

Historical Investigation Report - Former Yonkers - Woodworth Avenue MGP Site (Site #V00564)

Yonkers, New York

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RETEC Project Number: CECN1-15957-400

Prepared for:

**Consolidated Edison Company of New York, Inc.
4 Irving Place
New York, NY 10003**

January 16, 2003

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Executive Summary

The RETEC Group, Inc. (RETEC) has prepared this historical investigation report for Consolidated Edison of New York, Inc. (Con Edison). This report is part of a comprehensive program to research and assess the history of sites formerly used by Con Edison and its predecessor companies for the manufacture and/or distribution of gas, and documents the historic and current conditions of the sites.

The purpose of this historical investigation program is to support Con Edison in its negotiations with the New York State Department of Environmental Conservation (NYSDEC), to support Con Edison's efforts to rank manufactured gas plant (MGP) site investigation priorities, and to provide a starting point for future site investigations. This report presents the summary of the research and findings for the former Yonkers - Woodworth Avenue Works former MGP site between Ashburton Avenue and Babcock Place on Woodworth Avenue in the City of Yonkers, Westchester County, New York (Site #V00564).

As part of its historical investigation, RETEC reviewed a number of sources to assess the historical ownership and operations of the MGP, subsequent site uses, and current site conditions. These sources included historical records obtained from private and public repositories, a chain-of-title search, tax and zoning records, and geologic reports for the general area.

In addition, RETEC visited the former MGP site on April 30, 2002 to do the following:

- assess current site environmental conditions and property use;
- perform a visual inspection for the presence of potential MGP site residuals on the site and surrounding properties; and
- identify potential receptors that may be at risk if MGP residuals or other by-products are present.

From our records review and site reconnaissance, RETEC was able to determine the following about the former Yonkers – Woodworth Avenue Works MGP site:

- The site included property, which extended to Woodworth Avenue to the east, to Babcock Place to the north, Ashburton Avenue to the south and to Alexander Street to the west with the New York Central Railroad tracks going from south to north through the site.
- The site is currently located in a mixed industrial/commercial area with some residential areas to the north. The site use is zoned

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industrial. Commercial and industrial businesses are surrounding the site property.

- The current site surface is almost entirely covered by buildings and asphalt on the eastern side of the tracks and approximately 10 percent covered by a building on the western side of the tracks and covered by asphalt on the rest of the property. There were no visual indications of MGP residuals on the surface of the property.
- The Hudson River is the nearest surface water body to the Yonkers - Woodworth Avenue Works former MGP site. The river is located approximately 200 feet west of the site.
- PSC Reports indicate that the Yonkers Gas Light Company was incorporated in 1854. The Yonkers Gas Company owned property on the eastern portion of the site in 1854 [Chain-of-Title Search] and operated on this portion of the former MGP site as early as 1868 [Beers, 1868]. According to Sanborn Maps, the Yonkers Gas Light Company continued to operate on the site and expanded the property through at least 1898. In 1900, the Yonkers Gas Light Company merged into the Westchester Lighting Company, who continued to operate the site as a gas plant until 1928 and used the site subsequent to gas plant operations into the 1940s [Sanborn Map, 1942]. The PSC Reports indicate that the Yonkers plant was dismantled in 1930 and demolished in 1931. After 1942, the property was used for commercial/industrial purposes.
- The MGP site likely produced coal gas or carbureted water gas. Residuals associated with these processes include tar (containing volatile compounds, PAHs, and phenolics), purifier residuals, ammonia residuals, clinker, and gas oil. Subsurface structures containing residuals may remain at the site; however, there is no available information regarding decommissioning of the site or disposition of residuals from MGP operations.
- Other site uses on the eastern portion of the property after the MGP operations ceased include a paint shop located with the machine shop in the former MGP building, additional paint shop buildings in the northeast portion of the site, and an auto repair shop and filling station in the southeast corner of the site. The paint shop (former MGP building) is currently the location for Steven's Paints; the storage building to the north is currently the location of Pollack Paints; and the former auto repair shop appears to be the location of A&D Carting (demolition container service).

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- Other site uses on the western portion of the property after MGP operations ceased include a building on the southwest corner of the property that was used for motor oil storage from the 1950s into the 1970s, a Metro-North substation running parallel and adjacent to the west side of the railroad tracks, and a parking area. In addition, the northernmost section [Block 2618, Lot 200] was taken by the New York State Department of Transportation (NYSDOT) for a bridge right-of-way and the westernmost section [Block 2618, Lot 2] was taken and developed into a paved bus turn-out/turn around area for Alexander Street. Currently, the remainder of the western portion of the site includes the Metro-North substation and a former paved parking area that is under construction for use by Greyston Bakery.
- Residuals in groundwater and in the subsurface soil were confirmed on the western portion of the site as part of a Phase I/Phase II Investigation conducted for the Greyston Foundation [Ecosystems Strategies, Inc., 1999]. Given the past uses of the site, there may be residuals remaining on other portions of the site on the surface, in subsurface structures, in subsurface soil, or in ground water.
- Potential receptors to residuals remaining on the site include primarily site visitors and excavation workers. Direct contact with residuals in surface soil may occur, however, visitors/workers are not expected to be in contact with subsurface soils given the nature of the site. Excavation workers may be exposed to residuals in subsurface soil, should excavation be necessary.
- In addition, ground water containing residuals has the potential to migrate to offsite downgradient properties. However, ground water is not used on the site, and none of the 12 wells located within a one-mile radius of the site are downgradient.

1 Objective

The RETEC Group, Inc. (RETEC) has prepared this historical investigation report for Consolidated Edison of New York, Inc. (Con Edison). This report is part of a comprehensive program to research and assess the history of sites formerly used by Con Edison and its predecessor companies for the manufacture and/or distribution of gas, and to report on the historic and current conditions of the sites. These sites are located in New York City and Westchester County. The purpose of this historical investigation program is to support Con Edison in its negotiations with the New York State Department of Environmental Conservation (NYSDEC), to support Con Edison's efforts to rank manufactured gas plant (MGP) site investigation priorities, and to provide a starting point for future site investigations. This report presents the summary of the research and findings for the former MGP site located on Woodworth Avenue in the City of Yonkers, New York (Site #V00564).

The report consists of eleven sections and seven appendices:

- Section 1 provides an introduction to report objective, the investigative methodologies and processes, and a summary of limiting conditions of this report.
- Section 2 presents a property description.
- Section 3 provides a summary of the current site use and site reconnaissance.
- Section 4 presents the site setting, including site geology, topography, zoning, demography, and neighboring property description.
- Section 5 presents a summary of the past site ownership according to the chain-of-title and tax records, and supplemented by historical records as appropriate.
- Section 6 presents a summary of past site operations, including potential residuals associated with site use and any significant reconstruction or excavation activities that took place on the site.
- Section 7 provides a summary of the environmental and regulatory agency database searches for the site and surrounding areas.
- Section 8 discusses potential exposure pathways based on past site operations and human and environmental receptors to residuals from the site.

- Section 9 provides a discussion of the accuracy and completeness of the research conducted and offers conclusions to this historical component of investigative activities at the site.
- Section 10 summarizes the findings of the historical investigation and presents the information in a manner that can be used for further assessment of the site.
- Section 11 presents a list of references used in this report.
- Appendices A through G provide the documentation that was gathered during this historical investigation.

RETEC reviewed a number of sources to assess the historical ownership and operations of the MGP, subsequent site uses, and current site conditions. These sources include historical records obtained from private and public repositories (e.g., Con Edison resources, federal, state, and local agencies), a chain-of-title search, tax and zoning records, a review of geologic reports for the general area, and a site reconnaissance. A report checklist summarizing the review requirements and our findings is provided in Appendix A. A detailed list of the sources reviewed and the findings are provided in Sections 5, 6, and 7 of this report.

The findings presented in this historical investigation report are based on the scope of work agreed to by Con Edison and the data that could be obtained in the course of this process. The availability of historical records may be limited by a number of factors, including the size and duration of MGP activities at the site, the record keeping practices of the time, and local interest in the property. An assessment of the current site conditions may be limited by current site ownership and access, the ability to assess only general geologic conditions and lack of site-specific data, and availability of public records.

The opinions presented in this report are in accordance with currently accepted hydrogeologic and engineering standards and practices. This report may be based, in part, on unverified information supplied to RETEC by third-party sources. While efforts have been made to substantiate this third-party information, RETEC cannot guarantee the completeness or accuracy of such information.

This historical investigation report shall not be construed to offer legal opinion or representations as to the requirements of, nor compliance with, environmental laws, rules, regulations, or policies of federal, state, or local governmental agencies. Any use of this historical investigation report constitutes acceptance of the limits of RETEC's liability. RETEC's liability extends only to its client and not to any other parties who may obtain the report.

2 Property Description

This section includes a description of the property based on the furthest extent of the MGP boundaries, the site size, and the current tax map designations for parcels located within the former MGP boundaries.

2.1 Site Location and Property Boundaries

The Yonkers - Woodworth Avenue Works former MGP site was located between Ashburton Avenue and Babcock Place on Woodworth Avenue in the City of Yonkers, Westchester County, New York. The site location is illustrated in Figure 2-1. The property extended to Woodworth Avenue to the east, to Babcock Place to the north, to Ashburton Avenue to the south, and to Alexander Street to the west with the New York Central Railroad tracks going from south to north through the site property [Sanborn Map, 1917]. The site area encompassed approximately 4.3 acres. The coordinates for the site are approximately N 40°56'28.14" latitude and W 73°54'4.62" longitude.

2.2 Tax Designation

Currently, the property encompasses the following lots, based on the current tax maps and the layout of the gas plant on the 1917 Sanborn Map:

- Section 2, Block 2100, Lot 1 – 119 Woodworth Avenue;
- Section 2, Block 2100, Lot 4 – 115 Woodworth Avenue;
- Section 2, Block 2100, Lot 10 – 95 Woodworth Avenue;
- Section 2, Block 2618, Lot 1 - 104 Ashburton Avenue;
- Section 2, Block 2618, Lot 2 – address not provided;
- Section 2, Block 2618, Lot 200 – address not provided; and
- Section 2, Block 7000, Lot 1 – currently the location of the Metro-North Hudson Division railroad tracks that run north/south through the center of the property.

