CBI SITE

PROPOSED PLAN OF REMEDIAL ACTION

FOR OPERABLE UNIT #2

JUNE 1996

Department of Natural Resources and Environmental Control
Division of Air and Waste Management
Superfund Branch

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CBI Site: Proposed Plan of Remedial Action

I. INTRODUCTION

In May, 1993, CBI Services, Inc. ("CBI"), the responsible party, entered into a Consent Decree with the Delaware Department of Natural Resources and Environmental Control ("Department") to perform a Remedial Investigation/Feasibility Study ("RI/FS") at the CBI facility ("Site") under the Delaware Hazardous Substance Cleanup Act ("HSCA").

The facility underwent interim remediation with Department approval in specified areas of the Site now referred to as Operable Unit #1 ("OU #1"). On January 23, 1996, the Department issued a Certificate of Completion of Remedy for OU #1 to CBI.

CBI conducted a Remedial Investigation and Interim Response Activities for the remaining Site area referred to as Operable Unit #2 ("OU #2"). These activities were conducted in accordance with the Department approved "Remedial Investigation Workplan for CBI Services, Inc., New Castle, Delaware," (revised July, 1995). Based on the results of the Interim Response Activities conducted for surface soils and the comprehensive environmental investigations performed for OU #2, the Department determined 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 PLAN

The Department issues this proposed plan under the provisions of HSCA and the Regulations Governing Hazardous Substance Cleanup, ("Regulations"). The proposed plan represents the Department's assessment of the health and environmental risks posed by the Site and plans for limited further action.

As per the Regulations, the Department will provide notice to the public and an opportunity for the public to comment on the proposed plan in accordance with Section 12 of the Regulations. At the comment period's conclusion, the Department will review and consider all of the comments received and then the Department will issue a final plan of remedial action. The final plan of remedial action shall designate the selected remedy for the Site. The proposed plan, the comments received from the public, the Department's response to those comments, and the final plan of remedial action will constitute the remedial decision record.

The Regulations discuss the contents of the proposed plan of remedial action in Section 8 of the Regulations. The proposed plan contains a description of the following site information:

- A summary of the procedures, analytical results, and conclusions of the remedial investigation;
- A review of certain interim actions already undertaken at the Site; and
- A plan for the Site's future.

III. SITE DESCRIPTION AND HISTORY

The Site, comprised of both OU #1 and OU #2, occupies an approximate 126 acre tract of land at 801 East Sixth Street, New Castle, New Castle County, Delaware, (See Figure 1). The Site is bordered to the east by Buttonwood Ditch and the Delaware River, to the south by property currently known as the Carpenter Warehouse Complex, to the west by a City of New Castle electrical substation, and a 1 million gallon elevated water tank for the City of New Castle, and to the northwest by a railroad spur and residential areas.

Approximately one-third of the site has been developed by CBI. The developed portion of the Site includes an office building, warehouse, former fabrication shop, parking areas and designated outdoor storage areas. This developed portion of the Site is enclosed by a fence, thereby limiting access to authorized personnel only.

The undeveloped portion of the Site represents the majority of the property. Significant features include the remains of at least six old building foundations from the Baldt Steel Company which went out of business around 1930, and the old homesite and well which have been abandoned. Debris has been observed randomly located in the undeveloped portion of the site. Wetlands occupy the majority of the undeveloped portion of the Site.

From 1899 to 1929, the Baldt Steel Company was located on the Site. The company manufactured steel pipe in an area upland and adjacent to the wetlands. The foundations from the buildings are still located in the undeveloped area of the Site, (see Figure 2). Waste practices are not known but the type of waste can be inferred to be metals and foundry sand.

The Site remained inactive until September, 1950, when it was purchased by CBI. In 1956, CBI built the Fabrication Shop along the southwestern border of the property which operated from 1957 until 1980. In addition, CBI operated an acid pickling bath to remove mill scale from formed steel plates prior to painting. The acid bath produced pickling waste consisting of dilute (5-6%) sulfuric acid which CBI neutralized with lime (calcium hydroxide), to produce a calcium sulfate and iron hydroxide waste. CBI disposed of the neutralized acid in a pit located approximately 150 feet east of the Fabrication Shop.

