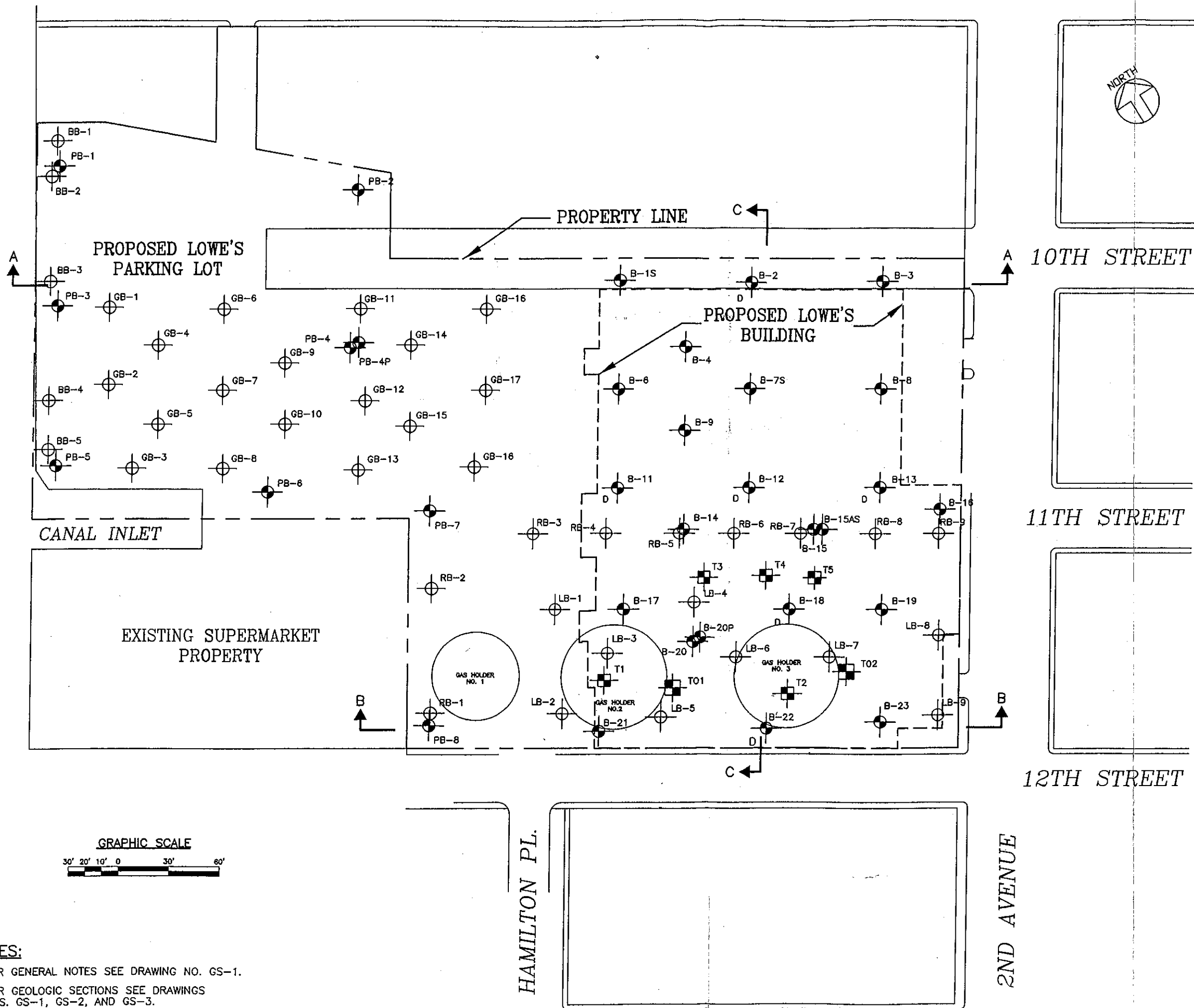







Mueser Rutledge Consulting Engineers Logs – 2002

GOWANUS CANAL




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

PROJECT MRCE BORINGS:

-  B-1 - BUILDING BORING, 82 FEET DEEP
-  B-2 - BUILDING BORING, 102 FEET DEEP
-  PB-1 - PARKING LOT BORING, 82 FEET DEEP
-  B-1S - UNDISTURBED SAMPLE TAKEN IN BORING
-  B-20P - 30 FOOT DEEP OBSERVATION WELL INSTALLED IN BORING

2002 SUPPLEMENTAL BORINGS:

-  T1 - BORING TO INVESTIGATE REMNANTS OF FORMER GAS HOLDERS AND OIL TANKS

PREVIOUS BORINGS:

-  LB-1 - 1998 BORING
-  RB-1 - 1998 BORING
-  BB-1 - 1998 BORING
-  GB-1 - 1998 BORING

NOTES:

