ENGINEERING AND OPERATIONS SERVICES
NEW YORK STATE SUPERFUND STANDBY CONTRACT

MULTI-SITE PRELIMINARY SITE ASSESSMENTS

Wheelock Avenue (Site No. 1-30-090)
Burnside Avenue (Site No. 1-30-091)
Michael Drive Industrial Area (Site No. 1-30-092)
Empire Electric Company (Site No. 2-24-015)
BQE/Ansbacher Color and Dye Factory (Site No. 2-24-016)
Designers Woodcraft (Site No. 2-24-020)
Carbona Products (Site No. 2-24-023)
Public School 60/62 and Ozone Industries (Site No. 2-41-021)

DRAFT

Work Assignment No. D002676-44

FIELD ACTIVITIES PLAN

Prepared for:

New York State Department of Environmental Conservation
Division of Environmental Remediation

April 1999

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MULTI-SITE PRELIMINARY SITE ASSESSMENTS

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MULTI-SITE PRELIMINARY SITE ASSESSMENTS

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1 INTRODUCTION

Lawler, Matusky & Skelly Engineers (LMS) has been given the work assignment of conducting a Preliminary Site Investigation (PSA), at the following eight sites: Wheelock Avenye, Burnside Avenue, Michael Drive Industrial Area, Empire Electric Company, BQU/Ansbacher Color and Dye, Designers Woodcraft, Carbona Products, and Public School 60/62 and Ozone sites (Figure 1-1), in the Towns of Inwood, Syosset, Brooklyn, and Ozone Park, in Nassau, Kings, and Queens Counties (NYSDEC Sites No. 1-30-090, 1-30-091, 1-30-092, 2-24-015, 2-24-016, 2-24-020, 2-24-023, and 2-24-021, respectively.

1.1 Site History and Descriptions

1.1.1 & 1.1.2 Wheelock Avenue (Site No. 1-30-090) and Burnside Avenue (Site No. 1-30-091)

These two sites are located at the intersection of Wheelock and Burnside Avenues (Figure 1-2), and are situated approximately 2,000 feet south of Jamaica Bay in a commercial/industrial section of Inwood in Nassau County. Businesses in the area include several car dealerships, an auto insurance agent, a car alarm installation shop, two freight shipping companies, and a PIP printing store. A residential neighborhood is located south of Burnside Avenue.

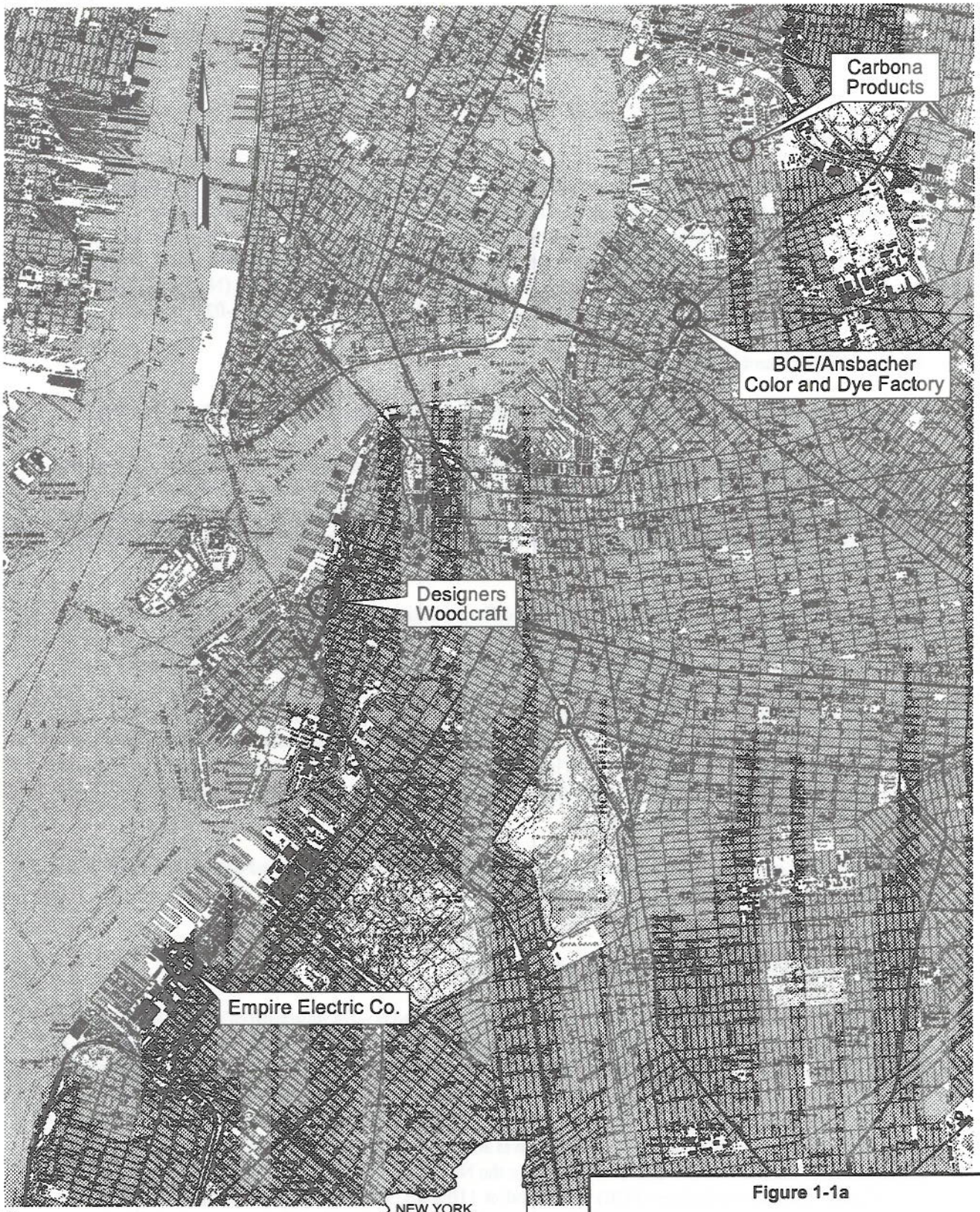
The New York State Department of Environmental Conservation (NYSDEC) received a memo from the Nassau County Department of Health (NCDOH) which indicated high levels of contamination in one of their monitoring wells. Specifically, N-09468 (located on the northwest corner of the intersection of concern) was found to contain 3,309 mg/l of trichloroethylene (TCE), 2,771 mg/l of cis-1,2 dichloroethylene (cis-1,2-DCE), 444 mg/l of vinyl chloride, and other related compounds. NCDOH does not have information on known releases in the vicinity of N-09468, but does possess a list of sites which use or used chlorinated solvents. Two of the addresses (10 Wheelock Avenue and 530 Burnside Avenue) are located at the intersection of concern. Based on this information, a PSA is needed at this location to identify the source(s) of groundwater contamination.

The on-site soils consist of fine to coarse sand, with some gravel and silt. Groundwater is assumed to be 3 - 5 feet below ground surface and is assumed to flow towards the north.

1.1.3 Michael Drive Industrial Area (Site No. 1-30-092)

The site is adjacent to the Long Island Railroad (Figure 1-3), and is ~1/4 mile west of the Syosset Landfill (NYSDEC ID #130011). The Long Island Expressway is ~1/2 mile south of the site. This site is in a commercial/industrial area located in the Town of Oyster Bay in Nassau County. The area is suspected to contain one or more hazardous waste disposal sites based on the results of groundwater monitoring conducted as part of the Syosset Landfill remedial investigation (RI) operable unit 2. Samples collected in late 1993 from monitoring well RW-12I (which is screened at 350 feet below ground surface) indicated the presence of chlorinated solvents at levels above the New York State Class GA groundwater standards. Specifically, tetrachloroethylene (PCE) was found at 110 mg/l, 1,1,1- trichloroethane (1,1,1-TCA) was found at 75 mg/l, 1,1-dichloroethylene (1,1-DCE) was found at 27 mg/l, 1,1-dichloroethane (1,1-DCA) was found at 17 mg/l, and TCE was found at 9.9 mg/l. (All of these contaminants have a class GA standard of 5 mg/l.)

Based on these results, NCDOH files were reviewed to determine whether there were any facilities directly upgradient of GW-12I that used or were using any of the compounds of concern. From this record search,



Map source:
USGS 7.5-minute Quadrangle Map,
Jersey City, NJ-NY, 1967, photorevised 1982,
Brooklyn, NY, 1967, photorevised 1979.
Printed from Wildflower Productions "Topo".

Figure 1-1a

Site Locations

MULTI-SITE PSA

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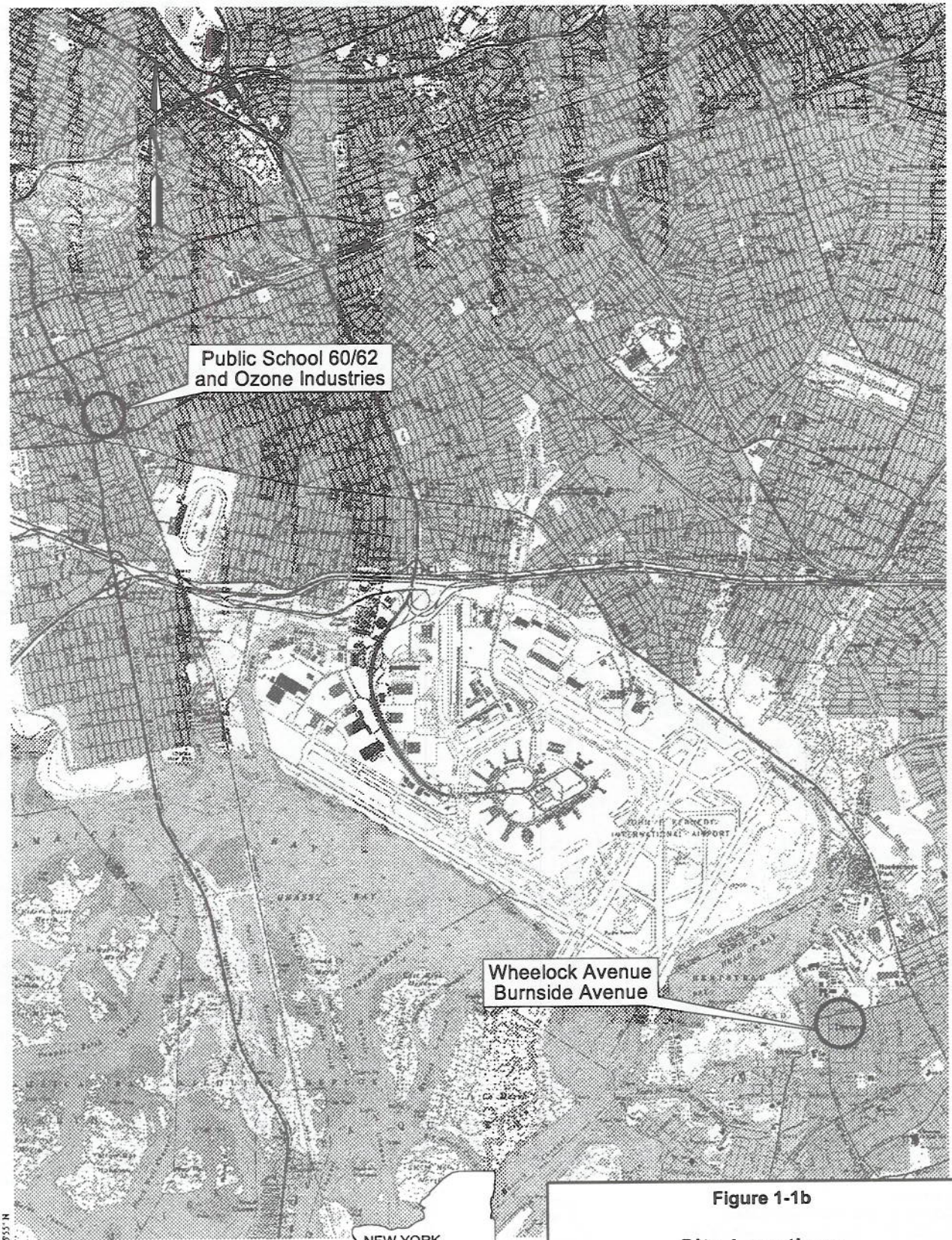
Pearl River, New York



Map source:
USGS 7.5-minute Quadrangle Map,
Far Rockaway, NY, 1969, photorevised 1984,
Jamaica, NY, 1966, photorevised 1988
Printed from Wildflower Productions "Topo".

