



Consulting Engineers and Scientists

## 2019 Annual Report Site Management Plan

## Nyack Manufactured Gas Plant Site Village of Nyack, Rockland County, New York

NYSDEC Site Number: 344046 Index # D3-001-98-08

Prepared For: Orange and Rockland Utilities, Inc. 390 West Route 59 Spring Valley, NY 10977

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August 20, 2019 Project 1902925



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## **Engineer's Certification**

I, <u>Daniel Kopcow</u>, <u>P.E.</u>, certify that I am currently a NYS registered professional engineer as defined in 6 NYCRR Part 375, and that this Annual Report was prepared in accordance with the Site Management Plan (SMP) for the Nyack Former Manufactured Gas Plant (MGP) site, and all applicable statutes and regulations, and in substantial conformance with the New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation (DER) Technical Guidance for Site Investigation and Remediation (DER-10).



Engineer's Seal GEI Consultants, Inc., P.C. 8/20/2019 Date

It is a violation of Article 145 of New York State Education Law for any person to alter this document in any way without the express written verification of adoption by any New York State licensed engineer in accordance with Section 7209(2), Article 145, New York State Education Law.

## **Table of Contents**

Eng	ineer's	Certification	i
1.	Intro	duction	1
	1.1	General	1
	1.2	Site Location and Description	1
2.	2019	SMP Field Activities and Results	4
	2.1	SMP Implementation Work Plan	4
	2.2	Reconnaissance and Observed Well Conditions	4
	2.3	NAPL Monitoring and Removal	5
	2.4	Groundwater Elevation Monitoring	5
	2.5	Groundwater Sampling	5
		2.5.1 Groundwater Analyses and Results	5
	2.6	Soil Vapor Intrusion	6
3.	Envii	ronmental Controls / Institutional Controls and Site Inspection	7
	3.1	General	7
	3.2	Engineering Controls	7
		3.2.1 Cover System Monitoring	7
		3.2.2 Storm Sewer and Water Service	7
	3.3	Shoreline Area	7
	3.4	Off-shore Area	8
	3.5	Institutional Controls	8
4.	Cond	lusions	9
	4.1	2019 SMP Annual Report Conclusions	9
	4.2	2020 SMP Implementation	9
5.	Refe	rences	11

#### Photographic Record

#### Tables

- 1. Monitoring Well and Sample Summary
- 2. SMP Post-Remedial (2015-2019) NAPL Gauging and Removal Summary
- 3. 2015 2019 Groundwater Sample Results

#### **Figures**

- 1. Site Location Map
- 2. Site Plan
- 3. Remedial Areas
- 4. Well Abandonment, Well Installation and Groundwater Sampling Summary
- 5. Baseline and Post-Remedial Groundwater Results
- 6. Soil Cover Areas

#### Appendices

- A. Laboratory Chain-of-Custody Record and Form I Reports
- B. 2019 SMP Annual Inspection Form

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## 1. Introduction

This Site Management Plan (SMP) Annual Report for monitoring and inspection is required as an element of the post-remedial program at the Nyack Former Manufactured Gas Plant (MGP) site under the New York State Inactive Hazardous Waste Disposal Site Remedial Program administered by the New York State Department of Environmental Conservation (NYSDEC). The site was remediated in accordance with Order on Consent Index # D3-0001-98-08, Site #344046, which was executed on March 11, 1999.

## 1.1 General

Orange and Rockland Utilities, Inc. (O&R) entered into the above-referenced Order on Consent with the NYSDEC to remediate the former Nyack MGP site located along Gedney Street in the Village of Nyack, Rockland County, New York. The Order on Consent required the Remedial Party (O&R) to investigate and remediate impacted media at the site.

The remediation of the site has been performed, and the NYSDEC has approved the Final Engineering Report (FER) (GEI, 2016a). Also approved by the NYSDEC was the SMP prepared by GEI in April 2016 (GEI, 2016b).

The SMP identifies the required post-remedial tasks, including: non-aqueous phase liquid (NAPL) gauging (and removal if identified), annual groundwater sampling, and an annual inspection of post-remedial engineering controls.

In 2017, the ownership of the site changed to TZ Vista LLC ("TZ Vista"). TZ Vista is redeveloping the MGP site, together with the Hudson Vista parcel immediately to the south of the site. From discussions with the new Site Owner, it is GEI's understanding that TZ Vista's construction of the new residential and commercial facility will likely take place over a two-year period. Phase 1 construction includes construction activities predominately on the Hudson Vista parcel and was scheduled for 2019; however, it was observed that the construction has been delayed at the time of the 2019 site inspection with the exception of site mowing. Phase 2 construction is planned for the MGP site, following completion of the Phase 1 activities. It is GEI's understanding that the Site Owner is corresponding directly with the NYSDEC Division of Environmental Remediation (DER) regarding some of the elements identified in the MGP site SMP which are not the responsibility of the Remedial Party (O&R). Several of these elements are further discussed below.

## 1.2 Site Location and Description

The location of the site is shown on Figure 1. The current site plan is shown on Figure 2. The site was divided into two operable units (OUs) by the NYSDEC, for implementation of the remedy (NYSDEC, 2011). The operable units include:

- <u>OU1</u> The portion of the site above the 100-year flood line, including the Hudson Vista Associates Parcel lower parking lot.
- <u>OU2</u> Land below the 100-year flood line, and above the mean high water mark of the Hudson River, and the Hudson River sediment which was impacted by MGP site-related residuals.

The remedial areas of the site located within the operable units are shown on Figure 3.

#### Eastern Parcel

The street address of the area of the former MGP operations is 55 Gedney Street, Nyack, New York (the "Eastern Parcel"). The Tax ID for the Eastern Parcel is 66.39-01-01.

The Eastern Parcel occupies an approximately 4-acre area in total, which includes about 2.17 acres of land, and 1.8 acres of submerged land in the Hudson River. It is bounded by the Nyack Boat Club to the north, the Hudson Vista Parcel to the south, the Hudson River to the east, and Gedney Street to the west.

The Eastern Parcel consists of an upper area along Gedney Street (the "Upper Terrace") separated by a steep slope from a lower area along the Hudson River (the "Lower Terrace").

Impacted soil and former MGP subsurface foundations in the Upper Terrace were addressed by excavation and off-site disposal. MGP-related constituents of concern (COC) remain in groundwater in the bedrock unit that is present approximately 20 feet below the ground surface of the Upper Terrace Area. A soil cover system was installed during implementation of the remedy in the Upper Terrace.

Impacted soil in the Lower Terrace and the Shoreline Area along the Hudson River were addressed by in-situ solidification (ISS). MGP-related COC remain in these areas; however, the ISS process has created a low permeability mass which has encapsulated the COC, which eliminates the potential for further NAPL mobility and continued contaminant migration to groundwater or the river. A soil cover system was installed during implementation of the remedy in the Lower Terrace. Riprap was installed to protect the shoreline from erosion for the Shoreline Area.

The Eastern Parcel is fenced to prevent trespassing. The Eastern Parcel, including the shoreline and off-shore portion of the Eastern Parcel, is subject to control under this SMP, as shown on Figure 3. It is GEI's understanding that the Eastern Parcel will be redeveloped as a residential / commercial facility by the Site Owner.

#### Western Parcel

A single gas holder was formerly located on the parking lot parcel to the west of the Eastern Parcel (across Gedney Street). The Western Parcel has a Tax ID of 66.38-02-14, and a street address of 26 Lydecker Street, Nyack, New York. The absence of MGP-related impact at the Western Parcel was demonstrated during the Remedial Investigation (RI), and remedial activities were not required for this parcel. 2019 SMP activities have not been required at the Western Parcel.

