# Brownfield Cleanup Program Application Addendum 23-01 42nd Road Long Island City, New York

#### Section I. Requestor Information

The Site is located in a historic industrial area and has been used for manufacturing purposes since at least 1947. Inadvertent releases of solvents and petroleum products used during manufacturing operations have adversely impacted soil and groundwater, and likely soil vapor at the Site. Additionally, investigations at the Site have identified the following:

- Petroleum staining and sheen on the standing water in a sump located adjacent to the boiler room.
- Petroleum/chemical staining from the former metal fabrication machines on the ground floor of the building.
- Visual and olfactory evidence of petroleum contamination during soil borings in the southeast area of the Site.
- Elevated concentrations of organic (petroleum and chlorinated solvent based) and metal contaminants in soil and groundwater.

Although the presence of underground storage tanks (UST) is not confirmed, Sanborn maps, dated 1936 through 2006, indicate two gasoline tanks in the southeast corner of the Site and one gasoline tank in the western area of the Site. In addition, geophysical anomalies indicative of USTs were identified in the northwest corner of the Site building during a Phase II investigation performed in November 2012. A fill port was identified along the 23rd Street sidewalk that is presumed to be associated with these USTs. There is no documentation of UST removal or abandonment. These tanks likely remain at the Site and releases from the tanks have impacted soil, groundwater, and soil vapor.

During preliminary planning and testing activities, the applicant discovered evidence of soil and groundwater contaminated with petroleum and chlorinated solvents and initiated appropriate steps, including the reporting of the conditions to NYSDEC (Spill No. 1302811) and engaging consultants to delineate the extent of the spill.

The known contaminants, petroleum storage and risks posed by additional storage tanks and contaminants will significant complicate the redevelopment of this vacant, former industrial property.

Pursuant to ECL § 27-1405(1), QPS 23-10 Development LLC is properly designated as a Volunteer because its liability arises solely from site ownership acquired after the release/discharge and because it has taken reasonable steps to discover and to stop any continuing release and to prevent any threatened future release. As part of the proposed site development, the applicant agrees to prevent or limit human,

environmental or natural resource exposures to any previously released hazardous substance. A copy of the entity information from the NYS Department of State's Corporation & Business Entity Database is attached hereto as Exhibit A.

# Section II. Property Information

A Site Location Map, Site Map, Adjacent Property and Surrounding Land Uses Map, and a Tax Map are attached hereto as <u>Exhibit B</u>. No easements or rights-of-way are in effect within the Site boundary.

# Project Description Narrative

The Site is located on the city block bordered by Queens Plaza South to the north, 24th Street to the east, 42nd Road to the south, and 23rd Street to the west. The Site encompasses an approximate area of 14,920 square feet and is occupied by a vacant two-story concrete building. According to the United States Geological Survey (USGS) Central Park Quadrangle 7.5-minute Series Topographic Map, the Site sits at an elevation of approximately 16 feet above mean sea level (msl).

The Site is subject to New York State Department of Environmental Conservation (NYSDEC) review under the Spills Program (Spill No. 1302811, reported on June 14, 2013).

# Section VI. Project Description

#### Purpose and Scope of Project

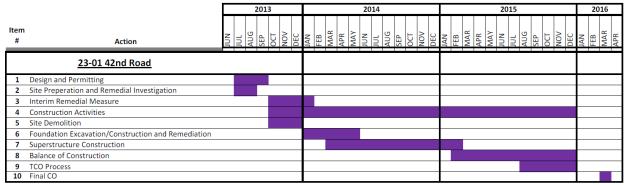
The purpose of the project is to develop an underutilized, contaminated parcel into affordable and market rate residential use, while implementing remedial measures that are protective of human health and the environment. The proposed project will include:

- A remedial investigation to investigate and characterize the nature and extent of environmental impacts on the Site and provide sufficient information to evaluate remedial actions, as required.
- Decommission the 5,000-gallon aboveground storage tank (AST);
- Removal of three suspected USTs and excavation of petroleum-impacted soil;
- Excavation and probing of geophysical anomalies suspected to be USTs;
- Demolition of the existing two-story concrete building
- The implementation of remedial elements, as required;
- The development of a 38-story residential apartment building. Residential apartments will occupy a portion of the lower seven floors and all the stories above; and
- The building foundation will be slab-on-grade construction with excavation to accommodate footings, pile caps, and elevator pits.

