



ARM Group LLC

Engineers and Scientists

June 9, 2021

Ms. Barbara Brown
Project Coordinator
Maryland Department of the Environment
1800 Washington Boulevard
Baltimore, MD 21230

Re: Comment Response Letter:
Response and Development Work Plan (Rev. 0)
Area A: Sub-Parcel A11-2
Tradepoint Atlantic
Sparrows Point, MD 21219

Dear Ms. Brown:

On behalf of Tradepoint Atlantic (TPA), ARM Group LLC (ARM) is pleased to provide the enclosed responses to comments received from the Maryland Department of the Environment (MDE) via email on May 19, 2021 regarding the recent Response and Development Work Plan (RADWP) for the portion of the TPA property designated as Area A: Sub-Parcel A11-2 (the Site). The RADWP (Revision 0 dated March 11, 2021) was submitted to the MDE and the United States Environmental Protection Agency (USEPA) to present the proposed development plan.

A full revision to the RADWP is not planned to be submitted, although this Comment Response Letter will serve as an Addendum to the RADWP. Responses to the specific MDE comments are given below; the original comments are included in italics with the responses following.

1. *LF-02 is not regularly sampled as part of the monitoring network for Grey's Landfill. However, it is in a boundary location down/cross gradient from GL-08 (-3) which had an upward trend of naphthalene concentrations in the most recently submitted monitoring report. This well will need to be replaced to serve as a perimeter monitoring location once development work is complete on the parcel.*

A shallow well will be installed in the vicinity of the former LF-02. The well will be placed outside of high traffic areas. The exact location will be selected following any minor layout adjustments to the development plan. The final location and well construction log will be provided to the MDE following completion.

2. *GL-03 (-3) and GL-03 (-16) are regularly sampled boundary locations for the landfill. The wells located further cross gradient (LF-01 and 01D) are not regularly sampled. Consider if these locations could be added to the landfills sampling network to fill in the data gap that will be lost from abandoning the GL-03 wells? Determine if these wells are constructed for that use? The up/cross gradient GL-18 (-3) has upward trends in all detected analytes as of the most recent monitoring report. There will need to be a replacement well installed as a down-gradient monitoring point for this area as part of the landfill monitoring network.*

The LF-01 well pair will serve as a suitable replacement for the GL-03 pair during future monitoring events at Greys Landfill. The shallow well LF-01 was developed in 2016 prior to sampling during the Parcel A11 Phase II Investigation. Intermediate well LF-01D will be developed prior to sampling. This well pair will also serve as a downgradient monitoring location for the GL-18 well pair. Screen intervals and total depths for the GL-03 (now abandoned) and LF-01 well pairs are presented in the table below.

<u>Well ID</u>	<u>Screen Interval (ft bgs)</u>	<u>Total Depth (ft bgs)</u>
GL-03 (-3)	7 - 17	17
GL-03 (-16)	20.7 – 30.7	30.7
LF-01	5 – 15	15
LF-01D	45 – 55	55

3. *Section 4.3.2 “Excavated soils may be replaced on-site below the cap.” - This needs to clarify that this only applies to soil that does not exhibit obvious signs of contamination including elevated PID readings and/or visual/olfactory detections.*

Excavated soil with elevated PID readings or other signs of contamination will be stockpiled separately and managed in accordance with the requirements outlined in the RADWP Sections 5.1.3 and 5.1.4. Resulting analytical data will be submitted to the MDE to determine the suitability of the material for reuse.

4. *Page 27: 3rd paragraph - “All utility corridors which pass through areas containing elevated chemical impacts and that have the potential to preferentially transmit contaminated vapors or groundwater along the utility shall be plugged using 1) low permeability backfill material; or 2) trench plugs in accordance with the details shown on the utility trench plug detail within the Utility Excavation NAPL Contingency Plan.”*



Define low permeability backfill material and further describe how this would be placed in utility trenches to prevent transmission of vapors or groundwater along utility corridors.

Low permeability backfill is defined as material with a permeability less than the permeability of the existing subgrade. The use of trench fill material with a permeability less than the surrounding subgrade will prevent the creation of a preferential flow conduit along the trench. Geotechnical testing data for any proposed low permeability backfill will be submitted to the MDE for approval prior to placement of the selected material along utility corridors. Alternatively, and as noted above, trench plugs may be used in lieu of low permeability backfill.

