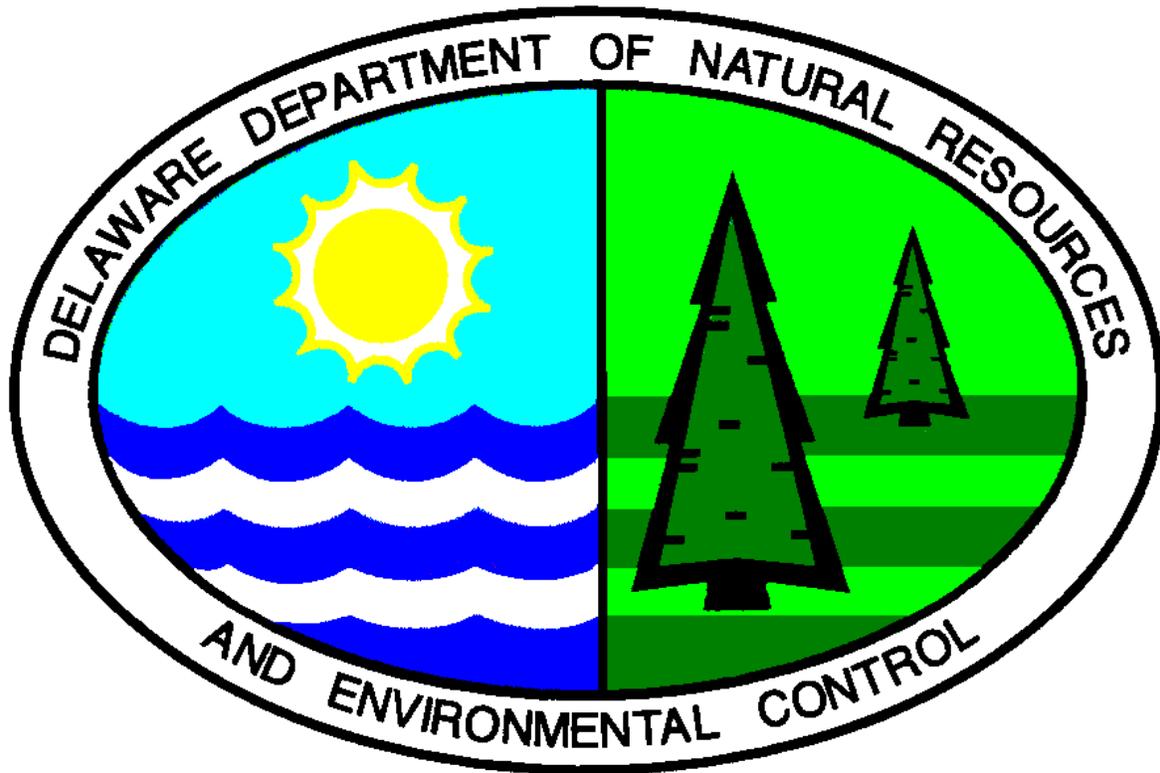


Final Plan of Remedial Action

**103, 105 & 121 N. Poplar Street
Wilmington, DE**



December 1996

**Prepared by:
Department of Natural Resources and Environmental Control
Division of Air and Waste Management
Site Investigation and Restoration Branch**

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1. INTRODUCTION

The Department of Natural Resources and Environmental Control (“DNREC” or “Department”) issues this Final Plan of Remedial Action under the authority granted by the Hazardous Substance Cleanup Act (Del. C., Ch. 91) and the Delaware Regulations Governing Hazardous Substance Cleanup (“Regulations”). The Final Plan presents the Department’s final selection of remedial activities to occur at 103, 105 & 121 N. Poplar Street, Wilmington, Delaware. (Figures 1 and 2).

2. BACKGROUND

The Department reached an agreement with SBM Housing, Inc., the prospective purchaser of 121 N. Poplar Street, in August of 1996, to review a Phase I Environmental Site Assessment, a Phase II Investigation, and to give technical advice regarding future sampling at the site. In October of 1996, a portion of the adjacent community garden was found to be part of the 121 N. Poplar street property. In November of 1996, the owners of the adjacent two properties (also included within the community garden), represented by Poplar Street Associates, requested to be included under the Department’s agreement with SBM Housing, Inc.

The site consists of an irregular shaped .93± acre parcel of land located in Wilmington, Delaware (Figure 1). The site is bound by Second Street to the north, Walnut Street to the west, Poplar Street to the east and Front Street to the south (see Figure 1). Improvements to the site include a three-story apartment building, paved parking area and a community garden. The 24 unit apartment building is currently vacant. Surrounding land use is generally residential. The site is currently zoned as residential (R-5B; Apartment House Medium Density)

3. INVESTIGATION RESULTS

In August 1996, WIK conducted a Phase II investigation at the 121 N. Poplar Street site. During that investigation, WIK installed five (5) hand auger borings and collected two (2) surficial soil samples and one (1) subsurface soil sample. Hand auger sample locations are included on Figure 2. Analytical results and chemicals analyzed are summarized in Table 1.

