255 Randolph Street

Remedial Investigation Work Plan

255 Randolph Street – Brooklyn, NY
Block 2979, Lot 45
BCP Site # C224247

Submitted to:
New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau A
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CERTIFICATION

I, Matthew M. Carroll, certify that I am currently a Qualified Environmental Professional as defined in 6NYCRR Part 375 and that this Remedial Investigation Work Plan was prepared in accordance with all applicable statues and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

9/26/2018

Matthew M. Carroll, PE

Date

1.0 INTRODUCTION

On behalf of 255 Randolph Street Properties, LLC (Participant), Tenen Environmental, LLC (Tenen) has prepared this Remedial Investigation Work Plan (Work Plan) for the property located at 255 Randolph Street (Block 2979, Lot 45) in the Borough of Brooklyn, New York City, New York (the Site). The Site location and layout are identified on Figures 1 and 2, respectively. The Work Plan has been designed to further investigate and characterize the nature and extent of contamination previously identified on the Site. The scope of work includes investigation of subsurface soils, soil vapor, and groundwater in areas where historic and current operations impacted the Site and evaluating potential impacts to surrounding areas.

The results of the investigation will be used to prepare a qualitative human health exposure assessment (EA) and to support the development of a Remedial Action Work Plan (RAWP). This Work Plan has been prepared in accordance with the New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation (DER) Technical Guidance for Site Investigation and Remediation (DER-10, May 3, 2010).

1.1 Work Plan Organization

This Work Plan includes an introduction (Section 1), background information (Section 2), scope of work (Section 3) and project schedule (Section 4). Quality assurance/quality control, health and safety, community air monitoring, citizen participation and project team information are addressed in separate appendices. Figures referenced throughout are included at the end of this Work Plan.

1.2 Work Plan Objective

Previous investigations at the Site, detailed in Section 2.6 and conducted in 2014 and 2016, confirmed the presence of contamination on the Site. Specifically, prior site investigations confirmed the presence of chlorinated solvents, at concentrations above regulatory levels in the soil, soil vapor and groundwater. Soil, soil vapor and groundwater are impacted with tetrachloroethene (PCE) and its breakdown compounds: trichloroethene (TCE), cis-1,2-dichloroethene (1,2-DCE), and vinyl chloride. Groundwater impacts are highest at the upgradient border of the Site.

As discussed in the following sections, the levels of PCE and TCE identified in soil vapor and indoor air at the Site require mitigation based upon comparison with the New York State Department of Health (NYSDOH) Guidance for Evaluating Soil Vapor Intrusion in the State of New York, with updates (October 2006), collectively the “Soil Vapor Intrusion Guidance”.

The objective of this Work Plan is to provide information necessary to prepare a qualitative human health exposure assessment, investigate whether off-site impacts are present and develop a remedial strategy for the Site to be incorporated into a RAWP by undertaking the following:

- Investigate and characterize the nature and extent of contamination at the Site and to determine if Site contaminants could be migrating or emanating from the Site;

- Assess the potential for site-related soil vapor exposure to properties across the railroad tracks; and,
- Delineate the extent of F-list hazardous waste (F-002, spent halogenated solvents including PCE and TCE) at the Site and investigate whether D-list waste (D-039, PCE or D-040, TCE) is present at the Site, in contemplation of a Contained-in Determination.

2.0 BACKGROUND

This section includes a description of the Site and surrounding uses, a summary of the proposed Site use, Site characteristics, and information regarding historic operations and regulatory interactions. Summaries of previous Site investigations are also provided.

2.1 Site Description and Surrounding Uses

The Site, located at 255 Randolph Street, is a rectangular parcel of land located north of Randolph Street between Scott and Seneca Avenues in the East Williamsburg area of Brooklyn.

The Site area is 18,600 square feet (0.43 acre) with 75 feet of frontage along Randolph Street. The Site is occupied by a one-story industrial building with a partial basement. The Site is currently vacant. The Site is located in Brooklyn Community Board 1 and is identified on New York City tax maps as Kings County Block 2979, Lot 45.

The surrounding property uses are industrial to the west, east and south of the Site with a New York and Atlantic Railway (NYA) line immediately north of the Site. North of the NYA right of way is a solid waste handling facility.

2.2 Proposed Project Description

The Participant has proposed the Site use to remain as industrial.

2.3 Site Characteristics

Site Topography
The local surface topography generally slopes down to the northwest, toward the English Kills. Based on the U.S. Geological Survey (Brooklyn-NY 2010 Quadrangle) topographic map, the property lies at an elevation of approximately 17 feet above the National Geodetic Vertical Datum of 1929 (an approximation of mean sea level).

Site Geology and Hydrogeology
Boring logs from prior investigations identified the shallow soil as historic fill material underlain by native sands and gravel to depths of at least 15 feet below sidewalk grade (ft-bg). The glacial sand and gravel extend to approximately 150 ft-bg and are underlain by Gardiners Clay and an unnamed Raritan Formation clay layer. The approximate depth to bedrock is 250 ft-bg.

Groundwater was encountered at an average depth of approximately 13 ft-bg. The measured groundwater flow direction is toward the north.

Previous investigations at the Site have documented groundwater concentrations of contaminants above the NYSDEC Class GA Standards, as documented in the NYSDEC Technical and Operational Guidance Series (TOGS) Memorandum 1.1.1. There are no known wellhead protection areas or specifically designated groundwater recharge areas in the vicinity of the Site. Groundwater in this area is not used as a source of potable water.

2.4 Historic Operations

The Site is currently vacant. The Site was last used for warehousing by an importer of Asian food products, from approximately 2006 until August 2015. According to the City Directory Abstract, a sheet metal fabricator occupied the Site in the 1990s. Prior to this, according to Sanborn Fire Insurance Maps, the Site was associated with the manufacture of ammonia for many decades, from at least 1907 to 1985. Sanborn maps from 1933 through 2007 show no indication of production operations within the Site boundaries. However, the 1907 Sanborn map shows the manufacturing facility in a different location on the block, with components of such facility within the footprint of the current Site (acid tank and evaporation pan) or partially within the footprint of the current Site (storage area, grinding and mixing area, acid chambers).

Sanborn Maps are provided in Appendix F (cd).

2.5 Regulatory Interaction

A Brownfield Cleanup Program application for the Site was submitted to NYSDEC on October 20, 2016 and deemed complete in a letter to the Participant dated December 7, 2016. A copy of the application and supporting documentation was placed in the designated repository. The public comment period extended through January 20, 2017. No comments were received and the application was approved by NYSDEC in a letter dated January 26, 2017. A Brownfield Cleanup Agreement was entered into between the Participant, 255 Randolph Street Properties, LLC, and the NYSDEC, effective May 11, 2017.

2.6 Previous Investigations

In 2014 and 2016, environmental investigations were conducted at the Site, and are summarized in the following reports:

- *Phase II Subsurface Investigation*, 255 Randolph Street, Brooklyn, NY, prepared by Advanced Cleanup Technologies, Inc. (February 21, 2014).
- *Draft Environmental Site Summary Report*, 255 Randolph Street, Brooklyn, NY, prepared by Edgewater Environmental, Inc. (April – May 2014).
- *Draft Remedial Investigation Report*, Industrial Property - 255 Randolph Street, Brooklyn, NY, prepared by Laurel Environmental Associates (October 2016).

The findings of the above investigations are summarized below. The referenced reports are included in Appendix E. Previous sample locations are shown on Figure 2.

In the analysis below, soil sample results are compared to New York State Part 375 Industrial Use, Commercial Use and Unrestricted Use Soil Cleanup Objectives (SCOs); volatile soil sample results are also compared to the TAGM 3028 "contained-in" Action Levels. Groundwater results are compared to the Class GA Standards. Soil vapor and indoor air results are compared to the Decision Matrices in the New York State Department of Health (NYSDOH) Guidance for

Evaluating Soil Vapor Intrusion in the State of New York, with updates (October 2006), collectively the "Soil Vapor Intrusion Guidance".

Phase II Subsurface Investigation, 255 Randolph Street, Brooklyn, NY, prepared by Advanced Cleanup Technologies, Inc. (February 21, 2014).

The Phase II field work was conducted on February 10 through 12, 2014, and included a geophysical survey to evaluate the presence and location of the suspect UST (no evidence of the UST was identified at the Site), sampling of four soil borings, and installation and sampling of four temporary groundwater monitoring wells. All four soil samples and two of the groundwater samples (TW-1 and TW-4) were submitted for laboratory analysis of volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), pesticides, and RCRA metals (dissolved metals were analyzed in the groundwater samples). The groundwater samples from wells TW-2 and TW-3 were analyzed for VOCs only.

No compounds were detected above the Industrial Use SCOs. PCE was detected above the Commercial Use SCO. The following VOCs were detected above Unrestricted Use SCOs: acetone, cis-1,2-DCE, PCE, TCE and vinyl chloride.

Groundwater results were compared to the Class GA Standards. PCE, TCE, cis-1,2-DCE, trans-1,2-dichlorothene (trans-1,2-DCE), vinyl chloride, 1,1,1-TCA, 1,1-dichloroethane (1,1-DCA) and chloroform were detected above the Class GA Standards.

Draft Environmental Site Summary Report, 255 Randolph Street, Brooklyn, NY, prepared by Edgewater Environmental, Inc. (April – May 2014).

The sampling scope included advancing soil borings at four exterior locations (SB-1 through SB-4) and nine interior locations (SB-5 through SB-13). Eighteen soil samples were collected for laboratory analysis of VOCs. In addition, groundwater samples were collected from temporary wells installed at four of the soil boring locations (GW-1 through GW-4).

No VOCs exceeded the Industrial or Commercial Use SCOs. The following compounds were detected above Unrestricted Use SCOs: 2-butanone, acetone, cis-1,2-DCE, methylene chloride, PCE and TCE.

Other VOCs that were detected at concentrations exceeding Class GA Standards in at least one groundwater sample were trans-1,2-DCE, vinyl chloride, 1,1,1-TCA, 1,1-dichloroethane and naphthalene.

Draft Remedial Investigation Report, Industrial Property - 255 Randolph Street, Brooklyn, NY, prepared by Laurel Environmental Associates (October 2016).

Soil borings were advanced at six locations across the Site (SB-RI1 through SB-RI6). The highest levels of contamination were generally found at shallow depths. PCE and TCE were detected above the Industrial Use SCOs and the TAGM 3028 "contained-in" Action Levels. The following compounds were detected above Unrestricted Use SCOs: 1,1,1-TCA, 1,4-dioxane,

acetone, cis-1,2-DCE, PCE and TCE. Historic fill-related compounds, benzo(a)pyrene, arsenic and lead were detected above the Industrial Use SCOs; barium and nickel were also detected above the Commercial Use SCOs.

Groundwater samples were collected from four permanent monitoring wells installed at the Site during this investigation. PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride, 1,1,1-TCA, 1,1-DCA and 1,1-dichloroethene (1,1-DCE). In addition, the pesticide dieldrin and the metals manganese (total and dissolved) and lead (total only) were detected above Class GA Standards.

Elevated levels of PCE and TCE were detected in the indoor air sample. The highest sub-slab contamination of PCE, from SS-1 at 5,694,898 micrograms per cubic meter ($\mu g/m^3$), is significantly above the NYSDOH Soil Vapor/Indoor Air Matrices limits of 100 $\mu g/m^3$ for mitigation. Based on comparison of TCE and PCE concentrations in soil vapor and indoor air samples to NYSDOH Soil Vapor Intrusion Guidance, mitigation would be required. Several other VOCs were found at elevated concentrations in the sub-slab and soil vapor samples.

3.0 SCOPE OF WORK

The remedial investigation proposed for the Site includes installation and sampling of soil borings, soil vapor sampling points and monitoring wells. The objective of the investigation is to further characterize the Site and investigate potential off-site impacts in order to prepare a qualitative human health exposure assessment (QHHEA). The investigation activities are further described below.

All proposed sample locations are shown on Figures 3 and 4.

3.1 Soil Sampling

A subsurface investigation will be performed in order to further characterize the Site soil conditions, delineate the vertical and horizontal extents of F-listed hazardous waste, to determine whether D-listed hazardous waste is present and to investigate whether off-site, upgradient impacts are present. Proposed soil boring locations are shown on Figure 3.

The following RI scope of work will be implemented:

- Advance two borings, SB-RI7 and SB-RI8, within the extents of the building to investigate soil conditions;
- Collect all soil samples from the surface (0-2 ft-bg) interval, from the interval of highest suspected contamination and from the first apparent "clean zone" (or at terminal depth); and
- Analyze all samples for full suite analysis.

The following source delineation scope of work will be implemented:

- For source delineation purposes, advance nine soil borings at and around borings SB-RI1, SB-RI2 and SB-RI6 (total 27 borings);
- Collect soil samples from the interval of highest suspected contamination in borings SB-RI1, SB-RI2 and SB-RI6;
- Collect soil samples from the closest four step-out borings (designated A to D) from borings SB-RI1, SB-RI2 and SB-RI6.
- Collect and hold soil samples following the same protocol at the farthest four step-out borings (designated E to H) from SB-RI1, SB-RI2 and SB-RI6; and,
- Analyze select samples for Toxicity Characteristic Leachate Procedure (TCLP) PCE and TCE.

The following upgradient, off-site scope of work will be implemented:

- Advance three borings, SB-RI9, SB-RI10 and SB-RI11, upgradient of the Site, across Randolph Street;
- Collect soil samples the interval of highest suspected contamination; and,
- Analyze all samples for full suite analysis.

3.1.1 Soil Sampling Methodology

The soil borings will be advanced using a Geoprobe®. Borings will be advanced at least five feet below the groundwater table (encountered during previous investigations at approximately 13 ft-bg). At all soil boring locations, the collected soil volumes will be screened with a PID and visual and olfactory observations will be recorded. If evidence of VOC impacts is detected and drilling conditions allow, the borehole will be extended until no impacts are detected.

Both RI borings, SB-RI7 and SB-RI8, will be sampled from the surface (0-2 ft-bg) interval, from the interval of highest suspected contamination and from the first apparent "clean zone" (or at terminal depth).

For source delineation purposes, four step-out borings will be advanced around borings SB-RI1, SB-RI2 and SB-RI6, approximately five feet from the original boring. Four additional step-out borings will be advanced a further five feet from the first step-out borings. Samples will be collected from the interval of highest suspected contamination for analysis of TCLP PCE and TCE.

At upgradient borings SB-RI9, SB-RI10 and SB-RI11, soil samples will be collected from the interval of highest suspected contamination or the groundwater interface for analysis of Part 375 VOCs.

Samples will be collected in laboratory-supplied containers and will be sealed, labeled, and placed in a cooler containing ice (to maintain a temperature of approximately 4 degrees Celsius) for delivery to a New York State Department of Health (NYSDOH) Environmental Laboratory Accreditation Program (ELAP)-certified analytical laboratory.

A record of each sample, including notation of any odors, color, or other observations of the sample matrix, will be kept in the sampler's field logbook. A chain of custody will be maintained throughout the field sampling, transport of samples to the laboratory, and during lab analysis.

3.2 Soil Vapor and Ambient Air Sampling

The following scope of work is proposed to investigate potential soil vapor impacts in areas that were not previously investigated. Proposed sample locations are shown on Figure 4.

The scope of work will include the following:

- Install three exterior soil vapor points at outdoor off-site locations;
- Install eight interior sub-slab soil vapor points at indoor off-site locations;
- Purge and collect all soil vapor samples at each location;
- Collect co-located indoor air samples with the sub-slab soil vapor points;
- Collect outdoor ambient air samples during each sampling event; and,
- Analyze soil vapor and ambient air samples for TO-15 VOCs.

Three outdoor soil vapor points will be installed at this time to investigate the potential presence of VOCs in soil vapor at off-site locations that were not previously investigated. The soil vapor points are upgradient of the Site across Randolph Street and downgradient of the Site near the NYA railroad tracks; if access is not granted by NYA, the soil vapor point will be moved across the railroad tracks, on Scott Avenue. The soil vapor points will be advanced to a depth of three ft-bg. One ambient air sample will be collected at a location upwind of the Site.

Following installation, eight interior sub-slab soil vapor points will be installed and sampled to investigate the potential presence of VOCs in sub-slab soil vapor at off-site locations. The indoor sub-slab soil vapor points will be advanced to a maximum depth of two inches below the slab. Co-located indoor air samples will be collected with the sub-slab soil vapor samples. One ambient air sample will be collected at a location upwind of the Site. The installation of the sub-slab soil vapor points at the off-site locations is subject to approval by and access from the off-site property owners.

3.2.1 Soil Vapor Sampling Methodology

All samples will be collected in accordance with the NYSDOH Soil Vapor Intrusion Guidance. Some sample locations may be adjusted based on field observations or conditions.

A direct-push Geoprobe® will be used to install the outdoor soil vapor sampling probes. At each soil vapor sampling location, access to the subsurface soil will be gained by drilling through the top surface material (concrete) using a drill bit. Upon penetration through the surface material, a disposable sampling probe consisting of a 1.5-inch long hardened point and a six-inch long perforated vapor intake will be installed to a depth of three ft-bg. A flush-mount cap will be installed.

Indoor sub-slab soil vapor points will be installed using a hand held rotary hammer. Access to the sub-slab soil will be gained by drilling through the top surface material (concrete and flooring material) using a drill bit. Upon penetration through the surface material, a disposable sampling probe consisting of a Vapor Pin® or similar. The vapor intake will be installed so that the intake is not deeper than two inches below the slab.

The soil vapor sampling probe will be connected to ¼-inch diameter Teflon® tubing to the surface. The borehole above the sampling probe to grade will be sealed using a sand pack and an inert sealant to prevent ambient air mixing with the soil vapor. Ambient air will be purged from the boring hole by attaching the surface end of the ¼-inch diameter tubing to an air valve and then to a vacuum pump. The vacuum pump will remove one to three volumes of air (volume of the sample probe and tube) prior to sample collection.

The soil vapor sample will be screened for organic vapors using a PID. Samples will be collected in laboratory-supplied Summa canisters. To ensure sufficient sample volume to perform dilutions if needed, and to ensure acceptable reporting limits are met, individually certified Summa canisters for indoor or outdoor air samples and batch certified Summa canisters for all other air samples will be used. The flow rate of both purging and sampling will not exceed 0.2 liters per minute (L/min). Sampling will occur for a duration of eight hours. A sample log sheet will be

maintained summarizing sample identification, date and time of sample collection, sampling depth, identity of samplers, sampling methods and devices, soil vapor purge volumes, volume of soil vapor extracted, vacuum of canisters before and after the samples are collected, apparent moisture content of the sampling zone, and chain of custody protocols.

Helium tracer gas will be used in accordance with NYSDOH protocols to serve as a quality assurance/quality control (QA/QC) measure to verify the integrity of the soil vapor probe seal. A portable monitoring device will be used to analyze a sample of soil vapor for the tracer prior to sampling. If a significant amount of helium is detected, the probe seals will be adjusted to prevent infiltration. At the conclusion of the sampling, tracer monitoring will be performed a second time to confirm the integrity of the probe seals.

Samples will be collected in laboratory-supplied canisters and will be sealed, labeled, and placed in a secure container for delivery to a NYSDOH ELAP-certified analytical laboratory. All samples will be analyzed for EPA Method TO-15 VOCs.

3.2.2 Ambient Air Sampling Methodology

All samples will be collected in accordance with the NYSDOH Soil Vapor Intrusion Guidance. Some sample locations may be adjusted based on field observations or conditions.

The ambient air sample will be collected from breathing height, between three to five feet above the ground. The sampling flow rate will not exceed 0.2 liters per minute (L/min). Sampling will occur for a duration of eight hours. A sample log sheet will be maintained summarizing sample identification, date and time of sample collection, sampling depth, identity of samplers, sampling methods and devices, soil vapor purge volumes, volume of the soil vapor extracted, vacuum of canisters before and after the samples are collected, apparent moisture content of the sampling zone, and chain of custody protocols.

Samples will be collected in laboratory-supplied canisters and will be sealed, labeled, and placed in a secure container for delivery to a NYSDOH ELAP-certified analytical laboratory. Reporting limits should be below the lowest action level for Matrix “A” and “C” analytes in indoor or outdoor air (0.2 ug/m3) and no more than 1.0 ug/m3 for all other soil vapor samples. All samples will be analyzed for EPA Method TO-15 VOCs.

3.3 Groundwater Sampling

The following scope of work is proposed to further characterize the groundwater at the Site and develop information for use in the qualitative exposure assessment:

- Install one shallow/deep one-inch diameter permanent cluster monitoring well (MW-5S/MW-5D) at the northwest corner of the Site to establish groundwater conditions at the downgradient border of the Site;
- Install three shallow one-inch diameter temporary monitoring wells (MW-6 through MW-8) to establish groundwater upgradient of the Site;

- Install one shallow one-inch diameter temporary monitoring well (MW-9) to establish groundwater conditions at the western adjoining property;
- Collect groundwater samples from wells MW-5 through MW-9;
- Analyze samples from all wells for full suite analysis; and,
- Collect a round of depth-to-water measurements from permanent on-site monitoring wells.

Proposed monitoring well locations are shown on Figure 3.

3.3.1 Groundwater Well Installation and Sampling

As previously described, one shallow permanent groundwater well will be installed at the downgradient border of the Site, three shallow temporary groundwater wells will be installed upgradient of the Site and one shallow temporary groundwater well will be installed at the western adjoining property. The installation of the well at the western adjoining property is subject to approval by and access from the adjoining property owner. The permanent well will consist of a two-inch ID PVC casing and will be installed using a direct-push Geoprobe®. The temporary monitoring wells will consist of one-inch ID PVC casing and will be installed using a direct-push Geoprobe®.

For the shallow monitoring wells (MW-5S to MW-9), a ten-foot PVC screen will be installed in the top seven feet of groundwater. The slot size will be determined based on the grain size of the soils encountered. A filter pack of sand will be placed in the annular space around the screens and will extend two feet above the screen. The permanent well will be finished with a flush-mount cover. The temporary wells will be removed and the sidewalk patched after sampling.

For the deep cluster well (MW-5D), a one-inch diameter, five-foot long screen (0.020-inch slot) will be installed five feet above the confining layer (if encountered) or between 30 and 35 ft-bg. A filter pack of sand (US Std. sieve sizes 30 to 8) will placed in the annular space around the screens and will be extended a minimum two feet above the screen.

All monitoring wells will be developed on the day they are installed by pumping using dedicated Teflon tubing. Turbidity will be measured using a nephelometer, and the well developed until the reading is 50 Nephelometric Turbidity Units (NTU) or less, or until at least three well volumes have been evacuated.

The monitoring wells will be sampled on the same day as installation. All sampling equipment will be decontaminated prior to use. Prior to sampling, water levels will be measured using an electronic product-water level indicator. Sample collection will be accomplished by using low-flow procedures. Samples will not be collected until pH, temperature and conductivity measurements stabilize.

All monitoring wells will be surveyed to a common datum. Water levels will be gauged in all wells and will be used to determine the groundwater flow direction, which will be mapped for inclusion in the Remedial Investigation Report.

Samples will be collected using low-flow techniques in accordance with EPA Region 1 Low-Stress (Low-Flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells. (EQASOP-GW 001 Revision 3 dated July 30, 1996 Revised: January 19, 2010). All groundwater samples will be analyzed for full suite analysis, including VOCs, SVOCs, pesticides, PCBs, metals (total and dissolved), 1,4-dioxane and perfluoroalkyl acids (PFAAs).

3.4 Quality Assurance / Quality Control (QA/QC)

Samples will be collected in accordance with the Quality Assurance Project Plan (QAPP) included as Appendix A.

Sample analysis will be performed by a NYSDOH ELAP-certified laboratory. The laboratory will report sample results on a 5-day turn around time. An independent subconsultant will validate sample results and prepare a Data Usability Summary Report (DUSR).

3.5 Summary Table of Proposed Sampling Locations

As required by Section 3.3(b) 3 of DER-10, below is a table describing the proposed sampling locations and rationale and QA/QC samples.

Proposed Sampling Locations and Analysis

Sample Location	Media	Sampling Intervals	Analytical Parameters	Sampling Method / Minimum Reporting Levels	Rationale
Existing wells MW-1 to MW-4 New wells MW-6 to MW-9	Groundwater	Seven foot interval into groundwater interface	Part 375 analytes including total and dissolved metals; 1,4-dioxane; PFAAs	EPA 537, 8260C, 8270D, 8270D SIM, 8081B, 8151A, 7196A, 3050B, 7471B, 9010C/9012B/9014 and 3060A/7196 / MDL less than Class GA Standards for Part 375 analytes; MDL less than 0.28 ug/L for 1,4-dioxane; MDL less than 2 nanograms per liter (ng/L) for PFAAs	Assess off-Site groundwater conditions in the upgradient direction
New well MW-5S		Seven foot interval into groundwater interface			Assess groundwater conditions at the downgradient border
New well MW-5D		Lower five feet of deep interval			Assess vertical distribution in groundwater

Sample Location	Media	Sampling Intervals	Analytical Parameters	Sampling Method / Minimum Reporting Levels	Rationale
RI borings SB-RI7 and SB-RI8	Soil	Samples will be collected from the surface (0-2 ft-bg) interval, from the interval of highest suspected contamination and from the first apparent "clean zone" (or at terminal depth)	Part 375 SCOs	EPA 8260C, 8270D, 8081B, 8082A, 8151A, 7196A, 3050B, 7471B, 9010C/9012B/9014 and 3060A/7196 / MDL less than Unrestricted Use SCOs	Site characterization
MW-5S/D		Full suite minus VOCs from 0-2"; full suite from 2-6" and 6-12"			Cap investigation
Source delineation borings (vertical) SB-RI1, SB-RI2 and SB-RI6		Samples will be collected from the first apparent clean zone	TCLP PCE and TCE	TCLP / Maximum Concentrations for the Toxicity Characteristic	Vertically delineate previously-detected impacts of cVOCs
Source delineation borings (horizontal) SB-R1A through SB-R1D,		Samples will be collected from the interval of highest suspected contamination			Horizontally delineate previously-detected impacts of cVOCs

Sample Location	Media	Sampling Intervals	Analytical Parameters	Sampling Method / Minimum Reporting Levels	Rationale
Source delineation borings (horizontal) SB-R1E through SB-R1H,	Soil	Samples will be collected and held from the interval of highest suspected contamination	Hold TCLP PCE and TCE	TCLP / Maximum Concentrations for the Toxicity Characteristic	If necessary, horizontally delineate previously-detected impacts of cVOCs
Upgradient borings SB-RI9, SB-RI10 and SB-RI11			Part 375 VOCs	EPA 8260 / MDL less than Class GA Standards	Assess off-Site soil conditions in the upgradient direction

Sample Location	Media	Sampling Intervals	Analytical Parameters	Sampling Method / Minimum Reporting Levels	Rationale
SV-3 to SV-5	Soil Vapor (outdoor)	3 ft-bg	TO-15 VOCs	EPA TO-15 / MDL less than 1.00 µg/m^3 except PCE/TCE less than 0.25 µg/m^3	Assess off-site conditions
269R-SV1, 269R-SV2, 269R-SV3, 269R-SV4, 110S-SV1, 110S-SV2, 90S-SV1, 90S-SV2	Sub-slab Soil Vapor	Max 2 inches below slab			Assess off-site conditions
269R-IA1, 269R-IA2, 269R-IA3, 299R-IA4, 110S- IA1, 110S- IA2, 90S- IA1, 90S- IA2	Indoor Air	3 to 5 feet above slab (breathing height)			Assess off-site indoor air conditions
AA(Date)	Ambient Air	--			Assess conditions near upwind direction of the Site boundary

Sample Location	Media	Sampling Intervals	Analytical Parameters	Rationale
Trip Blanks	QA / QC	--	Part 375 SCOs plus 1,4-dioxane and PFAAs, as necessary	Quality assurance and quality control
Soil Duplicate				
Soil Blank				
Soil MS/MSD				
Groundwater Duplicate				
Groundwater MS/MSD				

MDL – Method Detection Limit

Reporting limits are laboratory- and sampling event-specific. The overall objective is to ensure that the minimum reporting levels are such that they can be used to evaluate potential sources, assess risk from detected compounds, and compare detected concentrations against applicable regulatory levels.

3.6 Qualitative Human Health Exposure Assessment

Following receipt of the sample results, a qualitative human health exposure assessment (QHHEA) will be completed in accordance with Section 3.3(c)4 and Appendix B (NYSDOH guidance for preparing a qualitative human health exposure assessment) of DER-10. The QHHEA will utilize the results of the remedial investigation to evaluate and document potential exposure routes and identify and characterize potential current and future receptors for both on-site and off-site exposure pathways. The samples collected during the remedial investigation will be used to identify potential human exposure scenarios associated with contaminants in soil, soil vapor and groundwater. The results of the QHHEA will be included in the remedial investigation report, as described in Section 3.11.

3.7 Health and Safety Plan (HASP)

All work at the Site will be completed in accordance with the Health and Safety Plan (HASP) included in Appendix C.

3.8 Air Monitoring

The NYSDOH Generic Community Air Monitoring Plan (CAMP), included as Appendix 1A of DER-10, will be implemented during all ground-intrusive sampling activities. Special requirements will be implemented during any ground intrusive work occurring within twenty feet of potentially exposed individuals or building openings (windows, vents, doors, etc.). Also, special requirements will be implemented during all work completed inside an occupied building. Details of the CAMP are included in Appendix D).

3.9 Investigation-Derived Waste (IDW)

All soil cuttings will be placed in 55-gallon drums due to documented soil impacts identified during previous investigations. Any purge water or other investigation-derived waste (IDW) will be containerized in 55-gallon drums. After the investigation is complete, the drum contents will be characterized and off-Site disposal will be arranged.

3.10 Citizen Participation Plan

A Citizen Participation Plan (CPP) has been prepared to provide information about how NYSDEC will inform and involve the public during the investigation and cleanup of the Site. A copy of the CPP is provided in Appendix B.

3.11 Reporting

A remedial investigation report will be prepared in accordance with the requirements of DER-10. The report will include details of the sampling, tabulated sample results and an assessment of the data and conclusions. If warranted, recommendations for additional actions will be included.

Soil sample results will be compared to the Industrial, Commercial Use, Protection of Groundwater and Unrestricted Use SCOs as included in Part 375, as well as the action levels in TAGM 3028 and the EPA Maximum Concentrations for the Toxicity Characteristic for applicable delineation samples. Groundwater sample results will be compared to the Class GA Standards. Soil vapor and ambient air samples will be compared to the NYSDOH AGVs and matrices, where applicable. These comparisons will be used as guidelines as no standard values exist for soil vapor samples.

During Site activities, daily CAMP reports will be provided to the NYSDEC and NYSDOH agency representatives. Any exceedance of CAMP action levels will be noted in daily reports. Daily reports will include the Site name and number in the subject line of the document/data transmission.

The report will also include the qualitative exposure assessment, CAMP results, laboratory data packages, DUSR, geologic logs, well construction diagrams and well purging/sampling logs. All data will also be submitted electronically to NYSDEC via the Environmental Information Management System (EIMS) in EqUIS format.

4.0 SCHEDULE

It is estimated that the tasks described in this work plan can be completed within nine field days with an additional ten days for well development prior to groundwater sampling. Project activities will be completed within approximately nine weeks after Work Plan approval by NYSDEC. The following project schedule has been developed:

Work Plan Implementation Schedule

Task	Estimated Task Duration (business days)	Total Duration (business days)
Work Plan Approval	0	0
Mobilization	10	10
Monitoring Well and Soil Vapor Point Installation / Soil Sampling	6	16
Monitoring Well Development	10	26
Groundwater and Soil Vapor Sampling	3	29
Laboratory Analysis	5	34
Draft Report and Data Validation	30	64

5.0 REFERENCES

Draft Environmental Site Summary Report, 255 Randolph Street, Brooklyn, NY, prepared by Edgewater Environmental, Inc. (April – May 2014).

Draft Remedial Investigation Report, Industrial Property - 255 Randolph Street, Brooklyn, NY, prepared by Laurel Environmental Associates (October 2016).

New York State Department of Environmental Conservation (NYSDEC), Division of Environmental Remediation. DER Technical Guidance for Site Investigation and Remediation (DER-10). NYSDEC 2010.

NYSDEC Policy. Commissioner's Policy 51 – Soil Cleanup Guidance. October 21, 2010. NYSDEC 2010.

New York State Department of Health (NYSDOH). Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York (NYSDOH, October 2006).

Phase II Subsurface Investigation, 255 Randolph Street, Brooklyn, NY, prepared by Advanced Cleanup Technologies, Inc. (February 21, 2014).

United States Geologic Society (USGS). Location of Wells Used to Determine Altitude of Tops of Geologic Units in Kings and Queens Counties, Long Island, New York. Buxton and Shernoff, 1999.

USGS. Hydrogeologic Sections in Kings and Queens Counties, Long Island, New York. Buxton and Shernoff, 1999.

