

July 20, 2009

Henry Willems
Environmental Engineer
New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233-7014

**Re: Remedial Investigation Work Plan Addendum
Fulton Municipal Works Former Manufactured Gas Plant (MGP) Site
Brooklyn, New York
Site No. 224051
Index No. A2-0552-0606**

Dear Mr. Willems:

National Grid is submitting for your review and approval the following Remedial Investigation (RI) Work Plan Addendum to conduct RI field activities within public street rights of-way (ROWs) in the vicinity of the Fulton Municipal Works former Manufactured Gas Plant (MGP) site in Brooklyn, New York (Site). National Grid has prepared this work plan based upon discussions with you in order to further evaluate the nature and extent of off-site dense non-aqueous phase liquid (DNAPL) tar impacts within subsurface soils adjacent to the Fulton Municipal Works MGP Site. The proposed sample locations are provided in Figure 1.

1.0 RI Addendum Scope of Work

National Grid and its contractors have completed the majority of RI sampling activities that were proposed as part of the New York State Department of Environmental Conservation (NYSDEC) and New York State Department of Health (NYSDOH)-approved RI Work Plan entitled *Final Remedial Investigation Work Plan Fulton Municipal Works, Former Manufactured Gas Plant Site, Brooklyn, New York ACO Index No A2-0552-0606, Site # 224051*, dated March 2008. A preliminary review of RI soil boring information reveals that DNAPL tar impacts were encountered adjacent to the Site within and beneath public street ROWs, as well as two private properties immediately adjacent to the Site. This RI Work Plan Addendum proposes the installation of six soil borings to evaluate the DNAPL tar impacts in subsurface soil and three groundwater table monitoring wells to evaluate groundwater flow and conditions in the vicinity of the Site (Figure 1).

The RI activities will be conducted in accordance with the NYSDEC and NYSDOH-approved RI Work Plan including the Health and Safety Plan (HASP), Quality Assurance Project Plan (QAPP), and Field Sampling Plan (FSP). The remainder of this letter describes the proposed soil borings, subsurface soil analysis, monitoring wells, and groundwater analysis.

1.1 Soil Boring Installation

Six soil borings (FW-SB-37 through FW-SB-42) are proposed within the adjacent street ROWs of Union Street (to the south), Douglass Street (to the east), and Butler Street (to the north). The proposed soil boring locations are shown in Figure 1. The purpose of the borings is to evaluate DNAPL tar impacts encountered as shallow as 10 feet below ground surface (bgs) in FW-SB-28 located within the Douglass Street ROW to as deep as 96 feet bgs in FW-MW-10 located on a private property adjacent to Gowanus Canal. Actual drilling locations will be determined based upon the subsurface utility clearance activities. The borings are proposed to be installed with a Geoprobe® drill rig in general accordance with drilling methods and procedures in the FSP and RI Work Plan.

Soil samples will be collected and logged continuously from each boring. Drilling will proceed approximately 10 feet into soils that are visually un-impacted by MGP-related materials. If no apparent MGP-related impacts are observed at a particular adjacent boring location, the boring will terminate at the approximate elevation of impacts present in an adjacent boring. Two soil samples per boring will be selected for chemical analysis as summarized in Table 1. One soil sample will be collected from soils that exhibit the greatest apparent impact at the approximate elevation of observed impacts within subsurface soils in a nearby soil boring. If no tar impacts are encountered then a sample will be collected at the approximate elevation of the impacts observed in the adjacent boring. The second sample will be collected below the observed impacts or at the completion of the boring. The RI work plan and QAPP detail the quality assurance/quality control (QA/QC) samples that will be collected. Following the collection of subsurface soil samples, each soil boring will be abandoned by tremie grouting the boring from the bottom of the boring to the top, in general accordance with the FSP and RI Work Plan.

Drilling equipment (i.e., drilling rods, auger, casing, and/or macro-core sampler) will be decontaminated between each sample location. Soil cuttings and decontamination fluids will be contained within United States Department of Transportation (USDOT) 55-gallon drums and disposed of at a National Grid-approved disposal facility.

A Community Air Monitoring Plan (CAMP) will be implemented at the Site during intrusive field activities.

1.2 Monitoring Well Installation

Three monitoring wells (FW-MW-18 through FW-MW-20) are proposed to evaluate the groundwater table conditions to the north and south of the Site (Figure 1). The monitoring wells will be installed using a conventional tracked hollow stem auger rig. The wells will be constructed as water table monitoring wells as specified by the RI Work Plan and will include a

2-inch-diameter poly vinyl chloride (PVC), 0.010" slotted screen that is 10 feet long and 2-inch PVC riser to the surface. A 2-foot sump will be installed at the bottom of the well if soils exhibit potential recoverable DNAPL in the monitoring zone.