5. *Page 32, last paragraph - MDE requires submission of disposal water testing results in monthly progress reports submitted for the A11-2 development parcel.*

Monthly progress reports will be submitted by TPA which will include data from disposal water sampling. Quarterly Progress Reports will also be submitted for Sub-Parcel A11-2 consistent with other development projects on the property. TPA is currently in the process of coordinating with Baltimore County to potentially convey water directly to the County POTW. If this alternative for disposal is selected, TPA will coordinate the disposal with the County and thus water testing results will not be provided in monthly progress reports to the MDE.

6. *There was no SLRA conducted for construction worker scenarios due to the known risk to composite workers on-site which means that no timeframe has been calculated for a construction worker to work on the site without notifying EPA. Is TPA planning on notifying EPA any time intrusive work needs to be done on the site in the future, similar to the notification requirements for MDE? Note that EPA has not completed review of this RADWP and further comments on the SLRA sections may be forthcoming.*

TPA will notify the MDE prior to the start of any future ground-intrusive work at the Site that is expected to breach the approved capping remedy (regardless of the work duration). TPA will notify the USEPA of the same, only if the contractor will not use the modified Level D Personal Protective Equipment (PPE) specified in the approved Standard Operating Procedure (SOP). As noted in the comment, a Screening Level Risk Assessment (SLRA) was not performed to determine an allowable work duration, based on the assumption that upgraded PPE along with field monitoring will always be required due to known contamination. The specific PPE requirements, up to and including the use of Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER) trained workers, will be included in TPA's notification to the MDE.



TPA anticipates any future ground-intrusive work will be performed in accordance with the modified Level D PPE SOP. The modified Level D PPE SOP includes the use of coveralls, gloves, dust mask, etc. which can reduce ingestion and dermal exposures. The SOP also specifies the Environmental Professional (EP) responsibilities include routine ground intrusive breathing space air monitoring. Based on known organic contamination at the Site including naphthalene and benzene, TPA will require an enhanced breathing space air monitoring program during any future construction projects to limit inhalation exposures. Section 7 of the property-wide TPA Health and Safety Plan (HASP) details contingent air monitoring for ground-intrusive work at the site. The contingent air monitoring procedures will be followed during ALL ground-intrusive work within Parcel A11-2, regardless of the outlined site condition indicators. Action levels and response actions for oxygen and organic vapor concentrations are presented in Section 7. The results of the breathing space air monitoring will determine whether any increased level of health and safety protection (including engineering controls and/or PPE) is required. If an extensive construction project is proposed in the future, TPA will coordinate with the MDE to determine whether it is necessary to perform the work with OSHA HAZWOPER trained workers. The specific PPE proposal will be included in TPA's notification to the MDE.

7. *Appendix G: Provide two figures, with the second overlaying the proposed monitoring locations on the well/piezometer and soil data.*

Three additional figures showing the proposed sub-slab soil gas / indoor air monitoring points are provided with this Comment Response Letter in the revised Sub-Slab Soil Gas & Indoor Air Monitoring Plan (provided as **Appendix G** to the RADWP). The figures include the additional monitoring points requested in Comments #8 and #9. **Figure 1** shows the monitoring points as they were shown in **Appendix G** of the RADWP. The site groundwater data are shown overlain on the monitoring points on **Figure 2**. The site soil data, summarized based on conditions above and below 5 feet below ground surface (bgs) as presented in the RADWP, are shown on **Figures 3a** and **3b**, respectively. The text of the Sub-Slab Soil Gas & Indoor Air Monitoring Plan has also been updated to reflect the new sample points and reference the new figures, but no other changes were made to the proposed monitoring plan, schedule, or protocols.

8. *Add at least two additional soil gas/indoor air sample locations to the 370,000 sq. ft. building, with one in the southwestern corner of the building, closest to the Grey's Landfill side of the property.*

Two additional pairs of sub-slab soil gas / indoor air sampling points have been added to the 370,000 sq. ft. building. One pair has been added in the requested location closest to Greys Landfill. The proposed monitoring points are presented in the attached version of **Appendix G**.



9. *Add at least one additional soil gas/indoor air sample location to the 107,000 sq. ft. building.*

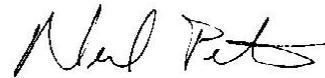
An additional sampling pair has been added to the 107,000 sq. ft. building. The proposed monitoring points are presented in the attached version of **Appendix G**.

If you have any questions, or if we can provide any additional information at this time, please do not hesitate to contact ARM Group LLC at 410-290-7775.