These tax lots were identified by Con Edison in the summary of MGPs prepared for the application to the NYSDEC Voluntary Cleanup Program. A review of all available information regarding site locations confirms that portions of these lots were the location of the former MGP property.

3 Current Site Use

This section provides a summary of the current site use and the site reconnaissance conducted by RETEC for the Yonkers - Woodworth Avenue Works former MGP site.

3.1 Site Use

The Yonkers - Woodworth Avenue Works former MGP site is currently used for commercial purposes. The property on the eastern side of the railroad tracks is currently occupied by A&D Carting, Steven's Paints, and Pollack Paint, Inc. On the western side of the tracks, the northernmost section is part of a bridge right-of-way, the westernmost section is a paved bus turn-out/turn around area for Alexander Street, and there is a Metro-North substation along the railroad tracks. The remainder of the western portion is a former paved parking area that is under construction for use by the Greyston Bakery. The current site layout is illustrated in Figure 3-1.

3.2 Site Reconnaissance

A team of RETEC geologists and environmental engineers visited the location of the Yonkers - Woodworth Avenue Works former MGP Site on April 30, 2002. The purpose of the reconnaissance was to do the following:

- assess current site environmental conditions and property use,
- perform a visual inspection for the presence of potential MGP site residuals on the site and surrounding properties, and
- identify potential receptors that may be at risk if MGP residuals or other by-products are present.

During the site reconnaissance, the inspection team reviewed a site inspection checklist developed by RETEC to ensure that all the necessary information was collected, documented their observations in a bound field notebook, and took photographs of the site. The inspection team walked the perimeter of the property to make their observations. Access to the site property was not permitted due to fences and the current site businesses.

The current on-site structures at the Yonkers - Woodworth Avenue Works former MGP site include the former MGP building, which is currently the location for Steven's Paints. Other on-site structures include many small commercial businesses on the eastern side of the railroad tracks. The Greyston Bakery is being constructed on the western side of the railroad tracks. A long brick building is present parallel to the railroad tracks on the western portion of the site. The building is a Metro-North substation. Alexander Street bounds the site on the west, Ashburton Avenue bounds the site on the south, Babcock

Place bounds the site on the north and Woodworth Avenue bounds the site on the west. Railroad tracks run north/south through the middle of the property. The vicinity of the site is primarily industrial/commercial, with some residential properties to the north. Figure 3-1 illustrates the property and adjoining streets. A photographic log of the site reconnaissance is provided in Appendix B.

RETEC was able to observe the site from the perimeter of the property. The current site surface is almost entirely covered by buildings and asphalt on the eastern side of the tracks and approximately 10 percent covered by a building on the western side of the tracks and 90 percent covered by asphalt on the rest of the property (Figures 1-12 in Appendix B photo log). There were no visual indications of MGP residuals on the surface of the property. It is not known if there are basements in any of the buildings on the site property. There are overhead utility lines along the streets. It is unknown if subsurface utility lines exist on the site; however, subsurface lines are likely to be present in association with the commercial businesses.

At the time of the site reconnaissance, the construction of the Greyston Bakery was in progress on the western portion of the former MGP site. It was observed that there were a number of footings throughout the former paved parking area on this portion of the site. The use of these footings is not known. Additionally, a trench was excavated running north/south on the eastern side of the western parcel and another pit was dug on the western side of the parcel. The purpose of these excavations is related to remediation activities on the property [Ecosystems Strategies, Inc.; 2000]. There was no evidence of MGP residuals in the soil that were excavated based on observations from the perimeter of the site.

Off-site structures include Yonkers Institutional Food Corp., NYUV and residences to the north; Maxbraun & Sons Meats, Greyston Bakery, Rose of Sharon Apostolic Church, and New York Ladder and Scaffolding to the east; Liberty Lines Express, Department of Social Services, and A. Tarricone oil terminal to the west; and a Kawasaski manufacturing building to the south. Commercial and industrial properties are located in all directions from the site.

The Hudson River is the nearest surface water body to the Yonkers - Woodworth Avenue former MGP site. The river, located approximately 200 feet west of the site, could not be accessed due to industries covering the riverbank.

The site reconnaissance also identified the following schools and day care centers within ¼ mile of the former MGP site.

SCHOOLS

Westchester School-Spcl Chldrn (.12 mi.)
45 Park Ave.
Yonkers, NY 10703-3401

Martin Luther King Elem School (.1 mi.)
135 Locust Hill Ave.
Yonkers, NY 10701-2917

Yonkers Christian Academy (.2 mi.)
229 N Broadway
Yonkers, NY 10701-2600

St Casimir's School (.2 mi.)
239 Nepperhan Ave.
Yonkers, NY 10701-3461

DAY CARE CENTERS

Heavensent Family Day Care (.14 mi.)
120 Locust Hill Ave.
Yonkers, NY 10701-2942

Professional Day Care Ctr (.17 mi)
98 Locust Hill Ave.
Yonkers, NY 10701-2940

4 Site Setting and Demography

This section provides the current zoning characteristics for the Yonkers Yonkers - Woodworth Avenue Works former MGP site and surrounding area and a description of the physical setting of the site, including geological and hydrogeological characteristics.

4.1 Characteristics of Site and Neighboring Properties

The Yonkers - Woodworth Avenue Works former MGP site is located in a mixed industrial/commercial area with some residential areas to the north. The site itself is used for commercial purposes and is zoned industrial. Commercial and industrial businesses surround the site property. These areas are zoned commercial, storage, and light manufacturing.

The neighboring properties include the following:

- Yonkers Institutional Food Corp., NYUV, and residences to the north;
- Maxbraun & Sons Meats, Greyston Bakery, Rose of Sharon Apostolic Church, and New York Ladder and Scaffolding to the east;
- Liberty Lines Express, Department of Social Services, and A. Tarricone oil terminal to the west; and
- Kawasaski manufacturing building to the south.

The U.S. Census Bureau's records from the 2000 Census were used to determine the demographics for the site and surrounding area. The census showed that the City of Yonkers had a population of 196,086 people. The area surrounding the site was identified in the 2000 Census as Census Tract 4.02, Westchester County, New York (see Figure 4-1). The population for this area is 6,033 people.

4.2 Physical Setting

4.2.1 Site Topography and Surface Drainage

The 1969 U.S. Geologic Survey (USGS) topographic map for the Yonkers, N.Y. Quadrangle was reviewed to provide information about the topography of the site. The map shows that the site is moderately sloped from Woodworth Avenue to the west (73 feet Mean Sea Level-MSL) to Alexander Street to the west (20 feet MSL) with an overall change of 53 feet.

Surface water runs off the site to the west via sheet flow and then may discharge into the Hudson River approximately 200 feet west of the site. The

nearest surface water body in the vicinity of the former MGP site is the Hudson River and is designated as Class SB. Class SB is defined as follows: “Waters best usages are primary and secondary contact recreation and fishing. These waters shall be suitable for fish propagation and survival.” It is not known if city storm drains would capture site runoff before it would enter the river. According to the database search completed by Environmental Data Resources, Inc. (EDR), the site itself does not lie within a mapped Federal Emergency Management Agency (FEMA) flood zone; however, portions of the Hudson River bank 100 feet to the west of the site are within the FEMA 500-year flood zone. The site itself is not mapped as a designated wetland area. Portions of the nearby Hudson River shoreline to the west of the site are mapped as wetland areas.

4.2.2 General Site Geology

The Surficial Geology Map of New York – Lower Hudson Sheet [Cadwell, 1989] was reviewed to obtain information about the surficial deposits at the site. The map shows that a thin layer of glacial till material is likely to be present at the site that is comprised of silty clay with occasional boulders. According to the map, the till can be expected to have low permeability. The map also shows that the till may be very thin or absent in the area of the site and bedrock may be exposed at the ground surface.

The Geologic Map of New York published by the New York State Museum of Science [Fisher, 1970, revised 1995] was reviewed to provide information about the bedrock geology at the site. The site is located in the Manhattan Prong, which is a geologic sub-province of the New England Upland physiographic region of New York that encompasses most of Westchester County. The bedrock at the site is the Fordham Gneiss of the Upper Proterozoic Age. This gneiss is a metamorphic rock comprised of garnet, biotite, quartz and plagioclase.

Recent records were found in the Yonkers Building Department of soil borings conducted on the site property. The records were recorded in a bound field book. Two soil borings were conducted on October 25, 1957 for a plant addition and four borings were conducted on October 28, 1957 for the proposed plant.

The description of soil is as follows:

Boring ID	Elevation of ground surface (feet/MSL)	Depth of boring (ft)	Water level (ft)	Description
Boring 1	92.06	17.0 - refusal	4.0	0.0-13.0 Brown-gray sandy silt and gravel. 13.0-17.0 Medium brown sand and gravel, trace clay, disinteg. mica.
Boring 2	94.06	14.0 - refusal	5.5	0.0-11.5 Brown clayey sand. 11.5-14.0 Medium gray sand and gravel
1-A	98.16	11.5 - refusal	9.5	Brown sand, clay.

Boring ID	Elevation of ground surface (feet/MSL)	Depth of boring (ft)	Water level (ft)	Description
2-A	96.76	19.5 - refusal	9.0	Brown sand, clay, fill.
3-A	94.26	12.5 - refusal	6.75'	0.0-2.0 sand, brick, wood, fill. 2.0-10.5 Brown clay, thin layers of fine-grained sand. 10.5-12.5 Sand and disinteg. rock.
4-A	96.66	10.0 -refusal	5.5	0.0-3.0 Sand, gravel, cinder, wood, and fill. 3.0-10.0 Brown fine-grained sand, gravel, trace clay.

4.2.3 General Site Hydrogeology

Groundwater flow direction is assumed to mimic surface topography that slopes from the east to the west with the intertidal zone of the Hudson River as a likely discharge point. The flow direction of groundwater at the site; however, was not directly tested during the site reconnaissance. The depth to water in the vicinity of the site is expected to be approximately 4 to 9.5 feet below ground surface, based on the boring logs obtained for the site (listed above) and information obtained from a well near the site obtained from a Federal and State well database search completed by EDR (Appendix C).

