PROPOSED PLAN OF REMEDIAL ACTION

Chrysler Newark Assembly Plant Site – Operable Unit 3
(-AKA- University of Delaware's Science, Technology and Advanced Research Campus)
Newark, Delaware
DNREC Project No. DE-0105

May 2012

Delaware Department of Natural Resources and Environmental Control
Division of Waste and Hazardous Substances
Site Investigation & Restoration Section
391 Lukens Drive
New Castle, Delaware 19720

CONTENTS

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DNREC Project No. DE-0105

Approval:
This Proposed Plan meets the requirements of the Hazardous Substance Cleanup Act.

Approved by:

Marjorie A. Crofts, Director
Division of Waste and Hazardous Substances

5.11.12

Date

Chrysler Newark Assembly Plant Site (OU-3)

What is the Proposed Plan of Remedial Action?

The Proposed Plan of Remedial Action (Proposed Plan) summarizes the clean-up (remedial) actions that are being proposed to address contamination found at the Site. The Proposed Plan is issued to solicit public comment. A legal notice is published in the newspaper for a 20-day comment period. DNREC considers and addresses all public comments received and will ultimately publish a Final Plan of Remedial Action (Final Plan) for the Site.

What is the Chrysler Newark Assembly Plant Site (OU-3)?

The Site is the former location of the Chrysler Newark Assembly Plant. The Site is located at 550 South College Avenue in Newark, Delaware and consists of two tax parcels: 18-039.009-002 and 18-036.00-002 (Figure 1). The nearest major intersection is South College Avenue (Route 896) and Mopar Drive.

The Site has been divided into operable units or smaller areas to more easily manage its investigation and cleanup. **This proposed plan specifically addresses Operable Unit 3 (OU-3) of the Site.** OU-3 is approximately 68 acres in size, and the boundaries are depicted on Figure 2. The OU-3 portion of the Site is generally flat. The majority of the area is covered with bituminous concrete paving, except for the North Tank Farm area which was backfilled with DNREC-approved soil after the removal of the underground storage tanks in 2010. Also, the Administration Building remains on the property.

The Site is owned by 1743 Holdings, LLC and has been designated as a Certified Brownfields Site. 1743 Holdings, LLC entered into a Brownfields Development Agreement (BDA) with the Department of Natural Resources and Environmental Control (DNREC) to perform a Brownfield Investigation and address contamination determined to be present on the Site.

What happened at the Chrysler Newark Assembly Plant Site (OU-3)?

Prior to the 1950s, the OU-3 portion of the Site was utilized for agricultural purposes. Between the early 1950s and 2008, when plant operations ceased, various structures located on OU-3 were associated with military tank assembly and testing operations (until 1956), and most recently vehicle assembly. These structures included: railroad spurs, vehicle shipping lots, electrical substations, a natural gas substation, and both aboveground and underground storage tanks with associated piping designed to carry fluids into specific buildings. In certain areas of OU-3, soil and groundwater have been negatively impacted due to the past use of slag (containing coal) as fill in the former Silver Brook floodplain, past releases from former underground storage tanks (for example, gasoline, No. 6 heating oil) and past releases of fluids along the former railroad spur.

What is the environmental problem at the Chrysler Newark Assembly Plant Site (OU-3)?

