

# 85 Jay Street

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Brooklyn, New York

## PHASE I ENVIRONMENTAL ASSESSMENT AKRF Project Number 20111



Prepared for:  
**Watchtower Bible and Tract  
Society of New York, Inc.**  
25 Columbia Heights  
Brooklyn, NY 11201

Prepared by:  
**AKRF, Inc.**  
116 East 27<sup>th</sup> Street  
New York, NY 10016

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November 2002

November 19, 2002

Mr. Keith Cady  
The Watchtower Bible and Tract Society of New York, Inc.  
25 Columbia Heights  
Brooklyn, New York 11201-2483

RE: Phase I Environmental Site Assessment  
*85 Jay Street - Brooklyn, New York*  
*AKRF Project Number 20111*

Dear Mr. Cady:

AKRF, Inc. is pleased to submit this Phase I Environmental Site Assessment for the above-referenced site. This report includes the findings of a site inspection, a visual survey for the presence of suspect asbestos-containing materials and lead-based paint, the evaluation of available historical information, and the interpretation of relevant federal and state environmental databases. AKRF, Inc. met the requirements of the American Society for Testing and Materials (ASTM) as established by ASTM Standard E1527-00.

We appreciate the opportunity to provide you with our services. If you should have any questions or comments regarding the enclosed report, please do not hesitate to contact us.

Sincerely,  
AKRF, Inc.

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Michelle Lapin, P.E.  
President

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Sarah L. Lopas  
Environmental Scientist

Enc.

Cc: S. Taplitz / AKRF

## EXECUTIVE SUMMARY

AKRF, Inc. was retained by The Watchtower Bible and Tract Society of New York, Inc. to perform an Environmental Site Assessment of an approximately 135,000 square foot lot located at 85 Jay Street, in the Brooklyn Heights neighborhood of Brooklyn, New York. The objective of this assessment is to identify any potential environmental concerns associated with the site resulting from past or current usage of the site as well as similar usage of neighboring properties, which were primarily commercial in nature.

This assessment was performed in accordance with customary principles and practices in the environmental consulting industry, and in conformance with the scope and limitations of ASTM Standard E1527-00, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Practice. Any exceptions to, or deletions from, this practice are described in Section 6.0 of this report. This assessment has revealed the following concerns:

- According to historical Sanborn maps, the subject property has over a 100-year history of industrial and manufacturing uses. The Site was occupied by a lead works circa 1887 until 1989. An electrical substation occupied the western portion of the Site from some time between 1887 and 1904 to between 1938 and 1950. Other facilities that formerly occupied the Site included a smelting company, a brewery, a paper goods factory, an electrical repair company and a New York City public school. Soil in the area of the lead works and the smelting company could be contaminated by heavy metals, solvents used for cutting and cleaning, and chemicals used in the corroding beds. Polychlorinated biphenyl (PCB) contamination in the area of the former Edison electrical substation is also possible.
- The Bradley White Lead Company and the Lenox Smelting Company, both formerly located on the subject property, were included in the New York State CERCLIS database and the New York State Inactive Hazardous Waste Disposal Site Registry. Although both facilities were listed as NFRAP (No Further Remedial Action Planned) and were removed from the Registry, contamination of soil and/or groundwater beneath the subject property by heavy metals, solvents and anti-corroding agents from these prior operations is possible.
- The surrounding area has a long history of industrial and manufacturing uses, including a manufactured gas plant on the east-adjacent block circa 1887 until some time between 1938 and 1950, and Apex Thermoplastics, located on the south-adjacent block. Possible contaminants from the former manufactured gas plant include coal tar derivatives and cyanide compounds. A variety of hazardous chemicals are used in plastic manufacturing including solvents, flame retardants and lubricants. Apex Thermoplastics was listed as a CERCLIS NFRAP site. Although it was determined that hazardous wastes were not disposed of at this site, undetected leaks and/or unreported spills may have affected the subject property.
- During the site inspection, a concrete pad with four steel plates was noted against the southern perimeter of the western parking lot. These plates could indicate the presence or former presence of underground storage tanks.

Prior to activities that disturb the soil, AKRF recommends conducting a subsurface (Phase II) investigation to determine whether contamination is present in the soil and/or groundwater beneath the subject property. Soil and groundwater samples should be collected in areas of the Site where historical industrial operations took place, such as where corroding beds were located for the lead

company, the area of the former smelting company, and the area of the former electrical substation. To determine whether adjacent off-site potential sources of contamination have affected the study site, samples should be taken from areas of the Site adjacent to Apex Thermoplastics and the former manufactured gas plant. In addition, AKRF recommends removing the metal plates from the concrete pad and excavating test pits to determine whether underground storage tanks are present.

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## 1.0 INTRODUCTION

AKRF, Inc. (AKRF) was retained by The Watchtower Bible and Tract Society of New York, Inc. to perform an Environmental Site Assessment of the approximately 135,000 square foot lot located at 85 Jay Street in the Brooklyn Heights neighborhood of Brooklyn, New York, as shown on Figure 1. The legal definition of the lot is Tax Block 54, Lots 1, 19 and 22. As shown in Figure 2, the study site block is bounded to the north by Front Street, to the east by Bridge Street, to the south by York Street, and to the west by Jay Street. The scope of services for this assessment included the following:

- Visual observations of the project site and surrounding property were made to identify potential sources or indications of chemical contamination. The potential sources of contamination included, but were not limited to, underground storage tanks, aboveground storage tanks, objects that could potentially contain polychlorinated biphenyls (PCBs), and areas where hazardous materials were used, stored, treated, generated and/or disposed. Indications of chemical contamination include stained surfaces and chemical odors.
- In addition, readily observable portions of the properties immediately adjacent to the site were viewed from public rights-of-way to identify or determine the likelihood of any of the aforementioned potential sources of contamination.
- Published geological and groundwater information was obtained from available sources to determine the possibility of contamination from off-site sources.
- A visual inspection of the property was conducted to identify and evaluate the condition of any suspect asbestos-containing building materials (ACMs). Sampling of these materials was not included in this scope of work.
- The property was evaluated for the potential presence of lead-based paint. No sampling was included in this scope of work.
- A review of radon concentrations in New York County (Manhattan) was conducted to determine if radon levels in the general area complied with United States Environmental Protection Agency (US EPA) guidelines.
- Historical land-use atlases for the site and adjacent properties were reviewed to evaluate previous land use.
- The following federal regulatory databases were reviewed to determine the regulatory status of the site, adjacent properties, and properties within a predetermined study area: National Priority List (NPL); Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS); Emergency Response Notification System (ERNS); Toxic Chemical Release Inventory System (TRIS); the Permit Compliance System of Toxic Wastewater Discharges (WWD); and the US EPA Civil Enforcement Docket. The federal listing of facilities which are subject to corrective action under the Resource Conservation and Recovery Act (CORRACTS) is discussed with the State databases of RCRA listings.
- The following state regulatory databases were reviewed to determine the regulatory status of the site, adjacent properties, and properties within a predetermined study area: the listings of hazardous material spills (SPILLS), Resource Conservation and Recovery Act Notifiers (RCRA), Chemical Bulk Storage (CBS), Solid Waste Facilities (SWF), Petroleum Bulk

Storage (PBS), State Inactive Hazardous Waste Disposal Sites (SHWS), Major Oil Storage Facilities (MOSF), and Air Discharge Facilities (ADF).

## **2.0 PHYSICAL SITE DESCRIPTION**

Visual inspection of the site and adjacent areas was performed at approximately 10 AM on October 31, 2002 by Sarah Lopas of AKRF, Inc. Mr. Keith Cady, project coordinator for Watchtower Bible and Tract Society of New York, Inc., accompanied AKRF and answered pertinent questions. At the time of the inspection, the weather was cool and clear and the visibility good. The site was inspected for the presence of stained surfaces and soils, stressed vegetation, storage tanks, drums, leaking pipes, transformers, suspect asbestos-containing materials, suspect lead-containing paint, or any other evidence of hazardous material usage and storage on-site. Photographs documenting the site inspection are included in Appendix A.

### **2.1 General Site Conditions**

The subject property consisted of an unpaved lot bounded by Bridge Street to the east, York Street to the south, Jay Street to the west, and Front Street to the north. The lot was covered with gravel and surrounded by an eight-foot high corrugated metal fence topped with barbed wire. The fence had two locked gates and a locked door on the Front Street side, and a locked door on the Jay Street side. The lot was split in half by another length of fence running north-south, separating the lot into two nearly equal portions. The western portion was used as a parking lot for Watchtower employees, and the eastern portion was used as storage for construction materials. Mr. Cady reported that buildings formerly occupying the Site were demolished in the early nineties, and the Site had been used for parking and temporary construction material storage since then. Healthy vegetation was noted along the southern perimeter of the Site, which was approximately 5 to 15 feet above the grade of the remainder of the site. The elevated perimeter sloped down from west to east.