A map entitled “Unconsolidated Aquifers of Westchester County, New York” [Keneally, June 2001] was reviewed to determine if the site is located within the footprint of a significant unconsolidated groundwater aquifer. The map does not show any significant aquifer within the footprint of the site.

A well search of both Federal and New York State databases was completed to determine if water wells are present in the vicinity of the site. A total of 12 wells were identified within a one-mile radius of the site. The locations of the wells are provided on the Physical Setting Source Map in the EDR database search results in Appendix C. As shown on the map, none of the wells are located within a ¼ mile radius of the site. Two wells are located within a ½ mile of the site, which were installed to withdraw water for industrial purposes. One of the wells is not currently used. Another well, located ¾ mile to the south of the site is an active public water supply well (NY0006622). The rest of the wells identified in the database are between ½ and 1 mile from the site. Each of these wells was installed to withdraw water for industrial purposes. Five of these wells are no longer used.

A record for one well drilled in the vicinity of the Yonkers - Woodworth Avenue former MGP site was found in *The Ground Water Resources of Westchester County* [Asselstine and Grossman, 1955]. This well was located ¼-mile south of the site. The well was drilled in 1942, into limestone bedrock, at the Otis Elevator Company. The well was drilled to 305 feet below the ground surface, with overburden reported at 55 feet below ground surface.

The depth to water in the well was reported as 8 feet below ground surface. The drilling records for the well described the stratigraphy as follows:

- 0-55 feet clean, fine sand;
- 55-160 limestone;
- 160-170 pink feldspar; and
- 170-305 limestone.

Ground water in the vicinity of the site is classified as GA - Fresh ground waters with best usage as a source of potable water supply. However, this area is not classified as a primary water supply aquifer or a principal aquifer.

5 Past Site Ownership

The ownership history of the former MGP site in Yonkers on Woodworth Avenue was established using historical and current records from the earliest record of the site, through the time of the MGP operations, to the present time. A list of the records reviewed and a description of each is provided below, followed by a summary of site ownership as established using all the resources that were identified.

5.1 Records Reviewed

5.1.1 Brown's Directory of American Gas Companies

Brown's Directory of American Gas Companies (Brown's Directory) began publication of gas companies' statistics in 1887 and continues into recent times to provide information on currently operating gas companies. RETEC reviewed Brown's Directories for the years 1887 through 1957, which covers the operational period of most MGPs, to determine site ownership and operational information for the Yonkers - Woodworth Avenue former MGP. Several years are unavailable in the public domain, and RETEC does not have Brown's Directories for the years 1888, 1895 through 1898, 1952 and 1953. It is noted that Brown's Directory may not distinguish between two or more sites, if they were operated simultaneously by the same company.

The results of the Brown's Directory search are provided in Table 5-1. The Yonkers Gas Light Company was identified in Brown's Directory in the first year it was published, 1887. The plant was identified as being operated by the United Gas Improvement Company of Philadelphia, Pennsylvania. Production information was provided together with that of two additional gas companies in Yonkers, therefore, site-specific production information on the Yonkers - Woodworth Avenue site was not available in Brown's Directory. The Yonkers Gas Light Company continued to be listed in Brown's Directory until the 1901 edition, at which time the Westchester Lighting Company was listed for Yonkers and the listing referred to Mt. Vernon, New York for information.

No site-specific information for Yonkers was provided in Brown's Directory after this time, however, Westchester Lighting Company continued to be listed under Yonkers until 1909. The 1905 Brown's Directory indicated that Consolidated Gas Company of New York, New York was organized in 1884 and it had acquired control of the Westchester Lighting Company sometime before 1905. Brown's Directory from 1909 through 1924 did not have a listing under Yonkers; however, from 1925 through 1927 it listed the Westchester Lighting Company as being headquartered in Yonkers, New York. In 1923, Brown's Directory indicated that a 20-inch emergency transmission main was installed from a 10-million cubic foot holder at

Fordham Road and the Harlem River in the Borough of Manhattan and the City of Yonkers, connecting them with the 20-inch main from the Pelham MGP to the Yonkers Works.

5.1.2 Public Service Commission Reports

The New York Public Service Commission (PSC) Reports for the years 1907 to 1968 were reviewed to determine the ownership and operational history of the Yonkers - Woodworth Avenue former MGP site.

Information specific to the Yonkers Gas Light Company indicated that the company was incorporated May 12, 1854, under the act for the formation of gas light companies. The Yonkers Gas Light Company merged with other companies to form the Westchester Lighting Company (incorporated November 5, 1900) on December 1, 1900. Two other gas companies in Yonkers also merged to form the Westchester Lighting Company at that time (Municipal Gas Company of Yonkers, incorporated June 2, 1879, and the Westchester Gas Light Company of the City of Yonkers, incorporated September 24, 1875).

Information specific to Yonkers was provided from 1911 until 1931. This information likely applies to the Yonkers - Woodworth Avenue site, since it was still operational and it would have been unlikely to have more than one gas plant in a city the size of Yonkers at that time. Additionally, it is known that the Westchester Gas Light Company was no longer in operation at this time.

The PSC Reports indicate that the water gas produced at the Yonkers plant was tested for sulfur and ammonia for various years between 1911 and 1920. Carbureted water gas was produced at Yonkers and production increased, though not consistently, from 298,828 million cubic feet of gas in 1915 to 591,038 million cubic feet of gas in 1919. Production remained steady until the late 1920s, at which time it decreased and stopped by 1928. The PSC Reports indicate that the Yonkers plant was dismantled in 1930 and demolished 1931.

5.1.3 Chain-of-Title Search

A deed chain-of-title search was performed by Commonwealth Land, Title and Insurance Company of White Plains, New York on behalf of Con Edison for the former Yonkers - Woodworth Avenue MGP site. The chain-of-title search was conducted to establish the ownership history of the site from the time immediately prior to gas plant operations to the present day. The results of the chain-of-title search are included in Appendix D, and a summary of the property ownership is provided in Table 5-2.

According to the chain-of-title search, the first utility to own the eastern portion of the site (Current Section 2, Block 2100, Lots 1, 4, and 10) was the

Yonkers Gas Light Company, which bought a parcel of the property in 1854 from a private owner. In 1861, the Yonkers Gas Light Company first purchased a parcel of the western portion of the site (Current Section 2, Block 2618, Lots 1, 2, and 200) from the People of the State of New York and by 1872 it owned the entire eastern and western portions of the site.

The next utility to own the entire property was Westchester Lighting Company, which sold the property to New York and Westchester Lighting Company prior to the two companies merging in 1904.

In 1907, the Westchester Lighting Company exchanged reciprocal parcels with the New York Central and Hudson River Railroad Company. This exchange involved the Westchester Lighting Company adding property on to Block 2100 - Lot 1 from the railroad's property (Block 7000-Lot 1) and losing property from Block 2618 - Lot 1 to the railroad. The exchange also included having the gas company remove 4 pipes and reinstall a culvert through the railroad property.

In February 1946, the Westchester Lighting Company sold the eastern portion of the site to a private owner and in April 1946 it sold the western portion of the site to a different private owner.

According to the chain-of-title search, the eastern portion of the site is currently owned by three separate owners (see Table 5-2). The chain-of-title search also shows that the western portion of the site was broken up into three lots and a railroad right-of-way.

- The northernmost section [Block 2618 - Lot 200] taken by the NYSDOT for a bridge right-of-way;
- The westernmost section [Block 2618 - Lot 2] was taken and developed into a paved bus turn-out/turn around area for Alexander Street; and
- The remaining section [Block 2618 - Lot 1, less a right-of-way along the railroad tracks for the Metro-North Hudson Division Substation] was sold eventually to 104 Ashburton Avenue LLC.

The chain-of-title search also shows that there is a deed restriction on 104 Ashburton Avenue [Block 2618 - Lot 1] that states that "...the Site may not be used for any purpose other than industrial or commercial uses and the construction on the Site of buildings or improvements with subsurface spaces or structures, other than foundations or necessary utilities is prohibited."

5.1.4 Historical Maps

Historical Sanborn Fire Insurance Maps (Sanborn Maps) were obtained from Con Edison for the Yonkers - Woodworth Avenue former MGP site. Sanborn Maps were available for the years of 1886, 1898, 1917, 1942, 1951, 1956,

1957, 1978, 1989, 1990, and 1991. A copy of the Sanborn Maps are included in Appendix E and were used to compile a composite historical site layout map as illustrated in Figure 5-1. Figure 5-2 presents the historical site layout as it falls within the current tax map property boundary.

Additionally, the *Atlas of New York and Vicinity* [Beers, 1868] and the *Atlas of the Hudson River from New York City to Troy* [Beers, 1891] were reviewed to determine if additional historical maps were available for the site location. A portion of the 1868 atlas showing the site is provided in Appendix F.

Furthermore, construction drawings detailing the reciprocal exchange of property were identified during the chain-of-title search. These drawings are provided in Appendix F.

The results of the historical map review are summarized below:

- The earliest map of the site is Sanborn Map 1886. The property is labeled Yonkers Gas Light Co. This map shows on the eastern side of the railroad tracks, two gas holders, a building labeled valve, meter and pipe shop. A coal shed with a section on the west side labeled retorts is west of the southern most gas holder. A pump house, coke shed and shed are also located north of the coal shed. On the western side of the railroad tracks, there is one small oil tank, and an area containing tar barrels. North of the tar barrels is a building labeled purify house.
- The 1898 Sanborn Map shows the property still labeled as Yonkers Gas Light Co. New development includes Babcock Place, which has an addition of a bridge continuing west over the railroad tracks. The buildings on the eastern side of the railroad tracks are in much the same configuration as the previous edition; however, the valve, meter and pipe shop is now labeled workshop storage. There is another building south of the workshop storage but it is not labeled. There is another gas holder in between the two gas holders from 1886 Sanborn Map. The coal shed is still in the same configuration, however, the section that was labeled retorts is now labeled generators with an adjacent building, but the building is not labeled. North of the coal shed is also labeled generators. A few small buildings are located just north of the generator. On the western side of the railroad tracks, the configuration of the purifying house has changed into a larger building. There are two storage buildings south of the purifying house along with a lard oil tank.
- The 1907 construction drawing shows a gas house, coal shed, engine house and two large tanks (holders) labeled Westchester Lighting Co. on the eastern portion of the site. In addition it shows two smaller

tanks and unidentified buildings labeled Westchester Lighting Co. on the western portion of the site.