1. FOR GENERAL NOTES SEE DRAWING NO. GS-1.
2. FOR GEOLOGIC SECTIONS SEE DRAWINGS NOS. GS-1, GS-2, AND GS-3.

1	12-12-02	J.C.	ADDED SUPPLEMENTAL BORINGS AND UNDERGROUND TANK LOCATIONS MODIFIED LOCATIONS OF PREVIOUS BORINGS	
REV.	DATE	BY	DESCRIPTION	
LOWE'S HOME CENTER				
BROOKLYN			NEW YORK	
AKRF ENGINEERING, P.C.				
NEW YORK			NEW YORK	
MUESER RUTLEDGE CONSULTING ENGINEERS				
225 WEST 34th STREET, NEW YORK, NY 10122				
SCALE	MADE BY J.C.	DATE	1-14-01	FILE NO.
GRAPHIC	CH'KD BY	DATE		9446
BORING LOCATION PLAN				DRAWING NO. B-1

SHEET 1 OF 3
FILE NO. 9446
BORING NO. B-14
SURFACE ELEV. _____

PROJECT LOCATION Brooklyn NY

RES. ENGR

R. NUMB2

DAILY PROGRESS	SAMPLE			SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS	
	NO.	DEPTH	BLOWS/6"						
01/03/00 Wed. 20' Sep 1350	10	1	10-6	BLK C-f sand, silty, p. gl, wood (sm)	(4)			drilled AHEAD 5" concrete surface 2" apart.	
	20	3	3-2	BRN-BLK M-f sand, silty, Tr. gl, (fill) (sm)					
	30	5	2-2	DO-20 (fill) (sm)			5	MUD	
	40	7	2-1	DO-20 (fill) (sm)					
		9	1-1				10		
1420 21/04/01 THURS. 20' of clay CG40	50	10	WHL 10"	gray blk C-f sand, silty, Tr. gl, (fill) (sp. sm)	(5)				
	60	12	WHL 12"	gray blk C-f sand, silty, Tr. gl, (fill) (sm)					
	70	14	2-1	RP (6") DO-60 (fill) (sm)			14.7		
	84	16	Pest. 16"	ROT (6") 2-11 gray org. silty clay, Tr. log, (fill) (sm)					SBA. ROT (6") of TUBE.
	90	18	Pest. 18"	ROT (18") BRN silty f-sand, Tr. log (sm)			18.9	✓	
	100	20	3-1	DO-90 (ROT) (sm)		20			
		12	3-3						
	110	25	7-7	gray m-f sand, silty (sm)		25			
		27	9-11						
	120	30	2-4	ROT (30") gray silty f-sand, Tr. log (sm)	(5)	30			
		32	8-12	ROT (6") BRN M-f sand, Tr. gl (sp. sm)					
	130	35	8-16	BRN M-f sand, Tr. gl (sp. sm)		35			
		37	13-15						
	140	40	5-6	DO-120, Tr. gl (sp. sm)		40			
		42	6-5						
	150	45	1-1	BRN clayey silt, silty f-sand, Tr. NIA (MH)		45			
		47	1-1						
	160	50	11-14	LED BRN f-s sand, Tr. silt, gl, silt (sm)	(7)	45.5			
		52	14-12				50		

胡金銓 吳昊 吳昊 吳昊

MUESER RUTLEDGE CONSULTING ENGINEERS

PROJECT Low's Home Center
 LOCATION Brooklyn NY
 BORING LOCATION _____

BORING NO. B1U
 SHEET 3 OF 3
 FILE NO. 9446
 SURFACE ELEV. _____
 DATUM _____

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG _____ TYPE OF FEED _____ CASING USED ☒ YES ☐ NO
 TRUCK CME 75 MECHANICAL _____ DIA. IN. 4 DEPTH, FT. FROM 0 TO 20
 SKID _____ HYDRAULIC X DIA. IN. _____ DEPTH, FT. FROM _____ TO _____
 BARGE _____ OTHER _____ DIA. IN. _____ DEPTH, FT. FROM _____ TO _____
 OTHER _____
 TYPE AND SIZE OF: _____ DRILLING MUD USED ☒ YES ☐ NO
 D-SAMPLER 2" O.D. split spoon DIAMETER OF ROTARY BIT, IN. 4 7/8, 3 7/8, 2 15/16
 U-SAMPLER Shelby Tube TYPE OF DRILLING MUD Quik Gel
 S-SAMPLER _____
 CORE BARREL _____ AUGER USED ☐ YES ☒ NO
 CORE BIT _____ TYPE AND DIAMETER, IN. _____
 DRILL RODS N
 CASING HAMMER, LBS. 350 AVERAGE FALL, IN. 24
 SAMPLER HAMMER, LBS. 140 AVERAGE FALL, IN. 30

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE (FEET)	DEPTH OF CASING (FEET)	DEPTH TO WATER (FEET)	CONDITIONS OF OBSERVATION
					No observation