Figures

Basemap: ESRI - World Topo Map

Site Location

0 1,000 2,000 4,000 Feet

http://gis.nyc.gov/taxmap/map.htm

Department of Finance Digital Tax Map

0 150 300 600 Feet

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Department of City Planning MapPLUTO - 2016 v2

0 150 300 600 Feet

Site

255 Randolph Street
Brooklyn, New York
Block 2979, Lot 45
BCP #C224247

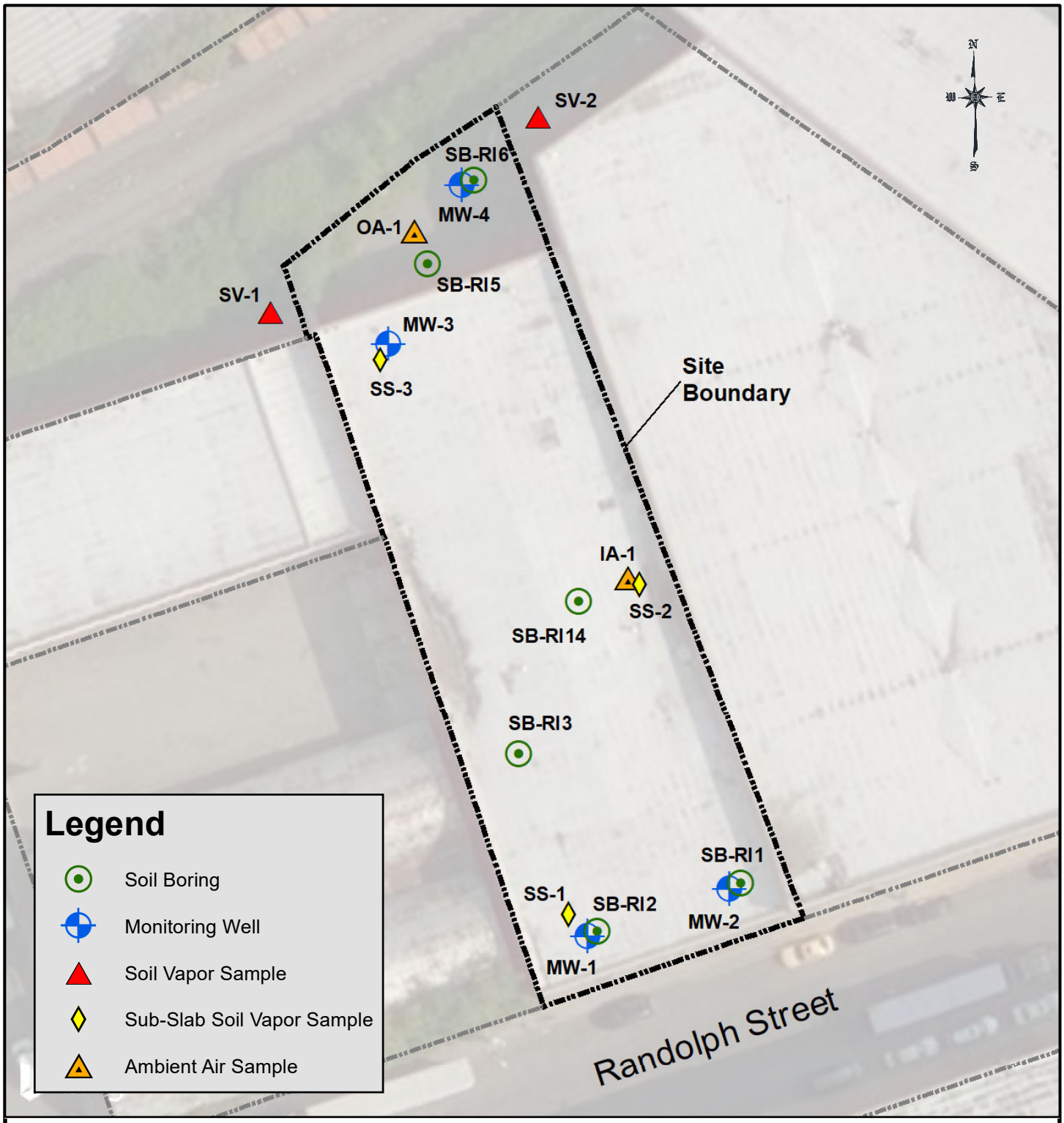
TENEN ENVIRONMENTAL

Tenen Environmental, LLC
121 West 27th Street
Suite 702
New York, NY 10001
O: (646) 606-2332
F: (646) 606-2379

Drawn By	Checked By	Date	Scale
LM	MC	December 2017	As Noted

Drawing Title: **Site Location Map**

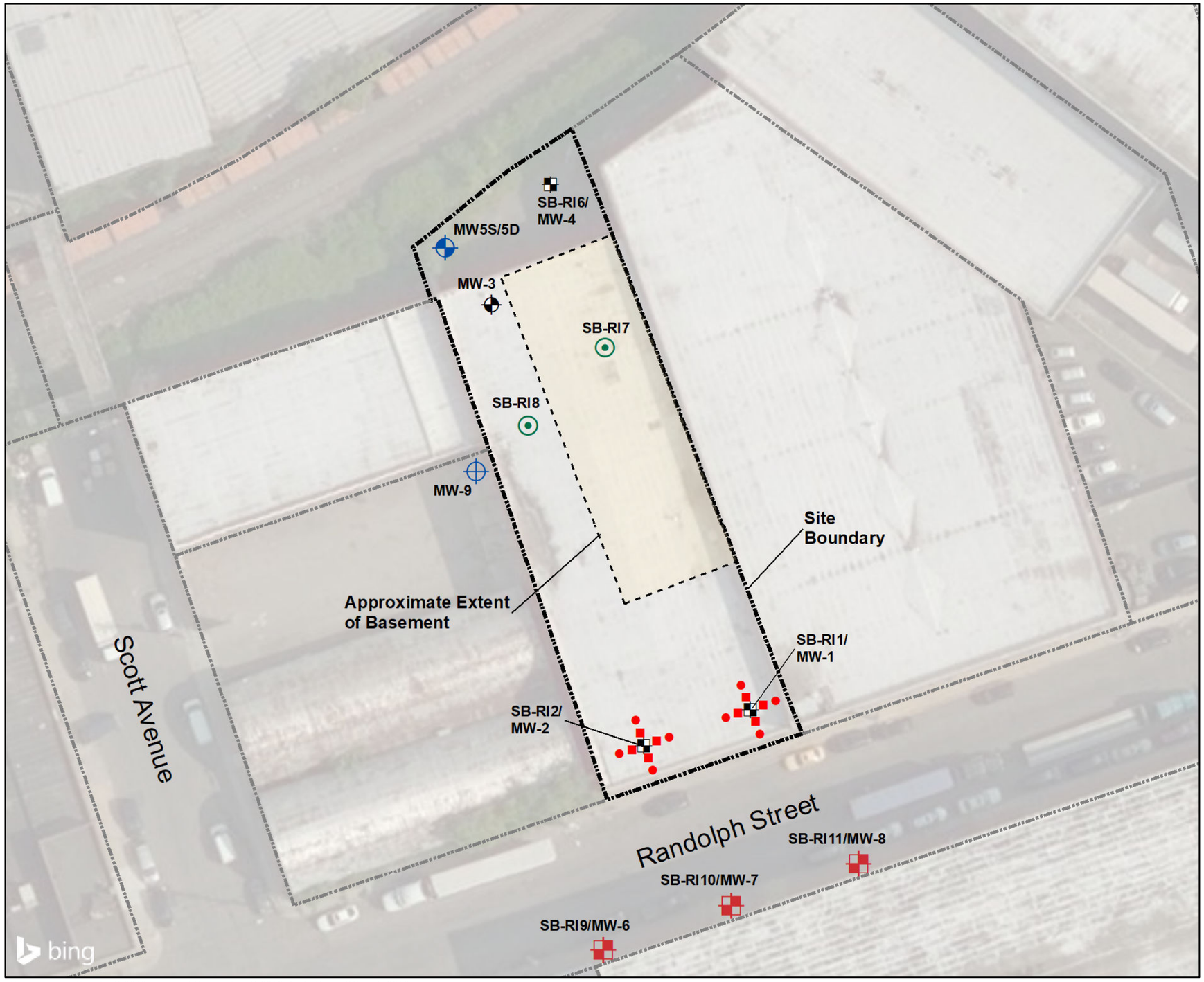
Drawing No: **Figure 1**



Sample Locations from Laurel Environmental Associates, Huntington Station, NY, 255 Randolph Street, Brooklyn, NY, Site Sketch and Historic Sample Map. Fig.2, 7/28/2016

Feet
0 20 40 80

Drawing No.: Figure 2	Drawn By: LM	TENEN ENVIRONMENTAL	Site: 255 Randolph Street Brooklyn, New York Block 2979, Lot 45
	Checked By: MC	Tenen Environmental, LLC 121 West 27th Street, Suite 702 New York, NY 10001 O: (646) 606-2332 F: (646) 606-2379	
Drawing Title: Site Sketch and Historic Sample Map	Date: February 2018		
	Scale: As Noted		



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NYC Department of City Planning, Information Technology Division

Sample Locations from Laurel Environmental Associates, Huntington Station, NY, 255 Randolph Street, Brooklyn, NY, Proposed Soil and Groundwater Sample Locations. Fig.3, 1/2/18

Legend

- 2016 Soil Boring/ Permanent Monitoring Well - Existing
- 2016 Permanent Monitoring Well - Existing
- Hot-Spot Delineation Soil Boring (Designated A through D)
- Hot-Spot Delineation Soil Boring (Contingent Sample, to be Held, Designated E through H)
- Soil Boring/Temporary Well
- Soil Boring
- Permanent Monitoring Well Cluster
- Temporary Monitoring Well

0 20 40 80 Feet

Site

255 Randolph Street
Brooklyn, New york
Block 2979, Lot 45

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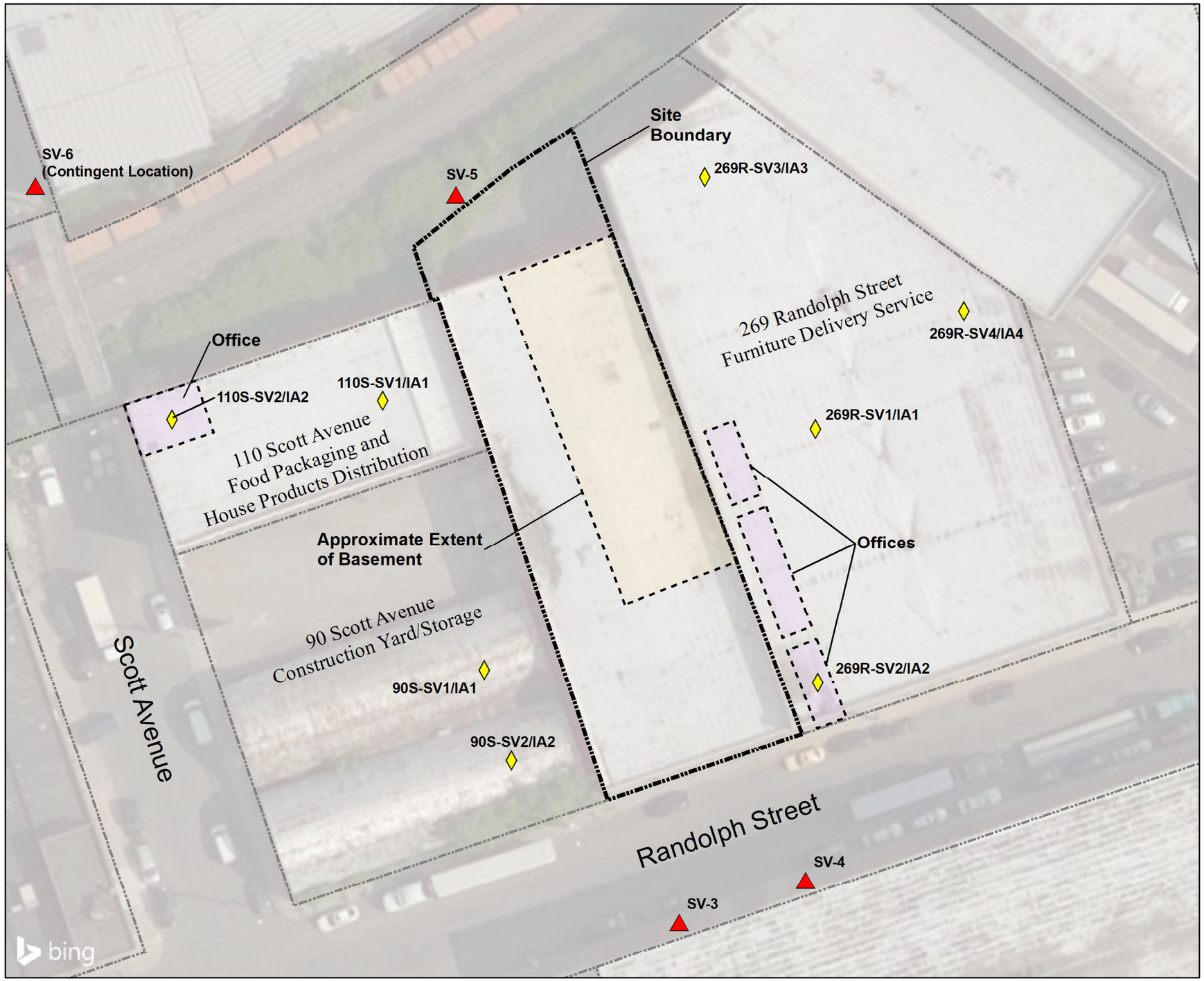
Drawn By	Checked By	Date	Scale
LM	MC	February 2018	As Noted

Drawing Title: **Proposed Soil and Groundwater Sample Locations**

Drawing No: **Figure 3**



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Sample Locations from Laurel Environmental Associates, Huntington Station, NY, 255 Randolph Street, Brooklyn, NY, Proposed Soil Vapor Sample Locations. Fig.4, 10/25/17

Subject to Approval by and Access from Adjacent Property Owners - May be Relocated Based on Off-Site Building Configurations or other Access Limitations

Legend

- Soil Vapor Sample
- Interior Sub-Slab Soil Vapor Sample Location with Co-Located Indoor Air Sample

0 20 40 80 Feet

Site

255 Randolph Street
Brooklyn, New york
Block 2979, Lot 45

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Drawn By: LM
Checked By: MC
Date: September 2018
Scale: As Noted

Drawing Title: **Proposed Soil Vapor Sample Locations**

Drawing No: **Figure 4**

Appendix A
Quality Assurance Project Plan

255 Randolph Street

Quality Assurance Project Plan
for
Remedial Investigation Work Plan

255 Randolph Street – Brooklyn, NY
Block 2979, Lot 45
BCP Site # C224247

Submitted to:
New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau A
625 Broadway, 12th Floor
Albany, NY 12233-7016

Prepared for:
255 Randolph Street Properties, LLC
213-19 99th Avenue
Queens Village, NY 11429

Prepared by:
TENEN ENVIRONMENTAL
121 West 27th Street, Suite 702
New York, NY 10001

September 2018

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Figures

Appendices

1.0 INTRODUCTION

This Quality Assurance Project Plan (QAPP) has been developed for the Remedial Investigation Work Plan (RIWP) prepared for 255 Randolph Street in Brooklyn, NY (the Site). The Site is in the Brownfield Cleanup Program (BCP) as Site #C224247. The Site location and layout are identified on Figures 1 and 2, respectively.

1.1 Project Scope and QAPP Objective

The proposed scope of work includes the following:

- advancement of borings for soil sampling at the Site;
- advancement of borings for soil, groundwater and soil vapor sampling off-site and installation of temporary and permanent monitoring wells, and;
- collection of soil, groundwater, soil vapor and ambient air samples from soil borings, monitoring wells and soil vapor points.

The objective of the QAPP is to detail the policies, organization, objectives, functional activities and specific quality assurance/quality control activities designed to achieve the data quality goals or objectives of the Remedial Investigation Work Plan. This QAPP addresses how the acquisition and handling of samples and the review and reporting of data will be documented for quality control (QC) purposes. Specifically, this QAPP addresses the following:

- The procedures to be used to collect, preserve, package, and transport samples;
- Field data collection and record keeping;
- Data management;
- Chain-of-custody procedures; and,
- Determination of precision, accuracy, completeness, representativeness, decision rules, comparability and level of quality control effort.

2.0 PROJECT ORGANIZATION

The personnel detailed are responsible for the implementation of the QAPP. Tenen Environmental, LLC (Tenen), Edgewater Environmental, Inc. (Edgewater) and Laurel Environmental Associates, Ltd. (Laurel) will implement the RIWP on behalf of 255 Randolph Street Properties, LLC (the Participant) once it has been approved by the New York State Department of Environmental Conservation (NYSDEC).

The Project Manager for Tenen will be Mohamed Ahmed, Ph.D., CPG, principal at Tenen. Dr. Ahmed is a certified professional geologist with over 20 years of experience in the New York City metropolitan area. He has designed and implemented subsurface investigations and is proficient in groundwater modeling, design of groundwater treatment systems, and soil remediation. He has managed numerous projects focused on compliance with the requirements of the New York State Brownfield Cleanup Program and spills programs and the New York City E-designation program. Dr. Ahmed also has extensive experience in conducting regulatory negotiations with the New York State Department of Environmental Conservation, the New York City Department of Environmental Protection, the NYC Office of Housing Preservation and Development, and the Mayor's Office of Environmental Remediation. Dr. Ahmed holds advanced degrees in geology and Earth and Environmental Sciences from Brooklyn College and the Graduate Center of the City University of New York; his resume is included in Appendix A.

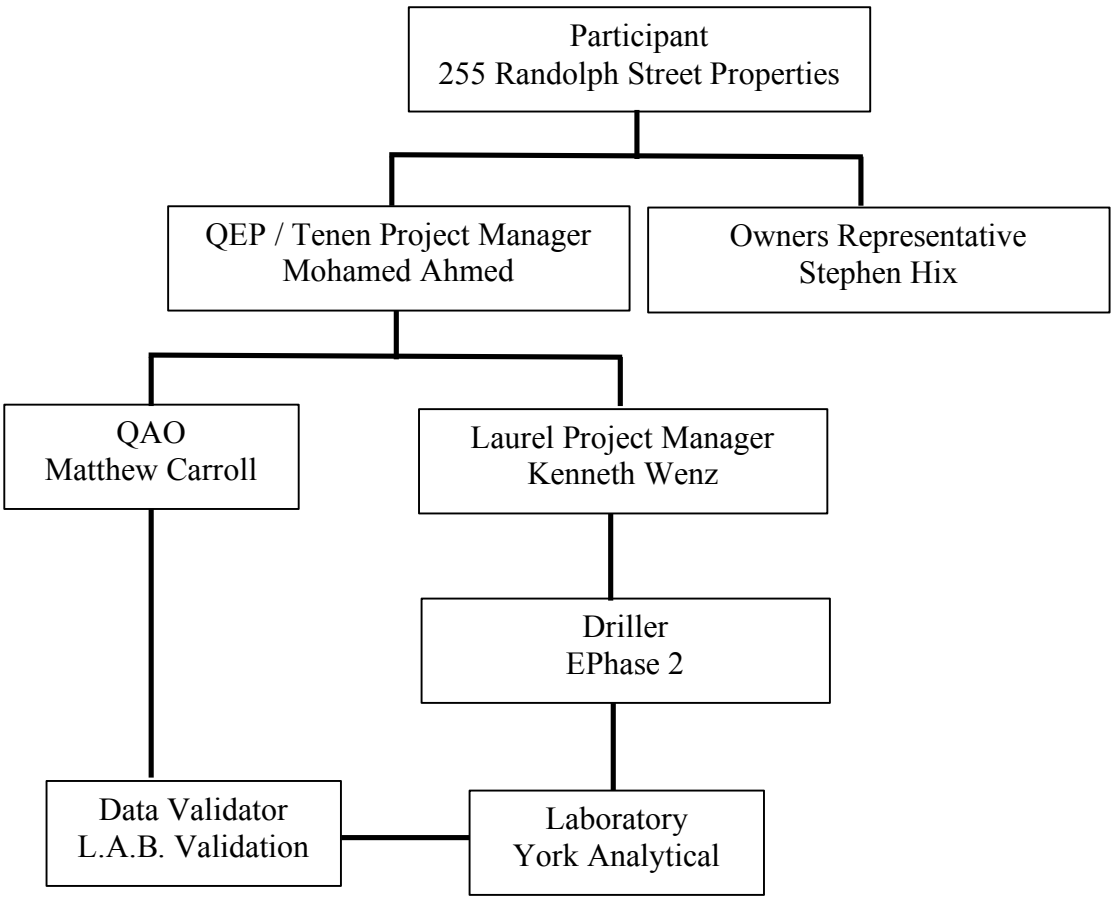
The Project Manager for Edgewater will be Stephen Hix. Mr. Hix is the President and Principal Environmental Consultant at Edgewater Environmental, Inc. On this project, Mr. Hix will be the Owner's Representative related to Environmental Project Coordination and Review. He has over 35 years of environmental experience and has been an environmental consultant to the property owner's business entities for approximately 15 years. His experience includes environmental due diligence, environmental site investigations and remediation at commercial and industrial properties.

The Project Manager for Laurel will be Kenneth P. Wenz, Jr. Mr. Wenz is a Senior Project Manager/Senior Geologist with 30 years of experience in the environmental field, comprising both consulting and regulatory positions. He is a Certified Professional Geologist, a Licensed Professional Geologist in New York, a Registered Professional Geologist in Pennsylvania, and a Licensed Environmental Professional in Connecticut. He has implemented and managed numerous projects in New York, New Jersey, Connecticut, Pennsylvania, and Vermont. These projects have included federal and state Superfund investigation and remediation programs, Brownfield projects, various New Jersey ISRA investigations, petroleum spills, and property transfer investigations in several states; as well as soil, soil vapor, sediment, and water assessment and remediation programs for numerous commercial, industrial, and government clients. His experience has involved New York State Superfund and Brownfield projects, including designing, implementing, and managing site characterization, RI/FS, and remediation activities at numerous sites. In addition, he is experienced in evaluation of environmental and remedial assessments, plans and activities, preparation of technical documentation, and grants management with the USEPA.

The Quality Assurance Officer will be Mr. Matthew Carroll, P.E., principal at Tenen. Mr. Carroll is an environmental engineer experienced in all aspects of site assessment and development and implementation of remedial strategies. His experience involves projects from inception through investigation, remediation and closure. His expertise includes soil, soil vapor and groundwater remediation; remedial selection and design; field/health and safety oversight and preparation of work plans and reports to satisfy the requirements of various regulatory agencies. Mr. Carroll received his Bachelor of Engineering from Stevens Institute of Technology and Bachelor of Science in Chemistry from New York University and is a New York State professional engineer; his resume is included in Appendix A.

In addition, Tenen will utilize subcontractors for drilling (EPhase 2, LLC of Huntington Station, NY), laboratory services (York Analytical Laboratory of Stratford, Connecticut) and data validation (L.A.B. Validation Corp. of East Northport, NY). The resume for the DUSR preparer, Ms. Lori Beyer, is included in Appendix A.

An organization chart for the implementation of the Site Characterization Work Plan and QAPP is below.



3.0 SAMPLING AND DECONTAMINATION PROCEDURES

A detailed description of the procedures to be used during this program for collection of the soil, soil vapor, ambient air and groundwater samples is provided below. Proposed sample locations are shown on Figure 4 of the Work Plan. An Analytical Methods/Quality Assurance Summary is provided in Table 1, included in Section 3.11.

3.1 Level of Effort for QC Samples

Field blank, trip blank, field duplicate and matrix spike (MS) / matrix spike duplicate (MSD) samples will be analyzed to assess the quality of the data resulting from the field sampling and analytical programs. Each type of QC sample is discussed below.

- Field and trip blanks consisting of distilled water will be submitted to the analytical laboratories to provide the means to assess the quality of the data resulting from the field-sampling program. Field (equipment) blank samples are analyzed to check for procedural chemical constituents that may cause sample contamination. Trip blanks are used to assess the potential for contamination of samples due to contaminant migration during sample shipment and storage.

- Duplicate samples are analyzed to check for sampling and analytical reproducibility.

- MS/MSD samples provide information about the effect of the sample matrix on the digestion and measurement methodology.

The general level of QC effort for on-site soil samples will be one field duplicate and one field blank (when non-dedicated equipment is used) for every 20 or fewer investigative samples of a given matrix. Additional sample volume will also be provided to the laboratory to allow one site-specific MS/MSD for every 20 or fewer investigative samples of a given matrix. QA/QC samples for off-site samples will only be a field blank. One trip blank will be included along with each sample delivery group of volatile organic compound (VOC) samples. QA/QC samples will not be collected for soil vapor, ambient air or TCLP soil samples.

The analytical laboratory, York Analytical, is certified under the New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) as LabID 10845. NYSDEC Analytical Services Protocol (ASP) Category B deliverables will be prepared by the laboratory.

3.2 Sample Handling

Samples will be placed on ice or cooled to meet lab QC requirements. Samples will either be picked up by the laboratory, delivered to the laboratory in person by the sampler, or transported to the laboratory by overnight courier. All samples will be shipped to the laboratory to arrive within 48 hours after collection, and the laboratory will adhere to the analytical holding times for these analyses, as listed in the current version of the New York State ASP.

3.3 Custody Procedures

Sample custody will be controlled and maintained through the chain-of-custody procedures. The chain of custody is the means by which the possession and handling of samples is tracked from the site to the laboratory. Sample containers will be cleaned and preserved at the laboratory before shipment to the Site. The following sections (Sections 3.4 and 3.5) describe procedures for maintaining sample custody from the time samples are collected to the time they are received by the analytical laboratory.

3.4 Sample Storage

Samples will be stored in secure, limited-access areas. Walk-in coolers or refrigerators will be maintained at 4°C, plus or minus 2°C, or as required by the applicable regulatory program. The temperatures of all refrigerated storage areas are monitored and recorded a minimum of once per day. Deviations of temperature from the applicable range require corrective action, including moving samples to another storage location, if necessary.

3.5 Sample Custody

Sample custody is defined by this QAPP as the following:

- The sample is in someone's actual possession;
- The sample is in someone's view after being in his or her physical possession;
- The sample was in someone's possession and then locked, sealed, or secured in a manner that prevents unsuspected tampering; or,
- The sample is placed in a designated and secured area.

Samples will be removed from storage areas by the sample custodian or laboratory personnel and transported to secure laboratory areas for analysis. Access to the laboratory and sample storage areas is restricted to laboratory personnel and escorted visitors only; all areas of the laboratory are therefore considered secure.

Laboratory documentation used to establish chain of custody and sample identification may include the following:

- Field chains of custody or other paperwork that arrives with the sample;
- Laboratory chain of custody;
- Sample labels or tags attached to each sample container;
- Sample custody seals;
- Sample preparation logs (i.e., extraction and digestion information) recorded in hardbound laboratory books, filled out in legible handwriting, and signed and dated by the chemist;
- Sample analysis logs (e.g., metals, GC/MS, etc.) information recorded in hardbound laboratory books that are filled out in legible handwriting, and signed and dated by the chemist;
- Sample storage log (same as the laboratory chain of custody); and,

- Sample disposition log, which documents sample disposal by a contracted waste disposal company.

3.6 Sample Tracking

All samples will be maintained in the appropriate coolers prior to and after analysis. Laboratory analysts will remove and return their samples, as needed. Samples that require internal chain of custody procedures will be relinquished to the analysts by the sample custodians. The analyst and sample custodian will sign the original chain of custody relinquishing custody of the samples from the sample custodian to the analyst. When the samples are returned, the analyst will sign the original chain of custody returning sample custody to the sample custodian. Sample extracts will be relinquished to the instrumentation analysts by the preparatory analysts. Each preparation department will track internal chain of custody through their logbooks/spreadsheets.

Any change in the sample during the time of custody will be noted on the chain of custody (e.g., sample breakage or depletion).

3.7 Soil Sampling

A total of 27 soil borings will be advanced on the Site for delineation purposes, three borings will be advanced off-site and two borings will be advanced within the extents of the building.

Soil borings will be installed utilizing a track-mounted Geoprobe® unit. Soil samples will be collected from acetate liners through macrocores using the Geoprobe® unit. Borings will be advanced to approximately five feet below the groundwater interface (the water table is present at approximately 13 feet below grade).

New, dedicated disposable acetate sleeves will be used for all soil samples collected using the Geoprobe. Split spoons will be decontaminated between samples, as described in Section 3.11.

The sleeves and split spoons for each sample interval will be opened and the soil will be screened for volatile organic compounds (VOCs) using a photoionization detector (PID) equipped with an 11.7 eV ionization potential lamp and geologically described using the Unified Soil Classification System, including documentation of observations regarding potential contamination such as odors, staining, etc. Soil will be screened from grade to the terminal depth of each boring. If evidence of contamination (elevated PID readings or odor) is observed, the soil boring will be extended, to the extent possible based on the equipment, to delineate the vertical extend of contamination. All descriptions and observations will be documented in a field notebook.

Both RI borings, SB-RI7 and SB-RI8, will be sampled from the surface (0-2 ft-bg) interval, from the interval of highest suspected contamination and from the first apparent “clean zone” (or at terminal depth).

For source delineation purposes, four step-out borings will be advanced around borings SB-RI1, SB-RI2 and SB-RI6, approximately five feet from the original boring. Four additional step-out borings will be advanced a further five feet from the first step-out borings. Samples will be

collected from the interval of highest suspected contamination for analysis of TCLP PCE and TCE.

Soil samples to be analyzed will be collected directly from the acetate sleeve or split spoon. All collected soil samples will be placed in pre-cleaned, pre-preserved laboratory provided sample bottles, cooled to 4°C in the field, and transported under chain-of-custody command to the designated laboratory for analysis.

Soil samples will be analyzed as follows with a Category B deliverable data package:

RI scope soil sampling:

- Part 375 VOCs by EPA Method 8260C;
- Part 375 SVOCs by EPA Method 8270D;
- Pesticides by EPA Method 8081B;
- PCBs by EPA Method 8082A; and,
- Part 375 Metals by EPA Methods 6010C, 7471B, 7196B, 9010C, 9012B, 9014, 3060A and 7196.

Delineation sampling:

- Toxicity Characteristic Leachate Procedure (TCLP) PCE and TCE by EPA Method 1311.

Upgradient, off-site sampling:

- TCL VOCs by EPA Method 8260C.

3.8 Monitoring Well Installation and Development

Three temporary, shallow monitoring wells will be installed off-site, across Randolph Street. One permanent, shallow/deep monitoring well cluster to evaluate vertical delineation within a cluster well will be installed. Groundwater samples will be collected from all monitoring wells, including the four existing, permanent monitoring wells. Based on the results of the initial remedial investigation (RI), additional delineation monitoring wells may be installed; any additional wells will be installed as described below or in accordance with a NYSDEC-approved plan.

A track-mounted Geoprobe® unit will be used to installed the monitoring wells. For the shallow monitoring wells (MW-5S to MW-9), a ten-foot PVC screen will be installed in the top seven feet of groundwater. The slot size will be determined based on the grain size of the soils encountered. A filter pack of sand will be placed in the annular space around the screens and will extend two feet above the screen. The permanent well will be finished with a flush-mount cover. The temporary wells will be removed and the sidewalk patched after sampling.

For the deep cluster well (MW-5D), a one-inch diameter, five-foot long screen (0.020-inch slot) will be installed five feet above the confining layer (if encountered) or between 30 and 35 ft-bg.

A filter pack of sand (US Std. sieve sizes 30 to 8) will placed in the annular space around the screens and will be extended a minimum two feet above the screen.

Following installation, at least three well volumes will be removed using a submersible peristaltic pump.

3.9 Groundwater Sampling

Prior to sample collection, static water levels will be measured and recorded from all monitoring wells. Monitoring wells will also be gauged for the presence of dense non-aqueous phase liquid (DNAPL). In the event that DNAPL is detected, Tenen will record the thickness and will not collect a sample. If DNAPL is not detected, Tenen will purge and sample monitoring wells using low-flow/minimal drawdown purge and sample collection procedures (peristaltic pump). Prior to sample collection, groundwater will be evacuated from each well at a low-flow rate (typically less than 0.1 L/min). Field measurements for pH, temperature, turbidity, dissolved oxygen, specific conductance, oxidation-reduction potential and water level, as well as visual and olfactory field observations, will be periodically recorded and monitored for stabilization. Purging will be considered complete when pH, specific conductivity, dissolved oxygen and temperature stabilize and when turbidity measurements fall below 50 Nephelometric Turbidity Units (NTU) or become stable above 50 NTU.

Stability is defined as variation between field measurements of 10 percent or less and no overall upward or downward trend in the measurements. Upon stabilization of field parameters, groundwater samples will be collected and analyzed as discussed below.

Wells will be purged and sampled using dedicated tubing following low-flow/minimal drawdown purge and sample collection procedures, as described above.

Prior to, and immediately following collection of groundwater samples, field measurements for pH, specific conductance, temperature, dissolved oxygen, turbidity and depth-to-water, as well as visual and olfactory field observations will be recorded. All collected groundwater samples will be placed in pre-cleaned, pre-preserved laboratory provided sample bottles, cooled to 4°C in the field, and transported under chain-of-custody command to the designated laboratory for analysis.

All groundwater samples will be analyzed for the following with a Category B deliverable data package:

- Part 375 VOCs by EPA Method 8260C.
- Part 375 SVOCs by EPA Method 8270D;
- Pesticides by EPA Method 8081B;
- PCBs by EPA Method 8082A; and,
- Part 375 Metals by EPA Methods 6010C, 7471B, 7196B, 9010C, 9012B, 9014, 3060A and 7196.
- 1,4-Dioxane by EPA Method 8270D SIM; and,
- Perfluoroalkyl acids (PFAAs) by EPA Method 537.

3.10 Soil Vapor and Ambient Air Sampling

Sub-slab soil vapor and ambient air samples will be collected in accordance with the NYSDOH *Guidance for Evaluating Soil Vapor Intrusion in the State of New York*, dated October 2006. Two upgradient and one downgradient soil vapor samples will be collected.

Temporary, exterior soil vapor points will be installed using a track-mounted Geoprobe®. The core will be extended approximately one foot into soils below the sidewalk slab and a sample probe attached to ¼-inch diameter Teflon® tube will be installed. Indoor sub-slab soil vapor points will be installed using a hand held rotary hammer. Access to the sub-slab soil will be gained by drilling through the top surface material (concrete and flooring material) using a drill bit. Upon penetration through the surface material, a disposable sampling probe consisting of a Vapor Pin® or similar. The vapor intake will be installed so that the intake is not deeper than two inches below the slab. The soil vapor sampling probe will be connected to ¼-inch diameter Teflon® tubing to the surface.

The borehole above the sampling probe to grade will be sealed using an inert sealant to prevent ambient air mixing with the soil vapor. Ambient air will be purged from the boring hole by attaching the surface end of the ¼-inch diameter Teflon® tube to an air valve and then to a vacuum pump. The vacuum pump will remove three volumes of air (volume of the sample probe and tube) prior to sample collection. The flow rate for both purging and sample collection will not exceed 0.2 liter per minute.

The soil vapor sample will be first screened for organic vapors using a PID. A tracer gas will be used in accordance with NYSDOH protocols to verify the integrity of the soil vapor probe seal. Helium will be used as the tracer gas and a bucket will serve to keep it in contact with the probe during testing. A portable monitoring device will be used to analyze a sample of soil vapor for the tracer prior to sampling. If the tracer sample results show a significant presence of the tracer, the probe seals will be adjusted to prevent infiltration.

A sample log sheet will be maintained summarizing sample identification, date and time of sample collection, sampling depth, identity of samplers, sampling methods and devices, soil vapor purge volumes, volume of the soil vapor extracted, vacuum of canisters before and after the samples are collected, apparent moisture content of the sampling zone and chain of custody

Soil vapor and indoor air samples will be collected in laboratory-supplied 6-liter Summa canisters using eight-hour regulators. One ambient air sample will be collected in laboratory-supplied six-liter canisters using an eight-hour regulator during soil vapor sample collection. All soil vapor and ambient air samples will be analyzed for VOCs using EPA Method TO-15.

3.11 Analytical Methods/Quality Assurance Summary Table

A summary of the analytical methods and quality assurance methods are included in Table 1, below.