- The 1917 Sanborn Map shows the site labeled as Westchester Lighting Co. The eastern side of the railroad tracks is in much the same configuration as the previous edition, with the valve, meter pipe shop, unnamed building, coal shed, generators, and smaller buildings present. The generators located to the west of the coal shed have an adjacent building, which is not new but labeled as engine room. Directly south of the coal shed is an area labeled coal pocket. Three gas holders are still present, but the southernmost gas holder is labeled tar tank. On the western side of the railroad tracks the purifying house remains in the same configuration. An area north of the purifying house is labeled coal pile. The lard oil tank is now labeled oil house. One of the two buildings previously identified as storage is removed and the other storage building has expanded into a pipe shed and shed. South of the pipe shed are new structures, which include three oil tanks and three crude oil tanks.
- The 1942 Sanborn Map shows little detail of the site but Westchester Lighting Company is still shown owning property on both sides of the railroad tracks.
- The 1951 Sanborn Map shows considerable change from the previous editions. On the eastern side of the railroad tracks, the valve meter, pipe shop, gas holders, generators, coal shed, smaller buildings, engine room, and coal pocket are all no longer present. The unnamed building is present but it is labeled machine shop storage with an adjacent building labeled storage. The western sides of the railroad tracks have no previous structures present. There is one building in the southwest corner on Ashburton Avenue and Alexander Street with no label.
- The 1956 Sanborn Map shows very little change. The machine shop storage with the adjacent storage is still present but is labeled paint storage machine shop. The western side of the railroad tracks remains unchanged.
- The 1957 Sanborn Map shows the paint storage shop. South of the paint shop is a new building labeled “auto rep” (auto repair) with an adjacent “fill’g sta” (filling station). The western side of the railroad tracks is labeled parking and the building in the corner is labeled motor oil storage.
- The 1978 Sanborn Map shows an additional building labeled storage with the paint storage shops. North of the paint shop there are some

new unnamed structures built along Babcock Place. The western side of the railroad tracks remains unchanged.

- The 1989 Sanborn Map shows Babcock Place extending into the western parcel to Alexander Street. The western side of the railroad tracks no longer has the motor oil storage building present. There is a new building present parallel to the railroad tracks on the western side with no name. The eastern side of the railroad tracks remains in much the same configuration as the 1978 Sanborn Map. The filling station next to the auto repair is no longer present.
- The 1990 Sanborn Map is unchanged from the 1989 edition.
- The 1991 Sanborn Map is unchanged from the 1989 edition.

5.2 History of Site Ownership

The history of site ownership was compiled using Brown's Directory, PSC reports, and Sanborn Maps, and the chain-of-title search.

PSC Reports indicate that the Yonkers Gas Light Company was incorporated in 1854. The Yonkers Gas Company owned property on the eastern portion of the site in 1854 [Chain-of-Title Search] and operated on this portion of the former MGP site as early as 1868 [Beers, 1868]. According to Sanborn Maps, the Yonkers Gas Light Company continued to operate on the site and expanded the property through at least 1898. In 1900, the Yonkers Gas Light Company merged into the Westchester Lighting Company, who continued to operate the site as a gas plant until 1928 and used the site subsequent to gas plant operations into the 1940s [Sanborn Map, 1942]. The PSC Reports indicate that the Yonkers plant was dismantled in 1930 and demolished in 1931.

According to the chain-of-title search, the Westchester Lighting Company sold the eastern portion of the site to a private owner in February 1946, and it sold the western portion of the site to a different private owner in April 1946. Since 1946, the property has been used for commercial/industrial purposes.

Currently, the eastern portion of the site is currently owned by three separate owners (see Table 5-2). and the western portion of the site is broken up into three lots with separate owners and a railroad right-of-way.

Furthermore, the railroad property crossing the site contains [Block 2618 - Lot 1] is owned by Metro-North Hudson Division and contains some property that was historically owned and used by the gas company.

6 Past Site Operations

The operational history of the former MGP site on Woodworth Avenue in Yonkers was established using historical and current records from the earliest record of the site, through the time of the MGP operations, to the present time. A list of the records reviewed and a description of each is provided below, followed by a summary of the MGP site operational history and subsequent site uses as established using all the resources that were identified. For each site use, potential residuals associated with the process are identified.

The historic records identified in Section 5.1 were reviewed for information related to the site operational history as well as ownership history. These records include, Brown's Directory, PSC Reports, and historical maps. In addition, historical aerial photographs for the Yonkers - Woodworth Avenue MGP site were reviewed at the Westchester County Planning Department in White Plains, New York.

6.1 Aerial Photography Review

Aerial photographs were available for the years 1926, 1940, 1947, 1954, 1960, 1970, 1976, 1980, 1986, 1990, 1995, and 2000. A summary of the aerial photograph review is provided below, and copies of selected aerial photographs are included as Appendix G. Sanborn Maps were used to help identify structures shown on the aerial photographs.

The 1926 aerial photograph did not include the site. The 1940 photograph showed buildings along Woodworth Avenue and showed that the west side of the railroad tracks was not developed, except in the southwest corner where there were two small buildings. The photograph also showed a cluster of tanks along the river in the area southwest of the site.

The 1947 photograph showed small rows of unidentified structures on the west side of the tracks. The east side of the tracks was the same as in 1940. In the 1954 photograph, there was a parking lot with cars on the west side of the tracks and a building in the southwest corner of the property. On the east side of the railroad tracks the property was approximately 45 percent covered with buildings.

In 1960, the east side of the tracks was approximately 80 percent covered with buildings or pavement and the west side was the same as 1954. It appears that the property did not change until 1976, when the east side of the railroad tracks was almost entirely covered by the buildings or pavement. In 1980, the east side of the property appeared the same, but the west side of the property appeared smaller in size. The small building in the southwest corner of the property was no longer present, and a circular pull off area was present.

In 1986, the west side of the property appeared to be the same and the east side of the property appeared to be less developed with buildings, but still covered with concrete or asphalt.

The 1990 photograph showed that the east side of the property appeared the same and the west side of the property had changed. Three buildings were constructed on the west side of the railroad tracks. One of these buildings was long and was located parallel and adjacent to the railroad tracks, the other two buildings were small, with one of them located in the northwest portion of the property and one located in the south central portion of the property.

By 1995, the two smaller building located on the western portion of the property had been removed, but everything else appears the same. The 2000 photograph appeared the same as the 1995 photograph, with the exception of roll-off boxes located on the eastern portion of the property. The site configuration remains the same today as in 2000.

Additional details of the current site conditions are provided in the site reconnaissance in Section 3.2. Copies of selected aerial photographs are included in Appendix G.

6.2 Site Operational History

The records identified in Section 5.1 were used to compile an operational history of the Yonkers - Woodworth Avenue Works former MGP site, including gas production at the site (including capacity, equipment, and residuals produced), MGP site closure activities (including structures remaining, converted to other uses, dismantling), other site uses, and any general changes to the site over time.

6.2.1 History of Gas Production

Operational History

An operational site history was developed for the Yonkers - Woodworth Avenue Works former MGP site using Brown's Directory, PSC Reports, historical maps (Sanborn Maps and Atlas Maps), aerial photographs, and information provided by Con Edison.

PSC Records indicate that the Yonkers Gas Light Company was incorporated in 1854. The earliest records identified for the specific site location are in 1) an 1854 deed that shows the Yonkers Light Gas Company owned part of the western portion of the property, 2) an 1861 deed that shows the Yonkers Light Gas Company owned a part of the western portion of the site, and 3) an 1868 Beers Atlas that shows the Yonkers Gas Company occupying the western portion of the property. On the 1868 Beers Atlas, the railroad tracks are shown crossing the gas company owned property. The site at that time consisted of

four gas plant buildings and one gas holder all located on the eastern portion of the property.

By 1886, gas plant buildings were located on the western portion of the site as well as the eastern portion. At this time, deeds found in the chain-of-title search indicated that the property lines of western portion of the site extended into the Hudson River and the river is shown just north and south of the western portion of the site on the 1886 map. Furthermore, while the area immediately west of the above structures is not shown on the Sanborn Map, a pier is indicated in the southwest corner of the site [Sanborn Map, 1886].

In 1886, the eastern portion of the property consisted of two gas holders, retorts, a coal shed, coke shed, engine room, pump room, storage/pipe shed/valve-meter room, tool house, office, and a superintendent's dwelling. Both gas holders were constructed as a "sheet iron building." Based on the timeframe in which they were constructed, these holders were likely to have below-grade foundations (a later 1917 Sanborn Map confirms this). The western portion of the site consisted of a purifying house, drying house, oil tank, and an area occupied by barrels of tar. The portion of the property immediately adjacent to the railroad tracks appeared to be occupied by structures associated with the railroad (hand car house, switchman's box, and a dwelling surrounded by a number of small unidentified structures) [Sanborn Map, 1886]. The presence of the oil tank and engine room, as well as retorts, suggests that both coal gas and water gas were produced at the site.

The first available Brown's Directory, 1887, listed the Yonkers Gas Light Company as producing water gas. The Yonkers Gas Light Company was operated by the United Gas Improvement Company of Philadelphia, Pennsylvania, along with two other gas companies in Yonkers (Westchester Gas Light Company and Municipal Gas Company). Production in Brown's Directory was listed for all Yonkers gas companies together, therefore, it can not be determined for which plants the gas statistics were provided.

By 1898, the area west of the site was filled and the river was moved approximately 400 feet to the west, therefore the site was no longer located on the river. Alexander Street was constructed immediately west of the site and the area between Alexander Street and the river was developed by other businesses. Bridge Place was constructed north of the western portion of the site and Babcock Place was constructed north of the eastern portion, connecting via a wooden bridge over the railroad tracks. The gas plant had expanded to include a third gas holder on the eastern portion of the site and the retorts were replaced with generators, suggesting coal gas was no longer produced. On the western portion of the site, the purifying house had been moved to the north and a store house, a second storage building, and a "lard oil tank" had been constructed. The portion of the property west of the purifying house up to Alexander Street was not occupied at that time.