PIEZOMETER INSTALLED ☐ YES ☒ NO SKETCH SHOWN ON _____
 STANDPIPE: TYPE _____ ID. IN. _____ LENGTH, FT. _____ TOP ELEV. _____
 INTAKE ELEMENT: TYPE _____ OD. IN. _____ LENGTH, FT. _____ TIP ELEV. _____
 FILTER: MATERIAL _____ OD. IN. _____ LENGTH, FT. _____ BOT. ELEV. _____

PAY QUANTITIES

2.5" DIA. DRY SAMPLE BORING LIN. FT. 79.1 NO. OF 3" SHELBY TUBE SAMPLES _____
 3.5" DIA. U-SAMPLE BORING LIN. FT. — NO. OF 3" UNDISTURBED SAMPLES _____
 CORE DRILLING IN ROCK LIN. FT. — OTHER: obstructions (boulders) 2.9

BORING CONTRACTOR

DRILLER M. Alexander HELPERS T. Felton / D. Keith
 REMARKS Grout borehole upon completion
 RESIDENT ENGINEER Z. Nunez DATE 01/04/01

NOTES:

- Make a separate log of each boring and each unsuccessful boring attempt. Keep a copy of all logs in the field.
- In daily progress column indicate depth at beginning and end of work day, calendar date, day of week, time at beginning and end of work day and weather conditions.
- All samples shall be numbered in consecutive order regardless of type: dry samples D, wash samples W, shelby tube samples S, fixed piston samples U. Assign NR to lost samples and record blows. Make another sample attempt immediately below the lost sample.
- Mark each U-sample with job number, boring number, sample number, depth, penetration and recovery. Indicate method by which penetration of tube sampler was obtained.
- Record blows on spoon sampler per six inches of penetration. Note all blows and penetrations when taken at less than six-inch interval.
- List changes of material in strata column and list generalized strata descriptions.
- List under remarks the manner by which changes in material were detected, all obstructions, any loss or gain of wash water including amount and any unusual occurrences.
- For rock core, the recovery and the RQD (Rock Quality Designation) should be shown in both inches and percent of run length in the blows per six inches column. All core runs shall be numbered in consecutive order. A run number is given even if recovery is zero.
- Include sample description by Unified Soil Classification System.
- Obtain water level at the beginning of each day and at all other times when stable water conditions exist.

BORING NO. B-1U

MUESER RUTLEDGE CONSULTING ENGINEERS

SHEET 1 OF 3

FILE NO. 9446

PROJECT Levee Home ONTE

BORING NO. BZ

PROJECT LOCATION Brooklyn, NY

RES. ENGR. R. NUNEZ

SURFACE ELEV.

DAILY PROGRESS	SAMPLE			SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
	NO.	DEPTH	BLOWS/6"					
01/03/01 WED. 0940 18°F Clear	10	1	12-9	BLK f. m. sand, sm silt, fr. gh, cinders (FH)	(F)			Safety Hanger around 1'-10" depth of surface, and cable line. Petroleum odor.
		3	6-3					
	20	3	5-6	DO-10 (FH) (SM)				
		5	4-4					
	30	5	3-1	gray m. f. sand, sm silt, fr. gh, cinders (FH) (SM)		5		
		7	2-2					
	40	7	3-9	DO-30 (FH) (SM)				
		9	10-11					
	50	10	4-1	DO-30 (FH) (SM)		10		
		12	1-1					
	60	12	3-3	TOP (1")-BLK CINDER, fr. gh (FH) (CINDER)	(O)			R-2" 6-5" Petroleum odor shows
		14	2-2	TOP (4")-BRN PEAT		13.7		
	70	15	3-2	gray org silty clay, fr. veg (CH)		15		
		17	1-1					
	80	17	2-2	TOP (16")-DO-70 (CH)				
		19	4-4	BOT (6")-BRN PEAT (PE)		15.5		
	90	20	2-4	gray f. sand, sm silt, fr. gh (SM)		20	V	
		22	4-5					
	100	25	2-9	gray-brn m. f. sand, fr. silt (SP-SM)	(4)	25		
		27	17-13					
	110	30	3-4	stiff gray clayey silt, fr. f. sand (MH)	(5)	28.5		
		32	7-7			30		
	120	35	12-15	BRN m. f. sand, fr. silt (SP-SM)	(5)	33.5		
		37	25-20			35		
	130	40	10-16	DO-120 (SP-SM)	(5)	40		
		42	17-14					
	140	45	12-13	gray-brn f. sand, fr. silt (SP-SM)	(5)	45		
		47	15-7					
	150	50	12-18	BRN m. f. sand, fr. silt, gh (SP-SM)	(5)	50		
		52	21-23					

BORING NO. BZ

SHEET 2 OF 3
FILE NO. 0446
BORING NO. B-2
SURFACE ELEV. _____

Leave's Home Center

Brooklyn NY

RES. ENGR

SURFACE ELEV.

