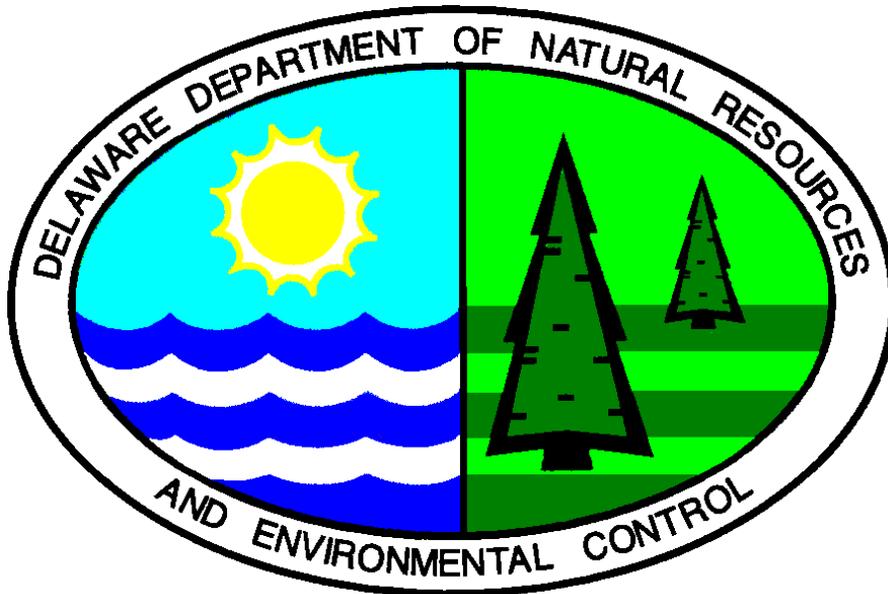


**AMENDED FINAL PLAN OF REMEDIAL ACTION**

**FOR THE**

**TONI CLEANERS SITE  
WILMINGTON, DELAWARE**



**JULY, 1996**

**Amended December, 2000**

**DNREC PROJECT - DE 1005**

**Prepared by:**

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

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## **Amended Final Plan of Remedial Action Toni Cleaners Site**

**The Final Plan adopted in July 1996 included the following text and is presented in its entirety. This Final Plan has been amended due to technical advances since the drafting of the original Final Plan of July 1996. A more protective and more cost effective approach has been applied to the selected remedy. All amendments to the Plan are in bold face type.**

### **Introduction**

The Department of Natural Resources and Environmental Control (the Department) issues the Final Plan of Remedial Action (Final Plan) under the provisions of the Delaware Hazardous Substance Cleanup Act (HSCA) and the Delaware Regulations Governing Hazardous Substance Cleanup (the Regulations). The Final Plan presents to the public the Department's final selection of remedial activities to occur at the Toni Cleaners site, Wilmington, Delaware.

In February, 1994, an initial Remedial Investigation (RI) was undertaken by the Site Investigation and Restoration Branch (f/k/a Superfund Branch) of the State of Delaware, Department of Natural Resources and Environmental Control (DNREC) for the area surrounding the Toni Cleaners facility located at 1606 Kirkwood Highway, in Wilmington, Delaware ("site" or "property"). During the initial RI in February of 1994, sampling of environmental media (i.e. surface soils, sub-surface soils and groundwater) was collected over the course of a four- (4) week period. On February 7, 1994, shallow soil samples were collected in conjunction with the installation of a groundwater monitoring well at the site. The location of the surface soil samples were from the area around the discharge point of the condenser from the vapor recovery ("sniffer") unit and from a split spoon sample collected during groundwater monitoring well construction.

On March 1, 1994, a groundwater sample was collected. The soil samples and the groundwater indicated significant levels of Tetrachloroethylene (PCE). The levels ranged from 0.29 parts per million (ppm) to 14.2 ppm in the soil samples and 11.0 ppm in the groundwater sample. The maximum contaminant level (MCL) for PCE in groundwater is set at five (5) parts per billion (ppb) by the U.S. EPA. PCE was detected in the groundwater sample at 11,000 ppb.