Figure 1-1b

Site Locations

MULTI-SITE PSA

LAWLER, MATUSKY & SKELLY ENGINEERS LLP
Pearl River, New York

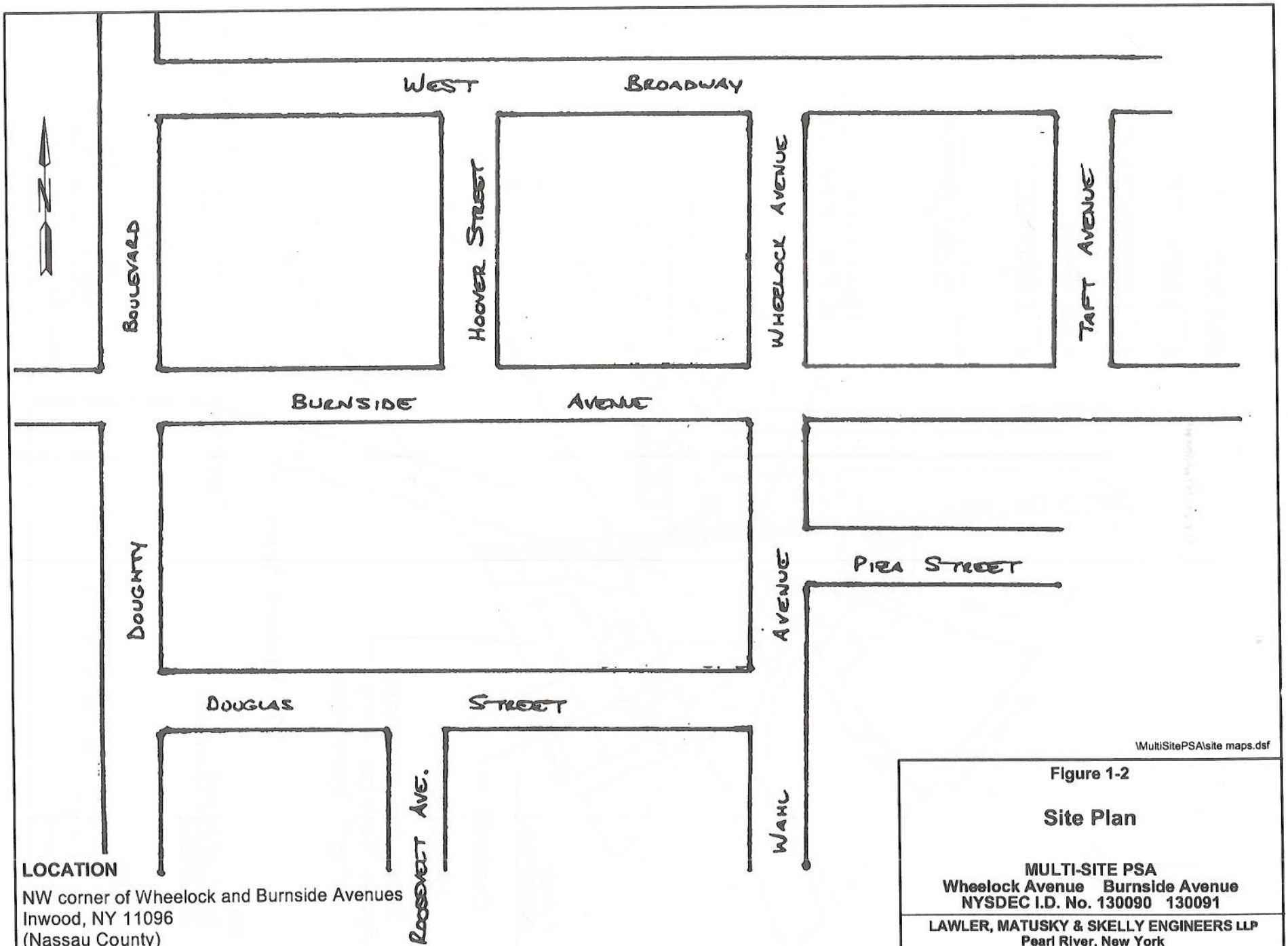
Map source:
USGS 7.5-minute Quadrangle Map,
Hicksville, NY, 1967, photorevised 1979
Huntington, NY, 1967, photorevised 1989.
Printed from Wildflower Productions "Topo".

Figure 1-1c

Site Locations

MULTI-SITE PSA

LAWLER, MATUSKY & SKELLY ENGINEERS LLP
Pearl River, New York



LOCATION

NW corner of Wheelock and Burnside Avenues
Inwood, NY 11096
(Nassau County)

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Figure 1-2

Site Plan

MULTI-SITE PSA
Wheelock Avenue Burnside Avenue
NYSDEC I.D. No. 130090 130091

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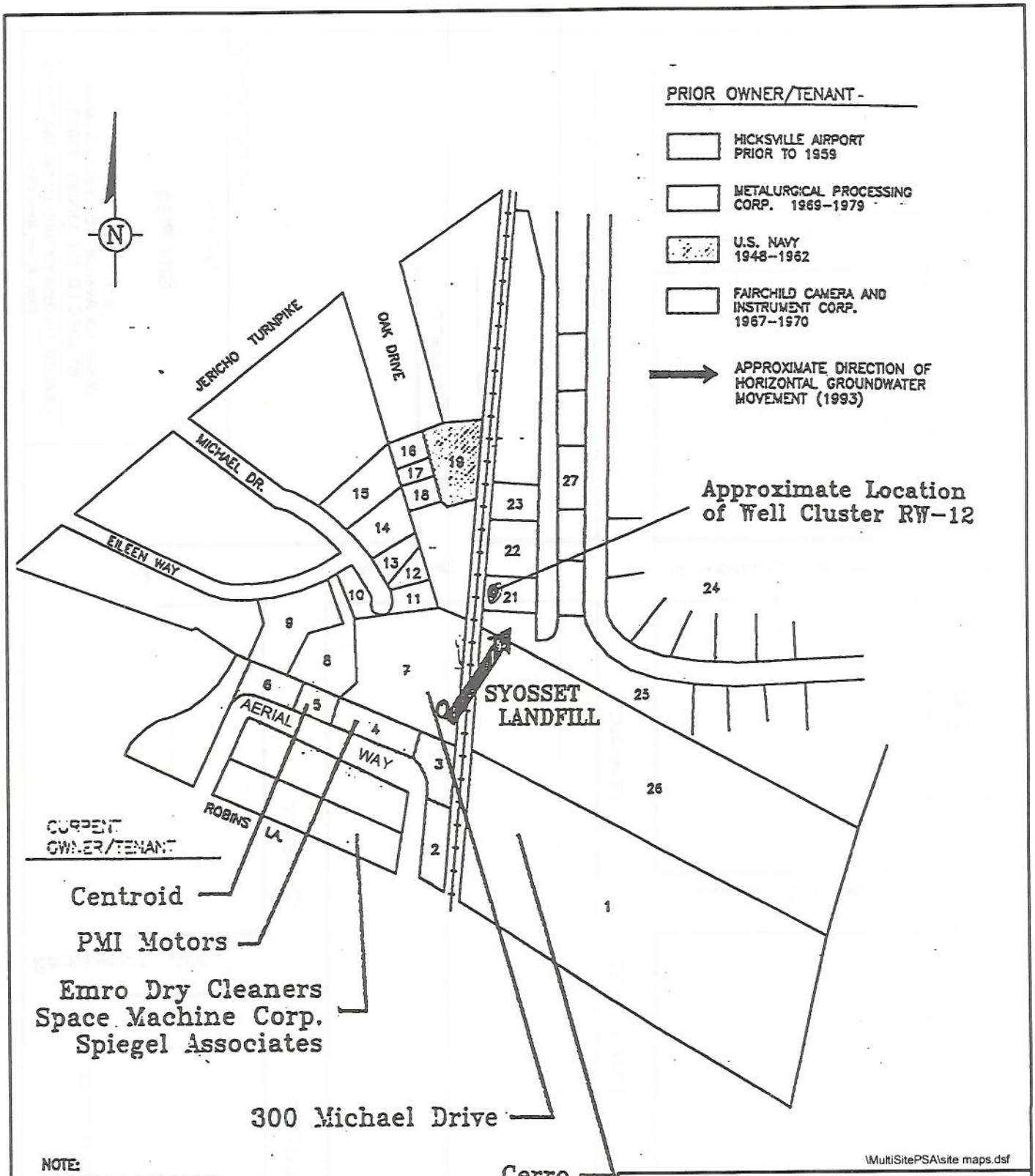
Pearl River, New York



NOTE:
DRAWING NOT TO SCALE.
ALL LOCATIONS AND CONFIGURATIONS ARE APPROXIMATE.

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LOCATION

Robbins Lane, Aerial Way, and Michael Drive
Syosset, NY 11791
(Nassau County)

Figure 1-3

Site Plan

MULTI-SITE PSA
Michael Drive Industrial Area
NYSDEC I.D. No. 130092

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Pearl River, New York

five locations were determined to fit this description: (1) Emro Dry Cleaners (currently using PCE); (2) Space Machine Corp. (had discharges of 1,1,1-TCA and PCE); (3) Spiegel Associates (had discharges of 1,1,1-TCA); (4) Centroid (used 1,1,1-TCA); and (5) PMI Motors (used 1,1,1-TCA). These facilities are all located off of Michael Drive .

Based on this information the NYSDEC must conduct a PSA within this area to determine the location of the source(s) of contamination found at GW-12I. This is based on the above information as well as the NYSDEC's commitment to further investigation as stated in the 1996 Syosset Landfill record of decision (ROD).

The site is underlain by unconsolidated sand and gravel. Groundwater is located approximately 80 feet below ground surface and flows towards the north-northeast.

1.1.4 Empire Electric Company (Site No. 2-24-015)

This site is located approximately 0.1 mile east of Gowanus Bay (Upper New York Bay) in the Sunset Park section of Kings County, New York City (Figure 1-4). The area is primarily industrial in nature, with a potato chip manufacturer (Utz), a New York City Department of Sanitation vehicle maintenance and storage building, the former BUG - Kings County Works manufactured gas plant (MGP) site, and the waterfront (Bush Terminal docks) in the general vicinity.

