# ENVIRONMENTAL COVENANT

### SITE NAME: Former GM Baltimore Assembly Plant Duke Realty GRANTOR/OWNER: Duke Baltimore LLC CRANTEE(S)/HOLDER(S): Maryland Department of the Environment: Duke Baltimore LLC

**GRANTEE(S)/HOLDER(S):** Maryland Department of the Environment; Duke Baltimore LLC.

**PROPERTY ADDRESS:** 2010 Broening Hwy, Baltimore, MD 21224— Sub Parcel C-2 (the "Property").

This Environmental Covenant is executed pursuant to the provisions of Subtitle 8, Title 1 of the Environment Article, Ann. Code of Md. (2013 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. <u>Property Affected</u>. The property affected ("Property") by this Environmental Covenant is located in Baltimore City, Maryland.

The postal street address of the Property is: 2010 Broening Hwy, Baltimore, MD 21224.

The Land Records Deed Reference: Liber FMC 7313, Folio 272.

Tax Account Identification Number: 0326016874A004

The latitude and longitude of the center of the Property affected by this Environmental Covenant is: N39.26894 W76.55343 (Datum: World Geodetic System 84).

The Property has been known by the following names: Sub Parcel C-2, the Former American Standard Property – Ward 26, Section 1, Block 6874-A, Lots 4 and 5.

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

2. <u>Property Owner/Grantor</u>. Duke Baltimore LLC is the owner ("Owner") of the Property and the Grantor of this Environmental Covenant. The mailing address of the Owner is: Duke Baltimore LLC, c/o Duke Realty Corporation, 161 Washington Street, Suite 1020, Conshohocken, PA 19428, Attn: Senior Vice President.

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3. Holder(s)/Grantee(s). The Department and Owner.

Environmental Covenant Property: Former GM Baltimore Assembly Plant Duke Realty Deed Reference: Liber FMC 7313, Folio 272 Tax Account Identification Number: 0326016874A004

4. <u>Regulatory Program(s) Issuing Determination</u>. 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:

On March 26, 2015, EPA issued a Final Decision and Response to Comments ("FDRTC") selecting the Final Remedy for the Former GM Baltimore Assembly Facility, located at 2010 Broening Hwy in Baltimore, Maryland. The Final Remedy includes a requirement that the Activity and Use Limitations described in paragraph 5, below, of this Environmental Covenant be imposed on the Property.

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

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(a) The Property shall be restricted to commercial and/or industrial purposes and shall not be used for residential purposes unless (i) it is demonstrated to the Department and EPA that such use will not pose a threat to human health or the environment or adversely affect or interfere with the Final Remedy; and (ii) the Department and EPA provide prior written approval for such use;

(b) Groundwater from the Property shall not be used for any purpose other than to conduct the operation, maintenance, and monitoring activities required by the Department and/or EPA, unless (i) it is demonstrated to the Department and EPA that such use will not pose a threat to human health or the environment or adversely affect or interfere with the Final Remedy; and (ii) the Department and EPA provide written approval for such use;

(c) No new wells shall be installed on the Property unless (i) it is demonstrated to the Department and EPA that such wells are necessary to implement the Final Remedy and; (ii) the Department and EPA provide prior written approval to install such wells;

(d) The Owner shall perform all activities at the Property in accordance with the Risk Management Plan (Exhibit C), dated September 2014, to maintain the integrity and protectiveness of the Final Remedy unless (i) it is demonstrated to the Department and EPA that such activity will not pose a threat to human health or the environment or adversely affect or interfere with the Final Remedy; and (ii) the Department and EPA provide prior written approval for such use; and

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(e) The Property shall not be used in any way that will pose a threat to human health or the environment or adversely affect or interfere with the integrity and protectiveness of the Final Remedy.

6. <u>Notice of Limitations in Future Conveyances</u>. 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. <u>Access by the Department and EPA</u>. 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. <u>Recordation & Filing with Registry</u>. The Owner shall record this Environmental Covenant in the Land Records of Baltimore City within 30 days of the later of the Department and EPA's execution and delivery 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.mdc.maryland.gov/programs/land/marylandbrownfieldvcp/pages/programs/landprograms/errp\_brownfields/ueca.aspx

9. <u>Termination or Modification</u>. 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. (2013 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 EPA and the Department 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. (2013 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 the Department 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 transferce to whom such interest is conveyed.

10. <u>EPA's Address</u>. 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. <u>The Department's Address</u>. Communications with the Department regarding this Environmental Covenant shall be sent to: Registry of Environmental Covenants, Maryland

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Department of the Environment, Land Management Administration, Land Restoration Program, 1800 Washington Blvd., Baltimore, MD 21230.

12. <u>Administrative Record</u>. The Administrative Record pertaining to the remedy selected by EPA in the FDRTC is located at the United States Environmental Protection Agency, Region III, 1650 Arch Street, Philadelphia, PA 19103. In addition, records pertaining to the remedy selected by EPA in the FDRTC are maintained by the Department at Registry of Environmental Covenants, Maryland Department of the Environment, Land Management Administration, Land Restoration Program, 1800 Washington Blvd., Baltimore, MD 21230.

13. <u>Enforcement</u>. This environmental covenant shall be enforced in accordance with § 1-810 of the Environment Article, Ann. Code of Md. (2013 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.

Environmental Covenant Property: Former GM Baltimore Assembly Plant Duke Realty Deed Reference: Liber FMC 7313, Folio 272 Tax Account Identification Number: 0326016874A004

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:

Duke Baltimore LLC,

By: Duke Realty Limited Partnership

By: Duke Realty Corporation

Grantor/Owner/Grantee/Holder

Date: Nov, 10, 2010

Bv: Name: Title! Free, V.P.

STATE OF	GEORGIA	
-COMMONWEA	LTH OF PENNSYLVANIA	)
		)
COUNTY OF	Gwinnett	) SS:

On this  $10^{1/2}$  day of <u>November</u>,  $20^{1/6}$ , before me, the undersigned officer, personally appeared  $\overline{2.5amuel 0.6}$  who acknowledged herself/himself to be the person whose name is subscribed to this environmental covenant, and acknowledged that s/he freely executed the same for the purposes therein contained.

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

		Kin 4	Nautorn
		(Name of notary	public typewritten or printed)
My commission expires: _	1/09/2017 P	Notary Public	KIM MARY NOTAR GEORGIA Jan. 9. 2017 JUBLIC

Environmental Covenant Property: Former GM Baltimore Assembly Plant Duke Realty Deed Reference: Liber FMC 7313, Folio 272 Tax Account Identification Number: 0326016874A004

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

Date: January 27, 2017

Hlan Miller By: Hilary Miller

Director Land Management Administration Maryland Department of the Environment

> ) ) SS:

STATE OF MARYLAND

COUNTY OF BALTIMORE

On this M day of <u>Server</u>, 2017, 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.



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

My commission expires: 17 2017

Approved for form and legal sufficiency

This 29 day of Janan 20\_1

Maryland Assistant Attorney General

This is to certify that the within instrument was prepared under the supervision of the undersigned, an attorney duly admitted to practice before the Court of Appeals of Maryland.

