

Geotechnical Engineering Services, P.C.

December 1, 2020

Mr. Brian Tierney 10 Baldwin Yonkers AMS LLC 595 Madison Avenue, Suite 1101 New York, NY 10022

Re: Additional Borings Geotechnical Letter Report North Broadway Assemblage Yonkers, New York

Dear Brian:

In accordance with your request and our October 16, 2020 proposal, this Letter Report presents the results of our Additional Borings Investigation conducted in Yonkers, New York. As stated in our proposal, and in order to supplement the rock data collected during our April 2019 preliminary geotechnical investigation and October 2019 supplemental geotechnical investigation, the purpose for this investigation was to provide additional rock type, quality, and top of rock data in various locations across the proposed North Broadway Assemblage in Yonkers, New York.

Based on recent discussions between you and Mr. Ziad H. Maad, P.E., D. GE. of Geotechnical Engineering Services, P.C. (GES), we understand the project site occupies several lots spanning the western ends of Baldwin Place, Overlook Terrace, extending down a steep tree-covered slope, through select lots to North Broadway in the City of Yonkers, New York. We understand the lots/addresses proposed to be part of the new development include the following addresses. Borings performed for this current investigation were performed where noted in **bold** below. The outline of the proposed site is shown on the attached Boring Location Plan:

- 2 Baldwin Place Open lot covered by trees and debris
- 10 Baldwin Place Two-story house and surrounding yard and trees
- 7 Overlook Terrace Three-story house and driveway
- <u>10-12 Overlook Terrace</u> Three-story house and yard
- 14 Overlook Terrace Tree-covered open lot
- 15 Overlook Terrace Four-story building and surrounding trees
- 23 Overlook Terrace Five-story building and trees
- <u>14 North Broadway</u> Five-story building on North Broadway with rear tree-covered slope
- <u>16 North Broadway</u> Open lot
- <u>18 North Broadway</u> Two-story building
- 28 North Broadway Two-story building plus rear yard

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- <u>30-32 North Broadway</u> Two-story (plus cellar) building and rear yard.
- <u>52 North Broadway</u> Three-story building

Based on the Phase 1 Concept Design Package recently provided to us, we understand the proposed development includes the construction of several new buildings of varying height across the combined footprint of the above-mentioned lots. In the area of 14 Overlook Terrace, a 23-story residential building with no below grade levels will be constructed (Overlook Tower), with a three-story building at 16 and 18 North Broadway, connected to the tower. A five-story terraced building would be constructed at 28 and 30 North Broadway. An about 13,677-square-foot (in footprint), 6-story parking structure (with two (2) below grade levels) would be constructed at 7 and 15 Overlook Terrace. This parking structure would connect to another larger and below grade parking structure at 2 and 10 Baldwin Place. Additional development, including frontage on North Broadway, are also planned as part of a Phase 2 of this project, further to the north, which includes a 23-story tower (Baldwin Tower) and three-story frontage at 52 North Broadway.

GES did not perform any surveying and solely relied on our information as measured in the field from fixed locations, as well as an August 29, 2019 plan of existing ground elevations by Empire State Layout, Inc. of the proposed site. All elevations noted in this survey and in this Letter Report refer to the North American Vertical Datum of 1988 (NAVD 88).

SUMMARY OF FINDINGS

As noted above, the purpose of this investigation was to better understand the top of rock across the combined site, which will guide foundation and Support of Excavation (SOE) design, as well as provide an updated Boring Location Plan and Geologic Cross-Sections through the site, showing the approximate level of top of rock, based on all the geotechnical data collected to date. Additional recommendations would be covered by a final investigation, once the specific lots for the proposed development have been finalized. Please refer to the Boring Location Plan, Geologic Cross-Sections, typed boring logs, and rock core photographic logs, attached to this Letter Report.

General

Borings were performed at a total of ten (10) geotechnical boring locations, referred to as B-10 through B-19. Please refer to our April 2019 Preliminary Geotechnical Letter Report for Borings B-1 and B-2, and our October 2019 Supplemental Geotechnical Letter Report for Borings B-3 through B-9. The logs for these borings have also been included with this report. The general boring locations were selected by your office. Offsets for borings drilled, in which bedrock was not encountered due to collapsing boreholes or other reasons, have been denoted with an "A" following the boring number.

Borings B-10 through B-19 were performed by Municipal Testing Laboratory, Inc. (MTL) of Hauppauge, New York, using a Portable Gas-Powered Drill Rig, from October 26 to November 11, 2020, under continuous special inspection by Messrs. Michael Torino, P.E. and Haykel Melaouhia, Ph. D. of GES. The borings were performed in about the locations as shown on the

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attached Boring Location Plan, as measured from fixed points in the field by GES.

Soil samples were obtained using techniques and equipment in general accordance with the American Society for Testing and Materials (ASTM) Standard Specification D1586-Standard Penetration Test (SPT). The SPT consists of driving a 2-inch O.D. split-spoon sampler with repeated blows of a 140-lb hammer free falling distance of 30-inches. The standard penetration resistance, or N-Value, is determined as the number of blows required to advance the sampler the middle 12-inches of a 24-inch penetration. MTL used a donut hammer (cathead and rope), which operates at about a 60% efficiency. A correction factor of 0.75 is generally used to convert the N-Values from the donut hammer to the normalized N-Value (N_{60}).

Where the split-spoon sampler could not be advanced through a boulder or bedrock, the sampler was driven for 50 blows, and length of actual penetration was recorded. Soil samples were placed in jars following completion of sampler advancement. The recovered split-spoon soil samples were labeled with the project name, boring number, sample number, depth of sample, SPT blow counts and length of recovery. All samples were taken to MTL's Office for storage. Boring logs showing N-Values and stratigraphy are attached to this Letter Report.

Our general methodology for soil sampling was to perform continuous split-spoon sampling to top of rock, then core at least five (5) feet of competent rock (NX-Core), in order to confirm top of rock, as well as rock quality. Where split-spoon sampling could not be performed, boulders and bedrock were cored using an NX-size core barrel with a diamond bit. The length of recovery and Rock Quality Designation (RQD) were measured and calculated for each rock core run, and denoted as a percent recovery and percent RQD, respectively. RQD does not apply to boulders refers to the sum of the lengths of rock core pieces four inches or longer, neglecting mechanical breaks, expressed as a percentage of the total length of the core run. Percentage recovery, RQD, and rock sample descriptions are included on the boring logs. Photographs of the rock cores have also been attached to this Letter Report.

Rock core samples were arranged and organized in wooden five-foot-long core boxes, labeled with project name and number, boring number, sample number, depth of sample, and core recovery and RQD percentages. All core samples were transported to MTL's shop for storage.

SUBSURFACE CONDITIONS

The following general descriptions of the subsurface strata are based on our interpretations of the results of the field investigation. Due to the slope at the site, strata descriptions for top of rock are presented below in terms of elevation, as opposed to depth. The soil is presented in terms of depth and thickness of each layer. Typed boring logs for the borings performed for this investigation, as well as the two previous investigations have been attached to this Letter Report. The delineation between the composition of each stratum has not been modified from the previous two investigations:

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<u>Stratum 1 – Fill:</u> This stratum was encountered in all borings to depths of about 2.5 to 6 feet. The fill generally consists of loose brown, black, and gray medium to fine sand, with varying amounts of boulders, silt, gravel, concrete and wood, glass and metal fragments. SPT N-Values ranged from 1 to 46-blows/ft (bpf), with an average of 11 bpf. However, four (4) spoons encountered refusal before reaching the full sample depth, and more than two-thirds of all split-spoon samples had N-Values less than 10 bpf. A 1-foot-long boulder in Stratum 1 was cored in Boring B-16.

Stratum 2 – Glacial Till: Encountered just above bedrock in all borings, Stratum 2 generally consists of brown and tan silty medium to fine sand, cobbles, and boulders, with varying amounts of gravel, rock fragments, mica, and roots. Stratum 2 was measured to be between about 2 to 15.5 feet thick. More than half of all SPT split-spoon samples taken reached refusal before extending the full sample depth, due to the presence of gravel or boulders. SPT N-Values for the rest of the samples, ranged from 10 to 92 bpf, with an average of 51 bpf. Boulders were cored in Borings B-12, B-13A, B-14, and B-19, with zones of boulders ranging from about 1 to 5 feet.

Stratum 3a – Weathered/Decomposed Bedrock: Stratum 3a was encountered in all borings and is generally regarded as gray and white decomposed gneiss fragments, closely jointed to broken, with weathered and iron-stained joints. Stratum 3a was measured to be about 1 to 16 feet thick, with top of Stratum 3a ranging from about el. +111 to +73, depending on what elevation the boring was performed from. In general, decomposed rock was encountered at the boring locations between 4 and 14.5 feet below grade. Therefore, the slope of the site generally appears to follow a general slope of the rock, as evidenced by our attached Boring Location Plan and Geologic Cross Sections. Three (3) SPT split-spoons taken within Stratum 3a all reached refusal before extending to the full sample depth. Rock core recoveries within Stratum 3a generally ranged from 10 to 100 percent, with an average of 77 percent. RQD values generally ranged from 0 to 20 percent, with an average of 8 percent, indicative of highly fractured bedrock.

<u>Stratum 3b – Bedrock</u>: Stratum 3b was encountered in all borings and is generally regarded as gray and white hard to intermediate gneiss, slightly weathered, with weathered and iron-stained joints, trace white quartz and pink biotite. All borings terminated within Stratum 3b, after extending between 2 and 16 feet into Stratum 3b. As shown on our attached Boring Location Plan and Geologic Cross Sections, the top of Stratum 3b ranges from about el. +109.5 to +70. Stratum 3b was encountered between about 5 to 25.5 feet below grade. Rock core recoveries within Stratum 3a generally ranged from 86 to 100 percent, with an average of 97 percent. RQD values generally ranged from 33 to 95 percent, with an average of 65 percent, indicative of competent bedrock.

GROUNDWATER OBSERVATIONS

No groundwater monitoring wells were installed as part of this investigation, as this was not the purpose for the investigation. We will perform groundwater level monitoring at the site by Installing piezometers and performing the remaining geotechnical borings, as part of our final geotechnical investigation, once the site footprint has been finalized.

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Closing

If you have any questions or would like to discuss the contents of this Letter Report, please don't hesitate to call me in the office at 914-592-4616 or on my mobile at 973-727-7329.