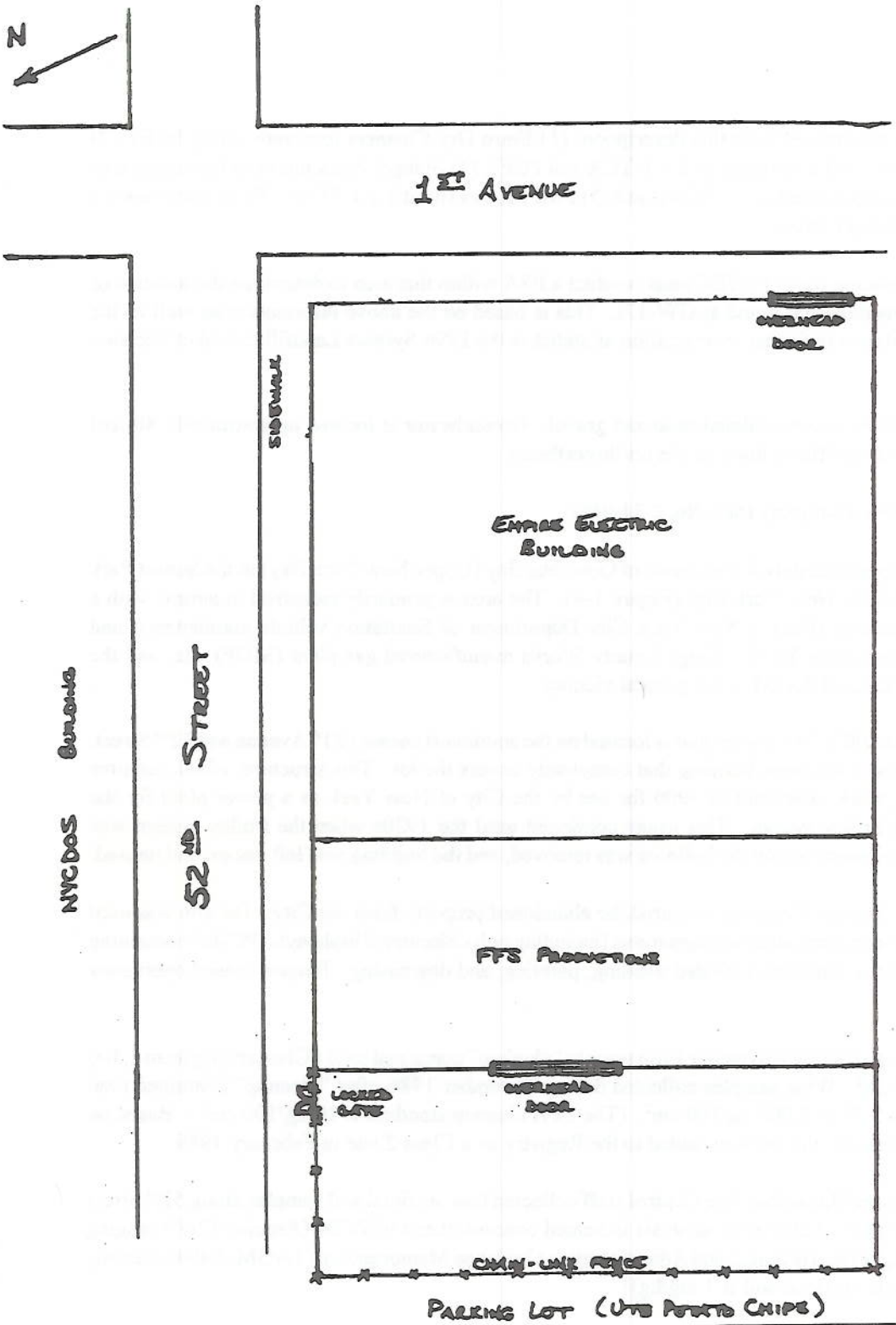
The site consists of a 100' x 240' parcel that is located on the southwest corner of 1st Avenue and 52nd Street. The property contains a red brick building that completely covers the lot. This structure, which requires substantial roofing work, was built in 1900 for use by the City of New York as a power plant for the municipally-owned trolley system. This usage continued until the 1930s when the trolley system was abandoned. The equipment within the building was removed, and the building was left vacant and unused.

In 1950 the Empire Electric Company acquired the abandoned property from the City. The site was used to warehouse and re-condition electrical apparatus [including polychlorinated biphenyls (PCBs)-containing transformers]. Various functions included welding, painting, and degreasing; Empire ceased operations in 1986.

Wipe samples collected during November 1986 prior to "cleanup" contained total PCBs ranging from 2,500 to 520,000 ug/100 cm^2. Wipe samples collected during December 1986 after "cleanup" contained total PCBs ranging from 5.71 to 8,000 ug/100 cm^2. (The EPA cleanup standard is 10 ug/100 cm^2.) Based on these wipe sample results, the site was added to the Registry as a Class 2 site in February 1989.

In July 1993, Bureau of Hazardous Site Control staff collected four surficial soil samples along 52nd Street from beneath the asphalt. Laboratory analysis indicated concentrations of PCBs (Aroclor-1260) ranging from 3.5 to 16 mg/kg. [The Technical and Administrative Guidance Memorandum (TAGM) #4046 cleanup guideline for PCBs in surficial soil is 1 mg/kg])

On November 18, 1997 New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation (DER) staff from Region 2 and Central Office visited the site. During this visit, staff noticed that there was a movie being filmed (Row Your Boat) in the vacant lot behind the adjacent abandoned building to the west of the site. Further investigation of this property revealed the presence of stained soil in the vacant lot, and large amounts of old, miscellaneous electrical equipment in the basement of the abandoned building.



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LOCATION
5200 1st Avenue
Brooklyn, NY 11220
(Kings County)

Figure 1-4

Site Plan

MULTI-SITE PSA
Empire Electric Company
NYSDEC I.D. No. 224015

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Pearl River, New York

Since there is no comprehensive sampling data available for the site, additional investigation including wipe, soil, and groundwater sampling is required.

On-site soils are assumed to consist of urban fill [black sand, fine to medium gravel, brick, wood, concrete, glass, and other construction and demolition (C&D) material], underlain by silty sand with traces of gravel and organics. Groundwater depth is assumed to be 5 - 10 ft below ground surface and flows to the west.

1.1.5 BQE/Ansbacher Color and Dye Factory (Site No. 2-24-016)

This site is located approximately 3,500 ft southeast of the East River in the Williamsburg section of Kings County, New York City (Figure 1-5). The area consists of one and two story masonry-constructed buildings that are involved in various light to heavy industrial uses. The site is bordered by North 8th St to the northeast, by Havenmeyer St to the northwest, by North 6th St to the southwest, and Macri Triangle to the southeast. Meeker Avenue runs through the middle of the site, and the elevated Brooklyn-Queens Expressway (BQE) runs above Meeker Avenue.

The site was formerly occupied by Ansbacher Color and Dye Factory, which operated on-site from 1907 to 1945. Although the exact site operations are unknown, it is assumed that the facility manufactured paints and/or pigments for commercial and industrial use.

The area was first investigated by the New York State Department of Transportation (NYSDOT) during the reconstruction of the BQE in 1988. During this work, NYSDOT collected samples of soil and groundwater for laboratory analysis. The results indicated hazardous levels of arsenic (up to 48 mg/kg) and lead (up to 29 mg/kg) in the soil, and elevated levels of arsenic (220 mg/l), cyanide (820 mg/l), and lead (568 mg/l) in perched groundwater. As part of the reconstruction, NYSDOT removed contaminated soil from the project footprint. The excavation depth and amount of soil removed are unknown. No samples were collected outside the project footprint, which covers ~50% of the site area.

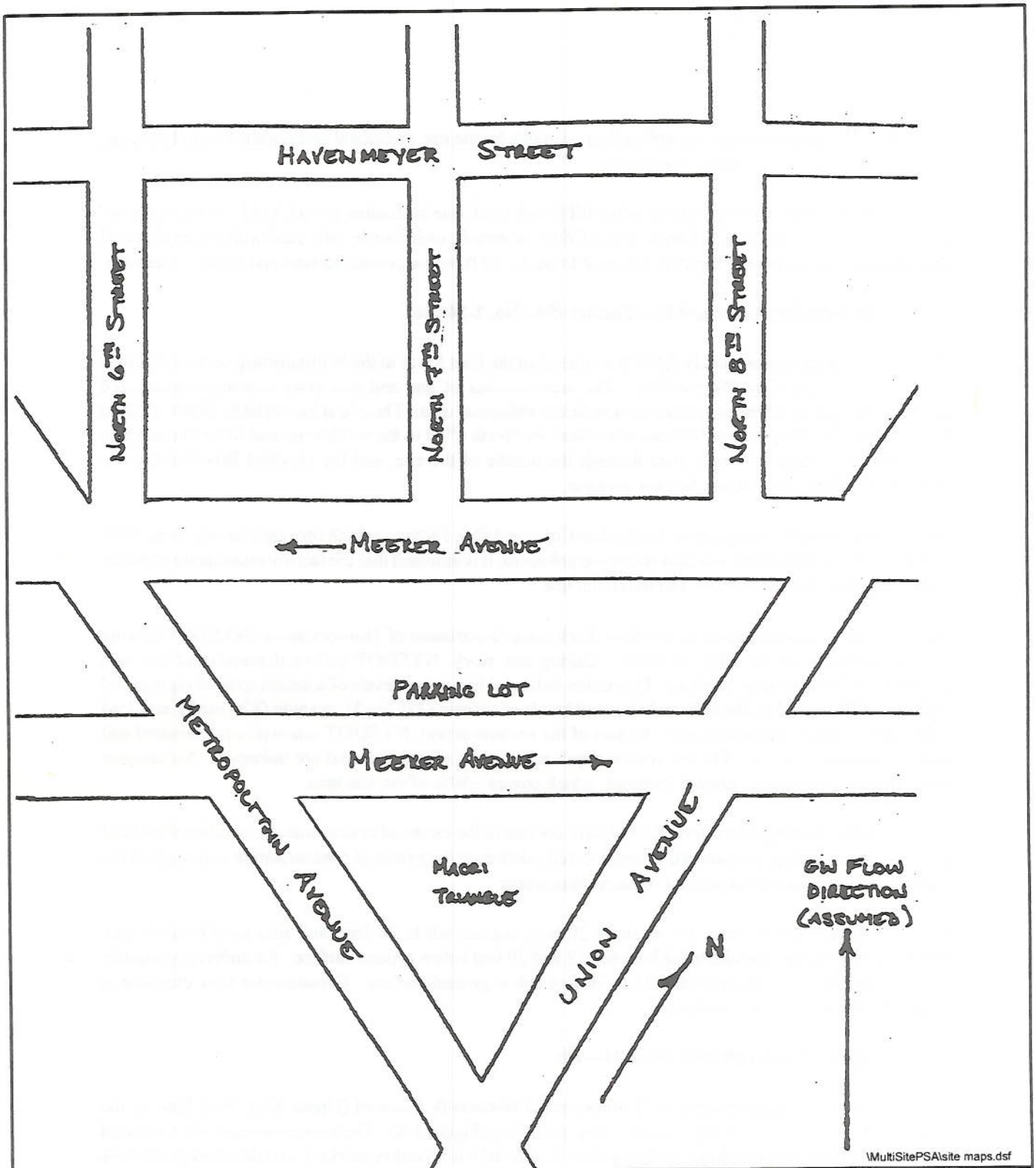
Since previous investigative efforts did not fully document the extent of contamination, additional soil and groundwater sampling are required in order to fully delineate the extent of contamination and confirm the presence of a consequential amount of hazardous waste.

The site is underlain by urban fill to about 20 feet, organic silt to 25 feet, and silty sand beneath this. Perched groundwater was identified between 12 and 20 feet below ground surface. An underlying aquifer (Upper Glacial) was encountered at 25 to 30 feet below ground surface. Groundwater flow direction is assumed to be towards the northwest.

1.1.6 Designers Woodcraft (Site No. 2-24—20)

This site is located approximately 0.25 miles east of Buttermilk Channel (Upper New York Bay) in the South Brooklyn section of Kings County, New York City (Figure 1-6). The area consists of old converted warehouses, apartment buildings, small retailers (a deli and a live poultry market), and the waterfront (New York/New Jersey Port Authority Dock 9B).

The site is occupied by a three-story red brick building totaling approximately 9,000 square feet in size. The structure has continuously served as a furniture factory since it was constructed over 100 years ago. Over that time period, facility operators have used numerous paints, stains, lacquers, thinners and other finishing products that contain various volatile and semi-volatile organic compounds.