The Site is located in the Special Long Island City Mixed Use District within Area B of Queens Plaza Subdistrict. It is a part of the M1-5/R9 zone, which allows light industrial use and moderate to high density residential use. This project responds to and is fully consistent with the goals of the City Council as embodied in the NYC Zoning Districts to revitalize this former industrial area.

# Estimated Project Schedule

The estimated project schedule is shown below:



#### Notes:

- a) The estimated scheduling of items 4 thru 10 will be contingent on the results and timing of the BCP Remedial Investigation and Preparation
- of the Remedial Investigation Report and Remedial Action Work Plan.
- b) TCO Temporary Certificate of Occupancy
- c) CO Certificate of Occupancy

# Section VII. Property's Environmental History

#### <u>Item 1 Response</u>

Environmental reports prepared for the Site include the following (attached hereto as <u>Exhibit C</u>):

- Phase I Environmental Site Assessment (ESA) Report, dated August 28 2012, prepared by Cardno ATC
- Phase II Environmental Site Investigation (ESI) Report, dated November 8, 2012, prepared by Cardno ATC
- Phase I ESA, dated June 2013, prepared by Langan
- Site Observation Summary Report, dated July 9, 2013, prepared by Langan

Below is a summary of each report:

# August 2012 Phase I ESA

The Phase I identified the following as RECs:

- Historic use of the adjoining building to the north of the Site: The adjoining building to the north of the Site was identified on the following federal agency databases reviewed: Facility Index System / Facility Registry System (FINDS) and RCRA SQG. Although there were no reported violations, based on the known use of the property used extensively for manufacturing purposes coupled with the EDR listings and reported waste types/quantities, Cardno ATC considered the federal agency database listings to represent a REC.
- <u>Historic use of the Site:</u> The historical records review indicated that the Site has extensively been used for manufacturing purposes. Additionally, the Site in the past was noted to have oil staining from the on-site metal fabrication machines. Cardno ATC considered the historical uses of the Site to represent a REC.
- Potential Underground Storage Tanks (UST): At least three USTs have been identified at the Site on the 1936 through 2006 Sanborn maps. Based on the potential presence of gasoline tanks, the presumed age of the USTs (at least 75 years) and lack of any documentation of UST closure, the potential USTs were considered to represent a REC.
- Petroleum staining and sheen: Cardno ATC observed a sump adjacent to the boiler room. According to the property manager, there was a pump in the sump that was connected to the NYC municipal sewer system. In the area of the sump, minor petroleum staining was noted and a slight petroleum sheen was also noted on the standing water in the sump. The identified petroleum staining and sheen on the standing water represented a REC.

#### November 2012 Phase II ESI

This report pertains to both the Site (23-01 42nd Road) and the northern-adjoining property (23-10 Queens Plaza South); therefore, only a portion of the report pertains to the Site. The ESI evaluated potential impacts to soil and groundwater from the RECs identified by the 2012 Phase I ESA. Cardno ATC implemented the ESI between September 21 and 24, 2012. The investigation that was relevant to the Site included completion of a geophysical survey, installation of six soil borings and two temporary groundwater monitoring wells, and collection of six grab soil samples and two groundwater samples. Soil analytical data was compared with New York Codes, Rules and Regulations (NYCRR) Title 6 Part 375 (6 NYCRR Part 375) Unrestricted Use Soil Cleanup Objectives (SCO) and Restricted-Residential Use SCOs and groundwater analytical data was compared to NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1 Class GA Ambient Water Quality Standards (AWQS) in groundwater. The findings of this investigation are summarized below:

- The subsurface soil profile generally consisted of historic fill predominately characterized as brown and gray, fine to medium sand with silt and clay.
- Groundwater was encountered at depths of approximately 7 to 9 feet bgs.

