg/kg	0.97	0.0666 U	N/A	0.116 U	N/A	0.059 U	N/A	N/A	0.0581 U	N/A	0.057 U	N/A	0.0553 U	0.0632 U	0.17 U	0.0597 U	8.47 U	0.0562 U	0.0541 U	0.0589 U	0.0606 U
Aroclor 1260	mg/kg	0.99	0.0666 U	N/A	0.116 U	N/A	0.059 U	N/A	N/A	0.0581 U	N/A	0.057 U	N/A	0.0553 U	0.0632 U	0.17 U	0.0597 U	8.47 U	0.0562 U	0.0541 U	0.0589 U	0.0606 U
Aroclor 1262	mg/kg		0.0666 U	N/A	0.116 U	N/A	0.059 U	N/A	N/A	0.0581 U	N/A	0.057 U	N/A	0.0553 U	0.0632 U	0.17 U	0.0597 U	8.47 U	0.0562 U	0.0541 U	0.0589 U	0.0606 U
Aroclor 1268	mg/kg		0.0666 U	N/A	0.116 U	N/A	0.059 U	N/A	N/A	0.0581 U	N/A	0.057 U	N/A	0.0553 U	0.0632 U	**4.48**	**0.07**	**311**	**0.53**	**0.46**	**0.12**	**0.12**
PCBs (total)	mg/kg	0.97	0.0666 U	N/A	**2.64**	N/A	0.059 U	N/A	N/A	0.0581 U	N/A	0.057 U	N/A	0.0553 U	0.0632 U	**4.48**	**0.07**	**311**	**0.57**	**0.46**	**0.12**	**0.12**
TPH/Oil and Grease																						
Diesel Range Organics	mg/kg	6,200	**5.1 J**	**119**	**11.5 J**	**57.1 J**	**66.9 J**	**19.8 J**	N/A	**4.3 J**	**4.7 J**	**45.5 J**	**14.5 J**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gasoline Range Organics	mg/kg	6,200	11.3 U	10.8 U	9.4 U	11.4 U	13.8 U	8.6 U	N/A	10.4 U	11.9 U	14.7 U	13.1 U	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 highlighting indicates boring locations within the building footprint

J: The positive result reported for this anaytle 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 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
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-035-SB-1	B22-036-SB-1	B22-036-SB-4	B22-037-SB-1*	B22-038-SB-1*	B22-039A-SB-3	B22-039-SB-1	B22-039-SB-4	B22-040-SB-1	B22-040-SB-4	B22-041-SB-1	B22-041-SB-5	B22-042-SB-1	B22-042-SB-4	B22-044-SB-1	B22-044-SB-4	B22-045-SB-1	B22-046-SB-1	B22-046-SB-4	B22-048-SB-1	B22-048-SB-5	B22-049-SB-1
Volatile Organic Compounds																								
1,1,1-Trichloroethane	mg/kg	36,000	0.0051 U	0.0043 U	0.0046 U	0.0055 U	0.0046 U	N/A	0.0069 U	0.0072 U	0.0065 U	0.0071 U	0.0053 U	0.0046 U	0.0054 U	0.0054 U	0.0054 U	0.0052 U	0.0056 U	0.0051 U	0.0058 U	0.0086 U	0.0057 U	0.0064 U
1,1-Dichloroethane	mg/kg	16	0.0051 U	0.0043 U	0.0046 U	0.0055 U	0.0046 U	N/A	0.0069 U	0.0072 U	0.0065 U	0.0071 U	0.0053 U	0.0046 U	0.0054 U	0.0054 U	0.0054 U	0.0052 U	0.0056 U	0.0051 U	0.0058 U	0.0086 U	0.0057 U	0.0064 U
1,1-Dichloroethene	mg/kg	1,000	0.0051 U	0.0043 U	0.0046 U	0.0055 U	0.0046 U	N/A	0.0069 U	0.0072 U	0.0065 U	0.0071 U	0.0053 U	0.0046 U	0.0054 U	0.0054 U	0.0054 U	0.0052 U	0.0056 U	0.0051 U	0.0058 U	0.0086 U	0.0057 U	0.0064 U
1,2,3-Trichlorobenzene	mg/kg	930	0.0051 U	0.0043 U	0.0046 U	0.0055 U	0.0046 U	N/A	0.0069 U	0.0072 U	0.0065 U	0.0071 U	0.0053 U	0.0046 U	0.0054 U	0.0054 U	0.0054 U	0.0052 U	0.0056 U	0.0051 U	0.0058 U	0.0086 U	0.0057 U	0.0064 U
1,2,4-Trichlorobenzene	mg/kg	110	0.0051 U	0.0043 U	0.0046 U	0.0055 U	0.0046 U	N/A	0.0069 U	0.0072 U	0.0065 U	0.0071 U	0.0053 U	0.0046 U	0.0054 U	0.0054 U	0.0054 U	0.0052 U	0.0056 U	0.0051 U	0.0058 U	0.0086 U	0.0057 U	0.0064 U
1,2-Dichloroethane	mg/kg	2	0.0051 U	0.0043 U	0.0046 U	0.0055 U	0.0046 U	N/A	0.0069 U	0.0072 U	0.0065 U	0.0071 U	0.0053 U	0.0046 U	0.0054 U	0.0054 U	0.0054 U	0.0052 U	0.0056 U	0.0051 U	0.0058 U	0.0086 U	0.0057 U	0.0064 U
1,2-Dichloroethene (Total)	mg/kg	2,300	0.01 U	0.0086 U	0.0091 U	0.011 U	0.0092 U	N/A	0.014 U	0.014 U	0.013 U	0.014 U	0.011 U	0.0093 U	0.011 U	0.011 U	0.011 U	0.01 U	0.011 U	0.01 U	0.012 U	0.017 U	0.011 U	0.013 U
1,4-Dichlorobenzene	mg/kg	11	0.0051 U	0.0043 U	0.0046 U	0.0055 U	0.0046 U	N/A	0.0069 U	0.0072 U	0.0065 U	0.0071 U	0.0053 U	0.0046 U	0.0054 U	0.0054 U	0.0054 U	0.0052 U	0.0056 U	0.0051 U	0.0058 U	0.0086 U	0.0057 U	0.0064 U
1,4-Dioxane	mg/kg	24	0.1 R	0.086 R	0.091 R	0.11 U	0.092 U	N/A	0.14 R	0.14 R	0.13 R	0.14 R	0.11 R	0.093 R	0.11 R	0.11 R	0.11 R	0.1 R	0.11 R	0.1 R	0.12 R	0.17 R	0.11 R	0.13 R
2-Butanone (MEK)	mg/kg	190,000	0.01 U	**0.003 J**	**0.0026 J**	0.011 U	0.0092 U	N/A	0.014 U	0.014 U	0.013 U	0.014 U	0.011 U	0.0093 U	0.011 U	0.011 U	0.011 U	0.01 U	0.011 U	0.01 U	0.012 U	0.017 U	0.011 U	0.013 U
2-Hexanone	mg/kg	1,300	0.01 U	0.0086 U	0.0091 U	0.011 U	0.0092 U	N/A	0.014 U	0.014 U	0.013 U	0.014 U	0.011 U	0.0093 U	0.011 U	0.011 U	0.011 U	0.01 U	0.011 U	0.01 U	0.012 U	0.017 U	0.011 U	0.013 U
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	0.01 U	0.0086 UJ	0.0091 UJ	0.011 U	0.0092 U	N/A	0.014 UJ	0.014 UJ	0.013 UJ	0.014 UJ	0.011 UJ	0.0093 UJ	0.011 UJ	0.011 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.017 UJ	0.011 UJ	0.013 U
Acetone	mg/kg	670,000	0.01 U	**0.03**	**0.06**	0.011 U	0.0092 U	N/A	**0.01 J**	**0.012 J**	**0.02**	**0.02**	0.011 U	0.0093 U	**0.0075 J**	**0.01**	**0.05**	**0.02**	0.011 U	**0.017 J**	0.012 U	0.017 U	0.011 U	0.013 U
Benzene	mg/kg	5.1	0.0051 U	**0.0019 J**	**0.0014 J**	0.0055 U	0.0046 U	N/A	0.0069 U	0.0072 U	0.0065 U	0.0071 U	0.0053 U	0.0046 U	**0.0024 J**	0.0054 U	0.0054 U	0.0052 U	0.0056 U	0.0051 U	0.0058 U	0.0086 U	0.0057 U	0.0064 U
Chlorobenzene	mg/kg	1,300	0.0051 U	0.0043 U	0.0046 U	0.0055 U	0.0046 U	N/A	0.0069 U	0.0072 U	0.0065 U	0.0071 U	0.0053 U	0.0046 U	0.0054 U	0.0054 U	0.0054 U	0.0052 U	0.0056 U	0.0051 U	0.0058 U	0.0086 U	0.0057 U	0.0064 U
Chloroform	mg/kg	1.4	0.0051 U	0.0043 U	0.0046 U	0.0055 U	0.0046 U	N/A	0.0069 U	0.0072 U	0.0065 U	0.0071 U	0.0053 U	0.0046 U	0.0054 U	0.0054 U	0.0054 U	0.0052 U	0.0056 U	0.0051 U	0.0058 U	0.0086 U	0.0057 U	0.0064 U
cis-1,2-Dichloroethene	mg/kg	2,300	0.0051 U	0.0043 U	0.0046 U	0.0055 U	0.0046 U	N/A	0.0069 U	0.0072 U	0.0065 U	0.0071 U	0.0053 U	0.0046 U	0.0054 U	0.0054 U	0.0054 U	0.0052 U	0.0056 U	0.0051 U	0.0058 U	0.0086 U	0.0057 U	0.0064 U
Cyclohexane	mg/kg	27,000	0.01 U	0.0086 U	0.0091 U	0.011 U	0.0092 U	N/A	0.014 UJ	0.014 UJ	0.013 UJ	0.014 UJ	0.011 U	0.0093 U	0.011 UJ	0.011 UJ	0.011 UJ	0.01 UJ	0.011 UJ	0.01 UJ	0.012 UJ	0.017 U	0.011 U	0.013 U
Ethylbenzene	mg/kg	25	0.0051 U	0.0043 U	0.0046 U	0.0055 U	0.0046 U	N/A	0.0069 U	0.0072 U	0.0065 U	0.0071 U	0.0053 U	0.0046 U	0.0054 U	0.0054 U	0.0054 U	0.0052 U	0.0056 U	0.0051 U	0.0058 U	0.0086 U	0.0057 U	0.0064 U
Isopropylbenzene	mg/kg	9,900	0.0051 U	0.0043 U	0.0046 U	0.0055 U	0.0046 U	N/A	0.0069 U	0.0072 U	0.0065 U	0.0071 U	0.0053 U	0.0046 U	0.0054 U	0.0054 U	0.0054 U	0.0052 U	0.0056 U	0.0051 U	0.0058 U	0.0086 U	0.0057 U	0.0064 U
Methyl Acetate	mg/kg	1,200,000	0.051 U	0.043 UJ	0.046 UJ	0.055 U	0.046 U	N/A	0.069 U	0.072 U	0.065 U	0.071 U	0.053 U	0.046 U	0.054 U	0.054 U	0.054 U	0.052 U	0.056 U	0.051 U	0.058 U	0.086 U	0.057 U	0.064 U
Methylene Chloride	mg/kg	1,000	0.0051 U	0.0043 U	0.0046 U	0.0055 U	0.0046 U	N/A	0.0069 U	0.0072 U	0.0065 U	0.0071 U	0.0053 U	0.0046 U	0.0054 U	0.0054 U	0.0054 U	0.0052 U	0.0056 U	0.0051 U	0.0058 U	0.0086 U	0.0057 U	0.0064 U
Styrene	mg/kg	35,000	0.0051 U	0.0043 UJ	0.0046 UJ	0.0055 U	0.0046 U	N/A	0.0069 U	0.0072 U	0.0065 U	0.0071 U	0.0053 U	0.0046 U	0.0054 U	0.0054 U	0.0054 U	0.0052 U	0.0056 U	0.0051 U	0.0058 U	0.0086 U	0.0057 U	0.0064 U
Tetrachloroethene	mg/kg	100	0.0051 U	0.0043 U	0.0046 U	0.0055 U	0.0046 U	N/A	0.0069 UJ	0.0072 UJ	0.0065 UJ	0.0071 UJ	0.0053 U	0.0046 U	0.0054 UJ	0.0054 UJ	0.0054 UJ	0.0052 UJ	0.0056 UJ	0.0051 UJ	0.0058 UJ	0.0086 U	0.0057 U	0.0064 U
Toluene	mg/kg	47,000	0.0051 U	0.0043 U	0.0046 U	0.0055 U	0.0046 U	N/A	0.0069 U	0.0072 U	0.0065 U	0.0071 U	0.0053 U	0.0046 U	**0.0026 B**	0.0054 U	0.0054 U	0.0052 U	0.0056 U	0.0051 U	0.0058 U	0.0086 U	0.0057 U	0.0064 U
Trichloroethene	mg/kg	6	0.0051 U	0.0043 U	0.0046 U	0.0055 U	0.0046 U	N/A	0.0069 U	0.0072 U	0.0065 U	0.0071 U	0.0053 U	0.0046 U	0.0054 U	0.0054 U	0.0054 U	0.0052 U	0.0056 U	0.0051 U	0.0058 U	0.0086 U	0.0057 U	0.0064 U
Trichlorofluoromethane	mg/kg	3,100	0.0051 U	0.0043 UJ	0.0046 UJ	0.0055 U	0.0046 U	N/A	0.0069 U	0.0072 U	0.0065 U	0.0071 U	0.0053 U	0.0046 U	0.0054 U	0.0054 U	**0.0046 J**	0.0052 U	**0.0042 J**	0.0051 U	0.0058 U	0.0086 U	0.0057 U	0.0064 U
Vinyl chloride	mg/kg	1.7	0.0051 U	0.0043 U	0.0046 U	0.0055 U	0.0046 U	N/A	0.0069 U	0.0072 U	0.0065 U	0.0071 U	0.0053 U	0.0046 U	0.0054 U	0.0054 U	0.0054 U	0.0052 U	0.0056 U	0.0051 U	0.0058 U	0.0086 U	0.0057 U	0.0064 U
Xylenes	mg/kg	2,800	0.015 U	0.013 U	0.014 U	0.016 U	0.014 U	N/A	0.021 U	0.022 U	0.019 U	0.021 U	0.016 U	0.014 U	0.016 U	0.016 U	0.016 U	0.016 U	0.017 U	0.015 U	0.017 U	0.026 U	0.017 U	0.019 U
Semi-Volatile Organic Compounds‡																								
1,1-Biphenyl	mg/kg	200	0.077 U	0.072 U	0.076 U	0.075 U	**0.08**	0.088 U	0.071 U	0.076 U	0.075 U	0.074 U	0.07 U	0.082 U	0.072 U	0.079 U	0.074 U	0.071 U	0.07 U	0.071 U	0.09 U	0.072 U	0.08 U	0.071 U
1,2,4,5-Tetrachlorobenzene	mg/kg	350	0.077 U	0.072 U	0.076 U	0.075 U	0.073 U	0.088 U	0.071 U	0.076 U	0.075 U	0.074 U	0.07 U	0.082 U	**0.09**	0.079 U	0.074 U	0.071 U	0.07 U	0.071 U	0.09 U	0.072 U	0.08 U	0.071 U
2,4-Dimethylphenol	mg/kg	16,000	0.077 UJ	0.072 R	0.076 R	0.075 U	0.073 U	**10.9**	0.071 R	0.076 U	**0.023 J**	0.074 UJ	0.07 U	0.082 U	0.072 U	0.079 U	0.074 R	0.071 U	0.07 U	0.071 R	0.09 U	0.072 U	0.08 UJ	0.071 R
2-Chloronaphthalene	mg/kg	60,000	0.077 U	0.072 U	0.076 U	0.075 U	0.073 U	0.088 U	0.071 U	0.076 U	0.075 U	0.074 U	0.07 U	0.082 U	0.072 U	0.079 U	0.074 U	0.071 U	0.07 U	0.071 U	0.09 U	0.072 U	0.08 U	0.071 U
2-Methylnaphthalene	mg/kg	3,000	**0.01**	**0.08**	**0.02**	0.076 U	**0.28**	0.43 U	**0.0031 J**	**0.0022 J**	0.077 U	0.0074 U	**0.0044 J**	**0.0025 J**	**0.022 J**	**0.0052 J**	**0.031 J**	**0.02 J**	**0.042 J**	**0.038 J**	**0.0039 J**	**0.01**	**0.0064 J**	0.0072 U
2-Methylphenol	mg/kg	41,000	0.077 UJ	0.072 R	0.076 R	0.075 U	0.073 U	0.088 U	0.071 R	0.076 U	0.075 UJ	0.074 UJ	0.07 U	0.082 U	0.072 U	0.079 U	0.074 R	0.071 U	0.07 U	0.071 R	0.09 U	0.072 U	0.08 UJ	0.071 R
2-Nitroaniline	mg/kg	8,000	0.19 U	0.18 U	0.19 U	0.19 U	0.18 U	0.22 U	0.18 U	0.19 U	0.19 U	0.19 U	0.18 U	0.21 U	0.18 U	0.2 U	0.18 U	0.18 U	0.18 U	0.18 U	0.22 U	0.18 U	0.2 U	0.18 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.15 UJ	0.14 R	0.15 R	0.15 U	0.14 U	**14.3**	0.14 R	0.15 U	**0.027 J**	0.15 UJ	0.14 U	0.16 U	0.14 U	0.16 U	0.15 R	0.14 U	0.14 U	0.14 R	0.18 U	0.14 U	0.16 UJ	0.14 R
Acenaphthene	mg/kg	45,000	**0.0011 J**	**0.0057 J**	**0.0019 J**	0.076 U	**0.05**	**0.21 J**	0.007 U	**0.0005 J**	**0.046 J**	**0.0017 J**	**0.0011 J**	0.0083 U	**0.014 J**	**0.0049 J**	**0.0078 J**	**0.0076 J**	**0.017 J**	**0.0094 J**	**0.0011 J**	**0.0011 J**	**0.0025 J**	**0.0008 J**
Acenaphthylene	mg/kg	45,000	0.008 U	**0.01**	**0.0044 J**	**0.019 J**	**0.24**	0.43 U	0.007 U	**0.0025 J**	**0.009 J**	0.0074 U	**0.0071 J**	**0.00068 J**	**0.028 J**	**0.0053 J**	**0.021 J**	**0.021 J**	**0.063 J**	**0.023 J**	**0.0026 J**	**0.01**	**0.005 J**	**0.00069 J**
Acetophenone	mg/kg	120,000	0.077 U	0.072 U	0.076 U	0.075 U	**0.026 J**	0.088 U	0.071 U	0.076 U	0.075 U	0.074 U	0.07 U	0.082 U	0.072 U	0.079 U	0.074 U	0.071 U	**0.063 J**	0.071 U	0.09 U	0.072 U	0.08 U	0.071 U
Anthracene	mg/kg	230,000	**0.01**	**0.02**	**0.01**	**0.039 J**	**0.34**	**0.13 J**	**0.0025 J**	**0.002 J**	**0.13**	**0.0056 J**	**0.01**	**0.0013 J**	**0.049 J**	**0.01**	**0.031 J**	**0.03 J**	**0.08**	**0.036 J**	**0.0041 J**	**0.01**	**0.03**	**0.0038 J**
Benzaldehyde	mg/kg	120,000	0.077 R	0.072 R	0.076 R	0.075 U	0.073 U	0.088 R	0.071 R	0.076 R	0.075 R	0.074 R	0.07 R	0.082 R	0.072 R	0.079 R	0.074 R	0.071 R	**0.056 J**	**0.035 J**	0.09 R	0.072 R	0.08 R	0.071 UJ
Benzo[a]anthracene	mg/kg	2.9	**0.03**	**0.11**	**0.06**	**0.17**	**1.20**	0.43 U	**0.0063 J**	**0.01**	**0.34**	**0.02**	**0.05**	**0.0046 J**	**0.12**	**0.06**	**0.08**	**0.08**	**0.21**	**0.09**	**0.03**	**0.04**	**0.12**	**0.01**
Benzo[a]pyrene	mg/kg	0.29	**0.03**	**0.12**	**0.07**	**0.15**	1.10	0.43 U	**0.0048 J**	**0.01**	**0.28**	**0.02**	**0.03**	**0.0038 J**	**0.11**	**0.05**	**0.068 J**	**0.061 J**	**0.26**	**0.067 J**	**0.03**	**0.04**	**0.08**	**0.01**
Benzo[b]fluoranthene	mg/kg	2.9	**0.07**	**0.24**	**0.14**	**0.42**	**2.00**	**0.47**	**0.02**	**0.02**	**0.66**	**0.03**	**0.07**	**0.0079 J**	**0.22**	**0.10**	**0.12**	**0.12**	**0.52**	**0.14**	**0.06**	**0.09**	**0.16**	**0.02**
Benzo[g,h,i]perylene	mg/kg		**0.02**	**0.08**	**0.05**	**0.10**	**0.75**	**0.07 J**	**0.0034 J**	**0.0047 J**	**0.14**	**0.0067 J**	**0.02**	**0.003 J**	**0.07**	**0.03**	**0.041 J**	**0.04 J**	**0.20**	**0.042 J**	**0.02**	**0.03**	**0.04**	**0.0044 J**
Benzo[k]fluoranthene	mg/kg	29	**0.06**	**0.24**	**0.14**	**0.35**	**1.70**	0.43 U	**0.01**	**0.02**	**0.56**	**0.03**	**0.07**	**0.0075 J**	**0.19**	**0.08**	**0.10**	**0.10**	**0.43**	**0.12**	**0.05**	**0.08**	**0.15**	**0.02**
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.077 U	0.072 U	0.076 U	0.075 U	0.073 U	**1.1 J**	0.071 U	0.076 U	**0.26 J**	0.074 U	0.07 U	0.082 U	**0.45 J**	0.079 U	**0.38 J**	**0.019 B**	**2.3 J**	**1.2 J**	0.09 U	0.072 U	0.08 U	**0.028 J**
Carbazole	mg/kg		0.077 U	0.072 U	0.076 U	0.075 U	**0.13**	0.88 U	0.071 U	0.076 U	**0.093 J**	0.074 U	0.07 U	0.082 U	**0.039 J**	0.079 U	0.074 U	**0.018 J**	**0.018 J**	0.071 U	0.09 U	0.072 U	0.08 U	0.071 UJ
Chrysene	mg/kg	290	**0.03**	**0.13**	**0.08**	**0.18**	**1.10**	**1.00**	**0.01**	**0.01**	**0.38**	**0.02**	**0.05**	**0.006 J**	**0.13**	**0.06**	**0.062 J**	**0.06 J**	**0.27**	**0.08**	**0.03**	**0.05**	**0.11**	**0.01**
Dibenz[a,h]anthracene	mg/kg	0.29	**0.0067 J**	**0.03**	**0.02**	**0.032 J**	**0.26**	0.43 U	**0.001 J**	**0.0017 J**	**0.045 J**	**0.0021 J**	**0.0071 J**	0.0083 UJ	**0.024 J**	**0.01**	**0.013 J**	**0.011 J**	**0.057 J**	**0.015 J**	**0.0054 J**	**0.01**	**0.02**	**0.0015 J**
Di-n-butylphthalate	mg/kg	82,000	0.077 U	0.072 U	0.076 U	0.075 U	0.073 U	0.88 U	0.071 U	0.076 U	**0.073 J**	0.074 U	0.07 U	0.082 U	0.072 U	0.079 U	0.074 U	0.071 U	0.07 U	0.071 U	0.09 U	0.072 U	0.08 U	0.071 UJ
Di-n-octylphthalate	mg/kg	8,200	0.077 U	0.072 U	0.076 U	0.075 U	0.073 U	0.088 UJ	0.071 U	0.076 UJ	0.075 UJ	0.074 UJ	0.07 U	0.082 U	**0.11 J**	0.079 UJ	0.074 UJ	0.071 UJ	0.07 UJ	**0.18 J**	0.09 U	0.072 U	0.08 U	0.071 UJ
Fluoranthene	mg/kg	30,000	**0.05**	**0.21**	**0.12**	**0.31**	**1.60**	**0.84**	**0.02**	**0.02**	**0.92**	**0.04**	**0.10**	**0.0067 J**	**0.27**	**0.11**	**0.15**	**0.13**	**0.45**	**0.16**	**0.04**	**0.07**	**0.20**	**0.02**
Fluorene	mg/kg	30,000	**0.0011 J**	**0.01**	**0.0019 J**	0.076 U	**0.08**	**0.072 J**	0.007 U	0.0076 U	**0.04 J**	**0.0018 J**	**0.0024 J**	**0.0011 J**	**0.031 J**	**0.0051 J**	**0.025 J**	**0.027 J**	**0.035 J**	**0.024 J**	0.0091 U	**0.0018 J**	**0.0056 J**	**0.00087 J**
Hexachlorobenzene	mg/kg	0.96	0.077 U	0.072 U	0.076 U	0.075 U	0.073 U	0.88 U	0.071 U	0.076 U	0.075 U	0.074 U	0.07 U	0.082 U	**0.038 J**	0.079 U	0.074 U	0.071 U	0.07 U	0.071 U	0.09 U	0.072 U	0.08 U	0.071 U
Indeno[1,2,3-c,d]pyrene	mg/kg	2.9	**0.02**	**0.08**	**0.04**	**0.09**	**0.73**	0.43 U	**0.0029 J**	**0.0043 J**	**0.13**	**0.0061 J**	**0.02**	**0.0026 J**	**0.065 J**	**0.03**	**0.032 J**	**0.034 J**	**0.16**	**0.032 J**	**0.02**	**0.03**	**0.04**	**0.0041 J**
Naphthalene	mg/kg	17	**0.01**	**0.13**	**0.03**	0.076 U	**0.87**	**0.3 J**	**0.003 B**	**0.0034 B**	**0.02 J**	**0.002 B**	**0.0048 B**	**0.0063 B**	**0.15**	**0.01**	**0.17**	**0.14**	**0.16**	**0.17**	**0.0044 B**	**0.01**	**0.01**	0.0072 U
N-Nitroso-di-n-propylamine	mg/kg	0.33	0.077 U	0.072 U	0.076 U	0.075 U	0.073 U	0.088 U	0.071 U	0.076 U	0.075 U	0.074 U	0.07 U	0.082 U	0.072 U	0.079 U	0.074 U	0.071 U	0.07 U	0.071 U	0.09 U	0.072 U	0.08 U	0.071 U
N-Nitrosodiphenylamine	mg/kg	470	0.077 U	0.072 U	0.076 U	0.075 U	0.073 U	0.88 U	0.071 U	0.076 U	0.075 U	0.074 U	0.07 U	0.082 U	0.072 U	0.079 U	0.074 U	0.071 U	0.07 U	0.071 U	0.09 U	0.072 U	0.08 U	0.071 U
Phenanthrene	mg/kg		**0.03**	**0.16**	**0.09**	**0.11**	**1.00**	**0.86**	**0.02**	**0.01**	**0.59**	**0.03**	**0.06**	**0.0076 J**	**0.22**	**0.06**	**0.15**	**0.12**	**0.31**	**0.17**	**0.02**	**0.04**	**0.08**	**0.01**
Phenol	mg/kg	250,000	0.077 UJ	0.072 R	0.076 R	0.075 U	0.073 U	**14.4**	0.071 R	0.076 U	**0.14 J**	0.074 UJ	0.07 U	0.082 U	0.072 U	0.079 U	**0.24 J**	**0.029 J**	**0.028 J**	0.071 R	0.09 U	0.072 U	0.08 UJ	0.071 R
Pyrene	mg/kg	23,000	**0.04**	**0.18**	**0.10**	**0.31**	**1.60**	**0.62**	**0.02**	**0.01**	**0.79**	**0.03**	**0.07**	**0.0065 J**	**0.23**	**0.10**	**0.12**	**0.10**	**0.44**	**0.13**	**0.04**	**0.07**	**0.18**	**0.02**
PCBs																								
Aroclor 1242	mg/kg	0.97	0.0609 U	0.0553 U	N/A	0.279 U	0.0565 U	N/A	0.174 U	N/A	0.0589 U	N/A	0.0594 U	N/A	0.537 U	N/A	**0.60**	N/A	0.175 U	0.0533 U	N/A	**0.91**	N/A	0.0529 U
Aroclor 1248	mg/kg	0.94	0.0609 U	0.0553 U	N/A	0.279 U	0.0565 U	N/A	**4.87**	N/A	**0.71**	N/A	0.0594 U	N/A	**3.06**	N/A	0.0582 U	N/A	**3.68**	**0.46**	N/A	0.0505 U	N/A	0.0529 U
Aroclor 1254	mg/kg	0.97	0.0609 U	0.0553 U	N/A	**7.93**	**0.31**	N/A	0.174 U	N/A	**0.47**	N/A	0.0594 U	N/A	0.537 U	N/A	0.0582 U	N/A	**1.63**	0.0533 U	N/A	0.0505 U	N/A	0.0529 U
Aroclor 1260	mg/kg	0.99	0.0609 U	0.0553 U	N/A	0.279 U	0.0565 U	N/A	0.174 U	N/A	**0.28**	N/A	0.0594 U	N/A	**21.1**	N/A	0.0582 U	N/A	0.175 U	0.0533 U	N/A	0.0505 U	N/A	0.0529 U
Aroclor 1262	mg/kg		0.0609 U	0.0553 U	N/A	0.279 U	0.0565 U	N/A	**0.29**	N/A	0.0589 U	N/A	0.0594 U	N/A	0.537 U	N/A	**0.10**	N/A	**4.12**	**0.09**	N/A	0.0505 U	N/A	0.0529 U
Aroclor 1268	mg/kg		**0.25**	**0.19**	N/A	0.279 U	**0.68**	N/A	0.174 U	N/A	0.0589 U	N/A	0.0594 U	N/A	0.537 U	N/A	0.0582 U	N/A	0.175 U	0.0533 U	N/A	0.0505 U	N/A	**1.03**
PCBs (total)	mg/kg	0.97	**0.25**	**0.19**	N/A	**7.93**	**0.99**	N/A	**5.16**	N/A	**1.46**	N/A	0.0594 U	N/A	**24.2**	N/A	**0.70**	N/A	**9.43**	**0.55**	N/A	**0.91**	N/A	**1.03**
TPH/Oil and Grease																								
Diesel Range Organics	mg/kg	6,200	**7.7 J**	**33.5 J**	**21.7 J**	**15.1**	**117**	N/A	**11 J**	**3.4 J**	**92.8 J**	**6.6 J**	**31.4 J**	**9.1 J**	**99.6 J**	**5.6 J**	**142 J**	**22.6 J**	**251 J**	**58 J**	**10.7 J**	**8.2 J**	**14.4 J**	**9.4 J**
Gasoline Range Organics	mg/kg	6,200	10.1 U	9 U	9 U	10.8 U	11.9 U	N/A	15.7 U	18.6 U	12.3 U	17.1 U	11.5 U	9.4 U	11.5 U	9 U	11.1 U	11.4 U	10.8 U	9.6 U	11.3 U	18.7 U	10.7 U	14.2 U

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

J: The positive result reported for this anaytle 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 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
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-049-SB-5	B22-050-SB-1	B22-050-SB-4.5	B22-051-SB-1	B22-051-SB-6	B22-052-SB-1	B22-052-SB-8	B22-053-SB-1	B22-053-SB-8	B22-054-SB-1	B22-054-SB-4	B22-055-SB-1	B22-055-SB-8.5	B22-056-SB-1	B22-056-SB-5	B22-057-SB-1	B22-058-SB-1	B22-058-SB-7	B22-059-SB-1*	B22-059-SB-4*	B22-060-SB-1*	B22-060-SB-4*
Volatile Organic Compounds																								
1,1,1-Trichloroethane	mg/kg	36,000	0.0052 U	0.0051 U	0.0052 U	0.0054 U	0.0053 U	0.0051 U	0.25 U	0.0054 U	0.0049 U	0.0061 U	0.0052 U	**0.01**	0.0045 U	0.0069 U	0.0062 U	0.0058 U	0.0055 U	0.005 U	0.0082 U	0.0074 U	0.0062 U	0.0051 U
1,1-Dichloroethane	mg/kg	16	0.0052 U	0.0051 U	0.0052 U	0.0054 U	**0.0036 J**	0.0051 U	0.25 U	**0.01**	0.0049 U	0.0061 U	0.0052 U	0.007 U	0.0045 U	**0.01**	0.0062 U	0.0058 U	**0.01**	**0.03**	0.0082 U	0.0074 U	0.0062 U	0.0051 U
1,1-Dichloroethene	mg/kg	1,000	0.0052 U	0.0051 U	0.0052 U	0.0054 U	**0.02**	0.0051 U	0.25 U	**0.0049 J**	0.0049 U	0.0061 U	0.0052 U	0.007 U	0.0045 U	0.0069 U	0.0062 U	0.0058 U	0.0055 U	0.005 U	0.0082 U	0.0074 U	0.0062 U	0.0051 U
1,2,3-Trichlorobenzene	mg/kg	930	0.0052 U	0.0051 U	0.0052 U	0.0054 U	0.0053 U	0.0051 U	0.25 U	0.0054 U	0.0049 U	0.0061 U	0.0052 U	0.007 U	0.0045 U	0.0069 U	0.0062 U	0.0058 U	0.0055 U	0.005 U	0.0082 U	0.0074 U	**0.0015 J**	0.0051 U
1,2,4-Trichlorobenzene	mg/kg	110	0.0052 U	0.0051 U	0.0052 U	0.0054 U	0.0053 U	0.0051 U	0.25 U	0.0054 U	0.0049 U	0.0061 U	0.0052 U	0.007 U	0.0045 U	0.0069 U	0.0062 U	0.0058 U	0.0055 U	0.005 U	0.0082 U	0.0074 U	0.0062 U	0.0051 U
1,2-Dichloroethane	mg/kg	2	0.0052 U	0.0051 U	0.0052 U	0.0054 U	**0.0049 J**	0.0051 U	0.25 U	0.0054 U	0.0049 U	0.0061 U	0.0052 U	0.007 U	0.0045 U	0.0069 U	0.0062 U	0.0058 U	0.0055 U	0.005 U	0.0082 U	0.0074 U	0.0062 U	0.0051 U
1,2-Dichloroethene (Total)	mg/kg	2,300	0.01 U	0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.51 U	0.011 U	0.0099 U	0.012 U	0.01 U	0.014 U	0.0091 U	0.014 U	0.012 U	0.012 U	0.011 U	0.0099 U	0.016 U	0.015 U	0.012 U	0.01 U
1,4-Dichlorobenzene	mg/kg	11	0.0052 U	0.0051 U	0.0052 U	**0.0041 J**	**0.0023 J**	0.0051 U	**5.00**	0.0054 U	0.0049 U	0.0061 U	0.0052 U	0.007 U	0.0045 U	0.0069 U	0.0062 U	0.0058 U	0.0055 U	0.005 U	0.0082 U	0.0074 U	0.0062 U	0.0051 U
1,4-Dioxane	mg/kg	24	0.1 R	0.1 R	0.1 R	0.11 R	0.11 R	0.1 R	5.1 U	0.11 R	0.099 R	0.12 R	0.1 R	0.14 R	0.091 R	0.14 R	0.12 R	0.12 R	0.11 R	0.099 R	0.16 U	0.15 U	0.12 U	0.1 U
2-Butanone (MEK)	mg/kg	190,000	0.01 U	0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.51 U	**0.0038 J**	0.0099 U	**0.0049 J**	**0.0047 J**	0.014 U	0.0091 U	0.014 U	0.012 U	0.012 U	0.011 U	0.0099 U	0.016 U	0.015 U	0.012 U	0.01 U
2-Hexanone	mg/kg	1,300	0.01 U	0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.51 U	0.011 U	0.0099 U	0.012 U	0.01 U	0.014 U	0.0091 U	0.014 U	0.012 U	0.012 U	0.011 U	0.0099 U	0.016 U	0.015 U	0.012 U	0.01 U
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	0.01 U	0.01 U	0.01 U	0.011 UJ	0.011 UJ	0.01 UJ	0.51 U	0.011 U	0.0099 UJ	0.012 UJ	0.01 UJ	0.014 U	0.0091 U	0.014 U	0.012 U	0.012 U	0.011 U	0.0099 U	0.016 U	0.015 U	0.012 U	0.01 U
Acetone	mg/kg	670,000	0.01 U	0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.51 U	**0.0073 J**	0.0099 U	**0.0062 J**	**0.054 J**	0.014 U	**0.0087 B**	0.014 U	0.012 U	0.012 U	0.011 U	0.0099 U	0.016 U	0.015 U	0.012 U	0.01 U
Benzene	mg/kg	5.1	0.0052 U	0.0051 U	0.0052 U	0.0054 U	0.0053 U	0.0051 U	0.25 U	0.0054 U	0.0049 U	**0.05**	0.0052 U	0.007 U	0.0045 U	**0.002 J**	**0.01**	0.0058 U	0.0055 U	0.005 U	0.0082 U	0.0074 U	0.0062 U	0.0051 U
Chlorobenzene	mg/kg	1,300	0.0052 U	0.0051 U	0.0052 U	0.0054 U	0.0053 U	0.0051 U	**0.27**	0.0054 U	0.0049 U	0.0061 U	0.0052 U	0.007 U	0.0045 U	0.0069 U	0.0062 U	0.0058 U	0.0055 U	0.005 U	0.0082 U	0.0074 U	0.0062 U	0.0051 U
Chloroform	mg/kg	1.4	0.0052 U	0.0051 U	0.0052 U	0.0054 U	0.0053 U	0.0051 U	0.25 U	0.0054 U	0.0049 U	0.0061 U	0.0052 U	0.007 U	0.0045 U	0.0069 U	0.0062 U	0.0058 U	0.0055 U	0.005 U	0.0082 U	0.0074 U	0.0062 U	0.0051 U
cis-1,2-Dichloroethene	mg/kg	2,300	0.0052 U	0.0051 U	0.0052 U	0.0054 U	0.0053 U	0.0051 U	0.25 U	0.0054 U	0.0049 U	0.0061 U	0.0052 U	0.007 U	0.0045 U	0.0069 U	0.0062 U	0.0058 U	0.0055 U	0.005 U	0.0082 U	0.0074 U	0.0062 U	0.0051 U
Cyclohexane	mg/kg	27,000	0.01 U	0.01 U	0.01 U	0.011 U	0.011 U	0.01 U	0.51 U	0.011 U	0.0099 U	**0.04**	0.01 U	0.014 U	0.0091 U	0.014 U	0.012 U	0.012 U	0.011 U	0.0099 U	0.016 U	0.015 U	0.012 U	0.01 U
Ethylbenzene	mg/kg	25	0.0052 U	0.0051 U	0.0052 U	0.0054 U	0.0053 U	0.0051 U	0.25 U	0.0054 U	0.0049 U	**0.0033 J**	0.0052 U	0.007 U	0.0045 U	0.0069 U	**0.0049 J**	0.0058 U	0.0055 U	0.005 U	0.0082 U	0.0074 U	**0.0047 J**	0.0051 U
Isopropylbenzene	mg/kg	9,900	0.0052 U	0.0051 U	0.0052 U	0.0054 U	0.0053 U	0.0051 U	0.25 U	0.0054 U	0.0049 U	0.0061 U	0.0052 U	0.007 U	0.0045 U	0.0069 U	0.0062 U	0.0058 U	0.0055 U	0.005 U	0.0082 U	0.0074 U	**0.01**	0.0051 U
Methyl Acetate	mg/kg	1,200,000	0.052 U	0.051 U	0.052 U	0.054 U	0.053 U	0.051 U	2.5 U	0.054 U	0.049 UJ	0.061 UJ	0.052 UJ	0.07 U	0.045 U	0.069 U	0.062 U	0.058 U	0.055 U	0.05 U	0.082 U	0.074 U	0.062 U	0.051 U
Methylene Chloride	mg/kg	1,000	0.0052 U	0.0051 U	0.0052 U	0.0054 U	0.0053 U	0.0051 U	0.25 U	0.0054 U	0.0049 U	0.0061 U	0.0052 U	0.007 UJ	0.0045 UJ	0.0069 UJ	0.0062 UJ	0.0058 U	0.0055 U	0.005 U	0.0082 U	0.0074 U	0.0062 U	0.0051 U
Styrene	mg/kg	35,000	0.0052 U	0.0051 U	0.0052 U	0.0054 UJ	0.0053 UJ	0.0051 UJ	0.25 U	0.0054 U	0.0049 UJ	0.0061 UJ	0.0052 UJ	0.007 U	0.0045 U	0.0069 U	0.0062 U	0.0058 U	0.0055 U	0.005 U	0.0082 U	0.0074 U	0.0062 U	0.0051 U
Tetrachloroethene	mg/kg	100	0.0052 U	0.0051 U	0.0052 U	0.0054 U	0.0053 U	0.0051 U	0.25 U	0.0054 U	0.0049 U	0.0061 U	0.0052 U	0.007 U	0.0045 U	0.0069 U	0.0062 U	0.0058 U	0.0055 U	**0.01**	0.0082 U	0.0074 U	0.0062 U	0.0051 U
Toluene	mg/kg	47,000	0.0052 U	0.0051 U	0.0052 U	0.0054 U	0.0053 U	0.0051 U	0.25 U	0.0054 U	0.0049 U	**0.0049 J**	0.0052 U	0.007 U	0.0045 U	0.0069 U	**0.0055 B**	0.0058 U	0.0055 U	0.005 U	0.0082 U	0.0074 U	**0.0028 J**	0.0051 U
Trichloroethene	mg/kg	6	0.0052 U	0.0051 U	0.0052 U	0.0054 U	0.0053 U	0.0051 U	0.25 U	0.0054 U	0.0049 U	0.0061 U	0.0052 U	0.007 U	0.0045 U	0.0069 U	0.0062 U	0.0058 U	0.0055 U	0.005 U	0.0082 U	0.0074 U	0.0062 U	0.0051 U
Trichlorofluoromethane	mg/kg	3,100	0.0052 U	0.0051 U	0.0052 U	0.0054 U	0.0053 U	0.0051 U	0.25 U	0.0054 U	0.0049 UJ	0.0061 UJ	0.0052 UJ	0.007 UJ	0.0045 UJ	0.0069 UJ	0.0062 UJ	0.0058 U	0.0055 U	0.005 U	0.0082 U	0.0074 U	0.0062 U	0.0051 U
Vinyl chloride	mg/kg	1.7	0.0052 U	0.0051 U	0.0052 U	0.0054 U	0.0053 U	0.0051 U	0.25 U	0.0054 U	0.0049 U	0.0061 U	0.0052 U	0.007 U	0.0045 U	0.0069 U	0.0062 U	0.0058 U	0.0055 U	0.005 U	0.0082 U	0.0074 U	0.0062 U	0.0051 U
Xylenes	mg/kg	2,800	0.016 U	0.015 U	0.016 U	0.016 U	0.016 U	0.015 U	0.76 U	0.016 U	0.015 U	**0.017 J**	0.016 U	0.021 U	**0.0055 J**	0.021 U	**0.0055 J**	0.018 U	0.016 U	0.015 U	0.025 U	0.022 U	**0.02**	0.015 U
Semi-Volatile Organic Compounds‡																								
1,1-Biphenyl	mg/kg	200	0.073 U	0.073 U	0.085 U	0.075 U	0.082 U	0.081 U	0.085 U	0.075 U	0.082 U	**0.031 J**	0.08 U	**0.044 J**	0.081 U	**0.017 J**	0.078 U	0.076 U	0.085 U	0.083 U	0.076 U	0.077 U	**0.10**	0.071 U
1,2,4,5-Tetrachlorobenzene	mg/kg	350	0.073 U	0.073 U	0.085 U	0.075 U	0.082 U	0.081 U	0.085 U	0.075 U	0.082 U	0.073 U	0.08 U	0.077 U	0.081 U	0.08 U	0.078 U	0.076 U	0.085 U	0.083 U	0.076 U	0.077 U	0.073 U	0.071 U
2,4-Dimethylphenol	mg/kg	16,000	0.073 U	0.073 U	0.085 U	0.075 U	0.082 U	0.081 U	0.085 U	0.075 UJ	0.082 U	0.073 U	0.08 U	**0.016 J**	0.081 U	0.08 UJ	0.078 U	0.076 U	0.085 U	0.083 U	0.076 U	0.077 U	0.073 U	0.071 U
2-Chloronaphthalene	mg/kg	60,000	0.073 U	0.073 U	0.085 U	0.075 U	0.082 U	0.081 U	0.085 U	0.075 U	0.082 U	0.073 U	0.08 U	0.077 U	0.081 U	0.08 U	0.078 U	0.076 U	0.085 U	0.083 U	0.076 U	0.077 U	0.073 U	0.071 U
2-Methylnaphthalene	mg/kg	3,000	0.0074 U	**0.06 J**	**0.01**	**0.03**	0.0083 U	**0.06**	0.0086 U	**0.064 J**	0.0083 U	**0.27**	0.008 U	**0.12**	**0.0047 J**	**0.13**	0.0078 U	0.0077 UJ	0.0085 U	0.0081 U	0.077 U	**0.03**	**0.41**	**0.05**
2-Methylphenol	mg/kg	41,000	0.073 U	0.073 U	0.085 U	0.075 U	0.082 U	0.081 U	0.085 U	0.075 UJ	0.082 U	0.073 U	0.08 U	0.077 U	0.081 U	0.08 UJ	0.078 U	0.076 U	0.085 U	0.083 U	0.076 U	0.077 U	0.073 U	0.071 U
2-Nitroaniline	mg/kg	8,000	0.18 U	0.18 U	0.21 U	0.19 U	0.2 U	0.2 U	0.21 U	0.19 U	0.21 U	0.18 U	0.2 U	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.21 U	0.21 U	0.19 U	0.19 U	0.18 U	0.18 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.15 U	0.15 U	0.17 U	0.15 U	0.16 U	0.16 U	0.17 U	0.15 UJ	0.16 U	0.15 U	0.16 U	0.15 U	0.16 U	0.16 UJ	0.16 U	0.15 U	0.17 U	0.16 U	0.15 U	0.15 U	0.15 U	0.14 U
Acenaphthene	mg/kg	45,000	0.0074 U	**0.20**	**0.053 J**	**0.00081 J**	0.0083 U	**0.05**	**0.0029 J**	0.075 U	0.0083 U	**0.0095 J**	0.008 U	**0.036 J**	**0.05**	**0.011 J**	**0.00066 J**	0.0077 U	0.0085 U	0.0081 U	**0.0057 J**	**0.02**	**0.08**	**0.01**
Acenaphthylene	mg/kg	45,000	0.0074 U	**0.027 J**	**0.005 J**	**0.00091 J**	0.0083 U	**0.03**	**0.00075 J**	**0.014 J**	0.0083 U	**0.0088 J**	0.008 U	**0.23**	**0.0022 J**	**0.035 J**	0.0078 U	0.0077 U	0.0085 U	0.0081 U	**0.015 J**	**0.02**	**0.04**	**0.03**
Acetophenone	mg/kg	120,000	0.073 U	0.073 U	0.085 U	0.075 U	0.082 U	0.081 U	0.085 U	**0.018 J**	0.082 U	0.073 U	0.08 U	**0.041 J**	0.081 U	0.08 U	0.078 U	0.076 U	0.085 U	0.083 U	0.076 U	0.077 U	0.073 U	0.071 U
Anthracene	mg/kg	230,000	0.0074 U	**0.46**	**0.1 J**	**0.0046 J**	**0.0022 J**	**0.24**	**0.0014 J**	**0.016 J**	0.0083 U	**0.018 J**	0.008 U	**0.23**	**0.04**	**0.063 J**	0.0078 U	**0.002 J**	0.0085 U	**0.00072 J**	**0.038 J**	**0.08**	**0.10**	**0.06**
Benzaldehyde	mg/kg	120,000	0.073 UJ	0.073 UJ	0.085 UJ	0.075 R	0.082 R	0.081 R	0.085 R	**0.033 J**	0.082 R	0.073 R	0.08 R	**0.13 J**	0.081 R	**0.08 J**	0.078 R	0.076 U	0.085 U	0.083 U	0.076 U	0.077 U	0.073 U	0.071 U
Benzo[a]anthracene	mg/kg	2.9	**0.0017 J**	**1.10**	**0.23 J**	**0.01**	0.0083 U	**1.10**	0.0086 U	**0.038 J**	**0.0023 J**	**0.055 J**	**0.0025 J**	**0.54**	**0.01**	**0.19**	0.0078 U	0.0077 U	0.0085 U	0.0081 U	**0.12**	**0.40**	**0.39**	**0.26**
Benzo[a]pyrene	mg/kg	0.29	**0.00099 J**	**0.85**	**0.22 J**	**0.01**	0.0083 U	**0.94**	0.0086 U	**0.039 J**	0.0083 U	**0.05 J**	**0.0013 J**	**0.57**	**0.01**	**0.23**	0.0078 U	0.0077 U	0.0085 U	0.0081 U	**0.14**	**0.42**	**0.24**	**0.23**
Benzo[b]fluoranthene	mg/kg	2.9	**0.0023 J**	**1.70**	**0.41 J**	**0.04**	**0.00084 J**	**1.30**	0.0086 U	**0.19 J**	**0.0027 J**	**0.2 J**	**0.003 J**	**1.20**	**0.02**	**0.54**	**0.0024 J**	**0.0016 J**	0.0085 U	0.0081 U	**0.32**	**0.76**	**0.72**	**0.59**
Benzo[g,h,i]perylene	mg/kg		0.0074 U	**0.54**	**0.13 J**	**0.01**	0.0083 U	**0.35**	0.0086 U	**0.049 J**	0.0083 U	**0.041 J**	0.008 U	**0.68**	**0.0048 J**	**0.18**	**0.00097 J**	0.0077 U	0.0085 U	0.0081 U	**0.08**	**0.25**	**0.11**	**0.09**
Benzo[k]fluoranthene	mg/kg	29	**0.0019 J**	**1.40**	**0.34 J**	**0.03**	0.0083 U	**0.47**	0.0086 U	**0.19 J**	**0.0026 J**	**0.18 J**	**0.0029 J**	**0.87**	**0.02**	**0.47**	**0.0021 J**	0.0077 U	0.0085 U	0.0081 U	**0.28**	**0.74**	**0.62**	**0.51**
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.073 UJ	**0.089 J**	0.085 UJ	0.075 U	0.082 U	0.081 UJ	**0.057 J**	**0.15 J**	0.082 U	**0.16 J**	0.08 U	**0.047 J**	0.081 U	**0.39 J**	0.078 U	0.076 U	0.085 U	0.083 U	0.076 U	**0.016 J**	0.073 U	**0.014 J**
Carbazole	mg/kg		0.073 UJ	**0.057 J**	**0.076 J**	0.075 U	0.082 U	**0.08 J**	0.085 U	0.075 U	0.082 U	0.073 U	0.08 U	**0.044 J**	0.081 U	**0.024 J**	0.078 U	0.076 U	0.085 U	0.083 U	0.076 U	0.077 U	**0.035 J**	0.071 U
Chrysene	mg/kg	290	**0.0012 J**	**1.10**	**0.24 J**	**0.03**	**0.00083 J**	**0.90**	0.0086 U	**0.13**	**0.0013 J**	**0.17**	**0.0015 J**	**0.42**	**0.01**	**0.28**	**0.0015 J**	**0.001 J**	0.0085 U	0.0081 U	**0.13**	**0.48**	**0.36**	**0.24**
Dibenz[a,h]anthracene	mg/kg	0.29	0.0074 U	**0.19**	**0.045 J**	**0.0031 J**	0.0083 U	**0.17**	0.0086 U	0.075 UJ	0.0083 U	0.073 UJ	0.008 U	**0.18**	**0.0013 J**	**0.057 J**	0.0078 U	0.0077 U	0.0085 U	0.0081 U	**0.024 J**	**0.06**	**0.05**	**0.03**
Di-n-butylphthalate	mg/kg	82,000	0.073 UJ	0.073 UJ	0.085 UJ	0.075 U	0.082 U	0.081 U	0.085 U	0.075 U	0.082 U	0.073 U	0.08 U	0.077 U	0.081 U	0.08 U	0.078 U	0.076 U	0.085 U	0.083 U	0.076 U	0.077 U	0.073 U	0.071 U
Di-n-ocytlphthalate	mg/kg	8,200	0.073 U	0.073 UJ	0.085 UJ	0.075 U	0.082 U	0.081 UJ	0.085 UJ	0.075 UJ	0.082 U	0.073 UJ	0.08 U	0.077 UJ	0.081 U	**0.06 J**	0.078 UJ	0.076 U	0.085 U	0.083 U	0.076 U	0.077 U	0.073 U	0.071 U
Fluoranthene	mg/kg	30,000	**0.0021 J**	**2.50**	**0.59 J**	**0.03**	**0.0032 J**	**2.50**	**0.0055 B**	**0.09**	**0.0015 J**	**0.15**	**0.0027 J**	**0.77**	**0.05**	**0.35**	**0.0027 J**	**0.0016 J**	**0.0011 J**	**0.00087 J**	**0.16**	**0.66**	**1.10**	**0.46**
Fluorene	mg/kg	30,000	0.0074 U	**0.16**	**0.045 J**	**0.00086 J**	0.0083 U	**0.06**	**0.004 J**	**0.0076 J**	0.0083 U	**0.02 J**	0.008 U	**0.039 J**	**0.05**	**0.012 J**	0.0078 U	0.0077 U	0.0085 U	0.0081 U	0.077 U	**0.01**	**0.04**	**0.01**
Hexachlorobenzene	mg/kg	0.96	0.073 U	0.073 U	0.085 U	0.075 U	0.082 U	0.081 U	0.085 U	0.075 U	0.082 U	0.073 U	0.08 U	0.077 U	0.081 U	0.08 U	0.078 U	0.076 U	0.085 U	0.083 U	0.076 U	0.077 U	0.073 U	0.071 U
Indeno[1,2,3-c,d]pyrene	mg/kg	2.9	0.0074 U	**0.50**	**0.12 J**	**0.01**	0.0083 U	**0.38**	0.0086 U	**0.027 J**	0.0083 U	**0.019 J**	0.008 U	**0.52**	**0.0041 J**	**0.15**	0.0078 U	0.0077 U	0.0085 U	0.0081 U	**0.074 J**	**0.23**	**0.11**	**0.10**
Naphthalene	mg/kg	17	0.0074 U	**0.13**	**0.02**	**0.026 B**	0.0083 U	**0.051 B**	0.0086 U	**0.029 B**	0.0083 U	**0.09**	0.008 UJ	**0.11**	**0.02 J**	**0.10**	**0.0024 B**	0.0077 UJ	0.0085 U	**0.0036 B**	**0.028 J**	**0.03**	**0.08**	**0.02**
N-Nitroso-di-n-propylamine	mg/kg	0.33	0.073 U	0.073 U	0.085 U	0.075 U	0.082 U	0.081 U	0.085 U	0.075 U	0.082 U	0.073 U	0.08 U	0.077 U	0.081 U	0.08 U	0.078 U	0.076 U	0.085 U	0.083 U	0.076 U	0.077 U	0.073 U	0.071 U
N-Nitrosodiphenylamine	mg/kg	470	0.073 U	0.073 U	0.085 UJ	0.075 U	0.082 U	0.081 U	0.085 U	0.075 U	0.082 U	0.073 U	0.08 U	0.077 U	0.081 U	0.08 U	0.078 U	0.076 U	0.085 U	0.083 U	0.076 U	0.077 U	0.073 U	0.071 U
Phenanthrene	mg/kg		**0.0013 B**	**2.20**	**0.46 J**	**0.03**	**0.0046 J**	**0.94**	**0.01**	**0.073 J**	**0.00094 J**	**0.15**	**0.0014 J**	**0.56**	**0.15**	**0.25**	**0.0041 J**	**0.02**	**0.002 J**	**0.0021 J**	**0.11**	**0.47**	**1.30**	**0.31**
Phenol	mg/kg	250,000	0.073 U	0.073 U	0.085 U	0.075 U	0.082 U	0.081 U	0.085 U	0.075 UJ	0.082 U	0.073 U	0.08 U	0.077 U	0.081 U	0.08 UJ	0.078 U	0.076 U	0.085 U	0.083 U	0.076 U	0.077 U	0.073 U	0.071 U
Pyrene	mg/kg	23,000	**0.0018 J**	**2.00**	**0.47 J**	**0.02**	**0.0023 J**	**1.50**	**0.0059 J**	**0.09**	**0.0033 J**	**0.14**	**0.002 J**	**0.64**	**0.04**	**0.29**	**0.0016 J**	**0.0012 J**	0.0085 U	0.0081 U	**0.16**	**0.71**	**0.89**	**0.37**
PCBs																								
Aroclor 1242	mg/kg	0.97	N/A	0.0541 U	N/A	0.0583 U	N/A	0.0626 U	N/A	0.228 U	N/A	0.0518 U	N/A	0.0601 U	N/A	0.0611 U	N/A	0.0566 U	**0.044 J**	N/A	0.0547 U	N/A	0.0958 U	N/A
Aroclor 1248	mg/kg	0.94	N/A	0.0541 U	N/A	0.0583 U	N/A	0.0626 U	N/A	0.228 U	N/A	0.0518 U	N/A	0.0601 U	N/A	0.0611 U	N/A	0.0566 U	0.0605 U	N/A	0.0547 U	N/A	**0.0901 J**	N/A
Aroclor 1254	mg/kg	0.97	N/A	**0.06**	N/A	0.0583 U	N/A	0.0626 U	N/A	0.228 U	N/A	0.0518 U	N/A	0.0601 U	N/A	0.0611 U	N/A	0.0566 U	0.0605 U	N/A	0.0547 U	N/A	0.0958 U	N/A
Aroclor 1260	mg/kg	0.99	N/A	0.0541 U	N/A	0.0583 U	N/A	0.0626 U	N/A	0.228 U	N/A	0.0518 U	N/A	0.0601 U	N/A	0.0611 U	N/A	0.0566 U	0.0605 U	N/A	0.0547 U	N/A	0.0958 U	N/A
Aroclor 1262	mg/kg		N/A	0.0541 U	N/A	0.0583 U	N/A	**0.0455 J**	N/A	0.228 U	N/A	0.0518 U	N/A	0.0601 U	N/A	**0.0429 J**	N/A	0.0566 U	0.0605 U	N/A	0.0547 U	N/A	0.0958 U	N/A
Aroclor 1268	mg/kg		N/A	**1.65**	N/A	0.0583 U	N/A	0.0626 U	N/A	**7.32**	N/A	**0.64**	N/A	0.0601 U	N/A	0.0611 U	N/A	0.0566 U	0.0605 U	N/A	**0.08**	N/A	0.0958 U	N/A
PCBs (total)	mg/kg	0.97	N/A	**1.71**	N/A	0.0583 U	N/A	**0.0455 J**	N/A	**7.32**	N/A	**0.64**	N/A	0.0601 U	N/A	**0.0429 J**	N/A	0.0566 U	**0.044 J**	N/A	**0.08**	N/A	**0.0901 J**	N/A
TPH/Oil and Grease																								
Diesel Range Organics	mg/kg	6,200	**13.9 J**	**44.4 J**	**16.3 J**	**19.1 J**	8.2 UJ	**130 J**	**311 J**	**176 J**	**4.7 J**	**280 J**	8 UJ	**89.4 J**	**15.9 J**	**110 J**	**9.7 J**	**8.4 J**	**21.7 J**	**30.2 J**	**40.7**	**84.5**	**149**	**38.6**
Gasoline Range Organics	mg/kg	6,200	**43.2**	11.1 U	11.1 U	11.1 U	10.9 U	10.9 U	10 U	14.4 U	10.4 U	11.4 U	11 U	11.8 U	9.7 U	15.4 U	13.1 U	11.8 U	10.7 U	9.7 U	17 U	18 U	**37.0**	9.9 U

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 highlighting indicates boring locations within the building footprint

J: The positive result reported for this anaytle 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 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
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-061-SB-1	B22-061-SB-5	B22-064-SB-1	B22-064-SB-7	B22-065D-SB-1	B22-065D-SB-4	B22-065E-SB-1	B22-065E-SB-4	B22-065F-SB-0.5	B22-065F-SB-1	B22-065F-SB-2	B22-065G-SB-1	B22-065G-SB-5	B22-065H-SB-1	B22-065H-SB-3	B22-065I-SB-1	B22-065I-SB-5	B22-065J-SB-1	B22-065J-SB-5	B22-065K-SB-1	B22-065K-SB-5
Volatile Organic Compounds																							
1,1,1-Trichloroethane	mg/kg	36,000	0.0059 U	0.0082 U	0.0056 U	0.005 U	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	N/A	N/A
1,1-Dichloroethane	mg/kg	16	0.0059 U	0.0082 U	0.0056 U	0.005 U	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	N/A	N/A
1,1-Dichloroethene	mg/kg	1,000	0.0059 U	0.0082 U	0.0056 U	0.005 U	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	N/A	N/A
1,2,3-Trichlorobenzene	mg/kg	930	0.0059 U	0.0082 U	0.0056 U	0.005 U	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	N/A	N/A
1,2,4-Trichlorobenzene	mg/kg	110	0.0059 U	0.0082 U	0.0056 U	0.005 U	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	N/A	N/A
1,2-Dichloroethane	mg/kg	2	0.0059 U	0.0082 U	0.0056 U	0.005 U	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	N/A	N/A
1,2-Dichloroethene (Total)	mg/kg	2,300	0.012 U	0.016 U	0.011 U	0.01 U	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	N/A	N/A
1,4-Dichlorobenzene	mg/kg	11	0.0059 U	0.0082 U	0.0056 U	0.005 U	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	N/A	N/A
1,4-Dioxane	mg/kg	24	0.12 R	0.16 R	0.11 R	0.1 R	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	N/A	N/A
2-Butanone (MEK)	mg/kg	190,000	0.012 U	0.016 U	0.011 U	0.01 U	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	N/A	N/A
2-Hexanone	mg/kg	1,300	0.012 U	0.016 U	0.011 U	0.01 U	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	N/A	N/A
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	0.012 U	0.016 U	0.011 U	0.01 U	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	N/A	N/A
Acetone	mg/kg	670,000	0.012 U	0.016 U	0.011 U	0.01 U	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	N/A	N/A
Benzene	mg/kg	5.1	0.0059 U	0.0082 U	0.0056 U	0.005 U	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	N/A	N/A
Chlorobenzene	mg/kg	1,300	0.0059 U	0.0082 U	0.0056 U	0.005 U	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	N/A	N/A
Chloroform	mg/kg	1.4	0.0059 U	0.0082 U	0.0056 U	0.005 U	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	N/A	N/A
cis-1,2-Dichloroethene	mg/kg	2,300	0.0059 U	0.0082 U	0.0056 U	0.005 U	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	N/A	N/A
Cyclohexane	mg/kg	27,000	0.012 U	0.016 U	0.011 U	0.01 U	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	N/A	N/A
Ethylbenzene	mg/kg	25	0.0059 U	0.0082 U	0.0056 U	0.005 U	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	N/A	N/A
Isopropylbenzene	mg/kg	9,900	0.0059 U	0.0082 U	0.0056 U	0.005 U	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	N/A	N/A
Methyl Acetate	mg/kg	1,200,000	0.059 U	0.082 U	0.056 U	0.05 U	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	N/A	N/A
Methylene Chloride	mg/kg	1,000	0.0059 U	0.0082 U	0.0056 U	0.005 U	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	N/A	N/A
Styrene	mg/kg	35,000	0.0059 U	0.0082 U	0.0056 U	0.005 U	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	N/A	N/A
Tetrachloroethene	mg/kg	100	0.0059 U	0.0082 U	0.0056 U	0.005 U	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	N/A	N/A
Toluene	mg/kg	47,000	0.0059 U	0.0082 U	0.0056 U	0.005 U	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	N/A	N/A
Trichloroethene	mg/kg	6	0.0059 U	0.0082 U	0.0056 U	0.005 U	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	N/A	N/A
Trichlorofluoromethane	mg/kg	3,100	0.0059 U	0.0082 U	0.0056 U	0.005 U	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	N/A	N/A
Vinyl chloride	mg/kg	1.7	0.0059 U	0.0082 U	0.0056 U	0.005 U	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	N/A	N/A
Xylenes	mg/kg	2,800	0.018 U	0.025 U	0.017 U	0.015 U	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	N/A	N/A
Semi-Volatile Organic Compounds‡																							
1,1-Biphenyl	mg/kg	200	**0.94 J**	0.1 U	0.081 U	0.082 U	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	N/A	N/A
1,2,4,5-Tetrachlorobenzene	mg/kg	350	0.076 U	0.1 U	0.081 U	0.082 U	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	N/A	N/A
2,4-Dimethylphenol	mg/kg	16,000	**0.067 J**	0.1 R	0.081 U	0.082 U	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	N/A	N/A
2-Chloronaphthalene	mg/kg	60,000	0.076 U	0.1 U	0.081 U	0.082 U	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	N/A	N/A
2-Methylnaphthalene	mg/kg	3,000	**3.00**	**0.0064 J**	0.0083 U	0.0083 U	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	N/A	N/A
2-Methylphenol	mg/kg	41,000	**0.02 J**	0.1 R	0.081 U	0.082 U	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	N/A	N/A
2-Nitroaniline	mg/kg	8,000	0.19 U	0.25 U	0.2 U	0.21 U	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	N/A	N/A
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	**0.16**	0.2 R	0.16 U	0.16 U	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	N/A	N/A
Acenaphthene	mg/kg	45,000	**7.30**	**0.00094 J**	0.0083 U	**0.00065 J**	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	N/A	N/A
Acenaphthylene	mg/kg	45,000	**8.30**	**0.0047 J**	0.0083 U	0.0083 U	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	N/A	N/A
Acetophenone	mg/kg	120,000	**0.073 J**	0.1 U	0.081 U	0.082 U	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	N/A	N/A
Anthracene	mg/kg	230,000	**29.0**	0.01 U	0.0083 U	**0.02**	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	N/A	N/A
Benzaldehyde	mg/kg	120,000	**0.053 J**	0.1 UJ	0.081 U	0.082 U	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	N/A	N/A
Benzo[a]anthracene	mg/kg	2.9	**82.3**	**0.01**	0.0083 U	**0.05**	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	N/A	N/A
Benzo[a]pyrene	mg/kg	0.29	**72.0**	**0.009 J**	0.0083 U	**0.03**	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	N/A	N/A
Benzo[b]fluoranthene	mg/kg	2.9	**106**	**0.03**	0.0083 U	**0.07**	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	N/A	N/A
Benzo[g,h,i]perylene	mg/kg		**23.9**	**0.004 J**	0.0083 U	**0.02**	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	N/A	N/A
Benzo[k]fluoranthene	mg/kg	29	**46.0**	**0.02**	0.0083 U	**0.06**	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	N/A	N/A
bis(2-Ethylhexyl)phthalate	mg/kg	160	**0.13 B**	0.1 UJ	0.081 U	0.082 U	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	N/A	N/A
Carbazole	mg/kg		**10.3 J**	**0.048 J**	0.081 U	0.082 U	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	N/A	N/A
Chrysene	mg/kg	290	**76.2**	**0.03**	0.0083 U	**0.04**	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	N/A	N/A
Dibenz[a,h]anthracene	mg/kg	0.29	**9.60**	**0.0016 J**	0.0083 U	**0.0064 J**	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	N/A	N/A
Di-n-butylphthalate	mg/kg	82,000	0.076 UJ	0.1 UJ	0.081 U	0.082 U	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	N/A	N/A
Di-n-octylphthalate	mg/kg	8,200	0.076 UJ	0.1 U	0.081 U	0.082 U	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	N/A	N/A
Fluoranthene	mg/kg	30,000	**112**	**0.80**	**0.00056 J**	**0.11**	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	N/A	N/A
Fluorene	mg/kg	30,000	**6.80**	**0.0013 J**	0.0083 U	0.0083 U	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	N/A	N/A
Hexachlorobenzene	mg/kg	0.96	0.076 U	0.1 U	0.081 U	0.082 U	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	N/A	N/A
Indeno[1,2,3-c,d]pyrene	mg/kg	2.9	**26.0**	**0.0037 J**	0.0083 U	**0.02**	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	N/A	N/A
Naphthalene	mg/kg	17	**3.20**	**0.01**	0.0083 U	0.0083 U	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	N/A	N/A
N-Nitroso-di-n-propylamine	mg/kg	0.33	0.076 U	0.1 U	0.081 U	0.082 U	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	N/A	N/A
N-Nitrosodiphenylamine	mg/kg	470	0.076 U	0.1 U	0.081 U	0.082 U	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	N/A	N/A
Phenanthrene	mg/kg		**108**	**0.58**	**0.0012 J**	**0.07**	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	N/A	N/A
Phenol	mg/kg	250,000	**0.31**	0.1 R	0.081 U	0.082 U	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	N/A	N/A
Pyrene	mg/kg	23,000	**96.8**	**0.35**	0.0083 U	**0.08**	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	N/A	N/A
PCBs																							
Aroclor 1242	mg/kg	0.97	0.0541 U	N/A	0.0634 U	N/A	0.0548 U	**0.15**	0.0522 U	0.0761 U	0.054 U	0.0609 U	0.0582 U	0.0589 U	0.0616 U	0.0569 U	0.0712 U	0.0557 U	0.0569 U	0.0604 U	0.0629 U	0.0527 U	0.0608 U
Aroclor 1248	mg/kg	0.94	0.0541 U	N/A	0.0634 U	N/A	**0.08**	0.0642 U	**0.08**	0.0761 U	0.054 U	0.0609 U	0.0582 U	**0.14**	0.0616 U	0.0569 U	0.0712 U	0.0557 U	0.0569 U	0.0604 U	0.0629 U	**0.49**	0.0608 U
Aroclor 1254	mg/kg	0.97	**0.14**	N/A	0.0634 U	N/A	**0.09**	0.0642 U	**0.10**	0.0761 U	**0.0384 J**	0.0609 U	0.0582 U	**0.07**	0.0616 U	0.0569 U	0.0712 U	0.0557 U	**0.0412 J**	0.0604 U	0.0629 U	0.0527 U	0.0608 U
Aroclor 1260	mg/kg	0.99	0.0541 U	N/A	0.0634 U	N/A	0.0548 U	**0.14**	0.0522 U	0.0761 U	0.054 U	0.0609 U	0.0582 U	0.0589 U	0.0616 U	0.0569 U	0.0712 U	0.0557 U	0.0569 U	0.0604 U	0.0629 U	0.0527 U	0.0608 U
Aroclor 1262	mg/kg		**0.21**	N/A	0.0634 U	N/A	0.0548 U	0.0642 U	0.0522 U	0.0761 U	0.054 U	0.0609 U	0.0582 U	**0.10**	0.0616 U	0.0569 U	0.0712 U	0.0557 U	0.0569 U	0.0604 U	0.0629 U	0.0527 U	0.0608 U
Aroclor 1268	mg/kg		0.0541 U	N/A	0.0634 U	N/A	**0.24**	0.0642 U	**2.24**	**0.15**	**0.17**	0.0609 U	0.0582 U	0.0589 U	0.0616 U	**0.71**	0.0712 U	0.0557 U	**0.37**	0.0604 U	0.0629 U	**0.13**	0.0608 U
PCBs (total)	mg/kg	0.97	**0.35**	N/A	0.0634 U	N/A	**0.40**	**0.29**	**2.42**	**0.15**	**0.21**	0.0609 U	0.0582 U	**0.31**	0.0616 U	**0.71**	0.0712 U	0.0557 U	**0.41**	0.0604 U	0.0629 U	**0.62**	0.0608 U
TPH/Oil and Grease																							
Diesel Range Organics	mg/kg	6,200	**1,480 J**	**39.8 J**	**29.8 J**	**76.1 J**	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	N/A	N/A
Gasoline Range Organics	mg/kg	6,200	12.7 U	18.2 U	10.6 U	10 U	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	N/A	N/A