The parking lot portion of the Site contained street lamps inside the fence at regular intervals. Two concrete pads were observed against the eastern wall of the parking lot portion of the Site (Appendix A, Photos 3 and 5). The larger, west-adjacent pad was approximately 40' x 30', and had four metal plates at the western end of the pad. The plates appeared to be welded to the pad. The concrete was in fair to poor condition with large cracks and depressions throughout the pad. Steel I-beams were noted in the concrete at six-foot intervals. The pad was slightly elevated from the rest of the sight, approximately two feet above grade. The east-adjacent pad was smaller, approximately 24' x 18', and was approximately three feet above grade. The concrete of the small pad had no protrusions, and was generally in good condition. Mr. Cady did not know the purpose of the concrete pads.

The eastern portion of the site was used as temporary storage for construction materials, including three cubic yard and twenty cubic yard containers, steel re-bar and I-beams, wood, small bulldozers, sand piles, and containers for smaller metal fittings, such as pipes and bolts. Six empty 55-gallon drums labeled "concrete curing compound" were observed.

### **2.2 Topography and Hydrogeology**

The surface topography slopes gently down to the northwest. Based on reports compiled by the U.S. Geological Survey, Brooklyn, New York quadrangle, the property lies at an elevation of approximately 30 to 40 feet above the National Geodetic Vertical Datum of 1929 (an approximation of mean sea level). Depth to bedrock is approximately 100 feet below grade, and depth to groundwater is approximately 5 to 10 feet below grade. Regionally, groundwater most likely flows

in a northerly direction toward the East River. However, actual groundwater flow at the site is likely affected by the south-adjacent subway, and other factors, including past filling activities, underground utilities and other subsurface openings or obstructions such as basements and underground parking garages bedrock geology, the tidal nature of the East River and other factors beyond the scope of this study. Groundwater in Brooklyn is not used as a source of potable water.

## **2.3 Storage Tanks**

### **2.3.1 Underground Storage Tanks (USTs)**

During the site inspection, a concrete pad with four steel plates was noted against the southern perimeter of the western parking lot. These plates could indicate the presence or former presence of underground storage tanks, but a review of the State regulatory records did not cite any underground storage tanks for the subject property. New York City Fire Department and/or Manhattan Buildings Department records were not reviewed for the subject property as part of this assessment.

Off-site USTs are discussed in Sections 4.2.2.

### **2.3.2 Aboveground Storage Tanks (ASTs)**

There was no evidence observed during the site visit that would indicate past or present aboveground storage tanks, such as a concrete foundation or containment walls, pedestals, or steel support structures. In addition, the regulatory review did not identify any such tanks at this location. New York City Fire Department and/or Manhattan Buildings Department records were not reviewed for the subject property as part of this assessment.

Off-site ASTs are discussed in Sections 4.2.2.

## **2.4 Polychlorinated Biphenyls (PCBs)**

Prior to 1979, PCBs were widely used for their cooling properties in electrical equipment such as transformers, capacitors, switches and voltage regulators. No known transformers are currently located on-site, and no transformer vaults were observed on the sidewalk surround the Site. Ballasts in the street lamps located on-Site could contain PCBs.

## **2.5 Asbestos-Containing Materials (ACMs)**

The United States Occupational Safety and Health Administration (OSHA) has amended Part 1910 to Title 29 of the Code of Federal Regulations which addresses occupational exposure to asbestos. The final rule, applicable to general industry (29 CFR 1910.1001), construction (29 CFR 1926.1101, previously 1926.58), and the shipyard industry (29 CFR 1915.1001) became effective on October 1, 1995. All thermal systems insulation; sprayed-on, troweled-on or otherwise applied surfacing materials (including decorative plaster, acoustical materials, and fireproofing); asphalt; and vinyl flooring materials in buildings constructed prior to 1981 are presumed to contain asbestos unless proven otherwise.

Sarah Lopas, a New York State licensed asbestos inspector, conducted a limited visual inspection for suspect asbestos-containing materials (ACMs) on the project site. No suspect ACMs were noted on the subject property.



## **2.6 Lead-Based Paint**

The use of lead paint in commercial structures was severely restricted by the Consumer Products Safety Commission in 1977. Lead paint is potentially hazardous when in a deteriorating condition (i.e., chipped, broken, crumbling, pulverized); lead is potentially harmful to humans, particularly children, if ingested, inhaled, or otherwise absorbed. No suspect lead-based paint was observed on the subject property.

## **2.7 Utilities**

Keyspan provides electricity to the Site. Gas is not provided to the Site.

## **2.8 Waste Management and Chemical Handling**

Waste receptacles were observed throughout the parking lot portion of the Site. General waste is removed from the property by Watchtower. The waste receptacles (dumpsters) are removed from the site by Waste Management, a private waste hauling company.

## **2.9 Radon**

Radon is a colorless, odorless gas produced by the radioactive decay of certain elements. The most common sources of radon are igneous and metamorphic rocks containing uranium (such as pitchblende), granite, shale, or phosphate, as well as soils or sediments derived from these parent materials. Radon may also be found in soils contaminated with certain industrial wastes (such as uranium or phosphate mine tailings) or in earth-derived building products which include industrial wastes that contain phosphate slag. In areas where the potential for radon accumulation is high, special ventilation systems may offset potential health hazards.

According to data compiled by the Bureau of Radiation Protection, a division of the New York State Department of Health, Kings County (Brooklyn) has levels of basement radon in New York State measuring 1.9 picocurie/liter. The US EPA recommended action level is 4.0 picocuries/liter.

## **3.0 ADJACENT LAND USE**

The subject property is located in a mixed-use commercial, industrial and residential area of the Brooklyn Heights neighborhood of Brooklyn, New York. Properties to the east across Bridge Street consisted of a multi-level residential building under construction. Properties to the south across York Street included a New York City park, a manufacturing building and a subway station. A public parking lot was located to the west across Jay Street. Properties across York Street included a former manufacturing building and a Watchtower recycling center.

## **4.0 SITE HISTORY AND RECORDS REVIEW**

### **4.1 Prior Ownership and Usage**

#### **4.1.1 Historical Land Use Maps**

Historical insurance maps were reviewed for indications of industrial usage or other evidence suggesting the use or disposal of hazardous materials on or adjacent to the subject property. Specifically, Sanborn Fire Insurance maps from 1887, 1904, 1915, 1938, 1950, 1969, 1977, 1982, 1989, 1993, 1996 and 2001 were reviewed. Copies of portions of these maps are included in Appendix B.

1887

The eastern portion of the subject property was shown to contain Public School No. 7, a tin plate decorating company with an associated coal shed, and three-story residential dwellings above ground floor stores. The middle of the subject property was occupied by Bradley White Lead Works, containing a coal shed, four horizontal boilers, two corroding beds, and storage and office space. The western portion of the subject property contained Leavy & Britton Brewing Co. and Lenox Smelting Co.

The west-adjacent block was occupied by an iron foundry, a literary institute, a machine shop and residential and commercial spaces. The north-adjacent block was occupied by Union White Lead works, an iron wheelbarrow factory and an iron foundry. The south-adjacent block was primarily residential.

1904

The eastern portion of the subject property was shown to contain Boorum & Pease Company, a paper goods (book) factory in addition to the school and tin plate decorating company. The remainder of the subject property was primarily occupied by the lead works, and it was shown to contain an "oxide & rectate" space in the southwestern corner of the Site. The northwestern corner of the Site was occupied by the brewing company, as noted in the 1887 map.

No significant changes were noted for the west-adjacent block from the 1887 map. The south-adjacent block was primarily residential, as previously noted. The east-adjacent block contained residential and commercial spaces, however, it was primarily occupied by the Brooklyn Union Gas Company, a manufactured gas plant with two gas holders.

1915

The subject property was essentially similar to the 1904 map, with the exception of the space occupied by the brewing company; it was shown to be vacant, and 87-89 Jay Street (western side of the study site) was occupied by Edison Electric Illuminating Company. No significant changes were noted for the surrounding blocks.

1938

The subject property remained unchanged, with the exception that the vacant space in the northwestern corner of the Site was shown as part of the lead works, that occupied the majority of the Site. More lots on the surrounding blocks were shown to be vacant than on the 1915 map. The two gas holders, noted in the 1904 map, were no longer shown on the east-adjacent block on Brooklyn Union Gas Company property.

1950

The Edison Electrical Illuminating Company noted on the Site in the 1915 map was shown as Empire Electrical, an electrical repair company. No other significant changes were noted for the subject property. The surrounding blocks remained essentially unchanged, with the exception of the Brooklyn Union Gas Company, located on the east-adjacent block in previous maps, was shown to be a parking lot.

1969

The entire western portion of the Site was shown to be occupied by the National Lead Company lead works. The eastern portion of the Site contained the school and paper goods factory, as in previous maps.

