

**UNITED STATES  
ENVIRONMENTAL PROTECTION AGENCY  
REGION III**

**FINAL DECISION AND RESPONSE TO COMMENTS  
TRADEPOINT ATLANTIC  
PURPOSE**

The United States Environmental Protection Agency (EPA) is issuing this Final Decision and Response to Comments (FDRTC or Final Decision) selecting the Final Remedy for two parcels of property, Parcel A1 and Sub-Parcel B4-1, respectively, located on the 3,100-acre Sparrows Point Facility (Facility) currently owned by Tradepoint Atlantic (TPA) in Baltimore Harbor. The Final Decision is issued pursuant to the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, and the Hazardous and Solid Waste Amendments of 1984, 42 U.S.C. Sections 6901, et seq. (RCRA).

The Facility is subject to RCRA's Corrective Action authorities, which require that owners and operators of facilities subject to certain provisions of RCRA investigate and address releases of hazardous waste and hazardous constituents, often in the form of soil or groundwater contamination, that have occurred at or from their property. Maryland is not authorized for the Corrective Action Program under Section 3006 of RCRA, therefore, EPA retains primary authority in the State of Maryland to implement it.

Corrective Action obligations have been performed at the Facility pursuant to a 1997 federal Consent Decree (CD) under Section 3008(h) of RCRA, 42 U.S.C. § 6928(h), that had been signed by BSC, the Maryland Department of Environment (MDE), and EPA (Civil Action Nos. JFM-97-558 and JFM-97-559) and were further detailed in a November 2014 Settlement Agreement (SA) with Sparrows Point Terminal LLC, the current owner.

On February 10, 2017, EPA issued a Statement of Basis (SB) in which it described the information gathered during environmental investigations at the Facility and proposed a Final Remedy for soils at Parcel A1 and Sub-Parcel B4-1. The SB is hereby incorporated into this Final Decision by reference and made a part hereof as Attachment A. This FDRTC selects the remedies that EPA evaluated under the CD and SA.

Consistent with the public participation provisions under RCRA, EPA solicited public comment on its proposed Final Remedy as described in the SB. On February 10, 2017, notice of the SB was published on the EPA website and in the Baltimore Sun newspaper. All of the comments received by EPA during the public comment period are included as Attachment B, PUBLIC COMMENTS AND RESPONSE TO COMMENTS.

Comments on the proposed Final Remedy were received, via electronic mail. All of the comments received during the public comment period were reviewed by EPA and are addressed in Attachment C. Based on comments received during the public comment period EPA has

determined it is not necessary to modify its proposed Final Remedy as set forth in the SB; thus, the remedy proposed in the SB is the Final Remedy for soils at Parcel A1 and Sub-Parcel B4-1.

### **FINAL DECISION**

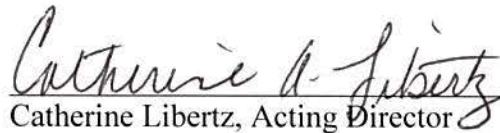
EPA's Final Remedy for soils at Parcel A1 and Sub-Parcel B4-1 consists of the following:

- Installation of protective caps and covers to restrict direct contact, using concrete (i.e., building foundations) or asphalt paving;
- Clean fill cover in landscaped areas;
- Land and groundwater use restrictions ; and
- Operation and maintenance requirements to ensure the protectiveness and integrity of the cover.

### **DECLARATION**

Based on the Administrative Record compiled for the corrective action at the Sparrows Point Facility, I have determined that the remedy selected in this Final Decision and Response to Comments, which incorporates the February 10, 2017 Statement of Basis, is protective of human health and the environment.

Date: 6-2-17

  
Catherine Libertz, Acting Director

Land and Chemicals Division

U.S. Environmental Protection Agency, Region III

Attachment A: Statement of Basis (February 10, 2017)

Attachment B: Public Comments

Attachment C: Response to Comments



**ATTACHMENT A**

**STATEMENT OF BASIS**

**PARCEL A1 FEDEX BUILDING  
AND  
SUB-PARCEL B4-1 RORO FACILITY**

**TRADEPOINT ATLANTIC**

**SPARROWS POINT, MARYLAND  
MDD053945432**





UNITED STATES  
ENVIRONMENTAL PROTECTION AGENCY  
REGION III  
STATEMENT OF BASIS

February 2017

**Parcel A1**

**And**

**Sub-Parcel B4-1**

**Tradepoint Atlantic**

**Sparrows Point, Maryland**

**MDD053945432**



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## I Introduction

The United States Environmental Protection Agency (EPA) has prepared this Statement of Basis (SB) to solicit public comment on its proposed remedy for two parcels of property, Parcel A1 and Sub-Parcel B4-1, respectively, located on the 3,100-acre Sparrows Point Facility (Facility) in Baltimore Harbor. Tradepoint Atlantic (TPA), the current owner of the Facility, is subdividing the Facility into parcels for redevelopment. EPA understands that TPA has leased Parcel A1, comprising 48.5 acres, to the FedEx Corporation which is constructing a facility to be used as part of its delivery operations, and has constructed an asphalt car parking lot on Sub-Parcel B4-1, comprising 21 acres, to be used as part of an automotive and distribution center.

The Facility is subject to EPA's Corrective Action authorities under the Solid Waste Disposal Act, as amended, commonly referred to as the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §§ 6901 et seq. The Corrective Action Program requires that facilities subject to certain provisions of RCRA investigate and address releases of hazardous waste and hazardous constituents, often in the form of soil or groundwater contamination, that have occurred at or from their property. Maryland is not authorized for the Corrective Action Program under Section 3006 of RCRA, therefore, EPA retains primary authority in the State of Maryland to implement it.

EPA's proposed remedy for soils at Parcel A1 and Sub-Parcel B4-1 consists of 1) installation of protective caps and covers to restrict direct contact, using concrete (i.e., buildings) or asphalt paving, 2) clean fill cover in landscaped areas; 3) land use restrictions to prevent residential land use, and 4) operation and maintenance requirements to ensure the protectiveness and integrity of the covers. This SB does not include a proposed final remedy for groundwater at Parcel A1 and Sub-Parcel B4-1. EPA will issue a separate SB for Facility-wide groundwater, including groundwater at Parcel A1 and Sub-Parcel B4-1, to solicit public comment once the groundwater at the entire Facility has been evaluated under the Corrective Action program. In the interim, EPA, in this SB, is proposing to require groundwater use restrictions at Parcel A1 and Sub-Parcel B4-1 to prevent potable use of shallow groundwater until a final remedy for Facility-wide groundwater is selected.

EPA is providing a thirty (30) day public comment period on this SB. EPA may modify its proposed remedy based on comments received during this period. EPA will announce its selection of a final remedy for the Facility in a Final Decision and Response to Comments (Final Decision) after the public comment period has ended.

Information on the RCRA Corrective Action Program as well as a fact sheet for the Facility can be found by navigating to <https://www.epa.gov/hwcorrectiveactionsites/contact-information-corrective-action-hazardous-waste-clean-ups-delaware>. An index to the Administrative Record (AR) which supports this SB is attached as Appendix 1, and references all documents, including data and quality assurance information, on which EPA's proposed remedy is based. See Section VIII, Public Participation, for information on how you may review the AR.



## II. Background

### A. History

The Facility comprises a 3,100-acre peninsula in Baltimore Harbor (Sparrows Point Peninsula or Peninsula), generally bounded by the Back River, Bear Creek, and the Northwest Branch of the Patapsco River. In 1887 Maryland Steel built an iron furnace on the Facility, and the first iron was cast in 1889. The Bethlehem Steel Corporation (BSC) purchased the property in 1916 and enlarged it, building mills to produce hot rolled sheet, cold rolled sheet, galvanized sheet tin mill products, and steel plate. During peak production in 1959, BSC operated 12 coke-oven batteries, 10 blast furnaces, and four open-hearth furnaces at the Facility.

This SB summarizes work undertaken under a 1997 federal consent decree and a 2014 settlement agreement, as detailed below. RCRA Corrective Action work is ongoing at the Facility.

In 1997 the Federal District Court for the District of Maryland entered a Consent Decree (CD) under Section 3008(h) of RCRA, 42 U.S.C. § 6928(h), that had been signed by BSC, the Maryland Department of Environment (MDE), and EPA (Civil Action Nos. JFM-97-558 and JFM-97-559). The CD required BSC to undertake certain RCRA Corrective Action activities at the Facility, including, among other tasks, completing a Site Wide Investigation (SWI) and a Corrective Measures Study (CMS), and implementing Interim Measures (IMs) as necessary. At the time the CD was entered, EPA and MDE had identified eighty-one (81) solid waste management units (SWMUs) and twenty-eight (28) areas of concern (AOCs) at the Facility, and had designated five special study areas to focus on initially in the SWI, consisting of the Tin Mill Canal/Finishing Mills, Greys Landfill, Coke Point Landfill, Coke Oven Areas and Humphreys Impoundment. The CD did not require implementation of corrective measures, apart from IMs, several of which are currently in operation at the Facility.