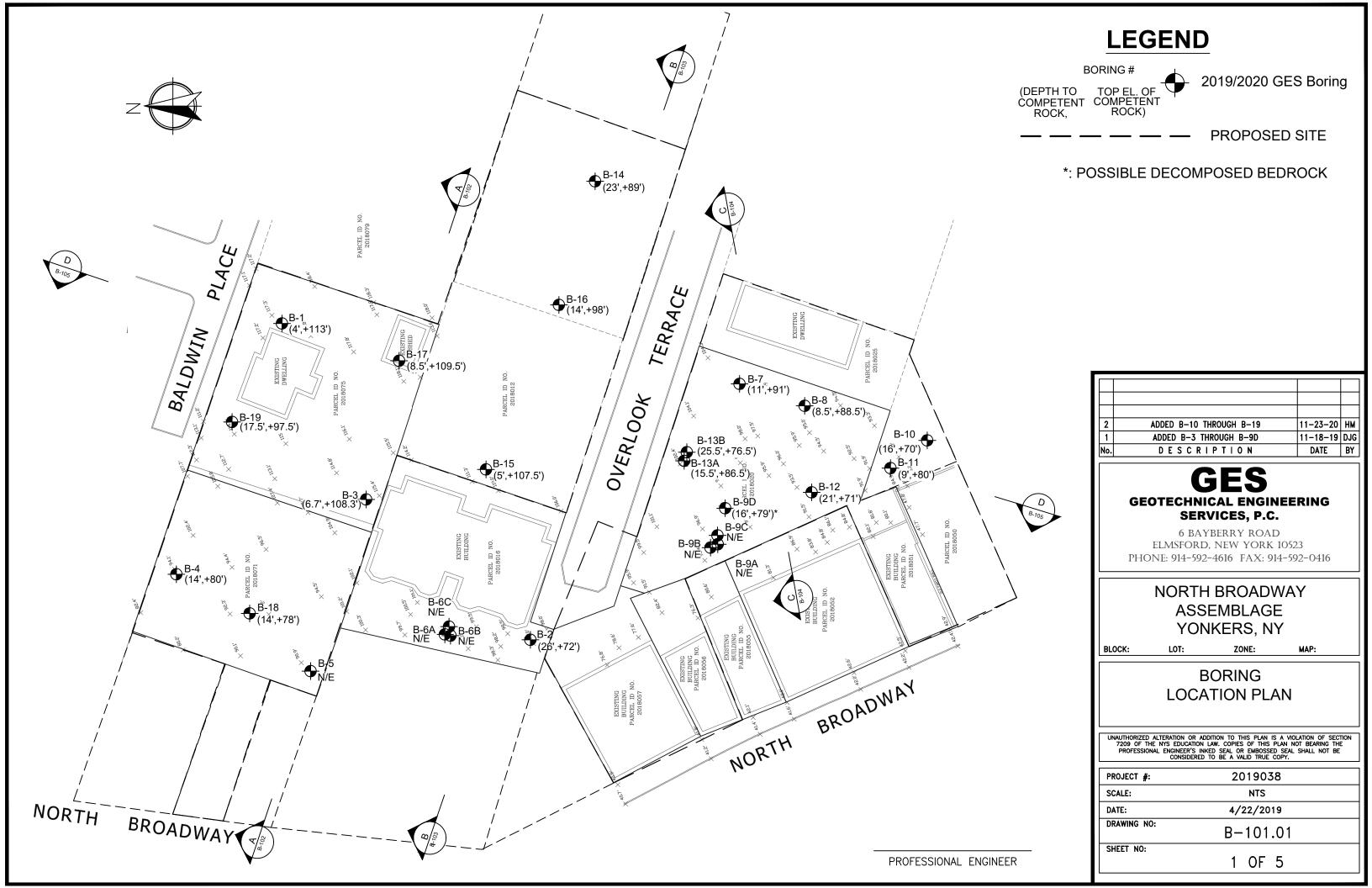
Very truly yours,

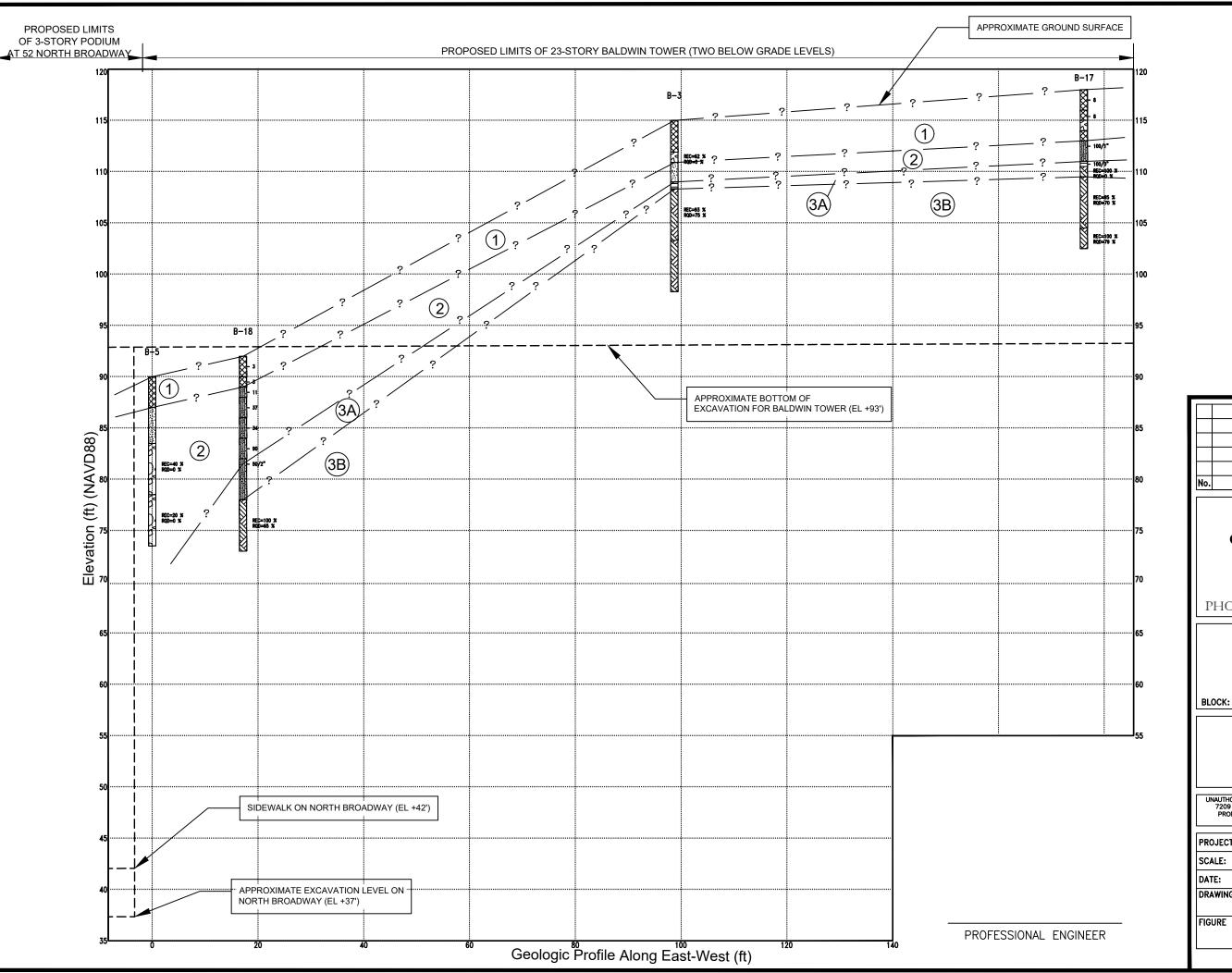
Geotechnical Engineering Services, P.C.

Ziad H. Maad, P.E., D. GE.

Attachments:

- Drawing No. B-101.02 Boring Location Plan
- Drawing Nos. B-102.00 to B-105.00 Geologic Cross Sections A-A to D-D
- Geotechnical Boring Logs
- Rock Core Photographic Logs





LEGEND

Fill

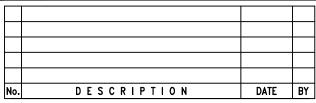
Boulders and Cobbles

Silty Sand

Poorly-graded Sand

Weathered Bedrock

Bedrock



GES GEOTECHNICAL ENGINEERING SERVICES, P.C.

6 BAYBERRY ROAD ELMSFORD, NEW YORK 10523 Phone 914-592-4616 FAX 914-592-0416

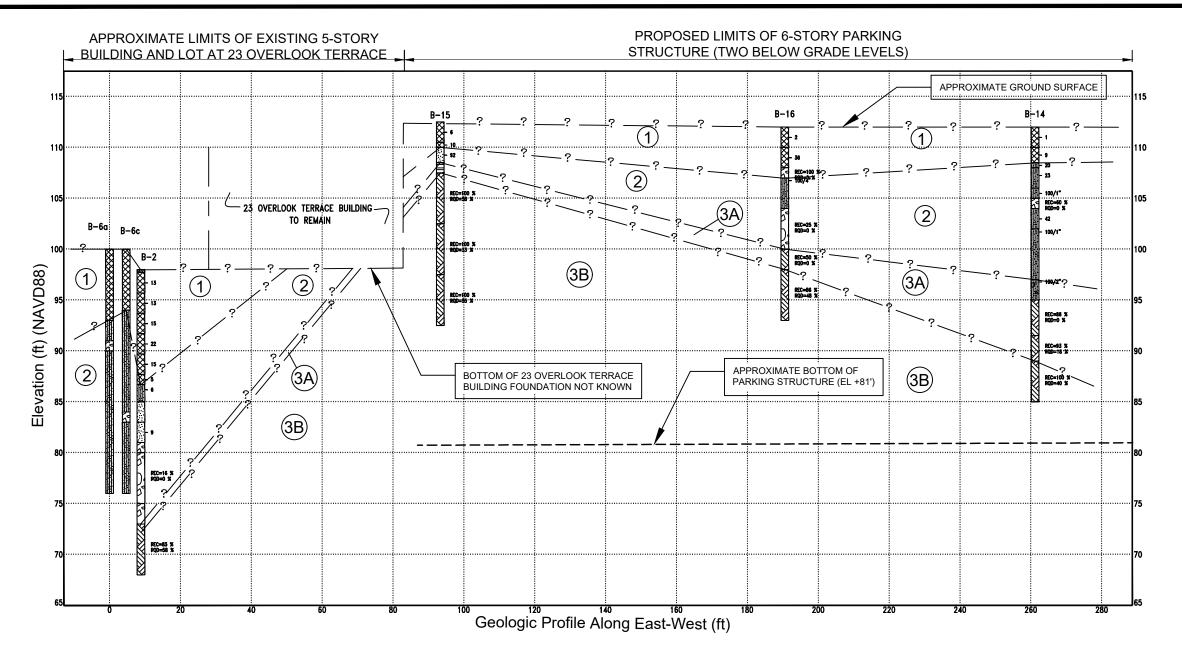
> NORTH BROADWAY ASSEMBLAGE YONKERS, NY

: LOT:

ZONE:

GEOLOGIC CROSS SECTION A-A'

PROJECT #:	2019038	
SCALE:	NTS	
DATE:	11/23/2020	
DRAWING NO:	B-102.00	
FIGURE NO:	2 OF 5	



STRATUM LEGEND:

STRATUM 1 - FILL: BROWN, BLACK, AND GRAY MEDIUM TO FINE SAND, WITH VARYING AMOUNTS OF BOULDERS, SILT, GRAVEL, CONCRETE AND BRICK FRAGMENTS, AND WOOD, GLASS AND METAL FRAGMENTS.

STRATUM 2 - GLACIAL TILL: BROWN AND TAN SILTY MEDIUM TO FINE SAND, COBBLES, AND BOULDERS, WITH VARYING AMOUNTS OF GRAVEL, ROCK FRAGMENTS, MICA, AND ROOTS.

STRATUM 3A - DECOMPOSED ROCK: GRAY AND WHITE DECOMPOSED GNEISS FRAGMENTS, CLOSELY JOINTED TO BROKEN, WITH WEATHERED AND IRON-STAINED JOINTS.

STRATUM 3B - COMPETENT ROCK: GRAY AND WHITE HARD TO INTERMEDIATE GNEISS, SLIGHTLY WEATHERED, WITH WEATHERED AND IRON-STAINED JOINTS, TRACE WHITE QUARTZ AND PINK BIOTITE.

NOTE: STRATIFICATIONS REPRESENT INTERPRETATIONS BETWEEN BORINGS BY GES AND MAY NOT REPRESENT ACTUAL SUBSURFACE CONDITIONS.

PROFESSIONAL ENGINEER

LEGEND

Fill

Weathered Bedrock

Silty Sand

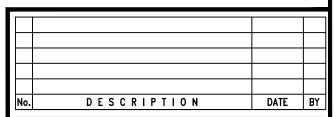


Boulders and Cobbles

Gravelly Silty Sand

Poorly-graded Sand

Bedrock



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6 BAYBERRY ROAD ELMSFORD, NEW YORK 10523 PHONE 914-592-4616 FAX 914-592-0416

> NORTH BROADWAY ASSEMBLAGE YONKERS, NY

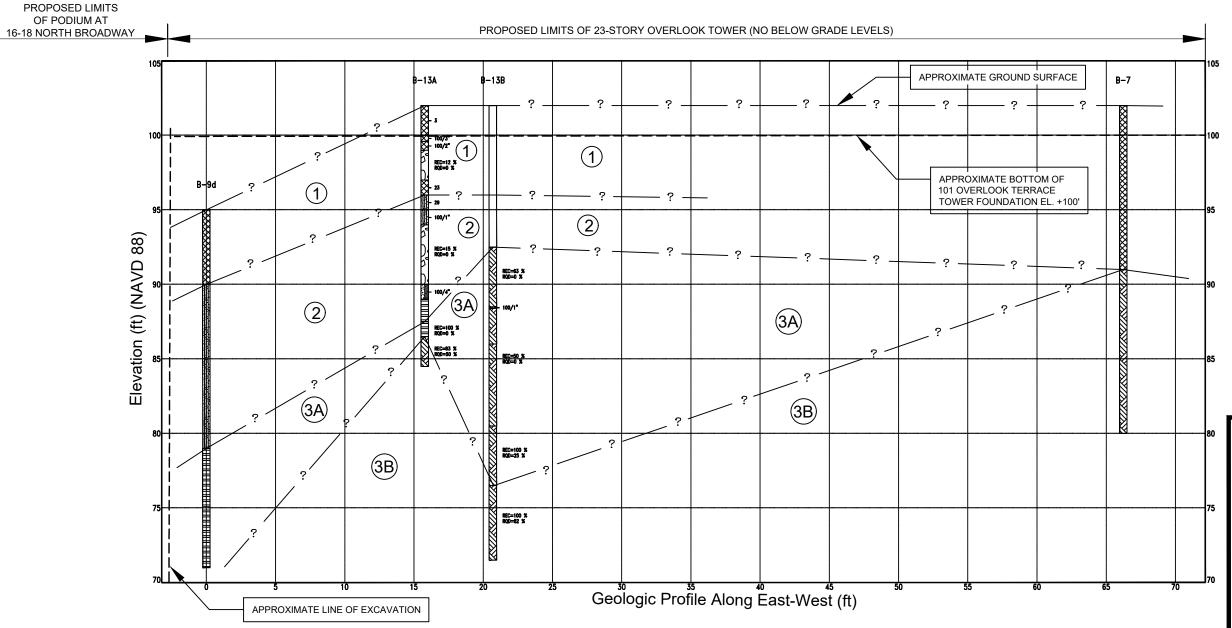
BLOCK:

LOT.

ZONE:

GEOLOGIC CROSS SECTION B-B'

2019038	
NTS	
11/23/2020	
B-103.00	
3 OF 5	
	NTS 11/23/2020 B-103.00



STRATUM LEGEND:

STRATUM 1 - FILL: BROWN, BLACK, AND GRAY MEDIUM TO FINE SAND, WITH VARYING AMOUNTS OF BOULDERS, SILT, GRAVEL, CONCRETE AND BRICK FRAGMENTS, AND WOOD, GLASS AND METAL FRAGMENTS.

STRATUM 2 - GLACIAL TILL: BROWN AND TAN SILTY MEDIUM TO FINE SAND, COBBLES, AND BOULDERS, WITH VARYING AMOUNTS OF GRAVEL, ROCK FRAGMENTS, MICA, AND ROOTS.

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NOTE: STRATIFICATIONS REPRESENT INTERPRETATIONS BETWEEN BORINGS BY GES AND MAY NOT REPRESENT ACTUAL SUBSURFACE CONDITIONS.

PROFESSIONAL ENGINEER

LEGEND

Fill

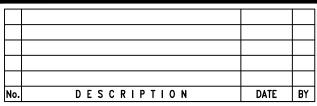
Boulders and Cobbles

Silty Sand

Poorly—graded Sand with

Weathered Bedrock

| | Bedrock



GES GEOTECHNICAL ENGINEERING SERVICES, P.C.

