DRAFT

ROUX

MEMORANDUM

Date: June 12, 2020

To:

From:

Cc:

Subject: **Gowanus Green - Phase II ESA Results**
Former Citizen Gas Works Manufactured Gas Plant (C224012)
5th Street and Smith Street, Brooklyn, New York

Roux Environmental Engineering and Geology, D.P.C. (Roux), on behalf of Gowanus Green Partners LLC (Gowanus Green), has prepared this Memorandum to describe results of the Phase II Environmental Site Assessment (Phase II ESA) completed within Parcel I of the above property. The intended future land use is an affordable housing development with a school and a park under a Track 4 remedy cleanup scenario. Gowanus Green will be entering into the existing Brownfield Cleanup Agreement (BCA) as a prospective owner. The Phase II ESA identified additional "Source" area soil contamination that requires remediation under applicable regulations and New York State Department of Environmental Conservation (NYSDEC) practices in areas not being remediated by the current BCA parties. There will also need to be a site cover system and vapor mitigation. The site cover system and vapor mitigation are not expressly provided for in the Decision Document dated April 2007 or in the approved 100% Remedial Design Report that National Grid is currently implementing but presumably was contemplated to be included in the Site Management Plan. The site cover system and any required vapor mitigation will be designed into the development plan building slabs, pavement, and landscaping, as appropriate.

Based on the Phase II ESA sample results, shallow soil (upper two feet) is widely impacted by semivolatile organic compounds (SVOCs) and metals exceeding NYSDEC Restricted Residential Use Soil Cleanup Objectives (SCOs) and will require a two-foot site cover. In addition, soil contamination was detected in the upper five feet of soil outside of National Grid's Parcel I remediation area, at soil boring locations SB-16 (proposed Building C location) and SB-17 (proposed Building S location), exceeding Protection of Groundwater SCOs. Many of these same compounds (i.e., volatile organic compounds [VOCs] and Naphthalene) were found in groundwater at the site. Thus, the soil with exceedances of the same contaminants found in groundwater constitutes "Source" material pursuant to 6 NYCRR 375-1.2(au). The Phase II ESA soil results box map is provided as Attachment 1. Additionally, based on Phase II ESA field observations, "Grossly Contaminated Media" in the form of Non-Aqueous Phase Liquid (NAPL)-related impacts were found within the top eight feet below land surface (bls) at soil boring locations, SB-4, SB-11 and SB-12 (See 6 NYCRR 375-1.2(u)). This material, which was shown by PID to be off-gassing and constituents of which were found in groundwater are additional "Source" material. Additional NAPL-related impacts (blebs, coatings, and/or sheens) were observed on soil and/or groundwater at the water table, at multiple locations (SB-3, SB-4, SB-7, SB-9, SB-11, SB-12, SB-13, SB-15, and SB-16) where groundwater was encountered. Groundwater grab samples were not collected at these locations since the samples would not be representative of dissolved-phase conditions. Soil boring logs are provided as Attachment 2. The Phase II ESA groundwater results box map is provided as Attachment 3. Both the Decision Document and the 100% Remedial Design Plan contemplate the additional remediation under the Site Management Plan of these Source areas to the extent encountered during redevelopment (See Decision Document, Section 6, at page 2), and 100% Remedial Design Report at Section 3.2.1 and page 19.

3320.0001Y111/MR

Several VOCs, including compounds found in coal-tar, were detected in soil vapor samples at three locations (SV-1, SV-3, and SV-4) representative of Site conditions. The source of the VOCs is due to the known soil and groundwater contamination throughout the Site from the operation of the former MGP facility. The Phase II ESA soil vapor results box map is provided as Attachment 4.

Attachments

1. Soil Results
2. Soil Boring Logs
3. Groundwater Results
4. Soil Vapor Results

DRAFT

ATTACHMENTS

1. Soil Results
2. Soil Boring Results
3. Groundwater Results
4. Soil Vapor Results

DRAFT

ATTACHMENT 1

Soil Results

DRAFT

SB-1	03/20/2020	03/20/2020
Depth (ft bls)	0 - 2	2 - 4
VOCs	ND	ND
SVOCs	NE	NE
Metals		
Lead	**115**	NE
Nickel	**38.9**	NE
Zinc	**155**	NE
PCBs	NE	ND
Pesticides and Herbicides		
P,P'-DDT	**0.0116**	NE

SB-2	03/20/2020	03/20/2020
Depth (ft bls)	0 - 2	3.5 - 5.5
VOCs	NE	NE
SVOCs		
Benzo(A)Anthracene	**20**	**1.1**
Benzo(A)Pyrene	**20**	NE
Benzo(B)Fluoranthene	**20**	NE
Benzo(K)Fluoranthene	**5.7**	NE
Chrysene	**24**	**1.2**
Dibenz(A,H)Anthracene	**2.9**	NE
Indeno(1,2,3-C,D)Pyrene	**10**	**0.56**
Metals		
Lead	**415**	NE
Mercury	**0.207**	NE
Nickel	NE	**32**
Zinc	**222**	NE
PCBs	NE	ND
Pesticides and Herbicides	ND	ND

SB-7	03/24/2020	03/24/2020	03/24/2020
Depth (ft bls)	0 - 2	9.5 - 11.5	19 - 21
VOCs			
1,2,4-Trimethylbenzene	ND	ND	**53**
1,3,5-Trimethylbenzene (Mesitylene)	ND	ND	**13**
Acetone	NE	**0.058**	ND
Benzene	ND	ND	**3.5**
Ethylbenzene	ND	ND	**96**
N-Propylbenzene	ND	ND	**7.2**
Xylenes	ND	ND	**53**
SVOCs			
Naphthalene	NE	ND	**48**
Metals			
Lead	NE	**98.9**	NE
Mercury	ND	ND	**0.409**
PCBs	NE	NE	NE
Pesticides and Herbicides			
P,P'-DDE	**0.00412 JP**	**0.00368 IP**	ND
P,P'-DDT	**0.0139 JP**	ND	ND

SB-8	03/24/2020	03/24/2020
Depth (ft bls)	0 - 2	9.5 - 11.5
VOCs	NE	NE
SVOCs	NE	NE
Metals		
Lead	**78.8**	NE
PCBs	ND	ND
Pesticides and Herbicides	ND	ND

SB-17	03/26/2020	03/26/2020
Depth (ft bls)	0 - 2	5 - 7
VOCs		
1,2,4-Trimethylbenzene	NE	**200**
1,3,5-Trimethylbenzene (Mesitylene)	NE	**56**
Benzene	**0.27**	ND
Chloroform	ND	ND
Ethylbenzene	NE	**200**
N-Propylbenzene	NE	**15**
Xylenes	**0.73**	**190**
SVOCs		
Acenaphthene	NE	**47**
Benzo(A)Anthracene	**10**	**29**
Benzo(A)Pyrene	**10**	**22**
Benzo(B)Fluoranthene	**11**	**18**
Benzo(K)Fluoranthene	**2.7**	**5.1**
Chrysene	**11**	**30**
Dibenz(A,H)Anthracene	**1.7**	**3**
Fluorene	NE	**52**
Indeno(1,2,3-C,D)Pyrene	**5.7**	**8.1**
Naphthalene	NE	**630**
Phenanthrene	NE	**110**
Metals		
Copper	**51.3**	NE
Lead	**428**	**179**
Mercury	**1.44**	ND
Zinc	**216**	NE
PCBs	**0.514**	ND
Pesticides and Herbicides	ND	ND