Respectfully Submitted,
ARM Group LLC



Ryan Clancy, E.I.T.
Project Engineer



T. Neil Peters, P.E.
Senior Vice President



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ARM Group LLC

Engineers and Scientists

May 28, 2021

Ms. Barbara Brown
Project Coordinator
Maryland Department of the Environment
1800 Washington Boulevard
Baltimore, MD 21230

Re: Sub-Slab Soil Gas & Indoor Air
Monitoring Plan (Revision 1)
Area A: Sub-Parcel A11-2
Tradepoint Atlantic
Sparrows Point, MD 21219

Dear Ms. Brown:

ARM Group LLC (ARM), on behalf of Tradepoint Atlantic, is proposing to conduct sub-slab soil gas and indoor air sampling within Sub-Parcel A11-2 (the Site), which is part of Area A of the Tradepoint Atlantic property located in Sparrows Point, Maryland. This plan is being submitted to the Maryland Department of the Environment (MDE) and the United States Environmental Protection Agency (USEPA) to propose pre- and post-occupancy monitoring to assess potential vapor intrusion (VI) risk. This Monitoring Plan provides specifications for the proposed indoor air and soil gas monitoring.

A total of 16 sub-slab soil gas monitoring points are proposed to be installed between the two logistics center buildings. The northern and southern logistics centers will have areas of approximately 368,800 square feet and 107,400 square feet, respectively. The northern logistics center will contain 12 monitoring points and the southern logistics center will contain four monitoring points. The points will be installed and sampled prior to each building's occupancy. The proposed monitoring point locations for both sub-slab soil gas and indoor air are shown on **Figure 1**. Minor adjustments to the final locations of the monitoring points may be necessary following construction based on the final interior layout of the buildings. Precautions will be taken to ensure that the sub-slab venting system (installed separately prior to building slab installation) is not disturbed by the installation of the sub-slab sampling points.

One round of pre-occupancy sub-slab soil gas sampling will be performed in each building using the new monitoring points following their installation. If the results of the initial round of sub-slab soil gas sampling are below the Project Action Limits (PALs), then the building will be occupied, and a subsequent post-occupancy round of indoor air and sub-slab soil gas sampling will be performed within 90 days of occupancy. If the pre-occupancy sub-slab soil gas results indicate

the presence of a potentially unacceptable VI risk (i.e., exceedances of the PALs), then a subsequent round of indoor air and sub-slab soil gas sampling will be performed prior to occupancy, and any additional monitoring and/or response measures will be coordinated with the MDE and USEPA as needed. The two buildings proposed for Sub-Parcel A11-2 may have separate tenants; therefore, occupancy requirements for each building may be implemented on separate schedules. The pre-occupancy indoor air and/or sub-slab soil gas sampling noted above for the two buildings will be completed based on the proposed occupancy schedule for each building.

Each sub-slab soil gas monitoring point will be installed in accordance with the following procedures. For each installation, a 6-inch diameter pilot-hole will be cored through the concrete floor. The vapor barrier (below the concrete slab) will be carefully cut and peeled back to gain access to the subsurface. A hammer drill and/or a hand auger will be used to create a shallow borehole that extends through the subgrade to a depth of 12 inches below the bottom of the floor slab. A 6-inch soil gas implant, constructed of double woven stainless-steel wire screen, will be attached to an appropriate length of polyethylene tubing and lowered to the bottom of the borehole. Once the implant and tubing are installed, the tubing will be capped with a three-way valve, and clean sand will be added around the implant to create a permeable layer that extends at least 2 inches above the implant. Bentonite will be added and hydrated to create a seal above the sand pack that extends to the vapor barrier, which will then be folded back into place prior to adding additional hydrated bentonite. Additional bentonite will be added until it is within the pilot-hole and at least 2 inches above the vapor barrier. The monitoring points will be finished with a flush-mount surface completion (manhole) with a concrete collar. Surface completions will be H-20 traffic rated (or equivalent).

Once installed, each sub-slab soil gas monitoring probe will be allowed to equilibrate for at least 24 hours. Following this equilibration period, leak testing will be performed at each location in accordance with the procedures referenced in the Quality Assurance Project Plan (QAPP) Worksheet 21 – Field Standard Operating Procedures (SOPs), SOP No. 002 to confirm no fresh air intrusion.