In 1900, the Yonkers Gas Light Company merged into the Westchester Lighting Company of Mt. Vernon, New York [PSC Reports; Brown's Directory, 1901]. Brown's Directory reports combined production for all Westchester Lighting Company plants, therefore, there is no site-specific information for the Yonkers - Woodworth Avenue site. As early as 1905, the Westchester Lighting Company became affiliated with Consolidated Gas Company of New York, the predecessor company to Con Edison [Brown's Directory, 1905].

The Westchester Lighting Company continued to operate and expand the Yonkers - Woodworth Avenue site. In 1917, Westchester Lighting Company used buildings in the northeast corner of the site for meter repair, storage, and offices. A concrete retaining wall was constructed immediately northwest of the smallest holder in the southeastern portion of the site. This holder was indicated to be used as a tar tank at that time, and the roof was level with the ground, confirming that this was a subsurface tank. Additionally, the northernmost holder was a 263,000 cubic foot holder that was six inches above-ground, also having a subsurface base. The newest holder, constructed by 1898, was a 30-foot high, 263,000 cubic foot holder [Sanborn Map, 1917]. It is not known if this holder had a subsurface base.

By 1917, the western portion of the property had been expanded to include a coal pile in the north, several sheds, an oil house, and oil tanks in the southern portion of the property. The oil tanks were indicated to be one 10-foot diameter tank, two 8-foot diameter rectangular tanks, two 12-foot diameter iron crude oil tanks, and one 14-foot diameter iron crude oil tank. Concrete retaining walls were installed directly east and west of the railroad track, and an "undertrack passage" connected the east and west portions of the site.

The PSC Reports indicate that water gas production at the site fluctuated in the time period between 1915 and 1927 from a maximum of approximately 591,000 million cubic feet to 71,000 million cubic feet in the plant's final year of production. The plant was dismantled in 1930 and 1931, with demolition of remaining structures in 1931 [PSC Reports]. The 1940 aerial photograph and 1942 Sanborn Map confirm that most of the above-ground portions of the gas plant were removed by that time. The two buildings in the northeast corner of the site along Woodworth Avenue remained [Sanborn Map, 1942].

Residuals Associated with MGP Site Use

The former Yonkers - Woodworth Avenue MGP produced gas via coal carbonization and carbureted water gas processes. The gas manufacturing processes generated a variety of residuals including tar, ammonia liquor, coke, clinker, gas purification residues, tar/water emulsions, and wastewaters. The following provides a general overview of the residuals produced and used at a typical MGP site, and it is not specific to the Yonkers - Woodworth Avenue MGP site except where it is noted.

Coke is a solid material that is primarily carbon (typically 80 to 90 percent). It is the remnant of bituminous coal that has been subjected to high temperature destructive distillation. The non-carbon portion of the coke contains metals in varying concentrations. There is a coke shed on the site property in the 1886 Sanborn Map.

Tar produced during gas manufacture was a complex mixture of hydrocarbons that could range from viscous liquid to a gummy solid depending on its water content, origin, age, storage conditions, and temperature. Tar contains hundreds of compounds with the ones of primary environmental interest being volatile aromatics and polynuclear aromatic hydrocarbons (PAHs). Tar produced during coal carbonization also contained tar acids, such as phenols. For the most part, tar and water were immiscible, being readily separated by gravity settling. However, at intermittent and unpredictable times, some carbureted water gas processes produced tar/water mixtures that were miscible and not readily separable by gravity settling methods. These tar/water mixtures were called tar/water emulsions. Tar is most likely the residual to be found on MGP sites, and may be found in subsurface structures remaining on the site.

Typically, tar was allowed to gravity settle from the gas in below-ground tar separators, tar tanks, or similar structures. Tar separators were baffled structures typically constructed of brick or wood and the bottoms may have been lined; in some cases the bottoms were left unlined, particularly if the naturally occurring material underlying the structure was clay-like in nature. Tar tanks may have been iron tanks, or in many cases, were the former gas holders. Residual tars often settled to the bottom of the gas holders, particularly in the case of relief holders. The relief holder (often the original gas holder) was the first holder into which the gas was pumped and any remaining tar was allowed to settle before the gas was then pumped to the storage or distribution holder. The tar separator, relief holder/tar tank, or other holders on the site have the potential to contain tar residuals that settled to the bottom of the structure and were not removed at the time the gas plant was dismantled. If these structures remain on a site, there is a potential for tar to remain in the structures, and leaks into the subsurface may occur.

The two gas holders on the eastern portion of the property were indicated to be below-ground holders, one of which was later used as a tar tank [Sanborn Map, 1917]. In 1868, the gas holder that became a tar tank was present [Beers, 1868]. Barrels of tar were shown on the 1886 Sanborn Map, indicating that at least a portion of the tar was collected, however, subsurface structures containing tar may remain at the site.

As produced at the time, ammonia was generally in the form of an ammonia-water solution that was collected during the gas manufacturing process in ammonia wells. It was noted in the PSC Reports that the gas was tested for ammonia, however, no other information was provided.

For the most part, gas purification residues were solid materials generally made up of woodchips, corn cobs, or a similar fluffing agent impregnated with iron salts. During gas purification, these materials absorbed hydrogen sulfide and, in the case of coal carbonization, cyanide from the gas. These purification materials were generally regenerated and reused several times, but when the sulfur content reached approximately 30 to 40 percent of the material, the purification materials were no longer useable and became "spent." Prior to the use of iron salts, lime was used as a purifying agent and may be present at MGP sites as a purification residual. The Sanborn Maps of the former MGP site on Yonkers - Woodworth Avenue indicates a purifier house in the southwestern portion of the site [Sanborn Map, 1886]. The purifier house was later moved slightly to the north [Sanborn Map, 1898].

Clinker was a granular solid material resulting from the coke or coal reaction in the water gas generator vessel. The material was the fused ash remaining after the carbon had been reacted to form gas.

Wastewater was the water overflow from tar separators. A major portion of this overflow was recycled as cooling water. Excess overflow was wastewater.

Wastewater was universally considered a waste at the time of operation. Other materials were considered useable as by-products or fill. Coke, tar, and ammonia were sometimes sold to generate revenue, thereby reducing the cost of gas to the consumer. Coke and tar were sometimes used in gas making as feedstock or fuel. Gas purification residues (e.g., spent oxides) and clinker were sometimes used as fill materials at MGP sites and elsewhere.

In addition to residuals produced, feedstocks to the process, including gas oil used in the carbureted water gas process, have the potential to remain in the subsurface.

There are no available records to indicate how residuals or feedstock at the site may have been managed, stored, or disposed (including potential sale of by-products) during and subsequent to MGP operations. Table 6-1 summarizes potential MGP residuals that may be remaining at the site.

6.2.2 Other Site Uses

Operational History

The property of the Yonkers - Woodworth Avenue Works former MGP site was used by the Westchester Lighting Company until at least 1942 according to Sanborn Maps. By 1942 all above-ground portions of the MGP structures had been removed except for two buildings, the office and repair shops/storage, on the eastern side of the railroad track in the northeast portion of the property [Sanborn Map, 1942]. After this time, the property continued to be used for commercial purposes. The northeastern-most structure was removed by 1951, although the storage building remained and was used for a

machine shop [Sanborn Map, 1951], although the occupant of this business was not indicated.

The eastern portion of the property was developed over the years to include a paint shop located with the machine shop in the former MGP building, additional buildings in the northeast portion of the site, and an auto repair shop and filling station in the southeast corner of the site [Sanborn Maps]. The paint shop (former MGP building) is currently the location for Steven's Paints; the storage building to the north is currently the location of Pollack Paints; and the former auto repair shop appears to be the location of A&D Carting (demolition container service).

The western portion of the property was developed to include a building on the southwest corner of the property that was used for motor oil storage from the 1950s into the 1970s, a railroad substation running parallel and adjacent to the west side of the railroad tracks, and a parking area. The substation remains at the site. The building in the southwest corner is no longer present. The western portion of the site is currently under construction for use by Greystone Bakery.

Historical uses of the properties surrounding the site included an asphalt company, lumber and coal yard, meat processing facility, boat building company, and lithographic supply company to the west across Alexander Street; oil companies, lumber and coal companies, meat processing facility, and stencil paper manufacturing company to the south and southwest across Ashburton Avenue; the railroad and a grocery to the north across Babcock Place; and residential to the east across Woodworth Avenue [Sanborn Maps]. Coverage to the north and east is not provided for most years of Sanborn Maps, therefore, the full extent of historic uses of the adjacent properties to the site can not be assessed based on the available information.

Currently, the surrounding properties are occupied by similar commercial uses. An institutional food company, NYUV, and residences are located to the north; meat company, bakery, ladder and scaffolding company, and church are located to the east; offices and an oil terminal are located to the west; and a manufacturing building is located to the south.

Residuals Associated with Other Site Uses

A number of residuals could be associated with the other uses of the site. The paint shops could be a source of paint and solvents and the automobile service/filling station could have been a source of gasoline, diesel fuel, solvents, oil and grease, and other petroleum products. It is not known if subsurface tanks associated with the filling station remain on the property, however, subsurface and above-ground tanks are present on the property in association with Stevens Paint Corp. [EDR Database]. The current use of the site by A&D Carting includes storage for dumpsters that are used for demolition debris, which would be expected to include mostly solid products

such as brick, concrete, or wood. The building in the southwest corner of the site was used for motor oil storage, which may have contributed residuals to the site. Additionally, the railroad running through the site may have contributed creosote, oil, or other petroleum products to the property.

Surrounding offsite property use would also have a number of possible residuals associated with it including oil, tar, coal, paints, solvents, metals, inks, or dyes.