After BSC declared bankruptcy in 2003, steelmaking continued at the Facility under a series of new owners, each of which also continued to carry out the work required under the CD. Steelmaking operations at the Facility ended in 2012, when then-owner, RG Steel Sparrows Point LLC, declared bankruptcy. In August, 2012 several companies, including Sparrows Point LLC (SPLLC), purchased the Facility from RG Steel Sparrows Point LLC through a bankruptcy sale. SPLLC subsequently acquired all of the property interests in the Facility. In July, 2014, the District Court entered an amendment to the CD adding SPLLC as a Respondent. Meanwhile, SPLLC had notified EPA and MDE of its interest in selling the Facility to Sparrows Point Terminal LLC (SPTLLC). In September, 2014, EPA and MDE entered into a Settlement Agreement (SA) that was subject to public comment, and an Administrative Order on Consent (ACO), respectively, with SPTLLC. The agreements, together, provide for the cleanup of the Facility under both RCRA Corrective Action and Maryland law. SPTLLC subsequently acquired the Facility, and following public comment and publication of EPA's response, the SA was finalized in November, 2014. In 2016 SPTLLC changed its name to TPA. TPA has organized the Facility into parcels for redevelopment as commercial, light industrial and logistics facilities.



The EPA and MDE have been working jointly to oversee the investigation and cleanup of the Facility being conducted under MDE's ACO and EPA's SA. With respect to RCRA Corrective Action, EPA has determined that all of the work required under the CD at Parcel A1 and Sub-Parcel B4-1 has been completed.<sup>1</sup>

### **B. Site Geology and Hydrogeology**

The Facility is located within the Coastal Plain Physiographic Province, which is the relatively low-lying portion of the Atlantic Slope. The unconsolidated sediments beneath the Sparrows Point Peninsula lie horizontally on a bedrock surface of Precambrian and Early Paleozoic crystalline rock that slopes downward to the southeast. The unconsolidated sediments include (from youngest corresponding to surficial to oldest) recent fill deposits consisting primarily of iron- and steel-making slag; the Pleistocene Talbot Formation (predominantly clays, organic clays, silts, and muds) approximately five to 100 ft. thick; the Upper Cretaceous Patapsco Formation (predominantly sand and gravel interbedded with lenses of sandy clay) approximately 145 to 255 ft. thick; the Upper Cretaceous Arundel Formation (predominantly dense, plastic clays with nodules of iron oxide and a few discontinuous lenses of sand) approximately 20 to 180 ft. thick with an average thickness of 100 ft.; and the Lower Cretaceous Patuxent Formation (interbedded and lenticular beds of gravel, sand, sandy clay, and clay) approximately 50 to 250 ft. thick. The Cretaceous formations comprise the Potomac Group.

The aquifer system immediately underlying the Sparrow's Point Peninsula is called the Lower Patapsco Aquifer system. A deeper confined aquifer exists below the approximately 100 feet overlying Arundel Clay confining unit in the Patuxent Formation and is called the Patuxent aquifer system. Groundwater investigations at Sparrow's Point are conducted solely in the Lower Patapsco because there is no connection between the two aquifers.

Unconfined groundwater exists within the shallow aquifer comprised of the slag fill material, and intermediate and deeper aquifers exist within the Talbot and Patapsco Formations, respectively. The Lower Patapsco aquifers are hydraulically interconnected, but are partially separated in areas by discontinuous lenses of silt and clay. Radial flow on the western side of the peninsula is toward Bear Creek and the Patapsco River to the west. Flow on the south side of the peninsula is south toward the southern shoreline and turning basin. Flow on the east side of the peninsula is toward Old Road Bay to the east. Groundwater flow direction within the intermediate aquifer along the western portion of the Peninsula is northwest, influenced by historical pumping activities in the area near the shipyard to the west

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<sup>1</sup> See September, 12 2014 letter from EPA to SPLLC regarding "carve out area", including Subparcel B4-1, and July 9, 2015 letter from EPA to SPLLC regarding Parcel A1.



of the Peninsula. Groundwater flow direction within the intermediate aquifer along the eastern portion of the peninsula is south-southwest in the apparent direction of the natural gradient. Groundwater flow direction within the deep aquifer is unidirectional to the east-northeast.

## II. Parcel Descriptions

### A. Parcel A1

Parcel A1 (the Parcel) is located on the northern portion of the Sparrows Point Peninsula adjacent to Bethlehem Boulevard to the north, and the former Rod and Wire Mill to the west. (See Facility Development Map, Figure 1.) The Parcel formerly contained structures and operated historically as a pipe mill from the 1940s until 1984 when operations ceased. In 1998 the Pipe Mill was demolished and the Parcel became and now remains vacant. As part of the SWI, and again during the ACO/SA investigation, building foundations and concrete slabs from the former structures were identified at the Parcel. TPA is constructing a 338,000 square foot, single-story distribution center/warehouse and associated parking lots and landscaped areas for the Fedex Corporation.

The Parcel initially included a portion of East Pond associated with waste-water treatment at the neighboring Rod and Wire Mill (Parcel A-3). In 1985 a pump-and-treat system was installed at the former Rod and Wire Mill, to remove zinc and cadmium contamination in groundwater. This system was upgraded in late 2016 but remains in operation as an IM under the CD. As a result, to ensure that the anticipated development does not adversely impact the pump-and-treat system, the impacted portion of the former East Pond has been carved out of the northwestern corner of Parcel A-1 and is not addressed by this SB.

In addition to the East Pond, three areas of concern were identified on the Parcel during the ACO/SA investigation: the hydraulic oil storage area, the pipe mill selenium testing area, and the pipe mill acid tanks.

### B. Sub-Parcel B4-1

Sub-parcel B4-1 (Sub-parcel), part of Parcel B4, is located between the shipyard and Parcel B5 in the southwestern portion of the Facility (Figure 1). TPA has informed EPA that it expects to develop Parcel B4 for use as an automotive and distribution center (Roll-On, Roll-Off or RORO) with development activities including grading, asphalt paving, lighting and security improvements. Sub-parcel B4-1 has already been paved in its entirety with asphalt in accordance with an MDE-approved workplan under Maryland's Controlled Hazardous Substances Program. The Sub-parcel therefore contains no landscaped areas.

Historical activities at Parcel B4 initially included operation of open hearth furnaces, and later, operation of a Basic Oxygen Furnace, Mould Yard, and a Continuous Caster. While the furnace operations historically generated air pollutants, the SWI and the ACO/SA investigation detailed below shows that there currently are no unacceptable risks posed by exposure to soil or groundwater presented by the Sub-parcel. Sub-Parcel B4-1 is presently vacant and all





structures have been demolished except for a 5,750 square foot equipment maintenance shop that will be retained to serve as a future vehicle maintenance shop.

#### IV. Summary of Investigations

The investigation results of Parcel A1 and Sub-parcel B4-1 are presented in the following subsections. Samples of soil and groundwater were collected at both parcels and compared with site-wide Project Action Limits (PALs) (screening values) that were established in a Quality Assurance Project Plan, dated October 2, 2015, which in turn were based on EPA's Regional Screening Levels for Industrial Exposure (that includes a worker composite exposure to soil, soil vapor levels based on OSWER generic screening levels for vapor intrusion<sup>2</sup>, and potable use of groundwater). Each constituent that exceeded its PAL is deemed a Constituent of Potential Concern (COPC).

##### A. Parcel A1

Pursuant to approved workplans, approximately 29 surface soil samples, the majority of which are within a 1.5-foot depth, were collected to analyze for Volatile Organic Compounds (VOCs), Semivolatile Organic Compounds (SVOCs), Pesticides/Herbicides/PCBs, inorganics and cyanide. Five temporary monitoring wells were installed with screen intervals between 6 to 16 feet below ground surface. Groundwater was encountered at a depth of 1 to 3.5 feet, and groundwater samples were collected to analyze for VOCs, SVOCs and inorganics. The sampling results are summarized for each media/pathway to support a screening level human health risk assessment. Ecological exposure is not included in the assessment because the area contains no terrestrial habitat.

##### (1) Soil Exposure Pathway

Three COPCs were present in soil samples in concentrations higher than their respective PALs. The maximum concentration of each of these three COPCs are summarized in Table 1a below. Due to exceedances of PALs for the COPCs shown, surface soil is considered a media of potential concern and may pose unacceptable risks to potential residents (including children), facility workers or visitors, and construction workers that come into contact with impacted soil.