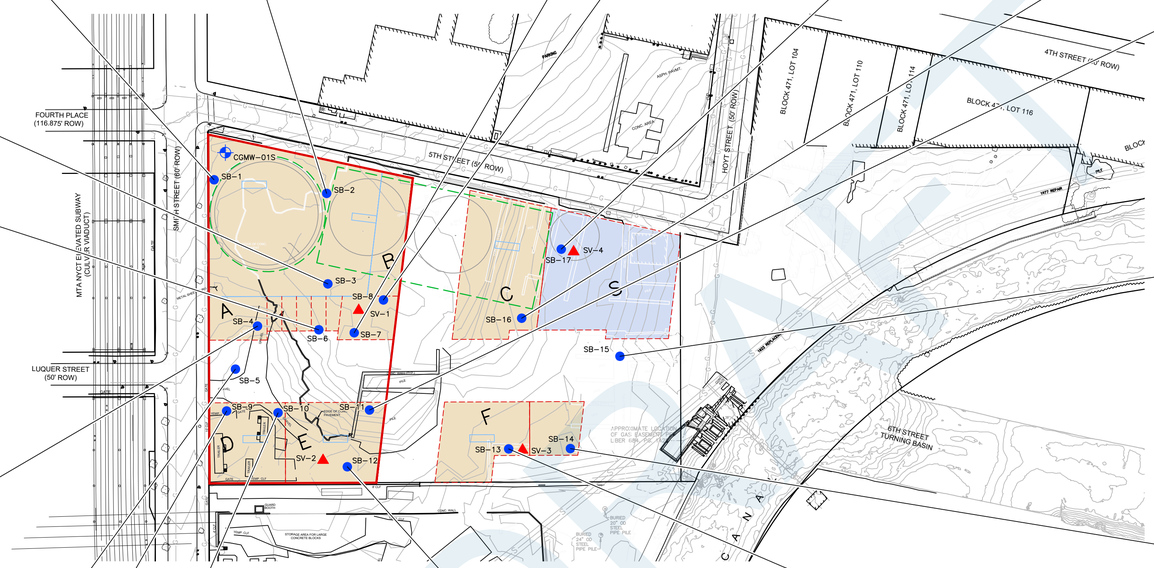
SB-16	03/26/2020	03/26/2020	03/26/2020
Depth (ft bls)	0 - 2	8 - 10	11 - 13
VOCs			
1,2,4-Trimethylbenzene (Mesitylene)	**14**	**29**	**28**
Benzene	**0.29 J**	**0.73 J**	**0.27 J**
Ethylbenzene	**8.8**	**14**	**22**
Xylenes	**10**	**18**	**15**
SVOCs			
Benzo(A)Anthracene	**13**	**16**	**7.7**
Benzo(A)Pyrene	**13**	**20**	**6.6**
Benzo(B)Fluoranthene	**12**	**17**	**5.8**
Benzo(K)Fluoranthene	**3**	**5.1 J**	**1.1 J**
Chrysene	**13**	**14**	**7.4**
Dibenz(A,H)Anthracene	**1.4 J**	**3 J**	**0.74 J**
Indeno(1,2,3-C,D)Pyrene	**6.4**	**12**	**2.8 J**
Naphthalene	**140**	**210**	**100**
Metals			
Copper	**54.6**	**57.8**	NE
Lead	**196**	**368**	NE
Mercury	**0.459**	**0.903**	NE
Zinc	**210**	**295**	NE
PCBs	**1.32**	NE	**0.13**
Pesticides and Herbicides			
P,P'-DDT	**0.0987**	ND	ND

Parameter	NYSDEC Part 375 Unrestricted Use SCO	NYSDEC Part 375 Restricted Residential SCO	NYSDEC Part 375 Protection of Groundwater SCO
VOCs			
1,2,4-Trimethylbenzene	**3.6**	52	3.6
1,3,5-Trimethylbenzene	**8.4**	52	8.4
Acetone	**0.05**	100	0.05
Benzene	**0.06**	4.8	0.06
Chloroform	**0.37**	49	0.37
Ethylbenzene	**1**	41	1
Naphthalene	**12**	100	12
N-Propylbenzene	**3.9**	100	3.9
Toluene	**0.7**	100	0.7
Xylenes	**0.26**	100	1.6
SVOCs			
2-Methylphenol (O-Cresol)	**0.33**	100	0.33
3- And 4- Methylphenol (Total)	**0.33**	100	0.33
Acenaphthene	**20**	100	98
Anthracene	**100**	100	1000
Benzo(A)Anthracene	**1**	1	1
Benzo(A)Pyrene	**1**	1	22
Benzo(B)Fluoranthene	**1**	1	1.7
Benzo(K)Fluoranthene	**0.8**	3.9	1.7
Chrysene	**1**	3.9	1
Dibenz(A,H)Anthracene	**0.33**	0.33	1000
Dibenzofuran	**7**	59	210
Fluoranthene	**100**	100	1000
Fluorene	**30**	100	386
Indeno(1,2,3-C,D)Pyrene	**0.5**	0.5	8.2
Naphthalene	**12**	100	12
Phenanthrene	**100**	100	1000
Phenol	**0.33**	100	0.33
Pyrene	**100**	100	1000
SVOCs			
Arsenic	**13**	16	16
Barium	**350**	400	820
Copper	**50**	270	1720
Lead	**63**	400	450
Mercury	**0.18**	0.81	0.73
Nickel	**30**	310	130
Selenium	**3.9**	180	4
Zinc	**109**	10000	2480
PCBs	**0.1**	1	3.2
Pesticides and Herbicides			
P,P'-DDD	**0.0033**	13	14
P,P'-DDE	**0.0033**	8.9	17
P,P'-DDT	**0.0033**	7.9	136

CONCENTRATIONS IN mg/kg

SB-3	03/20/2020	03/20/2020
Depth (ft bls)	0 - 2	13 - 15
VOCs		
Benzene	ND	**1.4**
Toluene	ND	**1.4**
Xylenes	ND	**0.95**
SVOCs		
Benzo(A)Anthracene	NE	**23**
Benzo(A)Pyrene	NE	**18**
Benzo(B)Fluoranthene	NE	**18**
Benzo(K)Fluoranthene	NE	**5.8**
Chrysene	NE	**22**
Dibenz(A,H)Anthracene	NE	**3.2**
Indeno(1,2,3-C,D)Pyrene	**0.56**	**9.5**
Metals		
Lead	**158**	**611**
Mercury	**0.562**	**0.664**
Zinc	**143**	**111**
PCBs	NE	ND
Pesticides and Herbicides	ND	ND

SB-6	03/24/2020	03/24/2020
Depth (ft bls)	0 - 2	9 - 11
VOCs	ND	NE
SVOCs		
Benzo(A)Anthracene	NE	**6.3**
Benzo(A)Pyrene	NE	**9.8**
Benzo(B)Fluoranthene	NE	**11**
Benzo(K)Fluoranthene	NE	**3.3**
Chrysene	NE	**7**
Dibenz(A,H)Anthracene	NE	**2.3**
Indeno(1,2,3-C,D)Pyrene	NE	**9.4**
Metals		
Copper	NE	**71**
Lead	NE	**213**
Mercury	NE	**0.778**
PCBs	NE	ND
Pesticides and Herbicides		
P,P'-DDD	ND	ND
P,P'-DDE	NE	ND
P,P'-DDT	NE	ND



SB-4	03/20/2020	03/20/2020	03/20/2020
Depth (ft bls)	0 - 2	2 - 4	14 - 16
VOCs	NE	NE	NE
SVOCs			
Benzo(A)Anthracene	**14**	**34**	NE
Benzo(A)Pyrene	**17**	**31**	NE
Benzo(B)Fluoranthene	**20**	**39**	NE
Benzo(K)Fluoranthene	**6.4**	**10**	ND
Chrysene	**13**	**33**	NE
Dibenz(A,H)Anthracene	**2.4**	**5**	ND
Indeno(1,2,3-C,D)Pyrene	**10**	**18**	ND
Metals			
Copper	NE	**74.7**	NE
Lead	**184**	**172**	NE
Mercury	**2.88**	**0.789**	ND
PCBs	ND	ND	ND
Pesticides and Herbicides	ND	ND	ND

SB-5	03/20/2020	3/20/20	3/20/20
Depth (ft bls)	0 - 2	5 - 7	5 - 7
VOCs			
Benzene	NE	**0.55**	ND
Toluene	NE	**2.5**	ND
Xylenes	NE	**0.58**	ND
SVOCs			
Benzo(A)Anthracene	NE	**6.1**	**29**
Benzo(A)Pyrene	NE	**8.3**	**37**
Benzo(B)Fluoranthene	NE	**8.3**	**40**
Benzo(K)Fluoranthene	NE	**2.7**	**12**
Chrysene	NE	**5.5**	**26**
Dibenz(A,H)Anthracene	NE	**1.2**	**5.8**
Indeno(1,2,3-C,D)Pyrene	NE	**5**	**25**
Metals			
Lead	**63.1**	**99**	**230**
Mercury	NE	**0.357**	**0.339**
Zinc	NE	**213**	**115**
PCBs	NE	ND	ND
Pesticides and Herbicides			
P,P'-DDT	**0.00384 IP**	ND	ND

SB-10	03/25/2020	03/25/2020
Depth (ft bls)	0 - 2	2 - 4
VOCs	NE	NE
SVOCs	NE	NE
Metals	NE	NE
PCBs	NE	ND
Pesticides and Herbicides	ND	ND