Sub-slab soil gas samples will be collected according to procedures outlined in QAPP Worksheet 21 – Field SOPs, SOP No. 002 – Sub-Slab Soil Gas Sampling. The sub-slab soil gas samples will be collected using 6-liter Summa Canisters set for an 8-hour collection time. The indoor air samples will be collected according to procedures outlined in QAPP Worksheet 21 – Field SOPs, SOP No. 001 – Indoor Air Sampling. The indoor air samples will be collected during the second round of monitoring at the same approximate time as the sub-slab soil gas samples; these will also be collected using 6-liter Summa Canisters set for an 8-hour collection time. All samples will be submitted to Pace Analytical Services, Inc. (PACE) and analyzed for VOCs via USEPA Method TO-15. The full list of TO-15 VOCs approved for property-wide investigations is included as **Attachment 1**. Sample containers, preservatives, and holding times for the TO-15 analysis are listed in the QAPP Worksheet 19 & 30 – Sample Containers, Preservation, and Holding Times.



Quality assurance and quality control (QA/QC) samples are collected during field studies for various purposes, among which are to isolate site effects (control samples), to define background conditions (background sample), and to evaluate field/laboratory variability (duplicates, etc.). The following QA/QC samples will be submitted for analysis during each scheduled monitoring event (as appropriate):

- Blind Field Duplicate – 1 sample of air or sub-slab soil gas (selected by field personnel).
- Field Blank – 1 sample of ambient air from an exterior area in the breathing zone during indoor air sampling.
- Equipment Blank – 1 sample of “clean” air provided by the laboratory.

The QA/QC samples will be collected and analyzed in accordance with the QAPP Worksheet 12 – Measurement Performance Criteria, QAPP Worksheet 20 – Field Quality Control, and QAPP Worksheet 28 – Analytical Quality Control and Corrective Action.

Following each monitoring event, a brief Letter Report will be submitted to the MDE and USEPA that will document the sample collection procedures and present and interpret the analytical results. All results will be presented in tabular and graphical formats as appropriate to best summarize the data for future use. Recommendations will be presented for any additional site investigation activities such as supplemental sampling, if warranted.

If you have any questions, or if we can provide any additional information at this time, please do not hesitate to contact ARM Group LLC at 410-290-7775.