LOCATION

Meeker Avenue between North 6th and North 8th Streets
Brooklyn, NY 11211
(Kings County)

Figure 1-5

Site Plan

MULTI-SITE PSA
BQE/Ansbacher Color and Dye Factory
NYSDEC I.D. No. 224016

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Pearl River, New York

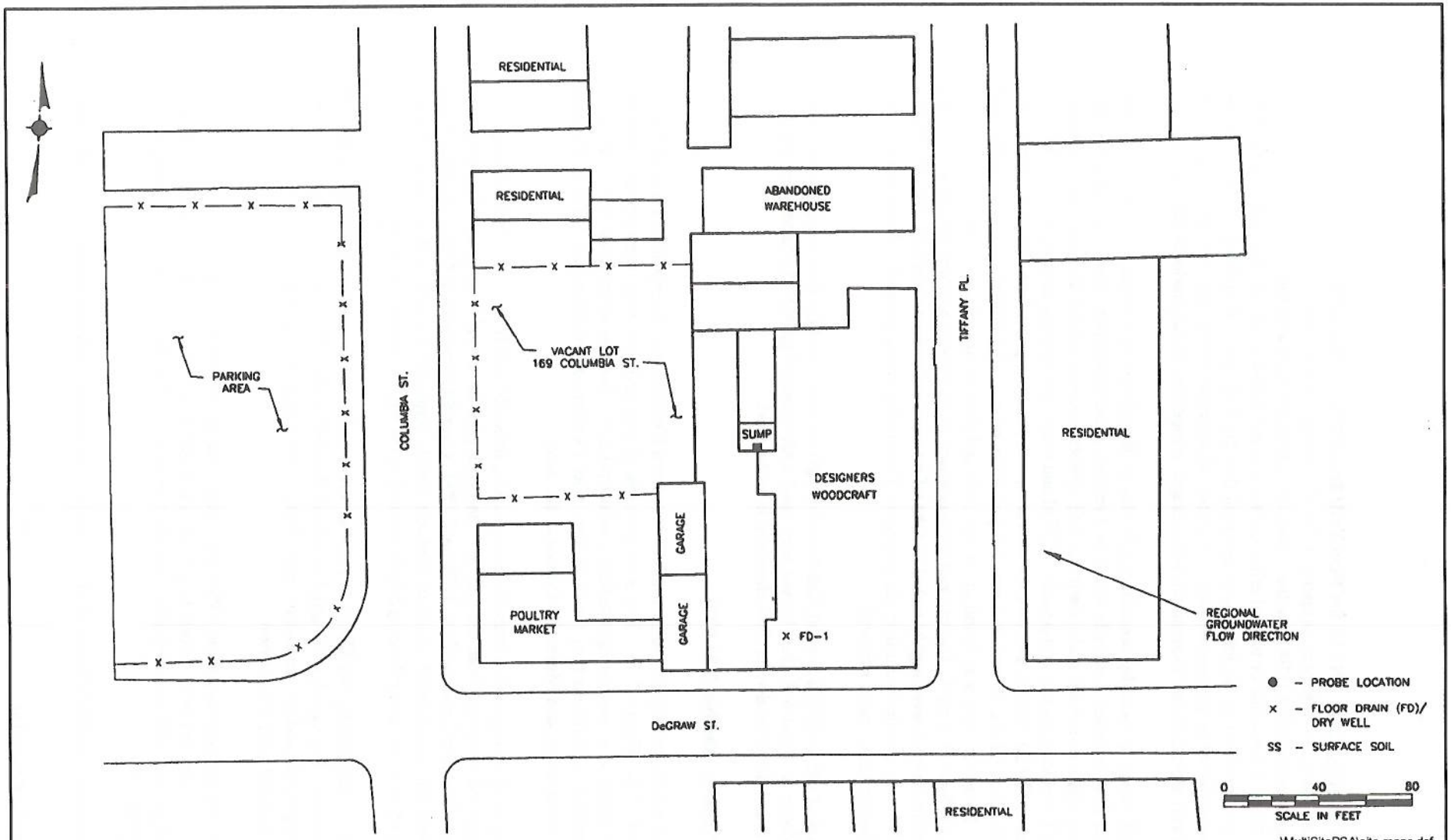

Figure 1-6

Site Plan

MULTI-SITE PSA
Designers Woodcraft
NYSDEC I.D. No. 224020

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Pearl River, New York

LOCATION
129 DeGraw Street
Brooklyn, NY 11231
(Kings County)

The area was first investigated in 1993 by the New York State Office of Mental Health (NYSOMH) due to their interest in using an adjacent property (169 Columbia Street) for assisted-living housing. Groundwater samples collected in 1994 from the Columbia St property indicated high levels of 2-butanone (175,000 mg/l). Since 2-butanone or methyl ethyl ketone was not found in on-site soil samples, and the furniture factory is upgradient of the lot, it was assumed that the Designers Woodcraft facility was the source of 2-butanone found in the groundwater. A check of material safety data sheets maintained at Designers Woodcraft indicated that 2-butanone was a major component of the products used on-site.

In 1996, NYSDEC hired a stand-by consultant (Dvirka & Bartilucci) to conduct a PSA. Activities associated with the PSA included a records search and review, a site inspection, and sampling activities. Groundwater, floor drain sediment, and subsurface soil samples were collected and analyzed for target compound list (TCL) volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs), target analyte metals (TAL) metals, and toxicity characteristic leaching procedure (TCLP) compounds. Laboratory results indicated that 2-butanone was not present in on-site, upgradient, or downgradient soil and groundwater. However, lead was found in on-site soils and floor drain sediment, the latter of which exceeded the TCLP limit of 5 mg/l. On-site and downgradient groundwater samples indicated elevated levels of lead, but the samples were highly turbid and therefore were not indicative of true site conditions. Since the 1996 PSA was unable to confirm the presence of a consequential amount of hazardous waste, additional groundwater sampling is required.

On-site soils consist of urban fill (black sand, fine to medium gravel, brick, wood, concrete, glass, and other C&D material) down to about 6 ft, then brown silty sand with traces of gravel. Groundwater depth is approximately 8 ft and the groundwater flow direction is to the west.

1.1.7 Carbona Products (Site No. 2-24-023)

This site is located approximately 0.5 miles south of Newtown Creek in the Greenpoint section of Kings County, New York City (Figure 1-7). The area consists of one and two story masonry-constructed buildings that are involved in various light to heavy industrial uses. The site is bordered by Calyer St to the north, by Humboldt St to the east, by the New York City Department of Consumer Affairs - Central Testing Division to the south, and Meserole Avenue to the west.

The site was occupied by a single story brick building totaling about 20,000 ft^2 in size. (This building was recently demolished and removed from the site, as it had collapsed in several locations.) This structure housed the Carbona Products Company from 1978 until 1994. Over that time period, Carbona blended and packaged household and commercial cleaning products which contained halogenated solvents. These solvents were stored in above-ground storage tanks located in the south-eastern portion of the building.

The area was first investigated by NYSDEC in 1994 as a result of some limited soil sampling performed by the property owner. The samples collected indicated elevated levels of PCE (up to 92 mg/kg) in the vicinity of the storage tanks and the production area. Based on this data, the site was given a "P" (potential hazardous waste disposal site) designation.

In 1995, NYSDEC attempted to negotiate a PSA work plan with the site owner. These negotiations broke down in early 1996. Since previous efforts to get the site owner to undertake a PSA were unsuccessful, additional soil and groundwater sampling are required in order to confirm the presence of a consequential amount of hazardous waste.

The on-site soils consist of reddish brown to black, fine to coarse sand, with some gravel, silt, and wood.

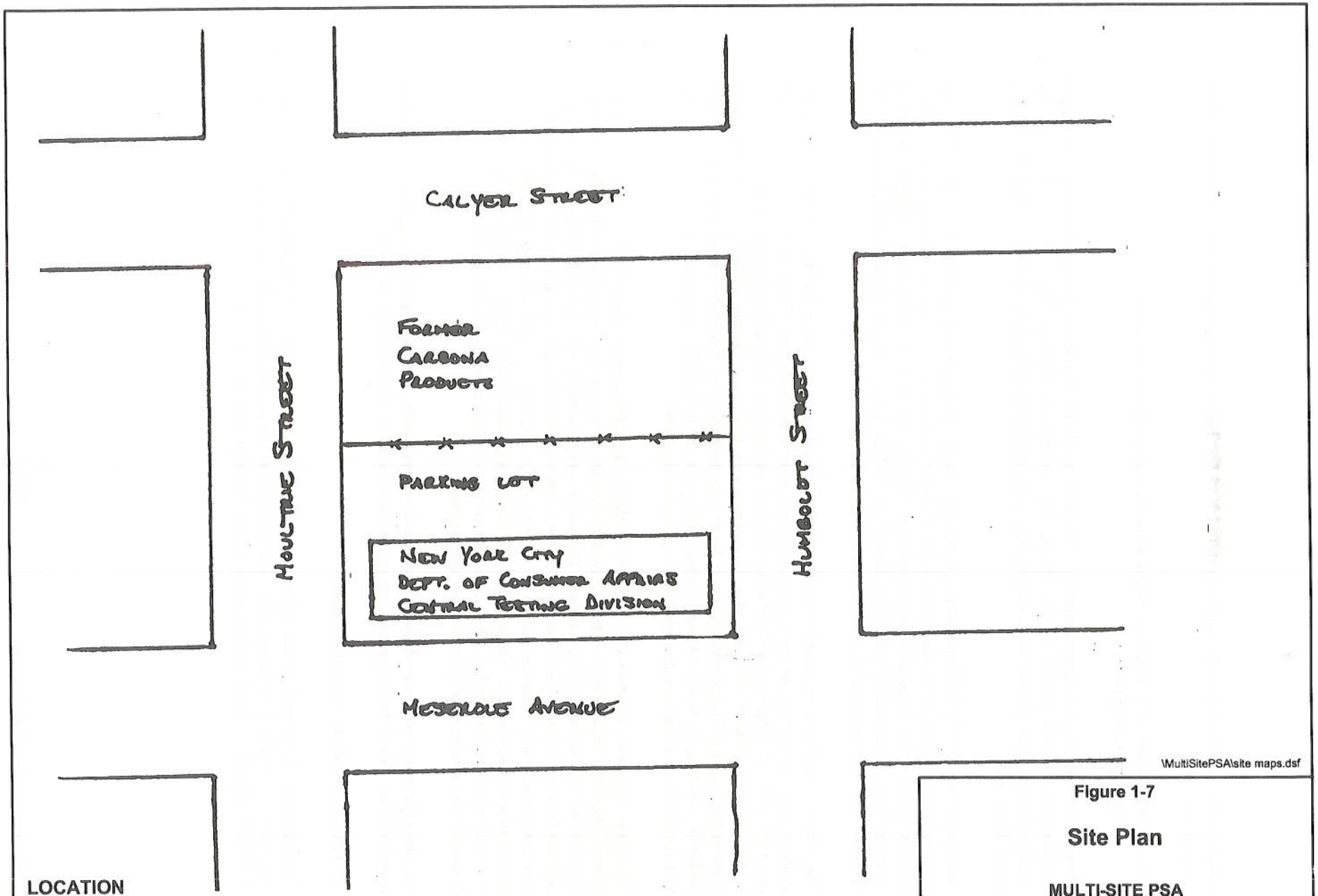

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Figure 1-7

Site Plan

MULTI-SITE PSA
Carbona Products
NYSDEC I.D. No. 224023

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Pearl River, New York

LOCATION

SW corner of Cayler and Humboldt Streets
Brooklyn, NY 11222
(Kings County)

Groundwater is assumed to be approximately 10-15 feet below ground surface and is assumed to flow towards the north.

1.1.8 Public School 60/62 (Former Voges Manufacturing)/Ozone Industries (Site No. 2-41-021)

These sites are located approximately 0.5 miles north of Shellbank Basin (Jamaica Bay) in a commercial/industrial portion of the Ozone Park section of Queens (Figure 1-8). A residential neighborhood is located to the west, and the area is bisected by an abandoned, elevated section of the Long Island Railroad.

Historically, the 103-22 99th St property was occupied by Voges Manufacturing from 1920 until 1995. The company initially engaged in the manufacture of plastic buttons via an extrusion molding process. More recently, the company engaged in the manufacture of component parts for helicopters. Based on historical Material Safety Data Sheets (MSDS) presented to NYSDEC by the current owner, Voges purchased PCE up until May 1991 and may have utilized it as a degreaser for machined parts.