- Bedrock was not encountered at any boring locations at a maximum depth of 15 feet bgs.
- The geophysical survey identified two potential USTs in the northwest corner of the Site.
- Visual and olfactory evidence of potential contamination was noted during the field activities at boring location SB-10. Specifically, SB-10 had potential staining and a moderate petroleum type odor at approximately eight to ten feet bgs. Photoionization detector (PID) readings were identified at SB-10 at approximately 700 to 1,200 parts per million (ppm).
- PCBs were not detected in any soil samples. The following constituents were detected in soil at concentrations that exceed their respective Unrestricted Use SCOs:
  - o Two volatile organic compounds (VOC), including acetone and benzene
  - Six semivolatile organic compounds (SVOC), including benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, indeno(1,2,3-cd)pyrene, and chrysene
  - o Four metals, including copper, lead, mercury, and zinc
- PCBs were not detected in any groundwater samples. The following constituents were detected in groundwater at concentrations that exceed their respective TOGS Class GA AWQS:
  - Five VOCs, including benzene, chloroethane, 1,2-dichloroethane, isopropylbenzene, and total xylenes
  - Six SVOCs, including benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, indeno(1,2,3-cd)pyrene, and chrysene
  - o Thirteen metals, including arsenic, barium, beryllium, chromium, copper, iron, lead, magnesium, manganese, mercury, nickel, sodium, and zinc

The Phase II ESI also identified chlorinated volatile organic compounds (CVOCs), including tetrachloroethene (PCE) and trichloroethene (TCE), in groundwater at concentrations that exceed TOGS Class GA AWQS at the northern-adjoining property.

#### June 2013 Phase I ESA

The Phase I ESA identified the following RECs for the Site:

# REC 1 – Historical Site Use

Prior to becoming vacant, the Site was extensively used for manufacturing purposes since at least 1947. Evidence of former industrial equipment, extensive piping, product supplies and work areas are apparent throughout the building. Discoloration and staining of the floors is present as well. Inadvertent releases of solvents, petroleum

products, metals, polychlorinated biphenyls (PCB) and/or other chemicals used during manufacturing operations may have adversely impacted soil, groundwater, building components and/or soil vapor at the Site. There are known releases of petroleum and chlorinated solvents at, an in the immediate vicinity of the Site

#### REC 2 – On-Site Petroleum Bulk Storage

An active 5,000-gallon #2 fuel oil aboveground storage tank (AST) has been present at the Site since 1940. Leaks or spills of fuel oil have adversely impacted soil, groundwater, and potentially soil vapor at the Site.

### REC 3 – Potential Historic Gasoline Storage

Langan did not observe underground storage tanks (UST) during the Site reconnaissance; however, at least three gasoline tanks have been identified at the Site on the 1936 through 2006 Sanborn maps. These tanks may remain at the Site and releases from the tanks may have impacted soil, groundwater, and/or soil vapor. A geophysical survey conducted as part of a Phase II Environmental Site Investigation (ESI) in 2012 identified anomalies indicative of USTs. In addition, a fill port was identified along the 23rd Street sidewalk that is presumed to be associated with these USTs. Based on the potential presence of gasoline tanks, the presumed age of the tanks (at least 75 years), and lack of any documentation of tank closure, the potential gasoline USTs are a REC.