Based on the elevated concentration of PCE detected in the on-site soils and groundwater from the limited field sampling investigation, the DNREC undertook a subsequent environmental investigation ("Phase II RI") in order to ascertain the lateral and vertical extent of groundwater contamination in the area of the Toni Cleaner facility.

The Phase II RI was completed in May 1995. The objective of the "Phase II RI" groundwater sampling program was to determine the extent of the dense non-aqueous phase liquid (DNAPL) plume to the southwest, south and southeast of the site. The Phase II RI results indicated that

groundwater samples collected from geo-probe boring locations in the area had significant levels of PCE present in the groundwater. The levels ranged from 15 ppb to 69,000 ppb. The Phase II indicated that the PCE found in the groundwater sample locations in the area of the site were attributed to the Toni Cleaners facility.

Based upon the results from the DNREC “Phase II RI”, the Department undertook a Feasibility Study (FS) for the Toni Cleaners site. The purpose of the FS was to provide the Department with the basis for the selection of a remedy to mitigate potential impacts of the site on human health, welfare and the environment.

The FS developed various alternatives to meet the remedial action objective, including treatment or containment of the waste, or elimination of exposure pathways. For each alternative, the FS evaluated the remaining risk based on the analytical performance of the remedial components.

## **Proposed Remedial Action**

Remedial Action is defined in the Regulations as “the containment, contaminant mass or toxicity reduction, isolation, treatment, removal, cleanup, or monitoring of hazardous substances released to the environment, or the taking of such other actions as may be necessary to prevent, minimize, or mitigate harm or risk of harm to the public health, welfare, or the environment which may result from a release or an imminent threat of a release of hazardous substances”.

The proposed remedies for this site consists of the following:

- 1) Excavation and off-site volatile organic compound (VOC) destruction by incineration, and placement of residual incinerator ash back on-site.
- 2) Establishment of a Groundwater Management Zone (GMZ) for the site.

Based on the remedial action objective established for the Toni Cleaners site (i.e., to reduce level of VOC contaminants to achieve a future carcinogenic risk of  $1 \times 10^{-6}$  or less), all of the remedial alternatives, excluding the No Action alternative, were eligible for selection for remediation of the Toni Cleaners site. However, based on the anticipated level of VOC destruction by incineration, the residual ash and soils would contain minimal concentrations of VOC's. Assuming one percent of the VOC's were to remain, and considering the effect of the placement of resulting incinerator ash, the carcinogenic risk after implementation of this alternative would be less than 0.1% of the current risk or less than  $1 \times 10^{-10}$ . Using this alternative would mean a complete elimination in the waste volume at the site. Finally based upon a comparison of cost of remedial alternatives, the excavation/incineration method is calculated to be a lower cost remedy than the Soil Vapor Extraction (SVE) remedial alternative.

Groundwater contamination (PCE) has been documented in the shallow, unconfined (Columbia) aquifer on site. Groundwater is not, however, utilized as a source of drinking water in the shallow, unconfined aquifer in the site area. The Columbia Aquifer has very low production

yield due to the limited thickness of the aquifer (i.e. saturated thickness of approximately 20 feet) and the poor hydraulic conductivity of the sediment which the Columbia Aquifer is composed of. As a consequence, the Department has determined that direct exposure to contaminated groundwater at the Toni Cleaner site can be eliminated by the institution of a groundwater management zone (GMZ). The GMZ shall be in effect until the elevated levels of PCE in the groundwater, in the vicinity of the Toni Cleaners site, decrease to less than 5ppb following 2 years of successive monitoring. DNREC believes that the removal and treatment of contaminated soil from the Toni Cleaners site will result in the elimination of the source of contamination of the groundwater media. As a consequence, DNREC believes that the concentration of PCE contamination in the groundwater will reduce over a period of years following contaminated soil removal. In the event that the level of PCE in the groundwater exceeds 10 parts per million (ppm) following 5 successive monitoring years, then DNREC shall require remediation be undertaken for the groundwater.

Therefore, the excavation and off-site incineration alternative, along with the establishment of a groundwater management zone (GMZ) was recommended as the remedy for the Toni Cleaners site.

