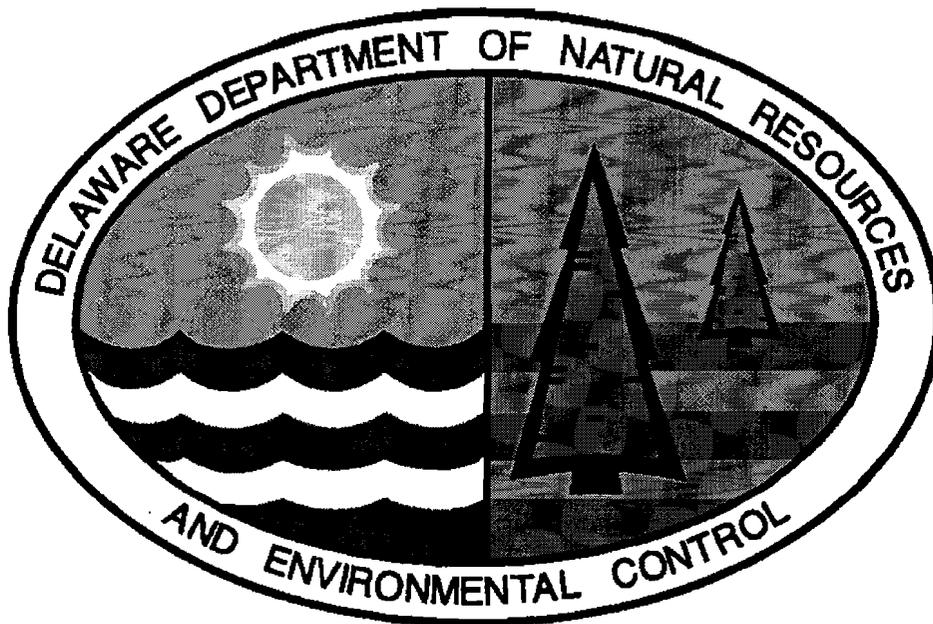


**PROPOSED PLAN OF REMEDIAL ACTION
FOR THE
NEWARK LUMBER SITE
NEWARK, DELAWARE**

SCANNED

DEC - 4 2003

File# DE-1140
88



May, 1999

DNREC Project DE-1140

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

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I INTRODUCTION

In November, 1998, the Delaware Department of Natural Resources and Environmental Control, Site Investigation and Restoration Branch ("DNREC-SIRB") performed a Facility Evaluation ("FE") of the Newark Lumber Site ("Site" or "Facility") in Newark, Delaware under the direction of the Hazardous Substance Cleanup Act ("HSCA"). The FE was conducted in accordance with the Delaware Regulations Governing Hazardous Substance Cleanup ("Regulations"). The FE included sampling of surface soil, subsurface soil, and groundwater at various locations throughout the facility. The FE was completed in January 1999. Subsequent surface soil sampling for arsenic was performed by Duffield Associates, Inc. ("Duffield"), and in combination with the FE data, deemed sufficient to constitute a Remedial Investigation ("RI"), which was combined with a Feasibility Study ("FS"), and finalized in May, 1999.

II PURPOSE

This Proposed Plan of Remedial Action ("Proposed Plan") is based on the RI/FS completed by Duffield. The Proposed Plan is issued under the provisions of the Delaware HSCA, 7 Del. C. Chapter 91, and the Regulations. This Proposed Plan presents the Department's assessment of the human health and environmental risk posed by the impacted areas of concern.

The Department will provide public notice and opportunity to comment on the Proposed Plan in accordance with HSCA and Section 12 of the Regulations. At the conclusion of the comment period, the Department, after review and consideration of the comments received, shall issue a Final Plan of Remedial Action ("Final Plan") which will designate the selected procedures and stipulations concerning current and future activities. The Proposed Plan, the comments received from the public, the Department's responses to the comments, and all of the Site documents form the basis for the Final Plan.

The contents of this Proposed Plan include a description of the Site, the analytical results of the RI, and a discussion of the FS for the Site.

