Environmental Covenant
4500 E. Lombard St., Baltimore MD 212224
Liber 2338 Folio 183
Ward 26 Section 18 Block 6242 Lot 036

ENVIRONMENTAL COVENANT

SITE NAME: F. Bowie Smith & Sons, Inc.
GRANTOR/OWNER: Birchwood Realty Co., Inc.
GRANTEE(S)/HOLDERS(S): Birchwood Realty Co., Inc. and Maryland Department of the Environment
PROPERTY ADDRESS: 4500 East Lombard Street, Baltimore, MD 21224

This Environmental Covenant is executed pursuant to the provisions of Subtitle 8, Title 1 of the Environment Article, Ann. Code of Md. (2015 Repl. Vol.). This Environmental Covenant subjects the Property identified in Paragraph 1 to the activity and/or use limitations in this document. This Environmental Covenant has been approved by the Maryland Department of the Environment ("Department" or "MDE") and the United States Environmental Protection Agency ("EPA").

1. **Property Affected**. The real property affected by this Environmental Covenant (the "Property") is an approximate 10-acre parcel of land located in City of Baltimore, Maryland.

The address of the Property is 4500 East Lombard Street, Baltimore, MD 21224.

The City of Baltimore Land Records Deed Reference for the Property is: Liber 2338 Folio 183, dated February 10, 1989.

Tax Account Identification Number: Ward 26 Section 18 Block 6242 Lot 036

The latitude and longitude of the center of the Property affected by this Environmental Covenant is: Latitude: 39.293164 Longitude: 76.558171.

The Property has been known by the following names:

- F. Bowie Smith & Sons, Inc.

A complete metes and bounds description of the Property is attached to this Environmental Covenant as Exhibit A. A map of the Property which also identifies the capped areas is attached to this Environmental Covenant as Exhibit B.

2. **Property Owner/Grantor.** Birchwood Realty Co., Inc. ("Birchwood") is the current owner of the Property and the Grantor of this Environmental Covenant. Birchwood's mailing address is 801 S Columbus Blvd, Suite 201 Phila., PA, 19147.

3. **Holder(s)/Grantee(s)**. For purposes of this Environmental Covenant, Birchwood and the MDE shall also be Holders/Grantees.

4. Regulatory Program(s) Issuing Determination. The following regulatory program(s) is (are) responsible for having issued a determination requiring the use of this Environmental Covenant:

☒ EPA Corrective Action Program under the Resource Conservation and Recovery Act

MDE Programs

☐ Voluntary Cleanup Program
☐ Controlled Hazardous Substance Enforcement Program
☐ Oil Control Program
☐ Solid Waste Program
☒ Resource Management Program
☐ Other Program within the Department: _____

5. Activity & Use Limitations. The Property is subject to the following activity and use limitations, which Birchwood and each subsequent owner of the Property shall abide by:

- Use of the Property shall be restricted to commercial and/or industrial purposes and shall not be used for residential purposes unless the then-current owner demonstrates to EPA that such use will not pose a threat to human health or the environment or adversely affect or interfere with the selected remedy and obtains prior written approval from EPA for such use.

- There shall not be any disturbance of the capped areas identified in Exhibit B in a way that will adversely affect or interfere with their integrity, unless the then-current owner demonstrates to MDE and EPA that such disturbance will not pose a threat to human health or the environment, and MDE and EPA provide prior written approval for such disturbance.

- The Property is subject to an Operations and Management Plan approved by EPA. (Attached as Exhibit C). It includes the procedures to maintain, and a schedule for inspections of the capped areas identified in Exhibit B to prevent degradation of the caps and unacceptable exposure to the underlying soil.

- Groundwater at the Property shall not be used for any purpose other than the operation, maintenance, and monitoring activities required by the MDE and/or EPA, unless it is demonstrated to EPA, in consultation with the MDE, that such use will not pose a threat to human health or the environment or adversely affect or interfere with the final remedy, and EPA, in consultation with the MDE, provides prior written approval for such use.

- No new wells shall be installed on the Property unless the then-current owner demonstrates to EPA that such wells are necessary to implement the final remedy and the then-current owner obtains prior written approval from EPA to install such wells.

- The then-current owner shall comply with the EPA-approved groundwater monitoring program which is included as Exhibit 3 of the Operations and Management Plan which is Exhibit C of this Covenant.

- An EPA-approved vapor intrusion control system shall be installed in new structures constructed on the Property above the contaminated groundwater plume and within the 100-foot buffer zone, which are identified on Exhibit D. Any such vapor intrusion system shall be operated until it is demonstrated to EPA that vapor intrusion of contaminants at the Property does not pose a threat to human health.

- Grantor notified the owners of the affected propert(ies) within the 100-foot VI buffer zone identified on Exhibit D, located outside the Property boundary, of the potential risks due to vapor intrusion within buildings and recommendations for safely using the affected property.

6. **Notice of Limitations in Future Conveyances**. Each instrument hereafter conveying any interest in the Property shall contain a notice of the activity and use limitations set forth in this Environmental Covenant and shall provide the recorded location of this Environmental Covenant.

7. **Access by the Department and EPA**. In addition to any rights already possessed by the Department or EPA, this Environmental Covenant grants to the Department and EPA a right of access to the Property to implement or enforce this Environmental Covenant.

8. **Recordation & Filing with Registry**. Birchwood shall record this Environmental Covenant in the Land Records of Baltimore City within 30 days of the latter of the Department and EPA's approval of this Environmental Covenant and shall send proof of the recording to the Department and EPA within 30 days of recordation. This Environmental Covenant shall be filed as soon as possible after execution in the Registry of Environmental Covenants maintained by the Department. This Environmental Covenant may be found electronically on the Department's website at:

www.mde.maryland.gov/programs/land/marylandbrownfieldvcp/pages/programs/landprograms/errp_brownfields/ueca.aspx

9. **Termination or Modification**. This Environmental Covenant runs with the land unless terminated or modified in accordance with § 1-808 or § 1-809 of the Environment Article, Ann. Code of Md. (2015 Repl. Vol.). The rights and obligations set forth herein shall inure to and be binding on the successors and assigns to this Environmental Covenant. The then-current owner agrees to provide the Department and EPA with written notice of the pendency of any proceeding that could lead to a foreclosure referred to in § 1-808(a)(4) of the Environment Article, Ann. Code of Md. (2015 Repl. Vol.), within seven calendar days of the owner's becoming aware of the pendency of such proceeding. The then-current owner shall provide EPA and MDE written notice within 30 days after each conveyance of an interest in any portion of the

Property. Such written notice shall include the name, address and telephone numbers of the transferee to whom such interest is conveyed.

10. **EPA's Address**. Communications with EPA regarding this Environmental Covenant shall be sent to: Office of Remediation (3LC20), Land and Chemicals Division, U.S. Environmental Protection Agency, 1650 Arch Street, Philadelphia, PA 19103.

11. **The Department's Address**. Communications with the Department regarding this Environmental Covenant shall be sent to: Registry of Environmental Covenants, Maryland Department of the Environment, Land and Materials Administration, Land Restoration Program, 1800 Washington Blvd., Baltimore, MD 21230.

12. **Administrative Record**. The Administrative Record pertaining to the remedy selected by EPA in the Final Decision and Response to Comments ("FDRTC"), EPA ID No. MDD000737395, is located at the United States Environmental Protection Agency, Region III, 1650 Arch Street, Philadelphia, PA 19103.

13. **Enforcement.** This environmental covenant shall be enforced in accordance with § 1-810 of the Environment Article, Ann. Code of Md. (2015 Repl. Vol.).

14. **Compliance Reporting**. Within 21 days after written request by the Department or EPA, the then-current owner of the Property shall submit, to the Department, EPA and any Holder listed in Paragraph 3, written documentation stating whether or not the activity and use limitations set forth in Paragraph 5 of this Environmental Covenant are being abided by. In addition, within 21 days after any of the following events: a) transfer of title of the Property or of any part of the Property affected by this Environmental Covenant, b) becoming aware of noncompliance with Paragraph 5, and c) an application for a permit or other approval for any building or site work that could affect contamination on any part of the Property, the then-current owner will send a report to the Department, EPA and any Holder. The report will state whether there is compliance with Paragraph 5. If there is noncompliance, the report will state the actions that will be taken to assure compliance.