By the early 1960's, the Delaware Water Pollution Commission requested that CBI discharge the neutralized acid into the Old Baldt Steel Company foundations, (see Figure 2) rather than in the historic pit. CBI continued this practice until 1975 when CBI retained Chemline Corporation to haul the wastes offsite.

CBI disposed of approximately 2400 pounds of phosphoric acid on an annual basis. It was diluted, neutralized and disposed of in a similar manner as the sulfuric acid. This practice was terminated in 1980 when the Fabrication Shop was closed.

In October, 1955, CBI entered into an agreement with the City of New Castle ("City") to allow the City to use a portion of the property as a sanitary landfill. The approximate location of the landfill is 350 feet southeast of the Fabrication Shop, (see Figure 2).

From approximately 1957 to 1980, CBI conducted painting operations at locations both indoors and immediately outdoors of the former Fabrication Shop. Painting operations included the use

of "red lead" primer, vinyl and epoxy primers and limited use of zinc and chromium based primers. At both the indoor and outdoor painting areas of the Fabrication Shop, excess primers "accumulated" on the ground surface from overspray or dripping from the steel plates during painting.

Solvents associated with the painting operations included mostly mineral spirits, but some xylene, methyl ethyl ketone ("MEK") and methyl isobutyl ketone ("MIBK") were used. Other solvents may have also been used.

In October, 1981, a Preliminary Assessment ("PA") of the Site was conducted by Ecology and Environmental, Inc., which recommended sampling and analysis of the Site. The Department, operating under an agreement with the United States Environmental Protection Agency ("EPA"), conducted a Site Inspection ("SI") in May, 1982. The SI entailed the collection of soil samples at the Site and chemical analysis of samples for hazardous substances. Analytical results from four SI soil samples collected were below detection limits for organics and Resource Conservation and Recovery Act ("RCRA") metals.

In July, 1984, the Department conducted another PA which qualified the Site for a more extensive SI. In October, 1987, EPA contracted NUS Corporation ("NUS") to conduct a second more extensive SI. The SI sampling plan consisted of seven water and twenty soil samples including blanks and duplicates. The results were submitted to the EPA in 1988. The report indicated elevated concentrations of some metals in Buttonwood Ditch due east of the facility, with inference to an off-site source. Two soil samples located on the facility plant site indicated elevated levels of semi-volatile compounds, polychlorinated biphenols ("PCB") Aroclor 1248 and lead. A soil sample identified as the background sample was collected by NUS from an area located approximately 360 feet southeast of the now former Fabrication Shop. Analytical results of the NUS background sample showed elevated concentrations of lead, zinc, PCB Aroclor 1248 and various semi-volatile organics.

In September, 1991, Aware Environmental, Inc., under contract with CBI, completed both a preliminary and detailed assessment of the painting areas affected by painting operations at the Fabrication Shop. The purpose of the assessment was to provide a gross quantitative and qualitative indication of impact to soils from the painting areas. The detailed assessment defined the horizontal and vertical extent of impacted soil and the chemical nature of constituents present.

In May, 1993, CBI entered into a Consent Decree with the Department under HSCA. Pursuant to the Consent Decree, CBI agreed to design and implement a RI for the Site and conduct an Interim Remedial ("IR") response of the former Fabrication Shop. The Department approved the RI workplan for the Site in December, 1993.

Interim Response activities were subsequently expanded at the request of CBI in April, 1994 to include the NUS Background Area. The Former Fabrication Shop and the NUS Background Area constitutes the two general areas incorporated into OU #1, (see Figure 3). The Final RI/IR Documentation Report of the Former Fabrication Shop and the NUS background sample area were submitted to the Department in September, 1994, and March, 1995, respectively.