#### <u>Hudson Vista</u>

Impacted soil in the lower parking lot area of the Hudson Vista Parcel located immediately south of the Lower Terrace of the Eastern Parcel has been remediated through ISS of soils as a part of the OU1 remedial action. MGP-related COC remain in the subsurface of this area; however, the ISS process has encapsulated the COC within a low permeability mass. The ISS process eliminates the treated area as a source for future groundwater impact. The cover system in the Hudson Vista remedial area consists of the parking lot pavement, which was restored following the remedial action. The Hudson Vista Parcel's lower parking lot area is considered an off-site area, but is subject to the requirements of the SMP because MGP-related COC remain within the solidified soils in subsurface in parking lot area.

## 2. 2019 SMP Field Activities and Results

As specified in the SMP, the 2019 field activities required for the site include:

- The assessment of the presence or absence of light phase non-aqueous phase liquid (LNAPL), and dense phase non-aqueous phase liquid (DNAPL) at identified site well locations.
- Groundwater monitoring at identified site well locations.

## 2.1 SMP Implementation Work Plan

To present the proposed scope of work for the 2017 SMP field activities to the NYSDEC, GEI (on behalf of O&R) prepared the work plan document entitled "2017 Site Management Plan Implementation Work Plan, Nyack Former MGP Site, NYSDEC Site # 3-44-046," dated May 16, 2017 (GEI, 2017a). The NYSDEC indicated approval of the work plan in email correspondence to O&R dated July 13, 2017. For 2019, the NAPL gauging and groundwater sampling methods were consistent with the locations identified in the Work Plan and the methods used consistent with those described in the SMP (GEI, 2016b).

## 2.2 Reconnaissance and Observed Well Conditions

Details for the wells at the site are summarized on Table 1, and the well locations are shown on Figure 4. A reconnaissance was performed at the site in June 2018 to confirm the location and condition of each of the monitoring wells identified in the SMP. The conditions observed at each well, and also the activities performed at each location in 2019 are summarized as follows:

- **MW33D** Well and surrounding conditions have not changed since November 2018. The Site Owner has performed excavation work in the area immediately to the south of (within 10 feet of) MW33D, as part of the Hudson Vista Phase 1 Redevelopment (subsurface parking garage) construction. Due to the adjacent excavation, it is no longer safe to access the well, therefore sampling was not performed at this location.
- **MW41** As described in the 2017 and 2018 Annual Reports, it appears the well surface cover was removed by soil placement and grading activities performed in the area before the 2017 inspection. Based on the survey performed in December 2017, the current ground surface is approximately 2 feet lower now than it was at the time of the well installation. Because the well cannot be located, NAPL gauging and groundwater sampling was not performed at this location in 2019.
- MW43 The well was located and sampled in June 2019.

- **MW44** The well was located and gauged in June 2019. A measurable thickness (0.09 feet) of LNAPL was identified at this location. The LNAPL was removed, and a groundwater sample was collected after the well had stabilized for one week.
- **MW45** In December 2017, MW45 was found to be covered by a pile of soil which is estimated at 7-10 feet in height. Therefore, NAPL gauging and groundwater sampling was not possible at this well location in 2017, 2018, and 2019.
- MW46 The well was located, gauged, and sampled in June 2019.
- **MW47** The well was located, gauged, and sampled in June 2019. A trace amount of DNAPL blebs were observed in the monitoring well purge water at this location; however, a measurable thickness of DNAPL was not identified.

## 2.3 NAPL Monitoring and Removal

Table 2 summarizes the NAPL monitoring performed in 2019, and also for the post-remedial monitoring events performed in 2015, 2017, and 2018. For the gauging performed in 2019, only one well (MW44) was found to contain a measurable thickness of LNAPL. As shown on Table 2, the NAPL was removed on June 14, 2019, and a groundwater sample collected approximately a week later on June 25, 2019.

## 2.4 Groundwater Elevation Monitoring

The results of the elevation monitoring performed on June 14, 2019 are provided in Table 1.

The elevation of groundwater (in bedrock) was highest at well MW47 (16.92 feet NAVD88), which was installed along Gedney Street. The elevation of groundwater (overburden) was found to be lowest at MW43 (3.23 feet NAVD88). The difference in elevation across the site was 13.69 feet. The results indicate that, consistent with the results of the RI, that groundwater flow is from the west to the east across the site, towards the Hudson River. The inferred direction of groundwater flow is shown on Figure 4.

## 2.5 Groundwater Sampling

Four wells (MW43, MW44, MW46, and MW47) were purged and sampled on June 25, 2019 according to the methods described in the SMP.

## 2.5.1 Groundwater Analyses and Results

Groundwater samples were analyzed by Test America (TA) Laboratory for benzene, toluene, ethyl benzene and xylenes (BTEX) by EPA Method 8260C, and polycyclic aromatic hydrocarbons (PAHs) by EPA Method 8270D. The results of the analyses are presented in Table 3, and also on chemical summary boxes included on Figure 5. The figure and the table summarize post-remedial data collected from 2015 to 2019. The laboratory chain-of-custody

record and the Form I laboratory report sheets for the 2019 analyses are included in Appendix A.

Data to show potential decreasing or increasing trends for COC at the wells is included in Table 3 and on Figure 5.

- **MW43** Similar concentrations of COC have been detected for the post-remedial sampling events performed at this location.
- **MW44** Concentrations of COC have generally decreased from 2015 with some variability in the results (Table 3). LNAPL continues to be identified at this well location; however, it appears that the LNAPL thickness is decreasing over the monitoring period.
- **MW46** A slight decreasing trend for COC was identified for the sampling performed in 2019.
- **MW47** A decreasing trend for COC was identified at this well location from 2018 to 2019. It is possible that groundwater conditions are continuing to stabilize at this new (2017) bedrock well location.

The annual monitoring required at these well locations will continue to evaluate increasing or decreasing trends for COC in groundwater at the site.

## 2.6 Soil Vapor Intrusion

Post-remedial soil vapor intrusion (SVI) monitoring has not been performed at the site. It is GEI's understanding that the site is being redeveloped by the Site Owner, and the Site Owner will provide the NYSDEC with a Soil Vapor Intrusion Monitoring Plan, and will collect any samples required in the SMP and plan. It is GEI's understanding that the building to be constructed at the site by the Site Owner includes controls to address the potential for vapor intrusion of MGP-related COC to indoor air.

# 3. Environmental Controls / Institutional Controls and Site Inspection

## 3.1 General

Because COC in soil, bedrock, groundwater, and sediment remain in the subsurface of the site, Engineering Controls and Institutional Controls (EC/ICs) are required to protect human health and the environment.

## 3.2 Engineering Controls

The ECs identified in the SMP, and the results of the inspection performed by GEI, are discussed below. The 2019 SMP Annual Inspection Form is included in Appendix B.

## 3.2.1 Cover System Monitoring

An annual site inspection was performed on July 25, 2019 to observe the condition of the cover systems at: the Upper Terrace, the ISS mass in the Lower Terrace, and the ISS area on the Hudson Vista Associates Parcel. The locations of each of these remedial areas are shown on Figure 6. Photographs taken during the site inspection are included in the Photographic Record.

As indicated in the site inspection form, the cover system in each of the identified remedial areas remains in place, and continues to be effective at preventing direct exposure to COC present in the subsurface.

## 3.2.2 Storm Sewer and Water Service

Two site utilities were discussed in the 2016 SMP document. An underground Village of Nyack storm sewer line is present near the southern property line of the Eastern Parcel, terminating at an outfall on the Hudson Vista Associates Parcel. A Village of Nyack water line is present at the fire hydrant located at the western side of the Eastern Parcel. These features were observed to be present, and not disturbed at the time of the July 25, 2019 site inspection.