James Witkin

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Environmental Covenant Property: Former GM Baltimore Assembly Plant Duke Realty Deed Reference: Liber FMC 7313, Folio 272 Tax Account Identification Number: 0326016874A004

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

Date: February 22, 20/7

By: Catherine a Catherine A. Libertz

Acting Director Land and Chemicals Division United States Environmental Protection Agency **Region III** 

COMMONWEALTH OF PENNSYLVANIA ) ) SS: COUNTY OF PHILADELPHIA On this  $22^{M}$  day of <u>derivary</u>, 20<u>17</u>, before me, the undersigned, personally appeared Catherine A. Libertz, 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.

COMMONWEALTH OF PENNSYLVANIA

NOTARIAL SEAL PATRICIA J. SCHWENKE, Notary Public City of Philadelphia, Phila. County My Commission Expires August 14, 2018

(Name of notary public typewritten or printed)

Notary Public

: .

My commission expires: <u>Impust 14, 2018</u>

Environmental Covenant Property: Former GM Baltimore Assembly Plant Duke Realty Deed Reference: Liber FMC 7313, Folio 272 Tax Account Identification Number: 0326016874A004

# EXHIBIT A

Complete Metes and Bounds Description of the Property

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Legal Description for Chesapeake Commerce Center - Area C Source: Whitman, Requardt & Associates, LLP

ALL OF LOT, 4. OF BLOCK 6874 A, A PARCEL OF LAND ACQUIRED BY DUKE BALTIMORE LLC FROM GENERAL MOTORS CORPORATION BY A DEED DATED JANUARY 25<sup>TH</sup> 2006 AS RECORDED AMONG THE LAND RECORDS OF BALTIMORE CITY, MARYLAND AT LIBER FMC 7313 FOLIO 272. BEING, ALL OF TRACT IV PARCEL 2: 5, 9 & 10 AND PART OF TRACT IV PARCELS 6, 11-13, 15 & 16, FURTHER DESCRIBED ON A PLAT DATED JANUARY 18<sup>TH</sup>, 2008 AND TITLED "SUBDIVISION PLAN" – DUKE PROPERTIES – BROENING HIGHWAY AND HOLABIRD AVENUE – LOT 1/5 BLOCK 6871C, LOT 1/4 BLOCK 6920 AND LOTS 2/3 AND 4/5 BLOCK 6874A" AS RECORDED AMONG THE LAND RECORDS OF BALTIMORE CITY, MARYLAND AT PLAT BOOK FMC PAGE 4005.

BEGINNING - FOR THE SAME AT A REBAR AND CAP FOUND BEARING THE INSCRIPTION "CORP. #299", BEING THE SOUTHWEST CORNER OF THE INTERSECTION OF THE SOUTHERN RIGHT-OF-WAY LINE OF THE CSX RAILROAD (VAL MAP. V08323) AND THE WESTERN RIGHT-OF-WAY LINE OF BROENING HIGHWAY (VARIABLE WIDTH). ALSO BEING THE NORTHEAST CORNER OF LOT 4 AND THE BEGINNING OF THE SOUTH 02 DEGREES 41, MINUTES, 00 SECONDS WEST 295.36 FOOT LINE OF THE AFOREMENTIONED PLAT, THENCE BINDING ON THE WESTERN RIGHT OF WAY OF BROENING HIGHWAY AS NOW SURVEYED BY WHITMAN, REQUARDT & ASSOC. IN JUNE OF 2013 AND REFERRED TO THE BALTIMORE CITY COORDINATE SYSTEM, IN ACCORDANCE WITH REQUIREMENTS SET FORTH IN COMAR 09.13.06.12; THE FOLLOWING FIVE (5) COURSES AND DISTANCES, VIZ;

- 1) SOUTH 02 DEGREES 40 MINUTES 25 SECONDS WEST A DISTANCE OF 295.32 FEET TO A BROKEN NAIL FOUND, THENCE
- 2) NORTH 83 DEGREES 53 MINUTES 41 SECONDS EAST A DISTANCE OF 25.62 FEET TO A STANDARD MARKER SET, A STANDARD MARKER BEING A'ONE HALF INCH STEEL REBAR WITH A ONE INCH YELLOW PLASTIC CAP BEARING THE INSCRIPTION "PROP MKR P32", THENCE
- 3) SOUTH 02 DEGREES 40 MINUTES 03 SECONDS WEST A DISTANCE OF 328 47 FEET TO A REBAR AND CAP FOUND BEARING THE INSCRIPTION "BOCK & CLARK 724-934-3223". THENCE
- 4) SOUTH 05 DEGREES 10 MINUTES 50 SECONDS EAST A DISTANCE OF 200.34 FEET TO A DRILL HOLE FOUND IN A CONCRETE APRON, THENCE
- 5) SOUTH 02 DEGREES 48 MINUTES 40 SECONDS EAST A DISTANCE OF 258.20 FEET TO A MAG NAIL FOUND, THENCE LEAVING THE WESTERN RIGHT-OF-WAY LINE OF BROENING HIGHWAY AND BINDING ON THE NORTHERN RIGHT-OF-WAY OF CSX RAILROAD (VAL MAP V08322) THE FOLLOWING FIFTEEN (15) COURSES AND DISTANCES, VIZ:
- 6) 133,15 FEET ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 2323 00 FEET BEING SUBTENDED BY A CHORD BEARING OF NORTH 79 DEGREES 18 MINUTES 19 SECONDS WEST A DISTANCE OF 133,13 FEET TO A REBAR AND CAP FOUND BEARING THE INSCRIPTION "CORP #299". THENCE

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7)	SOUTH 87 DEGREES 08 MINUTES 05 SECONDS WEST A DISTANCE OF 986.31 FEET TO A BLUE PAINT MARK WITH BLACK "T" SET ON A METAL SUPPORT RAILS THENCE	211
8)	NORTH 82 DEGREES 12 MINUTES 14 SECONDS WEST A DISTANCE OF 21.62 FEET TO A BLUE PAINT MARK WITH BLACK "T" SET ON A METAL SUPPORT RAIL, THENCE	A
9)	SOUTH 87 DEGREES 08 MINUTES 13 SECONDS WEST A DISTANCE OF 91.25 FEET TO A BLUE	60.
-,	PAINT MARK WITH BLACK "T" SET ON A METAL SUPPORT RAIL, THENCE	
10)	NORTH 84 DEGREES 25 MINUTES 17 SECONDS WEST A DISTANCE OF 33.49 FEET TO A BLUE	
	PAINT MARK WITH BLACK "T" SET ON & METAL SUPPORT RAIL SET, THENCE	
11)	NORTH 72 DEGREES 30 MINUTES 21 SECONDS WEST A DISTANCE OF 118.06 FEET TO A MAG	
	NAIL FOUND, THENCE	
12)		
12)	HALFINCH IRON PIN FOUND, THENCE	
.13)	113.16 FEET ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 385.78 FEET	
	BEING SUBTENDED BY A CHORD BEARING OF NORTH 84 DEGREES 39 MINUTES 09 SECONDS	
	WEST A DISTANCE OF 112.76 FEET TO A REBAR AND CAP FOUND BEARING THE INSCRIPTION	
	"CORP #299", THENCE	
-14)	NORTH 78 DEGREES 02 MINUTES 11 SECONDS WEST A DISTANCE OF 142.30 FEET TO A REBAR	
	AND CAP FOUND BEARING THE INSCRIPTION "CORP #299", THENCE	
15)	NORTH 76 DEGREES 05 MINUTES 48 SECONDS WEST A DISTANCE OF 251.59 FEET TO A ONE	
	HALF INCH IRON PIN FOUND, THENCE	
16)	NORTH 64 DEGREES 35 MINUTES 24 SECONDS WEST A DISTANCE OF 62.98 FEET TO A ONE HALF	
17)	59 70 FEET ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF ARO OF FEET	
177	BEING SUBTENDED BY A CHORD BEARING OF NORTH 60 DEGREES 58 MINUTES 47 SECONDS	
	WEST A DISTANCE OF 59.66 FEET TO A ONE HALF INCH IRON PIN FOUND, THENCE	
18)	NORTH 57 DEGREES 36 MINUTES 46 SECONDS WEST A DISTANCE OF 47.29 FEET TO A PK NAIL	
	FOUND, THENCE	
19)	NORTH 57 DEGREES 36 MINUTES 43 SECONDS WEST A DISTANCE OF 34.71 FEET TO A MAG NAIL	
	FOUND, THENCE	