A proposed plan for OU #1 was issued for public comment on August 9, 1995 and the Final Plan for OU #1 was completed on October 13, 1995. CBI requested a Certificate of Completion of Remedy for OU #1 from the Department, which the Department issued on January 23, 1996.

In conjunction with the Interim Remedial response for OU #1, CBI implemented a Remedial Investigation of the remaining portions of the property now referred to as operable unit #2 (OU #2).

In January, 1996, CBI submitted the "Remedial Investigation report for CBI Services, Inc." prepared by Aware Environmental Inc. to the Department. Upon review of the findings, the Department met with CBI to discuss further action. On April 22, 1996, CBI conducted additional sampling in order to document background constituents relative to on-site contaminants.

This proposed plan describes the findings of the Remedial Investigation and Interim Remedial Response activities as well as the additional 1996 data.

IV. REMEDIAL INVESTIGATION RESULTS

Based on historic information, past investigations and activities associated with the Site, CBI and the Department developed a Remedial Investigation Workplan for OU#2. The goals of the RI, as presented in the workplan were:

1) identify all sources of contamination;

2) identify the extent and magnitude of soil, subsoil, groundwater and surface water contamination; and

3) identify all existing and potential migration characteristics and pathways for hazardous substances, pollutants or contaminants caused by on-site activities. Details of sampling activities, sample locations and results are presented in the RI report.

Soil

Areas targeted for soil sampling for OU#2 included the warehouse area, acid disposal area/Old Baldt Steel Foundation area, NUS S-1 sample location and drainage ditches, (see Figure 2). These areas were targeted to confirm results of previous investigations and to delineate the extent of contamination. Soil samples were analyzed for Target Analyte List ("TAL") including inorganics plus cyanide and Target Compound List ("TCL") including volatile organic compounds ("VOC's"), semi-volatile organic compounds ("SVOC's") and PCBs.

In conjunction with the RI activities, CBI conducted an Interim Response action involving removal of contaminated soil outside the warehouse area. A document dated April 13, 1995, reported the results of the removal activities near the warehouse formerly known as the Paint Dip and Drum Storage areas. Although lead was the primary constituent of concern, soil samples were collected and analyzed for TCL and total RCRA metals following soil excavation. In addition, two composite confirmatory soil samples were collected from the base of each

excavation as directed by Department representatives and analyzed for TCL and TAL. All constituents detected were below the established cleanup objectives.

Following the Interim Response activities near the warehouse area (former Paint Dip and Drum Storage areas), CBI agreed to collect additional soil samples within the same area in accordance with the RI workplan, (March 1995).

Analytical results for soil, surface water, sediment and groundwater samples collected from sample locations described in the RI workplan are presented in the RI report, (January 1996).

The soil samples for reported results were collected within the area of OU #2 near the Old Baldt Steel Foundation area, neutralized acid disposal area, landfill area and the warehouse area. Two inorganic analytes (beryllium and manganese) were detected in soil samples above the respective clean-up objectives. However, the detected concentrations for beryllium and manganese on-site are well within the naturally occurring concentrations found in the United States as reported by Shacklette and Boernger (1984). One isolated lead concentration exceeding cleanup objectives was detected in the landfill sample LF-1. Please note, these metal concentrations, found on-site, are not likely to present a greater than normal threat to human health or the environment.

Soil samples collected near the Old Baldt Steel Foundations were also analyzed for SVOCs. Seven compounds were detected, four with specific cleanup objectives and three without cleanup objectives. These three compounds are associated with coal and petroleum; and therefore could be associated with Baldt Steel operations and were collected in the Old Baldt Steel ruins.

Surface Water

Results for surface water samples reported concentrations up to 1450 ug/l of aluminum and 4590 ug/l of iron. These exceedances of the Delaware Surface Water Quality Standards ("DSWQS") (amended February 26, 1993) are comparable to Delaware River surface water background concentrations as provided by the Delaware Estuary Program. Please note, there were other constituents detected which do not have standards as per the DSWQS.