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

J: The positive result reported for this anaytle 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 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
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-065L-SB-1	B22-065L-SB-5	B22-065M-SB-1	B22-065M-SB-5	B22-065N-SB-1	B22-065N-SB-5	B22-065O-SB-1*	B22-065O-SB-5*	B22-065P-SB-1*	B22-065Q-SB-1*	B22-065Q-SB-5*	B22-065R-SB-1*	B22-065R-SB-5*	B22-065-SB-1*	B22-065-SB-7*	B22-072-SB-1	B22-073-SB-1	B22-073-SB-5	B22-074-SB-1	B22-075-SB-1*
Volatile Organic Compounds																						
1,1,1-Trichloroethane	mg/kg	36,000	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	0.005 U	0.0046 U	**0.01**	0.0081 U	0.005 U	0.0054 U	0.0058 U
1,1-Dichloroethane	mg/kg	16	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	0.005 U	0.0046 U	0.007 U	0.0081 U	0.005 U	0.0054 U	0.0058 U
1,1-Dichloroethene	mg/kg	1,000	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	0.005 U	0.0046 U	0.007 U	0.0081 U	0.005 U	0.0054 U	0.0058 U
1,2,3-Trichlorobenzene	mg/kg	930	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	0.005 U	0.0046 U	0.007 U	0.0081 U	0.005 U	0.0054 U	0.0058 U
1,2,4-Trichlorobenzene	mg/kg	110	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	0.005 U	0.0046 U	0.007 U	0.0081 U	0.005 U	0.0054 U	0.0058 U
1,2-Dichloroethane	mg/kg	2	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	0.005 U	0.0046 U	0.007 U	0.0081 U	0.005 U	0.0054 U	0.0058 U
1,2-Dichloroethene (Total)	mg/kg	2,300	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	0.01 U	0.0092 U	0.014 U	0.016 U	0.01 U	0.011 U	0.012 U
1,4-Dichlorobenzene	mg/kg	11	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	0.005 U	0.0046 U	0.007 U	0.0081 U	0.005 U	0.0054 U	0.0058 U
1,4-Dioxane	mg/kg	24	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	0.1 U	0.092 U	0.14 R	0.16 R	0.1 R	0.11 R	0.12 U
2-Butanone (MEK)	mg/kg	190,000	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	0.01 U	0.0092 U	0.014 U	0.016 U	0.01 U	0.011 U	0.012 U
2-Hexanone	mg/kg	1,300	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	0.01 U	0.0092 U	0.014 U	0.016 U	0.01 U	0.011 U	0.012 U
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	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	0.01 U	0.0092 U	0.014 UJ	0.016 UJ	0.01 UJ	0.011 U	0.012 U
Acetone	mg/kg	670,000	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	0.01 U	**0.0056 J**	**0.011 J**	0.016 U	0.01 U	0.011 U	0.012 U
Benzene	mg/kg	5.1	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	0.005 U	0.0046 U	0.007 U	0.0081 U	0.005 U	0.0054 U	0.0058 U
Chlorobenzene	mg/kg	1,300	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	0.005 U	0.0046 U	0.007 U	0.0081 U	0.005 U	0.0054 U	0.0058 U
Chloroform	mg/kg	1.4	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	0.005 U	0.0046 U	0.007 U	0.0081 U	0.005 U	0.0054 U	0.0058 U
cis-1,2-Dichloroethene	mg/kg	2,300	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	0.005 U	0.0046 U	0.007 U	0.0081 U	0.005 U	0.0054 U	0.0058 U
Cyclohexane	mg/kg	27,000	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	0.01 U	0.0092 U	0.014 U	0.016 U	0.01 U	0.011 U	0.012 U
Ethylbenzene	mg/kg	25	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	0.005 U	0.0046 U	0.007 U	0.0081 U	0.005 U	0.0054 U	0.0058 U
Isopropylbenzene	mg/kg	9,900	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	0.005 U	0.0046 U	0.007 U	0.0081 U	0.005 U	0.0054 U	0.0058 U
Methyl Acetate	mg/kg	1,200,000	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	0.05 U	0.046 U	0.07 UJ	0.081 U	0.05 U	0.054 U	0.058 U
Methylene Chloride	mg/kg	1,000	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	0.005 U	0.0046 U	0.007 U	0.0081 U	0.005 U	0.0054 U	0.0058 U
Styrene	mg/kg	35,000	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	0.005 U	0.0046 U	0.007 U	0.0081 U	0.005 U	0.0054 U	0.0058 U
Tetrachloroethene	mg/kg	100	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	0.005 U	0.0046 U	**0.01**	0.0081 U	0.005 U	0.0054 U	0.0058 U
Toluene	mg/kg	47,000	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	0.005 U	0.0046 U	0.007 U	**0.0051 J**	0.005 U	**0.0024 J**	0.0058 U
Trichloroethene	mg/kg	6	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	0.005 U	0.0046 U	**0.0041 J**	0.0081 U	0.005 U	0.0054 U	0.0058 U
Trichlorofluoromethane	mg/kg	3,100	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	0.005 U	0.0046 U	0.007 U	0.0081 U	0.005 U	0.0054 U	0.0058 U
Vinyl chloride	mg/kg	1.7	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	0.005 U	0.0046 U	0.007 U	0.0081 U	0.005 U	0.0054 U	0.0058 U
Xylenes	mg/kg	2,800	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	0.015 U	0.014 U	0.021 U	**0.0079 J**	0.015 U	**0.0045 J**	0.018 U
Semi-Volatile Organic Compounds‡																						
1,1-Biphenyl	mg/kg	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	0.085 U	0.083 U	**0.19 J**	**0.34**	0.085 U	**0.045 J**	0.07 U
1,2,4,5-Tetrachlorobenzene	mg/kg	350	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	0.085 U	0.083 U	0.079 U	0.08 U	0.085 U	0.073 U	0.07 U
2,4-Dimethylphenol	mg/kg	16,000	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	**0.19**	0.083 U	**0.035 J**	**0.036 J**	0.085 U	0.073 U	0.07 U
2-Chloronaphthalene	mg/kg	60,000	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	0.085 U	0.083 U	0.079 U	0.08 U	0.085 U	0.073 U	0.07 U
2-Methylnaphthalene	mg/kg	3,000	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	**0.01**	0.0083 U	**0.55**	**1.40**	**0.08**	**0.32**	**0.01**
2-Methylphenol	mg/kg	41,000	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	0.085 U	0.083 U	**0.023 J**	0.08 U	0.085 U	0.073 U	0.07 U
2-Nitroaniline	mg/kg	8,000	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	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.18 U	0.18 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	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	0.17 U	0.16 U	**0.12 J**	**0.023 J**	0.17 U	0.15 U	0.14 U
Acenaphthene	mg/kg	45,000	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	**0.06**	0.0083 U	**0.45**	**1.10**	**0.01**	**0.014 J**	**0.02**
Acenaphthylene	mg/kg	45,000	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	0.0084 U	0.0083 U	**2.00**	**0.11 J**	**0.0077 J**	**0.014 J**	**0.0015 J**
Acetophenone	mg/kg	120,000	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	0.085 U	0.083 U	0.079 U	**0.14**	0.085 U	**0.033 J**	0.07 U
Anthracene	mg/kg	230,000	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	**0.04**	0.0083 U	**2.60**	**2.50**	**0.04**	**0.07 J**	**0.01**
Benzaldehyde	mg/kg	120,000	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	**0.037 J**	0.083 U	0.079 R	**0.22 J**	0.085 R	**0.087 J**	0.07 U
Benzo[a]anthracene	mg/kg	2.9	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	**0.05**	0.0083 U	**9.50**	**6.00**	**0.20**	**0.14**	**0.03**
Benzo[a]pyrene	mg/kg	0.29	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	**0.04**	0.0083 U	**13.7**	**5.10**	**0.18**	**0.13**	**0.01**
Benzo[b]fluoranthene	mg/kg	2.9	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	**0.10**	**0.001 J**	**25.3**	**9.80**	**0.34**	**0.26**	**0.06**
Benzo[g,h,i]perylene	mg/kg		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	**0.02**	0.0083 U	**4.40**	**3.50**	**0.11**	**0.11**	**0.01**
Benzo[k]fluoranthene	mg/kg	29	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	**0.08**	0.0083 U	**21.3**	**9.60**	**0.33**	**0.22**	**0.05**
bis(2-Ethylhexyl)phthalate	mg/kg	160	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	0.085 U	0.083 U	**0.023 B**	**0.045 J**	0.085 U	**0.017 B**	0.07 U
Carbazole	mg/kg		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	0.085 U	0.083 U	**1.4 J**	**3.00**	0.085 U	**0.024 J**	0.07 U
Chrysene	mg/kg	290	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	**0.05**	**0.00084 J**	**9.70**	**6.70**	**0.21**	**0.12**	**0.03**
Dibenz[a,h]anthracene	mg/kg	0.29	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	**0.0063 J**	0.0083 U	**2.00**	**0.99**	**0.03**	**0.033 J**	**0.0026 J**
Di-n-butylphthalate	mg/kg	82,000	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	0.085 U	0.083 U	0.079 U	0.08 U	0.085 U	0.073 U	0.07 U
Di-n-ocytlphthalate	mg/kg	8,200	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	0.085 U	0.083 U	0.079 UJ	0.08 U	0.085 U	0.073 UJ	0.07 U
Fluoranthene	mg/kg	30,000	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	**0.11**	**0.0024 J**	**14.9**	**16.7**	**0.44**	**0.26**	**0.11**
Fluorene	mg/kg	30,000	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	**0.04**	0.0083 U	**0.63**	**0.86**	**0.01**	**0.011 J**	**0.0036 J**
Hexachlorobenzene	mg/kg	0.96	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	0.085 U	0.083 U	0.079 U	0.08 U	0.085 U	0.073 U	0.07 U
Indeno[1,2,3-c,d]pyrene	mg/kg	2.9	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	**0.02**	0.0083 U	**5.00**	**3.10**	**0.10**	**0.08**	**0.0068 J**
Naphthalene	mg/kg	17	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	**0.03**	0.0083 U	**1.40**	**1.10**	**0.06**	**0.22**	**0.0075 B**
N-Nitroso-di-n-propylamine	mg/kg	0.33	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	0.085 U	0.083 U	0.079 U	0.08 U	0.085 U	0.073 U	0.07 U
N-Nitrosodiphenylamine	mg/kg	470	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	0.085 U	0.083 U	0.079 U	**0.44**	0.085 U	0.073 U	0.07 U
Phenanthrene	mg/kg		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	**0.10**	**0.0014 J**	**8.10**	**12.5**	**0.22**	**0.32**	**0.10**
Phenol	mg/kg	250,000	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	0.085 U	0.083 U	**0.14 J**	0.08 U	0.085 U	0.073 U	0.07 U
Pyrene	mg/kg	23,000	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	**0.10**	**0.0013 J**	**11.1**	**13.3**	**0.42**	**0.24**	**0.08**
PCBs																						
Aroclor 1242	mg/kg	0.97	0.0603 U	0.0655 U	0.0583 U	0.0578 U	0.0565 U	0.062 U	0.0588 U	0.0586 U	0.0613 U	0.0615 U	0.0593 U	0.0606 U	0.0642 U	1.94 U	N/A	0.0585 U	0.0577 U	N/A	0.0546 U	0.0553 U
Aroclor 1248	mg/kg	0.94	0.0603 U	0.0655 U	0.0583 U	0.0578 U	0.0565 U	0.062 U	0.0588 U	0.0586 U	0.0613 U	0.0615 U	0.0593 U	0.0606 U	0.0642 U	**50.9**	N/A	0.0585 U	0.0577 U	N/A	0.0546 U	0.0553 U
Aroclor 1254	mg/kg	0.97	0.0603 U	0.0655 U	0.0583 U	0.0578 U	0.0565 U	0.062 U	0.0588 U	0.0586 U	0.0613 U	0.0615 U	0.0593 U	0.0606 U	0.0642 U	1.94 U	N/A	0.0585 U	0.0577 U	N/A	0.0546 U	0.0553 U
Aroclor 1260	mg/kg	0.99	0.0603 U	0.0655 U	0.0583 U	0.0578 U	0.0565 U	0.062 U	0.0588 U	0.0586 U	0.0613 U	0.0615 U	0.0593 U	0.0606 U	0.0642 U	1.94 U	N/A	0.0585 U	0.0577 U	N/A	0.0546 U	0.0553 U
Aroclor 1262	mg/kg		0.0603 U	0.0655 U	0.0583 U	0.0578 U	0.0565 U	0.062 U	0.0588 U	0.0586 U	0.0613 U	0.0615 U	0.0593 U	0.0606 U	0.0642 U	**10.1**	N/A	0.0585 U	0.0577 U	N/A	**0.08**	0.0553 U
Aroclor 1268	mg/kg		0.0603 U	0.0655 U	**0.07**	0.0578 U	0.0565 U	0.062 U	0.0588 U	0.0586 U	0.0613 U	0.0615 U	0.0593 U	0.0606 U	0.0642 U	1.94 U	N/A	**0.14**	0.0577 U	N/A	0.0546 U	0.0553 U
PCBs (total)	mg/kg	0.97	0.0603 U	0.0655 U	**0.07**	0.0578 U	0.0565 U	0.062 U	0.0588 U	0.0586 U	0.0613 U	0.0615 U	0.0593 U	0.0606 U	0.0642 U	**61.0**	N/A	**0.14**	0.0577 U	N/A	**0.08**	0.0553 U
TPH/Oil and Grease																						
Diesel Range Organics	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	**154**	**6.9 J**	**236 J**	**176 J**	**118 J**	**78.8 J**	**13.0**
Gasoline Range Organics	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	10.7 U	10 U	**19.2**	**45.5 J**	**5.9 J**	**20.2**	12.3 U

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

J: The positive result reported for this anaytle 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 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
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-075-SB-4*	B22-076-SB-1*	B22-077-SB-1	B22-077-SB-5	B22-078-SB-1	B22-078-SB-7.5	B22-079-SB-1	B22-079-SB-4	B22-080-SB-1*	B22-080-SB-5*	B22-081-SB-1*	B22-081-SB-4*	B22-082-SB-1	B22-082-SB-4	B22-083-SB-1*	B22-083-SB-4*	B22-084-SB-1	B22-085-SB-1	B22-086-SB-1	B22-086-SB-5	B22-090-SB-1*	B22-090-SB-5*
Volatile Organic Compounds																								
1,1,1-Trichloroethane	mg/kg	36,000	0.0054 U	0.0059 U	0.0047 U	0.0061 U	0.0051 U	0.0051 U	0.0046 U	0.0088 U	0.0047 U	0.005 U	0.0058 U	0.0056 U	0.0053 U	0.0053 U	0.0054 U	0.0049 U	0.0057 U	0.0059 U	**0.03**	0.0067 U	0.0065 U	0.0052 U
1,1-Dichloroethane	mg/kg	16	0.0054 U	0.0059 U	0.0047 U	0.0061 U	0.0051 U	0.0051 U	0.0046 U	0.0088 U	0.0047 U	0.005 U	0.0058 U	0.0056 U	0.0053 U	0.0053 U	0.0054 U	0.0049 U	0.0057 U	0.0059 U	**0.0039 J**	0.0067 U	0.0065 U	0.0052 U
1,1-Dichloroethene	mg/kg	1,000	0.0054 U	0.0059 U	0.0047 U	0.0061 U	0.0051 U	0.0051 U	0.0046 U	0.0088 U	0.0047 U	0.005 U	0.0058 U	0.0056 U	0.0053 U	0.0053 U	0.0054 U	0.0049 U	0.0057 U	0.0059 U	0.0058 U	0.0067 U	0.0065 U	0.0052 U
1,2,3-Trichlorobenzene	mg/kg	930	0.0054 U	0.0059 U	0.0047 U	0.0061 U	0.0051 U	0.0051 U	0.0046 U	0.0088 U	0.0047 U	0.005 U	0.0058 U	0.0056 U	0.0053 U	0.0053 U	0.0054 U	0.0049 U	0.0057 U	0.0059 U	0.0058 U	0.0067 U	0.0065 U	0.0052 U
1,2,4-Trichlorobenzene	mg/kg	110	0.0054 U	0.0059 U	0.0047 U	0.0061 U	0.0051 U	0.0051 U	0.0046 U	0.0088 U	0.0047 U	0.005 U	0.0058 U	0.0056 U	0.0053 U	0.0053 U	0.0054 U	0.0049 U	0.0057 U	0.0059 U	0.0058 U	0.0067 U	0.0065 U	0.0052 U
1,2-Dichloroethane	mg/kg	2	0.0054 U	0.0059 U	0.0047 U	0.0061 U	0.0051 U	0.0051 U	0.0046 U	0.0088 U	0.0047 U	0.005 U	0.0058 U	0.0056 U	0.0053 U	0.0053 U	0.0054 U	0.0049 U	0.0057 U	0.0059 U	0.0058 U	0.0067 U	0.0065 U	0.0052 U
1,2-Dichloroethene (Total)	mg/kg	2,300	0.011 U	0.012 U	0.0094 U	0.012 U	0.01 U	0.01 U	0.0091 U	0.018 U	0.0093 U	0.01 U	0.012 U	0.011 U	0.011 U	0.011 U	0.011 U	0.0099 U	0.011 U	0.012 U	0.012 U	0.013 U	0.013 U	0.01 U
1,4-Dichlorobenzene	mg/kg	11	0.0054 U	0.0059 U	0.0047 U	0.0061 U	0.0051 U	0.0051 U	0.0046 U	0.0088 U	0.0047 U	0.005 U	0.0058 U	0.0056 U	0.0053 U	0.0053 U	0.0054 U	0.0049 U	0.0057 U	0.0059 U	0.0058 U	0.0067 U	0.0065 U	0.0052 U
1,4-Dioxane	mg/kg	24	0.11 U	0.12 U	0.094 R	0.12 R	0.1 R	0.1 R	0.091 R	0.18 R	0.093 U	0.1 U	0.12 U	0.11 U	0.11 R	0.11 R	0.11 U	0.099 U	0.11 R	0.12 R	0.12 R	0.13 R	0.13 U	0.1 U
2-Butanone (MEK)	mg/kg	190,000	0.011 U	0.012 U	0.0094 U	0.012 U	**0.003 J**	0.01 U	**0.0034 J**	0.018 U	0.0093 U	0.01 U	0.012 U	0.011 U	0.011 U	0.011 U	0.011 U	0.0099 U	0.011 U	**0.02**	0.012 U	0.013 U	0.013 U	0.01 U
2-Hexanone	mg/kg	1,300	0.011 U	0.012 U	0.0094 U	0.012 U	0.01 U	0.01 U	0.0091 U	0.018 U	0.0093 U	0.01 U	0.012 U	0.011 U	0.011 U	0.011 U	0.011 U	0.0099 U	0.011 U	0.012 U	0.012 U	0.013 U	0.013 U	0.01 U
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	0.011 U	0.012 U	0.0094 U	0.012 U	0.01 UJ	0.01 UJ	0.0091 U	0.018 U	0.0093 U	0.01 U	0.012 U	0.011 U	0.011 UJ	0.011 UJ	0.011 U	0.0099 U	0.011 UJ	0.0051 UJ	0.012 UJ	0.013 UJ	0.013 U	0.01 U
Acetone	mg/kg	670,000	0.011 U	0.012 U	**0.02**	0.012 U	**0.05**	0.01 U	**0.03**	0.018 U	0.0093 U	0.01 U	0.012 U	0.011 U	**0.0052 B**	0.011 U	0.011 U	0.0099 U	**0.0078 J**	**0.15**	0.012 U	0.013 U	**0.01 J**	**0.02**
Benzene	mg/kg	5.1	0.0054 U	0.0059 U	0.0047 U	0.0061 U	0.0051 U	0.0051 U	0.0046 U	0.0088 U	0.0047 U	0.005 U	0.0058 U	0.0056 U	0.0053 U	0.0053 U	0.0054 U	0.0049 U	0.0057 U	0.0059 U	0.0058 U	0.0067 U	**0.0043 J**	0.0052 U
Chlorobenzene	mg/kg	1,300	0.0054 U	0.0059 U	0.0047 U	0.0061 U	0.0051 U	0.0051 U	0.0046 U	0.0088 U	0.0047 U	0.005 U	0.0058 U	0.0056 U	0.0053 U	0.0053 U	0.0054 U	0.0049 U	0.0057 U	0.0059 U	0.0058 U	0.0067 U	0.0065 U	0.0052 U
Chloroform	mg/kg	1.4	0.0054 U	0.0059 U	0.0047 U	0.0061 U	0.0051 U	0.0051 U	0.0046 U	0.0088 U	0.0047 U	0.005 U	0.0058 U	0.0056 U	0.0053 U	0.0053 U	0.0054 U	0.0049 U	0.0057 U	0.0059 U	0.0058 U	0.0067 U	0.0065 U	0.0052 U
cis-1,2-Dichloroethene	mg/kg	2,300	0.0054 U	0.0059 U	0.0047 U	0.0061 U	0.0051 U	0.0051 U	0.0046 U	0.0088 U	0.0047 U	0.005 U	0.0058 U	0.0056 U	0.0053 U	0.0053 U	0.0054 U	0.0049 U	0.0057 U	0.0059 U	0.0058 U	0.0067 U	0.0065 U	0.0052 U
Cyclohexane	mg/kg	27,000	0.011 U	0.012 U	0.0094 U	0.012 U	0.01 U	0.01 U	0.0091 U	0.018 U	0.0093 U	0.01 U	0.012 U	0.011 U	0.011 UJ	0.011 UJ	0.011 U	0.0099 U	0.011 U	0.012 U	0.012 U	0.013 U	0.013 U	0.01 U
Ethylbenzene	mg/kg	25	0.0054 U	0.0059 U	0.0047 U	0.0061 U	0.0051 U	0.0051 U	0.0046 U	0.0088 U	0.0047 U	0.005 U	0.0058 U	0.0056 U	0.0053 U	0.0053 U	0.0054 U	0.0049 U	0.0057 U	0.0059 U	0.0058 U	0.0067 U	0.0065 U	0.0052 U
Isopropylbenzene	mg/kg	9,900	0.0054 U	0.0059 U	0.0047 U	0.0061 U	0.0051 U	0.0051 U	0.0046 U	0.0088 U	0.0047 U	0.005 U	0.0058 U	0.0056 U	0.0053 U	0.0053 U	0.0054 U	0.0049 U	0.0057 U	0.0059 U	0.0058 U	0.0067 U	0.0065 U	0.0052 U
Methyl Acetate	mg/kg	1,200,000	0.054 U	0.059 U	0.047 U	0.061 U	0.051 U	0.051 U	0.046 U	0.088 U	0.047 U	0.05 U	0.058 U	0.056 U	0.053 U	0.053 U	0.054 U	0.049 U	0.057 U	0.059 U	0.058 U	0.067 U	0.065 U	0.052 U
Methylene Chloride	mg/kg	1,000	0.0054 U	0.0059 U	0.0047 U	0.0061 UJ	0.0051 U	0.0051 U	0.0046 U	0.0088 U	0.0047 U	0.005 U	0.0058 U	0.0056 U	0.0053 U	0.0053 U	0.0054 U	0.0049 U	0.0057 U	0.0059 U	0.0058 U	0.0067 U	0.0065 U	0.0052 U
Styrene	mg/kg	35,000	0.0054 U	0.0059 U	0.0047 U	0.0061 U	0.0051 U	0.0051 U	0.0046 U	0.0088 U	0.0047 U	0.005 U	0.0058 U	0.0056 U	0.0053 U	0.0053 U	0.0054 U	0.0049 U	0.0057 UJ	0.0059 UJ	0.0058 UJ	0.0067 UJ	0.0065 U	0.0052 U
Tetrachloroethene	mg/kg	100	0.0054 U	0.0059 U	0.0047 U	0.0061 U	0.0051 U	0.0051 U	0.0046 U	0.0088 U	0.0047 U	0.005 U	0.0058 U	0.0056 U	0.0053 U	0.0053 U	0.0054 U	0.0049 U	0.0057 U	0.0059 U	0.0058 U	0.0067 U	0.0065 U	0.0052 U
Toluene	mg/kg	47,000	0.0054 U	0.0059 U	0.0047 U	0.0061 U	0.0051 U	0.0051 U	0.0046 U	0.0088 U	0.0047 U	0.005 U	0.0058 U	0.0056 U	0.0053 U	0.0053 U	0.0054 U	0.0049 U	0.0057 U	0.0059 U	0.0058 U	0.0067 U	0.0065 U	0.0052 U
Trichloroethene	mg/kg	6	0.0054 U	0.0059 U	0.0047 U	0.0061 U	0.0051 U	0.0051 U	0.0046 U	0.0088 U	0.0047 U	0.005 U	0.0058 U	0.0056 U	0.0053 U	0.0053 U	0.0054 U	0.0049 U	0.0057 U	0.0059 U	0.0058 U	0.0067 U	0.0065 U	0.0052 U
Trichlorofluoromethane	mg/kg	3,100	0.0054 U	0.0059 U	0.0047 U	0.0061 UJ	0.0051 U	0.0051 U	0.0046 U	0.0088 U	0.0047 U	0.005 U	0.0058 U	0.0056 U	0.0053 U	0.0053 U	0.0054 U	0.0049 U	0.0057 U	0.0059 U	0.0058 U	0.0067 U	0.0065 U	0.0052 U
Vinyl chloride	mg/kg	1.7	0.0054 U	0.0059 U	0.0047 U	0.0061 U	0.0051 U	0.0051 U	0.0046 U	0.0088 U	0.0047 U	0.005 U	0.0058 U	0.0056 U	0.0053 U	0.0053 U	0.0054 U	0.0049 U	0.0057 U	0.0059 U	0.0058 U	0.0067 U	0.0065 U	0.0052 U
Xylenes	mg/kg	2,800	0.016 U	0.018 U	0.014 U	0.018 U	0.015 U	0.015 U	**0.0036 J**	0.026 U	0.014 U	0.015 U	0.018 U	0.017 U	0.016 U	0.016 U	0.016 U	0.015 U	0.017 U	0.018 U	0.017 U	0.02 U	0.019 U	0.016 U
Semi-Volatile Organic Compounds‡																								
1,1-Biphenyl	mg/kg	200	0.083 U	0.075 U	**0.032 J**	0.074 U	**0.066 J**	0.084 U	**0.047 J**	0.082 U	**0.048 J**	0.086 U	0.079 U	0.086 U	0.088 U	0.084 U	**0.029 J**	0.085 U	**0.037 J**	**0.35**	**0.049 J**	0.087 U	0.077 U	0.082 U
1,2,4,5-Tetrachlorobenzene	mg/kg	350	0.083 U	0.075 U	0.076 U	0.074 U	0.075 U	0.084 U	0.071 U	0.082 U	0.081 U	0.086 U	0.079 U	0.086 U	0.088 U	0.084 U	0.075 U	0.085 U	0.076 U	0.078 U	0.078 U	0.087 U	0.077 U	0.082 U
2,4-Dimethylphenol	mg/kg	16,000	0.083 U	0.075 U	0.076 R	0.074 U	0.075 R	0.084 U	0.071 R	0.082 U	0.081 U	0.086 U	0.079 U	0.086 U	0.088 U	0.084 U	0.075 U	0.085 U	0.076 U	**0.075 J**	0.078 U	0.087 U	0.077 U	0.082 U
2-Chloronaphthalene	mg/kg	60,000	0.083 U	0.075 U	0.076 U	0.074 U	0.075 U	0.084 U	0.071 U	0.082 U	0.081 U	0.086 U	0.079 U	0.086 U	0.088 U	0.084 U	0.075 U	0.085 U	0.076 U	0.078 U	0.078 U	0.087 U	0.077 U	0.082 U
2-Methylnaphthalene	mg/kg	3,000	0.0085 U	**0.0063 J**	**0.12**	**0.01**	**0.12**	0.0083 U	**0.064 J**	0.0084 U	**1.70**	0.0088 U	**0.0028 J**	0.0087 U	**0.01**	0.0086 U	**0.046 J**	0.0085 U	**0.16**	**0.41**	**0.25**	0.0087 U	0.078 U	0.0083 U
2-Methylphenol	mg/kg	41,000	0.083 U	0.075 U	0.076 R	0.074 U	0.075 R	0.084 U	0.071 R	0.082 U	0.081 U	0.086 U	0.079 U	0.086 U	0.088 U	0.084 U	0.075 U	0.085 U	0.076 U	**0.023 J**	0.078 U	0.087 U	0.077 U	0.082 U
2-Nitroaniline	mg/kg	8,000	0.21 U	0.19 U	0.19 U	0.18 U	0.19 U	0.21 U	0.18 U	0.21 U	0.2 U	0.22 U	0.2 U	0.22 U	0.22 U	0.21 U	0.19 U	0.21 U	0.19 U	0.2 U	0.19 U	0.22 U	0.19 U	0.21 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.17 U	0.15 U	0.15 R	0.15 U	0.15 R	0.17 U	0.14 R	0.16 U	0.16 U	0.17 U	0.16 U	0.17 U	0.18 U	0.17 U	0.15 U	0.17 U	0.15 U	**0.12 J**	0.16 U	0.17 U	0.15 U	0.16 U
Acenaphthene	mg/kg	45,000	0.0085 U	**0.0033 J**	**0.01**	**0.0012 J**	**0.02**	0.0083 U	**0.0087 J**	**0.0014 J**	**4.10**	0.0088 U	**0.0061 J**	**0.001 J**	**0.0052 J**	0.0086 U	**0.08**	0.0085 U	**1.10**	**2.00**	**0.05**	0.0087 U	**0.0075 J**	0.0083 U
Acenaphthylene	mg/kg	45,000	0.0085 U	**0.0014 J**	**0.04**	**0.0054 J**	**0.07**	**0.00089 J**	**0.04 J**	**0.05**	**0.25**	0.0088 U	**0.0039 J**	0.0087 U	**0.0064 J**	0.0086 U	**0.047 J**	0.0085 U	**0.23**	**0.33**	**0.02**	0.0087 U	**0.009 J**	0.0083 U
Acetophenone	mg/kg	120,000	0.083 U	0.075 U	0.076 U	0.074 U	**0.021 J**	0.084 U	**0.021 J**	0.082 U	0.081 U	0.086 U	0.079 U	0.086 U	0.088 U	0.084 U	0.075 U	0.085 U	0.076 U	**0.048 J**	**0.03 J**	0.087 U	0.077 U	0.082 U
Anthracene	mg/kg	230,000	0.0085 U	**0.0049 J**	**0.10**	**0.01**	**0.12**	**0.00086 J**	**0.064 J**	**0.06**	**11.8**	**0.0011 J**	**0.04**	**0.0085 J**	**0.03**	**0.0019 J**	**0.34**	**0.00077 J**	**6.40**	**7.70**	**0.26**	0.0087 U	**0.044 J**	0.0083 U
Benzaldehyde	mg/kg	120,000	0.083 U	0.075 U	**0.02 J**	0.074 R	**0.055 J**	0.084 R	**0.04 J**	0.082 R	**0.024 J**	0.086 U	0.079 U	0.086 U	0.088 U	0.084 U	0.075 U	0.085 U	**0.097 J**	**0.096 J**	0.078 R	0.087 R	0.077 U	0.082 U
Benzo[a]anthracene	mg/kg	2.9	0.0085 U	**0.09**	**0.30**	**0.03**	**0.48**	**0.0039 J**	**0.18**	**0.24**	**44.2**	**0.0061 J**	**0.08**	**0.01**	**0.09**	**0.0057 J**	**1.10**	0.0085 U	**34.6**	**30.1**	**1.40**	0.0087 U	**0.12**	0.0083 U
Benzo[a]pyrene	mg/kg	0.29	0.0085 U	**0.08**	**0.27**	**0.03**	**0.37**	**0.0036 J**	**0.16**	**0.20**	**35.3**	**0.0057 J**	**0.05**	**0.004 J**	**0.04**	**0.0023 J**	**0.42**	0.0085 U	**24.5**	**23.7**	**1.00**	0.0087 U	**0.08**	0.0083 U
Benzo[b]fluoranthene	mg/kg	2.9	**0.001 J**	**0.21**	**0.67**	**0.06**	**0.95**	**0.0067 J**	**0.57**	**0.48**	**69.8**	**0.01**	**0.20**	**0.02**	**0.16**	**0.01**	**2.10**	**0.0024 J**	**50.3**	**48.8**	**3.40**	**0.00066 J**	**0.18**	0.0083 U
Benzo[g,h,i]perylene	mg/kg		0.0085 U	**0.03**	**0.24**	**0.02**	**0.29**	**0.0027 J**	**0.08**	**0.06**	**9.20**	**0.0049 J**	**0.03**	**0.002 J**	**0.04**	**0.0025 J**	**0.20**	0.0085 U	**11.5**	**7.60**	**0.51**	0.0087 U	**0.046 J**	0.0083 U
Benzo[k]fluoranthene	mg/kg	29	0.0085 U	**0.18**	**0.59**	**0.05**	**0.91**	**0.0065 J**	**0.50**	**0.42**	**60.6**	**0.01**	**0.17**	**0.02**	**0.14**	**0.01**	**1.90**	**0.0022 J**	**43.7**	**42.4**	**3.00**	0.0087 U	**0.13**	0.0083 U
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.083 U	0.075 U	0.076 U	0.074 U	**0.02 J**	0.084 U	**0.026 B**	0.082 U	**0.061 J**	0.086 U	0.079 U	0.086 U	0.088 U	0.084 U	**0.052 J**	0.085 U	**0.024 J**	**0.89 J**	**0.055 J**	0.087 U	**0.05 J**	0.082 U
Carbazole	mg/kg		0.083 U	0.075 U	**0.03 J**	0.074 U	**0.10**	0.084 U	**0.054 J**	0.082 U	**0.74**	0.086 U	**0.022 J**	0.086 U	0.088 U	0.084 U	**0.10**	0.085 U	**0.69**	**7.50**	**0.17**	0.087 U	0.077 U	0.082 U
Chrysene	mg/kg	290	**0.00081 J**	**0.09**	**0.34**	**0.03**	**0.60**	**0.0043 J**	**0.23**	**0.21**	**39.7**	**0.0073 J**	**0.10**	**0.01**	**0.11**	**0.0061 J**	**1.40**	**0.0011 J**	**29.1**	**27.2**	**1.20**	**0.00087 J**	**0.09**	0.0083 U
Dibenz[a,h]anthracene	mg/kg	0.29	0.0085 U	**0.01**	**0.07**	**0.0062 J**	**0.09**	0.0083 U	**0.025 J**	**0.02**	**2.70**	0.0088 U	**0.01**	0.0087 U	**0.01**	0.0086 U	**0.074 J**	0.0085 U	**4.80**	**3.20**	**0.22**	0.0087 U	**0.015 J**	0.0083 U
Di-n-butylphthalate	mg/kg	82,000	0.083 U	0.075 U	0.076 U	0.074 U	0.075 U	0.084 U	0.071 U	0.082 U	0.081 U	0.086 U	0.079 U	0.086 U	0.088 U	0.084 U	0.075 U	0.085 U	0.076 U	0.078 U	0.078 U	0.087 U	0.077 U	0.082 U
Di-n-octylphthalate	mg/kg	8,200	0.083 U	0.075 U	0.076 U	0.074 UJ	0.075 U	0.084 U	0.071 UJ	0.082 U	0.081 U	0.086 U	0.079 U	0.086 U	0.088 U	0.084 U	0.075 U	0.085 U	0.076 UJ	0.078 UJ	0.078 UJ	0.087 U	0.077 U	0.082 U
Fluoranthene	mg/kg	30,000	**0.0015 JB**	**0.06**	**0.80**	**0.04**	**1.40**	**0.006 J**	**0.42**	**0.55**	**117**	**0.02**	**0.27**	**0.03**	**0.28**	**0.02**	**3.70**	**0.0022 JB**	**58.6**	**61.8**	**4.40**	**0.002 B**	**0.24**	**0.0028 J**
Fluorene	mg/kg	30,000	0.0085 U	**0.00073 J**	**0.02**	**0.0014 J**	**0.02**	0.0083 U	**0.0079 J**	**0.01**	**3.10**	0.0088 U	**0.0047 J**	**0.001 J**	**0.0062 J**	0.0086 U	**0.08**	0.0085 U	**0.94**	**2.10**	**0.05**	0.0087 U	**0.0078 J**	0.0083 U
Hexachlorobenzene	mg/kg	0.96	0.083 U	0.075 U	0.076 U	0.074 U	0.075 U	0.084 U	0.071 U	0.082 U	0.081 U	0.086 U	0.079 U	0.086 U	0.088 U	0.084 U	0.075 U	0.085 U	0.076 U	0.078 U	0.078 U	0.087 U	0.077 U	0.082 U
Indeno[1,2,3-c,d]pyrene	mg/kg	2.9	0.0085 U	**0.03**	**0.21**	**0.02**	**0.28**	**0.0022 J**	**0.07**	**0.07**	**8.80**	**0.0032 J**	**0.03**	**0.0022 J**	**0.03**	**0.0019 J**	**0.20**	0.0085 U	**11.7**	**8.20**	**0.54**	0.0087 U	**0.041 J**	0.0083 U
Naphthalene	mg/kg	17	0.0085 U	**0.017 B**	**0.40**	**0.02**	**0.42**	**0.0021 B**	**0.14**	**0.0064 B**	**3.20**	0.0088 U	**0.0034 J**	0.0087 U	**0.0088 B**	0.0086 U	**0.075 JB**	0.0085 U	**0.19**	**0.64**	**0.40**	0.0087 U	0.078 U	0.0083 U
N-Nitroso-di-n-propylamine	mg/kg	0.33	0.083 U	0.075 U	0.076 U	0.074 U	0.075 U	0.084 U	0.071 U	0.082 U	0.081 U	0.086 U	0.079 U	0.086 U	0.088 U	0.084 U	0.075 U	0.085 U	0.076 U	0.078 U	0.078 U	0.087 U	0.077 U	0.082 U
N-Nitrosodiphenylamine	mg/kg	470	0.083 U	0.075 U	0.076 U	0.074 U	0.075 U	0.084 U	0.071 U	0.082 U	0.081 U	0.086 U	0.079 U	0.086 U	0.088 U	0.084 U	0.075 U	0.085 U	0.076 U	0.078 U	0.078 U	0.087 U	0.077 U	0.082 U
Phenanthrene	mg/kg		**0.001 JB**	**0.02**	**0.59**	**0.03**	**0.98**	**0.0045 J**	**0.34**	**0.26**	**84.2**	**0.0068 JB**	**0.37**	**0.05**	**0.17**	**0.0082 J**	**3.00**	**0.0018 JB**	**13.7**	**32.3**	**1.50**	**0.0017 J**	**0.17**	0.0083 U
Phenol	mg/kg	250,000	0.083 U	0.075 U	0.076 R	0.074 U	0.075 R	0.084 U	0.071 R	0.082 U	0.081 U	0.086 U	0.079 U	0.086 U	0.088 U	0.084 U	0.075 U	0.085 U	0.076 U	**0.06 J**	**0.058 J**	0.087 U	0.077 U	0.082 U
Pyrene	mg/kg	23,000	**0.00095 JB**	**0.05**	**0.61**	**0.04**	**1.10**	**0.0052 J**	**0.33**	**0.37**	**95.3**	**0.01**	**0.22**	**0.03**	**0.23**	**0.01**	**3.00**	**0.002 JB**	**49.6**	**49.0**	**3.60**	**0.0015 J**	**0.20**	**0.0019 J**
PCBs																								
Aroclor 1242	mg/kg	0.97	N/A	0.0577 U	0.0653 U	N/A	**0.16**	N/A	0.0544 U	N/A	0.0626 U	N/A	0.06 U	N/A	0.0629 U	N/A	0.0542 U	N/A	0.0548 U	**0.26**	0.0605 U	N/A	0.0573 U	N/A
Aroclor 1248	mg/kg	0.94	N/A	0.0577 U	0.0653 U	N/A	0.0558 U	N/A	0.0544 U	N/A	**0.28**	N/A	0.06 U	N/A	0.0629 U	N/A	0.0542 U	N/A	0.0548 U	0.0607 U	0.0605 U	N/A	0.0573 U	N/A
Aroclor 1254	mg/kg	0.97	N/A	0.0577 U	**0.09**	N/A	**0.14**	N/A	**0.0283 J**	N/A	0.0626 U	N/A	0.06 U	N/A	0.0629 U	N/A	0.0542 U	N/A	0.0548 U	**0.15**	0.0605 U	N/A	**0.09**	N/A
Aroclor 1260	mg/kg	0.99	N/A	0.0577 U	0.0653 U	N/A	0.0558 U	N/A	0.0544 U	N/A	0.0626 U	N/A	0.06 U	N/A	0.0629 U	N/A	0.0542 U	N/A	0.0548 U	0.0607 U	0.0605 U	N/A	0.0573 U	N/A
Aroclor 1262	mg/kg		N/A	0.0577 U	**0.26**	N/A	**0.31**	N/A	**0.06**	N/A	0.0626 U	N/A	0.06 U	N/A	0.0629 U	N/A	0.0542 U	N/A	0.0548 U	**0.24**	0.0605 U	N/A	0.0573 U	N/A
Aroclor 1268	mg/kg		N/A	0.0577 U	0.0653 U	N/A	0.0558 U	N/A	0.0544 U	N/A	0.0626 U	N/A	0.06 U	N/A	0.0629 U	N/A	0.0542 U	N/A	0.0548 U	0.0607 U	0.0605 U	N/A	**0.15**	N/A
PCBs (total)	mg/kg	0.97	N/A	0.0577 U	**0.35**	N/A	**0.61**	N/A	**0.08**	N/A	**0.28**	N/A	0.06 U	N/A	0.0629 U	N/A	0.0542 U	N/A	0.0548 U	**0.64**	0.0605 U	N/A	**0.23**	N/A
TPH/Oil and Grease																								
Diesel Range Organics	mg/kg	6,200	**3.7 J**	**24.5**	**48.2 J**	**9.9 J**	**83.5 J**	**7.5 J**	**77.6 J**	**6.2 J**	**442**	**3.3 J**	**9.50**	8.5 U	**63.8 J**	**5.1 J**	**198**	8.6 U	**246 J**	**1,200 J**	**240 J**	**4.9 J**	**55.8**	**6.1 J**
Gasoline Range Organics	mg/kg	6,200	10.1 U	10.5 U	10.2 U	12 U	10.7 U	10.5 U	10.9 U	19 U	11.5 U	10.6 U	10.6 U	11.3 U	10.6 U	10.1 U	11.2 U	10.9 U	12 U	12.2 U	12.5 U	11.5 U	11.7 U	10.2 U

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 highlighting indicates boring locations within the building footprint

J: The positive result reported for this anaytle 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 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
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-091-SB-1	B22-091-SB-4	B22-092-SB-1	B22-092-SB-4	B22-093-SB-1	B22-093-SB-5	B22-094-SB-1*	B22-094-SB-4*	B22-095-SB-1*	B22-095-SB-6*	B22-096-SB-1*	B22-096-SB-9*	B22-097-SB-1*	B22-097-SB-9*	B22-098-SB-1*	B22-098-SB-4*	B22-103-SB-1	B22-103-SB-4	B22-104-SB-1	B22-104-SB-4	B22-105-SB-1	B22-105-SB-4
Volatile Organic Compounds																								
1,1,1-Trichloroethane	mg/kg	36,000	0.0055 U	0.0041 U	0.0064 U	0.0058 U	0.0048 U	0.0046 U	0.0053 U	0.005 U	0.0048 U	0.0045 U	0.0058 U	0.0051 U	0.0068 U	0.0069 U	0.0058 U	0.0049 U	0.0057 U	**0.01**	0.011 U	0.0049 U	0.0048 U	0.0046 U
1,1-Dichloroethane	mg/kg	16	0.0055 U	0.0041 U	0.0064 U	0.0058 U	0.0048 U	0.0046 U	0.0053 U	0.005 U	0.0048 U	0.0045 U	0.0058 U	0.0051 U	0.0068 U	0.0069 U	0.0058 U	0.0049 U	**0.01**	**0.05**	0.011 U	0.0049 U	0.0048 U	0.0046 U
1,1-Dichloroethene	mg/kg	1,000	0.0055 U	0.0041 U	0.0064 U	0.0058 U	0.0048 U	0.0046 U	0.0053 U	0.005 U	0.0048 U	0.0045 U	0.0058 U	0.0051 U	0.0068 U	0.0069 U	0.0058 U	0.0049 U	**0.01**	**0.03**	0.011 U	0.0049 U	0.0048 U	0.0046 U
1,2,3-Trichlorobenzene	mg/kg	930	0.0055 U	0.0041 U	0.0064 U	0.0058 U	0.0048 U	0.0046 U	0.0053 U	0.005 U	0.0048 U	0.0045 U	0.0058 U	0.0051 U	0.0068 U	0.0069 U	0.0058 U	0.0049 U	0.0057 U	0.0053 UJ	0.011 UJ	0.0049 U	0.0048 U	0.0046 U
1,2,4-Trichlorobenzene	mg/kg	110	0.0055 U	0.0041 U	0.0064 U	0.0058 U	0.0048 U	0.0046 U	0.0053 U	0.005 U	0.0048 U	0.0045 U	0.0058 U	0.0051 U	0.0068 U	0.0069 U	0.0058 U	0.0049 U	0.0057 U	0.0053 UJ	0.011 UJ	0.0049 U	0.0048 U	0.0046 U
1,2-Dichloroethane	mg/kg	2	0.0055 U	0.0041 U	0.0064 U	0.0058 U	0.0048 U	0.0046 U	0.0053 U	0.005 U	0.0048 U	0.0045 U	0.0058 U	0.0051 U	0.0068 U	0.0069 U	0.0058 U	0.0049 U	0.0057 U	0.0053 U	0.011 U	0.0049 U	0.0048 U	0.0046 U
1,2-Dichloroethene (Total)	mg/kg	2,300	0.011 U	0.0082 U	0.013 U	0.012 U	0.0097 U	0.0092 U	0.011 U	0.01 U	0.0096 U	0.009 U	0.012 U	0.01 U	0.014 U	0.014 U	0.012 U	0.0099 U	**0.02**	**0.06**	0.023 U	0.0098 U	0.0096 U	0.0091 U
1,4-Dichlorobenzene	mg/kg	11	0.0055 U	0.0041 U	0.0064 U	0.0058 U	0.0048 U	0.0046 U	0.0053 U	0.005 U	0.0048 U	0.0045 U	0.0058 U	0.0051 U	0.0068 U	0.0069 U	0.0058 U	0.0049 U	0.0057 U	0.0053 UJ	0.011 UJ	0.0049 U	0.0048 U	0.0046 U
1,4-Dioxane	mg/kg	24	0.11 R	0.082 R	0.13 R	0.12 R	0.097 R	0.092 R	0.11 U	0.1 U	0.096 U	0.09 U	0.12 U	0.1 U	0.14 U	0.14 U	0.12 U	0.099 U	0.11 R	0.11 R	0.23 R	0.098 R	0.096 R	0.091 R
2-Butanone (MEK)	mg/kg	190,000	0.011 U	0.0082 U	**0.01 J**	0.012 U	0.0097 U	0.0092 U	0.011 U	0.01 U	0.0096 U	0.009 U	0.012 U	0.01 U	0.014 U	0.014 U	0.012 U	0.0099 U	0.011 U	0.011 U	0.023 U	0.0098 U	0.0096 U	0.0091 U
2-Hexanone	mg/kg	1,300	0.011 U	0.0082 U	0.013 U	0.012 U	0.0097 U	0.0092 U	0.011 U	0.01 U	0.0096 U	0.009 U	0.012 U	0.01 U	0.014 U	0.014 U	0.012 U	0.0099 U	0.011 U	0.011 U	0.023 U	0.0098 U	0.0096 U	0.0091 U
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	0.011 U	0.0082 U	0.013 U	0.012 U	0.0097 U	0.0092 U	0.011 U	0.01 U	0.0096 U	0.009 U	0.012 U	0.01 U	0.014 U	0.014 U	0.012 U	0.0099 U	0.011 U	0.011 U	0.023 U	0.0098 U	0.0096 U	0.0091 U
Acetone	mg/kg	670,000	0.011 U	0.0082 U	0.013 U	0.012 U	0.0097 U	0.0092 U	**0.0072 J**	0.01 U	**0.0069 J**	**0.0047 J**	0.012 U	0.01 U	0.014 U	0.014 U	0.012 U	0.0099 U	0.011 U	0.011 U	0.023 U	0.0098 U	0.0096 U	0.0091 U
Benzene	mg/kg	5.1	0.0055 U	0.0041 U	0.0064 U	0.0058 U	**0.0018 J**	0.0046 U	0.0053 U	**0.01**	0.0048 U	0.0045 U	0.0058 U	0.0051 U	0.0068 U	0.0069 U	**0.0016 J**	0.0049 U	0.0057 U	0.0053 U	0.011 U	0.0049 U	0.0048 U	0.0046 U
Chlorobenzene	mg/kg	1,300	0.0055 U	0.0041 U	0.0064 U	0.0058 U	0.0048 U	0.0046 U	0.0053 U	0.005 U	0.0048 U	0.0045 U	0.0058 U	0.0051 U	0.0068 U	0.0069 U	0.0058 U	0.0049 U	0.0057 U	0.0053 U	0.011 U	0.0049 U	0.0048 U	0.0046 U
Chloroform	mg/kg	1.4	0.0055 U	0.0041 U	0.0064 U	0.0058 U	0.0048 U	0.0046 U	0.0053 U	0.005 U	0.0048 U	0.0045 U	0.0058 U	0.0051 U	0.0068 U	0.0069 U	0.0058 U	0.0049 U	0.0057 U	0.0053 U	0.011 U	0.0049 U	0.0048 U	0.0046 U
cis-1,2-Dichloroethene	mg/kg	2,300	0.0055 U	0.0041 U	0.0064 U	0.0058 U	0.0048 U	0.0046 U	0.0053 U	0.005 U	0.0048 U	0.0045 U	0.0058 U	0.0051 U	0.0068 U	0.0069 U	0.0058 U	0.0049 U	**0.02**	**0.06**	0.011 U	0.0049 U	0.0048 U	0.0046 U
Cyclohexane	mg/kg	27,000	0.011 U	0.0082 U	**0.0052 J**	0.012 U	0.0097 U	0.0092 U	0.011 U	0.01 U	0.0096 U	0.009 U	0.012 U	0.01 U	0.014 U	0.014 U	0.012 U	0.0099 U	0.011 U	0.011 U	0.023 U	0.0098 U	0.0096 U	0.0091 U
Ethylbenzene	mg/kg	25	0.0055 U	0.0041 U	0.0064 U	0.0058 U	0.0048 U	0.0046 U	0.0053 U	0.005 U	0.0048 U	0.0045 U	0.0058 U	0.0051 U	0.0068 U	0.0069 U	0.0058 U	0.0049 U	0.0057 U	0.0053 U	0.011 U	0.0049 U	0.0048 U	0.0046 U
Isopropylbenzene	mg/kg	9,900	0.0055 U	0.0041 U	0.0064 U	0.0058 U	0.0048 U	0.0046 U	0.0053 U	0.005 U	0.0048 U	0.0045 U	0.0058 U	0.0051 U	0.0068 U	0.0069 U	0.0058 U	0.0049 U	0.0057 U	0.0053 U	0.011 U	0.0049 U	0.0048 U	0.0046 U
Methyl Acetate	mg/kg	1,200,000	0.055 U	0.041 U	0.064 U	0.058 U	0.048 U	0.046 U	0.053 U	0.05 U	0.048 U	0.045 U	0.058 U	0.051 U	0.068 U	0.069 U	0.058 U	0.049 U	0.057 U	0.053 U	0.11 U	0.049 U	0.048 U	0.046 U
Methylene Chloride	mg/kg	1,000	0.0055 U	0.0041 U	0.0064 U	0.0058 U	0.0048 U	0.0046 UJ	0.0053 U	0.005 U	0.0048 U	0.0045 U	0.0058 U	0.0051 U	0.0068 U	0.0069 U	0.0058 U	0.0049 U	0.0057 U	0.0053 U	0.011 U	0.0049 U	0.0048 U	0.0046 U
Styrene	mg/kg	35,000	0.0055 U	0.0041 U	0.0064 U	0.0058 U	0.0048 U	0.0046 U	0.0053 U	0.005 U	0.0048 U	0.0045 U	0.0058 U	0.0051 U	0.0068 U	0.0069 U	0.0058 U	0.0049 U	**0.01**	**0.01**	0.011 U	0.0049 U	0.0048 U	0.0046 U
Tetrachloroethene	mg/kg	100	0.0055 U	0.0041 U	0.0064 U	0.0058 U	0.0048 U	0.0046 U	0.0053 U	0.005 U	0.0048 U	0.0045 U	0.0058 U	0.0051 U	0.0068 U	0.0069 U	0.0058 U	0.0049 U	**0.19**	**0.32**	0.011 U	0.0049 U	0.0048 U	0.0046 U
Toluene	mg/kg	47,000	0.0055 U	0.0041 U	0.0064 U	0.0058 U	0.0048 U	0.0046 U	0.0053 U	0.005 U	0.0048 U	0.0045 U	0.0058 U	0.0051 U	0.0068 U	0.0069 U	**0.0022 J**	0.0049 U	0.0057 U	0.0053 U	0.011 U	0.0049 U	0.0048 U	0.0046 U
Trichloroethene	mg/kg	6	0.0055 U	0.0041 U	0.0064 U	0.0058 U	0.0048 U	0.0046 U	0.0053 U	0.005 U	0.0048 U	0.0045 U	0.0058 U	0.0051 U	0.0068 U	0.0069 U	0.0058 U	0.0049 U	**0.06**	**0.12**	0.011 U	0.0049 U	0.0048 U	0.0046 U
Trichlorofluoromethane	mg/kg	3,100	0.0055 U	0.0041 U	0.0064 U	0.0058 U	0.0048 U	0.0046 UJ	0.0053 U	0.005 U	0.0048 U	0.0045 U	0.0058 U	0.0051 U	0.0068 U	0.0069 U	0.0058 U	0.0049 U	0.0057 U	0.0053 U	0.011 U	0.0049 U	0.0048 U	0.0046 U
Vinyl chloride	mg/kg	1.7	0.0055 U	0.0041 U	0.0064 U	0.0058 U	0.0048 U	0.0046 U	0.0053 U	0.005 U	0.0048 U	0.0045 U	0.0058 U	0.0051 U	0.0068 U	0.0069 U	0.0058 U	0.0049 U	0.0057 U	0.0053 U	0.011 U	0.0049 U	0.0048 U	0.0046 U
Xylenes	mg/kg	2,800	0.016 U	0.012 U	**0.0078 J**	0.017 U	0.015 U	0.014 U	0.016 U	0.015 U	0.014 U	0.014 U	0.017 U	0.015 U	0.02 U	0.021 U	0.017 U	0.015 U	0.017 U	0.016 U	0.034 U	0.015 U	0.014 U	0.014 U
Semi-Volatile Organic Compoundsł																								
1,1-Biphenyl	mg/kg	200	0.076 U	0.08 U	0.072 U	0.074 U	0.078 U	0.078 U	0.074 U	0.083 U	0.074 U	0.079 U	0.084 U	0.083 U	**0.062 J**	**0.049 J**	0.073 U	0.07 U	**0.023 J**	0.087 U	0.085 U	0.079 U	0.079 U	0.08 U
1,2,4,5-Tetrachlorobenzene	mg/kg	350	0.076 U	0.08 U	0.072 U	0.074 U	0.078 U	0.078 U	0.074 U	0.083 U	0.074 U	0.079 U	0.084 U	0.083 U	**0.10**	0.072 U	0.073 U	**0.058 J**	0.083 U	0.087 U	0.085 U	0.079 U	0.079 U	0.08 U
2,4-Dimethylphenol	mg/kg	16,000	0.076 U	0.08 U	0.072 U	0.074 U	0.078 U	0.078 U	0.074 U	0.083 U	0.074 U	0.079 U	0.084 U	0.083 U	0.071 U	0.072 U	0.073 U	0.07 U	0.083 U	0.087 U	0.085 U	0.079 U	0.079 U	0.08 U
2-Chloronaphthalene	mg/kg	60,000	0.076 U	0.08 U	0.072 U	0.074 U	0.078 U	0.078 U	0.074 U	0.083 U	0.074 U	0.079 U	0.084 U	0.083 U	**0.051 J**	0.072 U	0.073 U	**0.054 J**	0.083 U	0.087 U	**0.10**	0.079 U	0.079 U	0.08 U
2-Methylnaphthalene	mg/kg	3,000	**0.09**	0.0081 U	0.073 U	0.0074 U	0.079 U	0.0079 U	0.072 U	**0.05**	**0.021 J**	0.008 U	**0.079 J**	0.0082 U	**19.2**	**0.65**	**0.06**	**0.06**	**0.032 J**	**0.028 J**	**0.02**	0.008 U	0.0079 U	0.0081 U
2-Methylphenol	mg/kg	41,000	0.076 U	0.08 U	0.072 U	0.074 U	0.078 U	0.078 U	0.074 U	0.083 U	0.074 U	0.079 U	0.084 U	0.083 U	0.071 U	0.072 U	0.073 U	0.07 U	0.083 U	0.087 U	0.085 U	0.079 U	0.079 U	0.08 U
2-Nitroaniline	mg/kg	8,000	0.19 U	0.2 U	0.18 U	0.19 U	0.2 U	0.2 U	0.18 U	0.21 U	0.19 U	0.2 U	0.21 U	0.21 U	0.18 U	0.18 U	0.18 U	0.17 U	**0.037 J**	0.22 U	0.21 U	0.2 U	0.2 U	0.2 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.15 U	0.16 U	0.14 U	0.15 U	0.16 U	0.16 U	0.15 U	0.17 U	**0.18**	0.16 U	0.17 U	0.17 U	0.14 U	0.14 U	0.15 U	0.14 U	0.17 U	0.17 U	0.17 U	0.16 U	0.16 U	0.16 U
Acenaphthene	mg/kg	45,000	**0.10**	0.0081 U	0.073 U	0.0074 U	**0.0069 J**	0.0079 U	0.072 U	**0.01**	**0.0062 J**	0.008 U	**0.028 J**	0.0082 U	**0.25**	**0.0084 J**	**0.002 J**	**0.0014 J**	**0.86**	**0.18**	**0.0035 J**	0.008 U	0.0079 U	0.0081 U
Acenaphthylene	mg/kg	45,000	**0.06 J**	0.0081 U	0.073 U	0.0074 U	**0.02 J**	0.0079 U	0.072 U	**0.04**	**0.0088 J**	0.008 U	**0.66**	0.0082 U	**0.07**	**0.24**	**0.01**	**0.0034 J**	**13.0**	**3.50**	**0.21**	0.008 U	0.0079 U	0.0081 U
Acetophenone	mg/kg	120,000	0.076 U	0.08 U	0.072 U	0.074 U	0.078 U	0.078 U	0.074 U	0.083 U	0.074 U	0.079 U	0.084 U	0.083 U	0.071 U	**0.09**	0.073 U	0.07 U	0.083 U	0.087 U	0.085 U	0.079 U	0.079 U	0.08 U
Anthracene	mg/kg	230,000	**0.33**	0.0081 U	**0.0083 J**	**0.00068 J**	**0.041 J**	0.0079 U	0.072 U	**0.05**	**0.037 J**	**0.001 J**	**0.27**	0.0082 U	**0.08**	**0.058 J**	**0.03**	**0.0056 J**	0.084 U	0.089 U	**0.05**	0.008 U	**0.0012 J**	0.0081 U
Benzaldehyde	mg/kg	120,000	0.076 UJ	0.08 UJ	0.072 UJ	0.074 UJ	0.078 UJ	0.078 R	0.074 U	0.083 U	**0.046 J**	0.079 U	**0.024 J**	0.083 U	**0.047 J**	**0.12**	0.073 U	**0.049 J**	0.083 U	0.087 U	0.085 U	0.079 U	0.079 U	0.08 U
Benzo[a]anthracene	mg/kg	2.9	**0.78**	0.0081 U	**0.026 J**	**0.0021 J**	**0.12**	0.0079 U	0.072 U	**0.17**	**0.12**	**0.0021 J**	**0.99**	0.0082 U	**0.40**	**0.14**	**0.19**	**0.02**	0.084 U	**0.09**	**0.12**	**0.0021 J**	0.0079 U	0.0081 U
Benzo[a]pyrene	mg/kg	0.29	**0.70**	0.0081 U	**0.017 J**	**0.0013 J**	**0.10**	0.0079 U	0.14 U	**0.17**	**0.10**	**0.001 J**	**0.82**	0.0082 U	**0.20**	**0.10**	**0.12**	**0.02**	**0.25**	**0.13**	**0.09**	0.008 U	0.0079 U	0.0081 U
Benzo[b]fluoranthene	mg/kg	2.9	**1.40**	**0.0006 J**	**0.038 J**	**0.0032 J**	**0.21**	0.0079 U	**0.029 J**	**0.39**	**0.23**	**0.0024 J**	**1.80**	0.0082 U	**0.76**	**0.20**	**0.42**	**0.05**	**0.45**	**0.34**	**0.18**	**0.0021 J**	0.0079 U	0.0081 U
Benzo[g,h,i]perylene	mg/kg		**0.24**	0.0081 U	**0.01 J**	0.0074 U	**0.047 J**	0.0079 U	0.14 U	**0.11**	**0.058 J**	0.008 U	**0.45**	0.0082 U	**0.14**	**0.11**	**0.09**	**0.02**	**0.37**	**0.17**	**0.07**	0.008 U	0.0079 U	0.0081 U
Benzo[k]fluoranthene	mg/kg	29	**1.20**	0.0081 U	**0.032 J**	**0.0025 J**	**0.18**	0.0079 U	**0.023 J**	**0.29**	**0.17**	**0.0018 J**	**1.60**	0.0082 U	**0.66**	**0.17**	**0.37**	**0.04**	**0.39**	**0.30**	**0.16**	**0.0018 J**	0.0079 U	0.0081 U
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.076 UJ	0.08 UJ	**0.073 B**	0.074 UJ	**0.085 B**	0.078 U	**0.09**	0.083 U	**0.07 J**	0.079 U	0.084 U	0.083 U	0.071 U	0.072 U	0.073 U	0.07 U	0.083 UJ	**0.033 J**	0.085 U	0.079 U	0.079 U	0.08 U
Carbazole	mg/kg		**0.049 J**	0.08 UJ	0.072 UJ	0.074 UJ	0.078 UJ	0.078 U	0.074 U	0.083 U	**0.033 J**	0.079 U	**0.036 J**	0.083 U	**0.055 J**	**0.025 J**	0.073 U	0.07 U	0.083 U	0.087 U	0.085 U	0.079 U	0.079 U	0.08 U
Chrysene	mg/kg	290	**0.83**	0.0081 U	**0.024 J**	**0.0018 J**	**0.11**	0.0079 U	**0.011 J**	**0.17**	**0.11**	**0.0012 J**	**0.83**	0.0082 U	**0.55**	**0.13**	**0.20**	**0.06**	0.084 U	**0.056 J**	**0.10**	**0.0014 J**	0.0079 U	0.0081 U
Dibenz[a,h]anthracene	mg/kg	0.29	**0.11**	0.0081 U	0.073 U	0.0074 U	**0.016 J**	0.0079 U	0.14 U	**0.04**	**0.02 J**	0.008 U	**0.18**	0.0082 U	**0.08**	**0.021 J**	**0.04**	**0.01**	**0.079 J**	**0.042 J**	**0.02**	0.008 U	0.0079 U	0.0081 U
Di-n-butylphthalate	mg/kg	82,000	0.076 UJ	0.08 UJ	0.072 UJ	0.074 UJ	**0.1 J**	0.078 U	0.074 U	0.083 U	0.074 U	0.079 U	0.084 U	0.083 U	0.071 U	0.072 U	0.073 U	0.07 U	0.083 U	0.087 U	0.085 U	0.079 U	0.079 U	0.08 U
Di-n-ocytlphthalate	mg/kg	8,200	0.076 UJ	0.08 U	0.072 UJ	0.074 U	0.078 UJ	0.078 U	0.074 U	0.083 U	**0.07 J**	0.079 U	0.084 U	0.083 U	0.071 U	0.072 U	0.073 U	0.07 U	0.083 UJ	0.087 UJ	0.085 U	0.079 U	0.079 U	0.08 U
Fluoranthene	mg/kg	30,000	**1.70**	**0.00057 J**	**0.042 J**	**0.0031 J**	**0.20**	0.0079 U	**0.018 J**	**0.40**	**0.21**	**0.0029 J**	**1.60**	0.0082 U	**0.93**	**0.26**	**0.21**	**0.04**	**0.018 J**	**0.033 J**	**0.25**	**0.0027 J**	0.0079 U	0.0081 U
Fluorene	mg/kg	30,000	**0.10**	0.0081 U	0.073 U	0.0074 U	**0.0074 J**	0.0079 U	0.072 U	**0.02**	0.074 U	0.008 U	**0.041 J**	0.0082 U	**0.15**	**0.014 J**	**0.0015 J**	**0.0018 J**	0.084 U	0.089 U	**0.01**	0.008 U	0.0079 U	0.0081 U
Hexachlorobenzene	mg/kg	0.96	0.076 UJ	0.08 U	0.072 U	0.074 U	0.078 U	0.078 U	0.074 U	0.083 U	0.074 U	0.079 U	0.084 U	0.083 U	0.071 U	0.072 U	0.073 U	0.07 U	0.083 U	0.087 U	0.085 U	0.079 U	0.079 U	0.08 U
Indeno[1,2,3-c,d]pyrene	mg/kg	2.9	**0.25**	0.0081 U	0.073 U	0.0074 U	**0.042 J**	0.0079 U	0.14 U	**0.11**	**0.051 J**	0.008 U	**0.44**	0.0082 U	**0.15**	**0.066 J**	**0.10**	**0.01**	**0.30**	**0.14**	**0.06**	0.008 U	0.0079 U	0.0081 U
Naphthalene	mg/kg	17	**0.16**	0.0081 U	0.073 U	0.0074 U	**0.023 B**	0.0079 U	**0.018 J**	**0.06**	**0.026 J**	0.008 U	**0.26**	0.0082 U	**2.90**	**0.80**	**0.04**	**0.04**	**0.057 B**	**0.05 B**	**0.36**	0.008 U	0.0079 U	0.0081 U
N-Nitroso-di-n-propylamine	mg/kg	0.33	0.076 U	0.08 U	0.072 U	0.074 U	0.078 U	0.078 U	0.074 U	0.083 U	0.074 U	0.079 U	0.084 U	0.083 U	0.071 U	0.072 U	0.073 U	0.07 U	0.083 U	0.087 U	0.085 U	0.079 U	0.079 U	0.08 U
N-Nitrosodiphenylamine	mg/kg	470	0.076 UJ	0.08 U	0.072 U	0.074 U	0.078 U	0.078 U	0.074 U	0.083 U	0.074 U	0.079 U	0.084 U	0.083 U	0.071 U	0.072 U	0.073 U	0.07 U	0.083 U	0.087 U	0.085 U	0.079 U	0.079 U	0.08 U
Phenanthrene	mg/kg		**1.30**	0.0081 U	**0.033 B**	**0.0021 B**	**0.12**	0.0079 U	**0.012 JB**	**0.27**	**0.13**	**0.0019 J**	**0.78**	**0.00079 J**	**0.94**	**0.44**	**0.10**	**0.08**	0.084 U	0.089 U	**0.30**	**0.0015 J**	**0.0062 J**	0.0081 U
Phenol	mg/kg	250,000	0.076 U	0.08 U	0.072 U	0.074 U	0.078 U	0.078 U	0.074 U	0.083 U	**0.02 J**	0.079 U	0.084 U	0.083 U	**0.049 J**	0.072 U	0.073 U	0.07 U	0.083 U	0.087 U	0.085 U	0.079 U	0.079 U	0.08 U
Pyrene	mg/kg	23,000	**1.40**	0.0081 U	**0.037 J**	**0.0028 J**	**0.17**	0.0079 U	**0.02 J**	**0.32**	**0.18**	**0.0026 J**	**1.20**	0.0082 U	**0.64**	**0.26**	**0.17**	**0.03**	**0.073 J**	**0.061 J**	**0.25**	**0.0021 J**	**0.003 J**	0.0081 U
PCBs																								
Aroclor 1242	mg/kg	0.97	0.0608 U	N/A	0.105 U	N/A	0.0586 U	N/A	0.224 U	N/A	0.0545 U	N/A	0.0612 U	N/A	0.054 U	N/A	0.0561 U	N/A	0.0637 U	N/A	0.0592 U	N/A	0.0618 U	N/A
Aroclor 1248	mg/kg	0.94	0.0608 U	N/A	0.105 U	N/A	0.0586 U	N/A	0.224 U	N/A	0.0545 U	N/A	0.0612 U	N/A	0.054 U	N/A	0.0561 U	N/A	0.0637 U	N/A	0.0592 U	N/A	0.0618 U	N/A
Aroclor 1254	mg/kg	0.97	0.0608 U	N/A	0.105 U	N/A	0.0586 U	N/A	**1.01**	N/A	0.0545 U	N/A	0.0612 U	N/A	0.054 U	N/A	0.0561 U	N/A	0.0637 U	N/A	0.0592 U	N/A	0.0618 U	N/A
Aroclor 1260	mg/kg	0.99	0.0608 U	N/A	0.105 U	N/A	0.0586 U	N/A	0.224 U	N/A	0.0545 U	N/A	0.0612 U	N/A	0.054 U	N/A	0.0561 U	N/A	0.0637 U	N/A	0.0592 U	N/A	0.0618 U	N/A
Aroclor 1262	mg/kg		0.0608 U	N/A	0.105 U	N/A	**0.0451 J**	N/A	0.224 U	N/A	**0.037 J**	N/A	0.0612 U	N/A	0.054 U	N/A	0.0561 U	N/A	0.0637 U	N/A	0.0592 U	N/A	0.0618 U	N/A
Aroclor 1268	mg/kg		0.0608 U	N/A	**3.18**	N/A	0.0586 U	N/A	**6.68**	N/A	0.0545 U	N/A	**0.42**	N/A	**0.06**	N/A	0.0561 U	N/A	0.0637 U	N/A	0.0592 U	N/A	0.0618 U	N/A
PCBs (total)	mg/kg	0.97	0.0608 U	N/A	**3.18**	N/A	**0.0451 J**	N/A	**7.69**	N/A	**0.037 J**	N/A	**0.42**	N/A	**0.06**	N/A	0.0561 U	N/A	0.0637 U	N/A	0.0592 U	N/A	0.0618 U	N/A
TPH/Oil and Grease																								
Diesel Range Organics	mg/kg	6,200	**351 J**	8 UJ	**47.1 J**	**6.3 J**	**37.4 J**	**4.1 J**	**316**	**99.7**	**158**	**93.1**	**95.6**	**4.2 J**	**38.5**	**70.0**	**39.2**	**24.1**	**4,590 J**	**1,720 J**	**26.3 J**	8 UJ	**11.6 J**	8.1 UJ
Gasoline Range Organics	mg/kg	6,200	13.9 U	9.9 U	13.1 U	10.6 U	13.9 U	9 U	11.8 U	10.5 U	11.2 U	9.1 U	13.2 U	9.8 U	13.9 U	**7.8 J**	14.8 U	11.4 U	12.2 U	11.4 U	25.7 U	10.9 U	9.8 U	10.4 U