15. **Severability.** The paragraphs of this Environmental Covenant shall be severable and should any part hereof be declared invalid or unenforceable, the remainder shall continue in full force and effect between the parties.

IN WITNESS WHEREOF, the parties hereto have caused this Environmental Covenant to be executed and delivered as of the day and year first above written.

ACKNOWLEDGMENTS by Grantor/Owner, any Grantee(s)/Holder(s), the Department and EPA, in the following form:

ATTEST:

Date: 1/19/18

Birchwood Realty Co., Inc. Grantor/Owner
By: _____
Name: Scott Peterson
Title: President

STATE OF MARYLAND)
)
COUNTY OF ANNE ARUNDEL) SS:

On this 19 day of January, 2018, before me, the undersigned, personally appeared Scott Peterson, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument and acknowledged that he/she executed the same for the purposes therein contained.

In witness whereof, I hereunto set my hand and official seal.

Wendy M. Fetz
WENDY M. FETZ
Notary Public

My commission expires: 5/17/18

WENDY M. FETZ NOTARY PUBLIC ANNE ARUNDEL COUNTY, MD.

Date: 1/19/18

Birchwood Realty Co., Inc. Grantee
By: _____
Name: Scott Peterson
Title: President

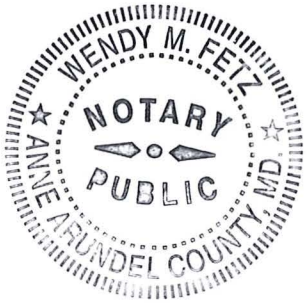
STATE OF MARYLAND)
)
COUNTY OF ANNE ARUNDEL) SS:

On this 19 day of January, 2018, before me, the undersigned, personally appeared Scott Peterson, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument and acknowledged that he/she executed the same for the purposes therein contained.

In witness whereof, I hereunto set my hand and official seal.

Wendy M. Fetz
WENDY M. FETZ
Notary Public

My commission expires: 5/17/18



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APPROVED, by Maryland Department of the Environment
Land and Materials Administration,
Agency and Holder/Grantee

Date: January 30, 2018

By: Hilary Miller
Hilary Miller
Director
Land and Materials Administration
Maryland Department of the Environment

STATE OF MARYLAND)
)
COUNTY OF BALTIMORE) SS:

On this 30th day of January, 2018, before me, the undersigned, personally appeared Hilary Miller, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument and acknowledged that she executed the same for the purposes therein contained.

In witness whereof, I hereunto set my hand and official seal.

MELISSA L. ALLEN NOTARY PUBLIC BALTIMORE COUNTY, MD

(*Name of notary public typewritten or printed*) Melissa L. Allen
Notary Public

My commission expires: June 17, 2021

Approved for form and legal sufficiency

This 22nd day of January, 2018

Maryland Assistant Attorney General

APPROVED, by United States Environmental Protection Agency, Region III,

Date: 1 - 31, 2018

By: Martha Shimkin
Martha Shimkin
Acting Director
Land and Chemicals Division
United States Environmental Protection Agency
Region III

COMMONWEALTH OF PENNSYLVANIA)
)
COUNTY OF PHILADELPHIA) SS:

On this 31 day of January, 2018, before me, the undersigned, personally appeared Martha Shimkin, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument and acknowledged that she executed the same for the purposes therein contained.

In witness whereof, I hereunto set my hand and official seal.

Bettina L Dunn
(***Name of notary public typewritten or printed***)
Notary Public

My commission expires: Dec 17, 2020

COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
BETTINA L. DUNN, Notary Public
City of Philadelphia, Phila. County
My Commission Expires December 17, 2020

I CERTIFY that this document was prepared by or under the supervision of the undersigned, an attorney duly admitted to practice before the Court of Appeals of Maryland.

Timothy R. Henderson

EXHIBIT A

Complete Metes and Bounds Description of the Property

EXHIBIT A

Parcel I:

BEGINNING for the same at a point in the 10th (or N58°45'W 190± foot) line of that parcel of land which by deed dated March 31, 1955 and recorded among the Land Records of Baltimore City in Liber M.L.P. 9753, Folio 331, etc., was granted and conveyed from Allied Chemical & Dye Corporation to F. Bowie Smith, Sr., said PLACE OF BEGINNING being at the distance of 50.38 feet from the beginning of said line; running thence from said PLACE OF BEGINNING along said 10th line, as now surveyed N63°14'41"W, 13[illegible].62 feet, more or less, to a point, said point being 33 feet distant measured at right angles in a southeasterly direction from the centerline of main track of The Baltimore and Ohio Railroad Company; thence parallel to and 33 feet distant from said centerline N53°11'19"E, 335.68 feet to a point; thence by a curve to the left having a radius of 1303.57 feet, for a distance of 231.24 feet, the chord of which bears S29°46'40"W, 230.94 feet to a point; thence S24°48'56"W, 70.00 feet to the PLACE OF BEGINNING; containing 19,494 square feet, or 0.45 of an acre, more or less.

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Parcel II:

BEGINNING for the same on the north side of Lombard Street and the east right-of-way line of the Baltimore and Ohio Railroad, which place of beginning is the beginning point of the land described in a deed dated December 4, 1908 and recorded among the Land Records of Baltimore County in Liber W.P.C. No. 337, folio 299 et seq., from the Canton Company of Baltimore to A. Weiskittel and Son Company, and running thence with the last line of the property described in said deed, reversely and easterly, along the north side of Lombard Street 235.62 feet to intersect the last line of the parcel of ground firstly described in a deed dated December 28, 1922 and recorded among the Land Records of Baltimore City in Liber S.C.L. No. 3952, folio 450 et seq., from O.A. Chapin, Administrator, et al. to A. Weiskittel and Son Company, thence running with said line reversely, across Lombard Street, south 58 degrees, 45 minutes east 127 feet, more or less to the beginning of said line, thence binding on the right-of-way of the Philadelphia, Baltimore and Washington Railroad, and on the outline of said last mentioned tract, north 24 degrees 30 minutes east 395 feet to the end of the south 40 degrees, 30 minutes east 508 foot line of the land thirdly described in the deed above mentioned from O.A. Chapin, Administrator, et al. to A. Weiskittel and Son Company, thence still binding on the right-of-way of the Philadelphia, Baltimore and Washington Railroad and to include said last mentioned tract, the six (6) following courses and distances, viz; north 24 degrees, 15 minutes east 275 feet; north 25 degrees, 30 minutes east 109 feet; north 27 degrees, 15 minutes east 106 feet; north 29 degrees, 15 minutes east 90 feet; north 32 degrees, 45 minutes east 94 feet; north 39 degrees, 45 minutes east 44 feet; thence leaving said right-of-way north 58 degrees, 45 minutes west 190 feet, more or

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less to a point 33 feet distant at right angles southeasterly from the center line of the Baltimore and Ohio Railroad, thence binding on the east right-of-way line the three (3) following courses and distances, viz; south 57 degrees, 15 minutes west 539 feet; south 32 degrees, 45 minutes east 17 feet; south 52 degrees, 30 minutes west 67 feet to the end of the second line of the land firstly described in the aforesaid deed (S.C.L. No. 3957, folio 450), thence binding on said land reversely, and along the right-of-way line of the Baltimore and Ohio Railroad, southwesterly, with a curve to the left with a radius of 449 feet for a distance of 362 feet to a point on the east side of Twelfth Street, thence along the east side of Twelfth Street, 100 feet wide, Southerly 230 feet to the beginning of the land just referred to and to intersect the second line of the land described in the aforesaid deed from The Canton Company of Baltimore to A. Weinkittel and Son Company (Liber W.P.C. No. 337, folio 299 et seq.), thence reversely with said second line north 58 degrees 45 minutes west 27 feet, more or less, to the end of the first line of the land last referred to, thence reversely with said first line and along the easternmost right of-way line of the Baltimore and Ohio Railroad, 136.54 feet to the place of beginning, containing 10.38 acres, more or less. The improvements thereon now known as 4500 East Lombard Street.