The west-adjacent block was shown as a parking lot. The east-adjacent block was shown to contain parking lots, small factories, a wood frame manufacturing company, and residential and commercial spaces, including a dry cleaners at the far-eastern end of the block. The south-adjacent block was primarily vacant, with the exception of a plastics warehouse at the northeastern corner and a subway ventilation building on the northwestern corner.

1977, 1982, 1989

No significant changes were noted for the project site or the surrounding blocks.

1993

The paper goods company occupied the eastern portion of the study site as in earlier maps. The remainder of the Site was vacant.

1996, 2001

The subject property was vacant. No significant changes were noted for the surrounding blocks.

To summarize, historical Sanborn maps indicate that the subject property has over a 100-year history of primarily industrial and manufacturing use. The Site was occupied by a lead works circa 1887 until 1989. An electrical substation occupied the western portion of the Site from some time between 1887 and 1904 to some time between 1938 and 1950. The subject property also contained a paper goods factory and a New York City Public School for over 100 years. Other facilities that formerly occupied the Site included a smelting company, a brewery and an electrical repair company. After 1996, the subject property was shown as vacant. The blocks immediately surrounding the subject property also have a 100-year history of primarily manufacturing and industrial use, including a manufactured gas plant on the east-adjacent block from circa 1904 until some time between 1938 and 1950.

**4.1.2 Historical Aerial Photographs**

Complete and thorough coverage was available for the subject property utilizing historical land-use maps. The maps typically include detailed information such as dates of construction, building occupants or a vacant status, and use and/or zoning use of structures on the site and surrounding area. Aerial photographs would most likely not provide additional, unique information that is pertinent to the environmental condition of the property. As such, aerial photographs were not reviewed for the project site.

**4.1.3 Site Interviews**

Mr. Keith Cady, project coordinator for Watchtower, was available to answer pertinent questions regarding the current usage of the subject property.

## 4.2 Regulatory Review

Toxics Targeting, Inc. of Ithaca, New York, was contracted to obtain information regarding the regulatory status of the property and the surrounding area. This information included records from databases maintained by the US EPA and New York State Department of Environmental Conservation (NYS DEC). AKRF, Inc. reviewed these records to identify the use, generation, storage, treatment and/or disposal of hazardous materials and chemicals, or releases of such materials which may impact the project site. A copy of the complete Toxics Targeting, Inc. report is included in Appendix C.

### 4.2.1 Federal

The federal records reviewed included the National Priority List (NPL); Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS); Emergency Response Notification System (ERNS); Toxic Chemical Release Inventory System (TRIS); the Permit Compliance System of Toxic Wastewater Discharges (WWD); and the USEPA Civil Enforcement Docket. The federal listing of facilities which are subject to corrective action under the Resource Conservation and Recovery Act (CORRACTS) is discussed with the State databases of RCRA listings.

#### National Priority List (NPL)

The NPL is the USEPA's database of some of the most serious uncontrolled or abandoned hazardous waste sites identified for probable remedial action under the Superfund Program. These sites may constitute an immediate threat to human health and the environment. Due to the amount of public attention focused on NPL sites, they pose a significant risk of stigmatizing surrounding properties and potentially impacting property values.

No NPL sites were identified within a one-mile radius of the project site.

#### Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS)

CERCLIS is a compilation of known or suspected, uncontrolled or abandoned hazardous waste sites which the USEPA has investigated, or plans to investigate, for a release, or threatened release, of hazardous substances pursuant to the Superfund Act of 1980 (CERCLA). Some of these sites may constitute a potential threat to human health and the environment. While it has been determined by the USEPA that some CERCLIS sites require no action, others could pose a real or perceived environmental threat to neighboring properties, thus impacting property values.

Ten CERCLIS sites were identified within a one-mile radius of the project site. Two of the listings were facilities that formerly occupied the subject property. The Bradley White Lead Company and Lenox Smelting were simultaneously investigated from 1981 to 1987. Both facilities were listed as NFRAP (No Further Remedial Action Planned) after a preliminary assessment. Apex Thermoplastics, Inc., 100-110 Bridge Street, on the south-adjacent block, was listed as a CERCLIS site and also as a part of the New York State Department of Environmental Conservation (NYSDEC) Registry due to suspect illegal dumping. Apex Thermoplastics was listed as No Further Remedial Action Planned (NFRAP) after a NYSDEC investigation found no evidence of hazardous waste disposal at this facility. The remaining facilities, all greater than 935 feet from the site, were also listed as NFRAP.

Although listed as NRFAP, the study site might have been impacted by the former on-site lead and smelting companies. In addition, any releases from Apex Thermoplastics may have affected the subject property due to the facility's proximity and anticipated groundwater flow direction.

#### Emergency Response Notification System (ERNS)

This federal database, compiled by the Emergency Response Notification System, records and stores information on reported releases of petroleum and other potentially hazardous substances.

The subject property is not currently listed as an ERNS site.

#### Toxic Chemical Release Inventory System (TRIS)

The TRIS contains information reported to the USEPA and/or NYSDEC by a variety of industries on their annual estimated releases of certain chemicals to the environment. The TRIS was mandated by Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986. Available information includes the maximum amount of chemicals stored on-site; the estimated quantity emitted into the air, discharged into bodies of water, injected underground, or released to land; methods used in waste treatment and their efficiency; and data on the transfer of chemicals off-site.

One TRIS site was identified within a one-eighth mile radius of the project site. No chemical information was given for Ben Forman & Sons Inc. at 201 Water Street, approximately 390 feet north-northeast of the subject property. This facility was issued a violation for releasing fugitive air emissions.

#### Permit Compliance System of Toxic Wastewater Discharge (WWD)

This federal- and state-maintained database contains a listing of sites which discharge wastewater containing potentially hazardous chemicals.

No WWD facilities were reported within a one-eighth mile radius of the subject property.

#### United States Environmental Protection Agency Civil Enforcement Docket

This database is the USEPA's system for tracking civil judiciary cases filed on behalf of the agency by the Department of Justice.

No facilities are listed in the US EPA's Civil Enforcement Docket within a one-eighth mile radius of the subject property.

### **4.2.2 State**

The state records reviewed included the listings of hazardous material spills (SPILLS); Resource Conservation and Recovery Act Notifiers (RCRA); Chemical Bulk Storage (CBS); Solid Waste Facilities (SWF); Petroleum Bulk Storage (PBS); State Inactive Hazardous Waste Disposal Sites (SHWS); Major Oil Storage Facilities (MOSF); and Air Discharge Facilities (ADF).

### New York SPILLS Database

The New York SPILLS database includes a list of releases reported to the NYSDEC, including those attributed to tank test failures and tank failures. The tank test failures list only covers tanks that are below ground, while the tank failures list includes those that are either below or above ground. This database also lists spills that occur during the transportation of chemicals.

Nineteen releases were reported within a one-eighth mile radius of the subject property, and one of these occurred on the Site. In March of 1994, a broken fuel line on a truck released 50 gallons of diesel fuel onto the subject property. The spill was cleaned and four 55-gallon drums of contaminated soil were removed from the Site. This spill was closed the same day it occurred. Details of close area spills are summarized as follows:

- In October of 1994, an overflow of a fuel oil tank at the Ironworkers Shop, 59 Adams Street, approximately 530 feet west-northwest of the subject property, alerted the NYSDEC to possible age-related problems with the fuel oil tank and an on-site gasoline tank. An investigation and subsequent remediation took place, and this spill was closed in July of 1996.
- In August of 1991, 60 gallons of No. 2 fuel oil were spilled into the sewer at the intersection of Plymouth and Jay Street, approximately 530 feet north of the subject property. This is a closed-status spill; no additional remarks were given.
- In August of 1996, approximately 15 gallons of waste oil were spilled onto concrete at Watchtower, 74 Adams Street, approximately 595 feet west of the subject property. The spill was contained and cleaned up and is a closed-status spill.

The release of diesel on the subject property was reportedly cleaned up with due diligence and is a closed-status spill. Based on details of the spills, none of the other spills listed above would be expected to affect the subject property. The remaining spills occurred more than 650 feet from the Site and were not in upgradient location with respect to groundwater flow direction, therefore, would not be expected to have affected the subject property. Details of all listed spills are included in Appendix B.

### Resource Conservation and Recovery Act (RCRA) Notifiers Listings

The NYSDEC's Bureau of Hazardous Waste Facility Compliance regulates hazardous waste from the point of generation to the point of disposal. The identified sites tracked on this list are those which have filed notification forms in accordance with the Resource Conservation and Recovery Act requirements regarding their hazardous waste activity. These sites include treatment, storage and disposal facilities (TSDs); small-quantity and large-quantity generators; and transporters of hazardous waste regulated under RCRA. The discussion below includes the CORRACTS listings (if any) of facilities which are subject to corrective action under RCRA.