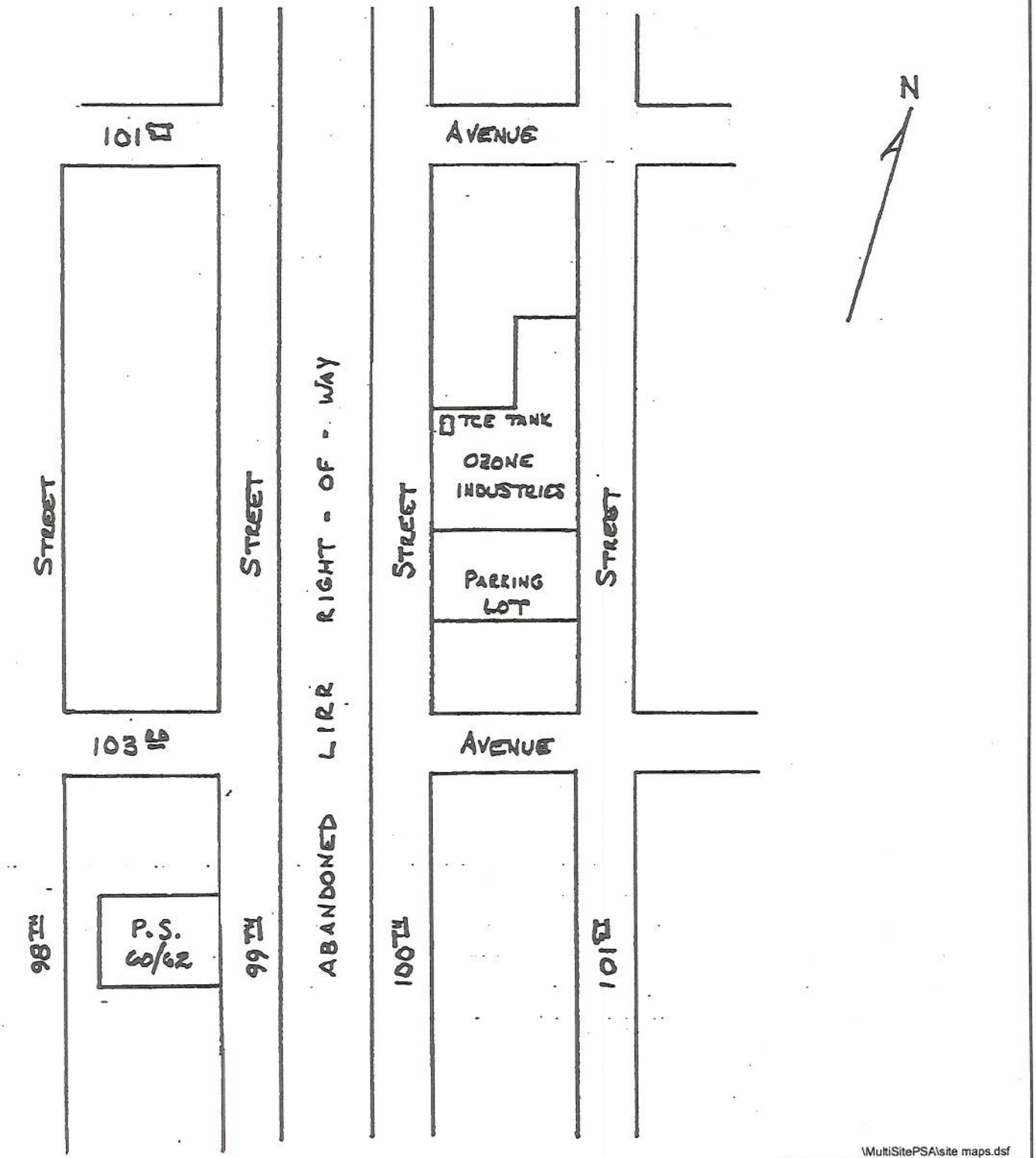
The property has been occupied by a New York City public school since the fall of 1996. During the construction of the school, an environmental investigation was conducted. This investigation revealed the presence of TCE in the groundwater at concentrations ranging from 190 mg/l in the upgradient well to 2,600 mg/l in the downgradient well. Based on this information, the former facility's MSDS, and on allegations made to the Regional Remediation Engineer by an informant claiming that hazardous wastes were disposed within the building by Voges Manufacturing employees, the NYSDEC designated the PS 60/62 property as a potential hazardous waste disposal site in September 1996.

The Ozone Industries property was first investigated by the DER in the winter of 1997. The lawyer for the former Voges Manufacturing Company indicated that there was a facility upgradient of the school property that utilized TCE in their site operations. This claim was researched with the Spills Program in Region 2, and was found to be true. The presence of a 2,000 gallon underground storage tank (UST) containing TCE was confirmed in the Chemical Bulk Storage Program's inventory. A spill was also reported in 1987 as a result of a tank test failure. The remediation of the spill consisted of the removal of the tank from service. This was completed in October 1992. Based on the above information, a PSA is needed at these locations to identify the source(s) of groundwater contamination.

On-site soils consist of orange-brown fine to medium sand, with traces of gravel. Groundwater is located approximately 24 feet below ground surface and is assumed to flow towards the south.

1.2 Objectives of the Sampling Effort

The objectives of the PSAs at the eight sites are to determine the source of contamination at each site, determine the extent of contamination, and recommend the proposed classification of each site on the NYSDEC Registry of Inactive Hazardous Waste Disposal Sites (the Registry).



\MultiSitePSA\site maps.dsf

LOCATION

103-22 99th Street (PS60/62)
101-32 101st Street (Ozone Industries)
Ozone Park, NY 11417
(Queens County)

Figure 1-8

Site Plan

MULTI-SITE PSA
Public School 60/62
(former Voges Manufacturing)
NYSDEC I.D. No. 241021

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Pearl River, New York

CHAPTER 2

PREPARATORY ACTIVITIES

2.1 Site Visit / File Review / Detailed Site History

Under this subtask a 'drive by' site visit of each of the eight sites was conducted on 19 March 1999 to determine if there were any hazards or other access problems for drilling at each site. A meeting was held at the NYSDEC offices in Albany, New York on 25 March 1999 to discuss the scope of the PSAs. A task by task cost estimate for each of the eight sites was prepared, submitted to NYSDEC, and discussed. Since the exact scope at the Michael Drive Industrial Area site had not been prepared previously, LMS presented the suggested scope of work for this site at the meeting. Suggested changes to some of the other sites were also discussed.

2.2 Subtask 2.1 – Literature Search/File Search

This subtask will include obtaining and reviewing all appropriate relevant files on seven of the eight sites (a detailed file review of the Designers Woodcraft site has already been done and will not be repeated). The purpose of this subtask will be to assemble the necessary background data to complete the PSA. The following agencies will be contacted and their files reviewed.

- NYSDEC – Division of Environmental Enforcement
- NYSDEC – Region I and 2
- Nassau County Health Department
- New York City County Health Department
- NYSDOH

It is hoped that this subtask will identify any unknown source areas that may exist on each of the sites. Should this occur the field investigation subtasks will be modified accordingly to adequately address these areas.

The file review will also include obtaining the tax map and property owners names and addresses for all properties to be investigated.

2.3 Site Inpections/Mobilization/Demobilization

This subtask includes a site inspection by each site's site coordinator to locate each of the sampling points prior to the drill rig mobilizing to the site. The location of the sampling points is needed in order to do a utility markout prior to initiating drilling. This subtask also includes mobilizing and equipment needed to the site and removing this equipment at the end of the project.

CHAPTER 3

SAMPLE LOCATIONS

This chapter summarizes the samples that will be collected at each of PSA sites. The sample locations are preliminary and may require relocation due to site access conditions at the time of the field investigation, the presence of underground utilities, or other access restrictions.

3.1 Wheelock Avenue (Site No. 1-30-090) and Burnside Avenue (Site No. 1-30-091)

3.1.1 Groundwater Probes

Fourteen groundwater probes (Figure 3-1) will be performed for each of the two sites for a total of 28 probe locations (GP-1 through GP-28). A water table sample will be collected at each probe location at a depth of approximately 10-ft. Half of the probe locations will be advanced to a depth of 50-ft (or to probe refusal) and additional groundwater samples will be collected at depths of 25-ft and 50-ft below grade. A total of 60 groundwater samples will be collected (one shallow from each probe location, and one intermediate and one deep from half of the probe locations, including four blind duplicates) for VOC analysis by NYSDEC ASP 95-1.

3.2 Michael Drive Industrial Area (Site No. 1-30-092)

A total of up to 10 groundwater-sampling points will be completed at the Michael Drive Industrial Area site as shown on Figure 3-2. Each of the groundwater sampling points will be installed to a maximum depth of 120 ft. below grade, and the groundwater samples will be collected using either the hydropunch sampling system or a retrievable well point system. Water samples will be collected at about the water table (80 to 85-ft), 90, 100, 110, and 120-ft below grade. The completion depth, sampling depths, and sampling system at each of the locations will depend on the actual field conditions encountered during the drilling. A total of up to 52 groundwater samples will be collected (five from each hydropunch boring including two blind duplicates) for VOC analysis by NYSDEC ASP 95-1.

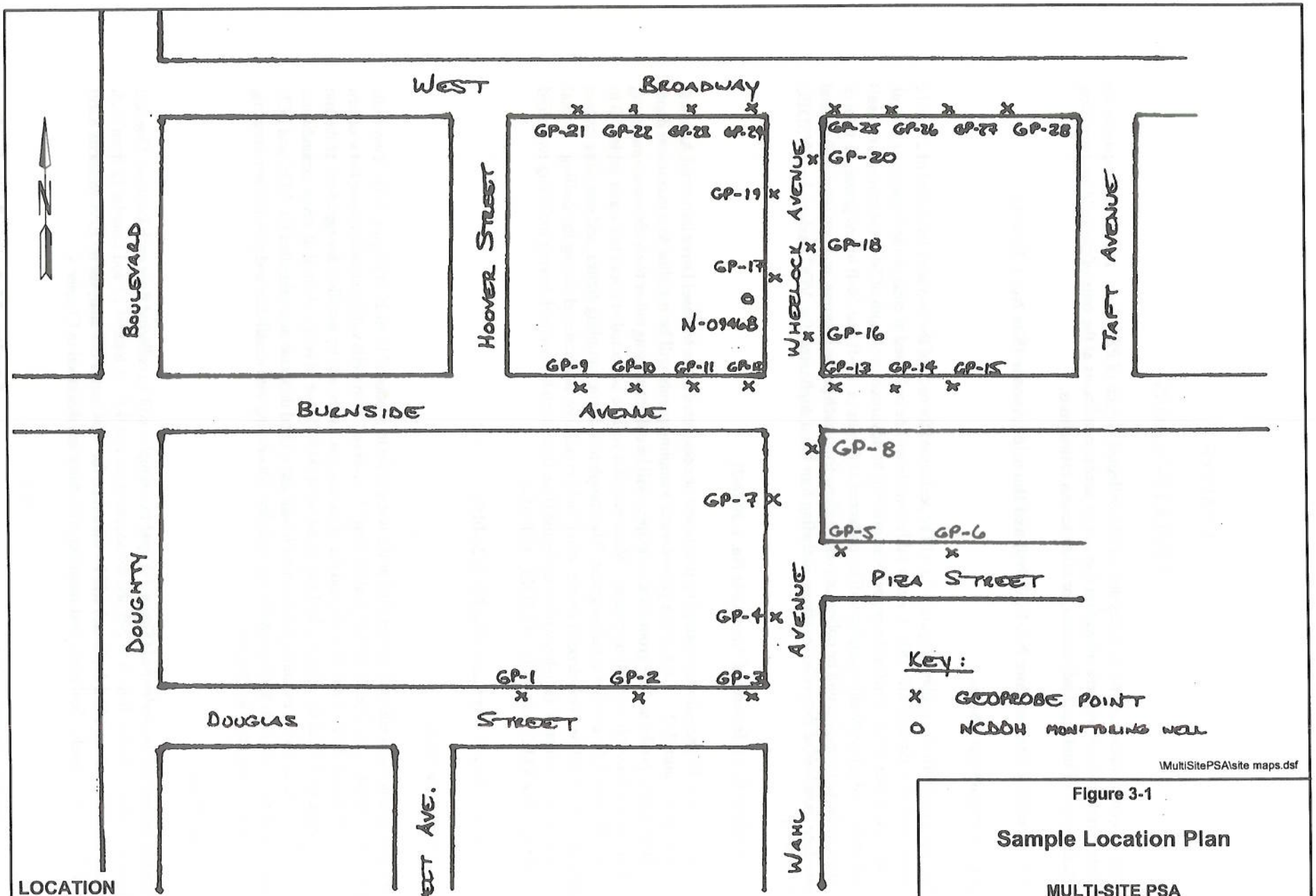
3.3 Empire Electric Company (Site No. 2-24-015)

3.3.1 Monitoring Wells

Six 2-in. monitoring wells will be installed at the water table to depths of 15 to 20-ft (Figure 3-3). Two wells (MW-1 and MW-2) will be located upgradient along 1st Avenue. Two wells will be installed along the southern side of 52nd Street (MW-3 and MW-4), and the remaining two wells will be installed downgradient of the site in the vacant lot behind the adjacent building to the west (MW-5 and MW-6). A total of seven groundwater samples will be collected including one from each well and a blind duplicate and submitted for VOC and PCB analyses by EPA Methods 8260 and 8082, respectively. Monitoring well installation and groundwater sampling procedures are described in Chapter 4.

3.3.2 Soil Probes

Six soil probes will be performed (Figure 3-3) and two samples will be collected from each location. One soil sample will be collected from 0 to 2-ft and the second from 2 to 4-ft. A total of 13 soil samples (2 from each probe location and one blind duplicate) will be submitted for VOC and PCB analyses by EPA Methods 8260 and 8082, respectively. Soil probe and sampling procedures are described in Chapter 4.