Sediment

Results for sediment samples collected from onsite drainage ditches and points along Buttonwood Ditch indicate reported concentrations of metals above the established clean-up objectives. Constituents of concern included copper, lead, mercury and zinc. Additional sediment samples were collected on April 22, 1996 in order to compare detected concentrations of metals on-site to upgradient conditions off-site. The upgradient samples were analyzed for copper, lead, mercury and zinc utilizing a Spectrace Quanx X-Ray Fluorescence instrument. The analytical results indicate that upgradient off-site sediments exceed both the established cleanup objectives for the Site as well as concentrations detected for on-site sediments.

Groundwater

Sample results for eight groundwater monitoring wells (MW-1 through MW-8) characterize the shallow groundwater aquifer on-site. Samples have been collected from wells MW-1 through MW-4 on a quarterly schedule since 1993, until September 1994, when the frequency was decreased to semi-annual. Analytical parameters initially included both TCL and TAL lists,

however, with time, the analyte list was gradually decreased to VOCs, sulfate and phosphorous. During the monitoring period, detected concentrations of tetrachloroethene (PCE) from samples in monitoring well MW-2 have consistently exceeded the established cleanup objective. From September 1993 through November 1995, PCE concentrations increased from 27 ug/liter to 76 ug/liter. The most recent sample collected in May 1996 reported a PCE concentration of 51 ug/liter.

In July, 1995, CBI sampled four newly installed monitoring wells, MW-5 through MW-8. In 1995, CBI analyzed the samples for the full TCL and TAL for Site characterization. The only constituents detected with concentrations exceeding Water Quality Standards were iron, manganese and sulfate.

V. Facility Remedial Action Objectives

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 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 remedy for this site is semi-annual groundwater monitoring and the implementation of institutional controls. The RI report indicates the presence of PCE within the shallow groundwater aquifer. The PCE concentrations in the groundwater exceed both the EPA Region III Risk-Based concentration ("RBC") standard for tap water (1.1 ug/liter) and the EPA Water Quality Criteria, Maximum Concentration Level ("MCL") of 5 ug/liter for drinking water.

The Regulations provide that the Department set objectives for land use, resource use and cleanup levels that are protective of human health and the environment. The following objectives have been determined to be appropriate for the facility:

- To continue the use of the site (OU#2) as an industrial/commercial facility with supplied public water for all purposes.
- That routine construction, excavation and maintenance activities can occur without any special chemical hazard precautions.

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

VI. Proposed Remedial Action

Since the risks associated with the Site are acceptable if the existing industrial land use is continued and the unconfined aquifer is restricted from drinking water use, the Department proposes the following plan.

- Institutional Control, as per the Regulations, will be described in a restrictive covenant executed by the property owner and recorded with the Registrar of Deeds for the County in which the facility is located. The restrictive covenant shall run with the land and be binding on the owners, their successors and assignees.

- No further action is required for areas remediated through interim response activities and/or for areas that were sampled to date, excluding groundwater.

- Groundwater withdrawal from the unconfined aquifer will be restricted for both OU #1 and OU #2.

- A groundwater monitoring program will be established to document the concentration of contaminants for a minimum period of two and one half years, beginning November, 1996. Samples are to be collected semi-annually from four on-site monitoring wells (MW-1 through MW-4). At the completion of the 2.5 year period, if contaminant levels are above the MCL, then the monitoring program will continue until such time that two consecutive sample collections indicate contaminant levels at or below the MCL.

- Samples are to be analyzed for volatile organic compounds, phosphorous, sulfate, iron II and pH.
- During the monitoring period, any groundwater sample from existing monitoring wells (MW-1 through MW-4) with a concentration of tetrachlorethene (PCE) exceeding 69 ug/l will be resampled within 30 days to confirm all detected concentrations and/or initiate remedial action.