Site Description and History

The Newark Lumber Site is located along East Main Street in the center of the City of Newark as shown in Figure 1. It is bounded by East Main Street to the north, Chapel Street to the west, Delaware Avenue to the south and an abandoned railway to the east.

The Site (Figure 2) occupies two parcels totaling approximately 2.2 acres of commercial/industrial property in central Newark. Surrounding properties are commercial/industrial, with a Burger King to the south, and a Mobil gas station to the west. Properties within the vicinity of the Site are mixed commercial/industrial and residential.

The Site has operated as a lumber and coal storage yard since at least 1891, with the majority of the Site utilized for lumber storage since 1926, according to a Sanborn Fire Insurance Map and deed records search, as noted in a February, 1998, Phase I Environmental Site Assessment by TetraTech, Inc. In addition to lumber, the Site stored farm supplies, fuel oil, and coal. A

railroad spur was reported to have entered the Site in the past. At present, only one two-story building exists on-site, with six structures removed in October 1998.

Two documented petroleum spills have been noted at the facility. In March 1978, approximately 1,200 gallons of fuel oil was spilled in the south-central section of the Site. An unknown quantity of material was recovered and removed off-site. In May 1994, a smaller, 200 gallons of fuel oil was spilled on-site, which was collected and staged for bioremediation.

III INVESTIGATION RESULTS

In November 1998, a FE was conducted by DNREC-SIRB in accordance with the Regulations. The purpose of the investigation was to determine the presence or absence of contamination in surface soil, subsurface soil, and groundwater; and to assess the potential for impact to receptors. The scope of work included 49 surface and subsurface soil samples and groundwater samples from four on-site monitor wells.

Soil samples were screened by use of the DNREC Mobile Laboratory for metals, polynuclear aromatic hydrocarbons, ("PAHs") pesticides and polychlorinated biphenyls ("PCBs"). Confirmatory soil samples, and all groundwater samples were submitted for laboratory analysis at DNREC's Environmental Services Laboratory in Dover, in accordance with the DNREC Standard Operating Procedures for Chemical Analytical Programs procedures and methods.

Several contaminants of concern were identified in site soils, which exceeded DNREC Uniform Risk Standards ("URS"), including metals and petroleum compounds. Of those, arsenic, two PAH compounds-- benzo(a)pyrene, benzo(b)fluoranthene-- and petroleum hydrocarbons were identified as the most ubiquitous and problematic. Elevated concentrations of arsenic and the PAH's were generally limited to surface soils (i.e. less than 2 feet below surface), and found across the Site. However, highest concentrations were found in the southern portions of the property bordering Delaware Avenue. Petroleum hydrocarbons were limited to two areas, one of which is associated with the historical releases along the southern portion of the property. The second area borders Chapel Street and was only found at depths greater than 8 feet below surface.

Groundwater samples contained the solvent tetrachloroethylene ("PCE") and the pesticide dieldrin above drinking water standards. Very low levels of petroleum were also found in groundwater.

The Responsible Party ("RP") signed a Voluntary Cleanup Program ("VCP") allowing Duffield, the RP's consultant, to conduct a RI/FS at the Site.

Subsequent soil sampling was performed by Duffield in the spring of 1999 for purposes of further delineating arsenic concentrations in surface soil. All of these samples were submitted for laboratory analysis at STL-Envirotech in Edison, NJ. Additionally, a trench was excavated to identify the possible source of the petroleum release adjacent Chapel Street. The results of this trenching indicated an off-site source for the petroleum. A review of the DNREC-Underground Storage Tank Branch's files indicated that a PCE release had been documented upgradient of the Site, and thus the source was not associated with the Newark Lumber facility. Based upon

groundwater flow gradients calculated for the Site, DNREC-SIRB has concluded that the source of the dieldrin is upgradient and off-site.