EXPRESSLY EXCEPTING therefrom, however, the following described parcels of land:

BEING a triangular parcel and strip of land located in and adjacent to Lombard Street, Baltimore, Maryland, and more particularly described as follows:

BEGINNING at a point on the northerly side of Lombard Street, and the eastern right-of-way line of the Baltimore & Ohio Railroad; thence north 87 degrees 6 minutes and 40 seconds east along the northern boundary line of Lombard Street for a distance of 236.47 feet to a point; thence south 63 degrees, 14 minutes and 40 seconds east for a distance of 122.36 feet to a point, in the western right-of-way line of the Pennsylvania Railroad (Baltimore & Washington Railroad Company); thence north 19 degrees and 7 minutes east along the said western right-of-way line of the Pennsylvania Railroad for a distance of 62.23 feet to a point; thence south 87 degrees and 35 minutes west for a distance of 100.19 feet to a point; thence north 20 degrees and 7 minutes east for a distance of 10.07 feet to a point; thence north 81 degrees 31 minutes and 40 seconds west for a distance of 25.66 feet to a point located 12.25 feet northwardly of the northern boundary line of Lombard Street; thence south 87 degrees 6 minutes and 40 seconds west along a line parallel to and 12.25 feet northwardly of the northern boundary line of Lombard Street for a distance of 245.00 feet to

a point in the eastern right-of-way line of the Baltimore & Ohio Railroad; thence south 4 degrees 18 minutes and 16 seconds east along the eastern right-of-way line of the Baltimore & Ohio Railroad for a distance of 12.25 feet to the point of BEGINNING; containing an area of 0.163 acres, more or less, as shown on plan identified by the following title:

Plancor 1422
Property to be Conveyed
for
LOMBARD ST. PROJECT (P.R.A.)
J. Spence Howard
Civil Engr. & Surveyor - Balto., Md.
Scale 1" - 40 Ft. July, 1944

It is intended to except from this conveyance a triangular shaped parcel of land lying within Lombard Street, in the City of Baltimore, Maryland, together with a strip of land lying along the northerly side of Lombard Street, which said parcel and strip were acquired in the condemnation proceeding entitled "United States of America vs. A Parcel of Land comprising 10.30 acres, more or less, situated in the City of Baltimore, State of Maryland; Maryland Sanitary Manufacturing Corporation, et al." Civil No. 1904, and which said parcel and strip are on the southerly boundary of the plant site and lie south of the following described lines:

BEGINNING at a point north 4 degrees 18 minutes 16 seconds west 12.25 feet from the point of beginning of the land described in Exhibit "A" attached to the Declaration of Taking in the said condemnation proceeding; thence north 87 degrees 06 minutes 40 seconds east 245.00 feet to a point; thence south 81 degrees 31 minutes 40 seconds east 25.06 feet to a point; thence south 20 degrees 07 minutes 00 seconds west 10.07 feet to a point; thence north 87 degrees 35 minutes 00 seconds east 100.19 feet to a point.

"Said excepted land being the same property which was remised, released and quitclaimed to the City of Baltimore, Maryland, by the Reconstruction Finance Corporation, acting by and through the War Assets Administrator, by Deed dated October 4, 1946 and recorded among the Land Records of Baltimore City, Maryland, the plan hereinabove referred to being attached to and recorded with said Deed.

BEING all that land which by Deed dated March 31, 1955 and recorded among the Land Records of Baltimore City in Liber M.L.P. 9753, Page 311, was granted and conveyed by Allied Chemical & Dye Corporation unto F. Bowie Smith, Sr.

EXPRESSLY SAVING AND EXCEPTING therefrom, also, the following described parcel of land:

0.624 more or less Acre parcel of land west of the western right-of-way line of the Conrail Railroad right-of-way,

from 230 feet more or less north of Lombard Street to 1,050 feet more or less north of Lombard Street.

BEGINNING for the same at a point in the 10th or north 58 degrees 45 minutes west 190 more or less foot line of that parcel of land which by deed dated March 31, 1955 and recorded among the Land Records of Baltimore City in Liber M.L.P. No. 9755, folio 331 et seq., was granted and conveyed from Allied Chemical & Dye Corporation to F. Bowie Smith, Sr. Said place of beginning being at the distance of 50.38 feet from the beginning of said line. Running thence from said place of beginning as now surveyed by J.S.T. Engineering Co., Inc., and binding reversely along said 10th line (1.) south 63 degrees 14 minutes 41 seconds east 50.38 feet to the beginning thereof and to the western right-of-way line of the Conrail Railroad right-of-way. Running thence and binding on the western right-of-way line of the aforesaid Conrail Railroad right-of-way and binding reversely along the 9th, 8th, 7th, 6th, 5th, 4th and part of the 3rd lines of the aforesaid deed to F. Bowie Smith, Sr., the seven (7) following courses and distances: (2.) south 35 degrees 00 minutes 00 seconds west 44.00 feet, (3.) south 28 degrees 00 minutes 00 seconds west 94.00 feet, (4.) south 24 degrees 30 minutes 00 seconds west 90.00 feet, (5.) south 22 degrees 30 minutes 00 seconds west 106.00 feet, (6.) south 20 degrees 45 minutes 00 seconds west 109.00 feet, (7.) south 19 degrees 30 minutes 00 seconds west 275.00 feet, passing over a point at the distance of 188.89 feet where the centerline of the proposed track, as shown on the plat entitled "Proposed B&O/Conrail Connection, Bayview", dated 7-[illegible]-82 with latest revision 12-7-82, crosses the property line of the aforesaid deed and (8.) south 19 degrees 45 minutes 00 seconds west 92.59 feet to a point 15 feet, measured radially, from the center line of the existing railroad siding track leading from the Conrail Railroad right-of-way to the F. Bowie Smith & Son, Inc. property. Running thence (9.) northwesterly by a line curving to the left and drawn concentrically with the aforesaid centerline of the existing railroad siding track leading to the F. Bowie Smith & Son, Inc. property, with a radius of 345.00 feet and an arc length 45.92 feet, which arc is subtended by the chord: north 10 degrees 23 minutes 42 seconds west 45.89 feet, to a point in line with the bottom of a concrete retaining wall there situate to the northeast. Running thence and binding on the extension southwesterly, reversely, of the aforesaid concrete retaining wall (10.) north 19 degrees 38 minutes 56 seconds east 12.87 feet to the southernmost corner of said wall. Thence binding along the bottom of said wall (11.) north 19 degrees 38 minutes 56 seconds east 87.19 feet to the northernmost corner of said wall. Running thence and binding on the bottom of said wall as it turns to the west (12.) north 70 degrees 21 minutes 15 seconds west 8.20 feet to a point where the bottom of the

aforesaid wall intersects the top of another concrete wall there situate, running to the northeast. Running thence and binding on the top of said last mentioned concrete wall (13.) north 18 degrees 55 minutes 21 seconds east 372.64 feet to a point where the top of the last mentioned concrete wall intersects the south side of a one story concrete block building there situate. Running thence and binding on the south and east side of said building the two (2) following courses and distances: (14.) south 66 degrees 11 minutes 44 seconds east 0.73 feet and (15.) north 23 degrees 48 minutes 16 seconds east 26.25 feet to the northeast corner of said building. Running thence and binding on the extension northeasterly of the east building line of the aforesaid building (16.) north 23 degrees 48 minutes 18 seconds east 106.00 feet to a point, thence running (17.) north 24 degrees 48 minutes 56 seconds east 170.22 feet to the place of beginning. Containing 0.624 more or less acres of land.

BEING that parcel of land which by deed dated November 4, 1983 and recorded among the Land Records of Baltimore City in Liber S.E.B. No. 0135, page 075 et seq. was granted and conveyed from William E. Mullen, Richard W. Kiefer and Equitable Bank, N.A., Trustees and Personal Representatives of the Estate of F. Bowie Smith, Sr., deceased unto The Baltimore and Ohio Railroad Company.