2. NONE

DAILY PROGRESS	SAMPLE			SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
	NO.	DEPTH	BLOWS/6"					
	160	55 57	30-43 55-56	RED f-c SAND, Tr. silt (sp-sm)	(S)	57		
						58.5 60		
	170	60 62	47-42 75-71	RED-BRN f-c SAND, sm gcl, silt (sm)				
145 21/04/01 THURS. 20' of shaly 2645					(T)	61		R-2"
	180	65 65.5	100/6	RED-BRN f-c SAND, sm silt, gcl (sm)				
						70		
	190	70 72	28-29 30-34	RED-BRN f-c SAND, Tr. silt, gcl (sp-sm)				
						75		
	200	75 77	30-38 42-43	RED-BRN c-f SAND, sm gcl, Tr. silt (sp-sm)				
						80		
	210	80 82	24-31 37-43	RED-BRN f-m SAND, sm silt, Tr. gcl, mica (sm)				
						85		
	220	85	30-33 35-35	DO-210 (sm)				
						90		
	230	90 92	30-35 31-44	RED-BRN silty f-m SAND, Tr. gcl, clay (sm)				
						95		
	240	95 97	25-32 41-53	DO-230 (sm)				
						100		
	250	100 102	37-33 40-34	RED-BRN c-f SAND, Tr. silt (sp-sm)				
1230						102		E.O.B @ 102 FT

BORING NO. 9 3

MUESER RUTLEDGE CONSULTING ENGINEERS

PROJECT Lowe's Home Center
 LOCATION Brooklyn, NY
 BORING LOCATION _____

BORING NO. B-2
 SHEET 3 OF 3
 FILE NO. 9446
 SURFACE ELEV. _____
 DATUM _____

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG	TYPE OF FEED DURING CORING	CASING USED	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
TRUCK <u>CHASSIS</u>	MECHANICAL	DIA., IN. <u>4</u>	DEPTH, FT. FROM <u>0</u> TO <u>20</u>
SKID	HYDRAULIC <u>X</u>	DIA., IN. _____	DEPTH, FT. FROM _____ TO _____
BARGE	OTHER	DIA., IN. _____	DEPTH, FT. FROM _____ TO _____
OTHER			

TYPE AND SIZE OF:	DRILLING MUD USED	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
D-SAMPLER <u>2" OD. split spoon</u>	DIAMETER OF ROTARY BIT, IN. <u>4 1/8, 3 1/8"</u>	
U-SAMPLER _____	TYPE OF DRILLING MUD <u>Quik-gel</u>	
S-SAMPLER _____		
CORE BARREL _____	AUGER USED	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
CORE BIT _____	TYPE AND DIAMETER, IN. _____	
DRILL RODS <u>N</u>		

CASING HAMMER, LBS. 300 AVERAGE FALL, IN. 24
 SAMPLER HAMMER, LBS. 140 AVERAGE FALL, IN. 30

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE (FEET)	DEPTH OF CASING (FEET)	DEPTH TO WATER (FEET)	CONDITIONS OF OBSERVATION
					NO OBSERVATION

PIEZOMETER INSTALLED ☐ YES ☒ NO SKETCH SHOWN ON _____

STANDPIPE: TYPE _____	ID, IN. _____	LENGTH, FT. _____	TOP ELEV. _____
INTAKE ELEMENT: TYPE _____	OD, IN. _____	LENGTH, FT. _____	TOP ELEV. _____
FILTER: MATERIAL _____	OD, IN. _____	LENGTH, FT. _____	BOT. ELEV. _____

PAY QUANTITIES

2.5" DIA. DRY SAMPLE BORING	LIN. FT. <u>82.1</u>	NO. OF 3" SHELLY TUBE SAMPLES	_____
3.5" DIA. U-SAMPLE BORING	LIN. FT. <u>-</u>	NO. OF 3" UNDISTURBED SAMPLES	_____
CORE DRILLING IN ROCK	LIN. FT. <u>-</u>	OTHER:	_____

BORING CONTRACTOR

DRILLER R. Lynch HELPERS E. FELICIANO
 REMARKS Grout borehole upon completion.