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20) 349,65 FEET ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 508.44 FEET BEING SUBTENDED BY A CHORD BEARING OF NORTH 37 DEGREES 47 MINUTES 19 SECONDS WEST A DISTANCE OF 342.80 FEET TO A MAG NAIL SET, THENCE LEAVING THE NORTHEASTERN RIGHT-OF-WAY OF THE CSX RAILROAD AND BINDING ON THE SOUTHERN LINE OF LANDS NOW OR FORMERLY, OF MERCHANTS QUALL PROPERTIES LLC AS FOUND RECORDED AMONG THE LAND RECORDS OF BALTIMORE CITY, MARYLAND AT LIBER EMC 10814 FOLIO 654 THE. FOLLOWING FOUR (4) COURSES AND DISTANCES, VIZ:

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- 21) NORTH 87 DEGREES 06 MINUTES 10 SECONDS: EAST A DISTANCE OF 475.48 FEET TO A STANDARD MARKER SET, THENCE
- 22) NORTH 02 DEGREES 53 MINUTES 53 SECONDS WEST A DISTANCE OF 392.57 FEET TO A STANDARD MARKER SET, THENCE
- 23) NORTH '87 DEGREES D6 MINUTES 26 SECONDS EAST A DISTANCE OF 145.00 FEET TO A STANDARD MARKER SET, THENCE
- 24) NORTH, 02 DEGREES, 53 MINUTES 42 SECONDS WEST A DISTANCE OF 214.86 FEET TO A STANDARD MARKER SET, THENCE LEAVING SAID LANDS AND BINDING ON THE AFOREMENTIONED SOUTHERN RIGHT-OF-WAY OF THE CSX RAILROAD THE FOLLOWING TEN (10) COURSES AND DISTANCES, VIZ:
- 25) 19.67 FEET ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 307.94 FEET BEING SUBTENDED BY A CHORD BEARING OF SOUTH 51 DEGREES 52 MINUTES 40 SECONDS EAST A DISTANCE OF 19.66 FEET TO A REBAR AND CAP FOUND BEARING THE INSCRIPTION "BOCK & CLARK 724-934-3223", THENCE
- 26) SOUTH 53 DEGREES 07 MINUTES 51 SECONDS EAST A DISTANCE OF 28.64 FEET TO A REBAR AND CAP FOUND BEARING THE INSCRIPTION "BOCK & CLARK 724-934-3223", THENCE
- 27) NORTH 00 DEGREES 56 MINUTES 09 SECONDS WEST A DISTANCE OF 46,81 FEET TO A REBAR AND CAP FOUND BEARING THE INSCRIPTION "BOCK & CLARK 724 934-3223", THENCE
- 28) SOUTH 74 DEGREES 59 MINUTES 46 SECONDS EAST A DISTANCE OF 46 22 FEET TO A MAG NAIL FOUND, THENCE
- 29) 389,28 FEET ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 521.30 FEET BEING SUBTENDED BY A CHORD BEARING OF SOUTH 74 DEGREES 52 MINUTES 35 SECONDS EAST A DISTANCE OF 382.94 FEET TO A ONE HALF INCH IRON PIN FOUND, THENGE

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BALTIMORE CITY CIRCUIT COURT (Land Records) MB 18963, p. 0410, MSA\_CE164\_28120. Date available 03/23/2017. Printed 06/11/2018.

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- 30) NORTH 87 DEGREES 10 MINUTES 27 SECONDS EAST A DISTANCE OF 1355.61 FEET TO A MAG NAIL SET, THENCE
- 31) NORTH 04 DEGREES 11 MINUTES 59 SECONDS WEST A DISTANCE OF 8.79 FEET TO A HUB WITH A SMALL PK NAIL SET, THENCE
- 32) NORTH 87 DEGREES 08 MINUTES 16 SECONDS EAST A DISTANCE OF 333.89 FEET TO A "+" CUT SET, THENCE
- 33) SOUTH 04 DEGREES 31 MINUTES 37 SECONDS EAST A DISTANCE OF 16.51 FEET TO A "+" CUT SET, THENCE

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34) NORTH 87 DEGREES 10 MINUTES 24 SECONDS EAST A DISTANCE OF 358.37 FEET TO THE POINT OF BEGINNING.

CONTAINING 2,828,725 SQUARE FEET OR 64.9386 ACRES, MORE OR LESS.

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Environmental Covenant Property: Former GM Baltimore Assembly Plant Duke Realty Deed Reference: Liber FMC 7313, Folio 272 Tax Account Identification Number: 0326016874A004

# EXHIBIT B

Map of the Property



Environmental Covenant Property: Former GM Baltimore Assembly Plant Duke Realty Deed Reference: Liber FMC 7313, Folio 272 Tax Account Identification Number: 0326016874A004

# EXHIBIT C

## **Risk Management Plan**

\*\*L&B 5767146v1/10445.0001

# **UPDATED RISK MANAGEMENT PLAN**

FOR: CHESAPEAKE COMMERCE CENTER AREA C (FORMER GENERAL MOTORS BALTIMORE ASSEMBLY PLANT)

> LOCATED AT: 2010 BROENING HIGHWAY BALTIMORE, MARYLAND 21202

> PREPARED FOR: DUKE BALTIMORE, LLC 111 S. Calvert Street, Suite 1805 Baltimore, MD 21202

PREPARED BY: HULL & ASSOCIATES, INC.