According to HSCA regulation 8.4(1) Remedial Action Objectives (“RAOs”) must be established for all Plans of Remedial Action. The remedial action is evaluated utilizing both the Qualitative and Quantitative Objectives. The following considerations were taken into account in the development of the Qualitative and Quantitative Objectives:

- The Site will be developed into residential and commercial property;

The Qualitative Objectives for this site are:

- Removal of soils off-site which contain higher levels of contaminants of concern;
- Prevent human contact with soils containing lower-levels of contaminants of concern;
- Prevent exposure to contaminated groundwater.

Based on the qualitative objectives, the quantitative objectives that the DNREC-SIRB determined will meet the qualitative objectives include:

SOIL REMEDIATION

- | | |
|--|-------------|
| • C5 through C8 petroleum hydrocarbons | 275 mg/kg |
| • C9 through C 18 petroleum hydrocarbons | 7,200 mg/kg |
| • arsenic | 7.4 mg/kg |
| • benzo(a)pyrene | 0.9 mg/kg |

“HOT SPOTS”

- | | |
|-----------|------------|
| • arsenic | 41.9 mg/kg |
|-----------|------------|

Four remedial alternatives were evaluated to address the soil RAOs. The alternatives for soils are as follows:

Alternative 1: No action. The site would be developed without any DNREC-SIRB requirements to remedy any soil and groundwater.

Alternative 2: Excavation and removal for off-site disposal of highly-impacted, arsenic- and petroleum-laden soils above the quantitative RAO standards. Containment of the remaining, but lower-contaminated arsenic- and petroleum-impacted soil under layers of : 1) a demarcation geotextile, 2) 1.5 to 3 feet of clean soil, 3) 9-inch gravel subbase, and 4) 3.5 inch bituminous concrete. Placement of a deed restriction that prohibits excavation in the area of concern identified on a property map, without DNREC-SIRB approval.

Alternative 3: Excavation and removal for off-site disposal of highly-impacted, arsenic- and petroleum-laden soils above the quantitative RAO standards. Excavation and placement of the remaining, but lower-contaminated

arsenic and petroleum- impacted soil under a building footprint. Placement of a deed restriction that prohibits excavation in the areas of concern identified on a property map, or demolition of the aforementioned building without DNREC-SIRB approval (i.e. under the building footprint). Some petroleum soils at concentrations above RAO's may remain in the subsurface at depths greater than 4 ft. It has been determined during the RI/FS that the petroleum contained in the soil is substantially weathered, rather immobile, and therefore does not pose a threat to human health and the environment.

Alternative 4: Excavation and placement of all contaminated soils that exceed the quantitative RAO's under a building footprint.

The details of each soil remedial alternative are conveyed in the Duffield RI/FS Report for the Site. The groundwater contamination will be addressed as a separate operable unit. Since the source of groundwater contamination is from off-site sources, DNREC will have to conduct further investigation to determine the sources before arriving at an appropriate remedy.

IV PROPOSED PLAN OF REMEDIAL ACTION

Based upon the information and results of the investigation performed at the Newark Lumber facility in Newark, Delaware, the DNREC-SIRB recommended plan of remedial action is Alternative 3. Alternative 3 meets most of the criteria utilized in the evaluation of remedial alternatives that is conveyed in Subsection 8.5 of the Regulations and is the most cost effective remedy. Additional information regarding the evaluation of the remedial criteria is contained in the Duffield RI/FS Report for the Site.