## 3.3 Shoreline Area

Along the Lower Terrace shoreline, the ISS materials are protected from contact by site uses and erosion by the installation of riprap during the remedial action, and by the placement of additional riprap at the shoreline by the Site Owner. All riprap areas were observed by GEI to be in good condition. Evidence of movement or undermining was not observed. It is GEI's understanding that the Site Owner plans to install additional shore protection features during redevelopment, and that the Site Owner has proposed the methods and materials to be utilized to the NYSDEC DER.

## 3.4 Off-shore Area

The area off-shore (east) from the Lower Terrace protected shoreline is a mix of sandy and silty native sediments. The sediment has been dredged to elevation -6 to -10 feet in accordance with the Record of Decision (ROD) [NYSDEC, 2011]. As specified in the SMP, to prevent these materials from being exposed at the sediment-water interface, the sediment surface should not be dredged, excavated, or deeply disturbed.

Evidence of dredging, the excavation of sediment, or other activities that may result in the disruption of the sediment remedial area was not observed during the site inspection performed by GEI on July 25, 2019.

## 3.5 Institutional Controls

The Eastern Parcel has a series of ICs in the form of site restrictions. Adherence to these ICs is required by the Environmental Easement. Site restrictions that apply to the Eastern Parcel, as defined in the SMP, are:

- The property may only be used for restricted residential use, commercial use and/or industrial use provided that the long-term Engineering and Institutional Controls included in this SMP are employed.
- The property may not be used for a higher level of use, such as unrestricted residential use without additional remediation and amendment of the Environmental Easement, as approved by the NYSDEC.
- All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with this SMP.
- The use of the groundwater underlying the property is prohibited without treatment rendering it safe for intended use.
- The potential for vapor intrusion must be evaluated for any buildings developed in the area of the site, and potential impacts that are identified must be monitored or mitigated.
- Vegetable gardens and farming on the property are prohibited.

Based on the inspection of the site performed by GEI, and on correspondence with O&R, the Site Owner, and the NYSDEC, the ICs, as identified in the SMP, adhere to the requirements of the Environmental Easement, remain in place, and are effective for OU1 and OU2 of the site. The site remedy continues to be protective of public health and the environment as described in the FER.

## 4. Conclusions

## 4.1 2019 SMP Annual Report Conclusions

Conclusions for this Annual Report are:

- **Site Ownership**: The ownership of the site continues to be TZ Vista LLC. Significant change in site conditions from December 2017, and November 2018 were not observed. Construction for parcel redevelopment appears to have been delayed.
- **Media Monitoring**: Media monitoring tasks identified in the SMP were performed in 2019, including: NAPL gauging and removal, and groundwater sampling.
- **Engineering Controls**: The inspection of the site was performed in 2019, as specified in the SMP.
  - The inspection confirmed the effectiveness of the engineering controls required by the remedial program.
  - The engineering controls employed at the Nyack MGP site are unchanged from the date the control was put in place, or last approved by the NYSDEC. As reported in 2017, additional materials have been added by the Site Owner to the cover areas. No additional materials were added since the inspection performed in November 2018.
- Institutional Controls: Conclusions for the ICs, based on the inspection of the site performed by GEI, and on correspondence with O&R, the Site Owner, and the NYSDEC include:
  - The institutional controls employed at the Nyack MGP site are unchanged from the date the control was put in place, or last approved by the NYSDEC.
  - Nothing has occurred that would impair the ability of the control to protect the public health and environment.
  - Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control.
  - Access to the site will continue to be provided to the NYSDEC to evaluate the remedy, including access to evaluate the continued maintenance of this control.
  - Use of the site is compliant with the environmental easement.

## 4.2 2020 SMP Implementation

The field activities and annual inspection for the implementation of the SMP that are the responsibility of O&R as the Remedial Party will be proposed and implemented in 2020 in consultation with the NYSDEC DER. An updated schedule for the field activities will be

provided to, and discussed with the NYSDEC, following approval of this report by the NYSDEC.

## 5. References

GEI, 2016a. Final Engineering Report, Nyack Manufactured Gas Plant Site, Rockland County, New York, NYSDEC Site Number 344046, May 2016.

GEI, 2016b. Site Management Plan, Nyack Former Manufactured Gas Plant Site, Rockland County, New York, NYSDEC Site Number 344046, April 2016.

GEI, 2017a. 2017 Site Management Plan Implementation Work Plan, Nyack Former MGP Site, NYSDEC Site # 3-44-046, dated May 16, 2017.

GEI, 2017b. 2017 Annual Report, Site Management Plan, Nyack Former Manufactured Gas Plant Site, Village of Nyack, Rockland County, New York, NYSDEC Site Number: 344046, Index # D3-001-98-08, dated March 23, 2018.

GEI, 2018. 2018 Annual Report, Site Management Plan, Nyack Manufactured Gas Plant Site, Village of Nyack, Rockland County, New York, NYSDEC Site Number: 344046, Index # D3-001-98-08, dated December 14, 2018.

NYSDEC, 2004. Record of Decision, Nyack Gas Plant Site Operable Unit No. 1 Former Plant Site, Nyack, Rockland County, New York, Site Number 344046, March 2004.

NYSDEC, 2011. Record of Decision, OR – Nyack, MGP, Operable Unit Number: 02. Nyack, Rockland County, Site No. 344046, March 2011.

2019 Annual Report Site Management Plan Nyack MGP Site

## **Photographic Record**



Company: Orange and Rockland Utilities, Inc. Project: 2019 SMP Inspection, Nyack Former MGP Site



Photo No.:1Photographer:D. KopcowDate:7/25/2019Direction:South

**Comments:** Perimeter Fence at Gedney St.



 Photo No.:
 2

 Photographer:
 D. Kopcow

 Date:
 7/25/2019

 Direction:
 East

**Comments:** 

Perimeter Fence at Gedney Street and Upper Terrace



Company: Orange and Rockland Utilities, Inc. Project: 2019 SMP Inspection, Nyack Former MGP Site



 Photo No.:
 3

 Photographer:
 D. Kopcow

 Date:
 7/25/2019

 Direction:
 South

**Comments:** South Parcel Boundary and Former Hudson Vista Parcel



 Photo No.:
 4

 Photographer:
 D. Kopcow

 Date:
 7/25/2019

 Direction:
 North

**Comments:** Upper Terrace



Company: Orange and Rockland Utilities, Inc. Project: 2019 SMP Inspection, Nyack Former MGP Site



 Photo No.:
 5

 Photographer:
 D. Kopcow

 Date:
 7/25/2019

 Direction:
 East

**Comments:** Lower Terrace and Hudson River Area



 Photo No.:
 6

 Photographer:
 D. Kopcow

 Date:
 7/25/2019

 Direction:
 West

**Comments:** Slope to Lower Terrace



Company: Orange and Rockland Utilities, Inc. Project: 2019 SMP Inspection, Nyack Former MGP Site



 Photo No.:
 7

 Photographer:
 D. Kopcow

 Date:
 7/25/2019

 Direction:
 North

**Comments:** Slope to Lower Terrace



 Photo No.:
 8

 Photographer:
 D. Kopcow

 Date:
 7/25/2019

 Direction:
 North

**Comments:** 

Lower Terrace and Rip Rap Shoreline



Company: Orange and Rockland Utilities, Inc. Project: 2019 SMP Inspection, Nyack Former MGP Site



 Photo No.:
 9

 Photographer:
 D. Kopcow

 Date:
 7/25/2019

 Direction:
 South

**Comments:** Lower Terrace



 Photo No.:
 10

 Photographer:
 D. Kopcow

 Date:
 7/25/2019

 Direction:
 West

**Comments:** Lower Terrace



Company: Orange and Rockland Utilities, Inc. Project: 2019 SMP Inspection, Nyack Former MGP Site



