

April 30, 2010

Douglas MacNeal, P.E.
Environmental Engineer 2
New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Action Bureau C
11th Floor, 625 Broadway
Albany, NY 12233-7014

**Re: Final Supplemental Remedial Investigation Work Plan
Wallabout Channel and Navy Yard Basin Off-Site Areas of Investigation
Nassau Gas Works Manufactured Gas Plant (MGP) Site Operable Unit 2 (OU-2)
Brooklyn, New York
Site No. 2-24-019A/Index No. W2-1090-06-06**

Dear Mr. MacNeal:

National Grid is issuing the following work plan to conduct supplemental remedial investigation (SRI) activities within the Wallabout Channel/Barge Basin and the Navy Yard Basin in Brooklyn, New York (Site). The Wallabout Channel/Barge Basin and Navy Yard Basin are located to the west and southwest of the former Nassau Gas Works manufactured gas plant (MGP) Site Operable Unit (OU-2). The location of the former Nassau Gas Works MGP site and the off-site areas of investigation are shown on Figure 1.

This work plan was developed based upon discussions during a June 8, 2009 meeting between National Grid and the New York State Department of Environmental Conservation (NYSDEC) regarding the request to sample soils beneath the Wallabout Channel/Barge Basin. It also responds to Comment #1 of NYSDEC and New York State Department of Health (NYSDOH) letter dated January 27, 2009 that requested investigations be completed within the Wallabout Channel and Barge Basin. In a March 6, 2009 response letter, National Grid indicated that the sampling would be evaluated once Brooklyn Navy Yard Development Corporation (BNYDC) geotechnical boring information from the Wallabout Channel Barge Basin was received and reviewed. In early July 2009, BNYDC provided the geotechnical boring information and the associated *90% Geotechnical Design Report Brooklyn Navy Yard Confined Disposal Facility Brooklyn New York* dated March 2004 for the Wallabout Channel Barge Basin. The Wallabout Channel Barge Basin has been proposed as a confined disposal facility (CDF) for sediments generated by the BNYDC as part of maintenance dredging of the nearby Navy Yard Basin to the west. The boring information shows that potential dense non-aqueous phase liquid (DNAPL) tar-related impacts were encountered well below the sediment water interface of Wallabout Channel Barge Basin. The lateral and vertical extent of DNAPL tar impacts has been determined during remedial investigations adjacent to the Wallabout Channel Barge Basin within the Brooklyn Navy Yard (Figure 1). On September 28, 2009, NYSDEC requested the completion of additional borings within the Navy Yard Basin to confirm the lateral extent of DNAPL tar beneath the Navy Yard Basin. This Final SRI Work Plan incorporates the April 13, 2010 NYSDEC request for an additional boring near the proposed B41 boring location within the Wallabout Channel.

This SRI work plan was prepared with the objective of refining the vertical and lateral extent of MGP-related tar impacts beneath the Wallabout Channel and Barge Basin and Navy Yard Basin. The proposed SRI includes drilling soil borings to evaluate the physical presence of tar to provide a better understanding of the nature and extent of tar-related impacts and update the existing conceptual site model. The findings will be presented in a SRI report following completion of field activities.

1.0 Supplemental RI Scope of Work

The SRI will be conducted in accordance with the NYSDEC-approved Remedial Investigation Work Plan dated September 7, 2004 (RIWP) that includes the Health and Safety Plan (HASP), Quality Assurance Project Plan (QAPP), and Field Sampling Plan (FSP). The HASP will be appended for the proposed drilling activities within the Wallabout Channel and Barge Basin and Navy Yard Basin. Community air monitoring will be completed during ground-intrusive investigation activities. The following subsections describe the proposed soil boring installations and soil sample analyses.

1.1 Boring Installation and Soil Analysis

Six borings (B40 through B45) are proposed to evaluate the vertical and lateral extent of tar-related impacts. Three borings (B40, B41, and B42) are proposed to evaluate the extent of tar-related impacts beneath the Wallabout Channel and Barge Basin. B40 is proposed to be completed within the Wallabout Channel Barge Basin within the proposed BNYDC CDF to confirm the inferred presence of tar below the bottom of accumulated sediments. B41 and B42 are proposed to be completed within the Wallabout Channel to confirm the northern inferred lateral extent of tar to the northwest of the Site. The approximate locations of the proposed borings are shown in Figure 1. The borings are proposed to refine the inferred extent of the tar impacts encountered in soil borings B3, B15, and MW-2D on the western boundary of the Nassau Gas Works MGP Site and B17/MW-13D on BNYDC parcel to the west of the MGP. Tar saturated soils impacts were encountered between -18 and -25 feet mean low low water [MLLW] on borings on the Nassau Gas Works MGP site and -29 and -33 feet MLLW on the BNYDC property. The depth of the Wallabout Channel, in the vicinity of these borings, generally ranges between approximately -5 feet [MLLW] to -14 feet [MLLW]. BNYDC geotechnical borings within the Barge Basin indicate visual impacts approximately 20 feet below the sediment water interface (Figure 1). Tar impacts were encountered to the Gardiner's Clay confining unit that is located over 100 feet [MLLW] in the vicinity of the Basin.