\MultiSitePSA\site maps.dsf

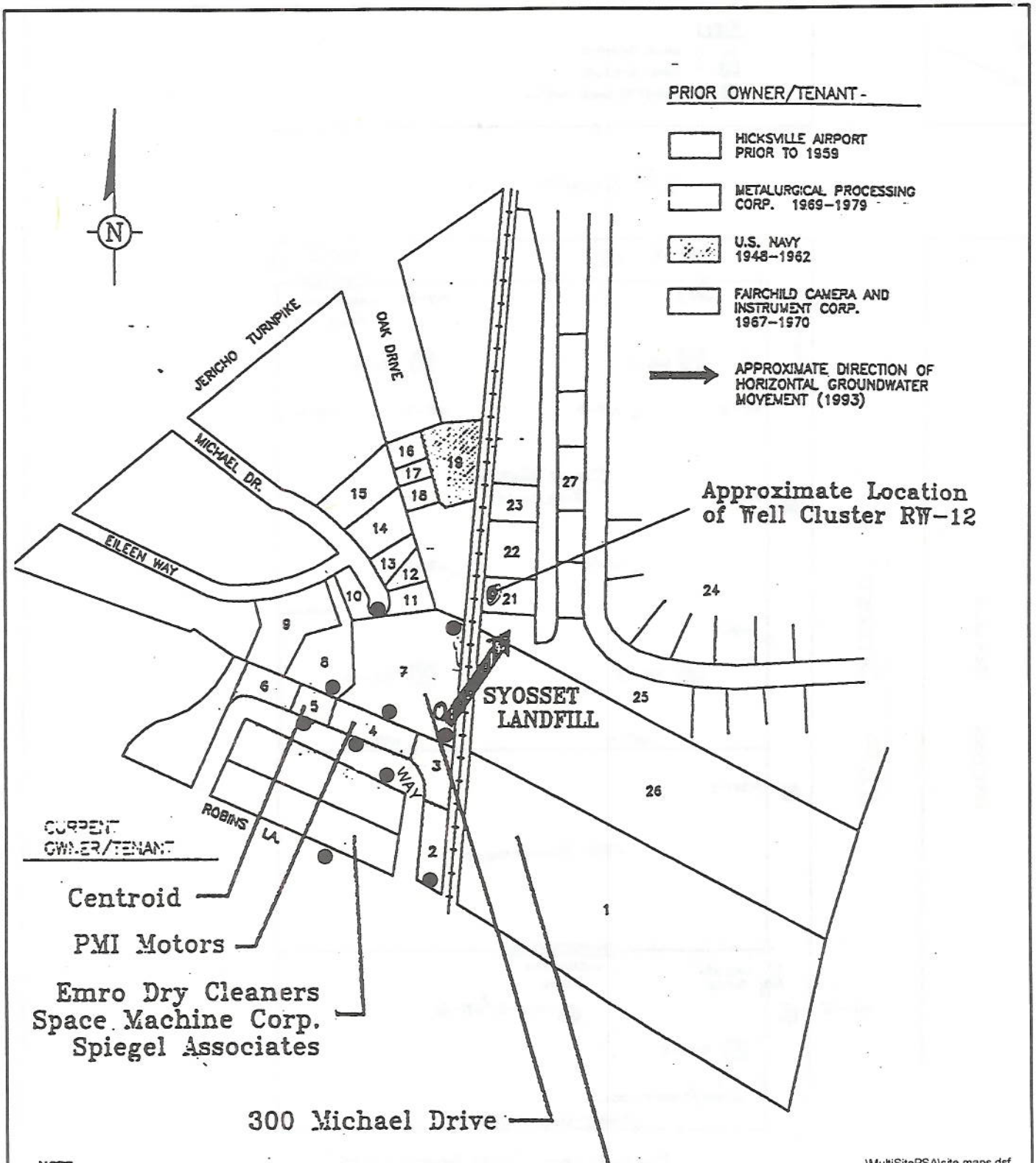
LOCATION
NW corner of Wheelock and Burnside Avenues
Inwood, NY 11096
(Nassau County)

Figure 3-1

Sample Location Plan

MULTI-SITE PSA
Wheelock Avenue Burnside Avenue
NYSDEC I.D. No. 130090 130091

LAWLER, MATUSKY & SKELLY ENGINEERS LLP
Pearl River, New York



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NOTE:
DRAWING NOT TO SCALE.
ALL LOCATIONS AND CONFIGURATIONS ARE APPROXIMATE.

● Hydropunch locations

LOCATION

Robbins Lane, Aerial Way, and Michael Drive
Syosset, NY 11791
(Nassau County)

Figure 3-2

Sample Location Plan

MULTI-SITE PSA
Michael Drive Industrial Area
NYSDEC I.D. No. 130092

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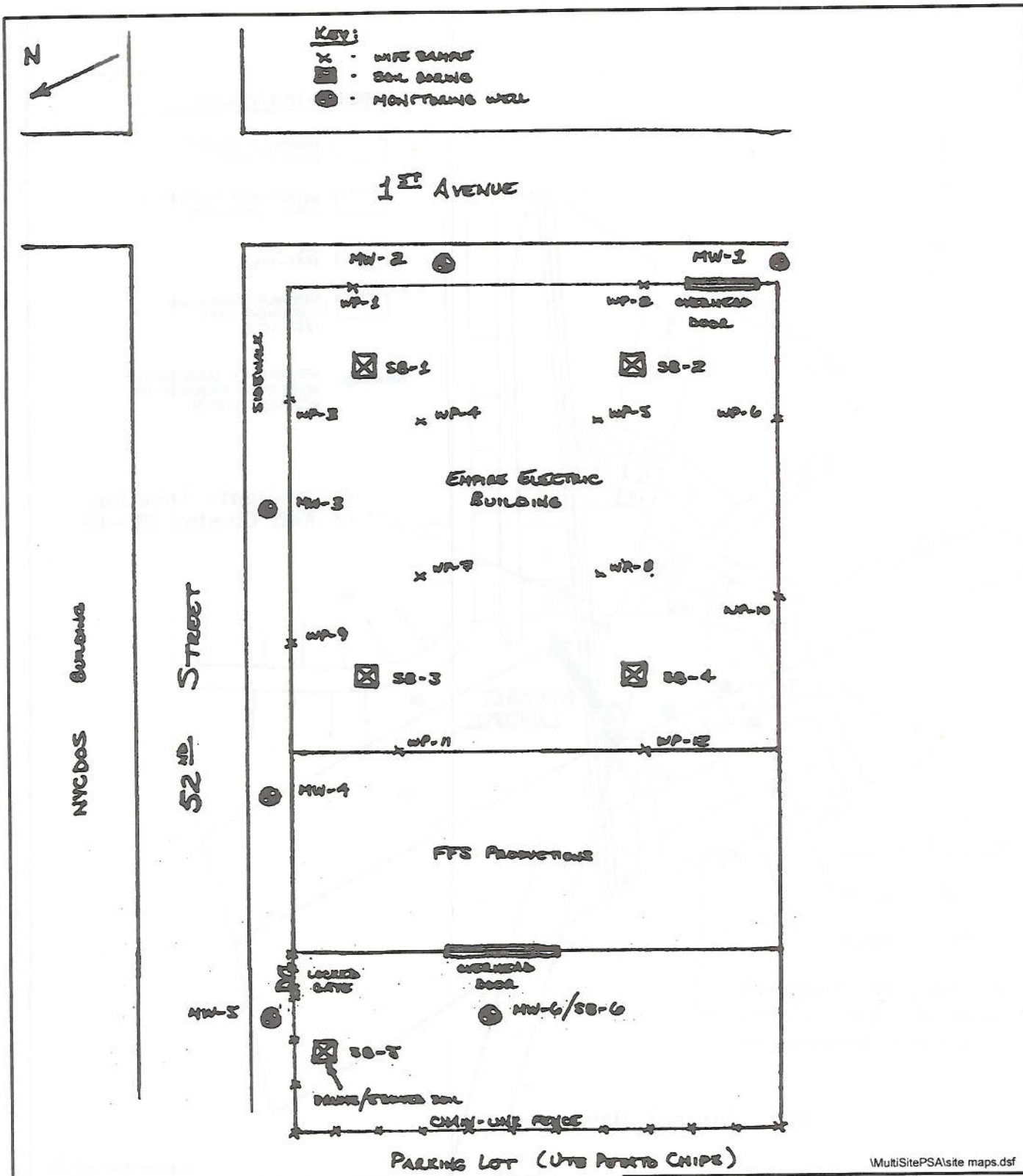

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Figure 3-3

Sample Location Plan

LOCATION

5200 1st Avenue
Brooklyn, NY 11220
(Kings County)

MULTI-SITE PSA
Empire Electric Company
NYSDEC I.D. No. 224015

LAWLER, MATUSKY & SKELLY ENGINEERS LLP
Pearl River, New York

3.3.3 Wipe Samples

Twelve wipe samples (WP-1 through WP-12) will be collected within the building at the locations shown on Figure 3-3. A total of 13 wipes including one blind duplicate will be submitted for PCB analyses by EPA Methods 8082. Wipe sampling procedures are described in Chapter 4.

3.4 BQE/Ansbacher Color and Dye Factory (Site No. 2-24-016)

3.4.1 Monitoring Wells

Eight 2-in. monitoring wells will be installed (Figure 3-4). Two wells (MW-1 and MW-2) will be located upgradient of the site within the Macri Triangle. The remaining six wells (MW-3 through MW-8) will be installed downgradient of the site along North 6th and North 7th Streets. The odd numbered wells will be installed approximately 7-ft below the water table at a depth of about 20-ft and the even numbered wells will installed to a depth of approximately 35-ft below grade. A total of nine groundwater samples will be collected including one from each well and a blind duplicate and submitted for total metals and cyanide analyses by NYSDEC ASP 95 CLP-M and EPA Method 9010, respectively. Monitoring well installation and groundwater sampling procedures are described in Chapter 4.

3.4.2 Soil Borings

Five soil borings will be performed (Figure 3-4) and six samples will be collected from each boring at 2-ft intervals to a total depth of 12-ft. A total of 32 soil samples (six from each probe location and two blind duplicates) will be submitted for analyses for total metals by NYSDEC ASP 95 CLP-M, TCLP RCRA metals, and total and amenable cyanide by EPA Method 9010. Soil boring and sampling procedures are described in Chapter 4.