# REC 4 – Historical Use of Surrounding Properties

Potential petroleum and solvent releases associated with the following historical surrounding property uses may have adversely impacted soil, groundwater, and/or soil vapor at the Site:

- Former manufacturing at the adjoining property to the north of the Site. Prior use included the generation of hazardous wastes including various heavy metals (cadmium, lead, barium and mercury) and ignitable waste. The environmental database report provided by Environmental Data Resources, Inc. (EDR) listed the northern-adjoining property in the Resource Conservation Recovery Act (RCRA) Small Quantity Generator (SQG) database under the name Copper Wiring Devices (2004 and 2005) and in the petroleum bulk storage (PBS) database for an active 10,000-gallon fuel oil AST. Additionally, Sanborn maps identified two gasoline tanks on the property (1936). Based on the results of a Phase II ESI performed at this Site in 2012, CVOCs, PCE and TCE were identified in groundwater at this Site at concentrations that exceed applicable New York state standards. There is also evidence of interconnections between the Site and this building so it is possible the RCRA activities occurred in both buildings.
- A filling station with two gasoline tanks on the eastern adjoining property (1947);

- An automotive repair shop on the southern adjoining property, across 42nd Road (1977); and
- A garage on the western adjoining property, across 23rd Street (1947).

# REC 5 – Spills at the Site and Northern-Adjoining Property

A November 2012 Phase II ESI performed at the Site and northern-adjoining property identified the following:

- Visual and olfactory evidence of petroleum-impacts during the advancement of soil borings at both properties.
- Organic contaminants (VOCs and SVOCs) were detected at concentrations exceeding New York Codes, Rules and Regulations (NYCRR) Title 6 Part 375 (6 NYCRR Part 375) Unrestricted Use Soil Cleanup Objectives (SCO) in soil.
- Organic (petroleum and chlorinated solvent based, including PCE and TCE) and metal contaminants were detected at concentrations exceeding NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1 Class GA Ambient Water Quality Standards (AWQS) in groundwater.
- Petroleum sheen was observed in a sump located within the building of the Site.

Based on the review of the Phase II ESI, two spills were reported to the NYSDEC; one for the Site (Spill No. 1302811) and one for the northern-adjoining property (Spill No. 1302812).

#### July 2013 Site Observation Summary Report

The purpose of this report is to summarize field investigation activities performed at 23-01 42nd Road in Long Island City, New York (the "Site") from June 28 through July 9, 2013. The investigation included the installation of five soil borings and five groundwater monitoring wells, and the collection of eleven grab soil samples. Field observations documented during this investigation are summarized below:

- The subsurface soil profile generally consisted of historic fill predominately characterized as brown and gray, fine to medium sand with silt and clay.
- Groundwater was encountered at approximately 7 feet bgs.
- Bedrock was encountered at depths ranging from 11 1/2 to 31 1/2 feet bgs.
- Visual and olfactory evidence of petroleum-like contamination was noted during
  the field activities at two boring locations located in the southeastern area of the
  Site. Specifically, petroleum-impacted material exhibiting staining, odor, and VOC
  concentrations up to 1,340 ppm, as measured with a handheld PID, was
  encountered from depths ranging from 6 to 13 feet bgs.
- Eleven soil samples were collected and submitted for laboratory analysis for VOCs, SVOCs, and metals.

In addition, during the advancement of a geotechnical test pit located along the northern edge of the Site (60 feet east of western edge of the building), grossly contaminated soil and light non-aqueous phase liquid (LNAPL) on groundwater was identified at approximately five feet bgs. The material appeared to be petroleum.

#### Item 2 Response

Sampling data are summarized below:

Six borings were advanced to approximately 10 to 15 feet. Temporary groundwater monitoring wells were installed in two of the six boring locations. Six soil samples and two groundwater samples were collected. Soil samples were collected from the area exhibiting the most contamination based on field screening techniques or from the groundwater interface.

Soil and groundwater have been impacted by historical uses of the property and its surrounding area. Figure 4 (included in Exhibit B) summarizes concentrations exceeding Unrestricted Use and Restricted Residential SCOs identified in the soil. Soil analytical results indicated the following:

- Benzene was identified above SCOs in SB-10.
- Acetone was identified above SCOs in SB-11 and SB-13.
- Several SVOCs, particularly the polycyclic aromatic hydrocarbons (PAHs) were identified above SCOs in SB-11, SB-12 and SB-13.
- Several metals were identified above SCOs in SB-10, SB-11, SB-12, SB-13 and SB-14.
- PCBs were not detected.