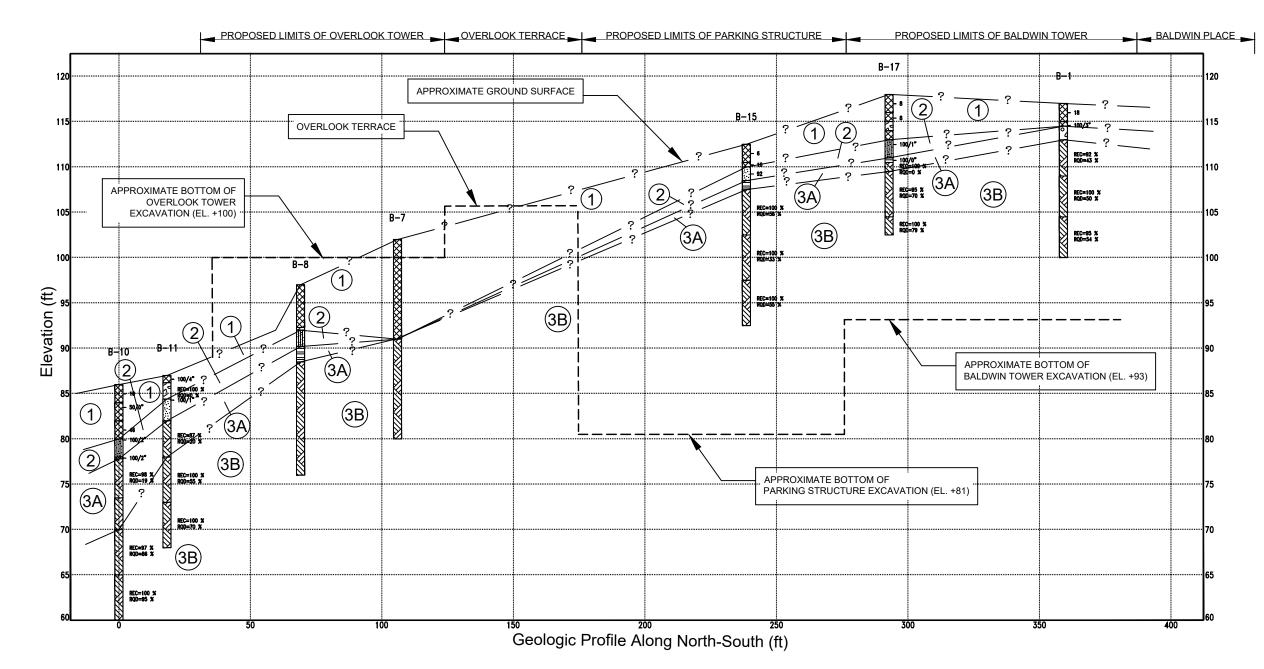
6 BAYBERRY ROAD ELMSFORD, NEW YORK 10523 PHONE 914-592-4616 FAX 914-592-0416

> NORTH BROADWAY ASSEMBLAGE YONKERS, NY

BLOCK: LOT: ZONE: MAP:

GEOLOGIC CROSS SECTION C-C'

PROJECT #:	2019038	
SCALE:	NTS	
DATE:	11/23/2020	
DRAWING NO:	B-104.00	
FIGURE NO:	4 OF 5	



STRATUM LEGEND:

STRATUM 1 - FILL: BROWN, BLACK, AND GRAY MEDIUM TO FINE SAND, WITH VARYING AMOUNTS OF BOULDERS, SILT, GRAVEL, CONCRETE AND BRICK FRAGMENTS, AND WOOD, GLASS AND METAL FRAGMENTS.

STRATUM 2 - GLACIAL TILL: BROWN AND TAN SILTY MEDIUM TO FINE SAND, COBBLES, AND BOULDERS, WITH VARYING AMOUNTS OF GRAVEL, ROCK FRAGMENTS, MICA, AND ROOTS.

STRATUM 3A - DECOMPOSED ROCK: GRAY AND WHITE DECOMPOSED GNEISS FRAGMENTS, CLOSELY JOINTED TO BROKEN, WITH WEATHERED AND IRON-STAINED JOINTS.

STRATUM 3B - COMPETENT ROCK: GRAY AND WHITE HARD TO INTERMEDIATE GNEISS, SLIGHTLY WEATHERED, WITH WEATHERED AND IRON-STAINED JOINTS, TRACE WHITE QUARTZ AND PINK BIOTITE.

NOTE: STRATIFICATIONS REPRESENT INTERPRETATIONS BETWEEN BORINGS BY GES AND MAY NOT REPRESENT ACTUAL SUBSURFACE CONDITIONS.

PROFESSIONAL ENGINEER

LEGEND

Fill

Poorly-graded Gravel

Silty Sand

Poorly-graded Sand

Boulders and Cobbles

Weathered Bedrock

Bedrock

No. DESCRIPTION DATE BY

GES GEOTECHNICAL ENGINEERING SERVICES, P.C.

6 BAYBERRY ROAD ELMSFORD, NEW YORK 10523 PHONE 914-592-4616 FAX 914-592-0416

> NORTH BROADWAY ASSEMBLAGE YONKERS, NY

BLOCK: LOT: ZONE: MAP

GEOLOGIC CROSS SECTION D-D'

PROJECT #:	2019038	
SCALE:	NTS	
DATE:	11/23/2020	
DRAWING NO:	B-105.00	
FIGURE NO:	5 OF 5	

Proje	ect:	Nort	th Br	oadv	vay A	Asse	mbla	age	Pı	oj	ect	Nu	mb	er: 2019038			
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Date(s Drilled)	4/8/	19 - 4/	9/19				Inspector Haykel Melaouhia, Ph.D.	Cod	ord	inate	es E	lorti ast:	h:			
Drilling Agency	J y	Mui	nicipal	Testi	ng Lal	oorato	ory	Foreman Mike Saltz / Anthony Kappel	App Ele	oro: vat	xima ion (te S feet)	urfac	ce ± 117			
Drilling Equipn) nent	Ged	probe	Track	k Rig			Drilling Method Mud Rotary	Coi Dej	npl oth	letior (fee	n t) 1	7.0	Rock Depth (feet) 4.0			
Casing Size/Ty) ype	4" 9	Steel					Size/Type of Bit 3-7/8" Roller Bit	Sar Typ	npl e(s	er s)		2" Split Spoon				
Ground and Da	dwater ate Mea	Level asured	NA NA					Hammer Wt/Drop 140/30" (Auto) Casing Hammer Wt/Drop 140/30" (Auto)			ype Barre		2" NX (Double Tube)				
Boring	Locati	ion Se	e Bori	ng Lo	cation	Plan	(Figur	re 1)	No	No. of Samples Dist.: 2 Undist.: 0 Core (f							
	Soil	Sam		Roc	k Co	ring					ب	(%):					
Depth, feet	Type, Number	Recov. (ft)	Pen. Resist. (blows/6 in)	Run Number	Recov. (%)	RQD (%)	Graphic Log	DESCRIPTION		Liquid Limit	Plastic Limit	Water Cont.(%)	% Fines	REMARKS			
0-	S-1	1.5	3 2 16 28					FILL: Brown and black medium to fine Sand, some Gravel, some Silt	-					S-1: Dry			
1	S-2	0.7	32 100/3"					FILL: Gray medium to fine Gravelly Sand						S-2: Dry. Cased to 4 ft			
+			100/3				000	NATURAL: Gray Decomposed Rock fragments	_{					Decomposed rock at to of spoon sampler Spoon refusal at 2.8 ft			
+							0 0 0	(GP)	_								
5-								Intermediate gray Silghtly weathered Gneiss, closely jointed to broken, weathered and iron-stained joints	-								
-				C-1	92	43								Losing water			
								Same as Above	-					Barrel clogged at 8 ft			
10-				C-2	100	50								Losing water			
_								Same as Above						Barrel clogged at 12.5			
15-				C-3	95	54			-					Losing water			
								Doring completed to 47 ft below to 12 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5						Barrel clogged at 17 ft			
-								Boring completed to 17 ft below ground. Backfilled with soil cuttings upon completion	-								
20								GES D.C									

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Loca	tion:	23 C	verlo	ook T	errac	e, Yo	onker	s, NY									
Date(s Drilled)	4/9/	19 - 4/	10/19				Inspector Haykel Melaouhia, PhD. / Mike Torino, P.E.	C	oord	inate		lorti ast:				
Drilling Agency		Mur	nicipal	Testir	ng Lal	borato	ory	Foreman Anthony Kappel	A	opro: evat	xima	te S feet	urfac	face ± 98 0.0 Rock Depth (feet) 25.0 2" Split Spoon			
Drilling Equipn		Geo	probe	Track	k Rig			Drilling Mud Rotary	C	omp	letior (feet	۱ ,	30.0				
Casing Size/T	ı	3 ar	nd 4" S	Steel				Size/Type of Bit 2-7/8" and 3-7/8" Roller Bit		ampl /pe(s			2"				
Ground	dwater ate Mea		NA NA					Hammer Wt/Drop 140/30" (Auto) Casing Hammer Wt/Drop 140/30" (Auto)	Si	ze/T	ype o Barre	of l	2"	NX (Double Tube)			
				ng Lo	cation	Plan	(Figur		_	o. of	f Sar st.: 7	nple	es Unc	list.:0 Core (ft):1			
	Soil	Sam	ples	Roc	k Co	ring					,		<u> </u>	10th g = 010 (1t/) 1			
Deptn, feet	Type, Number	Recov. (ft)	Pen. Resist. (blows/6 in)	Run Number	Recov. (%)	RQD (%)	Graphic Log	DESCRIPTION		Liquid Limit	Plastic Limit	Water Cont.(%)	% Fines	REMARKS			
0			4				Ź	~3" Concrete Slab						Cored through concresiab			
	S-1	1.0	6 7 9					Brown and dark gray coarse to fine Sand, some Gravel Concrete fragments, trace Silt	, _					S-1: Moist			
-	S-2	0.7	3 4 9					FILL: Brown medium to fine Sand, some Gravel, some Silt, trace Concrete fragments	- -					S-2: Moist			
-			13														
5-	S-3	0.9	7 6 9					FILL: Brown medium to fine Sand, some Gravel, Silt, trace Brick fragments, Roots	_					S-3: Moist			
			9					- 	-					S-4: Moist			
-	S-4	0.9	13 9 8					Same as Above	-								
10	S-5	1.0	7 7 8					FILL: Gray and brown medium to fine Sand, some Gravel, Sil	t _					S-5: Moist			
10-	S-6a	0.5	9 5 5					FILL: Same as Above	. -					S-6: Moist. Cased to ft with 4" casing			
-	S-6b	0.5	6					NATURAL: Brown Silty medium to fine Sand (SM)	-								
-									-					Rig chatter from 13 t 15 ft			
15-	S-7	0.5	8 6 3 7					Brown Gravelly coarse to fine Sand (SP-SW)	_								
			-					Cored through Boulders	_					Rig chatter from 17 to 18 ft			
-)°C	Corea unough boulders	-					Cased to 18 ft with 4' casing			

Soil			Roc		ring	-		 ±=	į.	ıt.(%)		
Type, Number	Recov. (ft)	Pen. Resi: (blows/6 ir	Run Number	Recov. (%	RQD (%)	Graphic Log	DESCRIPTION	Liquid Lim	Plastic Lin	Water Cor	% Fines	REMARKS
			C-1	16	0	000	-	-				
							Presumed same as above	_				Cased to 23.5 ft with casing. Advanced to 25 ft witl roller bit
							Medium hard gray Gneiss, slight to moderate weathering at joints, trace Quartz and pink biotite intrusion	-				Top 1 ft of rock core, likely decomposed rock
			C-2	83	58			-				
							Boring completed to 30 ft below ground. Backfilled with soil cuttings and patched with concrete upon completion	_				
							- -	_				
								-				
								-				
								-				
								_				
		T)	Soil Sambles Type, Number Number Number Recov. (ft) Recov. (ft) Pen. Resist. (blows/6 in) Pen. Resist. (blows/6 in)	Type, Number Recov. (ft) Pen. Resist. (blows/6 in) Run Number	Type, Number Recov. (ft) Recov. (ft) Pen. Resist. (blows/6 in) C Run C Number 1 Number 1 Number 1 Number 1 Number	Type, Number Recov. (ft) Pen. Resist. (blows/6 in) Pen. Resist. (blows/6 in) Pen. Resist. Pen. Recov. (ft) Pen. Resist. Pen. Resist. Pen. Recov. (ft) Pen. Resist. Pen.	Type, Number Recov. (ft) Recov. (ft) Pen. Resist. (blows/6 in) C Number D Ran	DESCRIPTION DESCRIPTION DESCRIPTION DESCRIPTION Presumed same as above Presumed same as above Presumed same as above Presumed same as above Addium hard gray Gneiss, slight to moderate weathering at joints, trace Quartz and pink biotite intrusion	DESCRIPTION Application C-1 16 0 0 0 0 0 0 0 0 0	DESCRIPTION And Description Description	DESCRIPTION Anumber A	DESCRIPTION Annuper A