RESIDENT ENGINEER R. NUNEZ DATE 01/04/01

NOTES:

- Make a separate log of each boring and each unsuccessful boring attempt. Keep a copy of all logs in the field.
- In daily progress column indicate depth at beginning and end of work day, calendar date, day of week, time at beginning and end of work day and weather conditions.
- All samples shall be numbered in consecutive order regardless of type; dry samples D, wash samples W, shelly tube samples S, fixed piston samples U. Assign N/A to lost samples and record blows. Make another sample attempt immediately below the lost sample.
- Mark each U-sample with job number, boring number, sample number, depth, penetration and recovery. Indicate method by which penetration of tube sampler was obtained.
- Record blows on spoon sampler per six inches of penetration. Note all blows and penetrations when taken at less than six-inch interval.
- List changes of material in strata column and list generalized strata descriptions.
- List under remarks the manner by which changes in material were detected, all obstructions, any loss or gain of wash water including amount and any unusual occurrences.
- For rock core, the recovery and the RQD (Rock Quality Designation) should be shown in both inches and percent of run length in the blows per six inches column. All core runs shall be numbered in consecutive order. A run number is given even if recovery is zero.
- Include sample description by Unified Soil Classification System.
- Obtain water level at the beginning of each day and at all other times when stable water conditions exist.

BORING NO. B-2

MUESER RUTLEDGE CONSULTING ENGINEERS

SHEET 1 OF 3
 FILE NO. 9416
 BORING NO. B-3
 SURFACE ELEV.

PROJECT Lowie's Home Center

PROJECT LOCATION Brooklyn NY

RES. ENGR. R. NUNEE

DAILY PROGRESS	SAMPLE			SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
	NO.	DEPTH	BLOWS/6"					
01/02/01 Thurs. clear windy 18°F 5F wind chill	10	0	76-45	BRN M-f SAND, SM Silt, Tr. Brick (fill) (sm)	(F)		drilled 41000	2" asphalt surface
	20	2	27-24	DO-10, Tr. Cinders (fill) (sm)				Automatic Hammer
	30	4	15-9	gray-bwn m-f sand, SM silt, Tr. veg. (fill) (sm)		5		
	40	6	5-5	gray-bwn m-f sand, SM silt, Tr. veg. (fill) (sm)				
	50	8	3-2	gray-bwn m-f sand, Tr. silt, cinders, shell (fill) (sm)				R=3" sample satur w/ water.
	60	10	1-1	gray-bwn m-f sand, Tr. silt, cinders, shell (fill) (sm)		10	MVA	
	70	12	1-2	gray-bwn m-f sand, Tr. silt, cinders, shell (fill) (sm)				
	80	14	1-2	gray-bwn m-f sand, Tr. silt, cinders, shell (fill) (sm)				
	90	16	1-1	gray-bwn m-f sand, Tr. silt, cinders, shell (fill) (sm)		15		
	100	18	2-2	gray-bwn m-f sand, Tr. silt, cinders, shell (fill) (sm)		15.7		
	110	20	2-2	gray-bwn m-f sand, Tr. silt, cinders, shell (fill) (sm)				
	120	22	2-3	gray-bwn m-f sand, Tr. silt, cinders, shell (fill) (sm)				
	130	24	1-2	gray-bwn m-f sand, Tr. silt, cinders, shell (fill) (sm)		15.5	V	
	140	26	3-2	gray-bwn m-f sand, Tr. silt, cinders, shell (fill) (sm)				
1415 11/03/01 3700 JED. 3°F clear	150	28	6-8	BRN M-f SAND, Tr. silt, c. sand (sp-sm)	(S)	25		
	160	30	9-8	BRN M-f SAND, Tr. silt, c. sand (sp-sm)		30		
	170	32	3-3	gray-bwn m-f sand, SM silt (sm)		35		
	180	34	6-4	gray-bwn m-f sand, SM silt (sm)		40		
	190	36	3-5	gray-bwn silt, f-n sand, Tr. veg. (sm)		45		
	200	38	5-5	gray-bwn silt, f-n sand, Tr. veg. (sm)		50		
	210	40	5-6	gray-bwn m-f sand, Tr. silt (sp-sm)				
	220	42	9-9	gray-bwn m-f sand, Tr. silt (sp-sm)				
	230	44	5-5	DO-140 (sp-sm)				
	240	46	5-7	DO-140 (sp-sm)				
	250	48	7-10	BRN f-c sand, SM silt, Tr. silt (sp-sm)		50		
	260	50	14-15	BRN f-c sand, SM silt, Tr. silt (sp-sm)				

SHEET 2 OF 3
FILE NO. 9446
BORING NO. B-3
SURFACE ELEV.