SB-9	03/24/2020	03/24/2020	03/24/2020
Depth (ft bls)	0 - 2	2 - 4	15 - 17
VOCs	NE	NE	NE
SVOCs			
Benzo(A)Anthracene	**1.4**	NE	NE
Benzo(A)Pyrene	**1.2**	NE	NE
Benzo(B)Fluoranthene	**1.6**	NE	NE
Chrysene	**1.3**	NE	NE
Indeno(1,2,3-C,D)Pyrene	**0.8**	NE	ND
Metals			
Lead	**73.6**	NE	NE
Zinc	**210**	NE	NE
PCBs	ND	ND	ND
Pesticides and Herbicides			
P,P'-DDT	**0.00397**	ND	ND

SB-12	03/25/2020	03/25/2020	03/25/2020	03/25/2020
Depth (ft bls)	0 - 2	2 - 4	14 - 16	14 - 16
VOCs				
1,2,4-Trimethylbenzene	NE	NE	**34**	**81**
1,3,5-Trimethylbenzene (Mesitylene)	NE	NE	**9.6**	**24**
Benzene	NE	NE	**16**	**87**
Ethylbenzene	NE	NE	**30**	**220**
N-Propylbenzene	NE	NE	**6.2**	**12**
Toluene	NE	NE	NE	**25**
Xylenes	NE	NE	**11**	**240**
SVOCs				
2-Methylphenol (O-Cresol)	NE	ND	**2.2 J**	**1.2 J**
3- And 4- Methylphenol (Total)	ND	ND	**6.1**	**3.1**
Acenaphthene	NE	ND	**110**	**39**
Anthracene	NE	NE	**140**	NE
Benzo(A)Anthracene	NE	NE	**140**	**60**
Benzo(A)Pyrene	NE	NE	**130**	**57**
Benzo(B)Fluoranthene	NE	NE	**150**	**70**
Benzo(K)Fluoranthene	NE	NE	**41**	**20**
Chrysene	NE	NE	**120**	**57**
Dibenz(A,H)Anthracene	NE	NE	**19**	**9**
Dibenzofuran	NE	ND	**80**	**32**
Fluoranthene	NE	NE	**370**	**190**
Fluorene	NE	NE	**120**	**51**
Indeno(1,2,3-C,D)Pyrene	NE	NE	**76**	**34**
Naphthalene	NE	NE	**520**	**260**
Phenanthrene	NE	NE	**520**	**250**
Phenol	**3.2**	NE	**3.3 J**	**1.7 J**
Pyrene	NE	NE	**340**	**170**
Metals				
Lead	**209**	NE	**390**	**120**
Mercury	**0.193**	ND	**0.403**	**0.373**
Nickel	NE	NE	NE	NE
Selenium	ND	NE	NE	NE
Zinc	**186**	NE	NE	NE
PCBs	NE	NE	NE	NE
Pesticides and Herbicides				
P,P'-DDD	ND	ND	ND	**0.0298 IP**
P,P'-DDE	ND	NE	ND	**0.00691 JIP**

SB-13	03/25/2020	03/25/2020	03/25/2020
Depth (ft bls)	0 - 2	5 - 7	9 - 11
VOCs			
1,2,4-Trimethylbenzene	ND	NE	**180**
1,3,5-Trimethylbenzene (Mesitylene)	ND	NE	**60**
Acetone	NE	ND	ND
Benzene	NE	NE	**88**
Chloroform	ND	ND	**0.48 J**
Ethylbenzene	ND	NE	**660**
N-Propylbenzene	ND	ND	**24**
Toluene	ND	NE	**4.6**
Xylenes	ND	NE	**830**
SVOCs			
Acenaphthene	ND	NE	**52**
Benzo(A)Anthracene	NE	**59**	**49**
Benzo(A)Pyrene	ND	**84**	**55**
Benzo(B)Fluoranthene	ND	**74**	**55**
Benzo(K)Fluoranthene	ND	**18**	**16**
Chrysene	ND	**63**	**46**
Dibenz(A,H)Anthracene	ND	**13**	**8.2 J**
Dibenzofuran	ND	ND	**16 J**
Fluorene	ND	NE	**42**
Indeno(1,2,3-C,D)Pyrene	ND	**46**	**33**
Naphthalene	NE	NE	**420**
Phenanthrene	NE	NE	**140**
Pyrene	NE	**120**	**120**
Metals			
Barium	NE	**1060**	NE
Lead	NE	**149**	NE
Mercury	ND	NE	**0.224**
Zinc	NE	**156**	NE
PCBs	ND	ND	NE
Pesticides and Herbicides			
P,P'-DDD	ND	**0.0518**	**0.0244 IP**
P,P'-DDE	ND	**0.00795 JIP**	**0.00777 JIP**

SB-11	03/25/2020	03/25/2020
Depth (ft bls)	0 - 2	6 - 8
VOCs	NE	NE
SVOCs		
Benzo(A)Anthracene	NE	**2.9**
Benzo(A)Pyrene	NE	**5**
Benzo(B)Fluoranthene	**1.2**	**4.8**
Benzo(K)Fluoranthene	NE	**1.5**
Chrysene	NE	**2.5**
Dibenz(A,H)Anthracene	NE	**0.72**
Indeno(1,2,3-C,D)Pyrene	**0.64**	**3.4**
Metals		
Copper	NE	**224**
Lead	**209**	**171**
Mercury	**0.975**	NE
PCBs	ND	ND
Pesticides and Herbicides		
P,P'-DDE	**0.00335 IP**	**0.00446 IP**

SB-15	03/26/2020	03/26/2020
Depth (ft bls)	0 - 2	5 - 7
VOCs	NE	NE
SVOCs		
Benzo(A)Anthracene	**1.1**	**7.5**
Benzo(A)Pyrene	**1.1**	**12**
Benzo(B)Fluoranthene	**1.1**	**12**
Benzo(K)Fluoranthene	NE	**3.1**
Chrysene	**1.1**	**7.4**
Dibenz(A,H)Anthracene	NE	**2.1**
Indeno(1,2,3-C,D)Pyrene	**0.6**	**9.5**
Metals		
Arsenic	NE	**28.6**
Lead	**169**	**143**
Mercury	**0.194**	NE
Selenium	**6.94**	NE
PCBs	**1.01**	ND
Pesticides and Herbicides	NE	ND

SB-14	03/26/2020	03/26/2020
Depth (ft bls)	0 - 2	2 - 4
VOCs		
Acetone	**0.073**	NE
SVOCs		
Indeno(1,2,3-C,D)Pyrene	NE	**0.54**
Metals		
Lead	NE	**258**
Mercury	ND	**0.792**
Zinc	NE	**200**
PCBs	NE	NE
Pesticides and Herbicides		
P,P'-DDD	ND	**0.00835 P**
P,P'-DDE	NE	**0.0175 P**
P,P'-DDT	ND	**0.0123 P**

mg/kg – MICROGRAMS PER KILOGRAM

NYSDEC – NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

I – THE LOWER VALUE FOR THE TWO COLUMNS HAS BEEN REPORTED DUE TO OBVIOUS INTERFERENCE

J – ESTIMATED VALUE

P – THE RPD BETWEEN THE RESULTS FOR THE TWO COLUMNS EXCEEDS THE METHOD-SPECIFIED CRITERIA

DUP – DUPLICATE SAMPLE

VOCs – VOLATILE ORGANIC COMPOUNDS

SVOCs – SEMIVOLATILE ORGANIC COMPOUNDS

NE – NO EXCEEDANCE

ND – NO DETECTION

FT BLS – FEET BELOW LAND SURFACE

BOLD DATA – DETECTED ABOVE NYSDEC PART 375 UNRESTRICTED USE SOIL CLEANUP OBJECTIVES

SHADED DATA – DETECTED ABOVE NYSDEC PART 375 RESTRICTED RESIDENTIAL USE SOIL CLEANUP OBJECTIVES

RED DATA – DETECTED ABOVE NYSDEC PART 375 PROTECTION OF GROUNDWATER SOIL CLEANUP OBJECTIVES

Soil Boring Designation	Screening Interval (ft bls)	Screening Results / Observations
SB-1	0-4	No staining or odor observed.
SB-2	0-5.5	No staining or odor observed.
SB-3	0-15	Stained soil and odor observed from 12-15 ft bls.
SB-4	0-20	Stained soil, odor and coal tar-like material observed from 3-4 ft bls. Odor observed from 4-20 ft bls.
SB-5	0-10	Stained soil observed from 7-8 ft bls.
SB-6	0-15	Stained soil observed from 12-14 ft bls.
SB-7	0-25	Stained soil, odor and coal tar-like material observed from 15-25 ft bls.
SB-8	0-12	No staining or odor observed, concrete refusal at 12 ft bls.
SB-9	0-20	Stained soil observed from 15-18 ft bls, odor observed from 15-20 ft bls.
SB-10	0-5	No staining or odor observed.
SB-11	0-20	Stained soil, odor and coal tar-like material/SPH globules observed from 8-17 ft bls.
SB-12	0-20	Stained soil, odor and coal tar-like material/SPH globules observed from 5-20 ft bls.
SB-13	0-15	Stained soil, odor and coal tar-like material observed from 5-15 ft bls, SPH oberved at water table.
SB-14	0-5	Stained soil and odor observed at 4-5 ft bls.
SB-15	0-10	Stained soil and odor observed from 3-10 ft bls.
SB-16	0-15	Stained soil, odor and coal tar-like material observed from 2-15 ft bls.
SB-17	0-10	Stained soil, odor and coal tar-like material observed from 5-10 ft bls.