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<sup>1</sup> Screening levels from the Office of Solid Waste and Emergency Response (OSWER) Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils, Table 2c, November 2002.



<b>Table 1a</b> <b>PARCEL A1</b> <b>SOIL</b>	<b>PAL</b> <b>(mg/kg)</b>	<b>Maximum</b> <b>Concentrations</b> <b>Detected (mg/kg)</b>
Arsenic	3	15
Arocolor1260	1	21
TPH-DRO <sup>3</sup>	620	26000

### (2) Groundwater Exposure Pathway

Four COPCs were present in groundwater samples in concentrations higher than their respective PALs and the maximum concentration of these COPCs are summarized in Table 2a below. Due to exceedance of PALs, groundwater is considered a media of potential concern for potable use.

<b>Table 2a</b> <b>PARCEL A1</b> <b>GROUNDWATER</b>	<b>PAL</b> <b>(ug/l)</b>	<b>Maximum Concentrations</b> <b>Detected (ug/l)</b>
Iron	14000	26000
Lead	15	17
Manganese	430	2200
1,1-Dichloroethane	2.7	7.7

### (3) Vapor Intrusion

Total Petroleum Hydrocarbons were detected in certain locations in groundwater and soil, but none of the petroleum constituents (benzene, toluene, ethylbenzene, xylenes or naphthalene) exceed vapor intrusion PALs. One non-petroleum VOC, 1,1-Dichloroethane, was detected in groundwater above the tap water PAL, but not above the vapor intrusion PAL.

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<sup>3</sup> Total Petroleum Hydrocarbons – Diesel Range Organics.



Therefore, vapor intrusion is not a media of potential concern for future occupied buildings at the Parcel.

**B. Sub-Parcel B4-1**

Thirteen soil borings and one groundwater well were sampled at the main parking area located on Sub-parcel B4-1. In addition, three subslab soil vapor samples were collected inside the existing maintenance shop that is retained for future use.

(1) Soil Exposure Pathway

The maximum concentration of each of the COPCs detected above its respective PAL in soil samples is shown in Table 1b, below. Due to exceedances of some PALs, surface soil is considered a media of potential concern and may pose unacceptable risks to residents (including children), facility workers or visitors, and construction workers that come into contact with impacted soil.

<b>Table 1b</b>		
<b>SUB-PARCEL B4-1</b>		
<b>SOIL</b>	<b>PAL in (mg/kg)</b>	<b>Maximum Concentrations Detected (mg/kg)</b>
Benzo(a)pyrene	0.29	1.5
Benzo(b)fluoranthene	2.9	3.7
Dibenz(a,h)anthracene	0.29	0.29
Aroclor1254	0.97	9.53
Aroclor1260	0.99	1.78
Total PCB	0.97	2.191
Arsenic	3	40.5
Chromium VI	6.3	7.5
Lead	800	1110
Manganese	26,000	42,900



## (2) Groundwater Exposure Pathway

The groundwater sampling results are summarized in Table 2b below, showing only maximum concentrations of the constituents that were detected above their respective PAL. Due to exceedance of PALs, groundwater is considered a media of potential concern for potable water.

<b>Table 2b</b> <b>SUB-PARCEL B4-1</b> <b>GROUNDWATER</b>	<b>PAL</b> <b>(ug/l)</b>	<b>Maximum</b> <b>Concentrations</b> <b>Detected (ug/l)</b>
Benzo(a)anthracene	0.012	0.024
Benzo(b)fluoranthene	0.034	0.11
TPH-DRO	47	694
Chloroform	0.22	1.3
Thallium	2	10

## (3) Vapor Intrusion

One round of subslab soil vapor samples was collected from three probes installed under the slab of the existing maintenance shop building. The samples were analyzed for VOCs. None of the detected vapor concentrations exceeded soil vapor intrusion PALs, therefore, vapor intrusion is not a media of concern for future occupied buildings at the Parcel.

## IV. Corrective Action Objectives

EPA's Corrective Action Objectives for the specific environmental media at the Parcel and Sub-parcel are as follows:

### 1. Soils

EPA's Corrective Action Objective for the surface soil at the Parcel and Sub-parcel is to prevent direct human contact with hazardous constituents remaining in the soil that have been detected above applicable PALs as identified in Tables 1a and 1b.

### 2. Groundwater

While Facility-wide groundwater is being evaluated under the Corrective Action Program, EPA's proposed interim corrective action objective for groundwater at the Parcel and





Sub-parcel is to prevent exposures to hazardous constituents in groundwater that have been detected above applicable PALs as identified in Tables 2a and 2b.

## V. Proposed Remedy for Soils and Interim Remedy for Groundwater

### A. Soils

EPA's Proposed Remedy for soils at the Parcel and Sub-parcel consists of engineering and institutional controls as described below.

#### (1) Engineering Controls

The proposed engineering controls consist of capping impacted soil with a concrete cover, building foundation, asphalt parking lot, concrete walkways, and/or landscaped areas with two-foot thick clean fill or top soil over a geotextile barrier. Submerged gravel wetlands will be constructed to facilitate storm water drainage. Impacted soil removed from grading and construction activities will be placed beneath the building footprint or paved areas, and soils deemed less than geotechnically sufficient to support construction activities will be removed and disposed of offsite at a permitted facility. The permanent cover will protect onsite workers or visitors from direct exposure to the impacted soil by contact or dust inhalation.

Once EPA selects the Final Remedy for the Parcel and Sub-parcel, the components of the Final Remedy will be incorporated into and become enforceable under paragraph 72 of the PPA. In addition, if required, within sixty (60) days of the issuance of the Final Remedy, TPA shall submit to EPA for approval a Corrective Measures Implementation Workplan ("CMI Workplan") for implementation of the corrective measures selected in the Final Remedy. EPA acknowledges that TPA may not be required to submit a CMI Workplan if EPA determines that all of the information required in a CMI Workplan has been included in the Response Action Plan (RAP) for Parcel A-1 (April 2015) and the Response and Development Work Plan (Development Plan) for Sub-parcel B4-1 (May 2016). The RAPs and Development Plan currently include construction of 1) a Federal Express building (slab on grade), with associated parking lots and landscaped areas on Parcel A1, and 2) a large vehicle parking and storage area on Sub-parcel B4-1, respectively. If EPA determines that a CMI Workplan is not required, EPA will so notify TPA, and the RAP and Development Plan will then be enforceable by EPA under paragraph 72 of the PPA.

#### (2) Institutional Controls

EPA's proposed remedy for soils includes the following use restrictions and requirements to be implemented through institutional controls (ICs):

- The Parcels shall not be used for residential purposes, and within 90 days of EPA's issuance of a Final Decision, the then-current owner shall file a deed restriction to prevent use of the Parcels for residences, schools, day care facilities, or recreational



uses that would result in exposure to contaminated soil above residential risk-based concentrations and shall limit land use to commercial or industrial;

- The then-current owner shall maintain the integrity of all caps and covers on the Parcel and Sub-parcel by conducting regular periodic inspections (no less frequently than [yearly]), making timely repairs if needed, and maintaining a record of such inspection and maintenance.
- All earth moving activities on the Parcel and Sub-parcel, including excavation, grading, and/or utility construction, shall be conducted in compliance with an MDE-approved Soil Management Plan such that the activity will not pose a threat to human health and the environment or adversely affect or interfere with the covered areas;
- A site-specific health and Safety Plan shall be submitted to MDE and EPA for approval prior to any earth moving activities to protect construction workers from engaging in activities that could expose them to contaminants remaining in soils; and
- The then-current owner shall allow EPA, MDE and/or their authorized agents and representatives, access to the Parcel and Sub-parcel to inspect and evaluate the continued effectiveness of the caps and covers, and (if necessary) to ensure completion of any additional remediation necessary to ensure the protection of public health and safety and the environment.

EPA anticipates that the above-listed use restrictions necessary to prevent human exposure to contaminants remaining in soils at the Parcel and Sub-parcel will be implemented through an enforceable environmental covenant, filed with the Baltimore County Land Records Office or other appropriate office. If EPA determines that additional maintenance and monitoring activities, use restrictions, or other corrective actions are necessary to protect human health or the environment, EPA has the authority to require and enforce such additional corrective actions through an enforceable instrument, provided any necessary public participation requirements are met.

#### **B. Groundwater**

Because contaminants remain in the groundwater at the Facility above levels appropriate for residential use, while Facility-wide groundwater is being investigated further, EPA is proposing to prohibit the potable use of groundwater at the Parcel and Sub-parcel as an interim remedy to prevent human exposure to those contaminants in the short-term. The groundwater use restriction will be implemented through enforceable ICs in conjunction with the land use restriction described above.