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

J: The positive result reported for this anaytle 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 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
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-107-SB-1	B22-107-SB-5	B22-108-SB-1	B22-108-SB-5	B22-122-SB-1	B22-123-SB-1	B22-124-SB-1	B22-124-SB-4	B22-131-SB-1	B22-131-SB-5	B22-132-SB-1	B22-132-SB-5	B22-137-SB-1	B22-137-SB-8	B22-138-SB-1	B22-138-SB-8	B22-139-SB-1	B22-139-SB-4	B22-140-SB-1	B22-140-SB-5	B22-141-SB-1	B22-141-SB-5
Volatile Organic Compounds																								
1,1,1-Trichloroethane	mg/kg	36,000	0.0044 U	0.0049 U	**0.01**	**0.03**	**0.06**	0.0061 U	0.0065 U	0.006 U	0.0046 U	0.0048 U	0.0053 U	0.0048 U	0.0042 U	0.0052 U	0.0065 U	0.0051 U	0.0051 U	0.0049 U	0.005 U	0.005 U	0.0058 U	0.0052 U
1,1-Dichloroethane	mg/kg	16	0.0044 U	0.0049 U	**0.01**	**0.06**	**0.01**	0.0061 U	0.0065 U	0.006 U	0.0046 U	0.0048 U	0.0053 U	0.0048 U	0.0042 U	0.0052 U	0.0065 U	0.0051 U	0.0051 U	0.0049 U	0.005 U	0.005 U	0.0058 U	0.0052 U
1,1-Dichloroethene	mg/kg	1,000	0.0044 U	0.0049 U	0.0052 U	0.0059 U	0.0084 U	0.0061 U	0.0065 U	0.006 U	0.0046 U	0.0048 U	0.0053 U	0.0048 U	0.0042 U	0.0052 U	0.0065 U	0.0051 U	0.0051 U	0.0049 U	0.005 U	0.005 U	0.0058 U	0.0052 U
1,2,3-Trichlorobenzene	mg/kg	930	0.0044 U	0.0049 U	0.0052 U	0.0059 UJ	0.0084 U	0.0061 U	0.0065 U	0.006 U	0.0046 U	0.0048 U	0.0053 U	0.0048 U	0.0042 U	0.0052 U	0.0065 U	0.0051 U	0.0051 U	0.0049 U	0.005 U	0.005 U	0.0058 U	0.0052 U
1,2,4-Trichlorobenzene	mg/kg	110	0.0044 U	0.0049 U	0.0052 U	0.0059 UJ	0.0084 U	0.0061 U	0.0065 U	0.006 U	0.0046 U	0.0048 U	0.0053 U	0.0048 U	0.0042 U	0.0052 U	0.0065 U	0.0051 U	0.0051 U	0.0049 U	0.005 U	0.005 U	0.0058 U	0.0052 U
1,2-Dichloroethane	mg/kg	2	0.0044 U	0.0049 U	0.0052 U	0.0059 U	0.0084 U	0.0061 U	0.0065 U	0.006 U	0.0046 U	0.0048 U	0.0053 U	0.0048 U	0.0042 U	0.0052 U	0.0065 U	0.0051 U	0.0051 U	0.0049 U	0.005 U	0.005 U	0.0058 U	0.0052 U
1,2-Dichloroethene (Total)	mg/kg	2,300	0.0089 U	0.0098 U	0.01 U	0.012 U	0.017 U	0.012 U	0.013 U	0.012 U	0.0092 U	0.0097 U	0.011 U	0.0095 U	0.0085 U	0.01 U	0.013 U	0.01 U	0.01 U	0.0098 U	0.01 U	0.0099 U	0.012 U	0.01 U
1,4-Dichlorobenzene	mg/kg	11	0.0044 U	0.0049 U	0.0052 U	0.0059 UJ	0.0084 U	0.0061 U	0.0065 U	0.006 U	0.0046 U	0.0048 U	0.0053 U	0.0048 U	0.0042 U	0.0052 U	0.0065 U	0.0051 U	0.0051 U	0.0049 U	0.005 U	0.005 U	0.0058 U	0.0052 U
1,4-Dioxane	mg/kg	24	0.089 R	0.098 R	**0.23 J**	0.12 R	0.17 R	0.12 R	0.13 R	0.12 R	0.092 R	0.097 R	0.11 R	0.095 R	0.085 R	0.1 R	0.13 R	0.1 R	0.1 R	0.098 R	0.1 R	0.099 R	0.12 R	0.1 R
2-Butanone (MEK)	mg/kg	190,000	0.0089 U	0.0098 U	**0.005 J**	0.012 U	0.017 U	0.012 U	0.013 U	0.012 U	0.0092 U	0.0097 U	0.011 U	0.0095 U	0.0085 U	0.01 U	0.013 U	0.01 U	0.01 U	**0.003 J**	0.01 U	**0.003 J**	0.012 U	0.01 U
2-Hexanone	mg/kg	1,300	0.0089 U	0.0098 U	0.01 U	0.012 U	0.017 U	0.012 U	0.013 U	0.012 U	0.0092 U	0.0097 U	0.011 U	0.0095 U	0.0085 U	0.01 U	0.013 U	0.01 U	0.01 U	0.0098 U	0.01 U	0.0099 U	0.012 U	0.01 U
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	0.0089 UJ	0.0098 U	0.01 UJ	0.012 UJ	0.017 U	0.012 UJ	0.013 UJ	0.012 UJ	0.0092 UJ	0.0097 UJ	0.011 UJ	0.0095 UJ	0.0085 U	0.01 U	0.013 U	0.01 U	0.01 U	0.0098 U	0.01 U	0.0099 U	0.012 U	0.01 U
Acetone	mg/kg	670,000	**0.007 J**	0.0098 U	**0.03**	**0.01**	0.017 U	**0.02**	0.013 U	0.012 U	0.0092 U	0.0097 U	0.011 U	0.0095 U	0.0085 U	0.01 U	0.013 U	0.01 U	0.01 U	**0.02**	0.01 U	**0.0067 J**	0.012 U	0.01 U
Benzene	mg/kg	5.1	0.0044 U	0.0049 U	0.0052 U	0.0059 U	0.0084 U	0.0061 U	0.0065 U	0.006 U	0.0046 U	0.0048 U	0.0053 U	0.0048 U	0.0042 U	0.0052 U	0.0065 U	0.0051 U	0.0051 U	0.0049 U	0.005 U	0.005 U	0.0058 U	0.0052 U
Chlorobenzene	mg/kg	1,300	0.0044 U	0.0049 U	0.0052 U	0.0059 U	0.0084 U	0.0061 U	0.0065 U	0.006 U	0.0046 U	0.0048 U	0.0053 U	0.0048 U	0.0042 U	0.0052 U	0.0065 U	0.0051 U	0.0051 U	0.0049 U	0.005 U	0.005 U	0.0058 U	0.0052 U
Chloroform	mg/kg	1.4	0.0044 U	0.0049 U	0.0052 U	0.0059 U	0.0084 U	0.0061 U	0.0065 U	0.006 U	0.0046 U	0.0048 U	0.0053 U	0.0048 U	0.0042 U	0.0052 U	0.0065 U	0.0051 U	0.0051 U	0.0049 U	0.005 U	0.005 U	0.0058 U	0.0052 U
cis-1,2-Dichloroethene	mg/kg	2,300	0.0044 U	0.0049 U	0.0052 U	0.0059 U	0.0084 U	0.0061 U	0.0065 U	0.006 U	0.0046 U	0.0048 U	0.0053 U	0.0048 U	0.0042 U	0.0052 U	0.0065 U	0.0051 U	0.0051 U	0.0049 U	0.005 U	0.005 U	0.0058 U	0.0052 U
Cyclohexane	mg/kg	27,000	0.0089 U	0.0098 U	0.01 U	0.012 U	0.017 U	0.012 U	0.013 U	0.012 U	0.0092 U	0.0097 U	0.011 U	0.0095 U	0.0085 U	0.01 U	0.013 U	0.01 U	0.01 U	0.0098 U	0.01 U	0.0099 U	0.012 U	0.01 U
Ethylbenzene	mg/kg	25	0.0044 U	0.0049 U	0.0052 U	0.0059 U	0.0084 U	0.0061 U	0.0065 U	0.006 U	0.0046 U	0.0048 U	0.0053 U	0.0048 U	0.0042 U	0.0052 U	0.0065 U	0.0051 U	**0.0013 J**	0.0049 U	0.005 U	0.005 U	0.0058 U	0.0052 U
Isopropylbenzene	mg/kg	9,900	0.0044 U	0.0049 U	0.0052 U	0.0059 U	0.0084 U	0.0061 U	0.0065 U	0.006 U	0.0046 U	0.0048 U	0.0053 U	0.0048 U	0.0042 U	0.0052 U	0.0065 U	0.0051 U	0.0051 U	0.0049 U	0.005 U	0.005 U	0.0058 U	0.0052 U
Methyl Acetate	mg/kg	1,200,000	0.044 UJ	0.049 U	0.052 UJ	0.059 UJ	0.084 U	0.061 UJ	0.065 UJ	0.06 UJ	0.046 U	0.048 U	0.053 U	0.048 U	0.042 U	0.052 U	0.065 U	0.051 U	0.051 U	0.049 U	0.05 U	0.05 U	0.058 U	0.052 U
Methylene Chloride	mg/kg	1,000	0.0044 U	0.0049 U	0.0052 U	0.0059 U	0.0084 U	0.0061 U	0.0065 U	0.006 U	0.0046 U	0.0048 U	0.0053 U	0.0048 U	0.0042 U	0.0052 U	0.0065 U	0.0051 U	0.0051 U	0.0049 U	0.005 U	0.005 U	0.0058 U	0.0052 U
Styrene	mg/kg	35,000	0.0044 UJ	0.0049 U	0.0052 UJ	0.0059 UJ	0.0084 U	0.0061 U	0.0065 U	0.006 U	0.0046 U	0.0048 U	0.0053 U	0.0048 U	0.0042 U	0.0052 U	0.0065 U	0.0051 U	0.0051 U	0.0049 U	0.005 U	0.005 U	0.0058 U	0.0052 U
Tetrachloroethene	mg/kg	100	0.0044 U	0.0049 U	0.0052 U	0.0059 U	**0.0056 J**	0.0061 U	0.0065 U	0.006 U	0.0046 U	0.0048 U	0.0053 U	0.0048 U	0.0042 U	0.0052 U	0.0065 U	0.0051 U	0.0051 U	0.0049 U	0.005 U	0.005 U	0.0058 U	0.0052 U
Toluene	mg/kg	47,000	0.0044 U	0.0049 U	0.0052 U	0.0059 U	**0.0027 J**	0.0061 U	0.0065 U	0.006 U	0.0046 U	0.0048 U	0.0053 U	0.0048 U	0.0042 U	0.0052 U	0.0065 U	0.0051 U	**0.0026 J**	0.0049 U	0.005 U	0.005 U	0.0058 U	0.0052 U
Trichloroethene	mg/kg	6	0.0044 U	0.0049 U	0.0052 U	0.0059 U	0.0084 U	0.0061 U	0.0065 U	0.006 U	0.0046 U	0.0048 U	0.0053 U	0.0048 U	0.0042 U	0.0052 U	0.0065 U	0.0051 U	0.0051 U	0.0049 U	0.005 U	0.005 U	0.0058 U	0.0052 U
Trichlorofluoromethane	mg/kg	3,100	0.0044 UJ	0.0049 U	0.0052 UJ	0.0059 UJ	0.0084 U	0.0061 U	0.0065 U	0.006 U	0.0046 U	0.0048 U	0.0053 U	0.0048 U	0.0042 U	0.0052 U	0.0065 U	0.0051 U	0.0051 U	0.0049 U	0.005 U	0.005 U	0.0058 U	0.0052 U
Vinyl chloride	mg/kg	1.7	0.0044 U	0.0049 U	0.0052 U	0.0059 U	0.0084 U	0.0061 U	0.0065 U	0.006 U	0.0046 U	0.0048 U	0.0053 U	0.0048 U	0.0042 U	0.0052 U	0.0065 U	0.0051 U	0.0051 U	0.0049 U	0.005 U	0.005 U	0.0058 U	0.0052 U
Xylenes	mg/kg	2,800	0.013 U	0.015 U	0.016 U	0.018 U	0.025 U	0.018 U	0.02 U	0.018 U	0.014 U	0.015 U	0.016 U	0.014 U	0.013 U	0.015 U	0.019 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.017 U	0.016 U
Semi-Volatile Organic Compounds‡																								
1,1-Biphenyl	mg/kg	200	0.076 U	0.083 U	0.075 U	0.077 U	**0.79 J**	**0.035 J**	0.078 U	**0.051 J**	0.078 U	0.081 U	0.076 U	0.081 U	0.071 U	0.076 U	0.087 U	0.077 U	**0.036 J**	**0.026 J**	0.074 U	0.075 U	0.072 U	0.078 U
1,2,4,5-Tetrachlorobenzene	mg/kg	350	0.076 U	0.083 U	0.075 U	0.077 U	0.077 U	**0.041 J**	0.078 U	0.075 U	0.078 U	0.081 U	0.076 U	0.081 U	0.071 U	0.076 U	0.087 U	0.077 U	0.075 U	0.073 U	0.074 U	0.075 U	0.072 U	0.078 U
2,4-Dimethylphenol	mg/kg	16,000	0.076 R	0.083 U	0.075 U	0.077 U	**0.065 J**	0.072 R	0.078 U	0.075 U	0.078 U	0.081 U	0.076 U	0.081 U	0.071 R	0.076 U	0.087 UJ	0.077 U	0.075 R	0.073 UJ	0.074 R	**0.16**	0.072 UJ	0.078 U
2-Chloronaphthalene	mg/kg	60,000	0.076 U	0.083 U	0.075 U	0.077 U	0.077 U	**0.055 J**	0.078 U	0.075 U	0.078 U	0.081 U	0.076 U	0.081 U	0.071 U	0.076 U	0.087 U	0.077 U	0.075 U	0.073 U	0.074 R	0.075 U	0.072 U	0.078 U
2-Methylnaphthalene	mg/kg	3,000	**0.047 J**	0.0083 U	**0.17**	**0.08**	**1.50**	**0.039 J**	**0.045 J**	**0.31**	0.079 U	0.0081 U	**0.021 J**	**0.0041 J**	**0.0055 B**	0.0077 U	**0.063 B**	0.0078 U	**0.10**	**0.08**	**0.0032 B**	0.076 U	0.073 U	0.0079 U
2-Methylphenol	mg/kg	41,000	0.076 R	0.083 U	0.075 U	0.077 U	0.077 U	0.072 R	0.078 U	0.075 U	0.078 U	0.081 U	0.076 U	0.081 U	0.071 R	0.076 U	0.087 UJ	0.077 U	0.075 R	0.073 UJ	0.074 R	0.075 U	0.072 UJ	0.078 U
2-Nitroaniline	mg/kg	8,000	0.19 U	0.21 U	0.19 U	0.19 U	0.19 U	0.18 U	0.19 U	0.19 U	0.2 U	0.2 U	0.19 U	0.2 U	0.18 U	0.19 U	0.22 U	0.19 U	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U	0.19 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.15 R	0.17 U	0.15 U	0.15 U	0.15 U	0.14 R	0.16 U	0.15 U	0.16 U	0.16 U	0.15 U	0.16 U	0.14 R	0.15 U	0.17 UJ	0.15 U	0.15 R	0.15 UJ	0.15 R	0.15 U	0.14 UJ	0.16 U
Acenaphthene	mg/kg	45,000	**0.08**	**0.003 J**	**0.037 J**	**0.011 J**	**0.062 J**	**0.15**	**0.01 J**	**0.018 J**	**0.0054 J**	0.0081 U	**0.0074 J**	**0.00083 J**	**0.0012 J**	0.0077 U	**0.11**	0.0078 U	**0.02**	**0.022 J**	0.0074 U	0.076 U	0.073 U	0.0079 U
Acenaphthylene	mg/kg	45,000	**0.023 J**	**0.0013 J**	**0.09**	**0.0086 J**	**0.37**	**0.019 J**	**0.012 J**	**0.034 J**	**0.0096 J**	0.0081 U	**0.024 J**	**0.0037 J**	**0.0027 J**	**0.00066 J**	**0.018 J**	0.0078 U	**0.03**	**0.036 J**	0.0074 U	0.076 U	**0.0096 J**	0.0079 U
Acetophenone	mg/kg	120,000	0.076 U	0.083 U	**0.023 J**	**0.021 J**	**0.53 J**	0.072 U	**0.063 J**	0.075 U	0.078 U	0.081 U	0.076 U	0.081 U	0.071 U	0.076 U	0.087 U	0.077 U	0.075 U	0.073 U	0.074 U	0.075 U	0.072 U	0.078 U
Anthracene	mg/kg	230,000	**0.21**	**0.01**	**0.31**	**0.038 J**	**0.18**	**0.55**	**0.045 J**	**0.09**	**0.0088 J**	0.0081 U	**0.029 J**	**0.0049 J**	**0.0033 J**	0.0077 U	**0.23**	0.0078 U	**0.07**	**0.056 J**	**0.0011 J**	0.076 U	**0.01 J**	0.0079 U
Benzaldehyde	mg/kg	120,000	**0.026 J**	0.083 R	0.075 R	**0.063 J**	**0.83 J**	**0.074 J**	**0.26 J**	**0.071 J**	0.078 R	0.081 R	0.076 R	0.081 R	0.071 R	0.076 R	**0.034 J**	0.077 R	**0.025 J**	**0.059 J**	0.074 R	0.075 R	0.072 R	0.078 R
Benzo[a]anthracene	mg/kg	2.9	**0.81**	**0.05**	**0.85**	**0.17**	**0.94**	**1.00**	**0.20**	**0.32**	**0.02 J**	0.0081 U	**0.12**	**0.03**	**0.03**	0.0077 U	**0.61**	0.0078 U	**0.27**	**0.18**	**0.01**	**0.033 J**	**0.069 J**	0.0079 U
Benzo[a]pyrene	mg/kg	0.29	**0.80**	**0.05**	**0.68**	**0.13 J**	**0.53**	**0.91**	**0.18**	**0.36**	**0.012 J**	0.0081 U	**0.10**	**0.03**	**0.03**	0.0077 U	**0.50**	0.0078 U	**0.17**	**0.15**	**0.0041 J**	**0.022 J**	**0.08**	0.0079 U
Benzo[b]fluoranthene	mg/kg	2.9	**2.00**	**0.15**	**1.40**	**0.36 J**	**1.50**	**2.00**	**0.42**	**1.00**	**0.015 J**	0.0081 U	**0.21**	**0.06**	**0.08**	**0.00068 J**	**0.99**	0.0078 U	**0.47**	**0.28**	**0.02**	**0.049 J**	**0.17**	0.0079 U
Benzo[g,h,i]perylene	mg/kg		**0.59**	**0.05**	**0.29**	**0.07 J**	**0.19**	**0.26**	**0.07 J**	**0.17**	**0.011 J**	0.0081 U	**0.039 J**	**0.02**	**0.03**	0.0077 U	**0.20**	0.0078 U	**0.13**	**0.08**	**0.0072 J**	**0.018 J**	**0.065 J**	0.0079 U
Benzo[k]fluoranthene	mg/kg	29	**2.00**	**0.14**	**1.40**	**0.34 J**	**1.30**	**1.80**	**0.35**	**0.88**	0.079 U	0.0081 U	**0.20**	**0.06**	**0.08**	0.0077 U	**0.95**	0.0078 U	**0.45**	**0.26**	**0.01**	**0.046 J**	**0.16**	0.0079 U
bis(2-Ethylhexyl)phthalate	mg/kg	160	**0.47 B**	**0.018 J**	0.075 UJ	0.077 UJ	**0.56 J**	**0.056 B**	**0.37 J**	**0.034 B**	0.078 U	0.081 U	0.076 UJ	0.081 UJ	0.071 U	0.076 U	**0.19 J**	0.077 U	0.075 U	**0.18 J**	0.074 U	**0.016 J**	0.072 U	0.078 U
Carbazole	mg/kg		**0.1 J**	**0.034 J**	**0.026 J**	0.077 UJ	**0.13 J**	**0.49 J**	**0.043 J**	**0.088 J**	0.078 U	0.081 U	0.076 U	0.081 U	0.071 U	0.076 U	**0.056 J**	0.077 U	**0.045 J**	**0.021 J**	0.074 U	0.075 U	0.072 U	0.078 U
Chrysene	mg/kg	290	**1.00**	**0.07**	**0.90**	**0.17**	**0.88**	**0.85**	**0.17**	**0.30**	**0.014 J**	0.0081 U	**0.11**	**0.04**	**0.06**	0.0077 U	**0.62**	0.0078 U	**0.34**	**0.23**	**0.02**	**0.025 J**	**0.09**	0.0079 U
Dibenz[a,h]anthracene	mg/kg	0.29	**0.16**	**0.01**	**0.10**	**0.015 J**	**0.10**	**0.10**	**0.018 J**	**0.056 J**	0.079 U	0.0081 U	**0.019 J**	**0.0064 J**	**0.01**	0.0077 U	**0.071 J**	0.0078 U	**0.04**	**0.029 J**	**0.0016 J**	0.076 U	**0.016 J**	0.0079 U
Di-n-butylphthalate	mg/kg	82,000	**0.019 J**	0.083 U	0.075 U	0.077 UJ	**0.22 J**	**0.031 J**	0.078 U	0.075 U	0.078 U	0.081 U	0.076 U	0.081 U	0.071 U	0.076 U	0.087 U	0.077 U	0.075 U	0.073 U	0.074 U	0.075 U	0.072 U	0.078 U
Di-n-octylphthalate	mg/kg	8,200	0.076 UJ	0.083 U	0.075 UJ	0.077 UJ	0.077 UJ	0.072 UJ	0.078 UJ	0.075 UJ	0.078 U	0.081 U	0.076 UJ	0.081 UJ	0.071 U	0.076 U	0.087 UJ	0.077 U	0.075 U	0.073 UJ	0.074 U	0.075 U	0.072 U	0.078 U
Fluoranthene	mg/kg	30,000	**1.50**	**0.09**	**1.70**	**0.30**	**1.20**	**2.20**	**0.32**	**0.52**	**0.015 J**	0.0081 U	**0.17**	**0.06**	**0.07**	**0.0012 J**	**1.30**	**0.00067 J**	**0.74**	**0.41**	**0.01**	**0.045 J**	**0.069 J**	0.0079 U
Fluorene	mg/kg	30,000	**0.07 J**	**0.0023 J**	**0.049 J**	**0.011 J**	**0.063 J**	**0.15**	**0.011 J**	**0.013 J**	**0.0076 J**	0.0081 U	**0.01 J**	**0.001 J**	0.0071 U	0.0077 U	**0.12**	0.0078 U	**0.01**	**0.033 J**	0.0074 U	0.076 U	0.073 U	0.0079 U
Hexachlorobenzene	mg/kg	0.96	0.076 U	0.083 U	0.075 U	0.077 UJ	0.077 U	0.072 U	0.078 U	0.075 U	0.078 U	0.081 U	0.076 U	0.081 U	0.071 U	0.076 U	0.087 U	0.077 U	0.075 U	0.073 U	0.074 U	0.075 U	0.072 U	0.078 U
Indeno[1,2,3-c,d]pyrene	mg/kg	2.9	**0.57**	**0.05**	**0.28**	**0.044 J**	**0.16**	**0.28**	**0.057 J**	**0.16**	0.079 U	0.0081 U	**0.039 J**	**0.02**	**0.03**	0.0077 U	**0.20**	0.0078 U	**0.12**	**0.068 J**	**0.0036 J**	**0.015 J**	**0.053 J**	0.0079 U
Naphthalene	mg/kg	17	**0.039 B**	0.0083 U	**0.12**	**0.042 B**	**1.60**	**0.09**	**0.036 B**	**0.21**	**0.048 B**	0.0081 U	**0.06 B**	**0.0056 B**	**0.0031 J**	0.0077 U	**0.077 J**	0.0078 U	**0.32**	**0.28**	**0.0037 J**	**0.021 J**	0.073 U	0.0079 U
N-Nitroso-di-n-propylamine	mg/kg	0.33	0.076 U	0.083 U	0.075 U	0.077 U	0.077 U	0.072 U	0.078 U	0.075 U	0.078 U	0.081 U	0.076 U	0.081 U	0.071 U	0.076 U	0.087 U	0.077 U	0.075 U	0.073 U	0.074 U	0.075 U	0.072 U	0.078 U
N-Nitrosodiphenylamine	mg/kg	470	0.076 U	0.083 U	0.075 U	**0.016 J**	0.077 U	0.072 U	0.078 U	0.075 U	0.078 U	0.081 U	0.076 U	0.081 U	0.071 U	0.076 U	0.087 U	0.077 U	0.075 U	0.073 U	0.074 U	0.075 U	0.072 U	0.078 U
Phenanthrene	mg/kg		**0.93**	**0.04**	**1.60**	**0.20**	**1.40**	**1.60**	**0.22**	**0.43**	**0.017 J**	0.0081 U	**0.074 J**	**0.02**	**0.04**	**0.0013 J**	**0.86**	**0.00063 J**	**0.60**	**0.35**	**0.01**	**0.026 J**	**0.031 J**	0.0079 U
Phenol	mg/kg	250,000	0.076 R	0.083 U	0.075 U	0.077 U	**0.041 J**	0.072 R	0.078 U	0.075 U	0.078 U	0.081 U	0.076 U	0.081 U	0.071 R	0.076 U	**0.055 J**	0.077 U	0.075 R	**0.026 J**	0.074 R	0.075 U	0.072 UJ	0.078 U
Pyrene	mg/kg	23,000	**1.40**	**0.09**	**1.70**	**0.24**	**0.96**	**1.70**	**0.26**	**0.42**	**0.015 J**	0.0081 U	**0.14**	**0.05**	**0.06**	**0.00091 J**	**1.20**	0.0078 U	**0.58**	**0.37**	**0.02**	**0.038 J**	**0.08**	0.0079 U
PCBs																								
Aroclor 1242	mg/kg	0.97	**0.0502 J**	N/A	0.054 U	N/A	**0.0397 J**	0.0548 U	0.326 U	N/A	0.0596 U	N/A	0.0568 U	N/A	0.0553 U	N/A	**0.0447 J**	N/A	0.0554 U	N/A	**6.64**	N/A	0.0533 U	N/A
Aroclor 1248	mg/kg	0.94	0.0593 U	N/A	0.054 U	N/A	0.0559 U	**0.0211 J**	0.326 U	N/A	0.0596 U	N/A	0.0568 U	N/A	0.0553 U	N/A	0.057 U	N/A	0.0554 U	N/A	0.232 U	N/A	0.0533 U	N/A
Aroclor 1254	mg/kg	0.97	0.0593 U	N/A	0.054 U	N/A	0.0559 U	0.0548 U	0.326 U	N/A	0.0596 U	N/A	0.0568 U	N/A	0.0553 U	N/A	**0.10**	N/A	0.0554 U	N/A	0.232 U	N/A	0.0533 U	N/A
Aroclor 1260	mg/kg	0.99	0.0593 U	N/A	0.054 U	N/A	0.0559 U	0.0548 U	0.326 U	N/A	0.0596 U	N/A	0.0568 U	N/A	0.0553 U	N/A	**0.0444 J**	N/A	0.0554 U	N/A	0.232 U	N/A	**0.0259 J**	N/A
Aroclor 1262	mg/kg		**0.16**	N/A	0.054 U	N/A	0.0559 U	0.0548 U	0.326 U	N/A	0.0596 U	N/A	0.0568 U	N/A	0.0553 U	N/A	0.057 U	N/A	0.0554 U	N/A	0.232 U	N/A	0.0533 U	N/A
Aroclor 1268	mg/kg		0.0593 U	N/A	0.054 U	N/A	**0.24**	**0.18**	**13.0**	N/A	0.0596 U	N/A	0.0568 U	N/A	0.0553 U	N/A	0.057 U	N/A	0.0554 U	N/A	0.232 U	N/A	0.0533 U	N/A
PCBs (total)	mg/kg	0.97	**0.21**	N/A	0.054 U	N/A	**0.28**	**0.20**	**13.0**	N/A	0.0596 U	N/A	0.0568 U	N/A	0.0553 U	N/A	**0.19**	N/A	0.0554 U	N/A	**6.64**	N/A	**0.0259 J**	N/A
TPH/Oil and Grease																								
Diesel Range Organics	mg/kg	6,200	**372 J**	**10 J**	**813 J**	**5,490 J**	**349 J**	**48.1 J**	**108 J**	**579 J**	**7.5 J**	8.1 UJ	**30.4 J**	**9.8 J**	**12.7 J**	7.6 UJ	**115 J**	7.8 UJ	**21.8 J**	**178 J**	**12.9 J**	**30.1 J**	**11.6 J**	7.9 UJ
Gasoline Range Organics	mg/kg	6,200	10.3 U	8.3 U	10.6 U	11.3 U	16.2 U	8 U	**25.8**	13.9 U	10.3 U	10.6 U	11.3 U	10.5 U	8.9 U	10.5 U	12.1 U	9.5 U	10.7 U	12 U	8.8 U	11.5 U	10.3 U	10.1 U

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

J: The positive result reported for this anaytle 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 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
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-142-SB-1	B22-142-SB-5	B22-143-SB-1	B22-143-SB-5	B22-146-SB-1	B22-146-SB-5	B22-147-SB-1	B22-147-SB-5.5	B22-150-SB-1	B22-150-SB-5	B22-151-SB-1	B22-160-SB-1	B22-161-SB-1	B22-161-SB-4.5	B22-162-SB-1*	B22-162-SB-5*	B22-163-SB-1*	B22-163-SB-5*	B22-164-SB-1*	B22-164-SB-6*	B22-165-SB-1*	B22-165-SB-4*
Volatile Organic Compounds																								
1,1,1-Trichloroethane	mg/kg	36,000	0.0054 U	0.0044 U	0.0049 U	0.0051 U	**0.016 J**	0.0046 U	**0.01**	0.0048 U	0.0073 U	0.006 U	0.0065 U	0.0074 U	0.006 U	0.0078 U	0.31 U	0.0044 U	0.005 U	0.0046 U	0.0055 U	0.0046 U	0.36 U	0.0048 U
1,1-Dichloroethane	mg/kg	16	0.0054 U	0.0044 U	0.0049 U	0.0051 U	**0.021 J**	0.0046 U	0.0083 U	0.0048 U	0.0073 U	0.006 U	0.0065 U	0.0074 U	0.006 U	0.0078 U	0.31 U	0.0044 U	**0.0031 J**	0.0046 U	0.0055 U	**0.22**	**0.22 J**	0.0048 U
1,1-Dichloroethene	mg/kg	1,000	0.0054 U	0.0044 U	0.0049 U	0.0051 U	0.011 UJ	0.0046 U	0.0083 U	0.0048 U	0.0073 U	0.006 U	0.0065 U	0.0074 U	0.006 U	0.0078 U	0.31 U	0.0044 U	0.005 U	0.0046 U	0.0055 U	**0.01**	0.36 U	0.0048 U
1,2,3-Trichlorobenzene	mg/kg	930	0.0054 U	0.0044 U	0.0049 U	0.0051 U	0.011 UJ	0.0046 U	0.0083 U	0.0048 U	0.0073 U	0.006 U	0.0065 U	0.0074 U	0.006 UJ	0.0078 U	0.31 U	0.0044 U	0.005 U	0.0046 U	0.0055 U	0.0046 U	0.36 U	0.0048 U
1,2,4-Trichlorobenzene	mg/kg	110	0.0054 U	0.0044 U	0.0049 U	0.0051 U	0.011 UJ	0.0046 U	0.0083 U	0.0048 U	0.0073 U	0.006 U	0.0065 U	0.0074 U	0.006 UJ	0.0078 U	0.31 U	0.0044 U	0.005 U	0.0046 U	0.0055 U	0.0046 U	0.36 U	0.0048 U
1,2-Dichloroethane	mg/kg	2	0.0054 U	0.0044 U	0.0049 U	0.0051 U	0.011 UJ	0.0046 U	0.0083 U	0.0048 U	0.0073 U	0.006 U	0.0065 U	0.0074 U	0.006 U	0.0078 U	0.31 U	0.0044 U	0.005 U	0.0046 U	0.0055 U	0.0046 U	0.36 U	0.0048 U
1,2-Dichloroethene (Total)	mg/kg	2,300	0.011 U	0.0087 U	0.0097 U	0.01 U	0.022 UJ	0.0092 U	0.017 U	0.0096 U	0.015 U	0.012 U	0.013 U	0.015 U	0.012 U	0.016 U	0.61 U	0.0088 U	**0.006 J**	0.0093 U	0.011 U	0.0092 U	0.72 U	0.0096 U
1,4-Dichlorobenzene	mg/kg	11	0.0054 U	0.0044 U	0.0049 U	0.0051 U	0.011 UJ	0.0046 U	0.0083 U	0.0048 U	0.0073 U	0.006 U	0.0065 U	0.0074 U	0.006 UJ	0.0078 U	**0.18 J**	0.0044 U	0.005 U	0.0046 U	0.0055 U	0.0046 U	0.36 U	0.0048 U
1,4-Dioxane	mg/kg	24	0.11 R	0.087 R	0.097 R	0.1 R	0.22 R	0.092 R	0.17 R	0.096 R	0.15 R	0.12 R	0.13 R	0.15 R	0.12 R	0.16 R	6.1 U	0.088 U	0.1 U	0.093 U	0.11 U	0.092 U	7.2 U	0.096 U
2-Butanone (MEK)	mg/kg	190,000	0.011 U	0.0087 U	0.0097 U	0.01 U	0.022 UJ	0.0092 U	0.017 U	**0.0094 J**	0.015 U	0.012 U	0.013 U	**0.02**	**0.011 J**	0.016 U	**0.17 J**	**0.0025 J**	0.01 U	**0.0043 J**	0.011 U	**0.0026 J**	0.72 U	**0.0037 J**
2-Hexanone	mg/kg	1,300	0.011 U	0.0087 U	0.0097 U	0.01 U	0.022 UJ	0.0092 U	0.017 U	0.0096 U	0.015 U	0.012 U	0.013 U	0.015 U	**0.0036 J**	0.016 U	0.61 U	0.0088 U	0.01 U	0.0093 U	0.011 U	0.0092 U	0.72 U	0.0096 U
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	0.011 U	0.0087 U	0.0097 U	0.01 U	0.022 UJ	0.0092 UJ	0.017 UJ	0.0096 UJ	0.015 UJ	0.012 UJ	0.013 UJ	0.015 UJ	0.012 UJ	0.016 UJ	**0.61 J**	0.0088 U	0.01 U	0.0093 U	0.011 U	0.0092 U	0.72 U	0.0096 U
Acetone	mg/kg	670,000	0.011 U	0.0087 U	0.0097 U	0.01 U	0.022 UJ	**0.02**	0.017 U	**0.05**	0.015 U	**0.011 J**	**0.0073 J**	**0.09**	**0.05**	0.016 U	**0.46 J**	**0.02**	**0.02**	**0.03**	**0.01**	**0.04**	0.72 U	**0.06**
Benzene	mg/kg	5.1	0.0054 U	0.0044 U	0.0049 U	0.0051 U	0.011 UJ	0.0046 U	0.0083 U	0.0048 U	0.0073 U	0.006 U	0.0065 U	0.0074 U	0.006 U	0.0078 U	0.31 U	**0.0019 J**	**0.01**	0.0046 U	0.0055 U	0.0046 U	0.36 U	0.0048 U
Chlorobenzene	mg/kg	1,300	0.0054 U	0.0044 U	0.0049 U	0.0051 U	0.011 UJ	0.0046 U	0.0083 U	0.0048 U	0.0073 U	0.006 U	0.0065 U	0.0074 U	0.006 U	0.0078 U	0.31 U	0.0044 U	0.005 U	0.0046 U	0.0055 U	0.0046 U	0.36 U	0.0048 U
Chloroform	mg/kg	1.4	0.0054 U	0.0044 U	0.0049 U	0.0051 U	**0.014 J**	0.0046 U	0.0083 U	0.0048 U	0.0073 U	0.006 U	0.0065 U	0.0074 U	0.006 U	0.0078 U	0.31 U	0.0044 U	0.005 U	0.0046 U	0.0055 U	0.0046 U	0.36 U	0.0048 U
cis-1,2-Dichloroethene	mg/kg	2,300	0.0054 U	0.0044 U	0.0049 U	0.0051 U	0.011 UJ	0.0046 U	0.0083 U	0.0048 U	0.0073 U	0.006 U	0.0065 U	0.0074 U	0.006 U	0.0078 U	0.31 U	0.0044 U	**0.01**	0.0046 U	0.0055 U	0.0046 U	0.36 U	0.0048 U
Cyclohexane	mg/kg	27,000	0.011 U	0.0087 U	0.0097 U	0.01 U	0.022 UJ	0.0092 U	0.017 U	0.0096 U	0.015 U	0.012 U	0.013 U	0.015 U	0.012 U	0.016 U	0.61 U	0.0088 U	**0.03**	0.0093 U	0.011 U	0.0092 U	0.72 U	0.0096 U
Ethylbenzene	mg/kg	25	0.0054 U	0.0044 U	0.0049 U	0.0051 U	0.011 UJ	0.0046 U	0.0083 U	0.0048 U	0.0073 U	0.006 U	0.0065 U	0.0074 U	0.006 U	0.0078 U	**1.70**	**0.01**	**0.01**	**0.01**	0.0055 U	0.0046 U	0.36 U	0.0048 U
Isopropylbenzene	mg/kg	9,900	0.0054 U	0.0044 U	0.0049 U	0.0051 U	0.011 UJ	0.0046 U	0.0083 U	0.0048 U	0.0073 U	0.006 U	0.0065 U	0.0074 U	0.006 U	0.0078 U	**1.90**	**0.01**	**0.0026 J**	**0.01**	0.0055 U	0.0046 U	0.36 U	0.0048 U
Methyl Acetate	mg/kg	1,200,000	0.054 U	0.044 U	0.049 U	0.051 U	0.11 UJ	0.046 UJ	0.083 UJ	0.048 UJ	0.073 UJ	0.06 UJ	0.065 UJ	0.074 UJ	0.06 UJ	0.078 UJ	**0.19 J**	0.044 U	0.05 U	0.046 U	0.055 U	0.046 U	**1.3 J**	0.048 U
Methylene Chloride	mg/kg	1,000	0.0054 U	0.0044 U	0.0049 U	0.0051 U	0.011 UJ	0.0046 U	0.0083 U	0.0048 U	0.0073 U	0.006 U	0.0065 U	0.0074 U	0.006 U	0.0078 U	**0.41**	0.0044 U	0.005 U	0.0046 U	0.0055 U	0.0046 U	**0.47**	0.0048 U
Styrene	mg/kg	35,000	0.0054 U	0.0044 U	0.0049 U	0.0051 U	0.011 UJ	0.0046 U	0.0083 U	0.0048 U	0.0073 U	0.006 U	0.0065 U	0.0074 U	0.006 U	0.0078 U	0.31 U	0.0044 U	0.005 U	0.0046 U	0.0055 U	0.0046 U	0.36 U	0.0048 U
Tetrachloroethene	mg/kg	100	0.0054 U	0.0044 U	0.0049 U	0.0051 U	0.011 UJ	0.0046 U	0.0083 U	0.0048 U	0.0073 U	0.006 U	0.0065 U	0.0074 U	0.006 U	0.0078 U	0.31 U	0.0044 U	**0.01**	0.0046 U	0.0055 U	0.0046 U	0.36 U	0.0048 U
Toluene	mg/kg	47,000	0.0054 U	0.0044 U	0.0049 U	0.0051 U	0.011 UJ	0.0046 U	0.0083 U	0.0048 U	0.0073 U	0.006 U	0.0065 U	0.0074 U	0.006 U	0.0078 U	**0.1 J**	0.0044 U	**0.01**	**0.0014 J**	0.0055 U	0.0046 U	0.36 U	0.0048 U
Trichloroethene	mg/kg	6	0.0054 U	0.0044 U	0.0049 U	0.0051 U	0.011 UJ	0.0046 U	0.0083 U	0.0048 U	0.0073 U	0.006 U	0.0065 U	0.0074 U	0.006 U	0.0078 U	0.31 U	0.0044 U	0.005 U	0.0046 U	0.0055 U	0.0046 U	0.36 U	0.0048 U
Trichlorofluoromethane	mg/kg	3,100	0.0054 U	0.0044 U	0.0049 U	0.0051 U	0.011 UJ	0.0046 U	0.0083 U	0.0048 U	0.0073 U	0.006 U	0.0065 U	0.0074 U	0.006 U	0.0078 U	0.31 U	0.0044 U	0.005 U	0.0046 U	0.0055 U	0.0046 U	0.36 U	0.0048 U
Vinyl chloride	mg/kg	1.7	0.0054 U	0.0044 U	0.0049 U	0.0051 U	0.011 UJ	0.0046 U	0.0083 U	0.0048 U	0.0073 U	0.006 U	0.0065 U	0.0074 U	0.006 U	0.0078 U	0.31 U	0.0044 U	0.005 U	**0.01**	0.0055 U	**0.0042 J**	0.36 U	0.0048 U
Xylenes	mg/kg	2,800	0.016 U	0.013 U	0.015 U	0.015 U	0.032 UJ	0.014 U	0.025 U	0.014 U	0.022 U	0.018 U	0.02 U	0.022 U	0.018 U	0.024 U	**1.20**	**0.0061 J**	**0.03**	**0.02**	0.017 U	0.014 U	1.1 U	0.014 U
Semi-Volatile Organic Compounds‡																								
1,1-Biphenyl	mg/kg	200	0.071 U	**0.17 J**	0.071 U	**0.05 J**	**0.33 J**	0.082 U	**0.12 B**	0.081 U	0.088 U	0.083 U	0.073 U	0.081 U	0.081 U	**0.065 J**	**3.80**	**0.14**	**0.018 J**	**0.73**	0.08 U	0.08 U	0.082 U	0.084 U
1,2,4,5-Tetrachlorobenzene	mg/kg	350	0.071 U	0.076 U	0.071 U	0.075 U	0.083 U	0.082 U	0.08 U	0.081 U	0.088 U	0.083 U	0.073 U	0.081 U	0.081 U	0.086 U	1.3 U	0.081 U	0.081 U	0.082 U	0.08 U	0.08 U	0.082 U	0.084 U
2,4-Dimethylphenol	mg/kg	16,000	0.071 R	0.076 R	0.071 R	0.075 R	**0.19 J**	0.082 U	**0.049 J**	0.081 U	0.088 U	0.083 UJ	0.073 U	0.081 U	0.081 U	0.086 U	1.3 U	0.081 U	0.081 U	0.082 U	0.08 U	0.08 U	0.082 U	0.084 U
2-Chloronaphthalene	mg/kg	60,000	0.071 U	0.076 U	0.071 U	0.075 U	**0.089 J**	0.082 U	0.08 U	0.081 U	0.088 U	0.083 U	0.073 U	0.081 U	0.081 U	0.086 U	1.3 U	0.081 U	0.081 U	0.082 U	0.08 U	0.08 U	0.082 U	0.084 U
2-Methylnaphthalene	mg/kg	3,000	**0.036 B**	**0.23**	**0.06**	**0.17**	**1.20**	0.0081 U	**0.75**	**0.01**	0.088 U	0.0085 U	0.073 U	0.081 U	**0.05 J**	**0.32**	**23.3**	**0.42**	**0.065 J**	**3.40**	0.008 U	0.0081 U	0.0083 U	0.0085 U
2-Methylphenol	mg/kg	41,000	0.071 R	0.076 R	0.071 R	0.075 R	**0.22 J**	0.082 U	**0.02 J**	0.081 U	0.088 U	0.083 UJ	0.073 U	0.081 U	0.081 U	0.086 U	1.3 U	0.081 U	0.081 U	0.082 U	0.08 U	0.08 U	0.082 U	0.084 U
2-Nitroaniline	mg/kg	8,000	0.18 U	0.19 U	0.18 U	0.19 U	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	0.21 U	0.18 U	0.2 U	0.2 U	0.21 U	3.3 U	0.2 U	0.2 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.14 R	0.15 R	0.14 R	0.15 R	**0.53 J**	0.16 U	**0.06 J**	0.16 U	0.18 U	0.17 UJ	0.15 U	0.16 U	0.16 U	**0.03 J**	2.7 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.17 U
Acenaphthene	mg/kg	45,000	0.073 U	**0.10**	**0.0022 J**	**0.069 J**	**0.90**	0.0081 U	**0.20**	**0.09**	**0.019 J**	0.0085 U	**0.0072 J**	0.081 U	0.082 U	**0.24**	**3.10**	**0.08**	**0.016 J**	**0.45**	**0.00078 J**	0.0081 U	0.0083 U	**0.0012 J**
Acenaphthylene	mg/kg	45,000	**0.0071 J**	**0.77**	**0.01**	**0.0083 J**	**0.11**	0.0081 U	**0.047 J**	**0.004 J**	0.088 U	0.0085 U	0.073 U	0.081 U	**0.017 J**	**0.063 J**	**0.55**	**0.01**	**0.0093 J**	**0.064 J**	0.008 U	0.0081 U	**0.001 J**	**0.0016 J**
Acetophenone	mg/kg	120,000	0.071 U	0.076 U	0.071 U	0.075 U	**0.093 J**	0.082 U	**0.063 J**	0.081 U	0.088 U	0.083 U	0.073 U	0.081 U	0.081 U	0.086 U	1.3 U	0.081 U	0.081 U	0.082 U	0.08 U	0.08 U	0.082 U	0.084 U
Anthracene	mg/kg	230,000	**0.014 J**	**1.30**	**0.02**	**0.03 J**	**2.10**	0.0081 U	**0.81**	**0.24**	**0.09**	0.0085 U	**0.058 J**	0.081 U	**0.023 J**	**0.21**	**2.80**	**0.02**	**0.042 J**	**0.38**	**0.0022 J**	0.0081 U	**0.00095 J**	**0.0058 J**
Benzaldehyde	mg/kg	120,000	**0.02 J**	0.076 R	0.071 R	0.075 R	**0.89 J**	0.082 R	**0.28 J**	0.081 R	0.088 R	0.083 R	0.073 R	0.081 R	0.081 R	0.086 R	1.3 U	0.081 U	0.081 U	0.082 U	0.08 U	0.08 U	0.082 U	0.084 U
Benzo[a]anthracene	mg/kg	2.9	**0.08**	**5.00**	**0.07**	**0.07 J**	**5.50**	0.0081 U	**2.00**	**0.52**	**0.33**	0.0085 U	**0.25**	N/A	**0.071 J**	**0.55**	**0.72**	**0.0063 J**	**0.17**	**0.068 J**	**0.0071 J**	0.0081 U	**0.0049 J**	**0.02**
Benzo[a]pyrene	mg/kg	0.29	**0.056 J**	**4.70**	**0.06**	**0.052 J**	**4.70**	0.0081 U	**1.60**	**0.39**	**0.32**	0.0085 U	**0.22**	0.081 U	**0.08**	**0.53**	**0.53**	**0.0016 J**	**0.16**	**0.053 J**	**0.0045 J**	0.0081 U	**0.0031 J**	**0.01**
Benzo[b]fluoranthene	mg/kg	2.9	**0.13**	**9.10**	**0.14**	**0.11**	**10.8**	0.0081 U	**3.50**	**0.82**	**0.68**	0.0085 U	**0.46**	**0.018 J**	**0.22**	**1.40**	**1.60**	**0.0048 J**	**0.35**	**0.10**	**0.01**	**0.0015 J**	**0.0067 J**	**0.03**
Benzo[g,h,i]perylene	mg/kg		**0.09**	**1.90**	**0.06**	**0.04 J**	**1.30**	0.0081 UJ	**0.50**	**0.12**	**0.12**	0.0085 U	**0.07 J**	0.081 U	**0.052 J**	**0.24**	**0.56**	0.008 U	**0.12**	**0.033 J**	**0.0024 J**	0.0081 U	**0.0024 J**	**0.0075 J**
Benzo[k]fluoranthene	mg/kg	29	**0.12**	**8.70**	**0.14**	**0.10**	**9.40**	0.0081 U	**3.00**	**0.71**	**0.59**	0.0085 U	**0.40**	**0.016 J**	**0.19**	**1.20**	**1.40**	**0.0038 J**	**0.26**	**0.077 J**	**0.0068 J**	0.0081 U	**0.005 J**	**0.02**
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.071 UJ	**0.045 J**	0.071 U	0.075 U	**0.044 B**	0.082 U	**0.12 B**	0.081 U	0.088 UJ	0.083 U	**0.039 B**	0.081 UJ	0.081 UJ	**0.022 B**	0.27 U	0.081 U	**0.26**	0.082 U	0.08 U	0.08 U	0.082 U	0.084 U
Carbazole	mg/kg		0.071 U	**0.54 J**	0.071 U	**0.031 J**	**2.50**	0.082 UJ	**0.83 J**	0.081 U	**0.097 J**	0.083 U	0.073 U	0.081 U	0.081 U	**0.024 J**	1.3 U	0.081 U	0.081 U	0.082 U	0.08 U	0.08 U	0.082 U	0.084 U
Chrysene	mg/kg	290	**0.18**	**4.90**	**0.10**	**0.08**	**5.60**	0.0081 U	**1.70**	**0.42**	**0.32**	0.0085 U	**0.24**	0.081 U	**0.067 J**	**0.49**	**1.00**	**0.0036 J**	**0.12**	**0.10**	**0.0048 J**	**0.001 J**	**0.0034 J**	**0.01**
Dibenz[a,h]anthracene	mg/kg	0.29	**0.016 J**	**0.40**	**0.02**	**0.011 J**	**0.63**	0.0081 UJ	**0.21**	**0.05**	**0.044 J**	0.0085 U	**0.027 J**	0.081 U	**0.02 J**	**0.10**	**0.21 J**	0.008 U	**0.038 J**	0.082 U	0.008 U	0.0081 U	0.0083 U	**0.0028 J**
Di-n-butylphthalate	mg/kg	82,000	0.071 U	0.076 U	0.071 U	0.075 U	0.083 U	0.082 U	0.08 U	0.081 U	0.088 U	0.083 U	0.073 U	0.081 U	0.081 U	0.086 U	1.3 U	0.081 U	0.081 U	0.082 U	0.08 U	0.08 U	0.082 U	0.084 U
Di-n-octylphthalate	mg/kg	8,200	0.071 UJ	0.076 UJ	0.071 U	0.075 U	0.083 UJ	0.082 U	0.08 UJ	0.081 U	0.088 UJ	0.083 U	0.073 UJ	0.081 UJ	0.081 UJ	0.086 UJ	0.27 U	0.081 U	0.081 U	0.082 U	0.08 U	0.08 U	0.082 U	0.084 U
Fluoranthene	mg/kg	30,000	**0.17**	**14.7**	**0.14**	**0.22**	**12.1**	**0.00092 J**	**3.80**	**1.10**	**0.56**	0.0085 U	**0.37**	0.081 U	**0.09**	**0.68**	**1.90**	**0.02**	**0.25**	**0.15**	**0.01**	**0.0017 J**	**0.0068 J**	**0.03**
Fluorene	mg/kg	30,000	0.073 U	**0.27**	**0.0021 J**	**0.0098 J**	**0.94**	0.0081 U	**0.20**	**0.09**	**0.011 J**	0.0085 U	0.073 U	0.081 U	0.082 U	**0.29**	**4.60**	**0.12**	**0.017 J**	**0.64**	**0.001 J**	0.0081 U	0.0083 U	**0.0014 J**
Hexachlorobenzene	mg/kg	0.96	0.071 U	0.076 U	0.071 U	0.075 U	0.083 U	0.082 U	0.08 U	0.081 U	0.088 U	0.083 U	0.073 U	0.081 U	0.081 U	0.086 U	1.3 U	0.081 U	0.081 U	0.082 U	0.08 U	0.08 U	0.082 U	0.084 U
Indeno[1,2,3-c,d]pyrene	mg/kg	2.9	**0.029 J**	**1.90**	**0.05**	**0.033 J**	**1.40**	0.0081 UJ	**0.50**	**0.12**	**0.10**	0.0085 U	**0.067 J**	0.081 U	**0.049 J**	**0.24**	**0.45**	0.008 U	**0.10**	**0.02 J**	**0.002 J**	0.0081 U	**0.0019 J**	**0.0069 J**
Naphthalene	mg/kg	17	**0.03 J**	**1.10**	**0.09**	**0.049 J**	**0.79**	0.0081 U	**0.55**	**0.02**	**0.025 B**	0.0085 U	0.073 U	0.081 U	**0.042 B**	**0.45**	**5.30**	**0.05**	**0.042 J**	**0.65**	0.008 U	0.0081 U	0.0083 U	0.0085 U
N-Nitroso-di-n-propylamine	mg/kg	0.33	0.071 U	0.076 U	0.071 U	0.075 U	0.083 U	0.082 U	0.08 U	0.081 U	0.088 U	0.083 U	0.073 U	0.081 U	0.081 U	0.086 U	1.3 U	0.081 U	0.081 U	0.082 U	0.08 U	0.08 U	0.082 U	0.084 U
N-Nitrosodiphenylamine	mg/kg	470	0.071 U	0.076 U	0.071 U	0.075 U	0.083 U	0.082 U	0.08 U	0.081 U	0.088 U	0.083 U	0.073 U	0.081 U	0.081 U	0.086 U	1.3 U	0.081 U	0.081 U	0.082 U	0.08 U	0.08 U	0.082 U	0.084 U
Phenanthrene	mg/kg		**0.12**	**11.3**	**0.13**	**0.40**	**11.5**	**0.0013 J**	**3.30**	**1.10**	**0.32**	0.0085 U	**0.18**	0.081 U	**0.14**	**1.20**	**8.70**	**0.26**	**0.17**	**1.40**	**0.01**	**0.0016 J**	**0.0035 J**	**0.02**
Phenol	mg/kg	250,000	0.071 R	0.076 R	0.071 R	0.075 R	**0.31 J**	0.082 U	**0.025 J**	0.081 U	0.088 U	0.083 UJ	0.073 U	0.081 U	0.081 U	0.086 U	1.3 U	0.081 U	0.081 U	0.082 U	0.08 U	0.08 U	0.082 U	0.084 U
Pyrene	mg/kg	23,000	**0.24**	**11.8**	**0.12**	**0.17**	**9.40**	0.0081 U	**3.10**	**0.85**	**0.48**	0.0085 U	**0.35**	**0.013 J**	**0.064 J**	**0.50**	**3.80**	**0.04**	**0.26**	**0.31**	**0.01**	**0.0017 J**	**0.0061 J**	**0.03**
PCBs																								
Aroclor 1242	mg/kg	0.97	0.0551 U	N/A	0.0529 U	N/A	0.062 U	N/A	0.062 U	N/A	0.0596 U	N/A	0.0534 U	0.0701 U	0.0555 U	N/A	0.061 U	N/A	0.0616 U	N/A	0.0598 U	N/A	0.0633 U	N/A
Aroclor 1248	mg/kg	0.94	0.0551 U	N/A	0.0529 U	N/A	0.062 U	N/A	0.062 U	N/A	**0.17**	N/A	0.0534 U	0.0701 U	0.0555 U	N/A	0.061 U	N/A	0.0616 U	N/A	0.0598 U	N/A	0.0633 U	N/A
Aroclor 1254	mg/kg	0.97	0.0551 U	N/A	0.0529 U	N/A	0.062 U	N/A	0.062 U	N/A	**0.64**	N/A	0.0534 U	0.0701 U	0.0555 U	N/A	0.061 U	N/A	0.0616 U	N/A	0.0598 U	N/A	0.0633 U	N/A
Aroclor 1260	mg/kg	0.99	0.0551 U	N/A	0.0529 U	N/A	0.062 U	N/A	0.062 U	N/A	0.0596 U	N/A	0.0534 U	0.0701 U	0.0555 U	N/A	0.061 U	N/A	0.0616 U	N/A	0.0598 U	N/A	0.0633 U	N/A
Aroclor 1262	mg/kg		0.0551 U	N/A	0.0529 U	N/A	**0.059 J**	N/A	0.062 U	N/A	**0.83**	N/A	0.0534 U	**0.09**	0.0555 U	N/A	0.061 U	N/A	0.0616 U	N/A	0.0598 U	N/A	0.0633 U	N/A
Aroclor 1268	mg/kg		0.0551 U	N/A	0.0529 U	N/A	0.062 U	N/A	0.062 U	N/A	0.0596 U	N/A	**0.16**	0.0701 U	0.0555 U	N/A	**0.09**	N/A	**1.00**	N/A	0.0598 U	N/A	0.0633 U	N/A
PCBs (total)	mg/kg	0.97	0.0551 U	N/A	0.0529 U	N/A	**0.059 J**	N/A	0.062 U	N/A	**1.63**	N/A	**0.16**	**0.09**	0.0555 U	N/A	**0.09**	N/A	**1.00**	N/A	0.0598 U	N/A	0.0633 U	N/A
TPH/Oil and Grease																								
Diesel Range Organics	mg/kg	6,200	**76.7 J**	**87.4 J**	**30.2 J**	**24.3 J**	**296 J**	**3.4 J**	**156 J**	**8.7 J**	**39.7 J**	**3.9 J**	**54.8 J**	**2,020 J**	**247 J**	**210 J**	**39,100**	**266**	**67.0**	**8,400**	**29.1**	**9.10**	**5.4 J**	**12.4**
Gasoline Range Organics	mg/kg	6,200	9.8 U	9.6 U	11.2 U	10.4 U	21.1 U	10.1 U	17.3 U	9.7 U	15.6 U	11.4 U	13.1 U	17.8 U	**10.1 J**	14.4 U	**110**	9.3 U	8.8 U	9 U	11 U	9.6 U	**82.6**	10.8 U

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 highlighting indicates boring locations within the building footprint