TOGETHER with the buildings and improvements thereon, and all the rights, alleys, ways, waters, easements, streets, bounding or adjoining or running through the side property, privileges and appurtenances thereto belonging or in anywise appertaining, subject, however, to the legal operation and effect of the following:

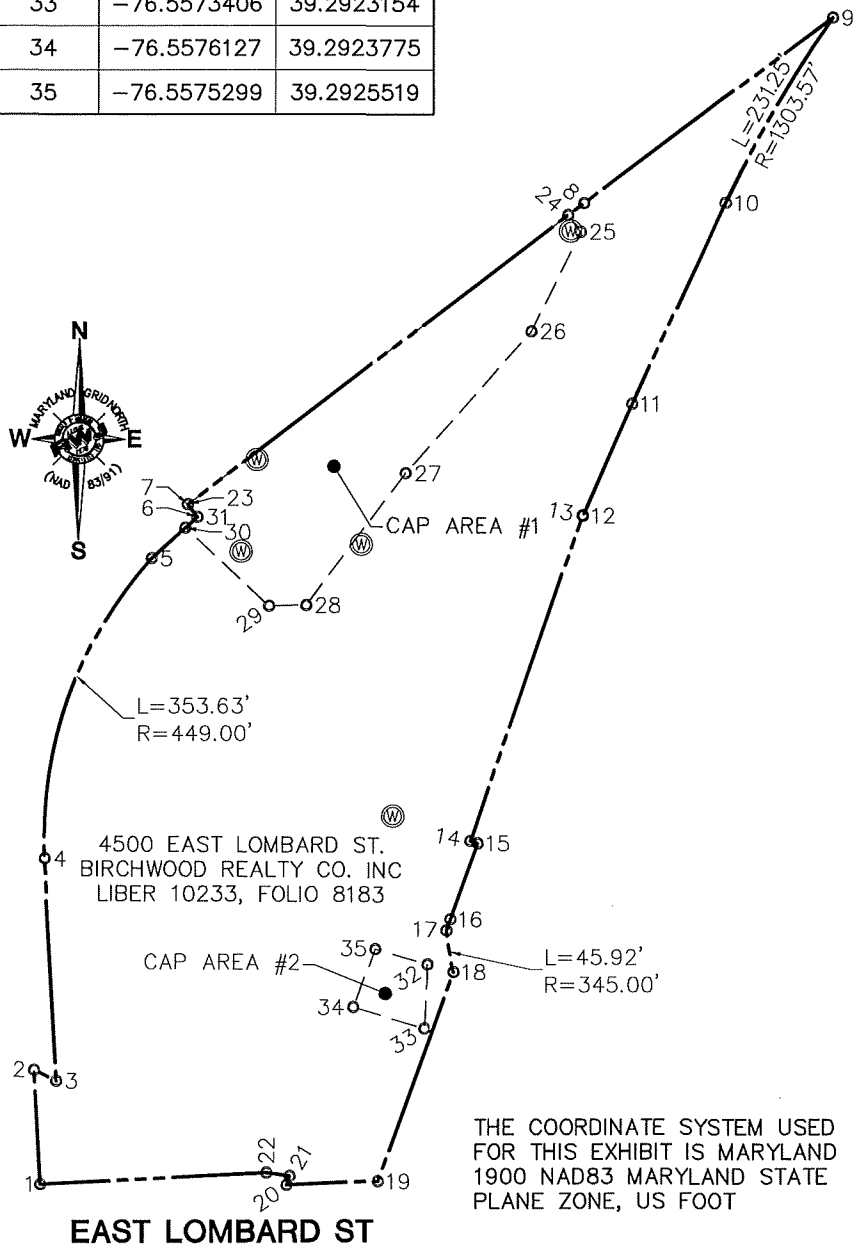
Covenants, conditions and reservations set out in a Deed from U.S.A., acting, by and through the General Services Administration to Pittsburgh Mill Steel Company, Inc., dated October 27, 1949 and recorded among the Land Records of Baltimore City in Liber M.L.P. No. 7921, folio 471, reserving unto the U.S.A. all uranium and thorium deposits lying under the property.

EXHIBIT B

Map of the Property Including Depiction of the Capped Areas

Point Table		
Point #	Longitude	Latitude
1	-76.5588128	39.2918518
2	-76.5588372	39.2921923
3	-76.5587520	39.2921588
4	-76.5587994	39.2928204
5	-76.5583954	39.2937128
6	-76.5582196	39.2938360
7	-76.5582559	39.2938731
8	-76.5567407	39.2947695
9	-76.5557915	39.2953222
10	-76.5561963	39.2947717
11	-76.5565521	39.2941728
12	-76.5567404	39.2938405
13	-76.5567427	39.2938414
14	-76.5571689	39.2928733
15	-76.5571416	39.2928658
16	-76.5572450	39.2926403
17	-76.5572602	39.2926072
18	-76.5572308	39.2924833
19	-76.5575171	39.2918617
20	-76.5578708	39.2918500
21	-76.5578586	39.2918759
22	-76.5579483	39.2918863
23	-76.5582559	39.2938731
24	-76.5568015	39.2947336
25	-76.5567533	39.2946845
26	-76.5569394	39.2943888
27	-76.5574188	39.2939671
28	-76.5578018	39.2935738
29	-76.5579442	39.2935713
30	-76.5582652	39.2938041

Point Table		
Point #	Longitude	Latitude
31	-76.5582196	39.2938360
32	-76.5573288	39.2925059
33	-76.5573406	39.2923154
34	-76.5576127	39.2923775
35	-76.5575299	39.2925519



THE COORDINATE SYSTEM USED FOR THIS EXHIBIT IS MARYLAND 1900 NAD83 MARYLAND STATE PLANE ZONE, US FOOT

SCALE: 1" = 200'

PROJECT #2677	SCALE: 1"=200'	DESCRIPTION: APPROXIMATE LOACTION OF SOIL CAP AREAS	DRAWN BY: MDI
PROJECT: 4500 LOMBARD ST.	DATE: 12/27/2016		REVIEWED BY: BLW

Ronald W. Johnson · Associates, Inc.
Consulting Engineers . Land Planners . Surveyors
2661 Riva Road Building 400, Suite 420 Annapolis, MD 21401
410.841.5221 410.266.6612 Fax 410.841.5124

EXHIBIT C

Operations and Management Plan

Operations and Maintenance Plan

for

4500 East Lombard Street

(F. Bowie Smith & Sons Inc.)

Contents

1. Introduction

This Operations and Maintenance Plan ("O&M") documents routine activities necessary to support, inspect, and maintain controls associated with the Environmental Protection Agency's Final Remedy dated August 9, 2016 for the property located at 4500 E. Lombard St., Baltimore MD. Site features including the two capped areas and the five monitoring wells are depicted on Exhibits 1.

The site is located approximately 0.2 miles west of the Lombard Street interchange with Interstate 895 (Harbor Tunnel Throughway). The site is bound to the east, north and west by CSX railroad track rights of way and to the south by Lombard Street. Industrial properties are located north, northwest, east and south of the site. The nearest residences are row homes located on North Kressen Street approximately 500 feet west of the site.

Four contaminants of concern (CoCs) were identified after field investigations during 1986: arsenic, chromium, naphthalene and pentachlorophenol (PCP). Four ground water monitoring wells were installed during the initial site investigation in 1986. These wells are located on the north, east, west and south of the contaminated areas and are identified as the North, South, East and West wells. The south well became the upgradient well, or background well, for the analysis. A fifth well (MW-105) was installed downgradient of the south well at the property border to better delineate the plume during 2008.

Birchwood performed removal and remedial activities on the site during the 1990s, including removing contaminated tanks, equipment, buildings and soil. A detailed soil investigation was performed to delineate the contaminated soil areas. Contaminated soil was removed from the site. In July 2000, MDE approved the final phase of the remediation plan. Two areas, a 0.15 acre area and a 1.1 acre area overlying the contaminated groundwater and soil, were capped. This work was completed by the end of 2000. EPA issued its final remedy for the facility on August 9, 2016 which consisted of groundwater monitoring and land and groundwater use controls.