LEGEND

- LOCATION OF PROPOSED PHASE I CONSTRUCTION AREA
- A — APPROXIMATE LOCATION OF PROPOSED BUILDING
- APPROXIMATE LOCATION OF PROPOSED REMEDIATION AREA
- FORMER MGP HOLDER
- APPROXIMATE LOCATION OF PROPOSED ELEVATOR PIT
- SB-9 — LOCATION AND DESIGNATION OF SOIL BORING
- SV-2 — LOCATION AND DESIGNATION OF SOIL VAPOR SAMPLE
- CGMW-01S — LOCATION AND DESIGNATION OF EXISTING GROUNDWATER MONITORING WELL (INSTALLED BY OTHERS)

SOURCE

G-105 EXISTING SITE UTILITY PLAN, PREPARED BY ARCADIS, DATED NOVEMBER 30, 2017.

80' 0 80'

Title:

SOIL RESULTS

Prepared for:

GOWANUS GREEN PARTNERS LLC

ROUX

Compiled by: J.W.	Date: 16MAY20	FIGURE
Prepared by: G.M.	Scale: AS SHOWN	3
Project Mgr: J.W.	Project: 3320.0001Y000	
File: 3320.0001Y110.01.DWG		

I:\CAD\PROJECTS\3320\0001\110\3320.0001Y110.01.DWG

ATTACHMENT 2

Soil Boring Results

DRAFT

SB-3

Client: Gowanus Green Partners LLC	Site: Gowanus Green	Project Number: 3320.0001Y000	
Address: Fifth and Smith Streets	City/State: Brooklyn, New York	Logged By: V.Caccamo	
Start to Finish Date: 3/20/2020 - 3/20/2020	Contractor: Craig Geotechnical	Drill Type: Geoprobe	Sampler Type/Method: 2" Macro-Core
Borehole Depth: 15 feet	Backfill: Cuttings	Borehole Diameter: 2-inches	DTW:
Area: NM	Elevation: NM	Northing: NM	Easting: NM

Depth (ft)	USCS	USCS Graphic	Visual Description	Sample Interval	Recovery (ft)	PID	Notes
	CONC		CONCRETE.				Collect sample SB-3 (0-2) and analyze for TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs and TAL Metals.
	MIXD		Brown, fine to coarse SAND, some Silt, little Brick, trace coarse gravel and wood (FILL); moist.		3	22.4	
						0.8	
			Brown, fine to coarse SAND, some Silt and Brick, trace coarse gravel (FILL); moist.			0.8	
5	MIXD					1.1	
						0.7	
						0.5	
			Brown, fine to coarse SAND, some Silt, little Brick and Concrete (FILL); moist.		1.5	0.4	
						0.8	
	MIXD						
10						0.6	
						0.4	
	MIXD		Brown, fine to coarse SAND, some Silt, little coarse Gravel, trace brick (FILL); moist.		1	1.0	Stained soil and odor encountered at approximately 12-15 feet bls.
	MIXD		Black, fine to medium SAND, some Silt, little Brick (FILL); moist.			1.8	Collect sample SB-3 (13-15) and analyze for TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs and TAL Metals.
	MIXD		Black, fine to medium SAND, some Silt, trace medium gravel (FILL); wet.			5.5	Groundwater observed at approximately 15 feet bls.
						6.7	

Bottom of borehole at 15 feet

DRAFT

ROUX STANDARD LOG - 4/15/20 13:42 - S:\GINT\PROJECTS\3320.0001Y000.GPJ

SB-4

Client: Gowanus Green Partners LLC	Site: Gowanus Green	Project Number: 3320.0001Y000
Address: Fifth and Smith Streets	City/State: Brooklyn, New York	Logged By: V.Caccamo

Start to Finish Date: 3/20/2020 - 3/20/2020	Contractor: Craig Geotechnical	Drill Type: Geoprobe	Sampler Type/Method: 2" Macro-Core
Borehole Depth: 20 feet	Backfill: Cuttings	Borehole Diameter: 2-inches	DTW:
Area: NM	Elevation: NM	Northing: NM	Easting: NM

Depth (ft)	USCS	USCS Graphic	Visual Description	Sample Interval	Recovery (ft)	PID	Notes
	CONC		CONCRETE.				
	MIXD		Brown, fine to coarse SAND, some Silt and Brick, little Concrete (FILL); moist.		2	0.5	Collect sample SB-4 (0-2) and analyze for TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs and TAL Metals. Coal tar-like material encountered at approximately 3-4 feet bls.
	MIXD		Brown, fine to coarse SAND, some Silt, little Coal tar-like material (FILL); moist.			0.4 0.5	Collect sample SB-4 (2-4) and analyze for TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs and TAL Metals.
5	MIXD		Brown, fine to coarse SAND, some Silt and Brick (FILL); moist.		2	0.6 0.2 0.2 0.3	
	MIXD		Dark brown, fine to coarse SAND, some Silt, little Brick and coarse Gravel (FILL); moist.			0.2	
10	MIXD		Brown, fine to coarse SAND, some Silt, little coarse Gravel (FILL); moist.		2.5	0.2 0.2	
	MIXD		Brown, fine to coarse SAND, some Silt, little Brick and Concrete (FILL); moist.			1.1 2.3	Odor observed at approximately 12-20 feet bls.
	MIXD		Dark brown, fine to coarse SAND, some Silt, little coarse Gravel (FILL); moist.			16.7	Collect sample SB-4 (14-16) and analyze for TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs and TAL Metals.
15	MIXD		Dark brown, fine to medium SAND, some Silt, trace fine gravel and brick (FILL); wet.		2.5	56.7 79.4 86.3 89.3	Groundwater observed at approximately 16 feet bls.
	SW-SM		Dark grey, fine to medium SAND, some Silt, trace clay; moist.			92.6 145.5	

Bottom of borehole at 20 feet

DRAFT

ROUX STANDARD LOG - 4/15/20 13:42 - S:\GINT\PROJECTS\3320.0001Y000.GPJ

SB-7

Client: Gowanus Green Partners LLC	Site: Gowanus Green	Project Number: 3320.0001Y000
Address: Fifth and Smith Streets	City/State: Brooklyn, New York	Logged By: V.Caccamo

Start to Finish Date: 3/24/2020 - 3/24/2020	Contractor: Craig Geotechnical	Drill Type: Geoprobe	Sampler Type/Method: 2" Macro-Core
Borehole Depth: 25 feet	Backfill: Cuttings	Borehole Diameter: 2-inches	DTW:
Area: NM	Elevation: NM	Northing: NM	Easting: NM

