NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Remedial Bureau C
625 Broadway, 12th Floor, Albany, NY 12233-7014
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February 23, 2021

Reeti Doshi
Program Manager
Site Investigation and Remediation
National Grid
One Metrotech Center, 14th Floor
Brooklyn, NY 11201

Re: Underground Storage Tank Removal Work Plan – Former Ballfield Area
Greenpoint Energy Center Former MGP
Site #224052

Dear Reeti Doshi:

The New York State Department of Environmental Conservation (the "Department") and the New York State Department of Health (NYSDOH) have reviewed the Underground Storage Tank Removal Work Plan for the Former Ballfield Area submitted for the Greenpoint Energy Center (GPEC) Former Manufactured Gas Plant (MGP) site (the "site") located at 287 Maspeth Avenue in Brooklyn, New York, dated January 22, 2021. The Work Plan is hereby approved.

If you have any questions or any issues arise, please feel free to contact me at 518-402-2029 or email: greta.white@dec.ny.gov.

Sincerely,

Greta White, P.G.
Project Manager
Remedial Action Bureau C
Division of Environmental Remediation

EC: C. Morris, GEI
D. Eaton & J. Brown, NYSDEC
S. Surani & S. McLaughlin, NYSDOH

NEW YORK STATE OF OPPORTUNITY. Department of Health

ANDREW M. CUOMO
Governor

HOWARD A. ZUCKER, M.D., J.D.
Commissioner

LISA J. PINO, M.A., J.D.
Executive Deputy Commissioner

February 22, 2021

Greta White
Division of Environmental Remediation
NYS Department of Environmental Conservation
625 Broadway
Albany, NY 12233-7014

Re: **Underground Storage Tank Removal Work Plan**
Greenpoint Energy Center Former MGP
Site # 224052
Brooklyn, Kings County

Dear Ms. White,

I reviewed the *Underground Storage Tank Removal Work Plan* dated January 22, 2021 for the above referenced site to determine whether the proposed measures are protective of public health. Based on my review, I understand that the former ballfield area of the site is currently vacant and that closure of Underground Storage Tanks (USTs) is necessary in preparation for capital improvements at the site. Soils surrounding tanks are contaminated with metals and one semi-volatile organic compound (SVOC) at concentrations greater than 6 NYCRR Part 375 Industrial Use Soil Cleanup Objectives.

The closure activities will be in accordance with the Draft Interim Site Management Plan (ISMP) and will include the removal of concrete and piping surrounding the tanks to the extent practicable and the removal or abandonment in-place of two USTs. Soils determined to be visually impacted will be excavated to the extent feasible since the presence of infrastructure and the western site boundary limit the lateral expansion of the excavations. Soil will be excavated to the water table and will only extend below if it is necessary to facilitate removal of a structure. Erosion and sediment controls will be implemented in accordance with the Excavation Work Plan in the Draft ISMP to prevent off-site migration of any impacts. Oxygen Release Compound – Advanced (ORC-A) will be added to the excavations prior to backfilling to treat any possible lingering impacts from the USTs. I understand that the excavations will be backfilled with on-site reuse that has been identified as non-impacted as well as certified clean fill from off-site sources meeting the appropriate Part 375 Soil Cleanup Objectives, to establish a minimum of one foot of clean cover. A Community Air Monitoring Program will be implemented during all ground intrusive activities.

Based on this information, I believe the proposed closure is protective of public health and I find the work plan acceptable. If you have any questions, please feel free to contact me at (518) 402-7866.

Sincerely,

Shaun Surani
Public Health Specialist
Bureau of Environmental Exposure Investigation

Ec: S. McLaughlin / S. Karpinski / e-File
M. Vaccaro – NYSDOH MARO
M. Little – NYC DOHMH
G. Burke / D. Eaton – NYSDEC Central Office
J. O'Connell – NYSDEC Region 2

Reeti Doshi
Program Manager
Site Investigation & Remediation

nationalgrid

January 22, 2021

Ms. Greta White P.G.
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, New York 12233-7014

Underground Storage Tank Removal Work Plan
Former Ballfield Area
Greenpoint Energy Center Former Manufactured Gas Plant
287 Maspeth Avenue, Brooklyn, New York
Order on Consent Index No. A2-0552-0606

Dear Ms. White:

National Grid is submitting this work plan for the removal of underground storage tanks (USTs) in the former ballfield area at the Greenpoint Former Manufactured Gas Plant (MGP) site (the Site). An investigation was recently conducted to evaluate the presence and extent of contamination and to determine the appropriate closure method prior to a planned Gas Operations facilities upgrade in the vicinity of the UST area. The investigation was conducted in accordance with the New York State Department of Environmental Conservation (NYSDEC) approved UST Investigation Work Plan dated February 12, 2020. National Grid intends to remove the USTs based on the findings of the investigation presented in the November 2020 report titled "*Ballfield Underground Storage Tank Investigation Summary Report*" which was approved by NYSDEC on December 3, 2020.

Background

Seven USTs were identified in the former ballfield area along the western boundary of the Site during the remedial investigation (RI) as shown on **Figure 1**. As shown on **Figure 2**, the USTs are located in two separate areas, one containing four USTs (UST-1) and the other containing three USTs (UST-2). Four of the USTs were listed as turpentine tanks on the 1933 Sanborn Fire Insurance (Sanborn) map of the area. The USTs are believed to be associated with the Aetna Varnish Company (Aetna) that was previously located in the area of the Site prior to acquisition of the property and development of the Greenpoint Energy Center by Brooklyn Union Gas (predecessor of National Grid). The USTs are not related to former MGP operations. The two UST areas were investigated during the RI in 2014 and also during the recent UST area investigation in September 2020.

Previous Investigations

Remedial Investigation Summary (2014)

Two test pits were excavated to investigate the USTs during the RI. The test pits were advanced to approximately 5.5 feet below ground surface (ft bgs) at which depth the groundwater interface was encountered. No visual impacts or odors were noted. Exceedances of the NYSDEC Part

One Metrotech Center, 14th Floor, Brooklyn, NY 11201
T: 718.963.5607 reeti.doshi@nationalgrid.com www.nationalgrid.com

375-6.8 Restricted Use (Industrial) Soil Cleanup Objectives (SCOs) in the samples collected from the test pits were limited to benzo(a)pyrene in one sample, as well as arsenic in all four of the samples and mercury in three of the four samples collected from the UST test pits.