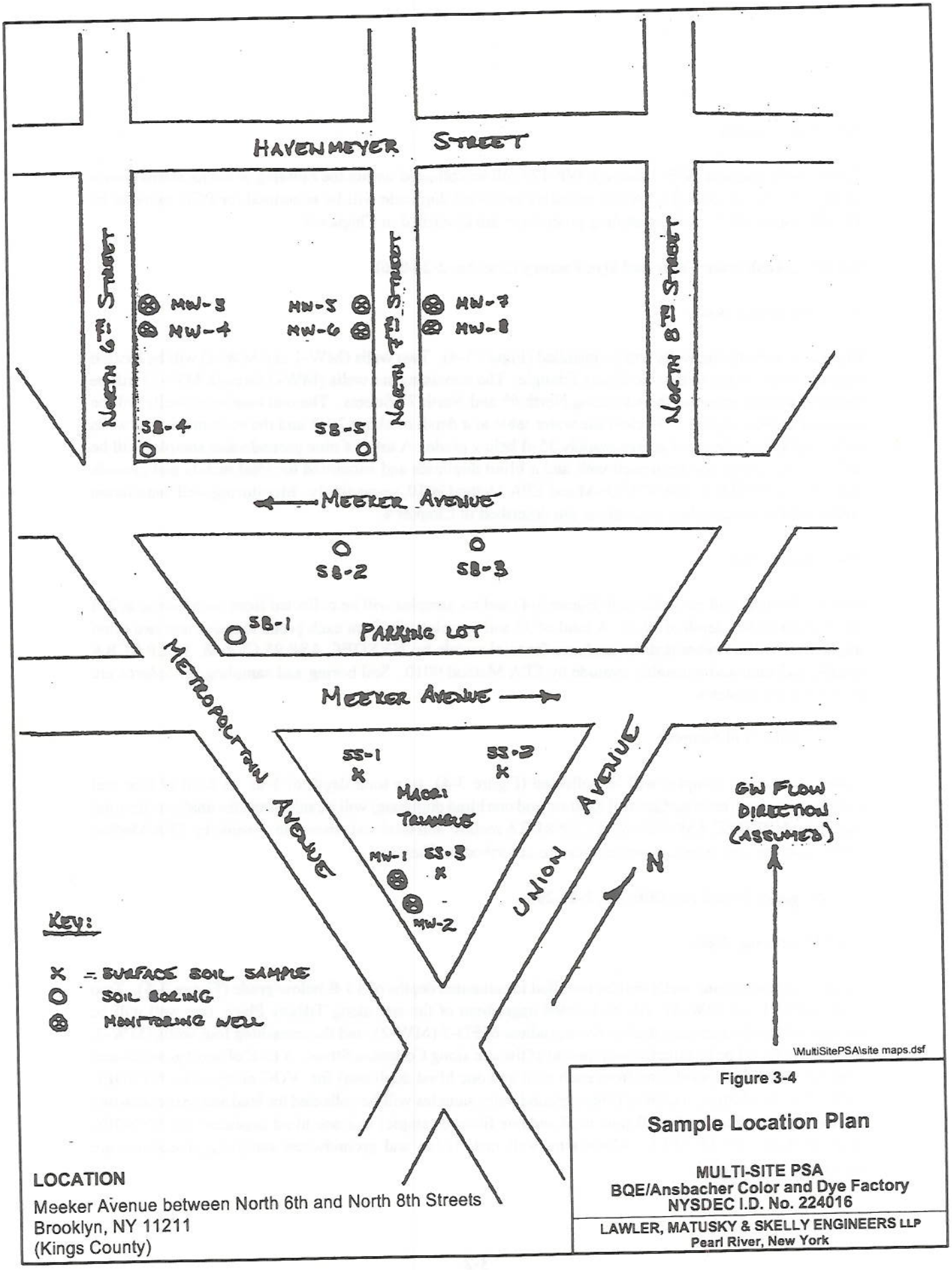
3.4.3 Surface Soil Samples

Three surface soil samples will be collected (Figure 3-4) to a total depth of 6-in. A total of four soil samples (one from each surface soil location and one blind duplicate) will be submitted for analyses for total metals by NYSDEC ASP CLP-M, TCLP RCRA metals, and total and amenable cyanide by EPA Method 9010. Surface soil sampling procedures are described in Chapter 4.

3.5 Designers Woodcraft (Site No. 2-24-20)

3.5.1 Monitoring Wells

Seven 2-in. monitoring wells will be installed to estimated depths of 15-ft below grade (Figure 3-5). Two wells (MW-1 and MW-5) will be located upgradient of the site along Tiffany Place, one well will be located within the site immediately downgradient of FD-2 (MW-2), and the remaining four wells (MW-3, -4, 6, and -7) will be installed downgradient of the site along Columbia Street. A total of eight groundwater samples will be collected (one from each well and one blind duplicate) for VOC analysis by NYSDEC ASP 95-1. In addition, a total of fifteen groundwater samples will be collected for lead analysis consisting of two samples from each well (one total and one filtered sample) and one blind duplicate by NYSDEC ASP Method CLP-M 239.1. Monitoring well installation and groundwater sampling procedures are described in Chapter 4.



LOCATION

Meeker Avenue between North 6th and North 8th Streets
Brooklyn, NY 11211
(Kings County)

Figure 3-4

Sample Location Plan

MULTI-SITE PSA
BQE/Ansbacher Color and Dye Factory
NYSDEC I.D. No. 224016

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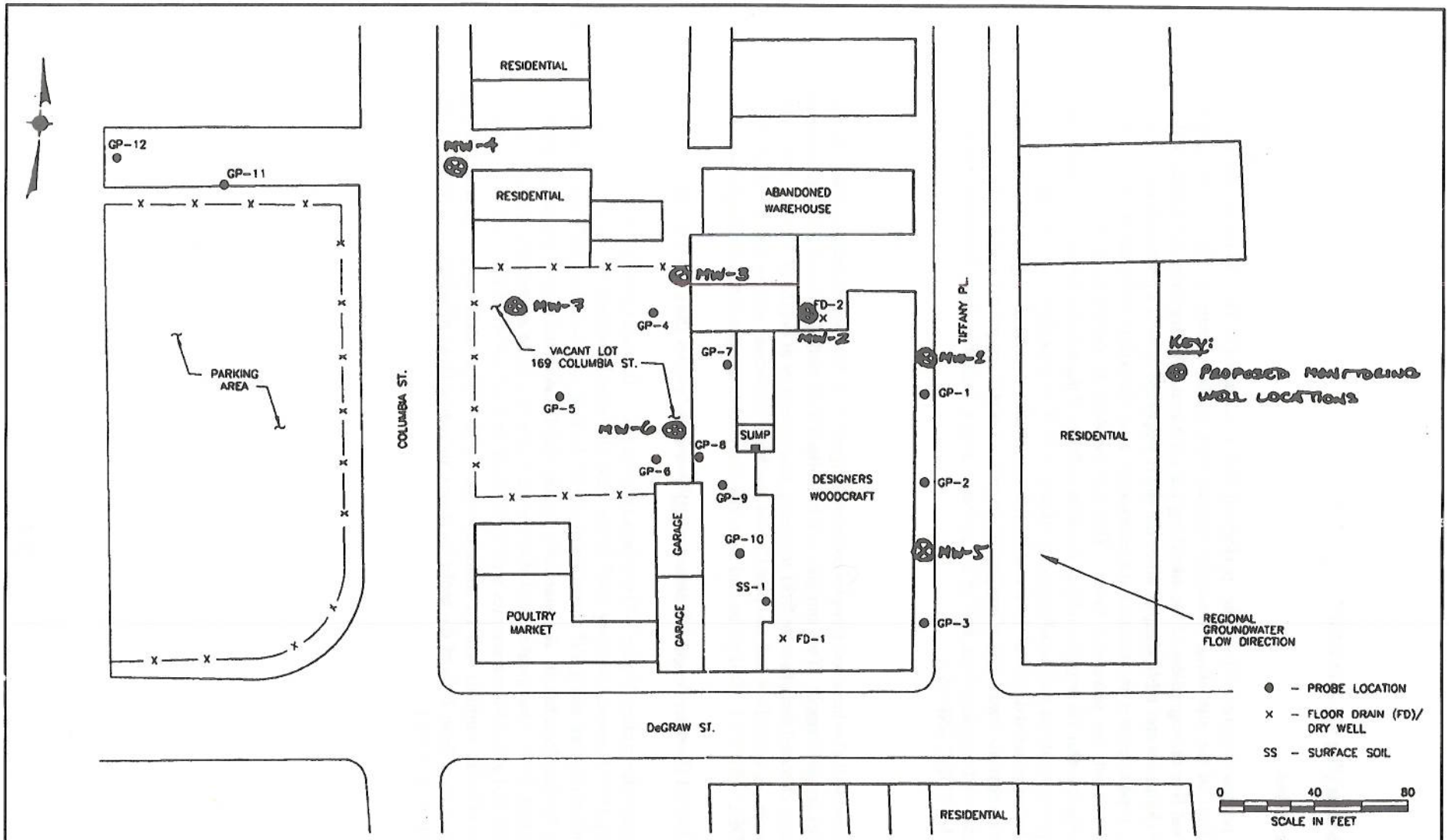
Pearl River, New York



LOCATION

129 DeGraw Street
Brooklyn, NY 11231
(Kings County)

Figure 3-5

Sample Location Plan

MULTI-SITE PSA
Designers Woodcraft
NYSDEC I.D. No. 224020

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3.6 Carbona Products (Site No. 2-24-023)

3.6.1 Groundwater Probes

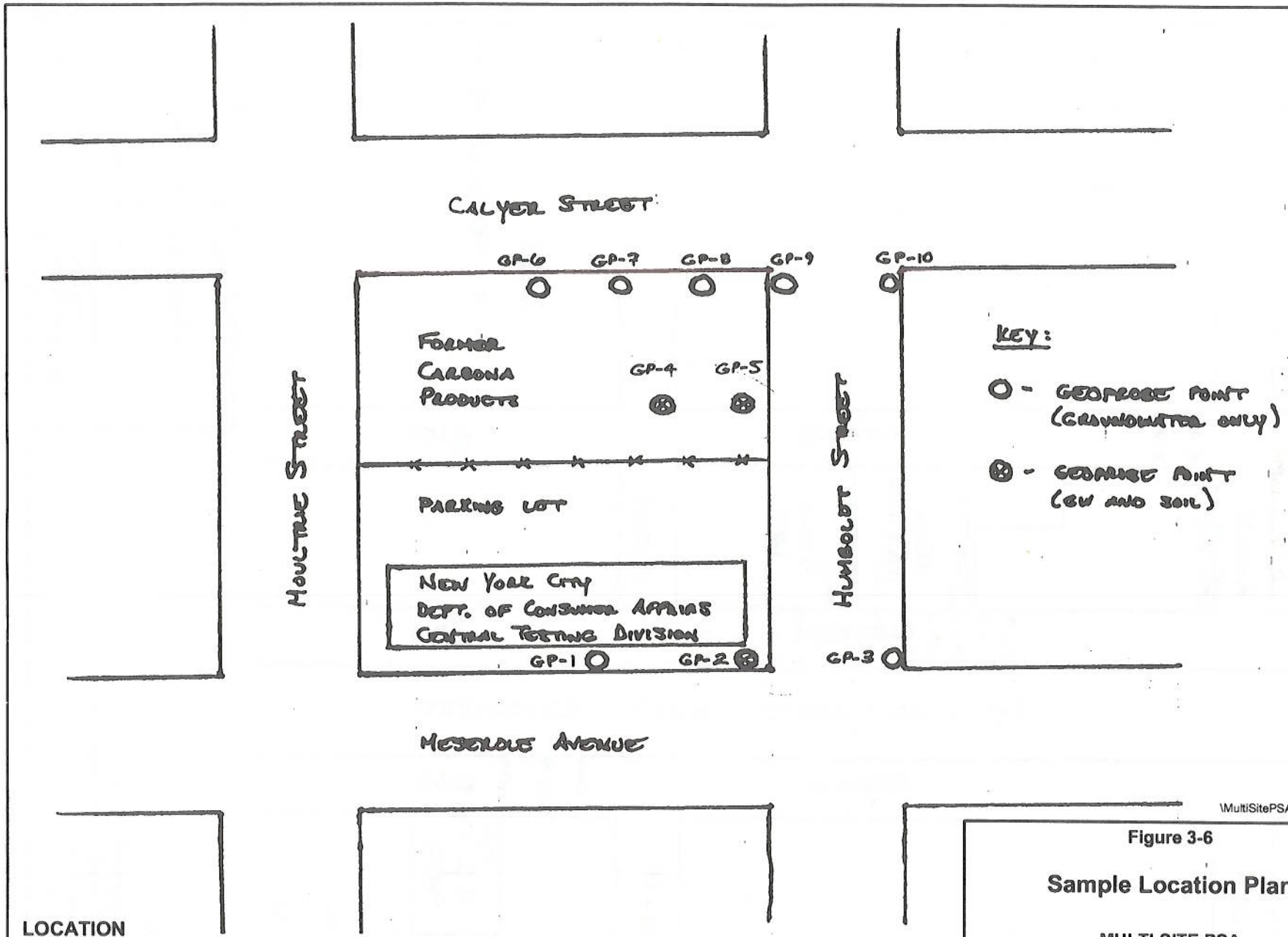
Ten groundwater probes (Figure 3-6) will be performed (GP-1 through GP-10). Three probes will be performed upgradient of the site along Meserole Avenue, two in the vicinity of the site and former production area, and five downgradient of the site along Calyer Street. A temporary piezometer will be installed to collect shallow water table samples since the site is suspected to have a petroleum layer resting on the water table. If petroleum is encountered in a piezometer, a sample will be collected of the petroleum and of the water beneath the petroleum layer. This will be done to determine if a higher solvent concentration is present within the petroleum layer due to the affinity of the solvents for petroleum products. Half (five) of the probe locations will be advanced to a depth of 50-ft (or to probe refusal) and groundwater samples will also be collected at depths of 25-ft and 50-ft below grade. A total of 33 groundwater samples will be collected (two shallow consisting of one petroleum and one water sample from each probe location, and one intermediate and one deep from half of the probe locations, including three blind duplicates) for VOC analysis by NYSDEC ASP 95-1.

3.6.2 Soil Probes

Three probe locations will also have soil samples collected (Figure 3-6). One soil sample will be collected from GP-2 as a background sample. Two samples will be collected for both GP-4 and GP-5 at locations exhibiting staining or elevated responses on field screening instruments or at depths of 0 to 3-ft and at just above the water table. A total of six soil samples (5 plus one blind duplicate) will be submitted for VOC analysis by NYSDEC ASP 95-1. Soil probe and sampling procedures are described in Chapter 4.