**SEPTEMBER 2014** 



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### LIST OF ACRONYMS

ATSDR	Agency for Toxic Substances Diseases Registry
CMI	Corrective Measures Implementation
CMS	Corrective Measures Study
COPC	Chemical of Potential Concern
EMMDL	Environmental Media Management Decision Level
ESA	Environmental Site Assessment
Facility	Former GM Baltimore Assembly Plant
GM	General Motors Corporation
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations and Emergency Response Standard
HI	Hazard Index
IRM	Interim Remedial Measure
MDE	Maryland Department of the Environment
mg/kg	Milligrams per Kilogram
NIOSH	National Institute for Occupational Safety and Health
OSHA	Occupational Safety and Health Administration
PAHs	Polynuclear Aromatic Hydrocarbons
PPE	Personal Protective Equipment
QAPP	Quality Assurance Project Plan
RAP	Response Action Plan
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
RFI	RCRA Facility Investigation
RMP	Risk Management Plan
U.S. EPA	United States Environmental Protection Agency
VCP	Voluntary Cleanup Program
VOCs	Volatile Organic Compounds

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### **1.0 INTRODUCTION**

### 1.1 Background

Hull & Associates, Inc. (Hull), on behalf of Duke Baltimore, LLC (Duke), conducted a Resource Conservation and Recovery Act (RCRA) Facility Investigation/Phase II Environmental Site Assessment (RFI/Phase II) and Corrective Measures Study (CMS) for Area C of the former General Motors Corporation (GM) Baltimore Assembly Plant (the Facility). The Facility occupies approximately 182 acres of land located at 2122 Broening Highway in Baltimore, Maryland. The Facility is industrial property that formerly housed automobile assembly operations from 1936 until plant closure on May 13, 2005. Area C (the Site) consists of approximately 81 acres within the southern half of the Facility at 2010 Broening Highway. The locations of the Facility and Area C are shown on Figure 1. Historically, Area C included the Vehicle Storage Area, Wastewater Treatment Plant (WWTP), Driveaway Building, Pump House, Power House, Sealer Building, Training Facility, miscellaneous storage buildings and the Main Assembly Plant Building.

Duke purchased the Facility from GM in January 2006 and subsequently performed assessment and remediation activities at the site in accordance with both federal and state regulatory programs. Duke concurrently met the requirements for RCRA Corrective Action process, administered by the United States Environmental Protection Agency (U.S. EPA), and Maryland's Voluntary Cleanup Program (VCP), administered by the Maryland Department of the Environment (MDE). As such, all administrative and substantive elements of the RCRA Corrective Action and VCP were conducted under one integrated program.

At the time of this writing, the Site was currently undergoing redevelopment to support a large distribution center, including construction of a 1,000,000-square foot, multi-level building that will house offices, warehousing, and merchandise sorting and distribution operations.

### 1.2 Historical Assessment Activities

### 1.2.1 Phase I and II Assessments

In May 2006, Hull conducted a Phase I Environmental Site Assessment (Phase I) for the Facility. The Phase I identified Recognized Environmental Conditions (RECs) and potential Interim Remedial Measures (IRMs). In June 2006, Hull prepared an RFI/Phase II Work Plan which provided a summary of historical analytical data collected at the Facility, an initial

understanding of the nature and extent of contamination, and scopes of work for conducting IRMs and further assessing the RECs. The RFI Work Plan was approved by U.S. EPA and MDE in August 2006. Quality assurance/quality control procedures to be used during implementation of the RFI Work Plan were described in a Quality Assurance Project Plan (QAPP) that was approved by U.S. EPA in June 2006.

Hull conducted the RFI/Phase II between August and November 2006. In general, the purpose of the RFI/Phase II was to:

- 1. determine whether a release of hazardous waste/constituents had occurred at the RECs previously identified;
- characterize the source(s) of releases and determine the nature and extent of constituents in environmental media to the extent necessary to support risk assessment activities;
- 3. identify current and potential migration pathways, and potential human and environmental receptors under current and reasonably expected future land use;
- 4. assess potential risk to human health and the environment associated with releases of hazardous waste/constituents to the environment; and
- 5. conclude whether final corrective measures were necessary to mitigate unacceptable hazard or risk, if any, posed to human health and the environment under current and reasonably expected future land use.

Field activities, sampling, and quality assurance/quality control activities were conducted consistent with the approved RFI/Phase II Work Plan and QAPP. RFI/Phase II investigation activities included soil boring installation, collection and laboratory analysis of soil samples, monitoring well installation, collection and laboratory analysis of groundwater samples, test pit installation, and risk assessment.

### 1.2.2 Summary of Risk Assessment

Based on the results obtained from RFI/Phase II activities, Hull conducted a risk assessment consistent with U.S. EPA guidelines such as the *Risk Assessment Guidance for Superfund* and Maryland Department of the Environment Voluntary Cleanup Program Guidance and in accordance with the *Revised Risk Evaluation Methodology: Comparison Matrix of Region III RCRA Corrective Action and Maryland Department of the Environment Voluntary Cleanup Programs* (Hull, 2006) submitted to representatives of U.S. EPA and MDE via letter on April 28, 2006. The risk assessment was conducted to:

- 1. Determine the chemicals of potential concern (COPCs) for total soils (surface and subsurface) and groundwater;
- 2. Assess the complete and potentially complete exposure pathways *via* a quantitative or semi-quantitative evaluation of hazard and/or risk;
- 3. Develop Environmental Media Management Decision Levels (EMMDLs) to aid in the redevelopment of the Site;
- 4. Quantify the potential exposures to identified receptor populations *via* the complete exposure pathways including direct contact with soil and groundwater; and
- 5. Estimate potential non-cancer hazards and cancer risks associated with direct contact exposures to soil and groundwater containing the COPCs for each identified receptor population, as appropriate.

The risk assessment evaluated four receptor populations with respect to future commercial or industrial land use: on-site workers, child and youth visitors and construction/excavation workers. Complete and potentially complete exposure pathways that were evaluated included direct contact with groundwater (construction/excavation worker only), and indoor air (potential volatile emissions from groundwater to indoor air). In addition, exposure pathways consistent with the maximum beneficial use of groundwater within the shallow and deep water-bearing zones were evaluated. Groundwater concentrations of COPCs detected in the shallow aquifer within the area (i.e., Patapsco Formation) were evaluated with respect to surface water recharge, and conservative modeled concentrations of COPCs in the deep aquifer within the area (i.e., Patuxent Formation) were evaluated with respect to groundwater use as industrial process water. Potable use of groundwater was not evaluated because the Facility and surrounding area are supplied with potable water from the City of Baltimore's public water supply system, and no potable use of groundwater is known within the region.

Concentrations of volatile organic compounds (VOCs) in groundwater were evaluated semiquantitatively with respect to potentially complete vapor intrusion pathways.

The risk assessment incorporated the site data collected as part of historical investigations conducted by Conestoga-Rovers and Associates, Inc. (CRA), and collected as part of RCRA RFI activities conducted by Hull between August and November 2006.

For the purpose of evaluating future land use, exposures of on-site workers, child and youth visitors, and construction/excavation workers receptor populations to environmental media

containing COPCs were evaluated. COPCs in soil were identified with respect to exceedences of U.S. EPA Region III Industrial Soil Risk-Based Concentrations (RBCs), and screening criteria based on volatility for the indoor air pathway. COPCs in groundwater were identified by comparison to screening criteria based on potable use of groundwater and volatile emissions from groundwater to indoor air. In addition, several semi-quantitative evaluations were conducted by the development of Facility-specific Environmental Media Management Decision Levels (EMMDLs).