2. Operations and Maintenance

2.1 Capped Areas

There are two capped areas on the property, 0.15 acres and 1.1 acres. They both consist of a geomembrane cap and a layer of soil cement with recycled asphalt on the surface.

The O&M activities for the Capped areas will consist of annual visual inspection to verify that the geomembrane caps remain protected. The survey of the capped areas is included as Exhibit 1.

The following items will be looked at during the inspection:

Trees are not on the caps

Cover over caps is in good condition and the membranes are not exposed

No erosion that needs to be addressed

No burrowing animals at the caps

No construction on the caps

Do the caps need repair? What needs repair?

No leachate is leaking from the capped areas

There is no subsidence or settling at the capped areas

The following items will be inspected on the asphalt cover during the inspection that might need repair:

Cracks

Bleeding of asphalt

Bumps & Sags

Depressions

Bad Patching

Potholes

Weathering & Small Holes

The Facility Inspection Form to be used during inspections is included as Exhibit 2.

2.2 Monitoring Wells

The monitoring wells will also be inspected once a year. Each well will be inspected for indications of inner casing settling, damage and mineral build up. Any warranted repairs that can be easily conducted, such as replacing cap locks, will be conducted immediately. If a well is damaged to the extent that the integrity of a groundwater sample is questionable, it will not be sampled and will be abandoned, reinstalled and resurveyed if necessary.

The five monitoring wells will be sampled every other year in accordance with the March 27, 2015 Sampling and Analysis and Quality Assurance Plan which is attached as Exhibit 3.

2.3 General Facility Maintenance

During the yearly visits, general inspections such as site security, fence integrity and general site aesthetics will be conducted and the property will be maintained as necessary.

3. Reporting

O&M activities will be submitted to EPA in annual reports.

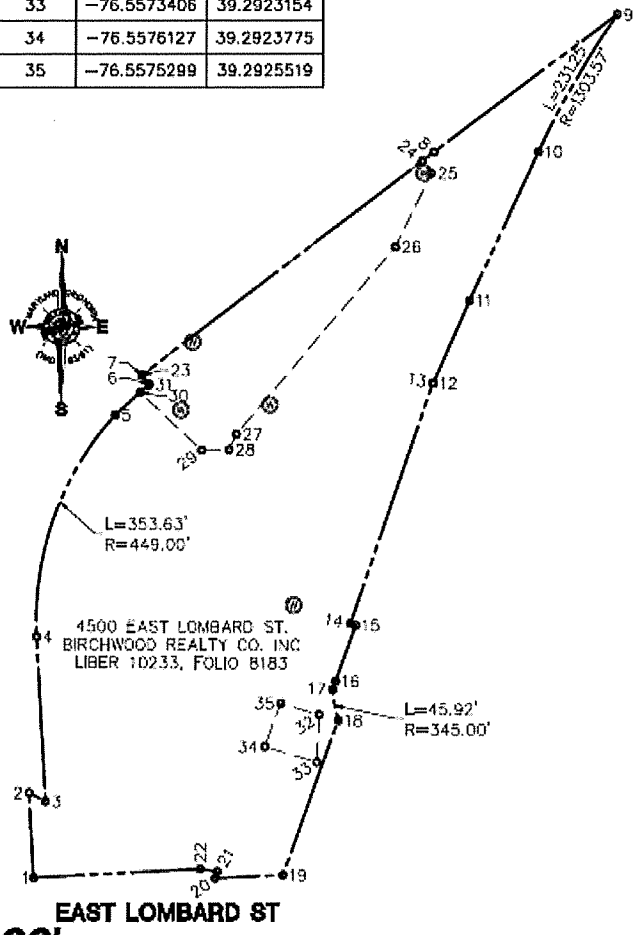
Sampling reports of the monitoring wells will be submitted to the EPA every other year.

The Facility Inspection Form to be used during inspections is included as Exhibit 2.

Exhibit 1

Point Table		
Point #	Longitude	Latitude
1	-76.5588128	39.2918518
2	-76.5588372	39.2921923
3	-76.5587520	39.2921588
4	-76.5587994	39.2928204
5	-76.5583954	39.2937128
6	-76.5582196	39.2938360
7	-76.5582559	39.2938731
8	-76.5567407	39.2947695
9	-76.5557915	39.2953222
10	-76.5561963	39.2947717
11	-76.5565521	39.2941728
12	-76.5567404	39.2938405
13	-76.5567427	39.2938414
14	-76.5571689	39.2928733
15	-76.5571416	39.2928658
16	-76.5572450	39.2926403
17	-76.5572602	39.2926072
18	-76.5572308	39.2924833
19	-76.5575171	39.2918617
20	-76.5578708	39.2918500
21	-76.5578586	39.2918759
22	-76.5579483	39.2918863
23	-76.5582559	39.2938731
24	-76.5566015	39.2947336
25	-76.5567533	39.2946845
26	-76.5569394	39.2943888
27	-76.5577634	39.2936356
28	-76.5578018	39.2935738
29	-76.5579442	39.2935713
30	-76.5582652	39.2938041

Point Table		
Point #	Longitude	Latitude
31	-76.5582196	39.2938360
32	-76.5573288	39.2925059
33	-76.5573406	39.2923154
34	-76.5576127	39.2923775
35	-76.5575299	39.2925519



SCALE: 1" = 200'

PROJECT #2677	SCALE: 1"=200'	DESCRIPTION: APPROXIMATE LOACTION OF SOIL CAP AREAS	DRAWN BY: MDI
PROJECT: 4500 LOMBARD ST.	DATE: 12/27/2016		REVIEWED BY: BLW

Ronald W. Johnson · Associates, Inc.
Consulting Engineers . Land Planners . Surveyors
2661 Riva Road Building 400, Suite 420 Annapolis, MD 21401
410.841.5221 410.266.6612 Fax 410.841.5124

Exhibit 2

Facility Inspection Form for F. Bowie Smith

Inspector: Date:

Questions

Caps

Trees on the caps? yes/no

Soil covers over caps are in in bad condition and the membranes are exposed? yes/no

Erosion that needs to be addressed? yes/no

Burrowing animals at the caps? yes/no

Construction on the caps? yes/no

The caps need repairs? yes/no

Leachate is leaking from the capped areas? yes/no

There is subsidence or settling at the capped areas? yes/no

Cracks in the asphalt that need repair? yes/no

Bleeding of the asphalt that needs repair? yes/no

Bumps & Sags in the asphalt that needs repair? yes/no

Depressions in the asphalt that need repair? yes/no

Bad Patching that needs repair? yes/no

Potholes that need repair? yes/no

Weathering & Small Holes that need repair? yes/no

Any questions with a Yes answer please explain:

Repairs needed:

Groundwater Monitoring Wells

Are the wells locked? yes/no

Are they in good condition with no need for repairs? yes/no

Repairs needed:

General Facility Maintenance

Is the fence in good condition? yes/no

Repairs needed:

Exhibit 3

March 27, 2015 Sampling and Analysis and Quality Assurance Plan

Birchwood Realty Company, Inc.

4500 East Lombard Street Site

Sampling and Analysis and Quality Assurance Project Plan

March 27, 2015

prepared for:

Birchwood Realty Company, Inc.
801 South Columbus Boulevard
Suite 200
Philadelphia, Pennsylvania 19147

prepared by:

EastStar Environmental Group, Inc.
12873 Folly Quarter Road
Ellicott City, Maryland 21042

approved by:

Albert P. Free, P.E., CSP, LSRP
President
Maryland Professional Engineer 13492

M002

TABLE OF CONTENTS

1. PROJECT DESCRIPTION

1.1 Introduction

This sampling and analysis plan (SAP)/quality assurance project plan (QAPP) is intended for use at the Birchwood Reality Development Company site located at 4500 East Lombard Street, Baltimore, Maryland for collecting and analyzing a set of six groundwater samples. These samples will be collected from the five existing monitoring wells on the site

The purpose of this plan is to describe the procedures that will be used to collect and analyze the samples, ensure quality in the sample collection and analysis and review, interpret and use the results.

