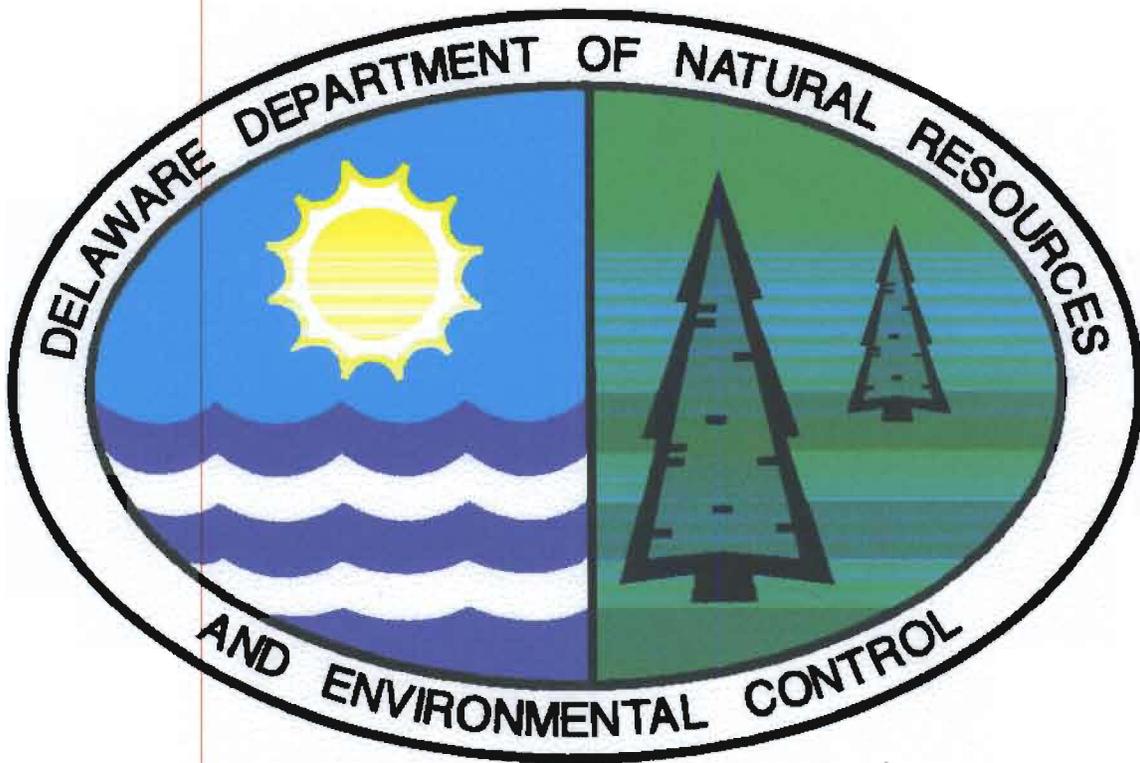


FINAL PLAN OF REMEDIAL ACTION

**1000 FRENCH STREET SITE
Wilmington, Delaware**

DE 1115

SCANNED
JUL 02 1999
File # DE1115
BR



June 1999

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

Table of Contents

I.	INTRODUCTION.....	1
II.	ORGANIZATION AND CONTENTS OF THE PROPOSED AND FINAL PLANS.....	1
III.	SITE DESCRIPTION.....	1
IV.	SITE HISTORY	2
V.	REMEDIAL INVESTIGATION PROCEDURES.....	3
VI.	REMEDIAL INVESTIGATION RESULTS	3
A.	GENERAL INFORMATION	3
B.	SITE FILL SOILS	3
C.	SUMMARY	3
VII.	INTERIM ACTION.....	4
VIII.	FACILITY REMEDIAL ACTION OBJECTIVES	4
IX.	RISK EVALUATION SUMMARY.....	4
X.	FINAL REMEDIAL ACTION PLAN.....	4
XI.	DECLARATION.....	5

List of Figures

FIGURE 1 - SITE LOCATION.....	6
-------------------------------	---

I. Introduction

The Delaware Department of Natural Resources and Environmental Control, Site Investigation and Restoration Branch (“DNREC-SIRB”) performed a Remedial Investigation (“RI”) of the 1000 French Street Site (“Site”) Wilmington, Delaware under the Delaware Hazardous Substance Cleanup Act (“HSCA”) 7 Del. C. Chapter 91. Based on the comprehensive environmental investigations performed for the Site and the interim action taken at the Site, DNREC-SIRB concluded that the Site, in its present condition, does not present an unacceptable risk to public health, welfare or the environment.