Multiple environmental investigations were performed on the Site between 1985 and 2012. An environmental investigation was performed in 2008, on behalf of Chrysler, during which multiple areas of interest were identified within OU-3 as having the potential for soil and groundwater to have been negatively impacted due to past Site use activities (Figure 2). Soil and groundwater samples were collected across the operable unit during the Brownfield Investigation of OU-3 performed in 2010, on behalf of 1743 Holdings, LLC., with a greater quantity of samples collected in the previously identified areas of interest. Based on the results of all environmental investigations previously conducted on OU-3, two areas of concern (AOCs) were identified; each of which encompassed multiple areas of interest (Figure 3). AOC 3-1 included the former locations of the following: Shipping Yard, Powerhouse, North Tank Farm, and an underground storage tank called "Tank 11". AOC 3-2 included the former locations of the following: MCI Tower and an Executive Parking Garage. Contaminants of concern (COCs) were identified in soil for a restricted use (commercial/industrial) exposure scenario within AOC 3-1 and AOC 3-2. The COCs for soil for these areas consist of: metals, volatile organic compounds, (VOCs), semi-volatile organic compounds (SVOCs), pesticides and polychlorinated biphenyls (PCBs). There are no COCs for soil in OU-3 outside of AOC 3-1 and AOC 3-2. The COCs for groundwater in OU-3 consist of: metals, VOCs, SVOCs, and pesticides.

What does the owner want to do at the Chrysler Newark Assembly Plant Site (OU-3)?

The entire Site is the future location of the University of Delaware's Science, Technology and Advanced Research Campus. Portions of OU-3 will be utilized for infrastructure associated with future development, which will include buildings, underground utilities, access roads and parking.

What remedial actions are proposed at the Chrysler Newark Assembly Plant Site (OU-3)?

DNREC requires the following remedial actions be performed on the Former Chrysler Newark Assembly Plant Site (OU-3) after which a Certification of Completion of Remedy (COCR) can be issued:

1. Capping of PCB-contaminated soil in the former Shipping Yard area with a low-permeability cap (e.g. asphalt) to prevent future mobility.

2. Removal of measureable Light Non-Aqueous Phase Liquid (LNAPL) within AOC 3-1, thus reducing the elevated concentrations of VOCs and SVOCs in soil and groundwater to which future Site users would be exposed. Specifically in the Former Powerhouse Area, impacted soils will be excavated and properly disposed of off-site. In the Former North Tank Farm and Former Tank 11 Areas, remedial goals will be achieved utilizing an active remediation technology or combination thereof, such as air sparging, soil vapor extraction and/or an in-situ microbiological treatment. The

design of the treatment system must be provided to DNREC for review and approval prior to installation.

3. Designing and installing a vapor barrier system beneath the existing Administration Building and any other enclosed, continuously-occupied structures constructed on OU-3 within the boundary of AOC 3-1 and AOC 3-2 or within a 100-foot radius of the boundary of AOC 3-1 and AOC 3-2. The design must be provided to DNREC for review and approval prior to installation.

4. Developing and implementing a DNREC-approved Contaminated Materials Management Plan (CMMP) to ensure the proper handling of contaminated media encountered during future Site activities.

5. Recording of an environmental covenant consistent with Delaware's Uniform Environmental Covenants Act (Title 7, Del. Code Chapter 79, Subtitle II) (UECA) on the property deed to include the following restrictions and requirements:

- Land use: restrict property to commercial/industrial use, and restrict property use to "low occupancy" purposes (e.g. parking lot) atop capped PCB-impacted soil;
- Land disturbing activities within the bounds of AOC-3-1 and AOC-3-2 require prior written DNREC approval;
- Modification to ground level building slabs or flooring where vapor intrusion systems have been installed requires prior written DNREC approval;
- Installation of groundwater wells for drinking water purposes requires the prior written approval of DNREC;
- Identification of the property as being located within a Groundwater Management Zone; and
- Compliance with the DNREC-approved Contaminated Materials Management Plan.

6. Developing and implementing a DNREC-approved Long-Term Stewardship (LTS) Plan. The LTS Plan will detail: 1) the inspection schedule to be followed in order to ensure the long-term integrity of the cap placed atop impacted soil left in place, 2) the groundwater monitoring network and schedule to be followed in order to monitor the attenuation of the groundwater COCs; and 3) the testing procedure and schedule to be followed for the vapor barrier system, as well as the conditions under which it would be necessary to operate the system actively.

What long-term stewardship requirements are proposed for the Chrysler Newark Assembly Plant Site (OU-3)?

The long-term stewardship requirements proposed for the OU-3 portion of the Site include continued adherence to the environmental covenant recorded on the property deed, as well as, following the monitoring and inspection schedules set forth in the DNREC-approved LTS Plan.

How can I find additional information and/or comment on the Proposed Plan?

The complete file on the Site, including the Environmental Site Assessment, Limited Current

Conditions Assessment, and Brownfield Investigation Report, are available at the DNREC office, 391 Lukens Drive in New Castle. Most documents are also found on: http://www.nav.dnrec.delaware.gov/DEN3/

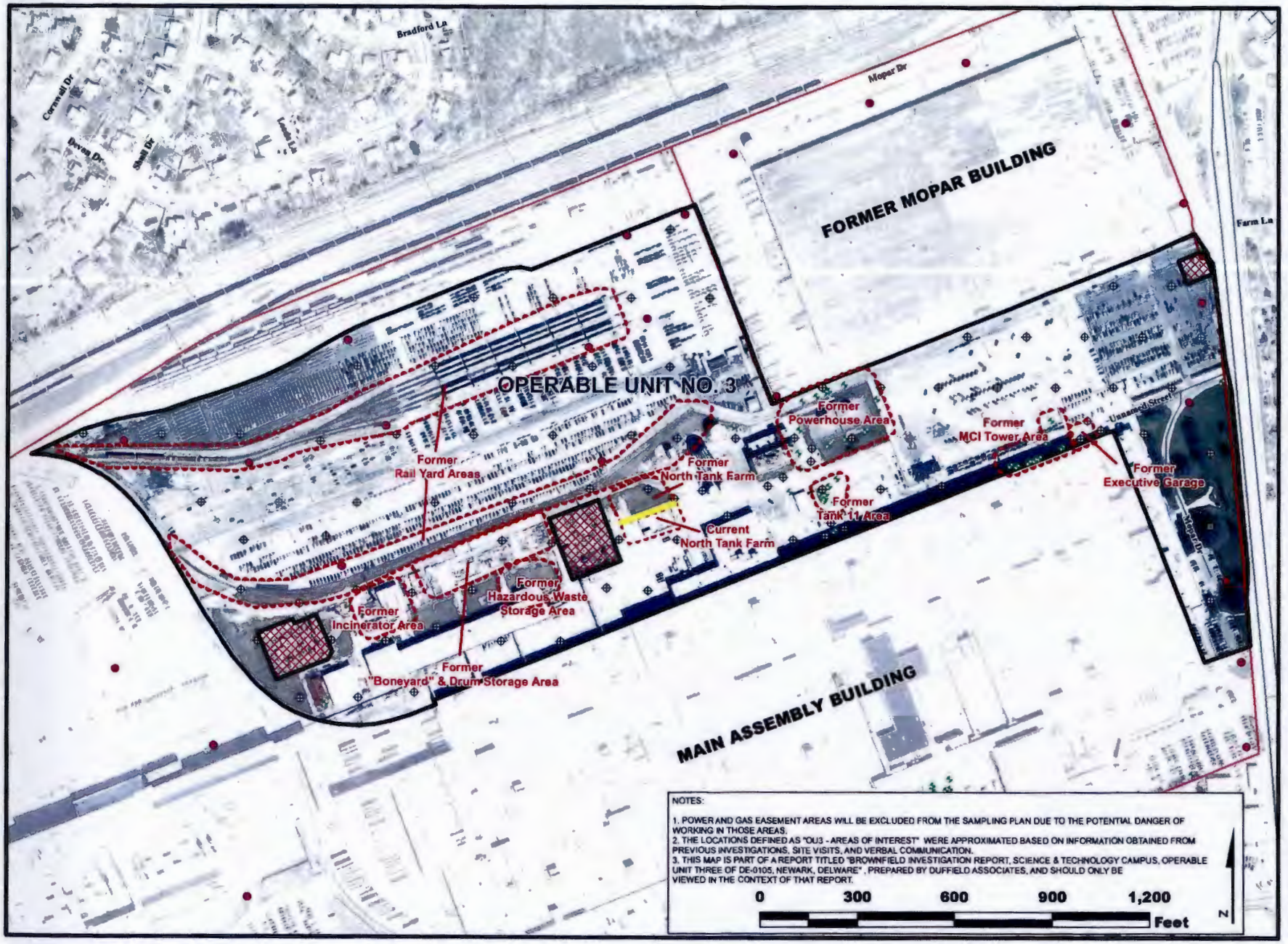
The 20-day public comment period begins on Wednesday, May 16, 2012, and ends at close of business (4:30 pm) on Tuesday, June 5, 2012. Please send written comments to the DNREC office at 391 Lukens Drive; New Castle, DE 19720 to the attention of Lindsay Hall or Wendy March, Project Managers or Robert Newsome, Public Information Officer.

LJH:tlw; LJH12012.doc; DE 0105 II B 8

Figure 1: Site Location Map
Figure 2: OU-3 Areas of Interest
Figure 3: OU-3 Sample Location Map/Areas of Concern

NOTES: This location sketch is adapted from the USGS Topographic Map, 7.5 Minute Series, for Wilmington-South dated 1998.

DATE: JANUARY 2011	Site Location Sketch	BASEMAP: USGS Digital Raster Graphic	DUFFIELD ASSOCIATES Consultants in the Geosciences
SCALE: 1 inch = 2,000 feet	**BROWNFIELD INVESTIGATION**	DRAWN BY: MPN	5400 LIMESTONE ROAD WILMINGTON, DE 19808 TEL. (302)239-6634 FAX (302)489-2203
PROJECT NO. 7333.EL	OPERABLE UNIT NO. 3 - 1743 HOLDINGS, LLC PROPERTY SCIENCE AND TECHNOLOGY CAMPUS FORMER CHRYSLER ASSEMBLY PLANT	CHECKED BY: MRB RW 4/28/11	OFFICES IN DELAWARE, MARYLAND, PENNSYLVANIA, AND NEW JERSEY
SHEET: FIGURE 1	NEWARK-NEW CASTLE COUNTY-DELAWARE	FILE: 7333EL_Figure1_SiteLocation.mxd	E-MAIL: DUFFIELD@DUFFNET.COM



NOTES:

1. POWER AND GAS EASEMENT AREAS WILL BE EXCLUDED FROM THE SAMPLING PLAN DUE TO THE POTENTIAL DANGER OF WORKING IN THOSE AREAS.
2. THE LOCATIONS DEFINED AS "OU3 - AREAS OF INTEREST" WERE APPROXIMATED BASED ON INFORMATION OBTAINED FROM PREVIOUS INVESTIGATIONS, SITE VISITS, AND VERBAL COMMUNICATION.
3. THIS MAP IS PART OF A REPORT TITLED "BROWNFIELD INVESTIGATION REPORT, SCIENCE & TECHNOLOGY CAMPUS, OPERABLE UNIT THREE OF DE-0105, NEWARK, DELWARE" , PREPARED BY DUFFIELD ASSOCIATES, AND SHOULD ONLY BE VIEWED IN THE CONTEXT OF THAT REPORT.

0 300 600 900 1,200 Feet

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E-MAIL: DUFFIELD@DUFFIELD.COM

Legend
- Operable Unit No. 3
- OU3 - Areas of Interest
- Pwer/Gas Easement Areas
- Existing Property Boundary
- Tax Parcel Boundary
- Proposed Sampling Locations

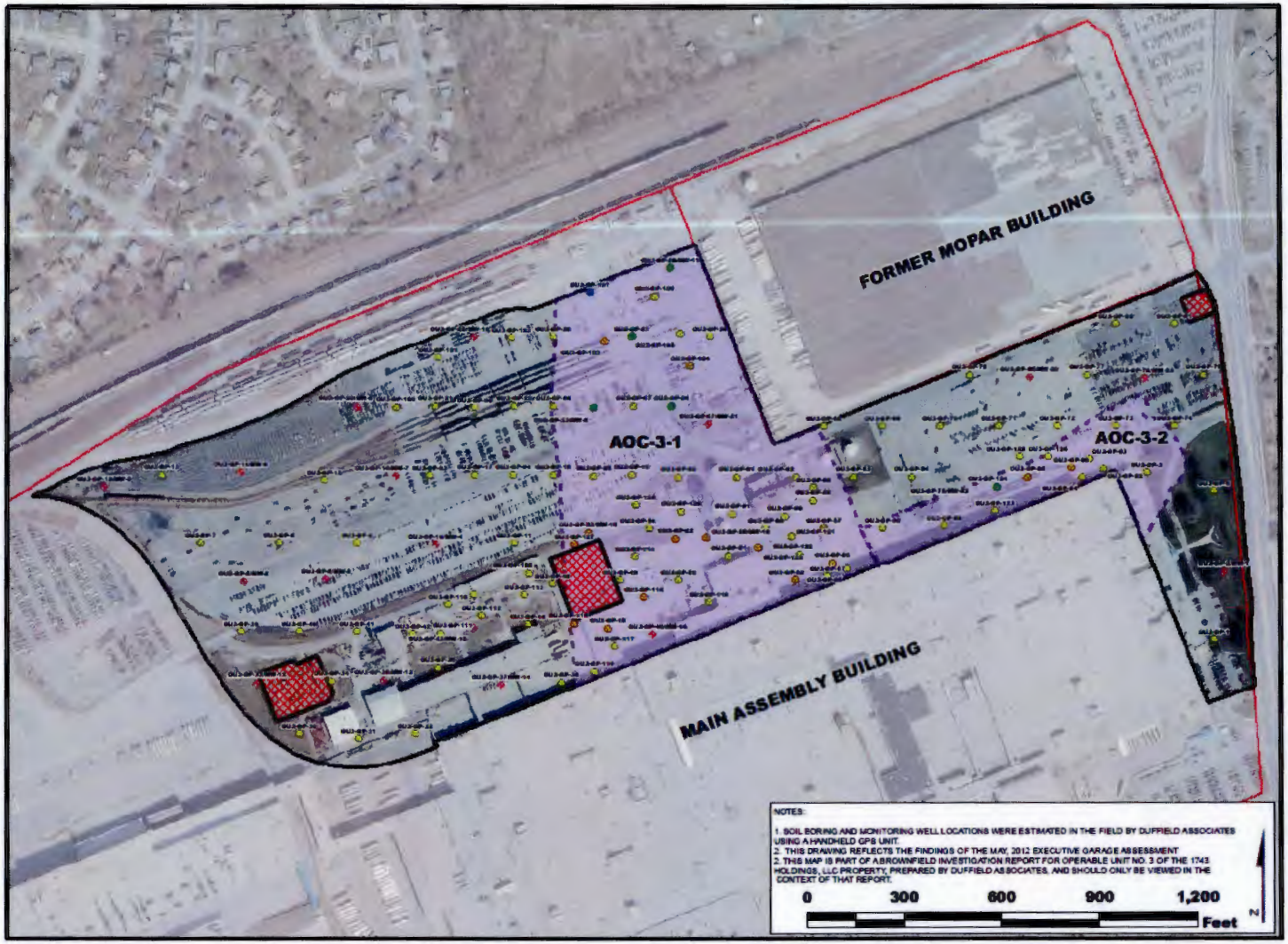
Duffield Associates 2008 Phase II
- Geoprobe Boring Location

Previously Installed Wells
- Monitoring Wells

BASEMAP: 2007 AERIAL PHOTOGRAPHY
DRAWN BY: MPN
CHECKED BY: RLH 4/28/11
FILE: 7333EL_SiteSketch.MXD

OPERABLE UNIT NO. 3
SITE SKETCH
(AREAS OF INTEREST)
1743 HOLDINGS, LLC PROPERTY
SCIENCE AND TECHNOLOGY CAMPUS
FORMER CHRYLSER ASSEMBLY PLANT
NEWARK-NEW CASTLE COUNTY-DELAWARE

DATE: MARCH 2011
SCALE: AS SHOWN
PROJECT NO. 7333.EL
SHEET: FIGURE 2



DUFFIELD ASSOCIATES

Legend
- OU-3 Outline
- Pipe/Gas Easement Areas
- Existing Property Boundary
- Areas of Concern
- Soil Boring
- Monitoring Well
- Shallow And Deep Analysis
- Only Shallow Analysis
- Only Deep Analysis

BASEMAP:
2007 AERIAL PHOTOGRAPHY

DRAWN BY:
ADK

CHECKED BY:
RLH

FILE:
7233EL_temp_referenceimage.mxd

AREAS OF CONCERN
OPERABLE UNIT NO. 3
1743 HOLDINGS, LLC PROPERTY
SCIENCE AND TECHNOLOGY CAMPUS
FORMER CHRYSLER ASSEMBLY PLANT
NEWARK-NEW CASTLE COUNTY DELAWARE

DATE:
FEBRUARY 2011

SCALE:
AS SHOWN

PROJECT NO.
7233.EL

SHEET:
FIGURE 3

Glossary of Terms Used in this Proposed Plan

Area of Concern (AOC)	A discrete section of the Site representing the local bounds of contamination in soil or groundwater
Brownfield Development Agreement (BDA)	This legal agreement is between a potential developer of a Delaware-certified Brownfields Site and the DNREC. The developer agrees to investigate and cleanup a Brownfields Site under the oversight of the Department in exchange for liability protection.
Brownfield Investigation (BFI)	Thorough environmental study of a Site which includes 1) sampling of site environmental media and/or wastes on the property and 2) conducting a preliminary risk assessment using the data collected to determine the risk posed to human health and the environment.
Certification of Completion of Remedy (COCR)	A formal determination by the Secretary of the DNREC that remedial activities required by the Final Plan of Remedial Action have been completed.
Certified Brownfield Site	A Brownfield Site that the DNREC has determined is eligible for some reimbursement funding through the Delaware Brownfields Program.
Contaminants of Concern (COC)	Potentially harmful substances at concentrations above acceptable levels
Contaminated Materials Management Plan (CMMP)	A written plan specifying how potentially contaminated material encountered at a Site will be sampled, evaluated, staged, transported and disposed of properly.
Exposure	Contact with a substance through inhalation (breathing in), ingestion (swallowing), or direct contact with the skin Exposure may be short term (acute) or long term (chronic).
Final Plan of Remedial Action	DNREC's adopted plan for cleaning up a hazardous site.
Hazardous Substance Cleanup Act (HSCA)	Delaware Code Title 7, Chapter 91. The law that enables DNREC to identify parties responsible for hazardous substances releases and requires cleanup with oversight of the Department.
Proposed Plan of Remedial Action	DNREC's initial plan for cleaning up a hazardous site, which is subject to public comment before being adopted as final.
Risk	Likelihood or probability of injury, disease, or death.
Uniform Environmental Covenant Act (UECA)	Deed restrictions on the site. These can include restrictions on soil intrusion, groundwater usage or usage of the site based on the extent of the cleanup.
Uniform Risk-Based Remediation Standards (URS)	A set of concentration criteria for various contaminants potentially present in site media that are developed for protection of human health and the environment
Vapor Barrier System	A liner is placed beneath the building foundation to trap any soil vapor, along with a piping system that will divert the soil vapor so that it will vent outside of the structure. The piping will also allow for future access to test the integrity of the system components.