Table 1
Analytical Methods/Quality Assurance Summary

Matrix	Proposed Samples	QA/QC Samples				Total # Samples	Analytical Parameter	Method	Preservative	Holding Time	Container
		TB	FB	DUP	MS/MSD						
Soil	11	1	1	1	1	15	VOCs	8260C	Cool to 4°C, No Headspace	14 days to analysis	(3) Encores®
	9	0	1	1	1	12	SVOCs	8270D	Cool to 4°C		(2) 250 mL clear glass bottle
	9	0	1	1	1	12	Pesticides	8081B			
	9	0	1	1	1	12	PCBs	8082A			
	9	0	1	1	1	12	Metals	6010C, 7471B, 7196B, 9010C, 9012B, 9014, 3060A and 7196			
	15 with 12 on-hold	0	0	0	0	15 to 27	TCLP VOCs, PCE and TCE	1311			

Matrix	Proposed Samples	QA/QC Samples				Total # Samples	Analytical Parameter	Method	Preservative	Holding Time	Container
		TB	FB	DUP	MS/MSD						
Groundwater	10	1	1	1	1	15	VOCs	8260C	Cool to 4°C HCL		(3) 40 mL clear glass vials
	10	0	1	1	1	14	SVOCs	8270	Cool to 4°C		(6) 1 L amber glass bottles
	10	0	1	1	1	14	Pesticides	8081B	Cool to 4°C		
	10	0	1	1	1	14	PCBs	8082A	Cool to 4°C		
	10	0	1	1	1	14	Total TAL Metals	6010C, 7471B, 7196B, 9010C, 9012B, 9014, 3060A and 7196	Cool to 4°C HNO3		(1) 500ml plastic bottle
	10	0	1	1	1	14	Dissolved TAL Metals	6010C, 7471B, 7196B, 9010C, 9012B, 9014, 3060A and 7196	Cool to 4°C		(1) 500ml plastic bottle
	10	0	1	1	1	14	1,4-dioxane	8270D SIM	Cool to 4°C		(1) 1 L amber glass bottles
	10	0	1	1	1	14	PFAAs	537	Cool to 4°C, Trizma		(1) 250 mL plastic bottle

Matrix	Proposed Samples	QA/QC Samples				Total # Samples	Analytical Parameter	Method	Preservative	Holding Time	Container
		TB	FB	DUP	MS/MSD						
Soil Vapor	11	No QA/QC samples				11	VOCs	TO-15	None		6 L Summa
Indoor Air	8					6			None		6 L Summa
Ambient Air	1					1			None		6 L Summa

TB – Trip Blank
°C – degrees Celsius
FB – Field Blank
mL – milliliter
DUP – Duplicate
L – liter

3.12 Decontamination

Where possible, samples will be collected using new, dedicated sampling equipment so that decontamination is not required. All non-dedicated drilling tools and equipment will be decontaminated between boring locations using potable tap water and a phosphate-free detergent (e.g., Alconox) and/or a steam cleaner. All non-dedicated sampling equipment will also have a final rinse with deionized water. Decontamination water will be collected and disposed as investigation-derived waste (IDW).

3.13 Data Review and Reporting

The NYSDEC ASP Category B data package will be validated by an independent data validation subconsultant and a DUSR summarizing the results of the data validation process will be prepared. All reported analytical results will be qualified as necessary by the data validation and will be reviewed and compared against background concentrations and/or applicable New York State criteria:

Soil – Unrestricted, Commercial and Protection of Groundwater Soil Cleanup Objectives (SCOs) as listed in 6NYCRR Part 375;
Groundwater – Class GA groundwater standards and guidance values for groundwater as listed in NYSDEC Technical and Operations Guidance Series (TOGS) 1.1.1; and,
Soil Vapor – NYSDOH Air Guidance Values (AGVs) and Matrices, as applicable, and ambient air sample results.

Based on the selected VOC analysis method for soil, the following qualifiers will be employed:

- "JL" for results less than 200 micrograms per kilogram (ug/kg); and,
- "UJL" for non detect results.

These are meant to indicate that the results are biased low in both cases. All Part 375 Commercial Use soil cleanup objectives (SCOs) for VOCs are greater than 200 ug/kg.

Following receipt of preliminary laboratory results and groundwater flow direction is determined from the survey of three permanent monitoring wells, additional monitoring wells will be proposed to delineate groundwater contamination further away from the impacted area. A report documenting the Remedial Investigation will be prepared, and will describe Site conditions and document applicable observations made during the sample collection. In addition, the report will include a description of the sampling procedures, tabulated sample results and an assessment of the data and conclusions. The laboratory data packages, DUSR, geologic logs, well construction diagrams, and field notes will be included in the report as appendices. All data will also be submitted electronically to NYSDEC via the Environmental Information Management System (EIMS) in EqUIS format.

Figures

Basemap: ESRI - World Topo Map

Site Location

0 1,000 2,000 4,000 Feet

http://gis.nyc.gov/taxmap/map.htm

Department of Finance Digital Tax Map

0 150 300 600 Feet

Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User NYC Department of City Planning, Information Technology Division

Department of City Planning MapPLUTO - 2016 v2

0 150 300 600 Feet

Site

255 Randolph Street
Brooklyn, New York
Block 2979, Lot 45
BCP #C224247

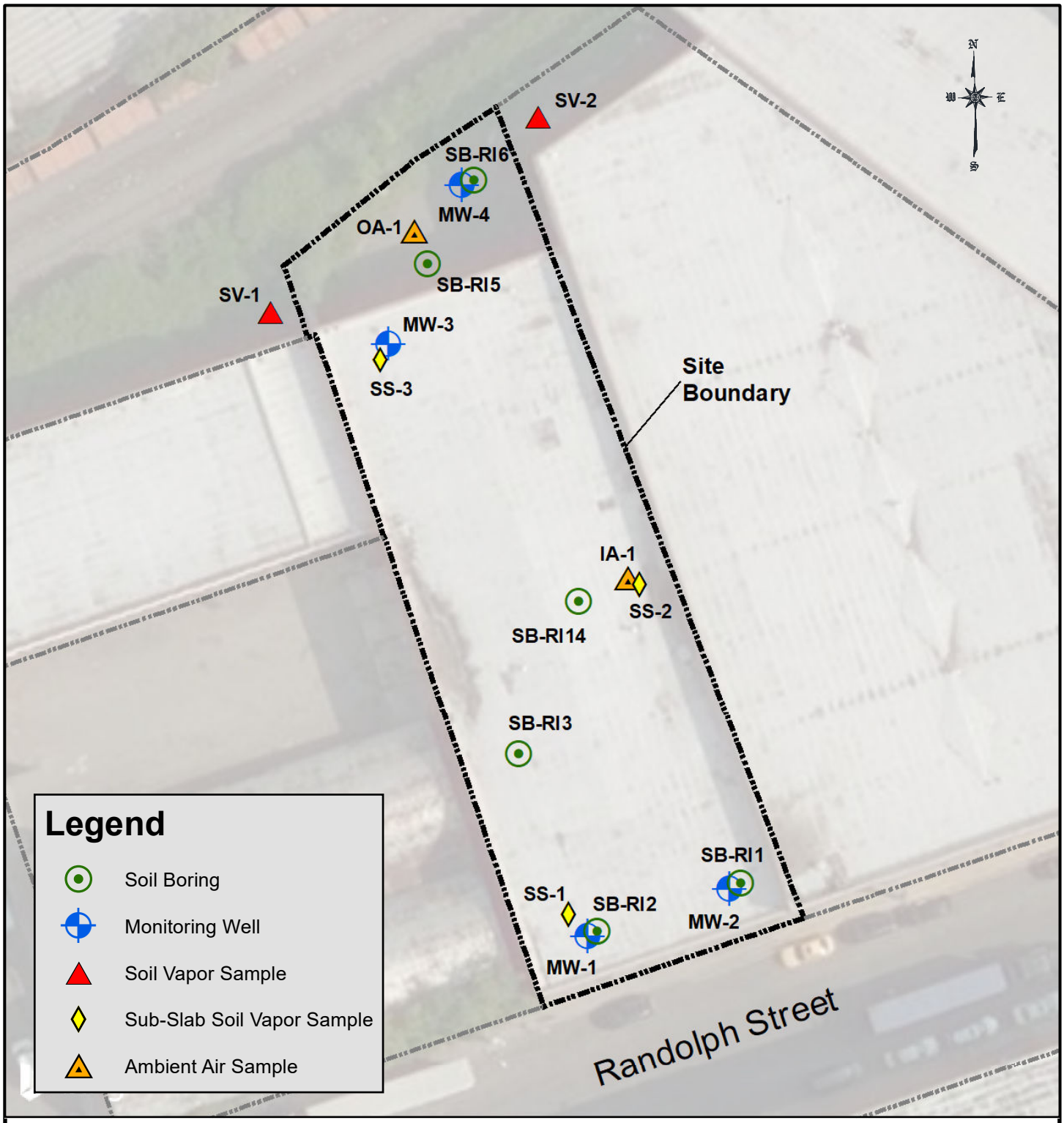
TENEN ENVIRONMENTAL

Tenen Environmental, LLC
121 West 27th Street
Suite 702
New York, NY 10001
O: (646) 606-2332
F: (646) 606-2379

Drawn By	Checked By	Date	Scale
LM	MC	December 2017	As Noted

Drawing Title: **Site Location Map**

Drawing No: **Figure 1**



Sample Locations from Laurel Environmental Associates, Huntington Station, NY, 255 Randolph Street, Brooklyn, NY, Site Sketch and Historic Sample Map. Fig.2, 7/28/2016

Feet
0 20 40 80

Drawing No.: Figure 2	Drawn By: LM	TENEN ENVIRONMENTAL	Site: 255 Randolph Street Brooklyn, New York Block 2979, Lot 45
	Checked By: MC	Tenen Environmental, LLC 121 West 27th Street, Suite 702 New York, NY 10001 O: (646) 606-2332 F: (646) 606-2379	
Drawing Title: Site Sketch and Historic Sample Map	Date: February 2018		
	Scale: As Noted		

Appendix A

Resumes

Mohamed Ahmed, Ph.D., C.P.G.
Sr. Geologist/Principal

Experience Summary

Mohamed Ahmed is a certified professional geologist with nearly 23 years of experience in the New York City metropolitan area. He has designed and implemented subsurface investigations and is proficient in groundwater modeling, design of groundwater treatment systems and soil remediation. He has managed numerous projects focused on compliance with the New York State Brownfield Cleanup and Spills programs and the New York City "e" designation program. Dr. Ahmed also has extensive experience in conducting regulatory negotiations with the New York State Department of Environmental Conservation, the NYC Office of Housing Preservation and Development, and the Mayor's Office of Environmental Remediation.

Selected Project Experience

Willoughby Square, Downtown Brooklyn
As Project Manager, directs all regulatory interaction and investigation on this joint public-private sector redevelopment that will include a public park and four-level underground parking garage. Prepared the remedial investigation work plan and remedial action work plan, conducted investigation activities and waste characterization, and negotiated with the NYC Department of Environmental Protection and the Mayor's Office of Environmental Remediation to transition the site into the NYC Voluntary Cleanup Program.

School Facility, Borough Park, Brooklyn
Managed all regulatory agency coordination, work plan and report preparation and remedial oversight; worked with OER to determine measures to retroactively address the hazardous materials and air quality E-designations on a previously constructed school building and prepared supporting documentation to justify the use of electrical units rather than natural gas.

LGA Hotel Site, East Elmhurst, Queens
Project manager for all work conducted at this former gasoline service station which is being remediated under the NYS Brownfield Cleanup Program; technical oversight of work plans, reports, and design and implementation of field and soil disposal characterization.

436 10th Avenue, Manhattan
As project manager and technical lead, assisted client in developing remedial cost estimates used for property transaction, developed regulatory strategy to address NYS Spills and NYC E-designation requirements, and currently overseeing remedial activities which include removal and disposal of petroleum-contaminated bedrock and dewatering and disposal of impacted groundwater.

Brownfield Cleanup Program Site, Downtown Brooklyn
Managed investigation and remediation under the BCP program for a proposed mixed-use development; designed the remedial investigation and prepared the remedial action work plan which includes an SVE system monitored natural attenuation. Prepared remedial cost

estimates for several scenarios. The project will include a 53-story mixed-use structure and parking garage.

Queens West Development, Long Island City
Directed project team and subcontractors for soil investigation/remediation studies on multiple properties; provided technical support for negotiations with NYSDEC during investigation and remediation.

Former Creosote Site, Long Island City
Designed and implemented a complex investigation to assess the nature and extent of historic creosote contamination at this former industrial site; conducted studies to optimize recovery of LNAPL and DNAPL and developed strategies using bioremediation and natural attenuation in conjunction with conventional remedial approaches. Performed pilot tests for soil vapor extraction system design and coordinated with NYSDEC and NYSDOH to implement sub-slab soil vapor sampling.

NYSDEC Spill Site – Far West Side, Manhattan
Developed a detailed remedial cost estimate for to support client negotiations with a major oil company. The estimate included costs pertaining to: chipping, removal and disposal of petroleum-impacted bedrock; removal/disposal of recycled concrete; costs for dewatering and disposal of impacted groundwater during construction; and design and installation of a vapor barrier below the redevelopment.

Active Industrial Facility, Newburgh, New York
Designed remedial investigation of soil and groundwater contaminated with trichloroethane; performed soil vapor pilot test and pump test to aid in design of soil and groundwater remediation alternatives; conducted sub-slab vapor sampling in accordance with NYSDOH guidance.

Former Dry Cleaning Facility, New York City
Conducted soil and groundwater investigations, designed and installed a soil vapor extraction system and performed extensive testing of indoor air. Negotiated the scope of the RI and IRM with NYSDEC.

Waterfront Redevelopment, Yonkers, NY
Designed and performed geophysics survey of six parcels to determine locations of subsurface features; supervised test pit excavation to confirm geophysics results and evaluate and classify soil conditions prior to development activities.

Prince's Point, Staten Island, New York
Performed soil, groundwater and sediment sampling to delineate the extent of contamination; used field-screening techniques to control analytical costs and supervised soil excavation and disposal.

Apartment Complex, New York City, New York
Coordinated with Con Edison, the owner of the adjacent property and NYSDEC to determine oil recovery protocol; assessed hydrogeological conditions and conducted pilot tests to design cost-effective recovery system; designed and supervised installation of recovery system.

Publications

"Impact of Toxic Waste Dumping on the Submarine Environment: A Case Study from the New York Bight". Northeastern Geology and Environmental Sciences, V. 21, No. 12, p. 102-120. (With G. Friedman)

Metals Fluxes Across the Water/Sediment Interface and the Influence of pH. Northeastern Geology and Environmental Sciences, in press. (With G. Friedman)

"Water and Organic Waste Near Dumping Ground in the New York Bight". International Journal of Coal Geology, volume 43. (With G. Friedman)

Education and Certifications

Ph.D., Earth and Environmental Sciences, Graduate Center of the City of New York (2001)
M.Ph., Earth and Environmental Sciences, City University of New York (1998)
M.A. Geology, Brooklyn College (1993)
B.S. Geology, Alexandria University, Egypt (1982)

American Institute of Professional Geologists, Certified Professional Geologist, 1997-2015

Matthew Carroll, P.E.
Environmental Engineer/Principal

Experience Summary

Matthew Carroll is an environmental engineer experienced in all aspects of site assessment and development and implementation of remedial strategies. He has managed projects from inception through investigation, remediation and closure. His expertise includes soil, soil gas, and groundwater remediation, preparation of cost estimates, remedial alternative selection and design, soil characterization for disposal, field safety oversight, and preparation of work plans and reports to satisfy New York and New Jersey state requirements, and New York City "e" designation and restrictive declarations. Mr. Carroll's project management experience includes past management of a New York City School Construction Authority hazardous materials contract. He is responsible for all engineering work performed by Tenen and is currently the project manager and remedial engineer for several New York State Brownfield Cleanup Program sites.

Selected Project Experience

470 Kent Avenue, Brooklyn
As project manager, supported the client in due diligence and transactional activities, including a Phase I ESA, preliminary site investigation, and remedial cost estimate; preparation of BCP application and remedial investigation work plan. The former manufactured gas plant, sugar refinery and lumberyard will be developed as a mixed-use project with market rate and affordable housing and public waterfront access. As remedial engineer, will be responsible for development of remedial alternatives and oversight and certification of all remedial activities.

500 Exterior Street, Bronx
Designed and implemented the investigation of this former lumberyard and auto repair shop that will be redeveloped as mixed use development with an affordable housing component; prepared BCP application and subsequent work plans and reports. Designed a remedial strategy incorporating both interim remedial measures (IRMs) and remediation during the development phase.

Gateway Elton I and II, Brooklyn
Conducted soil disposal characterization, prepared Remedial Action Work Plans and designed methane mitigation systems for two phases of a nine-building residential development and commercial space; prepared and oversaw implementation of a Stormwater Pollution Prevention Plan during construction and prepared and certified the remedial closure reports for the project.

Affordable Housing Development, Rye, NY
Consultant to the City of Rye on environmental issues pertaining to a county-owned development site slated for an afford senior housing; reviewed environmental documentation for the project and prepared summary memorandum for City Council review; recommended engineering controls to address potential exposure to petroleum constituents, presented report findings at public meetings and currently providing ongoing environmental support during project implementation.

Queens West Development BCP Site, Long Island City, New York
Assistant Project Manager for two developers involved in the site.

- Responsible for oversight of remediation under the New York State Brownfield Cleanup Program
- Technical review of work plans and reports and coordination of the Applicant's investigation and oversight efforts
- Provided input for mass calculations and well placement for an in-situ oxidation remedy implemented on a proposed development parcel and within a City street
- Conducted technical review of work pertaining to a former refinery. Documents reviewed included work plans for characterization and contaminant delineation; pilot test (chemical oxidation); remediation (excavation and groundwater treatment). Managed field personnel conducting full time oversight and prepared progress summaries for distribution to project team
- Following implementation of remedial action, implemented the Site Management Plan and installation/design of engineering controls (SSDS, vapor barrier/concrete slab, NAPL recovery). Also responsible for coordination with NYSDEC

Brownfield Cleanup Program Redevelopment Sites – West Side, New York City
Managed remediation of a development consisting of four parcels being addressed under one or more State and city regulatory programs (NYS Brownfield Cleanup Program, NYS Spills, and NYC "e" designation program). Remediation includes soil removal, screening and disposal; treatment of groundwater during construction dewatering and implementation of a worker health and safety plan and community air monitoring plan (HASP/CAMP)

Managed an additional BCP site, supported the Applicant in coordination with MTA to create station access for the planned No. 7 subway extension; also provided support the client in coordination with Amtrak to obtain access for remedial activities on the portion of the site that is within an Amtrak easement. The site will eventually be used for construction of a mixed-use high-rise building.

BCP Site, Downtown Brooklyn, New York
Performed investigation on off-site properties and designed an SSDS for an adjacent building, retrofitting the system within the constraints of the existing structure; coordinated the installation of the indoor HVAC controls and vapor barrier; provided input to the design of a SVE system to address soil vapor issues on the site.

West Chelsea Brownfield Cleanup Program Site
Designed an in-situ remediation program and sub-slab depressurization system to address contamination remaining under the High Line Viaduct; SSDS design included specification of sub-grade components, fan modeling and selection, identifying exhaust location within building constraints and performance modeling; prepared the Operations Maintenance and Monitoring Plan and Site Management Plan sections pertaining to the SSDS.

Historic Creosote Spill Remediation – Queens, New York – New York State Voluntary Cleanup Program
Modeled contamination volume and extent and prepared mass estimates of historic fill constituents and creosote-related contamination; designed a soil vapor extraction (SVE) and dewatering system to address historic creosote release both above and below static

water table; coordinated with the Metropolitan Transit Authority and prepared drawings to secure approval to drill in the area of MTA subway tunnels.

NYSDEC Spill Site– Far West Side, Manhattan
Provided support to client during negotiations with a major oil company regarding allocation of remedial costs. Worked with client's attorney to develop a regulatory strategy to address the client's obligations under the NYSDEC Spills Program and the New York City "e" designation requirements.

Affordable Housing Site, Brooklyn, New York
Modified prior work plans for soil, soil vapor and groundwater investigation to address requirements for site entry into the New York City Brownfield Cleanup Program. Prepared technical basis for use of prior data previously disallowed by OER. Currently conducting site investigation.

New York City School Construction Authority Hazardous Materials Contract
Provided work scopes and cost estimates, managed and implemented concurrent projects, including Phase I site assessments, Phase II soil, groundwater and soil gas investigations, review of contractor bid documents, preparation of SEQR documents, specifications and field oversight for above- and underground storage tank removal, and emergency response and spill control.

Former Manufacturing Facility, Hoboken, New Jersey
Evaluated site investigation data to support a revision of the current property use to unrestricted; modified the John & Ettinger vapor intrusion model to apply the model to a site-specific, mixed use commercial/residential development; implemented a Remedial Action Work Plan that included the characterization, removal and separation of 9,500 cubic yards of historic fill; designed and implemented a groundwater characterization/delineation program using a real-time Triad approach; designed and implemented an innovative chemical oxidation technology for the property.

F**ormer Varnish Manufacturer – Newark, New Jersey**
Prepared a Phase I environmental site assessment; implemented soil and groundwater sampling to assess presence of petroleum and chlorinated compounds; prepared alternate cost remediation scenarios for settlement purposes and implemented a groundwater investigation plan, including pump tests and piezometer installation to assess the effect of subsurface utilities and unique drainage pathways upon contaminant transport.

Education and Certifications

Professional Engineer, New York
Bachelor of Engineering, Environmental; Stevens Institute of Technology, 2002
Bachelor of Science, Chemistry, New York University, 2002
Technical and Regulatory Training in Underground Storage Tanks, Cook College, Rutgers University, 2006

KENNETH P. WENZ, JR., C.P.G., L.E.P., P.G.

EDUCATION:

COLGATE UNIVERSITY, B.A., Geology, May 1983.
UNIVERSITY OF MASSACHUSETTS, AMHERST, M.S., Geology, December 1988.

LICENSES/REGISTRATIONS/CERTIFICATIONS:

CERTIFIED PROFESSIONAL GEOLOGIST, C.P.G. 8934
NEW YORK STATE PROFESSIONAL GEOLOGIST, License No. 000096
LICENSED ENVIRONMENTAL PROFESSIONAL (CONNECTICUT), L.E.P. 408
REGISTERED PROFESSIONAL GEOLOGIST (PENNSYLVANIA), P.G. PG-001273-G
OSHA HAZWOPER Certified

EXPERIENCE:

SENIOR PROJECT MANAGER/SENIOR GEOLOGIST
LAUREL Environmental Associates, Ltd.

Duties include the following:

- Supervise technical staff.
- Phase I Environmental Site Assessments.
- Phase II Environmental Site Assessments.
- State Superfund Site Investigation/Remediation Programs.
- Groundwater Contamination Studies.
- Underground Injection Control Remediation and Closure.
- Vapor Intrusion Investigations.
- Project management.

May 2016 - present

SENIOR PROJECT MANAGER/SENIOR GEOLOGIST
Genesis Engineering and Redevelopment, Inc.

Duties included the following:

- Phase II Environmental Assessments.
- Contributing Source Investigations.
- Groundwater Contamination Studies.
- Hazardous Site Remediation.
- State Superfund Site Investigations.
- Soil Vapor/Indoor Air Quality studies.

April 2011 – May 2016

SENIOR PROJECT MANAGER/SENIOR GEOLOGIST
Holzmacher, McLendon & Murrell, P.C.

Duties included the following:

- Supervise technical staff.
- Project management.
- Phase I Environmental Site Assessments.
- Phase II Environmental Site Assessments.
- Federal Superfund Site Investigation/Remediation Programs.
- Landfill Post-Closure Monitoring Programs.
- Groundwater Contamination Studies.
- Underground Injection Control Investigation, Remediation, and Closure.
- Spill Investigation and Remediation.

March 2007 – October 2010

SENIOR ASSOCIATE
Dvirka and Bartilucci Consulting Engineers

Duties included the following:

- Supervise technical staff.
- Project management.
- Phase I Environmental Site Assessments.
- Phase II Environmental Site Assessments.
- State Superfund Investigation/Remediation Programs.
- Landfill Post-Closure Monitoring Programs.
- Soil and Groundwater Contamination Studies.
- Spill Investigation and Remediation.

September 1997 – March 2007

SENIOR PROJECT HYDROGEOLOGIST
ERM-Northeast

Duties included the following:

- Design and implementation of site investigation programs.
- Phase I Environmental Site Assessments.
- Phase II Environmental Site Assessments.
- Sampling and Remediation Inspection for Underground Storage Tanks.
- State Superfund Site Investigations.
- Data assessment and report preparation.

July 1989 – August 1997

GEOLOGIST
U.S. Environmental Protection Agency

Duties included the following:

- Internal consultant to Superfund and RCRA Programs.
- Sole Source Aquifer designation and review of projects within Sole Source Aquifers.
- Technical management of federal groundwater grant to New Jersey.

April 1987 – July 1989

AFFILIATIONS

American Institute of Professional Geologists (National Screening Board member 1996 - Present)
Environmental Professionals Organization of Connecticut
Long Island Association of Professional Geologists (Board member 1996 – Present, Vice-President 2016 - Present)
National Ground Water Association
New York State Council of Professional Geologists (Outreach Committee member, 2015 – Present)
Pennsylvania Council of Professional Geologists

EDGEWATER ENVIRONMENTAL, INC.

Stephen R. Hix, LEED AP

President/Principal Environmental Consultant

10 ADAMS PLACE
HUNTINGTON STATION, NEW YORK 11746

Office: (631) 824-7036
Fax: (631) 759-2919
Cell Phone: (631) 889-1253
Email: hix.stephen@gmail.com

Edgewater Environmental provides quality consulting services based on over thirty years of hands-on experience in the environmental field. The firm's principal environmental scientist has held high level management and technical positions at several large and well-known corporations, providing services to both the private and public sector.

PROJECT EXPERIENCE

ENVIRONMENTAL INVESTIGATIONS, REMEDIATION AND DUE-DILIGENCE

Commercial/Industrial Real Estate Developer/Property Owner, Long Island and Metro NYC. Edgewater Environmental (EEI) provides on-call environmental services related to due diligence, site investigations and remediation, and regulatory compliance.

Commercial Shopping Center, Carle Place, NY. EEI investigated sub-slab soil vapor at a shopping center and installed an interim sub-slab depressurization system. As a follow up, EEI managed the RCRA closure of a former industrial facility as well as a Site Characterization at the site. .

Steam Co-Generation Plant, Akron, Ohio. Prepared a Phase I Environmental Site Assessment of a co-generation power plant. The steam plant contains three boilers (350-400,000 pound steam/hour) and associated water treatment and emissions control equipment. The boilers are capable of using natural gas, wood chips, shredded tire chips, and off-spec waste oil as fuel.

Former Gasoline Station, Hempstead NY. Prepared a Phase I Environmental Site Assessment of a closed filing station with multiple reported spills.

Automotive Repair and Heavy Equipment Storage Properties, Huntington NY. Completed Phase I ESAs for two commercial properties, followed by site investigations, storage tank removal, site remediation, and closure of two petroleum spills.

West End Avenue, New York, NY. *10 West End Avenue, LLC.* Managed the site investigation and remediation related to a large-scale residential redevelopment of a former gas station and commercial buildings. The work included Phase II Environmental Site Investigation, soil management plan preparation and oversight, dewatering system design and permitting, and environmental construction management.

Oil Spill Remediation, Port Washington, NY. *Village of Port Washington North.* Managed the remediation of historic oil contamination uncovered during waterfront construction.

Groundwater Treatment System Installation. *Cofire Industries*. Managed the installation of a dual-phase extraction system. The construction work included trenching, piping, vaults, and well head installation.

On-Call Consulting Agreement, Bethpage, NY, *Northrop Grumman Corporation.* Project Manager for on-call environmental services for underground storage tank (UST) closures, subsurface investigations, and Phase I/II environmental site assessments at Northrop Grumman's Bethpage facility. The scope of

the UST projects included closure management, investigation, and remediation related to gasoline; Nos. 2, 4, and 6 fuel oil; and waste oil tanks. The contract included 15 to 20 tanks.

Property Condition Assessment, John F. Kennedy International Airport (JFK), Queens, NY, *Air France Air Cargo.* Project Manager responsible for managing the post-lease property condition assessment of Air France's air cargo facility at JFK. The assessment addressed architectural and structural components; mechanical, plumbing, and electrical systems; and environmental concerns at the facility. Cost estimates were developed for repairs.

In Situ Soil Characterization, New York, NY, *Picone-McCullagh Joint Venture.* Senior Project Manager responsible for three projects requiring the characterization of contaminated soil to be excavated for the construction of upgrades to sewage treatment plants. The project included the preparation of work plans for in situ soil sampling; field sampling work; the preparation of summary reports; and coordination with disposal facilities, drilling subcontractors, and the laboratory.

Demolition of Building and Structures at the Morris Park Facility, Queens, NY, *Long Island Rail Road (LIRR)*. Environmental Scientist responsible for environmental testing for the demolition of seven buildings and structures at the LIRR's Morris Park facility. Work included a physical site survey, an environmental assessment with soil sampling and analysis, and utility mapping. The project also involved drawings and specifications identifying the nature and condition of the buildings and structures to be demolished and showing utility modifications, shut-offs, and removals needed to facilitate abandonment and the maintenance of services to remaining buildings and structures. Dust control and rubble removal and disposal were major elements of the design.

Old Bethpage Landfill Groundwater Monitoring, Bethpage, NY, *Town of Oyster Bay.* Project Director responsible for overseeing a groundwater monitoring program at this closed municipal landfill, a federal Superfund site. The monitoring program consisted of quarterly sample collections, data analysis and interpretation, groundwater flow direction mapping, and report preparation.

Long Island MacArthur Airport Terminal Expansion Project, Islip, NY, *Southwest Airlines/Aviation Constructors, Inc.* Project Manager for the natural resource, hydrogeological, air quality modeling, and traffic impact analysis work for the Federal Aviation Administration (FAA) environmental assessment required for a four-gate expansion of the airport terminal. Prepared New York's State Environmental Quality Review Act (SEQRA) environmental assessment forms for the terminal expansion, parking lot construction, and airfield drainage projects.

Asbestos Management Program, Bristol, PA, *Confidential Construction Chemical Manufacturer.* Project Manager responsible for developing an operations and maintenance program for the in-place management of asbestos materials until an abatement program could be implemented in the company's Bristol, Pennsylvania, facility. Prepared the asbestos abatement specifications for the removal of the cementitious asbestos material applied to the facility's ceiling and directed environmental construction management services for the asbestos abatement work.

Phase I/II Environmental Site Assessments, Southampton, NY, *Korn & Spirn, Attorneys.* Senior Project Manager responsible for Phase I and II environmental assessments at a former printing facility. The Phase II assessment focused on known off-site sources and on-site sanitary and stormwater systems.

Environmental Assessment, Memphis, TN, *ESA1.* Project Manager for Phase II environmental assessments of two industrial sites in Memphis, Tennessee. Site work included collecting soil and groundwater samples for metal and organic analyses.

Pelham Bay Landfill, Bronx, NY, *New York City Department of Sanitation.* Group Manager in charge of the monthly monitoring of gas extraction wells and the gas flow system at the landfill. The scope of work also includes the quarterly monitoring of gas monitoring wells and surface gas monitoring points.

A&A Landfill, Staten Island, NY, *CSX Transportation, Inc.* Group Manager in charge of quarterly groundwater and surface water sampling and explosive soil gas monitoring for a landfill closure investigation. Manages the review and evaluation of laboratory data and the development of potentiometric maps and summary reports. Oversees field analyses of groundwater and wetlands and the monthly measurements of groundwater elevations as part of phytoremediation operations and maintenance.

Environmental Monitoring, Queens, NY, *Salem Fields Cemetery.* Group Manager in charge of quarterly groundwater sampling and explosive soil gas monitoring.

Long Island City Diesel Yard, Long Island, NY, *Long Island Rail Road*. Discipline Manager for an environmental design investigation and the remediation design required for improvements to the Long Island City Diesel Yard. The environmental scope of work included demolition, asbestos abatement, and soil/groundwater remediation.

Train Wash Facilities at Babylon, Ronkonkoma, and Port Jefferson, Long Island, NY, *Long Island Rail Road*. Discipline Manager for an environmental design investigation and the remediation design required for the construction of three train wash facilities. The environmental scope of work included demolition, soil investigations, and remediation.

Williamsburg Bridge, New York, NY, *New York City Department of Transportation.* Environmental Project Manager for two bridge rehabilitation contracts involving the removal, handling, and disposal of lead paint. Developed hazardous waste compliance programs, air monitoring studies, and hazardous materials handling programs. Managed asbestos abatement, building demolition, underground storage tank removal work, and contaminated soils remediation efforts.

Verrazano-Narrows Bridge Rehabilitation, New York, NY, *MTA Bridges and Tunnels.* Environmental Project Director responsible for environmental compliance programs during a painting and steel repair project on the Verrazano-Narrows Bridge. The programs included ambient air monitoring, containment system inspections, and hazardous waste management related to abrasive blasting operations.

Bronx-Whitestone Bridge Rehabilitation, New York, NY, *MTA Bridges and Tunnels.* Environmental Project Director responsible for environmental compliance programs for a main cable rehabilitation project on the Bronx-Whitestone Bridge. The programs included ambient air monitoring, containment system inspections, and hazardous waste management related to abrasive blasting operations.

Throgs Neck Bridge Rehabilitation, New York, NY, *MTA Bridges and Tunnels.* Environmental Project Manager for environmental compliance programs during the rehabilitation of the on/off ramps between the Throgs Neck Bridge and the Cross Island Parkway.

Plant Closure Inspection, Calverton, NY, *Northrop Grumman Corporation.* Project Manager responsible for the inspection of 85 buildings at the Naval Weapons Industrial Reserve Plant for asbestos-containing materials requiring repair and removal as part of the manufacturing facility's closure. Developed asbestos abatement specifications for the removal and repair of the damaged materials and directed construction management, inspections, and project air monitoring for the asbestos abatement and demolition work. The demolition work included dismantling 15 buildings and removing 12 to 15 underground storage tanks.

Redevelopment of the New Rochelle Mall, Westchester County, NY, *New Roc Associates.* Project Manager responsible for a comprehensive design survey, environmental abatement plans, and the development of specifications for the demolition of a mall in New Rochelle. The design documents included asbestos abatement, hazardous materials removal, Freon recovery, and underground storage tank removal. Assisted with bid-phase coordination and environmental construction management for the abatement and remediation work.

Holnam-Mason City Environmental Demolition Project, Mason City, IA, *Holnam, Inc.* Environmental Demolition Project Manager responsible for the inspection of ten structures at a cement manufacturing plant. The structures had been selected for demolition, and the purpose of the inspection was to identify hazardous materials, such as asbestos, lead paint, and petroleum products, that would need to be addressed prior to the demolition work. The structures included a 400-foot cement kiln, eight 100-foot-high blending silos, blending and storage buildings, and several other derelict buildings. The findings were used to direct the demolition contractor with regard to asbestos abatement and hazardous material requirements.