## **AMENDMENTS TO THE FINAL PLAN**

**As stated earlier, due to technical advances since the drafting of the original Final Plan in July 1996, a more protective and cost effective approach is being proposed. After excavation of the contaminated soil, a chemical reducing agent will be added to the excavation to chemically reduce residual organic contamination and aid in groundwater restoration. Further, clean fill from a local borrow source will be the sole use of backfill for the excavation. Following soil removal and the addition of the reducing agent DNREC will monitor the groundwater quality for a minimum of two years. After this two-year period, DNREC will assess the need for continued monitoring as well as the need for additional groundwater remediation. Groundwater monitoring should be expected to continue until the concentrations of the contaminants are below Maximum Concentration Levels established under the Safe Drinking Water Act for 8 consecutive quarters of monitoring. As stated in the original Final Plan, a GMZ will be in place until the groundwater concentrations fall below the MCL for 2 consecutive years. DNREC may, at its discretion, remove the GMZ if these conditions are met.**

**A Land Use Restriction in the form of a notice in the Deed of the property will state that “there will be no building, construction, drilling, digging, excavating, grading, earthmoving or any other land disturbing activities on the Land without the prior written approval of DNREC.”**

## **Proposed Plan and Public Participation**

The Department drafted a Proposed Plan of Remedial Action for the site and recommended that the above mentioned remedial action take place at the site. The Department provided public notice in the News Journal and Delaware State News on May 17, 1996. During the comment period, the Department received no objections to the Proposed Plan. Therefore, the Final Plan of Remedial Action was issued designating the selected remedy and stipulations concerning current and future activities.

## **REOPENED COMMENT PERIOD**

**Due to the above changes to the Final Plan of July, 1996, DNREC solicited additional comments to this Amended Final Plan in the form of a twenty day comment period beginning on Thursday November 30, 2000 and ending on Wednesday December 20, 2000. No comments were received.**

## **DECLARATION**

**This Final Plan of Remedial Action for the Toni Cleaners site is protective of human health, welfare and the environment and is consistent with the requirements of the Delaware Hazardous Substance Cleanup Act.**

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Denise Ferguson-Southard, Director  
Division of Air and Waste Management

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Date

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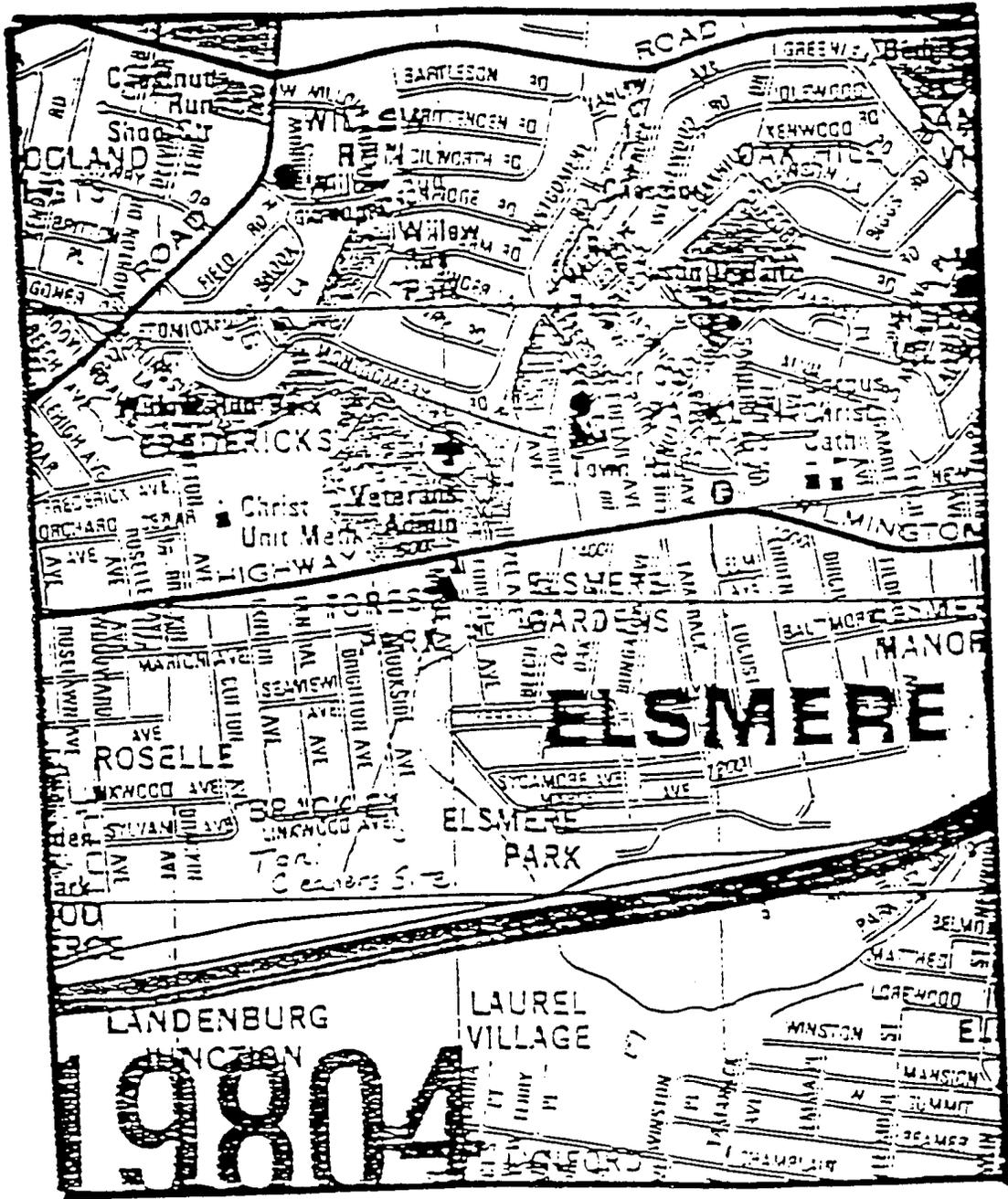