Four sets of EMMDLs were developed for the evaluation of on-site complete and/or potentially complete exposure pathways at Area C:

- EMMDLs based on the inhalation of potential volatile emissions from soil and groundwater to indoor air by future industrial workers at the planned buildings at the site;
- EMMDLs based on direct contact (i.e., dermal contact with and incidental ingestion) with industrial process water obtained from regional groundwater drawn from the Patuxent aquifer underlying the site by off-site industrial workers;
- EMMDLs based on direct contact with soil containing lead by on-site receptor populations; and
- EMMDLs based on direct contact with soil containing Total Petroleum Hydrocarbons (TPH) by on-site workers, child and youth visitors and construction/excavation workers.

The decision levels are expressed numerically as target chemical concentrations in soil and groundwater that provide a basis for delineating the spatial extent of areas of potential concern in environmental media as a necessary component of the evaluation of soil management options, future building design and placement and, if necessary, remedial alternatives. These decision levels are intended to act as a decision-making tool to aid in the identification and delineation of potential areas of concern where additional engineering controls or soil management actions may be taken prior to, or during, construction of the buildings.

Based on a comparison of the Site data to the EMMDLs, the following conclusions were identified in the Risk Assessment:

1. Of the chemicals detected in soil at Area C that were evaluated for the potential soil-to-indoor air pathway, twelve COPCs were detected in soil within Area C at concentrations exceeding the single-chemical soil-to-indoor air decision levels.

However, targeted sampling and evaluation of soil gas resulted in a determination that no additional soil management or other corrective action was required to address the soil-to-indoor air exposure pathway.

- 2. The Risk Assessment determined that management activities are not required to address potential additive effects posed by potential groundwater-to-indoor air exposures to benzene, toluene, trichloroethene, and total xylenes, each of which was detected at a concentration exceeding its respective groundwater-to-indoor air EMMDL.
- 3. EMMDLs were determined for evaluating potential off-site groundwater migration and industrial worker exposures via potential direct contact exposures to Facilityrelated COPCs potentially present in industrial process water drawn from the Patuxent aquifer. Groundwater modeling, in conjunction with a conservative evaluation of the potentially additive effects of exposure to multiple volatile COPCs was conducted. Based on this evaluation, additional management activities are not required to address potential additive effects posed by potential direct contact exposures to groundwater containing Site-related COPCs at off-Site locations.
- 4. Two soil management areas related to residual TPH in soil were identified.

Those exposure pathways and constituents that will not be actively managed with respect to an environmental media management decision level were retained for a quantitative evaluation of risk and hazard. The cumulative risk and hazard posed to on-site receptors (i.e., on-site worker, construction/excavation worker and child and youth visitors) by direct contact with soil and the risk and hazard posed to construction/excavation workers *via* direct contact with groundwater were quantitatively evaluated. In order to evaluate the impact of a variety of grading plans on future soil exposures in Area C, concentrations of COPCs in soil were evaluated with data sets comprised of analytical results grouped by sampling depth interval. All receptors were evaluated with respect to data sets consisting of soil concentrations of COPCs in the depth intervals of 0.0 ft to 2.0 ft below ground surface (bgs) and greater than 2.0 ft bgs. In addition, exposures to total soil (i.e., all detected COPC concentrations, irrespective of depth) were quantified for all receptors.

The Risk Assessment demonstrated that an evaluation of remedial alternatives is not required to protect on-site receptor populations, including on-site workers, child and youth visitors and construction/excavation workers from exposure to soil via direct contact.

However, the characterization of non-cancer hazard and excess lifetime cancer risk resulting from exposures to groundwater by the construction/excavation worker receptor population

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indicates that there is a potential for exceedance of target human health hazard and risk goals. Therefore, risk management activities are necessary to preclude unacceptable hazard and risk posed by direct contact exposures to groundwater by the construction/excavation worker receptor population.

### 1.3 Purpose of the Risk Management Plan

Although a soil remedy was previously conducted and risk management activities are not necessary to address hazard associated with the surface and subsurface soil in Area C, COPCs at concentrations above health-based direct contact standards may be contacted in the event that groundwater is encountered during construction/excavation activities. Although exposures to groundwater *via* direct-contact, if they occur, are expected to be brief and intermittent, controlling these exposures will add a further level of protection to future construction/excavation workers who may be exposed to groundwater *via* direct-contact.

The original version of this RMP was prepared and implemented in April 2014. As part of final site closure activities in September 2014, MDE requested that the RMP be updated to include a section documenting the ongoing methane monitoring activities that will be conducted within the onsite building. MDE's requested section is included herein as Section 3.4.

This RMP includes the elements required by the Environmental Management Systems International Standard ISO 14001 outline as well as other supporting information related to the Site's environmental condition, descriptions of potential risks/hazards associated with groundwater at the Site, descriptions of procedures required for groundwater characterization and management, and other applicable information designed to inform future workers of Site conditions. This RMP will also serve as a record-keeping device to document that future workers are notified of, and have acknowledged, the Site conditions so that appropriate risk reduction actions can be conducted. This RMP describes the measures to be taken to effectively eliminate or reduce the potential hazard or risk posed to site workers within Area C following the completion of remedial activities and redevelopment. The RMP may only be modified or terminated upon mutual agreement of the Owner and the Maryland Department of the Environment. A summary of the elements required by the ISO 140001 standards and a summary of the locations where each element has been addressed in the RMP is located in Table 1.

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# 2.0 SUMMARY OF POTENTIAL HEALTH RISKS ASSOCIATED WITH COPCS WITHIN AREA C

### 2.1 General

It is possible that groundwater containing concentrations of COPCs that exceed worker safety standards may be encountered during intrusive activities that are conducted at depths below the water table. This section contains a discussion of the COPCs that exceed or significantly contribute to an exceedance of an applicable standard that may be encountered at the Site. The intent of this section is to include a brief discussion of the nature, type, and concentration of each COPC in soil or groundwater and a few potential health effects that may be caused by exposure to elevated levels of each COPC.

This RMP does not include a hazard analysis for each task that may be completed at the Site. The Contractor (i.e., the entity performing work which may require RMP implementation) must provide a Health and Safety Plan (HASP) for each site-specific task and phase of work which may result in the implementation of the provisions for the RMP. It is the responsibility of the Contractor to show proof of applicable training or licensing that may be required by federal, state or local laws and regulations including, but not limited to, Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response Standard (HAZWOPER) 40 hour training. Each worker will need to review this document and sign the worker acknowledgement form located in Appendix A of this document.

### 2.2 Chemical Hazards

The routes of exposure through which hazardous chemicals may potentially be encountered during intrusive activities at Area C include:

- 1. inhalation of volatile emissions in ambient air from VOCs in groundwater;
- 2. dermal contact with and/or adsorption of contaminants contained in groundwater;
- 3. ingestion of contaminants contained in groundwater (such as may occur through decontamination practices).

A discussion of COPCs that exceed or significantly contribute to an exceedance of applicable standards that may be encountered at Area C of the Facility and general chemical class descriptions and potential associated health impacts are discussed in Section 2.2.1 and Section 2.2.2, below. There are a variety of sources regarding hazard information for specific chemicals

in an occupational setting including National Institute for Occupational Safety and Health (NIOSH) Pocket Guide to Chemical Hazards and OSHA Occupational Health Guidelines for Chemical Hazards. Contact information for NIOSH and example chemical data available through NIOSH are included in Appendix B. It is the Contractor's responsibility to ensure that activities conducted at the Area C do not result in exposure of the workers to levels of hazardous chemicals in exceedance of applicable federal, state, and local laws and regulations.