Proj	ect:	Nort	h Br	oadv	vay A	Asse	mbla	age	Р	roj	ect	Nu	mb	er: 2019038			
			Baldw								•						
Date(s	s)	11/5	5/19 - 1	11/5/19	•			Inspector Daniel George, P.E.	Co	ord	linate		Nort East				
Drilling Agency Big Apple Testing, Inc Foreman Rob								Foreman Rob	Ap	Approximate Surface Elevation (feet) ± 115							
Drilling Equipr	a	Ack	er Soi	l Scou	ut Trac	ck		Drilling Mud Rotary	_	Completion Depth (feet) 16.7 Rock Depth (feet)							
Casing Size/T	q	4" 5	Steel					Size/Type of Bit 3-7/8" Roller Bit	Sa	mp pe(:	ler		N/	·			
	dwater ate Me		NA NA					Hammer Wt/Drop NA Casing Hammer Wt/Drop 140/30" (Safety)	Si: Cc	ze/T re l	ype Barre	of el	2"	NX (Double Tube)			
Boring	Locati	on Se	e Bori	ng Lo	cation	Plan	(Figur	e 1)	No	0. 0 Di :	f Sa st.: (mple)	es Und	dist.: 0 Core (ft):			
	Soil	Sam		Roc	k Co	ring	-				 <u>=</u>	Cont.(%)					
Depth, feet	Type, Number	Recov. (ft)	Pen. Resist. (blows/6 in)	Run Number	Recov. (%)	RQD (%)	Graphic Log	DESCRIPTION		Liquid Limit	Plastic Limit	Water Con	% Fines	REMARKS			
0-								FILL: Advanced Roller Bit to 3.1 ft without Sampling. Presumed Fill.						Fill at grade			
_								Presumed Fill.	-					Drove Casing to 3 ft			
-				C-1	62	0		Gray Cobble						Hard drilling at 3 ft, losing water Cored through cobb from 3 to 4 ft			
5								NATURAL: Advanced Roller bit to 6.7 ft without sampling									
_									_					Possible Decomposi Rock, Hard drilling a			
_								Medium Hard to Hard, slightly weathered Gray Gneiss, Jointed with weathered and iron-stained joints						ft Losing water through coring Casing advanced to			
10-				C-2	93	75			-					Tan wash while cori C-2 and C-3			
-								Presumed Same as Above.	_								
_				C-3					-								
15 —				-					_					Core barrel jammed hole after boring completion.			
-								Boring Completed to 16.7 ft below ground. As of November 13, 2019 Big Apple has not removed casing and core barrel from boring.	-								
20-								-	_								

			h Br						Proj	ect	Nu	mb	er: 2019038					
			aldwii		-	onke	rs, N		_			North	1'					
Date(s Drilled		11/6	6/19 - 1	11/6/19	•			Inspector Michael Torino, P.E.	Coord		²⁸ I	!						
Drilling Agenc	ý	Big	Apple	Testi	ng, Ind	C		1 Oleman Rob				Approximate Surface Elevation (feet) ± 94						
Drilling Equipn	nent	Ack	er Soi	I Scou	ıt Trac	k		Drilling Method Mud Rotary	Comp Depth		n ,	16.0	Rock Depth (feet) 14.0					
Casing Size/T	ype		Steel					of Bit 3-776 Roller Bit	Samp Type(s	s)		2"	2" Split Spoon					
	dwater ate Me		NA NA					Hammer Wt/Drop 140/30" (Safety) Casing Hammer Wt/Drop 140/30" (Safety)	Size/T Core I	ype 3arre	of el	2"	NX (Double Tube)					
Boring	Locati	ion Se	e Bori	ng Lo	cation	Plan	(Figur		No. o Di s	f Sa st.: 1	mple l	es Unc	list.: 0 Core (ft):					
	Soil	Sam			k Co	ring					(%):							
Depth, feet	Type, Number	Recov. (ft)	Pen. Resist. (blows/6 in)	Run Number	Recov. (%)	RQD (%)	Graphic Log	DESCRIPTION	Liquid Limit	Plastic Limit	Water Cont.(%)	% Fines	REMARKS					
0-								FILL: Advanced roller bit to 4.6 ft without sampling. Presumed Fill.	- -				Fill at grade					
- -								- - - - - - - - -	- - -				Drove casing to 3 ft Tan wash while drilli Hard drilling at 4.5 ft					
5-	S-1	0.1	8 7					Black Silty medium to fine Sand, trace metal fragments	-				J					
-								NATURAL: Advanced roller bit to 7 ft without sampling	_				Advanced casing to Losing water while drilling from 4 to 7 ft					
10-				C-1	37	0		Gray cobbles and boulders	-				Hard drilling at 7 ft Losing water through coring C-1, C-2, C-3					
-				C-2	50	0		Gray cobbles and boulders	-									
15-				C-3	100	79		Medium Hard, slightly weathered Gray Gneiss. Moderately weathered at joints	_				Barrel clogged at 14 Removed barrel and then resumed coring from 14 to 16 ft.					
- - -								Boring Completed to 16 ft below ground. Backfilled with soil cuttings upon completion	- - -									
20																		

Proje	ect:	Nort	h Br	oadv	vay A	Asse	mbla	age				Proj	ect	Nu	mb	er: 20	19038
Loca	tion:	2 Ba	aldwii	n Pla	ce, Y	onke	rs, N	ΙΥ									
Date(s Drilled)	11/7	7/19 - 1	11/7/19	•			Inspector	Michael Torin	o, P.E.		Coord	inate	es B	Norti East:	n:	
Drilling Agency	l V	Big	Apple	Testi	ng, Ind	C		Foreman	Rob			Appro Eleva	xima tion (ate S	urfac	ce ± 90	0
Drilling Equipn	1	Ack	er Soi	l Scou	ut Trac	:k		Drilling Method	Mud Rotary			Comp Depth	letio	n t)	16.5	Rock (feet	Depth NA
Casing Size/Ty		4" S	Steel					Size/Type of Bit	3-7/8" Roller I	3it		Samp Type(:	ler s)		NA		
Ground and Da	dwater ate Mea	Level asured	NA NA					Hammer Wt/Drop NA		Casing Hammer Wt/Drop 140/30"	(Safety)	Size/T Core I	ype Barre	of el	2"	NX (Do	ouble Tube)
Boring	Location	on Se	e Bori	ng Lo	cation	Plan	(Figu	re 1)				No. o	f Sai st.: (mple	es Unc	dist.: 0	Core (ft):10
	Soil	Sam		Roc	k Co	ring								(%)			
Depth, feet	Type, Number	Recov. (ft)	Pen. Resist. (blows/6 in)	Run Number	Recov. (%)	RQD (%)	Graphic		DES	CRIPTION		Liquid Limit	Plastic Limit	Water Cont.(%)	% Fines	R	EMARKS
0-									roller bit to 6.5 to 3 ft	ft without sampling.	Presumed	- -				Fill at g	rade
-								NATURAL	 -			_				ft	urn from 3 to 6
5-							2000	Gray cobb	oles and boulde	rs		_				Cored 6	illing at 6.5 ft 6.5 to 11.5. water througho
10-				C-1	40	0)- - - - - - - -				-				coring	
15-				C-2	20	0		Gray cobb	oles and boulde	rs		-					I1.5 to 16.5. water througho
-							000	Big Apple to water lo	refused to core ess. Boring com uttings upon co	e a third run in this lo ipleted to 16.5 ft and impletion	cation due I backfilled	-					
20																	

	Soil	Sam	ples	Roc	k Co	ring					(%)		
, Leet Leet 20 –	Type, Number	Recov. (ft)	ist.	Run Number	(%)	RQD (%)	Graphic Log	DESCRIPTION	Liquid Limit	Plastic Limit	Water Cont.(%)	% Fines	REMARKS
-								-	-				
25 —								Boring collapsing at 24 feet. Bedrock not encountered. Backfilled with soil cuttings upon completion	-				
30-								-	_				
35— -								-	- - -				
40-									_				

Proj	ect:	Nort	h Br	oadv	vay A	Asse	mbla	ge		Pr	oje	ct N	lun	nbe	r: 2019038
	tion:	23 C	verlo	ook T	errac	e, Yo	nker								
Date(s Drilled	s)	11/1	2/19 -	11/12	/19			Inspector Michael Torino, P.E Saleem	E. / Aflaaz	Coo	rdina	ates	No Ea	orth:	
Orilling Agenc	y Y	Site	works	, Inc				Foreman Hector		App Ele			Sur	face	± 100
Drilling Equipr	g ment	Fur	ıkawa	Track	Rig			Drilling Method Air Hammer		Con Dep			24	1.0	Rock Depth (feet)
Casing Size/T	g ype	NA						Size/Type 3-7/8" Rock Hamme		San Typ				NA	
Ground and Da	dwater ate Mea	Level asured	NA NA					Hammer NA Cas Wt/Drop	sing Hammer Drop NA	Size				NA	
3oring	Locati	on Se	e Bori	ng Lo	cation	Plan	(Figur	1)		No.	of S)ist .	am : 0	ples L	j Jndi	st.:0 Core (ft):
	Soil	Sam		Roc	k Co	ring					. 4	1	(%) ::		
feet	Type, Number	Recov. (ft)	Pen. Resist. (blows/6 in)	Run Number	Recov. (%)	RQD (%)	Graphic Log	DESCRI	PTION	100:		Plastic Limit	Water Cont.(%)	% Fines	REMARKS
0								Advanced with air hammer dire Possible Fill from 0 to 6.5 ft	ectly to top of bedrock.	-				F t	Fill at grade. Dark prown return Soil classifications toted based on was rom top of borehole
5-								Gray Cobble NATURAL: Tan Silty medium to fine Sand (SM)	 	- - - - -				<u>.</u>	Gray return and rig shatter from 6.5 to 7 Fan return
10-								- -		_					
- 15								· -		_					
20-										_					

	Soil	Sam	ples	Roc	k Co	ring				<u>۔</u>	(%):		
feet feet	Type, Number	Recov. (ft)	Pen. Resist. (blows/6 in)	Run Number	Recov. (%)	RQD (%)	Graphic Log	DESCRIPTION	Liquid Limit	Plastic Limit	Water Cont.(%)	% Fines	REMARKS
20									-				
25 —							6.7.7.	Boring collapsing at 24 feet. Bedrock not encountered. Backfilled with soil cuttings upon completion -	-				
30-								-	_				
35— -								- 	_				
40-								- 	_				

Projec	t: Nor	th Br	oadv	vay A	Asse	mbl	age				F	roj	ect	Nu	mb	er: 2019038
Locatio	on: 23 (Overlo	ook T	errac	e, Yo	onke	rs, NY									
Date(s) Drilled	11/	12/19 -	11/12/	/19			Inspector	Michael To	rino, P.E. /	Aflaaz	Co	ord	inate	es E	Norti East:	h:
Orilling Agency	Site	eworks	s, Inc				Foreman	Hector			A	pro	xima	te S	urfac	ce ± 100
Drilling Equipmer	nt Fur	ukawa	Track	k Rig			Drilling Method	Air Hamme	r				letio		24.0	1
Casing Size/Type							Size/Type of Bit	3-7/8" Rock	K Hammer		Sa	mp pe(:	ler	-,	NA	
Groundwa	ater Level Measure	NA d NA					Hammer NA Wt/Drop	A	Casing Wt/Drop	Hammer		<u> </u>	ype Barre	of	NA	\
	cation Se			cation	Plan	(Figu			[1102.0]	- IVA		0. 0	f Sa	mple	es Unc	dist.:0 Core (ft):
S	Soil Sam	ples	Roc	k Coı	ring						<u> </u>	<u> </u>	J (Jist U Gore (it).
repuri, feet Type,	Number Recov. (ft)	Pen. Resist. (blows/6 in)	Run Number	Recov. (%)	RQD (%)	Graphic Log		DE	SCRIPT	TION		Liquid Limit	Plastic Limit	Water Cont.(%)	% Fines	REMARKS
0 -		40		4			Advanced Possible I	l with air ham Fill from 0 to 0	nmer directl	y to top of bedrock	⟨. - -	<u></u>			0.	Fill at grade. Dark brown return Soil classifications noted based on wash from top of borehole
5							NATURAI Tan Silty (SM)	L: fine Sand			- - - -					Tan return
10-											- - -					
15-							Gray Cob Tan Silty (SM)				-					Gray return and chattering from 16 to ft
20							_				-					

-GES P.C.——

	Soil	Sam	ples	Roc	k Co	ring				<u>۔</u>	(%):		
feet feet	Type, Number	Recov. (ft)	Pen. Resist. (blows/6 in)	Run Number	Recov. (%)	RQD (%)	Graphic Log	DESCRIPTION	Liquid Limit	Plastic Limit	Water Cont.(%)	% Fines	REMARKS
20									-				
25 —							6.7.7.	Boring collapsing at 24 feet. Bedrock not encountered. Backfilled with soil cuttings upon completion -	-				
30-								-	_				
35— -								- 	_				
40-								- 	_				

Proje	ect:	Nort	h Br	oadv	vay A	Asse	mbl	age		ring			Pro	ject	Nu	mb	Sheet 1 of 2 er: 2019038
								rs, NY									
Date(s) Drilled				11/13				Inspector	Michael 3	Torino, I	P.E. / Aflaaz		Coord	linate	es l	Norti East:	ղ։
Drilling Agency	ı	Site	works	, Inc				Foreman	Hector				Appro	xima	ate S	urfac	
Drilling Equipn				Track	k Rig			Drilling Method	Air Hamn	mer			Comp		`	22.0	Rock Depth (feet) 11.0
Casing Size/Ty		NA						Size/Type of Bit	3-7/8" Ro		mer		Samp Type(ler	,	NA	
Ground	dwater ate Mea	Level	NA NA					Hammer NA Wt/Drop	<u> </u>	C	asing Hammer t/Drop NA		Size/7 Core		of	NA	
	Location				cation	Plan	(Figu				abiop MA		No. o		mple	es Unc	dist.:0 Core (ft):0
	Soil	Sam		Roc	k Co	ring							<u> </u>		_		
Depun, feet	Type, Number	Recov. (ft)	Pen. Resist. (blows/6 in)	Run Number	Recov. (%)	RQD (%)	Graphic	5	C	DESCI	RIPTION		Liquid Limit	Plastic Limit	Water Cont.(%)	% Fines	REMARKS
0-									with air ha n Sand	ammer o	irectly to top of be	edrock.	-				Dark brown return. Possible Fill
5-								-					-				Soil classifications noted based on wash from top of borehole
10-								Possible (borehole v	Gneiss fron with HD do	m 11 to : own-the-	22 ft. Attempted to	o video unable to	_				Gray return and Hard drilling from 11 to 22 to 3" PVC added to borist to hold open
15-																	

	Soil	Sam	ples	Roc	k Co	ring					(%)		
Depth, feet	Type, Number	Recov. (ft)	Pen. Resist. (blows/6 in)	Run Number	Recov. (%)	RQD (%)	Graphic Log	DESCRIPTION	Liquid Limit	Plastic Limit	Water Cont.(%)	% Fines	REMARKS
20-								-					
- - 								Boring Completed to 22 ft below ground. Backfilled with soil cuttings upon completion					
25-								- -					
-								<u>-</u>	_				
-								- -					
30-									-				
-									-				
- 35—													
-								_	-				
-								-	-				
40-								- 					
-								- -					
-								GES.P.C	_				

Proj	ect:	Nort	h Br	oadw	vay A	Asse	mbla	nge	_	Pro	ect	Nu	mb	er: 2019038
Loca	tion:	14 C	verlo	ok T	errac	e, Yo	onkei	rs, NY						
Date(s	s)	11/1	3/19 -	11/13/	/19			Inspector Michael Torino, P.E. / Aflaaz Saleem		Coord	inate	es E	Norti East	h:
Drilling Agenc	1	Site	works	, Inc				Foreman Hector	/ E	Appro Eleva	xima	te S	urfac	t 97
Orilling Equipr	1	Fur	ıkawa	Track	Rig			Drilling Method Air Hammer		Comp			21.0	T
Casing Size/T	g vpe	NA						Size/Type of Bit 3-7/8" Rock Hammer	5	Samp ype(ler		NA	
Groun	dwater ate Mea	Level asured	NA NA					Hammer Wt/Drop NA Casing Hammer Wt/Drop NA		Size/T Core		of el	NA	1
Boring	Location	on Se	e Bori	ng Loc	cation	Plan	(Figur		١	10. 0	f Sa st.: (mple	es Unc	dist.:0 Core (ft):0
	Soil	Sam		Roc	k Co	ring						(%)		
Depin, feet	Type, Number	Recov. (ft)	Pen. Resist. (blows/6 in)	Run Number	Recov. (%)	RQD (%)	Graphic Log	DESCRIPTION		Liquid Limit	Plastic Limit	Water Cont.(%)	% Fines	REMARKS
0-								Advanced with air hammer directly to top of bedrock FILL: Dark brown Sand	₹.	-				Dark brown return. Presumed Fill
-										- -				Soil classifications noted based on wash from top of borehole
5-								Gray Cobble NATURAL: Tan Silty medium to fine Sand (SM)		_				Tan return from 5 to
_								Heavily fractured Gray Gneiss Gray Gneiss, few fractures		-				Gray return and Hard drilling from 8 to 21 ft
10-									-	_				Used HD Down the h camera to video borit to a depth of 13.5 ft. Heavily fractured mic schist was seen from 6.8 to 8.5 ft and competent mica schif from 8.5 to 13.5 ft
15-									-	-				Groundwater observe on video at 13.5 ft. Unable to see below water.
-										-				

GES P.C.