- If during the monitoring period, the PCE concentrations are not decreasing consistently, after a second 2.5 year period or a total of 5 years, the Department will evaluate all relevant information to determine if the monitoring program should be modified. If a decreasing trend of PCE concentrations is observed during the 5 year monitoring program, the Department will evaluate all relevant information to determine if the monitoring program should be continued.

- Remedial action, initiated by exceeding the target concentration of 69 ug/l for PCE, must be approved by the Department and, must include the following:

    * Delineate the extent of the contaminated groundwater and the flow direction.

    * Remove any contaminant source discovered above the water table which provides a source significant enough to impact groundwater.

    * Remove or control any contaminant source discovered within the groundwater aquifer.

    * Analytical parameters for groundwater samples at a minimum must include volatile organic compounds, phosphorous, sulfate, and pH.

    * Re-initiate the groundwater monitoring program to document the reduction of the contaminant concentration. The duration, frequency and the analytical parameters for groundwater monitoring will be determined following evaluation of the Remedial Action results by the Department.

VII. Public Participation

The Department actively solicits comments or suggestions to the Proposed Plan and welcomes the opportunity to answer questions. Please direct written comments to:

Natural Resources and Environmental Control
Division of Air and Waste Management
Site Investigation & Restoration Branch
715 Grantham Lane
New Castle, Delaware 19720
Attn: Zsolt Haverland

or call (302) 323-4540. The public comment period closes on July 29, 1996. A public informational meeting will be held if requested.