3.7 Public School 60/62 (Former Voges Manufacturing)/Ozone Industries (Site No. 2-41-021)

Twenty-three groundwater probes (Figure 3-7) will be performed (GP-1 through GP-23). Three probes will be performed along 101st Avenue, ten along 100th Street west of Ozone Industries, two in the parking lot south of Ozone Industries, four along 99th Street south of 103 Avenue, and two along 98th Street south of 103rd Avenue near the fire department. A water table sample will be collected at each probe location at a depth of approximately 30-ft. One quarter (six) of the probe locations will be advanced to a depth of 60-ft (or to probe refusal) and groundwater samples will be collected at depths of 45-ft and 60-ft below grade. A total of 38 groundwater samples will be collected (one shallow from each probe location, and one intermediate and one deep from 25% of the probe locations, including three blind duplicates) for VOC analysis by NYSDEC ASP 95-1.



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LOCATION

SW corner of Cayler and Humboldt Streets
Brooklyn, NY 11222
(Kings County)

Figure 3-6

Sample Location Plan

MULTI-SITE PSA
Carbona Products
NYSDEC I.D. No. 224023

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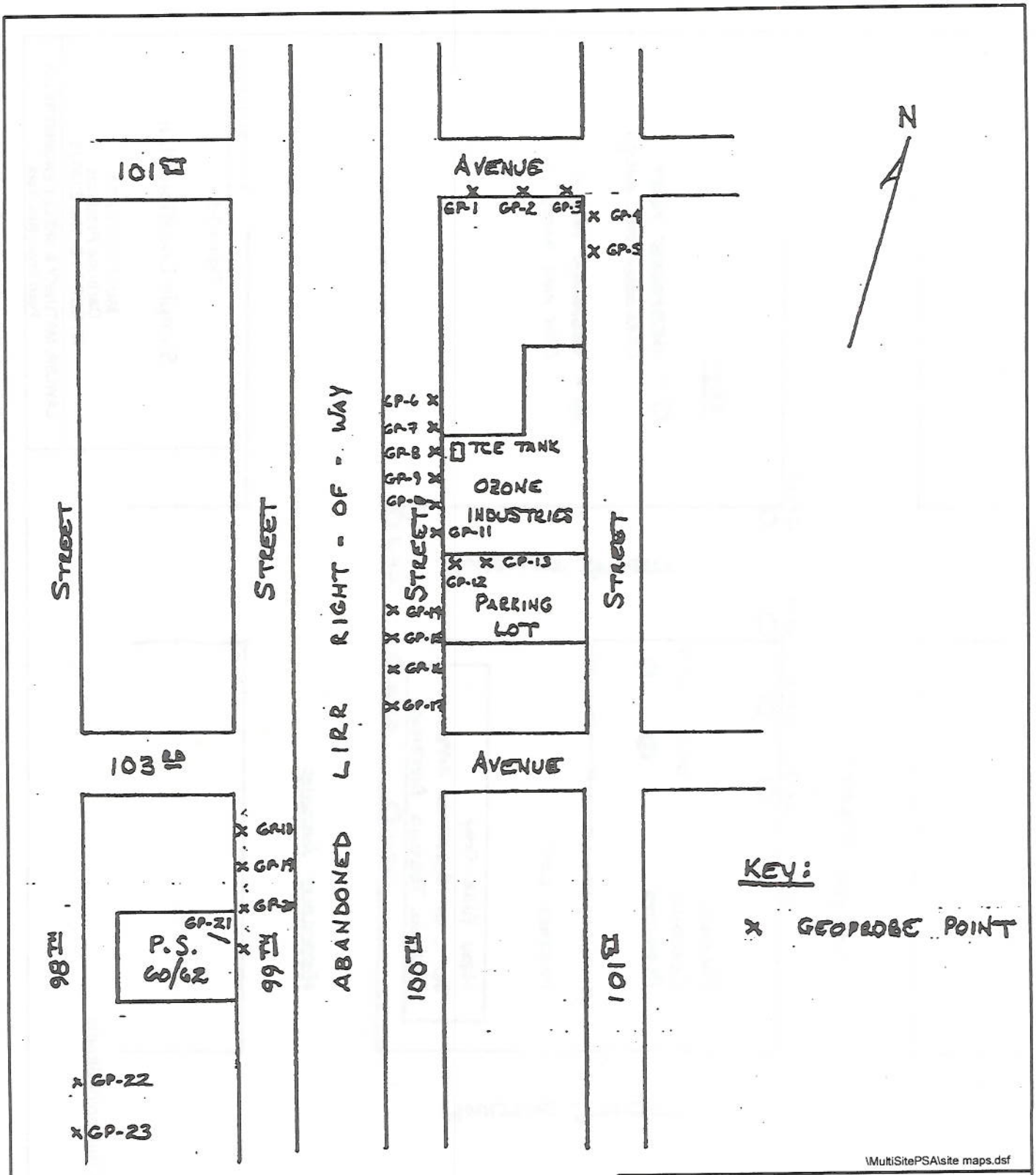
Pearl River, New York



LOCATION

103-22 99th Street (PS60/62)
101-32 101st Street (Ozone Industries)
Ozone Park, NY 11417
(Queens County)

Figure 3-7

Sample Location Plan

MULTI-SITE PSA
Public School 60/62
(former Voges Manufacturing)
NYSDEC I.D. No. 241021

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Pearl River, New York

CHAPTER 4

FIELD INVESTIGATION PROCEDURES

4.1 Surface Soil Sampling

Surface soil samples will be obtained from the first 6 in. of soil depending on the nature of the surface material. Leaves, grass, and surface debris will be removed from the area to be sampled using a clean stainless steel spoon or shovel. Surface soil samples will be collected at the BQE/Ansbacher Color and Dye Factory site.

4.2 Wipe Samples

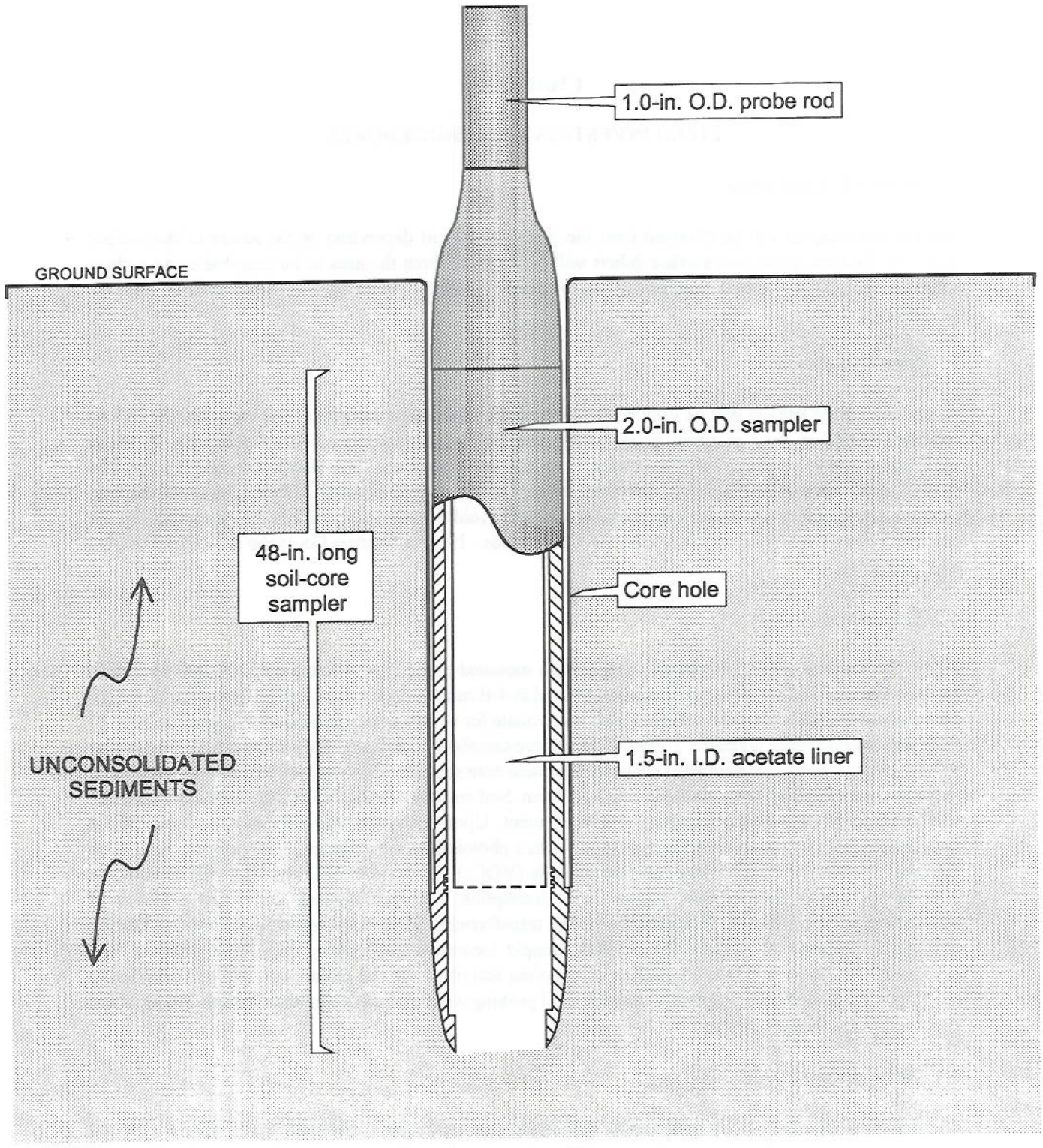
A pesticide grade hexane will be used as the solvent to collect wipe samples. The wipe sample will be collected using 3-in. by 3-in. sterile gauze pads soaked with approximately 15-20 ml of hexane. A 10 cm by 10 cm template (100 cm^2) will be used to delineate the wipe area. The entire sampling area will be stroked firmly once in the horizontal direction and once in the vertical direction. During the wipe sampling process, nitrile gloves (instead of latex) will be worn to avoid the possibility of interference caused by the contact of the solvent-soaked wipes with the latex gloves. Empire Electric Co. is the only site requiring wipe sampling.

4.3 Soil Probes

The probe samples will be advanced using a truck mounted probe unit utilizing a direct push hydraulic hammer system. Soil sampling will be accomplished in 4-ft runs, using a 1.5-in. inside diameter (ID) macro core soil sampler (Figure 4-1). This sampler is adequate for soil sampling to a depth of approximately 16 feet. Beyond this depth, a smaller 1.0-in. ID large bore sampler will be used. This sampler collects samples in 2-ft runs, but otherwise operates similar to the macro core sampler. The sampler is pushed or hammered to the desired sampling depth via the hydraulic system. Soil cores are recovered in a dedicated acetate liner which is fitted in the steel sampler prior to advancement. Upon removal from the sampler, both ends of the liner are capped and the soil sample is scanned with a photoionization detector (PID) or flame ionization detector (FID) to detect volatile organic compounds (VOCs). PID and/or FID readings will be noted on a probe log along with sample interval, soil description, moisture content, color and evidence of contamination (odor, sheen). Soil samples will be transferred to laboratory cleaned glass jars and labeled with the appropriate site name, job number, sample location/identification, date, time, sampler, and parameters for analysis. Upon completion of sampling activities, the soil probe point will be backfilled to grade level as needed with probe hole cuttings. Soil probing will be conducted at the Carbona Products and Empire Electric Company sites.

4.4 Groundwater Probes

Groundwater samples will be collected by advancing a groundwater screen sampler (Figure 4-2) to the lower sampling interval with the probe unit. When the screen sampler reaches the desired depth, the probe rods and the screen sheath are raised exposing the screen allowing groundwater to infiltrate into the rods. In granular soil and some deeper probe sampling situations, a small screen is fitted into the base of the rods and the rods are fitted with an expendable drive point and driven to the desired depth. The rods are then raised and water is allowed to infiltrate into the rods. Groundwater probes will be conducted at the Wheelock Avenue, Burnside Avenue, Carbona Products, and Public School 60/62 Ozone Industries sites.



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NOT TO SCALE

Figure 4-1

Soil Core Sampler Cross Section

MULTI-SITE PSA

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