	Soil	Sam	ples i.i.	Roc	k Co		-		nit Lit	mit	nt.(%)		
r Leet Leet 20 –	Type, Number	Recov. (ft)	Pen. Resist. (blows/6 in)	Run Number	Recov. (%)	RQD (%)	Graphic Log	DESCRIPTION	Liquid Limit	Plastic Limit	Water Cont.(%)	% Fines	REMARKS
-								Boring completed to 21 ft below ground. Backfilled with soil cuttings upon completion					
25-													
30-													
35- -													
40 —													

Loca	tion:	14 C	verlo	ook T	errac	ce, Yo	onkei	rs, NY						_	_	
Date(s Drilled	s)	11/1	3/19 -	11/13	/19			Inspector	Michael Torin Saleem	o, P.E. / Aflaaz		Coord	linate	es F	Norti East:	h:
Drilling Agenc	q	Site	works	s, Inc				Foreman	Hector			Appro	xima	te S	urfac	
Drilling	a			Track	Ria			Drilling Method	Air Hammer			Comp			, 24.0	
Equipr Casing Size/T		NA						Size/Type of Bit	3-7/8" Rock H	ammer		Samp Type(ler	ι)	NA	
Groun	dwater ate Mea	Level	NA	<u> </u>				Hammer NA Wt/Drop		Casing Hammer Wt/Drop NA		Size/T Core		of	NA	<u> </u>
	Locati				cation	Plan	(Figur			WWDIOD NA		No. o	f Sa	mple	es	dist.: 0 Core (ft):
	_	Sam		_	k Co			<u> </u>					St.: ((%	Unic	dist.:0 Core (ft):
Deptn, feet	Type, Number	Recov. (ft)	Pen. Resist. (blows/6 in)	Run Number	Recov. (%)	RQD (%)	Graphic Log		DES	CRIPTION		Liquid Limit	Plastic Limit	Water Cont.(%)	% Fines	REMARKS
0-										er directly to top of b	edrock.					Dark brown return. Presumed Fill
5								_								Soil classifications noted based on was from top of borehole
3 -								FILL: Gray boul	ders and cobbl	es						Gray return and rig chatter from 5 to 12
10-								NATURĀI	. – – – –			-				Tan return
- 15								Tan Silty i	 medium to fine	Sand						i an return
20-	-							 								

-GES P.C.

	Soil	Sam	ples	Roc	k Co	ring					(%)		
Deptn, feet 20	Type, Number	Recov. (ft)	Pen. Resist. (blows/6 in)	Run Number	Recov. (%)	RQD (%)	Graphic Log	DESCRIPTION	Liquid Limit	Plastic Limit	Water Cont.(%)	% Fines	REMARKS
-									-				
25 —								Boring collapsing at 24 feet. Bedrock not encountered. Backfilled with soil cuttings upon completion -	-				
30-								-	_				
35-									_				
40-									_				

Proje	ect:	Nort	h Br	oadv	vay A	Asse	mbla	ige				Pro	ject	Nu	mb	er: 2019038
		14 C	verlo	ook T	errac	e, Yo	onker	rs, NY								
Date(s Drilled	s)	11/1	3/19 -	11/13	/19			Inspector	Michael Torino Saleem	o, P.E. / Aflaaz		Coord		-3 E	Norti East	<u> </u>
Orilling Agenc	g ;y	Site	works	s, Inc				Foreman	Hector			Appro Eleva			urfac	t 94
Drilling Equipn	ment	Fur	ukawa	Track	k Rig			Drilling Method	Air Hammer			Comp Depth		n t) 2	24.0	Rock Depth (feet) NA
Casing Size/T	g ype	NA						Size/Type of Bit	3-7/8" Rock Ha			Samp Type(NA	L
Ground and Da	dwater ate Mea	Level asured	NA NA					Hammer NA Wt/Drop	١	Casing Hammer Wt/Drop NA		Size/7 Core			NΑ	
Boring	Locati	on Se	e Bori	ng Lo	cation	Plan	(Figur	e 1)				No. o Di	f Sa st.: (mple)	es Uno	dist.: 0 Core (ft)
	Soil	Sam		Roc	k Co	ring							با	(%):		
repm,	Type, Number	Recov. (ft)	Pen. Resist. (blows/6 in)	Run Number	Recov. (%)	RQD (%)	Graphic Log		DES	CRIPTION		Liquid Limit	Plastic Limit	Water Cont.(%)	% Fines	REMARKS
0 - - -								Advanced FILL: Dark brow	l with air hamme	er directly to top of	bedrock.	-				Dark brown return. Presumed Fill Soil classifications noted based on was from top of borehole
5								FILL: Gray boul	——————————————————————————————————————			_				Gray return and rig chatter from 5 to 12
- 10-								NATURAI Tan Silty	 _: medium to fine \$	- 		-				Tan return
- 15								(SM)	mediam to ime s	Jul IU						
20																

	Soil	Sam	ples	Roc	k Co	ring					8		
Depun, feet	Type, Number	Recov. (ft)	Pen. Resist. (blows/6 in)	Run Number	Recov. (%)	RQD (%)	Graphic Log	DESCRIPTION	Liquid Limit	Plastic Limit	Water Cont.(%)	% Fines	REMARKS
20 -								_	-				
25 —								Boring collapsing at 24 feet. Bedrock not encountered. Backfilled with Soil cuttings upon completion.	-				
30-													
35- -									- - -				
- 40- -									-				

Project:	North	Broad	way A	Asse	mbla	ge	Р	roj	ect	Nu	mb	er: 2019038	
Location:	14 Ove	erlook 1	Terrac	ce, Yo	onker	s, NY	•						
Date(s) Drilled	11/13/	19 - 11/13	3/19			Inspector Michael Torino, P.E. / Aflaaz Saleem	Co	Coordinates North: East:					
Orilling Agency	Sitewo	rks, Inc				Foreman Hector	Ap Ele	pro evat	xima tion (ate S (feet)	urfa)	ce ± 95	
Drilling Equipment Furukawa Track Rig Drilling Method Air Hammer Completion Depth (feet) 15.0										T			
Casing Size/Type	NA					Size/Type of Bit 3-7/8" Rock Hammer	Sa Ty _l	mpl be(s	ler s)		N/	\	
Groundwate and Date Me	r Level easured	NA NA				Hammer Wt/Drop NA Casing Hammer Wt/Drop NA	Siz Co	e/T re E	ype 3arre	of el	1		
Boring Locat	tion See E	Boring Lo	cation	Plan	(Figur	e 1)	No	. 01 Di s	f Sa st.: (mple)	es Uno	dist.: 0 Core (ft)	
Soi	l Sample		ck Co	ring						(%):			
Deptn, feet Type, Number	Recov. (ft) Pen. Resist	(blows/6 in) Run Number	Recov. (%)	RQD (%)	Graphic Log	DESCRIPTION		Liquid Limit	Plastic Limit	Water Cont.(%)	% Fines	REMARKS	
0 -						Advanced with air hammer directly to top of bedrock. FILL: Dark brown Sand	-					Dark brown return. Presumed Fill Soil classifications noted based on was from top of borehold	
5-						FILL: Gray boulders and cobbles -						Gray return and rig chatter from 5 to 10	
10-						NATURAL: Tan Silty medium to fine Sand (SM)	-					Tan return	
-						Boring collapsing at 15 feet. Bedrock not encountered Backfilled with soil cuttings upon completion -	1. - -						
20						GES.D.C							

Project:	Nort	h Bro	oadw	vay A	Asse	mbia	age				Project Number: 2019038					
Location	: 14 O	verlo	ok T	errac	e, Yo	onke										
Date(s) Drilled	11/1	3/19 -	11/13/	/19			Inspector S	lichael Torin aleem	o, P.E. / Aflaaz		Coord	inate	es P	North East:	n:	
Orilling Agency	Site	works	, Inc				Foreman H	ector			Appro Eleva	xima	te S	urfac	t 95	
Drilling Equipment	Furu	ıkawa	Track	Rig			Drilling Method A	ir Hammer			Comp Depth			24.0	Rock Depth (feet) NA	
Casing Size/Type	NA						O:/T	-7/8" Rock H	ammer		Samp Type(ler	-/	NA		
Groundwate and Date M	r Level	NA NA					Hammer Wt/Drop NA		Casing Hammer Wt/Drop NA		Size/1 Core		of	NA	<u> </u>	
Boring Loca				cation	Plan	(Figu			Webiep NA		No. o		mple	es Unc	list.:0 Core (ft):	
So	l Sam	oles	Roc	k Cor	ing						<u> </u>	St (_	l	istu core (it).	
Type,		ist. in)		Recov. (%)	RQD (%)	Graphic Log		DES	CRIPTION		Liquid Limit	Plastic Limit	Water Cont.(%)	% Fines	REMARKS	
0		ш 🖰	<u> </u>					th air hamme	er directly to top of b	edrock.	+-	<u> </u>	_	0,	Dark brown return	
5— -							NATURAL: Tan Silty me (SM)	— — — — - dium to fine :	- — — — — — — — — — — — — — — — — — — —						Soil classifications noted based on was from top of borehole	
- 10- - - -											-					
15-							Possible ded	composed be	drock		_ - - -				Gray return from 24	

-GES P.C. ——

£.	l I	Soil Samples Rock Coring											
Depth, feet	Type, Number	Recov. (ft)	Pen. Resist. (blows/6 in)	Run Number	Recov. (%)	RQD (%)	Graphic Log	DESCRIPTION	Liquid Limit	Plastic Limit	Water Cont.(%)	% Fines	REMARKS
								-	-				
_								-	-				
- 								-					
25-								Boring Completed to 24 ft. Unable to video due to hole collapse to 13.3 ft. Backfilled with soil cuttings upon completion	_				Hole collapsing while drilling at 24 ft
_								-					
- 								-					
_								-					
30-								_	-				
_								-					
_								-					
_								_					
35-								_					
-								-	-				
-								-					
40-								-					
_								-	-				
35								-					
_								-	1_	1			

Proje	ect:	Nort	h Br	oadv	vay A	Asse	mbla	age	P	roj	ject	Nu	mb	er: 2019038		
Loca	tion:	14 N	orth	Broa	dway	/, Yo	nkers	s, NY	•							
Date(s Drilled)	10/2	26/20 -	10/27	/20			Inspector Michael Torino, P.E.	Co	ord	linate	es I	Nort East	h: :		
Orilling Agency	,	Mur	nicipal	Testii	ng Lal	oorato	ory	Foreman Karthik Gopidi	Ap Ele	Approximate Surface Elevation (feet) ± 86						
Drilling Equipn		Por	table (Gas Po	owere	d Rig		Drilling Method Mud Rotary	_		letio (fee	Rock Depth (feet) 8.2				
Casing Size/Ty		4" 5	Steel					Size/Type of Bit 3-7/8" Roller Bit	Sa Ty	mp pe(:	ler s)		2"	Split Spoon		
Ground and Da								Hammer Wt/Drop 140/30" (Donut) Casing Hammer Wt/Drop 140/30" (Donut)	Siz Co	ze/T re l	ype Barre	of el	2"	NX (Double Tube)		
Boring Location See Boring Location Plan (Figure 1)													es Und	dist.:0 Core (ft):1		
	Soil Samples Rock Coring										ļ ,	(%):				
repm,	Type, Number	Recov. (ft)	Pen. Resist. (blows/6 in)	Run Number	Recov. (%)	RQD (%)	Graphic Log	DESCRIPTION		Liquid Limit	Plastic Limit	Water Cont.(%)	% Fines	REMARKS		
0	S-1	1.9	3 4 6 8					FILL: Black and brown medium to fine Sand, some Gravel, Silt, trace Brick fragments	_					S-1: Dry. Cased to 2		
+	S-2	0.5	12 50/0"					FILL: Black and brown medium to fine Sand, some Gravel, Silt, trace Brick and concrete fragments	_					S-2: Dry Spoon refusal at 2.5		
5-	S-3	0.8	15 19 27					FILL: Tan coarse to fine Sand, trace Brick fragments, Silt	-					S-3: Dry		
-	S-4	0.2	22 100/2"					NATURAL: Brown coarse to fine Sand, some Silt, trace Gravel (SM)						S-4: Moist Spoon refusal at 6.2		
-	S-5	0.2	100/2"					Brown coarse to fine Sand, trace Silt (SP) Dark gray and white Gneiss, trace Quartz, closely jointed to broken, weathered joints	<u> </u> _/					S-5: Moist Spoon refusal at 8.2		
10-				C-1	98	19			-							
-								Presumed Same as Above	- - -					Core Barrel clogged 12.5 ft		
15-														Drilled through with roller bit to 16 ft		
-					0-			Gray and white medium hard to broken Gneiss, trace Quartz, Mica, Pink Biotite, slightly weathered joints	- - -							
20				C-2	97	86			_							

GES P.C.