LOWE'S HOME CTR

BREKIN NY

RES. ENGR

K. NUNEZ

13. 10/24/20

BORING NO. 20

MUESER RUTLEDGE CONSULTING ENGINEERS

PROJECT LEWIS HOME CENTER
 LOCATION BROOKLYN NY
 BORING LOCATION _____

BORING NO. B-3
 SHEET 3 OF 3
 FILE NO. 9446
 SURFACE ELEV. _____
 DATUM _____

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG _____ TYPE OF FEED _____ CASING USED ☒ YES ☐ NO
 TRUCK CME 75 MECHANICAL _____ DIA., IN. 4 DEPTH, FT. FROM 0 TO 20
 SKID _____ HYDRAULIC X DIA., IN. _____ DEPTH, FT. FROM _____ TO _____
 BARGE _____ OTHER _____ DIA., IN. _____ DEPTH, FT. FROM _____ TO _____
 OTHER _____
 TYPE AND SIZE OF: _____ DRILLING MUD USED ☒ YES ☐ NO
 D-SAMPLER 2" O.D. split spoon DIAMETER OF ROTARY BIT, IN. 3 7/8" 5 1/8" 2 1/2" 1 1/2"
 U-SAMPLER _____ TYPE OF DRILLING MUD QUICK GEL
 S-SAMPLER _____
 CORE BARREL _____ AUGER USED ☐ YES ☒ NO
 CORE BIT _____ TYPE AND DIAMETER, IN. _____
 DRILL RODS N

CASING HAMMER, LBS. 200 AVERAGE FALL, IN. 24
 SAMPLER HAMMER, LBS. 140 AVERAGE FALL, IN. 20

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE (FEET)	DEPTH OF CASING (FEET)	DEPTH TO WATER (FEET)	CONDITIONS OF OBSERVATION
01/02/01		8	5	7	observed sample 40 saturated with water

PIEZOMETER INSTALLED ☐ YES ☒ NO SKETCH SHOWN ON _____
 STANDPIPE: TYPE _____ ID, IN. _____ LENGTH, FT. _____ TOP ELEV. _____
 INTAKE ELEMENT: TYPE _____ OD, IN. _____ LENGTH, FT. _____ TIP ELEV. _____
 FILTER: MATERIAL _____ OD, IN. _____ LENGTH, FT. _____ BOT. ELEV. _____

PAY QUANTITIES

2.5" DIA. DRY SAMPLE BORING LIN. FT. 82 NO. OF 3" SHELBY TUBE SAMPLES _____
 3.5" DIA. U-SAMPLE BORING LIN. FT. _____ NO. OF 3" UNDISTURBED SAMPLES _____
 CORE DRILLING IN ROCK LIN. FT. _____ OTHER: _____

BORING CONTRACTOR JBD CA
 DRILLER M. Blagwas HELPERS D. Keith / Terry Fulton
 REMARKS Grouted borehole upon completion.
 RESIDENT ENGINEER JZ. NUNEZ DATE 01/03/01

NOTES:

- Make a separate log of each boring and each unsuccessful boring attempt. Keep a copy of all logs in the field.
- In daily progress column indicate depth at beginning and end of work day, calendar date, day of week, time at beginning and end of work day and weather conditions.
- All samples shall be numbered in consecutive order regardless of type; dry samples D, wash samples W, Shelby tube samples S, fixed piston samples U. Assign NR to lost samples and record blows. Make another sample attempt immediately below the lost sample.
- Mark each U-sample with job number, boring number, sample number, depth, penetration and recovery. Indicate method by which penetration of tube sampler was obtained.
- Record blows on spoon sampler per six inches of penetration. Note all blows and penetrations when taken at less than six-inch interval.
- List changes of material to strata column and list generalized strata descriptions.
- List under remarks the manner by which changes in material were detected, all obstructions, any loss or gain of wash water including amount and any unusual occurrences.
- For rock core, the recovery and the RQD (Rock Quality Designation) should be shown in both inches and percent of run length in the blows per six inches column. All core runs shall be numbered in consecutive order. A run number is given even if recovery is zero.
- Include sample description by Unified Soil Classification System.
- Obtain water level at the beginning of each day and at all other times when stable water conditions exist.

BORING NO. B-3

MUESER RUTLEDGE CONSULTING ENGINEERS

SHEET 1 OF 5
 FILE NO. 9446
 BORING NO. B4U
 SURFACE ELEV. R. NUNEZ

PROJECT Lowie's Home Center

PROJECT LOCATION Brooklyn NY

RES. ENGR.