6.2.3 Previous Site Investigations

According to Con Edison, the western portion of the former MGP site (Section 2, Block 2618, Lot 1) was investigated [Ecosystems Strategies, Inc., 1989] and remediation plans [Ecosystems Strategies, Inc., 1990] have been prepared for the Greyston Foundation (with funding from Con Edison) under a voluntary cleanup action with NYSDEC. However, it is not part of Con Edison's application. The sampling results from the combined Phase I/Phase II investigation report [Ecosystems Strategies, Inc., 1989] are summarized below:

- Five existing monitoring wells were sampled on the property resulting in the presence of volatile organic compounds (VOCs) and a category of semi-volatile organic compounds (SVOCs) known as poly nuclear aromatic hydrocarbons (PAHs) petroleum compounds at concentrations exceeding NYSDEC established action levels. The laboratory results from the previous sampling event and laboratory results from this sampling event are consistent but the concentration of PAHs have greatly reduced.
- Eight soil cores were conducted to see how far the subsurface contamination extended. The multiple phases of petroleum contamination extended from the soil/water interface (3-4 feet below ground surface (bgs)) to a depth ranging from 15 to 20 feet bgs. Migration of contaminants have been limited by the presence of a clay and silt layer. The primary contaminant appears to be creosote, based on laboratory data.

7 Environmental and Agency Records Review

A review of information available in public and private databases and records was conducted to collect information related to the site and the surrounding properties. An EDR database records search was provided to RETEC from Con Edison and was reviewed to establish history of environmental actions involving the site or nearby properties. Additionally, RETEC searched public agency records to obtain information about the site. The results of each of these searches are provided below.

7.1 Environmental Records

7.1.1 Database Searches

An environmental records search for the Yonkers - Woodworth Avenue former MGP site was conducted by EDR on behalf of Con Edison. This report was provided to RETEC for review and incorporation into the historical investigation report. The EDR report includes the results of searches of federal, state, and EDR proprietary databases for listings of the target property (site) and any other properties within up to a one-mile radius of the site. The report also includes a physical setting summary as performed by EDR. A copy of the EDR report is included in Appendix C.

The Yonkers Gas Light Company, located on 101 Woodward Avenue, was listed in the EDR proprietary database of former manufactured gas plant sites. The Westchester Gas Light Company on Nepperhan Avenue was also listed in the EDR proprietary database of former manufactured gas plant sites located at equal or higher elevation within one mile from the target property.

Surrounding properties within one-mile of the site were identified on several federal and state databases. The results are summarized according to lower elevation or higher elevation to the target property, which may be an indication of properties that are upgradient (higher elevation) or downgradient (lower elevation) from the target property.

The Federal Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). CERCLIS sites designated No Further Remedial Action Planned (NFRAP) are sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the National Priority List (NPL), or the contamination was not serious enough to require Federal Superfund Action or

NPL consideration. The CERCLIS-NFRAP database indicates one site located at a higher elevation within 0.125-mile from the target property.

The Federal Resource Conservation and Recovery Act Information System (RCRIS) database includes selected information on sites that generate, store, treat or dispose of hazardous waste as defined by the Act. The source of this database is the U.S. EPA. The EDR review of the RCRIS-TSD list dated June 21, 2000, identified one treatment, storage, or disposal site located within approximately 0.125-mile from the target property at a lower elevation.

The EDR review of the RCRIS-LQG (large quantity generator) list dated June 21, 2000, identified two large quantity generator sites located within 0.125-mile from the target property at an equal or higher elevation and three sites located within 0.125-mile from the target property at a lower elevation. The EDR review of the RCRIS-SQG list dated June 21, 2000, identified two small quantity generator sites located within 0.125-mile and one site located within 0.25-mile from the target property at an equal or higher elevation, and two sites located within 0.125-mile from the target property at a lower elevation.

The State Hazardous Waste Sites (SHWS) records are the states' equivalent to the CERCLIS. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. The data came from the Department of Environmental Conservation's Inactive Hazardous waste Disposal Sites in New York State. EDR's review of the SHWS list revealed that there is one SHWS site located at a lower elevation within approximately 0.5-mile of the target property.

The State Leaking Storage Tank Incident Reports (LTANKS) database includes an inventory of reported leaking storage tank incidents reported from April 1, 1986 through the most recent update. A review of the LTANKS lists dated October 1, 2001, as provided by EDR, revealed that there are 26 LTANK sites at equal or higher elevation within approximately 0.5-mile of the target property. Six of these sites are located within approximately 0.125-mile of the target property, with five of them either on or immediately adjacent to and upgradient of the Yonkers - Woodworth Avenue former MGP site. These include Steven's Paint Corp. located on the site (115 Woodworth Avenue) and City Jail (two locations at 26 and 54 Alexander Street), Yonkers Waterfront Development (21 Alexander Street), and Super Trans (60 Alexander Street) located immediately upgradient. Note that the addresses for the upgradient sites are indicated in the EDR database as Alexander Street, however, they are all shown located on the EDR map along Babcock Place to the north of the former MGP site. There are also eight LTANK sites at a lower elevation within approximately 0.5-mile of the target property. One of these sites is located immediately adjacent to the former MGP site to the west. These leaks at these properties included unidentified material, #2 fuel oil, #4 fuel oil, and diesel fuel. In some cases, contaminated soil was left in place.

The State Underground Storage Tank (UST) database contains registered USTs. The data come from the Department of Environmental Conservation's Petroleum Bulk Storage (PBS) Database. EDR's review of the UST lists dated October 1, 2001, has revealed that there are 15 UST sites at equal or higher elevation within 0.25-mile of the target property. Eight of the sites are within 0.125-mile of the target property, two of which are on the site (Steven's Paint Corp., 115 Woodworth Avenue, with five UST with unknown product; Proctor Paint & Varnish, 95 Woodworth Avenue, with three USTs storing unleaded gasoline) and three of which are immediately adjacent to the site. There are two sites at lower elevation from the target property, both of which are immediately adjacent to the site.

The State or Local ASTM Supplemental Chemical Bulk Storage (CBS) Database includes registration data collected as required by 6 NYCRR Part 596. It includes facilities storing hazardous substances listed in 6 NYCRR Part 597, in aboveground tanks (ASTs) with capacities of 185 gallons or greater, and/or in underground tanks of any size. EDR's review of the CBS UST lists dated October 1, 2001 has revealed that Steven's Paint Corp., located on the site at 115 Woodworth Avenue, is a CBS UST site, although the tank is indicated as not currently in service. Steven's Paint Corp. is also on the CBS AST database, and maintains two ASTs that store xylene. One additional site, located at a lower elevation adjacent to the site is listed on the CBS AST database.

The State Voluntary Cleanup Program (NY VCP) covers virtually any kind of site and contamination. EDR's review of the VCP lists dated December 18, 2001 has revealed that there are three VCP sites at equal or higher elevation, two of these sites are immediately upgradient of the target property within approximately 0.125-mile of the target property. The type of residuals at these sites was not identified in the database.

The State Major Oil Storage Facilities (MOSF) database includes MOSF's licensed or closed since April 1, 1986, (responsibility was transferred from DOT on October 13, 1985) plus available data obtained from DOT facilities licensed since Article 12 became law on April 1, 1978. EDR's review of the MOSF UST lists dated October 1, 2001 has revealed that there is one MOSF UST sites at a lower elevation located immediately adjacent to the target property. This property operated by A. Tarricone Inc. stores unleaded gasoline, #1, #2, and #4 fuel oil, and diesel fuel. The property is also listed on the NY Spills database and recorded a spill of #2 fuel oil that affected the Hudson River in 1987.

Additional Environmental Records Searches

RETEC conducted searches of additional records to provide the most comprehensive collection of current and historical records regarding the site.

A Freedom of Information Law (FOIL) request was made to the NYSDEC Region 3 for any information regarding the Yonkers - Woodworth Avenue Works former MGP site; however, no information was obtained and the NYSDEC Region 3 indicated that no information was available for the site.

A Con Edison records search identified the environmental investigation [Ecosystems Strategies, Inc., 1989] and remediation plan [Ecosystems Strategies, Inc., 1990] for the western portion of the Yonkers - Woodworth Avenue site; however, no environmental assessments were found for the eastern portion of the site.

Lastly, real estate records were searched to determine real estate transactions regarding the former MGP property.

7.2 Public Agency Searches

A number of city agencies were searched to determine availability of historic or current information for the site.

7.2.1 City Directories

City directories for the City of Yonkers could not be obtained because they could not be located, therefore, a review was not conducted.

7.2.2 Public Library

The public library of the City of Yonkers was visited, however, no information was found relevant to the Yonkers - Woodworth Avenue site.

7.2.3 Building Department

The building department for the City of Yonkers was visited and records of the structure of buildings were found. In the building records boring hole records were found for the site, descriptions of which were provided in Section 4.2.2 of this report. These records were for the addition and proposed building for Stevens Paints. These records were analyzed and notes were taken.

7.2.4 Real Estate Records

No real estate records were found for the Yonkers - Woodworth Avenue site.

8 Potential Exposure Pathways and Receptors

This section will discuss the imminent or potential risks to human health or the environment based on an evaluation of potential residuals on the site, potential exposure pathways and receptors.

8.1 Potential Residuals

Past uses of the Yonkers - Woodworth Ave Works site may have impacted soil and groundwater and residuals may be present in the subsurface. Additionally, offsite properties, including historic offsite uses and those properties currently identified in the EDR database search, may have impacted the site in the past or may in the future impact soil or groundwater at the site.

A discussion of potential residuals that may be at the site based on past and current site use was presented in Section 6.0. To summarize, MGP residuals include tarry residuals containing volatile compounds, PAHs, and phenolics that may be present in subsurface structures and surrounding soils and may impact soil and groundwater quality. Purifier residuals containing lime, iron oxides, and cyanide may be present on the site. Ammonium sulfate crystals and clinker may also be MGP residuals remaining in the site soils. Lastly, gas oil used in generation of carbureted water gas could be present on the site in subsurface structures or surrounding soils.

Other site uses after the MGP operations ceased may have contributed gasoline, diesel fuel, solvents, xylenes, oil and grease, and other petroleum products. Contaminated soil was identified during a tank removal at 115 Woodworth Avenue (Stevens Paint Corp.). The railroad running through the site may have contributed creosote, oil, or other petroleum products to the property. Additionally, surrounding land use in the immediate vicinity of the site has been industrial/commercial over the years and may also contribute oil, tar, coal, paints, solvents, metals, inks, or dyes to the residuals present at the site. Spills on offsite properties, as recorded in the EDR database, have the potential to impact groundwater quality at the site.