Photo No.:11Photographer:D. KopcowDate:7/25/2019Direction:Northeast

**Comments:** Lower Terrace



 Photo No.:
 12

 Photographer:
 D. Kopcow

 Date:
 7/25/2019

 Direction:
 North

**Comments:** Upper Terrace



Company: Orange and Rockland Utilities, Inc. Project: 2019 SMP Inspection, Nyack Former MGP Site



 Photo No.:
 13

 Photographer:
 D. Kopcow

 Date:
 7/25/2019

 Direction:
 West

**Comments:** Upper Terrace



 Photo No.:
 14

 Photographer:
 D. Kopcow

 Date:
 7/25/2019

 Direction:
 East

**Comments:** MW44 - Upper Terrace 2019 Annual Report Site Management Plan Nyack MGP Site

## Tables

#### **Groundwater Notes:**

#### NYSDEC References:

GW STD - New York Groundwater Guidance or Standard Values - NYSDEC, Division of Water, TOGS (1.1.1) [NYSDEC, 1998], with Addendums.

s = Standard Value

g = Guidance Value

62 Bold value - analyte estimated or detected at a concentration greater than the method detection limit.
 62 Gray Shaded value - analyte estimated or detected at concentration greater than the NYSDEC Groundwater Standard or Guidance Values.

#### Units for groundwater samples:

μg/L = micrograms/Liter = parts per billion mg/L = milligrams/Liter = parts per million

#### Laboratory or Validation Qualifiers:

B = For organics analysis - compound was found in the associated blank sample. For metals analysis - the result is an estimated quantity.

B = For inorganic analysis - analyte detected in the associated method blank.

E = Analyte concentration exceeded the calibration range of the instrument.

F = MS and/or MSD Recovery is outside acceptance limits.

F1 = MS and/or MSD Recovery is outside acceptance limits.

F2 = MS/MSD RPD exceeds control limits.

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

J- = The result is an estimated quantity, likely to be biased low. The associated numerical value is the approximate concentration of the analyte in the sample.

J+ = The result is an estimated quantity, likely to be biased high. The associated numerical value is the approximate concentration of the analyte in the sample.

N = Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling events.

R = The data are unusable. The sample results are rejected due to serious deficiencies in the ability to meet quality control criteria.

U = The analyte was analyzed for, but was not detected above the level reported.

UJ = The analyte was analyzed for, but was not detected. The reported quantitation limit is approximated and may be inaccurate or imprecise.

BW - Analyte detected in the associated method blank and post-digest spike recovery furnace analysis was out of 85-115 percent control limit, while sample absorbance was less than 50 percent of spike absorbance.

BWN - Analyte detected in the associated method blank and post-digest spike recovery furnace analysis was out of 85-115 percent control limit,

while sample absorbance was less than 50 percent of spike absorbance. Analyte is presumptively present.

UW - Not detected at or above the reporting limit shown and post-digest spike recovery furnace analysis was out of 85-115 percent control limit,

while sample absorbance was less than 50 percent of spike absorbance.

JB - Estimated value and the analyte was detected in the associated method blank.

\* = LCS or LCSD is outside acceptance limits.

#### Other Notes:

NA = Not analyzed for, Not applicable

ND = Not detected. Total concentration is listed as ND because no compounds were detected in the group (such as for Total BTEX).

NE = Not established

NL = Not Listed

PAHs - polycyclic aromatic hydrocarbons

SVOCs - semi-volatile organic compounds

TAL - Target Analyte List

TCL - Target Compound List

BTEX and Total PAHs are calculated using detects only. Total VOCs includes all BTEX compounds. Total SVOCs includes all PAH compounds.

# Table 1Monitoring Well and Sample Summary2019 Groundwater Elevation Monitoring Results2019 Laboratory AnalysesNyack MGP Site 2019SMP Annual Report

				Well Co	onstruction Su	ummary					Laboratory A	Laboratory Analyses		
Designation	Rationale / Zone Monitored	Installation Date	Ground Surface Elevation (Feet NAVD88)	Top of PVC Riser Elevation (Feet NAVD88)	Northing (NAD83)	Easting (NAD83)	Screened Interval (Elevation NAVD88)	Comment	Depth to Water 6/14/2019 (Feet)	Water Elevation (Feet NAVD88) 6/14/2019	Sample Depth	втех	NYSDEC 17 PAHs	
						Existing Moni	toring Wells							
MW33D	Groundwater at south site boundary, cross gradient location.	8/31/2004	25.33	25.16	822865.99	653222.97	-0.16 to 15.16	Not accessible for sampling	NM	NM	NA	NA	NA	
MW41	Groundwater at Upper Terrace.	5/19/2008	34.07	33.79	823022.67	653236.45	-0.71 to 14.29	Not accessible for sampling	NM	NM	NA	NA	NA	
MW43	Down gradient groundwater.	5/22/2008	8.60	9.04	823061.51	653448.31	-19.22 to -14.22	NA	5.81	3.23	Center of saturated screened interval	x	x	
MW44	Groundwater at Upper Terrace.	5/20/2008	33.84	33.55	823072.61	653244.4	1.55 to 16.55	NA	24.05	9.50	Center of saturated screened interval	x	x	
MW45	Groundwater at Lower Terrace; down gradient location.	5/23/2008	14.15	13.84	822983.34	653307.75	-13.66 to 1.34	Not accessible for sampling	NM	NM	NA	NA	NA	
MW46	Groundwater at cross gradient location.	12/5/2017	27.00	26.73	823178.96	653260.92	16.0 to 8.0	NA	20.48	6.25	Center of saturated screened interval	x	x	
MW47	Groundwater at site boundary at Gedney Street.	12/6/2017	34.20	33.87	823089.60	653160.11	19.7 to -2.3	NA	16.95	16.92	Center of saturated screened interval	x	x	

NM - Not Measured

NA = Not Applicable

Horizontal Coordinates are New York State Plane, Central Zone, NAD83 North American Datum 1983 (NAD83). Vertical Coordinates are North American Datum 1988 (NAVD88)

## Table 2SMP Post - Remedial [2015-2019] NAPL Gauging and Removal SummaryNyack MGP Site

Well ID						MW41 (Note	1)						
Date	2/27/2015	3/13/2	2015	3/20/20	15	3/27/2	015	4/10/2	015	5/22/2	2015	7/17/2	2015
Before or After NAPL Pump Out	Before Purging	Before Purging	After	Before Purging	After	Before Purging	After	Before Purging	After	Before Purging	After	Before Purging	After
Depth to LNAPL	21.27	NP	NP	NP	NP	NP	NP	20.46	NP	20.70	NP	20.94	NP
Depth to Water	21.29	20.80	20.92	20.31	20.39	20.36	20.54	20.46	20.63	20.71	21.25	20.95	22.42
Depth to DNAPL	*NA	33.66	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Depth to Bottom of Well	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.24	34.24	34.25	34.25
LNAPL thickness	0.02	NP	NP	NP	NP	NP	NP	<0.01	NP	~0.01	NP	~0.01	NP
DNAPL thickness	*NA	0.59	NP	**	NP	**	NP	blebs	NP	Blebs	NP	Blebs	NP