II. Organization and Contents of the Proposed and Final Plans

DNREC-SIRB issues this Final Plan under the provisions of HSCA and the Regulations Governing Hazardous Substance Cleanup, (“Regulations”). The Final Plans present DNREC-SIRB’s assessment of the health and environmental risks posed by the Site and plans for limited further action.

In accordance with the Regulations, DNREC-SIRB provided notice to the public and an opportunity for the public to comment on the Proposed Plan in accordance with Section 12 of the Regulations. The public comment period for the Proposed Plan began on June 5, 1999, and ended at the close of business (4:30 p.m.) on June 25, 1999. At the comment period’s conclusion, DNREC-SIRB reviewed and considered all of the comments received and then DNREC-SIRB issued a Final Plan of Remedial Action. The Final Plan of Remedial Action designates the selected remedy for the Site. The Proposed Plan, the comments received from the public, DNREC-SIRB’s responses to those comments, and the Final Plan of Remedial Action constitute the remedial decision record.

The Final Plan contains a description of the following site information:

- A summary of the procedures, analytical results, and conclusions of the remedial investigation,
- A discussion of objectives,
- A summary of the risk assessment results, and
- A plan for the Site’s future.

III. Site Description

The Site is located in the lot between Tenth, French, and Walnut Streets and St. Joseph’s Church in Wilmington, Delaware, New Castle County, see Figure 1. The Site consists of approximately 0.5 acres and consisted of 12 tax assessment parcels, which have been consolidated into one tax parcel. The Site previously contained mixed uses including residential, commercial and industrial as well as a parking lot.

The Site is bounded to the north by St. Joseph’s Church and the church parking lot, to the east by Walnut Street, to the south by Tenth Street and to the west by French Street.

The Site is characterized by rolling hills and is underlain by the Wilmington Complex (a meta-igneous and meta-sedimentary crystalline “bedrock”) which is overlain by approximately 20 to

50 feet of sandy silt to silty clay material. Fracture orientation and frequency control groundwater flow in this area. Well yields are generally low, with the average residential well yielding about one gallon per minute. Groundwater is also present in the overlying silty clay material (regolith). However, since the Site is located in the City of Wilmington, public water and sewer serves both the surrounding buildings and the Site.

Site surface elevations range from approximately 70 feet above Mean Sea Level (MSL) in the vicinity of Tenth and French Street to approximately 55 feet MSL at along Walnut Street. Surface drainage from the Site flows in an easterly to southeasterly direction toward the Brandywine Creek but intercepts the City of Wilmington combined sewage and stormwater collection system prior to reaching the Brandywine.

Soil Survey for New Castle County, Delaware describes the on-site soils as Made Land, which typically describes land that has been filled with soil materials, debris, or both. In addition, Made Land has been so altered or disturbed by urban works and structures that soil classification is not feasible.

There are no mapped wetland areas present on the Site. There are no wetland plants or hydrology present on the Site. Based on the review of the applicable FEMA Flood Insurance Rate Map, the Site is located in an area that is outside of the 500-year floodplain.

There are no underground storage tanks present on the Site.

IV. Site History

The Site contained a series of residential houses, small commercial operations and a parking lot. Historic research indicates that residential buildings were present on the Site from 1884 through to the mid-1960s. In the late 1960s, some of the buildings were demolished into their own footprint. From the late 1960s until 1989, several residential buildings remained on the Site, with the remainder of the Site comprising a bituminous and concrete parking lot.

Potential asbestos containing materials were observed on the former residential buildings. All asbestos containing materials were abated properly from the buildings prior to the demolition and/or relocation of the buildings. The asbestos abatements were performed by a Delaware Certified Asbestos Abatement Contractor, under the review of a Delaware Certified Asbestos Consultant. The DNREC, Division of Air and Waste Management, Air Resources Branch, was properly notified of all the abatements.

Basement heating oil tanks were present in several of the residential houses prior to the demolition and/or relocation. These tanks were emptied, cleaned and removed by J&M Industries, Inc. a Delaware Certified Tank Removal Contractor. The DNREC, Division of Air and Waste Management, Underground Storage Tank Branch, was properly notified.

The Site is currently under the care of the Bracebridge Corporation, and is slated for redevelopment as an office type structure for daycare and other multi uses by the Bracebridge Corporation. The Bracebridge Corporation entered into a voluntary agreement with DNREC-SIRB to conduct an investigation and cleanup of the Site.

