

Operable Unit 2 Supplemental Remedial Investigation Work Plan

Former Dangman Park Manufactured Gas Plant Site Brooklyn, New York NYSDEC Site No. 224047 Index # A2-0552-0606

July 2021

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Prepared By:

Arcadis of New York, Inc. One Lincoln Center, 110 West Fayette Street, Suite 300 Syracuse New York 13202 Phone: 315 446 9120 Fax: 315 449 0017

Our Ref:

30003989

Prepared For:

National Grid One MetroTech Center Brooklyn New York 11201

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Certification

I, Steven M. Feldman, certify that I am currently a Qualified Environmental Professional as defined in 6 NYCRR Part 375 and that this Operable Unit 2 Supplemental Remedial Investigation Work Plan, Former Dangman Park Manufactured Gas Plant Site Brooklyn, New York, NYSDEC Site No. 224047, Index # A2-0552-0606 was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

Steven Telemon

Date: July 26, 2021

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Figure

Figure 1 – Operable Unit 2 SRI Soil Boring Locations

Attachment

Attachment 1 - NYSDEC's letter dated October 7, 2020

Acronyms and Abbreviations

Arcadis	Arcadis of New York, Inc.
bls	below land surface
CAMP	Community Air Monitoring Plan
DER	Division of Environmental Remediation
DOT	Department of Transportation
ft	feet
FS	feasibility study
IDW	investigation-derived wastes
MGP	manufactured gas plant
NAPL	non-aqueous phase liquid
NGVD 29	National Geodetic Vertical Datum of 1929
NTUs	nephelometric turbidity units
NYSDEC	New York State Department of Environmental Conservation
OU	Operable Unit
PID	photoionization detector
PM ₁₀	particulate matter less than 10 micrometers in diameter
RI	Remedial Investigation
Site	Former Dangman Park Manufactured Gas Plant
SOP	standard operating procedure
SRI	Supplemental Remedial Investigation
VOCs	volatile organic compounds

Executive Summary

This work plan describes the Supplemental Remedial Investigation (SRI) activities to be conducted on Operable Unit 2 (OU 2) of the former Dangman Park Manufactured Gas Plant (MGP) site (the Site). The New York State Department of Environmental Conservation (NYSDEC) requested completion of SRI activities on OU 2 to evaluate the feasibility of installing non-aqueous phase liquid (NAPL) recovery wells given that NAPL was identified on the southern portion of Operable Unit 1 (OU 1) along the OU 1/OU 2 boundary (Figure 1).

The Site encompasses portions of two parcels (Block 7273, Lots 1R and 25). Neither of these parcels is owned by National Grid. Prior to conducting any SRI field activities, National Grid will need to obtain written access permission from the current property owner of Lot 25. The portion of the Site within Lot 25 is a parking lot for an existing apartment building.

The SRI field activities include the following:

- Drilling three to five OU 2 SRI soil borings at locations identified to optimize the potential for recovery of NAPL;
- Installing a NAPL recovery well at soil boring locations where NAPL-saturated soil is observed (if any);
- Gauging and recovering NAPL (if any) at each recovery well (if any); and
- Preparing a SRI report, after completing the field work, for submittal to the NYSDEC.

The schedule for the field activities will be coordinated with the NYSDEC and the property owner, pending receipt of NYSDEC's approval and an agreement from the property owner for access. The data collected during the SRI will support development of a comprehensive feasibility study (FS) to assess potential remedial alternatives for OU 2.

1 Introduction

This work plan describes the Supplemental Remedial Investigation (SRI) activities to be conducted on Operable Unit 2 (OU 2) of the former Dangman Park Manufactured Gas Plant (MGP) site (the Site), pursuant to conversations between National Grid and the New York State Department of Environmental Conservation (NYSDEC) and NYSDEC's letter dated October 7, 2020 (Attachment 1). The letter requested completion of SRI activities on OU 2 to evaluate the feasibility of installing non-aqueous phase liquid (NAPL) recovery wells given that NAPL was identified on the southern portion of Operable Unit 1 (OU 1) along the OU 1/OU 2 boundary. The locations and the extent of NAPL saturated or NAPL coated soil observed along the OU 1/OU 2 boundary are shown on Figure 1.

As also shown on Figure 1, the Site encompasses portions of two parcels (Block 7273, Lots 1R and 25) located along Neptune Avenue and W. 5th Street. Neither of these parcels is owned by National Grid and completion of the SRI requires that access be granted by the current property owner of Block 7273, Lot 25 as outlined in Section 2.