At the request of the NYSDEC, National Grid will complete three borings (B43, B44, and B45) within the Navy Yard Basin to confirm the lateral extent of tar impacts to the southwest of B33/MW-14D on the BNYDC parcel (Figure 1). Tar saturated soils were encountered between approximately -28.5 feet [MLLW] to -29.5 feet [MLLW]. The depth of the Navy Yard Basin in the vicinity of this boring is approximately -18 feet [MLLW]. The approximate extent of tar-impacted soils is shown in Figure 1. The RI boring and BNYDC geotechnical logs are provided on cd as Attachment A.

The borings will be installed utilizing a resonant sonic drilling rig that will be staged on a barge/floating drilling platform. Resonant sonic methods are proposed because of the depth of the borings. Each soil boring will be continuously logged to 10 feet below observed visual impacts. One boring (B40) will be installed to evaluate the extent of the Gardiner's Clay unit below the Wallabout Channel Barge Basin.

Geotechnical parameters will be collected to augment previous geotechnical boring information collected by the BNYDC as part of their CDF studies. A geotechnical sample will be collected within the accumulated sediments and below the accumulated sediments within the Wallabout Channel/ Basin borings. Geotechnical information will include the collection of standard penetration tests and collection of Shelby tube samples. Each sample will be analyzed for grain size by the American Society of Testing and Materials (ASTM) method D421/422, moisture content by ASTM method D-2216, and total organic carbon (TOC) by ASTM D2974.

Sediment and soils from each boring will be visually characterized to evaluate the presence of tar impacts. One soil sample will be collected at the termination of each boring within soils that do not exhibit tar impacts to document conditions at the completion of the boring. The soil samples will be submitted for chemical analysis at TestAmerica Laboratories (TestAmerica) in Shelton, Connecticut for analysis. TestAmerica is a NYSDOH Environmental Laboratory Approval Program (ELAP) accredited laboratory. Each soil will be analyzed for:

- Volatile organic compounds (VOCs) by Environmental Protection Agency (EPA) Method 8260B.
- Semi-volatile organic compounds (SVOCs) by Method 8270C.
- Resource Conservation Recovery Act (RCRA)-8 metals by EPA Method 6010.

Quality assurance/quality control (QA/QC) samples will be submitted, as specified in the approved RIWP. QA/QC samples will include a blind duplicate, a matrix spike/matrix spike duplicate (MS/MSD), and a field rinsate blank. The QA/QC samples will be analyzed for the same suite of analytes as the samples submitted for laboratory analysis. One trip blank sample will be analyzed for VOC analysis for each shipment of samples to the laboratory.

All investigation-derived wastes will be containerized into United States Department of Transportation (USDOT)-approved 55-gallon drums. A representative disposal sample will be collected following the completion of SRI activities and analyzed for disposal parameters required by the National Grid-selected disposal facility. All investigation-derived wastes will be disposed of at a National Grid-approved disposal facility.

1.2 Survey

Each soil boring will be surveyed and incorporated into the site-wide survey database that is referenced to the New York State Plane Coordinate System (East Zone, North American Datum [NAD 83]) and North American Vertical Datum 1988 (NAVD 88).

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1.3 Data Validation and Management

TestAmerica will provide New York State Category B data deliverables. All data will be incorporated into the existing site database. Laboratory data will be validated in accordance with the New York State Analytical Services Protocols (ASP). Data will be validated and data usability summary reports will be prepared evaluating the usability of the data.

2.0 REPORT PREPARATION

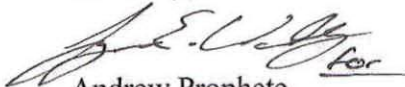
The SRI data will be used to refine the extent of tar-related impacts to the west and northwest of the Site beneath the Wallabout Channel/ Barge Basin and the adjacent Navy Yard Basin. The SRI findings will be compiled in a SRI report for the Nassau Gas Works MGP Site. The report will discuss the SRI findings regarding the nature and extent of the MGP-related impacts within soils beneath the Wallabout Channel and Navy Yard Basin, and update the site conceptual model.