UST Investigation Summary (2020)

A more comprehensive investigation of the UST areas was conducted in September 2020 in accordance with the Underground Storage Tank Investigation Work Plan dated February 12, 2020. The primary objective of the UST investigation was to determine whether the USTs could be abandoned in-place, or if removal of the USTs would be the recommended method of closure. The main elements of the investigation included excavation around the USTs to determine their structure, as well as borings and sample collection around the perimeter of the USTs to inspect for the presence of impacts. A summary report detailing the investigation was submitted to NYSDEC on November 20, 2020. A summary of the investigation is provided below.

The investigation determined that the two UST areas (UST-1 and UST-2) are encased in concrete vaults that extend around the perimeter of each UST area as shown on **Figure 2**. The USTs are each believed to be approximately 1,000 gallons in capacity. Groundwater was generally encountered in the UST areas at approximately 7 ft bgs.

The western edge of the USTs in the southern UST area (UST-1), which contains four USTs, appears to be present near the edge of the Site boundary; however, the edge of the vault likely extends beyond the Site boundary and under the asphalt adjacent to the public sidewalk. The western edge of the vault for the northern UST area (UST-2) which contains three USTs, appears to end at the edge of the Site boundary. The two UST areas were present within the outline of the Aetna building. Portions of the foundation of the former building appear to be present to the south of the UST-1 area and to the north of the UST-2 area (see **Figure 2**). Piping was also identified leading north from the UST-2 vault and into the foundation wall located to the north. Portions of the foundation may also be present to the east and west; however, these areas were not investigated due to the presence of a high-pressure gas main to the east and the Site boundary to the west.

As shown in the boring logs provided in **Attachment 1**, physical impacts were identified near the vicinity of the groundwater table in the vicinity of each of the USTs and included odors, some limited intervals of staining, photoionization detector (PID) readings above background and a slight sheen on the water table outside of the UST-1 area. No impacts were observed to the south of the UST-2 area and shallow drilling refusal prevented complete characterization of the areas immediately to the north of the two UST areas. Since impacts to the soil were noted in each UST area, and a slight sheen was identified on the water table outside the UST-1 area, a spill was reported in accordance with NYSDEC regulations on October 2, 2020. Spill number 2006012 was assigned.

A total of seven soil samples (one from each boring excluding the boring to the north of UST-1) were collected from the intervals exhibiting apparent worst-case impacts based on visual observation, PID readings, and presence of staining, or from the groundwater table interface if no impacts were identified (**Figure 3**). Soil samples were analyzed for:

- Volatile Organic Compounds (VOCs) by USEPA Method 8260C;
- Semi-volatile Organic Compounds (SVOCs) by USEPA Method 8270D;

- Target Analyte List (TAL) Metals by USEPA Method 6000/7000; and
- Polychlorinated Biphenyls (PCBs) by USEPA Method 8082.

Exceedances of the Industrial Use SCOs were limited and included one SVOC [benzo(a)pyrene] in one boring (UST-1-BS), as well as arsenic and mercury in four borings.

A limited amount of liquid (maximum of 11 inches in one UST) was identified in the tanks that were accessed. Samples of the liquid were collected from the westernmost UST in each UST area. The fingerprint analysis conducted on the liquid samples taken from the westernmost UST in the UST-1 area most closely resembles heavy mineral oil and the liquid sampled in the westernmost tank in the UST-2 area most closely resembles #2 diesel fuel/heavy mineral oil. Several VOCs were detected in the other analyses conducted on the liquid samples and included BTEX (benzene, toluene, ethylbenzene and xylenes) compounds in each sample. Other (non-BTEX) compounds were also detected some of which may be indicative of the historical use by Aetna.

Based on the findings of the investigation, it was recommended that the USTs be removed, and the impacted soils be removed to the extent feasible. The summary report and recommendations for removal were approved by NYSDEC on December 3, 2020. As part of the approval, the NYSDEC informed National Grid that the spill assigned to the project (No. 2006012) will be managed as part of the Greenpoint MGP Site and not part of the NYSDEC Spills program, as would typically be the case.

UST Closure Scope of Work

Closure of the USTs will be done in general accordance with 6 NYCRR Part 613.2.6 – Closure of Out-of-Service Tanks, NYSDEC DER-10 Section 5.5, and will follow NYSDEC guidance document, Permanent Closure of Petroleum Tanks (1987/1988/2003). As required, the USTs will be registered with the NYSDEC prior to removal. An affidavit for the tanks and a permit will also be obtained from the New York City Fire Department (FDNY) and the New York City Department of Buildings (NYCDOB), respectively.

The Community Air Monitoring Program (CAMP) will be implemented in accordance with the Draft Interim Site Management Plan (ISMP) dated October 26, 2020 during all intrusive activities.

Utility Clearance and Excavation Activities

Prior to the start of the excavation, a geophysical investigation will be conducted to mark the location of any utilities present in the area. The selected subcontractor will be responsible for contacting New York 811 to request that all utilities on the adjacent public rights-of-way be located and marked. A vacuum truck will be utilized to excavate to 5 feet bgs on the eastern edge of the excavations at a safe distance from the gas main (approximately 3 to 5 feet) to ensure that the excavation activities will be clear from the gas main. Excluding excavation for utility clearance as described above, excavation will be conducted by backhoe or excavator. The excavation will be extended to a depth necessary to facilitate removal of the USTs, which is anticipated to be approximately 5 to 6 feet below grade. Based on the presence of the gas main to the east, the Site boundary to the west and foundation walls to the south and north of UST-1 and UST-2 area respectively, sloping or benching of the excavation will be limited. The eastern sides of each of the excavations will be sloped along with the northern side of the UST-1 area and the southern side of the UST-2 area. The foundation walls present approximately 3 feet to the south of the

UST-1 area and to the north of the UST-2 area will provide additional excavation support (**Figure 2**). The excavation will not extend beyond the western Site boundary.

The excavation areas will be barricaded to keep unauthorized personnel away from the excavation. Erosion and sediment controls will be implemented in accordance with the Excavation Work Plan in the Draft ISMP to prevent offsite migration of any impacts.

Only the portions of concrete surrounding the tanks will be removed to allow for removal of the USTs. Soil below the water table will only be excavated if it is necessary to facilitate removal of a structure. Dewatering will be conducted if it is necessary to remove a structure and will be accomplished using sumps installed within the excavation. Dewatering fluids will be pumped into drums or a frac tank.

Soil and Fluid Handling

Soil excavated to expose the USTs will be field screened with a PID to determine if the soil is potentially impacted. The excavated soil will be stockpiled and characterized in accordance with the Draft ISMP for off-Site disposal or on-Site re-use. Non-impacted soil (those with no visual impacts, no odors, and PID readings consistent with background) will be segregated and stockpiled separately for reuse. Based on previous findings, it is anticipated that the soil above the groundwater table will be reused. A minimum of one foot of clean cover will be imported and placed at the top of the excavation in accordance with the Draft ISMP.