## VI. Evaluation of EPA's Proposed Remedy

For purposes of EPA's evaluation below, the proposed remedy for soils and the proposed interim remedy for groundwater will be hereinafter referred to collectively as the Proposed Remedy.

### A. Threshold Criteria

#### 1. Protect Human Health and the Environment

The Proposed Remedy will protect human health from exposure, including future exposure, to soil and groundwater contamination. The Proposed Remedy will require that the owner install caps throughout the Parcel and Sub-parcel where soil samples show exceedances of PALs. In addition, because contaminants will remain in the soil and groundwater at the Parcel and Sub-parcel at levels inappropriate for residential use, EPA's Proposed Remedy requires land and groundwater use restrictions that will prohibit future uses that would pose an unacceptable risk.

#### 2. Achieve Media Cleanup Objectives

EPA's Proposed Remedy meets the soil cleanup objectives appropriate for the current and reasonably anticipated future land use. The Proposed Remedy does not include cleanup of groundwater, which will instead be addressed separately by a Facility-wide groundwater remedy developed for the entire 3,100-acre Sparrows Point Facility. In the short-term, the Proposed Remedy will prohibit potable use of groundwater at the Parcel and Sub-parcel.

#### 3. Remediating the Source of Releases

The Proposed Remedy does not require remediating the sources of releases. The soil management procedures will require the proper removal and disposal of potentially contaminated soils that are disturbed during any construction/excavation activities conducted on-Site in accordance with applicable state and federal laws and regulations, thereby removing the source of contaminants from Facility soils and thereby reducing the potential for contaminants to migrate from those soils to groundwater.

### B. Balancing/Evaluation Criteria

#### 1. Long-Term Effectiveness

The Proposed Remedy will provide long-term effectiveness in protecting human health and the environment by controlling exposure to contaminants remaining in soils. Land use restrictions will prohibit use of the Parcel and Sub-parcel for residences, schools, day care facilities, and recreational uses that would result in exposure to contaminated soil above residential risk-based concentrations. The Proposed Remedy requires compliance with an MDE-approved Soil Management Plan to control exposure to and spread of contaminated soil during construction and regrading activities. Additionally, the ICs will impose a requirement



that the owner inspect the engineering covers no less than annually, and to make repairs as necessary. While EPA is not proposing a remedy for groundwater in this SB, the Proposed Remedy does not propose an interim remedy which will provide long-term effectiveness by prohibiting groundwater withdrawal for all potable uses.

## 2. Reduction of Toxicity, Mobility, or Volume of the Hazardous Constituents

The hazardous constituents in the soil are largely immobile. Compliance with an MDE-approved Soil Management Plan in construction and landscaping activities will control exposure and spread of contaminated soil. No new activities are anticipated at the Parcel or Sub-parcel that would further contaminate soil or groundwater.

## 3. Short-Term Effectiveness

The installation of caps and covers requires minimal installation time, minimal excavation, and minimal offsite disposal which minimize short-term exposure to contaminated soil. The work will be performed by qualified persons in compliance with the MDE-approved Soil Management and an acceptable health and safety plan.

## 4. Implementability

EPA does not anticipate any technical or institutional constraints that will inhibit installation of the covers or implementation of the ICs proposed.

## 5. Cost

The Proposed Remedy will meet the corrective objectives at cost significantly lower than other alternatives such as complete removal of contaminated media. The remedy construction and maintenance costs are incorporated into the necessary costs to develop the Parcel and Sub-parcel.

## 6. Community Acceptance

EPA will provide public comment opportunity on the Proposed Remedy for both the Parcel and Sub-parcel to evaluate community acceptance and document the Final Remedy in the Final Decision. In accordance with the MDE Voluntary Cleanup Process, MDE held a public information section on the RAP for Parcel A1 on May 11, 2015 before approving it on July 14, 2015.

## 7. State/Support Agency Acceptance

MDE and EPA have jointly conducted this investigation. The basis of EPA's proposed remedy is based on MDE-approved Remedial Action Plan (RAP) for the Parcel and Development Plan for the Sub-parcel.





## VII. Financial Assurance

The ACO requires TPA to establish and maintain financial assurance for completion of work in accordance with Section XIII (Financial Assurance) of the ACO. TPA has provided MDE a copy of the Trust Agreement and documentation that the Trust has been initially funded with \$48 million, in addition to a \$5 million bond. This financial assurance, for which MDE is the custodian, will also satisfy EPA's financial assurance requirements for this Proposed Remedy.

## VIII. Public Participation

Before EPA selects a Final Remedy for the Parcel and Sub-parcel, the public may participate in the remedy selection process by reviewing this SB and documents contained in the Administrative Record (AR). The AR contains all information considered by EPA in reaching this proposed decision and is available for public review during office hours at two locations:

Barbara Brown  
Land Management Administration  
Maryland Department of the Environment  
1800 Washington Boulevard Baltimore, Maryland 21230  
(410) 537-3493

Or

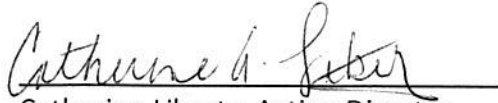
Erich Weissbart  
U.S. EPA Region III  
1650 Arch Street  
Philadelphia, PA 19103  
weissbart.erich@epa.gov  
(410) 305-2779

Interested parties are encouraged to review the AR and comment on EPA's Proposed Remedy. The public comment period will last thirty (30) calendar days from the date that notice is published in a local newspaper. You may submit comments by mail, fax, or e-mail to Erich Weissbart, EPA project manager. EPA may hold a public meeting to discuss this Proposed Remedy upon request, which should also be made to Erich Weissbart whose contact information is listed above.

EPA will respond to all relevant comments received during the comment period. If EPA determines that new information warrants a modification to the Proposed Remedy, EPA will modify the Proposed Remedy or select other alternatives based on such new information and/or public comments. EPA will announce its Final Remedy and explain the rationale for any changes in the FDRTC. All persons who comment on this Proposed Remedy will receive a copy of the FDRTC. Others may obtain a copy by contacting Erich Weissbart at the address listed above.



Signature:

A handwritten signature in cursive script, reading "Catherine Libertz", written over a horizontal line.

Catherine Libertz, Acting Director  
Land and Chemicals Division  
USEPA, Region III

Date:

2-7-17



## Attachment 1

### Administrative Record List

1. September, 12 2014 letter from EPA to SPLLC regarding carve out area.
2. July 9, 2015 letter from EPA to SPLLC regarding Parcel A1
3. Phase II Environmental Site Assessment Report/Response Action Plan, Parcel A1, Sparrows Point Terminal, Maryland, revised July 6, 2015
4. Phase II Investigation Work Plan, Area B: Parcel B4, Sub-parcel B4-1 and Sub-parcel B4-2, Tradepoint Atlantic Sparrows Point, MD, Revision 1, July 8, 2016
5. Response and Development Work Plan, Area B: Sub-parcel B4-1, Tradepoint Atlantic Sparrows Point, MD, Revision 2 August 10, 2016.
6. Quality Assurance Project Plan, Sparrow's Point Terminal Site, Sparrow's Point, Maryland. Enviroanalytics. Revision 3, April 5, 2016.