The Site is identified as NYSDEC Site No. 224047. This work plan has been prepared by Arcadis of New York, Inc. (Arcadis) on behalf of National Grid, in accordance with the requirements of a Multi-Site Order on Consent and Administrative Settlement (Consent Order; Index # A2-0552-0606) that was entered into by The Brooklyn Union Gas Company d/b/a National Grid NY (hereinafter National Grid) and the NYSDEC in February 2007. This work plan has also been prepared in accordance with the NYSDEC's Division of Environmental Remediation (DER) *Technical Guidance for Site Investigation and Remediation* (DER-10).

The remainder of this work plan is organized as follows:

- Section 2 Access Permission outlines the need for National Grid to obtain written permission from the current property owner to access Block 7273, Lot 25 prior to conducting any SRI field activities.
- Section 3 OU 2 SRI Soil Borings identifies the OU 2 soil boring locations, followed by a description of installation procedures and associated monitoring, surveying requirements, work zone area requirements, and investigation-derived waste (IDW) management.
- Section 4 NAPL Recovery Well(s) (if necessary) identifies the procedures to install a recovery well if a
 potential NAPL recovery location is identified based on observation of NAPL-saturated soil in an SRI soil
 boring. This section also describes the gauging and recovery of NAPL (if any) to be conducted after
 installation of the recovery well(s) and provides work zone area requirements.
- Section 5 Schedule and Reporting provides schedule information for implementing the OU 2 SRI field work and identifies the SRI report to be prepared by Arcadis for submittal to the NYSDEC.

2 Access Permission

As previously identified, the Site encompasses portions of two parcels (Figure 1) and neither is owned by National Grid. Accordingly, prior to conducting any SRI field activities, National Grid will need to obtain written permission from the current property owner to access 2928 West 5th Street, Brooklyn, New York, designated as Block 7273, Lot 25 on the Tax Map of Kings County. The portion of the Site within Lot 25 is a parking lot for an existing apartment building.

3 OU 2 SRI Soil Borings

3.1 Locations

Figure 1 shows (in pink) the Soil Boring Area in which three OU 2 SRI soil borings will be drilled and NAPL recovery wells, if necessary, installed. The OU 2 SRI soil boring locations and the Soil Boring Area have been identified to optimize the potential for recovery of NAPL.

The Soil Boring Area and SRI soil boring locations are based on observations of NAPL saturated/coated soil and the absence of such observations during the past NYSDEC-approved Site Investigations in the vicinity of this area. Past soil boring locations in the area of the OU 1/OU 2 boundary are shown on Figure 1. A conclusion from the past investigations was that the lateral and vertical extent of soil impacts have been identified on OU 1 and OU 2 (as shown by gray soil boring locations on Figure 1), and therefore no further step-out soil boring locations were required in past investigations.

Regarding the SRI soil boring locations, consideration was also given to minimizing impacts to property use (e.g., parking for residents of the apartment building, awareness of the active entrance driveway [from W. 5th Street] between parking aisles, knowledge of the varying types and sizes of vehicles that use the parking lot such as emergency vehicles, private ambulettes, garbage trucks and large delivery trucks). Finally, consideration of drill rig set back requirements and other work-related logistics were also factored into the SRI soil boring locations shown on Figure 1. The actual locations for the OU 2 soil borings will be based on utility locations and a Site reconnaissance to be conducted prior to mobilization.

3.2 Installation

The field work will be conducted in accordance with Arcadis' current health and safety plan (HASP) for the Site, which includes a traffic safety plan. The OU 2 SRI soil borings will be drilled a minimum depth of 40 feet below land surface (bls) by a driller licensed in the State of New York using a sonic drill rig. All drilling locations will be hand augered/hand dug and/or air-knifed/vacuum excavated to a depth of 5 feet bls. Soil recovered from each sample interval will be visually characterized by Arcadis for color, texture, and moisture content as described in the National Grid *Field Descriptions of Samples for Former Manufactured Gas Plant (MGP) Sites* (Appendix B [Field Sampling Plan] of the NYSDEC-approved Remedial Investigation [RI] Work Plan). The presence (if any) of visible staining, NAPL, and obvious odors will be noted, and the soil will be field screened with a photoionization detector (PID).

If NAPL saturated soil is encountered in any of the soil borings the terminal depth of the boring will be 40 feet bls or 10 feet below the deepest NAPL-saturated soil observation, whichever is greater. In addition, the *Dense Non-Aqueous Phase Liquid (DNAPL) Contingency Plan* provided in Appendix A of the RI Work Plan will be implemented to limit the potential for remobilization and downward migration of DNAPL.

The observation of NAPL saturated soil (if any) at a soil boring location will be used in the field to determine if a recovery well is necessary at a location. If a recovery well is determined to be not warranted, the soil boring will be tremie grouted from the terminal depth of the boring to the surface using a cement-bentonite grout and the surface restored in kind and as appropriate. Soil generated from soil boring drilling will be containerized in Department of Transportation (DOT)-approved 55-gallon steel drums.