Fairchild Republic Site Closure, Farmingdale, NY, *Fairchild Corporation.* Project Manager for the design of asbestos abatement and demolition specifications to decommission a 30-building manufacturing facility. The demolition design addressed lead paint, polychlorinated biphenyl (PCB), and solvent contamination.

City Buildings, Glen Cove, NY, *City of Glen Cove.* Project Manager responsible for the design and management of asbestos abatement work in three city buildings. The fast-tracked design provided the City with bid documents to meet their expedited bidding and construction schedule.

Asbestos Abatement Program, Syosset, NY, *Town of Oyster Bay Department of Public Works.* Project Manager responsible for designing and managing asbestos abatement and boiler demolition projects in several municipal buildings. Variances were required to perform the work in a safe and cost-effective manner while not disturbing the Town's operations.

Industrial Facility Remediation, New York, NY, *Preferred Plating.* Environmental Project Manager responsible for the preparation of remedial work plans, environmental site management, and final documentation for a former electroplating facility. Site work included the excavation of 2,000 tons of metals-contaminated soils from storage pits and backing pools at a Comprehensive Environmental Responsibility, Compensation, and Liability Act (CERCLA) site.

Cerro Wire Site Closure, Syosset, NY, *Tribune Company.* Environmental Project Manager responsible for designing and managing the asbestos removal and decontamination program in an abandoned seven-building manufacturing complex. Managed and oversaw the groundwater monitoring program and the removal of copper-contaminated soils.

Environmental Compliance Audit, Seattle, WA, *Vestar Capital Partners.* Environmental Manager responsible for conducting a prepurchase environmental compliance audit of an aerospace manufacturing firm. The site assessment included worker health and safety in addition to the typical environmental areas of concern. Phase II sampling was conducted to assess the groundwater and soil conditions at the site.

Environmental Compliance Audits, Jamestown, NY, and Berlin, PA, *Dean Foods.* Environmental Manager responsible for conducting an environmental compliance audit of two food processing facilities. The areas of concern were the handling and disposal of wastewater and hazardous wastes.

Environmental Site Assessments, Various Locations, U.S., *Simpson Thacher & Bartlett.* Environmental Manager responsible for conducting environmental site assessments at facilities in Chicago and Evanston, Illinois; Saint Louis, Missouri; and Seattle, Washington. The facilities manufactured warehouse electronic components and cabling. Stormwater discharges were the primary areas of concern.

WETLANDS PERMITTING AND RESTORATION

Tidal Wetland Design, Flushing Creek, NY. *Tully Construction*. Managed the design of approximately three acres of intertidal wetlands along Flushing Creek, Queens, New York. The restoration design was part of a NYS Department of Transportation Whitestone Expressway improvements project. The design

included removal of invasive species (*Phragmites*), grading the shoreline to maximize the intertidal zone, and planting with *Spartina alterniflora* along with other woody shrubs.

Tidal Wetland Permit Application, Flushing Creek, NY. *Tully Construction*. Prepared the New York State Wetlands Permit Application for the commercial/industrial use of a NYS Department of Transportation yard located along Flushing Creek.

Tidal Wetland Design and Construction. Hackensack Meadowlands, NJ. *Hartz* Mountain. Managed and prepared wetland mitigation plans for an Army Corps 404 permit regarding the filling of wetlands associated with a multi-use development in New Jersey. Responsible for the restoration of 160 acres of tidal wetlands on the Hackensack River. Secured additional permits, such as special use herbicide, and waterfront development permits. Conducted and managed riverine and wetland sampling programs to support permit applications.

Golf Course Improvements Project, Bellport, NY, *Village of Bellport.* Project Manager responsible for preparing the New York State (NYS) tidal and freshwater wetland permit applications for this golf course improvements project, which involved the modification of tees, greens, and fairways within wetland jurisdictional boundaries. The improvement work included the removal of invasive vegetation by mechanical means. Coordinated and negotiated the NYS permits, as well as approvals from the U.S. Army Corps of Engineers and the U.S. Coast Guard for the work along Howells Creek.

South Plaza Estates, Amityville, NY, *Giannini Construction.* Project Manager responsible for preparing the New York State tidal wetland and U.S. Army Corps of Engineers permit applications for a six-lot waterfront subdivision. The work required agency negotiations, tidal wetland mitigation design, lot size and coverage variances, bulkhead replacement, and dredging. Managed the design of the site plans submitted for Town of Babylon approval. Site plans included the design of the roadway, sanitary sewer collection and water distribution systems, street lighting, and stormwater collection facilities.

Tidal Wetland Permit, Lawrence, NY, *J.T. Coe.* Project Manager responsible for preparing a tidal wetland permit application for the subdivision of a residential property and the demolition of the existing dwelling. Work included delineating the wetland boundary, preparing a site plan, and filing the joint application and associated New York State Environmental Quality Review Act (SEQRA) forms.

Freshwater Wetland Permit Application, Rockville Centre, NY, *Premier Self Storage.* Project Manager responsible for preparing the New York State (NYS) freshwater wetland permit application for the demolition of existing buildings and the redevelopment of a site within the jurisdiction of the NYS Freshwater Wetlands Act.

Tidal Wetlands Permit Applications, Amityville, NY, *Maria Ramirez.* Project Manager responsible for preparing the New York State tidal wetlands permit applications for two waterfront projects along Great South Bay. The first permit included the subdivision of a two-acre parcel into four building lots. The second permit included preliminary site development preparations, such as grading and concrete removal.

Freshwater Wetland Permit Application, Riverhead, NY, *Riverhead Building Supply.* Project Manager responsible for preparing a freshwater wetland permit application for an 18,000-square-foot warehouse expansion. Work included coordinating review-phase negotiations with the New York State Department of Environmental Conservation.

INDUSTRIAL HYGIENE AND SAFETY

Industrial Hygiene Survey, Farmingdale, NY, *Confidential Swimwear Manufacturer.* Project Manager for an industrial hygiene survey to assess formaldehyde exposure related to an employee complaint.

Indoor Air Quality (IAQ) Monitoring Program, New York, NY, *Insignia/ESG.* Project Manager responsible for the quarterly indoor air quality monitoring program at a 37-story, high-rise commercial building. The program included measurements for carbon dioxide, temperature, and relative humidity, as well as inspections of the mechanical rooms. The IAQ monitoring program was part of the building owner's proactive approach to building management.

Energy Control Program, Englewood, NJ, *Admiration Foods/Supreme Oil.* Project Manager for the preparation of an Occupational Safety and Health Administration (OSHA) compliance program addressing lock-out/tag-out of the plant's electrical systems.

Loss Prevention System (LPS) Program, **Atlanta, GA,** *ChevronTexaco Corporation.* Corporate Coordinator for the Chevron Loss Prevention System (LPS) Program for the prevention and reduction of site safety and environmental incidents.

EMPLOYMENT HISTORY

Edgewater Environmental, Inc.
May 2009 to Present
President

Cameron Engineering & Associates, LLP
March 2008 to May 2009
Director of Environmental Services

Trade-Winds Environmental Restoration, Inc.
April 2006 to March 2008
Senior Vice President – Special Projects

Gannett Fleming, Inc.
(Eder Associates prior to 1998)
December 1990 to April 2006
Vice President – Environmental Services Group

TAMS Consultants
July 1986 to December 1990
Project Manager/Senior Environmental Scientist

Ethan C. Eldon Associates
January 1986 to May 1986
Environmental Consultant

New York Testing Laboratories
July 1984 to January 1986
Director of Pollution Engineering

Newing Laboratories
May 1979 to July 1984
Laboratory Manager/Environmental Scientist

EDUCATION

- Long Island University at C.W. Post
  M.S. Marine and Environmental Sciences (course work complete)

- New York State College at Brockport
  B.S. Biology 1977

PROFESSIONAL ASSOCIATIONS & CERTIFICATIONS

- USGBC Leadership in Energy and Environmental Design - LEED AP
- New York Water Environment Association (NYWEA)
- National Groundwater Association
- National Brownfield Association
- Gannett Fleming/Penn State Project Manager Certificate Program

L.A.B. Validation Corp., 14 West Point Drive, East Northport, New York 11731

Lori A. Beyer

SUMMARY: General Manager/Laboratory Director with a solid technical background combined with Management experience in environmental testing industry. Outstanding organizational, leadership, communication and technical skills. Customer focused, quality oriented professional with consistently high marks in customer/employee satisfaction.

EXPERIENCE:

1998-Present L.A.B. Validation Corporation, 14 West Point Drive, East Northport, NY
President
- Perform Data Validation activities relating to laboratory generated Organic and Inorganic Environmental Data.

1998-Present American Analytical Laboratories, LLC. 56 Toledo Street, Farmingdale, NY
Laboratory Director/Technical Director
- Plan, direct and control the operation, development and implementation of programs for the entire laboratory in order to meet AAL's financial and operational performance standards.
- Ensures that all operations are in compliance with AAL's QA manual and other appropriate regulatory requirements.
- Actively maintains a safe and healthy working environmental that is demanded by local laws/regulations.
- Monitors and manages group's performance with respect to data quality, on time delivery, safety, analyst development/goal achievement and any other key performance indices.
- Reviews work for accuracy and completeness prior to release of results to customers.

1996-1998 Nytest Environmental, Inc. (NEI) Port Washington, New York
General Manager
- Responsible for controlling the operation of an 18,000 square foot facility to meet NEI's financial and operational performance standards.
- Management of 65 FTEs including Sales and Operations
- Ensure that all operations are in compliance with NEI's QA procedures
- Ensures that productivity indicators, staffing levels and other cost factors are held within established guidelines
- Maintains a quantified model of laboratory's capacity and uses this model as the basis for controlling the flow of work into and through the lab so as to ensure that customer requirements and lab's revenue and contribution targets are achieved.

1994-1996 Nytest Environmental, Inc. (NEI) Port Washington, New York
Technical Project Manager
- Responsible for the coordination and implementation of environmental testing programs requirements between NEI and their customers
- Supervise Customer Service Department
- Assist in the development of major proposals
- Complete management of all Federal and State Contracts and assigned commercial contracts
- Provide technical assistance to the customer, including data validation and interpretation
- Review and Implement Project specific QAPP's.

1995-1996 Nytest Environmental, Inc. (NEI) Port Washington, New York
Corporate QA/QC Officer
- Responsible for the implementation of QA practices as required in the NJDEP and EPA Contracts
- Primary contact for NJDEP QA/QC issues including SOP preparation, review and approval
- Responsible for review, verification and adherence to the Contract requirements and NEI QA Plan

1992-1994 Nytest Environmental, Inc. (NEI) Port Washington, New York
Data Review Manager
- Responsible for the accurate compilation, review and delivery of analytical data to the company's customers. Directly and effectively supervised a department of 22 personnel.
- Managed activities of the data processing software including method development, form creation, and production
- Implement new protocol requirements for report and data management formats
- Maintained control of data storage/archival areas as EPA/CLP document control officer

1987-1991 Nytest Environmental, Inc. (NEI) Port Washington, New York
Data Review Specialist
- Responsible for the review of GC, GC/MS, Metals and Wet Chemistry data in accordance with regulatory requirements
- Proficient with USEPA, NYSDEC, NJDEP and NEESA requirements
- Review data generated in accordance with SW846, NYSDEC ASP, EPA/CLP and 40 CFR Methodologies

1986-1987 Nytest Environmental, Inc (NEI) Port Washington, New York
GC/MS VOA Analyst

EDUCATION:

1982-1985 State University of New York at Stony Brook, New York; BS Biology/Biochemistry
1981-1982 University of Delaware; Biology/Chemistry
5/91 Rutgers University; Mass Spectral Data Interpretation Course, GC/MS Training
8/92 Westchester Community College; Organic Data Validation Course
9/93 Westchester Community College; Inorganic Data Validation Course

Westchester Community College
Professional Development Center

Awards this Certificate of Achievement To

LORI BEYER

for Successfully Completing

ORGANIC DATA VALIDATION COURSE (35 HOURS)

Dr. John Samuelian

Date AUGUST 1992

Assistant Dean
Professional Development Center

President

The Professional Development Center

SUNY
WESTCHESTER COMMUNITY COLLEGE
Valhalla, New York 10595

Westchester Community College
Professional Development Center

Awards this Certificate of Achievement To

LORI BEYER

for Successfully Completing

INORGANIC DATA VALIDATION

Instructor: Dale Boshart

Date MARCH 1993

Assistant Dean
Professional Development Center

President

The Professional Development Center

SUNY
WESTCHESTER COMMUNITY COLLEGE
Valhalla, New York 10595

New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233

Thomas C. Jorling
Commissioner

July 8, 1992

Ms. Elaine Sall
Program Coordinator
Westchester Community College
Valhalla, NY 10595-1698

Dear Elaine,

Thank you for your letter of June 29, 1992. I have reviewed the course outline for organic data validation, qualifications for teachers and qualifications for students. The course that you propose to offer would be deemed equivalent to that which is offered by EPA. The individuals who successfully complete the course and pass the final written exam would be acceptable to perform the task of organic data validation for the Department of Environmental Conservation, Division of Hazardous Waste Remediation.

As we have discussed in our conversation of July 7, 1992, you will forward to me prior to the August course deadline, the differences between the EPA SOW/90 and the NYSDEC ASP 12/91. You stated these differences will be compiled by Mr. John Samulian.

I strongly encourage you to offer an inorganic data validation course. I anticipate the same list of candidates would be interested in an inorganic validation course as well, since most of the data to be validated consists of both organic and inorganic data.

Thank you for you efforts and please contact me if I can be of any further assistance.

Sincerely,

Maureen P. Serafini

Maureen P. Serafini
Environmental Chemist II
Division of Hazardous Waste
Remediation

The Professional
Development Center
AT
WESTCHESTER COMMUNITY COLLEGE

914 285-6619

October 2, 1992

Ms. Lori Beyer
3 sparkill Drive
East Northport, NY 11731

Dear Ms. Beyer:

Congratulations upon successful completion of the Organic Data Validation course held August 17 - 21, 1992, through Westchester Community College, Professional Development Center. This course has been deemed by New York State Department of Environmental Conservation as equivalent to EPA's Organic Data Validation Course.

Enclosed is your Certificate. Holders of this Certificate are deemed competent to perform organic data validation for the New York State DEC Division of Hazardous Waste Remediation.

The Professional Development Center at Westchester Community College plans to continue to offer courses and seminars which will be valuable to environmental engineers, chemists and related personnel. Current plans include a TCLP seminar on November 17th and a conference on Environmental Monitoring Regulations on November 18th.

We look forward to seeing you again soon at another environmental program or event. Again, congratulations.

Very truly yours,

Passing Grade is 70%
Your Grade is 99%

Elaine Sall
Program Coordinator

ES/bf

SUNY
WESTCHESTER COMMUNITY COLLEGE
Valhalla, New York 10595

The Professional
Development Center
AT
WESTCHESTER COMMUNITY COLLEGE

914 285-6619

June 21, 1993

Dear Ms. Beyer:

Enclosed is your graded final examination in the Inorganic Data Validation course you completed this past March. A score of 70% was required in order to receive a certificate of satisfactory completion. Persons holding this certificate are deemed acceptable to perform Inorganic Data Validation for the New York State Department of Environmental Conservation, Division of Hazardous Waste Remediation.

I am also enclosing a course evaluation for you to complete if you have not already done so. The information you provide will greatly aid us in structuring further courses. We wish to make these course offerings as relevant, targeted and comprehensive as possible. Your evaluation is vital to that end.

Congratulations on your achievement. I look forward to seeing you again at another professional conference or course. We will be co-sponsoring an environmental monitoring conference on October 21, 1993 with the New York Water Pollution Control Association, Lower Hudson Chapter, at IBM's Yorktown Heights, NY site. Information regarding this event will be going out in August.

Very truly yours,

Elaine Sall

Elaine Sall
Program Coordinator

ES/bf

Enclosures

SUNY
WESTCHESTER COMMUNITY COLLEGE
Valhalla, New York 10595

Appendix B
Citizen Participation Plan

NEW YORK STATE OF OPPORTUNITY. Department of Environmental Conservation

Brownfield Cleanup Program

Citizen Participation Plan
for
255 Randolph Street

April 2018

BCP Site: C224247
255 Randolph Street
Brooklyn (Kings County), New York 11237

Contents

* * * * *

Note: The information presented in this Citizen Participation Plan was current as of the date of its approval by the New York State Department of Environmental Conservation. Portions of this Citizen Participation Plan may be revised during the site's investigation and cleanup process.

Applicant: **255 Randolph Street Properties, LLC ("Applicant")**
Site Name: **255 Randolph Street ("Site")**
Site Address: **255 Randolph Street, Brooklyn, NY 11237**
Site County: **Kings County**
Site Number: **C224247**

1. What is New York's Brownfield Cleanup Program?

New York's Brownfield Cleanup Program (BCP) works with private developers to encourage the voluntary cleanup of contaminated properties known as "brownfields" so that they can be reused and developed. These uses include recreation, housing, and business.

A *brownfield* is any real property that is difficult to reuse or redevelop because of the presence or potential presence of contamination. A brownfield typically is a former industrial or commercial property where operations may have resulted in environmental contamination. A brownfield can pose environmental, legal, and financial burdens on a community. If a brownfield is not addressed, it can reduce property values in the area and affect economic development of nearby properties.

The BCP is administered by the New York State Department of Environmental Conservation (NYSDEC) which oversees Applicants who conduct brownfield site investigation and cleanup activities. An Applicant is a person who has requested to participate in the BCP and has been accepted by NYSDEC. The BCP contains investigation and cleanup requirements, ensuring that cleanups protect public health and the environment. When NYSDEC certifies that these requirements have been met, the property can be reused or redeveloped for the intended use.

For more information about the BCP, go online at: http://www.dec.ny.gov/chemical/8450.html.

2. Citizen Participation Activities

Why NYSDEC Involves the Public and Why It Is Important

NYSDEC involves the public to improve the process of investigating and cleaning up contaminated sites, and to enable citizens to participate more fully in decisions that affect their health, environment, and social well-being. NYSDEC provides opportunities for citizen involvement and encourages early two-way communication with citizens before decision-makers form or adopt final positions.

Involving citizens affected and interested in site investigation and cleanup programs is important for many reasons. These include:

- Promoting the development of timely, effective site investigation and cleanup programs that protect public health and the environment;

- Improving public access to, and understanding of, issues and information related to a particular site and that site's investigation and cleanup process;

- Providing citizens with early and continuing opportunities to participate in NYSDEC's site investigation and cleanup process;

- Ensuring that NYSDEC makes site investigation and cleanup decisions that benefit from input that reflects the interests and perspectives found within the affected community; and

- Encouraging dialogue to promote the exchange of information among the affected/interested public, State agencies, and other interested parties that strengthens trust among the parties, increases understanding of site and community issues and concerns, and improves decision-making.

This Citizen Participation (CP) Plan provides information about how NYSDEC will inform and involve the public during the investigation and cleanup of the Site identified above. The public information and involvement program will be carried out with assistance, as appropriate, from the Applicant.

Project Contacts

Appendix A identifies NYSDEC project contact(s) to whom the public should address questions or request information about the site's investigation and cleanup program. The public's suggestions about this CP Plan and the CP program for the Site are always welcome. Interested people are encouraged to share their ideas and suggestions with the project contacts at any time.

Locations of Reports and Information

The locations of the reports and information related to the site's investigation and cleanup program also are identified in Appendix A. These locations provide convenient access to important project documents for public review and comment. Some documents may be placed on the NYSDEC web site. If this occurs, NYSDEC will inform the public in fact sheets distributed about the site and by other means, as appropriate.

Site Contact List

Appendix B contains the site contact list. This list has been developed to keep the community informed about, and involved in, the site's investigation and cleanup process. The site contact list will be used periodically to distribute fact sheets that provide updates about the status of the project. These will include notifications of upcoming activities at the site (such as fieldwork), as well as availability of project documents and announcements about public comment periods.
The site contact list includes, at a minimum:

- Chief executive officer and planning board chairperson of each county, city, town and village in which the Site is located;
- Residents, owners, and occupants of the site and properties adjacent to the Site;
- The public water supplier which services the area in which the Site is located;
- Any person who has requested to be placed on the site contact list;

- The administrator of any school or day care facility located on or near the Site for purposes of posting and/or dissemination of information at the facility;
- Location(s) of reports and information.

The site contact list will be reviewed periodically and updated as appropriate. Individuals and organizations will be added to the site contact list upon request. Such requests should be submitted to the NYSDEC project contact(s) identified in Appendix A. Other additions to the site contact list may be made at the discretion of the NYSDEC project manager, in consultation with other NYSDEC staff as appropriate.

Note: The first site fact sheet (usually related to the draft Remedial Investigation Work Plan) is distributed both by paper mailing through the postal service and through DEC Delivers, its email listserv service. The fact sheet includes instructions for signing up with the appropriate county listserv to receive future notifications about the Site. See http://www.dec.ny.gov/chemical/61092.html.

Subsequent fact sheets about the Site will be distributed exclusively through the listserv, except for households without internet access that have indicated the need to continue to receive site information in paper form. Please advise the NYSDEC site project manager identified in Appendix A if that is the case. Paper mailings may continue during the investigation and cleanup process for some sites, based on public interest and need.

CP Activities

The table at the end of this section identifies the CP activities, at a minimum, that have been and will be conducted during the site's investigation and cleanup program. The flowchart in Appendix D shows how these CP activities integrate with the site investigation and cleanup process. The public is informed about these CP activities through fact sheets and notices distributed at significant points during the program. Elements of the investigation and cleanup process that match up with the CP activities are explained briefly in Section 5.

- **Notices and fact sheets** help the interested and affected public to understand contamination issues related to a site, and the nature and progress of efforts to investigate and clean up a site.

- **Public forums, comment periods and contact with project managers** provide opportunities for the public to contribute information, opinions and perspectives that have potential to influence decisions about a site's investigation and cleanup.

The public is encouraged to contact project staff at any time during the site's investigation and cleanup process with questions, comments, or requests for information.

This CP Plan may be revised due to changes in major issues of public concern identified in Section 3 or in the nature and scope of investigation and cleanup activities. Modifications may include additions to the site contact list and changes in planned citizen participation activities.

Technical Assistance Grant

NYSDEC must determine if the Site poses a significant threat to public health or the environment. This determination generally is made using information developed during the investigation of the site, as described in Section 5.

If the Site is determined to be a significant threat, a qualifying community group may apply for a Technical Assistance Grant (TAG). The purpose of a TAG is to provide funds to the qualifying group to obtain independent technical assistance. This assistance helps the TAG recipient to interpret and understand existing environmental information about the nature and extent of contamination related to the Site and the development/implementation of a remedy.

An eligible community group must certify that its membership represents the interests of the community affected by the Site, and that its members' health, economic well-being or enjoyment of the environment may be affected by a release or threatened release of contamination at the site.

As of the date the declaration (page 2) was signed by the NYSDEC project manager, **the significant threat determination for the site had not yet been made.**

To verify the significant threat status of the site, the interested public may contact the NYSDEC project manager identified in Appendix A.

For more information about TAGs, go online at http://www.dec.ny.gov/regulations/2590.html

Note: The table identifying the citizen participation activities related to the site's investigation and cleanup program follows on the next page:

Citizen Participation Activities	Timing of CP Activity(ies)
Application Process:	
• Prepare site contact list • Establish document repository(ies)	At time of preparation of application to participate in the BCP.
• Publish notice in Environmental Notice Bulletin (ENB) announcing receipt of application and 30-day public comment period • Publish above ENB content in local newspaper • Mail above ENB content to site contact list • Conduct 30-day public comment period	When NYSDEC determines that BCP application is complete. The 30-day public comment period begins on date of publication of notice in ENB. End date of public comment period is as stated in ENB notice. Therefore, ENB notice, newspaper notice, and notice to the site contact list should be provided to the public at the same time.
After Execution of Brownfield Site Cleanup Agreement (BCA):	
• Prepare Citizen Participation (CP) Plan	Before start of Remedial Investigation **Note:** Applicant must submit CP Plan to NYSDEC for review and approval within 20 days of the effective date of the BCA.
Before NYSDEC Approves Remedial Investigation (RI) Work Plan:	
• Distribute fact sheet to site contact list about proposed RI activities and announcing 30-day public comment period about draft RI Work Plan • Conduct 30-day public comment period	Before NYSDEC approves RI Work Plan. If RI Work Plan is submitted with application, public comment periods will be combined and public notice will include fact sheet. Thirty-day public comment period begins/ends as per dates identified in fact sheet.
After Applicant Completes Remedial Investigation:	
• Distribute fact sheet to site contact list that describes RI results	Before NYSDEC approves RI Report
Before NYSDEC Approves Remedial Work Plan (RWP):	
• Distribute fact sheet to site contact list about draft RWP and announcing 45-day public comment period • Public meeting by NYSDEC about proposed RWP (if requested by affected community or at discretion of NYSDEC project manager) • Conduct 45-day public comment period	Before NYSDEC approves RWP. Forty-five day public comment period begins/ends as per dates identified in fact sheet. Public meeting would be held within the 45-day public comment period.
Before Applicant Starts Cleanup Action:	
• Distribute fact sheet to site contact list that describes upcoming cleanup action	Before the start of cleanup action.
After Applicant Completes Cleanup Action:	
• Distribute fact sheet to site contact list that announces that cleanup action has been completed and that NYSDEC is reviewing the Final Engineering Report • Distribute fact sheet to site contact list announcing NYSDEC approval of Final Engineering Report and issuance of Certificate of Completion (COC)	At the time the cleanup action has been completed. **Note:** The two fact sheets are combined when possible if there is not a delay in issuing the COC.

3. Major Issues of Public Concern

This section of the CP Plan identifies major issues of public concern that relate to the site. Additional major issues of public concern may be identified during the course of the site's investigation and cleanup process.

No major issues of public concern have been identified during the review of the BCP Application. If issues are identified in the future, this CP Plan will be amended to address any additional CP activities that may need to be implemented.

The Site is located just outside of an Environmental Justice Area. Environmental justice is defined as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.

Environmental justice efforts focus on improving the environment in communities, specifically minority and low-income communities, and addressing disproportionate adverse environmental impacts that may exist in those communities.

Although the Site is located just outside an EJ area, there is a large Hispanic-American population nearby. Therefore, all future fact sheets will be translated into Spanish. In addition, there may be impacts with regards to odor, noise and/or truck traffic.

4. Site Information

Appendix C contains a map identifying the location of the Site.

Site Description

Location: 255 Randolph Street, Brooklyn, NY
.. Located on the north side of Randolph Street near Scott Avenue.

Setting: Industrial (Zoned M3-1)

Site: Approximately 17,740 square feet (sf) with a 15,000-sf warehouse.

Adjacent Properties: The surrounding property uses are industrial on the west, east and south of the Site with New York and Atlantic Railway (NYA) immediately north of the Site. North of the NYA right of way is a solid waste handling facility. There is no residential use within the surrounding area.

Groundwater: Depth to water is approximately 15 feet below grade with groundwater flow to the north.

History of Site Use, Investigation, and Cleanup

Prior and Current Uses:

The Site is currently vacant. The Site was last used for warehousing by an importer of Asian food products, from approximately 2006 until August 2015. According to the City Directory Abstract, the Site was occupied by a sheet metal fabricator in the 1990s. Prior to this, according to Sanborn Fire Insurance Maps, the Site was associated with the manufacture of ammonia for many decades, from at least 1907 to 1985. Sanborn maps from 1933 through 2007 show no indication of production operations within the Site boundaries. However, the 1907 Sanborn map shows the manufacturing facility in a different location on the block, with components of such facility within the footprint of the current Site (acid tank and evaporation pan) or partially within the footprint of the current Site (storage area, grinding and mixing area, acid chambers).

Contaminants Related to the Site:

Based on investigations conducted to date, the primary contaminants of concern for the site include chlorinated solvents [predominantly tetrachloroethylene (PCE) and associated degradation compounds], metals (including arsenic and lead) and Polyaromatic Hydrocarbons (PAHs, including benzo(a)pyrene). The affected media are soil, soil vapor and groundwater.

Soil: Borings taken in June 2016 revealed elevated levels of PCE, Trichloroethylene (TCE), arsenic, lead, and benzo(a)pyrene at the Site, at concentrations exceeding their respective Part 375 Industrial Use soil cleanup objectives (SCOs). Soil samples collected during previous sampling events did not have any concentrations above the Industrial Use SCOs.

Groundwater: Groundwater samples collected in February 2014, April/May 2014 and June 2016, indicate elevated concentrations of PCE and TCE [both with a Class GA Standard of 5 micrograms per liter (µg/L)] at the Site.

Soil Vapor & Indoor Air: An indoor air sample and three sub-slab air samples were taken at the Site during the June 2016 investigation. Elevated levels of PCE and TCE were detected in the indoor air sample and in the sub-slab. Based on comparison of TCE and PCE levels in sub-slab soil vapor and indoor air samples to the New York State Department of Health (NYSDOH) guidance, mitigation would be required.

Previous Environmental Assessments:

The environmental reports prepared for the Site include the following:

- Phase II Subsurface Investigation, 255 Randolph Street, Brooklyn, NY, prepared by Advanced Cleanup Technologies, Inc. (February 21, 2014).
- Draft Environmental Site Summary Report, 255 Randolph Street, Brooklyn, NY, prepared by Edgewater Environmental, Inc. (April – May 2014).
- Draft Remedial Investigation Report, Industrial Property - 255 Randolph Street, Brooklyn, NY, prepared by Laurel Environmental Associates (October 2016).

5. Investigation and Cleanup Process

Application

The Applicant has applied for and been accepted into New York's Brownfield Cleanup Program as a *Participant*. This means that the Applicant was the owner of the Site at the time of the disposal or discharge of contaminants or was otherwise determined by the Department to be potentially liable for the disposal or discharge of the contaminants. The Participant must fully characterize the nature and extent of contamination on-site, as well as the nature and extent of contamination that has migrated from the Site. The Participant also must conduct a "qualitative exposure assessment," a process that characterizes the actual or potential exposures of people, fish and wildlife to contaminants on the Site and to contamination that has migrated from the Site.

The Applicant in its Application proposes that the Site will be used for restricted commercial purposes.

To achieve this goal, the Applicant will conduct a site investigation to address data gaps in the current findings, followed by remedial activities at the Site with oversight provided by NYSDEC. The Brownfield Cleanup Agreement executed by NYSDEC and the Applicant sets forth the responsibilities of each party in conducting these activities at the Site.

Investigation

The Applicant has completed a partial site investigation before it entered into the BCP. For the partial investigation, NYSDEC will determine if the data are useable.

The Applicant will conduct an investigation of the site officially called a "remedial investigation" (RI). This investigation will be performed with NYSDEC oversight. The Applicant must develop a remedial investigation workplan, which is subject to public comment.

The site investigation has several goals:

1) Define the nature and extent of contamination in soil, surface water, groundwater and any other parts of the environment that may be affected;
2) Identify the source(s) of the contamination;
3) Assess the impact of the contamination on public health and the environment; and
4) Provide information to support the development of a proposed remedy to address the contamination or the determination that cleanup is not necessary.

The Applicant submits a draft "Remedial Investigation Work Plan" to NYSDEC for review and approval. NYSDEC makes the draft plan available to the public review during a 30-day public comment period. Following the public comment period, the "Remedial Investigation Work Plan" is approved by NYSDEC and NYSDOH.

When the investigation is complete, the Applicant will prepare and submit a report that summarizes the results. This report also will recommend whether cleanup action is needed to

address site-related contamination. The investigation report is subject to review and approval by NYSDEC.

NYSDEC will use the information in the investigation report to determine if the Site poses a significant threat to public health or the environment. If the Site is a "significant threat," it must be cleaned up using a remedy selected by NYSDEC from an analysis of alternatives prepared by the Applicant and approved by NYSDEC. If the Site does not pose a significant threat, the Applicant may select the remedy from the approved analysis of alternatives.

Interim Remedial Measures

An Interim Remedial Measure (IRM) is an action that can be undertaken at a site when a source of contamination or exposure pathway can be effectively addressed before the site investigation and analysis of alternatives are completed. The IRM will require a 30-day public comment period.

Remedy Selection

When the investigation of the Site has been determined to be complete, the project likely would proceed in one of two directions:

1. The Applicant may recommend in its investigation report that no action is necessary at the Site. In this case, NYSDEC would make the investigation report available for public comment for 45 days. NYSDEC then would complete its review, make any necessary revisions, and, if appropriate, approve the investigation report. NYSDEC would then issue a "Certificate of Completion" (described below) to the Applicant.

or

2. The Applicant may recommend in its investigation report that action needs to be taken to address site contamination. After NYSDEC approves the investigation report, the Applicant may then develop a cleanup plan, officially called a "Remedial Work Plan". The Remedial Work Plan describes the Applicant's proposed remedy for addressing contamination related to the site.

When the Applicant submits a draft Remedial Work Plan for approval, NYSDEC would announce the availability of the draft plan for public review during a 45-day public comment period.

Cleanup Action

NYSDEC will consider public comments, and revise the draft cleanup plan if necessary, before approving the proposed remedy. NYSDOH concurrence is required prior to the selection and implementation of the proposed remedy. After approval, the proposed remedy becomes the selected remedy. The selected remedy is formalized in the site Decision Document.

The Applicant may then design and perform the cleanup action to address the site contamination. NYSDEC and NYSDOH oversee the activities. When the Applicant completes

cleanup activities, it will prepare a final engineering report that certifies that cleanup requirements have been achieved or will be achieved within a specific time frame. NYSDEC will review the report to be certain that the cleanup is protective of public health and the environment for the intended use of the site.

Certificate of Completion

When NYSDEC is satisfied that cleanup requirements have been achieved or will be achieved for the site, it will approve the final engineering report. NYSDEC then will issue a Certificate of Completion (COC) to the Applicant. The COC states that cleanup goals have been achieved, and relieves the Applicant from future liability for site-related contamination, subject to certain conditions. The Applicant would be eligible to redevelop the Site after it receives a COC.

Site Management

The purpose of site management is to ensure the safe reuse of the property if contamination will remain in place. Site management is the last phase of the site cleanup program. This phase begins when the COC is issued. Site management incorporates any institutional and engineering controls required to ensure that the remedy implemented for the Site remains protective of public health and the environment. All significant activities are detailed in a Site Management Plan.

An *institutional control* is a non-physical restriction on use of the Site, such as a deed restriction that would prevent or restrict certain uses of the property. An institutional control may be used when the cleanup action leaves some contamination that makes the Site suitable for some, but not all uses.

An *engineering control* is a physical barrier or method to manage contamination. Examples include: caps, covers, barriers, fences, and treatment of water supplies.