DAILY PROGRESS	SAMPLE			SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
	NO.	DEPTH	BLOWS/6"					
01/10/01 WED. 25°F windy 0645					④		Drilled AWARD	17" BONE slab.
	10	1	2-4	BKN M. SAND, Tr. qtz, silt, cinders	④			
		3	6-7	Brick (fill) (sp-sm)				
	20	3	9-9	BKN BKN M. SAND, SM Silt, Tr. WOOD				
		5	12-21	CLAYERS Brick (fill) (sm)		5		Rope broke changed
	30	5	19-25	BKN M. SAND, SM qtz, silt, Tr. CINDERS			2ND	Rope for hammer.
		6-4	10/5"	Brick (fill) (sm)				SD-Rock for in the
	40	7	8-4	BKN M. SAND, SM CINDERS, silt, Tr. qtz				tip of the rope.
		9	5-15	Brick (fill) (sm)				
						10		
	50	10	14-4	NO RECOVERY				2nd attempt and
		12	4-4					Recovery, new trap.
	60	12	4-1	NO RECOVERY				
		14	3-1					
						15		Possible wash, 2-1"
1400 01/11/01 THUR. 32°F cloudy	70	15	7-6	BKN gravel, Tr. WOOD (fill) (sp) (CINDERS)	④			Retraction order change
		17	11-6					
	80	17	2-4	BKN M. SAND, SM CINDERS, Tr. qtz, silt				
		19	4-3	(fill) (sp-sm)				
						20		
	90	20	P-24"	stiff gray org. silty clay, F (sand) (OH)				
		22	R-21					
	100	22	WON/24"	DO-90 (OH)				
		24						
						24.5		
	110	25	WON-5	BKN silty f - sand, Tr. mica (sm)				
		27	6-7					
						30		
	120	30	15-20	BKN gray M. SAND, Tr. silt (sp-sm)				
		32	22-23					
					⑤	33.5		
						35		P.P. 1075.5
	130	35	9-6	stiff gray org. silty clay, sm f. sand, Tr. mica (OH)				
		37	7-11					
	140	37	P-12"	TOP-DO-130 (OH)				TUBE STOPPED @ 38 FT.
		39	R-12"	BOT. stiff gray silt sand M. SAND Tr. clay (MIL & SP-SM)		39		
						40		
	150	40	32-40	BKN M. SAND, Tr. silt, mica (sp-sm)				
		42	41-39					
						45		
	160	45	12-13	DO-150 (sp-sm)				
		47	18-12					
						50		
	170	50	13-11	DO-150 (sp-sm)				
		52	16-14					

BORING NO. 9446

MUESER RUTLEDGE CONSULTING ENGINEERS

SHEET 2 OF 2

FILE NO. 9442

BORING NO. B-44

SURFACE ELEV. _____

PROJECT LOWE'S HOME CENTER

PROJECT LOCATION Brooklyn, NY

RES. ENGR. E. Mueser

DAILY PROGRESS	SAMPLE			SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
	NO.	DEPTH	BLOWS/6"					
					S			
	180	55	6.5	BEN. gray clayey f-m sand, sh. silt (SC)	S	55		
		57	10.9					
	190	60	24.19	BEN. M. f sand, Tr. silt (SP-BN)	S	60		
		62	30.26					
	200	65	24.31	BEN. f sand, sh. silt, Tr. mica (JM)	S	65		
		67	45.33					
	210	70	100/5"	BEN. BN f-m sand, Tr. silt, Tr. mica (SP-BN)	T	70		Too chatter, too GFA hard drilling
		70.4						
	220	75	37.42	BEN. BN f-m sand, sh. silt, Tr. mica (JM)	T	75		Too chatter, too GFA hard drilling @ 75 ft cables.
		77	47.42					
	230	80	35.58	DO-220		80		Change logs, logs broke
12/10/02		81.2	100/2"			81.2		SPONGE BURNING E.O.R. @ 81.2 ft

BORING NO. B-44

MUESER RUTLEDGE CONSULTING ENGINEERS

PROJECT Low's Home Center
LOCATION Brooklyn, NY
BORING LOCATION offset 1 ft south
BORING NO. B-4u
SHEET 3 **OF** 3
FILE NO. 9446
SURFACE ELEV. _____
DATUM _____

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG
 TRUCK _____
 SKID ACKER
 BARGE _____
 OTHER _____
TYPE OF FEED DURING CORING
 MECHANICAL _____
 HYDRAULIC X
 OTHER _____
CASING USED
 DIA., IN. 4
 DIA., IN. _____
 DIA., IN. _____
☒ **YES** ☐ **NO**
 DEPTH, FT. FROM 0 TO 20
 DEPTH, FT. FROM _____ TO _____
 DEPTH, FT. FROM _____ TO _____
TYPE AND SIZE OF:
 D-SAMPLER 2" O.D. split spoon
 U-SAMPLER SHELBY TUBE
 S-SAMPLER _____
 CORE BARREL _____
 CORE BIT THINWALL BIT
 DRILL RODS N
DRILLING MUD USED ☒ **YES** ☐ **NO**
 DIAMETER OF ROTARY BIT, IN. 2 1/8
 TYPE OF DRILLING MUD QUICK GEL
ALGER USED ☐ **YES** ☒ **NO**
 TYPE AND DIAMETER, IN. _____
 CASING HAMMER, LBS. 300 AVERAGE FALL, IN. 24
 SAMPLER HAMMER, LBS. 140 AVERAGE FALL, IN. 30

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE (FEET)	DEPTH OF CASING (FEET)	DEPTH TO WATER (FEET)	CONDITIONS OF OBSERVATION
					NO OBSERVATION.