Well ID									MW4	4									
Date	2/27/2015	3/13	8/2015	3/20/201	5	3/27/2	2015	4/10/2	015	5/22/	2015	7/17/	2015	9/20/	2017	11/12	2/2018	6/14/	/2019
Before or After NAPL Pump Out	Before Purging	Before Purging	After	Before Purging	After	Before Purging	After	Before Purging	After	Before Purging	After	Betore Purging	After	Betore Purging	After	Before Purging	After	Before Purging	After
Depth to LNAPL	26.12	25.13	25.41	24.43	NP	24.53	NP	24.59	NP	25.25	NP	25.52	NP	27.44	NP	24.42	24.42	23.96	NP
Depth to Water	27.35	25.23	25.42	24.57	25.21	24.65	25.38	24.69	25.03	25.35	26.05	25.62	28.06	25.94	25.94	24.43	24.43	24.05	24.00
Depth to DNAPL	*NA	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
Depth to Bottom of Well	32.33	32.33	32.33	32.33	32.33	32.33	32.33	32.33	32.33	32.30	32.30	32.30	32.30	32.30	32.30	32.30	32.30	32.25	32.25
LNAPL thickness	1.23	0.10	0.01	0.14	NP	0.12	NP	0.10	NP	~0.10	NP	~0.10	NP	1.50	NP	0.01	NP	0.09	NP
DNAPL thickness	*NA	No Measurable Layer - blebs	No Measurable Layer - blebs	No Measurable Layer - blebs	NP	No Measurable Layer - blebs	NP	No Measurable Layer - blebs	NP	NP	NP	NP	NP	NP	NP	No Measurable Layer - blebs	No Measurable Layer - blebs	No Measurable Layer - blebs	No Measurable Layer - blebs

Well ID		MW	47	
Date	11/12/2	2018	6/14/	2019
Before or After NAPL Pump Out	Before Purging	After	Before Purging	After
Depth to LNAPL	NP	NP	NP	NA
Depth to Water	17.1	17.1	16.95	NA
Depth to DNAPL	38	NP	NP	NA
Depth to Bottom of Well	38.0	38.0	37.98	NA
LNAPL thickness	NP	NP	NP	NA
DNAPL thickness	No Measurable Layer - blebs	No Measurable Layer - blebs	No Measurable Layer - blebs	NA

All depths and measurements of NAPL thickness are in feet. NP = Not Present

Note 1: Well MW41 could not be located in 2017 or 2018, or 2019.

# Table 32015-2019 Nyack SMPGroundwater Monitoring Results

	Sample Name	MW33D	MW33D	MW41	MW43	MW43	MW43	MW43	MW44	MW44	MW44	MW44	MW45	MW46	MW46	MW46	MW47	MW47	MW47
	Sample Date	7/17/2015	9/19/2017	2/27/2015	2/27/2015	9/19/2017	11/19/2018	6/25/2019	2/27/2015	12/20/2017	11/19/2018	6/25/2019	2/27/2015	12/20/2017	11/19/2018	6/25/2019	12/20/2017	11/19/2018	6/25/2019
Analyte	CAS No.																		
BTEX ug/L																			
Benzene	71-43-2	1.6	15	2000	7.6	7.3	4.8	6.1	8900	1300	2800	2600	1	5900	1900	610	410	360 F1	49 J
Toluene	108-88-3	1 U	3.1	59	0.52 J	0.51 J	1 U	0.49 J	460 J	32	130 U	57 J	0.2 U	8.3	130 U	130 U	390	360 F1	50 U
Ethylbenzene	100-41-4	0.48	50	1500	2.1	1.3	0.8 J	1.4	35200	790	1400	5500	1.4	650	310	110 J	290	850 F1	96
Total Xylene	1330-20-7	2.3	33	1190	1.47	0.83 J	2 U	2 U	36200	700	1400	4300	0.26	790	230 J	250 U	540	1400 F1	55 J
Total BTEX	NA	4.38	101.1	4749	11.69	9.94	5.6	7.99	80760	2822	5600	12457	2.66	7348.3	2440	720	1630	2970	200
NYSDEC PAH17 ug/L																			
Acenaphthene	83-32-9	10.1 U	39	620 JD	3.3 J	1.8 U	1.9 U	1.8 U	22400 D	130	220	12000	1.2 U	37	47	29	47	1400	69
Acenaphthylene	208-96-8	10.1 U	1.4 J	98.2 JD	1.2 U	1.8 U	1.9 U	1.8 U	5700	26	29	1600	1.2 U	4	4.5	2.2	21	510	13
Anthracene	120-12-7	10.1 U	6.6	310 D	1.2 U	1.8 U	1.9 U	1.8 U	15100 JD	69	91	8100	1.2 U	5.3	4.5	3.4	7.3	1200	20
Benzo(a)anthracene	56-55-3	10.1 U	3	210 D	1.2 U	1.8 U	1.9 U	1.8 U	9700 D	74	89	5500	1.2 U	1.3 J	1.8 U	1.9 U	2.2	910	11
Benzo(b)fluoranthene	205-99-2	10.1 U	1.3 J	140 D	1.2 U	1.8 U	1.9 U	1.8 U	9300	44	53	3000	1.2 U	1.9 U	1.8 U	1.9 U	1 J	580	6.2
Benzo(k)fluoranthene	207-08-9	10.1 U	1.8 U	120	1.2 U	1.8 U	1.9 U	1.8 U	1700	17	14	1400	1.2 U	1.9 U	1.8 U	1.9 U	1.9 U	180	2.5
Benzo(g,h,i)perylene	191-24-2	10.1 U	0.81 J	180	1.2 U	1.8 U	1.9 U	1.8 U	4500	28	35	1700	1.2 U	1.9 U	1.8 U	1.9 U	0.84 J	450	4.2
Benzo(a)pyrene	50-32-8	10.1 U	1.8	160 D	1.2 U	1.8 U	1.9 U	1.8 U	10200	58	68	4300	1.2 U	1.9 U	1.8 U	1.9 U	1.6 J	820	8.6
Chrysene	218-01-9	10.1 U	2.4	170 D	1.2 U	1.8 U	1.9 U	1.8 U	10200	69	75	5200	1.2 U	1.1 J	1.8 U	1.9 U	1.6 J	790	9.5
Dibenz(a,h)anthracene	53-70-3	10.1 U	1.8 U	46.4	1.2 U	1.8 U	1.9 U	1.8 U	1000 J	1.9 U	7.4	440 U	1.2 U	1.9 U	1.8 U	1.9 U	1.9 U	86	1.9 U
Fluoranthene	206-44-0	10.1 U	6.7	360 D	1.2 U	1.8 U	1.9 U	1.8 U	16400 D	140	140	9800	1.2 U	3.4	1.9	2.3	5.7	1700	23
Fluorene	86-73-7	10.1 U	13	340 D	1.2 U	1.8 U	1.9 U	1.8 U	19600 JD	77	120	7900	1.2 U	16	18	11	23	1300	30
Indeno(1,2,3-cd)pyrene	193-39-5	10.1 U	1.8 U	160	1.2 U	1.8 U	1.9 U	1.8 U	2900	18	22	1100	1.2 U	1.9 U	1.8 U	1.9 U	1.9 U	270	2.8
2-Methylnaphthalene	91-57-6	10.1 U	1.8 U	1100 JD	1.2 U	1.8 U	1.9 U	1.8 U	45000 D	190	510	26000	1.2 U	100	120	22	110	2300	23
Naphthalene	91-20-3	10.1 U	19	4500 D	1.2 U	2.7	1.6 J	1.8 U	167900 D	1300	4000	64000	5 J	1100	1200	140	2100	6700	140
Phenanthrene	85-01-8	10.1 U	27	1000 JD	1.2 U	1.8 U	1.9 U	1.8 U	42900 D	300	390	27000	1.2 U	24	25	13	36	4500	64
Pyrene	129-00-0	10.1 U	10	560 D	1.2 U	1.8 U	1.9 U	1.8 U	28500 JD	170	220	16000	1.2 U	4.6	2.6	3.4	7.8	3000	43
Total PAH (17)	NA	ND	132.01	10074.6	3.3	2.7	1.6	ND	413000	2710	6083.4	194600	5	1296.7	1423.5	226.3	2365.04	26696	469.8