2. PROJECT ORGANIZATION AND RESPONSIBILITIES

The field investigation, sample collection and interpretation of results will be performed by EastStar Environmental Group, Inc. under agreement with the property owner, Birchwood Realty Company, Inc. EastStar will be responsible for review and analysis of the laboratory data and interpretation of the results.

EastStar's project manager will be Albert P. Free, P.E., CSP, LSRP. As the safety manager for EastStar, Mr. Free will also be the health and safety officer for the project.

Laboratory analysis will be performed by Phase Separation Science, Inc., 6630 Baltimore National Pike, Baltimore, Maryland. Phase is a Maryland certified analytical laboratory, certification number 179. Additional information can be obtained from www.phaseonline.com.

Regulatory oversight of the sampling event and review of the report will be performed by U.S. EPA Region 3. The EPA point of contact is Mr. Leonard Hotham.

EastStar has been informed that EPA will subcontract the field portion of this oversight to the U.S. Army Corps of Engineers (USACE). EastStar has not been informed if any specific point of contact has been assigned to this project by USACE.

3. SAMPLING PROCEDURES

3.1 Health and Safety Planning

3.1.1 Personnel Protection Requirements

This site and the planned sampling activities pose minimal health risk. However, as with any field activities, appropriate safety precautions must be implemented to project personnel on the site. EastStar has determined that all work will be performed in Level D protection, but that specific personal protection requirements are necessary for this project. All on-site personnel, including visitors, shall adhere to these requirements.

EPA and USACE shall be responsible for providing all required personal protective equipment for their personnel and taking all necessary measures to ensure that their personnel are aware of the site hazards, have appropriate training and have necessary personnel protective equipment. EastStar and the Owner will not be responsible for providing protective equipment at the site for EPA or USACE personnel.

The following personnel protective equipment will be needed on the site:

- Head protection
- Safety shoes
- Safety glasses
- Hearing protection if noise levels exceed 85dB(A)

In addition, disposable latex or vinyl gloves will be needed during sample collection.

3.1.2 Hospital

If a worker is hurt or becomes sick at the project site, the nearest medical facility is the Johns Hopkins Bayview Medical Center. This hospital is located at 4940 East Lombard Street, less than 0.5 miles east of the project site.

Emergency services anywhere in the City of Baltimore can be summoned to the project site by dialing 911.

3.2 Sample Collection

There are five existing monitoring wells on the site. The monitoring wells are shown on Figure 1, as North, South, East and West wells. The wells are 2 inch PVC wells with protective casings.

A sample will be collected from each well. The wells will be sampled in the following order to minimize the potential for cross contamination:

- South Well
- North Well
- MW-105
- West Well
- East Well

A sample will be collected from each well from 3 to 5 feet below the measured water surface, using low flow sampling techniques. An additional sample will be collected from MW-105at a depth of 35 feet below ground surface. This depth is approximately 5 feet above the bottom of the screen in this well.

The sampling at each well will consist of:

- Measurement of depth to groundwater from the top of the well casing
- Checking the water surface in the well for floating free petroleum products
- Purging sufficient water from the well to ensure that representative samples are collected
- Continuous measurement of the following parameters as the water is pumped from the wells:
  - pH
  - Temperature
  - Conductivity
  - Relative dissolved oxygen (RDO)
  - Oxidation-reduction potential (ORP)
  - Turbidity
  - Pressure
- Visual observation of the water
- Collection of samples in appropriate sample containers, once measurements stabilize

The depth to groundwater will be measured in each well prior to sampling with a water level indicator. The depth will be measured to the mark that EastStar made on the north side of each casing. Depth will be measured to the nearest 0.01 foot. Using this depth, the volume of water in each well will be calculated.

Purging and sampling will conducted using a submersible centrifugal pump and low flow techniques. The flow rate will be adjusted to maintain a steady flow from the well while minimizing drawdown of the water level. Drawdown will be evaluated using the pressure transducer measurements. The wells will be purged until the field parameters have stabilized. The field parameters will be considered stable when they are within the following ranges:

- pH - + /- 0.2 unit
- Specific Conductance - +/- 3%
- Temperature - +/- 10%
- Dissolved Oxygen - +/- 10%
- Turbidity - +/- 10%
- ORP - +/- 10 millivolts

After conductivity, RDO, ORP turbidity, pressure, temperature and pH are stable, the well will be sampled. The sample will be collected directly into laboratory prepared containers. The purge water and all excess sample water will be placed in lined 55-gallon drums located at each well.

All on-site activities and the field equipment calibration will be recorded in the field log book and will be documented in the sampling report.

The groundwater samples will be collected using low flow sampling techniques to minimize the volume of purge water and the loss of volatiles during sampling. The samples will be collected using a Monsoon submersible pump with a variable speed 12 volt DC controller. Dedicated polyethylene tubing will be used to carry the water from the submersible pump to the ground surface. The pump will be decontaminated between samples, and new tubing will be used for each sample.

Water quality parameters will be monitored during the purging and sampling operations using a YSI 6920 multi-parameter meter with a low flow cell. The water quality data will be logged in the meter and will be downloaded to a computer following completion of the fieldwork. The meter will be calibrated in accordance with manufacturer's specifications prior to the start of sampling.

3.3 Sample Preservation

The samples will be collected into pre-cleaned containers provided by the analytical laboratory. Appropriate preservatives will have been pre-added to the containers by the laboratory prior to their being supplied to EastStar. The container and preservative requirements are described in the following section of this Plan.

Immediately after collection, the sample containers will be labeled and placed in a cooler, on ice to chill the sample to 4°C. The samples will be maintained at that temperature until delivered to the analytical laboratory. A laboratory supplied temperature blank will be contained in the cooler to allow the temperature to be measured when the laboratory receives the samples.

3.4 Labeling and Chain of Custody

Immediately after sample collection, prepared labels will be attached to the sample containers. The following information will be contained on the label:

- Site Name
- Sample Location
- Sample ID Number
- Sampler's Initials
- Date and time of sample collection
- Analysis requirements
- Preservative, if any

Labels will be prepared using an indelible marker to ensure that the labels remain legible.

A chain of custody form, supplied by the analytical laboratory, will be completed at the completion of sampling. The chain of custody will contain the following information:

- Site Name
- Sample Location
- Sample ID Number
- EastStar's name, addresses phone and fax numbers and e-mail address
- Sampler's name
- Date and time of sample collection

- Sample type (groundwater)
- Number and types of containers
- Analysis requirements
- Turn around time
- Reporting requirements
- Preservative, if any

The sampler will sign the chain to verify its accuracy. The samples will be hand delivered to the laboratory. The laboratory technician receiving the samples will sign accepting custody of the samples. The chain of custody must accompany, and be stored with, the samples at all times.

4. ANALYSIS REQUIREMENTS

4.1 Analytical Laboratory

Sample analyses will be performed by Phase Separation Science, Inc., located at 6630 Baltimore National Pike, Baltimore, Maryland. Phase is a Maryland certified laboratory, certification number 179.

4.2 Sample Analysis

The specific contaminants of concern at the site are:

- Arsenic
- Chromium
- Naphthalene
- Pentachlorophenol
- Benzo(a)anthracene
- Benzo(a)pyrene
- Indeno(1,2,3-cd)pyrene
- Dibenz(a,h)anthracene

All analyses will be performed using methods contained in the most recent version of EPA SW-846, *Test Methods for Evaluating Solid Waste*. To evaluate these parameters, the collected groundwater samples will be analyzed using the following methods:

- Target Analyte List Metals – EPA Method 6010B (plus method 7471A for mercury)
- Semi-volatile organic compounds – EPA Method 8270C

The samples will not be filtered prior to analysis. The metals analyses will result in total metals concentration. This will match all of the previous metals analyses for the site.