8.2 Potential Exposure Pathways and Receptors

The current and anticipated future use of the Yonkers - Woodworth Ave Works former MGP site is commercial/industrial. The eastern part of the site is covered with asphalt, concrete, or buildings (100 percent). The western part of the site is mostly paved except where trenches have been dug and a long building adjacent and parallel to the tracks. About 95 percent of the site property is covered and construction of a new bakery is taking place.

Visitors to the site and site workers are potential receptors, but since the site is covered the potential for direct contact exposures with surface soil are extremely minimal. The construction workers currently working on the site (or in the future) have a potential of being in direct contact with residuals in surface or subsurface soil.

A potential route of exposure primarily for site workers may be vapor intrusion from volatile constituents in soil or groundwater under the buildings on the site property. There were known subsurface structures on the eastern portion of the site and it is not known whether residuals were removed from these structures. Buildings are currently present over the location of the northernmost subsurface holder and are near the former tar tank. Additionally, the original gas holder on the western portion of the site [Beers, 1868] would have been a subsurface holder. The railroad tracks currently cover a portion of this area, however, it is not certain if they cover the former holder. There is also a building located adjacent to the tracks and it is not known whether this building extends over the former holder location, or if residuals remain in place in this holder. The new building being constructed may also be over subsurface structures that may contain residuals.

Since 100 percent of the site is covered, except for the trenches, leaching of constituents from soil to groundwater is not expected to be a significant pathway. However, constituents already present in subsurface soil or groundwater have the potential to migrate offsite to downgradient properties. The low permeability, silty clay till regionally underlies the area, although sand and gravel were also identified in borings conducted on the eastern portion of the site. Therefore, horizontal and vertical migration of MGP constituents is possible.

Ground water at the site is expected to be shallow. There are no known potable wells on or within 0.25-mile of the site, however, wells do exist within a one-mile radius of the site. Groundwater from these wells is mostly for industrial purposes, with the exception of a public water supply well located 0.5-mile south of the site. This well would likely be at a side-gradient to the site. Based upon regional reports and the onsite investigation, ground water likely discharges to the Hudson River to the west of the site. Due to the fact that the site is so close to the river, it is likely that the river would be an environmental receptor to potentially impacted site ground water. Wetlands are located along the Hudson River west of the site and may also be receptors to impacted site ground water.

Given the current site use, there are no significant environmental habitats (i.e., endangered species, wetlands, etc.) on the site.

The site reconnaissance identified four schools and two, day care centers within ¼ mile of the former MGP site. These facilities can be placed into two groups: those that are located upgradient or side/cross gradient from the

former MGP site and therefore are not within a zone which is likely to be impacted by potential offsite migration of MGP residuals in groundwater, and those that are hydraulically downgradient of the site.

None of the schools or day care centers identified in the records search are downgradient of the former MGP site.

Facilities that are upgradient or cross-gradient from the MGP site include the following:

SCHOOLS

Westchester School-Spel Chldrn (.12 mi.)
45 Park Ave.
Yonkers, NY 10703-3401

Martin Luther King Elem School (.1 mi.)
135 Locust Hill Ave.
Yonkers, NY 10701-2917

Yonkers Christian Academy (.2 mi.)
229 N Broadway
Yonkers, NY 10701-2600

St Casimir's School (.2 mi.)
239 Nepperhan Ave.
Yonkers, NY 10701-3461

DAY CARE CENTERS

Heavensent Family Day Care (.14 mi.)
120 Locust Hill Ave.
Yonkers, NY 10701-2942

Professional Day Care Ctr (.17 mi)
98 Locust Hill Ave.
Yonkers, NY 10701-2940

9 Discussion and Conclusions

9.1 Summary of Findings

A historical investigation of the Yonkers - Woodworth Avenue Works former MGP site was conducted to determine the history of site ownership and operations of the site, to assess current site use and conditions, and to determine if there are potential receptors to residuals that may be present at the site. This investigation was in accordance with the scope of work agreed to with Con Edison at the initiation of the project.

The Yonkers - Woodworth Avenue Works former MGP operated from at least 1868 until the late 1920s to produce manufactured gas for the City of Yonkers. The exact date the MGP was constructed and began operations could not be established from the available records. According to Brown's Directory and PSC Records, the Yonkers Gas Light Company merged into the Westchester Lighting Company in 1900. The Westchester Lighting Company, became affiliated with Consolidated Gas Company (the predecessor to Con Edison) beginning as early as 1905. The plant was in the process of being dismantled in 1930 and was completely demolished in 1931 according to the PSC Reports. According to Sanborn Maps, the property continued to be used by Westchester Lighting Company until at least the early 1940s.

Following the operations of the MGP, the site property was used for commercial businesses that may have contributed residuals to the site. Surrounding property use in the immediate site area was also industrial/commercial and may have contributed to residuals at the site. The site reconnaissance indicated the site is almost entirely covered with buildings or pavement. There were no visual indications of MGP residuals on the surface of the property; however, the property was only observed from the perimeter.

The western portion of the property is currently under construction. The owner of the property, Greyston Foundation, is currently pursuing an investigation and cleanup, in conjunction with Con Edison, to address subsurface contamination.

Residuals in groundwater and in the subsurface soil were confirmed on the western portion of the site as part of the investigation conducted for the Greyston Foundation [Ecosystems Strategies, Inc., 1999]. Given the past uses of the site, there may be residuals remaining on other portions of the site on the surface, in subsurface structures, in subsurface soil, or in ground water.

The regional geology indicates that the site is underlain by silty clay till, however, boring logs for the site indicate that sand and gravel may also be present. Groundwater is not used on the site, but wells do exist (including a public water supply well) within a one-mile radius of the site.

Potential receptors to residuals remaining on the site include site visitors and workers. Since the whole site surface is covered, direct contact with residuals in the surface soil is extremely minimal, except for construction workers. Construction workers may be exposed to constituents in surface and subsurface soil; this is a current exposure pathway since construction is occurring on the site.

Vapor intrusion into buildings on the site is also a potential exposure pathway, since buildings are present over the location of former subsurface gas holders. The construction of the new Greyston building may also be over the location of former subsurface gas plant structures. However, a deed restriction on the property limits the use to industrial or commercial activities and prohibits the construction of subsurface spaces or structures, other than foundations or necessary utilities.

9.2 Limitations of Findings

9.2.1 General

The completeness and accuracy of the historic information presented in this report are limited by the records that are readily available including Brown's Directory, PSC Records, Sanborn Maps, other historic maps, aerial photographs, etc. The coverage offered by these records may not be complete and there are data gaps in the historic information available pertaining to MGP site ownership and operational periods. To the extent reasonable, additional records searches were conducted to gather as much information regarding the site as possible. Certain records were not readily available for review including city directories, library information, and real estate records. Information regarding the procedures for handling residuals at the site, the dismantling and decommissioning of the gas plant equipment, and subsequent site activities that may have involved removal of soil or subsurface equipment were also not available.

An assessment of the current site conditions was made during the site reconnaissance. Since the site is not currently owned by Con Edison, observations were made only from the perimeter of the site property and the site itself was not walked to make observations.

9.2.2 Roadways

RETEC's interpretation of the relationship between historical MGP operation areas and modern roadways is based on available historical and modern maps. Land surveying and subsurface investigations have not been performed to attempt to mark-out the location of modern and historical features. Because the subsurface environmental conditions at the former MGP sites are currently unknown, our interpretation of roadway relationships and conditions are subject to change based on the acquisition of new data.

The location and orientation of the roadways adjacent to the former Woodworth Avenue MGP site, do not appear to have changed during or after MGP operations at the site except for the following:

- The addition of Alexander Street between the railroad tracks and the Hudson River.
- The extension of Babcock Place west to Alexander Street.
- Bridge construction and additional right-of-ways for the Babcock Place bridge.
- The widening of Alexander Street to accommodate a bus turn-out/turn around area leading up to the Babcock Place bridge.

9.2.3 Mapping of Property Use

Note that the spatial relationship between the historic MGP property and gas production structures and facilities, and the present-day buildings and property could not be exactly determined. The property descriptions from the 1800s deeds were not based on landmarks and references that could be accurately located and compared with the current descriptions of the area.

10 Summary of Historical Research Findings

This section presents a summary of findings of the historical research conducted for the Yonkers - Woodworth Avenue Works former MGP site.

- The MGP site operated from at least 1868 until about 1927 and was decommissioned in 1930-31.
- The MGP site produced coal gas and carbureted water gas. Residuals associated with these processes include tar containing volatile compounds, PAHs, and phenolics, purifier residuals, ammonia residuals, clinker, and gas oil.
- Subsurface structures containing residuals may remain at the site. Information regarding decommissioning of the site or disposition of residuals from MGP operations is not available.
- Other site uses after the MGP operations ceased may have contributed petroleum products, paints, solvents, and xylenes to the residuals present at the site. The railroad on the site may also have contributed creosote, oil, or other petroleum products. Immediately surrounding land use may also have contributed oil, tar, coal, paints, solvents, metals, inks, or dyes to residuals at the site.
- The site is currently used for commercial purposes and surrounding properties are mixed industrial/commercial and residential use.
- Surficial deposits at the site consist of glacial till material comprised of silty clay with occasional boulders. Sand and gravel were also identified as underlying the site.
- Groundwater at the site is expected to be at a depth of 4 to 9.5 feet below ground. Groundwater flow direction is predicted to be to the west towards the Hudson River.
- Potential receptors include site visitors and workers. Direct contact of workers with residuals in surface soil is limited to construction workers; however, vapor intrusion into buildings on the site is a potentially complete exposure pathway. Construction workers may be exposed to residuals in surface and subsurface soil, and this is currently a potentially complete pathway given the construction activities on the western portion of the site. Groundwater containing residuals have the potential to migrate to the offsite downgradient properties and the Hudson River.

