

February 12, 2009

Lisa Gorton  
Environmental Engineer  
New York State Department of Environmental Conservation  
625 Broadway  
Albany, New York 12233-7014

**Re: Remedial Investigation Work Plan Addendum  
50 Kent Avenue  
Williamsburg Works Former Manufactured Gas Plant (MGP) Site  
Brooklyn, New York  
Site No. 2-24-055  
Index No. W2-1090-06-06**

Dear Ms. Gorton:

National Grid is submitting for your review and approval the following Remedial Investigation Work Plan (RIWP) addendum to conduct RI field activities at the 50 Kent Avenue (City of New York Department of Sanitation) property of the Williamsburg Works former Manufactured Gas Plant (MGP) site in the Williamsburg Neighborhood, Brooklyn, New York. The location of the former Williamsburg Works former MGP is shown on Plate 1.

## **1.0 RI Addendum Scope of Work**

During the RIWP preparation a Department of Sanitation building was present at 50 Kent Avenue. The Department of Sanitation building is in the process of being demolished, and demolition should be completed by March 2009. After demolition is complete the property will be accessible for RI activities. Soil borings and surface soil samples in the adjacent N. 11<sup>th</sup> Street and N. 12<sup>th</sup> Street right-of-ways (ROWS) were proposed adjacent to former MGP structures because the building was not accessible for sampling. This proposed RI work plan addendum includes relocating three previously proposed soil borings and two surface sample locations, installing a monitoring well, and collecting three additional surface soil samples in order to evaluate MGP structures and conditions at the site. The remainder of this letter presents the proposed RI work plan addendum in detail.

The RI activities will be conducted in accordance with the RIWP entitled *Final- Remedial Investigation Work Plan Williamsburg Works, Former Manufactured Gas Plan Site, Brooklyn, New York ACO Index No A2-0552-0606, Site # 224055*, dated May 2008. This RIWP was approved by New York State Department of Environmental Conservation (NYSDEC) and New York State Department of Health (NYSDOH) in a letter dated June 23, 2008. The Final RIWP also includes the Health and Safety Plan (HASP), Quality Assurance Project Plan (QAPP), and Field Sampling Plan (FSP). The following sections describe the proposed soil borings, surface and subsurface soil analysis, monitoring well and groundwater analysis.

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### **1.1 Surface Soil Sampling**

Three additional surface soil samples (WW-SS-10 to WW-SS-12) are proposed and two previously proposed surface soil samples (WW-SS-03 and WW-SS-04) will be relocated to evaluate the exposed surface soils within the footprint of the former MGP site. The locations are shown on Plate 1. Table 1 provides sample description, rationale, and analysis. Each surface soil sample will be collected from unpaved areas from the upper 2 inches of mineral soil beneath any gravel layers as specified in the RIWP.

### **1.2 Soil Boring Installation**

One additional soil boring (WW-MW-17) is proposed and three previously proposed borings (WW-SB-09 through WW-SB-11) will be relocated to evaluate the soil conditions and former MGP structures as part of this RI addendum. The borings are proposed to be installed via Geoprobe<sup>®</sup> drilling methods. The proposed soil boring locations are shown on Plate 1. Table 1 provides sample description, rationale, and analysis.

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 on-site boring location, the boring will terminate at the top of the clay layer which is located approximately 60 feet below ground surface. Three soil samples per boring will be selected for chemical analysis as summarized in Table 1. The RIWP details the targeted intervals for these samples and quality assurance samples that will be collected.

Any deep drilling through impacted zones will minimize the vertical communication of dense non-aqueous phase liquid (DNAPL) caused by the drilling. Drilling methods and procedures are provided in the FSP. Actual drilling locations will be determined based on site constraints.

A Community Air Monitoring Program will be implemented at the site during intrusive field activities. 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 and disposed of as described in the RI Work Plan.

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 accordance with the FSP.

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### **1.3 Monitoring Well Installation**

One monitoring well (WW-MW-17) is proposed to evaluate the groundwater conditions downgradient of the former MGP holders and upgradient of the adjacent property. This monitoring well will be installed using a conventional hollow stem auger rig. The proposed location is shown on Plate 1. Table 1 provides sample description, rationale, and analysis. The well will consist of 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 well will be constructed as a water table well as specified by the RI Work Plan.