Depth (ft)	USCS	USCS Graphic	Visual Description	Sample Interval	Recovery (ft)	PID	Notes
	CONC		CONCRETE.				
	MIXD		Brown, fine to coarse SAND, some Silt, little coarse Gravel, trace brick and concrete (FILL); moist.			0.0	Collect sample SB-7 (0-2) and analyze for TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs and TAL Metals.
	MIXD		Dark brown, fine to coarse SAND, some Silt, little fine to coarse Gravel, trace concrete (FILL); moist.		2	0.1	
	MIXD		Black, fine to medium SAND, some Silt, little coarse Gravel and coarse sand (FILL); moist.			0.1	Stained soil encountered at approximately 3-5 feet bls.
5						0.1	
	MIXD		Grey, fine to coarse SAND, some Silt, little Concrete (FILL); moist.		2	0.1	
						0.3	
	MIXD		Brown, fine to coarse SAND, some Silt, little Concrete, trace medium to coarse gravel (FILL); moist.			0.3	
10						0.4	
	MIXD		Brown, fine to coarse SAND, some Silt, little Brick, trace coarse gravel (FILL); moist.		1.5	0.5	Collect sample SB-7 (9.5-11.5) and analyze for TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs and TAL Metals.
						0.1	
	MIXD		Brown, fine to coarse SAND, some Silt, little Brick, coarse Gravel and Concrete (FILL); moist.			0.2	
						0.0	
15						0.8	
	MIXD		Black, fine to coarse SAND, some Silt, little Coal tar-like material, trace medium gravel (FILL); moist.			80.5	Odor and coal tar-like material encountered at approximately 15-25 feet bls.
	MIXD		Dark brown, fine to coarse SAND, some Silt, little coarse Gravel (FILL); moist.		2	72.7	
						62.5	
	MIXD		Brown, fine to coarse SAND, some Silt, little medium to coarse Gravel, trace wood (FILL); wet.			75.9	
20						55.3	
	SW-SM		Black, fine to medium SAND, some Silt and Coal tar-like material, little fine Gravel and coarse Sand; wet.			110.7	Collect sample SB-7 (19-21) and analyze for TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs and TAL Metals. Groundwater observed at approximately 21 feet bls.
					2.5	151.3	
	SW-SM		Black, fine to coarse SAND, some Silt, little Coal tar-like material, trace coarse gravel; wet.			160.1	
						199.9	
						200.1	

Bottom of borehole at 25 feet

DRAFT

ROUX STANDARD LOG - 4/15/20 13:42 - S:\GINT\PROJECTS\3320.0001Y000.GPJ

SB-9

Client: Gowanus Green Partners LLC	Site: Gowanus Green	Project Number: 3320.0001Y000
Address: Fifth and Smith Streets	City/State: Brooklyn, New York	Logged By: V.Caccamo

Start to Finish Date: 3/24/2020 - 3/24/2020	Contractor: Craig Geotechnical	Drill Type: Geoprobe	Sampler Type/Method: 2" Macro-Core
Borehole Depth: 20 feet	Backfill: Cuttings	Borehole Diameter: 2-inches	DTW:
Area: NM	Elevation: NM	Northing: NM	Easting: NM

Depth (ft)	USCS	USCS Graphic	Visual Description	Sample Interval	Recovery (ft)	PID	Notes
	MIXD		Brown, fine to coarse SAND, some Silt and Brick, little Concrete (FILL); moist.		2	0.1 0.1 0.0 0.0	Collect sample SB-9 (0-2) and analyze for TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs and TAL Metals.
	MIXD		Brown, fine to coarse SAND, some Silt, little coarse Gravel, trace brick (FILL); moist.				Collect sample SB-9 (2-4) and analyze for TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs and TAL Metals.
5	MIXD		Brown, fine to coarse SAND, some Silt, little medium to coarse Gravel, trace brick (FILL); moist.		1	0.3 0.0 0.2 0.2 0.1	
	MIXD		Brown, fine to coarse SAND, some Silt, little medium to coarse Gravel, trace brick (FILL); moist.				
10	SW-SM		Light brown, fine to coarse SAND, some Silt, little fine Gravel, trace clay; moist.		3	0.1 0.0 0.1 0.1	
	SW-SM		Light brown, fine to coarse SAND, some Silt, trace fine gravel and clay; moist.			0.1	Stained soil observed at approximately 15-18 feet bls. Odor observed at approximately 15-20 feet bls.
15	SW-SM		Dark grey, fine to coarse SAND, some Silt, trace fine gravel; moist.		2	0.1 45.5 50.5	Collect sample SB-9 (15-17) and analyze for TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs and TAL Metals. Groundwater observed at approximately 17 feet bls.
	SW-SM		Brown, fine to coarse SAND, some Silt, little fine Gravel, trace clay; moist.			15.9 20.7 13.8	

Bottom of borehole at 20 feet

DRAFT

ROUX STANDARD LOG - 4/15/20 13:42 - S:\GINT\PROJECTS\3320.0001Y000.GPJ

SB-11

Client: Gowanus Green Partners LLC	Site: Gowanus Green	Project Number: 3320.0001Y000
Address: Fifth and Smith Streets	City/State: Brooklyn, New York	Logged By: V.Caccamo

Start to Finish Date: 3/25/2020 - 3/25/2020	Contractor: Craig Geotechnical	Drill Type: Geoprobe	Sampler Type/Method: 2" Macro-Core
Borehole Depth: 20 feet	Backfill: Cuttings	Borehole Diameter: 2-inches	DTW:
Area: NM	Elevation: NM	Northing: NM	Easting: NM

Depth (ft)	USCS	USCS Graphic	Visual Description	Sample Interval	Recovery (ft)	PID	Notes
	CONC		CONCRETE.				Collect sample SB-11 (0-2) and analyze for TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs and TAL Metals.
	MIXD		Grey, fine to coarse SAND and CONCRETE, trace silt and brick (FILL); moist.		2	1.0 1.7 2.3	
5	MIXD		Grey, fine to coarse SAND, some Silt and fine to coarse Gravel, trace brick (FILL); moist.		3	2.3 4.5	
	MIXD		Grey, fine to coarse SAND, some Silt, little fine to coarse Gravel, trace brick, wood and concrete (FILL); moist.			5.1	Odor observed at approximately 7-12 feet bls.
	MIXD		Brown, fine to coarse SAND, some Silt, little Coal tar-like material and medium Gravel, trace brick (FILL); moist.			6.0 5.0	Collect sample SB-11 (6-8) and analyze for TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs and TAL Metals. Coal tar-like material encoutered at approximately 8-17 feet bls.
10	MIXD		Dark brown, fine to coarse SAND, some Silt, little medium Gravel and Coal tar-like material, trace brick (FILL); moist.		2.5	6.2 10.4	
	MIXD		Dark brown, fine to coarse SAND, some Silt, little medium Gravel and Coal tar-like material, trace brick (FILL); moist.			40.7	Odor and free product globules encountered at approximately 12-13 feet bls.
	MIXD		Black, medium to fine SAND, some Silt, little coarse Sand, medium Gravel and Coal tar-like material, trace brick (FILL); wet.			60.4 70.2	
15	MIXD		Brown, fine to coarse SAND, some Silt, little Coal tar-like material and fine Gravel; wet.		0.5	84.5 90.5	Odor, soil staining and free product globules encountered at 15-17 feet bls. Groundwater observed at approximately 16 feet bls.
			No Recovery.				No recovery.

Bottom of borehole at 20 feet

DRAFT

ROUX STANDARD LOG - 4/15/20 13:42 - S:\GINT\PROJECTS\3320.0001Y000.GPJ

SB-12

Client: Gowanus Green Partners LLC	Site: Gowanus Green	Project Number: 3320.0001Y000
Address: Fifth and Smith Streets	City/State: Brooklyn, New York	Logged By: V.Caccamo

Start to Finish Date: 3/25/2020 - 3/25/2020	Contractor: Craig Geotechnical	Drill Type: Geoprobe	Sampler Type/Method: 2" Macro-Core
Borehole Depth: 20 feet	Backfill: Cuttings	Borehole Diameter: 2-inches	DTW:
Area: NM	Elevation: NM	Northing: NM	Easting: NM

Depth (ft)	USCS	USCS Graphic	Visual Description	Sample Interval	Recovery (ft)	PID	Notes
	CONC		CONCRETE.				
	MIXD		Brown, fine to coarse SAND, some Silt and Concrete, little Brick (FILL); moist.		1	7.7 10.5 20.7	Collect sample SB-12 (0-2) and analyze for TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs and TAL Metals. Odor observed at approximately 1-10 feet bls. Collect sample SB-12 (2-4) and analyze for TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs and TAL Metals.
5	MIXD		Dark brown, fine to coarse SAND, some Silt, little fine Gravel and Coal tar-like material (FILL); moist.		1	1.5 5.5 10.1 11.5	
	MIXD		Dark brown, fine to coarse SAND, some Silt, fine Gravel and Coal tar-like material (FILL); moist.			12.7	
10	MIXD		Dark Brown, fine to coarse SAND, some Silt, little medium to coarse Gravel and Coal tar-like material (FILL); moist.		3.5	15.5 190.7 190.9	
	MIXD		Black, fine to medium SAND, some Silt and Coal tar-like material, little fine Gravel and coarse Sand (FILL); moist.			350.2 434.7	Odor and free product globules observed at approximately 13-15 feet bls. Collect sample SB-4 (14-16) and analyze for TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs and TAL Metals.
15	MIXD		Black, fine to medium SAND, some Silt and Coal tar-like material, little medium to coarse Gravel (FILL); moist.		3	430.1	Collect DUP_03252020_SO and analyze for TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs and TAL Metals.
	MIXD		Black, fine to medium SAND, some Silt and Coal tar-like material, little medium to coarse Gravel (FILL); wet.			350	
	MIXD		Black, fine to medium SAND, some Silt and Coal tar-like material, trace brick; wet.			375 410 362 395	Odor and free product globules encountered at approximately 15-20 feet bls. Groundwater observed at approximately 17 feet bls.