Location: 14 North Broadway, Yonkers, NY

	Soil	Sam	ples	Roc	k Co	ring					%		
Deptin,	Type, Number	Recov. (ft)	Pen. Resist. (blows/6 in)	Run Number	Recov. (%)	RQD (%)	Graphic Log	DESCRIPTION	Liquid Limit	Plastic Limit	Water Cont.(%)	% Fines	REMARKS
20-													
-								Gray and white, hard, slightly weathered Gneiss, moderately jointed, trace Quartz, Pink Biotite	-				
25-				C-3	100	95			_				
								Boring completed to 26 ft below ground. Boring backfilled with soil cuttings upon completion.					
-								-	-				
-								_	-				
-								-	-				
30-								_	-				
-								-	-				
								-					
								-					
35-													
-								_	-				
-								_	-				
-								-	-				
-								-	-				
40-													
								_					
- 4					1		1	-	+	1		1	

Proi	Dject: North Broadway Assemblage													Project Number: 2019038						
							nkers			<u> </u>	-,									
Date(s	;)		27/20 -					Inspector Michael Torino	o, P.E.	Coordinates North:										
Drilling Agency Municipal Testing Laboratory							ory	Foreman Karthik Gopidi			Approximate Surface Elevation (feet) ± 87									
Drilling	3	Por	table (Gas Po	owere	d Rig		Drilling Mud Rotary		+		etior (feet		19.0	Rock Depth (feet) 5.0					
Equipr Casing Size/T			Steel					Size/Type of Bit 3-7/8" Roller B	it	Sa	ampl pe(s	er	.,	2"	Split Spoon					
Groun	dwater ate Mea		NA NA					Hammer Wt/Drop 140/30" (Donut)	Casing Hammer Wt/Drop 140/30" (Donut)	+		ype (Barre	of	2"	NX (Double Tube)					
					cation	Plan	(Figur	·	140/30 (Donut)	_	o. of	Sar	nple	es Unc	list.: 0 Core (ft):10					
	Soil	Sam	ples	Roc	k Co	ring					Dist.: 3				1310 0016 (11). [1					
Depin, feet	Type, Number	Recov. (ft)	Pen. Resist. (blows/6 in)	Run Number	Recov. (%)	RQD (%)	Graphic Log	DESC	CRIPTION		Liquid Limit	Plastic Limit	Water Cont.(%)	% Fines	REMARKS					
0-	S-1	0.5	1 100/4"					FILL: Black Silty medium to fine	Sand, trace roots and glass						S-1: Dry. Cased to 2 ft					
-			100/4					fragments Cored through Boulder							Spoon refusal at 0.8 ft					
-				C-1	100	0	000	-		-										
	S-2	0.1	100/1"				PΩ	NATURAL:							S-2: Wet. Spoon refus					
5								Gray coarse to fine Sand, (SP)	trace Gravel	_					at 2.6 ft Possible decomposed bedrock at 2.5 ft					
-				C-2	87	20		Dark gray and white, medi Gneiss, trace Quartz, Mica weathered joints	ium hard to weathered, a Intrusion, jointed to broken,	-					Spoon refusal at 5 ft. S-3: No Recovery or penetration					
10-				C-3	100	55		Dark gray and white medit Gneiss, trace Quartz, pink weathered and iron-staine	Biotite, jointed to broken	-					Core barrel clogged at ft					
15— - -				C-4	100	70			to medium hard Gneiss, trace jointed to moderately jointed											
-								Boring completed to 19 ft soil cuttings upon complet	below ground. Backfilled with	1										
20-								Son Gattings apon Complet												

Template: GENERAL GES LOGO Proj ID: NORTH BROADWAY ASSEMBLAGE.GPJ

Proi	oct.	Nor	th Br	nadv	vav l		mhla	ane	Pro	niec	rt N	lur	nhe	er: 2019038
								rs, NY		<i>-</i>		-		2010000
Date(s			28/20 -			,, ,,	JIIKCI	Inspector Michael Torino, P.E.	Coo	rdina	ates		orth	
Drilling	q		nicipal			horato	orv	Foreman Karthik Gopidi	App	roxin	naţe	Su	ast: ırfac	:e
Agenò Drillino	q		table (_	Drilling Method Mud Rotary	Con Dep		<u> </u>		6.0	# 92 Rock Depth (feet) 19.5
<u>Equipr</u> Casing	<u>ment</u> g		Steel	3a5 F	Jweie	u Kig		Size/Type 2 7/9" Pollor Pit	Sam	pler				Split Spoon
	dwater	Level	NA					Hammer 440/20" (Domest) Casing Hammer	Size Core	<u> </u>	e of			NX (Double Tube)
	ate Me		e Bori		cation	Plan	(Figur		Nο	of S	amı	ples	s	· · · · · · ·
Domig	_	Sam			k Co		(i igui		<u> </u>)ist.:	_	_	Und	list.: 0 Core (ft):1
	3011			1100			1		<u> </u>	<u>.</u> <u>.</u>	S	Cont.(%)		
Depth, feet	Type, Number	Recov. (ft)	Pen. Resist. (blows/6 in)	Run Number	Recov. (%)	RQD (%)	Graphic Log	DESCRIPTION	+iæi – 7:110: –	Disetic Limit	רומאנוכ בו	ate	% Fines	REMARKS
0-			3					FILL: Brown and black Silty medium to fine Sand, trace roots						S-1: Dry. Cased to 2
-	S-1	0.5	3						-					
-			3					FILL:	_		_	\downarrow		S-2: Dry
	S-2a	0.5	3					Same as Above						5-2. DIY
_	0.05	0.5	2					NATURAL:	_[_					
-	S-2b	0.5	5 21					Tan Silty medium to fine Sand, trace Gravel, roots (SM)	+					S-3: No Recovery.
5-	S-3	0.1	100/3"					Presumed Same as Above (SM)						Gravel stuck in samp tip. Spoon refusal at a
-	-			C-1	80	0	000	Cored through Boulders	-					
-							00	Cored through Boulders	_ _					
-	-						000		-					
10-				C-2	10	0	000		_					
-							000	_ _ -	-					
-							00		-					
_														
_	S-4	0.6	15 32					Tan Silty medium to fine Sand, some Gravel (SM)						S-4: Dry. Spoon refus at 14.2 ft
		0.0	100/2"											
15-	S-5	0.5	40 100/1"					Tan Silty medium to fine Sand, trace Gravel (SM)						S-5: Dry. Spoon refus at 15.6 ft. Possible decomposed rock at
														15.5 ft
_]													
-	-								+					
-				C-3	10	0		Dark gray heavily decomposed Gneiss fragments	-					
20-				U-3	10	U								

-GES P.C.-

Location: 14 Overlook Terrace, Yonkers, NY

	Soil	Sam		Roo	k Co				it	nit	nt.(%)		
, Depin, feet - 20	Type, Number	Recov. (ft)	Pen. Resist. (blows/6 in)	Run Number	Recov. (%)	RQD (%)	Graphic Log	DESCRIPTION	Liquid Limit	Plastic Limit	Water Cont.(%)	% Fines	REMARKS
-				C-4	97	62		Dark gray and white medium hard to intermediate Gneiss, trace Quartz, pink Biotite, moderately jointed to jointed, weathered and iron-stained joints	-				
25 —								Boring completed to 26 ft below ground. Backfilled with soil cuttings upon completion.	-				
-									-				
30-									-				
35-													
-								- -	-				
40-									-				
-									-				

Proje	ect:	Nort	h Br	oadv	vay A	Asse	mbla	age	Pro	ojec	t N	um	ber: 2019038
Loca	tion:	14 (Overlo	ook T	errac	e, Y	onker	rs, NY					
Date(s))	10/2	29/20 -	10/30	/20			Inspector Michael Torino, P.E.	Coor	dina	ates	No Eas	rth: st:
Drilling Agency	l	Mui	nicipal	Testi	ng Lal	borato	ory	Foreman Karthik Gopidi	Appr	oxin	nate :	Surf	ace ± 102
Drilling Equipn	l	Por	table (Gas Po	owere	d Rig		Drilling Mud Rotary	Com			17.	
Casing Size/T	1	4" \$	Steel					Size/Type of Bit 3-7/8" Roller Bit	Sam Type	pler		2	" Split Spoon
Ground and Da	dwater	Level	NA NA					Hammer Wt/Drop 140/30" (Donut) Casing Hammer Wt/Drop 140/30" (Donut)	Size		e of	2	" NX (Double Tube)
Boring	Locati	ion Se	e Bori	ng Lo	cation	Plan	(Figur		No.		amp	les U	ndist.:0 Core (ft):9
	Soil	Sam		Roc	k Co	ring					==	_	
Deptn, feet	Type, Number	Recov. (ft)	Pen. Resist. (blows/6 in)	Run Number	Recov. (%)	RQD (%)	Graphic Log	DESCRIPTION	timi binoi	Plactic I imit	Water Cont (%)	0/ 7:50	REMARKS
0	S-1	0.3	2 2 1					FILL: Brown Silty medium to fine Sand, some Gravel, trace brick and concrete fragments					S-1: Dry. Cased to 2
1	S-2a	0.1	2 100/3"					FILL:	1				S-2: Dry. Split Spoon
1	S-2b	0.1	100/2"					N Same as Above FILL: N Gray and black Silty medium to fine Sand	/_				refusal at 2.4 ft
_				C-1	12	0)00	Cored through boulders					
5	S-3a	1.0	29 23					FILL: Brown Gravelly medium to fine Sand, some Silt					S-3: Wet. Cased to 7
	S-3b	1.0	30 29					NATURAL: Red brown Silty medium to fine Sand, trace Gravel (SM)					
	S-4	0.0	100/1"					No Recovery. Presumed Same as Above (SM)					S-4: Empty Spoon. S spoon refusal at 7 ft.
10-				C-2	15	0		Cored through Boulders	-				
	S-5	0.2	10 100/4"					Brown coarse to fine Sand, some Gravel, trace Silt. (SP-SM)					S-5: Moist Spoon refusal at 12.8 Possible decomposer rock at 12 ft
15-				C-3	100	0		Gray and white weathered Gneiss, trace Quartz, broken	1				
_				C-4	83	50		Light gray and white medium hard Gneiss, trace Quartz, closely jointed, slightly weathered joints	-				Core barrel clogged a 15.5 ft Core barrel stuck at 17.5 ft
-								Boring completed at 17.5 ft. Backfilled with soil cuttings upon completion. Offset 5 ft south to B-13B	-				
20													

Proje	ect:	Nort	h Bro	oadv	vay A	Asse	mbla	age	Proj	ect	Nu	mb	er: 2019038
_oca	tion:	14 C	verlo	ook T	errac	e, Y	onke	rs, NY	-				
Date(s) Drilled)	11/2	2/20 - 1	11/3/20)			Inspector Michael Torino, P.E.	Coord	inate		Norti East:	
Orilling Agency		Mur	nicipal	Testii	ng Lak	oorato	ory	Foreman Karthik Gopidi	Appro	xima	ate S	urfac	
Orilling Equipm		Por	table C	Gas Po	owere	d Rig	-	Drilling Method Mud Rotary	Comp		`	30.5	T
Casing Size/Ty		4" S	iteel					Size/Type of Bit 3-7/8" Roller Bit	Samp Type(s	ler	/	2"	Split Spoon
Ground	dwater ate Mea	Level	NA NA					Hammer Wt/Drop 140/30" (Donut) Casing Hammer Wt/Drop 140/30" (Donut)	Size/T Core I		of	2"	NX (Double Tube)
			e Borii		cation	Plan	(Figu	•	No. o		mple	es Unc	dist.: 0 Core (ft):
	Soil	Sam	ples	Roc	k Co	ring					_		
feet feet	Type, Number	Recov. (ft)	Pen. Resist. (blows/6 in)	Run Number	Recov. (%)	RQD (%)	Graphic Log	DESCRIPTION	Liquid Limit	Plastic Limit	Water Cont.(%)	% Fines	REMARKS
5-								Drilled with roller bit to 9.5 ft without sampling. For geotechnical data from 0 to 9 ft, please refer to Boring B-13A.					Cased to 2 ft with 4" casing
10-				C-1	63	0		NATURAL: — Weathered white and gray Gneiss, closely jointed to broken, weathered joints	-				Core barrel clogged
15-	S-1	0.1	100/1"					Heavily weathered dark gray medium to fine Sand	- -				13.6 ft S-1: Wet. Spoon refu at 13.6 ft. Decompos rock fragments Advanced with 3-7/8 roller bit to 16 ft
-				C-2	50	0		Heavily weathered white and gray Gneiss fragments, broken	-				Core barrel clogged
													18 ft
													Advanced with 3-7/8' roller bit to 21.5 ft

-GES P.C.—

Location: 14 Overlook Terrace, Yonkers, NY

Soil	Sam			k Co	ring					(%)		
Type, Number	Recov. (ft)	Pen. Resist (blows/6 in)	Run Number	Recov. (%)	RQD (%)	Graphic Log	DESCRIPTION	Liquid Limit	Plastic Limit	Water Cont.	% Fines	REMARKS
								-				
			C-3	100	25							Cased to 25 ft with 3"
			C-4	100	82		White and gray medium hard Gneiss, trace Quartz, pink Biotite, jointed to moderately jointed, slightly weathered joints					ulaineter casing
							Boring completed to 30.5 ft below ground. Backfilled with soil cuttings upon completion.	-				
						-		-				
							- - -	-				
		T _£		Type, Number Recov. (ft) Pen. Resist. (blows/6 in)	Type, Number Number Recov. (ft) Pen. Resist. (blows/6 in) C C D Number Run Number Number Number	Type, Number Number Number Recov. (ft) Pen. Resist. (blows/6 in) C-3 Run Number Number S2 RCOV. (%)	Type, Number Number Recov. (ft) Pen. Resist. (blows/6 in) C. C. Run Run S. G. Run Recov. (%) C. C. Capabilic	DESCRIPTION Company C	DESCRIPTION Tight Tight	DESCRIPTION Tight Tight	White and gray intermediate to weathered Gneiss, trace Quartz, closely jointed to jointed, heavily weathered joints White and gray medium hard Gneiss, trace Quartz, pink Biotite, jointed to moderately jointed, slightly weathered joints C-4 100 82	DESCRIPTION Annuary Control C