The monitoring well will be developed in general accordance with the FSP, appended to the RI Work Plan.

### **1.4 Groundwater Sampling and Gauging**

The monitoring well 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 will be recorded for the monitoring wells and an established surface water measuring point in the East River. The groundwater will be gauged at both the low tide and high tidal levels.

The monitoring well will be purged and sampled after a minimum of two weeks following completion of well development utilizing low flow groundwater sampling procedures and in accordance with the FSP. Table 1 provides sample description, rationale, and analysis.

### **1.5 Survey**

Each of the completed RI sample locations including soil borings and monitoring wells will be surveyed by a New York State Licensed Land Surveyor. The elevation of each sampling location will be determined to  $\pm 0.01$  foot and will be tied into the site benchmark. All locations and elevations will be referenced to the New York State Plane Eastern Zone (3104) North American Datum 1983 and North American Vertical Datum 1988.

### **1.6 Data Validation and Management**

An approved NYSDOH environmental laboratory approval program laboratory will provide New York State Category B data deliverables. The data will be validated in accordance with New York State Analytical Service Protocols. The data will be validated 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.

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## 2.0 REPORT PREPARATION

A RI report, including Qualitative Human Health Exposure Assessment and Fish and Wildlife Resource Impact Analysis components, will be prepared for submittal to NYSDEC and NYSDOH at the conclusion of the RI. This RI report is described in the approved May 2008 Work Plan.

## 3.0 SCHEDULE

Field work can commence following the completion of the current demolition activities, which are being completed under the direction of City of New York. The demolition activities are projected to be completed in March 2009. GEI will begin field activities once this work plan addendum is approved, subcontractors are secured, and access to 50 Kent Avenue is obtained. The RI addendum will add approximately one week to the overall RI program.

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](mailto:donald.campbell@us.ngrid.com).

Sincerely,

A handwritten signature in blue ink that reads "Melissa J. Felton for:".

Donald Campbell  
Project Manager

### Attachments

- c: T. Bell – National Grid
- B. Callaghan - NYSDOH
- M. Felter - GEI
- D. Terry - GEI

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**Table 1  
Remedial Investigation Addendum  
50 Kent Avenue  
Sample Descriptions, Rationale and Analysis  
Williamsburg Works MGP Site  
Brooklyn, New York**

Sample I.D.	Sample Location	Sample Rationale	Sample Depth	Number of Samples		VOCs (EPA 8260B)	SVOCs (EPA 8270C)	TAL Metals (6000/7000)	Cyanide <sup>2</sup>	Herbicides (EPA 8151A)	PCBs (EPA 8082)	Pesticides (EPA 8081A)
				Soil	Groundwater							
<b>Relocated Sample Locations</b>												
<b>Surface Soil Sample Locations</b>												
<b>WW-SS-03</b>	50 Kent Avenue (northern portion of the property adjacent to North 12th Street)	Soil sample to evaluate surface soil conditions at the site	0-2"	1	0	X	X	X	X	X	X	X
<b>WW-SS-04</b>	50 Kent Avenue (northwestern portion of the property adjacent to North 12th Street)	Evaluate soil quality at the site, within the footprint of the former purifying house	0-2"	1	0	X	X	X	X	X	X	X
<b>Subsurface Soil Borings and Monitoring Wells</b>												
<b>WW-SB-09</b>	50 Kent Avenue (northeast portion of the property adjacent to North 12th Street)	Evaluate subsurface soil condition within the footprint of the former condenser house	Between 0&5', depth at greatest suspected impact and beneath impacts	3	0	X	X	X	X	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>
<b>WW-SB-10</b>	50 Kent Avenue (southeast portion of the property adjacent to North 11th Street)	Evaluate soil quality at the site, within the footprint of the former purifying house	Between 0&5', depth at greatest suspected impact and beneath impacts	3	0	X	X	X	X	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>
<b>WW-SB-11</b>	50 Kent Avenue (northern portion of the property adjacent to North 12th Street)	Evaluate soil quality at the site, within the footprint of the former condensers	Between 0&5', depth at greatest suspected impact and beneath impacts	3	0	X	X	X	X	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>
<b>Additional Proposed Sample Locations</b>												
<b>Surface Soil Sample Locations</b>												
<b>WW-SS-10</b>	50 Kent Avenue (northeast portion of the property adjacent to North 12th Street)	Evaluate surface soil conditions within the footprint of the former condenser house	0-2"	1	0	X	X	X	X	X	X	X
<b>WW-SS-11</b>	50 Kent Avenue (Central portion of the property)	Evaluate surface soil conditions within the footprint of the former purifying house	0-2"	1	0	X	X	X	X	X	X	X
<b>WW-SS-12</b>	50 Kent Avenue (southeast portion of the property adjacent to North 11th Street)	Evaluate surface soil conditions within the footprint of the former purifying house	0-2"	1	0	X	X	X	X	X	X	X