V PUBLIC PARTICIPATION

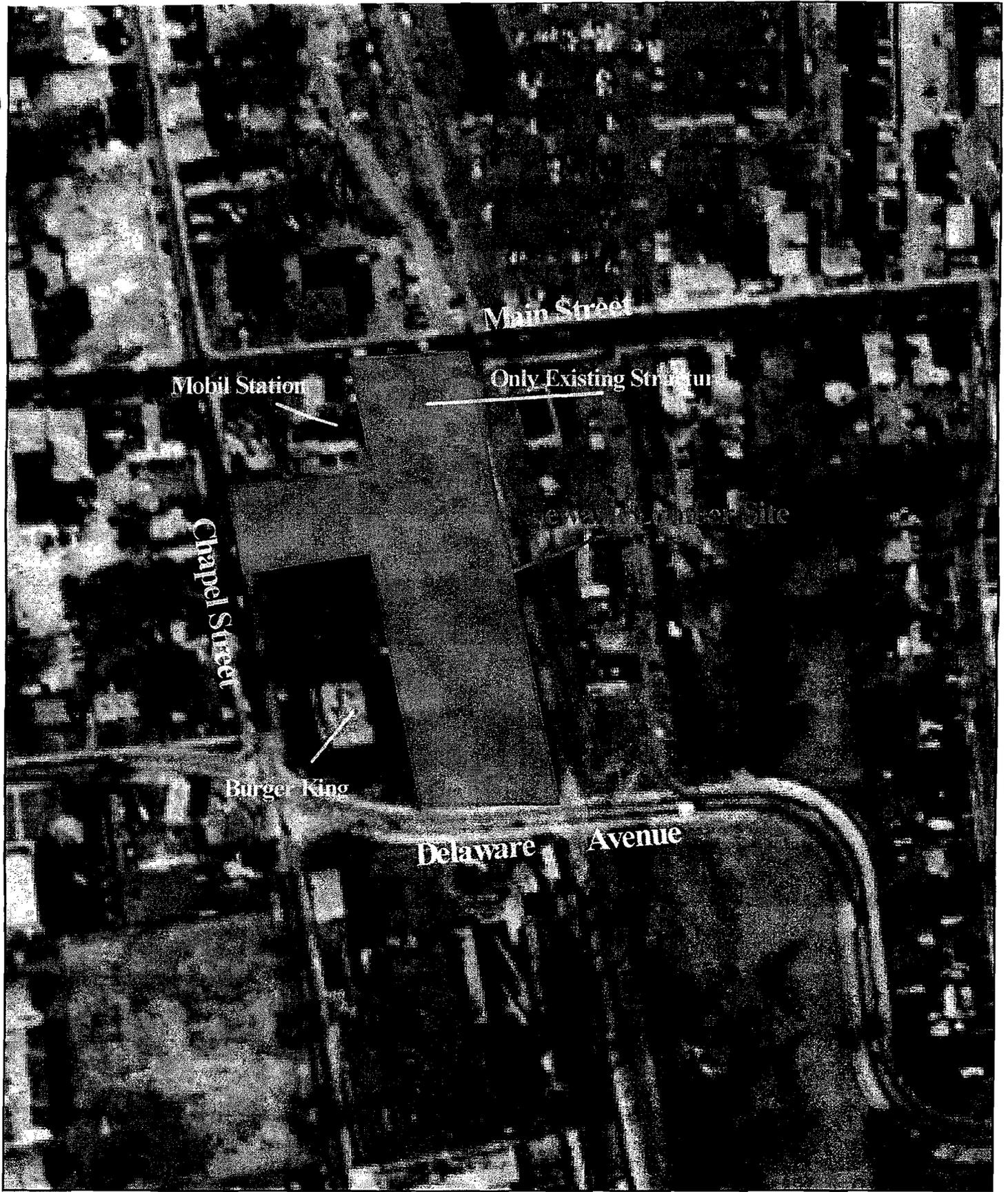
The Department actively solicits public comments or suggestions on the Proposed Plan of Remedial Action and welcomes opportunities to answer questions. Please direct written comments to:

Department of Natural Resources and Environmental Control
Site Investigation and Restoration Branch
Attn: Keith Robertson
391 Lukens Drive
New Castle, Delaware 19720

Or call (302) 395-2600. The public comment period for this Proposed Plan of Remedial Action begins on May 13, 1999 and ends at the close of business (4:30p.m.) on June 1, 1999. In addition, a public meeting on the Proposed Plan will be held at Newark High School on May 19 at 7:00 pm.