Impacted soil and dewatering fluids (if generated) will be handled, transported, and disposed of at a National Grid-approved facility in accordance with applicable local, State, and Federal regulations and the Draft ISMP. Disposal documentation for all soil and liquid will be included in the closure report.

UST Cleaning and Removal

Once exposed, the tanks will be purged of any vapors to prevent the generation of an explosive atmosphere within the tank prior to cleaning. A combustible gas indicator will be used to monitor the concentrations of combustible gases within the tanks during this process. The tops of the tanks will then be opened, and the tanks will be visually inspected. The UST contents (i.e., liquids and tank sludge) will be removed from the USTs and connection lines and containerized in NYSDOT-approved 55- gallon drums or a frac tank.

Removal of the USTs will begin on the east side and progress westward in each of the two excavation areas. Any piping connected to the USTs will also be removed to the extent practicable or capped, if complete removal is not feasible. The excavation and removal process in the UST-1 area will continue until approximately half of the westernmost tank is uncovered. An attempt will be made to remove the westernmost tank while leaving a portion of the concrete vault in the area in place so as not to undermine the fence line and asphalt in the public area beyond the Site boundary. If the westernmost tank cannot be removed without maintaining support for the fence line and public area beyond the Site boundary, the tank will be abandoned in-place. Abandonment will include cleaning the tank in-place and filling the UST with a concrete slurry. The USTs, piping and any concrete that are removed from the excavation areas will be decontaminated and cut into manageable pieces and/or crushed prior to removal from the Site. Disposal will be at an approved recycling or disposal facility.

Tank contents and water from the cleaning process will be contained in NYSDOT-approved 55-gallon drums or a frac tank. The UST contents along with the decontamination water will be sampled, handled, transported, and disposed of at a National Grid-approved facility in accordance with applicable local, State, and Federal regulations. Disposal or recycling records (for USTs, piping or decontamination fluids) will be provided in the closure report.

Impacted Soil Removal and Documentation Sampling

Once the USTs have been removed from the excavation, impacted soils from the UST areas will be removed as follows. Soils determined to be visually impacted in areas accessible for additional excavation (as described below), will be excavated to the extent feasible. Visual impacts to be excavated include non-aqueous phase liquid (NAPL)-saturated or coated soil, soil containing NAPL blebs or sheen, and/or stained soil resulting from UST-related impacts adjacent to the UST areas. Lateral expansion of the excavations to remove visually impacted soils from the UST areas will be limited due to the infrastructure present in the area. Areas where additional excavation may be possible will primarily include to the north of the UST-1 area and south of the UST-2 area. Some excavation may be possible to the east of the two excavations; however, expansion in this area will be limited due to the proximity of the high-pressure gas main. The excavation will not extend beyond the western Site boundary. Foundation walls will limit the excavations to the south of UST-1 and north of UST-2. Soils that remain between the tank vault and foundation walls in these areas following excavation to expose the USTs will be removed if visual impacts are noted. Excavations will be conducted to the top of the water table.

Since the excavations will be limited as described above, some contamination may be left in place from the USTs. In the areas where the excavation will not be expanded, the samples collected along each side of both UST areas (excluding to the north of the UST-1 area) as part of the previous investigation will serve as documentation samples. If the excavation is expanded laterally beyond the location of the previously collected samples, additional samples will be collected. If possible, a sample will also be collected to the north of the UST-1 area, where drilling refusal was encountered during the boring program. The additional samples will be collected for the following parameters which are consistent with the previous investigation and include:

- VOCs by USEPA Method 8260C;
- SVOCs by USEPA Method 8270D;
- TAL Metals by USEPA Method 6000/7000; and
- PCBs by USEPA Method 8082.

If samples are collected, quality assurance/quality control (QA/QC) samples will include a blind duplicate soil sample, a MS/MSD sample, and an equipment rinsate blank sample. A NYSDOH Environmental Laboratory Approval Program (ELAP) certified laboratory will perform the analyses under chain of custody (COC) procedures. A New York State Category B data deliverable will be provided and included in the closure report.

Supplemental Remedial Actions

In an effort to treat any possible lingering impacts from the USTs, Oxygen Release Compound - Advanced (ORC-A) will be added to the excavations prior to backfilling. Based on the size of the excavations, two buckets or a total of 110 pounds of ORC-A pellets will be added to each excavation. ORC-A can support aerobic biodegradation of contaminants for up to 12 months.

The excavations will be backfilled following the collection of samples and the placement of the ORC-A. The excavations will be compacted in one-foot lifts and compacted with a vibratory plate compactor. Certified clean soil backfill from off-Site sources will be used along with the on-Site reuse of soil from the excavations as described above. All materials proposed for import onto the Site will be approved by NYSDEC prior to placement and will follow the provisions in the Draft ISMP.

UST Closure Report

A report will be prepared documenting the closure activities. This closure report will include the following:

- Documentation of all project activities;
- Field notes and observations, organic soil vapor readings, and photo-journal of the field activities and of the condition of the tanks;
- Summary tables of the analytical data, including CAMP, in addition to copies of original laboratory results, including detection limits and chain-of-custody forms;
- A figure showing the work area with survey coordinates for the tanks and any associated soil removed;
- Tank registration documentation and FDNY affidavit; and
- Associated disposal manifests, recycling documentation and backfill certification.

If you have any questions, feel free to contact me at (718) 963-5607 or by email at reeti.doshi@nationalgrid.com.