FIGURE 1  
Site Location Map

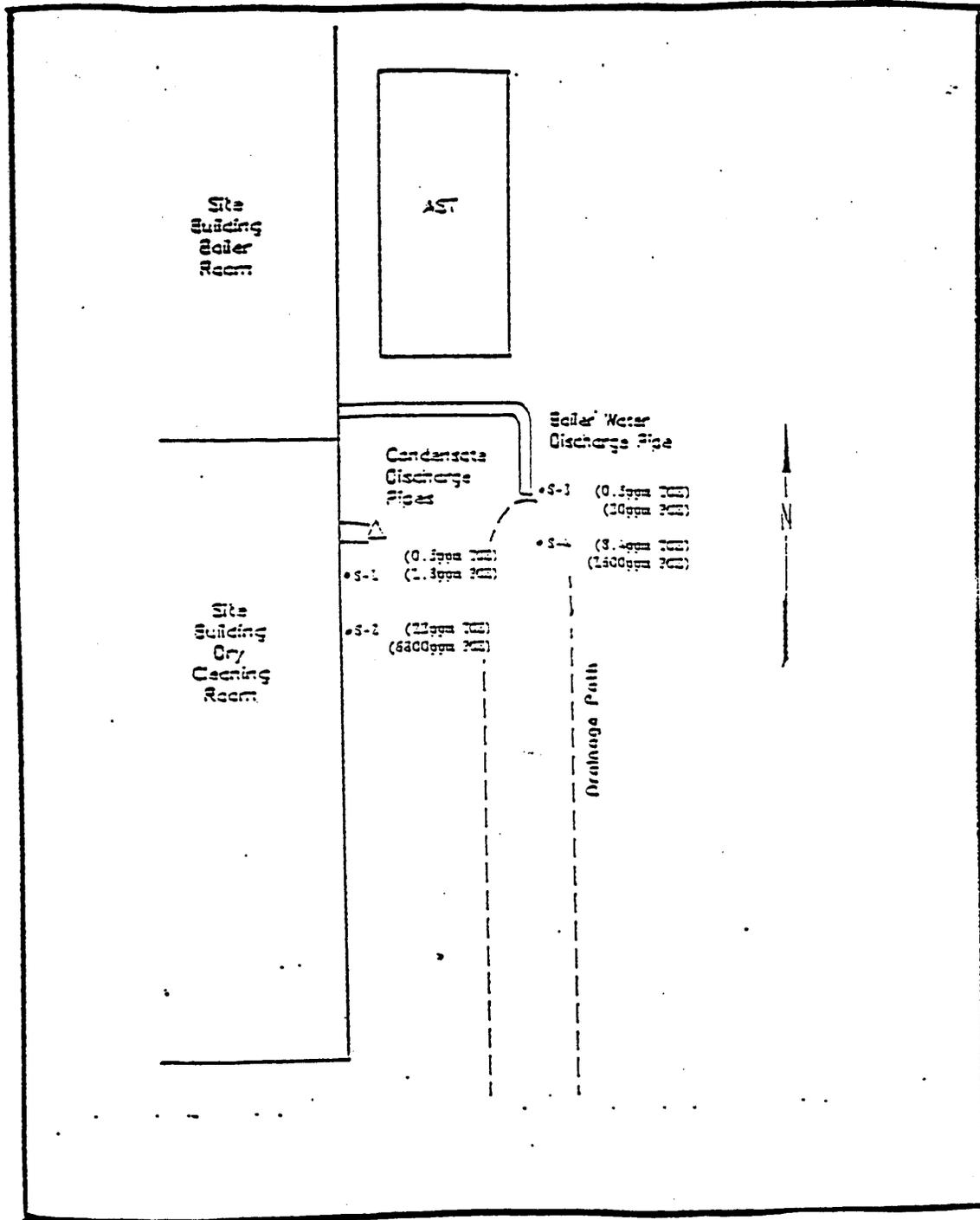


FIGURE 2  
JACA Soil Sampling Map

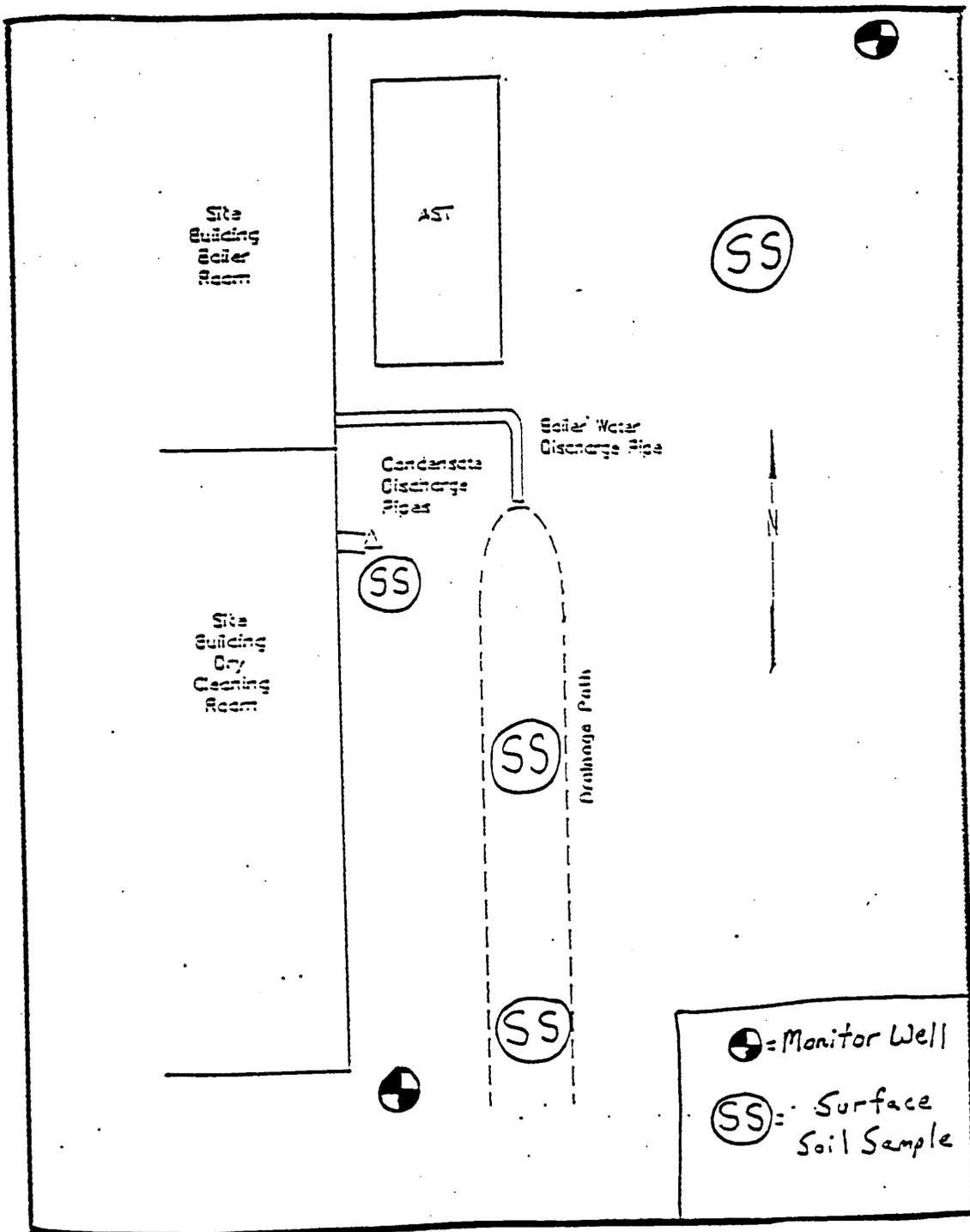


FIGURE 3  
 DNREC Initial RI Proposed Sampling Locations

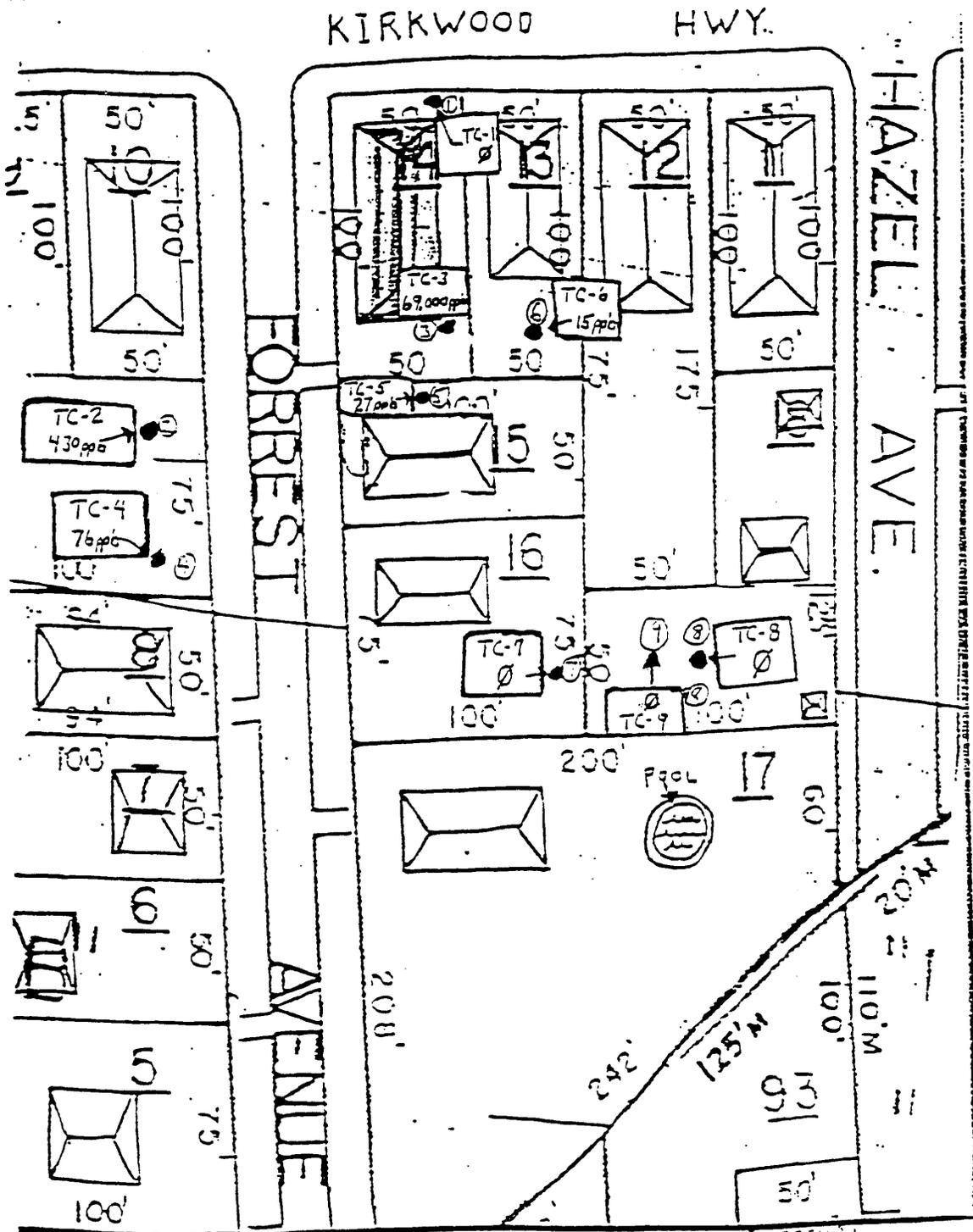


FIGURE 4  
DNREC Phase II RI Sampling Results

LEGEND  
 □ - Site  
 ● - Sample point

Figure 5  
Groundwater Management Zone (GMZ) Map

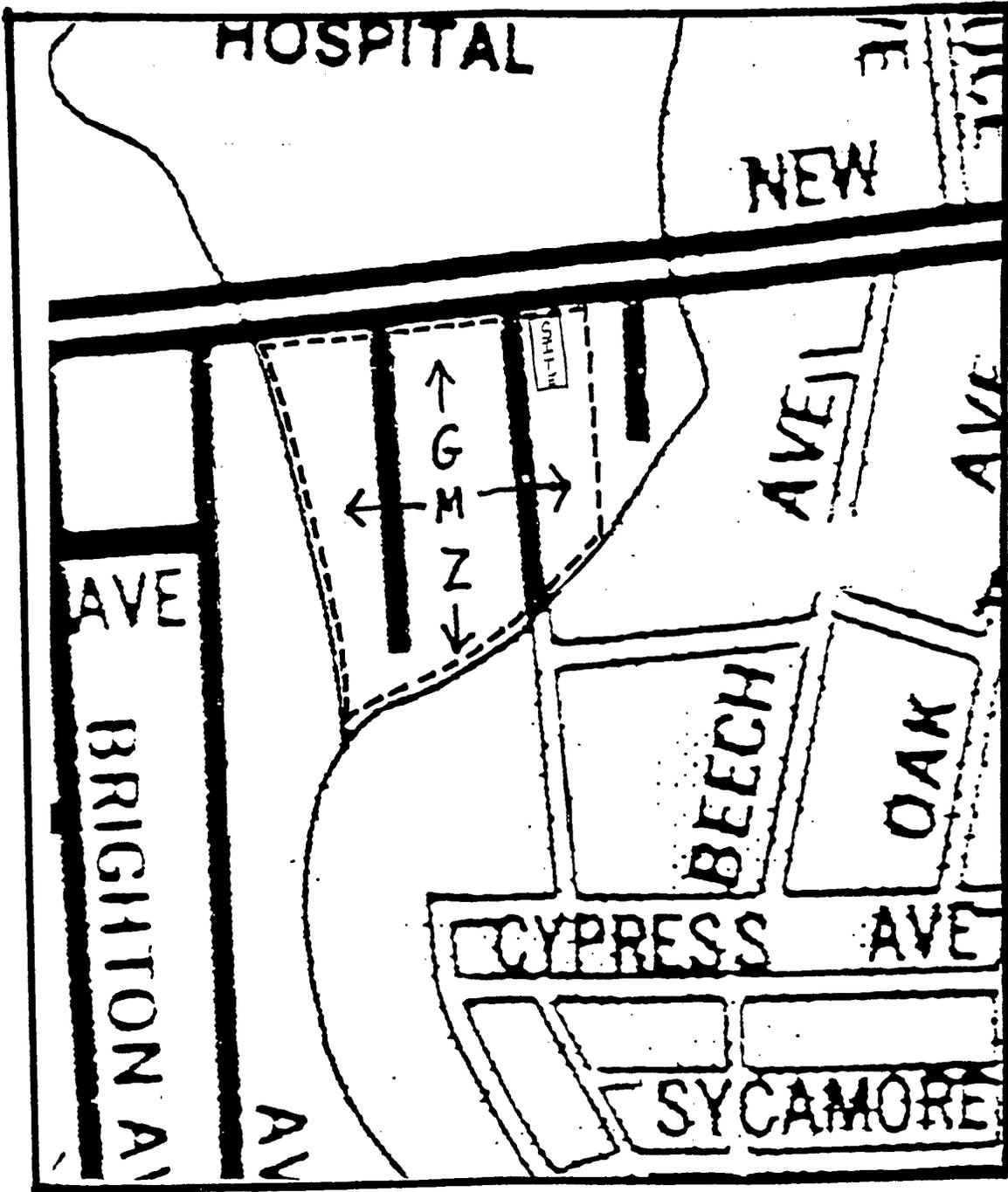


Figure 6  
News Journal Newspaper Legal Notice

CORRECTION TO  
PROPOSED PLAN OF  
REMEDIAL ACTION FOR  
TONI CLEANERS SITE  
(Please note the additional  
line in bold)

The Delaware Department of Natural Resources and Environmental Control (DNREC) Announces The Release of the Proposed Plan of Remedial