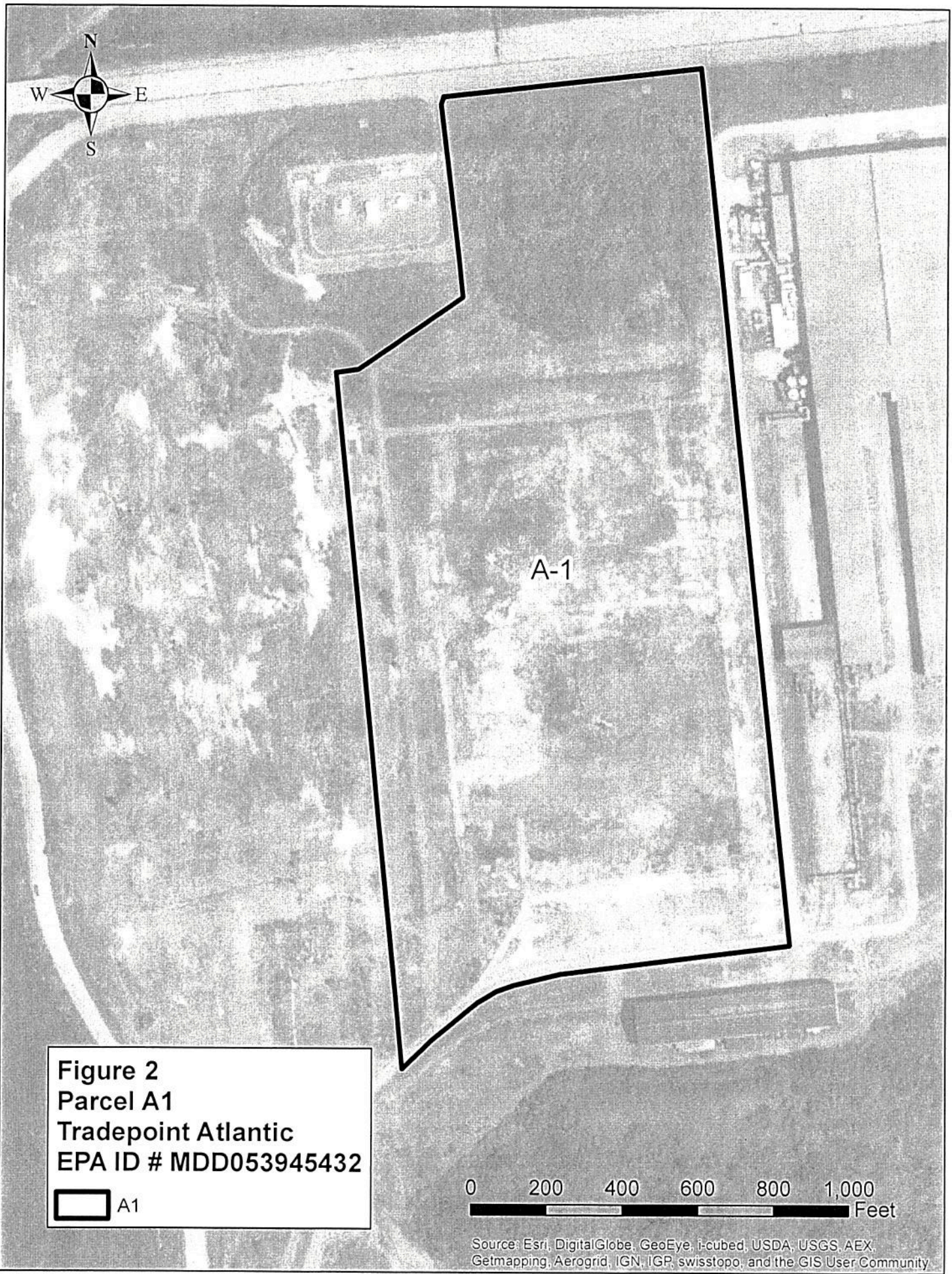
**TradePoint Atlantic  
EPA ID # MDD053945432**

- A1
- B4-1
- Former Sparrows Point Boundary

Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community








A-1

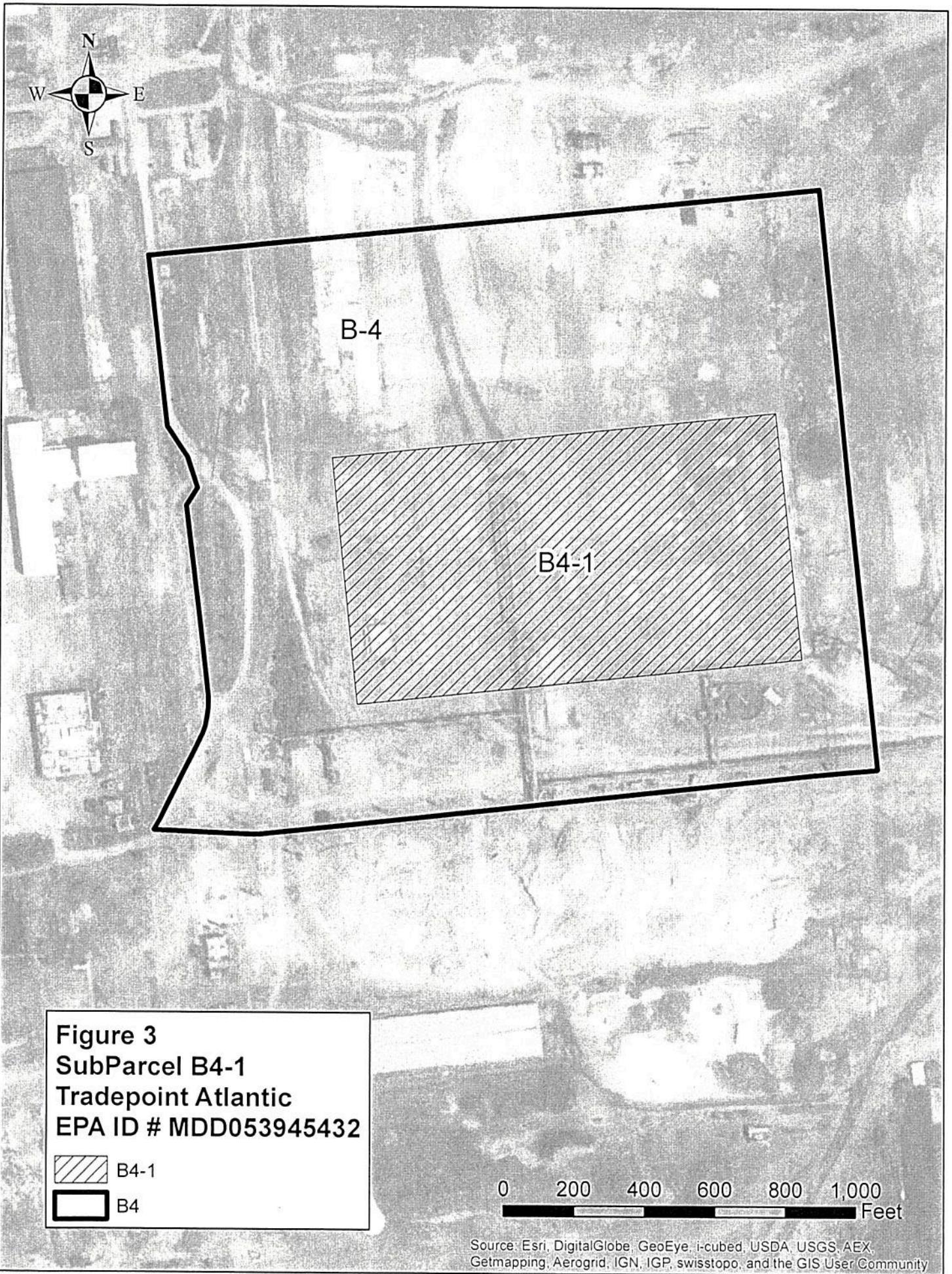
**Figure 2**  
**Parcel A1**  
**Tradeport Atlantic**  
**EPA ID # MDD053945432**

 A1



0 200 400 600 800 1,000 Feet

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community





**Figure 3**  
**SubParcel B4-1**  
**Tradeport Atlantic**  
**EPA ID # MDD053945432**

-  B4-1
-  B4

0 200 400 600 800 1,000  
Feet

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



**ATTACHMENT B**  
**PUBLIC COMMENTS**



**From:** [irsd7@verizon.net](mailto:irsd7@verizon.net) <[irsd7@verizon.net](mailto:irsd7@verizon.net)>

**Sent:** Sunday, March 12, 2017 8:43 PM

**To:** R3 RA; Weissbart, Erich

**Subject:** FORMAL REQUEST FOR PUBLIC HEARING ON EPA PROPOSED DECISION STATEMENT OF BASIS(BS) PURSUANT TO TRADEPOINT ATLANTIC REMEDIATION

Honorable Project Manager Weissbart, This Communication is a Formal Request for a Public Hearing pursuant to the EPA Statement of Basis (SB) for environmental remediation at Tradepoint Atlantic (TPA) (MDD053945432) in Sparrows Point, Maryland 21219. Attached is my Request/Comment and a full scientific report on Geopolymer Cement. Awaiting your timely response, as ever in service, I am,

Russell S. Donnelly, Environmental Analyst

SECAP

2114 Oak Road

Sparrows Point, Maryland 21219-2214

Phone: 410-388-0898

Email: [irsd7@verizon.net](mailto:irsd7@verizon.net)





Cecil A. Rodrigues, Acting Administrator  
Environmental Protection Agency (EPA) Region 3  
1650 Arch Street  
Philadelphia, Pennsylvania 19103

RE: EPA Statement of Basis(SB) Decision pursuant to environmental remediation at the  
Tradepoint Atlantic Facility (TPA) – [formerly Bethlehem Steel Sparrows Point - which is an EPA RCRA  
High Priority Site] / EPA ID - (MDD053945432)

Date: Sunday, March 12, 2017 at 8:00 P.M. EDT

Honorable Acting Administrator Rodrigues,

Congratulations on your appointment ! My name is  
Russell S. Donnelly. I have worked closely with many Administrators including John J. Humphries, III;  
Donald Welsh; and Shawn Garvin concerning the Sparrows Pont Peninsula Site across 43 years. This  
communication is a Formal Request for an EPA Public Hearing addressing the Remediation Decision for  
TPA. At Sparrows Point, Maryland 21219.