J: The positive result reported for this anaytle 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 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
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-167-SB-1*	B22-167-SB-5*	B22-167-SB-10	B22-168-SB-1	B22-168-SB-4	B22-170-SB-1	B22-170-SB-4	B22-171-SB-1	B22-171-SB-5	B22-172-SB-1	B22-172-SB-5	B22-173-SB-1	B22-173-SB-4	B22-175-SB-1*	B22-175-SB-4*	B22-179-SB-1*	B22-179-SB-6*
Volatile Organic Compounds																			
1,1,1-Trichloroethane	mg/kg	36,000	0.0063 U	0.0043 U	N/A	0.37 U	0.0051 U	0.0058 U	0.0056 U	0.0053 U	0.011 U	0.0047 U	0.0053 U	0.0053 U	0.0095 U	0.005 U	0.0051 U	0.0061 U	0.006 U
1,1-Dichloroethane	mg/kg	16	0.0063 U	0.0043 U	N/A	0.37 U	0.0051 U	0.0058 U	0.0056 U	0.0053 U	0.011 U	0.0047 U	0.0053 U	0.0053 U	0.0095 U	0.005 U	0.0051 U	0.0061 U	0.006 U
1,1-Dichloroethene	mg/kg	1,000	0.0063 U	0.0043 U	N/A	0.37 U	0.0051 U	0.0058 U	0.0056 U	0.0053 U	0.011 U	0.0047 U	0.0053 U	0.0053 U	0.0095 U	0.005 U	0.0051 U	0.0061 U	0.006 U
1,2,3-Trichlorobenzene	mg/kg	930	0.0063 U	0.0043 U	N/A	0.37 U	0.0051 U	0.0058 U	0.0056 U	0.0053 U	0.011 U	0.0047 U	0.0053 U	0.0053 U	0.0095 U	0.005 U	0.0051 U	0.0061 U	0.006 U
1,2,4-Trichlorobenzene	mg/kg	110	0.0063 U	0.0043 U	N/A	0.37 U	0.0051 U	0.0058 U	0.0056 U	0.0053 U	0.011 U	0.0047 U	0.0053 U	0.0053 U	0.0095 U	0.005 U	0.0051 U	0.0061 U	0.006 U
1,2-Dichloroethane	mg/kg	2	0.0063 U	0.0043 U	N/A	0.37 U	0.0051 U	0.0058 U	0.0056 U	0.0053 U	0.011 U	0.0047 U	0.0053 U	0.0053 U	0.0095 U	0.005 U	0.0051 U	0.0061 U	0.006 U
1,2-Dichloroethene (Total)	mg/kg	2,300	0.013 U	0.0085 U	N/A	0.75 U	0.01 U	0.012 U	0.011 U	0.011 U	0.022 U	0.0095 U	0.011 U	0.011 U	0.019 U	0.0099 U	0.01 U	0.012 U	0.012 U
1,4-Dichlorobenzene	mg/kg	11	0.0063 U	0.0043 U	N/A	**0.2 J**	0.0051 U	0.0058 U	0.0056 U	0.0053 U	0.011 U	0.0047 U	0.0053 U	0.0053 U	0.0095 U	0.005 U	0.0051 U	0.0061 U	0.006 U
1,4-Dioxane	mg/kg	24	0.13 U	0.085 U	N/A	7.5 R	0.1 R	0.12 R	0.11 R	0.11 R	0.22 R	0.095 R	0.11 R	0.11 R	0.19 R	0.099 U	0.1 U	0.12 U	0.12 U
2-Butanone (MEK)	mg/kg	190,000	0.013 U	0.0085 U	N/A	0.75 U	0.01 U	0.012 U	0.011 U	**0.0042 J**	0.022 U	0.0095 U	0.011 U	0.011 U	0.019 U	**0.03**	0.01 U	0.012 U	0.012 U
2-Hexanone	mg/kg	1,300	0.013 U	0.0085 U	N/A	0.75 U	0.01 U	0.012 U	0.011 U	0.011 U	0.022 U	0.0095 U	0.011 U	0.011 U	0.019 U	0.0099 U	0.01 U	0.012 U	0.012 U
4-Methyl-2-pentanone (MIBK)	mg/kg	56,000	0.013 U	0.0085 U	N/A	0.75 U	0.01 UJ	0.012 UJ	0.011 UJ	0.011 UJ	0.022 UJ	0.0095 U	0.011 U	0.011 U	0.019 U	**0.0018 J**	0.01 U	0.012 U	0.012 U
Acetone	mg/kg	670,000	0.013 U	0.0085 U	N/A	0.75 U	0.01 U	**0.0064 J**	**0.01**	**0.02**	0.022 U	0.0095 U	**0.01**	0.011 U	0.019 U	**0.18**	0.01 U	0.012 U	0.012 U
Benzene	mg/kg	5.1	0.0063 U	0.0043 U	N/A	0.37 U	0.0051 U	0.0058 U	0.0056 U	0.0053 U	0.011 U	0.0047 U	0.0053 U	0.0053 U	0.0095 U	0.005 U	**0.0042 J**	0.0061 U	0.006 U
Chlorobenzene	mg/kg	1,300	0.0063 U	0.0043 U	N/A	0.37 U	0.0051 U	0.0058 U	0.0056 U	0.0053 U	0.011 U	0.0047 U	0.0053 U	0.0053 U	0.0095 U	0.005 U	0.0051 U	0.0061 U	0.006 U
Chloroform	mg/kg	1.4	0.0063 U	0.0043 U	N/A	0.37 U	0.0051 U	0.0058 U	0.0056 U	0.0053 U	0.011 U	0.0047 U	0.0053 U	0.0053 U	0.0095 U	0.005 U	0.0051 U	0.0061 U	0.006 U
cis-1,2-Dichloroethene	mg/kg	2,300	0.0063 U	0.0043 U	N/A	0.37 U	0.0051 U	0.0058 U	0.0056 U	0.0053 U	0.011 U	0.0047 U	0.0053 U	0.0053 U	0.0095 U	0.005 U	0.0051 U	0.0061 U	0.006 U
Cyclohexane	mg/kg	27,000	0.013 U	0.0085 U	N/A	0.75 U	0.01 U	0.012 UJ	0.011 UJ	0.011 U	0.022 U	0.0095 U	0.011 U	0.011 U	0.019 U	0.0099 U	0.01 U	0.012 U	0.012 U
Ethylbenzene	mg/kg	25	0.0063 U	0.0043 U	N/A	0.37 U	0.0051 U	0.0058 U	0.0056 U	0.0053 U	0.011 U	0.0047 U	0.0053 U	0.0053 U	0.0095 U	0.005 U	0.0051 U	0.0061 U	0.006 U
Isopropylbenzene	mg/kg	9,900	0.0063 U	0.0043 U	N/A	0.37 U	0.0051 U	0.0058 U	0.0056 U	0.0053 U	0.011 U	0.0047 U	0.0053 U	0.0053 U	0.0095 U	0.005 U	0.0051 U	0.0061 U	0.006 U
Methyl Acetate	mg/kg	1,200,000	0.063 U	0.043 U	N/A	3.7 U	0.051 U	0.058 U	0.056 U	0.053 U	0.11 U	**0.0024 J**	0.053 U	0.053 U	0.095 U	0.05 U	0.051 U	0.061 U	0.06 U
Methylene Chloride	mg/kg	1,000	0.0063 U	0.0043 U	N/A	0.37 U	0.0051 U	0.0058 U	0.0056 U	0.0053 U	0.011 U	0.0047 U	0.0053 U	0.0053 U	0.0095 U	0.005 U	0.0051 U	0.0061 U	0.006 U
Styrene	mg/kg	35,000	0.0063 U	0.0043 U	N/A	0.37 U	0.0051 UJ	0.0058 U	0.0056 U	0.0053 U	0.011 U	0.0047 U	0.0053 U	0.0053 U	0.0095 U	0.005 U	0.0051 U	0.0061 U	0.006 U
Tetrachloroethene	mg/kg	100	0.0063 U	0.0043 U	N/A	0.37 U	0.0051 U	0.0058 UJ	0.0056 UJ	0.0053 U	0.011 U	0.0047 U	0.0053 U	0.0053 U	0.0095 U	0.005 U	0.0051 U	0.0061 U	0.006 U
Toluene	mg/kg	47,000	0.0063 U	0.0043 U	N/A	0.37 U	0.0051 U	0.0058 U	0.0056 U	0.0053 U	0.011 U	0.0047 U	0.0053 U	0.0053 U	**0.0036 B**	0.005 U	0.0051 U	0.0061 U	0.006 U
Trichloroethene	mg/kg	6	0.0063 U	0.0043 U	N/A	0.37 U	0.0051 U	0.0058 U	0.0056 U	0.0053 U	0.011 U	0.0047 U	0.0053 U	0.0053 U	0.0095 U	0.005 U	0.0051 U	0.0061 U	0.006 U
Trichlorofluoromethane	mg/kg	3,100	0.0063 U	0.0043 U	N/A	0.37 U	0.0051 U	0.0058 U	0.0056 U	0.0053 U	0.011 U	0.0047 U	0.0053 U	0.0053 U	0.0095 U	0.005 U	0.0051 U	0.0061 U	0.006 U
Vinyl chloride	mg/kg	1.7	0.0063 U	0.0043 U	N/A	0.37 U	0.0051 U	0.0058 U	0.0056 U	0.0053 U	0.011 U	0.0047 U	0.0053 U	0.0053 U	0.0095 U	0.005 U	0.0051 U	0.0061 U	0.006 U
Xylenes	mg/kg	2,800	0.019 U	0.013 U	N/A	1.1 U	0.015 U	0.017 U	0.017 U	0.016 U	0.032 U	0.014 U	0.016 U	0.016 U	0.028 U	0.015 U	0.015 U	0.018 U	0.018 U
Semi-Volatile Organic Compounds‡																			
1,1-Biphenyl	mg/kg	200	0.073 U	0.078 U	N/A	0.078 U	0.082 U	0.074 U	**0.053 J**	0.074 U	**0.049 J**	0.077 U	0.08 U	0.075 U	**0.038 J**	**0.18**	**0.40**	0.075 U	**0.10**
1,2,4,5-Tetrachlorobenzene	mg/kg	350	0.073 U	0.078 U	N/A	0.078 U	0.082 U	0.074 U	0.082 U	0.074 U	**0.10**	0.077 U	0.08 U	0.075 U	**0.27**	0.077 U	0.074 U	0.075 U	0.078 U
2,4-Dimethylphenol	mg/kg	16,000	0.073 U	0.078 U	N/A	0.078 U	0.082 U	0.074 U	0.082 U	0.074 R	0.088 R	0.077 U	**0.052 J**	0.075 R	0.081 U	**0.016 J**	**0.017 J**	0.075 U	**0.032 J**
2-Chloronaphthalene	mg/kg	60,000	0.073 U	0.078 U	N/A	0.078 U	0.082 U	0.074 U	0.082 U	0.074 U	**0.15**	0.077 U	0.08 U	0.075 U	**0.21**	0.077 U	0.074 U	0.075 U	0.078 U
2-Methylnaphthalene	mg/kg	3,000	0.0073 U	0.0078 U	N/A	**0.0044 B**	0.0082 U	**0.047 J**	**0.22**	0.0073 U	**0.16**	0.0078 U	0.0081 U	**0.01**	**0.35**	**0.34**	**0.76**	0.0075 U	**0.43**
2-Methylphenol	mg/kg	41,000	0.073 U	0.078 U	N/A	0.078 U	0.082 U	0.074 U	0.082 U	0.074 R	0.088 R	0.077 U	0.08 U	0.075 R	**0.017 J**	**0.021 J**	**0.033 J**	0.075 U	0.078 U
2-Nitroaniline	mg/kg	8,000	0.18 U	0.19 U	N/A	0.2 U	0.2 U	0.19 U	0.2 U	0.18 U	0.22 U	0.19 U	0.2 U	0.19 U	0.2 U	0.19 U	0.18 U	0.19 U	0.19 U
3&4-Methylphenol(m&p Cresol)	mg/kg	41,000	0.15 U	0.15 U	N/A	0.16 U	0.16 U	0.15 U	0.16 U	0.15 R	**0.023 J**	0.15 U	0.16 U	0.15 R	**0.05 J**	**0.074 J**	**0.13 J**	0.15 U	0.16 U
Acenaphthene	mg/kg	45,000	0.0073 U	0.0078 U	N/A	**0.005 J**	**0.0019 J**	**0.036 J**	**0.06**	0.0073 U	**0.01**	0.0078 U	0.0081 U	**0.0071 J**	**0.01**	**0.15**	**0.72**	0.0075 U	**0.41**
Acenaphthylene	mg/kg	45,000	0.0073 U	0.0078 U	N/A	**0.00064 J**	0.0082 U	**0.052 J**	**0.06**	0.0073 U	**0.06**	**0.0011 J**	**0.01**	**0.01**	**0.35**	**3.10**	**4.20**	0.0075 U	**0.03**
Acetophenone	mg/kg	120,000	0.073 U	0.078 U	N/A	0.078 U	0.082 U	0.074 U	0.082 U	0.074 U	0.088 U	0.077 U	0.08 U	0.075 U	0.081 U	**0.034 J**	**0.031 J**	0.075 U	0.078 U
Anthracene	mg/kg	230,000	0.0073 U	0.0078 U	N/A	**0.0055 J**	**0.0042 J**	**0.19**	**0.18**	0.0073 U	**0.05**	0.0078 U	0.0081 U	**0.03**	**0.07**	**3.10**	**6.90**	**0.0008 J**	**0.04**
Benzaldehyde	mg/kg	120,000	0.073 U	0.078 U	N/A	0.078 R	0.082 R	0.074 R	0.082 R	0.074 R	**0.14 J**	0.077 R	0.08 R	0.075 UJ	**0.1 J**	**0.044 J**	**0.023 J**	0.075 U	0.078 U
Benzo[a]anthracene	mg/kg	2.9	**0.0038 J**	0.0078 U	N/A	**0.01**	**0.01**	**0.51**	**0.21**	**0.0014 J**	**0.04**	**0.0043 J**	0.0081 U	**0.07**	**0.14**	**13.9**	**19.0**	**0.0047 J**	**0.28**
Benzo[a]pyrene	mg/kg	0.29	0.0073 U	0.0078 U	0.0085 U	**0.0043 J**	**0.0031 J**	**0.40**	**0.18**	0.0073 U	**0.03**	**0.0047 J**	0.0081 U	**0.06**	**0.17**	**11.1**	**14.9**	**0.0042 J**	**0.16**
Benzo[b]fluoranthene	mg/kg	2.9	**0.0068 J**	0.0078 U	0.0085 U	**0.06**	**0.02**	**1.00**	**0.37**	**0.001 J**	**0.06**	**0.01**	0.0081 U	**0.16**	**0.44**	**21.6**	**31.1**	**0.01**	**0.50**
Benzo[g,h,i]perylene	mg/kg		**0.00091 J**	0.0078 U	N/A	**0.02**	**0.0043 J**	**0.11**	**0.06**	0.0073 U	**0.03**	**0.0045 J**	0.0081 U	**0.02**	**0.07**	**5.30**	**6.50**	**0.0026 J**	**0.07**
Benzo[k]fluoranthene	mg/kg	29	**0.0065 J**	0.0078 U	N/A	**0.05**	**0.01**	**0.87**	**0.31**	0.0073 U	**0.05**	**0.01**	0.0081 U	**0.14**	**0.37**	**18.8**	**27.3**	**0.01**	**0.44**
bis(2-Ethylhexyl)phthalate	mg/kg	160	0.073 U	0.078 U	N/A	0.078 U	0.082 U	0.074 UJ	0.082 U	0.074 U	0.088 U	0.077 U	0.08 U	0.075 UJ	0.081 UJ	**0.34**	**0.053 J**	0.075 U	0.078 U
Carbazole	mg/kg		0.073 U	0.078 U	N/A	0.078 U	0.082 U	**0.038 J**	**0.42**	0.074 U	0.088 U	0.077 U	0.08 U	0.075 UJ	**0.033 J**	**1.10**	**3.30**	0.075 U	**0.14**
Chrysene	mg/kg	290	**0.0061 J**	0.0078 U	N/A	**0.03**	**0.0082 J**	**0.61**	**0.21**	**0.00085 J**	**0.11**	**0.0036 J**	0.0081 U	**0.08**	**0.20**	**10.4**	**14.8**	**0.0041 J**	**0.45**
Dibenz[a,h]anthracene	mg/kg	0.29	0.0073 U	0.0078 U	N/A	**0.004 J**	**0.0015 J**	**0.042 J**	**0.02**	0.0073 U	**0.01**	**0.0012 J**	0.0081 U	**0.01**	**0.03**	**2.20**	**3.00**	0.0075 U	**0.03**
Di-n-butylphthalate	mg/kg	82,000	0.073 U	0.078 U	N/A	0.078 U	0.082 U	0.074 U	0.082 U	0.074 U	0.088 U	0.077 U	0.08 U	0.075 UJ	0.081 UJ	0.077 U	0.074 U	0.075 U	0.078 U
Di-n-octylphthalate	mg/kg	8,200	0.073 U	0.078 U	N/A	0.078 U	0.082 U	0.074 UJ	0.082 UJ	0.074 U	0.088 U	0.077 U	0.08 U	0.075 U	0.081 UJ	0.077 U	0.074 U	0.075 U	0.078 U
Fluoranthene	mg/kg	30,000	**0.0073 J**	0.0078 U	N/A	**0.06**	**0.04**	**1.10**	**0.61**	**0.0012 J**	**0.08**	**0.0049 J**	0.0081 U	**0.15**	**0.26**	**23.4**	**51.0**	**0.0064 J**	**0.52**
Fluorene	mg/kg	30,000	0.0073 U	0.0078 U	N/A	**0.0029 J**	**0.0018 J**	**0.028 J**	**0.28**	0.0073 U	**0.02**	0.0078 U	0.0081 U	**0.01**	**0.03**	**0.68**	**3.80**	0.0075 U	**0.10**
Hexachlorobenzene	mg/kg	0.96	0.073 U	0.078 U	N/A	0.078 U	0.082 U	0.074 U	0.082 U	0.074 U	0.088 U	0.077 U	0.08 U	0.075 U	0.081 U	0.077 U	0.074 U	0.075 U	0.078 U
Indeno[1,2,3-c,d]pyrene	mg/kg	2.9	0.0073 U	0.0078 U	N/A	**0.01**	**0.0035 J**	**0.10**	**0.07**	0.0073 U	**0.01**	**0.0037 J**	0.0081 U	**0.02**	**0.08**	**6.00**	**7.60**	**0.0024 J**	**0.07**
Naphthalene	mg/kg	17	**0.0023 J**	0.0078 U	N/A	0.0079 U	0.0082 U	**0.11**	**2.30**	0.0073 U	**0.18**	**0.0025 J**	**0.002 J**	**0.01**	**0.65**	**2.40**	**2.80**	0.0075 U	**3.60**
N-Nitroso-di-n-propylamine	mg/kg	0.33	0.073 U	0.078 U	N/A	0.078 U	0.082 U	0.074 U	0.082 U	0.074 U	0.088 U	0.077 U	0.08 U	0.075 U	0.081 U	0.077 U	0.074 U	0.075 U	0.078 U
N-Nitrosodiphenylamine	mg/kg	470	0.073 U	0.078 U	N/A	0.078 U	0.082 U	0.074 U	0.082 U	0.074 U	0.088 U	0.077 U	0.08 U	0.075 U	0.081 U	0.077 U	0.074 U	0.075 U	0.078 U
Phenanthrene	mg/kg		**0.0028 J**	0.0078 U	N/A	**0.03**	**0.02**	**0.84**	**0.97**	**0.0022 J**	**0.36**	**0.0023 J**	0.0081 U	**0.12**	**0.48**	**12.2**	**35.9**	**0.004 J**	**0.17**
Phenol	mg/kg	250,000	0.073 U	0.078 U	N/A	0.078 U	0.082 U	0.074 U	0.082 U	0.074 R	0.088 R	0.077 U	0.08 U	0.075 R	**0.023 J**	**0.076 J**	**0.17**	0.075 U	0.078 U
Pyrene	mg/kg	23,000	**0.0045 J**	0.0078 U	N/A	**0.13**	**0.038 J**	**1.00**	**0.44**	**0.001 J**	**0.08**	**0.0047 J**	0.0081 U	**0.11**	**0.24**	**17.5**	**33.8**	**0.0055 J**	**0.41**
PCBs																			
Aroclor 1242	mg/kg	0.97	0.0538 U	N/A	N/A	0.0591 U	N/A	0.0564 U	N/A	0.0546 U	N/A	0.0568 U	N/A	0.0553 U	N/A	0.058 U	N/A	0.0532 U	N/A
Aroclor 1248	mg/kg	0.94	0.0538 U	N/A	N/A	0.0591 U	N/A	0.0564 U	N/A	0.0546 U	N/A	0.0568 U	N/A	0.0553 U	N/A	0.058 U	N/A	0.0532 U	N/A
Aroclor 1254	mg/kg	0.97	0.0538 U	N/A	N/A	0.0591 U	N/A	0.0564 U	N/A	0.0546 U	N/A	0.0568 U	N/A	0.0553 U	N/A	**1.22**	N/A	0.0532 U	N/A
Aroclor 1260	mg/kg	0.99	0.0538 U	N/A	N/A	0.0591 U	N/A	0.0564 U	N/A	0.0546 U	N/A	0.0568 U	N/A	0.0553 U	N/A	0.058 U	N/A	0.0532 U	N/A
Aroclor 1262	mg/kg		0.0538 U	N/A	N/A	0.0591 U	N/A	0.0564 U	N/A	0.0546 U	N/A	0.0568 U	N/A	**0.0244 J**	N/A	0.058 U	N/A	0.0532 U	N/A
Aroclor 1268	mg/kg		0.0538 U	N/A	N/A	0.0591 U	N/A	0.0564 U	N/A	0.0546 U	N/A	0.0568 U	N/A	0.0553 U	N/A	0.058 U	N/A	0.0532 U	N/A
PCBs (total)	mg/kg	0.97	0.0538 U	N/A	N/A	0.0591 U	N/A	0.0564 U	N/A	0.0546 U	N/A	0.0568 U	N/A	**0.0244 J**	N/A	**1.22**	N/A	0.0532 U	N/A
TPH/Oil and Grease																			
Diesel Range Organics	mg/kg	6,200	**6.5 J**	**3 J**	N/A	**96.5 J**	**9.9 J**	**436 J**	**117 J**	7.3 UJ	**18.9 J**	**3.6 J**	**706 J**	**34.3 J**	**99.2 J**	**803**	**508**	**6.6 J**	**14.0**
Gasoline Range Organics	mg/kg	6,200	**18.5**	9.2 U	N/A	14.9 U	10 U	11.6 U	10.3 U	12.6 U	19.3 U	13.6 U	**7.5 J**	11.5 U	20.3 U	11.3 U	10.5 U	13.3 U	14.3 U

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 highlighting indicates boring locations within the building footprint

J: The positive result reported for this anaytle 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 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 2
Summary of Inorganics Detected in Soil
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-003-SB-1	B22-003-SB-4	B22-004-SB-1	B22-004-SB-4	B22-007-SB-1	B22-007-SB-4	B22-008-SB-1
Metal									
Aluminum	mg/kg	1,100,000	**15,200**	**11,200**	**13,900**	**15,200**	**26,000**	**19,200**	**39,800**
Antimony	mg/kg	470	3 UJ	3 UJ	2.6 UJ	2.9 UJ	2.7 UJ	3.1 UJ	2.9 UJ
Arsenic	mg/kg	3	**4.30**	**5.70**	**3.80**	2.4 U	2.3 U	2.6 U	2.4 U
Barium	mg/kg	220,000	**73 J**	**17.6 J**	**83.4 J**	**92 J**	**255 J**	**210 J**	**491 J**
Beryllium	mg/kg	2,300	**0.78 J**	**0.87 J**	**0.57 J**	**0.54 J**	**2.90**	**2.50**	**6.00**
Cadmium	mg/kg	980	1.5 U	1.5 U	**1.8 B**	1.4 U	**0.42 B**	**0.37 B**	**0.29 B**
Chromium	mg/kg	120,000	**18.7**	**14.2**	**21.2**	**31.3**	**737**	**364**	**71.5**
Chromium VI	mg/kg	6.3	**0.38 B**	**0.35 B**	**0.33 B**	**0.4 B**	**0.39 B**	**0.41 B**	**0.37 B**
Cobalt	mg/kg	350	**2.7 J**	**2.1 J**	**4.1 J**	**3.4 J**	**1.2 J**	**1 J**	**1.1 J**
Copper	mg/kg	47,000	**10.5**	**10.5**	**35.7**	**10.4**	**22.5**	**12.5**	**7.90**
Iron	mg/kg	820,000	**8,150 J**	**6,930 J**	**18,500 J**	**25,600 J**	**134,000 J**	**51,800 J**	**32,800 J**
Lead	mg/kg	800	**10.4 J**	**10.1 J**	**181 J**	**11.8 J**	**6.8 J**	**6 J**	**2.5 J**
Manganese	mg/kg	26,000	**29.6 J**	**17.5 J**	**334 J**	**29.5 J**	**19,000 J**	**8,040 J**	**4,680 J**
Mercury	mg/kg	350	0.13 U	**0.0033 J**	**0.04 J**	**0.063 J**	**0.004 J**	**0.011 J**	0.13 U
Nickel	mg/kg	22,000	**9.3 B**	**9.4 B**	**10.8 B**	**7 B**	**10.5**	**7 B**	**6.4 B**
Selenium	mg/kg	5,800	4 U	4 U	3.5 U	3.8 U	3.6 U	4.1 U	**3.1 J**
Silver	mg/kg	5,800	3 U	3 U	2.6 U	2.9 U	2.7 U	3.1 U	2.9 U
Thallium	mg/kg	12	9.9 U	9.9 U	8.7 U	9.6 U	9.1 U	10.3 U	9.6 U
Vanadium	mg/kg	5,800	**20.2 J**	**19.5 J**	**27 J**	**57.4 J**	**407 J**	**187 J**	**46.3 J**
Zinc	mg/kg	350,000	**23.3**	**17.6**	**5,610**	**49.0**	**83.8**	**126**	**25.2**
Other									
Cyanide	mg/kg	150	0.66 U	**0.074 J**	**0.23 J**	**0.055 J**	**0.2 J**	**1.90**	**0.43 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 highlighting indicates boring locations within the building footprint

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

Table 2
Summary of Inorganics Detected in Soil
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-008-SB-4	B22-009-SB-1	B22-009-SB-6	B22-010-SB-1	B22-010-SB-4	B22-013-SB-1	B22-013-SB-4
Metal									
Aluminum	mg/kg	1,100,000	**68,500**	**39,400**	**41,700**	**20,900**	**25,700**	**15,200**	**14,500**
Antimony	mg/kg	470	2.5 UJ	2.7 UJ	2.8 UJ	2.4 UJ	2.6 UJ	2.8 UJ	2.7 UJ
Arsenic	mg/kg	3	2.1 U	2.3 U	**2.1 J**	**6.90**	**11.2**	**3.70**	2.2 U
Barium	mg/kg	220,000	**98.1 J**	**334 J**	**347 J**	**415 J**	**485 J**	**214**	**46.8**
Beryllium	mg/kg	2,300	**0.28 J**	**6.60**	**6.80**	**1.10**	**2.70**	**0.78 J**	**0.29 J**
Cadmium	mg/kg	980	**0.31 B**	**0.38 B**	**0.56 B**	**0.51 B**	**0.3 B**	**0.8 B**	1.3 U
Chromium	mg/kg	120,000	**945**	**104 J**	**91.4 J**	**59.7 J**	**68.3 J**	**69.6**	**24.1**
Chromium VI	mg/kg	6.3	**0.35 B**	**0.34 B**	**0.44 B**	**0.32 B**	**0.27 B**	**0.48 B**	**0.64 B**
Cobalt	mg/kg	350	**0.82 J**	**1.3 J**	**1.9 J**	**6.90**	**17.7**	**4.3 J**	**1.5 J**
Copper	mg/kg	47,000	**23.0**	**15.5**	**23.9**	**133**	**119**	**72.0**	**6.70**
Iron	mg/kg	820,000	**154,000 J**	**21,500 J**	**29,900 J**	**28,900 J**	**31,500 J**	**23,500**	**9,760**
Lead	mg/kg	800	2.1 U	**28.3 J**	**57.4 J**	**85.9 J**	**20 J**	**173**	**11.6**
Manganese	mg/kg	26,000	**26,700 J**	**4,640**	**4,020**	**1,710**	**2,910**	**1,800 J**	**10.9 J**
Mercury	mg/kg	350	0.1 U	0.1 U	0.11 U	**0.23**	**0.023 J**	**0.90**	**0.03 J**
Nickel	mg/kg	22,000	**9.7 B**	**6.8 B**	**10.1**	**29.4**	**110**	**13.0**	**4.6 J**
Selenium	mg/kg	5,800	3.3 U	3.6 U	**2.3 J**	**3 J**	3.4 U	3.7 U	3.5 U
Silver	mg/kg	5,800	**0.64 J**	2.7 U	2.8 U	2.4 U	2.6 U	2.8 U	2.7 U
Thallium	mg/kg	12	8.2 U	9.1 U	9.3 U	8.1 U	8.5 U	9.4 U	8.8 U
Vanadium	mg/kg	5,800	**478 J**	**57.1 J**	**50.3 J**	**45.3 J**	**19 J**	**55.5**	**27.5**
Zinc	mg/kg	350,000	**67.4**	**171**	**164**	**229**	**33.0**	**182**	**15.4**
Other									
Cyanide	mg/kg	150	**0.1 J**	**0.48 J**	**0.43 J**	**0.91**	**5.90**	**1.10**	**0.078 B**

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 highlighting indicates boring locations within the building footprint

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

Table 2
Summary of Inorganics Detected in Soil
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-014-SB-1	B22-014-SB-5	B22-014-SB-10	B22-015-SB-1*	B22-015-SB-4*	B22-016-SB-1*	B22-016-SB-5*
Metal									
Aluminum	mg/kg	1,100,000	**14,900**	**12,000**	N/A	**16,600**	**16,800**	**10,500**	**12,300**
Antimony	mg/kg	470	2.8 UJ	2.8 UJ	N/A	2.3 U	2.7 U	2.5 U	2.6 U
Arsenic	mg/kg	3	**5.40**	**4.30**	**8.20**	**5.50**	**6.80**	**7.50**	**7.60**
Barium	mg/kg	220,000	**246**	**197**	N/A	**149**	**101**	**82.5**	**110**
Beryllium	mg/kg	2,300	**0.79 J**	**0.58 J**	N/A	**0.68 J**	**0.72 J**	**0.35 J**	**0.4 J**
Cadmium	mg/kg	980	**0.33 B**	**0.46 B**	N/A	**0.92 J**	**0.41 J**	**0.44 J**	**0.42 J**
Chromium	mg/kg	120,000	**32.6**	**67.8**	N/A	**778**	**876**	**859**	**895**
Chromium VI	mg/kg	6.3	**0.37 B**	**0.63 B**	N/A	**0.44 JB**	**0.42 JB**	**0.36 J**	**0.42 JB**
Cobalt	mg/kg	350	**6.40**	**5.30**	N/A	**3.6 J**	**3.1 J**	**4.10**	**3.9 J**
Copper	mg/kg	47,000	**68.2**	**70.1**	N/A	**43.8**	**36.7**	**44.5**	**51.6**
Iron	mg/kg	820,000	**24,800**	**27,900**	N/A	**159,000**	**215,000**	**248,000**	**256,000**
Lead	mg/kg	800	**75.2**	**101**	N/A	**60.1**	**20.5**	**23.9**	**21.7**
Manganese	mg/kg	26,000	**977 J**	**2,070 J**	N/A	**20,400**	**21,100**	**23,800**	**21,500**
Mercury	mg/kg	350	**0.14**	**0.26**	N/A	**0.11**	**0.037 J**	**0.1 J**	**0.027 J**
Nickel	mg/kg	22,000	**21.3**	**28.9**	N/A	**36.3**	**27.9**	**37.0**	**36.7**
Selenium	mg/kg	5,800	3.7 U	3.8 U	N/A	3.1 U	3.5 U	3.3 U	3.5 U
Silver	mg/kg	5,800	2.8 U	2.8 U	N/A	**0.9 J**	**1.6 J**	**1.3 J**	**2.1 J**
Thallium	mg/kg	12	9.3 U	9.4 U	N/A	7.8 U	8.9 U	8.2 U	8.6 U
Vanadium	mg/kg	5,800	**34.1**	**49.3**	N/A	**687**	**667**	**880**	**645**
Zinc	mg/kg	350,000	**72.6**	**125**	N/A	**664**	**181**	**168**	**255**
Other									
Cyanide	mg/kg	150	**0.39 B**	**0.35 B**	N/A	**0.29 J**	**0.16 J**	**0.49 J**	**0.15 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 highlighting indicates boring locations within the building footprint

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

Table 2
Summary of Inorganics Detected in Soil
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-017-SB-1*	B22-017-SB-6*	B22-017-SB-10*	B22-018-SB-1*	B22-018-SB-6*	B22-018-SB-10*
Metal								
Aluminum	mg/kg	1,100,000	**11,900**	**15,300**	N/A	**19,200**	**14,900**	N/A
Antimony	mg/kg	470	2.5 U	3 U	N/A	3.2 U	2.8 U	N/A
Arsenic	mg/kg	3	**4.10**	**5.40**	**5.00**	**3.60**	**19.2**	**8.40**
Barium	mg/kg	220,000	**144**	**75.1**	N/A	**93.3**	**56.1**	N/A
Beryllium	mg/kg	2,300	**0.63 J**	**0.81 J**	N/A	**1.50**	**0.88 J**	N/A
Cadmium	mg/kg	980	**4.70**	1.5 U	N/A	1.6 U	1.4 U	N/A
Chromium	mg/kg	120,000	**77.3**	**28.7**	N/A	**21.0**	**31.3**	N/A
Chromium VI	mg/kg	6.3	**0.33 J**	**0.77 J**	N/A	**0.41 J**	**0.46 J**	N/A
Cobalt	mg/kg	350	**5.40**	**3.5 J**	N/A	**6.20**	**5.60**	N/A
Copper	mg/kg	47,000	**38.3**	**14.5**	N/A	**15.2**	**10.8**	N/A
Iron	mg/kg	820,000	**19,400**	**30,300**	N/A	**10,200**	**22,600**	N/A
Lead	mg/kg	800	**42.0**	**14.8**	N/A	**14.1**	**13.2**	N/A
Manganese	mg/kg	26,000	**321**	**43.0**	N/A	**82.0**	**43.4**	N/A
Mercury	mg/kg	350	**0.068 J**	**0.0039 J**	N/A	**0.0047 J**	0.12 U	N/A
Nickel	mg/kg	22,000	**29.4**	**9 J**	N/A	**20.4**	**12.7**	N/A
Selenium	mg/kg	5,800	3.3 U	4 U	N/A	4.2 U	3.8 U	N/A
Silver	mg/kg	5,800	2.5 U	3 U	N/A	3.2 U	2.8 U	N/A
Thallium	mg/kg	12	8.3 U	10 U	N/A	10.6 U	9.4 U	N/A
Vanadium	mg/kg	5,800	**19.9**	**24.9**	N/A	**20.1**	**36.3**	N/A
Zinc	mg/kg	350,000	**5,020**	**46.2**	N/A	**131**	**44.5**	N/A
Other								
Cyanide	mg/kg	150	**6.20**	0.67 U	N/A	0.61 U	0.78 U	N/A

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 highlighting indicates boring locations within the building footprint

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

Table 2
Summary of Inorganics Detected in Soil
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-019-SB-1	B22-019-SB-6	B22-019-SB-10	B22-020-SB-1	B22-020-SB-4	B22-020-SB-10	B22-021-SB-1
Metal									
Aluminum	mg/kg	1,100,000	**18,600**	**15,800**	N/A	**26,900**	**26,800**	N/A	**17,500**
Antimony	mg/kg	470	2.9 UJ	2.4 UJ	N/A	2.6 UJ	2.5 UJ	N/A	2.9 UJ
Arsenic	mg/kg	3	**2.70**	**25.3**	**7.20**	**5.90**	**110**	**14.0**	**6.40**
Barium	mg/kg	220,000	**88.6 J**	**41.8 J**	N/A	**291 J**	**602 J**	N/A	**57 J**
Beryllium	mg/kg	2,300	**0.68 J**	**0.71 J**	N/A	**2.10**	**2.60**	N/A	**0.79 J**
Cadmium	mg/kg	980	1.4 U	1.2 U	N/A	**0.25 B**	**1.1 B**	N/A	1.4 U
Chromium	mg/kg	120,000	**24.8**	**39.2**	N/A	**31.2**	**88.7**	N/A	**26.3 J**
Chromium VI	mg/kg	6.3	**0.33 B**	**0.39 B**	N/A	**0.31 B**	**0.31 B**	N/A	**0.34 B**
Cobalt	mg/kg	350	**6.00**	**3.1 J**	N/A	**11.2**	**17.0**	N/A	**7.30**
Copper	mg/kg	47,000	**10.9**	**15.6**	N/A	**55.5**	**185**	N/A	**12.7**
Iron	mg/kg	820,000	**15,700 J**	**29,700 J**	N/A	**23,200 J**	**90,300 J**	N/A	**24,800 J**
Lead	mg/kg	800	**11.9 J**	**15.7 J**	N/A	**30.2 J**	**43.5 J**	N/A	**10.6 J**
Manganese	mg/kg	26,000	**152 J**	**55.4 J**	N/A	**3,690 J**	**5,080 J**	N/A	**136**
Mercury	mg/kg	350	**0.057 J**	**0.013 J**	N/A	**0.026 J**	0.11 U	N/A	**0.094 J**
Nickel	mg/kg	22,000	**13.0**	**8.10**	N/A	**20.9**	**86.8**	N/A	**15.4**
Selenium	mg/kg	5,800	3.9 U	3.2 U	N/A	3.5 U	**2 J**	N/A	3.8 U
Silver	mg/kg	5,800	2.9 U	2.4 U	N/A	2.6 U	**0.68 J**	N/A	2.9 U
Thallium	mg/kg	12	9.6 U	8 U	N/A	8.8 U	8.3 U	N/A	9.6 U
Vanadium	mg/kg	5,800	**32 J**	**53.1 J**	N/A	**61.9 J**	**71.6 J**	N/A	**38.6 J**
Zinc	mg/kg	350,000	**31.0**	**33.7**	N/A	**85.7**	**346**	N/A	**46.5**
Other									
Cyanide	mg/kg	150	**0.045 J**	**0.053 J**	N/A	**0.3 J**	**1.30**	N/A	0.73 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)
Gray highlighting indicates boring locations within the building footprint

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

Table 2
Summary of Inorganics Detected in Soil
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-021-SB-5	B22-022-SB-1	B22-022-SB-7	B22-035-SB-1	B22-036-SB-1	B22-036-SB-4	B22-037-SB-1*
Metal									
Aluminum	mg/kg	1,100,000	**19,100**	**42,000**	**39,200**	**24,700**	**19,700**	**14,000**	**41,000**
Antimony	mg/kg	470	3.1 UJ	2.5 UJ	2.8 UJ	2.8 UJ	2.4 UJ	2.5 UJ	2.7 U
Arsenic	mg/kg	3	**2.5 J**	2.1 U	2.3 U	**5.90**	**4.40**	**3.10**	**4.20**
Barium	mg/kg	220,000	**80.5 J**	**345 J**	**340 J**	**261**	**64.7**	**62.9**	**597**
Beryllium	mg/kg	2,300	**0.57 J**	**6.40**	**6.30**	**2.10**	0.79 U	0.82 U	**4.90**
Cadmium	mg/kg	980	1.5 U	**0.27 B**	**0.39 B**	**0.59 B**	**0.66 B**	**0.79 B**	**0.37 J**
Chromium	mg/kg	120,000	**24.2 J**	**18.6 J**	**16.3 J**	**57.0**	**1,160**	**1,220**	**15.6**
Chromium VI	mg/kg	6.3	**1.2 B**	**0.31 B**	**0.21 B**	**0.28 B**	**5.4 J-**	**5 J-**	**0.36 JB**
Cobalt	mg/kg	350	**3.9 J**	**0.52 J**	**0.32 J**	**5.70**	**0.69 J**	4.1 U	**1.8 J**
Copper	mg/kg	47,000	**10.3**	**4.80**	**5.40**	**33.7**	**32.2**	**25.8**	**11.2**
Iron	mg/kg	820,000	**15,400 J**	**17,700 J**	**4,700 J**	**23,900**	**210,000**	**182,000**	**9,860**
Lead	mg/kg	800	**9.2 J**	**6.7 J**	**6.9 J**	**59.7**	**23.0**	**11.5**	**14.1**
Manganese	mg/kg	26,000	**64.8**	**3,130**	**3,280**	**5,660 J**	**27,000 J**	**31,500 J**	**4,390**
Mercury	mg/kg	350	0.12 U	0.11 U	0.11 U	**0.032 J**	**0.084 J**	**0.0058 J**	0.11 U
Nickel	mg/kg	22,000	**12.4**	**2.6 B**	**1.4 B**	**12.3**	**14.7**	**11.5**	**3.6 J**
Selenium	mg/kg	5,800	4.1 U	**4.50**	**3.2 J**	3.7 U	3.1 U	3.3 U	**3.1 J**
Silver	mg/kg	5,800	3.1 U	2.5 U	2.8 U	2.8 U	**3.20**	**3.60**	2.7 U
Thallium	mg/kg	12	10.3 U	8.3 U	9.2 U	9.2 U	7.9 U	8.2 U	8.9 U
Vanadium	mg/kg	5,800	**24.4 J**	**23.5 J**	**21 J**	**143**	**601**	**730**	**57.7**
Zinc	mg/kg	350,000	**28.4**	**14.6**	**8.50**	**244**	**212**	**222**	**21.8**
Other									
Cyanide	mg/kg	150	0.73 U	**0.23 J**	**0.27 J**	**0.18 B**	**0.15 B**	**0.17 B**	**0.96**

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 highlighting indicates boring locations within the building footprint

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

Table 2
Summary of Inorganics Detected in Soil
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-038-SB-1*	B22-039A-SB03	B22-039-SB-1	B22-039-SB-4	B22-040-SB-1	B22-040-SB-4	B22-041-SB-1
Metal									
Aluminum	mg/kg	1,100,000	**8,280**	**19,300**	**21,400**	**49,000**	**40,000**	**47,200**	**11,500**
Antimony	mg/kg	470	2.7 U	2.9 UJ	2.2 UJ	2.9 UJ	2.9 UJ	2.5 UJ	2.8 UJ
Arsenic	mg/kg	3	**11.3**	**4.80**	**4.40**	**2.40**	2.4 U	2.1 U	**9.50**
Barium	mg/kg	220,000	**63.1**	**231**	**230**	**600**	**641**	**535**	**239 J**
Beryllium	mg/kg	2,300	**0.31 J**	**2.50**	**2.50**	**8.00**	**6.80**	**8.90**	**1.90**
Cadmium	mg/kg	980	**0.63 J**	**0.45 J**	**0.42 J**	**0.24 J**	**0.57 J**	**0.21 J**	**0.49 B**
Chromium	mg/kg	120,000	**1,110**	**789 J**	**827 J**	**19 J**	**77.7 J**	**71.2 J**	**623**
Chromium VI	mg/kg	6.3	**0.44 JB**	**0.58 B**	**0.3 B**	**0.32 B**	**0.32 B**	**0.31 B**	**0.39 B**
Cobalt	mg/kg	350	**5.80**	**3.7 J**	**1.7 J**	**0.65 J**	**0.84 J**	**0.78 J**	**1.5 J**
Copper	mg/kg	47,000	**44.6**	**37.8**	**32.3**	4.8 U	**6.00**	**3 J**	**215**
Iron	mg/kg	820,000	**281,000**	**45,300 J**	**169,000 J**	**4,170 J**	**18,300 J**	**20,300 J**	**79,200 J**
Lead	mg/kg	800	**42.7**	**42.6 J**	**3.9 J**	2.4 U	**34.7 J**	2.1 U	**8.50**
Manganese	mg/kg	26,000	**18,800**	**5,890 J**	**17,500 J**	**4,430 J**	**5,240 J**	**5,960 J**	**71,600**
Mercury	mg/kg	350	**0.064 J**	0.13 R	0.099 R	0.11 R	0.11 R	0.11 R	**0.0068 J**
Nickel	mg/kg	22,000	**55.7**	**3,110 J**	**13 J**	9.6 UJ	**2.1 J**	**1.9 J**	**12.4**
Selenium	mg/kg	5,800	3.6 U	3.9 U	3 U	**3.4 J**	**3.3 J**	**3.3 J**	3.7 U
Silver	mg/kg	5,800	**1.8 J**	2.9 U	**1.2 J**	2.9 U	2.9 U	2.5 U	**8.30**
Thallium	mg/kg	12	8.9 U	9.8 UJ	7.5 UJ	9.6 UJ	9.6 UJ	8.4 UJ	9.2 U
Vanadium	mg/kg	5,800	**880**	**124 J**	**401 J**	**19.3 J**	**40.1 J**	**49 J**	**768**
Zinc	mg/kg	350,000	**175**	**164 J**	**66.7 J**	**19.2 J**	**93.5 J**	**22 J**	**38.9**
Other									
Cyanide	mg/kg	150	**0.84**	**1.90**	**2.30**	**4.60**	**4.10**	**3.80**	**0.13 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 highlighting indicates boring locations within the building footprint

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

Table 2
Summary of Inorganics Detected in Soil
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-041-SB-5	B22-041-SB-10	B22-042-SB-1	B22-042-SB-4	B22-042-SB-10*	B22-044-SB-1	B22-044-SB-4
Metal									
Aluminum	mg/kg	1,100,000	**14,100**	N/A	**38,500**	**19,600**	N/A	**37,600**	**43,700**
Antimony	mg/kg	470	3.3 UJ	N/A	**1.3 J**	3.1 UJ	N/A	2.5 UJ	2.4 UJ
Arsenic	mg/kg	3	**4.90**	**5.30**	**3.90**	**4.80**	**20.1**	**3.40**	**2.40**
Barium	mg/kg	220,000	**94.4 J**	N/A	**1,140**	**87.9**	N/A	**403**	**406**
Beryllium	mg/kg	2,300	**0.62 J**	N/A	**3.50**	**0.87 J**	N/A	**6.70**	**7.70**
Cadmium	mg/kg	980	1.7 U	N/A	**1.70**	1.5 U	N/A	**1.2 J**	**0.27 J**
Chromium	mg/kg	120,000	**79.8**	N/A	**28.3 J**	**27.6 J**	N/A	**130 J**	**27.1 J**
Chromium VI	mg/kg	6.3	**0.34 B**	N/A	**0.31 B**	**0.33 B**	N/A	**0.3 B**	**0.3 B**
Cobalt	mg/kg	350	**3.8 J**	N/A	**2.4 J**	**9.10**	N/A	**0.66 J**	**0.85 J**
Copper	mg/kg	47,000	**155**	N/A	**25.3**	**15.2**	N/A	**51.4**	**6.20**
Iron	mg/kg	820,000	**21,600 J**	N/A	**12,200 J**	**22,800 J**	N/A	**23,400 J**	**9,470 J**
Lead	mg/kg	800	**16.1**	N/A	**85.8 J**	**16.1 J**	N/A	**48.3 J**	**4 J**
Manganese	mg/kg	26,000	**1,790**	N/A	**11,100 J**	**499 J**	N/A	**5,530 J**	**3,050 J**
Mercury	mg/kg	350	**0.013 J**	N/A	0.1 R	**0.014 J-**	N/A	0.11 R	0.11 R
Nickel	mg/kg	22,000	**10 J**	N/A	**6.1 J**	**15.6 J**	N/A	**3.4 J**	**3.1 J**
Selenium	mg/kg	5,800	4.4 U	N/A	**1.9 J**	4.1 U	N/A	**3.70**	**2.8 J**
Silver	mg/kg	5,800	3.3 U	N/A	2.5 U	3.1 U	N/A	2.5 U	2.4 U
Thallium	mg/kg	12	11.1 U	N/A	8.2 UJ	10.2 UJ	N/A	8.2 UJ	8 UJ
Vanadium	mg/kg	5,800	**61.9**	N/A	**140 J**	**42.7 J**	N/A	**67.8 J**	**20.5 J**
Zinc	mg/kg	350,000	**41.9**	N/A	**784 J**	**62.7 J**	N/A	**290 J**	**45.6 J**
Other									
Cyanide	mg/kg	150	**0.099 J**	N/A	**0.5 J**	**0.13 J**	N/A	**0.55 J**	**0.49 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 highlighting indicates boring locations within the building footprint

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

Table 2
Summary of Inorganics Detected in Soil
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-045-SB-1	B22-046-SB-1	B22-046-SB-4	B22-048-SB-1	B22-048-SB-5	B22-049-SB-1	B22-049-SB-5
Metal									
Aluminum	mg/kg	1,100,000	**36,400**	**20,000**	**22,500**	**31,400**	**17,100**	**31,500**	**45,300**
Antimony	mg/kg	470	2.4 UJ	2.5 UJ	3 UJ	**2.2 J**	**3.1 J**	2.6 UJ	2.4 UJ
Arsenic	mg/kg	3	**12.0**	**4.90**	**6.70**	**6.30**	**5.20**	**2.20**	**2.10**
Barium	mg/kg	220,000	**355**	**509**	**134**	**530 J**	**149 J**	**332 J**	**473 J**
Beryllium	mg/kg	2,300	**6.20**	**1.70**	**1.30**	**2.00**	**0.26 J**	**5.80**	**9.30**
Cadmium	mg/kg	980	**7.70**	**0.55 J**	**0.21 J**	**0.52 B**	**0.18 B**	**0.51 J**	**0.25 J**
Chromium	mg/kg	120,000	**93.4 J**	**403**	**53.9 J**	**1,330**	**492**	**14.7 J**	**10.5 J**
Chromium VI	mg/kg	6.3	**0.69 B**	**0.53 B**	**0.65 B**	**0.43 B**	**0.86 B**	**0.3 B**	**0.31 B**
Cobalt	mg/kg	350	**4.10**	**1.2 J**	**6.40**	**3 J**	**3.9 J**	**1.8 J**	**0.4 J**
Copper	mg/kg	47,000	**119**	**21.1**	**19.1**	**24.6**	**15.5**	**18.6**	**1.7 J**
Iron	mg/kg	820,000	**25,800 J**	**55,200**	**22,000 J**	**68,100 J**	**43,100 J**	**5,770 J**	**1,850 J**
Lead	mg/kg	800	**112 J**	**13.3 J**	**24.9 J**	**15.4**	**13.9**	**14.3**	2 U
Manganese	mg/kg	26,000	**3,450 J**	**52,300**	**1,200 J**	**27,800**	**11,200**	**1,820**	**2,420**
Mercury	mg/kg	350	0.11 R	0.11 R	**0.016 J-**	0.1 U	0.11 U	0.1 U	**0.0021 J**
Nickel	mg/kg	22,000	**18.8 J**	**15 J**	**13.2 J**	**10.8**	**8.9 J**	**2.9 J**	8 U
Selenium	mg/kg	5,800	**3 J**	3.4 U	4 U	**2.9 J**	4.4 U	3.5 U	**4.80**
Silver	mg/kg	5,800	2.4 U	**2.5 J**	3 U	2.7 U	3.3 U	2.6 U	2.4 U
Thallium	mg/kg	12	8.1 UJ	8.4 UJ	10 UJ	9 U	11 U	8.6 U	8 U
Vanadium	mg/kg	5,800	**38.8 J**	**582**	**84 J**	**5,420**	**3,750**	**10.2 J**	**6.3 J**
Zinc	mg/kg	350,000	**6,280 J**	**98.2 J**	**71.5 J**	**79.0**	**27.4**	**899**	**2.4 J**
Other									
Cyanide	mg/kg	150	**1.00**	**0.22 J**	**0.31 J**	**0.15 J**	**0.16 J**	**0.45 J**	**0.5 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 highlighting indicates boring locations within the building footprint

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

Table 2
Summary of Inorganics Detected in Soil
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-050-SB-1	B22-050-SB-4.5	B22-051-SB-1	B22-051-SB-6	B22-052-SB-1	B22-052-SB-8	B22-053-SB-1
Metal									
Aluminum	mg/kg	1,100,000	**34,700**	**18,100**	**11,300**	**12,200**	**17,700**	**15,200**	**6,360**
Antimony	mg/kg	470	2.4 UJ	2.8 UJ	2.7 UJ	3 UJ	2.8 UJ	2.7 UJ	2.5 UJ
Arsenic	mg/kg	3	**5.90**	**3.70**	**14.0**	**2.2 J**	2.4 U	**3.60**	**19.1**
Barium	mg/kg	220,000	**482 J**	**125 J**	**109 J**	**19.4 J**	**213 J**	**31.1 J**	**82.0**
Beryllium	mg/kg	2,300	**4.40**	**1.10**	**0.54 J**	**0.35 J**	**0.85 J**	**0.71 J**	**0.39 J**
Cadmium	mg/kg	980	**2.10**	**0.28 J**	**0.22 J**	1.5 U	**0.34 J**	**0.85 J**	**1.90**
Chromium	mg/kg	120,000	**68.9 J**	**32.1 J**	**56.2**	**20.3**	**32.3**	**40.3**	**208**
Chromium VI	mg/kg	6.3	**0.4 B**	**0.36 B**	**0.5 B**	**0.58 B**	**0.38 B**	**0.46 B**	**1 B**
Cobalt	mg/kg	350	**5.90**	**8.30**	**12.3**	**4.1 J**	**5.90**	**7.50**	**20.0**
Copper	mg/kg	47,000	**157**	**21.3**	**141 J**	**5.8 J**	**33.4 J**	**83.5 J**	**187**
Iron	mg/kg	820,000	**33,100 J**	**18,600 J**	**42,400**	**11,200**	**12,800**	**13,500**	**238,000**
Lead	mg/kg	800	**179**	**30.5**	**108 J**	**10.4 J**	**42.2 J**	**34.9 J**	**1,500**
Manganese	mg/kg	26,000	**5,520**	**1,060**	**515 J**	**18.8 J**	**729 J**	**141 J**	**3,240 J**
Mercury	mg/kg	350	**0.25**	**0.074 J**	**0.055 J**	**0.0051 J**	**6.00**	**0.031 J**	**0.057 J**
Nickel	mg/kg	22,000	**16.4**	**15.8**	**48.1**	**7.7 J**	**12.2**	**12.7**	**85.8**
Selenium	mg/kg	5,800	**2.5 J**	3.7 U	3.6 U	3.9 U	3.8 U	3.6 U	3.3 U
Silver	mg/kg	5,800	2.4 U	2.8 U	2.7 U	3 U	2.8 U	2.7 U	**3.50**
Thallium	mg/kg	12	7.9 U	9.4 U	9.1 U	9.9 U	9.4 U	9.1 U	8.4 U
Vanadium	mg/kg	5,800	**189 J**	**31.9 J**	**23.7**	**24.2**	**24.4**	**37.5**	**95.0**
Zinc	mg/kg	350,000	**464**	**99.3**	**88.8 J**	**40.1 J**	**81.9 J**	**357 J**	**1,320**
Other									
Cyanide	mg/kg	150	**0.16 J**	**0.056 J**	**0.28 J**	**0.083 J**	**0.98**	0.62 U	**0.84**

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 highlighting indicates boring locations within the building footprint

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

Table 2
Summary of Inorganics Detected in Soil
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-053-SB-8	B22-053-SB-10	B22-054-SB-1	B22-054-SB-4	B22-054-SB-10	B22-055-SB-1	B22-055-SB-8.5
Metal									
Aluminum	mg/kg	1,100,000	**13,600**	N/A	**17,600**	**17,600**	N/A	**18,900 J**	**17,100 J**
Antimony	mg/kg	470	2.8 UJ	N/A	2.7 UJ	2.3 UJ	N/A	2.9 UJ	2.5 UJ
Arsenic	mg/kg	3	**5.90**	**9.70**	2.3 U	**3.30**	**10.6**	**18.9**	**5.90**
Barium	mg/kg	220,000	**30.4**	N/A	**272**	**39.5**	N/A	**312**	**62.4**
Beryllium	mg/kg	2,300	**0.44 J**	N/A	**1.40**	**0.52 J**	N/A	**1.80**	**0.6 J**
Cadmium	mg/kg	980	1.4 U	N/A	**0.47 B**	**0.14 B**	N/A	**1.50**	1.3 U
Chromium	mg/kg	120,000	**23.1**	N/A	**85.7**	**28.7**	N/A	**36.7**	**23.4**
Chromium VI	mg/kg	6.3	**1 B**	N/A	**0.35 B**	**0.71 B**	N/A	**0.33 B**	**0.34 B**
Cobalt	mg/kg	350	**4 J**	N/A	**3.4 J**	**6.90**	N/A	**8.00**	**6.60**
Copper	mg/kg	47,000	**7.90**	N/A	**25.7**	**12.9**	N/A	**566**	**10.5**
Iron	mg/kg	820,000	**15,300**	N/A	**26,700**	**25,700**	N/A	**31,700 J**	**15,500 J**
Lead	mg/kg	800	**12.2**	N/A	**73.7**	**9.60**	N/A	**205 J**	**11.1 J**
Manganese	mg/kg	26,000	**55.9 J**	N/A	**4,440 J**	**140 J**	N/A	**2,760 J**	**82.4 J**
Mercury	mg/kg	350	**0.0059 J**	N/A	**0.054 J**	**0.063 J**	N/A	**0.058 J+**	**0.026 J+**
Nickel	mg/kg	22,000	**11.1**	N/A	**13.7**	**13.9**	N/A	**30.2**	**16.3**
Selenium	mg/kg	5,800	3.7 U	N/A	3.6 U	3.1 U	N/A	3.9 U	3.4 U
Silver	mg/kg	5,800	2.8 U	N/A	2.7 U	2.3 U	N/A	2.9 U	2.5 U
Thallium	mg/kg	12	9.3 U	N/A	9 U	7.8 U	N/A	9.7 U	8.5 U
Vanadium	mg/kg	5,800	**21.7**	N/A	**129**	**39.3**	N/A	**68.3 J**	**32.7 J**
Zinc	mg/kg	350,000	**40.1**	N/A	**111**	**39.4**	N/A	**610**	**33.9**
Other									
Cyanide	mg/kg	150	**0.081 B**	N/A	**0.25 B**	**0.071 B**	N/A	**1.70**	**0.088 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 highlighting indicates boring locations within the building footprint

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

Table 2
Summary of Inorganics Detected in Soil
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-056-SB-1	B22-056-SB-5	B22-057-SB-1	B22-058-SB-1	B22-058-SB-7	B22-058-SB-10	B22-059-SB-1*
Metal									
Aluminum	mg/kg	1,100,000	**28,500 J**	**33,600 J**	**41,000**	**23,500**	**15,200**	N/A	**29,900**
Antimony	mg/kg	470	2.7 UJ	3 UJ	2.7 UJ	2.8 UJ	3.1 UJ	N/A	2.8 U
Arsenic	mg/kg	3	**2.2 J**	**2.5 J**	2.2 U	**2.3 J**	**22.3**	**4.40**	**13.1**
Barium	mg/kg	220,000	**223**	**367**	**1,630 J**	**109 J**	**18.9 J**	N/A	**722**
Beryllium	mg/kg	2,300	**2.00**	**1.80**	**3.50**	**0.75 J**	**1.10**	N/A	**2.40**
Cadmium	mg/kg	980	**0.39 B**	**0.32 B**	**0.39 B**	1.4 U	1.6 U	N/A	**5.60**
Chromium	mg/kg	120,000	**21.0**	**88.8**	**13.8 J**	**35.1 J**	**34.8 J**	N/A	**168**
Chromium VI	mg/kg	6.3	**0.39 B**	**0.42 B**	**0.32 B**	**0.77 B**	**0.85 B**	N/A	**0.38 JB**
Cobalt	mg/kg	350	**4.2 J**	**3.8 J**	**1.8 J**	**5.00**	**5.70**	N/A	**33.9**
Copper	mg/kg	47,000	**17.9**	**33.0**	**6.60**	**13.3**	**14.6**	N/A	**359**
Iron	mg/kg	820,000	**16,700 J**	**16,700 J**	**7,880 J**	**16,300 J**	**24,400 J**	N/A	**104,000**
Lead	mg/kg	800	**43.7 J**	**29.7 J**	2.2 U	**8.7 J**	**18.7 J**	N/A	**1,230**
Manganese	mg/kg	26,000	**950 J**	**3,990 J**	**15,900**	**88.7**	**36.6**	N/A	**11,900**
Mercury	mg/kg	350	**0.038 J+**	0.12 U	0.11 U	**0.094 J**	**0.0071 J**	N/A	0.11 U
Nickel	mg/kg	22,000	**11.5**	**13.1**	**2.3 B**	**13.2**	**13.4**	N/A	**169**
Selenium	mg/kg	5,800	**2.9 J**	4 U	3.6 U	3.8 U	4.2 U	N/A	3.7 U
Silver	mg/kg	5,800	2.7 U	3 U	2.7 U	2.8 U	3.1 U	N/A	**2.6 J**
Thallium	mg/kg	12	9 U	10 U	8.9 U	9.5 U	10.4 U	N/A	9.2 U
Vanadium	mg/kg	5,800	**42.8 J**	**327 J**	**202 J**	**34.7 J**	**40.4 J**	N/A	**160**
Zinc	mg/kg	350,000	**46.2**	**30.6**	**2.2 B**	**42.8**	**40.4**	N/A	**3,400**
Other									
Cyanide	mg/kg	150	**1.90**	**1.90**	**0.092 J**	**0.075 J**	**0.041 J**	N/A	**2.50**

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 highlighting indicates boring locations within the building footprint

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

Table 2
Summary of Inorganics Detected in Soil
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-059-SB-4*	B22-060-SB-1*	B22-060-SB-4*	B22-061-SB-1	B22-061-SB-5	B22-064-SB-1	B22-064-SB-7
Metal									
Aluminum	mg/kg	1,100,000	**31,800**	**38,300**	**14,700**	**37,900**	**42,400**	**14,200**	**15,000**
Antimony	mg/kg	470	2.7 U	**1.7 J**	2.3 U	2.6 UJ	3.4 UJ	2.8 UJ	3.2 UJ
Arsenic	mg/kg	3	**18.6**	**2.1 J**	**8.70**	**11.1**	**5.80**	**2.30**	**2.4 J**
Barium	mg/kg	220,000	**434**	**468**	**281**	**896 J**	**2,150 J**	**101 J**	**96.2 J**
Beryllium	mg/kg	2,300	**2.30**	**5.30**	**0.46 J**	**3.20**	**3.60**	**1.20**	**0.73 J**
Cadmium	mg/kg	980	**7.10**	**0.31 JB**	**1.1 JB**	**1.1 J**	**6.10**	**0.15 B**	1.6 U
Chromium	mg/kg	120,000	**149**	**63.2**	**1,240**	**168 J**	**33.3 J**	**28 J**	**24 J**
Chromium VI	mg/kg	6.3	**0.42 JB**	**0.35 JB**	**0.57 JB**	**0.41 B**	**0.48 B**	**0.53 B**	**0.6 B**
Cobalt	mg/kg	350	**34.7**	**1.8 J**	**5.90**	**23.3**	**2.5 J**	**15.0**	**3.8 J**
Copper	mg/kg	47,000	**301**	**14.3**	**55.1**	**248**	**23.8**	**15.2**	**8.40**
Iron	mg/kg	820,000	**84,700**	**22,400**	**88,700**	**64,300 J**	**9,200 J**	**13,000 J**	**8,330 J**
Lead	mg/kg	800	**976**	**57.0**	**245**	**151**	**162**	**11.9 J**	**5.4 J**
Manganese	mg/kg	26,000	**14,200**	**7,240**	**43,800**	**7,300**	**14,300**	**270**	**110**
Mercury	mg/kg	350	**0.0082 J**	0.11 U	**0.085 J**	**0.0061 J**	0.14 U	**0.027 J**	**0.049 J**
Nickel	mg/kg	22,000	**130**	**4.2 JB**	**17.7**	**167**	**11.3 J**	**21.8**	**9.1 B**
Selenium	mg/kg	5,800	3.7 U	3.5 U	3.1 U	3.5 U	**3.1 J**	3.7 U	4.3 U
Silver	mg/kg	5,800	**2.2 J**	2.6 U	2.3 U	2.6 U	3.4 U	2.8 U	3.2 U
Thallium	mg/kg	12	9.2 U	8.6 U	7.7 U	8.8 U	11.3 U	9.2 U	10.7 U
Vanadium	mg/kg	5,800	**118**	**214**	**2,400**	**132 J**	**52.5 J**	**24.2 J**	**24 J**
Zinc	mg/kg	350,000	**3,650**	**217**	**592**	**236**	**1,470**	**60.4**	**28.0**
Other									
Cyanide	mg/kg	150	**2.50**	**0.72**	**1.50**	**0.77**	**0.87**	**0.16 J**	**0.061 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 highlighting indicates boring locations within the building footprint

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

Table 2
Summary of Inorganics Detected in Soil
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-065-SB-1*	B22-065-SB-7*	B22-072-SB-1	B22-073-SB-1	B22-073-SB-5	B22-074-SB-1	B22-075-SB-1*
Metal									
Aluminum	mg/kg	1,100,000	**8,260**	**12,900**	**47,400**	**20,700**	**17,800**	**5,980**	**40,600**
Antimony	mg/kg	470	2.8 U	2.8 U	3.5 UJ	3.5 UJ	3.3 UJ	2.7 UJ	2.5 U
Arsenic	mg/kg	3	2.4 U	2.3 U	**6.60**	**13.4**	**14.3**	2.1 U*	**3.70**
Barium	mg/kg	220,000	**61.1**	**17.1**	**387**	**294 J**	**95.9 J**	**57.7**	**322**
Beryllium	mg/kg	2,300	**0.34 J**	**0.6 J**	**2.10**	**1.1 J**	**1 J**	**0.24 J**	**6.80**
Cadmium	mg/kg	980	1.4 U	1.4 U	**1.5 J**	**1.7 B**	**0.23 B**	**0.87 B**	**0.52 JB**
Chromium	mg/kg	120,000	**9.50**	**25.3**	**95.7**	**104**	**47.2**	**4,080**	**16.6**
Chromium VI	mg/kg	6.3	**0.77 JB**	**0.6 JB**	**0.33 B**	**0.38 B**	**0.55 B**	**0.69 B**	**0.3 J**
Cobalt	mg/kg	350	**3.5 J**	**8.20**	**7.60**	**12.1**	**8.00**	**123**	**0.82 J**
Copper	mg/kg	47,000	**7.50**	**4.90**	**146**	**156**	**67.5**	**358**	**9.70**
Iron	mg/kg	820,000	**5,660**	**14,100**	**17,700 J**	**45,600 J**	**35,000 J**	**168,000 J**	**12,600**
Lead	mg/kg	800	**9.70**	**11.4**	**132**	**161**	**37.2**	**66.9**	**64.8**
Manganese	mg/kg	26,000	**63.2**	**40.0**	**3,360 J**	**1,280**	**574**	**2,430 J**	**3,390**
Mercury	mg/kg	350	**0.031 J**	**0.0026 J**	0.12 U	**0.58**	**0.034 J**	**0.042 J**	0.1 U
Nickel	mg/kg	22,000	**3.8 J**	**13.9**	**37.9**	**58.5**	**25.8**	**1,170**	**4 J**
Selenium	mg/kg	5,800	3.8 U	**2.4 J**	4.7 U	4.6 U	4.5 U	3.6 U	3.3 U
Silver	mg/kg	5,800	2.8 U	2.8 U	3.5 U	3.5 U	3.3 U	**2.2 J**	2.5 U
Thallium	mg/kg	12	9.4 U	9.3 U	11.7 U	11.6 U	11.2 U	8.9 U	8.3 U
Vanadium	mg/kg	5,800	**17.7**	**29.8**	**58.9**	**55.0**	**79.4**	**143**	**23.5**
Zinc	mg/kg	350,000	**23.6**	**35.6**	**439 J**	**602**	**77.5**	**134 J**	**111**
Other									
Cyanide	mg/kg	150	**0.21 J**	0.65 U	**1.00**	**2.50**	**0.46 J**	**0.19 J**	**0.1 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 highlighting indicates boring locations within the building footprint

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

Table 2
Summary of Inorganics Detected in Soil
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-075-SB-4*	B22-076-SB-1*	B22-077-SB-1	B22-077-SB-5	B22-078-SB-1	B22-078-SB-7.5	B22-079-SB-1
Metal									
Aluminum	mg/kg	1,100,000	**16,200**	**41,800**	**13,100 J**	**43,100 J**	**15,400**	**20,600**	**15,900**
Antimony	mg/kg	470	3 U	2.8 U	2.8 UJ	2.8 UJ	2.9 UJ	3.4 UJ	2.5 UJ
Arsenic	mg/kg	3	**10.8**	2.3 U	**3.90**	**3.00**	**8.30**	**7.30**	**7.10**
Barium	mg/kg	220,000	**30.6**	**374**	**59.5**	**1,830**	**92.3 J**	**77.1 J**	**202 J**
Beryllium	mg/kg	2,300	**1.10**	**7.40**	0.94 U	**2.30**	**0.45 J**	**0.87 J**	**0.94**
Cadmium	mg/kg	980	1.5 U	**0.27 JB**	**0.59 B**	**0.48 B**	**0.67 B**	**0.26 B**	**2.10**
Chromium	mg/kg	120,000	**40.8**	**11.7**	**1,180**	**67.2**	**729**	**104**	**660**
Chromium VI	mg/kg	6.3	**1.30**	**0.33 J**	**0.5 B**	**0.4 B**	**0.4 B**	**0.75 B**	**0.43 B**
Cobalt	mg/kg	350	**2.8 J**	**0.41 J**	**0.63 J**	**2.1 J**	**8.00**	**9.10**	**5.60**
Copper	mg/kg	47,000	**16.9**	**9.40**	**28.4**	**30.0**	**54.0**	**38.3**	**206**
Iron	mg/kg	820,000	**37,900**	**8,180**	**186,000 J**	**10,300 J**	**191,000 J**	**35,500 J**	**143,000 J**
Lead	mg/kg	800	**19.6**	**3.80**	**27.7 J**	**55.9 J**	**47.9**	**54.9**	**172**
Manganese	mg/kg	26,000	**63.0**	**3,240**	**25,300 J**	**11,300 J**	**20,100**	**1,180**	**16,700 J**
Mercury	mg/kg	350	**0.029 J**	0.11 U	**0.01 J+**	0.1 U	**0.14**	**0.057 J**	**0.24 J-**
Nickel	mg/kg	22,000	**9.3 J**	9.3 U	**14.4**	**3.3 J**	**30.0**	**24.2**	**24.0**
Selenium	mg/kg	5,800	4 U	**2.1 JB**	3.7 U	3.8 U	3.9 U	4.5 U	3.3 U
Silver	mg/kg	5,800	3 U	2.8 U	**2.4 J**	2.8 U	**2.8 J**	3.4 U	**0.94 J**
Thallium	mg/kg	12	10 U	9.3 U	9.4 U	9.4 U	9.8 U	11.3 U	8.4 UJ
Vanadium	mg/kg	5,800	**68.0**	**12.9**	**746 J**	**461 J**	**513**	**40.7**	**474 J**
Zinc	mg/kg	350,000	**41.6**	**2 JB**	**195**	**85.8**	**301**	**97.3**	**887 J**
Other									
Cyanide	mg/kg	150	0.67 U	**0.18 J**	**0.16 J**	**0.25 J**	**0.42 J**	**0.045 J**	**0.3 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 highlighting indicates boring locations within the building footprint

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

Table 2
Summary of Inorganics Detected in Soil
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-079-SB-4	B22-080-SB-1*	B22-080-SB-5*	B22-081-SB-1*	B22-081-SB-4*	B22-081-SB-10*	B22-082-SB-1
Metal									
Aluminum	mg/kg	1,100,000	**35,800**	**17,100**	**14,800**	**19,700**	**10,600**	N/A	**23,300**
Antimony	mg/kg	470	2.9 UJ	2.7 U	3 U	2.9 U	2.8 U	N/A	3 UJ
Arsenic	mg/kg	3	2.4 U	**7.10**	**18.9**	**4.50**	**6.20**	**8.50**	**11.7**
Barium	mg/kg	220,000	**2,700 J**	**87.8**	**52.7**	**65.1**	**36.7**	N/A	**52.2 J**
Beryllium	mg/kg	2,300	**3.40**	**0.89**	**0.45 J**	**0.44 J**	**0.31 J**	N/A	**1.20**
Cadmium	mg/kg	980	**0.23 B**	**0.47 JB**	**0.23 JB**	1.4 U	1.4 U	N/A	1.5 U
Chromium	mg/kg	120,000	**6.00**	**55.5**	**31.5**	**24.0**	**19.8**	N/A	**41.3**
Chromium VI	mg/kg	6.3	**0.4 B**	**0.89 J**	**0.62 J**	**0.72 J**	**0.67 J**	N/A	**0.37 B**
Cobalt	mg/kg	350	**1.1 J**	**9.70**	**3.7 J**	**4 J**	**1.2 J**	N/A	**4.5 J**
Copper	mg/kg	47,000	**20.6**	**50.3**	**37.3**	**13.3**	**8.10**	N/A	**15.5**
Iron	mg/kg	820,000	**4,910 J**	**22,200**	**29,000**	**15,100**	**22,200**	N/A	**45,700 J**
Lead	mg/kg	800	**44.9**	**41.8**	**19.5**	**15.8**	**10.9**	N/A	**16 J**
Manganese	mg/kg	26,000	**683 J**	**376**	**297**	**78.7**	**24.0**	N/A	**55.1 J**
Mercury	mg/kg	350	0.12 UJ	**0.11 J**	**0.012 J**	**0.025 J**	**0.022 J**	N/A	**0.047 J**
Nickel	mg/kg	22,000	9.5 U	**23.6**	**9.9 J**	**13.0**	**3.8 J**	N/A	**9.8 B**
Selenium	mg/kg	5,800	**4.40**	3.5 U	4 U	3.8 U	3.8 U	N/A	4 U
Silver	mg/kg	5,800	2.9 U	2.7 U	3 U	2.9 U	2.8 U	N/A	3 U
Thallium	mg/kg	12	9.5 UJ	8.9 U	10.1 U	9.5 U	9.4 U	N/A	10 U
Vanadium	mg/kg	5,800	**51.1 J**	**32.2**	**49.7**	**31.9**	**31.0**	N/A	**46.5 J**
Zinc	mg/kg	350,000	**3.6 J**	**323**	**98.8**	**33.7**	**14.2**	N/A	**28.5**
Other									
Cyanide	mg/kg	150	**2.1 J-**	0.6 U	0.69 U	0.61 U	0.78 U	N/A	**0.084 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 highlighting indicates boring locations within the building footprint

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

Table 2
Summary of Inorganics Detected in Soil
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-082-SB-4	B22-083-SB-1*	B22-083-SB-4*	B22-084-SB-1	B22-085-SB-1	B22-086-SB-1	B22-086-SB-5
Metal									
Aluminum	mg/kg	1,100,000	**18,400**	**36,400**	**14,800**	**17,000**	**8,520**	**31,300**	**28,600**
Antimony	mg/kg	470	2.8 UJ	2.5 U	2.7 U	2.6 UJ	2.5 UJ	2.6 UJ	2.9 UJ
Arsenic	mg/kg	3	2.3 U	2.1 U	**3.00**	**10.6**	**5.80**	**4.00**	**6.30**
Barium	mg/kg	220,000	**40.3 J**	**939**	**63.2**	**167 J**	**84.2 J**	**203 J**	**122 J**
Beryllium	mg/kg	2,300	**0.48 J**	**3.70**	**0.71 J**	**1.50**	0.85 U	**1.20**	**1.60**
Cadmium	mg/kg	980	1.4 U	**0.57 JB**	1.3 U	**0.38 J**	**5.50**	**0.31 J**	1.5 U
Chromium	mg/kg	120,000	**29.6**	**31.3**	**22.3**	**35.9**	**581**	**210**	**31.1**
Chromium VI	mg/kg	6.3	**0.35 B**	**0.31 J**	**0.78 J**	**0.37 B**	**0.33 B**	**0.41 B**	**1 B**
Cobalt	mg/kg	350	**2.8 J**	**1.5 J**	**7.40**	**10.3**	**3.4 J**	**4.60**	**7.10**
Copper	mg/kg	47,000	**6.80**	**16.1**	**14.2**	**83.4 J**	**73.8 J**	**28.4 J**	**17.8 J**
Iron	mg/kg	820,000	**9,280 J**	**15,500**	**17,800**	**39,300**	**108,000**	**16,100**	**9,440**
Lead	mg/kg	800	**13.2 J**	**52.0**	**17.4**	**49.5 J**	**226 J**	**21.3 J**	**19.8 J**
Manganese	mg/kg	26,000	**39.8 J**	**8,500**	**307**	**1,690 J**	**15,400 J**	**1,710 J**	**18.8 J**
Mercury	mg/kg	350	**0.013 J**	0.11 U	**0.031 J**	**0.044 J**	**1.80**	**0.028 J**	**0.091 J**
Nickel	mg/kg	22,000	**6.2 B**	**6 J**	**15.3**	**28.2**	**25.4**	**16.5**	**19.4**
Selenium	mg/kg	5,800	3.7 U	**3 JB**	3.6 U	3.5 U	3.4 U	**2.6 J**	3.9 U
Silver	mg/kg	5,800	2.8 U	2.5 U	2.7 U	2.6 U	**1.6 J**	2.6 U	2.9 U
Thallium	mg/kg	12	9.3 U	8.3 U	9 U	8.6 U	8.5 U	8.8 U	9.8 U
Vanadium	mg/kg	5,800	**41.3 J**	**134**	**26.2**	**57.7**	**743**	**25.3**	**30.0**
Zinc	mg/kg	350,000	**21.5**	**117**	**51.6**	**86.1 J**	**424 J**	**63.4 J**	**42.1 J**
Other									
Cyanide	mg/kg	150	0.62 U	**0.45 J**	0.71 U	**0.46 J**	**1.20**	**1.80**	0.72 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)
Gray highlighting indicates boring locations within the building footprint