Very truly yours,

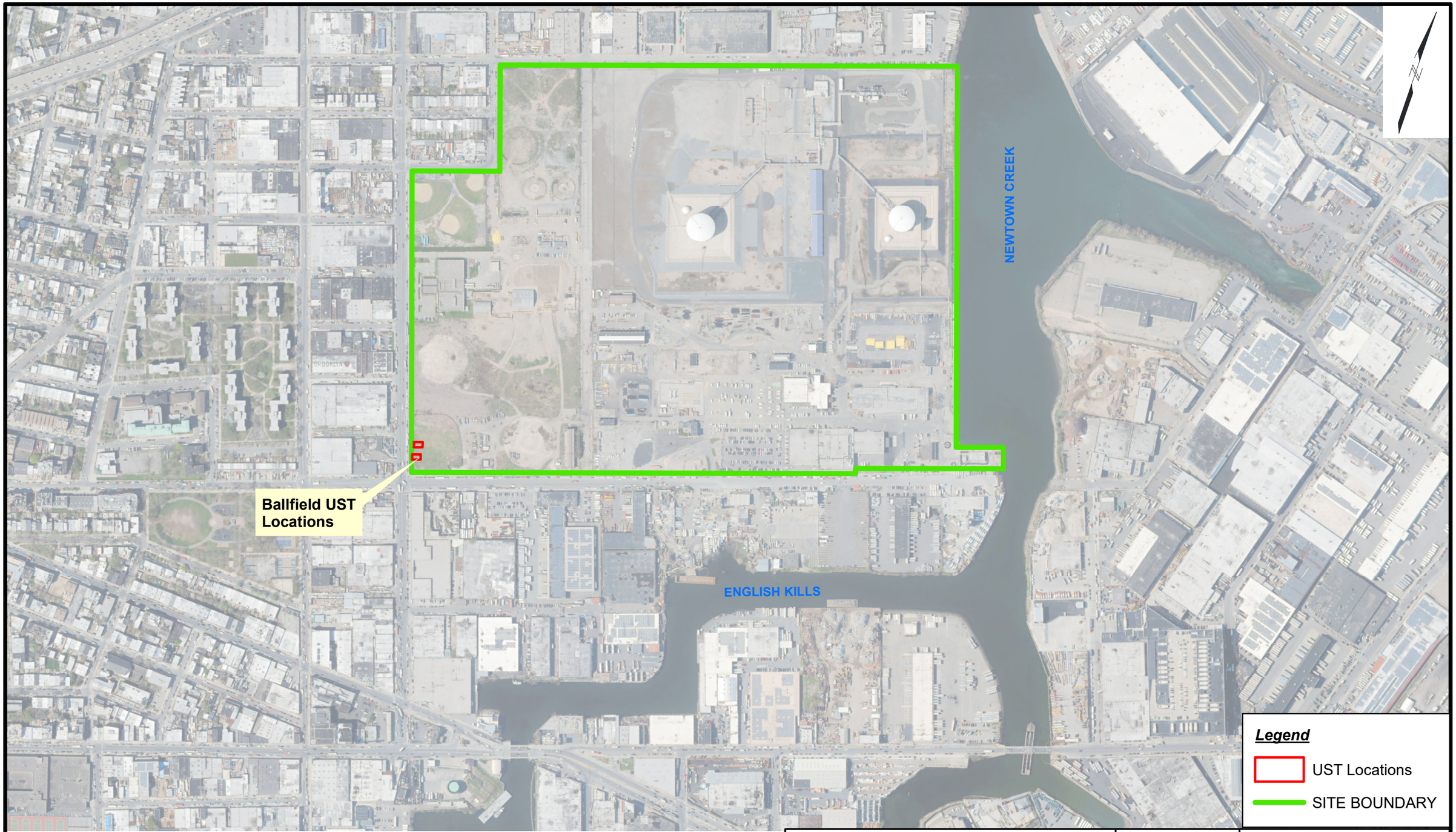
Reeti Doshi

Attachments

cc: W. Ryan (National Grid)
D. Terry (GEI)

CM:gd
\\Blm-pzcc-1\blm-data\Tech\Projects\National Grid\Greenpoint\IRM\Ballfield USTs\Removal WP\UST Removal WP_R4_clean.docx

FIGURES



SOURCES:
1. AERIAL PHOTOGRAPH OBTAINED FROM ESRI WORLD IMAGERY.

0 450 900

SCALE: 1" = 450'

Ballfield UST Removal Work Plan
Greenpoint Energy Center
Brooklyn, New York

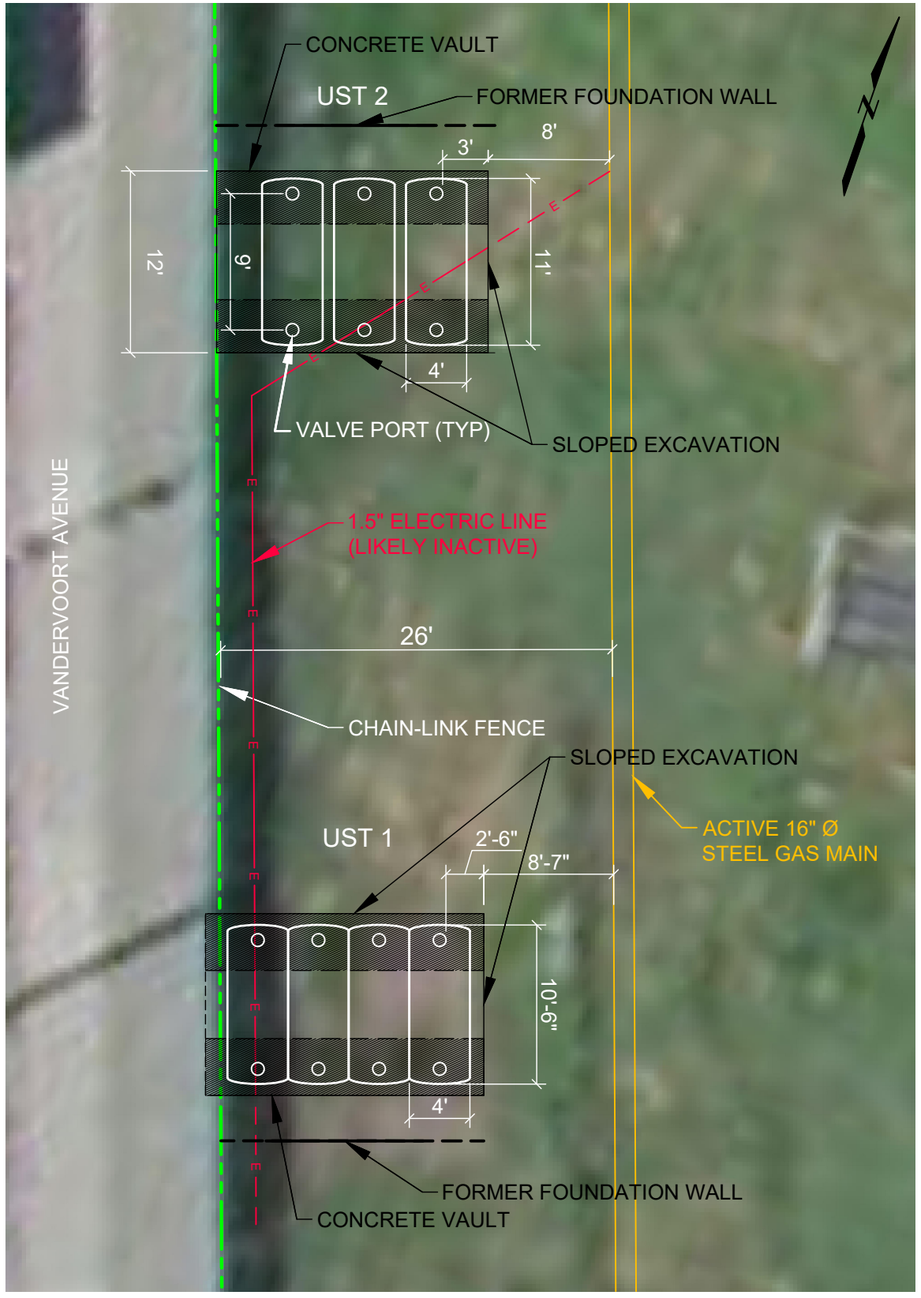
nationalgrid

GEI Consultants

BALLFIELD UST
INVESTIGATION AREA

Project 125180 | January 2021 | Fig. 1

X:\GIS\Projects\National_Grid\Greenpoint\Phase_3_RI\UST Investigation Area REV_DAP_12282020.mxd