The overall Proposal is acceptable; however; my concern with the Decision Plan arises over the type of  
concrete that will be employed for the remediation of this Site. After 43 years of intensive dedicated  
volunteer oversight on this Sparrows Point Peninsula; based on my Findings, voluminous analytical data,  
and active study of this property; I highly Recommend the use of Geopolymer Toxic Resistant  
Cement/Concrete for all remediation/construction activities. This is not my first time entering this  
Recommendation. Ever since Sparrows Point Terminal (Dixon Betz); now; Tradepoint Atlantic (TPA)  
(Michael Moore); have acquired this property, I have been adamantly recommending all parties to  
seriously mandate geopolymer cement products for all applications on Sparrows Point Peninsula.  
Regretfully, both the Maryland Department of the Environment (MDE) and Tradepoint Atlantic (TPA)  
have, thus far, chosen not to take this Recommendation into practice.

The reason for my insistence is that I personally know where all the “hazardous/toxic skeletons” lie over  
the entire Sparrows Point Peninsula. My only interest in this geopolymer cement use is that this  
application will finally render this Site environmentally neutral and effectively end the 120 year  
continued pollution of this Region. Now is the one chance to finally halt the damage to the open  
environment from the ongoing pollution egressing from this Site and to SAFELY facilitate the new use of  
this valuable waterborne property for the forthcoming planned enterprise.

Currently; only standard highway grade concrete at a thickness of approximately twelve to fifteen inches  
(MDE VCP 2016) is the standing prescription for the remediation at Sparrows Point Peninsula (SPP). This  
type of concrete will not stop the transmigration and percolation of the approximately 389 multiple  
chemical and metallic constituents which are contained throughout this SPP Site (onshore and offshore).  
The current remediation concrete prescribed will, in point of scientific fact, only serve to slow down the  
constituent diffusion from this RCRA High Priority site; not stopping the pollution problem permanently.

Page – 2 – continued –

There will be no second chance to address this SPP situation. There will be no going backwards ten years later should human worker health issues start to manifest across this SPP Site. We must do this remediation right. After my 43 year stint, I would like to be able to have this hazardous/toxic nightmare laid to rest; while life and enterprise move on.

The comparable cost difference between the Portland concrete (at 93 dollars per cubic yard) and Geopolymer concrete (at 84 – 150 dollars per cubic yard) is negligible when equating the savings on time; strength; volume needed; hazardous/toxic resistivity; and durability. Geopolymer is clearly the lead choice for a restored safe property site. I have attached a full scientific report on Geopolymer Cement.

On behalf of the Public I represent across this Region; I respectfully; adamantly; and resolutely request that this matter be decisively and strategically considered and ordered for all remediation and construction forthcoming at Tradeport Atlantic (TPA) in Sparrows Point, Maryland 21219.

FURTHER: Again; this communication is a Formal Request for an EPA Public Hearing on this Matter. Awaiting your timely response; as ever in service, I am,

Russell S. Donnelly, Environmental Analyst

SECAP

2114 Oak Road

Sparrows Point, Maryland 21219-2214

Phone: 410-388-0898

Email: [irsd7@verizon.net](mailto:irsd7@verizon.net)



CHESAPEAKE BAY FOUNDATION  
*Saving a National Treasure*



March 10, 2017

**By Electronic Mail**

Mr. Erich Weissbart  
Project Manager  
U.S Environmental Protection Agency – Region 3  
1650 Arch St.  
Philadelphia, PA 19103  
**(Email: [weissbart.erich@epa.gov](mailto:weissbart.erich@epa.gov))**

Re: Sparrows Point Site, Maryland: EPA's Statement of Basis  
For Proposed Remedy for Parcel A-1 and Sub-Parcel B4-1

Dear Mr. Weissbart:

These comments are submitted on behalf of the Chesapeake Bay Foundation, Inc. (CBF) and Bluewater Baltimore, Inc. (BWB) on the Statement of Basis (SOB) for Parcel A-1 and Sub-Parcel B4-1 at the Sparrows Point, Maryland, facility which EPA published on or about February 10, 2017.

As we believe you know, CBF is the largest regional nonprofit organization dedicated solely to saving the Chesapeake Bay and its tributaries, including Bear Creek and the other bodies of water flowing into the Patapsco River. It is located at 6 Herndon Ave., Annapolis, MD 21403. With over 225,000 members, including approximately 85,000 in Maryland and more than 6,500 in the Baltimore metropolitan area, CBF is vitally interested in eliminating and remediating contamination at the facility, thereby improving water quality in the tributaries to Chesapeake Bay near the former Sparrows Point steel mill site.

CBF has been involved in efforts to investigate and clean up pollution at the Sparrows Point steel mill site for decades, including filing a lawsuit with BWB against the facility's former owners in 2010. Contamination at the former plant site and in sediments surrounding the facility has been well documented. Studies conducted in 2015 confirm that sediments from some areas surrounding the facility are toxic to aquatic organisms. Residents live all along the tributaries surrounding the facility, and often swim, fish, and crab in waters where the sediment is highly toxic in places.

Blue Water Baltimore, Inc. (BWB), is a not-for-profit organization whose mission includes restoring the quality of Baltimore's rivers, streams and harbor to foster a healthy

and safe environment for fish and other aquatic organisms, and for human use and enjoyment, including recreational use for swimming, fishing and boating, and for commercial fishing. It is located at 3545 Belair Rd., Baltimore, MD 21213. BWB sponsors recreational and educational activities on and concerning the waters in the Baltimore area, and has a strong and historic interest in improving their quality.

As part of the BWB organization, the Baltimore Harbor Waterkeeper's mission is to protect and restore Baltimore harbor and the greater Patapsco and Back Rivers and their tributaries through fieldwork and citizen action in order to make these waters suitable for recreation, including fishing and swimming, to improve public health, and to improve the health of the greater Baltimore area river ecosystems. BWB has had a long history of involvement with efforts to clean up and restore the Sparrows Point facilities.

Both CBF and BWB have been monitoring closely the performance by Tradepoint Atlantic (TPA) of its obligations under the Administrative Consent Order and Settlement Agreement entered into by TPA with MDE and EPA respectively in 2014 for the cleanup, corrective action and site restoration. Our comments on the SOB for the remediation of Parcel A-1 and Sub-Parcel B4-1 are as follows.

Measures to Prevent Migration of Contaminated Groundwater,  
Which the Agencies Have Said Will be Done on a Site-wide Basis,  
Must Commence Now

EPA states in the Introduction that the SOB does not include a proposed final remedy for groundwater at Parcel A1 and Sub-Parcel B4-1, and that it will issue a separate SOB for Facility-wide groundwater, including groundwater at these two parcels, for public comment “once the groundwater at the entire Facility has been evaluated under the Corrective Action program.” It is unclear from the various public meetings held on the Facility clean up efforts when exactly the Facility wide groundwater characterization will take place. Based on the contents of current investigative reports associated with Phase II investigations of various parcels, we assert that the time to complete it is now, before more parcels are redeveloped. One report in particular underscores the need for prompt action, described immediately below.

ARM Group, Inc., completed a groundwater Phase II Investigation Report for Area B dated September 30, 2016. Even though certain parcels from the northern section of Area B, including the site of the former hot rolling mills, Tin Mill Canal, and Humphrey Impoundment, were excluded from that investigation, the report did include evidence that contaminants continue to migrate, or have the potential to migrate, into adjacent surface waters from onsite groundwater based on perimeter well sampling. Cyanide, in particular, was identified as a potential issue for groundwater to surface water discharge based on State surface water quality standards primarily in the southwest corner of the study area. Perimeter well sampling also revealed ambient water quality criteria exceedances for metals including arsenic, nickel, zinc, and thallium. The restriction on the use of groundwater on the parcels identified in the SOB either as an interim remedy or as a permanent Institutional Control does not address this issue.

The authors of the Area B Phase II Investigation Report recommended additional sampling in key areas of the Site to characterize the nature of the cyanide impacts and whether the levels of cyanide identified posed unacceptable risks to not only ambient water quality via groundwater discharge, but also to future workers via vapor intrusion. Continued piecemeal redevelopment of the Site without a comprehensive site-wide groundwater characterization and plan to mitigate continued migration of contaminated groundwater will result in further negative impacts to the environment and potentially to human health. The agencies ought not to wait any longer to undertake this work, and the decision to pursue it should be clearly stated in this SOB.