As shown in Table 1, the surficial soil samples contained several polycyclic aromatic hydrocarbons (PAHs), including benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene, which exceeded DNREC Reporting Levels for residential soils. Lead was also detected in the surficial soils at levels which exceed DNREC Reporting Levels for residential soils. Analytical results of subsurface soil samples also indicated that arsenic and barium exceeded DNREC Reporting Levels.

The results of the Phase II Investigation indicated that additional sampling was warranted. A Limited Site Investigation Work Plan was submitted and approved by DNREC. The purpose of this investigation was to delineate the extent of arsenic impacted soil discovered during the Phase II investigation.

On September 5, 1996, WIK Associates, Inc. supervised the installation of eight (8) geoprobe borings at 121 North Poplar Street (Figure 2). Borings were installed to delineate the extent of arsenic impacted soils discovered during the Phase II investigation. Based on observed site conditions, eight soil samples were collected and analyzed for arsenic. Samples were collected in accordance with the DNREC approved work plan. No groundwater samples were collected as groundwater was not encountered in the borings. As shown in Table 1, five (5) of the eight (8) samples contained arsenic concentrations above the DNREC subsurface soil reporting level.

On October 2, 1996, it was determined that approximately 3000 square feet of an adjacent community garden is part of the 121 North Poplar property. DNREC requested that samples be collected from the garden to determine if this portion of the property needed to be considered for remediation (Figure 2). Two (2) soil samples were collected and analyzed for arsenic, one (1) sample was collected and analyzed for lead and arsenic, and one (1) sample was collected and analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and metals. As shown in Table 1, lead concentrations in samples SS02G and SS04G are above the DNREC residential surface soil reporting level. No other metal was detected above DNREC residential surface soil reporting levels.

On November 5, 1996, the remaining portion of the community garden, contained within the 103 and 105 N. Poplar Street properties, was sampled by WIK Associates, Inc. (Figure 2). WIK collected nine shallow soil samples under DNREC oversight. Three soil samples, one from each property, were analyzed for TCL semivolatiles and 8 RCRA metals. The remaining 6 samples, two from each property, were analyzed for arsenic and lead only. All three of the semivolatile samples exceeded DNREC's reporting levels for benzo(a)pyrene (Table 2). A total of seven samples exceeded DNREC's residential reporting levels for lead (Table 3).

4. REMEDIAL ACTION OBJECTIVES

According to HSCA Regulations, the Department will set remedial action objectives for land use, resource use, and cleanup levels that are protective of human health and the environment. The following objectives were determined to be appropriate for the site:

- Prevent contact with soils containing arsenic in exceedence of HSCA reporting requirements (greater than 23 mg/Kg);
- Prevent contact with soils containing lead in exceedence of HSCA reporting requirements (greater than 400 mg/Kg); and
- Prevent contact with soils containing PAHs in exceedence of HSCA reporting requirements (greater than 0.088 mg/Kg).

These objectives are consistent with the current and future use of the site, the surrounding land use, the City of Wilmington zoning policies, state and federal regulation, and community safety.

5. PROPOSED PLAN AND PUBLIC PARTICIPATION

The Department provided public notice of its Proposed Plan of Remedial Action for the 103, 105, & 121 N. Poplar Street site in The News Journal and Delaware State News on December 4, 1996. The Department preferred remedy conveyed in the Proposed Plan is:

- **Excavation, removal and disposal at a DNREC approved facility of PAH, Lead and Arsenic contaminated soils which are in exceedence of qualitative remedial action objectives;**
- **Placement of clean fill on the site to replace the area excavated of contaminated soil; and**
- **Isolated capping of parking lot and section of land between the sidewalk and street as shown in Figure 3.**

During the comment period, the Department received no comments on the Proposed Plan.

6. FURTHER ACTION

Based upon the information and results of the investigations performed at the 103, 105 & 121 N. Poplar Street site, Wilmington, the Department has determined that the most preferred remedy conveyed in the proposed plan should be implemented.

7. DECLARATION

This Final Plan of Remedial Action for the 103, 105 & 121 N. Poplar Street site is protective of human health, welfare and the environment and is consistent with the requirements of the Delaware Hazardous Substance Cleanup Act.

**Nicholas A. Di Pasquale, Director
Division of Air and Waste Management**

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