Bottom of borehole at 20 feet

DRAFT

ROUX STANDARD LOG - 4/15/20 13:42 - S:\GINT\PROJECTS\3320.0001Y000.GPJ

SB-13

Client: Gowanus Green Partners LLC	Site: Gowanus Green	Project Number: 3320.0001Y000
Address: Fifth and Smith Streets	City/State: Brooklyn, New York	Logged By: V.Caccamo

Start to Finish Date: 3/25/2020 - 3/25/2020	Contractor: Craig Geotechnical	Drill Type: Geoprobe	Sampler Type/Method: 2" Macro-Core
Borehole Depth: 15 feet	Backfill: Cuttings	Borehole Diameter: 2-inches	DTW:
Area: NM	Elevation: NM	Northing: NM	Easting: NM

Depth (ft)	USCS	USCS Graphic	Visual Description	Sample Interval	Recovery (ft)	PID	Notes
	CONC		CONCRETE.				Collect sample SB-13 (0-2) and analyze for TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs and TAL Metals.
	MIXD		Grey, fine to coarse SAND, some Concrete, little Brick (FILL); moist.		3	1.3 1.4	
	MIXD		Brown, fine to coarse SAND, some Silt and fine to coarse Gravel, little Brick (FILL); moist.			1.5	
5	MIXD		Dark brown, fine to coarse SAND, some Silt and Coal tar-like material, little medium to coarse Gravel, trace brick (FILL); moist.		1	2.0 5.1 5.9	Odor and coal tar-like material encoutered at approximately 5-10 feet bls. Collect sample SB-13 (5-7) and analyze for TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs and TAL Metals.
	MIXD		Black, fine to medium SAND, some Silt and Coal tar-like material, little Brick, Concrete and Tile, trace coarse sand (FILL); moist.			5.4 5.5	
10	MIXD		Black, fine to coarse SAND, some Silt, little fine Gravel and Coal tar-like material (FILL); moist.		3	6.0	Odor, soil staining and coal tar-like material encountered at 10-15 feet bls.
	MIXD		Black, fine to medium SAND, some Silt and Coal tar-like material, little fine Gravel (FILL); wet.			447.7 435.1	Collect sample SB-13 (9-11) and analyze for TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs and TAL Metals.
	MIXD		Grey, fine to coarse SAND, some Silt and Concrete, trace brick (FILL); wet.				Groundwater observed at approximately 12 feet bls. SPH observed at wate table.
	MIXD		Black, fine to medium SAND, some Silt and Coal tar-like material, trace coarse sand, fine gravel and brick (FILL); wet.			170.1 259.7	

Bottom of borehole at 15 feet

DRAFT

ROUX STANDARD LOG - 4/15/20 13:42 - S:\GINT\PROJECTS\3320.0001Y000.GPJ

SB-15

Client: Gowanus Green Partners LLC	Site: Gowanus Green	Project Number: 3320.0001Y000
Address: Fifth and Smith Streets	City/State: Brooklyn, New York	Logged By: V.Caccamo

Start to Finish Date: 3/26/2020 - 3/26/2020	Contractor: Craig Geotechnical	Drill Type: Geoprobe	Sampler Type/Method: 2" Macro-Core
Borehole Depth: 10 feet	Backfill: Cuttings	Borehole Diameter: 2-inches	DTW:
Area: NM	Elevation: NM	Northing: NM	Easting: NM

Depth (ft)	USCS	USCS Graphic	Visual Description	Sample Interval	Recovery (ft)	PID	Notes
	CONC		CONCRETE.				
	MIXD		Grey, fine to coarse SAND, some Silt and Brick, trace coarse gravel (FILL); moist.		2	1.5	Collect sample SB-15 (0-2) and analyze for TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs and TAL Metals.
	MIXD		Dark brown, fine to coarse SAND, some Silt, little medium Gravel (FILL); moist.			1.7	Stained soil and odor encountered at approximately 3-10 feet bls.
5	MIXD		Black, fine to medium SAND, some Silt, coarse Sand (FILL); moist.			2.1 5.8	
	MIXD		Dark brown, fine to coarse SAND, some Silt, little coarse Gravel, trace brick (FILL); moist.		4	0.5 0.3	Collect sample SB-15 (5-7) and analyze for TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs and TAL Metals.
	MIXD		Dark brown, fine to coarse SAND, some Silt and coarse Gravel, trace brick (FILL); wet.			0.4 1.0 0.7	Groundwater observed at approximately 8 feet bls.

Bottom of borehole at 10 feet

DRAFT

ROUX STANDARD LOG - 4/15/20 13:42 - S:\GINT\PROJECTS\3320.0001Y000.GPJ

SB-16

Client: Gowanus Green Partners LLC	Site: Gowanus Green	Project Number: 3320.0001Y000
Address: Fifth and Smith Streets	City/State: Brooklyn, New York	Logged By: V.Caccamo

Start to Finish Date: 3/26/2020 - 3/26/2020	Contractor: Craig Geotechnical	Drill Type: Geoprobe	Sampler Type/Method: 2" Macro-Core
Borehole Depth: 15 feet	Backfill: Cuttings	Borehole Diameter: 2-inches	DTW:
Area: NM	Elevation: NM	Northing: NM	Easting: NM

Depth (ft)	USCS	USCS Graphic	Visual Description	Sample Interval	Recovery (ft)	PID	Notes
	MIXD		Grey, fine to coarse SAND, some Silt and Brick, little coarse Gravel (FILL); moist.				Collect sample SB-16 (0-2) and analyze for TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs and TAL Metals.
	MIXD		Brown, fine to coarse SAND, some Silt, little Brick and Coal tar-like material, trace coarse gravel (FILL); moist.		2	22.1 20.4 23.5	Odor and coal tar-like material encountered at approximately 2-15 feet bls.
5	MIXD		Grey, fine to coarse SAND, some Brick and Concrete, trace silt (FILL); moist.			27.5	
	MIXD		Black, fine to medium SAND, some Silt and Coal tar-like material, trace brick, coarse gravel and coarse sand (FILL); moist.		3.5	14.5 13.9 63.5	
	MIXD		Black, fine to medium SAND, some Silt and Coal tar-like material, trace brick and coarse sand (FILL); moist.			55.6	Collect sample SB-16 (8-10) and analyze for TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs and TAL Metals. Odor, coal tar-like material and free product globules encountered at approximately 10-15 feet bls.
10	MIXD		Black, fine to medium SAND, some Silt and Coal tar-like material, trace brick and coarse sand (FILL); moist.			50.9 70.5	Odor, soil staining and coal tar-like material encountered at approximately 12-13 feet bls.
	MIXD		Black, fine to coarse SAND, some Silt, little Coal tar-like material and Brick, trace fine to coarse gravel (FILL); moist.		2	84.6	Collect sample SB-16 (11-13) and analyze for TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs and TAL Metals. Groundwater observed at approximately 13 feet bls.
	MIXD		Black, fine to coarse SAND, some Silt, little Coal tar-like material and Brick, trace fine to coarse gravel (FILL); wet.			90.5 91.2 92.0	

Bottom of borehole at 15 feet

DRAFT

SB-17

Client: Gowanus Green Partners LLC	Site: Gowanus Green	Project Number: 3320.0001Y000
Address: Fifth and Smith Streets	City/State: Brooklyn, New York	Logged By: V.Caccamo

Start to Finish Date: 3/26/2020 - 3/26/2020	Contractor: Craig Geotechnical	Drill Type: Geoprobe	Sampler Type/Method: 2" Macro-Core
Borehole Depth: 10 feet	Backfill: Cuttings	Borehole Diameter: 2-inches	DTW:
Area: NM	Elevation: NM	Northing: NM	Easting: NM

Depth (ft)	USCS	USCS Graphic	Visual Description	Sample Interval	Recovery (ft)	PID	Notes
	CONC		CONCRETE.				Collect sample SB-17 (0-2) and analyze for TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs and TAL Metals.
	MIXD		Brown, fine to coarse SAND, some Silt, little fine to coarse Gravel, trace brick (FILL); moist.		3	3.3 3.7	
	MIXD		Dark brown, fine to coarse SAND, some Silt and Brick, little fine to coarse Gravel, trace brick (FILL); moist.			4.0	
5	MIXD		Black, fine to coarse SAND, some Silt and Coal tar-like material, little Brick and mediuim to fine Gravel (FILL); moist.		2.5	2.7 140.2	Odor and coal tar-like material encountered at approximately 5-10 feet bls. Collect sample SB-17 (5-7) and analyze for TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs and TAL Metals.
	MIXD		Brown, fine to coarse SAND, some Silt, little Coal tar-like material, trace brick and coarse gravel (FILL); moist.			147.7 152.7	
	MIXD		Brown, fine to coarse SAND, some Silt, little Coal tar-like material, trace brick, coarse gravel (FILL); moist.			130.4 135.7	Odor, coal tar-like material and free product globules encountered at approximately 9-10 feet bls.