### 2.2.1 Volatile Organic Compounds

Several VOCs have been detected in soil and groundwater at the Property; however benzene, MTBE, tetrachloroethene, trichloroethene and vinyl chloride are the primary COPCs that have been detected at concentrations contributing to the exceedence of cumulative hazard and risk goals for the construction/excavation worker via direct contact with groundwater.

Benzene has been identified as a potential occupational carcinogen (leukemia). Exposure to benzene via inhalation, skin absorption, ingestion, skin and/or eye contact can result in irritation to the eyes, skin, nose, respiratory system; dizziness; headache, nausea, staggered gait; anorexia, lassitude (weakness, exhaustion); dermatitis; and bone marrow depression (NIOSH; available at: http://www.cdc.gov/niosh/npg/npgd0049.html).

The NIOSH Pocket Guide does not currently have information available for MTBE. However, the 1196 toxicological profile prepared by the Agency for Toxic Substances Disease Registry (ATSDR) (available at: <u>http://www.atsdr.cdc.gov/ToxProfiles/tp91-c1-b.pdf) for MTBE</u> reports that non-occupational exposures have resulted in headaches, nausea, dizziness, irritation of the nose or throat, and feelings of spaciness or confusion. Medical use of MTBE has resulted in short-term minor liver damage, a lowering of the amount of white blood cells, nausea, vomiting, sleepiness, dizziness, and confusion. The U.S. EPA has not classified MTBE for its ability to cause cancer.

Occupational exposure to tetrachloroethene has resulted in irritation to the eyes, skin, nose, throat, respiratory system; nausea; flush face, neck; dizziness, incoordination; headache, drowsiness; skin erythema (skin redness); and liver damage. In addition, tetrachloroethene has been identified as a potential occupational carcinogen due to the observation of its ability to induce liver tumors in animals (NIOSH; available at: http://www.cdc.gov/niosh/npg/npgd0599.html).

Trichloroethene has been identified as a potential occupational carcinogen (evidenced by liver and kidney cancer in animals). Exposure to trichloroethene via inhalation, skin absorption, ingestion, skin and/or eye contact can result in irritation to eyes, skin; lassitude (i.e., weakness, exhaustion), drowsiness, dizziness; numb, tingling limbs and nausea. In addition, exposure to trichloroethene may also result in headache, visual disturbance, tremor, vomiting, dermatitis, cardiac arrhythmias, paresthesia, or liver injury (NIOSH; available at: http://www.cdc.gov/niosh/npg/npgd0629.html).

Vinyl chloride may cause lassitude (weakness, exhaustion); abdominal pain, gastrointestinal bleeding; enlarged liver; pallor or cyanosis of extremities; liquid: frostbite; through occupational exposure pathways inhalation, or contact through skin and/or eye. Vinyl chloride primarily effects the central nervous system, blood, respiratory system, lymphatic system and has been identified as a potential occupational carcinogen (liver cancer) (NIOSH; available at: http://www.cdc.gov/niosh/npg/npgd0658.html).

### 2.2.1.1 Methane

Methane was detected in selected former monitoring wells and probes at Area C. These wells are probes were abandoned following completion of assessment activities and prior to construction of the new warehouse facility in Area C. The methane was only detected in a limited portion of Area C and within sub-surface points that extended to depths below the hardscape associated with the former GM facility (i.e., below the former GM building slab and adjacent concrete paved areas). Methane is flammable are represents an explosion hazard when present within a specific concentration range. In addition, methane is capable of working as a simple asphyxiant (i.e., capable of displacing oxygen) resulting in potential suffocation with symptoms of headache, dizziness, weakness, nausea, vomiting, loss of coordination and judgment, increased breathing rate and loss of consciousness (New Jersey Department of Health, 2011 available at <a href="http://nj.gov/health/eoh/rtkweb/documents/fs/1202.pdf">http://nj.gov/health/eoh/rtkweb/documents/fs/1202.pdf</a>). There are no health effects related to chronic methane exposure that have been identified at this time.

### 2.2.2 Polynuclear Aromatic Hydrocarbons (PAHs)

Several semivolatile organic compounds (SVOCs) were detected in groundwater in Area C; however a sub-class of SVOCs, known as Polynuclear Aromatic Hydrocarbons (PAHs) were most commonly detected at concentrations exceeding screening criteria. PAHs detected at

concentrations in groundwater contributing to the exceedence of target hazard and risk goals for the construction/excavation worker included benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(ah)anthracene, indeno(1,2,3cd)pyrene, and naphthalene.

According to the ATSDR public health statement for PAHs (1995), PAHs are a group of chemicals that are formed during the incomplete burning of coal, oil, gas, wood, garbage, or other organic substances, such as tobacco and charbroiled meat. PAHs generally occur as single compound or complex mixtures of compounds including acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(e)pyrene, benzo(b)fluoranthene, benzo(i)fluoranthene, benzo(k)fluoranthene. benzo(a.h.i)pervlene. chrysene. dibenz(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3-c,d)pyrene, phenanthrene and pyrene. PAHs usually occur naturally; however, not as the mixtures found in combustion products. Others are contained in asphalt used in road construction. They can also be found in substances such as crude oil, coal, coal tar pitch, creosote, asphalt and roofing tar. The NIOSH Pocket Guide (2005) publishes information on PAHs in the form of coal tar pitch volatiles. Health effects attributable to exposure to PAHs include dermatitis and bronchitis. Several PAHs, including benzo(a)pyrene, have been identified by U.S. EPA as probable human carcinogens (U.S. EPA, 2013).

### 3.0 RISK MANAGMENT PROVISIONS

### 3.1 Provisions for Implementation of the RMP

The RMP is to be implemented whenever activities conducted at the Site may result in the exposure of workers to groundwater that may contain COPCs. Because concentrations of COPCs are not present uniformly in groundwater across Area C, the Owner (or their designee) may choose to conduct pre-characterization activities within proposed intrusive work areas to determine the appropriate level of protection required for adequate protection of workers within the designated work area.

The provisions for the management of potentially impacted groundwater will be applied to future intrusive activities which are conducted within the entire Area C parcel. In the event that precharacterization is either (1) not conducted, or (2) is conducted and indicates potentially unacceptable risk to construction/excavation workers, it is expected that exposures to potentially impacted groundwater will be minimized through the use of PPE and groundwater management activities. The supervisor(s) overseeing the work is responsible for implementing a HASP(s) that meets federal, state and local laws and regulations for each task that may result in exposure of workers to groundwater containing COPCs in exceedance of applicable standards.

### 3.2 Ambient Air Monitoring

Because of historical detections of VOCs in groundwater underlying portions of Area C, the construction/excavation or utility worker will be responsible for ambient air monitoring when conducting subsurface intrusive work per the requirements of the health and safety plan. The contractor conducting the intrusive activities will be responsible for designing an air monitoring program appropriate to the planned activity. It will be the responsibility of the contractor to establish "action levels" which will trigger certain responses such as moving to Level C protection or ceasing work.