4.3 Sample Container Requirements

Based upon the analyses being performed, each sample will be collected into:

- Six one 1-liter amber glass jars with no preservative
- One 250 ml wide mouthed plastic bottle with nitric acid preservative

The jars, with preservative already added, will be provided by Phase.

4.4 Data Deliverables

Laboratory data will be provided as a .pdf file in Level I deliverables format. This package will consist of the following data:

- Test results
- Methods of analysis
- Analysts' initials
- Laboratory blanks/duplicates
- Matrix spike/matrix spike duplicates

- Surrogate recovery data
- Copy of chain of custody
- Laboratory control samples
- Dates tests completed

All of this information will be included as an appendix to the report.

5. QUALITY CONTROL

5.1 Field Quality Control Procedures

Quality control for the field sampling will be addressed by complying with the requirements of this plan. Keys to quality control will be:

- Field sampling equipment will be calibrated in accordance with the equipment manufacturer's instructions prior to the start of sampling.
- The specified sampling requirements including purging, sample collection and sample handling will be followed
- Dedicated sampling tubing will be used to eliminate decontamination and cross-contamination issues
- The laboratory provided sample containers will be used and sufficient sample quantity for the analyses required will be provided
- Accurate labels and chain of custody forms will be prepared
- The samples will be chilled and maintained at 4°C
- The samples will be delivered to the laboratory in time to meet the required holding times
- The laboratory will be instructed on the required analytical procedures

One duplicate sample will be collected to be used for quality control. This exceeds the 10% duplicate guideline commonly used for field sampling. The duplicate will be numbered and labeled in the same manner as the other samples. The laboratory will not be informed that the sample is a duplicate. Similar to the split samples, the duplicate will be collected concurrently with the original sample. The duplicate will be collected as close as possible to the same point in space and time as the original sample.

A temperature blank will be provided by the laboratory. This will consist of one or more bottles filled with water that will be placed in the coolers prior to the start of sampling. When the coolers are delivered to the laboratory, this temperature blank will be removed and tested to document the temperature of the samples. The acceptable temperature range is 4°C plus or minus 2°C.

Since the contaminants of concern are relatively non-volatile, a trip blank will not be required. Since all sample collection will be performed using dedicated sampling tubing and directly into the sample containers, a field blank will not be required.

5.2 Laboratory Quality Control Procedures

Quality control for the laboratory analyses will be addressed by complying with the requirements of this plan. In addition, Phase has a published Quality Assurance Manual (version D-01.01.09, effective January 1, 2014) that will be followed throughout the analytical

process. A copy of that plan has been provided to EPA Region 3 and is incorporated by reference in this document.

Keys to quality assurance by the laboratory will be:

- Verifying the temperature of the samples when they are received
- Verifying the accuracy of the labels and chain of custody forms
- Checking the pH of the preserved samples when received to ensure they are within the applicable pH range for the analytical parameters
- Ensuring that the analytical requirements are followed for the methods specified
- Maintaining the samples chilled to 4°C
- Ensuring that the samples are analyzed within the required holding times
- Maintaining its laboratory qualifications and the required certifications and accreditations

Method blanks, matrix spikes, matrix spike duplicates and surrogates will be used by the laboratory to provide quality control over the analytical process, as required by the analytical methods. These results will be reviewed, if needed, on a case by case basis.

Matrix spike samples are samples that are spiked by the laboratories with a known concentration of analyte, which are then analyzed for the contaminants of concern. A percent recovery is calculated using the measured concentration in the original sample, the spike amount and the result from the matrix spike sample analysis. The results are reported as percent recovery and must fall within an acceptable range for the analyte. The analytical data are accepted if the matrix spike recovery is within the acceptable range. Accuracy and precision are assessed using a matrix spike duplicate sample. The matrix spike and matrix spike duplicate analyses will be performed on one sample (greater than 5% of the sample quantity).

5.3 Data Quality Measurements

The overall data quality objective will be to ensure that the analytical results are acceptable quality. The quality of data will be measured through qualitative and quantitative parameters. Data quality indicators used to evaluate the results include precision, accuracy, representativeness, completeness, comparability, and sensitivity.

5.3.1 Precision

Precision refers to the level of agreement among repeated measurements of the same parameter. Precision is expressed in terms of relative percent difference (RPD). The overall precision of data is affected by sampling (such as heterogeneous samples resulting in duplicates that are not true duplicates and matrix effects) and analytical factors (such as instrument response). Sampling precision will be evaluated using the duplicate sample and calculating the RPD as follows:

$$RPD\,(\%) = \frac{X_A - X_B}{X_M} x\,100\%$$

where:
X_A, X_B = results of the duplicate analyses
X_M = numerical average of X_A and X_B

The sampling precision will be evaluated for each parameter detected in the sample. The RPD should be within ± 35%.

Analytical precision will be assessed using the matrix spike and matrix spike duplicate analyses, and laboratory replicates as specified by individual methods. The RPDs will be evaluated against control criteria. If the criteria are not met, the data will be examined to determine potential causes of the variations and assess data usability.

5.3.2 Accuracy

Accuracy is a measure of system bias and is defined quantitatively as the degree of agreement of a measurement with the true value. The accuracy of field measurements will be qualitatively controlled through the use of standard operating procedures that have been developed to standardize data collection.

For laboratory data, the accuracy of sample preparation and analyses will be checked quantitatively through the use of matrix and surrogate spikes, and blanks. The accuracy will be calculated based on the percent recovery of the spikes and concentrations of the target constituents in the blanks using the following equation:

$$\%R = \frac{test\ value}{true\ value} x\,100\%$$

The quantitative performance criteria that will be used to determine the acceptability of the results based upon accuracy are described in Section 9. Quality Control of the Phase Quality Assurance Manual.

5.3.3 Representativeness

Representativeness is a measure of the degree to which the analytical results accurately reflect the groundwater conditions on the site and at the sample locations. Representativeness is a qualitative parameter that has bee addressed through the design of this sampling plan, including planning of the sample locations, the number of samples, and accurate implementation of the sampling plan.

This sampling plan was developed to assure that the samples are representative of the groundwater conditions on the site. The sample handling protocols contained in this plan were also designed to promote the representativeness of the samples. EastStar's properly trained staff, adequate review and understanding of the sample requirements and ample field documentation will ensure that this plan is correctly followed and that sample integrity is maintained.

The quantitative evaluation of representativeness will be made using the field parameters measured during the low flow purging and sampling. The sample will be collected once the field parameters have stabilized to the ranges listed in Section 3.2. This will ensure that the collected samples are representative of the groundwater quality at the monitoring well.

5.3.4 Completeness

Completeness is a measure of the amount of information that must be collected during field investigations to allow for successful achievement of the project objectives. An adequate amount and type of data must be collected for the conclusions to be valid. Missing data may reduce the precision of the results or introduce bias, and subsequently reduce the confidence level of the conclusions.

The amount or type of data lost due to sampling or analytical error, including unusable data, cannot be predicted in advance. The importance of any lost data or suspect data will be evaluated in terms of the sample location, analytical parameter, nature of the problem, decision to be made and the consequences of an erroneous decision.

While completeness is calculated as a percentage of the data considered valid, this approach does not always consider sample locations or parameters. Should data be lost for a location or parameter and renders the data set inadequate to satisfy the project data objectives, it will be necessary to resample the location or reanalyze the sample. The overall completeness goal for valid data will be 95% ± 5%.

The completeness of the data collection will be calculated from the equation:

$$\%\,Completeness = \frac{no.of\ successful\ analyses}{no.of\ requested\ analyses}\ x\ 100\%$$

5.3.5 Comparability

Comparability is the confidence with which one set of data can be compared to another set of data. Comparability will be controlled using operating procedures that have been developed to standardize the sampling activities. Consistent and proper calibration and use of sampling equipment during the fieldwork will assist in the comparability of measurements.

5.3.6 Sensitivity

Sensitivity is expressed differently for various methods. For instance, the instrument detection limits, method detection limits (MDLs) and estimated quantitation limits published as part of SW 846 are based upon reagent-grade water, and may not be reflective of environmental samples where multiple interferences of matrix effects can substantially affect instrument response or sensitivity.