Proje	ect:	Nort	h Br	oadv	vay A	Asse	mbla	ge		Proj	ect	Nu	mb	er: 2019038
Loca	tion:	7 O	verlo	ok Te	rrace	e, Yoı	nkers	, NY						
Date(s Drilled)	11/3	3/20 - 1	11/4/20)			Inspector Michael Torino, P.E.	С	oord	inate		lorti ast:	
Drilling Agenc		Mui	nicipal	Testi	ng Lal	borato	ory	Foreman Karthik Gopidi			xima tion (ce ± 112
Drilling Equipr		Por	table (Gas Po	owere	d Rig		Drilling Method Mud Rotary	D	epth	letior (fee	t) 2	27.0	Rock Depth (feet) 17.0
Casing Size/T	J ype	4" \$	Steel					Size/Type of Bit 3-7/8" Roller Bit	S T	amp ype(s	ler s)		2"	Split Spoon
Ground and Da	dwater ate Mea	Level asured	NA NA					Hammer Mt/Drop 140/30" (Donut) Casing Hammer Wt/Drop 140/30" (Donut)	10	ore I	ype 3arre	1		NX (Double Tube)
Boring	Locati	on Se	e Bori	ng Lo	cation	Plan	(Figur	e 1)	N	lo. oʻ Di :	f Sar st.: 7	mple	es Unc	list.: 0 Core (ft):11
	Soil	Sam		Roc	k Co	ring						(%):		
Depth, feet	Type, Number	Recov. (ft)	Pen. Resist. (blows/6 in)	Run Number	Recov. (%)	RQD (%)	Graphic Log	DESCRIPTION		Liquid Limit	Plastic Limit	Water Cont.(%)	% Fines	REMARKS
0-	S-1	0.8	1 WoH/6' 1 1					FILL: Brown and black Clayey medium to fine Sand, trace wood fragments	-					S-1: Dry. Cased to 2 ft
-	S-2a	1.0	4 3 6					FILL: Same as Above						S-2: Dry. Cased to 4 ft
_	S-2b	0.5	20 9					NATURAL: Brown Silty medium to fine Sand, trace brick and	 '					
5-	S-3	1.0	23 100/2"					concrete fragments (SM) Brown Silty medium to fine Sand, some Gravel, trace rock fragments (SM)	ⁱ	-				S-3: Dry. Spoon refusal at 5.2 ft
_	S-4	0.0	100/1"					No Recovery. Presumed same as Above (SM)						S-4: No Recovery. Spoon refusal at 6.1 ft
_				C-1	60	0		Cored through Boulders						
-	S-5	1.0	5 12 30 100/2"					Brown Silty medium to fine Sand, trace Gravel, Mica (SM)		-				S-5: Dry. Spoon refusal at 9.7 ft
10- - - -	S-6	0.5	40 100/1"					Same as Above (SM)	-	-				S-6: Dry. Heavily decomposed rock at tip of spoon sample Spoon refusal at 10.6 ft
15-	S-7	0.1	100/2"					Black and gray Silty medium to fine Sand and rock fragments (SM - GM) Dark gray weathered Gneiss, broken		1				S-7: Moist. Heavily decomposed rock at tip of spoon sample Spoon refusal at 15.2 ft
20				C-2	86	0		- CEO D	-	-				

Location: 7 Overlook Terrace, Yonkers, NY

	Soil	Sam	ples	Roc	k Co	ring					%		
Deptn, feet	Type, Number	Recov. (ft)	Pen. Resist. (blows/6 in)	Run Number	Recov. (%)	RQD (%)	Graphic Log	DESCRIPTION	Liquid Limit	Plastic Limit	Water Cont.(%)	% Fines	REMARKS
20-													
_				C-3	93	18		Dark gray and white weathered Gneiss, trace Quartz, broken to closely jointed					
- 25-				C-4	100	40		Gray and white medium hard Gneiss, trace Quartz, pink Biotite, jointed to closely jointed, weathered joints - -					
-								Boring completed to 27 ft below ground. Backfilled with soil cuttings upon completion.					
_								-					
30-													
-								-					
-								-					
35-													
_								-					
-													
-													
40-													
-								-					
	1			1	1	1	1		1	l		1	

Proj	ect:	Nort	h Br	oadv	vay A	Asse	mbla	age	Pro	ject	Nu	mb	er: 2019038
Loca	tion:	15 C	Overlo	ook T	errac	e, Yo	onkei	rs, NY					
Date(s Drilled	s) I	11/6	6/20 - 1	11/6/20)			Inspector Michael Torino, P.E.	Coord	linate	es I	Norti East	n: :
Orilling Agenc	g ;y	Mur	nicipal	Testi	ng Lab	oorato	ory	Foreman Karthik Gopidi	Appro Eleva	xima tion	ate S (feet)	urfad	t 112.5
Drilling Equipr	g ment	Por	table (Gas Po	owere	d Rig		Drilling Mud Rotary	Comp	letio (fee	n z	20.0	Rock Depth 5.0
Casing Size/T		4" 8	Steel					Size/Type 2 7/9" Beller Bit	Samp Type(ler s)		2"	Split Spoon
Groun	dwater ate Mea	Level	NA NA					Hammer Wt/Drop 140/30" (Donut) Casing Hammer Wt/Drop 140/30" (Donut)	Size/ Core	Type Barre	of el	2"	NX (Double Tube)
Boring	Locati	on Se	e Bori	ng Lo	cation	Plan	(Figur		No. c	f Sa st.: (mple	es Uno	dist.: 0 Core (ft):1
	Soil	Sam		Roc	k Co	ring					_		
feet	Type, Number	Recov. (ft)	Pen. Resist. (blows/6 in)	Run Number	Recov. (%)	RQD (%)	Graphic Log	DESCRIPTION	Liquid Limit	Plastic Limit	Water Cont.(%)	% Fines	REMARKS
0-	S-1	0.6	3 3 3					FILL: Brown and black Silty medium to fine Sand, some Gravel, trace roots, concrete fragments	-				S-1: Dry. Cased to 2
-	S-2a	0.5	10					FILL: Same as Above	1				S-2: Dry. Cased to 4
_	S-2b	1.0	40 54 38					NATURAL: Brown and white coarse to fine Sand, trace Gravel, Silt (SP)					
_								Possible Heavily decomposed rock					
5				C-1	100	58		Dark gray and white medium hard to hard Gneiss, trace Quartz and pink Biotite, jointed to closely jointed, slightly weathered joints.	_				S-3: Spoon attempted at 5 ft. Bouncing, no penetration
-				C-2	100	33		Same as Above	-				Core barrel clogged a 11 ft
				C-3	100	55		Same as Above	-				

GES P.C.

Location: 15 Overlook Terrace, Yonkers, NY

Soil Samples Rock Coring 1	REMARKS
Boring completed to 20 ft below ground. Backfilled with soil cuttings upon completion.	
30- - - - - - - - - - - - - - - - - - -	
30- - - - - - - - - - - - - - - - - - -	
30- - - - - - - - - - - - - - - - - - -	
30- - - - - - - - - - - - - - - - - - -	
25_	
35_	
40-	
GFS P.C	

Proj	ect:	Nort	h Br	oadv	vay A	Asse	mbla	ge	F	Proj	ect	Nu	mb	er: 2019038
_oca	tion:	7 O	verlo	ok Te	rrace	e, Yor	nkers	, NY						
Date(s Drilled	5)	11/4	1/20 - 1	1/5/20)			Inspector Michael Torino, P.E.			inate	S E	Norti East:	
Orilling Agenc		Mur	nicipal	Testi	ng Lal	oorato	ory	Foreman Karthik Gopidi	A	opro: evat	xima ion (te S feet)	urfac	± 112
Drilling Equipr	1	Por	table (Gas Po	owere	d Rig		Drilling Method Mud Rotary	Co	ompl epth	etior (feet	1 t) 1	19.0	Rock Depth (feet) 12.0
Casing Size/T		4" 5	Steel					Size/Type of Bit 3-7/8" Roller Bit	Sa	ampl /pe(s	er s)		2"	Split Spoon
Groun	dwater ate Mea		NA NA					Hammer 140/30" (Donut) Casing Hammer	Si	ze/T ore E	ype o Barre	of I	2"	NX (Double Tube)
Boring	Locati	on Se	e Bori	ng Lo	cation	Plan			N	o. of	Sar st.: 3	nple	es Unc	dist.: 0 Core (ft): 1
	Soil	Sam		Roc	k Co	ring						_		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
feet	Type, Number	Recov. (ft)	Pen. Resist. (blows/6 in)	Run Number	Recov. (%)	RQD (%)	Graphic Log	DESCRIPTION		Liquid Limit	Plastic Limit	Water Cont. (%)	% Fines	REMARKS
0-			1					FILL: Black Silty medium to fine Sand, trace roots						S-1: Dry. Cased to 2 ft
_	S-1	0.3	WoH/6' 2					_	_					
-			4											S-2: Dry. Spoon refus
_	S-2	0.5	6					Brown Silty medium to fine Sand, trace Gravel, roots	_					at 3.6 ft
			30 100/2"											Cased to 4 ft
-				C-1	100	0		Cored through Boulders						
5-	S-3	0.2	100/4"				M	NATURAL: Brown Silty medium to fine Sand, trace Gravel, Mica						S-3: Dry. Spoon refus
_								_ (SM)	_					
- 10-				C-2	25	0		Cored through Boulders	-					
-				0.0	50			White to dark gray weathered Gneiss, trace Quartz, broken	_					_
-				C-3	50	0		White and dark gray medium hard to intermediate						Core barrel clogged at
15— - -				C-4	86	48		Gneiss, trace Quartz, slightly weathered, jointed to broken, weathered joints	-					14 ft
-								Boring completed to 19 ft below ground. Backfilled wit soil cuttings upon completion.	h					
20-								son catangs apon completion.						

Template: GENERAL GES LOGO Proj ID: NORTH BROADWAY ASSEMBLAGE.GPJ

Proje	ect:	Nort	th Br	oadv	vay A	Asse	mbla	ge	Pro	ject	Nu	mb	er: 2019038
		10 E	Baldw	in Pl	ace, `	Yonk	ers, l	NY					
Date(s Drilled)	11/4	4/20 - 1	11/5/20)			Inspector Michael Torino, P.E.	Coord		⁵⁵ I	Norti East	:
Drilling Agenc	J y	Mui	nicipal	Testi	ng Lal	borato	ory	Foreman Dave Johnson	Appro Eleva	xima tion	ate S (feet	urfa)	ce ± 118
Drilling Equipn		For	dia Tra	ack Ri	g			Drilling Method Mud Rotary	Comp Depth	letio (fee	n , et)	15.5	Rock Depth 7.5
Casing Size/T		4" 5	Steel					Size/Type of Bit 3-7/8" Roller Bit	Samp Type(ler s)		2"	Split Spoon
Ground and Da	dwater							Hammer Wt/Drop 140/30" (Donut) Casing Hammer Wt/Drop 140/30" (Donut)	Size/7 Core	Гуре Barre	of el	2"	NX (Double Tube)
Boring	Locati	ion Se	e Bori	ng Lo	cation	Plan	(Figur		No. o		mple	es Una	dist.:0 Core (ft):
	Soil	Sam			k Co	ring					_		
Deptn, feet	Type, Number	Recov. (ft)	Pen. Resist. (blows/6 in)	Run Number	Recov. (%)	RQD (%)	Graphic Log	DESCRIPTION	Liquid Limit	Plastic Limit	Water Cont.(%)	% Fines	REMARKS
0-	S-1	0.5	4 4 4					FILL: Brown and black Silty medium to fine Sand, trace roots, Gravel					S-1: Dry. Cased to 2
	S-2	0.4	10 11 8					FILL: Same as Above					S-2: Dry. Spoon refu at 3 ft
			100/0"					Cored through Boulder					Cored through boulde with casing
5-								Presumed Fill NATURAL:					0.20 Day Carre
-	S-3	0.6	14 100/1"					Brown medium to fine Sand, some Silt, trace Gravel (SM)	-				S-3: Dry. Spoon bouncing at 5.5 ft
-	S-4	0.0	100/0"					No advance of spoon sampler	_				S-4: Spoon bouncing No penetration
-				C-1	100	0		Black and white medium hard Gneiss, trace Quartz, slight to moderate weathering.	_				
10-				C-2	95	70		Dark gray and white hard Gneiss, trace Quartz, jointed, slightly weathered joints	_				Core barrel clogged a 8.5 ft
- -								Same as Above	_				
15-				C-3	100	79		Boring completed to 15.5 ft below ground. Backfilled	-				Drill rig broke down a
- - -								- with soil cuttings upon completion.	_				
20								CESDC					