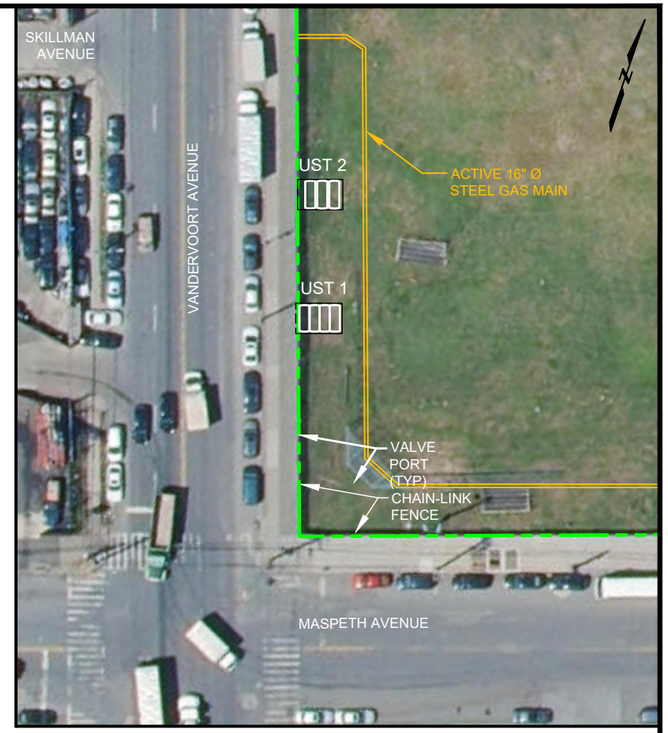


0 10 20

SCALE: 1" = 10'

LEGEND:

- GAS MAIN
- E — ELECTRIC LINE
- PROPERTY BOUNDARY
- UST AREA COVERED BY CONCRETE



UST LOCATION MAP

0 60 120

SCALE: 1" = 60'

SOURCE:

AERIAL FROM ESRI WORLD IMAGERY LAYER, ACCESSED VIA ARCGIS ONLINE ON 10/15/2020, SOURCES: ESRI, DIGITALGLOBE, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY.

Ballfield UST Removal Work
Greenpoint Energy Center
Brooklyn, New York

nationalgrid

GEI Consultants

UST AREA DETAILS & EXCAVATION PLAN

Project 125180 | January 2021 | Fig. 2

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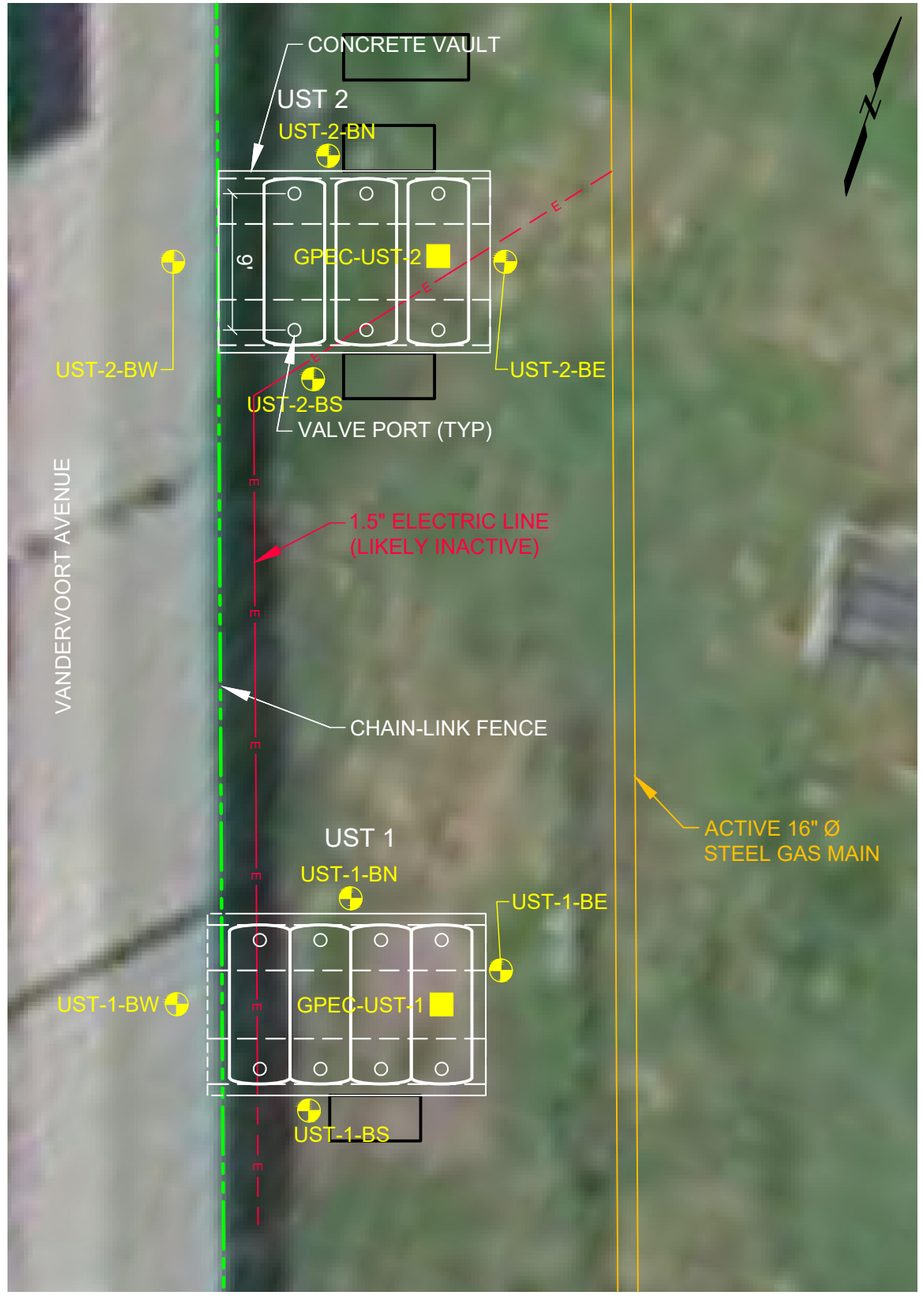