Site management also may include the operation and maintenance of a component of the remedy, such as a system that pumps and treats groundwater. Site management continues until NYSDEC, in consultation with NYSDOH, determines that it is no longer needed.

Appendix A -
Project Contacts and Locations of Reports and Information

Project Contacts

For information about the site's investigation and cleanup program, the public may contact any of the following project staff:

New York State Department of Environmental Conservation (NYSDEC):

Richard Mustico
Project Manager
NYSDEC
Division of Environmental Remediation
625 Broadway, 12th Floor
Albany, NY 12233-7015
Tel: 518-402-9647
Email: Richard.mustico1@dec.ny.gov

Thomas V. Panzone, MPA
Citizen Participation Specialist
Office of Communications Services
NYSDEC - Region 2 Office
Hunters Point Plaza
47-40 21st Street
Long Island City, NY 11101
Tel: (718) 482-4953
Email: thomas.panzone@dec.ny.gov

New York State Department of Health (NYSDOH):

Sara Bogardus
Public Health Specialist
NYSDOH
Bureau of Env. Exposure Investigation
Empire State Plaza Corning Tower, Rm 1787
Albany, NY 12237
Tel: (518) 402-7880
Email: BEEI@health.ny.gov

Locations of Reports and Information

The facilities identified below are being used to provide the public with convenient access to important project documents:

Facility	Address	Phone Number and/or Email Address
Brooklyn Public Library, Bushwick Branch Hours: MON 10:00 AM - 6:00 PM TUE 10:00 AM - 6:00 PM WED 10:00 AM - 8:00 PM THU 1:00 PM - 8:00 PM FRI 10:00 AM - 6:00 PM SAT 10:00 AM - 5:00 PM SUN CLOSED	340 Bushwick Avenue, Brooklyn, NY 11206	718-602-1348
Brooklyn Community Board Brooklyn 1 Hours: Call for Appointment	435 Graham Avenue, Brooklyn, NY, 11211	718-389-0009 bk01@cb.nyc.gov Chairwoman: Dealice Fuller District Manager: Gerald A. Esposito

Appendix B - Site Contact List

Local Elected and Government Officials

Hon. Bill de Blasio
New York City Mayor
City Hall
New York, NY 10007

Hon. Scott Stringer
NYC Comptroller
1 Centre Street
New York, NY 10007

Hon. Letitia James
Public Advocate
1 Centre Street
New York, NY 10007

Hon. Carl Weisbrod
Commissioner, New York City Planning Commission
120 Broadway, 31st Floor
New York, NY 10271

Hon. Eric L. Adams
Brooklyn Borough President
209 Joralemon Street
Brooklyn, NY 11203
718-802-3700

Mr. Gerald A. Esposito, District Manager
Brooklyn Community Board No. 1
435 Graham Avenue
Brooklyn, NY 11211

Dealice Fuller, Chairwoman
Brooklyn Community Board No. 1
435 Graham Avenue
Brooklyn, NY 11211

Ryan Kuonen, Chairman
Environmental Committee
Brooklyn Community Board No. 1
435 Graham Avenue
Brooklyn, NY 11211

Hon. Anthony Reynoso
NYC Councilman
244 Union Avenue
Brooklyn, NY 11211

Hon. Martin Malave Dilan
State Senate District #18
573 Metropolitan Avenue
Brooklyn, NY 11211
718-573-1726

Hon. Maritza Davila
State Assembly District #53
249 Wilson Avenue
Brooklyn, NY 11237
718-443-1205

Hon. Charles Schumer
U.S. Senator
780 Third Avenue, Suite 2301
New York, NY 10017

Hon. Kirsten Gillibrand
U.S. Senator
780 Third Avenue, Suite 2601
New York, NY 10017

Hon. Nydia Velazquez
U.S. House of Representatives
266 Broadway
Brooklyn, NY 11211

Nancy T. Sunshine
Kings County Clerk
Kings County Clerk's Office
360 Adams Street, Room 189
Brooklyn, NY 11201

Dan Walsh, Director
NYC Office of Environmental Remediation
100 Gold Street - 2nd Floor
New York, NY 10038

Julie Stein
Office of Environmental Assessment & Planning
NYC Dept. of Environmental Protection
96-05 Horace Harding Expressway
Flushing, NY 11373

Adjacent Property Owners

Address	Entity	Mailing Address	Tenants
90 Scott Avenue	Scott Avenue Partners, LLC	63-23 Metropolitan Avenue, Middle Village, NY 11375	R Strangs Electrical Contractor
110 Scott Avenue	110 Scott Avenue Properties	110 Scott Avenue, Brooklyn, NY 11237	Kitchen Mart Trading Corp.
269 Randolph Street	April Holdings LLC	55 Mall Drive, Commack NY 11725	White Glove Transportation
--	New York and Atlantic Railway	68-01 Otto Road Glendale, NY 11385	--
114 Scott Avenue	Scott Transfer Properties LLC. C/O Pearl Realty Management LLC	155 Water Street, 3rd floor, Brooklyn NY 11201	--
270 Randolph Street	Romala, Inc.	PO Box 444, Roslyn Heights, NY 11577	ACM Fan King C Iron Works
36 Scott Ave	36 Resources Realty LLC c/o Ying Lin, Esq.	8 Chatham Square, Suite 202, New York, NY 10038	

Local Media Outlets

New York Daily News
4 New York Plaza
New York, NY 10004

El Diario
1 MetroTech Center, 18th Floor
Brooklyn, NY 11201

Hoy Nueva York
1 MetroTech Center, 18th Floor
Brooklyn, NY 11201

NY 1 News
75 Ninth Avenue
New York, NY 10011

New York Post
1211 Avenue of the Americas
New York, NY 10036

Courier-Life Publications
1 Metro-Tech Center North - 10th Floor
Brooklyn, NY 11201

Brooklyn Daily Eagle
16 Court Street, Suite 1208
Brooklyn, NY 11241

The Brooklyn Papers
1 Metrotech Center, Suite 1001
Brooklyn, NY 11201

Schools

Junior High School 162 - The Willoughby
1390 Willoughby Avenue
Brooklyn NY 11237
Attn: Amanda Lazerson, Principal
718-821-4860

Community, Civic, Environmental and Religious Organizations

Antonia Yuille, Director
Consolidated Edison Public Affairs
30 Flatbush Avenue
Brooklyn, NY 11217

Raquel Queme, President
90th NYPD Police Precinct Council
211 Union Avenue
Brooklyn, NY 11211

Engine 237
FDNY
43 Morgan Avenue
Brooklyn, NY 11237

Gowanus Canal Conservancy
P.O. Box 150-652
Brooklyn, NY 11215

The Gowanus Dredgers
P.O. Box 24403
Brooklyn, NY 11202

Friends & Residents of Greater Gowanus
268 Smith Street
Brooklyn, NY 11231
Attn: Marilyn Oliva, Acting Representative

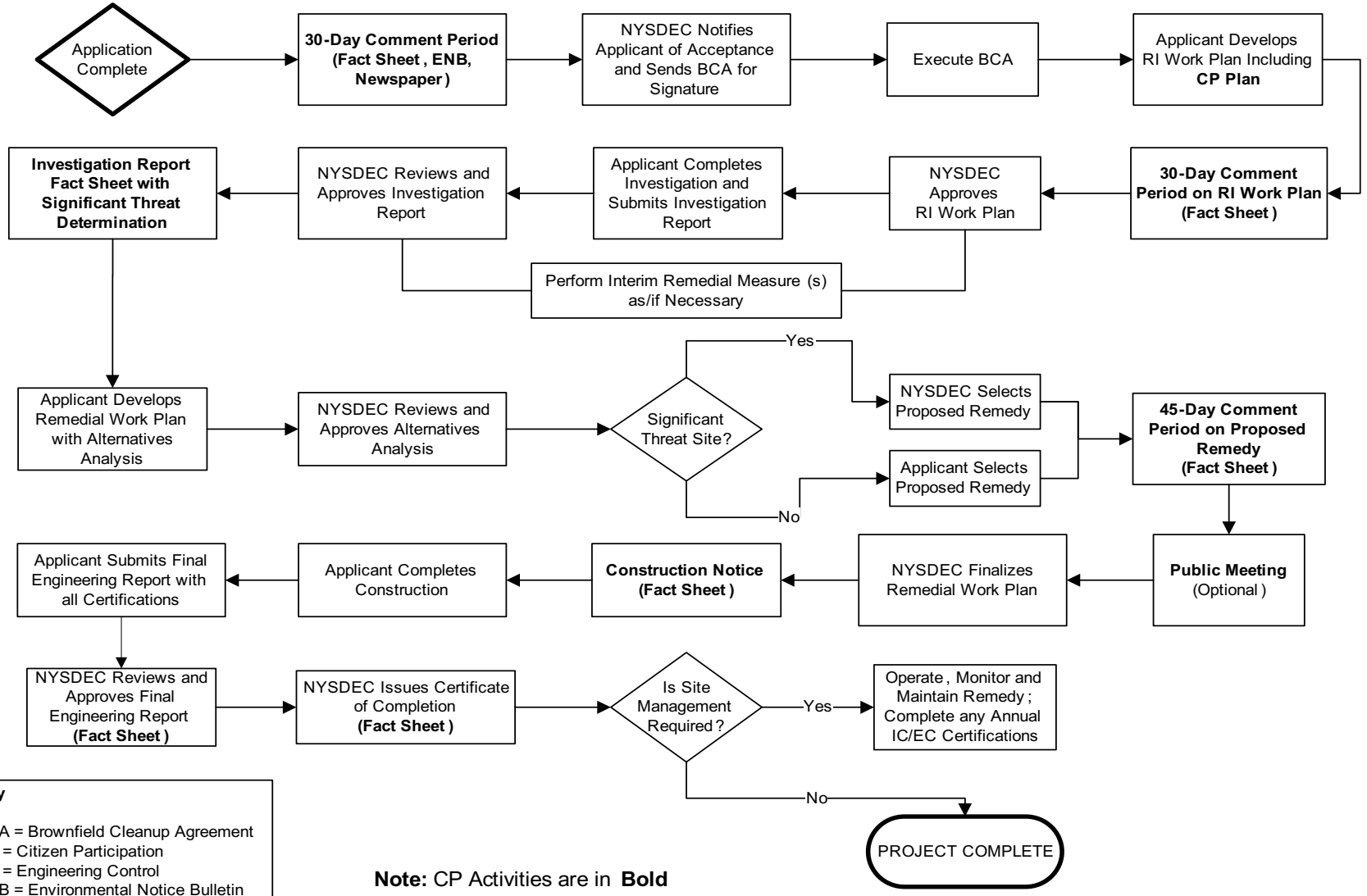
Gowanus Canal Community Development Corporation
Mike Raccioppo, Executive Director
515 Court Street
Brooklyn, NY 11231

Public Water Supplier

Vincent Sapienza, Acting Commissioner
NYC Department of Environmental Protection
59-17 Junction Boulevard
Flushing, NY 11373

Appendix C - Site Location Map

Appendix D– Brownfield Cleanup Program Process



Key

BCA = Brownfield Cleanup Agreement
CP = Citizen Participation
EC = Engineering Control
ENB = Environmental Notice Bulletin
IC = Institutional Control
RI = Remedial Investigation

Note: CP Activities are in **Bold**

Appendix C
Health and Safety Plan

HEALTH AND SAFETY PLAN

255 RANDOLPH STREET
BROOKLYN, NEW YORK 11237

JUNE 5, 2017
LEA PROJECT # 16-107

Prepared by:

Laurel Environmental Associates, Ltd.
53 West Hills Road
Huntington Station New York 11746

HEALTH AND SAFETY PLAN

PURPOSE

The purpose of this Health and Safety Plan (HASP) is to assign responsibilities, establish the minimum personnel protection standards and operating procedures, and provide for contingencies that may arise while investigations are being performed at the Subject Site, located at 255 Randolph Street, Brooklyn, New York.

Laurel Environmental Associates, Ltd. (LEA) will be responsible for providing materials, equipment, and labor required to fulfill the requirements of the HASP. Albert Kim will be **LEA's** Health and Safety Officer during the investigation. The protocols and requirements of this HASP apply to **LEA** personnel only. Upon request, this HASP will be provided as reference to employees and agents of Contractors, Subcontractors, and Owners, who are required to follow their own HASP requirements.

This HASP establishes the minimum level of personnel protection. Additional measures will be implemented as necessary to protect personnel involved in the work and the public at large.

Based on currently-known Site conditions, the activities to be conducted are not expected to warrant either Level B or Level C personnel protection during the investigation. However, should conditions change and an upgraded becomes necessary, all workers present on site will be familiar with such proper protection procedures.

Given the nature of this investigation, as well as the nature of the contaminants which have the potential of being present on-site, there is very little, if any, potential of the surrounding community being negatively impacted by activities to be conducted during this investigation. However, **LEA** will take every possible step to avoid any type of negative impact.

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Based on the scope of work, we do not anticipate the accumulation of drill cuttings. All soils not retained for analysis will be utilized to backfill boreholes.

If an emergency occurs during the investigation, with a potential to impact the surrounding community, all appropriate emergency resources listed under the Emergency Contingency Plan Section of this plan will be immediately mobilized.

HAZARD EVALUATION

Elevated levels of volatile organic compounds (VOCs) in the atmosphere may occur during on-site activities. The presence of VOCs will be evaluated during all intrusive activities (i.e., soil borings) using a Photoionization Detector (PID). PID results will be used to ensure that the appropriate worker protection is maintained for the level of VOCs detected. If air monitoring indicates VOC concentrations pose a risk to workers, the area will be immediately evacuated. Guidelines that will be followed before continuing are noted in Table 1 on the following page. If conditions warrant, Level B and C protection will be implemented.

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Table 1
Atmospheric Hazard Guidelines

Hazard	Monitoring Equipment	Measured Level	Action
Explosive Atmosphere	Combustible Gas Indicator	<10% LEL	Continue investigation.
		10%-25% LEL	Continue on-site monitoring with extreme caution as higher levels are encountered.
		>25% LEL	Explosion hazard. Withdraw from area immediately.
Oxygen	Oxygen conc. meter (CGS-20M or MSA 261)	<19.5%	Can continue investigation if wearing self-contained breathing apparatus. NOTE: Combustible gas readings are not valid in atmosphere with oxygen <19.5%.
		19.5% - 25%	Continue investigation with caution.
		>25%	Fire hazard potential. Discontinue investigation. Consult a fire safety specialist.
Organic gases and vapors	PID	Background	Continue investigation.
		5 ppm total organics	Can continue investigation if wearing Level C(2) protection.
		5-500 ppm	Can continue investigation if wearing Level B(3) protection.

Notes:
1. LEL = Lower Explosive Limit
2. Level C protection outlined in Table 2
3. Level B protection outlined in Table 3

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PERSONAL PROTECTIVE EQUIPMENT

All on-site workers will be familiar with proper protection procedures and this HASP. Level D personal protective clothing will be worn at the outset.

If conditions warrant it, Level B or C protection will be conditions worn. General descriptions of Level C and B protection are presented in Tables 2 and 3, respectively. If it is necessary to wear Level B or C protection, the work area shall be separated into three Zones: Exclusion Zone, Contamination Reduction Zone, and Support Zone. Only protected personnel shall be allowed into the Exclusion and Contamination Reduction Zones. An entrance and exit point shall be designated and monitored to ensure that no unauthorized personnel enter the area. Everyone that enters the area shall be logged in the field note book with the length of time spent in the area and the task performed noted.

All workers shall wear gloves when handling soil/sludge and apparatus. Gloves shall also be worn while cleaning the sampling equipment.

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Table 2

LEVEL C PROTECTION

1. Full-face or half-mask, air purifying, canister equipped respirators (NIOSH approved) for those contaminants present.
2. Hooded chemical resistant clothing: (overalls; two-piece Chemical splash-suit; disposable chemical-resistant overalls).
3. Coveralls*
4. Gloves, outer, chemical-resistant.
5. Gloves, inner, chemical-resistant.
6. Boots (outer), chemical-resistant, steel toe and shank.
7. Boot-covers, outer, chemical-resistant, (disposable).*
8. Hard hat.
9. Escape mask.*
10. Two-way radios (worn under outside protective clothing).
11. Face shield.*

*Optional, as applicable.

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Table 3

LEVEL B PROTECTION

1. Pressure-demand, full-faceplate self-contained breathing apparatus (SCBA), or pressure-demand supplied air respirator with escape SCBA (NIOSH approved).
2. Hooded chemical-resistant clothing (overalls and long-sleeved jacket; coveralls; one or two-piece chemical-splash suit; disposable chemical-resistant overalls).
3. Coveralls.*
4. Gloves, outer chemical-resistant.
5. Gloves, inner, chemical-resistant.
6. Boots, outer, chemical resistant steel toe and shank.
7. Boot-covers, outer, chemical-resistant (disposable).
8. Hard hat.
9. Two-way radios (worn inside encapsulating suit).
10. Face shield.*

* Optional, as applicable

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PERSONNEL SAFETY/HYGIENE

The safety practices to be followed by all on-site personnel include:

1. During sample collection activities, drinking, chewing gum or tobacco, smoking, or any practice that increases the probability of hand-to-mouth transfer and ingestion of materials is prohibited

2. Hands and face must be thoroughly washed before eating, drinking, or any other activities.

3. No excessive facial hair, which interferes with a satisfactory fit of the mask to face seal, is allowed for personnel to wear respiratory protective equipment.

PERSONNEL TRAINING

At the start of the job before engaging in any work, all personnel will be briefed on the following:

1. The person in charge as safety officer.

2. Boundaries and entry and exit point locations of the work zones, if established.

3. Use of personnel protection equipment.

4. Principles of personnel hygiene.

5. Location of first-aid equipment.

6. Evacuation procedures to be followed in case of emergencies.

7. Heat stress symptoms. All personnel will be advised to watch for signs of heat stress.

New personnel will be briefed on the same points prior to starting work at the site.

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DECONTAMINATION PROCEDURES

If Level B or C protection is worn, decontamination procedures shall be performed in the Contamination Reduction Zone. All disposable garments and spent cartridges/canisters from respiratory equipment will be removed and disposed of in drums.

Potentially contaminated equipment will be cleaned before leaving the site.

EMERGENCY CONTINGENCY PLAN

In the event of physical injury, the safety officer or any other qualified person will initiate first aid and, if necessary, call the ambulance. If a chemical exposure is encountered, a physician will be informed, as specifically as possible, of the chemical(s) to which the person had been exposed and the toxicological properties of the chemical(s).

In case of any emergency, the following resources will be contacted, as warranted based on the specific situation:

A. Local Resource

Fire Department/Ambulance – New York City Fire Department: 911

Police Department: 911

B. Hazardous Waste Spills

New York State Department of Environmental Conservation -800-457-7362

New York City Department of Environmental Protection 1-845-486-3403

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C. Hospital

Wyckoff Heights Medical Center	1 (718) 963-7272
Name	Phone

371 Stockholm Street, Brooklyn, NY
Address

Emergency Route to Hospital:

Wyckoff Heights Medical Center

-Head west on Randolph Street 300 feet

-Turn left (south) onto Scott Avenue travel 0.1 mile

-Turn right (west) onto Flushing Avenue travel 0.15 miles

-Turn left Wyckoff Avenue travel 0.38

-Emergence entrance is on the east side of Wyckoff Avenue 20 feet south of Stockholm Street

_____

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HEAT STRESS CASUALTY PREVENTION PLAN

A. Identification and Treatment

1) Heat Exhaustion

Symptoms: Usually begins with muscular weakness, dizziness and a staggering gait. Vomiting is frequent. The bowels may move involuntarily. The victim is very pale, his/her skin is clammy and he/she may perspire profusely. The pulse is weak and fast, breathing is shallow. He/she may faint unless he/she lies down. This may pass, but sometimes it remains and death could occur.

First Aid: Immediately remove the victim to a shady or cool area with good air circulation. Remove all protective outer wear. Call a physician. Treat the victim for shock. (Make him lie down, raise his feet 6-12 inches, and keep him warm but loosen all clothing). If the victim is conscious, it may be helpful to give him sips of a salt water solution (1 teaspoon of salt to 1 glass of water). Transport victim to a medical facility.

2) Heat Stroke

Symptoms: This is the most serious of heat casualties due& to the fact that the body excessively overheats. Body temperatures often are between 107-110 F. There is often pain in the head, dizziness, nausea, oppression, and a dryness of the skin and mouth. Unconsciousness follows quickly and death is imminent if exposure continues. The attack will usually occur suddenly.

First-Aid: Immediately evacuate the victim to a cool and shady area. Remove all protective outer wear and all personal clothing. Lay him on his back with the head and shoulders

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slightly elevated. It is imperative that the body temperature be lowered immediately. This can be accomplished by applying cold wet towels, ice bags, etc., to the head. Sponge off the bare skin with cool water or rubbing alcohol, if available, or even place him in a tub of cool water. The main objective is to cool him without chilling him. Give no stimulants. Transport the victim to a medical facility as soon as possible.

B. Prevention of Heat Stress

1) One of the major causes of heat casualties is the depletion of body fluids. On the site, there will be plenty of fluids available. Personnel should replace water and salts lost from sweating. Salts can be replaced by either a 0.1% salt solution, more heavily salted foods, or commercial mixes, such as Gatorade. The commercial requires are advised for personnel on low sodium diets.
2) A work schedule will be established so that the majority of the work day will be during the morning hours of the day before ambient air temperature levels reach their highs if high air temperatures are anticipated.
3) A work/rest guideline will be implemented for personnel required to wear Level B protection, if this situation arises. This guideline is as follows:

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Ambient Temperatures	Maximum Wearing Time
Above 90°F	1/2 hour
80 - 90°F	1 hour
70 - 80°F	2 hours
60 - 70°F	3 hours
50 - 60°F	4 hours
40 - 50°F	5 hours
30 - 40°F	6 hours
Below 30°F	8 hours

A sufficient period will be allowed for personnel to "cool down". This may require shifts of workers during operations.

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Appendix D
Community Air Monitoring Plan

Community Air Monitoring Plan (CAMP)

for
255 Randolph Street
Remedial Action Work Plan

255 Randolph Street,
Brooklyn, New York
BCP Site # C224247

Submitted to:
New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau A
625 Broadway, 12th Floor
Albany, NY 12233-7016

Prepared for:
255 Randolph Street Properties, LLC
213-19 99th Avenue
Queens Village, NY 11429

Prepared by:
TENEN ENVIRONMENTAL
121 West 27th Street, Suite 702
New York, NY 10001

December 2017

New York State Department of Health Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring.

If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. APeriodic@ monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

Special Requirements for Work Within 20 Feet of Potentially Exposed Individuals or Structures

When work areas are within 20 feet of potentially exposed populations or occupied structures, the continuous monitoring locations for VOCs and particulates must reflect the nearest potentially exposed individuals and the location of ventilation system intakes for nearby structures. The use of engineering controls such as vapor/dust barriers, temporary negative-pressure enclosures, or special ventilation devices should be considered to prevent exposures related to the work activities and to control dust and odors.

Consideration should be given to implementing the planned activities when potentially exposed populations are at a minimum, such as during weekends or evening hours in non- residential settings.

If total VOC concentrations opposite the walls of occupied structures or next to intake vents exceed 1 ppm, monitoring should occur within the occupied structure(s). Background readings in the occupied spaces must be taken prior to commencement of the planned work. Any unusual background readings should be discussed with NYSDOH prior to commencement of the work.

If total particulate concentrations opposite the walls of occupied structures or next to intake vents exceed 150 mcg/m^3, work activities should be suspended until controls are implemented and are successful in reducing the total particulate concentration to 150 mcg/m^3 or less at the monitoring point.

Depending upon the nature of contamination and remedial activities, other parameters (e.g., explosivity, oxygen, hydrogen sulfide, carbon monoxide) may also need to be monitored. Response levels and actions should be pre-determined, as necessary, for each site.

Special Requirements for Indoor Work with Occupied Co-Located Residences or Facilities

Unless a self-contained, negative-pressure enclosure with proper emission controls will encompass the work area, all individuals not directly involved with the planned work must be absent from the room in which the work will occur. Monitoring requirements shall be as stated above under “Special Requirements for Work Within 20 Feet of Potentially Exposed Individuals

or Structures" except that in this instance "nearby/occupied structures" would be adjacent occupied rooms. Additionally, the location of all exhaust vents in the room and their discharge points, as well as potential vapor pathways (openings, conduits, etc.) relative to adjoining rooms, should be understood and the monitoring locations established accordingly. In these situations, it is strongly recommended that exhaust fans or other engineering controls be used to create negative air pressure within the work area during remedial activities. Additionally, it is strongly recommended that the planned work be implemented during hours (e.g. weekends or evenings) when building occupancy is at a minimum.

Appendix E

Records Search Documents (CD)

Appendix F

Sanborn Maps (CD)

255 Randolph Street
255 Randolph Street
Brooklyn, NY 11237

Inquiry Number: 3873332.3
March 06, 2014

Certified Sanborn® Map Report

6 Armstrong Road, 4th Floor
Shelton, Connecticut 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

3/06/14

Site Name:
255 Randolph Street
255 Randolph Street
Brooklyn, NY 11237

Client Name:
Edgewater Environmental. Inc.
10 Adams Place
Huntington Station, NY 11746

EDR Inquiry # 3873332.3

Contact: Stephen Hix

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Edgewater Environmental. Inc. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Site Name: 255 Randolph Street
Address: 255 Randolph Street
City, State, Zip: Brooklyn, NY 11237
Cross Street:
P.O. # EE021.003
Project: 255 Randolph Street
Certification # 9C10-42D2-A9E9

Maps Provided:

2007	2001	1992	1986	1977
2006	1999	1991	1985	1968
2005	1996	1990	1982	1965
2004	1995	1989	1981	1951
2003	1994	1988	1980	1950
2002	1993	1987	1979	1936

1933
1907
1888

Sanborn® Library search results
Certification # 9C10-42D2-A9E9

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

Limited Permission To Make Copies

Edgewater Environmental. Inc. (the client) is permitted to make up to FIVE photocopies of this Sanborn Map transmittal and each fire insurance map accompanying this report solely for the limited use of its customer. No one other than the client is authorized to make copies. Upon request made directly to an EDR Account Executive, the client may be permitted to make a limited number of additional photocopies. This permission is conditioned upon compliance by the client, its customer and their agents with EDR's copyright policy; a copy of which is available upon request.

Sanborn Sheet Thumbnails

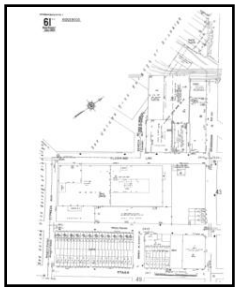
This Certified Sanborn Map Report is based upon the following Sanborn Fire Insurance map sheets.

2007 Source Sheets

Volume 9, Sheet 62

2006 Source Sheets

Volume 9, Sheet 62



Volume 3, Sheet 61

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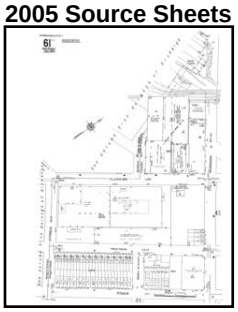
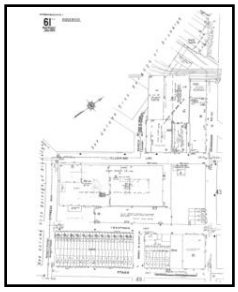


Volume 3, Sheet 61

Volume 9, Sheet 62

2004 Source Sheets

Volume 9, Sheet 62



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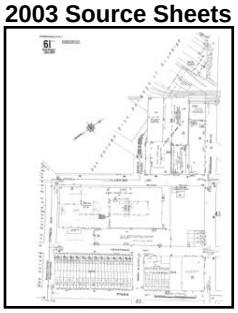
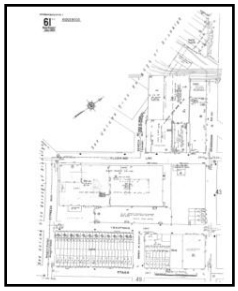


Volume 3, Sheet 61

Volume 9, Sheet 62

2002 Source Sheets

Volume 9, Sheet 62



Volume 3, Sheet 61

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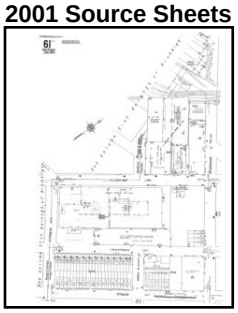

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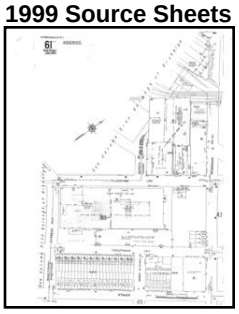

Volume 3, Sheet 61

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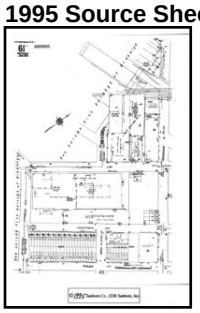
Volume 3, Sheet 61

1995 Source Sheets



Volume 3, Sheet 61

Volume 9, Sheet 62

1994 Source Sheets

Volume 9, Sheet 62

Volume 3, Sheet 61

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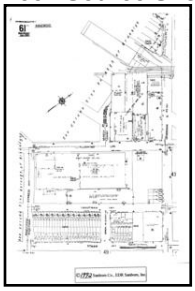
Volume 9, Sheet 62

Volume 9, Sheet 62

Volume 3, Sheet 61

1992 Source Sheets



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Volume 9, Sheet 62

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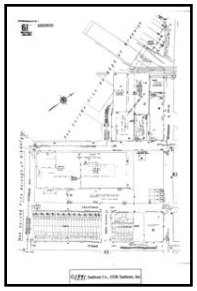

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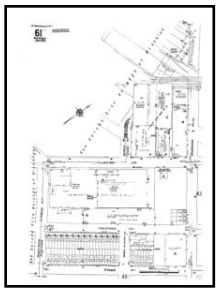
Volume 9, Sheet 62



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Volume 9, Sheet 62

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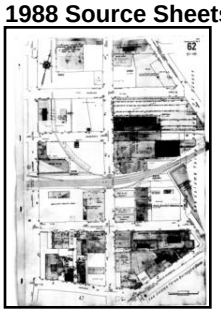

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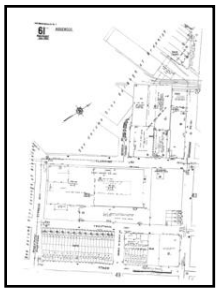

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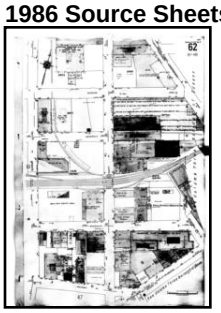

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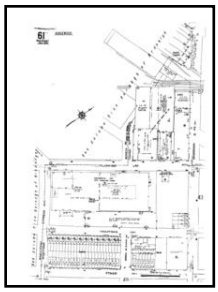

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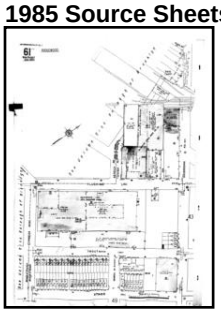

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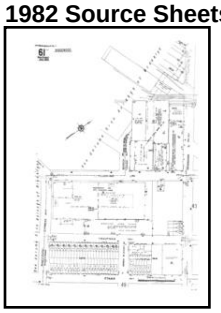

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1981 Source Sheets

Volume 9, Sheet 62

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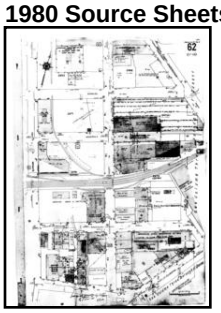

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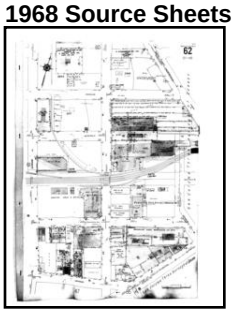
Volume 9, Sheet 62

1977 Source Sheets

Volume 9, Sheet 62

1968 Source Sheets



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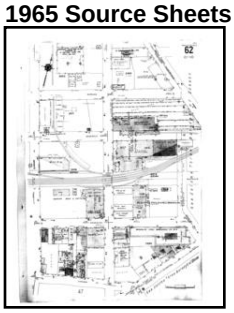

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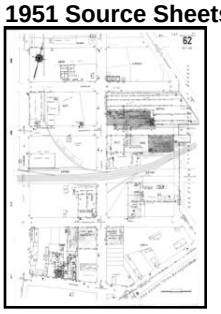

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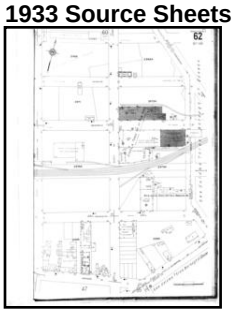
Volume 3, Sheet 61

1936 Source Sheets

Volume 3, Sheet 61

1933 Source Sheets



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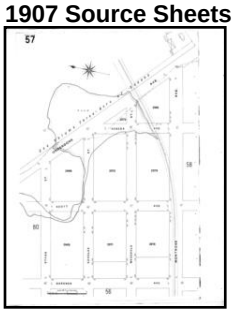

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Volume 9, Sheet 58

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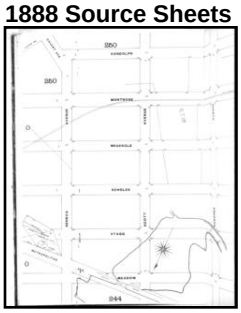

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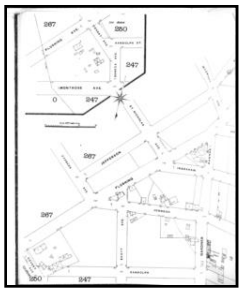

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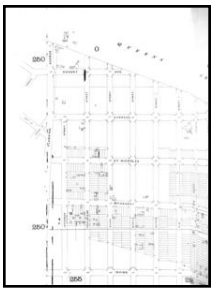

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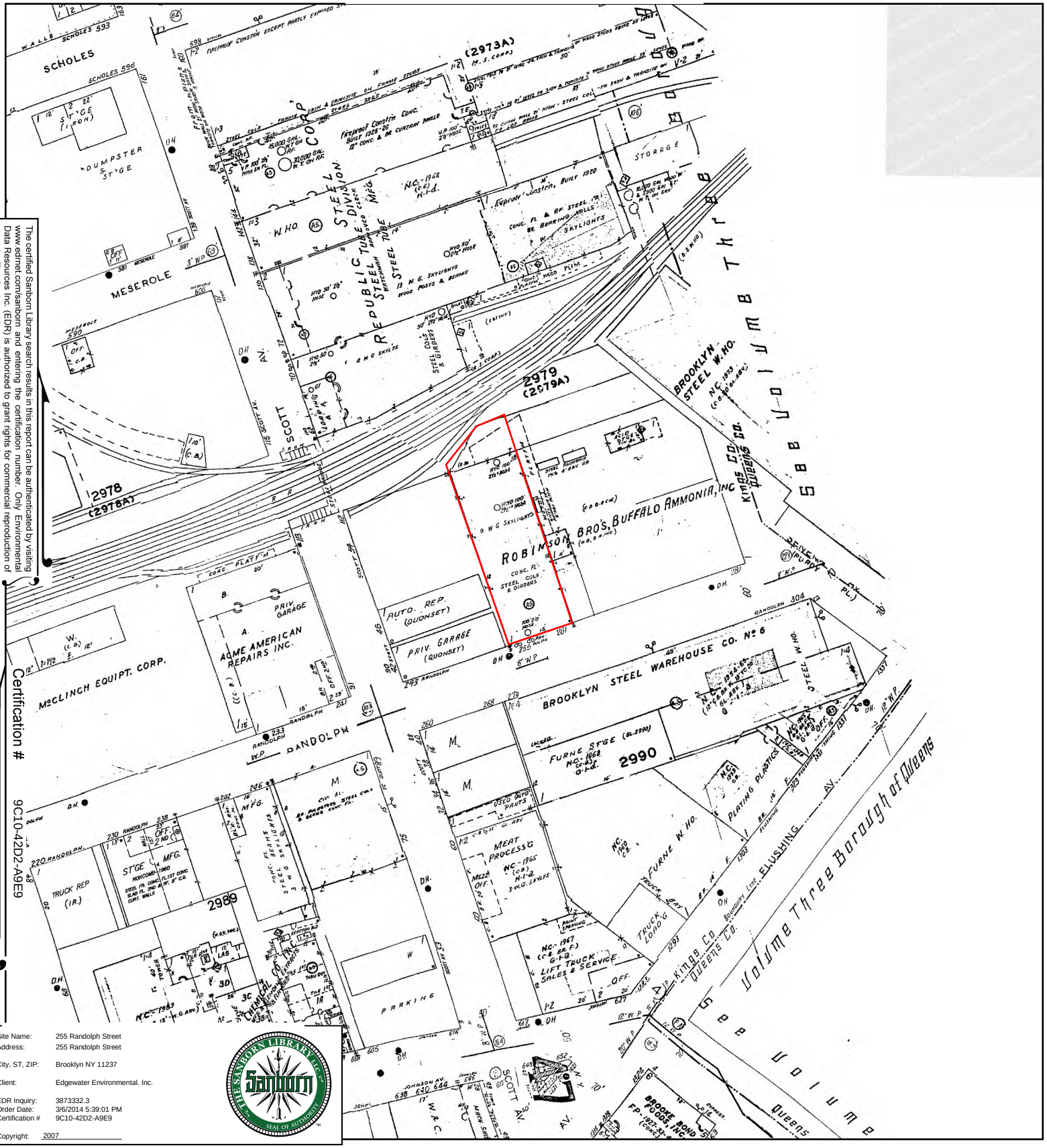

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Certification # 9C10-42D2-A9E9

Site Name:	255 Randolph Street
Address:	255 Randolph Street
City, ST, ZIP:	Brooklyn NY 11237
Client:	Edgewater Environmental. Inc.
EDR Inquiry:	3873332.3
Order Date:	3/6/2014 5:39:01 PM
Certification #	9C10-42D2-A9E9
Copyright:	2007

This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.