Proj	ect:	Nort	h Br	oadv	vay A	Asse	mbla	age	Pro	oje	ct I	Nu	mb	er: 2019038
Loca	tion:	2 Ba	aldwi	n Pla	ce, Y	onke	rs, N	Υ						
Date(s Drilled	5)	11/9	9/20 - 1	11/9/20)			Inspector Haykel Melaouhia, PhD.	Coo	rdin	ates	s N	lorti ast:	n:
Drilling Agenc	y y	Mur	nicipal	Testi	ng Lak	oorato	ory	Foreman Karthik Gopidi	App Elev	roxi atic	mate on (fe	e Si eet)	urfac	t 92
Drilling Equipr) nent	For	dia Po	rtable	Gas			Drilling Method Mud Rotary	Con	iple th (f	tion feet)) 1	9.0	Rock Depth (feet) 14.0
Casing Size/T	ype	4" 8	Steel					Size/Type of Bit 3-7/8" Roller Bit	Sam Type	ple e(s)	r		2"	SS
Ground and Da	dwater ate Mea	Level asured	NA NA					Hammer Wt/Drop 140/30" (Donut) Casing Hammer Wt/Drop 140/30" (Donut)	Size	/Type Ba	pe o arrel	of	2"	NX (Double Tube)
Boring	Locati	on Se	e Bori	ng Lo	cation	Plan	(Figur	re 1)	No.	of S Dist	Sam . ∶6	nple	s Unc	dist.: 0 Core (ft):
	Soil	Sam			k Co	ring						(%)		
Deptn, feet	Type, Number	Recov. (ft)	Pen. Resist. (blows/6 in)	Run Number	Recov. (%)	RQD (%)	Graphic Log	DESCRIPTION	+:00:		Plastic Limit	Water Cont.(%)	% Fines	REMARKS
0-			1					FILL: Dark brown medium to fine Sand, some Gravel, trace		Ť				S-1: Dry
-	S-1	8.0	WoH/6' 3 5					Silt	_					Cased to 2 ft
_	S-2a	0.4	2					FILL: Same as Above						S-2: Dry
-	S-2b	0.5	3 11					NATURAL: Brown Silty medium to fine Sand, some Gravel	+	+				Cased to 4 ft
-	0-20	0.5	11 11					(SM) Same as Above	-					S-3: Dry
5-	S-3	0.7	20 17 50					(SM)	_					,
-			22					Same as Above (SM)	+					S-4: Dry
=	S-4	0.7	20 14 13						-					Cased to 8 ft
_			22					Brown medium to fine Sand, some Silt, Gravel (SM)	-					S-5: Dry
-	S-5	1.0	50 40 42						-					Cased to 10 ft
10-	S-6	0.2	48					Same as Above (SM)		1				S-6: Moist. Spoon refusal at 10.7 ft
-			50/2"						+					Rig chatter from 13 t
15—				C-1	100	65		Dark gray and white medium hard to hard Gneiss, some Quartz and Mica intrusion. Jointed to broken, slightly weathered at joints, iron stained joints.	e -					
20-								Boring Completed to 19 ft Below Ground Surface. Backfilled with soil cuttings upon completion.						

							mbla	<u> </u>	ber: 2019038
		10 E	Baldw	in Pl	ace, `	Yonk	ers, l		uth.
Date(s Drilled		11/1	0/20 -	11/11	/20			Torino, P.E.	
Orilling Agenc) y	Mur	nicipal	Testi	ng Lal	borato	ory	Foreman Karthik Gopidi Approximate Sur Elevation (feet)	± 115
Drilling Equipr		For	dia Po	rtable	Gas			Drilling Mud Rotary Completion Depth (feet) 22	5 Rock Depth (feet) 17.5
Casing Size/T	J ype	4" 8	iteel					Size/Type of Bit Sampler Type(s)	" SS
	dwater ate Mea		NA NA					Hammer Mt/Drop 140/30" (Donut) Casing Hammer Size/Type of Wt/Drop 140/30" (Donut) Size/Type of Core Barrel	" NX (Double Tube)
Boring	Locati	on Se	e Bori	ng Lo	cation	Plan	(Figur	No. of Samples Dist.: 6 U	ndist.:0 Core (ft):1
	Soil	Sam		Roc	k Co	ring		(%)	
feet	Type, Number	Recov. (ft)	Pen. Resist. (blows/6 in)	Run Number	Recov. (%)	RQD (%)	Graphic Log	NOITHINE LIMIT Plastic Limit Water Cont.(%)	REMARKS
0-			1					FILL: Brown Silty medium to fine Sand, some Roots, Asphalt	S-1: Dry
-	S-1	0.9	WoH/6' 2 2					fragments _ _	Cased to 2 ft
			6					FILL: Brown medium to fine Sand, some Silt, Gravel	S-2: Dry
-	S-2	0.1	9 13 16						Cased to 4 ft
			17					NATURAL: Brown medium to fine Sand, some Silt, Gravel	S-3: Dry. Spoon refus
5-	S-3	0.2	42 100/1"					_(SM)	Cased to 6 ft
	81	100/0							Rig chatter from 5 to 6
	-0-4	100/0		C-1	33	0		Cored through Boulder	S-4: Spoon Bouncing 6 ft, No penetration
-								Presumed same as Below (SM)	
10-	S-5	0.4	100 50/0"					Brown medium to fine Sand, some Gravel, trace Silt (SP)	S-5: Moist Spoon bouncing at 9.4 ft. Cased to 10 ft
-	S-6	0.4	11 50/5"					Same as Above (SP)	S-6: Moist. Spoon refusal at 11.5 ft
- 15				C-2	90	10		Black and gray weathered to medium hard Gneiss trace Quartz intrusion. Closely jointed to broken, slight weathering at joints.	
-				C-3	96	78		Black and light gray medium hard to hard Gneiss, trace Quartz and pink Biotite intrusion. Moderately jointed to jointed, slightly weathered at joints.	

Template: GENERAL GES LOGO Proj ID: NORTH BROADWAY ASSEMBLAGE.GPJ

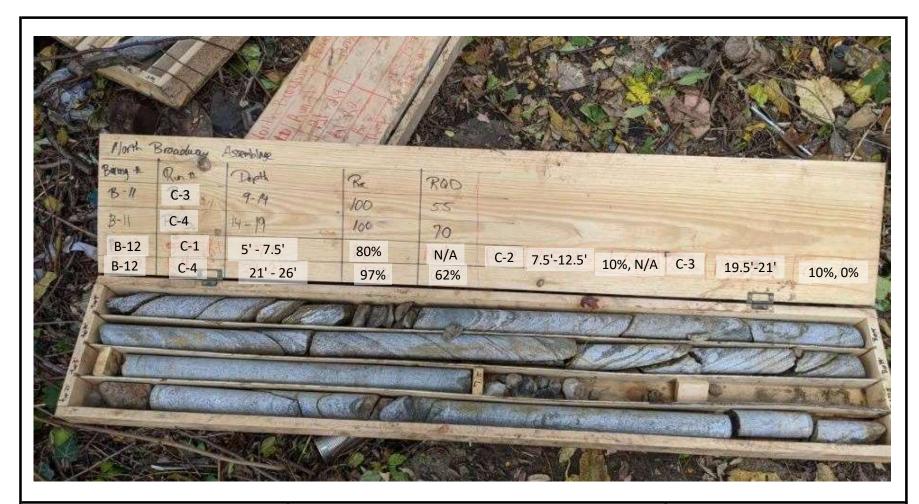
Location: 10 Baldwin Place, Yonkers, NY

	Soil Samples Rock Coring			1		⊭	Ħ	٦t.(
Type, Number	Recov. (ft)	Pen. Resist. (blows/6 in)	Run Number	Recov. (%)	RQD (%)	Graphic Log	DESCRIPTION	Liquid Limit	Plastic Limit	Water Cont.(%)	% Fines	REMARKS
							-					
							Boring backfilled with cuttings upon completion.					
							_					
							-					
							-					
							_					
							_					
							-					
							-					
							_					
							- -					
							-					
							_					
							-					
							-					
												_
	Type, Numb	Type, Numb Numb Recov	Type, Numbh	Type, Numb Recov (blows) (blows	Type, Numbh Recov (blows) (blow	Туре, Numb Recov Pen. F Pen. F Bun P Numb Recov Recov						



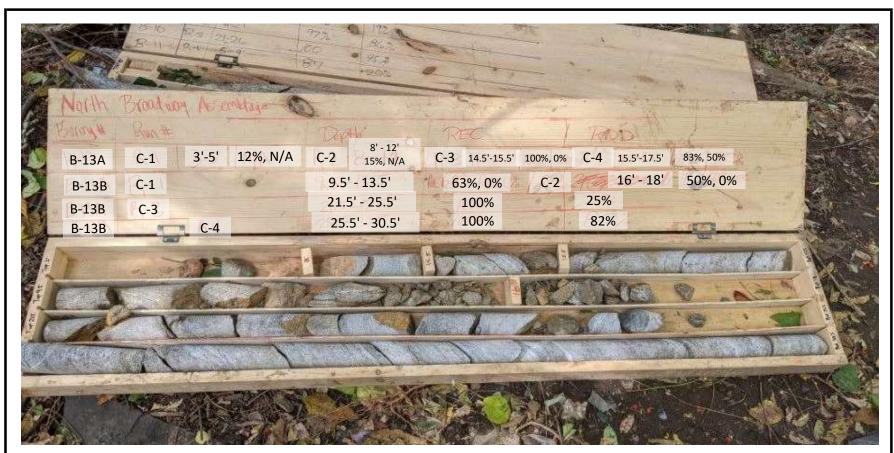


	ROC	K CORE PI	HOTOGRAP	Project Name:		orth Broad Assemblag	•		
	Boring No.	Core No.	Depth (ft)	Rec %	RQD %	Project	N. Bwy, C	, Overlook Terr., Baldwir	
	B-10	C-1	8 - 12.5	98	19	Location:		Yonkers, NY	•
	B-10	C-2	16 - 21	97	86	Dwg No.		Plate 1	
'	B-10	C-3	21 - 26	100	95	Drawn By:	DJG	Project No:	2019038
	B-11	C-2	5 - 9	87	20	Diawii by.	DJG	Project No.	
				·		Ch'ked By:	ZM	Date:	11/11/2020
						Cirkeu by.	∠ıVI	Date.	11/11/2020





ROC	K CORE PI	HOTOGRAP	Project Name:		orth Broad Assemblag	•			
Boring No.	Core No.	Depth (ft)	Rec %	RQD %	Project	N. Bwy, C	Overlook Terr.,	Baldwin Pl.,	
B-11	C-3	9 - 14	100	55	Location:		Yonkers, NY	Υ	
B-11	C-4	14 - 19	100	70	Dwg No.		Plate 2		
B-12	C-1	5 - 7.5	80	N/A	Drawn By:	DJG	Project No:	2019038	
B-12	C-2	7.5 - 12.5	10	N/A	Diawii by.	DJG	Project No.	2019030	
B-12	C-3	19.5 - 21	10	0	Ch'ked By:	ZM	Date:	11/11/2020	
B-12	C-4	21 - 26	97	62	Cil keu by.	∠IVI	Date.	11/11/2020	





	ROC	K CORE PI	Project Name:	•						
	Boring No.	Core No.	Depth (ft)	Rec %	RQD %	Project N	I. Bwy, Overlook Terr., Baldwin			
	B-13A	C-1	3 - 5	12	N/A	Location:		Yonkers, NY		
	B-13A	C-2	8 - 12	15	N/A	Dwg No.		Plate 3		
<u>.</u>	B-13A	C-3	14.5 - 15.5	100	0					
'	B-13A	C-4	15.5 - 17.5	83	50	Drawn By:	DJG	Project No: 2019038		
	B-13B	C-1	9.5 - 13.5	63	0					
	B-13B	C-2	16 - 18	50	0					
	B-13B	C-3	21.5 - 25.5	100	25	Ch'ked By:	ZM	Date: 11/11/2020		
	B-13B	C-4	25.5 - 30.5	100	82					





ROC	K CORE PI	HOTOGRAP	,	orth Broadway Assemblage				
Boring No.	Core No.	Depth (ft)	Rec %	RQD %	Project N. Bwy,	I. Bwy, Overlook Terr., Baldwin Pl.		
B-14	C-1	7 - 8	60	N/A	Location:	Yonkers, NY		
B-14	C-2	17 - 20.5	86	0	Dwg No.	Plate 4		
B-14	C-3	20.5 - 23	93	18	Drawn By: DJG	Project No: 2019038		
B-14	C-4	23 - 27	100	40	Diawii by. DJG	Project No. 2019000		
B-16	C-2	8 - 12	25	N/A	Ch'ked By: ZM	Date: 11/11/2020		
B-16	C-3	12 - 14	50	0	Clikeu by. ZIVI	Date. 11/11/2020		





	ROC	K CORE PI	HOTOGRAP	Project Name:					
	Boring No.	Core No.	Depth (ft)	Rec %	RQD %	Project N	I. Bwy, C	, Overlook Terr., Baldwir	
	B-16	C-4	14 - 19	86	48	Location:		Yonkers, NY	
_	B-15	C-1	5 - 10	100	58	Dwg No.		Plate 5	
'	B-15	C-2	10 - 15	100	33	Drawn By:	DJG	Project No:	2019038
	B-15	C-3	15 - 20	100	55	Diawii by.	DJG	Project No.	2013030
						Ch'ked By:	ZM	Date:	11/11/2020
						Cirkeu by.	∠IVI	Date.	11/11/2020





	ROC	K CORE PI	HOTOGRAP	HIC PLAT	E	Project Name:		orth Broad Assemblag	•	
	Boring No.	Core No.	Depth (ft)	Rec %	RQD %	Project N	N. Bwy, Overlook Terr., Baldwin P			
	B-17	C-1	7.5 - 8.5	100	0	Location:		Yonkers, NY	ľΥ	
_	B-17	C-2	8.5 - 13.5	95	90	Dwg No.	Plate 6			
'∣	B-17	C-3	13.5 - 15.5	100	79	Drawn By:	DJG	Project No:	2019038	
						Diawii by.	DJG	Project No.	2019000	
						Ch'ked By:	ZM	Date:	11/11/2020	
						On Red By.	∠IVI	Date.	11/11/2020	





	ROC	K CORE PI	HOTOGRAP	HIC PLAT	E	Project Name:		orth Broadv Assemblag	•	
	Boring No.	Core No.	Depth (ft)	Rec %	RQD %	Project N	N. Bwy, C	Overlook Terr., Baldwin P		
	B-18	C-1	14 - 19	100	65	Location:		Yonkers, NY		
<u>. </u>	B-19	C-1	6 - 9	33	N/A	Dwg No.		Plate 7		
'∣	B-19	C-2	12.5 - 17.5	90	10	Drawn By:	DJG	Project No:	2019038	
	B-19	C-3	17.5 - 22.5	96	78	Diawii by.	DJG	Project No.	2019030	
				·		Ch'ked By:	ZM	Date:	11/11/2020	
						On Red By.	∠IVI	Date.	11/11/2020	