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

Table 2
Summary of Inorganics Detected in Soil
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-086-SB-10	B22-090-SB-1*	B22-090-SB-5*	B22-091-SB-1	B22-091-SB-4	B22-092-SB-1	B22-092-SB-4
Metal									
Aluminum	mg/kg	1,100,000	N/A	**41,900**	**19,300**	**19,200**	**15,200**	**44,200**	**41,900**
Antimony	mg/kg	470	N/A	2.8 U	2.7 U	**2.5 J**	2.7 UJ	2.6 UJ	2.4 UJ
Arsenic	mg/kg	3	**23.8**	2.3 U	**5.00**	**15.4**	**5.70**	2.2 U	2 U
Barium	mg/kg	220,000	N/A	**546**	**105**	**374 J**	**54.6 J**	**372 J**	**354 J**
Beryllium	mg/kg	2,300	N/A	**6.70**	**1.50**	**2.00**	**0.6 J**	**7.20**	**6.90**
Cadmium	mg/kg	980	N/A	**0.33 J**	1.3 U	**4.20**	1.3 U	**0.36 J**	**0.29 J**
Chromium	mg/kg	120,000	N/A	**7.10**	**27.0**	**128 J**	**20.5 J**	**13.5 J**	**5.1 J**
Chromium VI	mg/kg	6.3	N/A	**0.37 JB**	**0.44 JB**	**0.37 B**	**0.43 B**	**0.3 B**	**0.31 B**
Cobalt	mg/kg	350	N/A	**2.3 J**	**2.8 J**	**23.6**	**6.90**	**1 J**	**0.48 J**
Copper	mg/kg	47,000	N/A	**5.70**	**9.60**	**1,290**	**7.20**	**20.9**	**3 J**
Iron	mg/kg	820,000	N/A	**10,200**	**13,200**	**56,900 J**	**17,700 J**	**10,900 J**	**4,300 J**
Lead	mg/kg	800	N/A	**6.90**	**17.9**	**696**	**9.20**	**35.5**	2 U
Manganese	mg/kg	26,000	N/A	**4,950**	**112**	**3,580**	**104**	**2,140**	**1,950**
Mercury	mg/kg	350	N/A	0.11 U	**0.01 J**	**2.80**	**0.083 J**	0.11 U	**0.0023 J**
Nickel	mg/kg	22,000	N/A	**1.7 J**	**10.0**	**82.6**	**12.9**	**2 J**	8.1 U
Selenium	mg/kg	5,800	N/A	**5.30**	3.6 U	3.6 U	3.6 U	**2.7 J**	**6.00**
Silver	mg/kg	5,800	N/A	2.8 U	2.7 U	2.7 U	2.7 U	2.6 U	2.4 U
Thallium	mg/kg	12	N/A	9.2 U	9 U	8.9 U	8.9 U	8.7 U	8.1 U
Vanadium	mg/kg	5,800	N/A	**37.8**	**36.1**	**125 J**	**30.8 J**	**16.4 J**	**8 J**
Zinc	mg/kg	350,000	N/A	**13.1**	**18.9**	**2,690**	**38.5**	**27.8**	**8.70**
Other									
Cyanide	mg/kg	150	N/A	0.59 U	0.71 U	**0.17 J**	0.73 U	**0.21 J**	**0.18 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 highlighting indicates boring locations within the building footprint

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

Table 2
Summary of Inorganics Detected in Soil
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-093-SB-1	B22-093-SB-5	B22-093-SB-10	B22-094-SB-1*	B22-094-SB-4*	B22-095-SB-1*	B22-095-SB-6*
Metal									
Aluminum	mg/kg	1,100,000	**17,800**	**20,600 J**	N/A	**37,100**	**14,800**	**27,600**	**14,500**
Antimony	mg/kg	470	2.9 UJ	2.7 UJ	N/A	2.5 U	3.2 U	2.8 U	2.8 U
Arsenic	mg/kg	3	**7.60**	**6.60**	**21.7**	2.1 U	**6.60**	**8.60**	**3.90**
Barium	mg/kg	220,000	**153 J**	**61.5**	N/A	**1,070**	**79.9**	**821**	**40.6**
Beryllium	mg/kg	2,300	**1.70**	**0.45 J**	N/A	**4.80**	**0.94 J**	**3.90**	**0.71 J**
Cadmium	mg/kg	980	**1.50**	1.3 U	N/A	**0.44 J**	1.6 U	**9.60**	1.4 U
Chromium	mg/kg	120,000	**152 J**	**30.1**	N/A	**22.6**	**27.2**	**93.4**	**23.7**
Chromium VI	mg/kg	6.3	**0.48 B**	**0.38 B**	N/A	**0.39 JB**	**0.4 JB**	**0.45 J**	**0.48 JB**
Cobalt	mg/kg	350	**9.30**	**3.9 J**	N/A	**3.2 J**	**6.40**	**6.10**	**5.20**
Copper	mg/kg	47,000	**124**	**10.4**	N/A	**11.3**	**21.4**	**2,270**	**7.50**
Iron	mg/kg	820,000	**59,500 J**	**20,400 J**	N/A	**20,900**	**18,200**	**36,600**	**19,500**
Lead	mg/kg	800	**639**	**11.8 J**	N/A	**13.0**	**27.2**	**352**	**12.9**
Manganese	mg/kg	26,000	**3,540**	**132 J**	N/A	**11,300**	**271**	**6,750**	**52.7**
Mercury	mg/kg	350	**0.26**	**0.055 J+**	N/A	0.11 U	**0.042 J**	**0.17**	**0.0028 J**
Nickel	mg/kg	22,000	**35.5**	**10.7**	N/A	**4.7 J**	**13.5**	**24.7**	**9.80**
Selenium	mg/kg	5,800	3.9 U	3.6 U	N/A	**3.50**	4.2 U	3.8 U	3.7 U
Silver	mg/kg	5,800	2.9 U	2.7 U	N/A	2.5 U	3.2 U	**16.5**	2.8 U
Thallium	mg/kg	12	9.7 U	8.9 U	N/A	8.4 U	10.6 U	9.4 U	9.2 U
Vanadium	mg/kg	5,800	**105 J**	**49.6 J**	N/A	**200**	**37.7**	**196**	**31.9**
Zinc	mg/kg	350,000	**1,100**	**27.8**	N/A	**19.7**	**59.3**	**16,200**	**33.7**
Other									
Cyanide	mg/kg	150	**0.23 J**	0.6 UJ	N/A	0.53 U	**0.6 J**	**0.78**	**0.07 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 highlighting indicates boring locations within the building footprint

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

Table 2
Summary of Inorganics Detected in Soil
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-096-SB-1*	B22-096-SB-9*	B22-096-SB-10*	B22-097-SB-1*	B22-097-SB-9*	B22-098-SB-1*
Metal								
Aluminum	mg/kg	1,100,000	**15,700**	**16,000**	N/A	**15,700**	**8,660**	**7,360**
Antimony	mg/kg	470	3.1 U	2.8 U	N/A	2.3 U	2.7 U	2.5 U
Arsenic	mg/kg	3	**4.10**	**4.10**	**7.80**	**8.10**	**20.9**	**8.80**
Barium	mg/kg	220,000	**171**	**25.6**	N/A	**255**	**720**	**131**
Beryllium	mg/kg	2,300	**0.57 J**	**0.64 J**	N/A	**1.00**	**0.63 J**	**0.19 J**
Cadmium	mg/kg	980	**2.60**	1.4 U	N/A	**0.83 JB**	**4.90**	**0.47 JB**
Chromium	mg/kg	120,000	**120**	**26.6**	N/A	**1,010**	**218**	**542**
Chromium VI	mg/kg	6.3	**0.95 JB**	**0.5 JB**	N/A	**0.56 JB**	**0.48 JB**	**0.68 JB**
Cobalt	mg/kg	350	**6.40**	**5.00**	N/A	**29.3**	**17.2**	**17.5**
Copper	mg/kg	47,000	**321**	**10.3**	N/A	**963**	**769**	**209**
Iron	mg/kg	820,000	**27,400**	**10,600**	N/A	**86,400**	**97,200**	**127,000**
Lead	mg/kg	800	**103**	**12.6**	N/A	**448**	**1,960**	**279**
Manganese	mg/kg	26,000	**1,240**	**63.2**	N/A	**5,790**	**16,200**	**12,400**
Mercury	mg/kg	350	**0.12 J**	**0.0034 J**	N/A	**0.035 J**	**0.014 J**	**0.011 J**
Nickel	mg/kg	22,000	**17.9**	**6.8 J**	N/A	**239**	**66.7**	**48.8**
Selenium	mg/kg	5,800	4.1 U	3.7 U	N/A	3 U	3.6 U	3.4 U
Silver	mg/kg	5,800	3.1 U	2.8 U	N/A	2.3 U	**3.00**	2.5 U
Thallium	mg/kg	12	10.2 U	9.2 U	N/A	7.6 U	8.9 U	8.5 U
Vanadium	mg/kg	5,800	**256**	**27.8**	N/A	**1,690**	**1,230**	**1,500**
Zinc	mg/kg	350,000	**686**	**23.5**	N/A	**1,490**	**2,400**	**97.0**
Other								
Cyanide	mg/kg	150	**2.90**	**0.18 J**	N/A	**0.95**	**1.00**	**0.44 JB**

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 highlighting indicates boring locations within the building footprint

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

Table 2
Summary of Inorganics Detected in Soil
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-098-SB-4*	B22-098-SB-10*	B22-103-SB-1	B22-103-SB-4	B22-104-SB-1	B22-104-SB-4	B22-105-SB-1
Metal									
Aluminum	mg/kg	1,100,000	**6,980**	N/A	**18,300**	**28,100**	**5,350**	**18,600**	**18,600**
Antimony	mg/kg	470	2.3 U	N/A	3 UJ	3 UJ	3.3 UJ	2.6 UJ	3.1 UJ
Arsenic	mg/kg	3	**11.6**	**6.70**	**6.90**	**3.30**	**6.10**	**9.40**	**4.20**
Barium	mg/kg	220,000	**150**	N/A	**139 J**	**665 J**	**70.3 J**	**125 J**	**157 J**
Beryllium	mg/kg	2,300	**0.55 J**	N/A	**0.88 J**	**2.00**	**0.58 J**	**1.90**	**0.57 J**
Cadmium	mg/kg	980	**0.81 JB**	N/A	**0.22 B**	**0.45 B**	1.6 U	1.3 U	1.5 U
Chromium	mg/kg	120,000	**165**	N/A	**29 J**	**31 J**	**8.1 J**	**28.3 J**	**24.5 J**
Chromium VI	mg/kg	6.3	**0.46 JB**	N/A	**0.35 B**	**0.37 B**	**0.37 B**	**0.72 B**	**0.42 B**
Cobalt	mg/kg	350	**11.8**	N/A	**4.3 J**	**2.9 J**	**4.9 J**	**8.10**	**3.5 J**
Copper	mg/kg	47,000	**130**	N/A	**22.6**	**21.0**	**34.0**	**12.4**	**12.0**
Iron	mg/kg	820,000	**56,600**	N/A	**20,800 J**	**14,200 J**	**20,900 J**	**15,800 J**	**15,200 J**
Lead	mg/kg	800	**1,790**	**16.2**	**34.5 J**	**73.6 J**	2.7 U	**12.7 J**	**5.6 J**
Manganese	mg/kg	26,000	**4,710**	N/A	**575**	**4,090**	**152**	**44.8**	**382**
Mercury	mg/kg	350	**0.044 J**	N/A	**0.092 J**	0.13 U	**0.015 J**	**0.0024 J**	**0.047 J**
Nickel	mg/kg	22,000	**41.7**	N/A	**13.9**	**10.2**	**16.0**	**19.2**	**9.6 B**
Selenium	mg/kg	5,800	3 U	N/A	3.9 U	4 U	4.4 U	3.5 U	4.1 U
Silver	mg/kg	5,800	2.3 U	N/A	3 U	3 U	3.3 U	2.6 U	3.1 U
Thallium	mg/kg	12	7.5 U	N/A	9.9 U	9.9 U	10.9 U	8.8 U	10.2 U
Vanadium	mg/kg	5,800	**612**	N/A	**40.2 J**	**60.4 J**	**10.2 J**	**46.7 J**	**33.4 J**
Zinc	mg/kg	350,000	**171**	N/A	**61.5**	**68.2**	**35.0**	**82.5**	**25.4**
Other									
Cyanide	mg/kg	150	**1.60**	N/A	**0.24 J**	**1.50**	**0.094 J**	**0.036 J**	**0.47 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 highlighting indicates boring locations within the building footprint

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

Table 2
Summary of Inorganics Detected in Soil
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-105-SB-4	B22-105-SB-10	B22-107-SB-1	B22-107-SB-5	B22-107-SB-10	B22-108-SB-1	B22-108-SB-5
Metal									
Aluminum	mg/kg	1,100,000	**19,700**	N/A	**16,800**	**14,100**	N/A	**12,500**	**19,900**
Antimony	mg/kg	470	3 UJ	N/A	2.7 UJ	3.1 UJ	N/A	2.5 UJ	2.9 UJ
Arsenic	mg/kg	3	**4.00**	**7.70**	**9.00**	**4.40**	**7.30**	**5.10**	**6.20**
Barium	mg/kg	220,000	**93 J**	N/A	**270**	**18.3**	N/A	**170**	**309**
Beryllium	mg/kg	2,300	**1.10**	N/A	**1.30**	**0.56 J**	N/A	**0.65 J**	**1.70**
Cadmium	mg/kg	980	1.5 U	N/A	**1.80**	**0.16 B**	N/A	**0.89 B**	**0.33 B**
Chromium	mg/kg	120,000	**24.6 J**	N/A	**764**	**32.2**	N/A	**59.8**	**40.0**
Chromium VI	mg/kg	6.3	**1.6 J-**	N/A	**0.86 B**	**1.7 J-**	N/A	**0.76 B**	**0.88 B**
Cobalt	mg/kg	350	**3.9 J**	N/A	**19.2**	**3.6 J**	N/A	**8.90**	**5.20**
Copper	mg/kg	47,000	**9.50**	N/A	**198**	**12.5**	N/A	**162**	**46.9**
Iron	mg/kg	820,000	**18,600 J**	N/A	**92,000**	**14,500**	N/A	**36,900**	**16,400**
Lead	mg/kg	800	**14.5 J**	N/A	**4,070**	**23.9**	N/A	**155**	**89.7**
Manganese	mg/kg	26,000	**28.5**	N/A	**3,170 J**	**70 J**	N/A	**1,540 J**	**3,080 J**
Mercury	mg/kg	350	**0.028 J**	N/A	**0.29**	**0.08 J**	N/A	**0.092 J**	**0.024 J**
Nickel	mg/kg	22,000	**10.2**	N/A	**47.1**	**8.3 J**	N/A	**18.1**	**10.6**
Selenium	mg/kg	5,800	4 U	N/A	3.6 U	4.1 U	N/A	3.3 U	3.9 U
Silver	mg/kg	5,800	3 U	N/A	2.7 U	3.1 U	N/A	2.5 U	2.9 U
Thallium	mg/kg	12	10.1 U	N/A	8.9 U	10.3 U	N/A	8.2 U	9.7 U
Vanadium	mg/kg	5,800	**32.4 J**	N/A	**123**	**40.8**	N/A	**25.5**	**103**
Zinc	mg/kg	350,000	**69.4**	N/A	**382**	**37.1**	N/A	**305**	**100**
Other									
Cyanide	mg/kg	150	0.67 U	N/A	**0.47 B**	**0.068 B**	N/A	**0.27 B**	**0.19 B**

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 highlighting indicates boring locations within the building footprint

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

Table 2
Summary of Inorganics Detected in Soil
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-122-SB-1	B22-123-SB-1	B22-124-SB-1	B22-124-SB-4	B22-131-SB-1	B22-131-SB-5	B22-132-SB-1
Metal									
Aluminum	mg/kg	1,100,000	**15,000**	**18,800**	**36,900**	**27,400**	**16,700**	**13,000**	**38,100**
Antimony	mg/kg	470	**1.7 J**	2.5 UJ	2.6 UJ	2.6 UJ	3.4 UJ	3.3 UJ	3 UJ
Arsenic	mg/kg	3	**14.5**	**2.50**	**3.20**	**12.4**	**5.10**	**12.5**	**3.00**
Barium	mg/kg	220,000	**215**	**65.8**	**517**	**1,440**	**101 J**	**26.4 J**	**1,340 J**
Beryllium	mg/kg	2,300	**1.10**	0.83 U	**5.40**	**2.90**	**1.50**	**0.9 J**	**2.60**
Cadmium	mg/kg	980	**0.68 B**	**0.83 B**	**1 B**	**13.6**	**0.27 B**	1.6 U	**0.39 B**
Chromium	mg/kg	120,000	**77.6**	**1,090**	**78.6**	**206**	**21.4**	**26.1**	**23.4**
Chromium VI	mg/kg	6.3	**0.6 B**	**2.9 J-**	**0.5 B**	**0.49 B**	**0.33 B**	**1.40**	**0.37 B**
Cobalt	mg/kg	350	**16.6**	**2.1 J**	**5.40**	**52.3**	**12.0**	**7.00**	**2.5 J**
Copper	mg/kg	47,000	**3,030**	**41.1**	**117**	**1,010**	**12.2**	**12.4**	**13.1**
Iron	mg/kg	820,000	**76,500 J**	**177,000 J**	**37,900 J**	**99,900 J**	**20,800 J**	**25,800 J**	**8,170 J**
Lead	mg/kg	800	**415**	**43.0**	**84.3**	**724**	**14.2**	**12.3**	**23.5**
Manganese	mg/kg	26,000	**1,570 J**	**23,300 J**	**6,380 J**	**5,930 J**	**305**	**75.9**	**4,470**
Mercury	mg/kg	350	**0.23**	**0.059 J**	0.11 U	**0.12**	**0.014 J**	0.12 U	0.11 U
Nickel	mg/kg	22,000	**76.4**	**31.3**	**23.9**	**185**	**22.0**	**13.1**	**4.3 J**
Selenium	mg/kg	5,800	4 U	3.3 U	3.5 U	3.4 U	4.5 U	4.4 U	4 U
Silver	mg/kg	5,800	**1.3 J**	**2.2 J**	2.6 U	**7.00**	3.4 U	3.3 U	3 U
Thallium	mg/kg	12	10 U	8.3 U	8.7 U	8.6 U	11.2 U	11 U	9.9 U
Vanadium	mg/kg	5,800	**22.3**	**608**	**151**	**48.8**	**28.7**	**34.2**	**93.8**
Zinc	mg/kg	350,000	**443 J**	**273 J**	**195 J**	**15,900 J**	**61.5**	**44.1**	**66.2**
Other									
Cyanide	mg/kg	150	**3.60**	**0.59 J**	**0.41 J**	**0.57 J**	**0.087 J**	0.64 U	**0.26 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 highlighting indicates boring locations within the building footprint

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

Table 2
Summary of Inorganics Detected in Soil
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-132-SB-5	B22-137-SB-1	B22-137-SB-8	B22-138-SB-1	B22-138-SB-8	B22-138-SB-10	B22-139-SB-1
Metal									
Aluminum	mg/kg	1,100,000	**22,000**	**11,100**	**8,370**	**11,800**	**7,920**	N/A	**6,120**
Antimony	mg/kg	470	3.6 UJ	3 UJ	3 UJ	3.3 UJ	3.3 UJ	N/A	3.5 UJ
Arsenic	mg/kg	3	**11.8**	**5.50**	**5.00**	**4.70**	**4.90**	2.4 U	**17.5**
Barium	mg/kg	220,000	**82 J**	**65.3**	**21.2**	**87.4**	**35.9**	N/A	**56.3**
Beryllium	mg/kg	2,300	**0.83 J**	**0.67 J**	**0.38 J**	**0.68 J**	**0.56 J**	N/A	**0.43 J**
Cadmium	mg/kg	980	**0.22 B**	1.5 U	1.5 U	**0.52 J**	1.6 U	N/A	**0.35 J**
Chromium	mg/kg	120,000	**35.4**	**1,130**	**8.40**	**35.2**	**13.7**	N/A	**389**
Chromium VI	mg/kg	6.3	**0.49 B**	**0.3 B**	**0.37 B**	**0.37 B**	**0.23 B**	N/A	**0.27 B**
Cobalt	mg/kg	350	**5.3 J**	**1.1 J**	**2.6 J**	**10.7**	**2 J**	N/A	**10.4**
Copper	mg/kg	47,000	**17.5**	**25.5**	**1.9 J**	**35.2**	**2.4 J**	N/A	**41.2**
Iron	mg/kg	820,000	**30,900 J**	**195,000 J**	**13,200 J**	**23,100 J**	**21,500 J**	N/A	**394,000 J**
Lead	mg/kg	800	**20.1**	2.5 U	**5.10**	**53.6**	**7.20**	N/A	**10.6**
Manganese	mg/kg	26,000	**186**	**30,400**	**48.1**	**1,140**	**40.7**	N/A	**9,830**
Mercury	mg/kg	350	**0.022 J**	0.1 U	0.11 U	**0.12 J**	**0.0024 J**	N/A	0.11 U
Nickel	mg/kg	22,000	**13.1**	**16.5**	**6.3 J**	**18.0**	**4.9 J**	N/A	**70.7**
Selenium	mg/kg	5,800	4.8 U	4 U	4 U	4.4 U	4.4 U	N/A	4.6 U
Silver	mg/kg	5,800	3.6 U	**2 J**	3 U	3.3 U	3.3 U	N/A	**6.30**
Thallium	mg/kg	12	11.9 U	9.9 U	10.1 U	11.1 U	10.9 U	N/A	11.5 U
Vanadium	mg/kg	5,800	**49.7**	**850**	**17.1**	**49.2**	**13.2**	N/A	**243**
Zinc	mg/kg	350,000	**53.4**	**67.3**	**13.6**	**97.9**	**15.0**	N/A	**130**
Other									
Cyanide	mg/kg	150	**0.14 J**	**0.6 J-**	**0.99 J-**	**1.8 J-**	**1.3 J-**	N/A	**0.65 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 highlighting indicates boring locations within the building footprint

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

Table 2
Summary of Inorganics Detected in Soil
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-139-SB-4	B22-140-SB-1	B22-140-SB-5	B22-140-SB-10	B22-141-SB-1	B22-141-SB-5	B22-142-SB-1
Metal									
Aluminum	mg/kg	1,100,000	**23,100**	**21,200**	**28,700**	N/A	**32,000**	**19,300**	**13,500**
Antimony	mg/kg	470	3.3 UJ	3 UJ	3.5 UJ	N/A	3.2 UJ	3.5 UJ	3.2 UJ
Arsenic	mg/kg	3	**8.80**	**2.4 J**	**6.00**	**2.80**	**4.20**	**6.10**	**4.80**
Barium	mg/kg	220,000	**589**	**34.0**	**805**	N/A	**506**	**65.3**	**56.6**
Beryllium	mg/kg	2,300	**2.40**	1 U	**2.10**	N/A	**4.80**	**0.83 J**	1.1 U
Cadmium	mg/kg	980	**0.39 J**	1.5 U	**0.57 J**	N/A	**0.52 J**	1.7 U	**0.24 J**
Chromium	mg/kg	120,000	**274**	**1,280**	**73.6**	N/A	**297**	**26.5**	**1,240**
Chromium VI	mg/kg	6.3	**0.32 B**	**7.8 J-**	**0.27 B**	N/A	**0.31 B**	**0.42 B**	**5 J-**
Cobalt	mg/kg	350	**10.5**	**1.4 J**	**6.10**	N/A	**3.7 J**	**5.4 J**	**1.3 J**
Copper	mg/kg	47,000	**31.8**	**24.7**	**21.2**	N/A	**29.6**	**9.10**	**19.0**
Iron	mg/kg	820,000	**254,000 J**	**218,000 J**	**17,800 J**	N/A	**104,000 J**	**18,300**	**201,000 J**
Lead	mg/kg	800	**43.1**	2.5 U	**46.5**	N/A	**20.2**	**11.1**	**3.10**
Manganese	mg/kg	26,000	**9,120**	**29,900**	**5,970**	N/A	**9,510**	**98.5**	**28,500**
Mercury	mg/kg	350	**0.0023 J**	0.11 U	**0.0091 J**	N/A	0.1 U	0.11 U	0.11 U
Nickel	mg/kg	22,000	**73.1**	**22.6**	**11.9**	N/A	**20.3**	**14.1**	**20.6**
Selenium	mg/kg	5,800	4.4 U	4 U	4.6 U	N/A	4.3 U	4.7 U	4.2 U
Silver	mg/kg	5,800	**2.4 J**	**2.2 J**	3.5 U	N/A	3.2 U	3.5 U	**2.5 J**
Thallium	mg/kg	12	11.1 U	10 U	11.5 U	N/A	10.7 U	11.6 U	10.5 U
Vanadium	mg/kg	5,800	**249**	**881**	**209**	N/A	**276**	**40.4**	**817**
Zinc	mg/kg	350,000	**93.2**	**122**	**91.9**	N/A	**97.5**	**30.6**	**94.0**
Other									
Cyanide	mg/kg	150	**0.88 J-**	**0.59 J-**	**2.7 J-**	N/A	**0.92 J-**	**1.6 J-**	**0.71 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 highlighting indicates boring locations within the building footprint

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

Table 2
Summary of Inorganics Detected in Soil
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-142-SB-5	B22-143-SB-1	B22-143-SB-5	B22-143-SB-10	B22-146-SB-1	B22-146-SB-5	B22-147-SB-1
Metal									
Aluminum	mg/kg	1,100,000	**13,000**	**12,600**	**10,400**	N/A	**7,730**	**15,700**	**29,000**
Antimony	mg/kg	470	3 UJ	2.7 UJ	3.1 UJ	N/A	2.8 UJ	2.8 UJ	3 UJ
Arsenic	mg/kg	3	**3.00**	**5.30**	**5.10**	**4.00**	**13.0**	**3.80**	**7.90**
Barium	mg/kg	220,000	**34.6**	**41.5**	**55.1**	N/A	**208**	**73.6**	**572**
Beryllium	mg/kg	2,300	1 U	0.89 U	**0.21 J**	N/A	**0.85 J**	**0.59 J**	**2.30**
Cadmium	mg/kg	980	1.5 U	1.3 U	1.5 U	N/A	**1.6 B**	1.4 U	**1.5 B**
Chromium	mg/kg	120,000	**1,330**	**1,350**	**1,450**	N/A	**169**	**28.5**	**109**
Chromium VI	mg/kg	6.3	**0.28 B**	**3.6 J-**	**0.31 B**	N/A	**0.85 B**	**0.58 B**	**0.39 B**
Cobalt	mg/kg	350	5 U	4.5 U	**0.36 J**	N/A	**5.20**	**7.60**	**7.30**
Copper	mg/kg	47,000	**12.3**	**13.2**	**13.5**	N/A	**314**	**13.9**	**304**
Iron	mg/kg	820,000	**183,000 J**	**194,000 J**	**188,000 J**	N/A	**65,200 J**	**27,600 J**	**57,600 J**
Lead	mg/kg	800	2.5 U	2.2 U	2.6 U	N/A	**116**	**8.50**	**103**
Manganese	mg/kg	26,000	**28,600**	**30,600**	**27,900**	**165**	**736**	**160 J**	**3,530 J**
Mercury	mg/kg	350	**0.0066 J**	0.1 U	0.11 U	N/A	**0.18**	**0.049 J**	**0.11 J**
Nickel	mg/kg	22,000	**7.1 J**	**11.5**	**12.5**	N/A	**28.4**	**15.8**	**32.6**
Selenium	mg/kg	5,800	**2.3 J**	3.6 U	4.1 U	N/A	3.7 U	3.8 U	4 U
Silver	mg/kg	5,800	**1 J**	**2.2 J**	**2.2 J**	N/A	2.8 U	2.8 U	3 U
Thallium	mg/kg	12	10 U	8.9 U	10.2 U	N/A	9.4 U	9.4 U	10.1 U
Vanadium	mg/kg	5,800	**1,120**	**878**	**944**	N/A	**49.0**	**37.1**	**132**
Zinc	mg/kg	350,000	**5.50**	**31.4**	**43.0**	N/A	**905 J**	**66.4 J**	**644 J**
Other									
Cyanide	mg/kg	150	**1.4 J-**	**0.68 J-**	**0.71 J-**	N/A	**0.35 J**	**0.054 J**	**1.80**

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 highlighting indicates boring locations within the building footprint

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

Table 2
Summary of Inorganics Detected in Soil
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-147-SB-5.5	B22-150-SB-1	B22-150-SB-5	B22-151-SB-1	B22-160-SB-1	B22-161-SB-1	B22-161-SB-4.5
Metal									
Aluminum	mg/kg	1,100,000	**18,000**	**30,400**	**21,600**	**41,600**	**29,000**	**14,400**	**23,000**
Antimony	mg/kg	470	3.1 UJ	3 UJ	2.9 UJ	**1.5 J**	2.8 UJ	2.7 UJ	2.8 UJ
Arsenic	mg/kg	3	**5.50**	2.5 U	**6.10**	**1.9 J**	2.3 U	**6.00**	**5.00**
Barium	mg/kg	220,000	**78.0**	**560**	**51.3**	**494**	**349**	**182**	**369**
Beryllium	mg/kg	2,300	**0.8 J**	**2.30**	**0.5 J**	**6.40**	**3.30**	0.89 U	**1.40**
Cadmium	mg/kg	980	1.5 U	**0.84 B**	1.5 U	**0.46 B**	**0.3 B**	**1.5 B**	**1.80**
Chromium	mg/kg	120,000	**31.1**	**45.2**	**29.3**	**70.2**	**24.2**	**1,730**	**118**
Chromium VI	mg/kg	6.3	**0.45 B**	**0.58 B**	**0.4 B**	**0.34 B**	**0.86 B**	**1.1 B**	**1.1 B**
Cobalt	mg/kg	350	**6.10**	**3.8 J**	**6.10**	**2.3 J**	**1.3 J**	**4.50**	**14.4**
Copper	mg/kg	47,000	**19.0**	**229**	**12.3**	**45.4**	**21.7**	**72.0**	**397**
Iron	mg/kg	820,000	**25,500 J**	**25,300 J**	**24,200 J**	**33,600 J**	**8,910 J**	**78,700 J**	**65,800 J**
Lead	mg/kg	800	**12.6**	**342**	**10.4**	**47.5**	**24.0**	**189**	**277**
Manganese	mg/kg	26,000	**156 J**	**6,100 J**	**133 J**	**3,440 J**	**5,790 J**	**36,500 J**	**4,370 J**
Mercury	mg/kg	350	**0.048 J**	0.13 U	**0.036 J**	0.1 U	0.12 U	**0.057 J**	**0.25**
Nickel	mg/kg	22,000	**15.0**	**11.8**	**14.5**	**9.80**	**2 J**	**16.5**	**32.3**
Selenium	mg/kg	5,800	4.1 U	4.1 U	3.9 U	3.3 U	3.7 U	3.5 U	3.8 U
Silver	mg/kg	5,800	3.1 U	3 U	2.9 U	2.5 U	2.8 U	2.7 U	2.8 U
Thallium	mg/kg	12	10.2 U	10.1 U	9.7 U	8.3 U	9.3 U	**11.0**	9.4 U
Vanadium	mg/kg	5,800	**35.8**	**125**	**40.5**	**42.7**	**23.9**	**6,800**	**915**
Zinc	mg/kg	350,000	**54.8 J**	**212 J**	**39.6 J**	**77.1 J**	**50.3 J**	**361 J**	**816 J**
Other									
Cyanide	mg/kg	150	**0.51 J**	**0.21 J**	**0.078 J**	**0.55 J**	**1.10**	**0.16 J**	**0.34 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 highlighting indicates boring locations within the building footprint

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

Table 2
Summary of Inorganics Detected in Soil
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-162-SB-1*	B22-162-SB-5*	B22-163-SB-1*	B22-163-SB-5*	B22-164-SB-1*	B22-164-SB-6*
Metal								
Aluminum	mg/kg	1,100,000	**10,800**	**14,200**	**18,800**	**15,600**	**23,800**	**14,300**
Antimony	mg/kg	470	3 U	2.8 U	3.1 U	2.8 U	2.8 U	3 U
Arsenic	mg/kg	3	**8.70**	**3.90**	**4.20**	**7.80**	**3.20**	**6.00**
Barium	mg/kg	220,000	**106**	**33.2**	**62.7**	**71.7**	**185**	**147**
Beryllium	mg/kg	2,300	**0.6 J**	**1.40**	**0.5 J**	**0.53 J**	**2.30**	**1.70**
Cadmium	mg/kg	980	**0.59 J**	1.4 U	**0.2 J**	**0.18 J**	**0.24 J**	1.5 U
Chromium	mg/kg	120,000	**45.0**	**14.5**	**25.2**	**27.1**	**22.1**	**27.0**
Chromium VI	mg/kg	6.3	**0.58 JB**	**0.53 J**	**0.43 JB**	**0.45 JB**	**0.38 JB**	**0.38 JB**
Cobalt	mg/kg	350	**16.9**	**3.8 J**	**4.4 J**	**7.80**	**5.80**	**10.9**
Copper	mg/kg	47,000	**4,400**	**5.50**	**317**	**2,090**	**21.2**	**10.0**
Iron	mg/kg	820,000	**162,000**	**17,200**	**23,100**	**51,500**	**11,900**	**19,700**
Lead	mg/kg	800	**538**	**15.3**	**30.6**	**174**	**18.9**	**12.1**
Manganese	mg/kg	26,000	**738**	**26.6**	**199**	**316**	**1,270**	**97.5**
Mercury	mg/kg	350	**0.08 J**	**0.003 J**	**0.11 J**	**0.024 J**	**0.0089 J**	**0.0024 J**
Nickel	mg/kg	22,000	**31.8**	**7.6 J**	**11.7**	**20.2**	**11.3**	**17.8**
Selenium	mg/kg	5,800	4 U	3.8 U	4.1 U	3.8 U	3.8 U	4 U
Silver	mg/kg	5,800	**2.1 J**	2.8 U	3.1 U	2.8 U	2.8 U	3 U
Thallium	mg/kg	12	10 U	9.4 U	10.2 U	9.5 U	9.4 U	10.1 U
Vanadium	mg/kg	5,800	**45.1**	**31.2**	**38.7**	**46.1**	**38.6**	**47.4**
Zinc	mg/kg	350,000	**148**	**14.9**	**41.4**	**77.5**	**40.4**	**42.4**
Other								
Cyanide	mg/kg	150	**0.66 J**	0.74 U	0.59 U	0.6 U	**0.29 J**	**0.22 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 highlighting indicates boring locations within the building footprint

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

Table 2
Summary of Inorganics Detected in Soil
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-165-SB-1*	B22-165-SB-4*	B22-167-SB-1*	B22-167-SB-5*	B22-167-SB-10	B22-168-SB-1	B22-168-SB-4
Metal									
Aluminum	mg/kg	1,100,000	**20,000**	**18,600**	**29,400**	**14,500**	N/A	**12,400**	**14,400**
Antimony	mg/kg	470	3 U	2.6 U	2.9 U	2.9 U	N/A	2.8 UJ	2.7 UJ
Arsenic	mg/kg	3	**4.30**	**5.50**	**3.80**	2.5 U	**12.3**	**2.3 J**	2.2 U
Barium	mg/kg	220,000	**50.2**	**57.6**	**568**	**48.3**	N/A	**43.9 J**	**123 J**
Beryllium	mg/kg	2,300	**0.52 J**	**1.40**	**3.20**	**0.82 J**	N/A	**0.47 J**	**0.55 J**
Cadmium	mg/kg	980	1.5 U	1.3 U	**0.28 J**	1.5 U	N/A	1.4 U	1.3 U
Chromium	mg/kg	120,000	**31.9**	**34.8**	**377**	**18.0**	N/A	**14.9**	**25.3**
Chromium VI	mg/kg	6.3	**0.79 JB**	**0.45 JB**	**0.3 JB**	**0.7 JB**	N/A	**0.75 B**	**0.63 B**
Cobalt	mg/kg	350	**5.00**	**9.30**	**3.6 J**	**2.5 J**	N/A	**2.8 J**	**4.80**
Copper	mg/kg	47,000	**10.6**	**22.7**	**20.0**	**7.80**	N/A	**5.2 J**	**6.7 J**
Iron	mg/kg	820,000	**17,300**	**35,700**	**49,400**	**6,980**	N/A	**6,360**	**13,100**
Lead	mg/kg	800	**7.60**	**13.2**	**4.10**	**5.60**	N/A	**9.1 J**	**13.7 J**
Manganese	mg/kg	26,000	**49.2**	**119**	**25,600**	**367**	**65.2**	**174 J**	**112 J**
Mercury	mg/kg	350	**0.03 J**	**0.012 J**	0.11 U	**0.0024 J**	N/A	**0.0082 J**	0.12 U
Nickel	mg/kg	22,000	**12.2**	**21.5**	**9.1 J**	**6.7 J**	N/A	**7.3 J**	**9.70**
Selenium	mg/kg	5,800	4 U	3.5 U	**3.8 JB**	3.9 U	N/A	3.7 U	3.6 U
Silver	mg/kg	5,800	3 U	2.6 U	2.9 U	2.9 U	N/A	2.8 U	2.7 U
Thallium	mg/kg	12	10.1 U	8.8 U	9.7 U	9.8 U	N/A	9.2 U	8.9 U
Vanadium	mg/kg	5,800	**38.3**	**44.9**	**317**	**16.5**	N/A	**91.9**	**26.8**
Zinc	mg/kg	350,000	**41.6**	**49.8**	**6.70**	**15.9**	N/A	**20.9 J**	**35.6 J**
Other									
Cyanide	mg/kg	150	0.75 U	**0.081 J**	**0.24 JB**	**0.22 JB**	N/A	**0.74**	0.74 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)
Gray highlighting indicates boring locations within the building footprint

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

Table 2
Summary of Inorganics Detected in Soil
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-170-SB-1	B22-170-SB-4	B22-171-SB-1	B22-171-SB-5	B22-172-SB-1	B22-172-SB-5
Metal								
Aluminum	mg/kg	1,100,000	**29,000**	**16,200**	**9,800**	**14,500**	**14,500**	**16,700**
Antimony	mg/kg	470	2.8 UJ	2.7 UJ	2.8 UJ	4 UJ	3.2 UJ	3 UJ
Arsenic	mg/kg	3	**3.90**	**12.2**	**6.50**	**14.0**	**5.90**	**3.90**
Barium	mg/kg	220,000	**485**	**71.4**	**54.6 J**	**165 J**	**70.2**	**58.3**
Beryllium	mg/kg	2,300	**3.00**	**0.98**	0.93 U	**1.40**	**0.37 J**	**0.31 J**
Cadmium	mg/kg	980	**0.53 J**	1.4 U	**0.31 B**	**0.51 B**	1.6 U	1.5 U
Chromium	mg/kg	120,000	**188 J**	**63.5 J**	**1,480**	**45.3**	**19.2**	**18.3**
Chromium VI	mg/kg	6.3	**0.4 B**	**0.35 B**	**11.4**	**0.53 B**	**0.32 B**	**0.29 B**
Cobalt	mg/kg	350	**3.9 J**	**5.40**	**1.9 J**	**16.8**	**2.8 J**	**3 J**
Copper	mg/kg	47,000	**40.9**	**50.5**	**21.2**	**69.4**	**6.70**	**8.20**
Iron	mg/kg	820,000	**29,700 J**	**37,000 J**	**203,000 J**	**31,000 J**	**15,300 J**	**15,700 J**
Lead	mg/kg	800	**47.2 J**	**32.8 J**	2.3 U	**23.3**	**8.10**	**12.3**
Manganese	mg/kg	26,000	**6,450 J**	**984 J**	**35,900**	**1,030**	**356**	**31.3**
Mercury	mg/kg	350	0.1 R	**0.058 J-**	0.1 U	**0.0099 J**	**0.025 J**	**0.018 J**
Nickel	mg/kg	22,000	**13.2 J**	**14.5 J**	**26.0**	**55.8**	**5.9 J**	**7.3 J**
Selenium	mg/kg	5,800	**3.3 J**	3.6 U	3.7 U	5.4 U	4.3 U	4 U
Silver	mg/kg	5,800	2.8 U	2.7 U	**3.50**	4 U	3.2 U	3 U
Thallium	mg/kg	12	9.3 UJ	9.1 UJ	9.3 U	10.8 U	10.8 U	10 U
Vanadium	mg/kg	5,800	**175 J**	**223 J**	**979**	**34.4**	**30.8**	**25.3**
Zinc	mg/kg	350,000	**116 J**	**104 J**	**31.3**	**96.7**	**20.2**	**21.8**
Other								
Cyanide	mg/kg	150	**0.5 J**	**0.65 J**	**0.091 J**	**1.20**	**0.8 J-**	**2 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 highlighting indicates boring locations within the building footprint

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

Table 2
Summary of Inorganics Detected in Soil
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-173-SB-1	B22-173-SB-4	B22-175-SB-1*	B22-175-SB-4*	B22-179-SB-1*	B22-179-SB-6*
Metal								
Aluminum	mg/kg	1,100,000	**19,200**	**20,800**	**31,500**	**32,400**	**55,100**	**18,100**
Antimony	mg/kg	470	2.6 UJ	3 UJ	2.6 U	2.4 U	2.5 U	2.7 U
Arsenic	mg/kg	3	**5.60**	**3.40**	**2.1 J**	**5.80**	**2 J**	**3.60**
Barium	mg/kg	220,000	**177 J**	**431 J**	**912**	**1,290**	**463**	**82.0**
Beryllium	mg/kg	2,300	**1.30**	**1.10**	**1.70**	**2.10**	**8.10**	**0.65 J**
Cadmium	mg/kg	980	**0.42 J**	**0.36 J**	**1.4 B**	**1.3 B**	**0.32 J**	**0.19 J**
Chromium	mg/kg	120,000	**677 J**	**23.2 J**	**327**	**52.6**	**17.5**	**25.2**
Chromium VI	mg/kg	6.3	**0.84 B**	**0.44 B**	**0.28 J**	**0.35 J**	**0.36 JB**	**0.38 JB**
Cobalt	mg/kg	350	**4.70**	**5.10**	**5.40**	**9.10**	**0.34 J**	**6.70**
Copper	mg/kg	47,000	**48.8**	**33.3**	**65.9**	**45.4**	**4.80**	**13.0**
Iron	mg/kg	820,000	**225,000 J**	**22,400 J**	**53,700**	**21,700**	**26,200**	**18,100**
Lead	mg/kg	800	**21.8**	**40.0**	**192**	**3,340**	**5.80**	**23.8**
Manganese	mg/kg	26,000	**20,600**	**1,600**	**12,500**	**1,170**	**2,420**	**142**
Mercury	mg/kg	350	**0.009 J**	**0.12 J**	**0.24**	0.1 U	0.11 U	**0.027 J**
Nickel	mg/kg	22,000	**31.1**	**13.6**	**25.3**	**38.2**	**2.3 J**	**14.2**
Selenium	mg/kg	5,800	3.5 U	4 U	3.5 U	**3.1 JB**	**6.8 B**	3.6 U
Silver	mg/kg	5,800	**3.30**	3 U	**0.64 J**	2.4 U	2.5 U	2.7 U
Thallium	mg/kg	12	8.8 U	10 U	**17.3**	8.1 U	8.2 U	9 U
Vanadium	mg/kg	5,800	**413 J**	**40.2 J**	**2,000**	**172**	**22.0**	**37.4**
Zinc	mg/kg	350,000	**72.5**	**121**	**413**	**599**	**7.30**	**58.1**
Other								
Cyanide	mg/kg	150	**0.18 J**	**1.10**	**1.20**	**3.70**	**0.21 J**	0.59 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)
Gray highlighting indicates boring locations within the building footprint

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

Table 3
Summary of Organics Detected in Groundwater
Parcel B22- Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	FM-001-PZI	FM-001-PZS	FM-002-PZI	FM-002-PZS	FM-013-PZI	FM-013-PZS	FM-014-PZI	FM-014-PZS	FM-016-PZI	FM-016-PZS
Volatile Organic Compounds												
1,1,1-Trichloroethane	µg/L	200	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**6.6**
1,1-Dichloroethane	µg/L	2.7	1 U	1 U	1 U	**1.9**	1 U	**0.75 J**	**1.9**	1 U	**0.78 J**	**7.9**
1,1-Dichloroethene	µg/L	7	1 U	1 U	1 U	**0.35 J**	1 U	1 U	**3.7**	1 U	1 U	**0.82 J**
1,2-Dichloroethene (Total)	µg/L	70	2 U	2 U	2 U	**1.7 J**	2 U	2 U	2 U	2 U	2 U	2 U
Acetone	µg/L	14,000	10 U	10 U	10 U	10 U	**8 J**	10 U	10 U	10 U	10 U	10 U
Benzene	µg/L	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon disulfide	µg/L	810	**0.68 J**	1 U	1 U	1 U	**0.58 J**	1 U	1 U	1 U	1 U	1 U
Chloroform	µg/L	0.22	**1.1**	1 U	**0.26 J**	1 U	**3.8**	**0.87 J**	1 U	1 U	1 U	**1.8**
cis-1,2-Dichloroethene	µg/L	70	1 U	1 U	1 U	**1.7**	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	µg/L	700	1 U	1 U	1 U	1 U	1 U	**0.75 J**	1 U	1 U	1 U	1 U
Toluene	µg/L	1,000	1 U	1 U	1 U	1 U	**0.23 J**	**1.5**	1 U	1 U	1 U	1 U
Xylenes	µg/L	10,000	3 U	3 U	3 U	3 U	3 U	**4.6**	3 U	3 U	3 U	3 U
Semi-Volatile Organic Compounds*												
1,4-Dioxane	µg/L	0.46	0.1 U	0.1 U	0.1 U	**0.29**	**0.17**	**0.85**	**2.5**	**0.47**	**0.62**	**15.8**
2-Methylnaphthalene	µg/L	36	0.1 U	0.1 U	0.1 U	0.1 UJ	**0.048 J**	**0.21**	0.1 UJ	0.1 U	0.1 U	0.1 U
2-Methylphenol	µg/L	930	1 U1	1 U	1 U	1 UJ	1 U	1 U	1 U	1.1 U	1 U	1 U
3&4-Methylphenol(m&p Cresol)	µg/L	930	2.1 U	2.1 U	2 U	2.1 UJ	2 U	2.1 U	2 U	2.1 U	2 U	2.1 U
Acenaphthene	µg/L	530	0.1 U	**0.062 J**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Acenaphthylene	µg/L	530	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Acetophenone	µg/L	1,900	1 U	1 U	1 U	1 U	1 U	**0.43 J**	1 U	1.1 U	1 U	1 U
Anthracene	µg/L	1,800	0.1 U	**0.033 J**	0.1 U	**0.022 J**	0.1 U	**0.023 J**	0.1 U	**0.068 J**	0.1 U	0.1 U
Benzo[a]anthracene	µg/L	0.012	0.1 U	0.1 U	**0.024 J**	0.1 U	0.1 U	0.1 U	0.1 U	**0.039 J**	0.1 U	0.1 U
Benzo[a]pyrene	µg/L	0.2	0.1 U	0.1 U	**0.014 J**	0.1 U	0.1 U	0.1 U	0.1 U	**0.018 J**	0.1 U	0.1 U
Benzo[b]fluoranthene	µg/L	0.034	0.1 U	0.1 U	**0.019 J**	0.1 U	0.1 U	0.1 U	0.1 U	**0.032 J**	0.1 U	0.1 U
Benzo[k]fluoranthene	µg/L	0.34	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**0.014 J**	0.1 U	0.1 U
bis(2-Ethylhexyl)phthalate	µg/L	6	1 U	1 U	1 U	1 U	**0.28 J**	1 U	**0.24 J**	1.1 U	1 U	1 U
Caprolactam	µg/L	9,900	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U
Carbazole	µg/L		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U
Chrysene	µg/L	3.4	0.1 U	0.1 U	**0.02 J**	0.1 U	0.1 U	0.1 U	0.1 U	**0.022 J**	0.1 U	**0.011 J**
Di-n-butylphthalate	µg/L	900	1 U	1 U	1 U	1 U	1 U	**0.12 J**	1 U	1.1 U	**0.15 J**	1 U
Fluoranthene	µg/L	800	0.1 U	**0.065 J**	**0.041 J**	**0.016 J**	0.1 U	0.1 U	**0.032 J**	**0.056 J**	0.1 U	**0.02 J**
Fluorene	µg/L	290	0.1 U	**0.029 J**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Naphthalene	µg/L	0.17	**0.035 J**	**0.065 B**	**0.024 J**	0.1 UJ	**0.14 B**	**0.23**	**0.14**	**0.027 B**	**0.029 JB**	**0.032 JB**
Pentachlorophenol	µg/L	1	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	**0.82 J**	**0.83 J**
Phenanthrene	µg/L		0.1 U	**0.078 J**	**0.028 J**	0.1 U	**0.018 J**	**0.021 J**	**0.05 J**	**0.033 J**	0.1 U	**0.02 J**
Phenol	µg/L	5,800	1 U	1 U	1 U	1 UJ	1 U	**0.22 J**	1 U	1.1 U	1 U	1 U
Pyrene	µg/L	120	0.1 U	**0.043 J**	**0.029 J**	0.1 U	0.1 U	0.1 U	**0.02 J**	**0.047 J**	0.1 U	**0.013 J**
TPH/Oil and Grease												
Diesel Range Organics	µg/L	47	103 U	**48.4 J**	104 U	**184 J**	**74.5 J**	**1,020 J**	**55.9 J**	**156 J**	**70.5 J**	**59.1 J**

Detections in bold
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 compound/analyte was not detected substantially above the level of the assoicated method blank/preparation or field blank.
U: This analyte was not detected in the sample. The numeric value represents the sample quantitaiton/detection limit.
UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.
R: The result for this analyt is unreliable. Additional data is needed to confirm or disprove the presence of this compound/analyte in the sample.
*PAH compounds were analyzed via sim

Table 3
Summary of Organics Detected in Groundwater
Parcel B22- Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	FM-017-PZS	FM05-PZM004	FM05-PZM024	SW-053-MWS
Volatile Organic Compounds						
1,1,1-Trichloroethane	µg/L	200	1 U	1 U	1 U	1 U
1,1-Dichloroethane	µg/L	2.7	**0.45 J**	1 U	1 U	1 U
1,1-Dichloroethene	µg/L	7	1 U	1 U	1 U	1 U
1,2-Dichloroethene (Total)	µg/L	70	2 U	2 U	2 U	2 U
Acetone	µg/L	14,000	10 U	10 R	**15.1 J**	10 U
Benzene	µg/L	5	**0.43 J**	**2.6**	1 U	1 U
Carbon disulfide	µg/L	810	1 U	**1.1**	1 U	1 U
Chloroform	µg/L	0.22	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	µg/L	70	1 U	1 U	1 U	1 U
Ethylbenzene	µg/L	700	1 U	1 U	1 U	1 U
Toluene	µg/L	1,000	1 U	**0.39 J**	1 U	1 U
Xylenes	µg/L	10,000	3 U	3 U	3 U	3 U
Semi-Volatile Organic Compounds*						
1,4-Dioxane	µg/L	0.46	**0.085 J**	**0.036 J**	0.1 U	0.1 U
2-Methylnaphthalene	µg/L	36	**0.054 J**	**0.6**	**0.07 J**	0.1 U
2-Methylphenol	µg/L	930	1 U	**0.39 J**	1 U	1 U
3&4-Methylphenol(m&p Cresol)	µg/L	930	2.1 U	**0.79 J**	2 U	2 U
Acenaphthene	µg/L	530	**0.11**	**0.77**	0.1 U	0.1 U
Acenaphthylene	µg/L	530	**0.016 J**	**0.12**	0.1 U	0.1 U
Acetophenone	µg/L	1,900	1 U	**0.37 J**	1 U	1 U
Anthracene	µg/L	1,800	**0.18**	**0.33**	0.1 U	0.1 U
Benzo[a]anthracene	µg/L	0.012	**0.042 J**	**0.044 J**	0.1 U	0.1 U
Benzo[a]pyrene	µg/L	0.2	0.1 U	**0.013 J**	0.1 U	0.1 U
Benzo[b]fluoranthene	µg/L	0.034	0.1 U	**0.027 J**	0.1 U	0.1 U
Benzo[k]fluoranthene	µg/L	0.34	0.1 U	**0.027 J**	0.1 U	0.1 U
bis(2-Ethylhexyl)phthalate	µg/L	6	**0.21 J**	**0.29 J**	**0.23 J**	1 U
Caprolactam	µg/L	9,900	**0.56 J**	2.5 U	2.5 U	2.5 U
Carbazole	µg/L		**0.23 J**	**1.9**	1 U	1 U
Chrysene	µg/L	3.4	**0.016 J**	**0.024 J**	0.1 U	0.1 U
Di-n-butylphthalate	µg/L	900	1 U	**0.22 J**	1 U	1 U
Fluoranthene	µg/L	800	**0.43**	**0.38**	0.1 U	0.1 U
Fluorene	µg/L	290	**0.092 J**	**0.75**	0.1 U	0.1 U
Naphthalene	µg/L	0.17	**0.33**	**108**	**4.8**	0.1 U
Pentachlorophenol	µg/L	1	**0.85 J**	2.5 U	2.5 U	2.5 U
Phenanthrene	µg/L		**0.84**	**0.93**	**0.026 J**	0.1 U
Phenol	µg/L	5,800	1 U	1 U	1 U	1 U
Pyrene	µg/L	120	**0.3**	**0.25**	0.1 U	0.1 U
TPH/Oil and Grease						
Diesel Range Organics	µg/L	47	**625 J**	**1,610**	105 UJ	**56.8 J**

Detections in bold
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 compound/analyte was not detected substantially above the level of the assoicated method blank/preparation or field blank.
U: This analyte was not detected in the sample. The numeric value represents the sample quantitaiton/detection limit.
UJ: This analyte was not detected in the sample. The actual quantitation/detection limit may be higher than reported.
R: The result for this analyt is unreliable. Additional data is needed to confirm or disprove the presence of this compound/analyte in the sample.
*PAH compounds were analyzed via sim

Table 4
Summary of Inorganics Detected in Groundwater
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	FM-001-PZI	FM-001-PZS	FM-002-PZI	FM-002-PZS	FM-013-PZI	FM-013-PZS	FM-014-PZI	FM-014-PZS	FM-016-PZI	FM-016-PZS
Total Metals												
Aluminum	µg/L	20,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Arsenic	µg/L	10	N/A	N/A	N/A	N/A	N/A	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	N/A	N/A	N/A	N/A	N/A
Beryllium	µg/L	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cadmium	µg/L	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chromium	µg/L	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chromium VI	µg/L	0.035	10 U	10 U	10,000 U	10 U	**4,000 J**	10 UJ	10 U	10 U	10 U	10 U
Cobalt	µg/L	6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Copper	µg/L	1,300	N/A	N/A	N/A	N/A	N/A	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	N/A	N/A	N/A	N/A	N/A
Lead	µg/L	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Manganese	µg/L	430	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nickel	µg/L	390	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Thallium	µg/L	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Vanadium	µg/L	86	N/A	N/A	N/A	N/A	N/A	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	N/A	N/A	N/A	N/A	N/A
Dissolved Metals												
Aluminum, Dissolve	µg/L	20,000	**351**	**320**	50 U	**27.5 J**	50 U	50 U	50 U	50 U	**35.7 J**	**64.4**
Arsenic, Dissolve	µg/L	10	5 U	**3.6 J**	5 U	**3.8 J**	5 U	5 U	5 U	**6.4**	5 U	5 U
Barium, Dissolve	µg/L	2,000	**75.8**	**58.9**	**226**	**59.3**	**128**	**30.2**	**144**	**40.3**	**253**	**22.8 B**
Beryllium, Dissolve	µg/L	4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cadmium, Dissolve	µg/L	5	**0.5 JB**	**0.55 J**	**0.49 JB**	3 U	3 U	**1 B**	3 U	3 U	**0.58 J**	3 U
Chromium, Dissolve	µg/L	100	**2.6 J**	**3.9 J**	**1.2 J**	**8.8**	5 U	**1.7 J**	**0.99 J**	**1.1 J**	5 U	**2.3 J**
Cobalt, Dissolve	µg/L	6	5 U	5 U	5 U	**1.6 J**	5 U	**32.2**	5 U	**2.8 J**	5 U	5 U
Copper, Dissolve	µg/L	1,300	5 U	5 U	5 U	**6.7**	5 U	5 U	5 U	**2 J**	5 U	5 U
Iron, Dissolve	µg/L	14,000	**26,400**	70 U	**83,700**	**48 J**	**38,200**	**243,000**	**84,900**	**1,260**	**56,800**	**1,800**
Manganese, Dissolve	µg/L	430	**1,420**	5 U	**2,240**	**212**	**1,740**	**11,400**	**2,470**	**403**	**2,630**	**742**
Nickel, Dissolve	µg/L	390	**1.2 J**	10 U	**1.8 J**	**3.1 J**	10 U	**65.2**	**1.6 J**	10 U	10 U	**3.3 J**
Selenium, Dissolve	µg/L	50	8 U	**4.7 J**	8 U	**7.1 J**	8 U	8 U	8 U	**5.8 J**	8 U	8 U
Silver, Dissolve	µg/L	94	6 U	6 U	6 U	6 U	6 U	**2.6 J**	6 U	6 U	**1 J**	6 U
Thallium, Dissolve	µg/L	2	10 U	10 U	**3.7 J**	10 U	10 U	10 U	10 U	**3.8 J**	10 U	10 U
Vanadium, Dissolve	µg/L	86	**1.6 J**	**44.6**	5 U	**5.1**	**1.9 J**	5 U	5 U	**16**	**2.3 J**	**1.1 J**
Zinc, Dissolve	µg/L	6,000	**3.1 JB**	**1.4 J**	10 U	**9.3 J**	10 U	**8.5 B**	**6.4 B**	**34.7**	**138**	**9.4 JB**
Other												
Cyanide	µg/L	200	10 U	**2.5 J**	10 U	**3.7 J**	10 U	10 U	10 U	**2.6 J**	10 U	**6.2 J**

Detections in bold
N/A indicates that the parameter was not analyzed for this sample
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 compound/analyte was not detected substantially above the level of the assoicated method blank/preparation or field blank.
U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

Table 4
Summary of Inorganics Detected in Groundwater
Parcel B22 - Development Area
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	FM-017-PZS	FM05-PZM004	FM05-PZM024	SW-053-MWS
Total Metals						
Aluminum	µg/L	20,000	**1,860**	**658 J**	50 U	**248**
Arsenic	µg/L	10	**5.2**	**7.4**	5 U	5 U
Barium	µg/L	2,000	**56.9**	**28.4**	**120**	**17.3**
Beryllium	µg/L	4	1 U	1 U	1 U	**2**
Cadmium	µg/L	5	3 U	3 U	3 U	**0.66 J**
Chromium	µg/L	100	**5 J**	**4.6 B**	5 U	5 U
Chromium VI	µg/L	0.035	10 U	10 U	10 U	10 U
Cobalt	µg/L	6	**1.3 J**	5 U	5 U	**77.7**
Copper	µg/L	1,300	**5.6**	**1.9 B**	5 U	5 U
Iron	µg/L	14,000	**2,470**	**843**	**50,800**	**5,040**
Lead	µg/L	15	**5.4**	5 U	5 U	5 U
Manganese	µg/L	430	**149**	**38.5**	**2,560**	**1,620**
Nickel	µg/L	390	**3 J**	**3.1 B**	**0.93 B**	**120**
Thallium	µg/L	2	10 U	10 U	10 U	**4.3 B**
Vanadium	µg/L	86	**33**	**25.2**	5 U	5 U
Zinc	µg/L	6,000	**11.6**	**3.7 B**	**1.9 B**	**127**
Dissolved Metals						
Aluminum, Dissolve	µg/L	20,000	**40.5 J**	**103**	50 U	**172**
Arsenic, Dissolve	µg/L	10	5 U	**8.6**	5 U	5 U
Barium, Dissolve	µg/L	2,000	**48.9**	**26.9**	**114**	**16.7**
Beryllium, Dissolve	µg/L	4	1 U	1 U	1 U	**1.8**
Cadmium, Dissolve	µg/L	5	3 U	3 U	3 U	**0.62 B**
Chromium, Dissolve	µg/L	100	5 U	**0.91 J**	5 U	**1.4 B**
Cobalt, Dissolve	µg/L	6	5 U	5 U	5 U	**85.6**
Copper, Dissolve	µg/L	1,300	5 U	5 U	5 U	**1.5 B**
Iron, Dissolve	µg/L	14,000	**354**	**45.3 B**	**47,300**	**4,900**
Manganese, Dissolve	µg/L	430	**105**	**34.1**	**2,520**	**1,870**
Nickel, Dissolve	µg/L	390	**1.2 J**	**1.8 J**	10 U	**128**
Selenium, Dissolve	µg/L	50	8 U	8 U	8 U	8 U
Silver, Dissolve	µg/L	94	6 U	6 U	6 U	**0.81 B**
Thallium, Dissolve	µg/L	2	10 U	10 U	10 U	10 U
Vanadium, Dissolve	µg/L	86	**26.9**	**23**	5 U	5 U
Zinc, Dissolve	µg/L	6,000	**2.2 B**	**0.84 B**	**1.1 B**	**135**
Other						
Cyanide	µg/L	200	**8.4 J**	**9.3 J**	10 U	10 U

Detections in bold
N/A indicates that the parameter was not analyzed for this sample
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 compound/analyte was not detected substantially above the level of the assoicated method blank/preparation or field blank.

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

Table 5 - B22-065-SB
Total PCBs Analytical Results

Depth (ft) Boring ID	0.5		1		2		3		4		5	
B22-065D-SB-1			0.4036									
B22-065D-SB-4									0.285			
B22-065E-SB-1			2.4182									
B22-065E-SB-4									0.154			
B22-065F-SB-0.5	0.2094											
B22-065F-SB-1			0.0609	U								
B22-065F-SB-2					0.0582	U						
B22-065G-SB-1			0.3055									
B22-065G-SB-5											0.0616	U
B22-065H-SB-1			0.713									
B22-065H-SB-3							0.0712	U				
B22-065I-SB-1			0.0557	U								
B22-065I-SB-5											0.4142	
B22-065J-SB-1			0.0604	U								
B22-065J-SB-5											0.0629	U
B22-065K-SB-1			0.619									
B22-065K-SB-5											0.0608	U
B22-065L-SB-1			0.0603	U								
B22-065L-SB-5											0.0655	U
B22-065M-SB-1			0.0667									
B22-065M-SB-5											0.0578	U
B22-065N-SB-1			0.0565	U								
B22-065N-SB-5											0.062	U
B22-065O-SB-1			0.0588	U								
B22-065O-SB-5											0.0586	U
B22-065P-SB-1			0.0613	U								
B22-065Q-SB-1			0.0615	U								
B22-065Q-SB-5											0.0593	U
B22-065R-SB-1			0.0606	U								
B22-065R-SB-5											0.0642	U

Notes:

All reported values are in units of mg/kg.

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

Table 6 - B22-028-SB
Total PCB Analytical Results

Depth (ft) Boring ID	1		2		3		4		5	
B22-028A-SB-1	20.8									
B22-028A-SB-5									0.0723	
B22-028B-SB-1	28									
B22-028B-SB-5									0.277	
B22-028C-SB-1	61.9									
B22-028C-SB-2			0.526							
B22-028C-SB-3					0.058	J				
B22-028C-SB-4							0.0562	U		
B22-028D-SB-1	1.7									
B22-028D-SB-5									0.0622	U
B22-028E-SB-1	203									
B22-028E-SB-2			2.01							
B22-028E-SB-3					0.062	U				
B22-028E-SB-4							0.059	U		
B22-028E-SB-5									0.0492	J
B22-028F-SB-1	7.27									
B22-028F-SB-5									0.0603	U
B22-028G-SB-1	38									
B22-028G-SB-5									0.0668	U
B22-028H-SB-1	159									
B22-028H-SB-2			33.2							
B22-028H-SB-3					0.117					
B22-028H-SB-4							0.058	U		
B22-028H-SB-5									0.0558	U
B22-028I-SB-1	0.758									
B22-028I-SB-5									0.0532	U
B22-028J-SB-1	0.53									
B22-028J-SB-5									0.055	U
B22-028K-SB-1	37.6									
B22-028K-SB-5									0.0622	U
B22-028L-SB-1	0.0553	U								
B22-028L-SB-5									0.0632	U
B22-028M-SB-1	4.48									
B22-028N-SB-1	0.0686									
B22-028O-SB-1	311									
B22-028O-SB-2			0.5726							
B22-028O-SB-3					0.46					
B22-028O-SB-4							0.116			
B22-028O-SB-5									0.121	
B22-028P-SB-1	31.9									
B22-028P-SB-5									0.0917	
B22-028Q-SB-1	3.787									
B22-028Q-SB-5									0.0668	U
B22-028R-SB-1	9.94									
B22-028R-SB-5									0.0623	U
B22-028S-SB-1	1.0048									
B22-028S-SB-5									0.0572	U
B22-028T-SB-1	4.887									
B22-028T-SB-5									0.0576	U

Notes:
All reported values are in units of mg/kg.
Red cells indicate PCB exceedance of excavation criteria (50 mg/kg)
U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.
J: The positive result reported for this analyte is a quantitative estimate.

Table 07 - B22-061-SB Benzo[a]pyrene Analytical Results										
Depth (ft) Boring ID	1		1.5		2		3		5	
B22-061A-SB			0.012	J					0.082	U
B22-061B-SB			0.097						0.13	J
B22-061C-SB	0.013	J							0.012	J
B22-061D-SB							0.029	J	0.078	U
B22-061E-SB					0.3	J			0.084	U
B22-061F-SB	26.2	J							0.17	J
B22-061G-SB	4.4	J							1.4	J
B22-061H-SB					0.031	J			1.6	
B22-061I-SB			0.014	J					0.074	U
B22-061J-SB			0.015	J					0.075	U
B22-061K-SB			0.09	J					0.35	J
B22-061L-SB			0.86	J					0.51	J
B22-072-SB	13.7									

Notes:

All reported values are in units of mg/kg.

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

J: The positive result reported for this analyte is a quantitative estimate.