The monitoring wells will be developed in general accordance with the FSP and RI Work Plan. Development waters will be contained within USDOT 55-gallon drums and disposed of at a National Grid-approved disposal facility.

1.3 Groundwater Sampling and Gauging

The monitoring wells will be gauged and sampled in general accordance with the FSP and RI Work Plan. Prior to sampling, two synoptic rounds of groundwater level measurements at high and low tide will be recorded for the newly installed and existing monitoring wells and an established surface water measuring point on the Gowanus Canal.

The monitoring wells will be purged and sampled after a minimum of two weeks following completion of well development using low flow groundwater sampling procedures and in general accordance with the FSP and RI Work Plan. Groundwater samples will be tested for the analyses provided in Table 1. Development waters will be contained within USDOT 55-gallon drums and disposed of at a National Grid-approved disposal facility.

1.4 Survey

The sample locations will be surveyed by a New York State Licensed Land Surveyor. The elevation of each sample location will be determined to ± 0.01 foot and will be tied into the Site benchmark. All locations and elevations will be referenced to the New York State Plane Eastern Zone North American Datum 1983 and North American Vertical Datum 1988.

1.5 Data Validation and Management

The soil and groundwater samples will be analyzed by TestAmerica- Connecticut which is a NYSDOH environmental lab approval program accredited laboratory. TestAmerica will provide analytical results in a New York State Category B data deliverable format. The data will be validated in accordance with New York State Analytical Service Protocols and a data usability summary report will be prepared documenting the adequacy of the analytical data obtained from the laboratory and discussing any pertinent data excursions or limitations on the use of the data.

2.0 REPORT PREPARATION

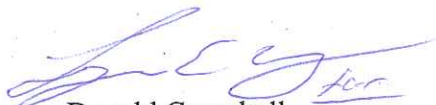
The information collected as part of this addendum will be used to develop the site conceptual model for the Site and will be incorporated into the RI report, as described in the Final RI Work Plan.

3.0 SCHEDULE

Field work can commence following the approval of this RI Work Plan addendum. GEI and subcontractors are ready to commence field activities as early as the week of July 20th with utility clearance activities. The RI Addendum scope of work take will take approximately two weeks to implement. A schedule will be prepared following the approval of this work plan.

If you have any questions or require additional information, please feel free to contact me at (718) 963-5453 or by e-mail at donald.campbell@us.ngrid.com.

Sincerely,



Donald Campbell
Project Manager

Attachments

- c: T. Bell – National Grid
- C. Doroski - NYSDOH
- M. Felter - GEI
- D. Terry - GEI

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Table 1
Sample Descriptions, Rationale, and Analysis
Remedial Investigation Addendum
Fulton Municipal Works MGP Site
Brooklyn, New York

Sample I.D.	Sample Location	Sample Location Rationale	Sample Depth	Number of Samples		VOCs (EPA 8260B)	SVOCs (EPA 8270C)	TAL Metals (6000/7000)	Cyanide ¹	Herbicides (8151A)	Pesticides (EPA 8081A)
				Soil	Groundwater						
Subsurface Soil Borings and Monitoring Wells											
FW-SB-37/ FW-MW-18	Northern Side of Union Street Right-of-Way (ROW) / [To the southwest of the Fulton Former MGP site]	To the southwest FW-MW-01 and FW-MW-02, to evaluate tar impacted soils between the depths of 30 to 66 feet below ground surface (bgs)	At greatest observed impact /beneath observed impacts at the end of boring. Groundwater sample collected at the water table.	2	1	X	X	X	X	X ²	X ²
FW-SB-38	Northern Side of Union Street ROW near the intersection of Nevins Street. [To the southwest of the Fulton Former MGP site]	To the southwest FW-MW-01 and FW-MW-02, to evaluate tar impacted soils between the depths of 30 to 66 feet below ground surface (bgs)	At greatest observed impact /beneath observed impacts at the end of boring.	2	0	X	X	X	X		
FW-SB-39	Northern side of Douglass Street ROW in the vicinity of 3rd Avenue. [To the northeast of the Fulton Former MGP site]	To the east of FW-SB-36 to evaluate tar impacted soils at approximately 49 feet bgs.	At greatest observed impact /beneath observed impacts at the end of boring.	2	0	X	X	X	X		
FW-SB-40	Southern side of Butler Street ROW/ [North of the Fulton Former MGP Site]	To the north of FW-SB-36 and FW-MW-08 to evaluate tar impacted soils between approximately 34 and 55 feet bgs.	At greatest observed impact /beneath observed impacts at the end of boring.	2	0	X	X	X	X		
FW-SB-41/ FW-MW-19	Within the Butler Street ROW to the east of Nevins Street. [To the north of the Fulton Former MGP site]	To the north of FW-SB-36 and FW-MW-08 to evaluate tar impacted soils between 10 and 65 feet bgs.	At greatest observed impact /beneath observed impacts at the end of boring. Groundwater sample collected at the water table.	2	1	X	X	X	X	X ²	X ²
FW-SB-42/ FW-MW-20	Within the Butler Street ROW to the west of Nevins Street. [To the northwest of the Fulton Former MGP site]	To the northeast of FW-MW-10 to evaluate tar impacted soils encountered at approximately 96 feet bgs.	At greatest observed impact /beneath observed impacts at the end of boring. Groundwater sample collected at the water table.	2	1	X	X	X	X	X ²	X ²