V. Remedial Investigation Procedures

DNREC-SIRB conducted an extensive review of past investigations prepared for the Site. After review of the work conducted, DNREC-SIRB worked with Duffield Associates, Inc. (Duffield), the consultant for Bracebridge Corporation, to develop a Work Plan to address the following:

- Determine the presence or absence of contaminants in the historic fill, and if present, determine the contaminant fate and transport, and
- Determine the presence or absence of a source in the underlying soils and structure and if present to remove the source.

The Work Plan called for Duffield to perform the following tasks:

- Re-sample and analyze the Site fill soils;
- Develop a profile of the volume of material impacted;
- A risk assessment, if necessary, both human health and/or ecological, and
- A FS, if the Site poses unacceptable risk to human health and the environment to correct these risks.

VI. Remedial Investigation Results

DNREC-SIRB considers the data and information generated in the previous investigations of the Site to meet the criteria of a RI. The following is a brief summary of the results of the investigations for the Site

A. General Information

All surrounding buildings and structures are currently connected to public water and wastewater systems.

Asbestos materials were removed and disposed of properly prior to the demolition and/or relocation of the buildings located on the Site.

Basement heating oil storage tanks were cleaned and removed properly prior to the demolition and/or relocations of the buildings located on the Site.

B. Site Fill Soils

Subsurface evaluation of the parcels not containing residential/commercial structures revealed buried debris and ash as well as historic fill. Elevated concentrations of metals and polynuclear aromatic hydrocarbons (PAHs) were reported in this fill material. Petroleum hydrocarbons were detected in fill soils along the northern boundary of Tenth and French Streets.

C. Summary

The results of the study indicated that the Site contains elevated concentrations in the fill soils of lead, chromium and selenium, which exceeded the DNREC-SIRB Remediation Standards for unrestricted use. PAH compounds were detected in Site fill soils in all samples at

concentrations, which exceeded the Remediation Standards for unrestricted use. Petroleum is present in the soils beneath the eastern portion of the Site. And, buried debris and ash was observed to depths of up to six (6) feet below top of ground surface.

VII. Interim Action

The agreement with Bracebridge Corporation provided that if during the course of investigation means became apparent to reduce the contamination or prevent its spread, appropriate action would be taken immediately. Therefore the following remedial interim actions have occurred:

- **Removal of Regulated Fill Soils:** These regulated fill soils were removed and disposed of properly as per the Regulations.

VIII. Facility Remedial Action Objectives

The Regulations provide that DNREC-SIRB sets objectives for land use, resource use, and cleanup levels that are protective of human health and the environment. The following objectives are determined to be appropriate for the Site:

- Prevent residential exposure to impacted media, and
- Continue the use of public water and sewer for all purposes to the surrounding community,

These objectives are consistent with the value of the Site as part the surrounding land use, New Castle County zoning policies, state regulations governing water supply, and worker health and safety.

IX. Risk Evaluation Summary

Duffield performed a health risk assessment to evaluate the possible effects on human health from the use of the Site consistent with the objectives discussed above.

The Risk Evaluation (“RE”) evaluated whether there was a possible health risk and/or environmental impacts from the release of hazardous substances from the Site. Given that nearly all the residents in the immediate area are connected to municipal water supply and the interim action removed all soil contamination, there is no completed pathway for exposure for any potential ecological or human receptors in the area.

X. Final Remedial Action Plan

Based on the results of the RI and the Interim Action at the Site, DNREC-SIRB concludes that the risks at the Site are acceptable with a restricted groundwater access. Therefore, DNREC-SIRB will:

- Restrict drinking water access and create a groundwater management zone for the Site.