Table 8
Summary of PAHs in Soil
Parcel B22
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-080-SB-1	B22-080-SB-5	B22-080A-SB-1	B22-080A-SB-5	B22-080B-SB-5	B22-080C-SB-1	B22-080C-SB-5	B22-080D-SB-1.5
PAHs										
2-Methylnaphthalene	mg/kg	3,000	**1.7**	0.0088 U	**0.006 J**	0.0082 UJ	**0.12**	0.0078 U	0.0085 U	**0.0088**
Acenaphthene	mg/kg	45,000	**4.1**	0.0088 U	**0.0017 J**	**0.00065 J**	**0.23**	**0.007 J**	0.0085 U	**0.029**
Acenaphthylene	mg/kg	45,000	**0.25**	0.0088 U	**0.0055 J**	**0.00088 J**	**1.4**	**0.0022 J**	0.0085 U	**0.0055 J**
Anthracene	mg/kg	230,000	**11.8**	**0.0011 J**	**0.012**	**0.0049 J**	**1.8**	**0.0092**	**0.00094 J**	**0.021**
Benzo[a]anthracene	mg/kg	2.9	**44.2**	**0.0061 J**	**0.061**	**0.043**	**3**	**0.018**	**0.0031 J**	**0.07**
Benzo[a]pyrene	mg/kg	0.29	**35.3**	**0.0057 J**	**0.065**	**0.035 J**	**3.3 J**	**0.014**	**0.001 J**	**0.022**
Benzo[b]fluoranthene	mg/kg	2.9	**69.8**	**0.013 B**	**0.16**	**0.09 J**	**6.6 J**	**0.077**	**0.0035 J**	**0.11**
Benzo[g,h,i]perylene	mg/kg		**9.2**	**0.0049 J**	**0.033**	**0.016 J**	**1.7 J**	**0.0093**	0.0085 UJ	**0.0082**
Benzo[k]fluoranthene	mg/kg	29	**60.6**	**0.012**	**0.15**	**0.082 J**	**6 J**	**0.07**	**0.0023 J**	**0.1**
Chrysene	mg/kg	290	**39.7**	**0.0073 J**	**0.068**	**0.041**	**2.7**	**0.033**	**0.0024 J**	**0.071**
Dibenz[a,h]anthracene	mg/kg	0.29	**2.7**	0.0088 U	**0.012**	**0.0051 J**	**0.56 J**	**0.0031 J**	0.0085 UJ	**0.0035 J**
Fluoranthene	mg/kg	30,000	**117**	**0.015**	**0.11**	**0.075**	**5.9**	**0.071**	**0.0024 J**	**0.24**
Fluorene	mg/kg	30,000	**3.1**	0.0088 U	**0.0015 J**	0.0082 UJ	**0.37**	**0.0055 J**	0.0085 U	**0.0045 J**
Indeno[1,2,3-c,d]pyrene	mg/kg	2.9	**8.8**	**0.0032 J**	**0.036**	**0.017 J**	**1.5 J**	**0.0099**	0.0085 UJ	**0.0089**
Naphthalene	mg/kg	17	**3.2**	0.0088 U	**0.0063 B**	0.0082 UJ	**0.26**	**0.0019 B**	0.0085 U	**0.014**
Phenanthrene	mg/kg		**84.2**	**0.0068 JB**	**0.045**	**0.023**	**4.2**	**0.056**	**0.0015 J**	**0.25**
Pyrene	mg/kg	23,000	**95.3**	**0.012**	**0.095**	**0.065**	**4.5**	**0.13**	**0.014**	**0.24**

Detections in bold

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 compound/analyte was not detected substantially above the level of the associated method blank/preparation 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 actual quantitation/detection limit may be higher than reported.

Table 8
Summary of PAHs in Soil
Parcel B22
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-080D-SB-5	B22-080E-SB-1.5	B22-080E-SB-5	B22-080F-SB-1	B22-080F-SB-5	B22-080G-SB-1	B22-080H-SB-1	B22-080H-SB-5
PAHs										
2-Methylnaphthalene	mg/kg	3,000	0.0083 U	**0.019**	0.0083 U	0.008 U	0.0084 U	0.0075 U	**0.047 J**	**0.0025 J**
Acenaphthene	mg/kg	45,000	0.0083 U	**0.0056 J**	0.0083 U	0.008 U	0.0084 U	0.0075 U	0.077 U	0.008 U
Acenaphthylene	mg/kg	45,000	0.0083 U	**0.00064 J**	0.0083 U	**0.0039 J**	0.0084 U	0.0075 U	0.077 U	0.008 U
Anthracene	mg/kg	230,000	0.0083 U	**0.0033 J**	0.0083 U	**0.008 J**	0.0084 U	**0.0012 J**	**0.019 J**	0.008 U
Benzo[a]anthracene	mg/kg	2.9	**0.0015 J**	**0.0051 J**	0.0083 U	**0.06**	**0.0021 J**	**0.0045 J**	**0.06 J**	**0.0061 J**
Benzo[a]pyrene	mg/kg	0.29	0.0083 U	**0.0035 J**	0.0083 U	**0.051 J**	0.0084 U	**0.0025 J**	**0.045 J**	**0.0039 J**
Benzo[b]fluoranthene	mg/kg	2.9	**0.0011 J**	**0.014**	0.0083 U	**0.14 J**	**0.0032 J**	**0.0077**	**0.092**	**0.0077 J**
Benzo[g,h,i]perylene	mg/kg		0.0083 U	**0.0051 J**	0.0083 U	**0.014 J**	0.0084 U	**0.0027 J**	**0.035 J**	**0.0027 J**
Benzo[k]fluoranthene	mg/kg	29	0.0083 U	**0.013**	0.0083 U	**0.12 J**	**0.0029 J**	**0.007 J**	**0.083**	**0.007 J**
Chrysene	mg/kg	290	**0.00081 J**	**0.012**	0.0083 U	**0.041**	**0.0013 J**	**0.0046 J**	**0.054 J**	**0.0056 J**
Dibenz[a,h]anthracene	mg/kg	0.29	0.0083 U	**0.0014 J**	0.0083 U	**0.0059 J**	0.0084 U	0.0075 U	**0.011 J**	0.008 U
Fluoranthene	mg/kg	30,000	**0.003 J**	**0.03**	**0.00055 J**	**0.097**	**0.0022 J**	**0.014**	**0.12**	**0.0079 J**
Fluorene	mg/kg	30,000	0.0083 U	0.0075 U	0.0083 U	**0.0019 J**	0.0084 U	0.0075 U	0.077 U	0.008 U
Indeno[1,2,3-c,d]pyrene	mg/kg	2.9	0.0083 U	**0.0039 J**	0.0083 U	**0.02 J**	0.0084 U	**0.0021 J**	**0.026 J**	**0.0021 J**
Naphthalene	mg/kg	17	0.0083 U	**0.026**	0.0083 U	**0.0026 B**	0.0084 U	0.0075 U	**0.22**	**0.0047 B**
Phenanthrene	mg/kg		**0.003 J**	**0.031**	**0.00089 J**	**0.022**	**0.0016 J**	**0.0073 J**	**0.083**	**0.0069 J**
Pyrene	mg/kg	23,000	**0.0024 J**	**0.02**	0.0083 U	**0.072**	**0.002 J**	**0.01**	**0.092**	**0.007 J**

Detections in bold

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 compound/analyte was not detected substantially above the level of the associated method blank/preparation 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 actual quantitation/detection limit may be higher than reported.

Table 8
Summary of PAHs in Soil
Parcel B22
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-080I-SB-2	B22-080I-SB-5	B22-080J-SB-2.5	B22-080J-SB-4	B22-080K-SB-2	B22-080K-SB-5	B22-080L-SB-1.5	B22-080L-SB-5
PAHs										
2-Methylnaphthalene	mg/kg	3,000	0.0089 U	0.0079 U	**0.0085**	**0.006 J**	0.0075 U	0.0084 U	0.0076 U	0.0085 U
Acenaphthene	mg/kg	45,000	**0.00068 J**	0.0079 U	**0.00057 J**	0.0085 U	0.0075 U	0.0084 U	0.0076 U	0.0085 U
Acenaphthylene	mg/kg	45,000	**0.0014 J**	0.0079 U	0.0076 U	**0.00068 J**	0.0075 U	0.0084 U	0.0076 U	0.0085 U
Anthracene	mg/kg	230,000	**0.0046 J**	**0.0016 J**	**0.0029 J**	**0.0024 J**	**0.0012 J**	0.0084 U	0.0076 U	0.0085 U
Benzo[a]anthracene	mg/kg	2.9	**0.011**	**0.0063 J**	**0.011**	**0.0085**	**0.0038 J**	**0.0014 J**	**0.0078**	0.0085 U
Benzo[a]pyrene	mg/kg	0.29	**0.0071 J**	**0.0049 J**	**0.0067 J**	**0.0058 J**	**0.0023 J**	0.0084 U	0.0076 U	0.0085 U
Benzo[b]fluoranthene	mg/kg	2.9	**0.016**	**0.0097**	**0.014**	**0.017**	**0.008**	**0.00074 J**	**0.015**	0.0085 U
Benzo[g,h,i]perylene	mg/kg		**0.0069 J**	**0.0046 J**	**0.0074 J**	**0.0056 J**	**0.0014 J**	0.0084 U	**0.0011 J**	0.0085 U
Benzo[k]fluoranthene	mg/kg	29	**0.015**	**0.0087**	**0.007 J**	**0.016**	**0.0076**	0.0084 U	**0.015**	0.0085 U
Chrysene	mg/kg	290	**0.0093**	**0.0048 J**	**0.013**	**0.0078 J**	**0.0039 J**	0.0084 U	**0.015**	0.0085 U
Dibenz[a,h]anthracene	mg/kg	0.29	**0.0017 J**	**0.0011 J**	**0.0018 J**	**0.0013 J**	0.0075 U	0.0084 U	0.0076 U	0.0085 U
Fluoranthene	mg/kg	30,000	**0.038**	**0.011**	**0.033**	**0.024**	**0.013**	**0.0023 J**	**0.07**	0.0085 U
Fluorene	mg/kg	30,000	**0.00095 J**	0.0079 U	0.0076 U	0.0085 U	0.0075 U	0.0084 U	0.0076 U	0.0085 U
Indeno[1,2,3-c,d]pyrene	mg/kg	2.9	**0.0054 J**	**0.0034 J**	**0.0068 J**	**0.0051 J**	**0.0012 J**	0.0084 U	**0.0012 J**	0.0085 U
Naphthalene	mg/kg	17	**0.0028 B**	0.0079 U	**0.0064 B**	**0.0034 B**	0.0075 U	0.0084 U	0.0076 U	0.0085 U
Phenanthrene	mg/kg		**0.033**	**0.0068 J**	**0.032**	**0.024**	**0.014**	**0.0025 J**	**0.052**	0.0085 U
Pyrene	mg/kg	23,000	**0.026**	**0.01**	**0.023**	**0.016**	**0.0084**	**0.0016 J**	**0.053**	0.0085 U

Detections in bold

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 compound/analyte was not detected substantially above the level of the associated method blank/preparation 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 actual quantitation/detection limit may be higher than reported.

Table 8
Summary of PAHs in Soil
Parcel B22
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-080M-SB-1.5	B22-080M-SB-5	B22-080N-SB-2	B22-080N-SB-5	B22-080O-SB-2	B22-080O-SB-5	B22-080P-SB-1.5	B22-080P-SB-5
PAHs										
2-Methylnaphthalene	mg/kg	3,000	**0.12**	0.0086 U	**0.0057 J**	0.0084 U	0.0078 U	0.0072 U	0.073 U	0.0089 UJ
Acenaphthene	mg/kg	45,000	**0.32**	**0.0037 J**	**0.0047 J**	0.0084 U	0.0078 U	0.0072 U	**0.018 J**	0.0089 U
Acenaphthylene	mg/kg	45,000	**0.014**	0.0086 U	**0.00069 J**	0.0084 U	**0.0017 J**	0.0072 U	**0.017 J**	0.0089 U
Anthracene	mg/kg	230,000	**0.17**	**0.0019 J**	**0.019**	0.0084 U	**0.0069 J**	0.0072 U	**0.12**	0.0089 U
Benzo[a]anthracene	mg/kg	2.9	**0.28**	**0.005 J**	**0.048**	0.0084 U	**0.023 J**	0.0072 U	**0.35**	0.0089 U
Benzo[a]pyrene	mg/kg	0.29	**0.058**	0.0086 U	**0.039**	0.0084 U	**0.02 J**	0.0072 U	**0.34**	0.0089 U
Benzo[b]fluoranthene	mg/kg	2.9	**0.28**	**0.0032 J**	**0.11**	0.0084 U	**0.093 J**	**0.00073 J**	**1.1**	**0.001 J**
Benzo[g,h,i]perylene	mg/kg		**0.014**	0.0086 U	**0.013**	0.0084 U	**0.014**	0.0072 U	**0.22**	**0.0011 J**
Benzo[k]fluoranthene	mg/kg	29	**0.25**	**0.0029 J**	**0.1**	0.0084 U	**0.084**	0.0072 U	**1**	0.0089 U
Chrysene	mg/kg	290	**0.2**	**0.0021 J**	**0.048**	0.0084 U	**0.045 J**	0.0072 U	**0.52**	0.0089 U
Dibenz[a,h]anthracene	mg/kg	0.29	**0.0057 J**	0.0086 U	**0.0046 J**	0.0084 U	**0.0051 J**	0.0072 U	**0.073 J**	0.0089 U
Fluoranthene	mg/kg	30,000	**1.5**	**0.021**	**0.12**	0.0084 U	**0.12 J**	0.0072 U	**0.54**	0.0089 U
Fluorene	mg/kg	30,000	**0.099**	**0.0012 J**	**0.0013 J**	0.0084 U	0.0078 U	0.0072 U	**0.023 J**	0.0089 U
Indeno[1,2,3-c,d]pyrene	mg/kg	2.9	**0.019**	0.0086 U	**0.014**	0.0084 U	**0.015**	0.0072 U	**0.21**	0.0089 U
Naphthalene	mg/kg	17	**0.2**	**0.0038 B**	**0.0082**	0.0084 U	0.0078 U	0.0072 U	**0.039 B**	0.0089 U
Phenanthrene	mg/kg		**2.2**	**0.025**	**0.061**	**0.00076 J**	**0.072**	0.0072 U	**0.29**	0.0089 U
Pyrene	mg/kg	23,000	**1.1**	**0.014**	**0.091**	0.0084 U	**0.09 J**	0.0072 U	**0.93**	0.0089 U

Detections in bold

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 compound/analyte was not detected substantially above the level of the associated method blank/preparation 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 actual quantitation/detection limit may be higher than reported.

Table 9
Summary of PAHs in Soil
Parcel B22
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-084-SB-1	B22-084AA-SB-1	B22-084AA-SB-5	B22-084BB-SB-1	B22-084BB-SB-5	B22-084CC-SB-1
PAHs								
2-Methylnaphthalene	mg/kg	3,000	**0.16**	**0.0068 J**	**0.019**	**0.0085 J**	**0.0057 J**	**0.022**
Acenaphthene	mg/kg	45,000	**1.1**	**0.021**	**0.022**	**0.0089 J**	**0.0049 J**	**0.0058 J**
Acenaphthylene	mg/kg	45,000	**0.23**	**0.0044 J**	**0.0038 J**	**0.0023 J**	**0.0012 J**	**0.0031 J**
Anthracene	mg/kg	230,000	**6.4**	**0.082**	**0.061**	**0.034**	**0.017**	**0.093**
Benzo[a]anthracene	mg/kg	2.9	**34.6**	**0.33**	**0.18**	**0.12**	**0.059**	**0.023**
Benzo[a]pyrene	mg/kg	0.29	**24.5**	**0.31**	**0.14**	**0.089**	**0.047**	**0.023**
Benzo[b]fluoranthene	mg/kg	2.9	**50.3**	**0.47**	**0.3**	**0.2**	**0.12**	**0.068**
Benzo[g,h,i]perylene	mg/kg		**11.5**	**0.18**	**0.1**	**0.056**	**0.041**	**0.019**
Benzo[k]fluoranthene	mg/kg	29	**43.7**	**0.13**	**0.27**	**0.18**	**0.11**	**0.056**
Chrysene	mg/kg	290	**29.1**	**0.3**	**0.17**	**0.11**	**0.061**	**0.042**
Dibenz[a,h]anthracene	mg/kg	0.29	**4.8**	**0.064**	**0.028**	**0.018**	**0.012**	**0.0062 J**
Fluoranthene	mg/kg	30,000	**58.6**	**0.67**	**0.49**	**0.28**	**0.13**	**0.062**
Fluorene	mg/kg	30,000	**0.94**	**0.018**	**0.017**	**0.0082 J**	**0.0034 J**	**0.02**
Indeno[1,2,3-c,d]pyrene	mg/kg	2.9	**11.7**	**0.17**	**0.079**	**0.051**	**0.035**	**0.017**
Naphthalene	mg/kg	17	**0.19**	**0.0084**	**0.027**	**0.017 J**	**0.0091**	**0.019**
Phenanthrene	mg/kg		**13.7**	**0.32**	**0.23**	**0.16**	**0.081**	**0.074**
Pyrene	mg/kg	23,000	**49.6**	**0.59**	**0.43**	**0.22**	**0.11**	**0.047**

Detections in bold

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 compound/analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

Table 9
Summary of PAHs in Soil
Parcel B22
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-084CC-SB-5	B22-084DD-SB-1	B22-084DD-SB-5	B22-084O-SB-1	B22-084O-SB-5	B22-084P-SB-1
PAHs								
2-Methylnaphthalene	mg/kg	3,000	0.008 U	**0.61**	0.0076 U	**0.051**	**0.027**	**0.036 J**
Acenaphthene	mg/kg	45,000	**0.00083 J**	**2.9**	**0.0042 J**	**0.0075**	**0.0026 J**	**0.066 J**
Acenaphthylene	mg/kg	45,000	0.008 U	**0.2**	0.0076 U	**0.015**	**0.0044 J**	**0.0079 J**
Anthracene	mg/kg	230,000	**0.0024 J**	**9.5**	**0.0028 J**	**0.059**	**0.021**	**0.077**
Benzo[a]anthracene	mg/kg	2.9	**0.0087**	**25.6**	**0.0062 J**	**0.19**	**0.082 J**	**0.21**
Benzo[a]pyrene	mg/kg	0.29	**0.0057 J**	**19.8**	**0.0028 J**	**0.16**	**0.075**	**0.14**
Benzo[b]fluoranthene	mg/kg	2.9	**0.011**	**39.8**	**0.0045 J**	**0.42**	**0.19 J**	**0.41**
Benzo[g,h,i]perylene	mg/kg		**0.0041 J**	**11.1**	**0.0017 J**	**0.062**	**0.025 J**	**0.07 J**
Benzo[k]fluoranthene	mg/kg	29	**0.0096 J**	**10.2**	**0.0046 J**	**0.38**	**0.17 J**	**0.37**
Chrysene	mg/kg	290	**0.0067 J**	**22.1**	**0.0037 J**	**0.21**	**0.088 J**	**0.2**
Dibenz[a,h]anthracene	mg/kg	0.29	**0.0012 J**	**4.7**	0.0076 U	**0.016**	**0.009 J**	**0.022 J**
Fluoranthene	mg/kg	30,000	**0.015**	**62**	**0.017**	**0.45**	**0.18 J**	**0.52**
Fluorene	mg/kg	30,000	**0.00079 J**	**2.7**	**0.0028 J**	**0.0068 J**	**0.0021 J**	**0.041 J**
Indeno[1,2,3-c,d]pyrene	mg/kg	2.9	**0.0035 J**	**11.7**	**0.0016 J**	**0.061**	**0.025 J**	**0.062 J**
Naphthalene	mg/kg	17	0.008 U	**0.49**	0.0076 U	**0.096**	**0.039**	**0.056 B**
Phenanthrene	mg/kg		**0.011 J**	**36.6**	**0.02**	**0.28**	**0.093**	**0.48**
Pyrene	mg/kg	23,000	**0.012**	**47**	**0.013**	**0.34**	**0.14 J**	**0.4**

Detections in bold

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 compound/analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

Table 9
Summary of PAHs in Soil
Parcel B22
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-084P-SB-5	B22-084Q-SB-1	B22-084Q-SB-5	B22-084R-SB-1	B22-084S-SB-2	B22-084S-SB-5
PAHs								
2-Methylnaphthalene	mg/kg	3,000	0.085 U	**0.036 J**	**1.2**	**0.0043 J**	**0.027 J**	**0.0028 J**
Acenaphthene	mg/kg	45,000	**0.093**	**0.034 J**	**6.1**	**0.0044 J**	**0.13**	**0.006 J**
Acenaphthylene	mg/kg	45,000	0.085 U	**0.015 J**	**0.48**	**0.00089 J**	**0.036 J**	**0.0018 J**
Anthracene	mg/kg	230,000	**0.33**	**0.19**	**15.7**	**0.0036 J**	**0.37**	**0.021**
Benzo[a]anthracene	mg/kg	2.9	**0.73**	**0.46**	**42.4**	**0.017**	**1.4**	**0.066**
Benzo[a]pyrene	mg/kg	0.29	**0.51**	**0.36**	**36.8**	**0.01**	**1**	**0.052**
Benzo[b]fluoranthene	mg/kg	2.9	**1.3**	**1**	**76.8**	**0.035**	**3**	**0.16**
Benzo[g,h,i]perylene	mg/kg		**0.15**	**0.16**	**12.4**	**0.0036 J**	**0.3**	**0.017**
Benzo[k]fluoranthene	mg/kg	29	**1.2**	**0.93**	**67.8**	**0.031**	**2.7**	**0.14**
Chrysene	mg/kg	290	**0.7**	**0.51**	**43.9**	**0.016**	**1.4**	**0.072**
Dibenz[a,h]anthracene	mg/kg	0.29	**0.04 J**	**0.051 J**	**4.5**	0.0072 U	**0.1**	**0.0044 J**
Fluoranthene	mg/kg	30,000	**1.7**	**1.1**	**120**	**0.053**	**3.7**	**0.16**
Fluorene	mg/kg	30,000	**0.07 J**	**0.038 J**	**6.6**	**0.0021 J**	**0.1**	**0.0053 J**
Indeno[1,2,3-c,d]pyrene	mg/kg	2.9	**0.15**	**0.15**	**12.7**	**0.0036 J**	**0.34**	**0.018**
Naphthalene	mg/kg	17	**0.026 B**	**0.077 B**	**2.5**	**0.004 B**	**0.032 B**	**0.0032 B**
Phenanthrene	mg/kg		**1.3**	**0.68**	**66.4**	**0.055**	**1.4**	**0.09**
Pyrene	mg/kg	23,000	**1.3**	**0.9**	**97.4**	**0.04**	**3.1**	**0.13**

Detections in bold

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 compound/analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

Table 9
Summary of PAHs in Soil
Parcel B22
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-084T-SB-1.5	B22-084T-SB-4	B22-084U-SB-1.5	B22-084U-SB-5	B22-084V-SB-1.5	B22-084V-SB-5
PAHs								
2-Methylnaphthalene	mg/kg	3,000	0.0076 U	0.074 U	0.0076 U	**0.0036 J**	0.008 U	**0.0025 J**
Acenaphthene	mg/kg	45,000	**0.00066 J**	**0.019 J**	**0.0014 J**	**0.0014 J**	0.008 U	0.0081 U
Acenaphthylene	mg/kg	45,000	0.0076 U	**0.014 J**	**0.00063 J**	0.0079 U	0.008 U	0.0081 U
Anthracene	mg/kg	230,000	**0.0037 J**	**0.06 J**	**0.0019 J**	**0.0067 J**	0.008 U	0.0081 U
Benzo[a]anthracene	mg/kg	2.9	**0.016**	**0.084**	**0.0095**	**0.0058 J**	**0.0026 J**	**0.0025 J**
Benzo[a]pyrene	mg/kg	0.29	**0.0063 J**	**0.016 J**	**0.0044 J**	**0.0022 J**	**0.0011 J**	**0.0013 J**
Benzo[b]fluoranthene	mg/kg	2.9	**0.019**	**0.28 J**	**0.02**	**0.017**	**0.0022 J**	**0.0032 J**
Benzo[g,h,i]perylene	mg/kg		**0.0078**	**0.027 J**	**0.0066 J**	**0.0054 J**	**0.0011 J**	**0.0011 J**
Benzo[k]fluoranthene	mg/kg	29	**0.0078**	**0.26 J**	**0.017**	**0.015**	**0.003 J**	**0.0028 J**
Chrysene	mg/kg	290	**0.021**	**0.21**	**0.01**	**0.028**	**0.002 J**	**0.0017 J**
Dibenz[a,h]anthracene	mg/kg	0.29	**0.0025 J**	0.074 UJ	**0.0017 J**	**0.0011 J**	0.008 U	0.0081 U
Fluoranthene	mg/kg	30,000	**0.085**	**0.57**	**0.025**	**0.014**	**0.0045 J**	**0.0035 J**
Fluorene	mg/kg	30,000	0.0076 U	**0.04 J**	0.0076 U	**0.0039 J**	0.008 U	0.0081 U
Indeno[1,2,3-c,d]pyrene	mg/kg	2.9	**0.0066 J**	**0.025 J**	**0.0062 J**	**0.0034 J**	0.008 U	0.0081 U
Naphthalene	mg/kg	17	0.0076 U	0.074 U	0.0076 U	**0.0043 J**	0.008 U	**0.0027 J**
Phenanthrene	mg/kg		**0.068**	**0.28**	**0.02**	**0.025**	**0.0034 J**	**0.0023 J**
Pyrene	mg/kg	23,000	**0.061**	**0.53**	**0.028**	**0.028**	**0.0036 J**	**0.0029 J**

Detections in bold

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 compound/analyte was not detected substantially above the level of the associated method blank/preparation or field blank.

U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

Table 9
Summary of PAHs in Soil
Parcel B22
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-084W-SB-1.5	B22-084W-SB-5	B22-084X-SB-1.5	B22-084X-SB-5
PAHs						
2-Methylnaphthalene	mg/kg	3,000	**0.15**	**0.028**	0.0081 U	0.0081 U
Acenaphthene	mg/kg	45,000	**0.19**	**0.087**	0.0081 U	0.0081 U
Acenaphthylene	mg/kg	45,000	**0.056 J**	**0.011**	0.0081 U	0.0081 U
Anthracene	mg/kg	230,000	**0.74**	**0.51**	0.0081 U	0.0081 U
Benzo[a]anthracene	mg/kg	2.9	**2.1**	**1.5**	0.0081 U	**0.0021 J**
Benzo[a]pyrene	mg/kg	0.29	**1.9**	**1.3**	0.0081 U	0.0081 U
Benzo[b]fluoranthene	mg/kg	2.9	**3.4**	**2.7**	**0.0013 J**	0.0081 U
Benzo[g,h,i]perylene	mg/kg		**0.97**	**0.66**	0.0081 U	0.0081 U
Benzo[k]fluoranthene	mg/kg	29	**2.7**	**0.62**	0.0081 U	0.0081 U
Chrysene	mg/kg	290	**2**	**1.3**	**0.00086 J**	**0.0013 J**
Dibenz[a,h]anthracene	mg/kg	0.29	**0.37**	**0.23**	0.0081 U	0.0081 U
Fluoranthene	mg/kg	30,000	**4.5**	**4.5**	**0.0016 J**	**0.0028 J**
Fluorene	mg/kg	30,000	**0.19**	**0.072**	0.0081 U	0.0081 U
Indeno[1,2,3-c,d]pyrene	mg/kg	2.9	**0.94**	**0.63**	0.0081 U	0.0081 U
Naphthalene	mg/kg	17	**0.17**	**0.025**	**0.0021 J**	0.0081 U
Phenanthrene	mg/kg		**3.2**	**2.2**	**0.0022 J**	**0.0024 J**
Pyrene	mg/kg	23,000	**3.9**	**3.9**	**0.0015 J**	**0.0025 J**

Detections in bold
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 compound/analyte was not detected substantially above the level of the associated method blank/preparation or field blank.
U: This analyte was not detected in the sample. The numeric value represents the sample quantitation/detection limit.

Table 10
Summary of PAHs in Soil
Parcel B22
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-085-SB-1	B22-085A-SB-2	B22-085A-SB-5	B22-085B-SB-2	B22-085B-SB-5	B22-085C-SB-2	B22-085C-SB-5
PAHs									
2-Methylnaphthalene	mg/kg	3,000	**0.41**	**0.15**	0.076 UJ	**0.087**	0.085 U	**0.42**	0.0085 U
Acenaphthene	mg/kg	45,000	**2**	**0.0093 J**	0.076 UJ	**0.035 J**	**0.0055 J**	**0.024 J**	0.0085 U
Acenaphthylene	mg/kg	45,000	**0.33**	**0.049 J**	0.076 UJ	**0.053 J**	0.085 U	**0.091**	0.0085 U
Anthracene	mg/kg	230,000	**7.7**	**0.031 J**	0.076 U	**0.17**	**0.012 J**	**0.042 J**	0.0085 U
Benzo[a]anthracene	mg/kg	2.9	**30.1**	**0.26**	0.076 U	**0.42**	**0.039 J**	**0.11**	0.0085 U
Benzo[a]pyrene	mg/kg	0.29	**23.7**	**0.28 J**	0.076 U	**0.37**	**0.032 J**	**0.085**	0.0085 U
Benzo[b]fluoranthene	mg/kg	2.9	**48.8**	**0.67 J**	0.076 U	**0.89**	**0.1**	**0.29**	**0.00066 J**
Benzo[g,h,i]perylene	mg/kg		**7.6**	**0.093 J**	0.076 U	**0.13**	0.085 U	**0.025 J**	0.0085 U
Benzo[k]fluoranthene	mg/kg	29	**42.4**	**0.59 J**	0.076 U	**0.81**	**0.1**	**0.26**	0.0085 U
Chrysene	mg/kg	290	**27.2**	**0.29**	0.076 U	**0.38**	**0.029 J**	**0.3**	0.0085 U
Dibenz[a,h]anthracene	mg/kg	0.29	**3.2**	**0.023 J**	0.076 U	**0.053 J**	0.085 U	**0.017 J**	0.0085 U
Fluoranthene	mg/kg	30,000	**61.8**	**0.27**	0.076 U	**0.82**	**0.058 J**	**0.16**	**0.00094 J**
Fluorene	mg/kg	30,000	**2.1**	**0.018 J**	0.076 UJ	**0.025 J**	0.085 U	**0.043 J**	0.0085 U
Indeno[1,2,3-c,d]pyrene	mg/kg	2.9	**8.2**	**0.08 J**	0.076 U	**0.13**	**0.019 J**	**0.018 J**	0.0085 U
Naphthalene	mg/kg	17	**0.64**	**0.096**	0.076 UJ	**0.073 J**	0.085 U	**0.42**	0.0085 U
Phenanthrene	mg/kg		**32.3**	**0.18**	0.076 U	**0.55**	**0.032 J**	**0.51**	**0.0013 J**
Pyrene	mg/kg	23,000	**49**	**0.25**	0.076 U	**0.66**	**0.063 J**	**0.15**	0.0085 U

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

J: The positive result reported for this analyte is a quantitative estimate.

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 quantitation/detection

Table 10
Summary of PAHs in Soil
Parcel B22
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-085D-SB-1.5	B22-085D-SB-5	B22-085E-SB-2	B22-085E-SB-5	B22-085F-SB-2	B22-085F-SB-5	B22-085G-SB-1
PAHs									
2-Methylnaphthalene	mg/kg	3,000	0.0082 UJ	0.0078 U	**0.0024 J**	0.0071 U	0.0079 U	0.0082 UJ	0.008 U
Acenaphthene	mg/kg	45,000	0.0082 UJ	0.0078 U	**0.0016 J**	**0.0014 J**	0.0079 U	0.0082 UJ	**0.00063 J**
Acenaphthylene	mg/kg	45,000	0.0082 UJ	0.0078 U	**0.0013 J**	**0.00065 J**	**0.00067 J**	0.0082 UJ	0.008 U
Anthracene	mg/kg	230,000	0.0082 U	0.0078 U	**0.005 J**	**0.003 J**	**0.00081 J**	0.0082 U	**0.0014 J**
Benzo[a]anthracene	mg/kg	2.9	0.0082 U	0.0078 U	**0.028**	**0.01**	**0.0039 J**	0.0082 U	**0.0087**
Benzo[a]pyrene	mg/kg	0.29	0.0082 U	0.0078 U	**0.024**	**0.01**	**0.0021 J**	0.0082 U	**0.0075 J**
Benzo[b]fluoranthene	mg/kg	2.9	**0.00061 J**	**0.0011 J**	**0.032**	**0.012**	**0.0033 J**	0.0082 U	**0.019**
Benzo[g,h,i]perylene	mg/kg		0.0082 U	0.0078 U	**0.014**	**0.0065 J**	**0.0013 J**	0.0082 U	**0.0079 J**
Benzo[k]fluoranthene	mg/kg	29	0.0082 U	0.0078 U	**0.013**	**0.0059 J**	**0.0031 J**	0.0082 U	**0.017**
Chrysene	mg/kg	290	0.0082 U	**0.00066 J**	**0.026**	**0.0091**	**0.0037 J**	0.0082 U	**0.009**
Dibenz[a,h]anthracene	mg/kg	0.29	0.0082 U	0.0078 U	**0.004 J**	**0.0017 J**	0.0079 U	0.0082 U	**0.0021 J**
Fluoranthene	mg/kg	30,000	**0.0018 J**	**0.0013 J**	**0.059**	**0.026**	**0.0037 J**	0.0082 U	**0.016**
Fluorene	mg/kg	30,000	0.0082 UJ	0.0078 U	**0.00074 J**	0.0071 U	0.0079 U	0.0082 UJ	0.008 U
Indeno[1,2,3-c,d]pyrene	mg/kg	2.9	0.0082 U	0.0078 U	**0.013**	**0.0056 J**	0.0079 U	0.0082 U	**0.0059 J**
Naphthalene	mg/kg	17	0.0082 UJ	0.0078 U	**0.0019 J**	**0.0018 J**	0.0079 U	0.0082 UJ	**0.003 J**
Phenanthrene	mg/kg		**0.0012 J**	**0.00091 J**	**0.013**	**0.011**	**0.0018 J**	0.0082 U	**0.01**
Pyrene	mg/kg	23,000	**0.0013 J**	**0.001 J**	**0.045**	**0.018**	**0.0049 J**	0.0082 U	**0.014**

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

J: The positive result reported for this analyte is a quantitative estimate.

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 quantitation/detection

Table 10
Summary of PAHs in Soil
Parcel B22
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-085G-SB-5	B22-085H-SB-2	B22-085H-SB-5	B22-085I-SB-1	B22-085I-SB-5	B22-085J-SB-1	B22-085J-SB-4
PAHs									
2-Methylnaphthalene	mg/kg	3,000	**0.058**	**0.19**	**0.0087**	**0.026**	0.078 U	**0.064**	**0.092**
Acenaphthene	mg/kg	45,000	**0.02**	**0.19**	0.0074 U	**0.0072 J**	**0.0059 J**	**0.017**	**0.025**
Acenaphthylene	mg/kg	45,000	**0.0048 J**	**0.027**	0.0074 U	**0.0097**	0.078 U	**0.011**	**0.0082**
Anthracene	mg/kg	230,000	**0.039**	**0.31**	**0.0007 J**	**0.044**	**0.011 J**	**0.07**	**0.078**
Benzo[a]anthracene	mg/kg	2.9	**0.03**	**0.94**	**0.0027 J**	**0.17 J**	0.078 U	**0.18**	**0.12**
Benzo[a]pyrene	mg/kg	0.29	**0.019 J**	**0.82**	**0.0019 J**	**0.15**	0.078 U	**0.13**	**0.076**
Benzo[b]fluoranthene	mg/kg	2.9	**0.04 J**	**1.3**	**0.0028 J**	**0.49 J**	**0.012 J**	**0.34**	**0.2**
Benzo[g,h,i]perylene	mg/kg		**0.0077 J**	**0.4**	**0.0014 J**	**0.06 J**	0.078 U	**0.095**	**0.058**
Benzo[k]fluoranthene	mg/kg	29	**0.036 J**	**0.47**	**0.0013 J**	**0.45 J**	0.078 U	**0.31**	**0.19**
Chrysene	mg/kg	290	**0.044**	**0.92**	**0.0021 J**	**0.23 J**	**0.015 J**	**0.23**	**0.14**
Dibenz[a,h]anthracene	mg/kg	0.29	**0.0015 J**	**0.14**	0.0074 U	**0.022 J**	0.078 U	**0.029**	**0.018**
Fluoranthene	mg/kg	30,000	**0.099**	**1.7**	**0.0049 J**	**0.35 J**	**0.025 J**	**0.62**	**0.56**
Fluorene	mg/kg	30,000	**0.037**	**0.15**	0.0074 U	**0.0085**	**0.0068 J**	**0.0054 J**	**0.0035 J**
Indeno[1,2,3-c,d]pyrene	mg/kg	2.9	**0.0045 J**	**0.4**	**0.0013 J**	**0.061 J**	0.078 U	**0.085**	**0.05**
Naphthalene	mg/kg	17	**0.2**	**0.03**	**0.004 J**	**0.036**	0.078 U	**0.08**	**0.1**
Phenanthrene	mg/kg		**0.21**	**1.1**	**0.0039 J**	**0.21 J**	**0.027 J**	**0.48**	**0.63**
Pyrene	mg/kg	23,000	**0.11**	**1.3**	**0.0039 J**	**0.27 J**	**0.019 J**	**0.45**	**0.36**

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

J: The positive result reported for this analyte is a quantitative estimate.

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 quantitation/detection

Table 10
Summary of PAHs in Soil
Parcel B22
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-085K-SB-1	B22-085K-SB-5	B22-085L-SB-1	B22-085M-SB-1	B22-085M-SB-5	B22-085N-SB-1	B22-085N-SB-5
PAHs									
2-Methylnaphthalene	mg/kg	3,000	**0.068**	**0.028**	**1.2**	**0.06**	**0.046**	**0.038**	**0.018**
Acenaphthene	mg/kg	45,000	**0.024**	**0.0015 J**	**2.6**	**0.0044 J**	**0.0035 J**	**0.002 J**	**0.00087 J**
Acenaphthylene	mg/kg	45,000	**0.062**	**0.004 J**	**0.2**	**0.019**	**0.0081**	**0.0076**	**0.0046 J**
Anthracene	mg/kg	230,000	**0.2**	**0.012**	**4.3**	**0.05**	**0.023**	**0.02**	**0.012**
Benzo[a]anthracene	mg/kg	2.9	**0.58**	**0.041**	**7.3**	**0.17**	**0.075**	**0.07**	**0.05**
Benzo[a]pyrene	mg/kg	0.29	**0.48**	**0.036**	**6.4**	**0.19**	**0.068**	**0.065**	**0.048**
Benzo[b]fluoranthene	mg/kg	2.9	**0.91**	**0.08**	**13.4**	**0.29**	**0.17**	**0.17**	**0.12**
Benzo[g,h,i]perylene	mg/kg		**0.25**	**0.025**	**1.7**	**0.093**	**0.035**	**0.031**	**0.02**
Benzo[k]fluoranthene	mg/kg	29	**0.83**	**0.073**	**12.2**	**0.09**	**0.15**	**0.16**	**0.11**
Chrysene	mg/kg	290	**0.55**	**0.047**	**7.3**	**0.2**	**0.088**	**0.083**	**0.059**
Dibenz[a,h]anthracene	mg/kg	0.29	**0.076**	**0.0064 J**	**0.49**	**0.018**	**0.0098**	**0.01**	**0.0057 J**
Fluoranthene	mg/kg	30,000	**1.9**	**0.097**	**16.4**	**0.44**	**0.18**	**0.16**	**0.11**
Fluorene	mg/kg	30,000	**0.15**	**0.0013 J**	**3.5**	**0.0045 J**	**0.0037 J**	**0.0025 J**	**0.0013 J**
Indeno[1,2,3-c,d]pyrene	mg/kg	2.9	**0.24**	**0.021**	**1.8**	**0.081**	**0.032**	**0.029**	**0.019**
Naphthalene	mg/kg	17	**0.15**	**0.032**	**1.9**	**0.13**	**0.084**	**0.05**	**0.026**
Phenanthrene	mg/kg		**1.6**	**0.08**	**15.9**	**0.26**	**0.15**	**0.12**	**0.075**
Pyrene	mg/kg	23,000	**1.3**	**0.077**	**12.8**	**0.36**	**0.14**	**0.12**	**0.089**

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

J: The positive result reported for this analyte is a quantitative estimate.

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 quantitation/detection

Table 10
Summary of PAHs in Soil
Parcel B22
Tradepoint Atlantic
Sparrows Point, Maryland

Parameter	Units	PAL	B22-085Y-SB-2.5	B22-085Y-SB-5	B22-085Z-SB-1.5	B22-085Z-SB-5
PAHs						
2-Methylnaphthalene	mg/kg	3,000	**0.052**	**0.14**	**0.09**	0.008 U
Acenaphthene	mg/kg	45,000	**0.0012 J**	**0.0042 J**	**0.0087**	0.008 U
Acenaphthylene	mg/kg	45,000	**0.004 J**	**0.011**	**0.0049 J**	0.008 U
Anthracene	mg/kg	230,000	**0.0039 J**	**0.013**	**0.045**	0.008 U
Benzo[a]anthracene	mg/kg	2.9	**0.027**	**0.11**	**0.091**	**0.0014 J**
Benzo[a]pyrene	mg/kg	0.29	**0.033**	**0.11**	**0.083**	0.008 U
Benzo[b]fluoranthene	mg/kg	2.9	**0.077**	**0.22**	**0.12**	0.008 U
Benzo[g,h,i]perylene	mg/kg		**0.026**	**0.077**	**0.055**	0.008 U
Benzo[k]fluoranthene	mg/kg	29	**0.063**	**0.2**	**0.046**	0.008 U
Chrysene	mg/kg	290	**0.045**	**0.12**	**0.1**	0.008 U
Dibenz[a,h]anthracene	mg/kg	0.29	**0.0095**	**0.028**	**0.02**	0.008 U
Fluoranthene	mg/kg	30,000	**0.035**	**0.17**	**0.19**	**0.0013 J**
Fluorene	mg/kg	30,000	**0.00092 J**	**0.0026 J**	**0.0081**	0.008 U
Indeno[1,2,3-c,d]pyrene	mg/kg	2.9	**0.021**	**0.066**	**0.049**	0.008 U
Naphthalene	mg/kg	17	**0.033**	**0.087**	**0.088**	0.008 U
Phenanthrene	mg/kg		**0.046**	**0.12**	**0.25**	**0.0013 J**
Pyrene	mg/kg	23,000	**0.032**	**0.16**	**0.16**	**0.0011 J**

Detections in bold

Values in red indicate an exceedance of the Project Action Limit (PAL)

J: The positive result reported for this analyte is a quantitative estimate.

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 quantitation/detection

Table 11 - B22-074-SB Arsenic XRF Readings (mg/kg)																				
Depth (ft) Boring ID	1		2		3		4		5		6		7		8		9		10	
B22-074-SB	22		13	U	11	U	18	U	13	U	13	U	9	U	10	U	12	U	10	
B22-074A-SB	19	U	19	U	40	U	19	U	9	U										
B22-074B-SB	20	U	11	U	9	U	10	U	9	U										
B22-074C-SB	16	U	50		10	U	7	U	9	U										
B22-074D-SB	11	U	12	U	12	U	45		13	U										

Note:
U = No Detection with the hand-held XRF

Table 12 - B22-107-SB Lead XRF Readings (mg/kg)																				
Depth (ft) Boring ID	1		2		3		4		5		6		7		8		9		10	
B22-107A-SB	19		22		11	U	10	U	11	U	13		46		57		10	U	33	
B22-107B-SB	148		42		18		32		17		126		62		125		16		53	
B22-107C-SB	21		13		14		11	U	12		12		13		16		13		11	
B22-107D-SB	16		49		33		11	U	26		20		11		9	U	17		13	

Note:
U = No Detection with the hand-held XRF

Table 13 - Parcel B22
Development Area
Assessment of Lead

Exposure Unit	Pre/Post-Delineation	Surface/Sub-Surface	Arithmetic Mean (mg/kg)
Outside Building Footprint (71.60 ac.)	Pre-Delineation	Surface	111.6
		Sub-Surface	168.9
		Pooled	137.6
	Post-Delineation	Surface	111.6
		Sub-Surface	168.9
		Pooled	137.6
Inside Building Footprint (29.51 ac.)	Pre-Delineation	Surface	181.7
		Sub-Surface	91.3
		Pooled	139.6
	Post-Delineation	Surface	172.8
		Sub-Surface	64.2
		Pooled	109.0

Adult Lead Model (ALM) Risk Levels	
Soil Concentration (mg/kg)	Probability of Blood Concentration of 10 ug/dL
2,737 mg/kg	5%
3,417 mg/kg	10%

Table 14 - Parcel B22
Development Area EPCs - Surface Soils (Delineation Included)

Parameter	PAL (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	95% Adjusted Gamma KM-UCL	**6.83**	95% KM (BCA) UCL	**7.00**
Chromium VI	6.30	95% Chebyshev (Mean, Sd) UCL	2.39	95% Modified-t UCL	0.70
Cobalt	350	95% KM (Chebyshev) UCL	11.3	95% H-UCL	9.62
Cyanide	150	95% KM (Chebyshev) UCL	1.13	95% KM (Chebyshev) UCL	1.37
Iron	820,000	95% H-UCL	119,800	95% Chebyshev (Mean, Sd) UCL	100,800
Manganese	26,000	95% Adjusted Gamma UCL	15,771	95% Approximate Gamma UCL	9,640
Mercury	350	95% GROS Adjusted Gamma UCL	0.08	97.5% KM (Chebyshev) UCL	1.17
Nickel	22,000	95% KM (Chebyshev) UCL	59.6	95% Chebyshev (Mean, Sd) UCL	133
Vanadium	5,800	95% Chebyshev (Mean, Sd) UCL	1,341	95% Chebyshev (Mean, Sd) UCL	407
Aroclor 1254	0.97	95% KM (Percentile Bootstrap) UCL	0.08	95% KM (BCA) UCL	0.53
PCBs (total)	0.97	97.5% KM (Chebyshev) UCL	**10.45**	97.5% KM (Chebyshev) UCL	**4.56**
Benzo[a]anthracene	2.90	95% Chebyshev (Mean, Sd) UCL	**11.0**	97.5% KM (Chebyshev) UCL	**6.95**
Benzo[a]pyrene	0.29	99% KM (Chebyshev) UCL	**18.0**	97.5% KM (Chebyshev) UCL	**5.27**
Benzo[b]fluoranthene	2.90	95% Chebyshev (Mean, Sd) UCL	**15.2**	97.5% KM (Chebyshev) UCL	**10.7**
Benzo[k]fluoranthene	29.0	99% KM (Chebyshev) UCL	17.9	97.5% KM (Chebyshev) UCL	8.37
Dibenz[a,h]anthracene	0.29	97.5% KM (Chebyshev) UCL	**1.53**	97.5% KM (Chebyshev) UCL	**0.97**
Indeno[1,2,3-c,d]pyrene	2.90	99% KM (Chebyshev) UCL	**6.15**	97.5% KM (Chebyshev) UCL	2.46
Naphthalene	17.0	99% KM (Chebyshev) UCL	1.83	97.5% KM (Chebyshev) UCL	**0.51**

Bold indicates EPC higher than PAL

Table 15 - Parcel B22
Development Area EPCs - Sub-Surface Soils (Delineation Included)

Parameter	PAL (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	95% KM (Chebyshev) UCL	**18.62**	95% KM (BCA) UCL	**8.71**
Chromium VI	6.30	95% Modified-t UCL	0.58	95% Chebyshev (Mean, Sd) UCL	1.11
Cobalt	350	95% KM (Chebyshev) UCL	14.2	95% KM (Chebyshev) UCL	6.98
Cyanide	150	95% KM (t) UCL	0.94	95% KM (Chebyshev) UCL	1.49
Iron	820,000	95% H-UCL	67,155	95% Chebyshev (Mean, Sd) UCL	68,189
Manganese	26,000	97.5% Chebyshev (Mean, Sd) UCL	13,827	97.5% Chebyshev (Mean, Sd) UCL	9,988
Mercury	350	95% KM (Chebyshev) UCL	0.07	95% KM (Chebyshev) UCL	0.06
Nickel	22,000	95% KM (Chebyshev) UCL	49.9	95% KM (Chebyshev) UCL	361
Vanadium	5,800	95% Chebyshev (Mean, Sd) UCL	806	95% Chebyshev (Mean, Sd) UCL	223
Aroclor 1254	0.97	N/A	N/A	Maximum Value	0.04
PCBs (total)	0.97	99% KM (Chebyshev) UCL	22.71	95% KM (Percentile Bootstrap) UCL	0.12
Benzo[a]anthracene	2.90	97.5% KM (Chebyshev) UCL	0.75	97.5% KM (Chebyshev) UCL	**4.00**
Benzo[a]pyrene	0.29	97.5% KM (Chebyshev) UCL	**0.71**	97.5% KM (Chebyshev) UCL	**3.41**
Benzo[b]fluoranthene	2.90	97.5% KM (Chebyshev) UCL	1.44	97.5% KM (Chebyshev) UCL	**7.13**
Benzo[k]fluoranthene	29.0	97.5% KM (Chebyshev) UCL	1.36	97.5% KM (Chebyshev) UCL	6.26
Dibenz[a,h]anthracene	0.29	97.5% KM (Chebyshev) UCL	0.09	97.5% KM (Chebyshev) UCL	**0.48**
Indeno[1,2,3-c,d]pyrene	2.90	97.5% KM (Chebyshev) UCL	0.32	97.5% KM (Chebyshev) UCL	1.30
Naphthalene	17.0	97.5% KM (Chebyshev) UCL	0.59	97.5% KM (Chebyshev) UCL	0.37

Bold indicates EPC higher than PAL
N/A unable to calculate a EPC due to no detections

Table 16 - Parcel B22
Development Area EPCs - Pooled Soils (Delineation Included)

Parameter	PAL (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	95% KM (BCA) UCL	**9.85**	95% KM (BCA) UCL	**7.56**
Chromium VI	6.30	95% Chebyshev (Mean, Sd) UCL	1.53	95% Chebyshev (Mean, Sd) UCL	0.89
Cobalt	350	95% KM (Chebyshev) UCL	11.0	95% KM (BCA) UCL	8.89
Cyanide	150	95% Approximate Gamma KM-UCL	0.85	95% KM (Chebyshev) UCL	1.21
Iron	820,000	95% Chebyshev (Mean, Sd) UCL	95,490	95% Chebyshev (Mean, Sd) UCL	75,250
Manganese	26,000	95% Chebyshev (Mean, Sd) UCL	13,717	95% Chebyshev (Mean, Sd) UCL	9,115
Mercury	350	95% GROS Approximate Gamma UCL	0.06	97.5% KM (Chebyshev) UCL	0.64
Nickel	22,000	95% KM (BCA) UCL	35.3	95% KM (Chebyshev) UCL	199
Vanadium	5,800	95% Chebyshev (Mean, Sd) UCL	921	95% Chebyshev (Mean, Sd) UCL	282
Aroclor 1254	0.97	95% KM (Percentile Bootstrap) UCL	0.07	95% KM (BCA) UCL	0.38
PCBs (total)	0.97	97.5% KM (Chebyshev) UCL	**9.6**	95% KM (Chebyshev) UCL	**2.67**
Benzo[a]anthracene	2.90	97.5% KM (Chebyshev) UCL	**6.43**	97.5% KM (Chebyshev) UCL	**4.16**
Benzo[a]pyrene	0.29	97.5% KM (Chebyshev) UCL	**5.46**	97.5% KM (Chebyshev) UCL	**3.31**
Benzo[b]fluoranthene	2.90	97.5% KM (Chebyshev) UCL	**8.99**	97.5% KM (Chebyshev) UCL	**6.82**
Benzo[k]fluoranthene	29.0	97.5% KM (Chebyshev) UCL	5.75	97.5% KM (Chebyshev) UCL	5.62
Dibenz[a,h]anthracene	0.29	97.5% KM (Chebyshev) UCL	**0.70**	97.5% KM (Chebyshev) UCL	**0.55**
Indeno[1,2,3-c,d]pyrene	2.90	97.5% KM (Chebyshev) UCL	1.91	97.5% KM (Chebyshev) UCL	1.43
Naphthalene	17.0	97.5% KM (Chebyshev) UCL	0.74	97.5% KM (Chebyshev) UCL	0.35

Bold indicates EPC higher than PAL

Table 17 - Parcel B22
Development Area Surface Soils (Delineation Included)
Composite Worker Risk Ratios

Parameter	Target Organs	Outside Building Footprint (71.60 ac.)					Inside Building Footprint (29.51 ac.)				
			Composite Worker					Composite Worker			
			RSLs (mg/kg)		Risk Ratios			RSLs (mg/kg)		Risk Ratios	
		EPC (mg/kg)	Cancer	Non-Cancer	Risk	HQ	EPC (mg/kg)	Cancer	Non-Cancer	Risk	HQ
Arsenic	**Cardiovascular; Dermal**	6.83	3	480	2.3E-06	0.01	7.00	3	480	2.3E-06	0.01
Chromium, Hexavalent	**Respiratory**	2.39	6.3	3,500	3.8E-07	0.0007	0.70	6.3	3,500	1.1E-07	0.0002
Cobalt	**None Specified**	11.3	1,900	350	5.9E-09	0.03	9.62	1,900	350	5.1E-09	0.03
Cyanide	**None Specified**	1.13		150		0.008	1.37		150		0.009
Iron	**None Specified**	119,800		820,000		0.1	100,800		820,000		0.1
Manganese	**Nervous**	15,771		26,000		0.6	9,640		26,000		0.4
Mercury	**Nervous**	0.08		46		0.002	1.17		46		0.03
Nickel	**None Specified**	59.6	64,000	22,000	9.3E-10	0.003	133	64,000	22,000	2.1E-09	0.006
Vanadium	**Dermal**	1,341		5,800		0.2	407		5,800		0.07
PCB-1254 (Aroclor 1254)	**Dermal; Immune; Ocular**	0.08	0.97	15	8.2E-08	0.005	0.53	0.97	15	5.5E-07	0.04
PCB, Total		10.5	0.94		1.1E-05		4.56	0.94		4.9E-06	
Benzo(a)anthracene		11.0	2.9		3.8E-06		6.95	2.9		2.4E-06	
Benzo(a)pyrene		18.0	0.29		6.2E-05		5.27	0.29		1.8E-05	
Benzo(b)fluoranthene		15.2	2.9		5.3E-06		10.7	2.9		3.7E-06	
Benzo(k)fluoranthene		17.9	29		6.2E-07		8.37	29		2.9E-07	
Dibenz(a,h)anthracene		1.53	0.29		5.3E-06		0.97	0.29		3.3E-06	
Indeno(1,2,3-cd)pyrene		6.15	2.9		2.1E-06		2.46	2.9		8.5E-07	
Naphthalene	**Nervous; Respiratory**	1.83	17	590	1.1E-07	0.003	0.51	17	590	3.0E-08	0.0009
					9E-05	↓				**4E-05**	↓

Total HI	Cardiovascular	0
	Dermal	0
	Respiratory	0
	Nervous	1
	Immune	0
	Ocular	0
	None Specified	0

Total HI	Cardiovascular	0
	Dermal	0
	Respiratory	0
	Nervous	0
	Immune	0
	Ocular	0
	None Specified	0

RSLs were obtained from the EPA Regional Screening Levels at https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-may-2016

Table 18 - Parcel B22
Development Area Sub-Surface Soils (Delineation Included)
Composite Worker Risk Ratios

Parameter	Target Organs	Outside Building Footprint (71.60 ac.)					Inside Building Footprint (29.51 ac.)				
			Composite Worker					Composite Worker			
			RSLs (mg/kg)		Risk Ratios			RSLs (mg/kg)		Risk Ratios	
		EPC (mg/kg)	Cancer	Non-Cancer	Risk	HQ	EPC (mg/kg)	Cancer	Non-Cancer	Risk	HQ
Arsenic	**Cardiovascular; Dermal**	18.62	3	480	6.2E-06	0.04	8.71	3	480	2.9E-06	0.02
Chromium, Hexavalent	**Respiratory**	0.58	6.3	3,500	9.2E-08	0.0002	1.11	6.3	3,500	1.8E-07	0.0003
Cobalt	**None Specified**	14.2	1,900	350	7.5E-09	0.04	6.98	1,900	350	3.7E-09	0.02
Cyanide	**None Specified**	0.94		150		0.006	1.49		150		0.01
Iron	**None Specified**	67,155		820,000		0.08	68,189		820,000		0.08
Manganese	**Nervous**	13,827		26,000		0.5	9,988		26,000		0.4
Mercury	**Nervous**	0.07		46		0.001	0.06		46		0.001
Nickel	**None Specified**	49.9	64,000	22,000	7.8E-10	0.002	361	64,000	22,000	5.6E-09	0.02
Vanadium	**Dermal**	806		5,800		0.1	223		5,800		0.04
PCB-1254 (Aroclor 1254)	**Dermal; Immune; Ocular**	N/A	0.97	15			**0.04**	0.97	15	4.2E-08	0.003
PCB, Total		22.70	0.94		2.4E-05		0.12	0.94		1.2E-07	
Benzo(a)anthracene		0.75	2.9		2.6E-07		4.00	2.9		1.4E-06	
Benzo(a)pyrene		0.71	0.29		2.4E-06		3.41	0.29		1.2E-05	
Benzo(b)fluoranthene		1.44	2.9		5.0E-07		7.13	2.9		2.5E-06	
Benzo(k)fluoranthene		1.36	29		4.7E-08		6.26	29		2.2E-07	
Dibenz(a,h)anthracene		0.09	0.29		3.2E-07		0.48	0.29		1.6E-06	
Indeno(1,2,3-cd)pyrene		0.32	2.9		1.1E-07		1.30	2.9		4.5E-07	
Naphthalene	**Nervous; Respiratory**	0.59	17	590	3.5E-08	0.001	0.37	17	590	2.2E-08	0.0006
					3E-05	↓				**2E-05**	↓

Total HI	Cardiovascular	0
	Dermal	0
	Respiratory	0
	Nervous	1
	Immune	0
	Ocular	0
	None Specified	0

Total HI	Cardiovascular	0
	Dermal	0
	Respiratory	0
	Nervous	0
	Immune	0
	Ocular	0
	None Specified	0

N/A unable to calculate a EPC due to no detections in specified exposure unit
Bold indicates max value was used instead of UCL due to only 1 detection
RSLs were obtained from the EPA Regional Screening Levels at https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-may-2016

Table 19 - Parcel B22
Development Area Pooled Soils (Delineation Included)
Composite Worker Risk Ratios

Parameter	Target Organs	Outside Building Footprint (71.60 ac.)					Inside Building Footprint (29.51 ac.)				
			Composite Worker					Composite Worker			
			RSLs (mg/kg)		Risk Ratios			RSLs (mg/kg)		Risk Ratios	
		EPC (mg/kg)	Cancer	Non-Cancer	Risk	HQ	EPC (mg/kg)	Cancer	Non-Cancer	Risk	HQ
Arsenic	**Cardiovascular; Dermal**	9.85	3	480	3.3E-06	0.02	7.56	3	480	2.5E-06	0.02
Chromium, Hexavalent	**Respiratory**	1.53	6.3	3,500	2.4E-07	0.0004	0.89	6.3	3,500	1.4E-07	0.0003
Cobalt	**None Specified**	11.0	1,900	350	5.8E-09	0.03	8.89	1,900	350	4.7E-09	0.03
Cyanide	**None Specified**	0.85		150		0.006	1.21		150		0.008
Iron	**None Specified**	95,490		820,000		0.1	75,250		820,000		0.09
Manganese	**Nervous**	13,717		26,000		0.5	9,115		26,000		0.4
Mercury	**Nervous**	0.06		46		0.001	0.64		46		0.01
Nickel	**None Specified**	35.3	64,000	22,000	5.5E-10	0.002	199	64,000	22,000	3.1E-09	0.009
Vanadium	**Dermal**	921		5,800		0.2	282		5,800		0.05
PCB-1254 (Aroclor 1254)	**Dermal; Immune; Ocular**	0.07	0.97	15	7.1E-08	0.005	0.38	0.97	15	3.9E-07	0.03
PCB, Total		9.65	0.94		1.0E-05		2.67	0.94		2.8E-06	
Benzo(a)anthracene		6.43	2.9		2.2E-06		4.16	2.9		1.4E-06	
Benzo(a)pyrene		5.46	0.29		1.9E-05		3.31	0.29		1.1E-05	
Benzo(b)fluoranthene		8.99	2.9		3.1E-06		6.82	2.9		2.4E-06	
Benzo(k)fluoranthene		5.75	29		2.0E-07		5.62	29		1.9E-07	
Dibenz(a,h)anthracene		0.70	0.29		2.4E-06		0.55	0.29		1.9E-06	
Indeno(1,2,3-cd)pyrene		1.91	2.9		6.6E-07		1.43	2.9		4.9E-07	
Naphthalene	**Nervous; Respiratory**	0.74	17	590	4.3E-08	0.001	0.35	17	590	2.1E-08	0.0006
					4E-05	↓				**2E-05**	↓

Total HI	Cardiovascular	0
	Dermal	0
	Respiratory	0
	Nervous	1
	Immune	0
	Ocular	0
	None Specified	0

Total HI	Cardiovascular	0
	Dermal	0
	Respiratory	0
	Nervous	0
	Immune	0
	Ocular	0
	None Specified	0

RSLs were obtained from the EPA Regional Screening Levels at https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-may-2016

Table 20 - Parcel B22
Development Area Surface Soils (Delineation Included)
Construction Worker Risk Ratios

100 Day		Outside Building Footprint (71.60 ac.)					Inside Building Footprint (29.51 ac.)				
			Construction Worker					Construction Worker			
			SSLs (mg/kg)		Risk Ratios			SSLs (mg/kg)		Risk Ratios	
Parameter	Target Organs	EPC (mg/kg)	Cancer	Non-Cancer	Risk	HQ	EPC (mg/kg)	Cancer	Non-Cancer	Risk	HQ
Arsenic	**Cardiovascular; Dermal**	6.83	37.8	242	1.8E-07	0.03	7.00	37.8	241	1.9E-07	0.03
Chromium, Hexavalent	**Respiratory**	2.39	54.5	2,004	4.4E-08	0.001	0.70	53.7	2,001	1.3E-08	0.0003
Cobalt	**None Specified**	11.3	15,803	2,424	7.1E-10	0.005	9.62	10,634	2,355	9.0E-10	0.004
Cyanide	**None Specified**	1.13		28.1		0.04	1.37		31.9		0.04
Iron	**None Specified**	119,800		601,353		0.2	100,800		601,353		0.2
Manganese	**Nervous**	15,771		10,840		1	9,640		10,306		0.9
Mercury	**Nervous**	0.08		6.82		0.01	1.17		7.75		0.2
Nickel	**None Specified**	59.6	547,032	9,867	1.1E-10	0.006	133	368,103	9,752	3.6E-10	0.01
Vanadium	**Dermal**	1,341		4,027		0.3	407		3,988		0.1
PCB-1254 (Aroclor 1254)	**Dermal; Immune; Ocular**	0.08	16.5	18.7	4.8E-09	0.004	0.53	17.0	18.69	3.1E-08	0.03
PCB, Total		10.5	14.5		7.2E-07		4.56	15.1		3.0E-07	
Benzo(a)anthracene		11.0	59.1		1.9E-07		6.95	59.3		1.2E-07	
Benzo(a)pyrene		18.0	6.07		3.0E-06		5.27	6.07		8.7E-07	
Benzo(b)fluoranthene		15.2	60.6		2.5E-07		10.7	60.7		1.8E-07	
Benzo(k)fluoranthene		17.9	572		3.1E-08		8.37	577		1.5E-08	
Dibenz(a,h)anthracene		1.53	6.09		2.5E-07		0.97	6.09		1.6E-07	
Indeno(1,2,3-cd)pyrene		6.15	60.9		1.0E-07		2.46	60.9		4.0E-08	
Naphthalene	**Nervous; Respiratory**	1.83	62.1	90.5	2.9E-08	0.02	0.51	70.6	103	7.2E-09	0.005
					5E-06	↓				**2E-06**	↓

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	Cardiovascular	0
	Dermal	0
	Respiratory	0
	Nervous	1
	Immune	0
	Ocular	0
	None Specified	0

Total HI	Cardiovascular	0
	Dermal	0
	Respiratory	0
	Nervous	1
	Immune	0
	Ocular	0
	None Specified	0

Table 21 - Parcel B22
Development Area Sub-Surface Soils (Delineation Included)
Construction Worker Risk Ratios

100 Day		Outside Building Footprint (71.60 ac.)					Inside Building Footprint (29.51 ac.)				
			Construction Worker					Construction Worker			
			SSLs (mg/kg)		Risk Ratios			SSLs (mg/kg)		Risk Ratios	
Parameter	Target Organs	EPC (mg/kg)	Cancer	Non-Cancer	Risk	HQ	EPC (mg/kg)	Cancer	Non-Cancer	Risk	HQ
Arsenic	**Cardiovascular; Dermal**	18.62	37.8	242	4.9E-07	0.08	8.71	37.8	241	2.3E-07	0.04
Chromium, Hexavalent	**Respiratory**	0.58	54.5	2,004	1.1E-08	0.0003	1.11	53.7	2,001	2.1E-08	0.0006
Cobalt	**None Specified**	14.2	15,803	2,424	9.0E-10	0.006	6.98	10,634	2,355	6.6E-10	0.003
Cyanide	**None Specified**	0.94		28.1		0.03	1.49		31.9		0.05
Iron	**None Specified**	67,155		601,353		0.1	68,189		601,353		0.1
Manganese	**Nervous**	13,827		10,840		1	9,988		10,306		1
Mercury	**Nervous**	0.07		6.82		0.01	0.06		7.75		0.008
Nickel	**None Specified**	49.9	547,032	9,867	9.1E-11	0.005	361	368,103	9,752	9.8E-10	0.04
Vanadium	**Dermal**	806		4,027		0.2	223		3,988		0.06
PCB-1254 (Aroclor 1254)	**Dermal; Immune; Ocular**	N/A	16.5	18.7			**0.04**	17.0	18.69	2.4E-09	0.002
PCB, Total		22.70	14.5		1.6E-06		0.12	15.1		7.7E-09	
Benzo(a)anthracene		0.75	59.1		1.3E-08		4.00	59.3		6.7E-08	
Benzo(a)pyrene		0.71	6.07		1.2E-07		3.41	6.07		5.6E-07	
Benzo(b)fluoranthene		1.44	60.6		2.4E-08		7.13	60.7		1.2E-07	
Benzo(k)fluoranthene		1.36	572		2.4E-09		6.26	577		1.1E-08	
Dibenz(a,h)anthracene		0.09	6.09		1.5E-08		0.48	6.09		7.9E-08	
Indeno(1,2,3-cd)pyrene		0.32	60.9		5.3E-09		1.30	60.9		2.1E-08	
Naphthalene	**Nervous; Respiratory**	0.59	62.1	90.5	9.6E-09	0.007	0.37	70.6	103	5.3E-09	0.004
					2E-06	↓				**1E-06**	↓

Bold indicates max value was used instead of UCL due to only 1 detection
N/A unable to calculate a EPC due to no 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	Cardiovascular	0
	Dermal	0
	Respiratory	0
	Nervous	1
	Immune	0
	Ocular	0
	None Specified	0

Total HI	Cardiovascular	0
	Dermal	0
	Respiratory	0
	Nervous	1
	Immune	0
	Ocular	0
	None Specified	0

Table 22 - Parcel B22
Development Area Pooled Soils (Delineation Included)
Construction Worker Risk Ratios

100 Day		Outside Building Footprint (71.60 ac.)					Inside Building Footprint (29.51 ac.)				
			Construction Worker					Construction Worker			
			SSLs (mg/kg)		Risk Ratios			SSLs (mg/kg)		Risk Ratios	
Parameter	Target Organs	EPC (mg/kg)	Cancer	Non-Cancer	Risk	HQ	EPC (mg/kg)	Cancer	Non-Cancer	Risk	HQ
Arsenic	**Cardiovascular; Dermal**	9.85	37.8	242	2.6E-07	0.04	7.56	37.8	241	2.0E-07	0.03
Chromium, Hexavalent	**Respiratory**	1.53	54.5	2,004	2.8E-08	0.0008	0.89	53.7	2,001	1.7E-08	0.0004
Cobalt	**None Specified**	11.0	15,803	2,424	7.0E-10	0.00	8.89	10,634	2,355	8.4E-10	0.004
Cyanide	**None Specified**	0.85		28.1		0.03	1.21		31.9		0.04
Iron	**None Specified**	95,490		601,353		0.2	75,250		601,353		0.1
Manganese	**Nervous**	13,717		10,840		1	9,115		10,306		0.9
Mercury	**Nervous**	0.06		6.82		0.008	0.64		7.75		0.08
Nickel	**None Specified**	35.3	547,032	9,867	6.5E-11	0.004	199	368,103	9,752	5.4E-10	0.02
Vanadium	**Dermal**	921		4,027		0.2	282		3,988		0.07
PCB-1254 (Aroclor 1254)	**Dermal; Immune; Ocular**	0.07	16.5	18.7	4.2E-09	0.004	0.38	17.0	18.69	2.2E-08	0.02
PCB, Total		9.65	14.5		6.7E-07		2.67	15.1		1.8E-07	
Benzo(a)anthracene		6.43	59.1		1.1E-07		4.16	59.3		7.0E-08	
Benzo(a)pyrene		5.46	6.07		9.0E-07		3.31	6.07		5.5E-07	
Benzo(b)fluoranthene		8.99	60.6		1.5E-07		6.82	60.7		1.1E-07	
Benzo(k)fluoranthene		5.75	572		1.0E-08		5.62	577		9.7E-09	
Dibenz(a,h)anthracene		0.70	6.09		1.1E-07		0.55	6.09		9.0E-08	
Indeno(1,2,3-cd)pyrene		1.91	60.9		3.1E-08		1.43	60.9		2.4E-08	
Naphthalene	**Nervous; Respiratory**	0.74	62.1	90.5	1.2E-08	0.008	0.35	70.6	103	4.9E-09	0.003
					2E-06	↓				**1E-06**	↓

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	Cardiovascular	0
	Dermal	0
	Respiratory	0
	Nervous	1
	Immune	0
	Ocular	0
	None Specified	0

Total HI	Cardiovascular	0
	Dermal	0
	Respiratory	0
	Nervous	1
	Immune	0
	Ocular	0
	None Specified	0

APPENDIX A

TRADEPOINT ATLANTIC
1600 Sparrows Point Boulevard
Baltimore, Maryland 21219

July 13, 2016

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-22

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). Parcel B-22 is part of the acreage that remains subject to the Multimedia Consent Decree between Bethlehem Steel Corporation, the United States Environmental Protection Agency (EPA), and the Department (effective October 8, 1997), as amended.