Figure 5 (included in Exhibit B) summarizes concentrations exceeding TOGs Class GA AWQS in the groundwater. Groundwater analytical results indicated the following:

- Petroleum-related and chlorinated VOCs were identified above TOGs Class GA AWQS in groundwater at SB-10 GW
- Several SVOCs were identified above TOGs in SB-14 GW.
- Several metals were identified above TOGs in SB-10 GW and SB-14 GW.
- PCBs were not detected.

#### Item 3 Response

Soil vapor samples were not collected as part of the Phase II ESI, however, based on reported concentrations of VOCs in soil and groundwater, soil vapor is likely impacted with VOCs.

# Item 4 Response

- The Site has extensively been used for manufacturing purposes which may have adversely impacted soil, groundwater, and soil vapor and at the Site.
- An active 5,000-gallon #2 fuel oil AST has been present at the Site since 1940. Potential leaks or spills of fuel oil may have adversely impacted soil, groundwater, and/or soil vapor at the Site.
- At least three gasoline tanks have been identified at the Site on the 1936 through 2006 Sanborn maps. There is no closure information available and these tanks likely remain at the Site. A geophysical survey conducted during the 2012 Phase II ESI identified anomalies indicative of USTs. Releases from the tanks may have impacted soil, groundwater, and/or soil vapor.
- An area of petroleum-impacted soil, as evidenced by field observations and analytical results, was identified in the southeastern portion of the Site. NYSDEC Spill No. 1302811 is associated with the Site.
- Potential petroleum and solvent releases associated with the historical surrounding property uses may have adversely impacted groundwater. Soil vapor is expected to be impacted by solvent and petroleum releases also.

### Item 6 Response

Name	Relationship to Property	Address and Phone Number	Relationship to Applicant
QPS 23-10 Development LLC	Owner (2013 - present)	5 East 17th Street, 2nd Floor New York, NY 10003 Attention: Paul Lipof (212) 610-2800	Applicant
Electric Realty Company, LLC	Owner and operator (2000 - 2013)	c/o Kraupner Group 457 Knickerbocker Avenue Brooklyn, NY 11237 Unknown	None
Eagle Electric Company, L.L.C	Owner and operator prior to 2000	45-31 Court Square Long Island City, NY 11101 Unknown	None

# Section VIII. Contact List Information

Item 1 Response

#### **Chief Executive Officer**

Mayor Michael R. Bloomberg City Hall 260 Broadway Avenue New York, New York 10007

# **New York City Planning Commission**

Amanda M. Burden Department of City Planning 22 Reade Street New York, NY 10007-1216

# **Borough of Queens, Department of City Planning**

John Young 120-55 Queens Boulevard Room 201 Kew Gardens, NY 11424

# Item 2 Response

# Residents, owners, and occupants of the Site and properties adjacent to the Site:

There are no residents at the Site, which is owned by QPS 23-10 Development LLC. The Site consists of a vacant two-story concrete building. Adjacent properties include:

23<sup>rd</sup> Street Parking Inc. 42-02 23<sup>rd</sup> Street Long Island City, NY 11101 (718) 551-8963

Apex Technical School 24-02 Queens Plaza South Long Island City, NY 11101 (212) 645 - 3300

Residents 24-12 42<sup>nd</sup> Road Long Island City, NY 10013

Steinway Awnings Corporation 42-30 24<sup>th</sup> Street Long Island City, NY 11101 (212) 967-8910

Aesthetic Dental: Hyde Matthew DDS 24-16 Queens Plaza South Long Island City, NY 11101 (718) 784-1747