No TSD facilities were identified within a one-mile radius of the subject property. Seventeen RCRA generators were listed within a one-eighth mile radius of the subject property, including two listings for facilities formerly located on the subject property. Five listings were for Consolidated Edison manholes or vaults. The details of the remaining listings are summarized as follows:

- Associated Lead Company, formerly on-site, was listed as generating 200 pounds of reactive solid waste and 400 pounds plus 10 cubic yards of lead in 1995. This facility was also listed as a Large Quantity Generator, however, no hazardous waste activity was reported to New York State.
- S & S X-Ray Products (also listed as S & S Sheet Metal Products Corp.), formerly on-site, was listed as a Large Quantity Generator of 4,290 pounds of spent halogenated solvents and 3,300 gallons of spent non-halogenated solvents in 1989, and 300 gallons of spent halogenated solvents in 1986. This facility was issued a violation in May of 1986 for not fulfilling manifest requirements.
- Watchtower Bible and Tract Society, located at 175 Front Street, north of the study site across Front Street, was listed as a Small Quantity Generator of 55 gallons of ignitable solid waste and 55 gallons of corrosive solid waste in 1996.
- Ben Forman & Sons Inc., 210 Water Street, approximately 355 feet north-northeast of the subject property, was listed as a Large Quantity Generator of 165 gallons of corrosive solid waste in 2000, 1,150 gallons of spent halogenated solvents in 1999, and 250 gallons of ignitable solid waste and 108 gallons of chromium in 1992.
- Economaster Files Inc., 215 Water Street, approximately 410 feet north-northeast of the subject property, was listed as a Conditionally Exempt Small Quantity Generator, however, no hazardous waste activity was reported to New York State.
- Horizon Steel Products, 225 Water Street, approximately 495 feet northeast of the subject property, was listed as a Conditionally Exempt Small Quantity Generator of 2,250 gallons of spent non-halogenated solvents in 1995. This facility was issued a violation in October of 1996 for not fulfilling annual reporting requirements.
- Boorum & Pease Company, 192 Front Street, approximately 525 feet east of the subject property, was listed as a Large Quantity Generator of 270 gallons and 2,000 pounds of ignitable solid waste and 400 gallons of silver in 1989, 979 gallons of spent halogenated solvents in 1986, and 495 gallons trichloroethene in 1984. Two violations regarding all requirements were listed for this facility in 1986.
- Watchtower Bible and Tract Society, at 81 Prospect Street, approximately 530 feet south-southwest of the subject property, was listed as a Small Quantity Generator of: 340 pounds of ignitable solid waste, 160 pounds of spent halogenated solvents and 490 pounds of spent non-halogenated solvents in 2000; 385 gallons of ignitable solid waste and 195 pounds of spent non-halogenated solvents in 1999; 277 kilograms of spent halogenated solvents and 55 gallons of spent non-halogenated solvents in 1993; and 110 gallons of spent halogenated solvents in 1992.
- The New York City Department of Transportation (NYCDOT), 59 Adams Street, approximately 535 feet west-northwest of the subject property, was listed as a Large Quantity Generator, however, no hazardous activity was reported to New York State. NYCDOT was listed a second time as generating 55 gallons of ignitable solid waste in 1994.

- The Phoenix House Foundation, 42-44 Jay Street, approximately 540 feet north of the subject property, was listed as a Large Quantity Generator of 1,600 pounds of spent non-halogenated solvents in 1997 and 220 gallons of ignitable solid waste in 1996.
- Champion Steel Equipment Corporation, 202 Plymouth Street, approximately 640 feet northeast of the subject property, was listed as a Conditionally Exempt Small Quantity Generator of 1,500 gallons of spent non-halogenated solvents in 1995. This facility was issued one violation in October of 1996 for not fulfilling annual reporting requirements.

Unreported and/or undetected releases from Associated Lead Company and S & S X-Ray Products, both formerly located on the subject property, and the Watchtower recycling facility across Front Street, may have affected soil and/or groundwater beneath the Site.

#### Chemical Bulk Storage (CBS) Database

The New York CBS is a list of facilities that store regulated non-petroleum substances in aboveground tanks with capacities greater than 185 gallons and/or in underground tanks of any size.

No CBS facilities were identified within a one-eighth mile radius of the subject property.

#### Solid Waste Facilities (SWF)

This database includes a listing of landfills, incinerators, transfer stations, recycling centers, and other sites which manage solid waste.

Three solid waste facilities were identified within a one-mile radius of the subject property. All-City Paper Fibers, 246-252 Plymouth Street, approximately 955 feet northeast of the subject property, was listed as a Large Transfer Station (greater than 50,000 cubic yards per year) of putrescible waste. No address information was given for Tocci Brothers, located approximately 1,205 feet east-northeast of the subject property, on the database. Tocci Brothers was deleted from the database, however, the last reported information listed the facility as a Large Transfer Station of unknown waste. No address information was given for Reconstruction Bulkhead Division Demolition, a construction and demolition debris landfill approximately 5,155 feet east-northeast of the subject property.

No waste is stored or disposed at transfer stations; waste is mainly transferred from small garbage trucks to larger vehicles for transportation to a landfill, recycling center or incinerator. All-City Paper Fibers and Tocci Brothers are, therefore, unlikely to have affected subsurface conditions at the subject property. Due to its distance from the subject property, the construction and demolition debris landfill is also unlikely to have affected the Site.

#### Petroleum Bulk Storage (PBS) Database

The New York State PBS lists commercial facilities with registered petroleum tanks located either above or below ground in excess of 1,100 gallons and less than 400,000 gallons.

Thirteen PBS listings were reported within a one eighth-mile radius of the subject property. These facilities are summarized in the table below:



**Table 1**  
**Petroleum Bulk Storage Facilities**

FACILITY / ADDRESS	DISTANCE from Site and Direction	TANKS / PRODUCT	ACTIVE / INACTIVE
Watchtower Bible & Tract Society 185 Front Street	230 feet NE	2 x 20,000-gal. Fuel Oil USTs	Closed In Place 12/1998
126 Front Street	270 feet WNW	2,000-gal. Fuel Oil UST	Active
Ben Forman & Sons Inc. 201 Water Street	380 feet NNE	7,000-gal. Fuel Oil AST	Active
The Phoenix House Foundation 42-50 Jay Street	480 feet N	5 x 550-gal. Gasoline USTs 5 x 2,500-gal. Fuel Oil USTs	Closed/Removed from Ground 06/1996 Closed In Place 06/1997
Maret Realty Company 220 Water Street	490 feet NE	7,500-gal. Fuel Oil AST	Active
Certified Moving and Storage Co., Inc. 192 Front Street	525 feet E	20,000-gal. Fuel Oil AST 5,000-gal. Fuel Oil AST	Closed Removed from Ground 06/1980 Closed Removed from Ground 06/1955
Long Island Machine & Pattern Works 69 Adams Street	530 feet W	1,080-gal. Fuel Oil UST 550-gal. Fuel Oil UST	Administratively Closed 05/1996 Administratively Closed 05/1996
Iron Workers Shop 59 Adams Street	535 feet WNW	3,000-gal. Fuel Oil AST 2 x 550-gal. Gasoline UST 2 x 550-gal. Gasoline UST 280-gal. Gasoline UST 280-gal. Kerosene UST 280-gal. Lube Oil UST	Closed In Place 09/1945 Closed In Place 09/1945 Closed In Place 09/1994 Closed In Place 09/1945 Closed In Place 09/1994 Closed In Place 09/1994
39 Pearl Street	540 feet NNW	1,800-gal. Fuel Oil AST	Active
Watchtower Bible Tract of NY 53-73 Prospect Street	555 feet SSW	2 x 10,000-gal. Fuel Oil UST 2 x 10,000-gal. Fuel Oil AST	Closed before 04/91 Active
Ben Forman & Sons Inc. 167-181 Plymouth Street	575 feet NNE	5,000-gal. Fuel Oil UST	Active
Watchtower Bible & Tract Society 74 Adams Street	590 feet W	2,000-gal. Gasoline UST 2,000-gal. Diesel UST 4,000-gal. Leaded Gasoline UST 4,000-gal. Diesel UST 1,000-gal. Fuel Oil UST	Closed In Place 10/1991 Closed In Place 10/1991 Closed In Place 10/1991 Closed In Place 10/1991 Closed In Place 10/1991
110 Bridge Street Realty Co. 110 Bridge Street	625 feet SE	5,000-gal. Fuel Oil AST	Closed/Removed from Ground (no date)

NOTE: UST - Underground Storage Tank; AST - Aboveground Storage Tank

The Phoenix House Foundation was listed in State SPILLS Database for an active-status spill. Gasoline contamination was found in soil samples taken from the basement. No additional remarks were given for this spill. Undetected or unreported releases from the Watchtower facility at 185 Front Street and the fuel oil underground storage tank at 126 Front Street may affect the study site due to their proximity to the Site and the tidal nature of the groundwater. None of the remaining facilities were listed in the SPILLS Database.