Bottom of borehole at 10 feet

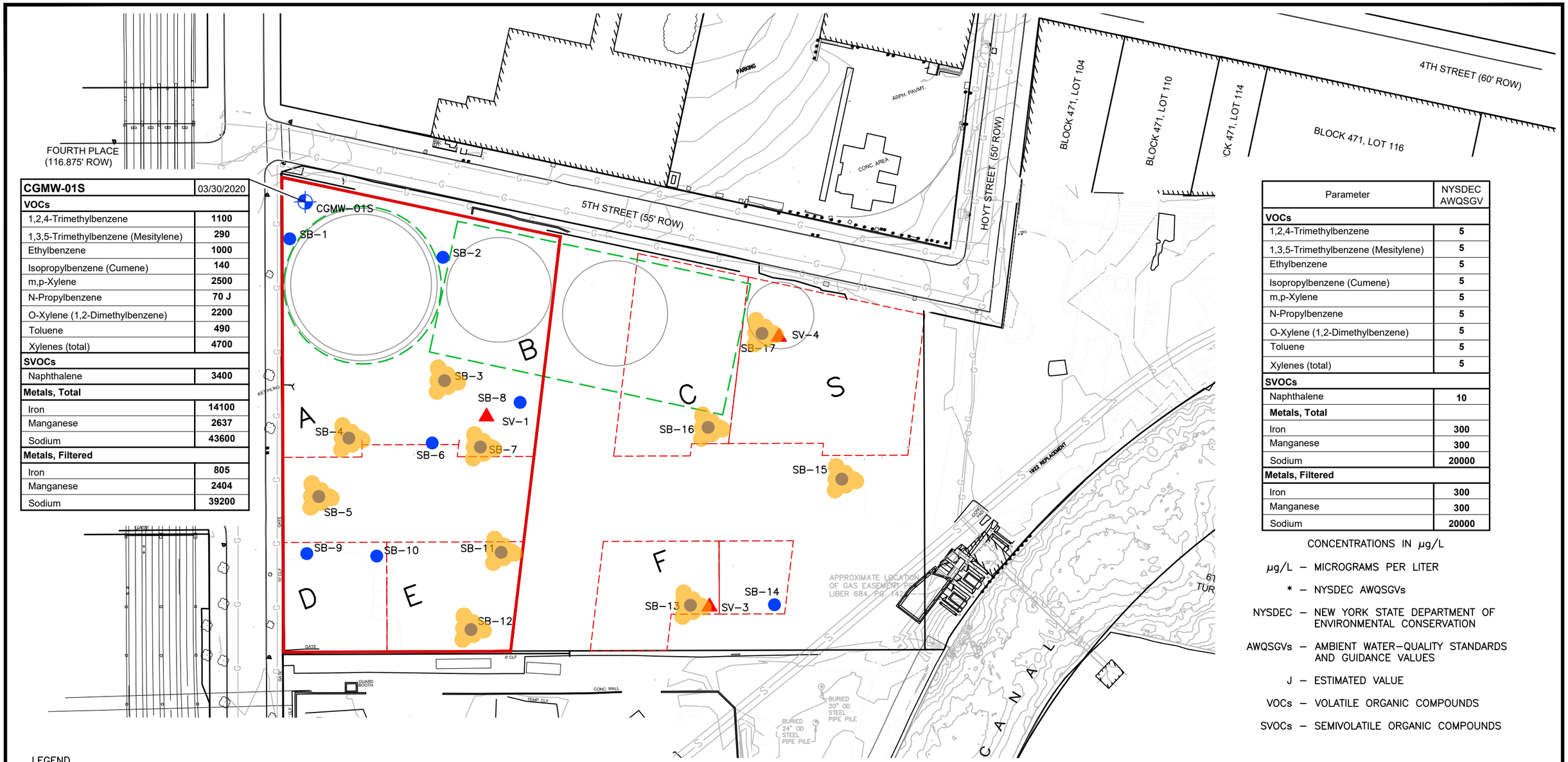
DRAFT

ROUX STANDARD LOG - 4/15/20 13:42 - S:\GINT\PROJECTS\3320.0001Y000.GPJ

ATTACHMENT 3

Groundwater Results

DRAFT



CGMW-01S	03/30/2020
VOCs	
1,2,4-Trimethylbenzene	1100
1,3,5-Trimethylbenzene (Mesitylene)	290
Ethylbenzene	1000
Isopropylbenzene (Cumene)	140
m,p-Xylene	2500
N-Propylbenzene	70 J
O-Xylene (1,2-Dimethylbenzene)	2200
Toluene	490
Xylenes (total)	4700
SVOCs	
Naphthalene	3400
Metals, Total	
Iron	14100
Manganese	2637
Sodium	43600
Metals, Filtered	
Iron	805
Manganese	2404
Sodium	39200

Parameter	NYSDEC AWQSGV
VOCs	
1,2,4-Trimethylbenzene	5
1,3,5-Trimethylbenzene (Mesitylene)	5
Ethylbenzene	5
Isopropylbenzene (Cumene)	5
m,p-Xylene	5
N-Propylbenzene	5
O-Xylene (1,2-Dimethylbenzene)	5
Toluene	5
Xylenes (total)	5
SVOCs	
Naphthalene	10
Metals, Total	
Iron	300
Manganese	300
Sodium	20000
Metals, Filtered	
Iron	300
Manganese	300
Sodium	20000

CONCENTRATIONS IN µg/L

µg/L – MICROGRAMS PER LITER

* – NYSDEC AWQSGVs

NYSDEC – NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

AWQSGVs – AMBIENT WATER-QUALITY STANDARDS AND GUIDANCE VALUES

J – ESTIMATED VALUE

VOCs – VOLATILE ORGANIC COMPOUNDS

SVOCs – SEMIVOLATILE ORGANIC COMPOUNDS

80' 0 80'

LEGEND

- LOCATION OF PROPOSED PHASE I CONSTRUCTION AREA
- A — APPROXIMATE LOCATION OF PROPOSED BUILDING
- APPROXIMATE LOCATION OF PROPOSED REMEDIATION AREA
- FORMER MGP HOLDER
- SB-9 — LOCATION AND DESIGNATION OF SOIL BORING
- SV-1 — LOCATION AND DESIGNATION OF SOIL VAPOR SAMPLE
- CGMW-01S — LOCATION AND DESIGNATION OF EXISTING GROUNDWATER MONITORING WELL (INSTALLED BY OTHERS)
- LOCATION WHERE NAPL-RELATED IMPACTS WERE OBSERVED ABOVE, AT AND / OR IMMEDIATELY BELOW THE WATER TABLE

NOTE

GROUNDWATER SAMPLES WERE NOT COLLECTED FROM BORING LOCATIONS OR DEPTH INTERVALS WHERE VISIBLE NAPL-RELATED IMPACTS, INCLUDING BLEBS, COATINGS, OR SHEENS WERE OBSERVED IN SOIL OR WATER (SB-3, SB-4, SB-7, SB-9, SB-11, SB-12, SB-13, SB-15 AND SB-16) TO ENSURE THAT GROUNDWATER SAMPLES ARE REPRESENTATIVE OF EXISTING CONDITIONS WITH RESPECT TO DISSOLVED-PHASE CONCENTRATIONS.