2019 Annual Report Site Management Plan Nyack MGP Site

## Figures



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1	LEGEND:	
		PROJECT LIMIT
		PROPERTY LINE
Ņ	$\oplus$	MONITORING WELL
	U	THE RESULT WAS NOT DETECTED ABOVE THE REPORTING LIMIT
•	J	THE RESULT IS AN ESTIMATED VALUE
	D	THE REPORTED VALUE IS FROM A SECONDARY ANALYSIS WITH A DILUTION FACTOR
	NA	NOT ANALYZED
	ND	NOT DETECTED
	NE	NOT ESTABLISHED
	NS	NOT SAMPLED
	BOLD	BOLD FONT INDICATES DETECTED COMPOUND
	μg/L	MICROGRAMS PER LITER OR PARTS PER BILLION (PPB)

V41	MW41	MW41	
2017	11/19/2018	6/25/2019	
IS	NS	NS	
JA	NS	NS	
IS	NS	NS	
JA	NA	NA	

MW43	M\\//43	M\///3	M/M/42
-	10100-00	1010/43	1010043
2/2015	9/2017	11/19/2018	6/25/2019
7.6	7.3	4.8	6.1
0.520 J	1.3	0.8 J	1.4
2.100	0.51 J	ND	0.49 J
1.470	0.83 J	ND	ND
11.69	9.94	5.6	7.99
3.30 J	ND	ND	ND
ND	ND	ND	ND
ND	ND	ND	ND
ND	ND	ND	ND
ND	ND	ND	ND
ND	ND	ND	ND
ND	ND	ND	ND
ND	ND	ND	ND
ND	ND	ND	ND
ND	ND	ND	ND
ND	ND	ND	ND
ND	ND	ND	ND
ND	ND	ND	ND
ND	ND	ND	ND
ND	2.7	1.6 J	ND
ND	ND	ND	ND
ND	ND	ND	ND
3.30 J	2.7	1.6	ND
	2/2015 7.6 0.520 J 2.100 1.470 ND ND ND ND ND ND ND ND ND ND ND ND ND	2/2015         9/2017           7.6         7.3           7.6         7.3           7.6         7.3           7.6         7.3           7.6         7.3           7.70         0.83           1.470         0.83           1.69         9.94           3.30         ND           ND         ND      <	2/2015         9/2017         11/19/2018           7.6         7.3         4.8           7.6         7.3         0.8 J           2.100         0.51 J         ND           2.100         0.51 J         ND           1.470         0.83 J         ND           11.69         9.94         5.6           3.30 J         ND         ND           ND         ND         ND



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2019 Annual Report Site Management Plan Nyack MGP Site

## Appendix A

Laboratory Chain-of-Custody Record and Form I Reports

TestAmerica Pittsburgh			(	1							TestA	merica
Pittsburgh, PA 15238 Phone (412) 963-7058 Fax (412) 963-2468	5	nain c	DT CUSI	tody K	ecord						THE LEADER IN	ENVIRONMENTAL TESTING
Client Information	Sampler SL	lende		Lab Ph Dunia	h: p. David A			Carrier	Tracking No(s):		COC No: 180-47637-10	107.1
Client Contact: James Edwards	Phone:			E-Mail	dunlan@tec	tamericainc	mon				Page: Page 1 of 1	
Company:								-			Job #:	
GEI Consultants, Inc.						<	nalysis R	request	ed			
Address: 1301 Trumansburg Road Suite N	Due Date Requeste	ä									Preservation C	odes: M - Hevene
City: Ithaca	TAT Requested (da	ys):				_					B - NaOH C - Zn Acetate	N - None 0 - AsNaO2
State, Zip: NY , 14850	1										D - Nitric Acid E - NaHSO4	P - Na204S Q - Na2SO3
Phone:	Po #: Purchase Order	not required			(0	əu					F - MeOH G - Amchlor H - Ascorbic Acid	R - Na2S203 S - H2SO4 T - TSP Dodecahvdrate
Email: jedwards@geiconsultants.com	:# OM				NO)	əleriiri				il2	I - Ice J - DI Water	U - Acetone V - MCAA
Project Name: 1902925-1.1, Nyack	Project #: 18016296				ie (Ye	deulýň				ənistn	K - EDTA L - EDA	W - pH 4-5 Z - other (specify)
Site:	SSOW#:				X A) QS	təm-S				01 COI	Other:	
		Samula	Sample Type	Matrix (w=water, s=solid,	C_LL - BTE orm MS/M	& 2HA9 - 0				il <b>N</b> umber		
Sample Identification	Sample Date	Time	G=grab)	O=waste/oil, 3T=Tissue, A=Air)	8260 Pert	8520				stoT	Special	Instructions/Note:
		X	Preservat	ion Code:	XA	7						
MW43	6/25/19	1535	5	Water	人	X						
MVV44	į	1430	G	Water	L	×						
MW46		1330	Q	Water	X	K						
MW47	1/,	1220	3	Water	d	x	_					
	Ŵ			Water		X						
TRIP BLANK(06252er ?)				Water	X							
									180-918	44 Chain o	of Custody	
Possible Hazard Identification	son B	NWN R	adiological		Sample	Disposal ( 4 turn To Clie	fee may b nt	e assess	<b>ed if sample</b> s al By Lab	s are retain	ed longer than live For	1 month) Months
Deliverable Requested: I, II, III, IV, Other (specify)					Special I	nstructions/C	C Requirer	nents:				
Empty Kit Relinquished by:		Date:			Time:			Γ	Method of Shipme	ent:		
Relindolateraty	Date/Time:	1230	~	Company CE/	Receiv	Ad by:			Date	6 hul	14 92	Company
Relinquished by:	Date/Time:			Company	Receiv	/ed by:			Date	Time:		Company
Relinquished by:	Date/Time:			Company	Recei	/ed by:			Date/	Time:		Company
Custody Seals Intact: Custody Seal No.: A Yes A No					Coole	Temperature	s) °C and Othe	r Remarks:				
												Ver: 08/04/2016

ø

#### Method: EPA 8260C - Volatile Organic Compounds (GC/MS)

Client Sample ID: MW43 Date Collected: 06/25/19 15:35 Date Received: 06/26/19 09:00							Lab Sa	mple ID: 180-9 Matrix	)1844-1 : Water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	6.1		1.0	0.60	ug/L			07/03/19 18:01	1
Ethylbenzene	1.4		1.0	0.51	ug/L			07/03/19 18:01	1
Toluene	0.49	J	1.0	0.46	ug/L			07/03/19 18:01	1
Xylenes, Total	ND		2.0	0.89	ug/L			07/03/19 18:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		64 - 123			2		07/03/19 18:01	1
Dibromofluoromethane (Surr)	102		75-147					07/03/19 18:01	1
1,2-Dichloroethane-d4 (Surr)	106		70 - 150				t	07/03/19 18:01	1
Toluene-d8 (Surr)	99		78-128					07/03/19 18:01	1