For this project, the more important values are the laboratory reporting limits (RLs). These values will be compared with target analytical values. For the purposes of this project, the reporting limits will be reflective of the lowest calibration standard used for an analytical method. Reported values that are below the reporting limits for a constituent will be qualified with a "J" to denote that the result is an estimated value below the reporting limit.

6. LABORATORY QUALITY CONTROL

All laboratory quality control procedures will follow the Phase Quality Assurance Manual. A copy of Quality Assurance Manual was submitted to EPA Region 3 under separate cover.

Section 9 of the Quality Assurance Manual addresses detection limits, quantitation limits and reporting limits.

7. DATA ANALYSIS

7.1 Quality Review

Analytical data received from the laboratory will initially be reviewed for data quality as described in the previous section of this plan. The laboratory report will be compared to the chain of custody to ensure that all required tests were performed. Any missing results will immediately be brought to the attention of the laboratory so that they can either locate the missing results or perform additional analyses while the samples are still within the required holding times.

The report will then be reviewed for potential problems identified by the laboratory. The notes contained in the report will be reviewed to determine if the laboratory encountered any problems or if any of the results may have been affected by conditions in the laboratory. Questions regarding the effect of the notes on the sample results should be directed to the laboratory quality control manager.

After the initial review is complete, the results will be reviewed for content. The analysis results will be compared to previous sample results to look for obvious deviations from existing trends that could indicate potential labeling, sample analysis, data reduction or reporting errors.

Results that do not appear reasonable will be investigated as potential outliers. Based upon the results of the review, it may be appropriate to have the laboratory re-analyze the existing sample to verify the results. These determinations will be made on a case by case basis.

7.2 Data Analysis

Once the analytical results have been validated, they will be analyzed to determine the site conditions. Data analysis will be performed by EastStar under the direction of EastStar's president, Al Free. Mr. Free is a licensed professional engineer in the State of Maryland and has over 30 years of experience as an environmental engineer in evaluating site conditions and monitoring data. Mr. Free is also a New Jersey Licensed Site Remediation Professional.

The following will be completed as part of the data analysis:

- Confirm that field activities were conducted and completed in a manner consistent with standard EPA procedures and this QAPP
- Determine whether data produced is credible. This includes checking the completeness of the laboratory report, chain-of-custody records, sample containers and conditions, holding times, preservations, and field quality control samples.

If level 2B verification and validation checks are requested by EPA, they will be performed in accordance with the document: *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (EPA OSWER No. 9200.1-85, January 2009).

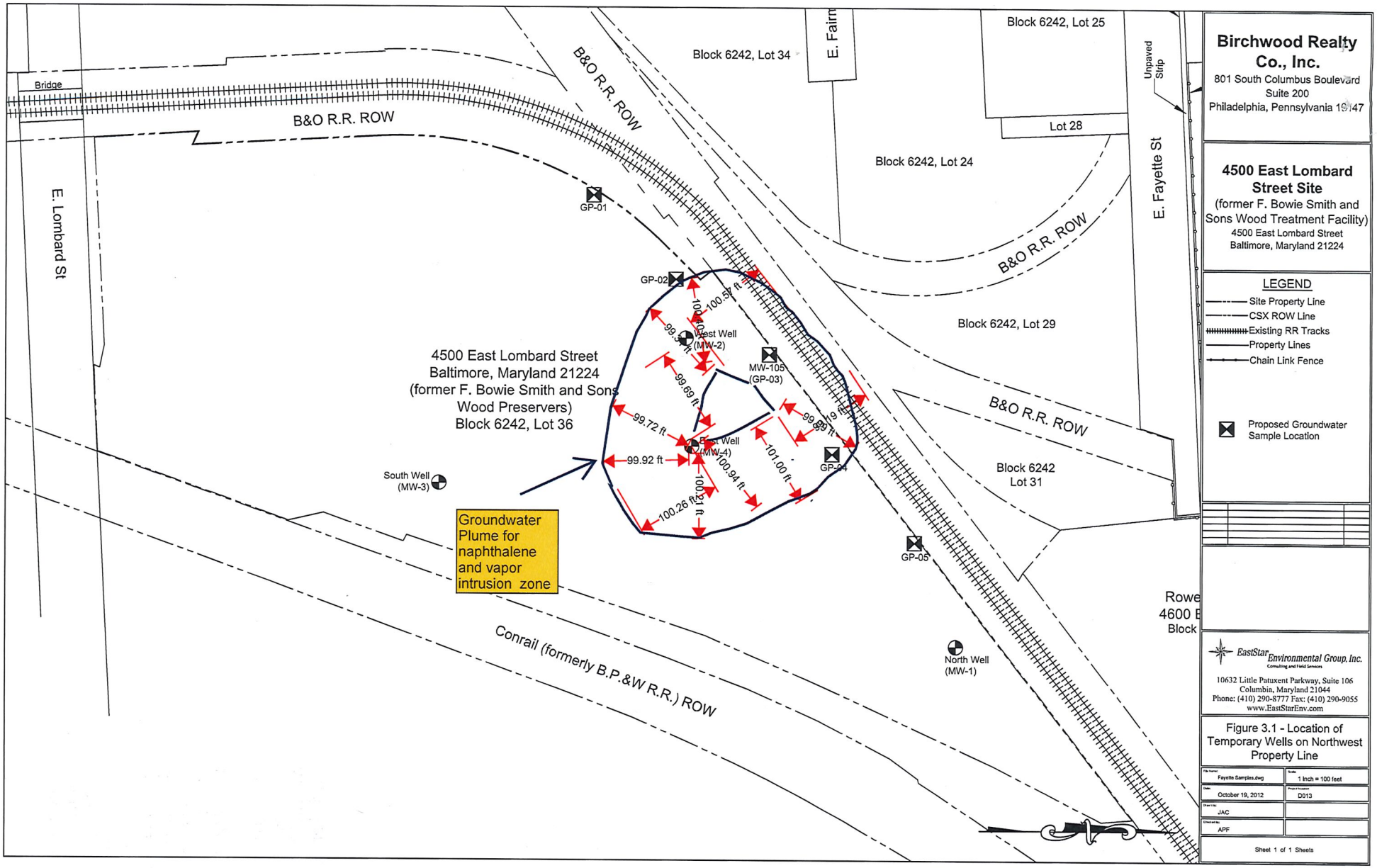
The analytical laboratory will be instructed to provide full laboratory data deliverables. The full laboratory data deliverables will be provided on a CD that will be included with the report.

8. SCHEDULE

The field work will be scheduled following approval of this sampling and analysis and quality assurance project plan by EPA Region 3.

EXHIBIT D

Map of Contaminated Groundwater Plume and the 100-foot Buffer



Birchwood Realty Co., Inc.
801 South Columbus Boulevard
Suite 200
Philadelphia, Pennsylvania 19147

4500 East Lombard Street Site
(former F. Bowie Smith and Sons Wood Treatment Facility)
4500 East Lombard Street
Baltimore, Maryland 21224

LEGEND
- Site Property Line
- CSX ROW Line
- Existing RR Tracks
- Property Lines
- Chain Link Fence
- Proposed Groundwater Sample Location

EastStar Environmental Group, Inc.
Consulting and Field Services
10632 Little Patuxent Parkway, Suite 106
Columbia, Maryland 21044
Phone: (410) 290-8777 Fax: (410) 290-9055
www.EastStarEnv.com

Figure 3.1 - Location of Temporary Wells on Northwest Property Line

File Name: Fayette Samples.dwg	Scale: 1 Inch = 100 feet
Date: October 19, 2012	Project Number: D013
Drawn By: JAC	
Checked By: APF	

Sheet 1 of 1 Sheets

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6333
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Recording Fee 75.00
Name: BIRCHWOOD REALTY
Ref: 4500 E LOMBARD ST
LR - Agreement
Surcharge 40.00

SubTotal: 115.00

Total: 115.00

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#9868370 CC08@1 -
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