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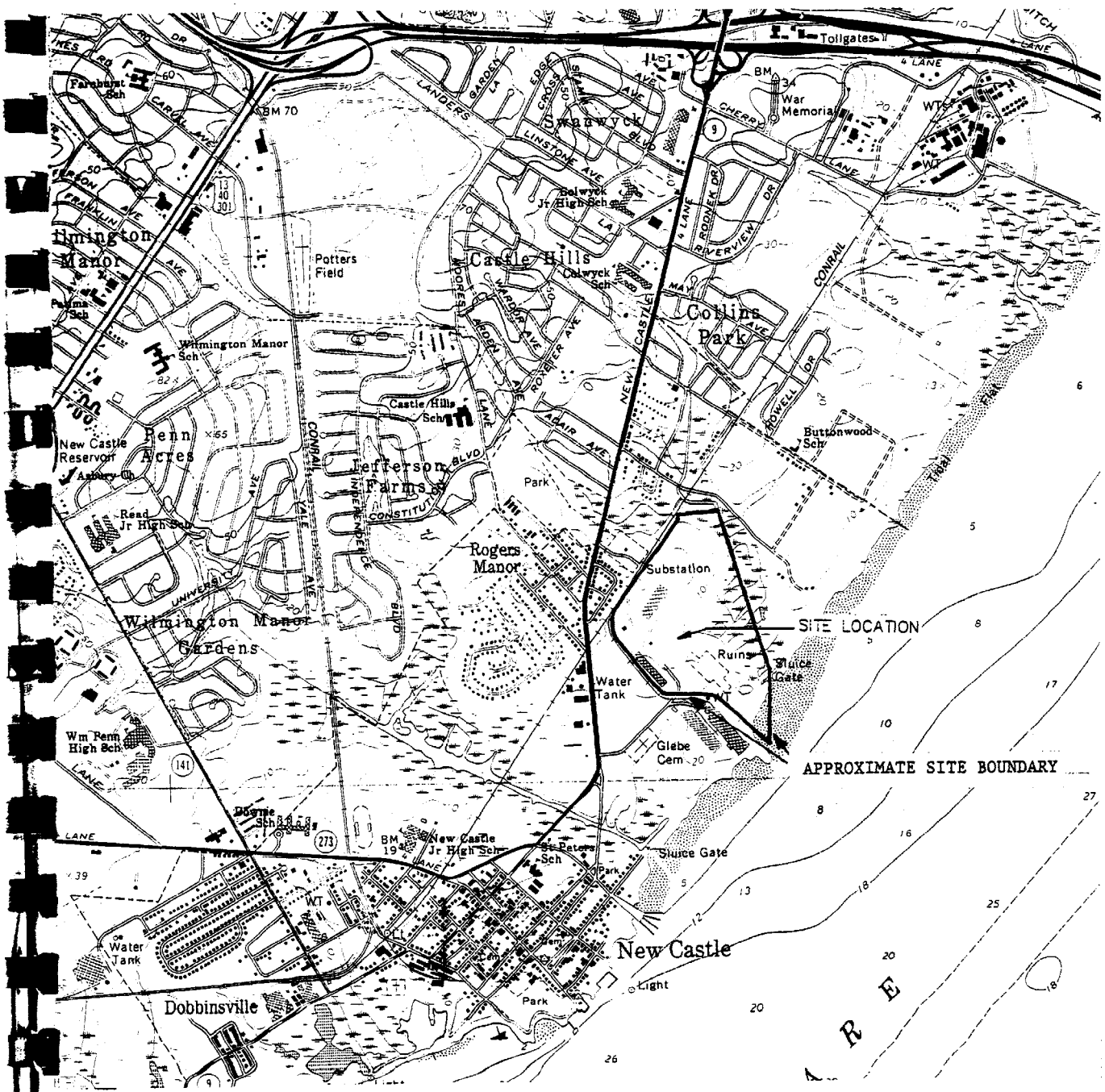
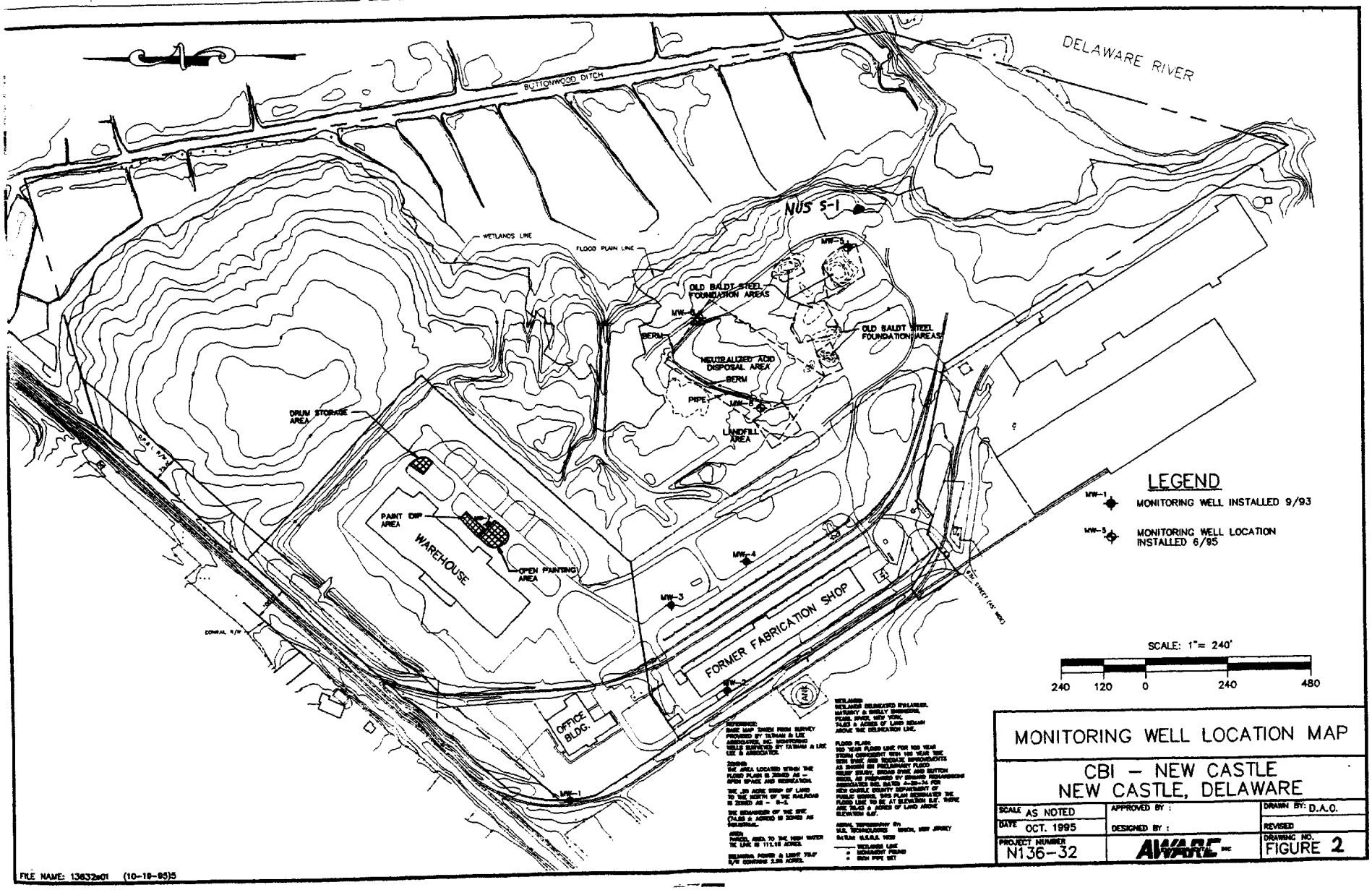