Action for the Toni Cleaners site located in Wilmington, Delaware, under the authority of the Hazardous Substance Cleanup Act (HSCA).

In February, 1994 an initial Remedial Investigation (RI) was undertaken by the Department of Natural Resources and Environmental Control (DNREC) Superfund Branch for the area surrounding the Toni Cleaners facility. Based on the elevated concentration of two dry-cleaning solvents detected in the on-site soils and groundwater from the limited sampling investigation, DNREC undertook a subsequent environmental investigation (Phase II- RI) to ascertain the lateral and vertical extent of groundwater contamination in the area of the Toni Cleaner facility.

Based upon the results from the DNREC Phase II Remedial Investigation, the Department undertook a Feasibility Study to provide the basis for selection of a remedy at the site. As a result, the Department recommends excavation and off-site incineration of contaminated soils at the site.

A copy of the Proposed Plan of Remedial Action for the Toni Cleaners site is available at the following location:

DNREC's New Castle Office  
715 Grantham Lane  
New Castle, De 19720  
(302) 322-4540

DNREC invites written comments on this Plan. Members of the public may also request a public hearing on the Proposed Plan of Remedial Action pursuant to 7 Del. C § 9112. The comment period begins on Friday, May 17, 1996 and ends at 4:30 p.m. on Thursday, June 5, 1996. Comments may be submitted in writing to Paul Will by the close of business (4:30 p.m.) on June 5, 1996 at the above address.

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**THE FINAL PLAN**

of Remedial Action for the Toni Cleaners Site. Under the Hazardous Substance Cleanup Act, has been issued by the Site Investigation & Restoration Branch (SIRB) of the Delaware Department of Natural Resources and Environmental Control (DNREC). The proposed remedy for this site consisted of the following: 1) Excavation and off-site Volatile Organic Compound (VOC) destruction by incineration, with placement of residual incinerator ash back on-site, and 2) Establishment of a Groundwater Management Zone (GMZ) for the site.

The Proposed Plan of Remedial Action for the Toni Cleaners Site was available for public review and noticed in the 5/17/96 issue of the Delaware State News and The News Journal. The public comment period on this Plan closed on June 6, 1996. No objections to the Plan or any requests for a public hearing were received.

The Final Plan was signed by DNREC's Director of Air and Waste Management on August 3, 1996.

The Remedial Action Decision Record containing the basis for the Final Plan may be reviewed at the Division of Air and Waste Management, 715 Grantham Lane, New Castle, De. 19720 between the hours of 9:00 a.m. and 4:30 p.m. Monday through Friday. For additional information call Paul Will at (302) 323-4540.

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