Notes:

Chemical analysis test methods specified are from U.S. EPA SW-846 test methods

EPA - Environmental Protection Agency

VOC - volatile organic compounds

SVOC - semivolatile organic compounds

TAL - target analyte list

1 - Soils will be analyzed by Free Cyanide [extraction by EPA Method 9013A/ and analysis by Microdiffusion American Society for Testing and Materials (ASTM) Method D4282-02]

Groundwater will be analyzed by EPA 9012A and Free Cyanide.

2 - Soils will not be analyzed for herbicides or pesticides.



LEGEND

- APPROXIMATE CURRENT PROPERTY BOUNDARY
- APPROXIMATE BOUNDARY OF FORMER MANUFACTURED GAS PLANT (MGP) SITE
- HISTORIC STRUCTURE

PROPOSED REMEDIAL INVESTIGATION ADDENDUM (RIA) SAMPLES

- PROPOSED RIA SOIL BORING/ MONITORING WELL LOCATION
- PROPOSED RIA SOIL BORING LOCATION

PROPOSED REMEDIAL INVESTIGATION (RI) SAMPLES

- PROPOSED RI MONITORING WELL LOCATION
- PROPOSED RI SOIL BORING LOCATION
- PROPOSED SOIL BORING WITH TEMPORARY GROUNDWATER SAMPLE LOCATION
- PROPOSED SURFACE SOIL SAMPLE LOCATION
- PROPOSED SOIL VAPOR POINT
- PROPOSED INDOOR AIR SAMPLE LOCATION

PREVIOUS SAMPLES

- NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC) SITE CHARACTERIZATION (SC) BORING LOCATION
- NYSDEC SC MONITORING WELL LOCATION
- KEYSPAN GOWANUS CANAL INVESTIGATION BORING LOCATION

REMEDIAL INVESTIGATION SAMPLES

- REMEDIAL INVESTIGATION (RI) MONITORING WELL LOCATION
- RI SOIL BORING LOCATION
- RI SOIL BORING WITH TEMPORARY GROUNDWATER SAMPLE LOCATION
- RI SURFACE SOIL SAMPLE LOCATION
- RI SOIL VAPOR POINT
- RI INDOOR AIR SAMPLE LOCATION
- RI OUTDOOR AIR SAMPLE LOCATION
- SAMPLE WAS NOT SURVEYED (LOCATION APPROXIMATE)

- SOURCES:**
1. PHOTOGRAPH OBTAINED FROM BLUE SKY INTERNATIONAL LTD. ALL RIGHTS RESERVED. COPYRIGHT 2006.
 2. SANBORN FIRE INSURANCE MAPS (1886 THROUGH 1996).
 3. SITE CHARACTERIZATION REPORT, FULTON FORMER MANUFACTURED GAS PLANT, BROOKLYN (II), KING'S COUNTY, NEW YORK, SITE No. 2-24-051. SEPTEMBER 2007, PREPARED BY NYSDEC REMEDIAL BUREAU C, DIVISION OF ENVIRONMENTAL REMEDIATION.
 4. NEW YORK CITY OPEN ACCESSIBLE SPACE INFORMATION SYSTEM <http://www.oasisnyc.net>, ACCESSED JANUARY 2008.

REMEDIAL INVESTIGATION WORK PLAN ADDENDUM
 FULTON MUNICIPAL WORKS FORMER MGP
 BOROUGH OF BROOKLYN, NEW YORK

nationalgrid

PROJECT 081190-2-1203



PROPOSED SAMPLE LOCATIONS

July 2009 Plate 1