#### Method: EPA 8270D - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: MW43 Date Collected: 06/25/19 15:35 Date Received: 06/26/19 09:00	i						Lab San	nple ID: 180-9 Matrix	1844-1 : Water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		1.8	0.63	ug/L		06/28/19 10:52	07/02/19 22:41	1
Acenaphthylene	ND		1.8	0.63	ug/L		06/28/19 10:52	07/02/19 22:41	1
Anthracene	ND		1.8	0.47	ug/L		06/28/19 10:52	07/02/19 22:41	1
Benzo[a]anthracene	ND		1.8	0.72	ug/L		06/28/19 10:52	07/02/19 22:41	1
Benzo[a]pyrene	ND		1.8	0.51	ug/L		06/28/19 10:52	07/02/19 22:41	1
Benzo[b]fluoranthene	ND		1.8	0.93	ug/L		06/28/19 10:52	07/02/19 22:41	1
Benzo[g,h,i]perylene	ND		1.8	0.66	ug/L		06/28/19 10:52	07/02/19 22:41	1
Benzo[k]fluoranthene	ND		1.8	0.85	ug/L		06/28/19 10:52	07/02/19 22:41	1
Chrysene	ND		1.8	0.78	ug/L		06/28/19 10:52	07/02/19 22:41	1
Dibenz(a,h)anthracene	ND		1.8	0.69	ug/L		06/28/19 10:52	07/02/19 22:41	1
Fluoranthene	ND		1.8	0.58	ug/L		06/28/19 10:52	07/02/19 22:41	1
Fluorene	ND		1.8	0.66	ug/L		06/28/19 10:52	07/02/19 22:41	1
Indeno[1,2,3-cd]pyrene	ND		1.8	0.82	ug/L		06/28/19 10:52	07/02/19 22:41	1
2-Methylnaphthalene	ND		1.8	0.60	ug/L		06/28/19 10:52	07/02/19 22:41	1
Naphthalene	ND		1.8	0.57	ug/L		06/28/19 10:52	07/02/19 22:41	1
Phenanthrene	ND		1.8	0.53	ug/L		06/28/19 10:52	07/02/19 22:41	1
Pyrene	ND		1.8	0.52	ug/L		06/28/19 10:52	07/02/19 22:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	79		37 - 105				06/28/19 10:52	07/02/19 22:41	1
Nitrobenzene-d5 (Surr)	101		38 - 105				06/28/19 10:52	07/02/19 22:41	1
Terphenyl-d14 (Surr)	57		21 - 119				06/28/19 10:52	07/02/19 22:41	1

#### Method: EPA 8260C - Volatile Organic Compounds (GC/MS)

Client Sample ID: MW44 Date Collected: 06/25/19 14:30 Date Received: 06/26/19 09:00							Lab Sa	mple ID: 180-9 Matrix:	1844-2 Water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	2600		130	75	ug/L			07/03/19 18:29	125
Ethylbenzene	5500		130	63	ug/L			07/03/19 18:29	125
Toluene	57	J	130	57	ug/L			07/03/19 18:29	125
Xylenes, Total	4300		250	110	ug/L			07/03/19 18:29	125
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		64 - 123					07/03/19 18:29	125
Dibromofluoromethane (Surr)	103		75-147					07/03/19 18:29	125
1,2-Dichloroethane-d4 (Surr)	105		70 - 150					07/03/19 18:29	125
Toluene-d8 (Surr)	102	n - 17 - 17 - 17	78 - 128					07/03/19 18:29	125

#### Method: EPA 8270D - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: MW44 Date Collected: 06/25/19 14:30 Date Received: 06/26/19 09:00							Lab San	nple ID: 180-9 Matrix:	1844-2 : Water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	12000		440	150	ug/L		06/28/19 10:52	07/02/19 23:33	250
Acenaphthylene	1600		440	150	ug/L		06/28/19 10:52	07/02/19 23:33	250
Anthracene	8100		440	110	ug/L		06/28/19 10:52	07/02/19 23:33	250
Benzo[a]anthracene	5500		440	170	ug/L		06/28/19 10:52	07/02/19 23:33	250
Benzo[a]pyrene	4300		440	120	ug/L		06/28/19 10:52	07/02/19 23:33	250
Benzo[b]fluoranthene	3000		440	220	ug/L		06/28/19 10:52	07/02/19 23:33	250
Benzo[g,h,i]perylene	1700		440	160	ug/L		06/28/19 10:52	07/02/19 23:33	250
Benzo[k]fluoranthene	1400		440	200	ug/L		06/28/19 10:52	07/02/19 23:33	250
Chrysene	5200		440	190	ug/L		06/28/19 10:52	07/02/19 23:33	250
Dibenz(a,h)anthracene	ND		440	170	ug/L		06/28/19 10:52	07/02/19 23:33	250
Fluoranthene	9800		440	140	ug/L		06/28/19 10:52	07/02/19 23:33	250
Fluorene	7900		440	/ 160	ug/L		06/28/19 10:52	07/02/19 23:33	250
Indeno[1,2,3-cd]pyrene	1100		440	200	ug/L		06/28/19 10:52	07/02/19 23:33	250
2-Methylnaphthalene	26000		440	140	ug/L		06/28/19 10:52	07/02/19 23:33	250
Naphthalene	64000		440	140	ug/L		06/28/19 10:52	07/02/19 23:33	250
Phenanthrene	27000		440	130	ug/L		06/28/19 10:52	07/02/19 23:33	250
Pyrene	16000		440	130	ug/L	25	06/28/19 10:52	07/02/19 23:33	250
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	0	DX	37 - 105				06/28/19 10:52	07/02/19 23:33	250
Nitrobenzene-d5 (Surr)	0	DX	38 - 105				06/28/19 10:52	07/02/19 23:33	250
Terphenyl-d14 (Surr)	0	DX	21-119				06/28/19 10:52	07/02/19 23:33	250

#### Method: EPA 8260C - Volatile Organic Compounds (GC/MS)

Client Sample ID: MW46 Date Collected: 06/25/19 13:30 Date Received: 06/26/19 09:00							Lab Sa	mple ID: 180-9 Matrix:	1844-3 Water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	610		130	75	ug/L			07/03/19 18:57	125
Ethylbenzene	110	J	130	63	ug/L			07/03/19 18:57	125
Toluene	ND		130	57	ug/L			07/03/19 18:57	125
Xylenes, Total	ND		250	110	ug/L			07/03/19 18:57	125
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		64 - 123					07/03/19 18:57	125
Dibromofluoromethane (Surr)	97		75-147					07/03/19 18:57	125
1,2-Dichloroethane-d4 (Surr)	106		70 - 150					07/03/19 18:57	125
Toluene-dθ (Surr)	98		78-128					07/03/19 18:57	125

Client: GEI Consultants, Inc. Project/Site: 1902925-1.1, Nyack

#### Method: EPA 8270D - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: MW46 Date Collected: 06/25/19 13:30 Date Received: 06/26/19 09:00	) <sub>at</sub>						Lab Sample ID: 180-91844-3 Matrix: Water		
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	29		1.9	0.65	ug/L		06/28/19 10:52	07/03/19 11:39	1
Acenaphthylene	2.2		1.9	0.65	ug/L		06/28/19 10:52	07/03/19 11:39	1
Anthracene	3.4		1.9	0.49	ug/L		06/28/19 10:52	07/03/19 11:39	া
Benzo[a]anthracene	ND		1.9	0.75	ug/L		06/28/19 10:52	07/03/19 11:39	1
Benzo[a]pyrene	ND		1.9	0.53	ug/L		06/28/19 10:52	07/03/19 11:39	1
Benzo[b]fluoranthene	ND		1.9	0.97	ug/L		06/28/19 10:52	07/03/19 11:39	1
Benzo[g,h,i]perylene	ND		1.9	0.69	ug/L		06/28/19 10:52	07/03/19 11:39	1
Benzo[k]fluoranthene	ND		1.9	0.88	ug/L		06/28/19 10:52	07/03/19 11:39	1
Chrysene	ND		1.9	0.81	ug/L		06/28/19 10:52	07/03/19 11:39	1
Dibenz(a,h)anthracene	ND		1.9	0.72	ug/L		06/28/19 10:52	07/03/19 11:39	1
Fluoranthene	2.3		1.9	0.60	ug/L		06/28/19 10:52	07/03/19 11:39	1
Fluorene	11		1.9	0.69	ug/L		06/28/19 10:52	07/03/19 11:39	1
Indeno[1,2,3-cd]pyrene	ND		1.9	0.85	ug/L		06/28/19 10:52	07/03/19 11:39	1
2-MethyInaphthalene	22		1.9	0.62	ug/L		06/28/19 10:52	07/03/19 11:39	1
Naphthalene	140		1.9	0.59	ug/L		06/28/19 10:52	07/03/19 11:39	1
Phenanthrene	13		1.9	0.55	ug/L		06/28/19 10:52	07/03/19 11:39	1
Pyrene	3.4		1.9	0.54	ug/L		06/28/19 10:52	07/03/19 11:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	67		37 - 105				06/28/19 10:52	07/03/19 11:39	1
Nitrobenzene-d5 (Surr)	79		38-105				06/28/19 10:52	07/03/19 11:39	1
Terphenvl-d14 (Surr)	88		21-119				06/28/19 10:52	07/03/19 11:39	1