Respectfully Submitted,
ARM Group LLC



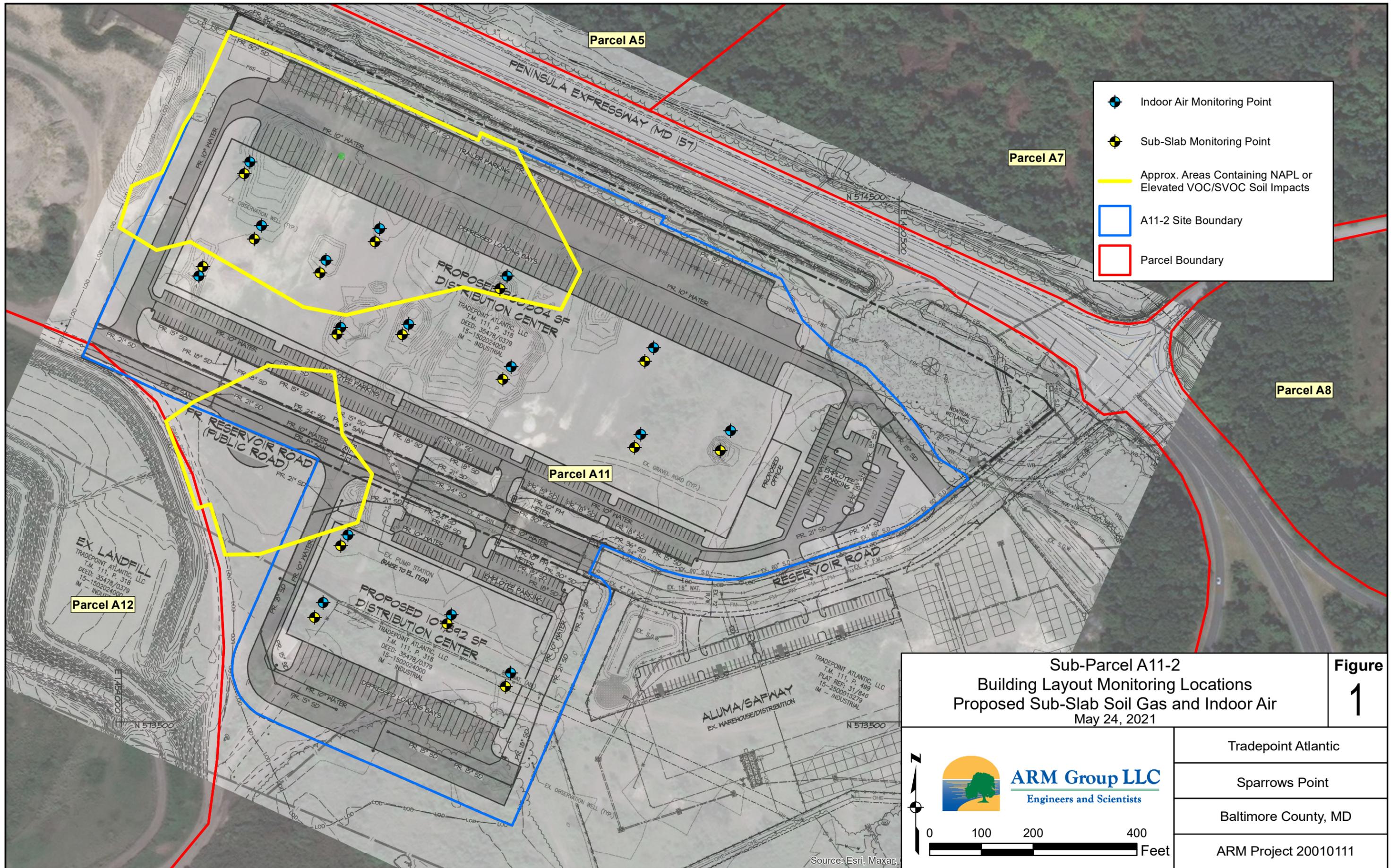
Ryan Clancy, E.I.T.
Staff Engineer



T. Neil Peters, P.E.
Senior Vice President



FIGURES



-  Indoor Air Monitoring Point
-  Sub-Slab Monitoring Point
-  Approx. Areas Containing NAPL or Elevated VOC/SVOC Soil Impacts
-  A11-2 Site Boundary
-  Parcel Boundary

Sub-Parcel A11-2
Building Layout Monitoring Locations
Proposed Sub-Slab Soil Gas and Indoor Air
 May 24, 2021