3.0 SCHEDULE

Field work can commence following the completion of the proposed SRI activities at the Consolidated Edison Former Kent Avenue Station and is also dependent upon contactor availability. A detailed schedule will be developed once these items are resolved. The field investigation program is anticipated to last approximately two weeks.

If you have any questions or require additional information, please feel free to contact me at (718) 963-5412 or by e-mail at andrew.prophete@us.ngrid.com.

Sincerely,



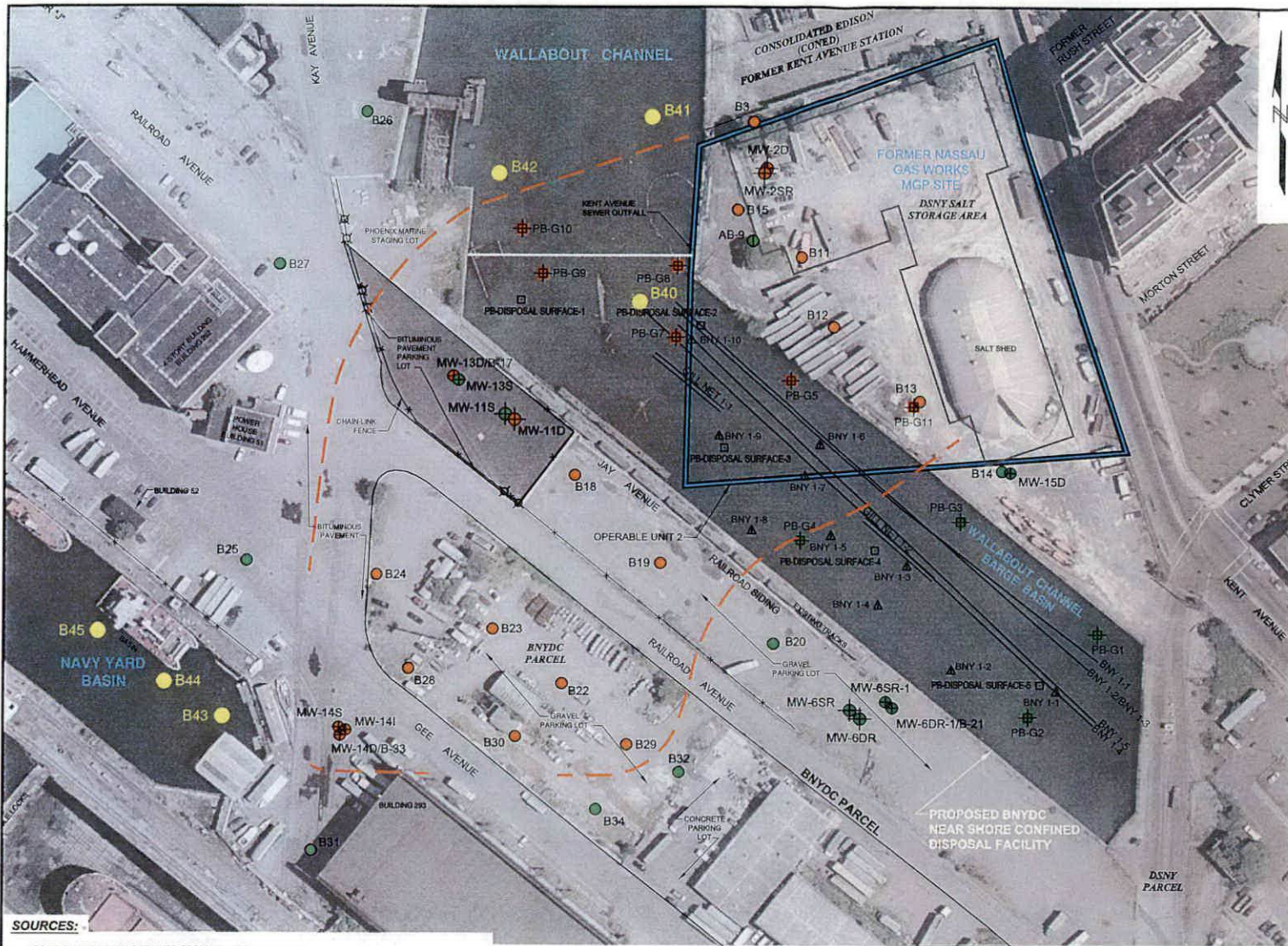
Andrew Prophete
Project Manager

Attachments

- c: G. Litwin – NYSDOH
- R. Rusinko, Esq. – NYSDEC
- T. Bell – National Grid
- C. Willard – National Grid
- F. Murphy, Esq. – National Grid
- M. McIntyre – NYC Office of Environmental Coordination
- C. King – City of New York Law Department
- A. Kimball – BNYDC
- B. Dushman – BNYDC
- D. Terry – GEI
- L. Willey – GEI