Measures to Ensure Proper Corrective Action Regarding the Release of Storm Water on a Site-wide Basis Should Begin Now.

For decades, uncontrolled and minimally controlled storm water has run off the Sparrows Point Site into adjacent waterways, carrying contaminants from the site into those waters. It should be apparent that management of storm water and water which may end up on the ground from other sources and flow to adjacent waters can be done most efficiently and effectively on a site-wide basis.

Designing a site-wide plan will need to consider the conditions and facilities at numerous locations and parcels across this 3100 acre facility. Any attempt to do this on a piecemeal or parcel-by-parcel basis would undoubtedly result in redundancy, inefficiencies, and possible loss of effectiveness, particularly after substantial areas have been paved and new buildings are erected. Presumably piping and conduits for storm water from many locations at the site will need to be drained to one or more central gathering locations. For similar reasons of efficiency, the agencies have stated in this SOB and elsewhere that they plan to address groundwater on a site-wide basis, and not in a piecemeal fashion. Design of a site-wide storm water control system must start now to avoid disruption and inefficiencies in the future.

The SOB only mentions storm water once, on p. 9, where it states: "Submerged gravel wetlands will be constructed to facilitate storm water drainage." Where will water go once it is trapped in these gravel wetlands? The document doesn't say. What if, after a storm, the water volume exceeds the capacity of the gravel wetlands to absorb it, and overflows result, contaminated with whatever may be lying on the ground? The document doesn't say how this will be addressed. The SOB discusses the need to cut off exposure to contaminated soils and groundwater, but not storm water.

The need for effective storm water management is most important near the edges of the facility, where the land slopes abruptly down to Bear Creek, the Patapsco River, or Old Road Bay. Special care must be taken in the design of any storm water control and erosion prevention plan to contain and prevent any erosion into any of the waters adjacent to the site, because this would have the distinct potential for transporting contaminants down the banks and into those waters. This calls for site-wide planning. For all these

reasons, the agencies should start now to design a site-wide storm water management system, and the decision to do this should be stated in this SOB.

The Public Notice of this SOB was Provided Needlessly Late in the Process.  
Future Public Notices Should be Provided Before the  
Remedial and Corrective Measures are Being Implemented.

The Administrative Consent Order which governs the work being performed by TPA provides, in pertinent part in Section 38, that

“After EPA prepares its Statement of Basis [for the remedial work to be done] the Area Work Plan and Statement of Basis shall proceed with the public participation process, and in doing so shall comply with the requirements of Environmental Article Sec.7-509 (Public Participation) and 40 C.F.R Part 124.”

40 C.F.R Part 124 requires, among other things, a period of at least 30 days for public review and comment on a document which is being proposed for implementation or issuance.

Section 65 of the Settlement Agreement between SPT – now TPA – and EPA, which also governs the performance of this work, similarly states that before implementation of work begins, EPA must make the Work Plan and Statement of Basis

“...available to the public for review and comment for at least thirty (30) days.”

These provisions are not properly complied with when the first opportunity for public comment is provided well after TPA has begun the work. This would defeat the purpose of meaningful public comments in time for MDE and EPA to take them into account and make any appropriate changes in the work which might be suggested in the comments before the work begins.

In this case the remedial work was largely if not entirely completed before public notice and opportunity for comment were provided. Specifically, the main work proposed under the Work Plan and SOB for Parcel A-1 is to cover the site with an impermeable cap, such as an asphalt parking area and a concrete building foundation. That parcel had already been covered entirely with a completed building with a concrete floor and an asphalt parking area by TPA, with the approval of MDE and EPA, before public notice was given. The main remedy proposed for Sub-Parcel B4-1 is also an impermeable cap, and that was also largely completed with a large asphalt parking and storage area before the public notice was provided. Substantial completion is evidenced by pictures presented by EPA and MDE at their public briefing on September 28, 2016. See also SOB, p. 3.

The late notice provided in this case clearly did not comply with the notice provisions in the ACO and SA. While the clock cannot be turned back in this case, we insist that the

public notice requirements be strictly complied with in all future issuances of Work Plans and Statements of Basis.

We appreciate this opportunity to provide comments, and would be happy to discuss any aspect of them with you.

Respectfully submitted,

/s/ Paul W. Smail

Paul Smail  
Chesapeake Bay Foundation, Inc.  
6 Herndon Avenue  
Annapolis, MD 21403  
Email: psmail@cbf.org  
Phone: 443-482-2153

/s/ Ridgway M. Hall, Jr.

Ridgway M. Hall, Jr.  
3500 Ordway St., NW.  
Washington, DC 20016  
On behalf of  
Blue Water Baltimore, Inc  
Email: ridgehall@gmail.com  
Phone: 202-744-8229

cc: Barbara Brown, MDE  
Luis Pizarro, EPA  
Charles Howland, Esq., EPA





**ATTACHMENT C**  
**RESPONSE TO COMMENTS**

## ATTACHMENT C

### *EPA Response to Comments*

**This section summarizes the questions and comments regarding the Statement of Basis for the Sparrows Point Facility in Baltimore, Maryland. The questions and comments were received via email during the public comment period. After each question or comment, the EPA response is provided.**

#### **1. Comment from Mr. R. Donnelly, submitted in an email dated March 12, 2017:**

Mr. Donnelly's comments on the Decision Plan concern the type of concrete that will be employed for the remediation of the Site generally, including at Parcel A1 and Sub-Parcel B4-1. Mr. Donnelly "highly recommend[s] the use of Geopolymer Toxic Resistant Cement/Concrete for all remediation/construction activities." He notes that he has been "adamantly recommending all parties to seriously mandate geopolymer cement products for all applications on Sparrows Point Peninsula," and that "this application will finally render this Site environmentally neutral and effectively end the 120 year continued pollution of this Region." Mr. Donnelly further notes that "only standard highway grade concrete at a thickness of approximately twelve to fifteen inches (MDE VCP 2016) is the standing prescription for the remediation at Sparrows Point Peninsula (SPP). This type of concrete will [slow down, but] not stop the transmigration and percolation of the approximately 389 multiple chemical and metallic constituents which are contained throughout this SPP Site (onshore and offshore)." The comment also included a technical paper describing in detail this geopolymer concrete.

#### **EPA's response:**

EPA does not agree that the type of concrete described in Mr. Donnelly's Comment should be required for use at Parcel A1 and Sub-Parcel B4-1. First, to date, concrete has only been specified at the Facility for structural foundations (concrete slab on grade). EPA believes that the concrete foundations will prevent contact with contaminants in soil found to exceed any potential direct contact risk (as will asphalt paving elsewhere at the two parcels), thus meeting one of the Remedial Action Objectives (RAOs) set forth in the SB. High performance concrete of the type described in the comment is not required to restrict direct contact at these parcels. Second, no contaminants found in soils at Parcel A1 and Sub-Parcel B4-1 are at concentrations that appear likely to contribute to unacceptable groundwater contamination. Thus preventing infiltration of groundwater is not a RAO at these two parcels. If EPA subsequently determines that a concrete cap or cover is an appropriate remedy for the purpose of preventing infiltration elsewhere, EPA will consider various covers which may include high performance concrete. Therefore EPA has determined that no change to the proposed remedy for Parcel A1 and Sub-Parcel B-4 is required as a result of this comment.

Comments from Mr. Paul Smail on behalf of the Chesapeake Bay Foundation, Inc. and Bluewater Baltimore, Inc. (CBF/BWB) (submitted in an email dated March 10, 2017)

**2. CBF/BWB Comment No. 1:**

CBF/BWB notes that “it is unclear from the various public meetings held on the Facility clean-up efforts when exactly the Facility wide groundwater characterization will take place. Based on the contents of current investigative reports associated with Phase II investigations of various parcels, we assert that the time to complete it is now, before more parcels are redeveloped.” They further note that “the restriction on the use of groundwater on the parcels identified in the [SB] either as an interim remedy or as a permanent Institutional Control does not address this issue. . . . Continued piecemeal redevelopment of the Site without a comprehensive site-wide groundwater characterization and plan to mitigate continued migration of contaminated groundwater will result in further negative impacts to the environment and potentially to human health. The agencies ought not to wait any longer to undertake this work, and the decision to pursue it should be clearly stated in this SOB.”