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-22 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

TRADEPOINT ATLANTIC
1600 Sparrows Point Boulevard
Baltimore, Maryland 21219

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 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,

Justin Dunn
Director of Development
1600 Sparrows Point Boulevard
Baltimore, MD 21219

APPENDIX B

Construction Worker Soil Screening Levels
250 & 100 Work Day Exposure Scenarios
Calculation Spreadsheet - Response and Development Work Plan (B22, Phase 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
250 & 100 Work Day Exposure Scenarios
Calculation Spreadsheet - Response and Development Work Plan (B22, Phase 1)

Area of site (ac)	Ac	71.6
Overall duration of construction (wk/yr)	EW	20
Exposure frequency (day/yr)	EF	**100**
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 construction (hr)	tc	**3,360**
Overall duration of traffic (s)	Tt	**2,880,000**
Surface area (m2)	AR	**289,755**
Length (km)	LR	**538**
Distance traveled (km)	ΣVKT	**538**
Particulate emission factor (m3/kg)	PEFsc	**185,555,549**
Derivation of dispersion factor - volatilization (g/m2-s per kg/m3)	Q/Csa	**6.25**
Total time of construction (s)	Tcv	**12,096,000**

Exposure Unit 1

Exposure Unit 2

Input
Calculation

Chemical	^Ingestion SF (mg/kg-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 (atm-m^3/mol)	*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	1.50E+00	4.30E-03	3.00E-04	1.50E-05	1	3.00E-04	0.03	0.6			-	2.90E+01				37.9	33,076	37.8	243.5	30,477	241.6
Chromium(VI)	5.00E-01	8.40E-02	5.00E-03	3.00E-04	0.025	1.25E-04	**0.01**	1			-	1.90E+01				56.3	1,693	54.5	2,011	609,550	2,004
Cobalt	-	9.00E-03	3.00E-03	2.00E-05	1	3.00E-03	**0.01**	1			-	4.50E+01					15,803	15,803	2,577	40,637	2,424
Cyanide (CN-)	-	-	2.00E-02	8.00E-04	1	2.00E-02	**0.01**	1	2.10E-01	2.50E-05	4.15E-03	9.90E+00		4.68E-06	3.21E+3				17,182	28.1	28.1
Iron	-	-	7.00E-01	-	1	7.00E-01	**0.01**	1			-	2.50E+01							601,353		601,353
Manganese (Non-diet)	-	-	2.40E-02	5.00E-05	0.04	9.60E-04	**0.01**	1			-	6.50E+01							12,135	101,592	10,840
Mercury (elemental)	-	-	-	3.00E-04	1		**0.01**	1	3.10E-02	6.30E-06	3.52E-01	5.20E+01		1.12E-05	2.07E+3					6.82	6.82
Nickel Soluble Salts	-	2.60E-04	2.00E-02	2.00E-04	0.04	8.00E-04	**0.01**	1			-	6.50E+01					547,032	547,032	10,113	406,367	9,867
Vanadium and Compounds	-	-	1.00E-02	1.00E-04	0.026	2.60E-04	**0.01**	1			-	1.00E+03							4,108	203,183	4,027
Aroclor 1254	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	5.02E+4	21.81	67.4	16.48	18.69		18.69
PCB Total	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	3.21E+4	21.81	43.1	14.49			
Benz[a]anthracene	7.30E-01	1.10E-04	-	-	1		0.13	1	2.60E-02	6.70E-06	4.91E-04	1.08E+03	1.80E+05	6.71E-10	2.68E+5	61.0	1,864	59.1			
Benzo[a]pyrene	7.30E+00	1.10E-03	-	-	1		0.13	1	4.80E-02	5.60E-06	1.87E-05	3.54E+03	5.90E+05	2.37E-11	1.43E+6	6.10	986	6.07			
Benzo[b]fluoranthene	7.30E-01	1.10E-04	-	-	1		0.13	1	4.80E-02	5.60E-06	2.69E-05	3.60E+03	6.00E+05	2.91E-11	1.29E+6	61.0	8,900	60.6			
Benzo[k]fluoranthene	7.30E-02	1.10E-04	-	-	1		0.13	1	4.80E-02	5.60E-06	2.39E-05	3.54E+03	5.90E+05	2.74E-11	1.32E+6	610	9,167	572			
Dibenz[a,h]anthracene	7.30E+00	1.20E-03	-	-	1		0.13	1	4.50E-02	5.20E-06	5.76E-06	1.14E+04	1.90E+06	4.13E-12	3.41E+6	6.10	2,142	6.09			
Indeno[1,2,3-cd]pyrene	7.30E-01	1.10E-04	-	-	1		0.13	1	4.50E-02	5.20E-06	1.42E-05	1.20E+04	2.00E+06	5.62E-12	2.93E+6	61.0	20,089	60.9			
Naphthalene	-	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	2.75E+3		62.1	62.1	381,949	90.5	90.5

*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

Construction Worker Soil Screening Levels
250 & 100 Work Day Exposure Scenarios
Calculation Spreadsheet - Response and Development Work Plan (B22, Phase 1)

Area of site (ac)	Ac	29.5
Overall duration of construction (wk/yr)	EW	20
Exposure frequency (day/yr)	EF	**100**
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	**14.0**
Overall duration of construction (hr)	tc	**3,360**
Overall duration of traffic (s)	Tt	**2,880,000**
Surface area (m2)	AR	**119,382**
Length (km)	LR	**346**
Distance traveled (km)	ΣVKT	**346**
Particulate emission factor (m3/kg)	PEFsc	**124,862,148**
Derivation of dispersion factor - volatilization (g/m2-s per kg/m3)	Q/Csa	**7.11**
Total time of construction (s)	Tcv	**12,096,000**

Exposure Unit 1

Exposure Unit 2

Input
Calculation

Chemical	^Ingestion SF (mg/kg-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 (atm-m^3/mol)	*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	1.50E+00	4.30E-03	3.00E-04	1.50E-05	1	3.00E-04	0.03	0.6			-	2.90E+01				37.9	22,257	37.8	243.5	20,509	240.7
Chromium(VI)	5.00E-01	8.40E-02	5.00E-03	3.00E-04	0.025	1.25E-04	**0.01**	1			-	1.90E+01				56.3	1,139	53.7	2,011	410,172	2,001
Cobalt	-	9.00E-03	3.00E-03	2.00E-05	1	3.00E-03	**0.01**	1			-	4.50E+01					10,634	10,634	2,577	27,345	2,355
Cyanide (CN-)	-	-	2.00E-02	8.00E-04	1	2.00E-02	**0.01**	1	2.10E-01	2.50E-05	4.15E-03	9.90E+00		4.68E-06	3.65E+3				17,182	32.0	31.9
Iron	-	-	7.00E-01	-	1	7.00E-01	**0.01**	1			-	2.50E+01							601,353		601,353
Manganese (Non-diet)	-	-	2.40E-02	5.00E-05	0.04	9.60E-04	**0.01**	1			-	6.50E+01							12,135	68,362	10,306
Mercury (elemental)	-	-	-	3.00E-04	1		**0.01**	1	3.10E-02	6.30E-06	3.52E-01	5.20E+01		1.12E-05	2.36E+3					7.75	7.75
Nickel Soluble Salts	-	2.60E-04	2.00E-02	2.00E-04	0.04	8.00E-04	**0.01**	1			-	6.50E+01					368,103	368,103	10,113	273,448	9,752
Vanadium and Compounds	-	-	1.00E-02	1.00E-04	0.026	2.60E-04	**0.01**	1			-	1.00E+03							4,108	136,724	3,988
Aroclor 1254	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	5.71E+4	21.81	76.7	16.98	18.69		18.69
PCB Total	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	3.66E+4	21.81	49.1	15.10			
Benz[a]anthracene	7.30E-01	1.10E-04	-	-	1		0.13	1	2.60E-02	6.70E-06	4.91E-04	1.08E+03	1.80E+05	6.71E-10	3.05E+5	61.0	2,118	59.3			
Benzo[a]pyrene	7.30E+00	1.10E-03	-	-	1		0.13	1	4.80E-02	5.60E-06	1.87E-05	3.54E+03	5.90E+05	2.37E-11	1.62E+6	6.10	1,116	6.07			
Benzo[b]fluoranthene	7.30E-01	1.10E-04	-	-	1		0.13	1	4.80E-02	5.60E-06	2.69E-05	3.60E+03	6.00E+05	2.91E-11	1.46E+6	61.0	10,076	60.7			
Benzo[k]fluoranthene	7.30E-02	1.10E-04	-	-	1		0.13	1	4.80E-02	5.60E-06	2.39E-05	3.54E+03	5.90E+05	2.74E-11	1.51E+6	610	10,377	577			
Dibenz[a,h]anthracene	7.30E+00	1.20E-03	-	-	1		0.13	1	4.50E-02	5.20E-06	5.76E-06	1.14E+04	1.90E+06	4.13E-12	3.88E+6	6.10	2,406	6.09			
Indeno[1,2,3-cd]pyrene	7.30E-01	1.10E-04	-	-	1		0.13	1	4.50E-02	5.20E-06	1.42E-05	1.20E+04	2.00E+06	5.62E-12	3.33E+6	61.0	22,610	60.9			
Naphthalene	-	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	3.13E+3		70.6	70.6	381,949	102.9	102.9

*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

APPENDIX C

HEALTH AND SAFETY PLAN

SPARROWS POINT TERMINAL
SPARROWS POINT, MARYLAND

Prepared by:

EnviroAnalytics Group

Environmental Engineers

January 2015

TABLE OF CONTENTS

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

-

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.

-

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
- 5dzăű a l·ă]
- 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)

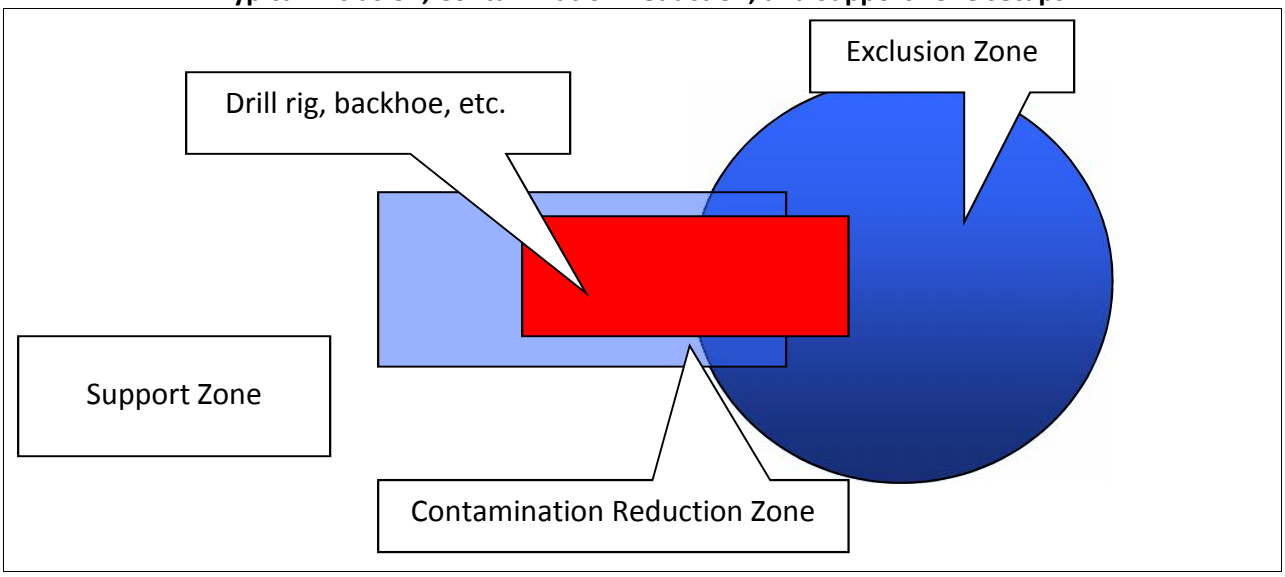
Between the EZ and the SZ will be the CRZ, which will provide a transition between the potentially contaminated EZ and the clean SZ. The CRZ (located upwind of the EZ, if possible) will be a corridor leading from the EZ and will serve as a buffer to further reduce the probability of the SZ becoming contaminated. 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

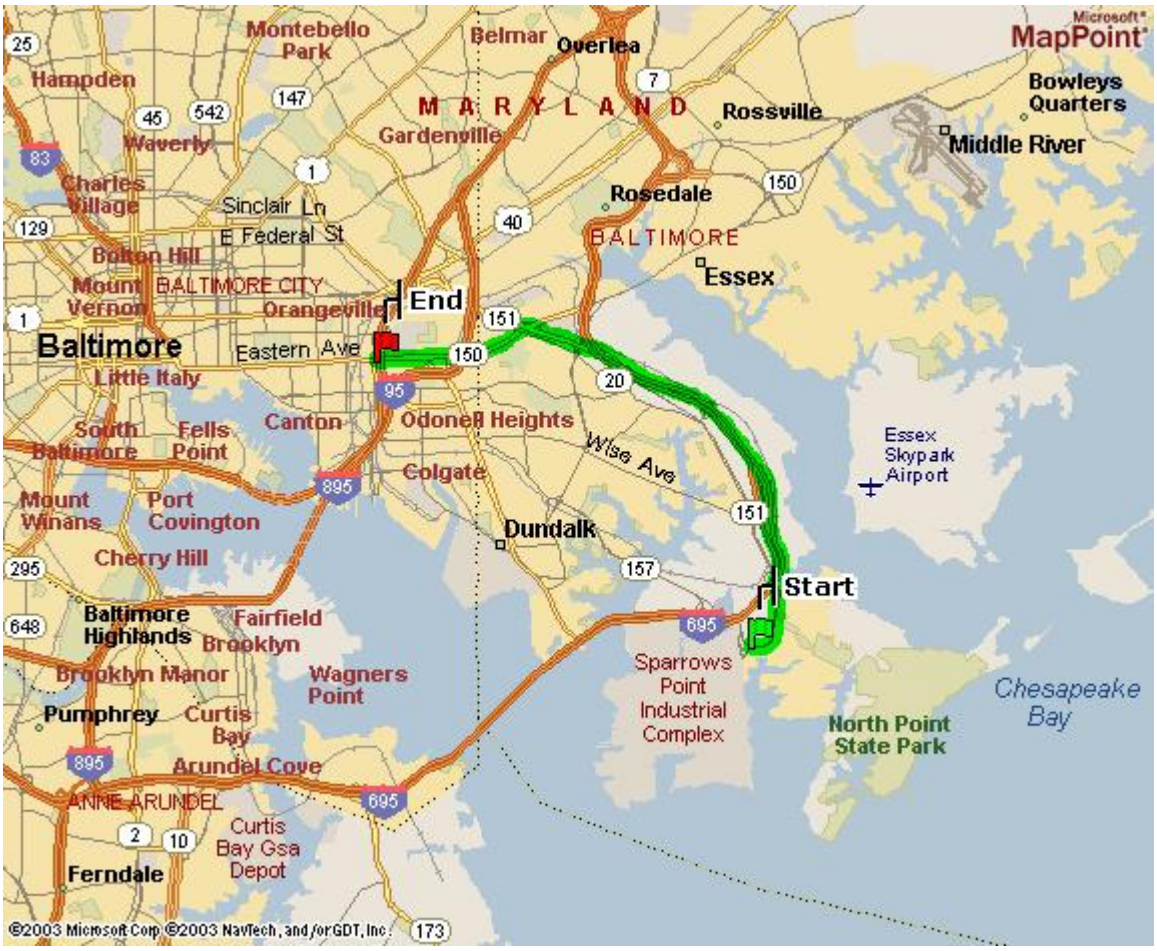
Hospital

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

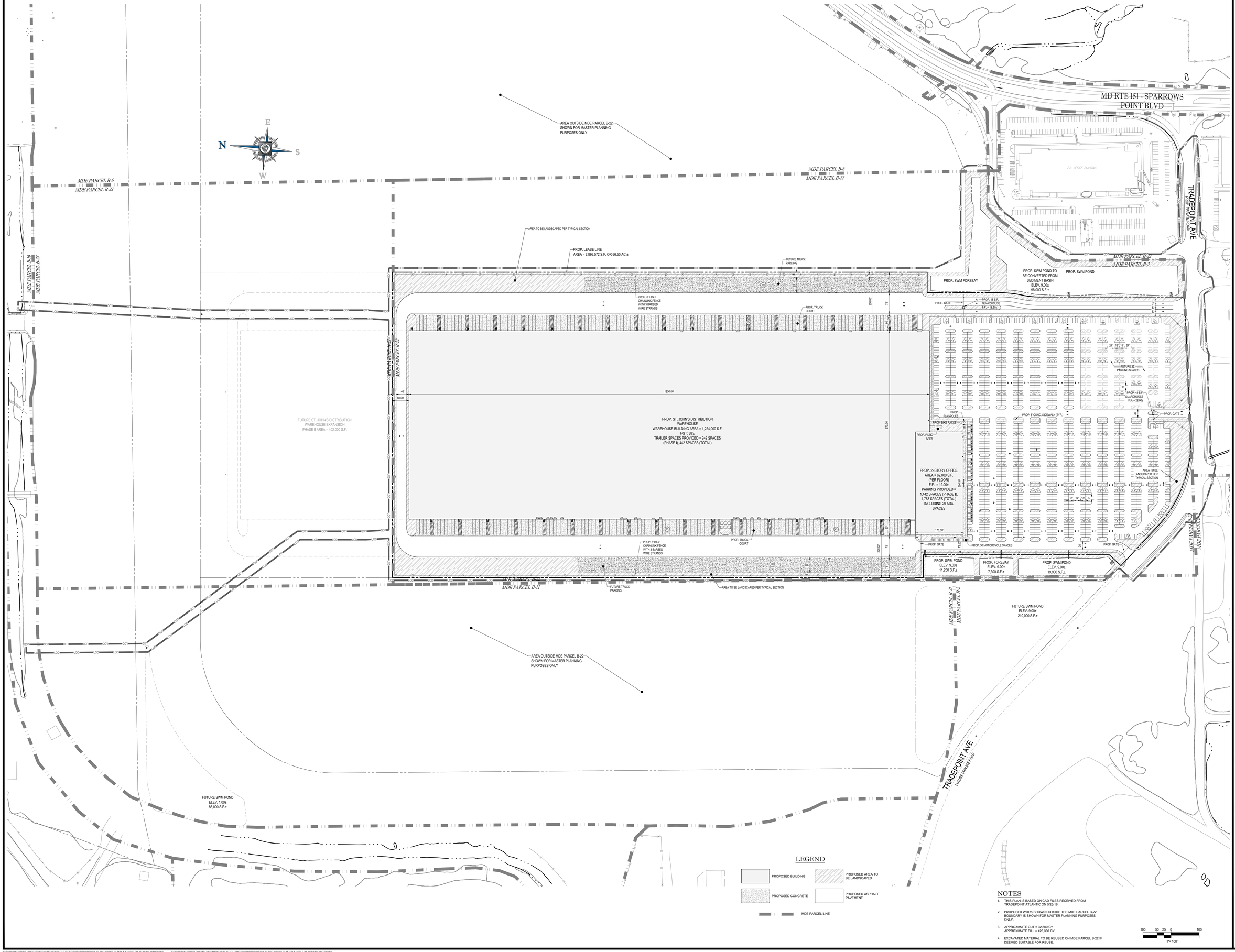
_____ _____

EAG Supervisor/Project Manager Signature Date

ATTACHMENT B

Material Safety Data Sheets (MSDSs)

APPENDIX D



LEGEND

- PROPOSED BUILDING
- PROPOSED AREA TO BE LANDSCAPED
- PROPOSED CONCRETE
- PROPOSED ASPHALT PAVEMENT
- 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-22 BOUNDARY IS SHOWN FOR MASTER PLANNING PURPOSES ONLY.
3. APPROXIMATE CUT = 32,800 CY
   APPROXIMATE FILL = 420,300 CY
4. EXCAVATED MATERIAL TO BE REUSED ON MDE PARCEL B-22 IF DEEMED SUITABLE FOR REUSE.

100 50 25 0 100
1"= 100'

BOHLER ENGINEERING
SITE/CIVIL ▪ STRUCTURAL ▪ TRANSPORTATION
ENVIRONMENTAL ▪ SURVEYING
PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
PLANNING ▪ LAND DEVELOPMENT

- LEHIGH VALLEY, PA
- NORTHAMPTON, PA
- RICHMOND, VA
- BEACH HAVEN, NJ
- SOUTHERN MARYLAND
- NORTHERN VIRGINIA
- CENTRAL VIRGINIA
- RALEIGH, NC
- CHARLOTTE, NC
- ATLANTA, GEORGIA
- AUSTIN, TX
- SOUTH FLORIDA

REVISIONS

REV	DATE	COMMENT	BY
1	8/8/16	REVISED PER NEW LAYOUT	RJM
2	10/7/16	REVISED PER CLIENT COMMENTS	RMS

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.
WV: 1-800-245-4848 | PA: 1-800-242-1776 | NC: 1-800-632-4949 | VA: 1-800-552-7001 | MD: 1-800-257-7777 | DE: 1-800-282-8555

NOT APPROVED FOR CONSTRUCTION

PROJECT No.:	MD162066
DRAWN BY:	RMS
CHECKED BY:	MJG
DATE:	7/8/16
SCALE:	1"=100'
CAD I.D.:	SS-1

PROJECT:

PRELIMINARY SITE PLAN MDE PARCEL B-22

FOR

TRADEPOINT ATLANTIC

LOCATION OF SITE
ST. JOHN'S DISTRIBUTION WAREHOUSE
SPARROWS POINT, MD
BALTIMORE COUNTY

BOHLER ENGINEERING
901 DULANEY VALLEY ROAD, SUITE 801
TOWSON, MARYLAND 21204
Phone: (410) 821-7900
Fax: (410) 821-7987
MD@BohlerEng.com

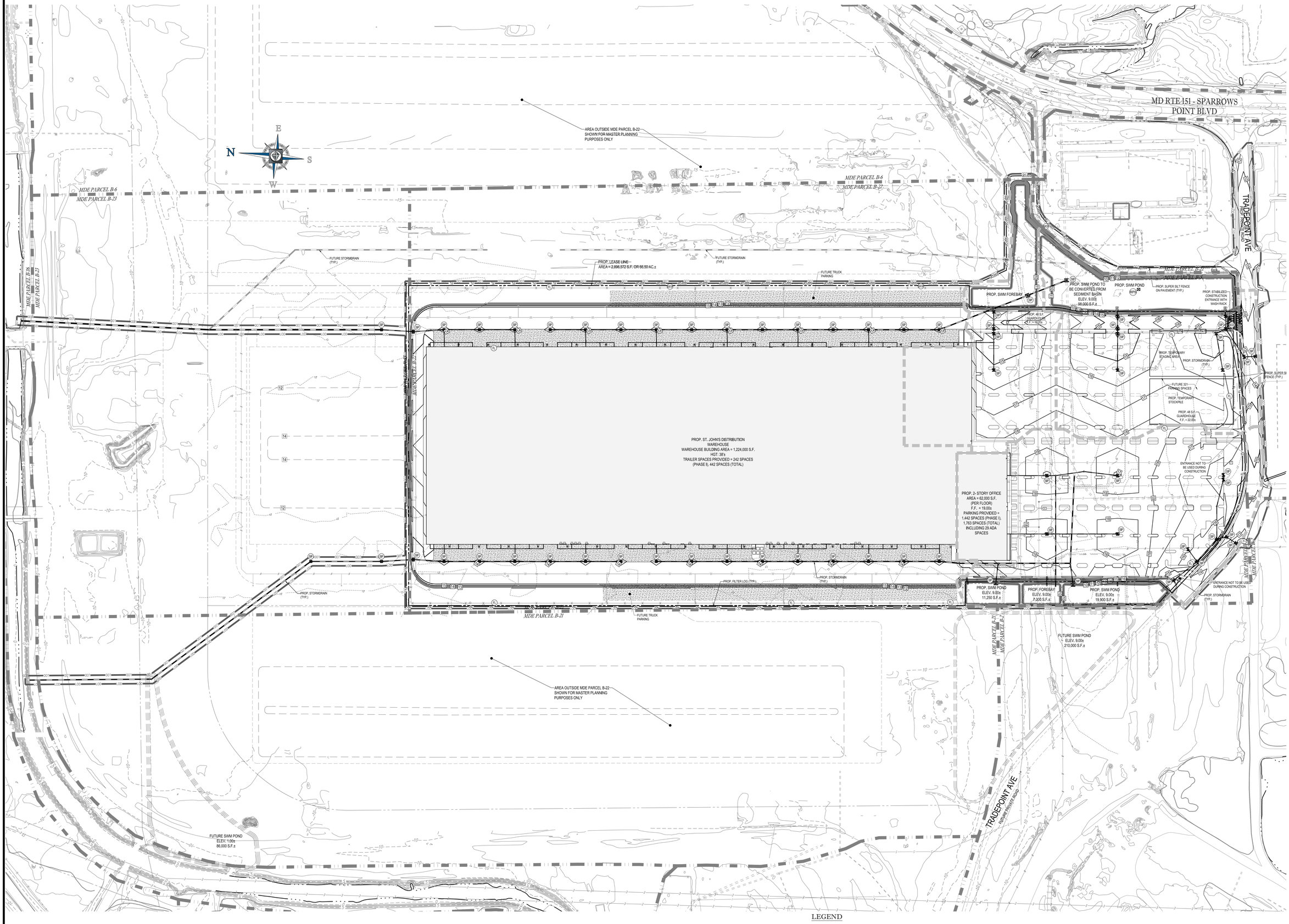
SHEET TITLE:

SITE PLAN

SHEET NUMBER:

1

C:\USERS\RSTASIOWSKI\APPDATA\LOCAL\TEMP\ACPUBLISH_11344\MD162066SS3.DWG PRINTED BY: RSTASIOWSKI 10:07 16 @ 8.13 AM LAST SAVED BY: RSTASIOWSKI



LEGEND

- PROPOSED CONTOUR
- FUTURE CONTOUR
- EXISTING CONTOUR
- PROPOSED LIMIT OF DISTRIBANCE
- PROPOSED DRAINAGE SURFACE (0.50% MIN)
- APPROXIMATE DRAINAGE AREA TO STORMWATER MANAGEMENT FACILITY
- PROPOSED STORMDRAIN
- FUTURE STORMDRAIN
- EXISTING STORMDRAIN
- PROPOSED SEDIMENT BASIN OUTLET STRUCTURE
- STANDARD INLET PROTECTION
- SSFOP — PROPOSED SUPER SILT FENCE ON PAVEMENT
- PROPOSED RIPRAP
- PROPOSED STABILIZED CONSTRUCTION ENTRANCE
- PROPOSED MOUNTABLE BERM
- PROPOSED REMOVABLE PUMPING STATION
- FL — PROPOSED FILTER LOG

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-22 BOUNDARY IS SHOWN FOR MASTER PLANNING PURPOSES ONLY.
3. APPROXIMATE CUT = 32,800 CY
   APPROXIMATE FILL = 420,300 CY
4. EXCAVATED MATERIAL TO BE REUSED ON MDE PARCEL B-22 IF DEEMED SUITABLE FOR REUSE.

100 50 25 0 100
1"= 100'

BOHLER ENGINEERING
SITE/CIVIL ▪ STRUCTURAL ▪ TRANSPORTATION
ENVIRONMENTAL ▪ SURVEYING ▪ LANDSCAPE ARCHITECTURE
PROGRAM MANAGEMENT ▪ PLANNING ▪ CONSTRUCTION
▪ LEHIGH VALLEY, PA
▪ UPSTATE NEW YORK
▪ BOSTON, MA
▪ RICHMOND BEACH, DE
▪ NEW JERSEY
▪ NEW YORK, NY
▪ SOUTHERN MARYLAND
▪ RALEIGH, NC
▪ ATLANTA, GEORGIA
▪ AUSTIN, TEXAS
▪ SOUTH FLORIDA
▪ CHICAGO, ILLINOIS
▪ CENTRAL VIRGINIA

REVISIONS

REV	DATE	COMMENT	BY
1	8/8/16	REVISED PER NEW LAYOUT	RJM
2	10/7/16	REVISED PER CLIENT COMMENTS	RMS

NOT APPROVED FOR CONSTRUCTION

PROJECT No:	MD16206
DRAWN BY:	RMS
CHECKED BY:	MJG
DATE:	7/8/16
SCALE:	1"=100'
CAD I.D.	SSP

PROJECT:

PRELIMINARY SITE PLAN
MDE PARCEL B-22

FOR

TRADEPOINT ATLANTIC

LOCATION OF SITE
ST. JOHN'S DISTRIBUTION WAREHOUSE
SPARROWS POINT, MD
BALTIMORE COUNTY

BOHLER ENGINEERING
901 DULANEY VALLEY ROAD, SUITE 801
TOWSON, MARYLAND 21204
Phone: (410) 821-7900
Fax: (410) 821-7987
MD@BohlerEng.com

SHEET TITLE:

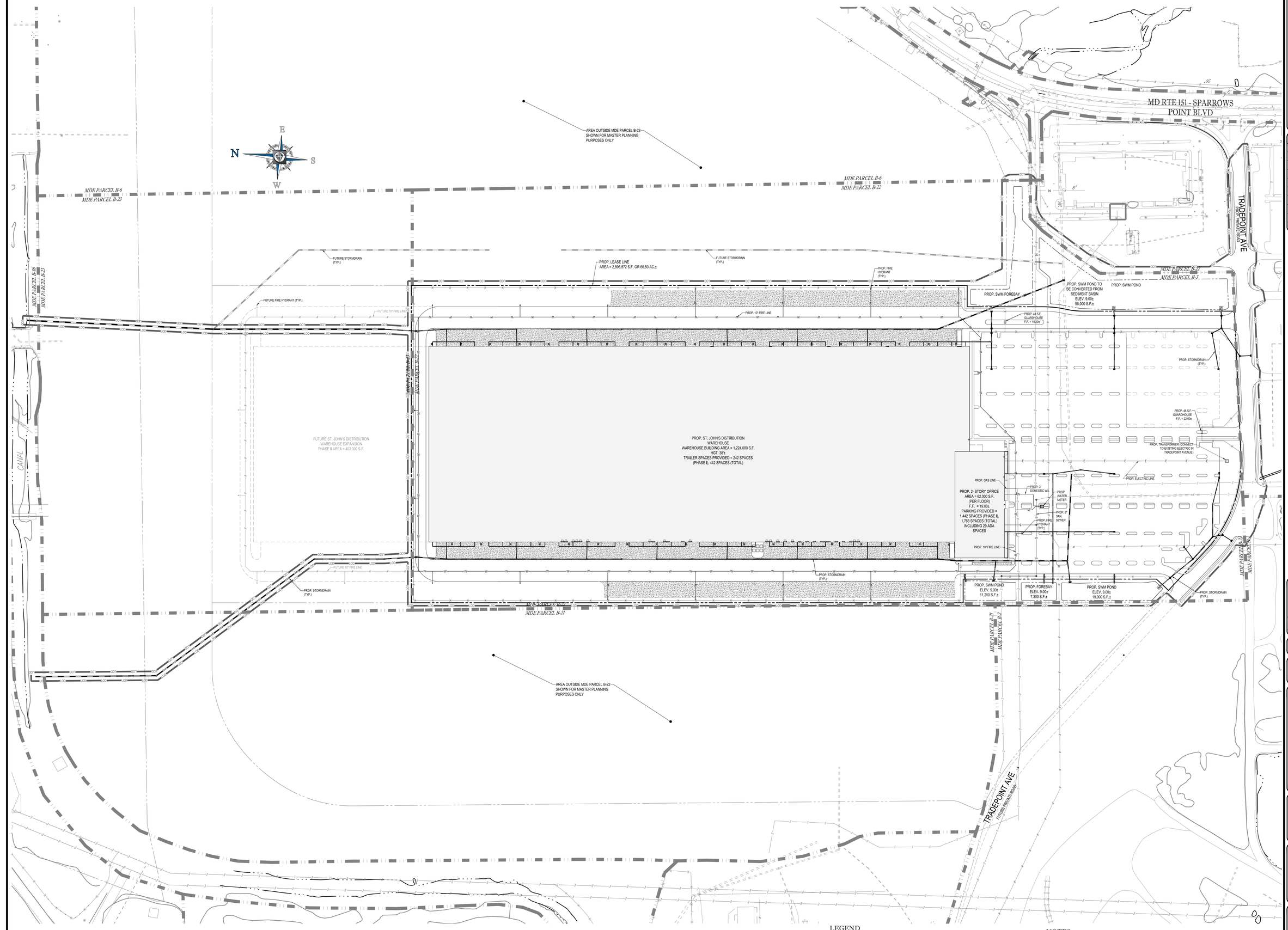
GRADING PLAN

SHEET NUMBER:

2

C:\USERS\RSTADDON\SNAPPDATA.LOCAL\TEMP\ACPUBLISH_11344\MD16206SSD.DWG PRINTED BY: RSTADDON590 10:37:16 @ 8.14 AM LAST SAVED BY: RSTADDON590

C:\USERS\RSTADDON\SNAPPDATA.LOCAL\TEMP\ACPUBLISH_11344\MD16206SSD.DWG PRINTED BY: RSTADDON590 10:37:16 @ 8.14 AM LAST SAVED BY: RSTADDON590



LEGEND

PROPOSED WATERLINE	FUTURE WATERLINE	EXISTING WATERLINE
PROPOSED SANITARY SEWER	FUTURE SANITARY SEWER	EXISTING SANITARY SEWER
PROPOSED STORMDRAIN	FUTURE STORMDRAIN	EXISTING STORMDRAIN
PROPOSED GAS LINE	FUTURE GAS LINE	EXISTING GAS LINE
PROPOSED ELECTRIC LINE	FUTURE ELECTRIC LINE	EXISTING ELECTRIC 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-22 BOUNDARY IS SHOWN FOR MASTER PLANNING PURPOSES ONLY.
3. APPROXIMATE CUT = 32,800 CY
   APPROXIMATE FILL = 420,300 CY
4. EXCAVATED MATERIAL TO BE REUSED ON MDE PARCEL B-22 IF DEEMED SUITABLE FOR REUSE.

100 50 25 0 100
1"= 100'

BOHLER ENGINEERING
SITE/CIVIL ▪ STRUCTURAL ▪ TRANSPORTATION
ENVIRONMENTAL ▪ SURVEYING
PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
PLANNING ▪ CONSTRUCTION SERVICES

- LEHIGH VALLEY, PA
- PITTSBURGH, PA
- RICHMOND BEACH, DE
- BOSTON, MA
- NEW YORK, NY
- SOUTHERN MARYLAND
- NEW JERSEY
- PHILADELPHIA, PA
- RALEIGH, NC
- CHARLOTTE, NC
- ATLANTA, GEORGIA
- MIAMI, FL
- SOUTH FLORIDA
- CENTRAL VIRGINIA

REVISIONS

REV	DATE	COMMENT	BY
1	8/8/16	REVISED PER NEW LAYOUT	RJM
2	10/7/16	REVISED PER CLIENT COMMENTS	RMS

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO EXCAVATE BEFORE BEGINNING EXCAVATION: IN VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE CALL - 811
WV: 1-800-245-4848 | PA: 1-800-242-1776 | DC: 1-800-257-7777 | VA: 1-800-552-7001 | MD: 1-800-257-7777 | DE: 1-800-282-8555

NOT APPROVED FOR CONSTRUCTION

PROJECT No.:	MD16Z006
DRAWN BY:	RMS
CHECKED BY:	MJG
DATE:	7/8/16
SCALE:	1"=100'
CAD I.D.:	SS3

PROJECT:

PRELIMINARY SITE PLAN MDE PARCEL B-22

FOR

TRADEPOINT ATLANTIC

LOCATION OF SITE
ST. JOHN'S DISTRIBUTION WAREHOUSE
SPARROWS POINT, MD
BALTIMORE COUNTY

BOHLER ENGINEERING
901 DULANEY VALLEY ROAD, SUITE 801
TOWSON, MARYLAND 21204
Phone: (410) 821-7900
Fax: (410) 821-7987
MD@BohlerEng.com

SHEET TITLE:

UTILITY PLAN

SHEET NUMBER:

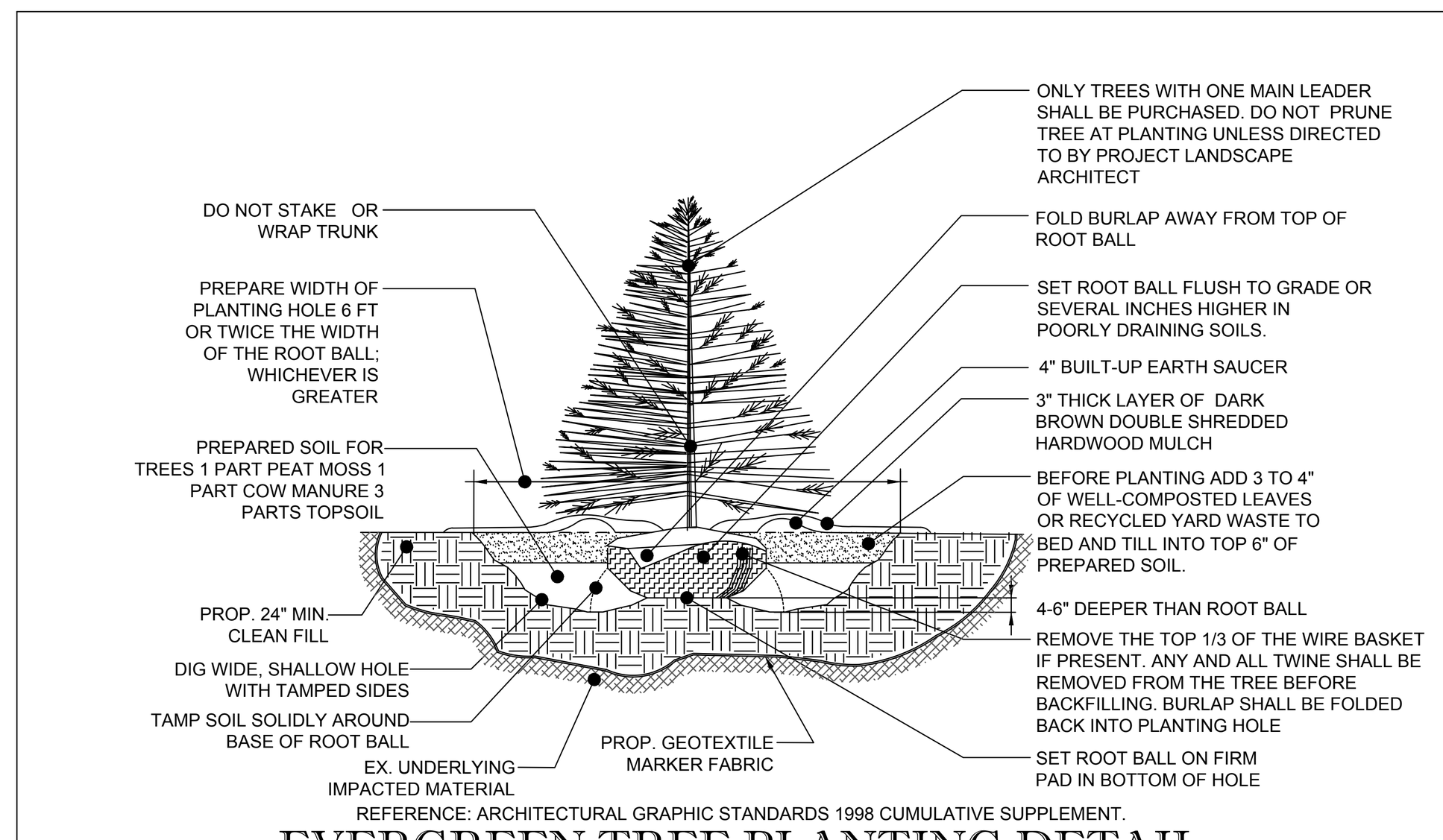
3

C:\USERS\RSTADOMSKI\APPDATA\LOCAL\TEMP\ACPUBLISH_11344\MD16Z006SS3.DWG PRINTED BY: RSTADOMSKI 10:07 16 @ 8.15 AM LAST SAVED BY: RSTADOMSKI

C:\USERS\RSTADOMSKI\APPDATA\LOCAL\TEMP\ACPUBLISH_11344\MD16Z006SS3.DWG PRINTED BY: RSTADOMSKI 10:07 16 @ 8.15 AM LAST SAVED BY: RSTADOMSKI

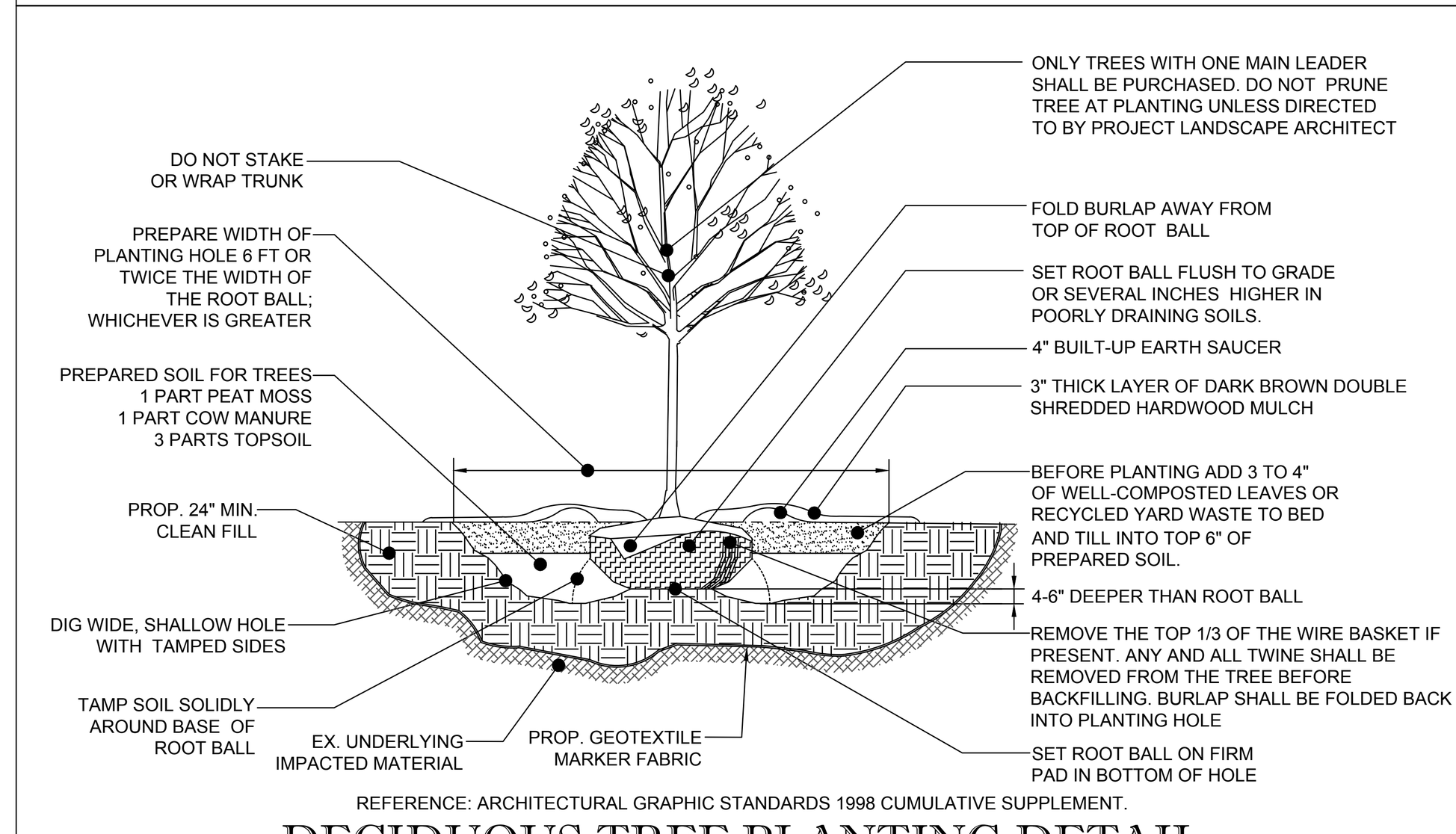
SEQUENCE OF CONSTRUCTION:

1. NOTIFY BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS, AND INSPECTIONS, SEDIMENT CONTROL (410-887-3226) AT LEAST 48 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, FILTER LOGS, SUPER SILT FENCE ON PAVEMENT, SILT FENCE CHECK DAMS, AND CONCRETE WASHOUT STATION AS DIRECTED BY THE BALTIMORE COUNTY SEDIMENT CONTROL INSPECTOR, AND STABILIZED CONSTRUCTION ENTRANCE AS SHOWN ON PLAN. SUPER SILT FENCE ON PAVEMENT AND FILTER LOGS SHALL BE INSPECTED & 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. CLEAR AND GRUB AREA REQUIRED FOR THE INSTALLATION OF THE SEDIMENT BASIN(S).
6. INSTALL SEDIMENT BASIN(S) PER THE APPROVED SEDIMENT CONTROL PLANS. INSTALL REMOVABLE PUMPING STATION (RPS). SITE GRADING SHALL BE LIMITED TO THAT WHICH IS REQUIRED FOR INSTALLING THE BASIN(S). (REMOVABLE PUMPING STATION TO BE USED TO PUMP SEDIMENT-LADEN WATER TO HUMPHREY CREEK TREATMENT FACILITY).
7. NOTIFY BALTIMORE COUNTY DEPARTMENT OF PERMITS, APPROVALS, AND INSPECTIONS, SEDIMENT CONTROL UPON COMPLETION OF SAID INSTALLATION.
8. 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.
9. IMMEDIATELY AFTER DEMOLITION ACTIVITIES HAVE OCCURRED; BEGIN ROUGH GRADING THE SITE.
10. 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.
11. 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.
12. 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.
13. INSTALL ANY REMAINING STONE SUBBASE AND BEGIN PAVING.
14. UPON STABILIZATION OF THE CONTRIBUTING DRAINAGE AREA WITH ESTABLISHED VEGETATION AND WITH PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR, INSTALL LANDSCAPING.
15. UPON STABILIZATION OF SITE WITH ESTABLISHED VEGETATION AND WITH PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR , REMOVE SEDIMENT CONTROL MEASURES WITH THE EXCEPTION OF THE SEDIMENT BASIN AND STABILIZE THOSE AREAS DISTURBED BY THIS PROCESS. DEWATER, CLEAN OUT BASIN, AND TAKE THE SPOIL TO TO A SITE WITH AN ACTIVE GRADING PERMIT AND AN APPROVED SEDIMENT CONTROL PLAN. MAINTAIN AND PERMANENTLY STABILIZE BASIN IN ACCORDANCE WITH THE APPROVED SEDIMENT CONTROL PLANS.
16. SEDIMENT BASIN MUST BE REMOVED OR CONVERTED TO STORMWATER MANAGEMENT FACILITY WITHIN THREE (3) YEARS OF THE INITIATION OF CONSTRUCTION.



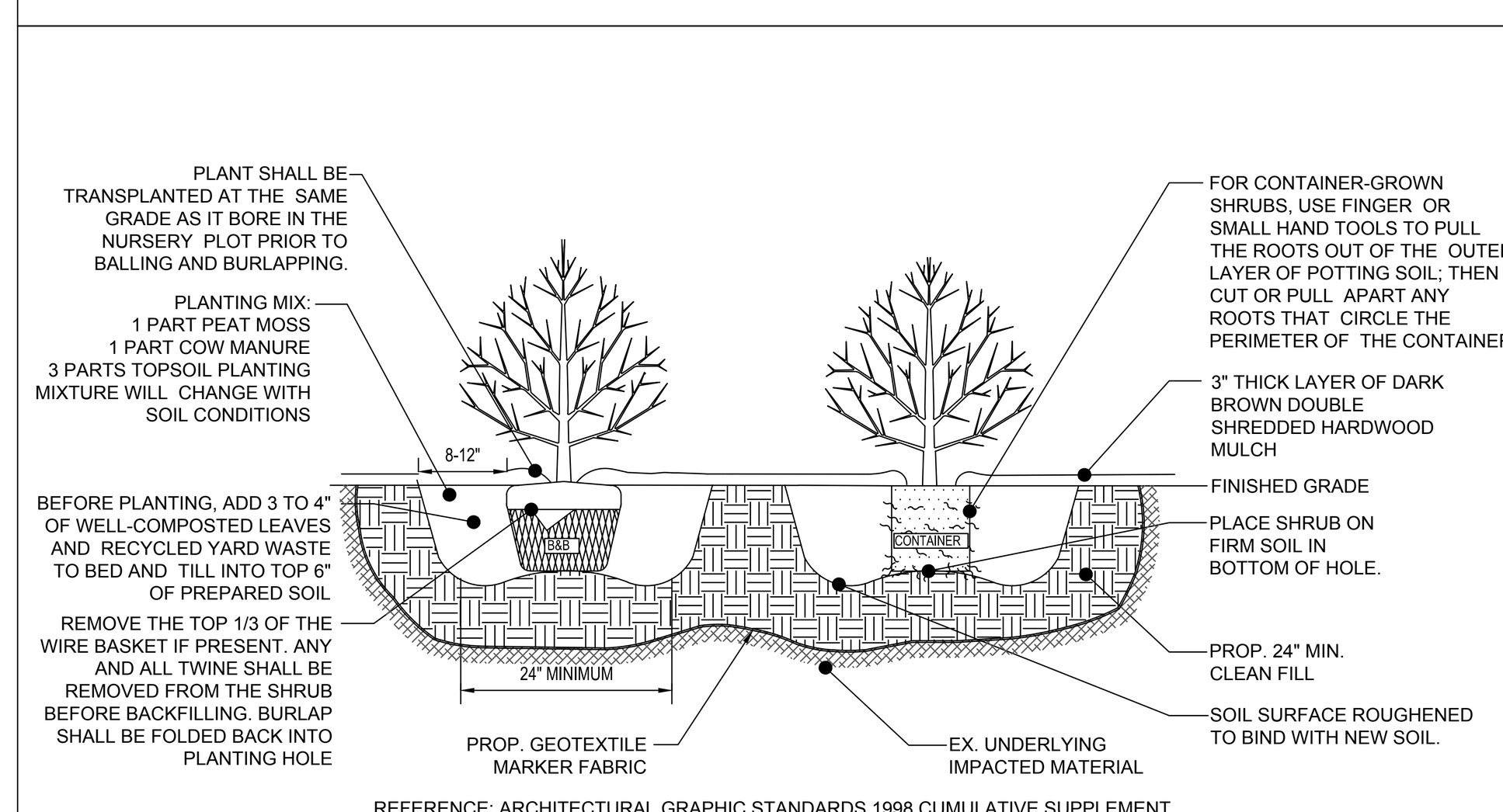
EVERGREEN TREE PLANTING DETAIL

NOT TO SCALE



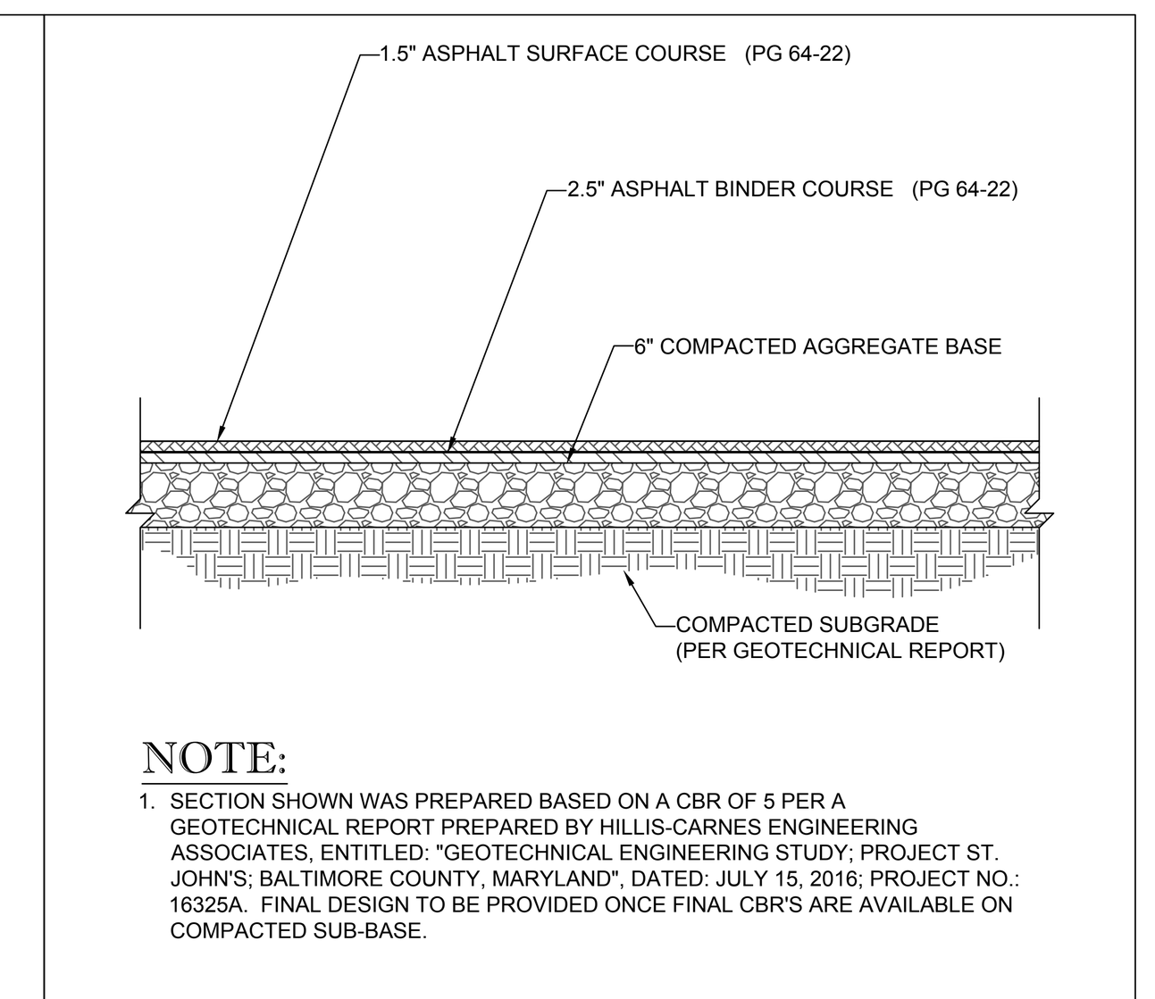
DECIDUOUS TREE PLANTING DETAIL

NOT TO SCALE



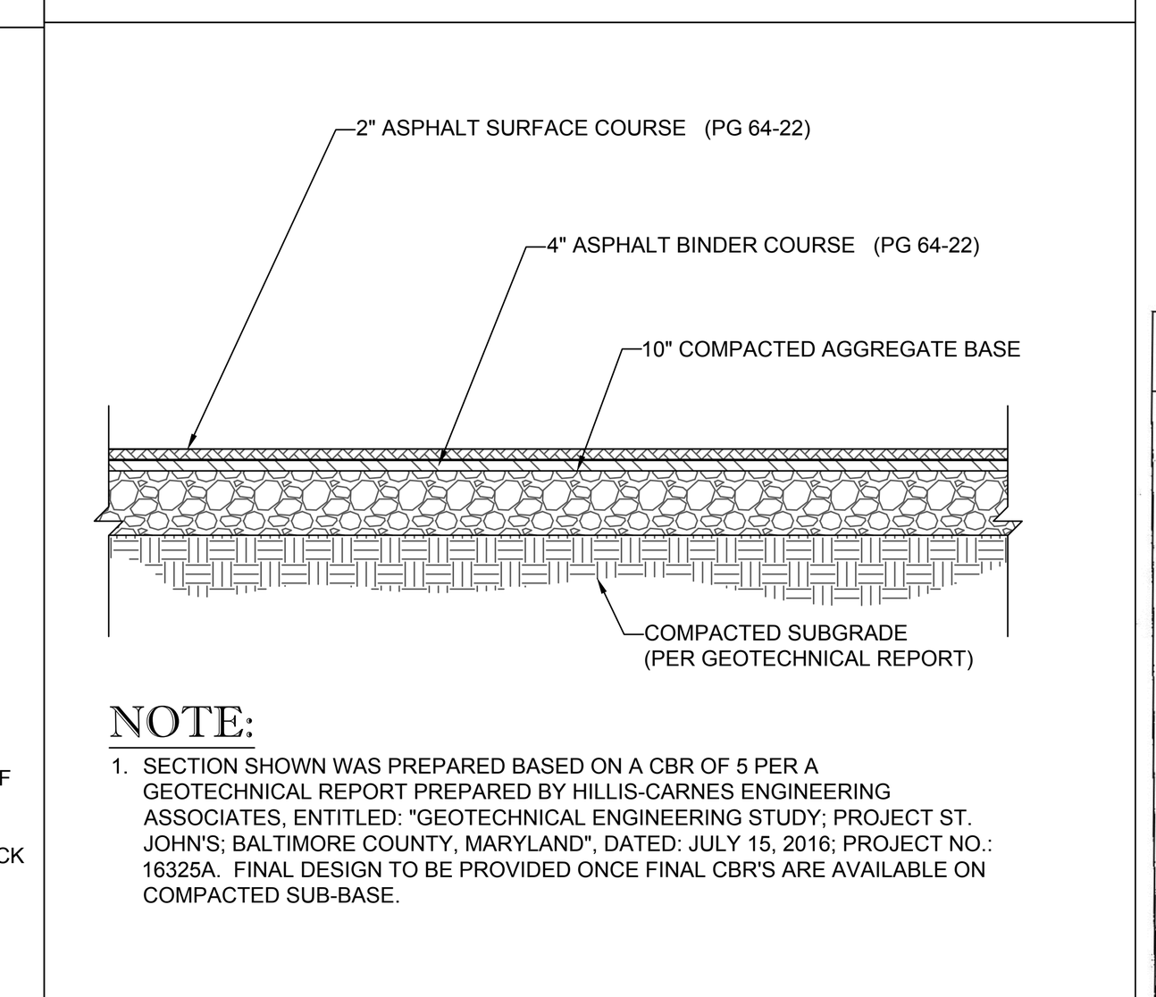
DECIDUOUS AND EVERGREEN SHRUB PLANTING DETAIL

NOT TO SCALE



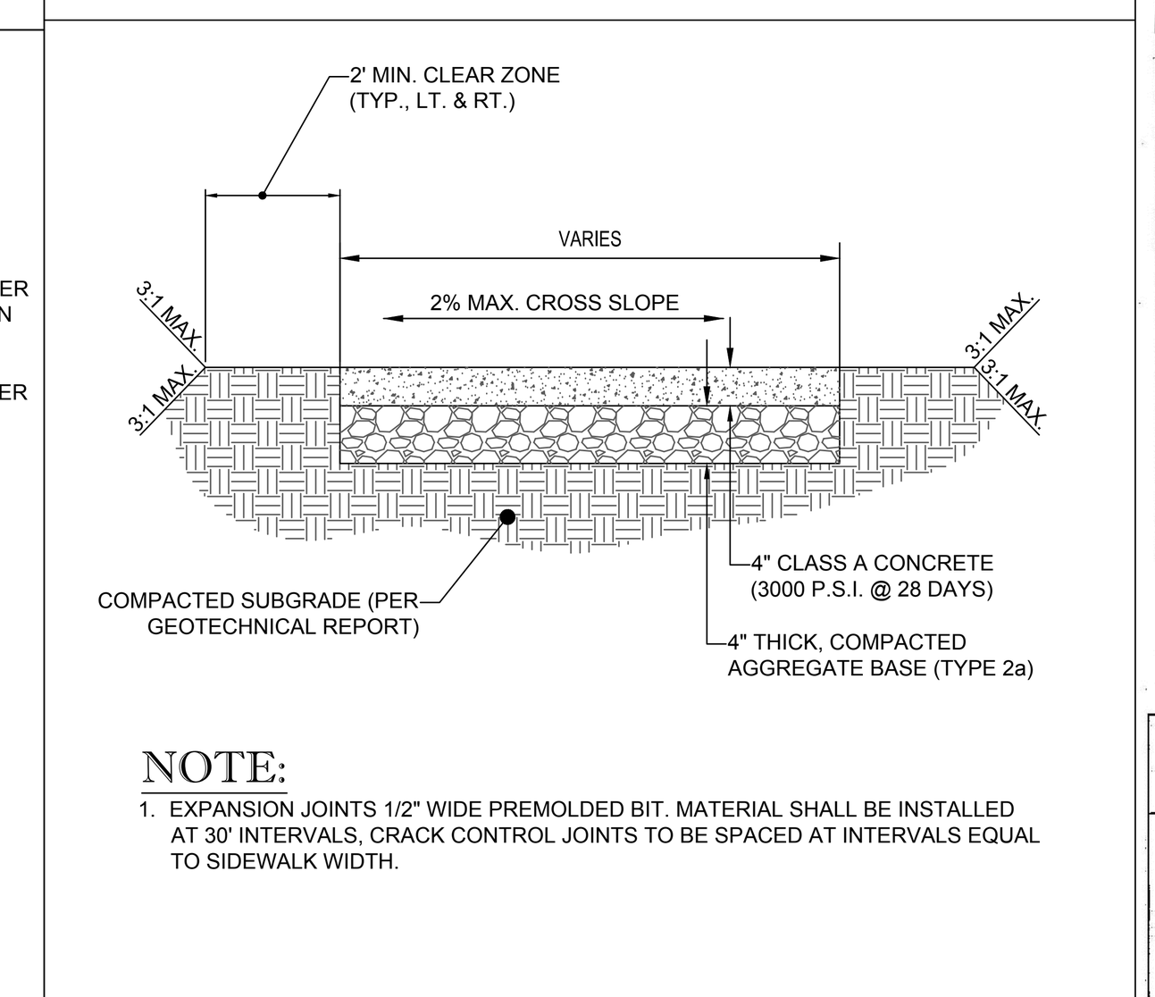
STANDARD DUTY ASPHALT PAVEMENT SECTION

NOT TO SCALE



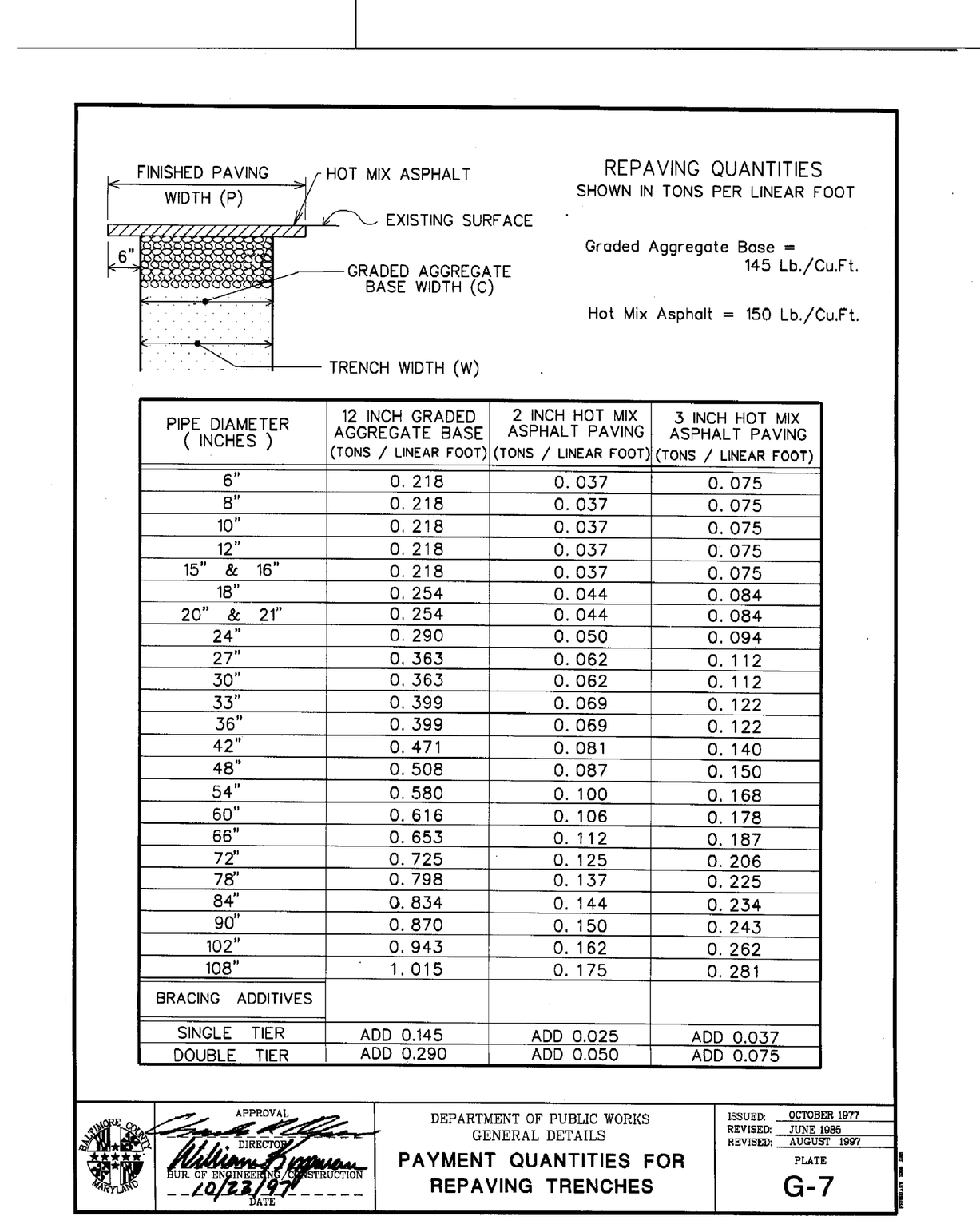
HEAVY DUTY ASPHALT PAVEMENT SECTION

NOT TO SCALE

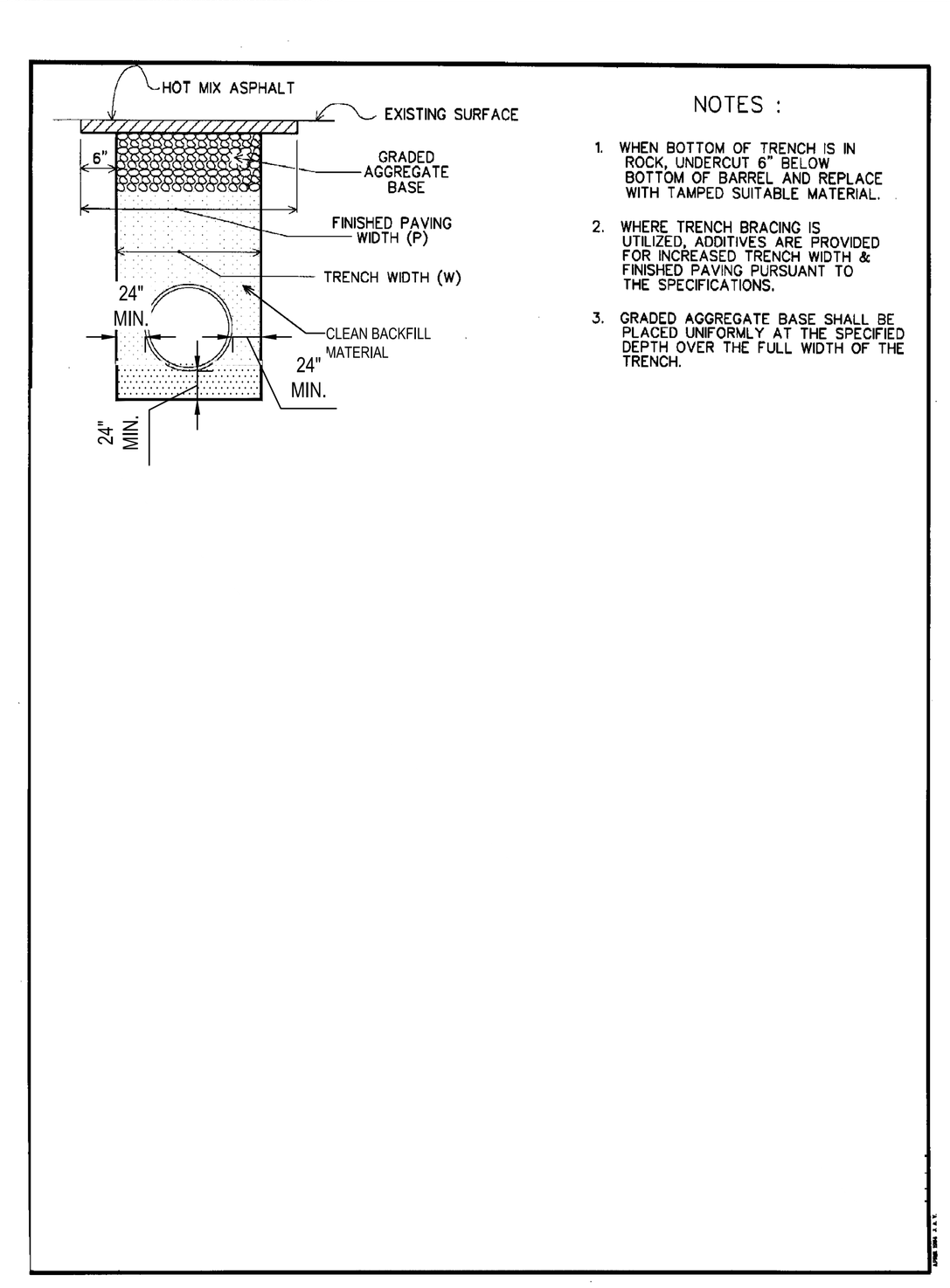


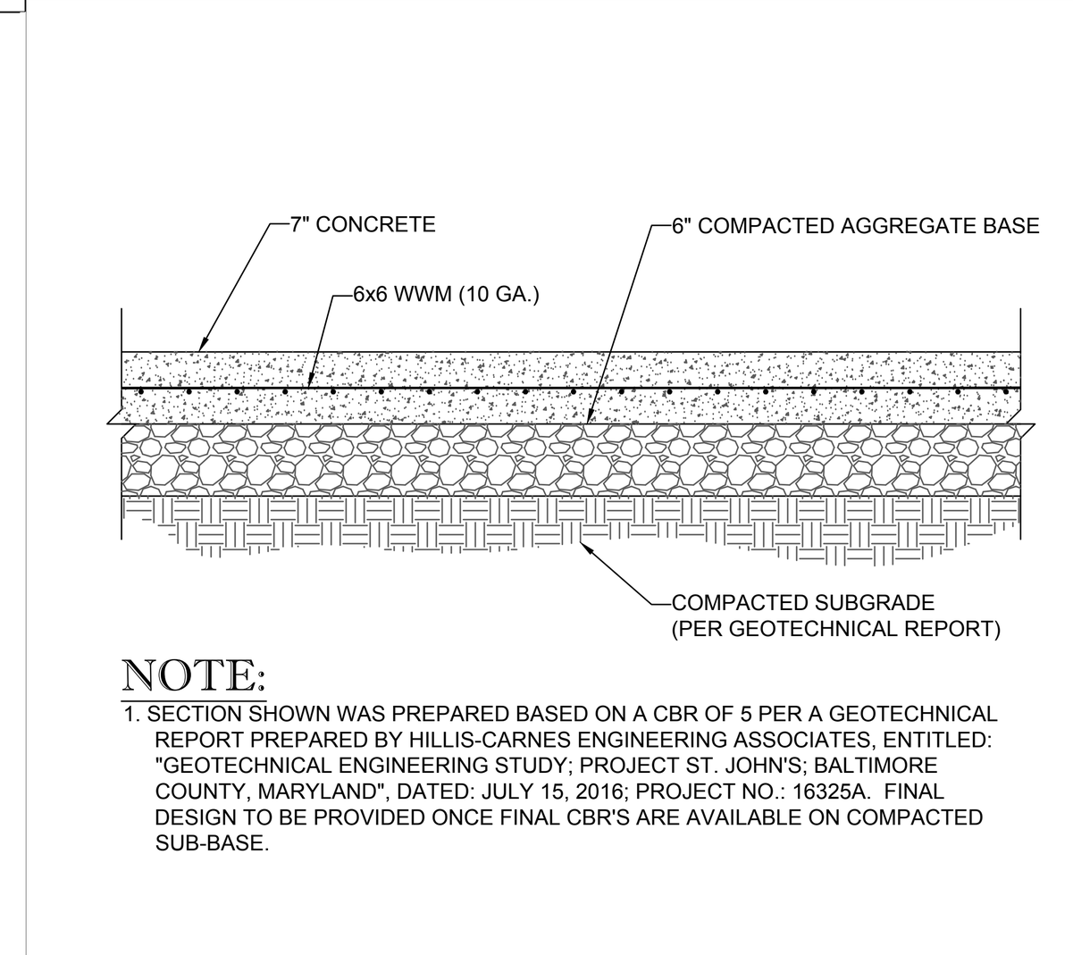
CONCRETE SIDEWALK DETAIL

NOT TO SCALE



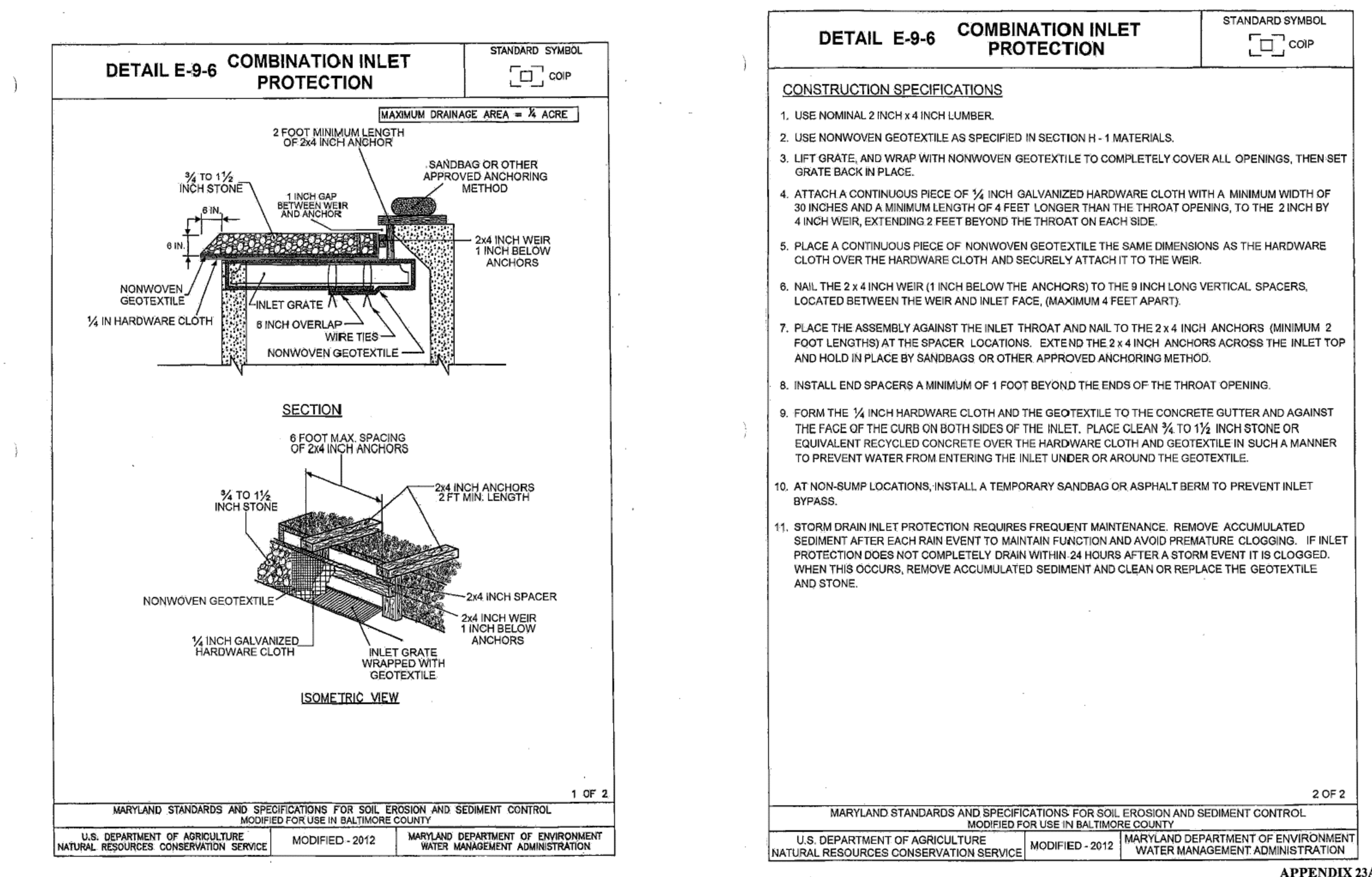
PAYMENT QUANTITIES FOR REPAVING TRENCHES G-7