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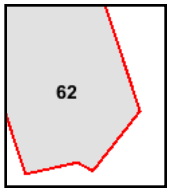

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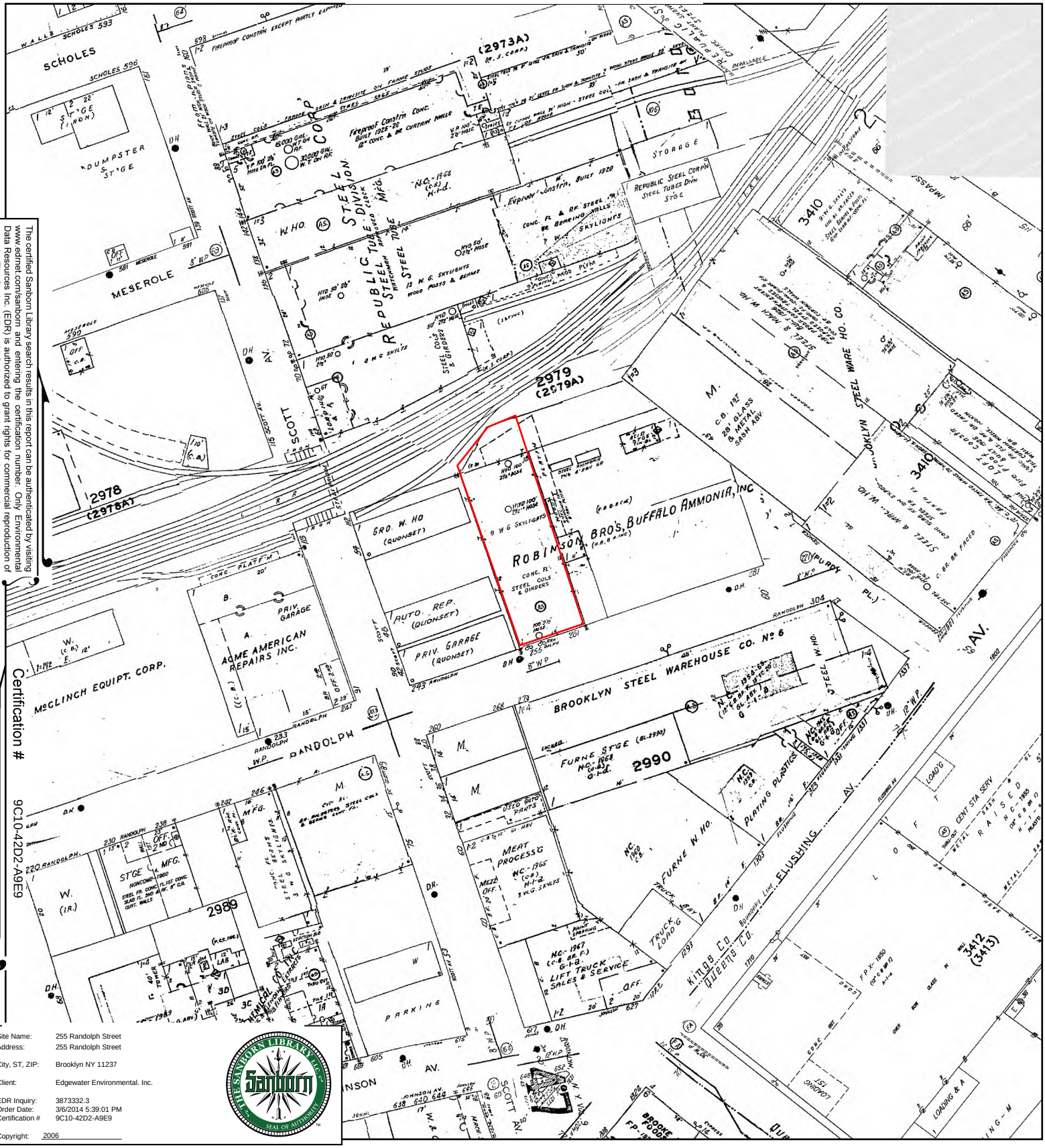
2006 Certified Sanborn Map



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Certification #	9C10-42D2-A9E9
Copyright:	2006

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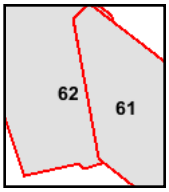

Volume 9, Sheet 62
Volume 3, Sheet 61

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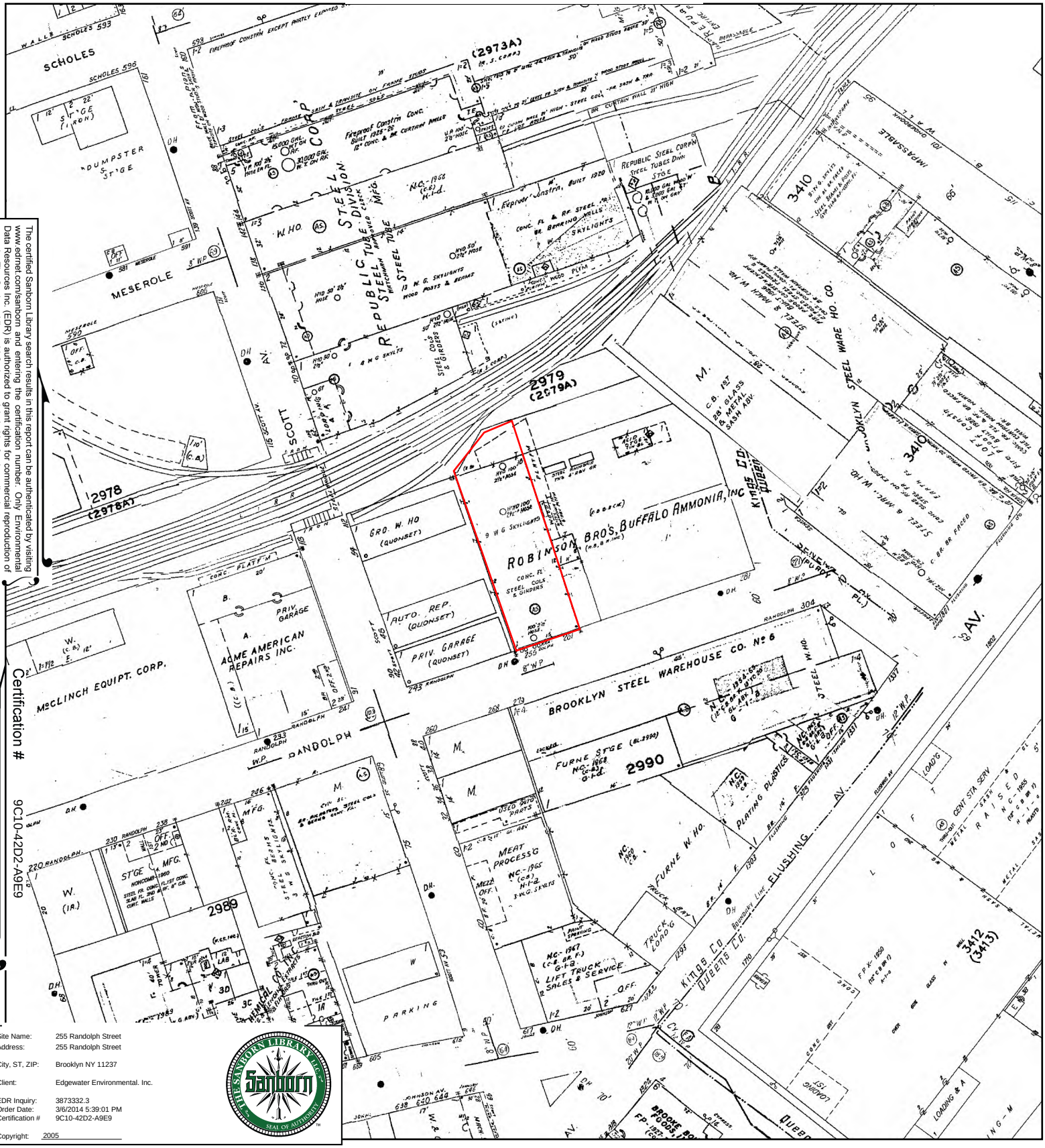

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Certification # 9C10-42D2-A9E9

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City, ST, ZIP:	Brooklyn NY 11237
Client:	Edgewater Environmental. Inc.
EDR Inquiry:	3873332.3
Order Date:	3/6/2014 5:39:01 PM
Certification #	9C10-42D2-A9E9
Copyright:	2005

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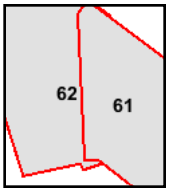

Volume 3, Sheet 61
Volume 9, Sheet 62

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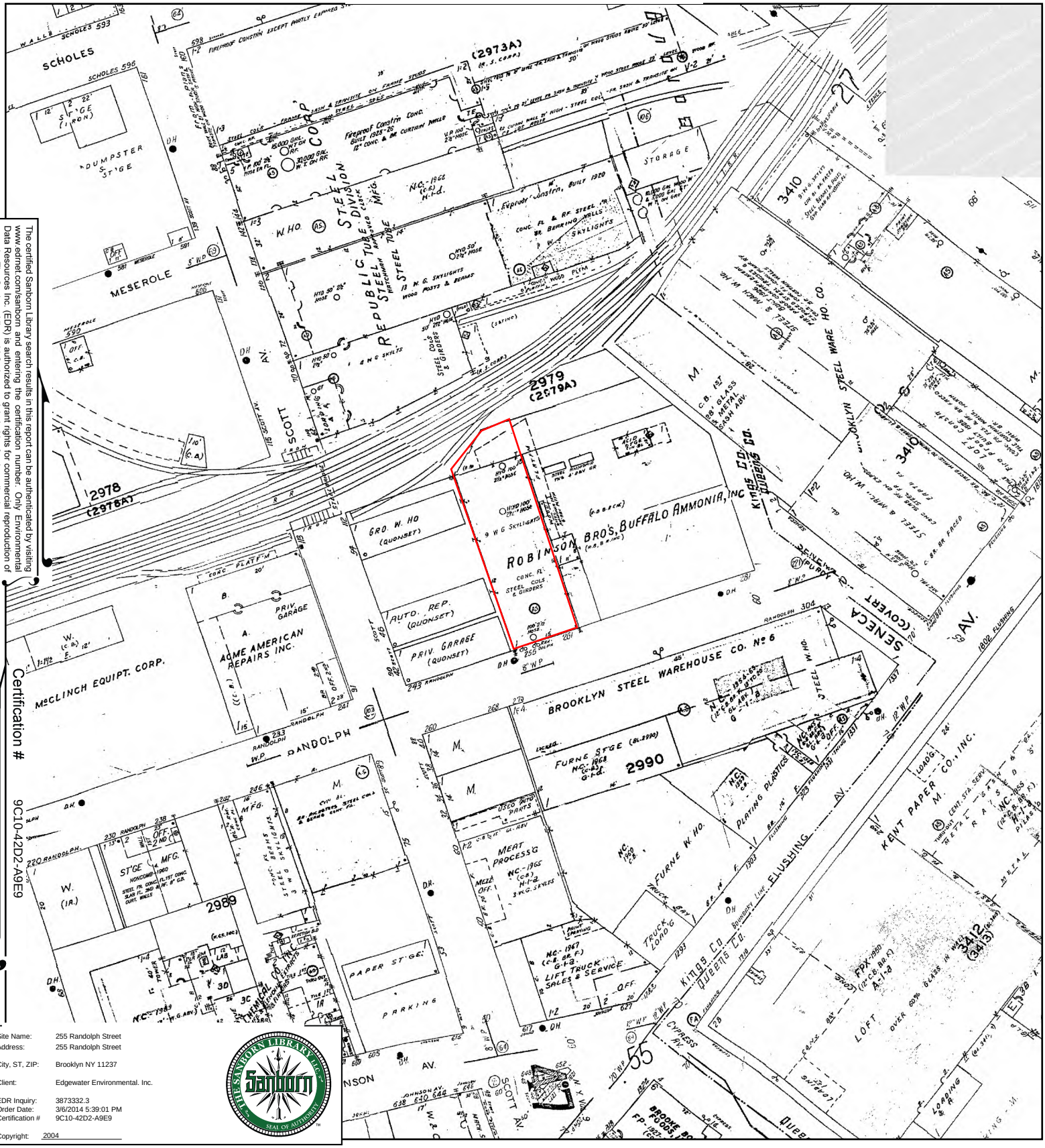

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EDR Inquiry:	3873332.3
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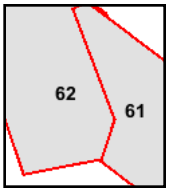

Volume 9, Sheet 62
Volume 3, Sheet 61

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2003 Certified Sanborn Map

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City, ST, ZIP: Brooklyn NY 11237
Client: Edgewater Environmental. Inc.
EDR Inquiry: 3873332.3
Order Date: 3/6/2014 5:39:01 PM
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Copyright: 2003

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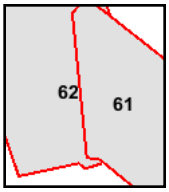

Volume 3, Sheet 61
Volume 9, Sheet 62

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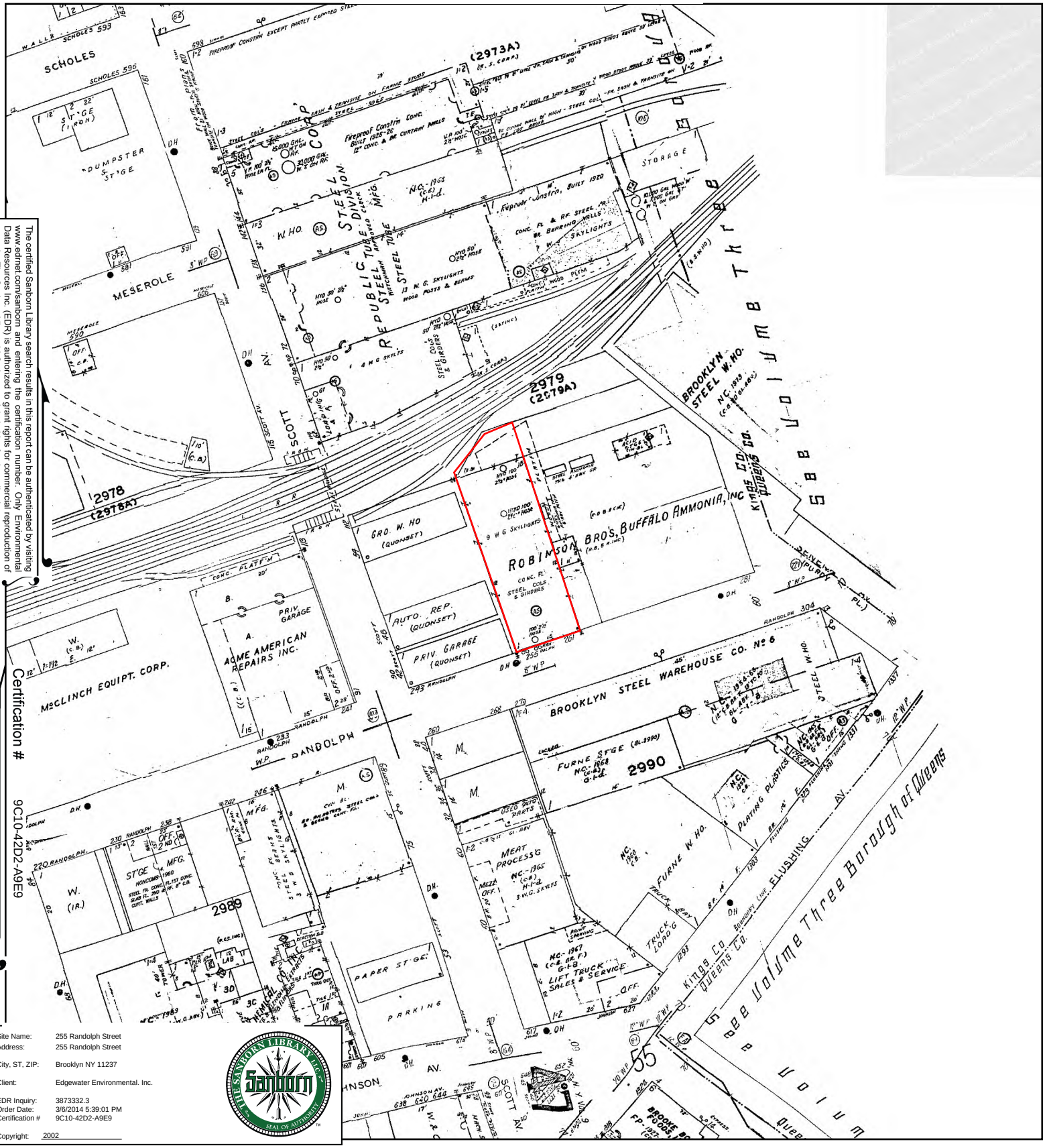

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Site Name:	255 Randolph Street
Address:	255 Randolph Street
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EDR Inquiry:	3873332.3
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Copyright:	2002

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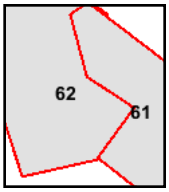

Volume 9, Sheet 62
Volume 3, Sheet 61

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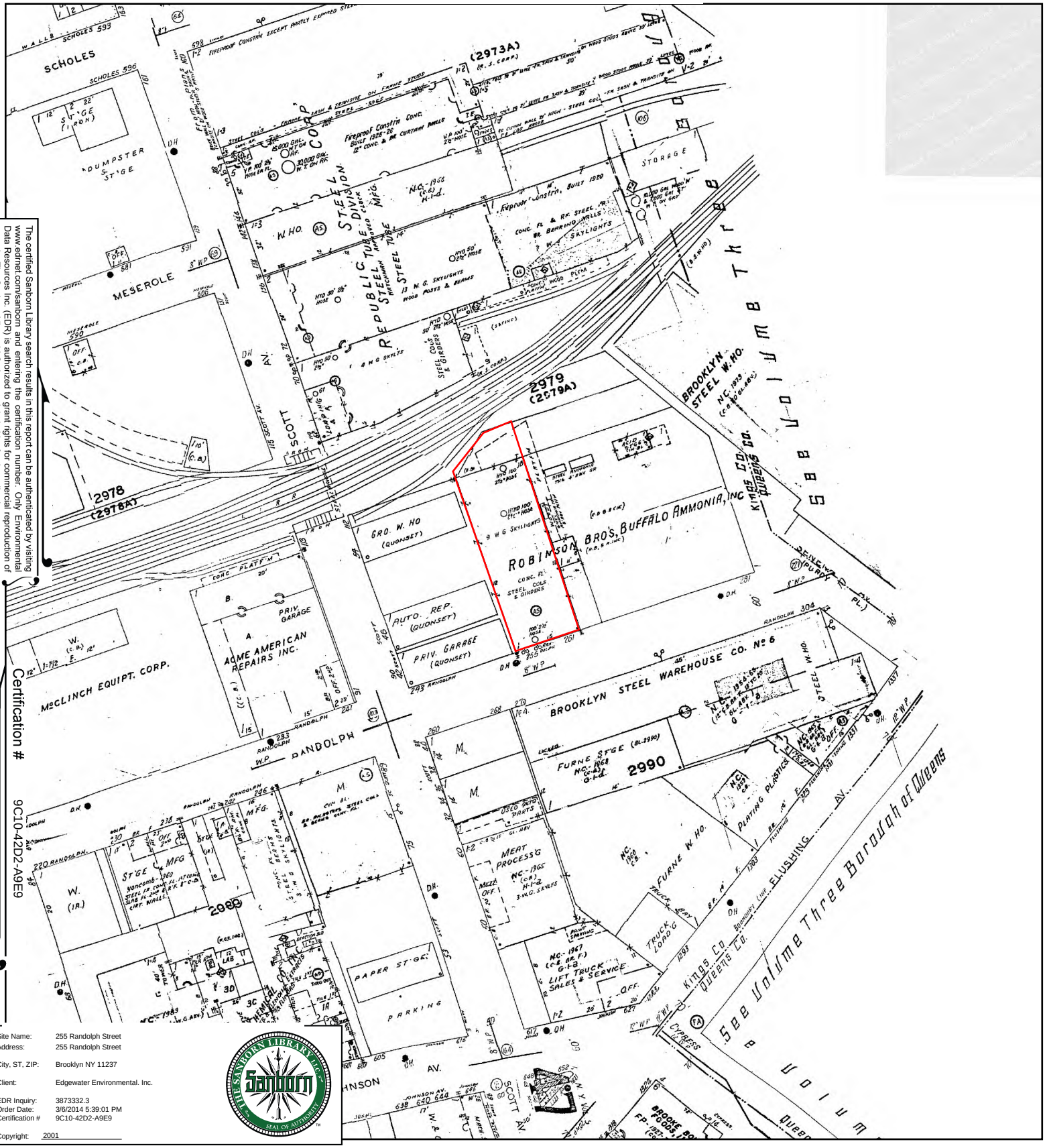

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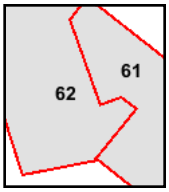

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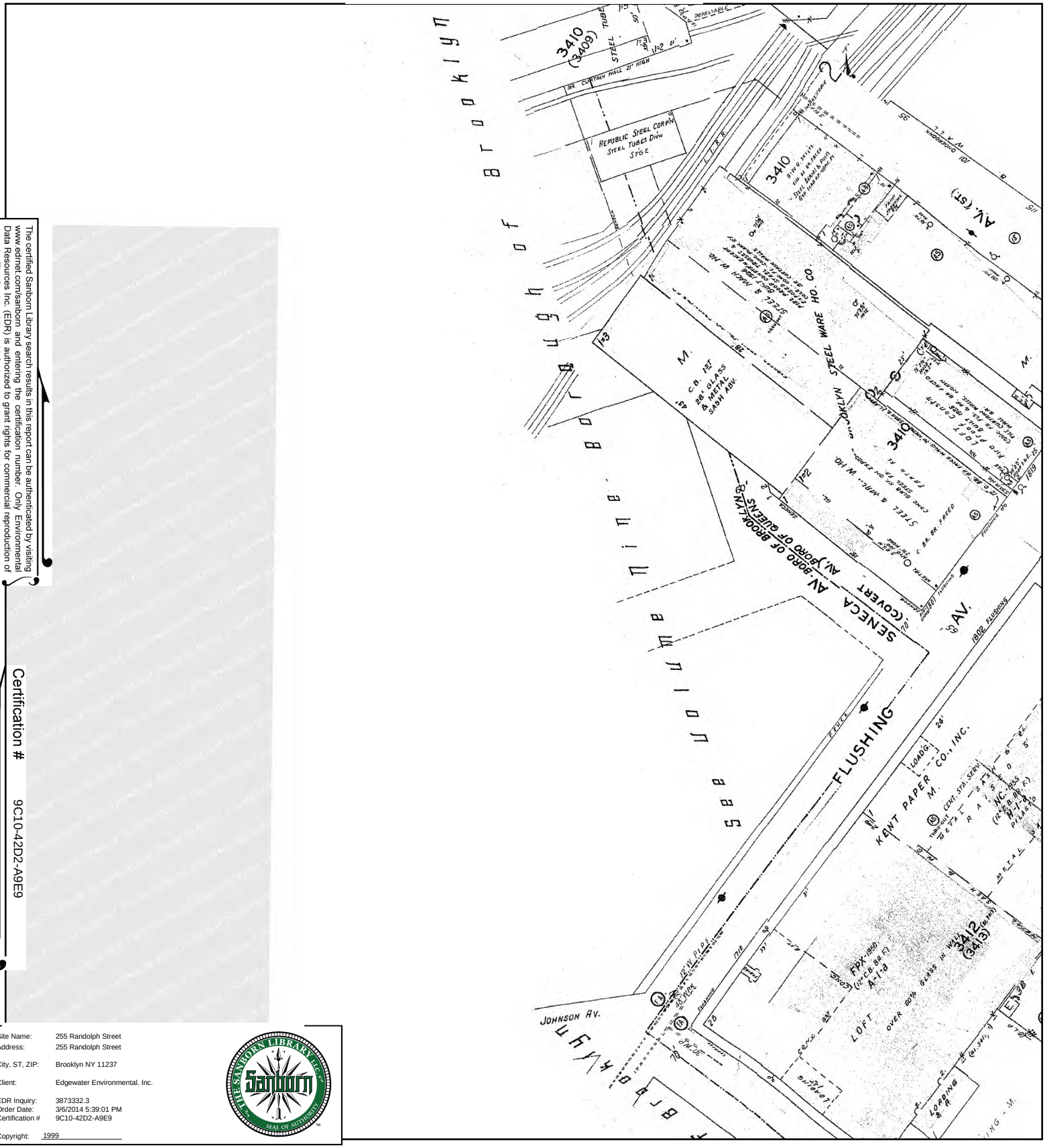

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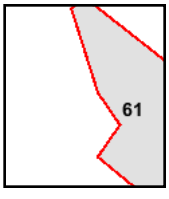

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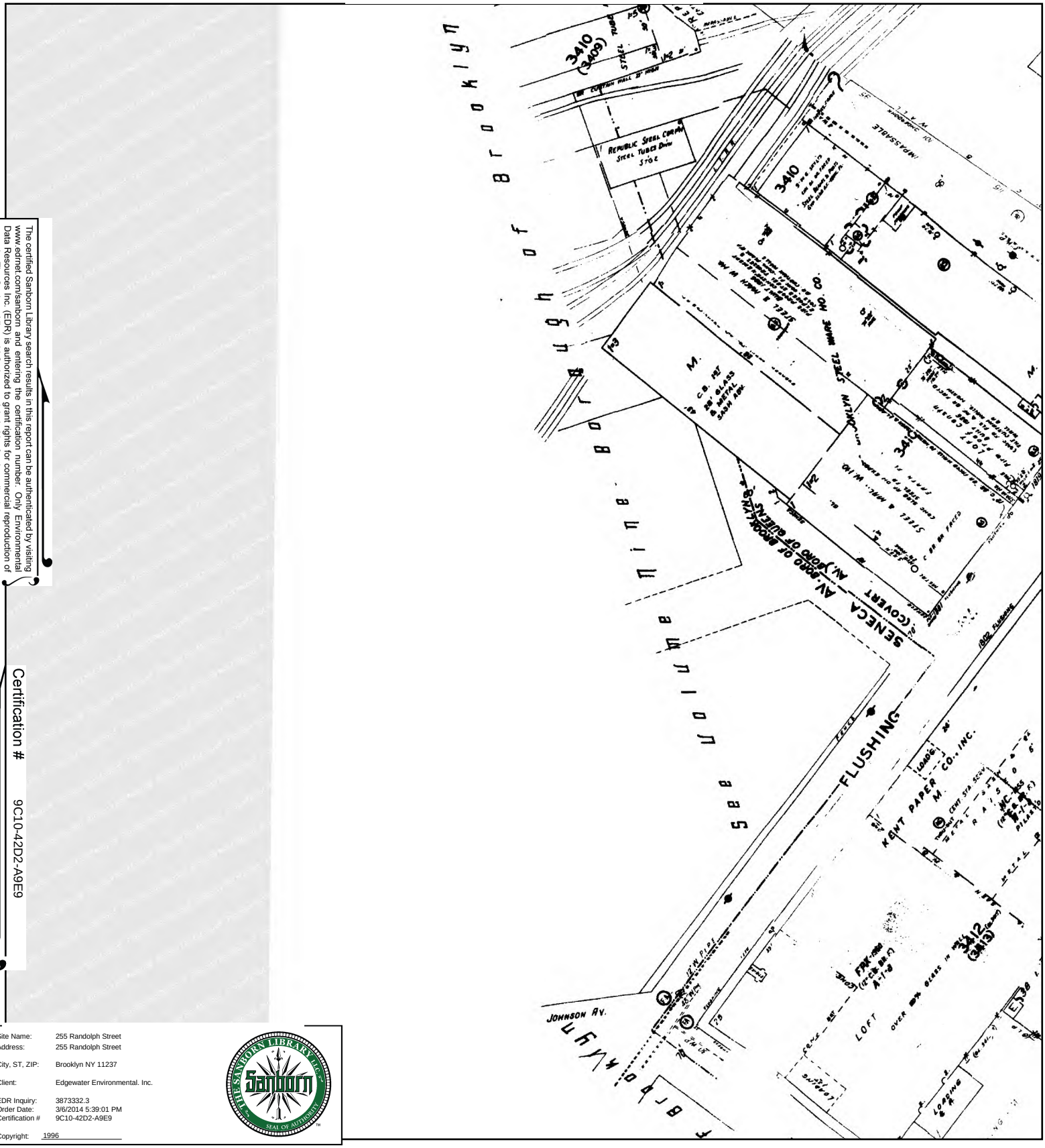

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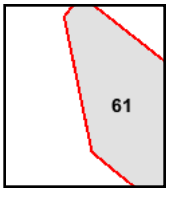

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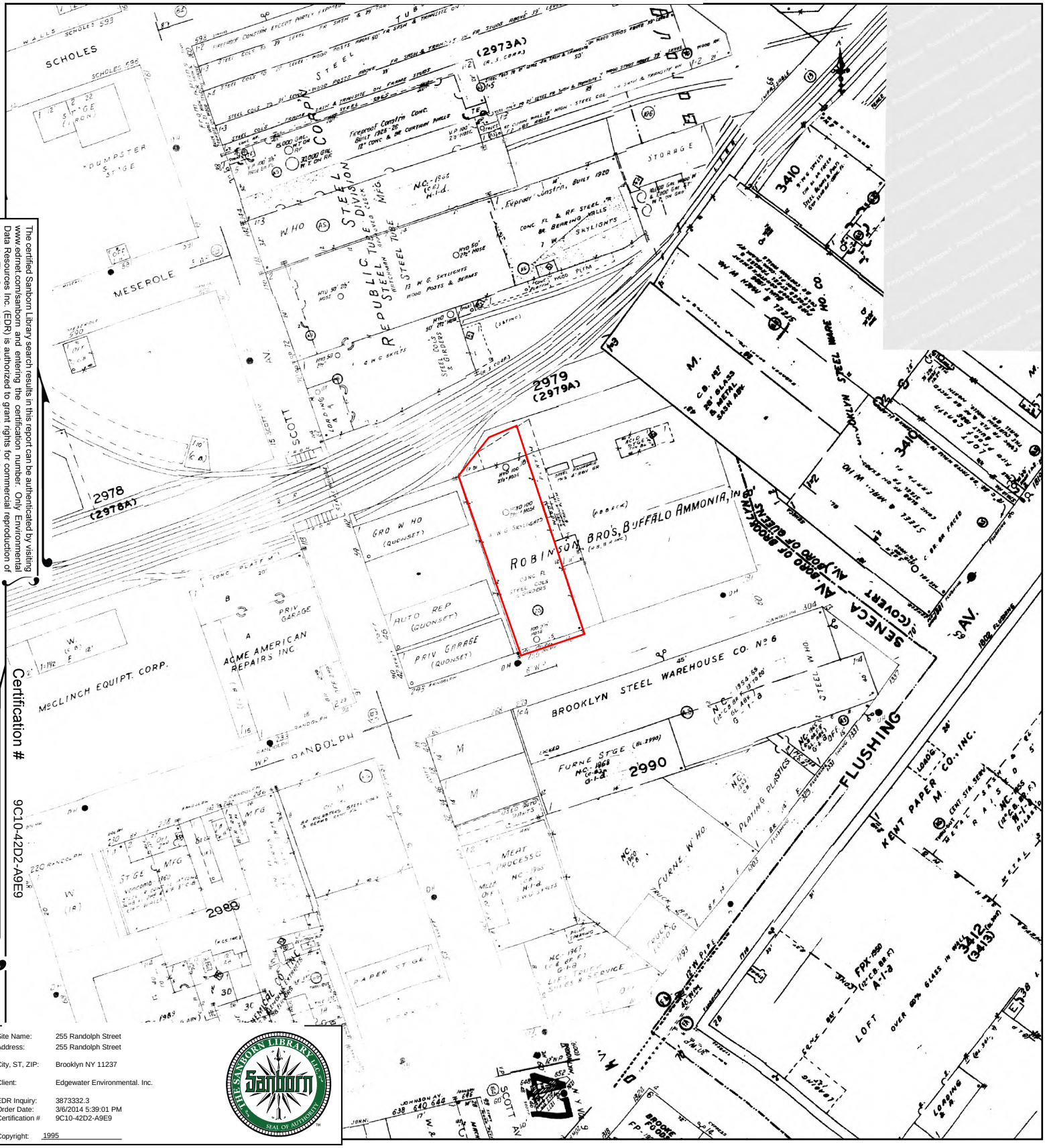