### State Inactive Hazardous Waste Disposal Site Registry (SHWS)

This database maintains information and aids decision-making regarding the investigation and clean-up of hazardous sites. The Registry's information includes the clean-up status, type of clean-up, types and quantities of contaminants involved, and the assessment of health and environmental concerns.

Five state-listed inactive Hazardous Waste Sites were reported within a one-mile radius of the subject property. They are summarized below:

- The Bradley White Lead Company and the Lenox Smelting Company, both formerly located on the subject property, were each listed as Industrial State Hazardous Waste Sites, however, both were classified as posing no threat to the environment or public health;
- Apex Thermoplastics, south-adjacent to the Site across Bridge Street, was listed as removed from the Hazardous Substance Inventory;
- The Emmanuel Cellard Federal Building, 225 Cadman Plaza, approximately 2,150 feet south-southwest of the subject property, was listed as removed from the Hazardous Substance Registry after an investigation determined that there was no generation, treatment, storage or disposal of hazardous wastes at this facility;
- The Brooklyn Naval Yard incinerator area, located on Kent Avenue approximately 5,075 feet east-northeast of the subject property, was listed as removed from the Hazardous Substance Registry.

Although deemed as posing no threat to the environment or public health, contamination on the subject property may be present from historical disposal of hazardous waste by the Bradley White Lead Company, the Lenox Smelting Company and Apex Thermoplastics.

### Major Oil Storage Facilities (MOSF) Database

These facilities may be on-shore facilities or vessels with petroleum storage capacities of 400,000 gallons or more.

One MOSF was reported within a one-mile radius of the subject property. The Hudson Avenue Generating Station Tank Farm, located on the East River in the Brooklyn Navy Yard Basin, approximately 2,130 feet east-northeast of the subject property, lists four 2 million-gallon fuel oil underground storage tanks and 18 additional above- and underground storage tanks that are active, closed or not regulated. The Hudson Avenue Tank Farm lists over 70 active and closed-status spills in the State database, however, because this facility is located on the East River and is nearly a half-mile from the subject property, releases from the Tank Farm are unlikely to affect the subject property.

### Air Discharge Facilities Index (ADF)

This listing of sites tracked by the New York State Regulatory Compliance Information System includes address information on each facility and the source of its associated air emissions.

Six ADF sites were listed within one-eighth mile of the subject property. One listing was for S & S Sheet Metal Products, formerly located on the subject property. Ben Forman & Sons, Inc. was listed as having actual or potential emissions above the applicable major source thresholds. This facility's compliance status was unknown. Boorum & Pease, located at 192 Front Street, approximately 520 feet east of the subject property, was listed as having potential uncontrolled emissions greater than 100 tons per year and was in violation of emission regulations. Champion Steel Products, Inc., 202 Plymouth Street, approximately 630 feet northeast of the subject property, was listed as emitting particulate matter and volatile organic compounds, and had an unknown compliance status. The remaining facilities were found to be in compliance after inspection.

#### Historic Utility Sites

This is an inventory of selected power generating stations, manufactured gas plants, gas storage facilities, maintenance yards and other gas and electric utility sites identified in various historic documents, maps and annual reports from 1898 to 1950.

A portion of the subject property, listed as 87-89 Jay Street and Jay Street between Front and York Streets, was listed as a Consolidated Edison Substation in both 1913 and 1939. Brooklyn Union Gas was listed as maintaining coal sheds and gas holders on the east-adjacent block in 1887 and 1904. These facilities were identified in the 1904, 1915 and 1938 historical Sanborn maps as reviewed in Section 4.1.1.

Soil in the area of the former electrical substation could be contaminated by polychlorinated biphenyls (PCBs). Prior to 1977, PCBs were used as coolants and lubricants in transformers. Spills, leaks and fires could have released PCBs onto the Site. Environmental concerns regarding the former manufactured gas plant (MGP) on the east-adjacent block include coal tar and purifying bed waste contamination. Coal tar contains a number of volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs), and is relatively fluid so it can easily migrate to adjacent properties. Contaminants originating from purifying beds primarily consist of complex cyanide compounds.

### **5.0 CONCLUSIONS AND RECOMMENDATIONS**

Based on the results of our investigation, there appears to be a high potential for environmental impairments on the subject property. The following concerns are noted:

- According to historical Sanborn maps, the subject property has over a 100-year history of industrial and manufacturing uses. The Site was occupied by a lead works circa 1887 until 1989. An electrical substation occupied the western portion of the Site from some time between 1887 and 1904 to between 1938 and 1950. Other facilities that formerly occupied the Site included a smelting company, a brewery, a paper goods factory, an electrical repair company and a New York City public school. Soil in the area of the lead works and the smelting company could be contaminated by heavy metals, solvents used for cutting and cleaning, and chemicals used in the corroding beds. Polychlorinated biphenyl (PCB) contamination in the area of the former Edison electrical substation is also possible.
- The Bradley White Lead Company and the Lenox Smelting Company, both formerly located on the subject property, were included in the New York State CERLIS database and the New York State Inactive Hazardous Waste Disposal Site Registry. Although both facilities were

listed as NFRAP (No Further Remedial Action Planned) and were removed from the Registry, contamination of soil and/or groundwater beneath the subject property by heavy metals, solvents and anti-corroding agents from these prior operations is possible.

- The surrounding area has a long history of industrial and manufacturing uses, including a manufactured gas plant on the east-adjacent block circa 1887 until some time between 1938 and 1950, and Apex Thermoplastics, located on the south-adjacent block. Possible contaminants from the former manufactured gas plant include coal tar derivatives and cyanide compounds. A variety of hazardous chemicals are used in plastic manufacturing including solvents, flame retardants and lubricants. Apex Thermoplastics was listed as a CERCLIS NFRAP site. Although it was determined that hazardous wastes were not disposed of at this site, undetected leaks and/or unreported spills may have affected the subject property.
- During the site inspection, a concrete pad with four steel plates was noted against the southern perimeter of the western parking lot. These plates could indicate the presence or former presence of underground storage tanks.

Prior to activities that disturb the soil, AKRF recommends conducting a subsurface (Phase II) investigation to determine whether contamination is present in the soil and/or groundwater beneath the subject property. Soil and groundwater samples should be collected in areas of the Site where historical industrial operations took place, such as where corroding beds were located for the lead company, the area of the former smelting company, and the area of the former electrical substation. To determine whether adjacent off-site potential sources of contamination have affected the study site, samples should be taken from areas of the Site adjacent to Apex Thermoplastics and the former manufactured gas plant. In addition, AKRF recommends removing the metal plates from the concrete pad and excavating test pits to determine whether underground storage tanks are present.

## 6.0 QUALIFICATIONS

The purpose of this assessment was to convey a professional opinion about the potential presence or absence of contamination, or possible sources of contamination on the property, and to identify existing and/or potential environmental problems associated with the property.

The assessment was performed in accordance with customary principles and practices in the environmental consulting industry, and in accordance with ASTM Standard E1527-00, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Practice*. It is intended only to be used as a guide in determining the possible presence or absence of hazardous materials on the subject property at the time of the inspection. This assessment is based upon the review of readily available records relating to previous use of both the project site and the surrounding area, as well as a visual inspection of the current condition of the property. Environmental characteristics at this site and surrounding sites may be subject to change in the future.

This Phase I Assessment is not, and should not be construed as, a guarantee, warranty, or certification of the presence or absence of hazardous substances, which can be made only with testing, and contains no formal plans or recommendations to rectify or remediate the presence of any hazardous substances which may be subject to regulatory approval. This report is not a regulatory compliance audit.

A preliminary visual screening was performed to identify suspect asbestos-containing materials in readily accessible and visible areas. Hidden materials, such as those inside walls were not accessed.

This report is based on services performed by AKRF, Inc. professional staff and observation of the site and surrounding area. We represent that observations made in this assessment are accurate to the best of our knowledge, and that no findings or observations concerning the potential presence of hazardous substances have been withheld or amended. The research and inspections have been carried to a level that meets accepted industry and professional standards. Nevertheless, AKRF, Inc. and the undersigned shall have no liability or obligation to any party other than The Watchtower Bible and Tract Society of New York, Inc., and their successors or assignees, and AKRF Inc.'s obligations and liabilities to the above, their successors or assignees is limited to fraudulent statements made, or negligent or willful acts or omissions.