#### Method: EPA 8260C - Volatile Organic Compounds (GC/MS)

Client Sample ID: MW47 Date Collected: 06/25/19 12:20 Date Received: 06/26/19 09:00	I						Lab Sa	mple ID: 180-9 Matrix:	1844-4 : Water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	49	J	50	30	ug/L	_		07/03/19 19:25	50
Ethylbenzene	96		50	25	ug/L			07/03/19 19:25	50
Toluene	ND		50	23	ug/L			07/03/19 19:25	50
Xylenes, Total	55	J	100	45	ug/L			07/03/19 19:25	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		64 - 123			3		07/03/19 19:25	50
Dibromofluoromethane (Surr)	99		75-147					07/03/19 19:25	50
1,2-Dichloroethane-d4 (Surr)	108		70 - 150					07/03/19 19:25	50
Toluene-d8 (Surr)	100		78-128					07/03/19 19:25	50

#### Method: EPA 8270D - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: MW47 Date Collected: 06/25/19 12:20 Date Received: 06/25/19 09:00	)						Lab San	nple ID: 180-9 Matrix:	1844-4 : Water
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	69		1.9	0.65	ug/L		06/28/19 10:52	07/03/19 00:26	1
Acenaphthylene	13		1.9	0.65	ug/L		06/28/19 10:52	07/03/19 00:26	1
Anthracene	20		1.9	0.49	ug/L		06/28/19 10:52	07/03/19 00:26	1
Benzo[a]anthracene	11		1.9	0.75	ug/L		06/28/19 10:52	07/03/19 00:26	1
Benzo[a]pyrene	8.6		1.9	0.53	ug/L		06/28/19 10:52	07/03/19 00:26	1
Benzo[b]fluoranthene	6.2		1.9	0.97	ug/L		06/28/19 10:52	07/03/19 00:26	1
Benzo[g,h,i]perylene	4.2		1.9	0.69	ug/L		06/28/19 10:52	07/03/19 00:26	1
Benzo[k]fluoranthene	2.5		1.9	0.88	ug/L		06/28/19 10:52	07/03/19 00:26	1
Сһгуѕепе	9.5		1.9	0.81	ug/L		06/28/19 10:52	07/03/19 00:26	1
Dibenz(a,h)anthracene	ND		1.9	0.72	ug/L		06/28/19 10:52	07/03/19 00:26	1
Fluoranthene	23		1.9	0.60	ug/L		06/28/19 10:52	07/03/19 00:26	1
Fluorene	30		1.9	0.69	ug/L		06/28/19 10:52	07/03/19 00:26	1
Indeno[1,2,3-cd]pyrene	2.8		1.9	0.85	ug/L		06/28/19 10:52	07/03/19 00:26	1
2-Methylnaphthalene	23		1.9	0.62	ug/L		06/28/19 10:52	07/03/19 00:26	1
Naphthalene	140		1.9	0.59	ug/L		06/28/19 10:52	07/03/19 00:26	1
Phenanthrene	64		1.9	0.55	ug/L		06/28/19 10:52	07/03/19 00:26	1
Pyrene	43		1.9	0.54	ug/L		06/28/19 10:52	07/03/19 00:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	74		37 - 105				06/28/19 10:52	07/03/19 00:26	1
Nitrobenzene-d5 (Surr)	87		38 - 105				06/28/19 10:52	07/03/19 00:26	1
Terphenyl-d14 (Surr)	75		21 - 119				06/28/19 10:52	07/03/19 00:26	1

2019 Annual Report Site Management Plan Nyack MGP Site

## Appendix B

## 2019 SMP Inspection Form

## SITE INSPECTION FORM

## Nyack Former Manufactured Gas Plant Site

SITE INSPECTIO	N DATE:	7-25-19	TIME OF ARRIVAL:	1:45 PM
			DEPARTURE:	2:45 PM
WEATHER:	Sunny, 8	) degrees F		
Orange and Ro	ckland			
Representative	(s):	<u> </u>	lone	
INSPECTION TYP	E:	Ann	ual Inspection or Emergency I	nspection
(if emergency in	ndicate ev	ent that require	d an	
inspection):			Annual SIVI	P inspection for 2019
Engineering cor	itrols – co	ver and site util	ities.	
	_			
Are the Institution	onal Conti	ols in place, pe	rforming properly, and remai	n effective?
				Yes
Does the Site co	omply with	NYSDEC-appro	ved Site Management Plan?	Yes
	<u> </u>			
Has ownership	of the pro	perty changed s	since the last inspection?	No
(Verify with Rea	al Estate a	nd Survey Depa	rtments)	
Owner continue	es to be TZ	. Vista.		
Are there any c	hanges to	intended site us	se (Restricted Residential, Con	nmercial
Or Industrial)				Yes
which would af	fect the SN	MP or institutior	nal controls?	
Yes, the site is p development w unknown. The	blanned to ill be for c schedule f	be developed b ommercial and or developmen	by TZ Vista. It is GEI's understa residential use. The status for t is unknown.	anding that r project approval is
Is site used for	agricultura	al purpose or ve	getable gardens?	Yes /NO

## SITE INSPECTION FORM Nyack Former Manufactured Gas Plant Site

Yes No

Is groundwater used as source of potable or process water onsite	Yes (No)
	<u> </u>
If yes to the above – does water go through the necessary water quality treatmer	nt? NA
Is solidified material visible, or is there any evidence of damage to solidified soil fand wave action?	rom frost
No	
Are the Engineering Controls in place, performing properly, and remain effective	?
Surface Cover Intact (i.e. no evidence of erosion, excavations), including concrete sidewalk and paved street west of the site?	Yes/ No
Engineering control cover remains and has been supplemented with additional cover as documented in the 2017 SMP Annual Report and the attached Photographic Record. The riprap along the shoreline including the Jetty area is intact. The utilities identified in the SMP for the site are intact.	
GENERAL SITE OBSERVATIONS:	
Have there been any changes to the property since the last inspection?	(Yes)/ No
(i.e. new equipment, residential buildings or facilities, changes in site topography etc.)	, erosion,
Site is being developed by TZ Vista. While there does not appear to have been an construction activities at the site since the November 2017 site inspection, constrequipment was mobilized to the site (as shown in the attached photos). Mowing was performed in July 2019. Also, the chain link fence at the entry near the locker rolled back to allow for site entry.	y ortion of the site d gate was
The schedule for property redevelopment is unknown.	

NOTE:

Inspections should be made a minimum once a year and within 5 days of an emergency, such as a natural disaster or an unforeseen failure or damage to the building occurs. Inspections will be conducted by National Grid (or their agent) and results reported to NYSDEC.

COMPLETED BY: Daniel Kopcow, P.E.,	SIGNATURE:	MM
GEI Consultants, Inc. P.C.		