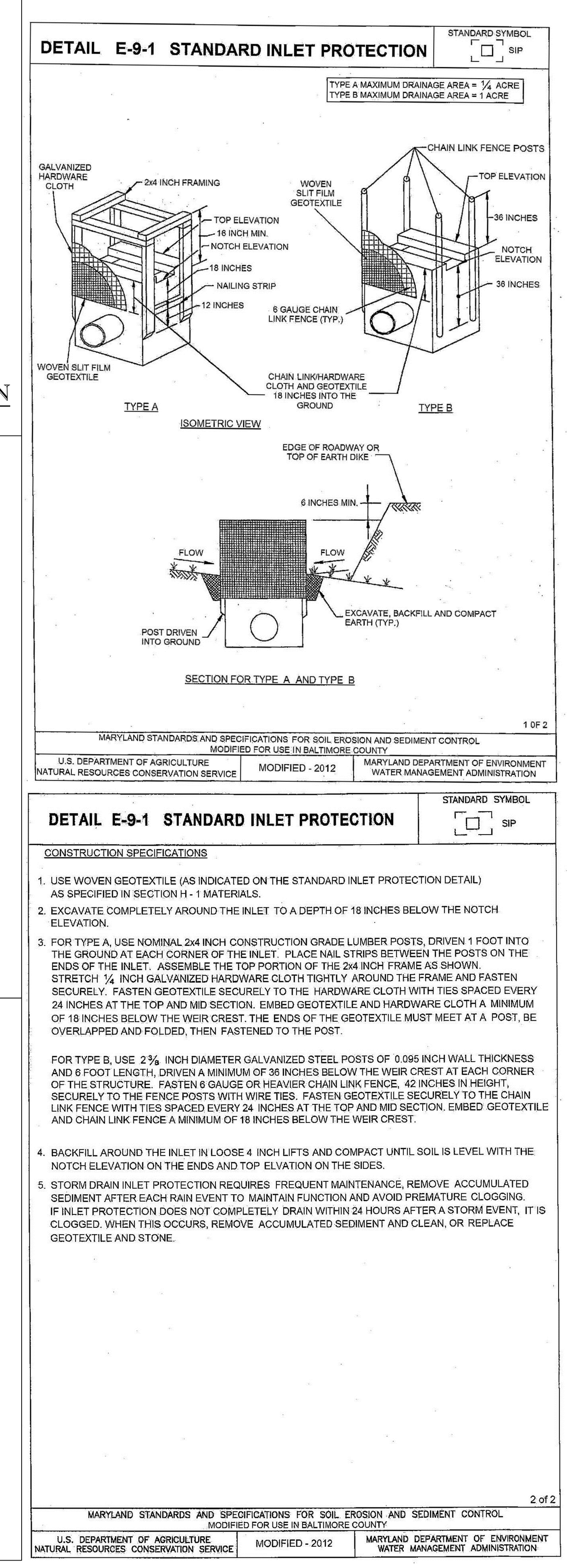


HEAVY DUTY CONCRETE SECTION

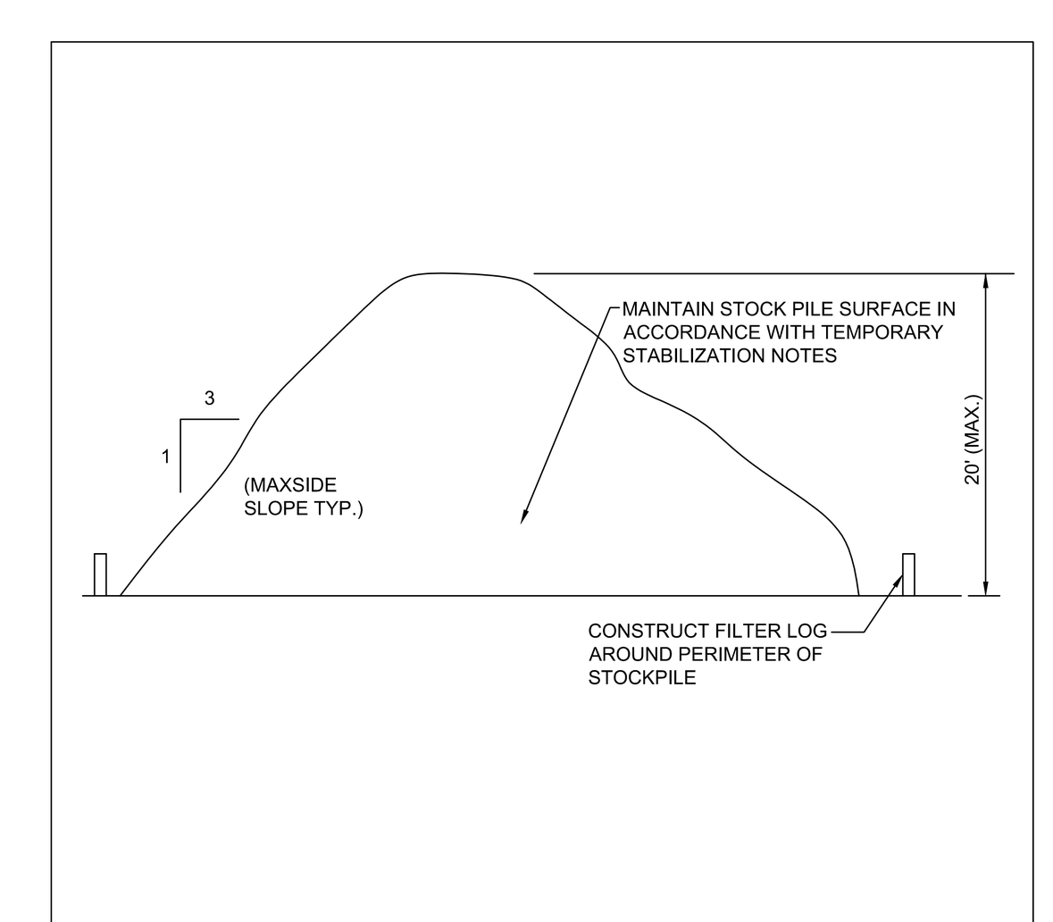
NOT TO SCALE



DETAIL E-9-6 COMBINATION INLET PROTECTION

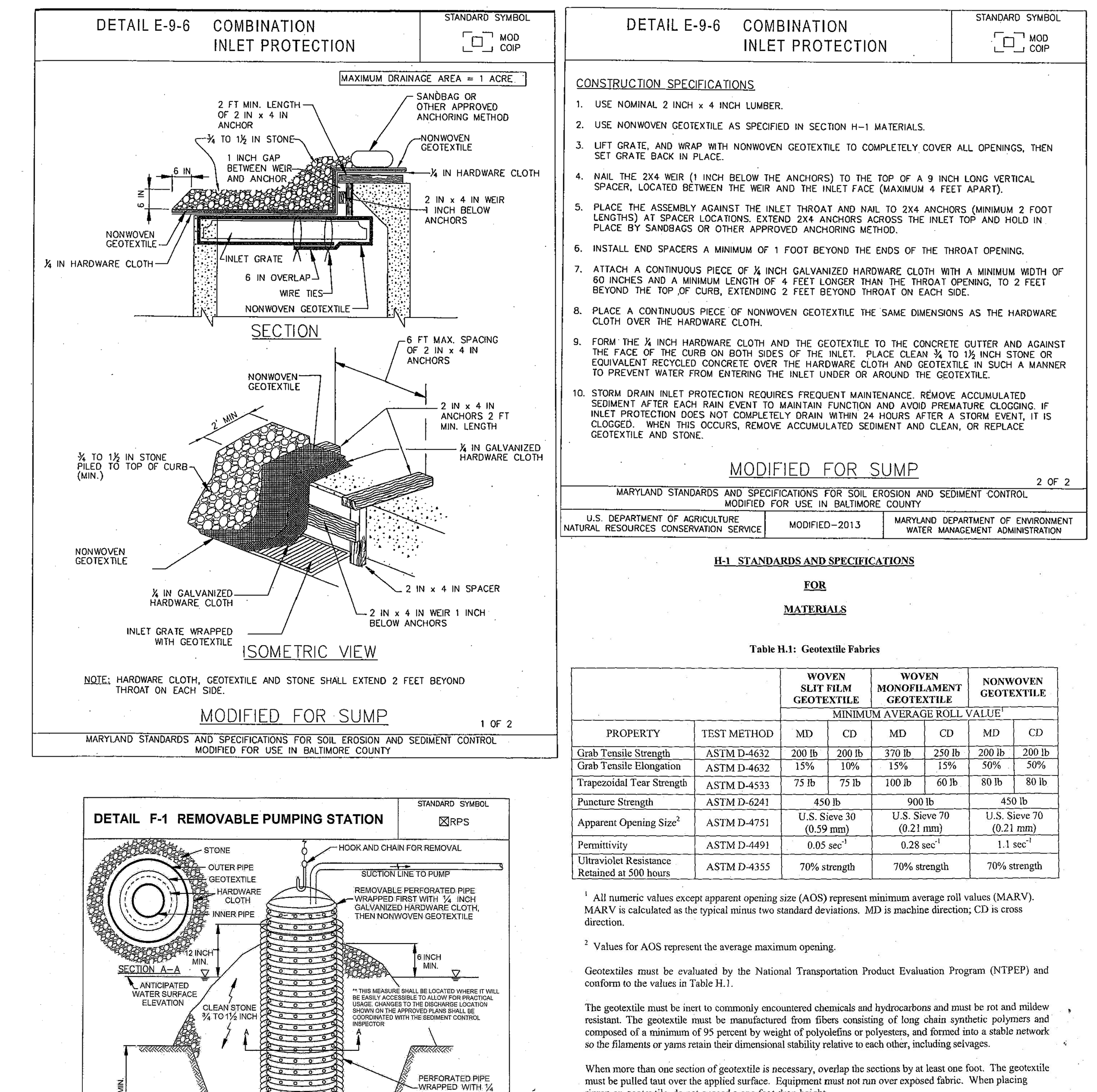


DETAIL E-9-1 STANDARD INLET PROTECTION

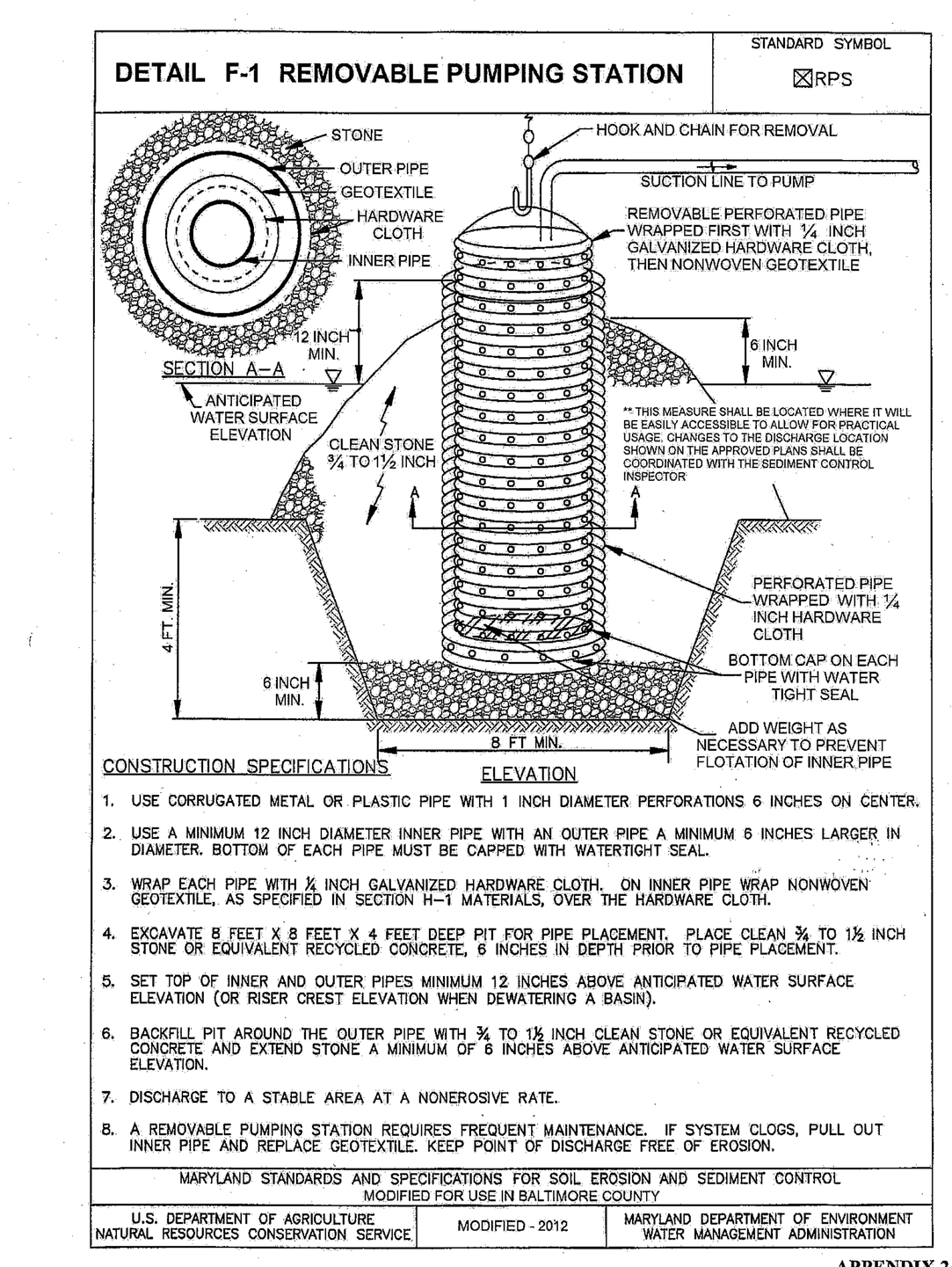


TEMPORARY STOCKPILE DETAIL

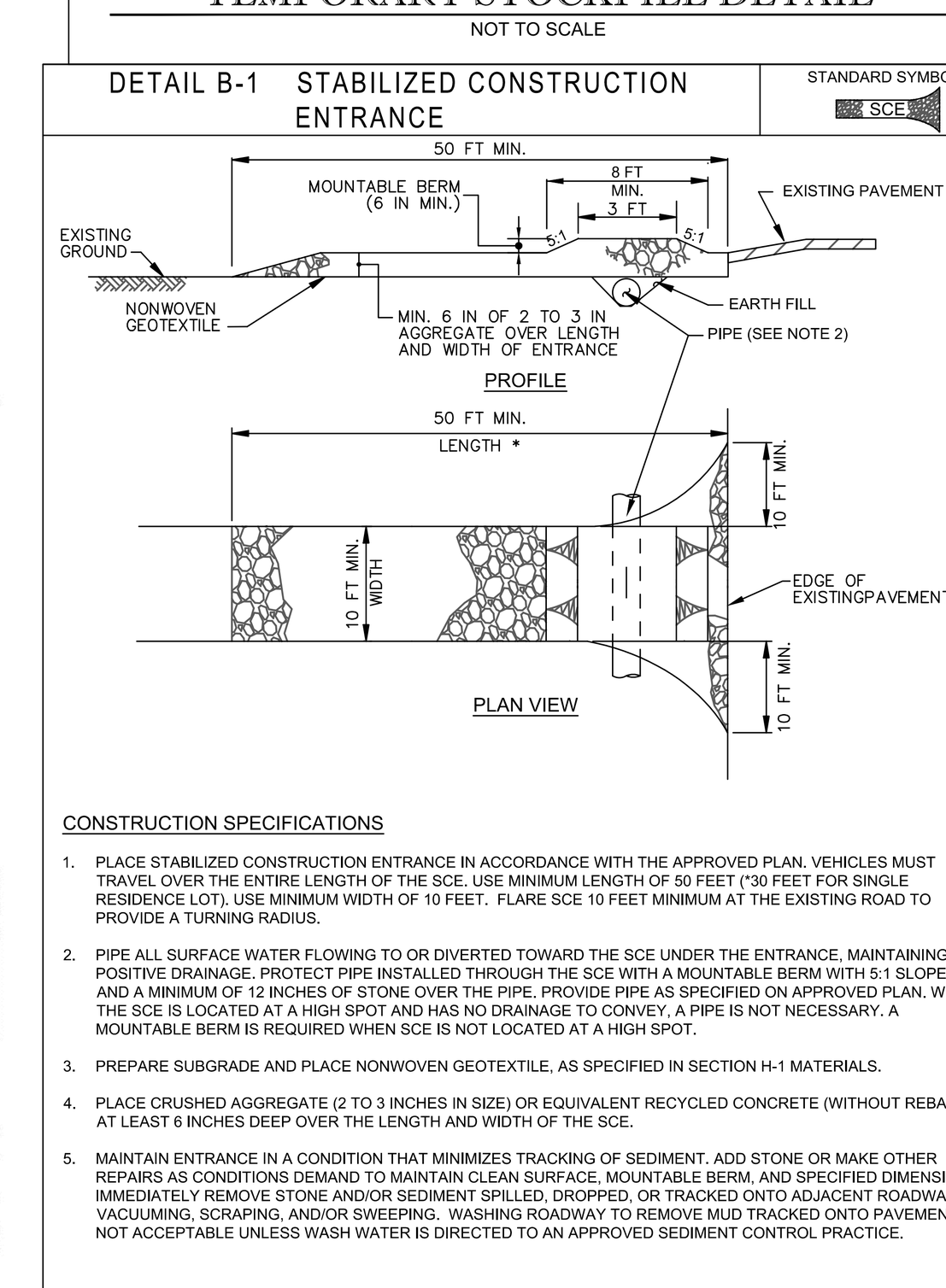
NOT TO SCALE



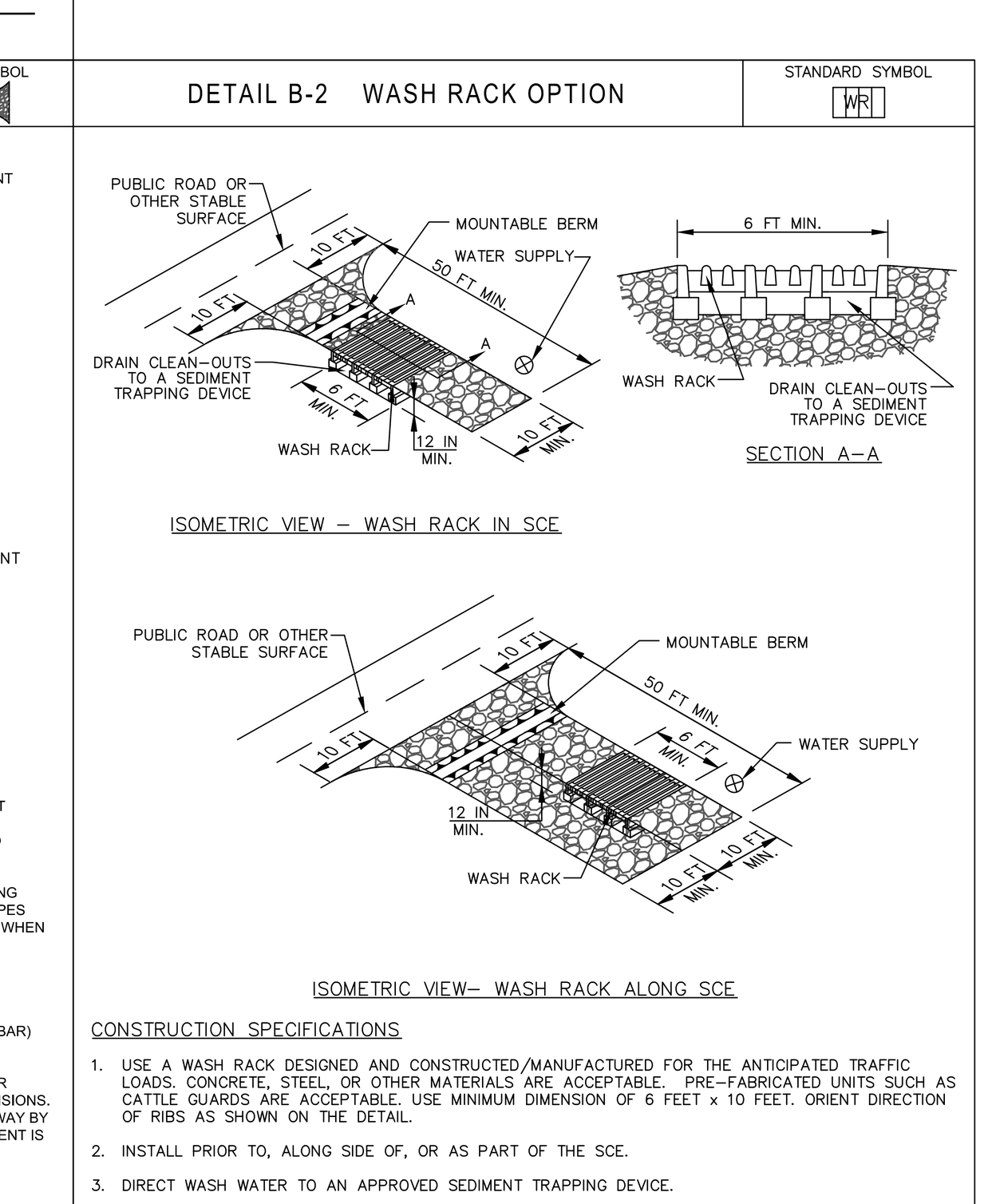
DETAIL E-9-6 COMBINATION INLET PROTECTION — MODIFIED FOR SUMP



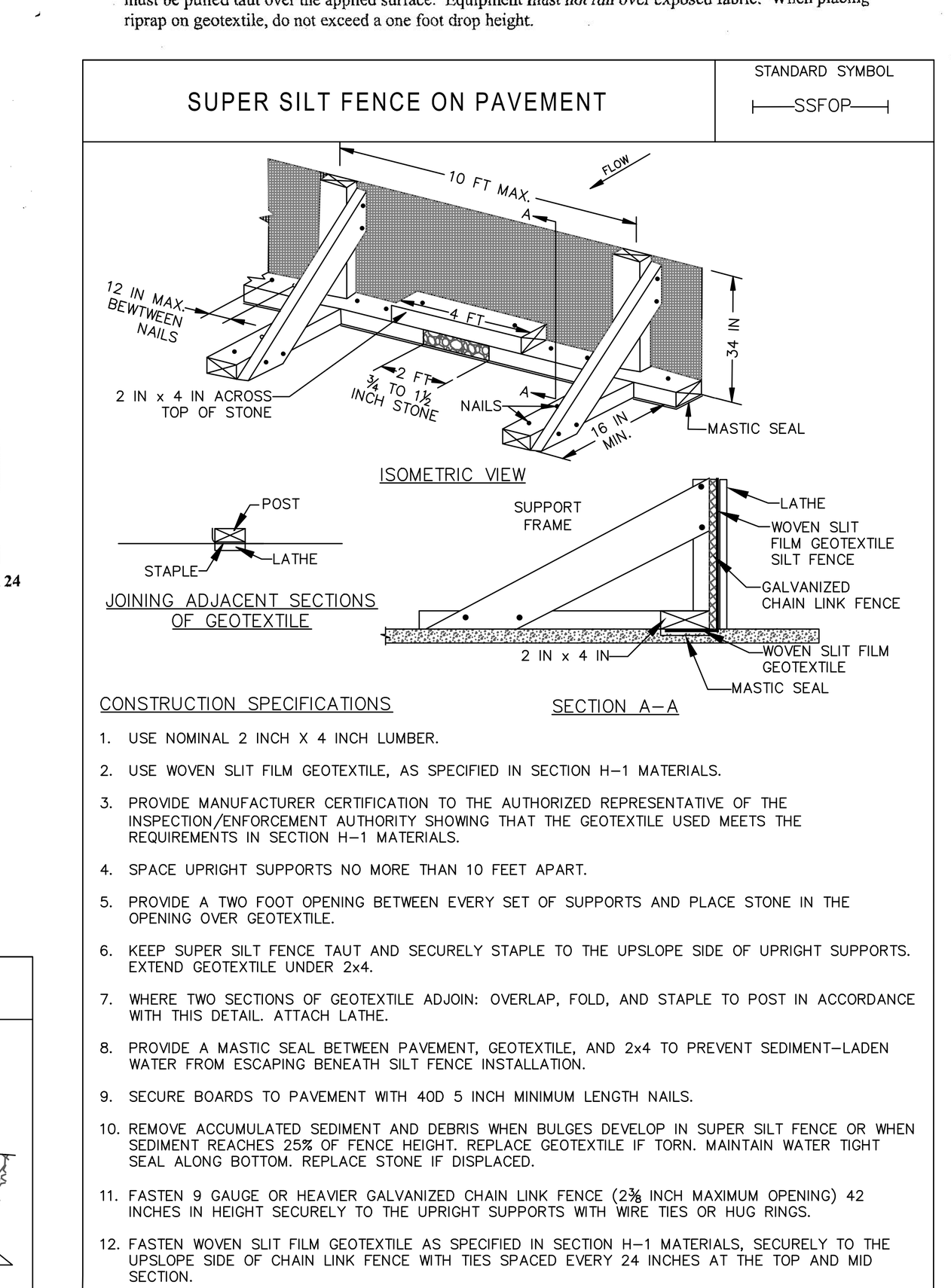
DETAIL F-1 REMOVABLE PUMPING STATION



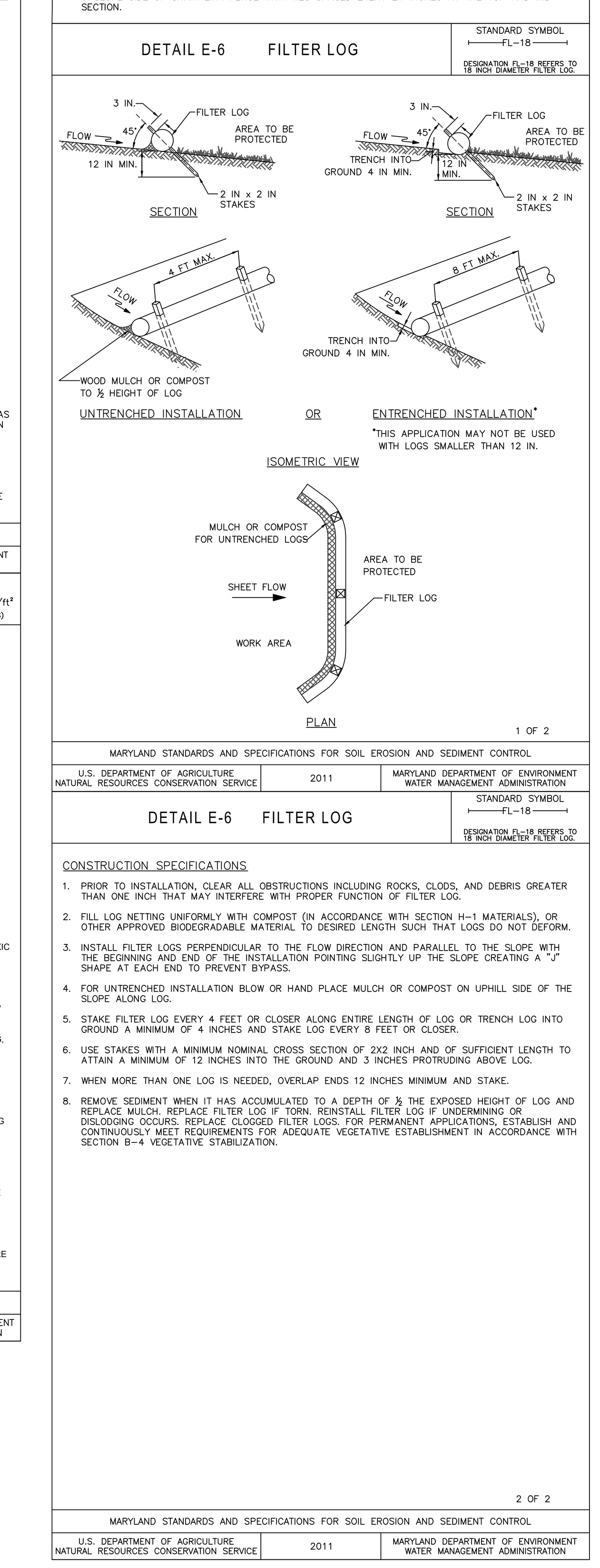
DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE



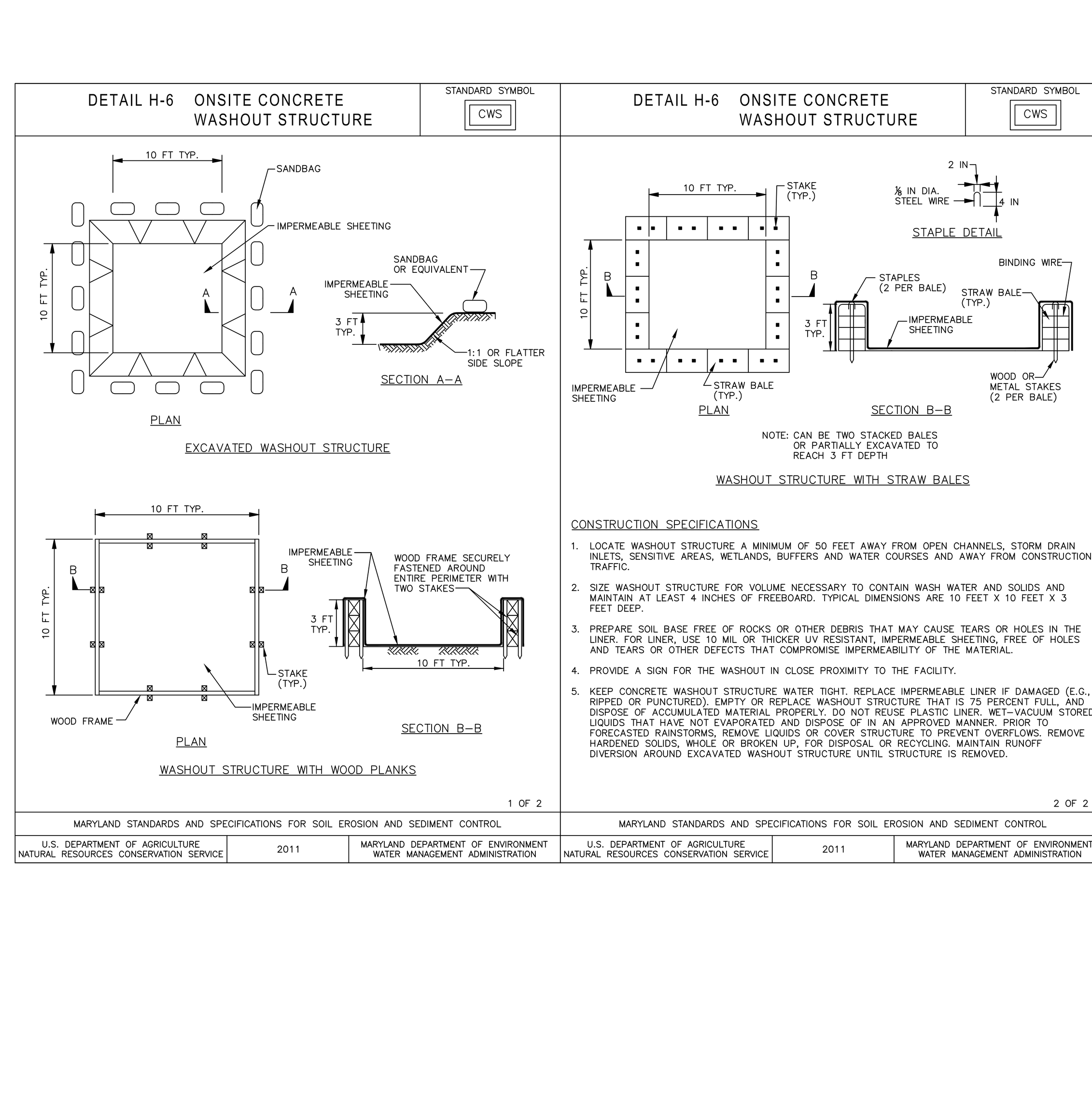
DETAIL B-2 WASH RACK OPTION



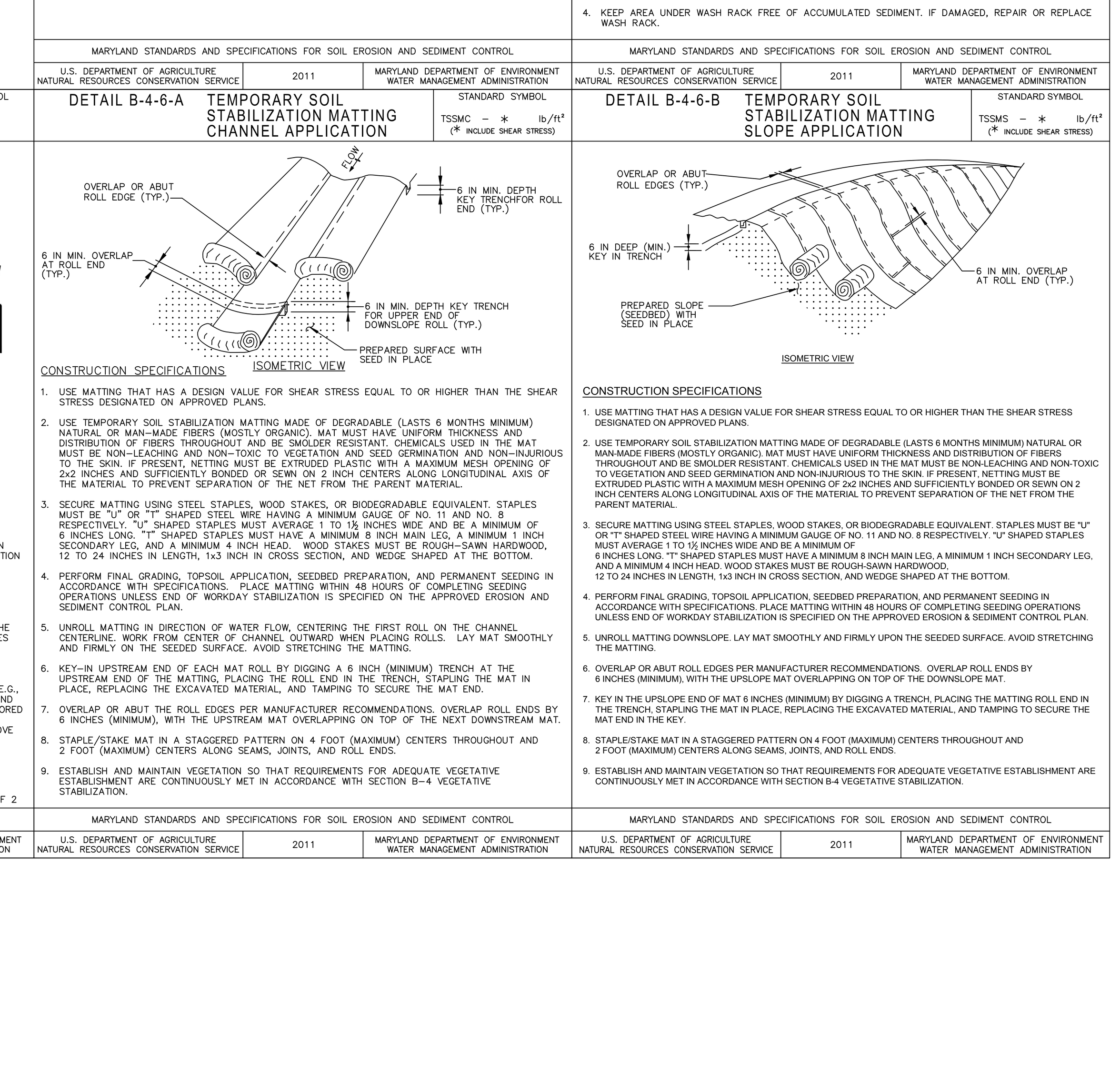
SUPER SILT FENCE ON PAVEMENT



DETAIL E-6 FILTER LOG



DETAIL H-6 ONSITE CONCRETE WASHOUT STRUCTURE



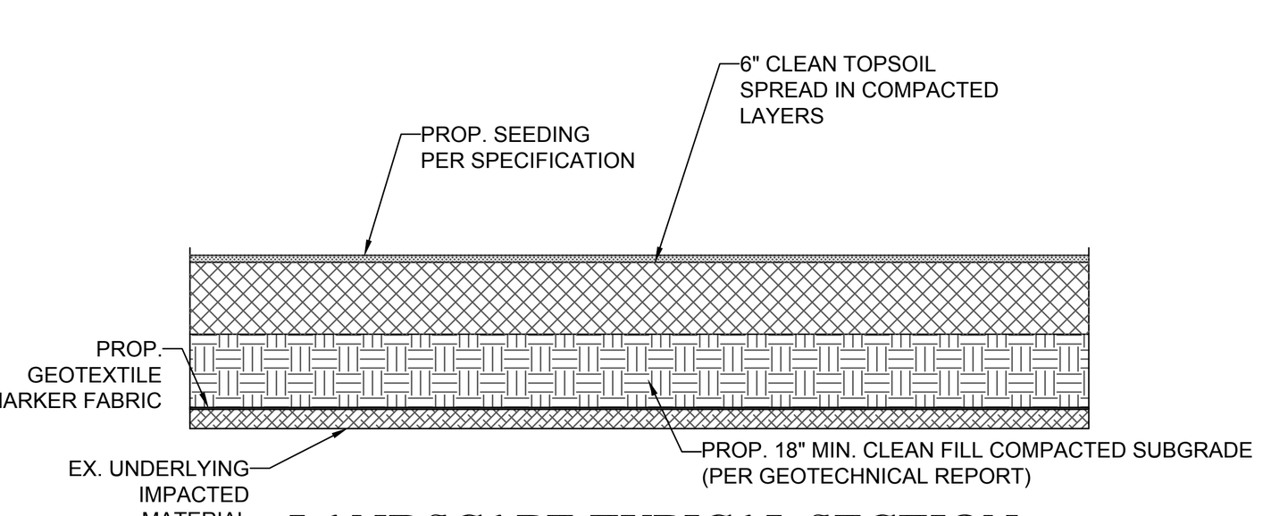
DETAIL B-4-6-A TEMPORARY SOIL STABILIZATION MATTING CHANNEL APPLICATION / DETAIL B-4-6-B TEMPORARY SOIL STABILIZATION MATTING SLOPE APPLICATION

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:

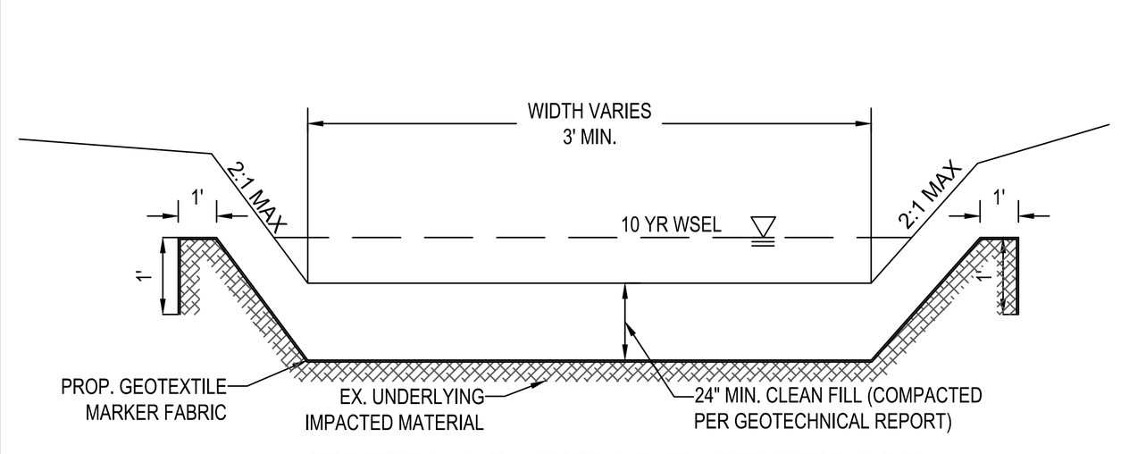
PERENNIAL RYEGRASS	½ LB/1,000 S.F.
KENTUCKY BLUEGRASS	1 LB/1,000 S.F.
RED FESCUE	1 ½ LBS/1,000 S.F.
SPREADING FESCUE	1 ½ LBS/1,000 S.F.
FERTILIZER (20:10:10)	14 LBS/1,000 S.F.
MULCH	90 LBS/1,000 S.F.

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.



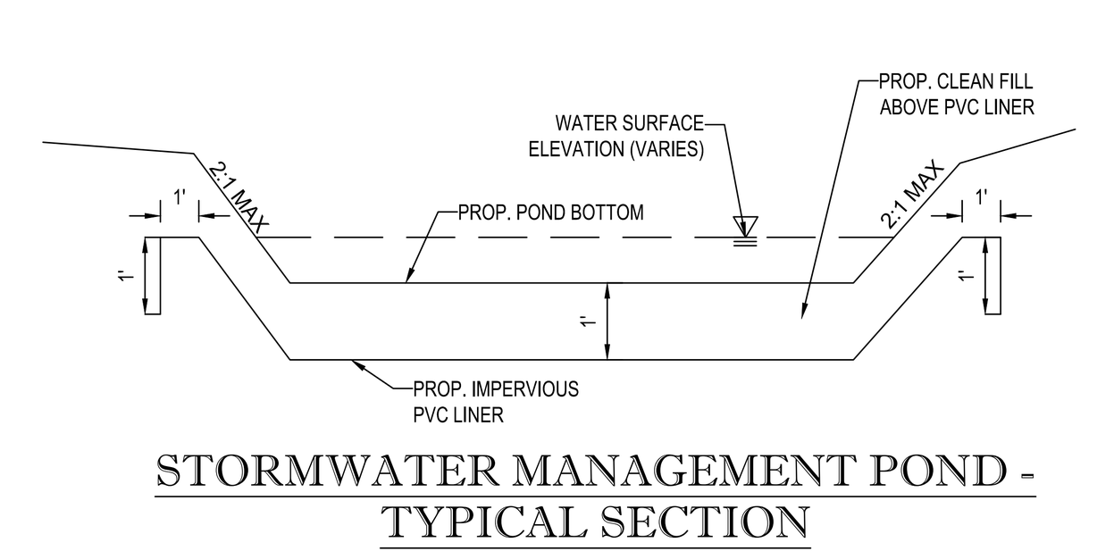
LANDSCAPE TYPICAL SECTION (LAWN AREA)

NOT TO SCALE



TYPICAL SWALE SECTION

NOT TO SCALE



STORMWATER MANAGEMENT POND - TYPICAL SECTION

NOT TO SCALE

BOHLER ENGINEERING

SITE CIVIL AND CONSULTING ENGINEERING
LAND SURVEYING · PROGRAM MANAGEMENT · LANDSCAPE ARCHITECTURE
SUSTAINABLE DESIGN · PERMITTING SERVICES · TRANSPORTATION SERVICES

UPSTATE NEW YORK · NEW ENGLAND · BOSTON, MA · NEW YORK METRO · NEW YORK, NY · NEW JERSEY · PHILADELPHIA, PA · LEHIGH VALLEY, PA · SOUTHEASTERN, PA · REHOBOTH BEACH, DE · BALTIMORE, MD · SOUTHERN MARYLAND · NORTHERN VIRGINIA · CENTRAL VIRGINIA · RALEIGH, NC · CHARLOTTE, NC · ATLANTA, GEORGIA · TAMPA, FL · SOUTH FLORIDA

REVISIONS

REV	DATE	COMMENT	BY
1	8/8/16	REVISED PER NEW LAYOUT	RJM
2	10/7/16	REVISED PER CLIENT COMMENTS	RMS

NOT APPROVED FOR CONSTRUCTION

PROJECT No.:	MD162066
DRAWN BY:	RMS
CHECKED BY:	MJG
DATE:	7/8/16
SCALE:	NOT TO SCALE
CAD I.D.:	SS3

PROJECT:
PRELIMINARY SITE PLAN MDE PARCEL B-22

FOR

TRADEPOINT ATLANTIC

LOCATION OF SITE
ST. JOHN'S DISTRIBUTION WAREHOUSE
SPARROWS POINT, MD
BALTIMORE COUNTY

BOHLER ENGINEERING
901 DULANEY VALLEY ROAD, SUITE 801
TOWSON, MARYLAND 21204
Phone: (410) 821-7900
Fax: (410) 821-7987
MD@BohlerEng.com

SHEET TITLE:
SECTIONS AND DETAILS

SHEET NUMBER:
4

APPENDIX E

Utility Excavation NAPL Contingency Plan

Revision 1 – January 16, 2017

Introduction:

Proposed underground utilities and excavations necessary for the redevelopment of the Tradepoint Atlantic property may encounter areas of petroleum (TPH) and/or Oil & Grease contamination in soil. The assessment of TPH-DRO/GRO and Oil & Grease completed as part of each Phase II Investigation includes the following:

- TPH-DRO/GRO and Oil & Grease data are assessed with their respective location to subsurface utilities, stormwater conveyances and surface waters.
- Each soil boring with evidence of non-aqueous phase liquid (NAPL) in the soil cores, whether located near utilities or not, is investigated via the installation of a piezometer to assess mobility to groundwater.
- 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 within reasonable proximity (i.e. 100 feet) to surface waters, will be identified for further delineation.

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. Oil & Grease or petroleum-contaminated soil 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. 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 in the utility trench, the extent of impacts shall be delineated by excavating trenches or installing borings perpendicular to the utility alignment to examine the soil for physical evidence of NAPL. Perpendicular transects will be investigated every 50 feet along through the section of the utility alignment where there is physical evidence of NAPL in the trench. Each transect will extend to a distance of 10 feet from the centerline of the utility.

Soil samples will be collected from the perpendicular borings or trenches 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™ is estimated to be about 1,000 to 2,000 mg/kg (for a presence/absence test) for soil testing. 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.

If extractable hydrocarbons are identified in Site soils, disposal requirements will be determined using the quantitative PetroFLAG™ hydrocarbon analysis system (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 activities for signs of potential contamination. In particular, soils will be monitored with a hand-held photoionization detector (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. 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 for TPH/Oil & Grease by laboratory analysis or using the PetroFLAG™ kit to characterize the material for appropriate disposal. In addition, any hydrocarbon contamination 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 locations with detections in the low percentage range will be excavated and segregated, pending the completion of any required PCB analytical testing, for disposal at the on-site nonhazardous landfill (Greys Landfill). The extent of the excavation will be determined in the field following screening with the Oil Sticks™ test kit, but disposal requirements will be determined via analysis with the PetroFLAG™ test kit (because the Oil Sticks™ method is not quantitative). Any recovered NAPL will be collected for off-site disposal. As required by the appropriate and MDE approved facility, samples impacted by NAPL will be collected for profiling/waste characterization and submitted to a fixed laboratory for the following analyses: metals, VOCs, TPH-DRO/GRO, and any additional analysis required by the selected disposal facility. Upon receipt of any additional characterization analytical results, the MDE Voluntary Cleanup Program (VCP) will be notified of the proposed disposal facility. Non-impacted material without 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.

Reporting:

If evidence of NAPL in soil or groundwater is encountered during excavation, it will be reported to the MDE (VCP Project Manager) 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. slight staining)
- 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. 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 or flowable fill 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:

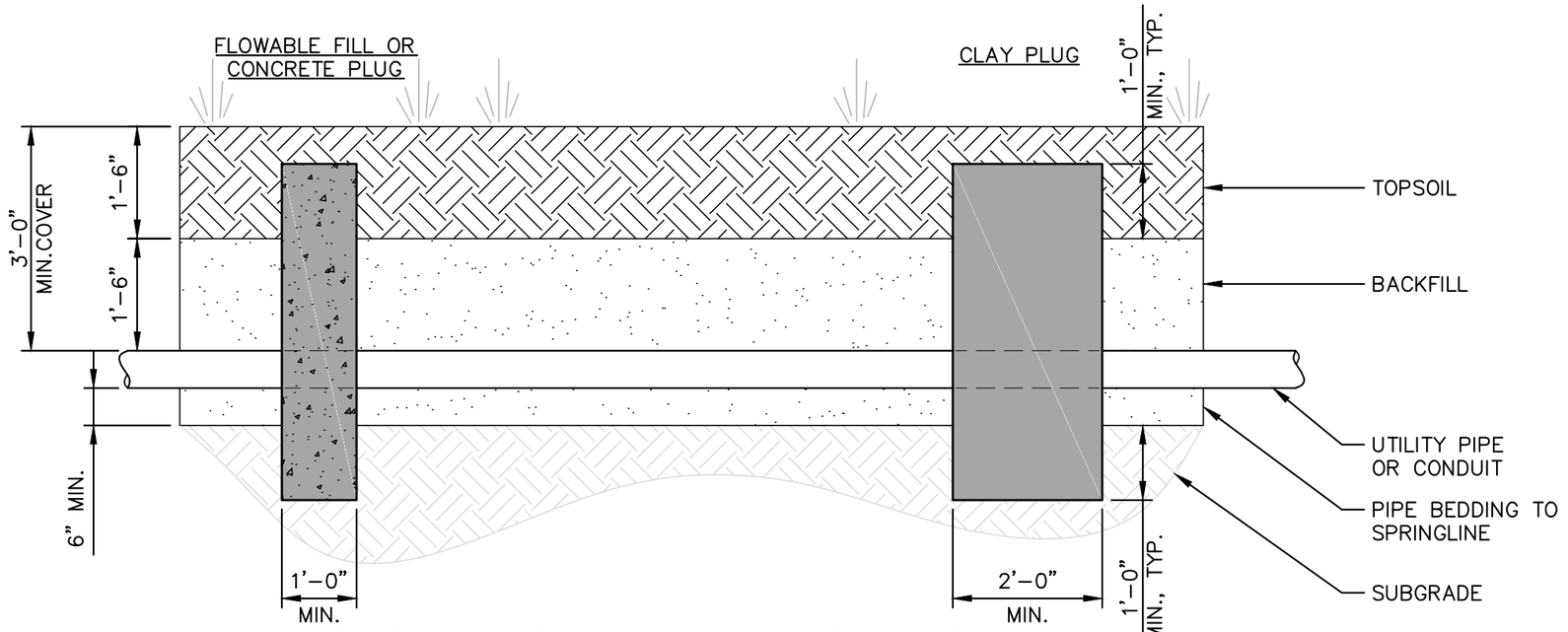
1. ALL PIPES OR CONDUIT PASSING THROUGH AREAS OF PETROLEUM CONTAMINATION SHALL BE LEAK–PROOF AND WATERTIGHT. ALL JOINTS SHALL BE SEALED OR GASKETED.

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. ALL TRENCH BACKFILL SHALL MEET THE MDE DEFINITION OF CLEAN FILL.

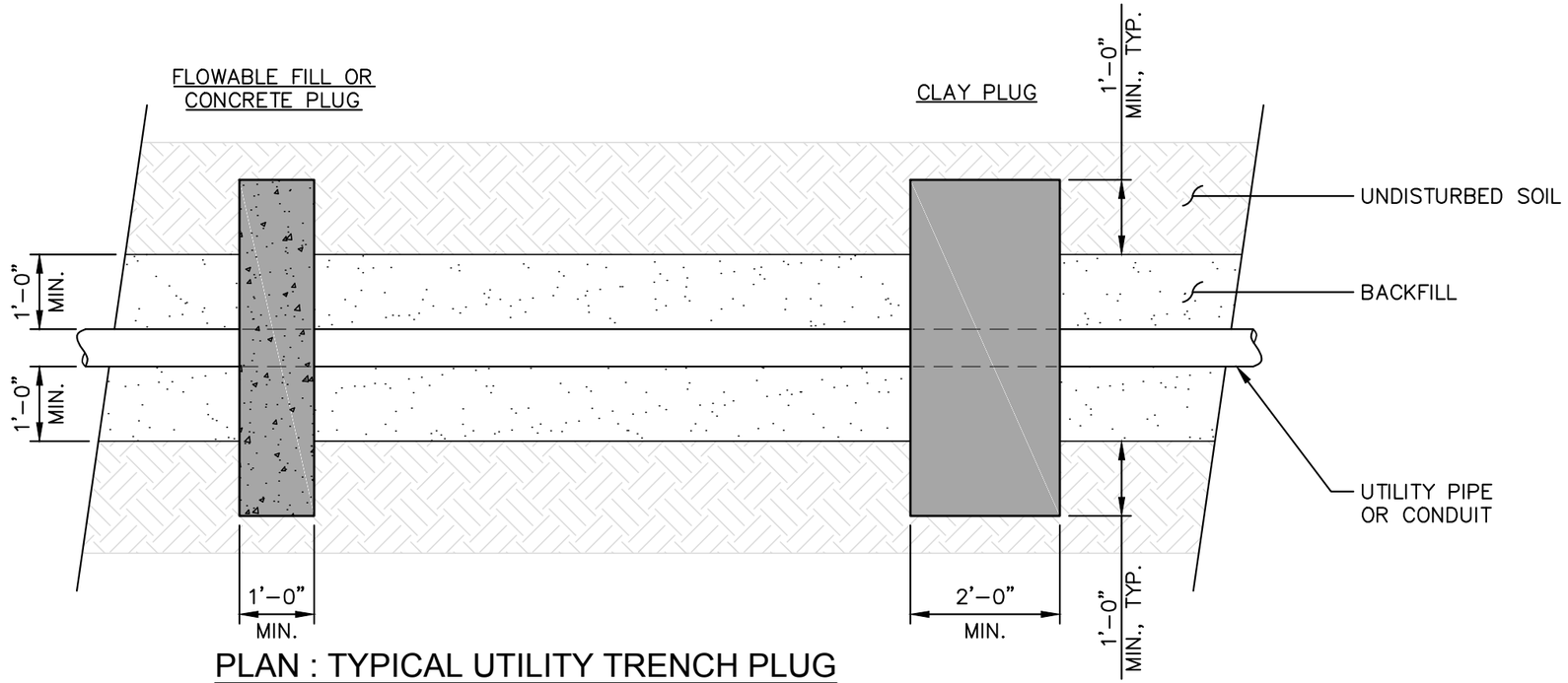
4. TRENCH PLUGS SHALL EXTEND A MINIMUM OF ONE (1) FOOT BEYOND PERMEABLE BEDDING OR BACKFILL IN ALL DIRECTIONS.

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.



SECTION : TYPICAL UTILITY TRENCH PLUG

SCALE: 1/2" = 1'–0"



PLAN : TYPICAL UTILITY TRENCH PLUG

SCALE: 1/2" = 1'–0"

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

UTILITY TRENCH PLUG
Sparrows Point Site
EnvirAnalytics Group, LLC

January 2017
NONE
160443M

Figure 1

APPENDIX F

CONTAINMENT REMEDY OPERATIONS AND MAINTENANCE PLAN PARCEL "ςς j0ÈÁóÅρ¶ FORMER SPARROWS POINT STEEL MILL

Containment Remedy Operations and Maintenance Overview

In accordance with the Response Action Plan (RAP) for the Parcel B22, Phase 1 property located on the northern portion of the Sparrows Point Peninsula in Sparrows Point, Maryland (the Site), post remediation care requirements include compliance with the conditions placed on the No Further Action Letter, Certificate of Completion, and deed restrictions recorded for the Site. In addition, maintenance will be performed on the capped areas to control degradation and exposure to the underlying soil. Inspections of the capped areas will be conducted semi-annually. The responsible party will perform cap inspections, maintenance of the cap, and retain cap inspection records. Maintenance records will include the date of the inspection, name of the inspector, any noted issues, and subsequent resolution of the issues. Maintenance records will be maintained in a designated area at the Site for Maryland Department of the Environment (MDE) inspection and review, if requested.

The containment remedy (capping) will be constructed as described in the MDE-approved RAP. The following sections provide details of the Operations and Maintenance Plan (O&M Plan) procedures to be followed at the Site to assess when maintenance of the capped areas is necessary.

Designated Pavement Area Inspections

The asphalt-paved areas will consist of a 11 or 17.5-inch thick combination of road base and asphalt. The concrete-paved areas will consist of 8 inches of concrete with 8 inches of base course. The designated paved areas, as identified in the RAP, will be maintained to ensure the integrity of the cap.

Pavement area inspections will be conducted on a semi-annual basis to ensure that the capped areas are maintained as needed. During the inspection, the capped surfaces will be inspected to check for the following potential conditions:

- Differential settlement and significant surface-water ponding;
- Erosion or cracking of the cap materials; and
- Obstruction or blocking of drainage facilities.

When inspections indicate that cap repair is necessary, repairs will be completed as soon as practically possible in compliance with any recorded deed restrictions. The work will be documented on a form similar to the attached example Pavement Inspection Form. The inspection documentation will include the results of each inspection, recommended maintenance actions, and the actual maintenance/repair implemented. The responsible party will maintain inspection forms and any resulting repair records.

Pavement Inspection Protocol

A pavement management system (pavement condition index) will be implemented in the designated areas of the Site. The purpose of this system is to plan and prioritize future pavement maintenance needs. The system is based on a numerical rating of pavement distresses as published by the United States Army Corps of Engineers. The following chart will be used to provide an index of the pavement condition.

PAVEMENT CONDITION INDEX (PCI)		
PCI	**Characterization**	**Description**
1	New crack-free surface	Black in color, smooth texture
2	Oxidation has started	Short hairline cracks start to develop; dark gray color.
3	Oxidation in advanced state	Hairline cracks are longer and wider; gray in color
4	Oxidation complete	Cracked area 0.25 inch wide and crack lines have found base faults
5	Moisture penetrating through 0.25 inch cracks; loose material, stone and sand, evident	Texture of surface becoming rough; Preventative maintenance
6	Cracks widen and join	Cracks and shrinkage evident at curb and gutter lines
7	Potholes develop in low spots	Gatoring areas begin to break up; overall texture very rough.
8	Potholes developing	Pavement breaking up
9	Heaving due to excessive moisture in base	Distorts entire surface

PAVEMENT CONDITION INDEX (PCI)		
PCI	**Characterization**	**Description**
10	General breakup of surface	General breakup of surface

An inspection indicating a PCI of 4 or greater for designated areas of the Site will require maintenance. The intent is that repairs should be completed before the pavement degrades beyond a PCI of 4. MDE will be notified in a timely manner of any repairs that are the result of a PCI of 4 or greater. The notification will include documentation of the conditions being repaired and the location of the repair.

Designated Landscaped Area Inspections

The planned Site redevelopment includes landscaped areas primarily along the site perimeter. In designated landscaped areas, as identified in the RAP, capping will include an MDE-approved geotextile fabric beneath a minimum two-foot thick clean fill and top soil layer. The designated landscaped areas will be maintained to ensure the integrity of the cap.

Landscape Inspection Protocol

Inspections will be performed by traversing the designated landscaped areas and observing the surface conditions. Landscaped areas will be inspected to evaluate the condition of the plants, signs of animal burrows, erosion, or other features that may compromise the cap integrity. If plants need to be replaced, they will be replaced with shallow-rooted species whose root systems will not penetrate beyond the cap thickness. Alternatively, an excavation notification may be submitted to the MDE VCP for review and approval to extend the cap thickness in the area of the plants to allow for deeper-rooted species. The extended cap thickness will encompass the maximum anticipated root depth of the plant(s).

When inspections indicate that capped landscaped areas are in need of repair, repairs will be completed as soon as practically possible and in compliance with the MDE deed restriction. A form similar to the attached example Landscape Inspection Form will be used to document the results of each inspection, the recommended maintenance actions, and the actual maintenance/repair implemented. The responsible party will maintain inspection forms and any resulting repair records. MDE will be notified in a timely manner if damage to the capped landscaped area(s) exceeds one foot in diameter and/or two feet in depth.

PAVEMENT INSPECTION FORM	Parcel B22, Phase 1 Former Sparrows Point Steel Mill
Date:	Time:
Weather Conditions:	
General Pavement Conditions:	

PCI		Characterization	Description
1		New crack-free surface	Black in color, smooth texture
2		Oxidation has started	Short hairline cracks start to develop; dark gray color
3		Oxidation in advanced state	Hairline cracks are longer and wider; gray in color
RESPONSE REQUIRED	4	Oxidation complete	Crack area 0.25 inch wide and crack lines have found base faults
	5	Moisture penetrating through 0.25-inch cracks; loose material, stone and sand,evident	Texture of surface becoming rough; preventative maintenance
	6	Cracks widen and join	Cracks and shrinkage evident at curb and gutter lines
	7	Potholes develop in low spots	Gatoring areas begin to break up; overall texture very rough
	8	Potholes developing	Pavement breaking up
	9	Heaving due to excessive moisture in base	Distorts entire surface
	10	General breakup of surface	General breakup of surface

PAVEMENT INSPECTION FORM	Parcel B22, Phase 1 Former Sparrows Point Steel Mill
CURB CONDITION	☐ Exists ☐ Sound ☐ Cracked ☐ Root Intrusion ☐ Deteriorated Comments: _____
SIDEWALK CONDITION	Comments: _____
RESPONSE REQUIRED	
WORK COMPLETED	
PHOTOGRAPHS / FIGURES ATTACHED	
RESPONSE CONTRACTOR	Work Completed By: _____ Date: Signature:

LANDSCAPE INSPECTION FORM	Parcel B22, Phase 1 Former Sparrows Point Steel Mill
Date:	Time:
Weather Conditions:	
General Landscaping Description:	

GENERAL LANDSCAPE CONDITION	☐ Sound ☐ Erosion ☐ Root Intrusion ☐ Healthy Plant Condition ☐ Signs of Mortality ☐ Animal Burrows
GROUND COVER	☐ Dry ☐ Damp ☐ Wet Comments: _____
TREES	☐ Exists ☐ Healthy ☐ Poor Health ☐ Dead ☐ Fallen Comments: _____
SHRUBS	☐ Exists ☐ Healthy ☐ Poor Health ☐ Dead ☐ Fallen Comments: _____
EROSION	☐ Exists ☐ Slight ☐ Moderate ☐ Significant Comments: _____
HOLES	☐ Exists Depth of Holes: _____ Comments: _____

LANDSCAPE INSPECTION FORM	Parcel B22, Phase 1 Former Sparrows Point Steel Mill
RESPONSE REQUIRED	
WORK COMPLETED	
PHOTOGRAPHS / FIGURES ATTACHED	
RESPONSE CONTRACTOR	Work Completed By: _____ Date: Signature: