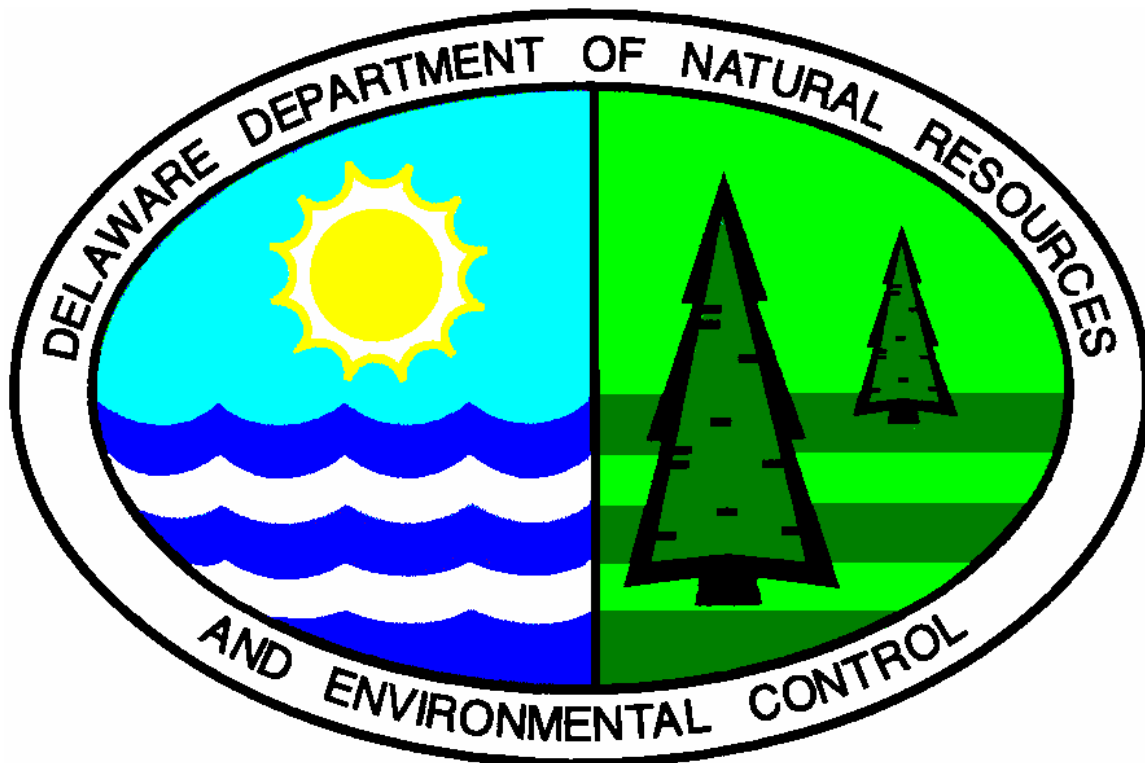


AMENDED FINAL PLAN OF REMEDIAL ACTION

Peninsula Park, LLC
Operable Unit -1 (OU-1), Parcel #3
East 7th Street Peninsula
Wilmington, Delaware

DNREC Project No. DE-1147



May 2003

Department of Natural Resources and Environmental Control
Division of Air and Waste Management
Site Investigation and Restoration Branch

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1.0 INTRODUCTION

The Peninsula Park, LLC (Peninsula Park) site is located on the East 7th Street Peninsula in Wilmington, Delaware (Figure 1). The site is bordered by Brandywine Creek to the north and east, Industrial Street to the south, and vacant land to the west. The site, formerly part of a 14-acre tract known as the Julian property, consists of approximately 11 acres of land that has been subdivided into 3 parcels (Figure 2). Bell Atlantic operates a switching station on Parcel 1. This parcel, which covers 6.09 acres, contains one building and is surrounded by a paved parking lot. Parcel 2 is 3.09 acres in size, and is partially covered by a building and a paved parking lot. The building is occupied by Tri State Carpet, a DuPont subsidiary. Parcel 3, also known as the Vets Welding site, is 1.83 acres in size and is currently being developed by the EDIS Development Company (EDIS).

The soils at this site had been previously investigated as Operable Unit 1 (OU-1) for which the Department of Natural Resources and Environmental Control (DNREC) issued a final plan of remedial action (final plan) in February 2000 based on the focused feasibility study (FFS) submitted by EA Engineering, Science, and Technology (EA), on behalf of Peninsula Park in March 1999. The FFS report was based on data collected during the East 7th Street Peninsula-Northside Brownfield Preliminary Assessment investigation conducted in October 1998 (Northside BPA II) by DNREC personnel. The FFS was conducted in accordance with the Delaware Regulations Governing Hazardous Substance Cleanup (the Regulations). The Northside BPA II included the sampling of surface soil, subsurface soil, surface water, sediments, and groundwater.

Peninsula Park desired to obtain a Certification of Completion of Remedy (COCR). Therefore, they entered into the DNREC Voluntary Cleanup Program (VCP) in March 1999 under the provisions of the Delaware Hazardous Substance Cleanup Act, 7 Del. C. Chapter 91 (HSCA) and agreed to investigate the potential risks posed by soil, groundwater and sediment to public health, welfare, and the environment.

The purpose of this amended final plan of remedial action (amended final plan) is to modify the asphalt cap designed to contain contaminated soils on Parcel 3. The original final plan called for the placement of a minimum of one (1) foot of clean fill, six (6) inches of crusher run and four (4) inches of asphalt above contaminated soils in parking areas. This amended final plan calls for the placement of a barrier of geotextile fabric, six (6) inches of crusher run and five (5) inches of asphalt (3 inches of Type B and 2 inches of Type C) above contaminated soils in parking areas as the intended remedial action.

This document is DNREC's amended final plan of remedial action for the soils (OU-1) of Parcel 3 only. It is based on the results of the previous soil investigations performed at the site. This amended final plan is issued under the provisions of the HSCA and the Regulations Governing Hazardous Substance Cleanup (Regulations). It presents the Department's assessment of the potential health and environmental risks posed by the site.

As described in Section 12 of the Regulations, DNREC provided notice to the public and an opportunity for the public to comment on the modified asphalt cap design presented in the amended proposed plan. At the comment period's conclusion, DNREC did not receive any

verbal or written comments to the amended proposed plan. The amended final plan designates the selected remedy including the modified asphalt cap for the site. All previous investigations of the site, the final plan, the amended proposed plan, and the amended final plan will constitute the Remedial Decision Record for the site.

Section 2 presents a summary of the site description and history. Section 3 provides a description of the remedial investigation results. Section 4 presents a discussion of the remedial action objectives. Section 5 presents the amended final plan of remedial action for Parcel 3. Section 6 discusses public participation requirements. Section 7 presents the Director's Declaration.

2.0 SITE DESCRIPTION AND HISTORY

2.1 Site Setting

The site consists of 11.01 acres of land located on the East 7th Street Peninsula in Wilmington, Delaware (Figure 1). The Brandywine Creek borders the site to the north and east, Industrial Street borders the site to the south, and vacant land borders the site to the west. The site has been subdivided into 3 parcels (Figure 2). Bell Atlantic operates a switching station on Parcel 1 (New Castle County tax parcel number 26-045.00-011). This parcel, which covers approximately 6.09 acres, contains one building and is surrounded by a paved parking lot. Parcel 2 (New Castle County tax parcel number 26-045.00-012), approximately 3.09 acres in size, is partially covered by a building that is occupied by Tri State Carpet, and a paved parking lot. Parcel 3 (New Castle County tax parcel number 26-045.00-021), is approximately 1.83 acres in size and is presently being developed by the EDIS Development Company. This parcel is to be covered with a 12,800 square foot steel frame and masonry warehouse and a paved parking lot. Only OU-1 of Parcel 3 is the subject of this amended final plan. The surrounding land use generally consists of commercial and/or industrial use.

2.2 Site and Project History

The exact history of this parcel is unknown. Historical industry (1876-1932) to the west of the parcel included rail car manufacturing, shipbuilding, iron foundry operations, and other heavy industry. This parcel, along with much of the East 7th Street peninsula, was reportedly used by the City of Wilmington as a municipal landfill from the 1940s through 1960s. The peninsula was then overlain with ash from Wilmington's trash incinerators. Portions of the peninsula were also filled with various construction debris and fill material.

Several environmental investigations were conducted by DNREC and by Peninsula Park between 1998 and 2002 on the East 7th Street peninsula as it is located within a region targeted for economic revitalization by the City of Wilmington and the Riverfront Development Corporation (RDC). Test pit and well boring logs indicated that this parcel is extensively filled with municipal garbage (up to 18 feet thick) and underlain by marsh deposits.

Previous soil investigations:

Fall 1998 – DNREC conducted a Brownfield Preliminary Assessment (BPA) II for the E. 7th Street Peninsula-North Side, which included the 14 acres of the former Julian property. DNREC prepared a summary report for the North Side BPA II in January 1999. During the BPA II investigation on the former Julian property, DNREC installed one monitoring well, excavated seven test pits, and collected fourteen soil samples, one surface water sample, two sediment samples and one groundwater sample. The samples were analyzed for contaminants listed on the Target Analyte List (TAL) and the Target Compound List (TCL).

March 1999 – A VCP Agreement was signed between Peninsula Park, LLC and DNREC.

April 1999 – EA Engineering (EA) submitted a FFS for the former Julian property on behalf of Peninsula Park in order to evaluate remedial alternatives for the site.

April 1999 – The proposed plan of remedial action for operable unit 1 (OU-1) was advertised. It addressed soil and subsoil on the 11-acre Peninsula Park property only. Groundwater, surface water, and sediment were to be addressed as a second operable unit (OU-2). The remedial action objectives were to be accomplished by permanent capping with buildings, paved parking lots, and a combination of geotextile and clean fill.

February 2000 – The final plan of remedial action for OU-1 was advertised.

October 2001 - DNREC collected fourteen (14) additional soil samples on Parcel 3 in order to complete the site characterization and to determine if the final plan for remedial action previously selected for the OU-1 was in need of modification.

January 2003 – The final plan of remedial action for OU-2 was advertised.

3.0 INVESTIGATION RESULTS

DNREC conducted the Northside BPA II in accordance with the Regulations and the Northside BPA II Work Plan in October 1998. The purpose of that investigation was to determine the existence or non-existence of contamination over the 43-acre northern section of the East 7th Street Peninsula, which included the Peninsula Park property (formerly known as the Julian property).

The Northside BPA II investigated all properties bound by the Brandywine Creek, Industrial Street, East 7th Street, and the Amtrak Rail Line. Seven (7) test pits from the Northside BPA II were located on the Peninsula Park property, and one (1) on Industrial Road adjacent to the Peninsula Park property. Sixteen (16) samples plus three QA/QC samples were collected and field screened.

As a result of the completion of the Northside BPA II, contaminants of concern requiring remedial actions were identified in the Peninsula Park soils. These include metals, PAHs, and pesticides/ PCBs.

On October 17, 2001, DNREC collected additional soil samples on Parcel 3 in order to complete the site characterization and to determine if the final plan for remedial action previously selected for the OU-1 was in need of modification. A total of fourteen (14) soil samples were collected from seven (7) test pits excavated by backhoe. The locations of the test pits are illustrated on Figure 3. DNREC collected both a shallow soil sample (0 to 2 feet) and a subsurface soil sample (below 2 feet) from each test pit. The test pits were excavated to a maximum depth of thirteen (13) feet below ground surface (bgs) with a backhoe. Neither groundwater nor bedrock was encountered in any of the test pits. The test pits were subsequently refilled and leveled using the excavated materials.

At least nine (9) feet of fill material intermixed with sand and clay was encountered in each of the test pits. The fill material contains construction debris such as brick, gravel, lumber, concrete, scrap metal, glass, domestic trash, and other materials including coal, cinders, ash, and slag. Three of the test pits encountered a buried marsh horizon at a depth of nine (9) feet bgs.

All soil samples were screened in the DNREC-SIRB mobile lab using a portable GC/MS and an X-Ray Fluorescence (XRF) analyzer for the following classes of compounds: volatile organic compounds (VOCs), pesticides, carcinogenic polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), total petroleum hydrocarbons (TPH) and metals. Table 1 contains the XRF screening data for the inorganics in the soil samples. Six samples (including one QA/QC sample) were then submitted to the DNREC Division of Water Resources Laboratory for confirmatory analysis of chemicals of concern (COCs). COCs consist of all or part of the USEPA Target Analyte List inorganics and Target Compound List organics (TAL/TCL). DNREC's analytical chemist performed the validation of the analytical data results. Tables 3 through 7 contain the analytical results of surface and subsurface soil samples. The analytical results were then compared to the DNREC Uniform-Risk Based Remediation Standards (URS) in a non-critical water resource area, using the unrestricted use (i.e., residential use) risk scenario and the EPA Region III Risk-Based Concentrations (RBCs) for industrial and residential soils.

VOCs: There were no VOCs detected above laboratory detection limits in any of the surficial or subsurface soil samples.

SVOCs (Tables 2 and 3): Two or more PAHs were detected in each of the surficial and subsurface soil samples. Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene and dibenz(a,h) anthracene were the PAHs that were detected at concentrations exceeding their respective unrestricted URS values.

Pesticides and PCBs (Tables 4 and 5): No pesticides were detected above the unrestricted use URS values in any of the surficial or subsurface soil samples. Aroclor-1260 was the only PCB detected above the unrestricted use URS values in any of the surficial or subsurface soil samples.

Metals (Tables 6 and 7): Aluminum, arsenic, iron and manganese were detected in all of the soil samples above their respective unrestricted use URS values.

4.0 REMEDIAL ACTION OBJECTIVES

According to 8.4 (1) of the Regulations, site-specific remedial action objectives (RAOs) must be established for all plans of remedial action. RAOs were evaluated utilizing the qualitative and quantitative objectives and the following considerations:

- The site is being redeveloped into a commercial building with a parking lot and sidewalk;
- The surrounding land use is to remain commercial and light industrial; and
- The risk posed to future construction workers through exposure to contaminated soil.

The qualitative objectives are as follows:

- Minimize potential exposure to site contaminants of concern for construction workers at the site; and
- Control soil erosion and the subsequent transportation of contaminated soil into the surface water.

Based on the above qualitative objectives, the quantitative objectives are:

- Prevent human and ecological receptor contact with soil that has an arsenic concentration greater than 3.0 milligrams/kilogram (mg/kg);
- Prevent human and ecological receptor contact with soil that has a lead concentration greater than 1,000 mg/kg;
- Prevent human and ecological receptor contact with soil that has a benzo(a)pyrene concentration greater than 0.8 mg/kg;
- Prevent human and ecological receptor contact with soil that has a total PCB concentration greater than 1.0 mg/kg; and
- Prevent human and ecological receptor contact with C18-C36 total petroleum hydrocarbons in excess of 5,000 mg/kg.

5.0 AMENDED FINAL PLAN OF REMEDIAL ACTION

Based on DNREC's evaluation of the remedial investigations and the current land use, DNREC has determined that the remedy conveyed in the amended proposed plan should be adopted as the final plan, and shall be implemented. The amended final plan consists of following:

Action # 1: Permanently capping the site with buildings, and paved parking areas. The proposed asphalt cap for the parking areas would be constructed in accordance with the pavement section design submitted to DNREC by EDIS on January 7, 2003. That design calls for the placement of a barrier of geotextile fabric, six (6) inches of crusher run and five (5) inches of asphalt above

contaminated soils in parking areas as the remedial action. A barrier of geotextile fabric and a minimum of two (2) feet of clean fill remains as the remedy for open space areas.

Action # 2: Submitting for approval by DNREC and implementing an operations and maintenance (O&M) plan within 1 year after construction is completed to ensure that the integrity of the asphalt cap is maintained.

Action # 3: Implementing a deed restriction that requires excavation approval from DNREC, demolition approval from DNREC, and restricts the property to commercial land use only.

It is important to note that not all of the details contained in the original final plan (February 2000) were included in this amended final plan. The original remedy for the majority of the site, as addressed in the original final plan, remains in effect. That original remedy included construction of a permanent cap of the site with buildings, paved parking lots, a combination of geotextile fabric and clean fill, and a declaration of restrictions. The remedy in this amended final plan, including the modified asphalt cap, is protective of human health and the environment. The complete remedial action for the site is contained in both the original final plan and this amended final plan. The original final plan can be reviewed at DNREC's office listed below.

6.0 PUBLIC PARTICIPATION

The Department actively solicited public comments or suggestions on the modified asphalt cap design presented in the amended final plan of remedial action and welcomed opportunities to answer questions.

The twenty day comment period began on Wednesday March 26, 2003, and ended at the close of business on Wednesday April 14, 2003. No written or verbal comments were received during the comment period.

7.0 DECLARATION

This final plan of remedial action for the Peninsula Park, LLC Site Operable Unit 1 Parcel 3 is protective of human health, welfare and the environment and is consistent with the requirements of the Delaware Hazardous Substance Cleanup Act.

John Blevins, Director
Division of Air and Waste Management

Date

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Figure 1: Site Location Map Peninsula Park LLC



Figure 2: Parcel Boundaries Peninsula Park LLC

Figure 3: Sampling Location Map For Parcel #3

Table 1: XRF Data Summary Form: Inorganics

Table 2: Data Summary Form: Semivolatiles Surface Soils

Table 3: Data Summary Form: Semivolatiles Subsurface Soils

Table 4: Data Summary Form: Pesticides/PCBs Surface Soils

Table 5: Data Summary Form: Pesticides/PCBs Subsurface Soils

Table 6: Data Summary Form: Inorganics Surface Soils

Table 7: Data Summary Form: Inorganics Subsurface Soils