LEGEND:

- SOIL BORING
- LIQUID SAMPLE
- EXCAVATION AREA
- GAS MAIN
- ELECTRIC LINE
- PROPERTY BOUNDARY

UST LOCATION MAP

0 60 120

SCALE: 1" = 60'

SOURCE:

AERIAL FROM ESRI WORLD IMAGERY LAYER, ACCESSED VIA ARCGIS ONLINE ON 10/15/2020, SOURCES: ESRI, DIGITALGLOBE, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY.

Ballfield UST Removal Work Plan
Greenpoint Energy Center
Brooklyn, New York

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BALLFIELD UST
INVESTIGATION (2020)
LOCATIONS

Project 125180 | January 2021 | Fig. 3

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ATTACHMENT 1

GEI Consultants

GEI Consultants, Inc. P.C.
1000 New York Avenue
Suite B
Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: UST Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3.1302

BORING LOG
PAGE 1 of 1
UST-1-BE

LOCATION: Former Ball Field
NORTHING (FT): _____ **EASTING (FT):** _____
TOTAL DEPTH (FT): 15.0
DRILLED BY: Aarco / D. Pacheco
DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: C. Morris
DATE START / END: 9/25/2020 - 9/25/2020
DRILLING DETAILS: Direct Push / Geoprobe
WATER LEVEL DEPTHS (FT): ▼ 5.50
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	0			0.0				(0-5.5') VACUUM/HAND CLEARED. NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~60% fine to medium sand; ~30% fine to coarse angular to subrounded gravel up to 4-inches; cobbles; ~10% nonplastic fines; dark brown; dry; contains red brick, concrete, metal, glass, and wood; FILL.
▼	5	S1	5/3.8	0.0 0.0 0.4 585 154 24.5 1.2			UST-1-BE (7-9)	(5.5-7') SILTY SAND (SM); ~70% fine to medium sand; ~20% nonplastic fines; ~10% fine gravel; brown; wet; contains brick and pieces of ceramic pipe; FILL. (7-10.1') SANDY SILT (MLS); ~50% nonplastic fines; ~40% fine to medium sand; ~10% fine gravel; organic matter (roots); tight; strong weathered fuel oil-like odor mixed with a solvent-like odor.
	10		5/2.9	0.0				(10.1-10.3') WIDELY GRADED GRAVEL (GW); ~100% fine to coarse subrounded to subangular gravel. (10.3-11.5') NARROWLY GRADED SAND (SP); ~90% fine to medium sand; ~10% fine gravel; brown. (11.5-13.3') WIDELY GRADED GRAVEL WITH SAND (GW); ~70% fine to coarse subrounded to subangular gravel; ~30% fine to medium sand; brown to black; contains brick; FILL. (13.3-15') SILTY SAND (SM); ~70% fine to medium sand; ~25% nonplastic fines; ~5% fine gravel; brown.
	15							End of Boring at 15 feet. Backfilled with cuttings.

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
REC = RECOVERY LENGTH OF SAMPLE
PID = PHOTOIONIZATION DETECTOR READING (PPM)
JHS = JAR HEADSPACE PID READING (PPM)

NA = NOT APPLICABLE
NM = NOT MEASURED
Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

ppm = PARTS PER MILLION
IN. = INCHES
FT. = FEET

NLO = NAPHTHALENE LIKE ODOR
PLO = PETROLEUM LIKE ODOR
TLO = TAR LIKE ODOR
CLO = CHEMICAL LIKE ODOR
ALO = ASPHALT LIKE ODOR

CrLO= CREOSOTE LIKE ODOR
OLO = ORGANIC LIKE ODOR
SLO = SULFUR LIKE ODOR
MLO = MUSTY LIKE ODOR

ENVIRONMENTAL BORING LOG BALLFIELD UST LOGS.GPJ GEI TEMPLATE 11-7-13.GDT 10/28/20

GEI Consultants

GEI Consultants, Inc. P.C.
1000 New York Avenue
Suite B
Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: UST Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3.1302

BORING LOG
PAGE 1 of 1
UST-1-BS

LOCATION: Former Ball Field
NORTHING (FT): _____ **EASTING (FT):** _____
TOTAL DEPTH (FT): 15.0
DRILLED BY: Aarco / D. Pacheco
DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: C. Morris
DATE START / END: 9/25/2020 - 9/25/2020
DRILLING DETAILS: Direct Push / Geoprobe
WATER LEVEL DEPTHS (FT): ▼ 6.50
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	0			0.0				(0-5') VACUUM/HAND CLEARED. NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~60% fine to medium sand; ~30% fine to coarse angular to subrounded gravel up to 4-inches; cobbles; ~10% nonplastic fines; dark brown; dry; contains red brick, concrete, metal, glass, and wood; FILL.
▼	5	S1	5/3.8	0.0			UST-1-BS (6-7)	(5-7.5') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% fine to coarse sand; ~30% fine to coarse angular to subrounded gravel; reddish-brown; wet at base.
	10	S2	5/3.4	0.0				(7.5-8.8') SILTY SAND WITH GRAVEL (SM); ~60% fine to medium sand; ~25% nonplastic fines; ~15% coarse gravel; brown. Drilled through cobbles. (8.8-10') SILTY SAND (SM); ~60% fine sand; ~30% nonplastic fines; ~10% coarse gravel; dark brown; some organic matter; slight organic-like odor. Drilled through cobbles. (10-10.2') FILL; brick. (10.2-13.5') SILTY SAND (SM); ~70% fine to medium sand; ~20% nonplastic fines; ~10% fine to coarse subrounded gravel; brown. (13.5-13.6') COBBLE. (13.6-15') NARROWLY GRADED SAND WITH SILT (SP-SM); ~85% fine to medium sand; ~10% nonplastic fines; ~5% fine gravel; red-brown; dry; tight.
	15							End of Boring at 15 feet. Backfilled with cuttings.