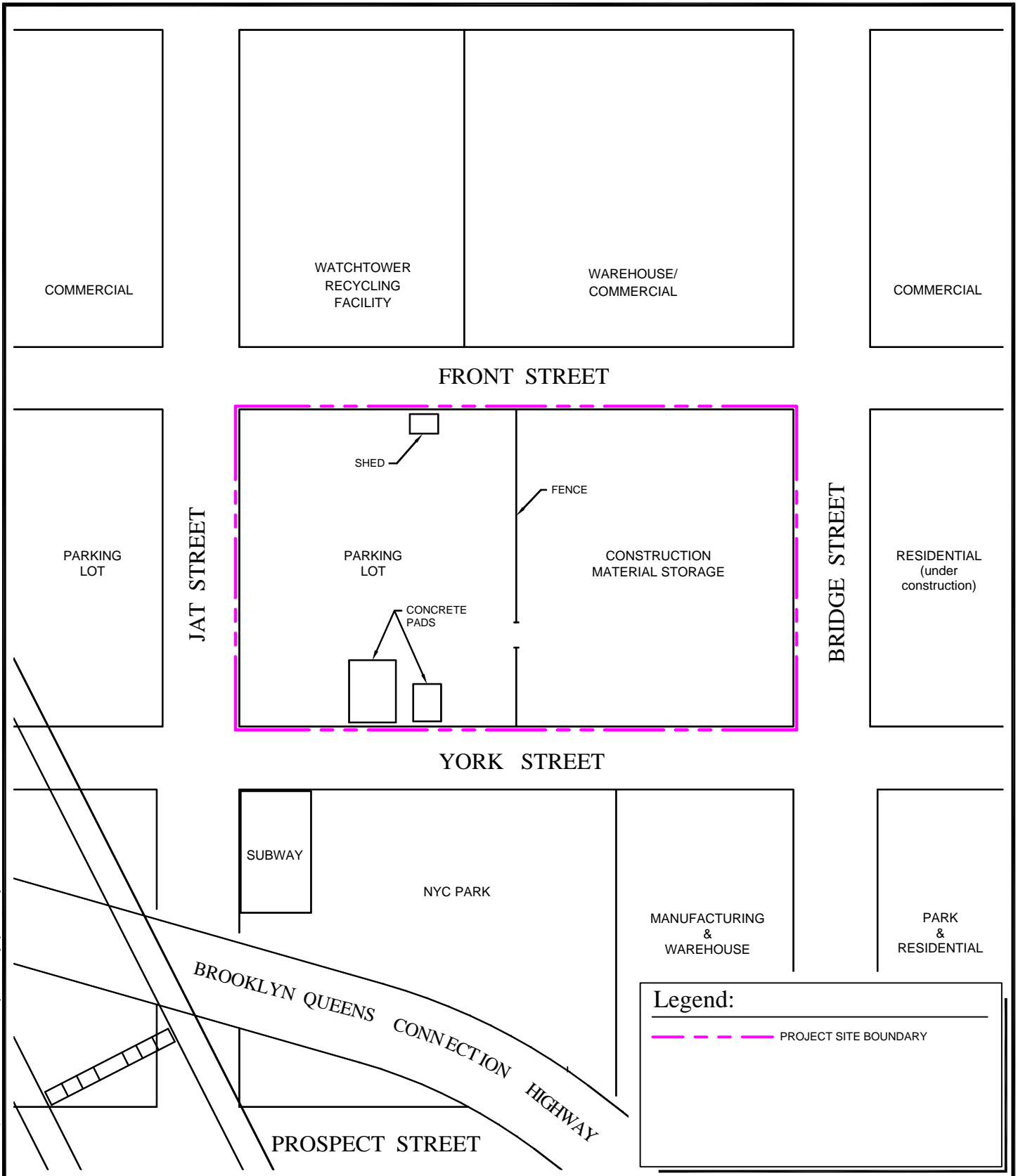
This Phase I Assessment is not, and should not be construed as, a guarantee, warranty, or certification of the presence or absence of hazardous substances, which can be made only with testing, and contains no formal plans or recommendations to rectify or remediate the presence of any hazardous substances which may be subject to regulatory approval. This report is not a regulatory compliance audit.

## 7.0 REFERENCES

1. Toxics Targeting, Inc.; *85 Jay Street*; Regulatory Radius Search; November 4, 2002.
2. U.S. Geological Survey; *Brooklyn Quadrangle - New York*; 7.5 minute Series (Topographic); Scale 1:24,000; 1996; Photorevised 1979.
3. U.S. Geological Survey; *Groundwater in Bronx, New York and Richmond Counties with Summary Data on Kings and Queens Counties, New York City, New York*; Bulletin GW-32; 1953.
4. U.S. Geological Survey; Open-File Report 89-462; *Bedrock and Engineering Geologic Maps of New York County and Parts of Kings and Queens Counties, New York, and Parts of Bergen and Hudson Counties, New Jersey*; Sheet 3 - *Bedrock Contours and Outcrops*; 1990.
5. New York State Department of Health: Office of Public Health - Environmental Radiation Section; *Basement Radon Screening Data*; January, 1997.

## FIGURES

2002 AKRF, Inc. Environmental Consultants Q:\AKRF\data\2011\1-0801 85 Jay Street\F2\_project site map



**Legend:**

----- PROJECT SITE BOUNDARY

**85 JAY STREET**  
 Brooklyn, New York

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**PROJECT SITE MAP**

**AKRF, Inc.**

Environmental Consultants  
 116 East 27th Street, New York, N.Y. 10016

DATE  
**11.07.02**

PROJECT No.  
**2011**

FIGURE No.  
**2**

**APPENDIX A**  
**PHOTOGRAPHIC DOCUMENTATION**





Photograph 1: Parking lot portion of Site facing southeast.



Photograph 2: Waiting area shelter.

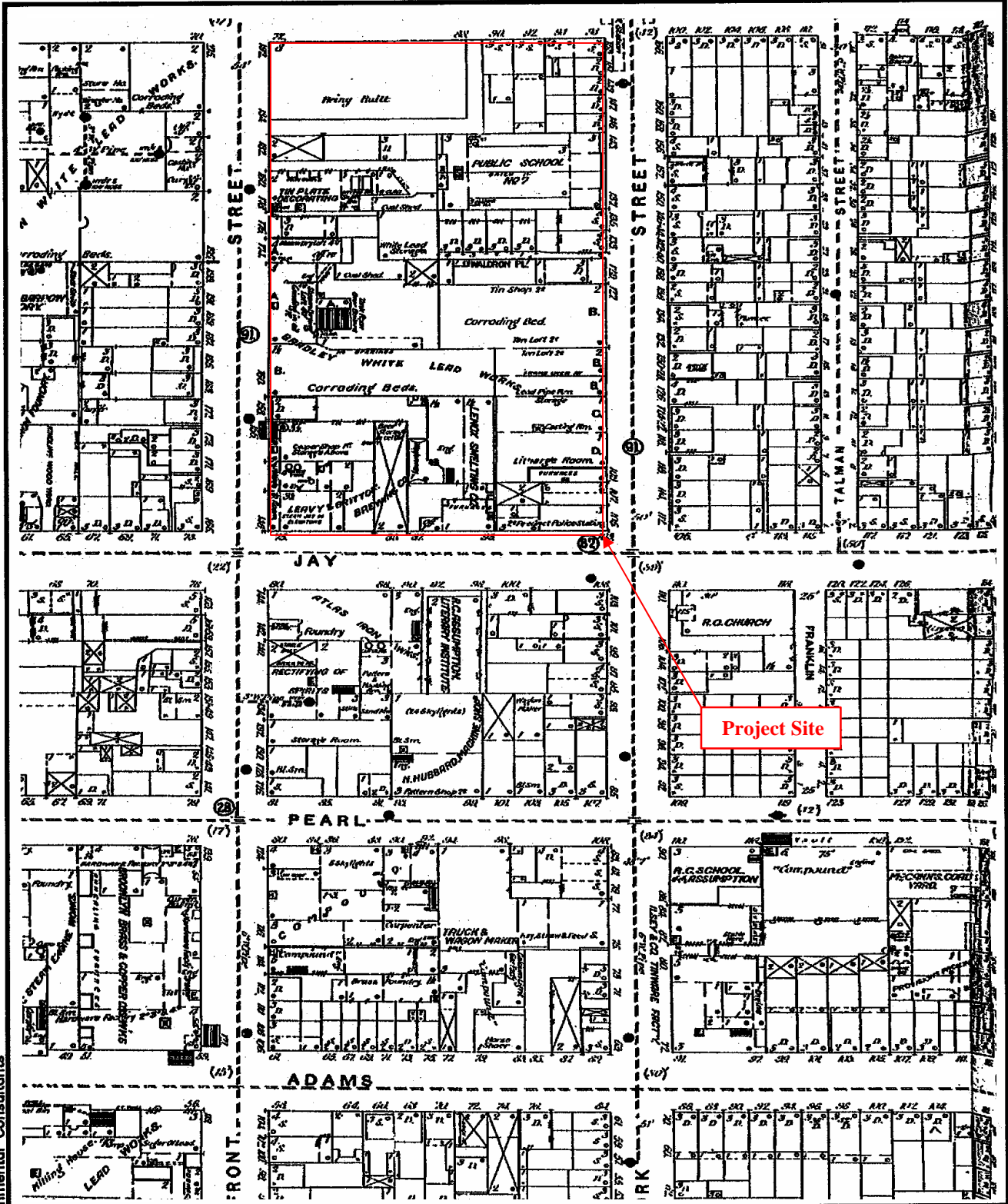


Photograph 3: Large concrete pad on the parking lot portion of the Site.