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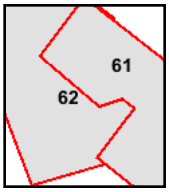

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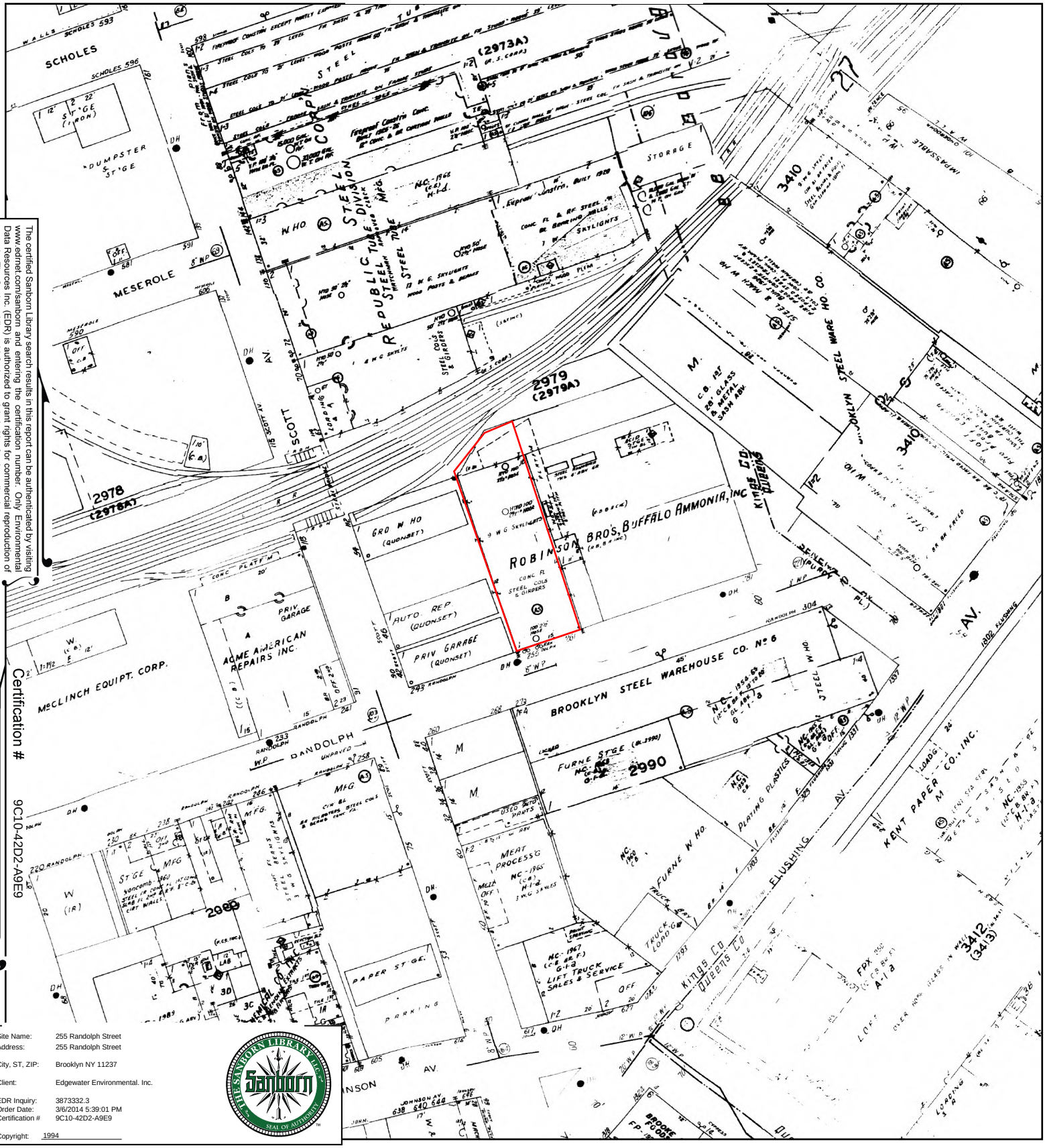

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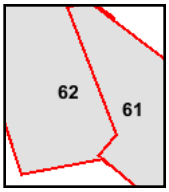

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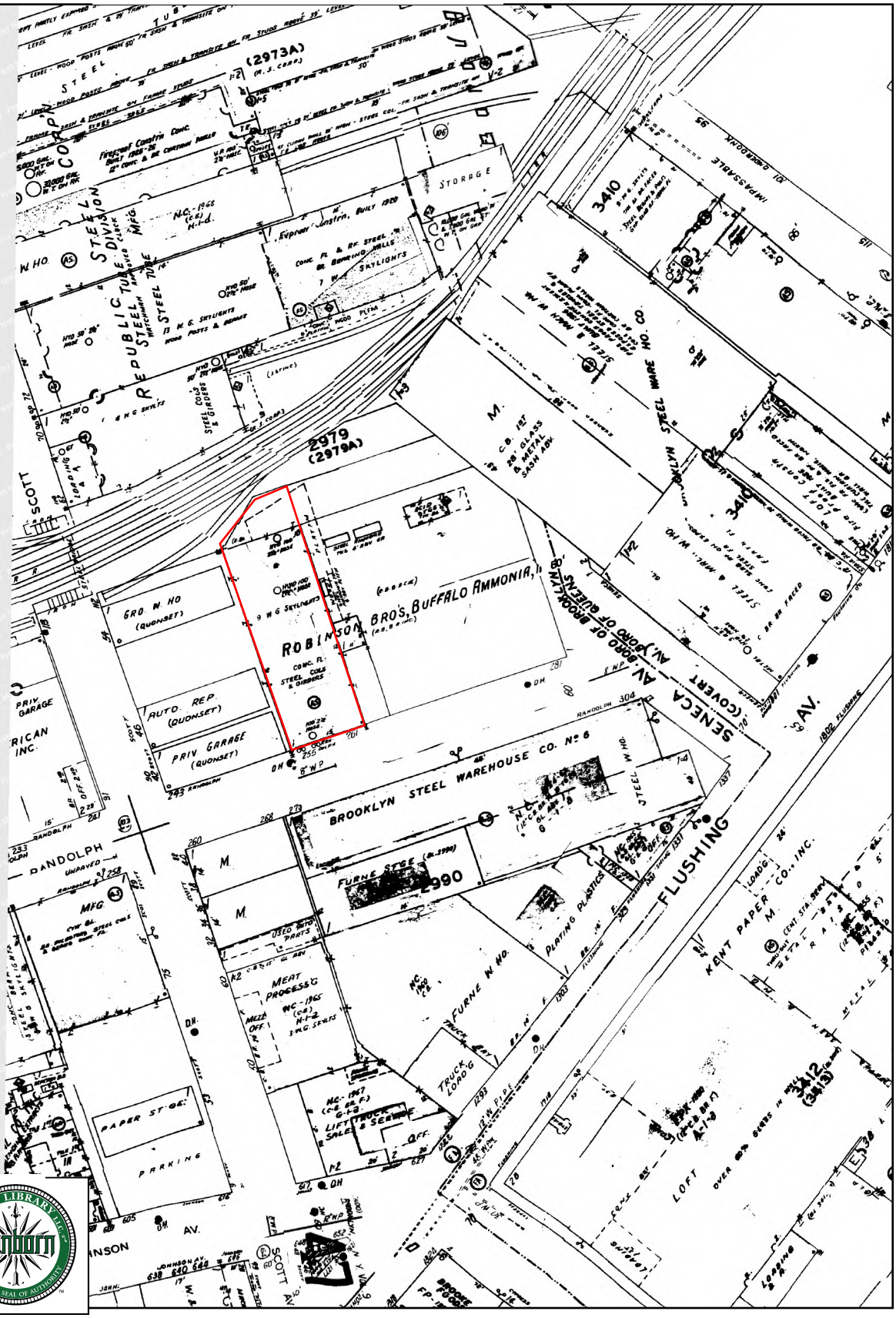

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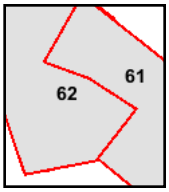

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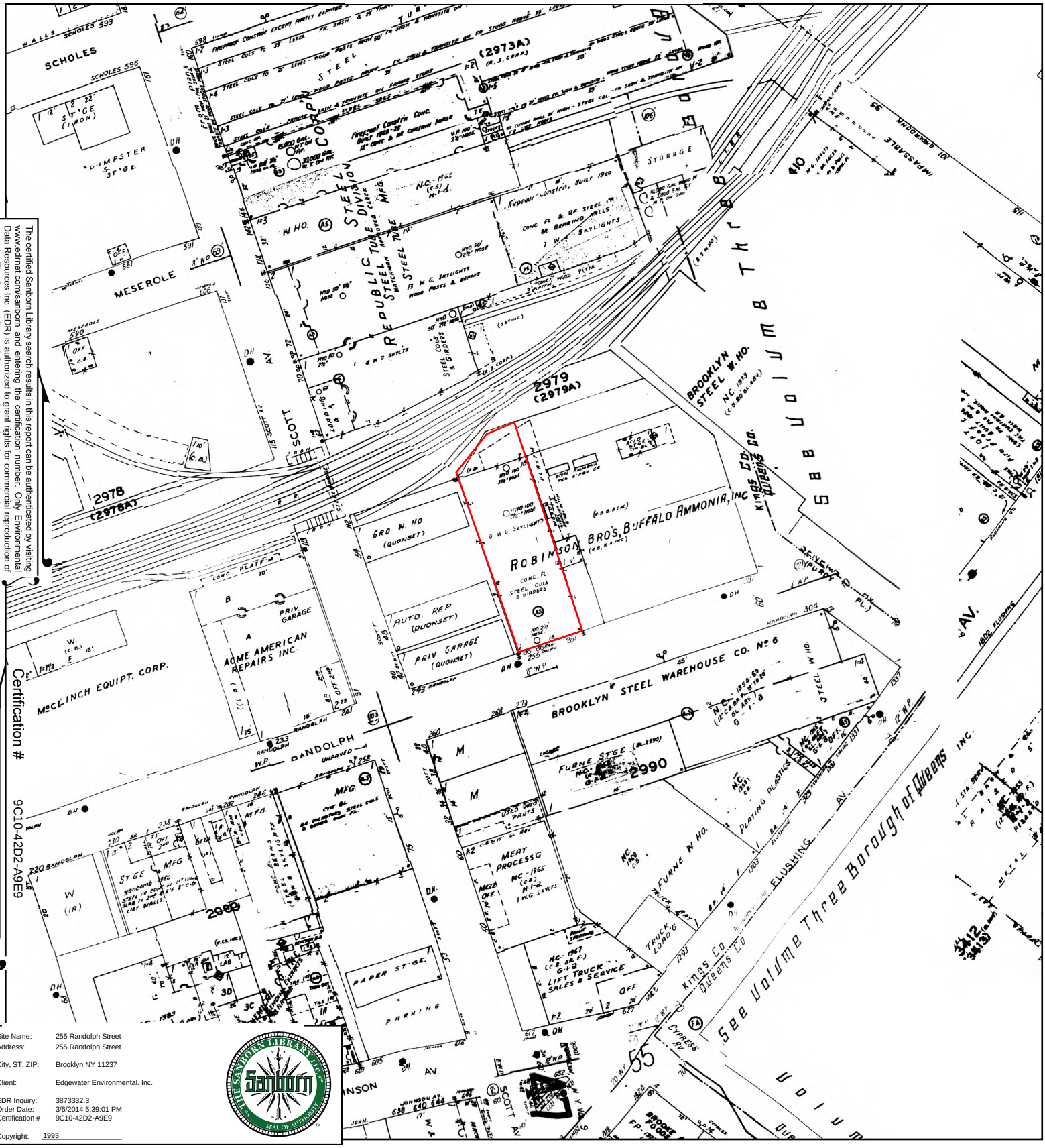

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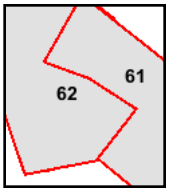

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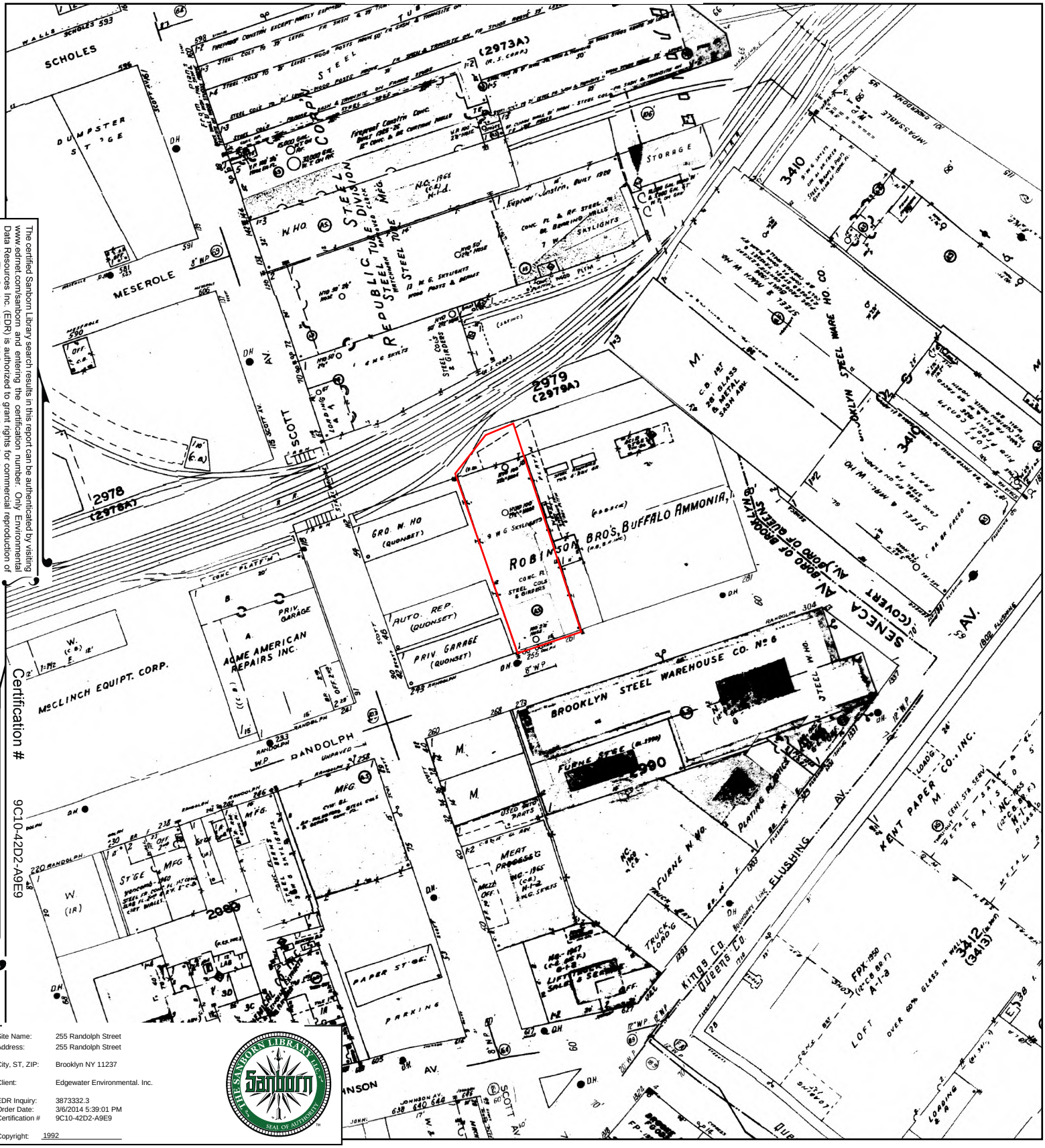

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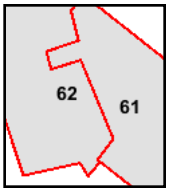

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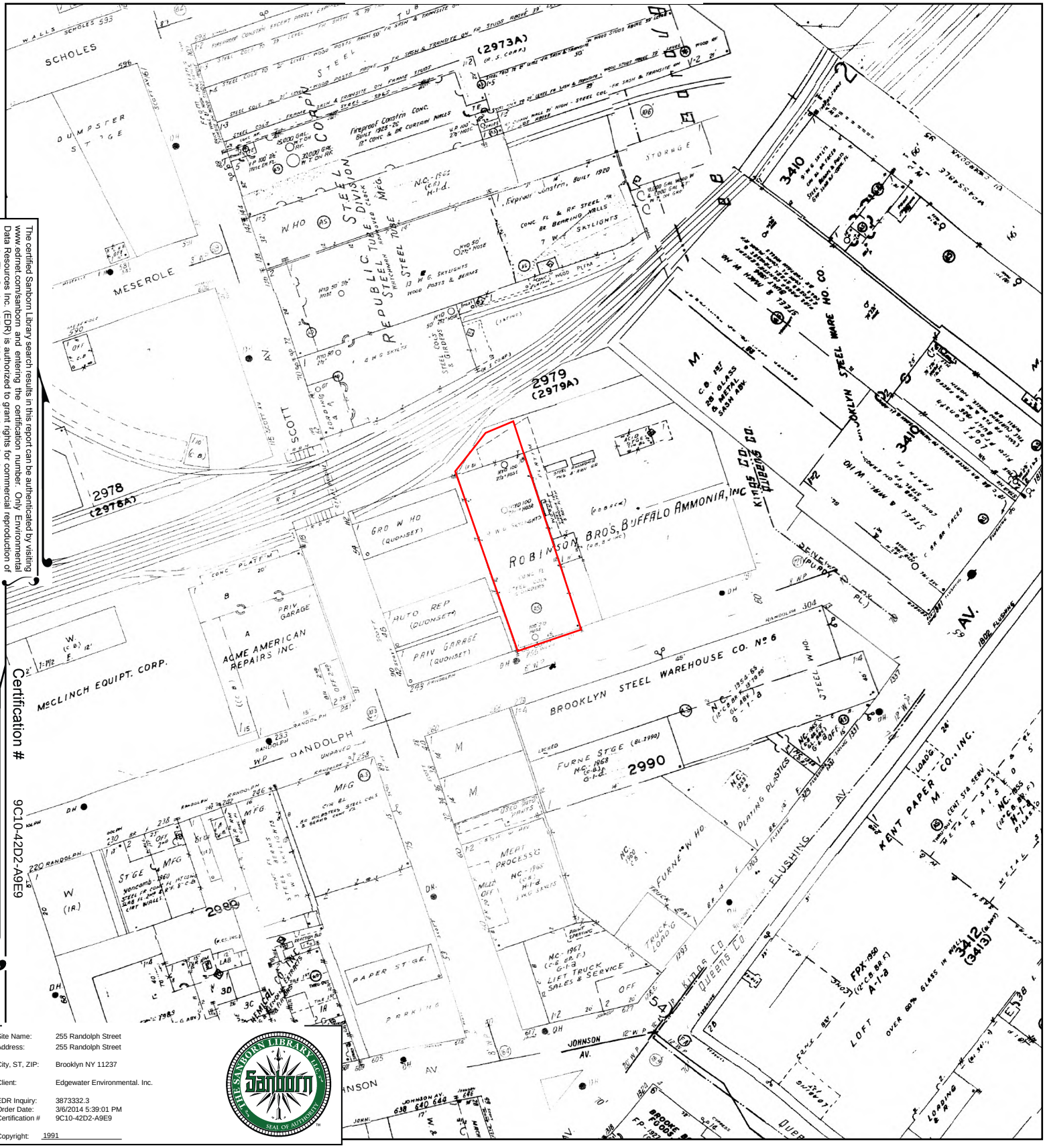

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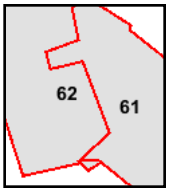

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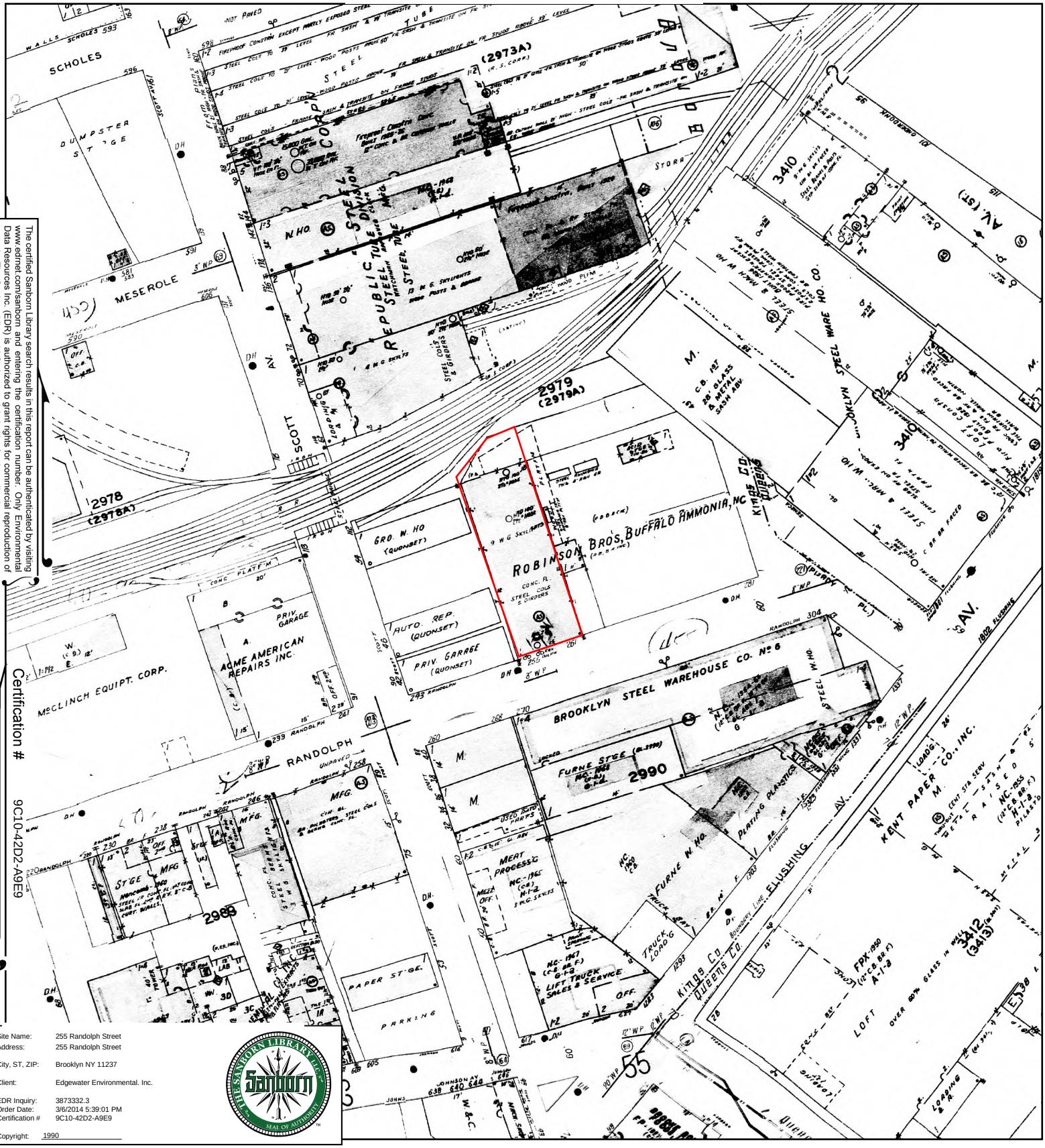

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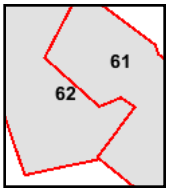

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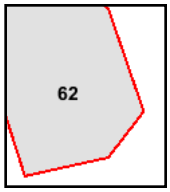

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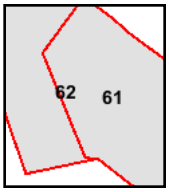

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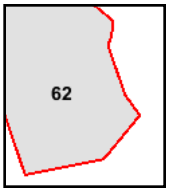

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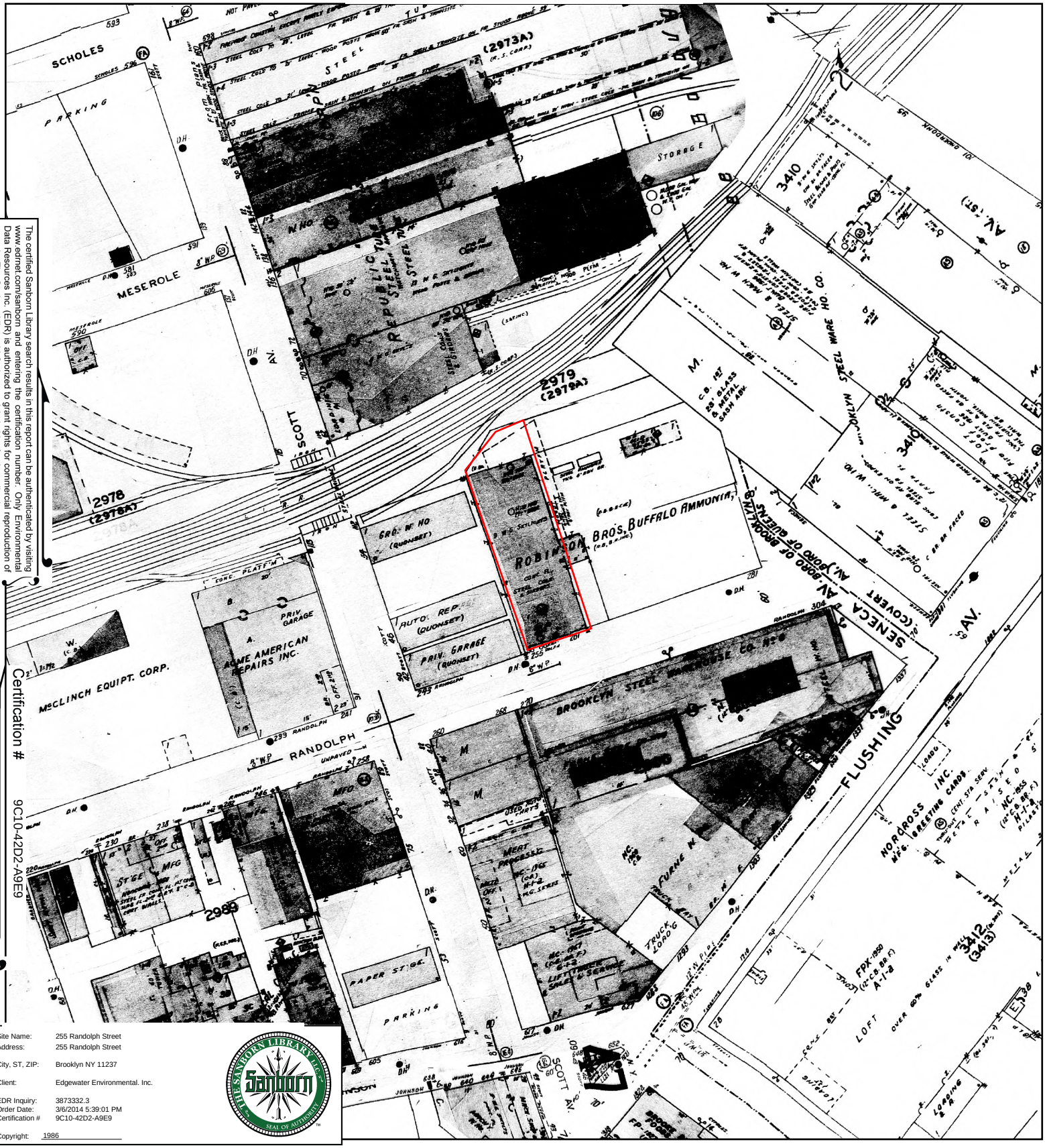

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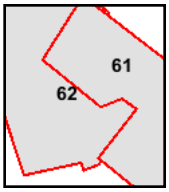

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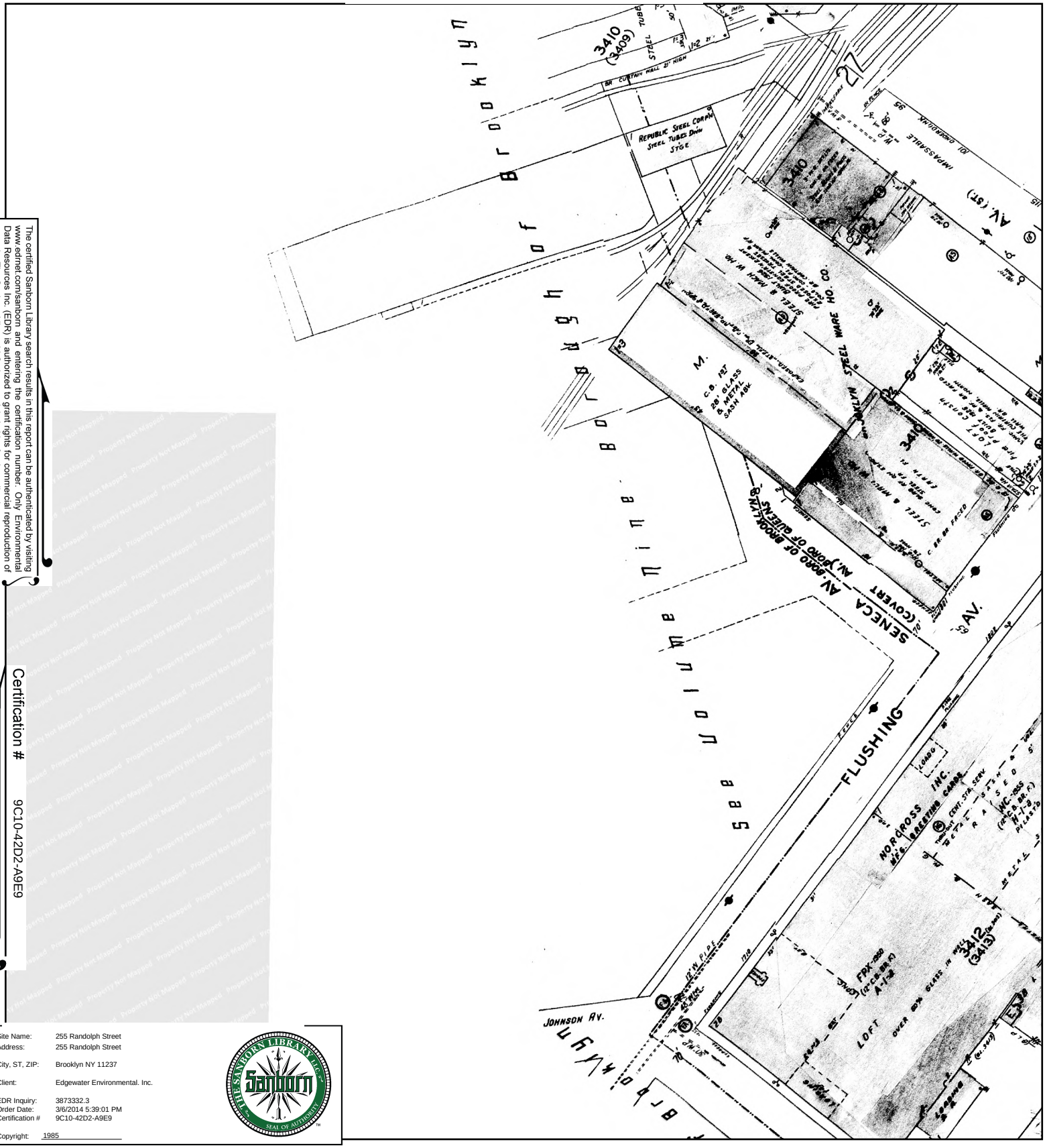

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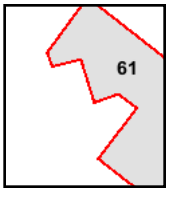