Because of historical detections of subsurface methane in selected portions of Area C, parties conducting intrusive work below hardscape surfaces shall conduct appropriate monitoring for methane and establish contingency plans in the event that methane is detected at concentrations of 10% of the lower explosive limit or higher. In addition, no smoking or open flames are permitted near excavation activities.

Frequencies and locations of monitoring should be determined by the contractor in accordance with applicable rules and regulations.

### 3.3 Management of Impacted Groundwater

Intrusive activities may or may not encounter groundwater depending on the depth of the activities and variations in the depth to the water table across the Site. In the event that intrusive activities encounter groundwater that accumulates within property excavations, the following management activities will be implemented:

- 1. The Owner shall be notified of the accumulated water and any proposed management methods immediately. Work will not proceed in the area if standing water remains;
- 2. Worker safety will be provided by provisions within the HASP associated with the work activity;
- 3. Water will be pumped from the area and containerized or disposed before work can proceed;
- 4. Water may be containerized within temporary storage tanks onsite, pumped directly from excavations into a vacuum truck or other equipment and transported to an appropriate off-site disposal or treatment facility, or pumped directly to sanitary or storm sewers under appropriate permits and in accordance with local, state and federal rules and regulations;
- 5. Containerized water placed into temporary onsite storage tanks will ultimately be disposed or treated off-site at an appropriate facility, or pumped directly to sanitary or storm sewers under appropriate permits and in accordance with local, state and federal rules and regulations;
- 6. Daily logs will be maintained that will identify the quantity and origin of all water managed during intrusive activities; and
- 7. All water management, treatment, disposal, etc. shall be conducted in accordance with applicable local, state and federal rules and regulations.

### 3.4 Methane Monitoring within Distribution Facility

In September 2014, Duke completed construction of a 1 million square-foot distribution facility within Area C. The distribution facility was constructed over the area previously displaying subsurface methane. As such, methane mitigation measures were incorporated into the facility construction. The mitigation measures were detailed in a January 2014 Response Action Plan Amendment No. 2 (RAP Amendment 2) and September 2014 RAP Implementation Completion Report.

As outlined in RAP Amendment 2 and the RAP Implementation Completion Report, an automated methane monitoring system is installed within the distribution facility to continuously monitor for potential methane accumulation. The property owner will maintain the automated monitors in accordance with the manufacturer's specifications. In addition, the property owner will conduct routine manual monitoring throughout the facility as discussed in the RAP Implementation Completion Report.

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### 4.0 COMMUNICATIONS, RESPONSIBLE PARTIES, DOCUMENT CONTROL AND REPORTING

### 4.1 Communications and Notification Provisions

The procedures for internal and external communications with respect to the RMP are discussed in the following sections and summarized on the flow chart in Figure 2.

### 4.1.1 Site Workers

The Owner is responsible for providing this RMP to site workers, employees, and subcontractors that perform subsurface activities at the Site. The supervisor for those performing work that may result in the implementation of the RMP is responsible for providing an applicable HASP and ensuring that activities conducted within Area C do not result in exposure of workers to levels of hazardous chemicals in exceedance of applicable federal, state, and local laws and regulations. Workers performing activities that may result in RMP implementation are required to review this document and sign the worker acknowledgement form located in Appendix A.

### 4.1.2 Emergency Response

The Site and surrounding area are serviced by local fire, police and emergency medical services that can be reached by phone via 911. Emergency response and contingency communication procedures will be outlined in the HASP associated with the intrusive activities.

### 4.2 Responsible Parties

As discussed previously, the Owner is responsible for ensuring that the RMP is implemented, as appropriate, and is responsible for maintenance of the document and supporting addenda, as needed. The Owner may conduct internal audits and management review of this environmental management system at the Owner's discretion.

The supervisor(s) overseeing the work is responsible for providing and implementing a HASP(s) for each site-specific task and phase of work which may result in the implementation of the provisions for the RMP. It is the supervisor's responsibility to ensure that activities conducted within Area C do not result in exposure of the workers to levels of hazardous chemicals in exceedance of applicable federal, state, and local laws and regulations. It is the responsibility of the supervisor to show proof of applicable training or licensing that may be required by federal, state or local laws and regulations including, but not limited to, OSHA HAZWOPER 40 hour training. It is up to the discretion of the Owner to verify that all personnel conducting subsurface

activities on the Site meet the requirements of all applicable federal, state, and local laws and regulations. The RMP may only be modified or terminated upon mutual agreement of the Owner and the Maryland Department of the Environment.

### 4.3 Reporting

MDE will be notified by Owner prior to the implementation of intrusive activities which may encounter groundwater. Upon completion of the intrusive activities, MDE will be notified regarding the volume of groundwater managed in accordance with Section 3.3, if any.

### 4.4 Document Control

The Owner is responsible for maintaining a copy of this RMP at the facility and is responsible for making the document available upon request. Records relating to the notification of workers who may conduct work at Area C (i.e., the Worker Acknowledgement form in Appendix A) will be appended to the RMP and will be retained in perpetuity.

### 5.0 REFERENCES

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TABLES

HULL & ASSOCIATES, INC. PITTSBURGH, PENNSYLVANIA SEPTEMBER 2014 DUK104.701.0020 BALTIMORE CITY CIRCUIT COURT (Land Records) MB 18963, p. 0436, MSA\_CE164\_28120. Date available 03/23/2017. Printed 06/11/2018.

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TABLE 1

REQUIRED COMPOKENTS OF INTERNATIONAL STANDARDS ORGANIZATION ISO 140M EXVIRONMENTAL MANAGENEAT SYSTEMS

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SSE Aspects	). The EliaP contairs a description of potential effects as a result of potential exposures to coemicals of potential concern (nCOPCs) that improve encourtainse in environmental media dering intrustive activities.	Section 2.0 - Summary of Polected Health Ruks associated with COPCs at Area C
Lagal and Other Requirements	The Rule" has been prepared in accordance, with the Response Action Plan as reviewed, and approved subsection to the Response Obstanting of the Schormost Volumenty Cleanup Physican and Us U.S. (2 <sup>3</sup> A Region all Action Context) as <i>Reviewed Schorm</i> ent of the Schormost Volumenty Cleanup Physican and Us U.S. (2 <sup>3</sup> A Region all Action Context) as	Section 1.1 - Background
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Commicator	listemal and ensemal communications will be consumed in accordance with the flow chart located on Figure 3 of the 2019.	Sector: 4.1 - Concounterion and Natification Providions
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Operational Control	The Owner has untrust authority for ensuing that the RMP is indemented as necessary.	Sector 4.2 - Responsible Parios Existen 4.1 3 - Francisco Baserosa
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Evaluation of Compliance		
Eveluar other requiements	Accisent requirements that may read to be admissed will be implemented ve an policidum to the Fuel-	Section 1.3 - Purpose of the RMP Section 4.2 - Representable Princise Section 4.1 - Discussemit Control
Nancorforméy, contective action and preventive action	The Ommer's Representative. Isylctade die Property Manager, will be respondeble for eneurog that ha requerences of the 200° are cred.	
Contrait of records	The Owner is responsible for maintaining a coopt of the RUP at the landling and is majoresible for maintain the available upon mutuals. Records realing to the notification of workers and may conduct more at Awa C (Le, the Worker Auchtrowiedgement forman Appendix A) will be approvated to the RUP and will be addited on perpektion.	Socian 4.4 - Doourent Correa
kternel Audits	The Owner's representation, typically the Pittpenty Menuger, will sua minimize the portublety of ensuring text the R.MP at bang. Implementation in a spontoriste memory, at the Owner's discurbon.	Societon 4.2 - Responsible Partice
Manasaman Sirvin.	The Owner will designate a representative to ensure that that the exponential Preson. (rolately the Property Managor, is	Section 4.2 - Rescontable Pain es