11 References

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Tables

Table 5-1 Brown's Directory Summary - Yonkers, New York

Year	Company Name	Process	Annual Gas Production (cf)	Gas Holder Capacity (cf)	Byproducts Made/Sold	Service Area Population	Operating Information	Holding and Operating Companies	Financial Reports	Other Brown's Information	Reference Page(s)
Yonkers - Westchester Gas Light Co. (1887 - 1900)											
1887	Westchester Gas Light Co.	Lowe				City pop.-25,000.	Operational information for Westchester Gas Light Co. and Yonkers Gas Light Co. are reported together with that of and Municipal Gas Co. , therefore reports are the same for each site.	United Gas Improvement Co. , Philadelphia, PA			43, 44
1889	Westchester Gas Light Co.	Lowe				City pop.-30,000.	Same as above.	United Gas Improvement Co. , Philadelphia, PA			54
1890	Westchester Gas Light Co.	Lowe	90,000,000			City pop.-33,000.	Same as above.	United Gas Improvement Co. , Philadelphia, PA			87
1891	Westchester Gas Light Co.	Lowe, Granger, Collins	100,000,000 (incl Yonkers Gas Light Co. & Municipal Gas Co.)			City pop.-33,000.	Same as above.	United Gas Improvement Co. , Philadelphia, PA			79
1892	Westchester Gas Light Co.	Lowe, Granger, Collins	105,000,000 (incl Yonkers Gas Light Co. & Municipal Gas Co.)			City pop.-34,000.	Same as above.	United Gas Improvement Co. , Philadelphia, PA			85
1893	Westchester Gas Light Co.	Lowe	114,000,000 (incl Yonkers Gas Light Co. & Municipal Gas Co.)			City pop.-42,033.	Same as above.	United Gas Improvement Co. , Philadelphia, PA			89
1894	Westchester Gas Light Co.	Lowe	120,000,000 (incl Yonkers Gas Light Co. & Municipal Gas Co.)			City pop. - 43,000	Same as above.	Operated by the United Gas Improvement Co. , Philadelphia, PA.			93
1899	Westchester Gas Light Co.	Lowe	200,000,000 (incl Yonkers Gas Light Co. & Municipal Gas Co.)			City pop. - 45,000	Same as above.	Operated by the United Gas Improvement Co. , Philadelphia, PA.			89
1900	Westchester Gas Light Co.	Lowe	212,000,000 (incl Yonkers Gas Light Co. & Municipal Gas Co.)			City pop. - 45,000	Same as above.	Operated by the United Gas Improvement Co. , Philadelphia, PA.			100
Combined Report for Westchester Lighting Co. which operates Yonkers MGP sites											
1901 - 1904	Westchester Lighting Co.						Production information reported in Brown's is for all plants of Westchester Lighting Co. lumped together.			Listed under Yonkers, but refers to Mt. Vernon for all other information (Consolidation of the Yonkers Gas Light Co., Yonkers; Municipal Gas Co., Yonkers; The Westchester Gas Light Co., Yonkers; New York Suburban Gas Co., Mt. Vernon; Westchester Gas & Coke Co., Mt. Vernon; East Chester Electric Co., New Rochelle; Larchmont Electric Light Co., New Rochelle; Port Chester Electric Lighting Co., Port Chester; Pelham Electric Light and Power Co., City Island; and Mt. Kisco Lighting Co., Mt. Kisco).	
1905	Westchester Lighting Co.						Production information reported in Brown's is for all plants of Westchester Lighting Co. lumped together.	Controlled by Consolidated Gas Co., NY	First year financial reports are provided in Brown's Directory is 1905 - Consolidated Gas Company of New York, New York was organized Nov. 11, 1884 as an consolidation of the New York Gas Municipal, Metropolitan, Harlem, Knickerbocker, and Manhattan Gas Light Companies. Since 1899 acquired control of the New Amsterdam Gas, New York Edison, Mutual Gas Light, Standard Gas Light, and the United Electric Light and Power Companies, giving Con. Gas Co. entire control of the power and lighting supply of the borough of Manhattan. Also secured control of the Westchester Lighting Co.	Listed under Yonkers, but refers to Mt. Vernon.	
1906 - 1908	Westchester Lighting Co.						Production information reported in Brown's is for all plants of Westchester Lighting Co. lumped together.	Controlled by Consolidated Gas Co., NY.	Same as above.	Listed under Yonkers, but refers to Mt. Vernon.	
1909-1924	No Listing under Yonkers - see Mt. Vernon						Production information reported in Brown's is for all plants of Westchester Lighting Co. lumped together.	Controlled by Consolidated Gas Co., NY.	Similar information provided on an annual basis for Consolidated Gas Co., focused on Manhattan and Astoria gas plant specifically. 1923 Brown's Directory indicates that additional gasmaking equipment was installed at several stations of the Westchester Lighting Co. (p. 277). At that time, a 20-inch emergency transmission main was installed from a 10-million cf holder at Fordham Rd. & Harlem River in Borough of Manhattan and the City of Yonkers, connecting there with the 20" main from Pelham Plant to Yonkers A5J6Works.	Listed under Mt. Vernon.	Financial reports or Holding and Operating Companies.
1925	Westchester Lighting Company						Production information reported in Brown's is for all plants of Westchester Lighting Co. lumped together.	Controlled by Consolidated Gas Co., NY.		Listed under Yonkers.	
1926	Westchester Lighting Company						Production information reported in Brown's is for all plants of Westchester Lighting Co. lumped together.	Controlled by Consolidated Gas Co., NY.		Listed under Yonkers.	
1927	Westchester Lighting Company						Production information reported in Brown's is for all plants of Westchester Lighting Co. lumped together.	Controlled by Consolidated Gas Co., NY.		Listed under Yonkers.	
1927 - 1952	No Listing under Yonkers - see Mt. Vernon.						Production information reported in Brown's is for all plants of Westchester Lighting Co. lumped together.	Controlled by Consolidated Gas Co., NY and later Consolidated Edison Co., NY.		Listed under Mt. Vernon.	

Table 5-2 Site Ownership Summary - Woodworth Avenue Site - Yonkers, New York

Section	Block	Lot(s)	Utility Owner	Purchased	Sold	Current Owner	Purchased	Other Industrial Activity
2	2100	1	Yonkers Gas Light Company	3/1/1872	----	Insl-x Products Corporation	12/3/1981	Budessa Products Corporation Insl-x Products Corporation
			Westchester Lighting Company	----	7/12/1904			
			New York and Westchester Lighting Company	7/12/1904	10/20/1904			
			Westchester Lighting Company merger with New York and Westchester Lighting Company	10/20/1904	2/27/1946			
2	2100	4	Yonkers Gas Light Company	3/1/1872	----	Stevens Paint Corp.	8/16/1965	115-117 Woodworth Ave. Corp. Stevens Paint Corp.
			Westchester Lighting Company	----	7/12/1904			
			New York and Westchester Lighting Company	7/12/1904	10/20/1904			
			Westchester Lighting Company merger with New York and Westchester Lighting Company	10/20/1904	2/27/1946			
2	2100	10	Yonkers Gas Light Company	11/18/1854	----	95 Woodworth Avenue Realty Corp.	2/14/1986	Servaid Corp. Alfred Laufer Incorporated
			Westchester Lighting Company	----	7/12/1904			
			New York and Westchester Lighting Company	7/12/1904	10/20/1904			
			Westchester Lighting Company merger with New York and Westchester Lighting Company	10/20/1904	2/27/1946			
2	2618	1	The Yonkers Gas Light Company	7/2/1861	----	104 Ashburton Avenue LLC	12/27/2001	Ashburton Terminal Corp., Otis Elevator Company The Port Authority of NY and NJ, Hudson View Associates, LLC, Greyston Foundation, Inc.
			Westchester Lighting Company	----	4/22/1946			
			New York and Westchester Lighting Company	7/12/1904	4/22/1946			
			Westchester Lighting Company merger with New York and Westchester Lighting Company	10/20/1904	4/22/1946			
2	2618	2	The Yonkers Gas Light Company	7/2/1861	----	The Port Authority of NY and NJ	5/8/1985	Ashburton Terminal Corp. Otis Elevator Company The Port Authority of NY and NJ
			Westchester Lighting Company	----	4/22/1946			
			New York and Westchester Lighting Company	7/12/1904	4/22/1946			
			Westchester Lighting Company merger with New York and Westchester Lighting Company	10/20/1904	4/22/1946			
2	2618	200	The Yonkers Gas Light Company	7/1/1872	----	NYS DOT	6/28/1983	Ashburton Terminal Corp. Otis Elevator Company
			Westchester Lighting Company	----	4/22/1946			
			New York and Westchester Lighting Company	7/12/1904	4/22/1946			
			Westchester Lighting Company merger with New York and Westchester Lighting Company	10/20/1904	4/22/1946			
2	7000	1	New York Central and Hudson River Railroad Company	Prior to 1854	---	Metro-North Hudson Division Railroad	Prior to 1854	Railroad
		1 (Partial)	Westchester Lighting Company (Reciprocal exchange of parcels involving additions to Block 2100 - Lot 1 from Block 7000-Lot 1 and subtractions from Block 2618 - Lot 1)	7/2/1861 (see Block 2618-Lot 1)	1/26/1907			

Note: See Figure 5-2 for location of lots.
This ownership summary is based on the chain-of-title search for the site. Purchase or sale dates listed as "----" indicate gaps in the record.

Table 6-1 Summary of Potential Residuals Associated with Site Use and Offsite Sources

Potential MGP Residuals

- Coal tar and carbureted water gas tar or tar/water mixtures in structures (Volatile Organic Compounds, particularly Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX); Polynuclear Aromatic Hydrocarbons (PAHs))
- Solid constituents (BTEX, PAHs) or non-aqueous phase liquids (NAPLs) in subsurface (from leaks or spills)
- Purifier residuals (cyanide and lime)
- Metals in soil or groundwater
- Fuel oil (used in carbureted water gas process)
- Coke/Clinker

Potential Residuals from Other Site Uses

- Oil and grease
- Creosote
- Gasoline
- Diesel oil
- Paints
- Solvents
- Xylenes
- Other petroleum products

Potential Residuals from Off-Site Sources

- Based on known onsite or upgradient leaks or spills from EDR Database:
 - #2 Fuel oil
 - #4 Fuel oil
 - Diesel fuel
 - Other product
- Based on surrounding land use:
 - Oil
 - Tar
 - Coal
 - Paints
 - Solvents
 - Metals
 - Inks or dyes

Figures

Appendix A - History Research Report Checklist

Appendix B - Site Reconnaissance Photographic Log

Appendix C - EDR Radius Map Report

Appendix D - Chain-of-Title Search Results

Appendix E - Sanborn Maps

Appendix F - Historical Maps

Appendix G - Aerial Photographs