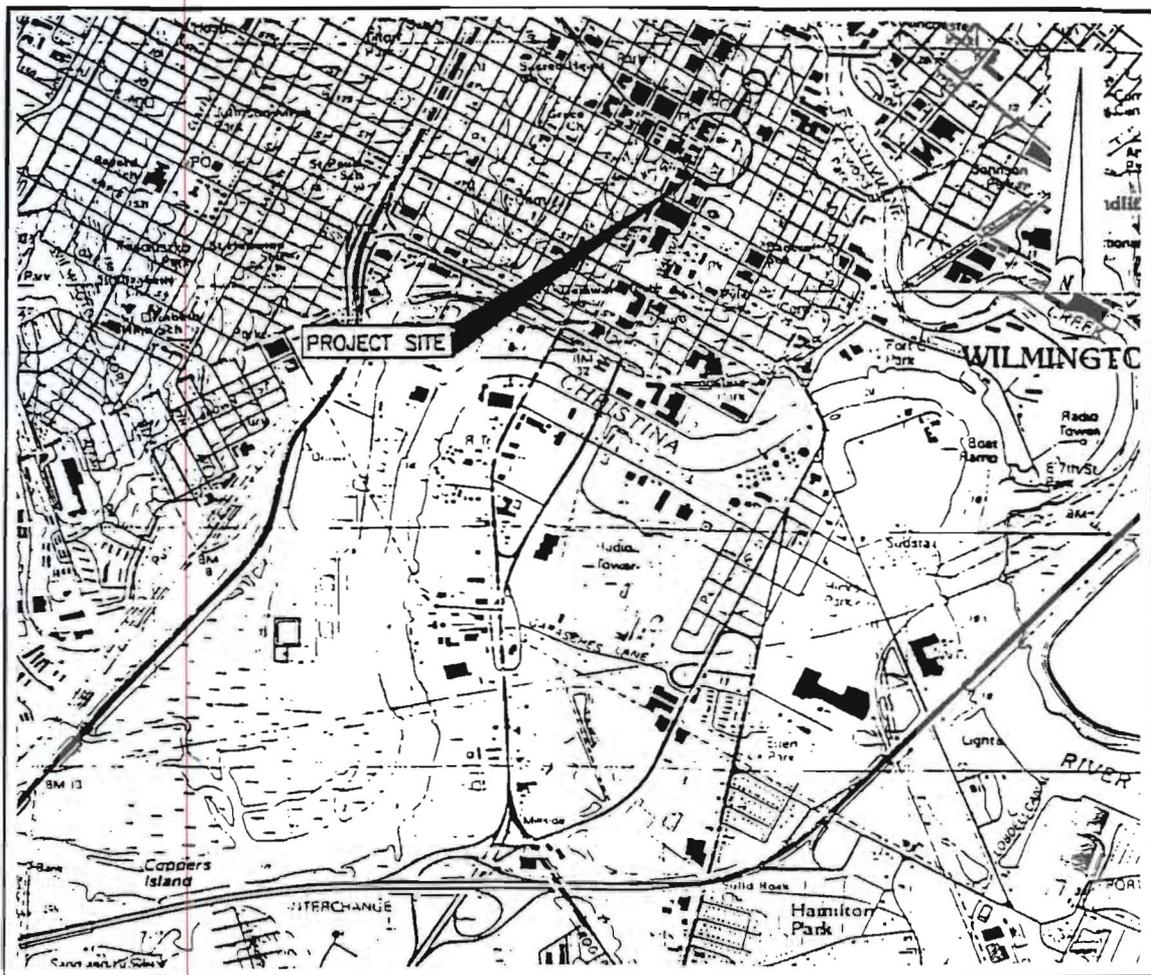
XI. Declaration

This Final Plan of Remedial Action for the 1000 French Street Site is protective of human health, welfare, and the environment and is consistent with the requirements of the Delaware Hazardous Substance Cleanup Act.

William W. Hill 6-29-99
William W. Hill, Acting Director Date
Division of Air and Waste Management

JFBS/rm/JFB99035.DOC
DE 1115 II B9

Figure 1 - Site Location



NOTE:

THIS LOCATION SKETCH IS ADAPTED FROM THE U.S.G.S. TOPOGRAPHIC MAP, 7.5 MINUTE SERIES, FOR WILMINGTON SOUTH, DEL (1993).

**SITE LOCATION SKETCH
POTENTIAL BRACEBRIDGE
MULTI-PURPOSE BUILDING SITE**

WILMINGTON
NEW CASTLE COUNTY - DELAWARE

**DUFFIELD
ASSOCIATES**

DUFFIELD ASSOCIATES, INC.
CONSULTANTS IN THE GEOSCIENCES
5400 LIMESTONE ROAD
WILMINGTON, DELAWARE 19808-1232
TEL (302)239-6634 FAX (302)280-8485
E-MAIL: DUFFIELD@DUFFNET.COM

Drawn: DSH	Chk'd:	Date: 04 MARCH 1998
Scale: 1"=2000'		W.O.: 3596.EP
Drawing No: A-3596EP-1		FIGURE 1