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FIGURES

HULL & ASSOCIATES, INC. PITTSBURGH, PENNSYLVANIA SEPTEMBER 2014 DUK104.701.0020







# RISK MANAGEMENT PLAN FOR CHESAPEAKE COMMERCE CENTER - AREA C FORMER GM-BALTIMORE ASSEMBLY PLANT





HULL & ASSOCIATES, INC. PITTSBURGH, PENNSYLVANIA

SEPTEMBER 2014 DUK104.701.0012

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# APPENDIX A

Worker Acknowledgement Forms

HULL & ASSOCIATES, INC. PITTSBURGH, PENNSYLVANIA SEPTEMBER 2014 DUK104.701.0020 •

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### WORKER ACKNOWLEDGEMENT OF RISK MANAGEMENT PLAN

I HAVE READ AND FULLY UNDERSTAND THIS RISK MANAGEMENT PLAN AND AGREE TO COMPLY WITH ITS CONTENTS DURING THE COMPLETION OF THE TASKS OF THIS PROJECT.

NAME	DATE
<u> </u>	
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HULL & ASSOCIATES, INC. PITTSBURGH, PENNSYLVANIA SEPTEMBER 2014 DUK104.701.0020

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# APPENDIX B

NIOSH Contact Information and Example Chemical Data

HULL & ASSOCIATES, INC. PITTSBURGH, PENNSYLVANIA SEPTEMBER 2014 DUK104.701.0020 The National Institute for Occupational Safety and Health (NIOSH) can be located at the following:

World Wide Web: <u>http://www.cdc.gov/niosh/topics/chemical-safety/default.html</u>

Telephone: 1-800-35-NIOSH (1-800-356-4674) or Outside the U.S. 513-533-8328

Fax: 1-513-533-8573

The attached page is an example of the type of information available from NIOSH. This reference for vanadium is excerpted from the *NIOSH Pocket Guide to Chemical Hazards* (NPG). Sources other than the NPG are also available. Those can include the *Agency for Toxic Substances and Disease Registry*, *Hazardous Materials Safety – Emergency Response Guidelines*, and others. These can also be found through NIOSH at the following World Wide Web address: http://www.cdc.gov/niosh/topics/chemical-safety/default.html.

SEARCH

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# Centers for Disease Control and Prevention CDC 24/7: Saving Lives. Protecting People, ~

Search the Pocket Guide

Enter search terms separated by spaces.

Trichloroethylene					
Synonyms & Trade Names Ethylene trichloride, TCE, Trichloroethene, Trilene					
CAS No. 79-01-6 RTECS No. <u>KX4550000 (/niosh-</u> <u>rtecs/KX456D70.html)</u> DOT ID & Guide 1710 <u>160 (http://wwwapps.tc.gc.ca/saf-sec-</u> <u>sur/3/erg-gmu/erg/guidepage.aspx?guide=160)</u> if (http://www.cdc.gov/Other/disclaimer.html)			/apps.tc.gc.ca/saf-sec- uidc=160) /2 er.html)		
Formula C	Formula ClCH=CCl <sub>2</sub> Conversion 1 ppm = IDLII Ca [1000 ppm] $5.37 \text{ mg/m}^3$ See: $79016 (/piosh/idlh/79016.html)$				
Exposure Limits         NIOSH REL: Ca See Appendix A (nengapdxa.html) See Appendix C (nengapdxc.html)         OSHA PEL <u>† (nengapdxg.html)</u> : TWA 100 ppm C 200 ppm 300 ppm (5-minute maximum peak in any 2 hours)         Mcasurement Methods         Mcasurement Methods         NIOSH 1022 <u>(f)</u> (/niosh/docs/2003-154/pdfs/1022.pdf).         3800 <u>(f)</u> (/niosh/docs/2003-154/pdfs/3800.pdf);         OSHA 1001 (http://www.osha.gov/dts/sltc/methods/mdt/mdt1001/1001.html)         See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.osha.gov/dts/sltc/methods/index.html)         See: NMAM (/niosh/docs/2003-154/) or OSHA Methods (http://www.cdc.gov/Other/disclaimer.html)					
Physical Des	cription CC	olorless liquid	l (unless d	yed blue) with a chloroform-like odo	۲.
мw: 131.4	вр: 189°F	FRZ: -99° F	Sol: 0.1% VP: 58 mmHg IP: 9.45 eV		
Sp.Gr:         FLP:         UEL(77°         LEL(77°           1.46         F):         10.5%         F):         8%		· · · · · · · · · · · · · · · · · · ·			
Combustible Liquid, but burns with difficulty.					
Incompatibilities & Reactivities Strong caustics & alkalis; chemically-active metals (such as barium, lithium, sodium, magnesium, titanium & beryllium)					
Exposure Routes inhalation, skin absorption, ingestion, skin and/or eye contact					
Symptoms irritation eyes, skin; headache, visual disturbance, lassitude (weakness, exhaustion), dizziness, tremor, drowsiness, nausea, vomiting; dermatitis; cardiac arrhythmias, paresthesia; liver injury; [potential occupational carcinogen]					
Target Organs Eyes, skin, respiratory system, heart, liver, kidneys, central nervous system					
Cancer Site [in animals: liver & kidney cancer]					
Personal Protection/Sanitation (See protection         codes (protect.html))         Skin: Prevent skin contact         Eyes: Prevent eye contact					

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Wash skin: When contaminated Remove: When wet or contaminated Change: No recommendation Provide: Eyewash, Quick drench Breathing: Respiratory support Swallow: Medical attention immediately

**Respirator Recommendations** 

### NIOSH

# At concentrations above the NIOSH REL, or where there is no REL, at any detectable concentration:

(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode

(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressuredemand or other positive-pressure mode in combination with an auxiliary self-contained positivepressure breathing apparatus

### Escape:

(APF = 50) Any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or backmounted organic vapor canister

Any appropriate escape-type, self-contained breathing apparatus

Important additional information about respirator selection (pgintrod.html#mustread)

See also: INTRODUCTION (/niosh/npg/pgintrod.html) See ICSC CARD: 0081 (/niosh/ipcsneng/neng0081.html) See MEDICAL TESTS: 0236 (/niosh/docs/2005-110/nmed0236.html)

Page last reviewed: April 4, 2011

Page last updated: November 18, 2010

Content source: National Institute for Occupational Safety and Health (NIOSH) Education and Information Division

Centers for Disease Control and Prevention 1600 Clifton Rd. Atlanta, GA 30333, USA 800-CDC-INFO (800-232-4636) TTY: (888) 232-6348 - Contact CDC-INFO



http://www.cdc.gov/niosh/npg/npgd0629.html

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