If NAPL-saturated soil is observed at the eastern and/or western most soil boring, an additional "step-out" soil boring will be installed at the corresponding (eastern and/or western) boundary of the Soil Boring Area. As identified above, this area was defined based on observations of NAPL saturated/coated soils and the absence of such observations during the past NYSDEC-approved Site investigations.

3.3 Community Air Monitoring and Noise Mitigation

During drilling activities, community air monitoring will be conducted by Arcadis in accordance with the NYSDECapproved *Former Dangman Park Manufactured Gas Plant Site Community Air Monitoring Plan Community Air Monitoring Plan* (CAMP; Arcadis 2017). Specifically, real-time monitoring for volatile organic compounds (VOCs) and particulate matter less than 10 micrometers in diameter (PM₁₀) will be performed during the drilling activities using two air monitoring stations. Periodic monitoring for the presence of NAPL-related odors (if any) will also be conducted. The community air monitoring will provide an early warning system, through the use of alert levels and automated notifications, so that vapor, dust emissions and odors can be controlled at the source before action levels are exceeded at the downwind work perimeter.

Prior to commencing drilling activities, the construction noise mitigation plan required by the New York City Department of Environmental Protection will be completed and posted at the work zone. Noise mitigation measures identified in the plan will be implemented during the drilling activities.

3.4 Survey

A New York State licensed surveyor will field survey the soil boring locations and any recovery well locations. For each location, the surveyor will determine the location relative to the New York State Plane Coordinate System and the ground surface elevation relative to the National Geodetic Vertical Datum of 1929 (NGVD 29). For any recovery wells, the measuring point elevation (defined as the top of the inner casing) will also be determined relative to NGVD 29.

3.5 Work Zone Area Requirements

For the OU 2 SRI soil boring drilling work, Arcadis estimates 7 parking spaces will be required when installing each soil boring or recovery well (i.e., 3 parking spaces on either side of the parking space where the soil boring is located). This work zone area is required to accommodate the drill rig, an Arcadis support vehicle, and a driller support truck. The Arcadis vehicle will be parked in a parking space at the end of the work zone and the driller support truck will be parked in a space at the other end of the work zone to serve as demarcation barriers. This should also allow for the community air monitoring equipment to be set up within the work zone.

Prior to and after conducting the SRI soil boring drilling work, operations to unload/load the drill rig from/onto the transport vehicle may require additional area in the parking lot (e.g., park the transport vehicle in a portion of the entrance driveway [from W. 5th Street] or occupy additional parking spaces) for approximately 2 to 3 hours.

The work zone requirements identified above are an estimate that will be confirmed by Arcadis both with the drilling subcontractor and during the Site reconnaissance to be conducted prior to mobilization.

3.6 Investigation-Derived Waste Management

Upon completion of the field work, soil and other IDW (e.g., plastic sheeting, decontamination water, NAPL, etc.) will be managed and transported for off-site treatment/disposal in accordance with applicable rules and regulations. All IDW will be appropriately containerized (e.g., DOT-approved 55-gallon steel drums), and the containers will be properly labeled by Arcadis with the contents, generator, location, and date. The containerized wastes will be temporarily stored on OU 2 at a location determined in conjunction with the property owner, pending appropriate off-site treatment/disposal by National Grid in accordance with applicable rules and regulations.

4 NAPL Recovery Well(s) (if necessary)

4.1 Installation

If a potential NAPL recovery location is identified (based on observation of NAPL-saturated soil), a recovery well will be installed. The well(s) will be installed using the protocols presented in the *Monitoring Well Installation* SOP (Appendix B of the RI Work Plan). The recovery well(s) will be constructed using 4-inch diameter PVC casing and 4-inch diameter stainless-steel screen (20 slot, continuous slot wire wrapped, #1 filter pack). The well(s) will be completed to a depth that is appropriate to evaluate NAPL recovery based on the field observations. A 3-foot-long PVC sump will be installed at the bottom of the well(s). The well(s) will be completed at the surface with a locking cap and a flush-mount protective casing.

Following installation, and immediately prior to development as discussed below, the recovery well(s) will be gauged for the presence of NAPL using the procedures described in the *Water-Level and NAPL Thickness Measurement Procedures* SOP (Appendix B of the RI Work Plan). The well(s) will then be developed by surging and bailing or pumping water from the well using the procedures outlined in the *Monitoring Well Development* SOP (Appendix B of the RI Work Plan). Surging and bailing or pumping will continue until the turbidity is below 50 nephelometric turbidity units (NTUs) or until pH and conductivity measurements have stabilized. Water generated by well development and equipment decontamination will be containerized in DOT-approved 55-gallon steel drums or a polyethylene storage tank for later off-site transportation and disposal by National Grid (additional details provided in Section 2.6).