Company Car 4214 Crescent Street Long Island City, NY 11101 (718) 616-2222

Hamza Travel Inc. 4222 Crescent Street Long Island City, NY 11101 (718) 507-4949

National Scrap – Iron & Metal Corp. Wholesale Dealers 42-36 Crescent Street Long Island City, NY 11101 (718) 784 - 7233 Lic Lot, L.I.C. 23-02 42<sup>nd</sup> Road Long Island City, NY 11101 (212) 575-5335

4233 24st LLC 42-37 24<sup>th</sup> Street Long Island City, NY 11101

AJ Crescent LLC 42-34 Crescent Street Long Island City, NY 10013

US Post Office 24-18 Queens Plaza South Long Island City, NY 11101 (800) 275-8777

Astoria Community Church 4214 Crescent Street Long Island City, NY 11101 (718) 721-3440

Comfort Inn 42-24 Crescent Street Long Island City, NY 11101 (718) 303-3700

Maamin Properties L.I.C. 24-16 Queens Plaza South Long Island City, NY 11101

# Item 3 Response

# Local news media from which the community typically obtains information:

Queens Chronicle 62-33 Woodhaven Boulevard Rego Park, NY 11374-7769

# Item 4 Response

The responsibility for supplying water in New York City is shared between the NYC Department of Environmental Protection, the Municipal Water Finance Authority, and the New York City Water Board.

#### Item 5 Response

We are unaware of any requests for inclusion on the contact list.

# Item 6 Response

# The administrator of any school or day care facility located on or near the Site:

There are no schools or day care facilities located on the Site. The following are schools or day care facilities located within ½ mile of the Site:

Apex Technical School (located east-adjacent to the Site, across 24th Street)
Joanna Suchodolska, Administrator
24-02 Queens Plaza South
Long Island City, NY 11101
(212) 645 - 3300

Academy of American Studies High School (approximately 1,320 ft. northeast from the Site)
28-04 41st Avenue
Mr. W. Bassell, Principal
Queens, NY 11101
(718) 361–8786

Newcomers High School (approximately 1,584 ft. northeast from the Site) Orlando Sarmiento, Principal 28-01 41st Avenue Queens, NY 11101 (718) 937-6005 Information Technology High School (approximately 1,373 ft. southwest from the Site) Joseph Reed, Principal 21-16 44th Road Queens, NY 11101

PAL Western Queens Nursery School (approximately 1690 ft. northwest from the Site) 10-26 41st Avenue Vanesia Richardson, Director Long Island City, NY 11101 (718) 784-2092

Queensbridge Day Care Center (approximately 2534 ft. northwest from the Site) 3811 27th Street
Brenda Sorin, Director
Long Island City, NY 11101
(718) 937 - 7640

# Item 7 Response

# The location of a document repository for the project (e.g. local library):

Queens Library – Court Square 2501 Jackson Avenue Long Island City, NY 11101 (718) 937-2790

A letter sent to the repository acknowledging that it agrees to act as a document repository for the project is attached hereto as <u>Exhibit D</u>.

#### Section IX. Land Use Factors

#### Item 2 Response

#### Intended Use Post Remediation

The proposed use will be a 38-story residential apartment building.

#### Item 4 Response

#### **Applicable Zoning Laws/Maps**

The site is located in the Special Long Island City Mixed Use District within Area B of Queens Plaza Subdistrict. This project responds to and is fully consistent with the goals of the City Council as embodied in the NYC Zoning Districts. The site's zoning designation is M1-5/R9, which permits residential development at 8.0x FAR. The applicable zoning text attached hereto as Exhibit E.

# Item 5 Response

# **Comprehensive Plans**

The proposed use is consistent with local and area plans per the Special Long Island City Mixed Use zoning guidelines.

# Item 9 Response

# **Existing Infrastructure**

The property is served by NYC water and sewer utilities and Consolidated Edison electric. The property is also within walking distance (one block) to New York City subway and bus routes.