Photograph 4: Four steel plates on the concrete pad.

**APPENDIX B**  
**HISTORICAL SANBORN MAPS**



85 Jay Street  
Brooklyn, New York

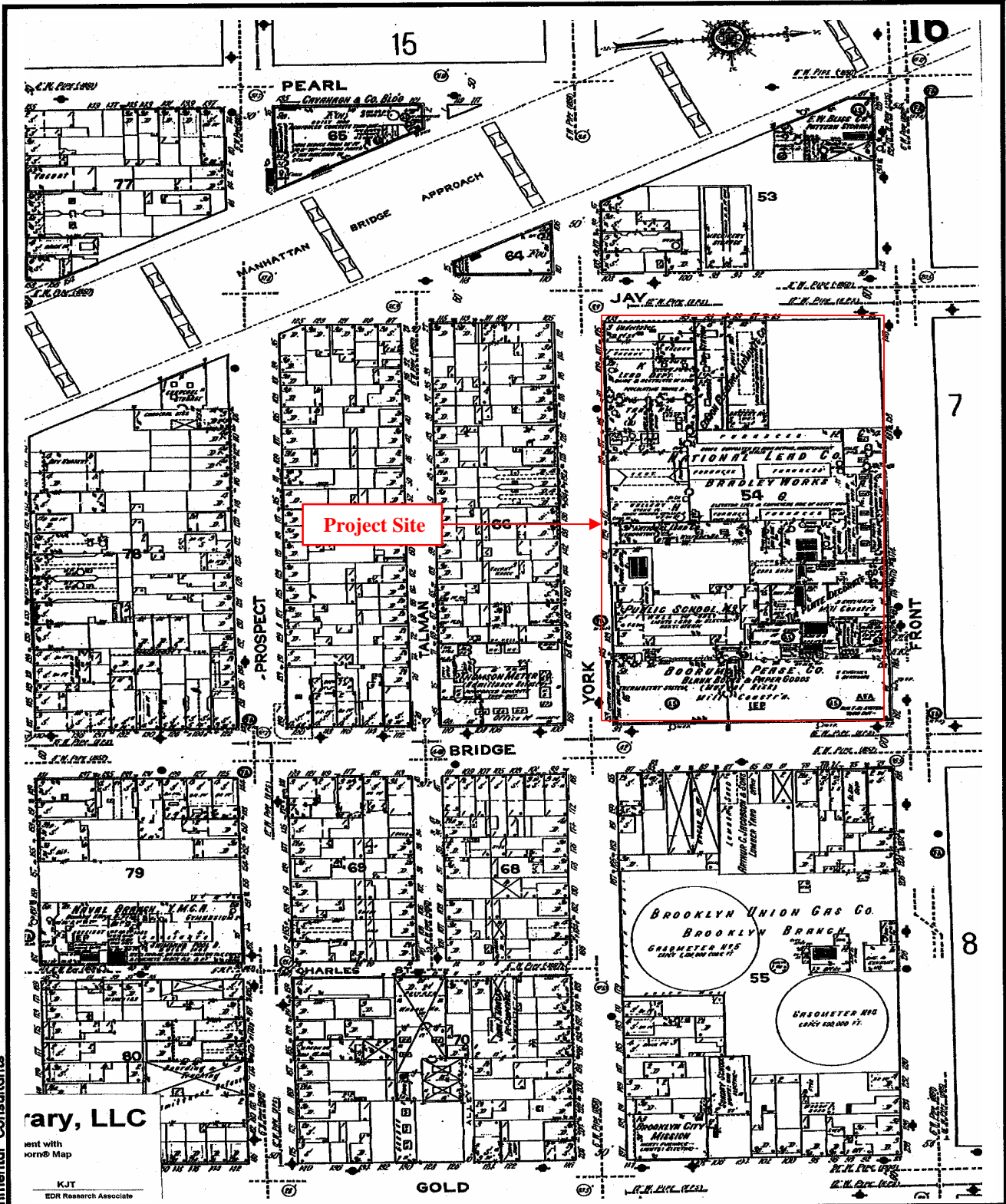
1887 Sanborn

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DATE 11.07.02
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PROJECT No. 20111
FIGURE No.





Project Site

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ary, LLC  
ent with  
orn® Map

KJT  
EDR Research Associate

85 Jay Street  
Brooklyn, New York

1915 Sanborn

**AKRF, Inc.**

Environmental Consultants

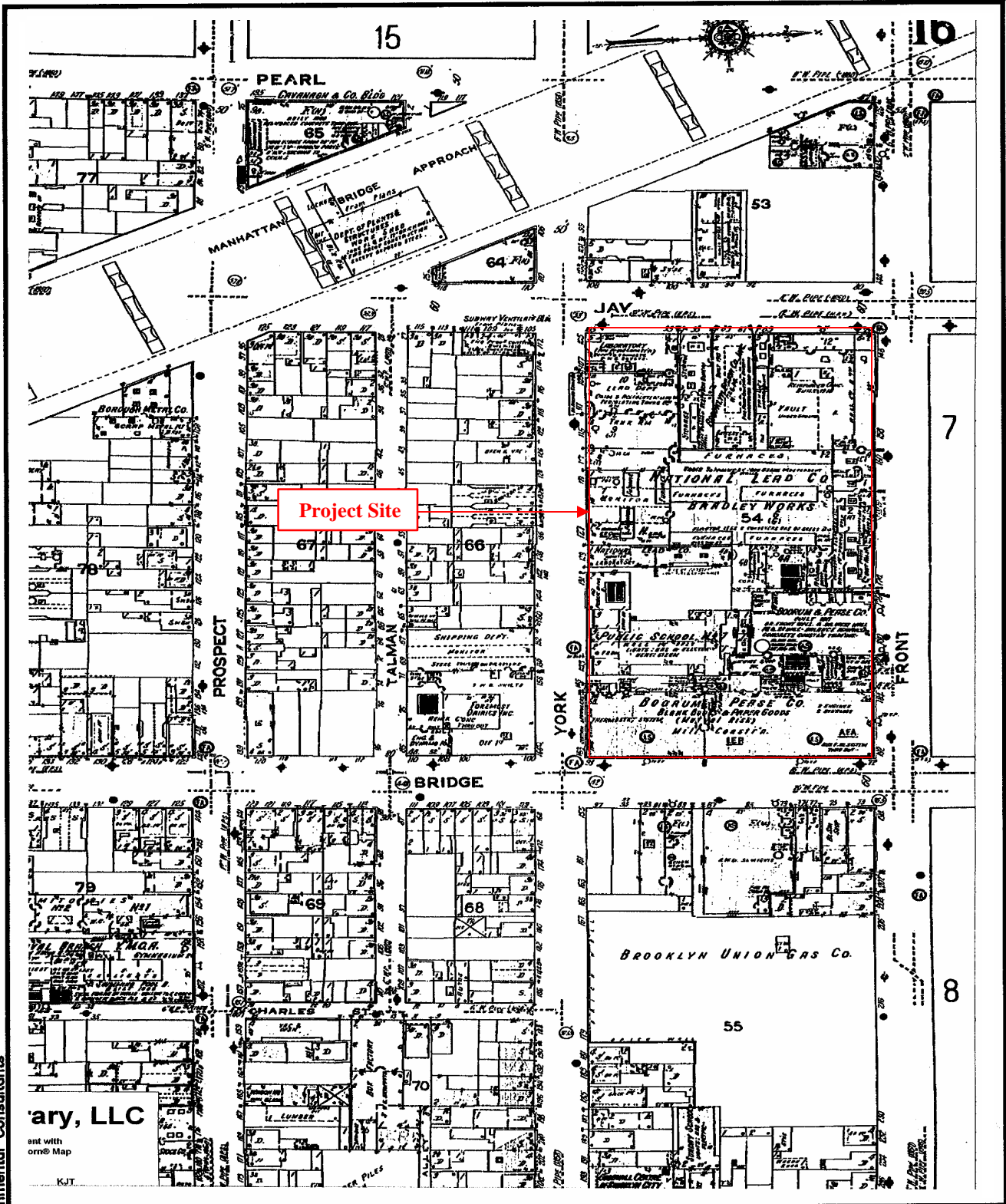
116 East 27<sup>th</sup> Street New York, New York 10016

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11.07.02

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PROJECT No.  
20111

FIGURE No.