**Table 1**  
**Remedial Investigation Addendum**  
**50 Kent Avenue**  
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**Williamsburg Works MGP Site**  
**Brooklyn, New York**

Sample I.D.	Sample Location	Sample Rationale	Sample Depth	Number of Samples		VOCs (EPA 8260B)	SVOCs (EPA 8270C)	TAL Metals (6000/7000)	Cyanide <sup>2</sup>	Herbicides (EPA 8151A)	PCBs (EPA 8082)	Pesticides (EPA 8081A)
				Soil	Groundwater							
<b>Subsurface Soil Boring and Monitoring Well</b>												
WW-MW-17	50 Kent Avenue	Evaluate soil and groundwater conditions downgradient of the former holders and adjacent to the adjacent property.	Between 0&5', depth at greatest suspected impact and beneath impacts	3	1	X	X	X	X	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>

**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

PCBs - polychlorinated biphenyls

bgs - below ground surface

<sup>1</sup>-One sample from within the fill in each soil boring

<sup>2</sup>-Soils will be analyzed by Free Cyanide [extraction by EPA Method 9013A and analysis by Microdiffusion American Society for Testing and Materials (ASTM)]

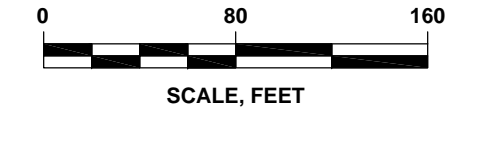
Prepared by: MJF





**LEGEND**

- APPROXIMATE CURRENT PROPERTY BOUNDARY
- APPROXIMATE BOUNDARY OF FORMER MANUFACTURED GAS PLANT (MGP) SITE
- HISTORIC STRUCTURE
- PROPOSED SAMPLES**
- WW-MW-05 PROPOSED REMEDIAL INVESTIGATION (RI) MONITORING WELL LOCATION
- WW-SB-01 PROPOSED RI SOIL BORING LOCATION
- WW-SB-03 PROPOSED SOIL BORING WITH TEMPORARY GROUNDWATER SAMPLE LOCATION
- WW-SS-01 PROPOSED SURFACE SOIL SAMPLE LOCATION
- WW-SV-01 PROPOSED SOIL VAPOR POINT
- WW-TP-01 PROPOSED TEST PIT LOCATION
- WW-IA-01 PROPOSED INDOOR AIR SAMPLE LOCATION
- WW-OA-01 PROPOSED OUTDOOR AIR SAMPLE LOCATION
- WW-SED-01 PROPOSED SEDIMENT SAMPLE LOCATION
- POTENTIAL SAMPLE OFFSET LOCATION



- SOURCES:**
1. PHOTOGRAPH OBTAINED FROM GOOGLE EARTH, IMAGE ©DIGITALGLOBE 2008.
  2. SANBORN FIRE INSURANCE MAPS (1887 THROUGH 1996).
  3. NEW YORK CITY OPEN ACCESSIBLE SPACE INFORMATION SYSTEM <http://www.oasisnyc.net>, ACCESSED JANUARY 2008.

REMEDIAL INVESTIGATION WORK PLAN  
 WILLIAMSBURG WORKS FORMER MGP SITE  
 BOROUGH OF BROOKLYN, NEW YORK

**nationalgrid**

PROJECT 083240-1010

**GEI** Consultants  
 455 WINDING BROOK DRIVE  
 SUITE 201  
 GLASTONBURY, CONNECTICUT 06033

**PROPOSED SAMPLE LOCATIONS**

February 2009 Plate 1