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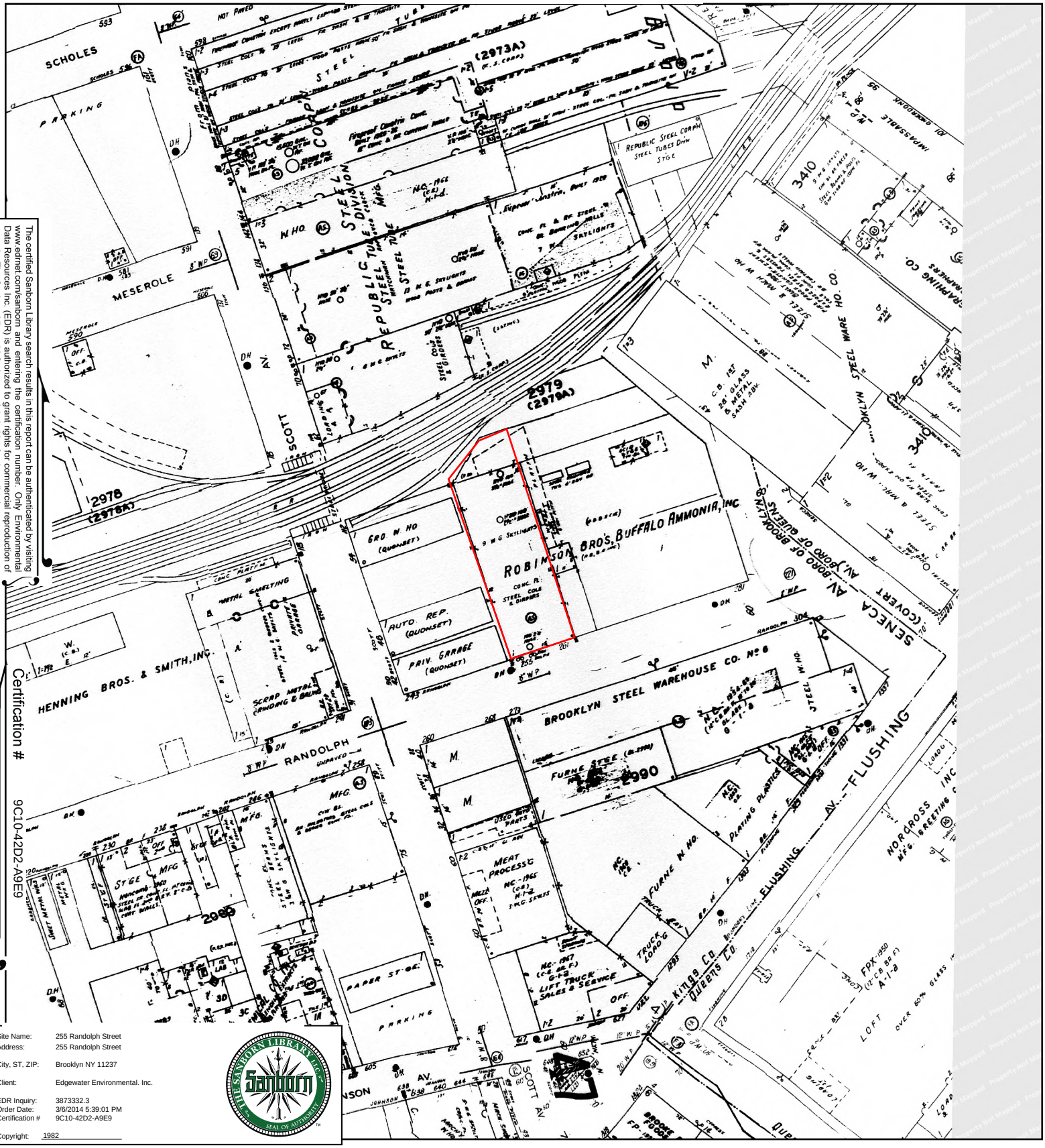

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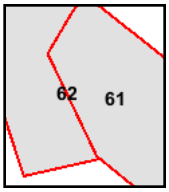

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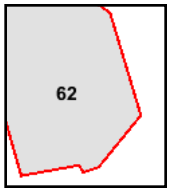

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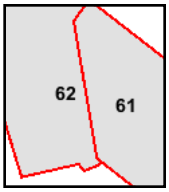

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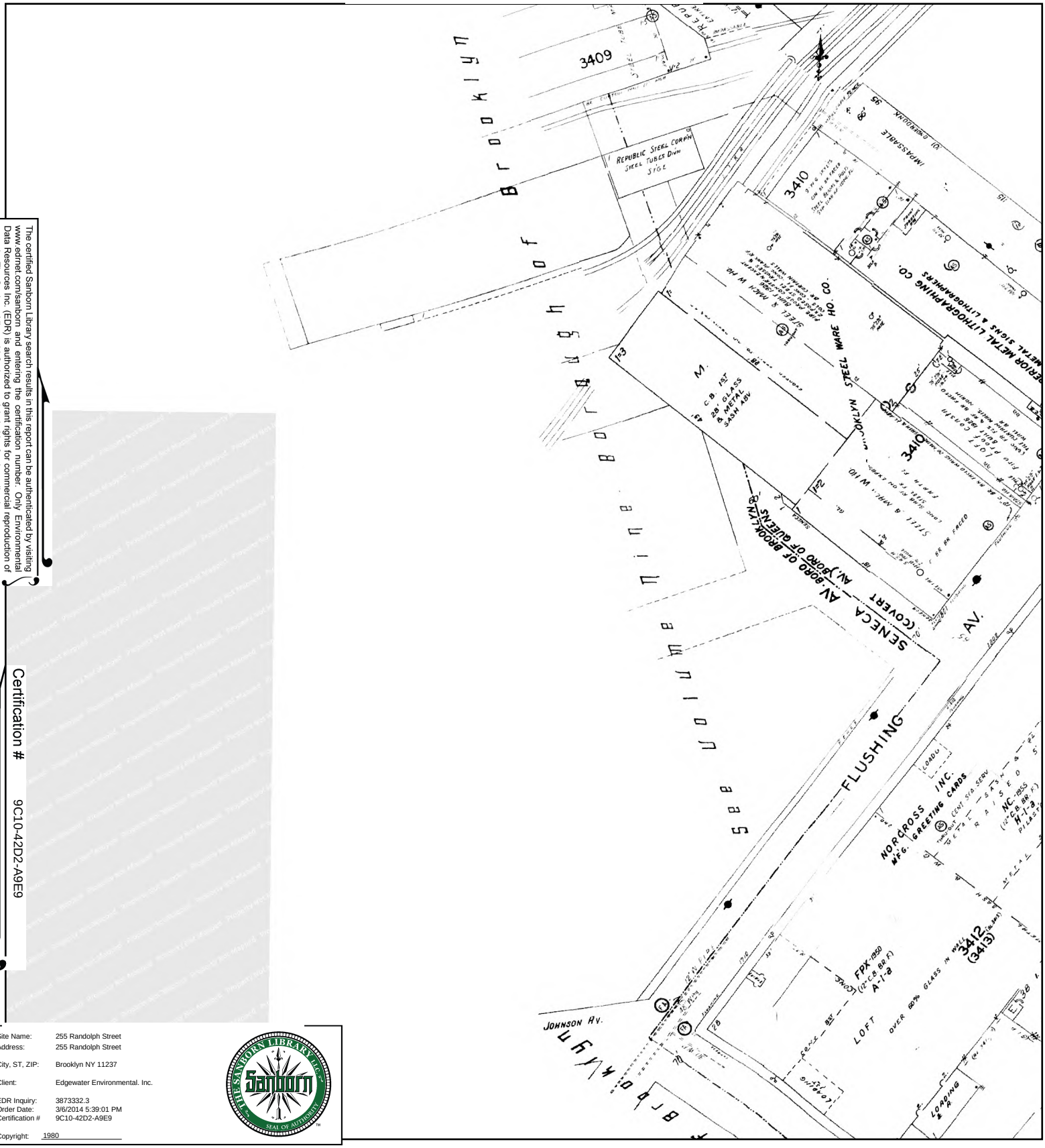

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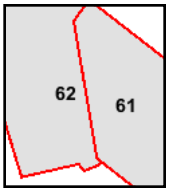

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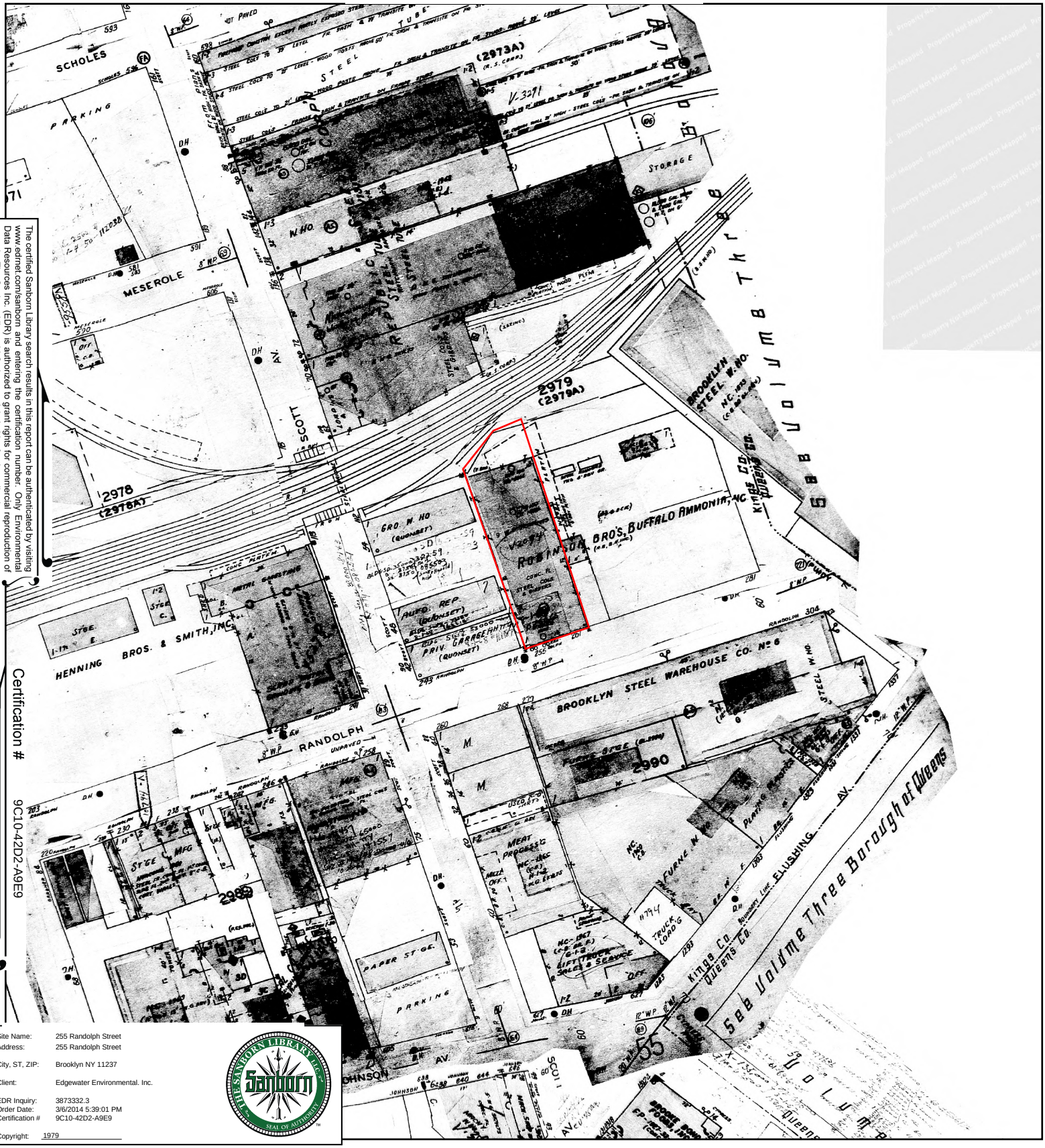
1979 Certified Sanborn Map



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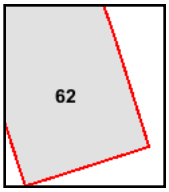

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1977 Certified Sanborn Map

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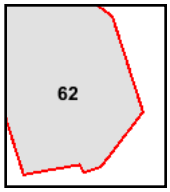

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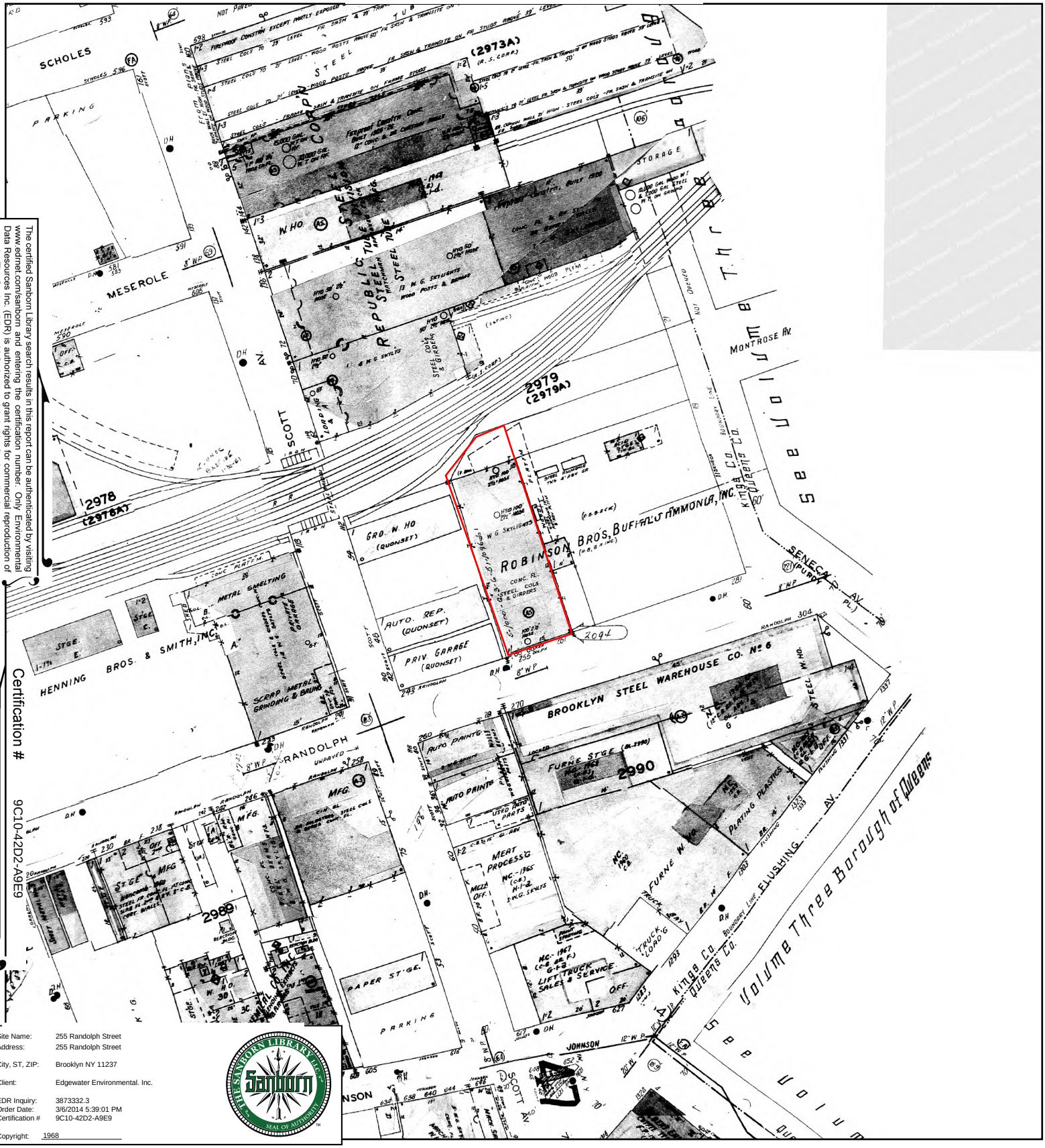
1968 Certified Sanborn Map



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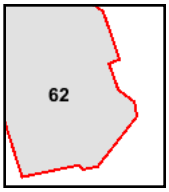

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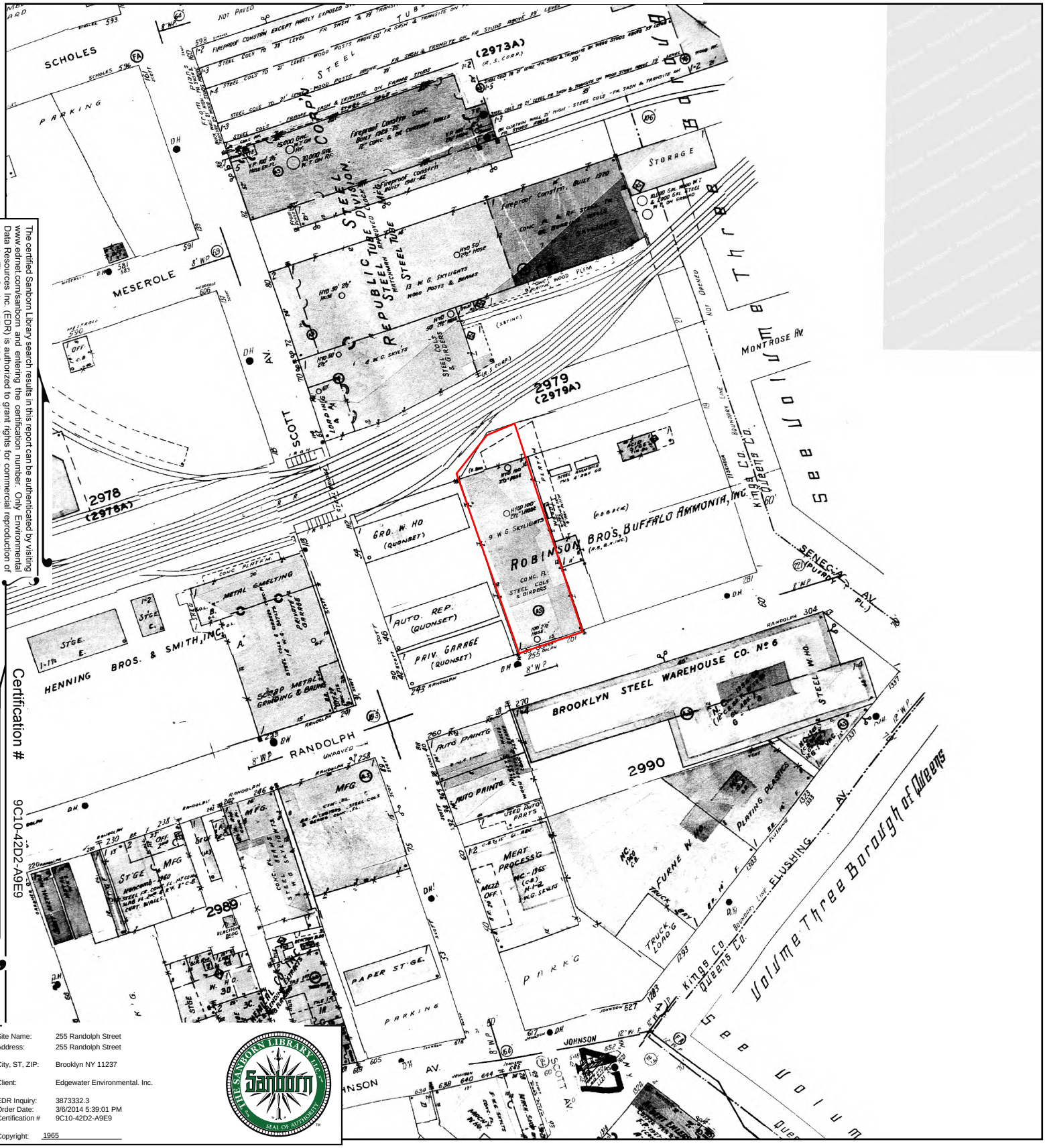
1965 Certified Sanborn Map



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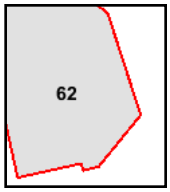

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1951 Certified Sanborn Map

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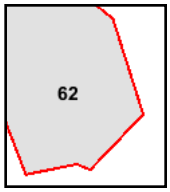

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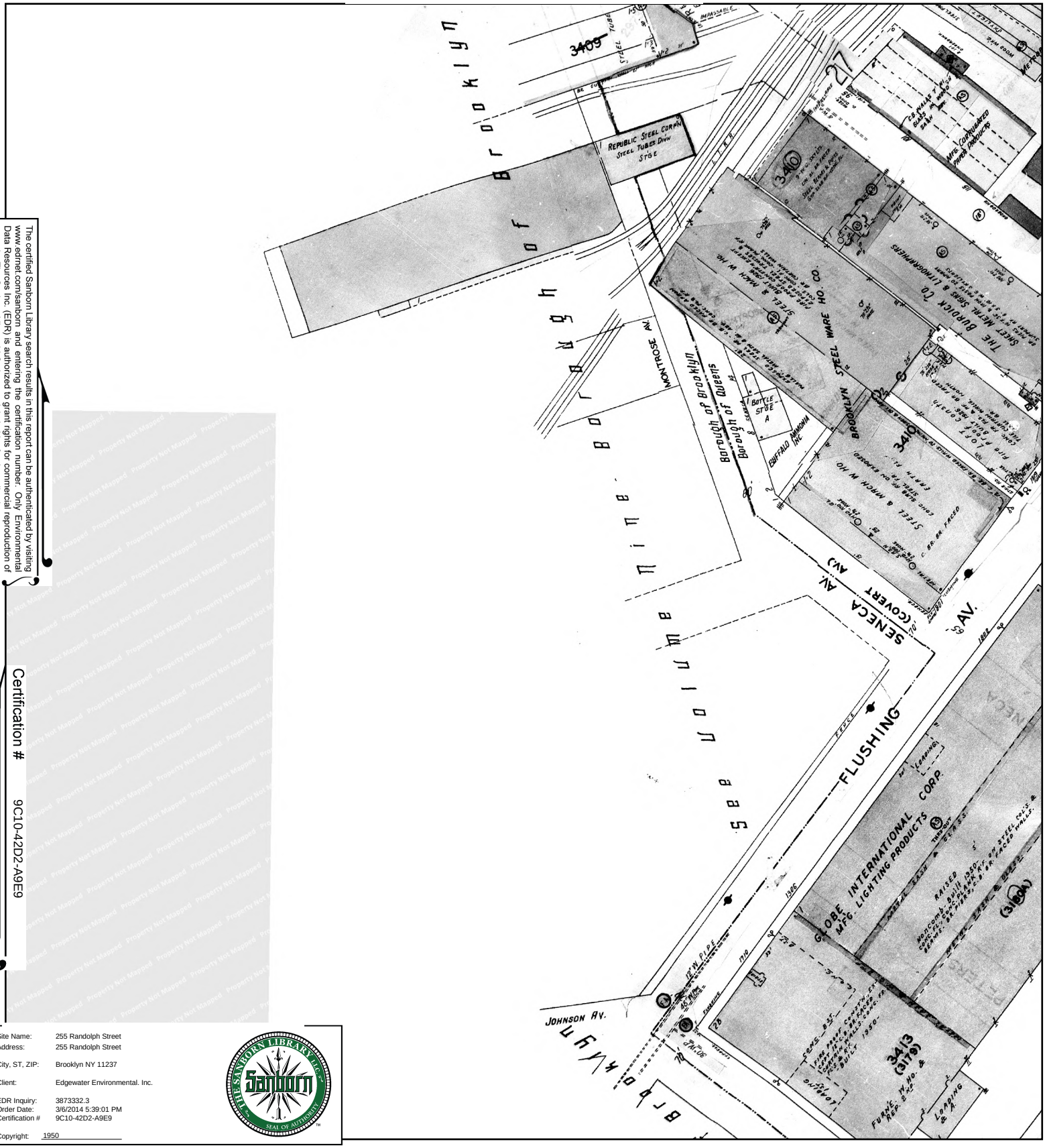
1950 Certified Sanborn Map



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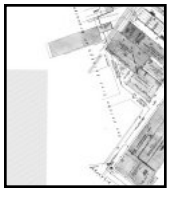

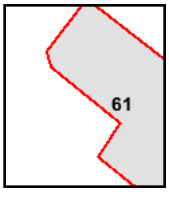

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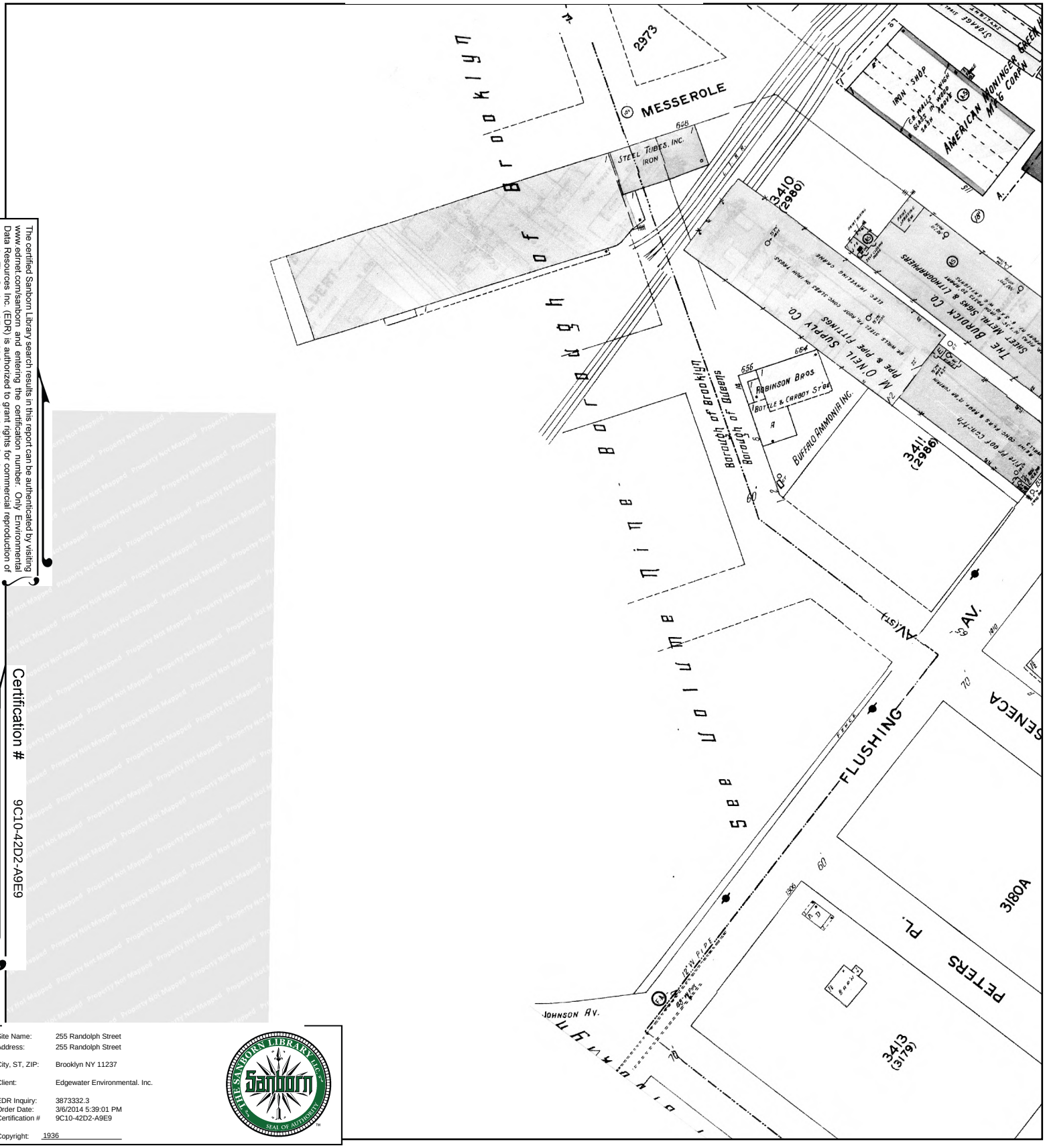
1936 Certified Sanborn Map



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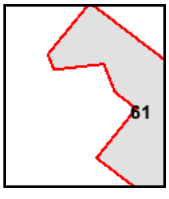

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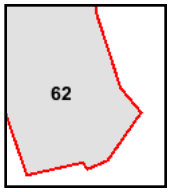

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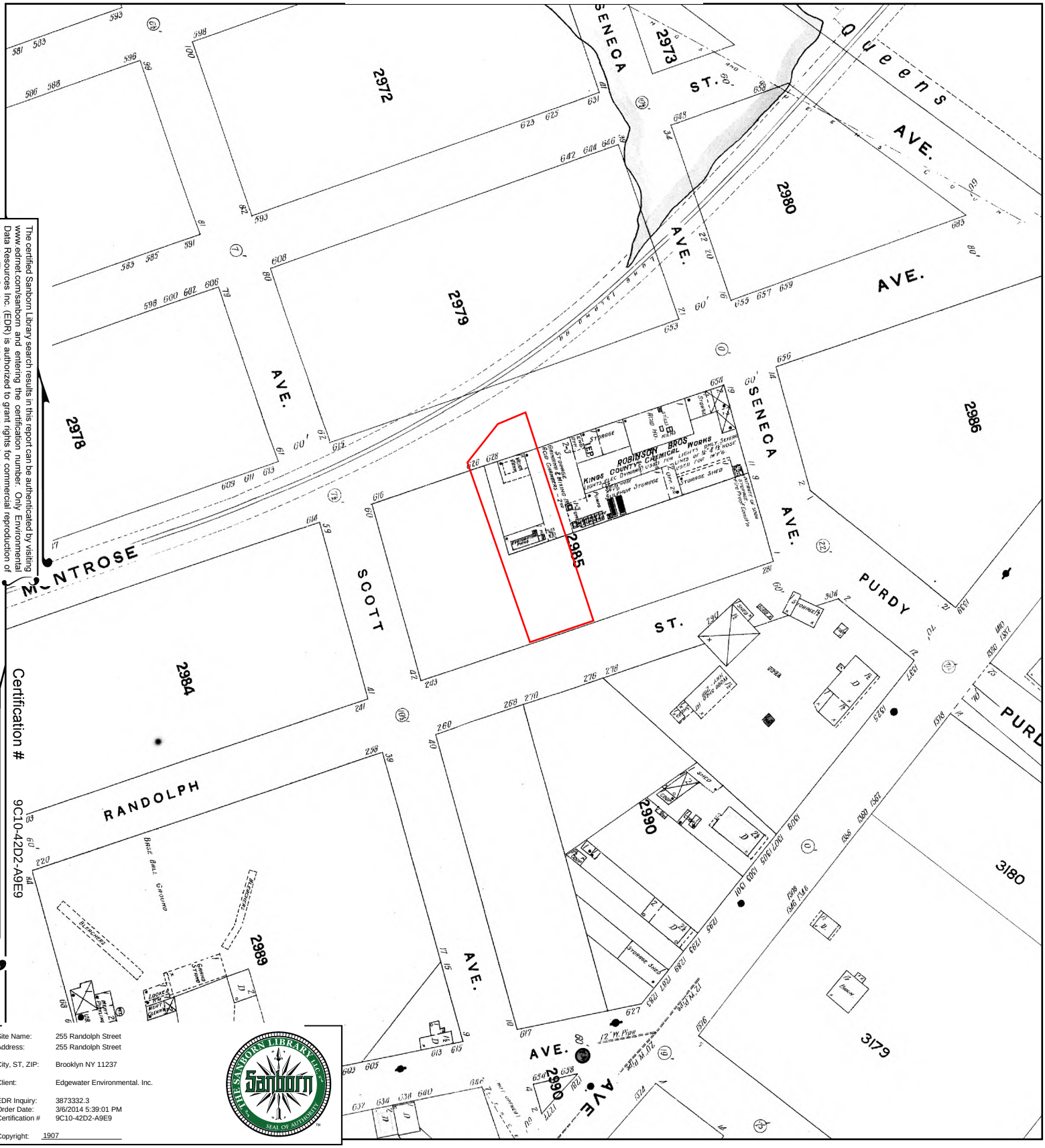
1907 Certified Sanborn Map



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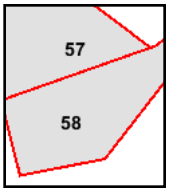

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0 Feet 150 300 600

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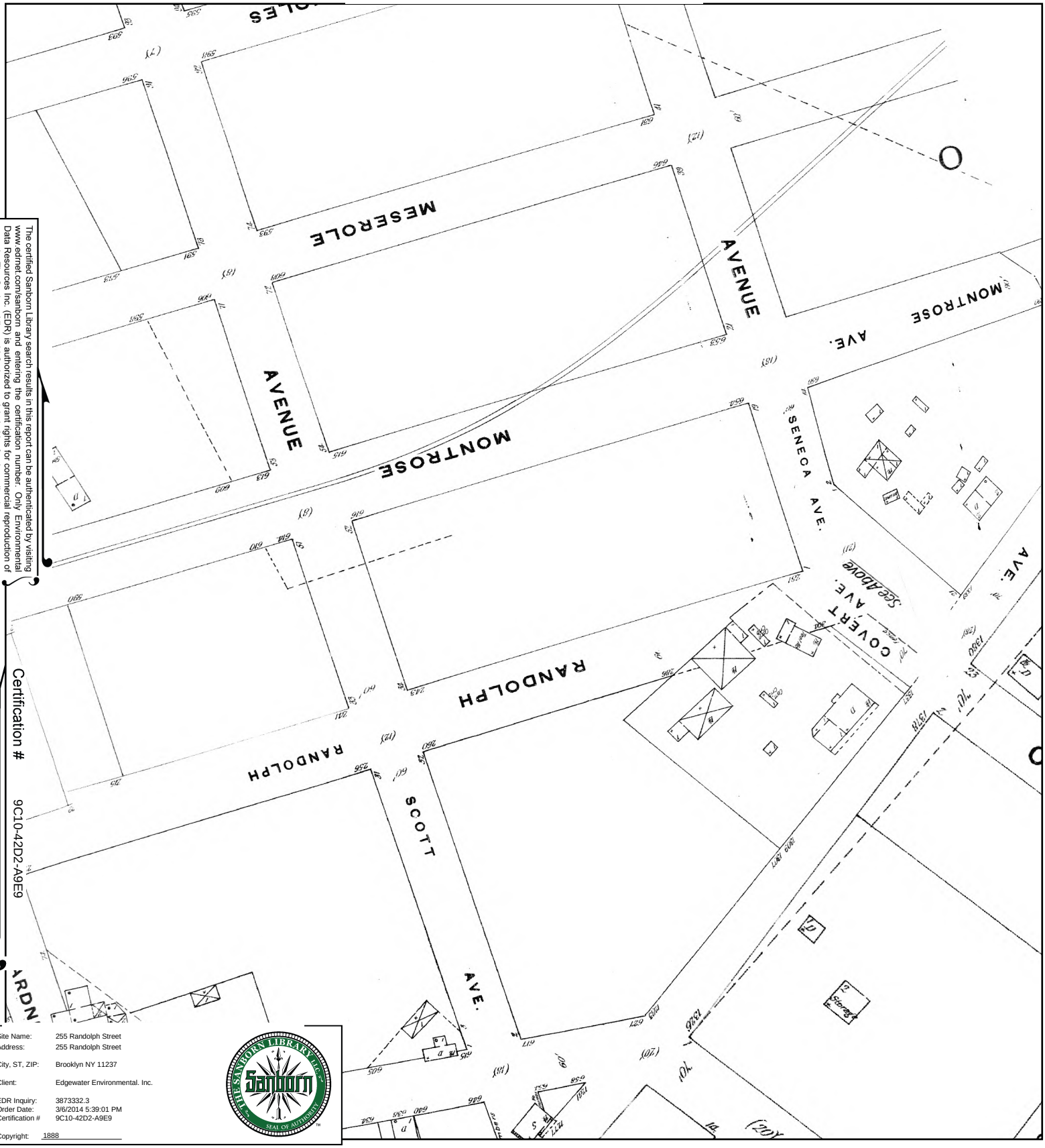
1888 Certified Sanborn Map



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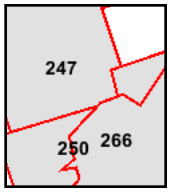

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Volume 9, Sheet 250
Volume 9, Sheet 266

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N