Figure
1



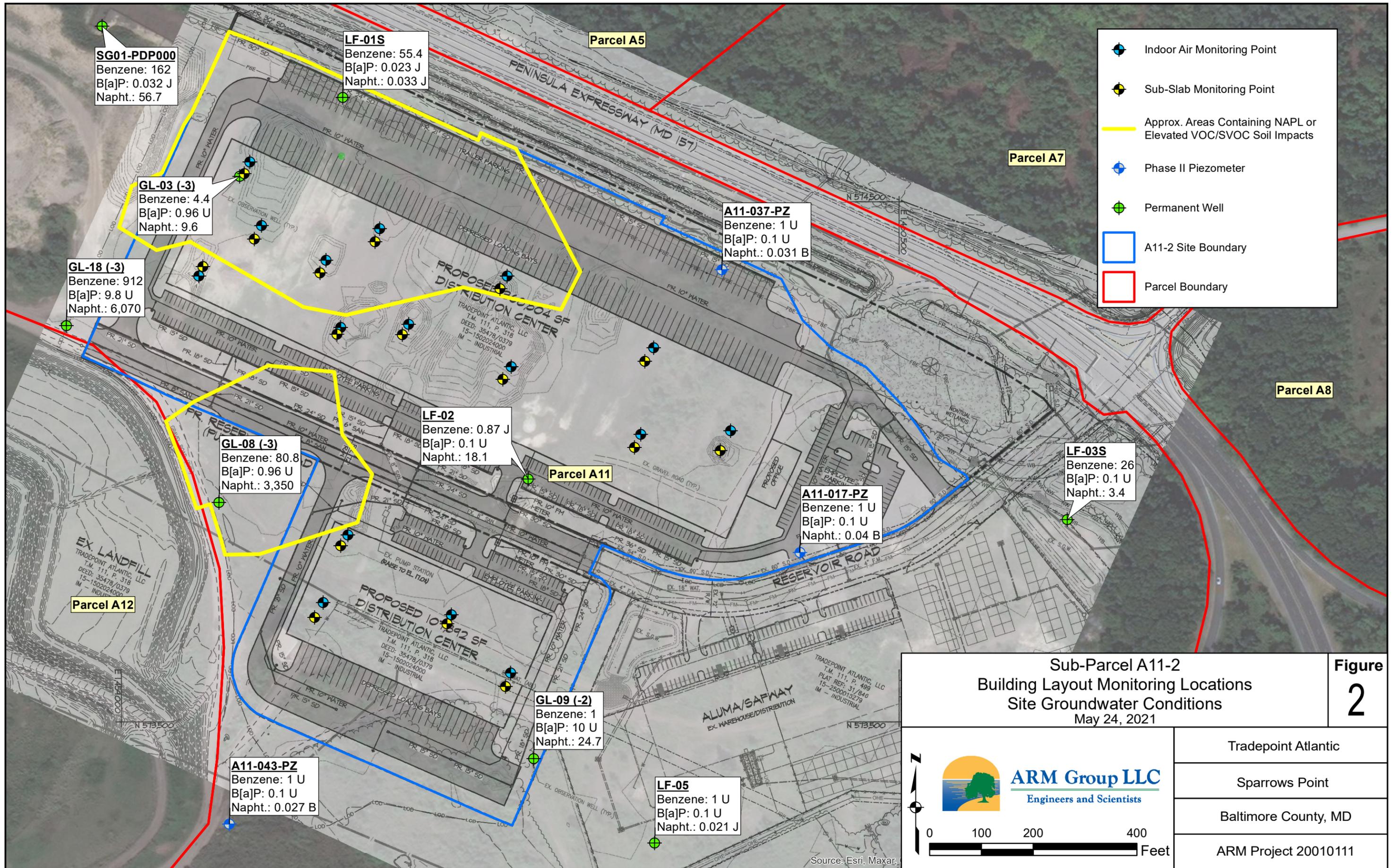


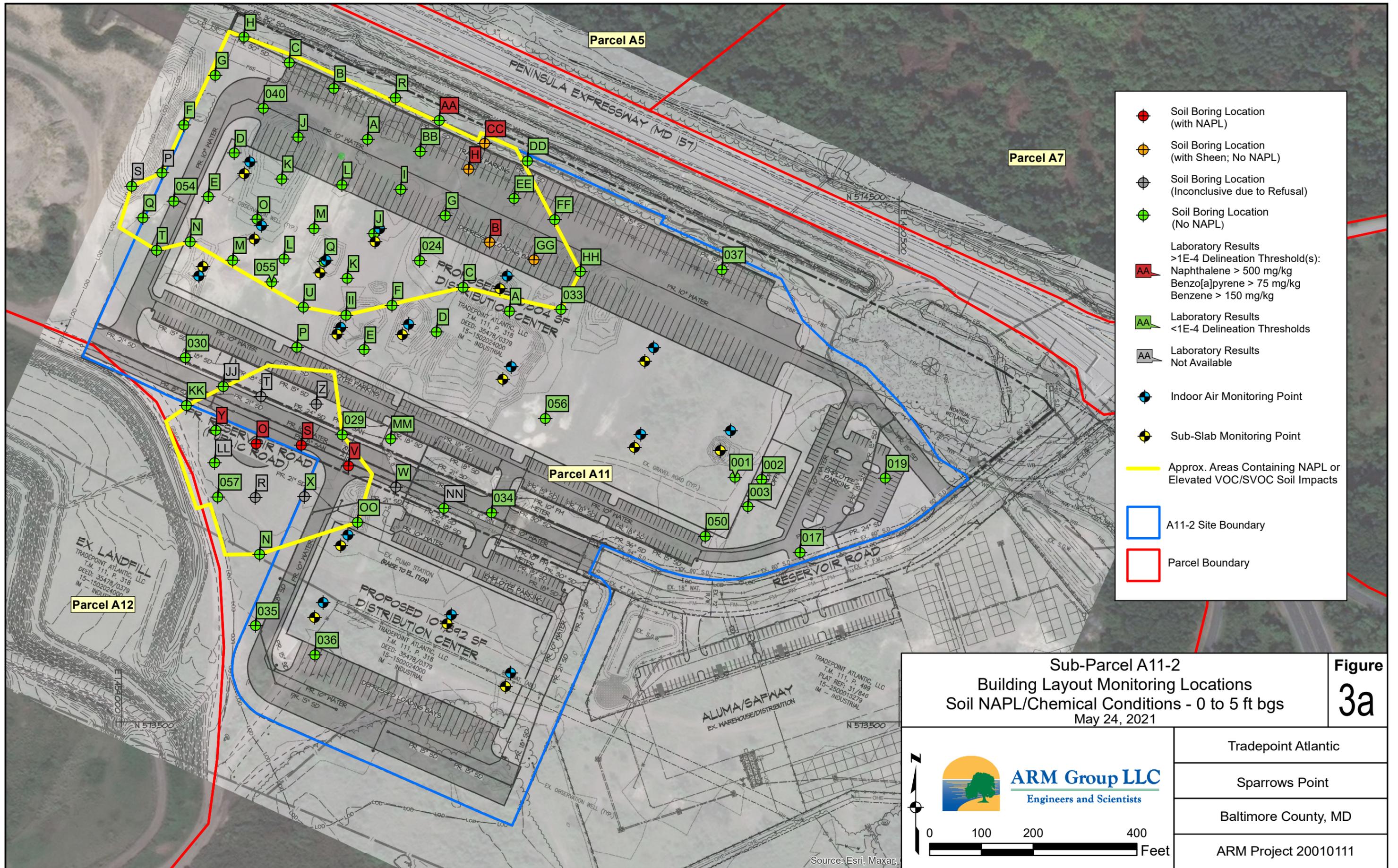
ARM Group LLC
 Engineers and Scientists

0 100 200 400
 Feet

Tradepoint Atlantic
Sparrows Point
Baltimore County, MD
ARM Project 20010111

Source: Esri, Maxar,





- Soil Boring Location (with NAPL)
- Soil Boring Location (with Sheen; No NAPL)
- Soil Boring Location (Inconclusive due to Refusal)
- Soil Boring Location (No NAPL)
- Laboratory Results >1E-4 Delineation Threshold(s):
 - Naphthalene > 500 mg/kg
 - Benzo[a]pyrene > 75 mg/kg
 - Benzene > 150 mg/kg
- Laboratory Results <1E-4 Delineation Thresholds
- Laboratory Results Not Available
- Indoor Air Monitoring Point
- Sub-Slab Monitoring Point
- Approx. Areas Containing NAPL or Elevated VOC/SVOC Soil Impacts
- A11-2 Site Boundary
- Parcel Boundary

Sub-Parcel A11-2
Building Layout Monitoring Locations
Soil NAPL/Chemical Conditions - 0 to 5 ft bgs
 May 24, 2021