#### Item 10 Response

#### **Cultural Resources**

There are several City Landmarks and National Register listed sites within ½-mile of the Site. The below table lists City Landmarks (L) and Properties Listed on National Register (NR) of Historic Places within approximately 1/2-Mile of the Site:

Property/Site	Status	Address	
45th Road – Court House	NR	At the intersection of 45th Avenue and	
Square Station		23rd Street	
Hunters Point Historic District	NR	On 45th Avenue bounded by 21st and 23rd Street	
Long Island City Courthouse Complex	NR	25-10 Court Square	
Queensboro Bridge	NR	59th Street	
US Post Office - Long Island	NR	46-02 21st Street	
City		40-02 215t 3tieet	
102-45 47 Avenue House	L	102-45 47th Avenue	
Sunnyside Gardens Historic	L	Bounded by Barnett Ave, 52nd Street,	
District		Queens Blvd and 43rd Street.	
Fire Engine Company No. 258,	L		
Hook and Ladder Company No.		10-40 47th Avenue	
115			
New York Architectural Terra	Ĺ	42-10 - 42-16 Vernon Boulevard	
Cotta Works Building		42-10 - 42-10 Verillori Boulevaru	

# Item 11 Response

#### Federal, State, or Local Natural Resources

The East River is located approximately 0.5 miles west of the Site.

#### Item 12 Response

#### Flood Plains

According to the National Flood Insurance Rate Map for the City of New York published by the Federal Emergency Management Agency (FEMA) (Community Panel No. 3604970 089 F, dated September 5, 2007), the site is not located within a flood plain. However, the Site is located adjacent to properties in Zone X. Zone X areas experience a 0.2 percent annual chance of flood (500-year flood). A flood plain map is attached hereto as Exhibit F.

# Item 14 Response

# Proximity to Residential, Urban, Commercial, Industrial, Agricultural, and Recreational Areas

The Site is adjacent to an overhead MTA structure to the north and west and adjacent to mixed use (commercial and residential properties to the south and east). The East River is located 0.5 miles west of the Site. A map showing surrounding property use is provided in Exhibit B.

#### Item 15 Response

# **Vulnerability of Groundwater to Contamination**

Groundwater in the southeast corner of the site was found to be impacted with benzene, xylene and chlorinated VOCs. There is potential for impacted groundwater to migrate off-site; however, as the New York City water supply is derived from watersheds in the Catskills, contaminated groundwater at the site is not expected to impact the drinking water supply. The East River is located approximately 0.5 miles west of the site and, based on its distance, does not represent a potential receptor for off-site migration.

# Item 16 Response

#### **Geography and Geology of the Site**

The site is located on the city block bordered by Queens Plaza South to the north, 24th Street to the east, 42nd Road to the south, and 23rd Street to the west. The site encompasses an approximate area of 14,920 square feet. The property is occupied by a vacant two-story concrete building. The topography of the Site generally slopes west; however, the eastern part of the Site also slopes towards the south.

Pleistocene glacial activity modified the landscapes and surficial features of Brooklyn, Queens, and the remainder of Long Island. The glaciation scoured uplands areas and deposited varying amounts of till (an unsorted mixture of sand, clay and boulders) across the lowlands and valleys. The area of Queens in which the site is located is underlain by glacial deposits known as ground moraine. The ground moraine is a widespread dense layer of till material that typically consists of clay, sand and boulders. Bedrock outcrops

were not observed at the site. According to the USGS Bedrock and Engineering Geologic Maps of New York County and Parts of Kings and Queens Counties, New York, dated 1994, the site is underlain by Middle Ordovician to Lower Cambrian-Ordovician Hartland Formation, which generally consists of muscovite-biotite-quartz schist with minor garnet. Based on USGS reports, bedrock beneath the site is presumed to be at a depth of approximately 50 feet below grade surface.

Based on previous environmental investigations performed at the Site by Cardno ATC, the site is characterized by a layer of sand, silt and clay overlaying bedrock. The underlying bedrock consists of metamorphic and igneous rocks. Bedrock was not encountered at 15 feet below grade surface during the Phase II ESI.