Project Site

85 Jay Street  
Brooklyn, New York

1938 Sanborn

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FIGURE No.

15

16

PEARL

GOVERNOR & Co. Bldg. No. 65

MANHATTAN BRIDGE APPROACH

53

JAY

Project Site

BRANDLY WORKS  
54  
TUNNELL & CO.  
BODRUM & PENSE CO.  
MILK CARRY'G. LEE

7

PROSPECT

BRIDGE

YORK

FRONT

1950

10

10

6

55

8

, LLC

85 Jay Street  
Brooklyn, New York

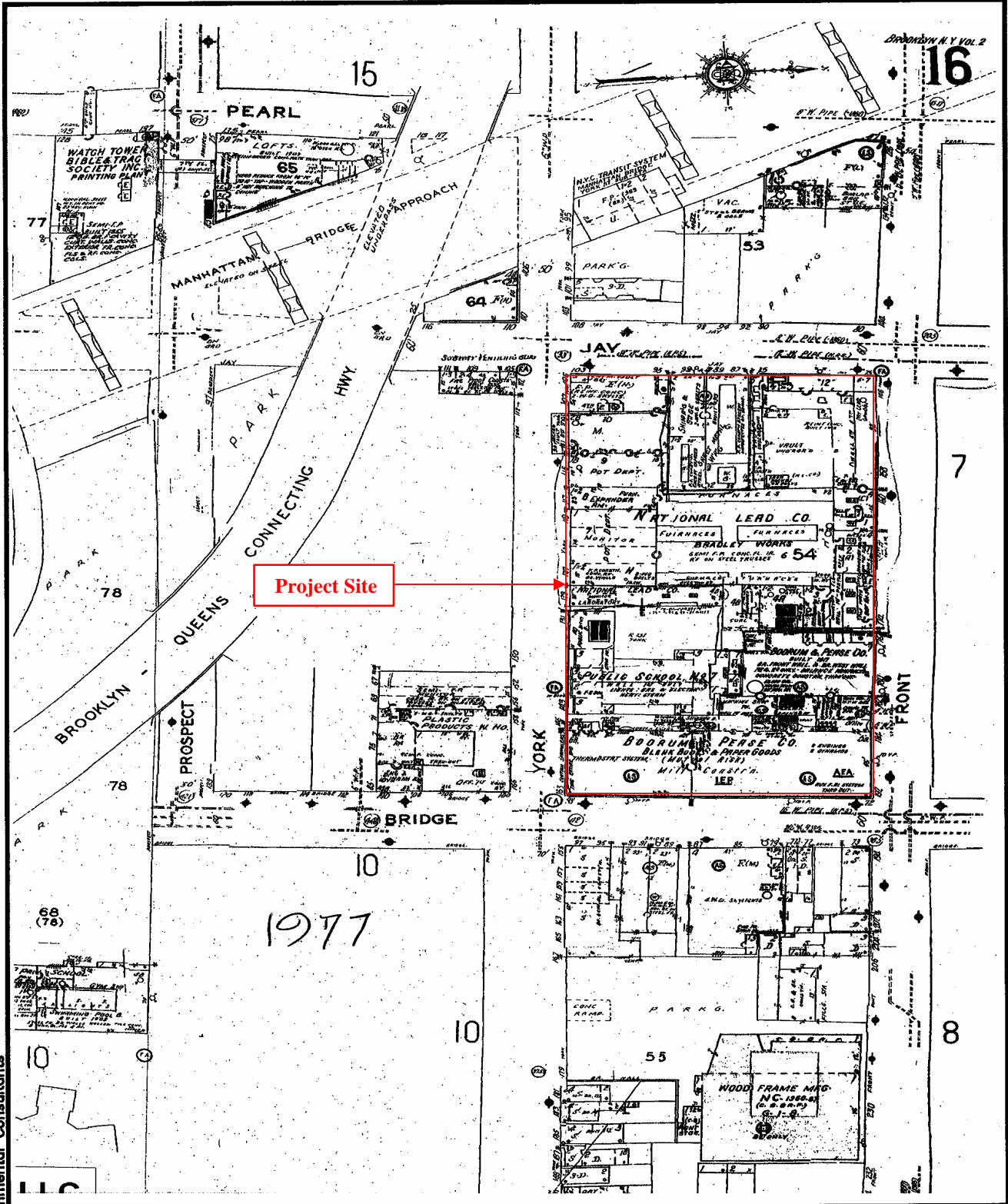
1950 Sanborn

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DRAWING No.
PROJECT No. 20111
FIGURE No.





Project Site

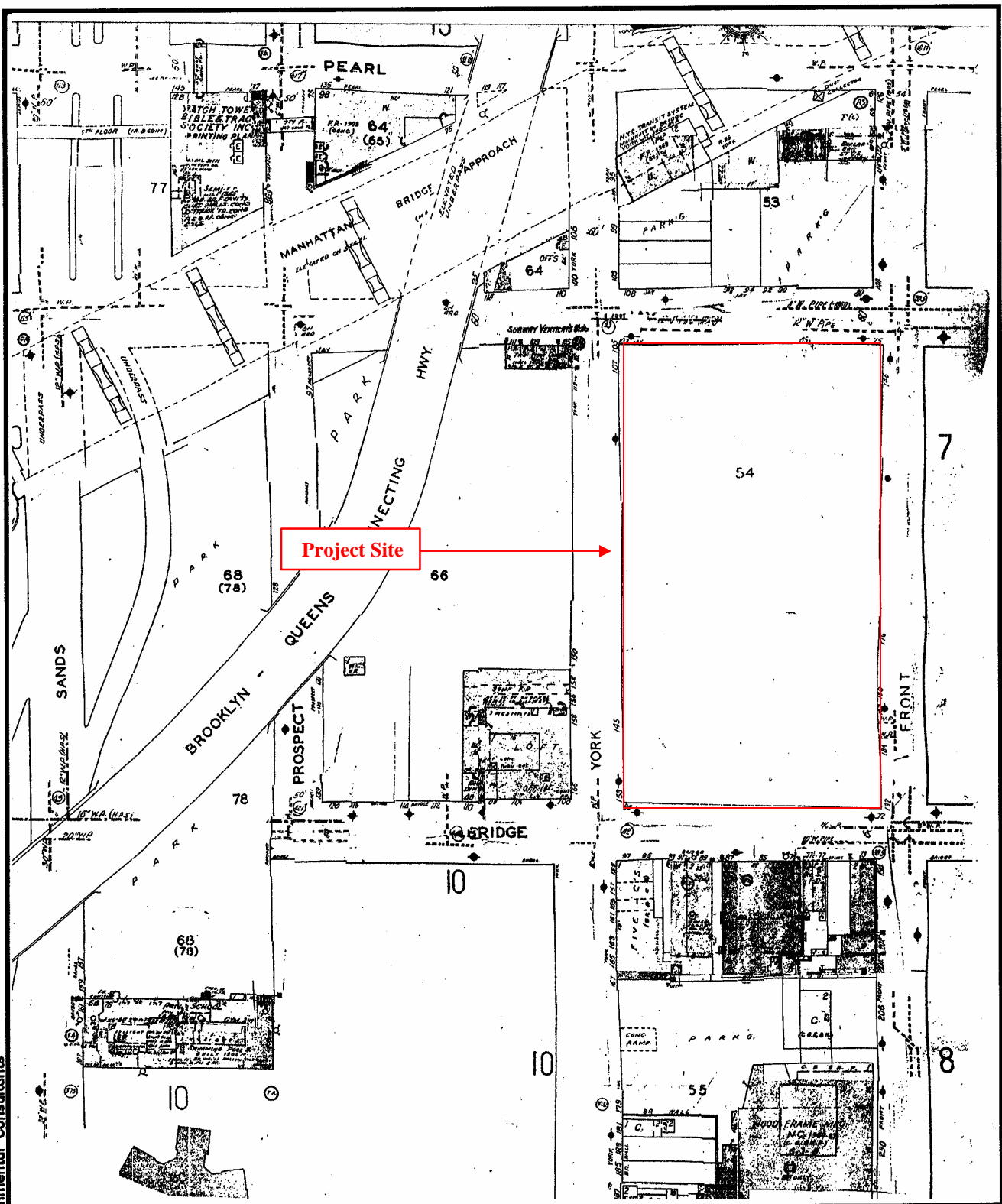
85 Jay Street  
Brooklyn, New York

1977 Sanborn

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FIGURE No.



85 Jay Street  
Brooklyn, New York

2001 Sanborn

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DATE 11.07.02
DRAWING No.
PROJECT No. 20111
FIGURE No.



**APPENDIX C**  
**REGULATORY RECORDS REVIEW**