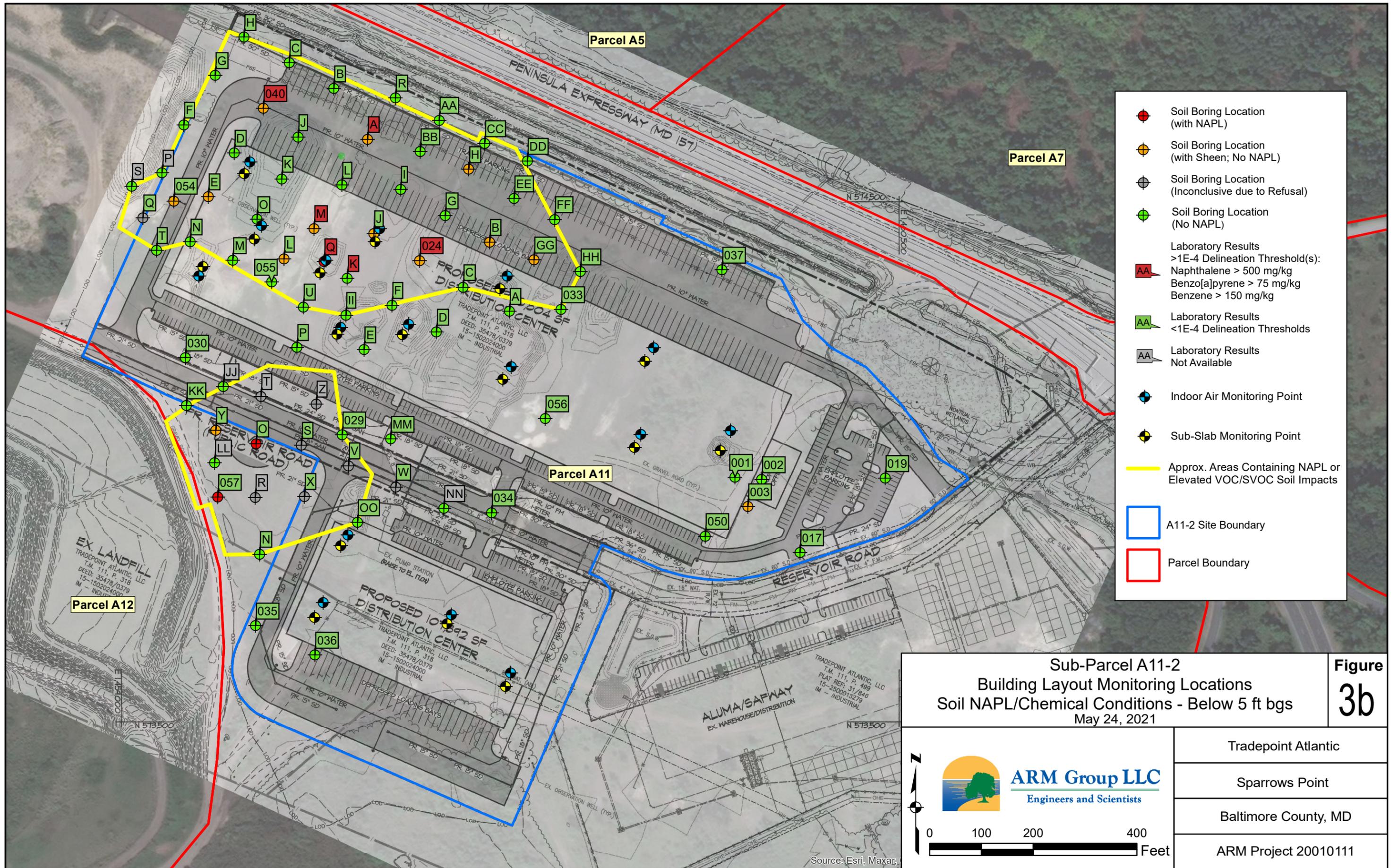
Figure
3a

ARM Group LLC
Engineers and Scientists

0 100 200 400
Feet

Tradepoint Atlantic
Sparrows Point
Baltimore County, MD
ARM Project 20010111

Source: Esri, Maxar,



- Soil Boring Location (with NAPL)
- Soil Boring Location (with Sheen; No NAPL)
- Soil Boring Location (Inconclusive due to Refusal)
- Soil Boring Location (No NAPL)
- AA** Laboratory Results >1E-4 Delineation Threshold(s):
Naphthalene > 500 mg/kg
Benzo[a]pyrene > 75 mg/kg
Benzene > 150 mg/kg
- AA** Laboratory Results <1E-4 Delineation Thresholds
- AA** Laboratory Results Not Available
- Indoor Air Monitoring Point
- Sub-Slab Monitoring Point
- Approx. Areas Containing NAPL or Elevated VOC/SVOC Soil Impacts
- A11-2 Site Boundary
- Parcel Boundary

<p>Sub-Parcel A11-2 Building Layout Monitoring Locations Soil NAPL/Chemical Conditions - Below 5 ft bgs May 24, 2021</p>		<p>Figure 3b</p>
 <p>ARM Group LLC Engineers and Scientists</p>		<p>Tradepoint Atlantic Sparrows Point Baltimore County, MD ARM Project 20010111</p>
 		

Source: Esri, Maxar,

ATTACHMENT 1

**Attachment 1 - Sub-Parcel A11-2
TO-15 VOC List**

1,1,1-Trichloroethane
1,1,2,2-Tetrachloroethane
1,1,2-Trichloroethane
1,1,2-Trichlorotrifluoroethane
1,1-Dichloroethane
1,1-Dichloroethene
1,2,3-Trichlorobenzene
1,2,3-Trimethylbenzene
1,2,4-Trichlorobenzene
1,2,4-Trimethylbenzene
1,2-Dibromo-3-chloropropane
1,2-Dibromoethane (EDB)
1,2-Dichlorobenzene
1,2-Dichloroethane
1,2-Dichloroethene (Total)
1,2-Dichloropropane
1,3,5-Trimethylbenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
1,4-Dioxane (p-Dioxane)
2-Butanone (MEK)
2-Hexanone
4-Methyl-2-pentanone (MIBK)
Acetone
Benzene
Bromodichloromethane
Bromoform
Bromomethane
Carbon disulfide
Carbon tetrachloride
Chlorobenzene
Chloroethane
Chloroform
Chloromethane
Cyclohexane
Dibromochloromethane
Dichlorodifluoromethane
Ethylbenzene
Hexachloro-1,3-butadiene
Isopropylbenzene (Cumene)
Methyl-tert-butyl ether
Methylene Chloride
Naphthalene
Styrene
Tetrachloroethene
Toluene
Trichloroethene
Trichlorofluoromethane
Vinyl chloride
Xylene (Total)
cis-1,2-Dichloroethene
cis-1,3-Dichloropropene
trans-1,2-Dichloroethene
trans-1,3-Dichloropropene