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Figure



LEGEND

EXTENT OF NASSAU GAS WORKS FORMER MGP SITE

BOUNDARY OF OPERABLE UNIT 2 (OU-2)

BNYDC BROOKLYN NAVY YARD DEVELOPMENT CORPORATION (BNYDC) PARCEL

DSNY DEPARTMENT OF SANITATION CITY OF NEW YORK (DSNY) PARCEL

PROPOSED SAMPLE LOCATIONS

B40 PROPOSED BORING LOCATION

PREVIOUS SAMPLE LOCATIONS

⊕ MW-15 REMEDIAL INVESTIGATION (RI) INSTALLED MONITORING WELL LOCATION

○ B3 RI INSTALLED SOIL BORING LOCATION

⊕ MW-10S SUPPLEMENTARY SITE ASSESSMENT (SSA) INSTALLED MONITORING WELL LOCATION

⊕ MW-6DR PREVIOUS SSA INSTALLED MONITORING WELL UNABLE TO BE LOCATED

⊕ AB-9 SSA INSTALLED BORING LOCATION

□ PB-DISPOSAL SURFACE-1 PREVIOUS NEAR SHORE CONFINED DISPOSAL FACILITY (CDF) FOR NAVIGATIONAL DREDGE MATERIAL SEDIMENT SAMPLE

— BNY 1-1 PREVIOUS (CDF) TRAWL LINE

▲ BNY 1-9 PREVIOUS (CDF) BENTHIC GRAB SAMPLE LOCATION

— GILL NET 1-1 PREVIOUS (CDF) GILL NET SAMPLE LOCATION

⊕ PB-G1 PREVIOUS (CDF) GEOTECHNICAL BORING LOCATION

PHYSICAL OBSERVATIONS SUMMARY

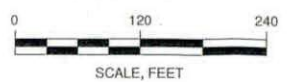
● SOIL BORING LOCATION WITH NO VISUAL EVIDENCE OF TAR

● SOIL BORING LOCATION WITH VISUAL EVIDENCE OF TAR

— INFERRED LATERAL EXTENT OF TAR IN VICINITY OF WALLABOUT CHANNEL AND BARGE BASIN

- NOTES:**
- ONLY BORINGS AND MONITORING WELLS IN THE VICINITY OF WALLABOUT CHANNEL, BARGE BASIN AND NAVY YARD BASIN ARE SHOWN. SEE FINAL RI REPORT FOR ALL INVESTIGATION LOCATIONS.
 - INFERRED LATERAL EXTENT OF TAR BASED UPON INFORMATION IN SOIL BORINGS ADJACENT TO WALLABOUT CHANNEL, BARGE BASIN AND NAVY YARD BASIN.

- SOURCES:**
- AERIAL PHOTOGRAPH OBTAINED FROM www.globexplorer.com.
 - FIGURE No. 1, "OPERABLE UNIT BOUNDARIES 15 ACRE BROOKLYN NAVY YARD SITE" PREPARED BY QUAY CONSULTING, LLC., SEPTEMBER 29, 2005.
 - "FINAL INVESTIGATION REPORT NASSAU GAS WORKS", OCTOBER 2007, REVISED 2008.
 - "90% GEOTECHNICAL REPORT, BROOKLYN NAVY YARD CONFINED DISPOSAL FACILITY, BROOKLYN, NEW YORK", PREPARED BY PARSONS BRINCKERHOFF QUADE & DOUGLASS, INC., MARCH 2004.



SUPPLEMENTAL REMEDIAL INVESTIGATION
WALLABOUT CHANNEL AND
NAVY YARD BASIN OFF-SITE AREA
NASSAU GAS WORKS FORMER MGP SITE
BROOKLYN, NEW YORK

nationalgrid



**PROPOSED BORING
LOCATION PLAN**

Attachment A
Boring Logs
(electronic only)