NOTES:

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JHS = JAR HEADSPACE PID READING (PPM)

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NM = NOT MEASURED
Q_P = POCKET PENETROMETER
S_V = TORVANE PEAK

ppm = PARTS PER MILLION
IN. = INCHES
FT. = FEET

NLO = NAPHTHALENE LIKE ODOR
PLO = PETROLEUM LIKE ODOR
TLO = TAR LIKE ODOR
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ALO = ASPHALT LIKE ODOR

CrLO= CREOSOTE LIKE ODOR
OLO = ORGANIC LIKE ODOR
SLO = SULFUR LIKE ODOR
MLO = MUSTY LIKE ODOR

ENVIRONMENTAL BORING LOG BALLFIELD UST LOGS.GPJ GEI TEMPLATE 11-7-13.GDT 10/28/20

GEI Consultants

GEI Consultants, Inc. P.C.
1000 New York Avenue
Suite B
Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: UST Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3.1302

BORING LOG
PAGE 1 of 1
UST-1-BW

LOCATION: Former Ball Field
NORTHING (FT): _____ **EASTING (FT):** _____
TOTAL DEPTH (FT): 15.0
DRILLED BY: Aarco / D. Pacheco
DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: C. Morris
DATE START / END: 9/25/2020 - 9/25/2020
DRILLING DETAILS: Direct Push / Geoprobe
WATER LEVEL DEPTHS (FT): ▼ 7.50
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	0			0.0				(0-5') HAND CLEARED. (0-0.2') ASPHALT. (0.2-6.9') SILTY SAND (SM); ~70% fine to medium sand; ~20% nonplastic fines; ~10% fine to coarse gravel; brown; contains concrete and brick; FILL.
	5	S1	5/3.5	0.0				
				0.0				
▼				6.0				(6.9-9.2') SILTY SAND (SM); ~50% fine to medium sand; ~40% nonplastic fines; ~10% fine gravel; gray-green with some black bands; strong weathered fuel oil-like odor mixed with a solvent-like odor. Wet at 7.5'.
				75.8				
				892				
				59.6				(9.2-10') NARROWLY GRADED SAND (SP); ~85% fine to medium sand; ~10% fine gravel; ~5% nonplastic fines; red-brown; dry; tight; moderate fuel oil-like odor mixed with a solvent-like odor.
	10	S2	5/4	392			UST-1-BW (11-13)	(10-10.3') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% fine to coarse sand; ~15% fine to coarse gravel; ~5% nonplastic fines; brown-gray; wet; loose.
				1715				(10.3-13.5') SILTY SAND (SM); ~70% fine to medium sand; ~20% nonplastic fines; ~10% fine gravel; gray; strong fuel oil-like odor.
				1972				
				299				
				209				(13.5-14.6') SILT WITH SAND (ML); ~70% nonplastic fines; ~25% fine sand; ~5% fine gravel; gray; very strong fuel oil-like odor.
				56				(14.6-15') SANDY SILT WITH GRAVEL (MLS); ~50% nonplastic fines; ~30% fine sand; ~20% fine to coarse gravel; gray-black; slight fuel-oil like odor.
	15			25				End of Boring at 15 feet. Backfilled with cuttings.

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ENVIRONMENTAL BORING LOG BALLFIELD UST LOGS.GPJ GEI TEMPLATE 11-7-13.GDT 10/28/20

GEI Consultants

GEI Consultants, Inc. P.C.
1000 New York Avenue
Suite B
Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: UST Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3.1302

BORING LOG
PAGE 1 of 1
UST-2-BE

LOCATION: Former Ball Field
NORTHING (FT): _____ **EASTING (FT):** _____
TOTAL DEPTH (FT): 15.0
DRILLED BY: Aarco / D. Pacheco
DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: C. Morris
DATE START / END: 9/25/2020 - 9/25/2020
DRILLING DETAILS: Direct Push / Geoprobe
WATER LEVEL DEPTHS (FT): ▼ 6.00
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	0			0.0				(0-5') VACUUM/HAND CLEARED. NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~60% fine to medium sand; ~30% fine to coarse angular to subrounded gravel up to 4-inches; cobbles; ~10% nonplastic fines; dark brown; dry; contains red brick, concrete, metal, glass, and wood; FILL.
	5	S1	5/1.8	4.9				(5-7') SILT (ML); ~70% nonplastic fines; ~20% peat and organic matter; ~10% fine gravel; dark brown; moderate organic-like odor.
▼				5.2				(7-10.2') FILL; ~90% bluestone, brick, and gravel; ~10% fine to medium sand; wet; moderate weathered solvent-like odor.
	10	S2	5/5	97.7 192 198 145 3.3 5.8 45.5 0.4 0.2			UST-2-BE (10-12)	(10.2-10.6') FILL; white putty like material. (10.6-12') LEAN CLAY (CL); ~100% silty clay; gray; wet; very loose; moderate weathered solvent-like odor. (12-12.6') ORGANIC SOIL (OL); ~100% peat; dark brown; moderate organic-like odor mixed with a weathered solvent-like odor. (12.6-13.3') CLAYEY SAND WITH GRAVEL (SC); ~60% fine to medium sand; ~20% silty clay; ~20% fine to coarse gravel; loose; slight weathered solvent-like odor. (13.3-14.1') SILTY SAND (SM); ~70% fine to medium sand; ~25% nonplastic fines; ~5% coarse gravel; dark brown; loose; strong weathered solvent-like odor. (14.1-15') SILTY SAND (SM); ~70% fine to medium sand; ~30% nonplastic fines; black; some organic matter; slight weathered solvent-like odor. End of Boring at 15 feet. Backfilled with cuttings.
	15							

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S_V = TORVANE PEAK

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IN. = INCHES
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ENVIRONMENTAL BORING LOG BALLFIELD UST LOGS.GPJ GEI TEMPLATE 11-7-13.GDT 10/28/20

GEI Consultants

GEI Consultants, Inc. P.C.
1000 New York Avenue
Suite B
Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: UST Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3.1302

BORING LOG
PAGE 1 of 1
UST-2-BN

LOCATION: Former Ball Field
NORTHING (FT): _____ **EASTING (FT):** _____
TOTAL DEPTH (FT): 7.0
DRILLED BY: Aarco / D. Pacheco
DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: C. Morris
DATE START / END: 9/25/2020 - 9/25/2020
DRILLING DETAILS: Direct Push / Geoprobe
WATER LEVEL DEPTHS (FT): ▼ 6.00
GENERAL NOTE: Refusal at 7'. Several other locations attempted in area with the same result. May be part of a building foundation.