**EPA’s Response:**

A Facility-wide groundwater characterization has been taking place over the past two years, in part through both large-scale and small-scale groundwater sampling events. Additionally there exists historical groundwater data from previous characterizations. EPA agrees that the final groundwater characterization should be completed expeditiously. The characterization will consolidate all the groundwater data, assess the extent and magnitude of contamination, identify primary constituents-of-concern, define potential groundwater usage and establish groundwater cleanup goals. Once the characterization is completed and EPA evaluates it, EPA will propose a Facility-wide groundwater remedy.

EPA does note that groundwater remediation interim measures are already being undertaken in areas of the Facility known to have the most contaminated groundwater. The groundwater under Parcel A1 and Sub-Parcel B-4 has been characterized, and the current risk is addressed through the selected remedy of ICs. Based on these facts, EPA determined that it was not necessary to delay development of Parcel A1 and Sub-Parcel B-4 until the Facility-wide groundwater investigation is completed.

**3. CBF/BWB Comment No. 2:**

CBF/BWB notes that "contaminants continue to migrate, or have the potential to migrate, into adjacent surface waters from onsite groundwater based on perimeter well sampling. Cyanide, in particular, was identified as a potential issue for groundwater to surface water discharge based on State surface water quality standards primarily in the southwest corner of the study area,” as well as to possible future workers via vapor intrusion. “Perimeter well sampling also revealed ambient water quality criteria exceedances for metals including arsenic, nickel, zinc, and thallium.”

**EPA's response:**

Groundwater data shows that cyanide is present in some perimeter groundwater wells at levels exceeding surface water standards. While additional characterization work is necessary to assess the full extent of cyanide in groundwater at the Facility, the groundwater studies conducted to date show that groundwater beneath Parcel A1 and Sub-Parcel B4-1 does not discharge to surface water.

**4. CBF/BWB Comment No. 3:**

CBF/BWB comments that “measures to ensure proper corrective action regarding the release of storm water on a site-wide basis should begin now. . . .“For decades, uncontrolled and minimally controlled storm water has run off the Sparrows Point Site into adjacent waterways, carrying contaminants from the site into those waters. It should be apparent that management of storm water and water which may end up on the ground from other sources and flow to adjacent waters can be done most efficiently and effectively on a site-wide basis.” CBF/BWB further notes that “a site-wide plan will need to consider the conditions and facilities at numerous locations and parcels across this 3100 acre facility. Any attempt to do this on a piecemeal or parcel-by-parcel basis would undoubtedly result in redundancy, inefficiencies, and possible loss of effectiveness, particularly after substantial areas have been paved and new buildings are erected. Presumably piping and conduits for storm water from many locations at the site will need to be drained to one or more central gathering locations. For similar reasons of efficiency, the agencies have stated in this SOB and elsewhere that they plan to address groundwater on a site-wide basis, and not in a piecemeal fashion. Design of a site-wide storm water control system must start now to avoid disruption and inefficiencies in the future.”

CBF/BWB also states that “the need for effective storm water management is most important near the edges of the facility, where the land slopes abruptly down to Bear Creek, the Patapsco River, or Old Road Bay. Special care must be taken in the design of any storm water control and erosion prevention plan to contain and prevent any erosion into any of the waters adjacent to the site, because this would have the distinct potential for transporting contaminants down the banks and into those waters. This calls for site-wide planning. For all these reasons, the agencies should start now to design a site-wide storm water management system, and the decision to do this should be stated in this SOB.”

**EPA's Response:**

EPA notes that there are already extensive storm water management controls in place at the Facility. The design of parcel specific and site-wide storm water management systems have been reviewed and approved by the Baltimore County Soil Conservation District and the Baltimore County Department of Environmental Protection and Sustainability, a process which is separate from the RCRA corrective action process. Additionally, the Maryland Department of the Environment's Water Management Administration enforces requirements to manage storm water and prevent erosion through the Site-specific Storm Water Pollution Prevention Plan.

Finally, EPA and MDE consider potential impacts from storm water on the underlying contaminated soil and groundwater in evaluating all proposed remedies to prevent mobilizing contamination. EPA, in conjunction with MDE's Land Restoration Program, reviews all of TPA's Response and Development work plans to ensure protection of human health and the environment, including with respect to storm water.

**5. CBF/BWB Comment No. 4**

CBF/BWB notes that the "SOB only mentions storm water once, on p. 9, where it states: "Submerged gravel wetlands will be constructed to facilitate storm water drainage." Where will water go once it is trapped in these gravel wetlands? The document doesn't say. What if, after a storm, the water volume exceeds the capacity of the gravel wetlands to absorb it, and overflows result, contaminated with whatever may be lying on the ground? The document doesn't say how this will be addressed. The SOB discusses the need to cut off exposure to contaminated soils and groundwater, but not storm water."

**EPA's Response:**

For Parcel A1 the storm water is directed into lined storm water ponds/swales to limit infiltration. These ponds/swales drain into the existing storm water system. For Sub-Parcel B4-1, storm water is directed into new piping connected to the existing storm water system. Thus Facility storm water will not be in direct contact with potentially contaminated soil at either Parcel A1 or Sub-Parcel B4-1. See also EPA's Response to CBF/BWB Comment No. 3, above.

**6. CBF/BWB Comment No. 5:**

CBF/BWB comments that public notice of this SB was "provided needlessly late in the process," contrary to Paragraph 38 of the Administrative Consent Order entered into by MDE and TPA's predecessor Sparrows Point Terminal LLC (ACO) and Paragraph 65 of the SA, and that "future public notices should be provided before the remedial and corrective measures are being implemented." CBF/BWB then comments that these two provisions "are not properly complied with when the first opportunity for public comment is provided well after TPA has begun the work. This would defeat the purpose of meaningful public comments in time for MDE and EPA to take them into account and make any appropriate changes in the work which might be suggested in the comments before the work begins. In this case the remedial work was largely if not entirely completed before public notice and opportunity for comment were provided. Specifically, the main work proposed under the Work Plan and SOB for Parcel A-1 is to cover the site with an impermeable cap, such as an asphalt parking area and a concrete building foundation. That parcel had already been covered entirely with a completed building with a concrete floor and an asphalt parking area by TPA, with the approval of MDE and EPA, before public notice was given. The main remedy proposed for Sub-Parcel B4-1 is also an impermeable cap, and that was also largely completed with a large asphalt parking and storage area before the public notice was provided . . . . The late notice provided in this case clearly did not comply with the notice provisions in the ACO and SA. While the clock cannot be turned back in this

case, we insist that the public notice requirements be strictly complied with in all future issuances of Work Plans and Statements of Basis.”

**EPA’s Response:**

Preliminarily, EPA notes that CBF/BWB’s comment does not address the remedy itself, but rather addresses whether adequate opportunity for public comment on the proposed work was provided by EPA and MDE. EPA values public involvement and will continue to keep the public informed of the progress at the Facility through its webpage, public meetings and direct communications with the public and will provide the public with the opportunity to review, evaluate and comment on workplans. EPA will take into consideration any relevant information provided by the public at any time, in its evaluation of the investigation and remediation activities for the Facility.

Multiple opportunities for public comment have been, and will continue to be offered for remedial measures being proposed for the Facility. With respect to the response measures implemented at Parcel A-1, the RAP was discussed at a public meeting held on May 11, 2015, and updates were provided on September 30, 2015 and April 21, 2016. The draft RAP was subject to a 30-day public comment period from April 30, 2015 to May 30, 2015, and was available for review on the MDE website. With respect to Parcel B4-1, the parcel’s investigation results, as well as MDE’s review and approval of the remedial plan, were discussed at a September 16, 2016 public meeting, during which MDE explained how its review was being conducted under Section 7-222, of Maryland’s Controlled Hazardous Substance Act of the state’s Environment Article. Further details about these meetings may be found on MDE’s Sparrows Point website, <http://mde.maryland.gov/programs/Land/MarylandBrownfieldVCP/Pages/sparrowspt.aspx>.

CBF/BWB specifically cites Paragraph 65 of the SA to support their concern that inadequate notice for public comment was provided. However, EPA is complying with the terms of the SA. Paragraph 65 applies only in situations where EPA has previously approved “a Phase II Plan that includes the Justification for Determination of No Further Action” (NFA). TPA did not submit, nor did EPA approve, a Phase II Plan calling for a NFA at Parcel A1 and Sub-Parcel B4-1.

Furthermore, had any public comment been received on the SB that would have caused EPA to reassess the remedial work that was undertaken at these two parcels, EPA could have required additional work in accordance with the SA (including Paragraphs 70 – 71). However, for reasons given elsewhere in this FDRTC, based on the comments received, additional remedial work is not needed at these two parcels.

With respect to the remedial actions required under the Administrative Consent Order entered into by MDE, that public participation process is governed by the ACO and Environmental Article Sec.7-509 (Public Participation).