Taken from USGS Quadrangle Maps: Wilmington South, Del.-N.J. 1967 (photorevised 1987)

Figure 1
SITE LOCATION MAP

AWARE ENVIRONMENTAL INC



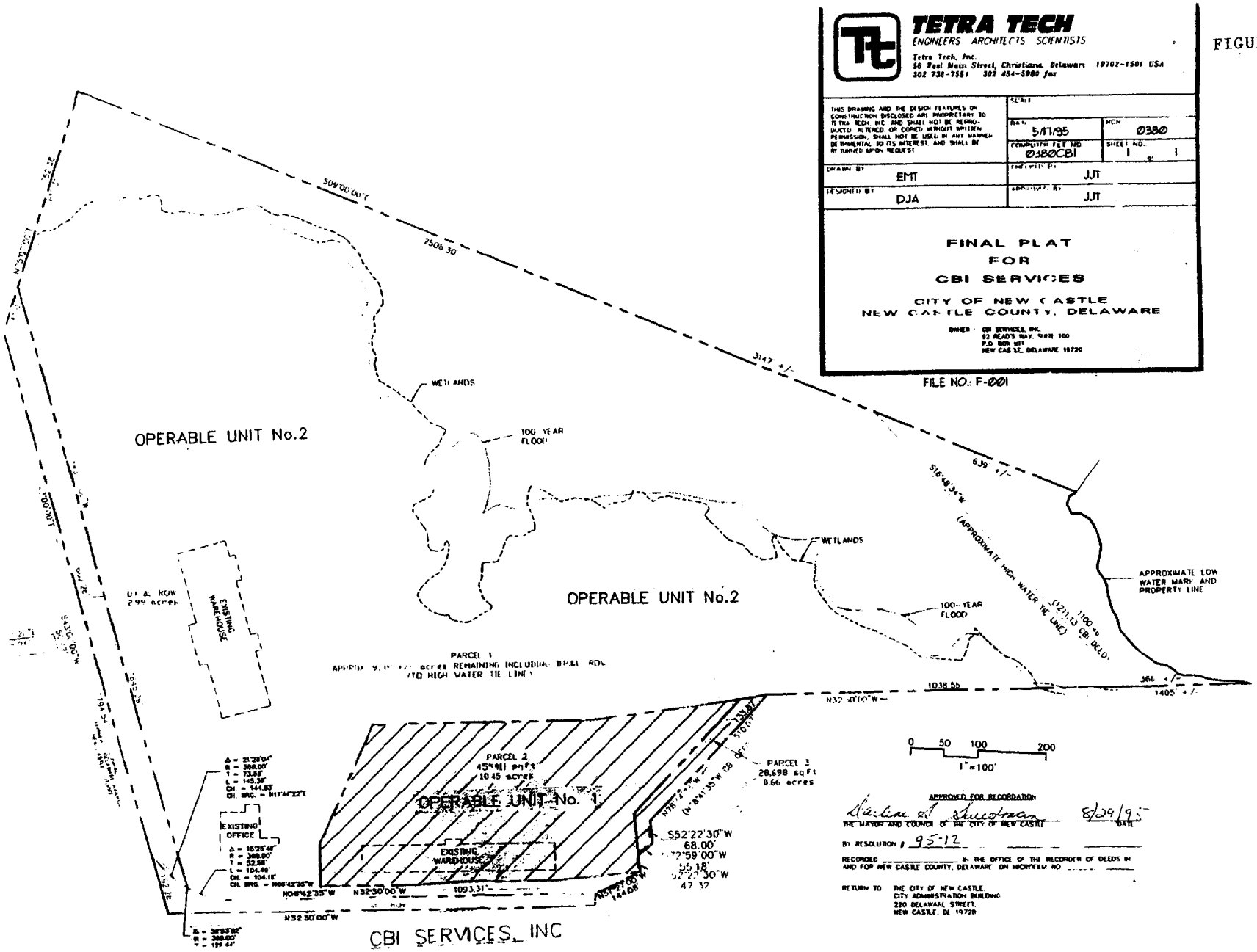
MONITORING WELL LOCATION MAP

CBI – NEW CASTLE
NEW CASTLE, DELAWARE

SCALE AS NOTED	APPROVED BY :	DRAWN BY: D.A.O.
DATE OCT. 1995	DESIGNED BY :	REVISED
PROJECT NUMBER N136-32	AWARE INC.	DRAWING NO. FIGURE 2

FILE NAME: 13632m01 (10-18-95)5

FIGURE #3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SCALE
DATE 5/17/95
WON 0380
COMPUTER FILE NO 0380CBI
SHEET NO. 1 of 1
DRAWN BY EMT
CHECKED BY JJT
DESIGNED BY DJA
APPROVED BY JJT
FINAL PLAT
FOR
CBI SERVICES
CITY OF NEW CASTLE
NEW CASTLE COUNTY, DELAWARE
OWNER: CBI SERVICES, INC.
82 READ'S WAY, SUITE 100
P.O. BOX 911
NEW CASTLE, DELAWARE 19720
FILE NO.: F-001
OPERABLE UNIT No.2
OPERABLE UNIT No.2
OPERABLE UNIT No. 1
WETLANDS
WETLANDS
100 YEAR FLOOD
100-YEAR FLOOD
EXISTING WAREHOUSE
EXISTING OFFICE
EXISTING WAREHOUSE
PARCEL 1
PARCEL 2
45,911 sq ft
1.045 acres
PARCEL 3
28,698 sq ft
0.66 acres
APPROXIMATE LOW WATER MARK AND PROPERTY LINE
(APPROXIMATE HIGH WATER TIE LINE)
N32°30'00"W
1093.31'
N52°22'30"E
68.00'
S72°59'00"W
56.18'
S32°22'30"W
47.32'
N32°30'00"W
1038.55'
N32°40'00"W
1405'+/-
0 50 100 200
1"=100'
APPROVED FOR RECORDATION
THE MAYOR AND COUNCIL OF THE CITY OF NEW CASTLE
DATE 8/29/95
BY RESOLUTION # 95-12
RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS IN AND FOR NEW CASTLE COUNTY, DELAWARE ON MICROFILM NO
RETURN TO THE CITY OF NEW CASTLE
CITY ADMINISTRATION BUILDING
220 DELAWARE STREET
NEW CASTLE, DE 19720
CBI SERVICES, INC