LIST OF FIGURES

<u>Figure</u>	<u>Title</u>
1	Site Location Map
2	Facility Plan
3	Soil Sampling Locations – Facility Evaluation and Subsequent Soil Sampling Events
4	Soil “Hot Spots” Identification Map



0.03 0 0.03 0.06 Miles



Figure 1: Site Location

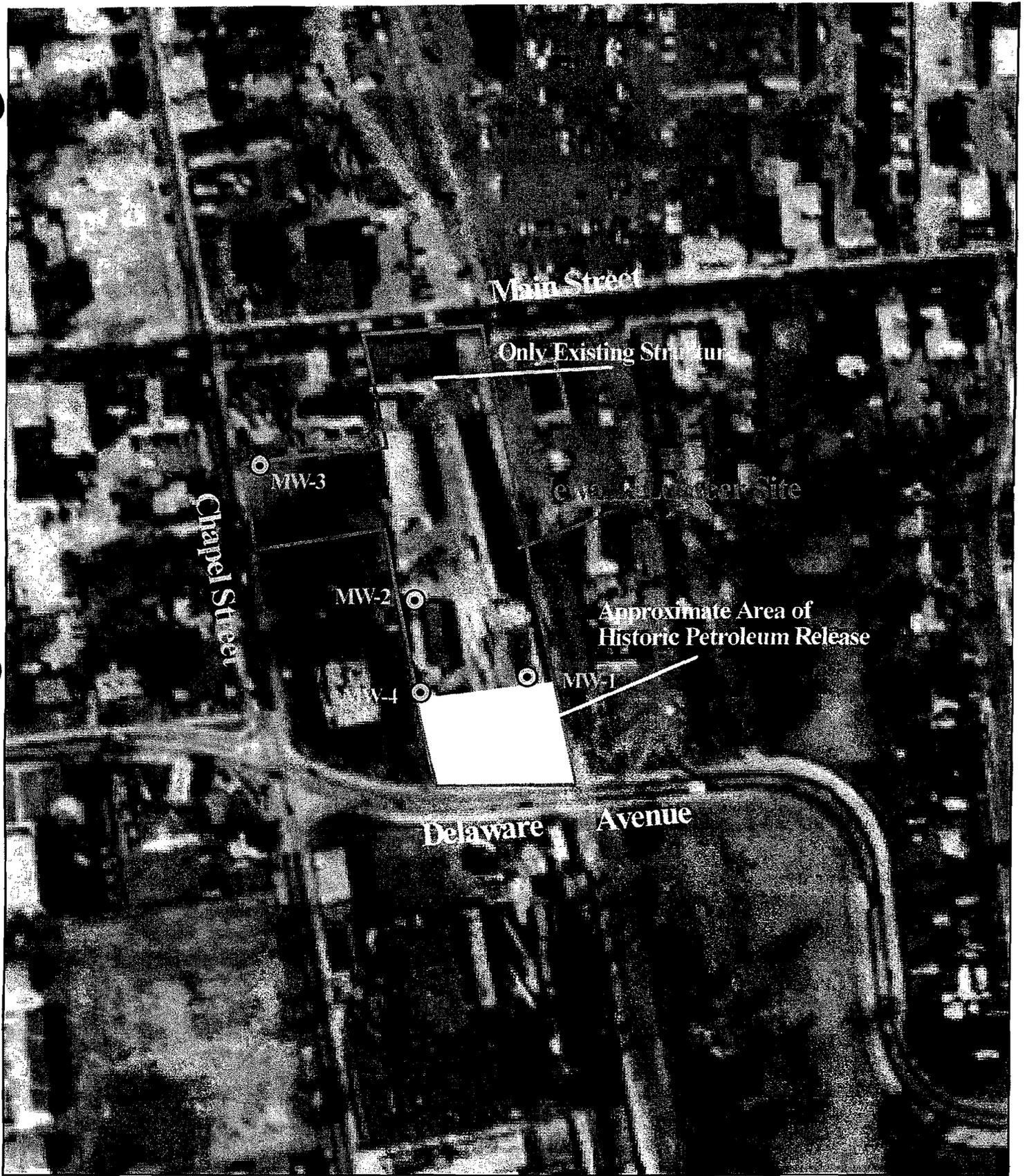


Figure 2: Site Layout

0.02 0 0.02 0.04 Miles



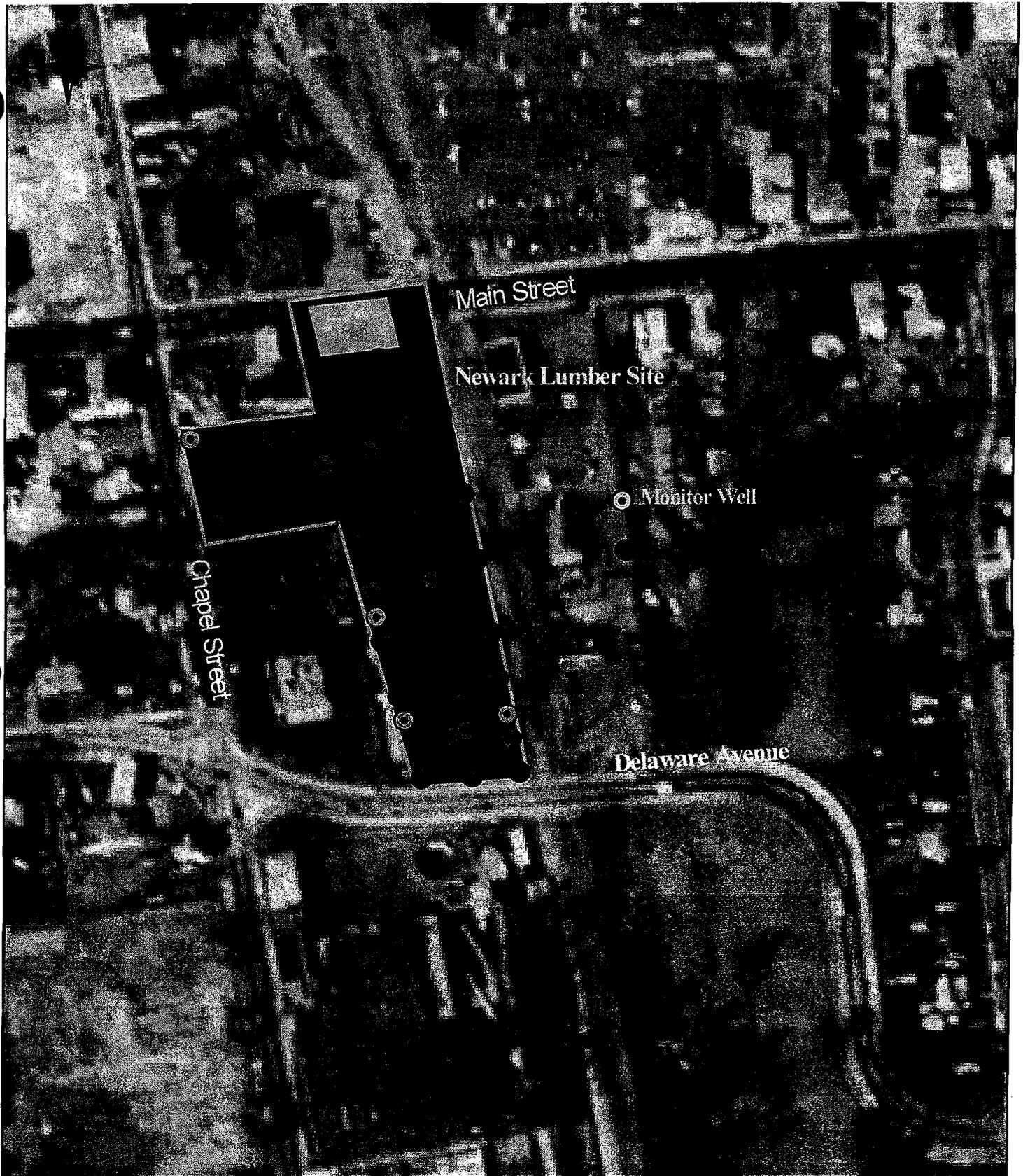


Figure 3: Monitor Well and Soil Boring Locations