SOURCE

G-105 EXISTING SITE UTILITY PLAN, PREPARED BY ARCADIS, DATED NOVEMBER 30, 2017.

N

Title:

GROUNDWATER RESULTS

Prepared for:

GOWANUS GREEN PARTNERS LLC

ROUX

Compiled by: J.W.	Date: 03MAY20	FIGURE
Prepared by: G.M.	Scale: AS SHOWN	4
Project Mgr: J.W.	Project: 3320.0001Y000	
File: 3320.0001Y110.01.DWG		

V:\CAD\PROJECTS\3320\0001Y1110\3320.0001Y110.01.DWG

ATTACHMENT 4

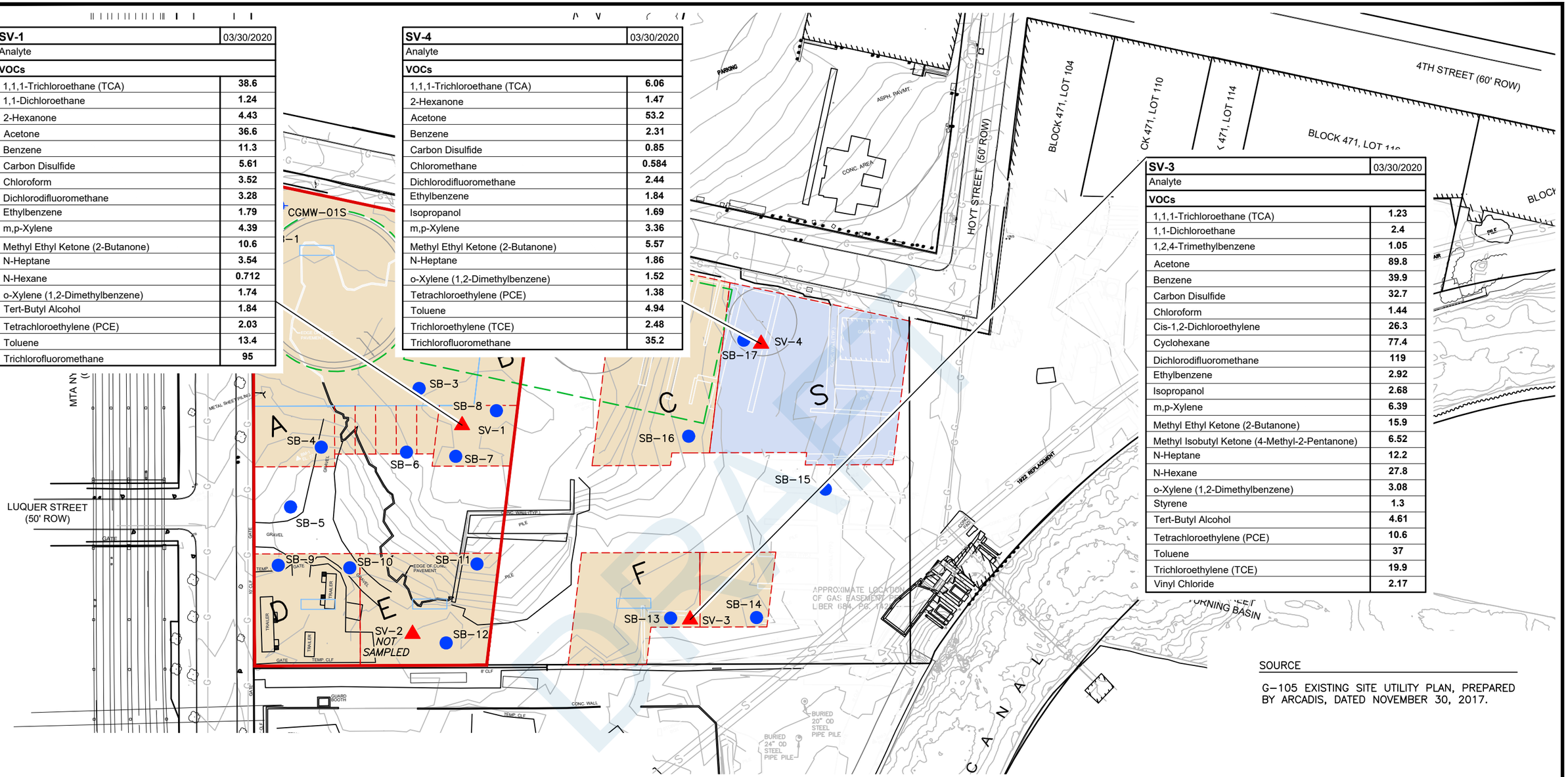
Soil Vapor Results

DRAFT

SV-1	03/30/2020
Analyte	
VOCs	
1,1,1-Trichloroethane (TCA)	38.6
1,1-Dichloroethane	1.24
2-Hexanone	4.43
Acetone	36.6
Benzene	11.3
Carbon Disulfide	5.61
Chloroform	3.52
Dichlorodifluoromethane	3.28
Ethylbenzene	1.79
m,p-Xylene	4.39
Methyl Ethyl Ketone (2-Butanone)	10.6
N-Heptane	3.54
N-Hexane	0.712
o-Xylene (1,2-Dimethylbenzene)	1.74
Tert-Butyl Alcohol	1.84
Tetrachloroethylene (PCE)	2.03
Toluene	13.4
Trichlorofluoromethane	95

SV-4	03/30/2020
Analyte	
VOCs	
1,1,1-Trichloroethane (TCA)	6.06
2-Hexanone	1.47
Acetone	53.2
Benzene	2.31
Carbon Disulfide	0.85
Chloromethane	0.584
Dichlorodifluoromethane	2.44
Ethylbenzene	1.84
Isopropanol	1.69
m,p-Xylene	3.36
Methyl Ethyl Ketone (2-Butanone)	5.57
N-Heptane	1.86
o-Xylene (1,2-Dimethylbenzene)	1.52
Tetrachloroethylene (PCE)	1.38
Toluene	4.94
Trichloroethylene (TCE)	2.48
Trichlorofluoromethane	35.2

SV-3	03/30/2020
Analyte	
VOCs	
1,1,1-Trichloroethane (TCA)	1.23
1,1-Dichloroethane	2.4
1,2,4-Trimethylbenzene	1.05
Acetone	89.8
Benzene	39.9
Carbon Disulfide	32.7
Chloroform	1.44
Cis-1,2-Dichloroethylene	26.3
Cyclohexane	77.4
Dichlorodifluoromethane	119
Ethylbenzene	2.92
Isopropanol	2.68
m,p-Xylene	6.39
Methyl Ethyl Ketone (2-Butanone)	15.9
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	6.52
N-Heptane	12.2
N-Hexane	27.8
o-Xylene (1,2-Dimethylbenzene)	3.08
Styrene	1.3
Tert-Butyl Alcohol	4.61
Tetrachloroethylene (PCE)	10.6
Toluene	37
Trichloroethylene (TCE)	19.9
Vinyl Chloride	2.17



SOURCE

G–105 EXISTING SITE UTILITY PLAN, PREPARED BY ARCADIS, DATED NOVEMBER 30, 2017.

80' 0 80'

LEGEND

- LOCATION OF PROPOSED PHASE I CONSTRUCTION AREA
- A — APPROXIMATE LOCATION OF PROPOSED BUILDING
- APPROXIMATE LOCATION OF PROPOSED REMEDIATION AREA
- FORMER MGP HOLDER
- APPROXIMATE LOCATION OF PROPOSED ELEVATOR PIT
- SB–9 — LOCATION AND DESIGNATION OF SOIL BORING
- SV–2 — LOCATION AND DESIGNATION OF SOIL VAPOR SAMPLE
- CGMW–01S — LOCATION AND DESIGNATION OF EXISTING GROUNDWATER MONITORING WELL (INSTALLED BY OTHERS)

CONCENTRATIONS IN $\mu g/m^3$

$\mu g/m^3$ - MICROGRAMS PER CUBIC METER

VOCs – VOLATILE ORGANIC COMPOUNDS

ND – COMPOUND WAS ANALYZED FOR BUT NOT DETECTED

N

Title:

SOIL VAPOR DETECTIONS

Prepared for:

GOWANUS GREEN PARTNERS LLC

ROUX

Compiled by: J.W.	Date: 03FEB20	FIGURE
Prepared by: G.M.	Scale: AS SHOWN	5
Project Mgr: J.W.	Project: 3320.0001Y000	
File: 3320.0001Y110.01.DWG		

V:\CAD\PROJECTS\3320\Y0001Y110\3320.0001Y110.01.DWG