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	0			0.0				(0-5') VACUUM/HAND CLEARED. NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~60% fine to medium sand; ~30% fine to coarse angular to subrounded gravel up to 4-inches; cobbles; ~10% nonplastic fines; dark brown; dry; contains red brick, concrete, metal, glass, and wood; FILL.
▼	5	S1	2/2	0.0			UST-2-BN (6-7)	(5-5.4') NARROWLY GRADED SAND (SP); ~70% fine to medium sand; ~30% fine gravel; brown; contains mostly brick and concrete; FILL. (5.4-5.7') FILL; RCA, gravel, brick, and concrete fragments. (5.7-7') SILTY SAND (SM); ~60% fine to medium sand; ~30% nonplastic fines; ~10% fine gravel; brown; wet; contains brick; FILL. End of Boring at 7 feet. Backfilled with cuttings.

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IN. = INCHES
FT. = FEET

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PLO = PETROLEUM LIKE ODOR
TLO = TAR LIKE ODOR
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ALO = ASPHALT LIKE ODOR

CrLO= CREOSOTE LIKE ODOR
OLO = ORGANIC LIKE ODOR
SLO = SULFUR LIKE ODOR
MLO = MUSTY LIKE ODOR

ENVIRONMENTAL BORING LOG BALLFIELD UST LOGS.GPJ GEI TEMPLATE 11-7-13.GDT 10/28/20

GEI Consultants, Inc. P.C. 1000 New York Avenue Suite B Huntington Station, New York 11746	CLIENT: National Grid - Greenpoint PROJECT: UST Investigation CITY/STATE: Brooklyn, New York GEI PROJECT NUMBER: 125180-3.1302	BORING LOG PAGE 1 of 1 UST-2-BS

LOCATION: Former Ball Field
NORTHING (FT): _____ EASTING (FT): _____
TOTAL DEPTH (FT): 15.0
DRILLED BY: Aarco / D. Pacheco
DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: C. Morris
DATE START / END: 9/25/2020 - 9/25/2020
DRILLING DETAILS: Direct Push / Geoprobe
WATER LEVEL DEPTHS (FT): ▼ 6.00
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	0			0.0				(0-6') VACUUM/HAND CLEARED. NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~60% fine to medium sand; ~30% fine to coarse angular to subrounded gravel up to 4-inches; cobbles; ~10% nonplastic fines; dark brown; dry; contains red brick, concrete, metal, glass, and wood; FILL.
	5							
▼		S1	4/2.7	0.0				(6-8.9') SILTY SAND (SM); ~70% fine to medium sand; ~20% nonplastic fines; ~10% fine to coarse gravel; brown; wet; contains brick, concrete, and glass; FILL.
	10	S2	5/1.8	5.8 33.9 465 398			UST-2-BS (11-13)	(8.9-9.3') NARROWLY GRADED SAND WITH SILT (SP-SM); ~80% fine to medium sand; ~10% nonplastic fines; ~10% fine gravel; red-brown. (9.3-10') WIDELY GRADED GRAVEL WITH SAND (GW); ~70% fine to coarse gravel; ~30% fine to coarse sand; brown; contains glass and asphalt; FILL. (10-12.9') SILTY SAND (SM); ~60% fine to medium sand; ~30% nonplastic fines; ~10% fine to coarse gravel; brown; very loose. (12.9-15') SILTY SAND (SM); ~75% fine to medium sand; ~15% nonplastic fines; ~10% fine to coarse gravel; black staining from 12.9-14', brown from 14-15'; strong fuel oil-like odor mixed with a solvent-like odor; contains brick; FILL. End of Boring at 15 feet. Backfilled with cuttings.
	15							

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OLO = ORGANIC LIKE ODOR
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GEI Consultants

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Huntington Station,
New York 11746

CLIENT: National Grid - Greenpoint
PROJECT: UST Investigation
CITY/STATE: Brooklyn, New York
GEI PROJECT NUMBER: 125180-3.1302

BORING LOG
PAGE 1 of 1
UST-2-BW

LOCATION: Former Ball Field
NORTHING (FT): _____ **EASTING (FT):** _____
TOTAL DEPTH (FT): 15.0
DRILLED BY: Aarco / D. Pacheco
DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY East Zone
LOGGED BY: C. Morris
DATE START / END: 9/25/2020 - 9/25/2020
DRILLING DETAILS: Direct Push / Geoprobe
WATER LEVEL DEPTHS (FT): ▼ 9.00
GENERAL NOTE: _____

ELEV. FT.	DEPTH FT.	SAMPLE INFO: TYPE and NO.	SAMPLE INFO: PEN/REC FT./FT.	SAMPLE INFO: PID (PPM)	STRATA	VISUAL IMPACTS	ANALYZED SAMPLE ID	SOIL / BEDROCK DESCRIPTION
	0			0.0				(0-5') HAND CLEARED. (0-0.2') ASPHALT. (0.2-5.9') SILTY SAND (SM); ~70% fine to medium sand; ~20% nonplastic fines; ~10% fine to coarse gravel; brown; contains concrete and brick; FILL.
	5	S1	5/3.3	0.0				(5.9-8.3') WIDELY GRADED SAND WITH GRAVEL (SW); ~50% fine to coarse sand; ~50% fine to coarse gravel; brown; contains asphalt, brick, amd stone; FILL.
▼								(8.3-8.6') NARROWLY GRADED SAND (SP); ~85% fine to medium sand; ~10% fine gravel; ~5% nonplastic fines; red-brown; dry; tight.
	10	S2	5/4.5	0.0 0.0 0.0 3.4 328 736 56.8 18.8 11.0			UST-2-BW (12-14)	(8.6-9.4') SILTY SAND (SM); ~60% fine to medium sand; ~30% nonplastic fines; ~10% fine gravel; brown; wet. (9.4-10') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% fine to coarse sand; ~20% fine gravel; ~10% nonplastic fines; dark brown; wet. (10-11.7') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~70% fine to coarse sand; ~20% fine gravel; ~10% nonplastic fines; dark brown; wet; contains glass; FILL. (11.7-12.8') SILTY SAND (SM); ~60% fine to medium sand; ~30% nonplastic fines; ~10% fine gravel; brown; loose; slight weathered fuel oil-like odor mixed with a solvent-like odor. (12.8-14.5') WIDELY GRADED GRAVEL WITH SAND (GW); ~80% fine to coarse gravel; ~20% fine to coarse sand; brown; black staining; strong fuel oil-like odor mixed with a solvent-like odor; contains asphalt, glass, stone, and slag; FILL. (14.5-15') LEAN CLAY (CL); ~100% clay with some organic matter; gray; loose; slight fuel oil-like odor mixed with a solvent-like odor. End of Boring at 15 feet. Backfilled with cuttings.
	15							

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ENVIRONMENTAL BORING LOG BALLFIELD UST LOGS.GPJ GEI TEMPLATE 11-7-13.GDT 10/28/20