4.2 NAPL Gauging and Recovery

After development of the NAPL recovery well(s), the well(s) will be periodically gauged for the absence/presence of NAPL. The schedule for NAPL gauging and recovery will depend on the results obtained and will initially be conducted weekly for one month after installation of any recovery well(s). The specific dates will be coordinated with the property owner.

The gauging will be conducted by Arcadis using the procedures described in the *Water-Level and NAPL Thickness Measurement Procedures* SOP (Appendix B of the RI Work Plan). NAPL (if any) will be recovered to the extent practicable and stored in a DOT-approved steel drum for later off-site transportation and disposal by National Grid (additional details provided in Section 2.6 Investigation-Derived Waste Management).

4.3 Work Zone Area Requirements

During the NAPL gauging and recovery work, Arcadis estimates 3 parking spaces will be required for each recovery well (i.e., the adjacent parking space on either side of the parking space where each recovery well [if any] is located). This work zone area is required to allow for room relative to nearby parked vehicles and demarcation of the work zone.

The work zone identified above is an estimate that will be confirmed by Arcadis during the Site reconnaissance to be conducted prior to the work and based on the actual location of a NAPL recovery well(s), if any.

5 Schedule and Reporting

The schedule for drilling will be coordinated with the NYSDEC and the property owner, pending receipt of NYSDEC's approval and an agreement from the property owner for access. Installation of the three OU 2 SRI soil borings is anticipated to take one week to complete, with additional time required if installation of step-out borings and/or NAPL recovery wells is required. National Grid will notify the NYSDEC and the property owner at least 7 days in advance of the date for commencement of field activities. The schedule for NAPL gauging and recovery will depend on the results obtained (see Section 3.2 NAPL Gauging and Recovery). The specific dates for field work will be coordinated with the property owner.

Upon completion of the field work identified herein, a SRI report will be prepared by Arcadis for submittal to the NYSDEC. The SRI report will include an updated Site figure, soil boring logs, recovery well construction logs, community air monitoring data, representative photographs, summary of initial NAPL gauging and recovery results, and proposed next steps. The data collected during the SRI will support development of a comprehensive feasibility study (FS) to assess potential remedial alternatives for OU 2, as identified in NYSDEC's letter (Attachment 1).







NYSDEC's letter dated October 7, 2020

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Remedial Bureau C 625 Broadway, 11th Floor, Albany, NY 12233-7014 P: (518) 402-9662 I F: (518) 402-9679 www.dec.ny.gov

October 7th, 2020

Mr. Donald Campbell Project Manager National Grid Greenpoint Energy Center 287 Maspeth Avenue Brooklyn, NY 11211

> Re: Former Dangman Park MGP Site OU-2 Supplemental Investigation Site ID No. 224047 Brooklyn, New York

Dear Mr. Campbell:

The New York State Department of Environmental Conservation (Department) is writing as a follow up to the conversations held during a September 11, 2020 conference call between National Grid and the Department regarding the Former Dangman Park Manufactured Gas Plant (MGP) site. As discussed during the call, this letter is being provided to summarize the remaining requirements of the site's remedial program with the goal being to help facilitate future access discussions with the property owner. The needs for the site are summarized below.

The Department is requesting the completion of a supplemental remedial investigation (SRI) on operable unit 2 (OU-2) of the former MGP site. As outlined in previous correspondence, data is specifically needed to evaluate the feasibility of installing coal tar recovery wells. This is particularly important since recovery wells were unable to be installed on operable unit 1 (OU-1) due to areal constraints. Given that coal tar was identified on OU-1 at most locations, along the boundary with OU-2, the potential for recoverable tar in this area is significant. As discussed in the Department's July 10th, 2020 email, it is recommended that the SRI work plan include a provision for the completion of an interim remedial measure (IRM) to install coal tar recovery wells. The recovery wells could be installed at any locations where supported by field observations and/or it has been determined that there is a reasonable expectation for the collection of coal tar.

Please submit for review, a brief SRI work plan to address the investigative needs outlined above. The SRI work plan must be sufficient in scope to delineate the nature and extent of contamination on OU-2. The data collected during the SRI must





also support the development of a comprehensive Feasibility Study (FS) to assess potential remedial cleanups for OU-2 in accordance with Section 4.4(b) of the Department's guidance document, DER-10 Guidance for Site Investigation and Remediation.

I may be contacted at (518) 402-9589 or <u>john.miller@dec.ny.gov</u> with any comments or questions.

Sincerely,

John B. mile

John Miller, P.E. Project Manager

ec: D. Eaton (DER) W. Ryan (National Grid) Arcadis of New York, Inc. One Lincoln Center, 110 West Fayette Street, Suite 300 Syracuse New York 13202 Phone: 315 446 9120 Fax: 315 449 0017 www.arcadis.com