PIEZOMETER INSTALLED ☐ **YES** ☒ **NO** **SKETCH SHOWN ON** _____
STANDPIPE: TYPE _____ ID, IN. _____ LENGTH, FT. _____ TOP ELEV. _____
INTAKE ELEMENT: TYPE _____ OD, IN. _____ LENGTH, FT. _____ TIP ELEV. _____
FILTER: MATERIAL _____ OD, IN. _____ LENGTH, FT. _____ BOT. ELEV. _____

PAY QUANTITIES

2.5" DIA. DRY SAMPLE BORING LIN. FT. 78.2 NO. OF 3" SHELBY TUBE SAMPLES 2
 3.5" DIA. U-SAMPLE BORING LIN. FT. 3 NO. OF 3" UNDISTURBED SAMPLES _____
 CORE DRILLING IN ROCK LIN. FT. _____ OTHER: _____

BORING CONTRACTOR

DRILLER R. Lynch **HELPERS** E. Feliciano
REMARKS Graded borehole upon completion
RESIDENT ENGINEER R. Mueser **DATE** 01/11/01

NOTES:

- Make a separate log of each boring and each unsuccessful boring attempt. Keep a copy of all logs in the field.
- In daily progress column indicate depth at beginning and end of work day, calendar date, day of week, time at beginning and end of work day and weather conditions.
- All samples shall be numbered in consecutive order regardless of type; dry samples D, wash samples W, shelly tube samples S, fixed piston samples U. Assign NFI to lost samples and record blows. Make another sample attempt immediately below the lost sample.
- Mark each U-sample with job number, boring number, sample number, depth, penetration and recovery. Indicate method by which penetration of tube sampler was obtained.
- Record blows on spoon sampler per six inches of penetration. Note all blows and penetrations when taken at less than six-inch interval.
- List changes of material in strata column and list generalized strata descriptions.
- List under remarks the manner by which changes in material were detected, all obstructions, any loss or gain of wash water including amount and any unusual occurrences.
- For rock core, the recovery and the RQD (Rock Quality Designation) should be shown in both inches and percent of run length in the blows per six inches column. All core runs shall be numbered in consecutive order. A run number is given even if recovery is zero.
- Include sample description by Unified Soil Classification System.
- Obtain water level at the beginning of each day and at all other times when stable water conditions exist.

BORING NO. B-4u

MUESER RUTLEDGE CONSULTING ENGINEERS

SHEET 1 OF 3

FILE NO. 9446

BORING NO. B-04

SURFACE ELEV. _____

PROJECT Lowe's Home Center

PROJECT LOCATION BROOKLYN, NY

RES. ENGR. _____

R. NUNEZ

DAILY PROGRESS	SAMPLE			SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
	NO.	DEPTH	BLOWS/6"					
01/05/00 FRID. 20° SQ cloudy. 0945 hrs.	10	1	9-9	BEN F-M SAND, silty, Tr. silty, cinders,	(F)		Drilled	7" conc. slab.
		3	29-44	BRICK (FILL) (SM)			HEAD	
	20	3	22-45	BEN F-M P-C SAND, silty, Tr. silty, cinders,		5		
		44	100/5"	BRICK (FILL) (SM)				
	30	5	70-41	BEN F-M P-C SAND, silty, Tr. silty, cinders,			MOD	2x1"
		63	100/4"	BRICK (FILL) (SM)				
	40	7	12-8	WOOD (FILL)				
		9	6-5					
						10		
	50	10	9-6	gray silty c-f sand, silty, Tr. silty,				
		12	3-3	CINDERS (FILL) (SM)				
	60	12	7-10	70-50 (FILL) (SM)				R=2"
		14	3-2					
						15		
1400 hrs 01/08/01 MON. cloudy 35°F 0645	70	15	14-3	NO RECOVERY	(G)			
		17	2-2					
	80	17	1-2	BK c-f sand, silty, cinders, Tr. silty,				
		19	1-2	BRICK (FILL) (SM)				
	90	20	P-24"	soft gray org. silty clay, Tr. veg. (OH)	(H)	20	↓	Pen/Clay in water 19.5 FT
		22	R-16"					
	100	22	4-3	Top (H) - BEN F-M P-C SAND, silty, Tr. silty, cinders,		23/3		
		24	3-5	BOT (H) - BEN F-M P-C SAND, silty, Tr. silty, cinders,		25		
	110	25	6-6	BEN F-M SAND, silty, Tr. silty, cinders,	(I)			
		27	7-12					
	120	30	19-17	gray m-f sand, Tr. silty, mica (SP-SM)		30		
		32	27-22					
	130	35	9-13	DO-20 Tr. silty pebbles (SP-SM)		35		
		37	15-17					
	140	40	17-25	BEN M-F SAND, Tr. silty (SP-SM)		40		
		42	33-36					
	150	45	10-21	BEN F-M SAND, silty, Tr. silty, mica (SM)		45		
		47	29-24					
	160	50	K-28	BEN F-M SAND, Tr. silty, mica (SP-SM)		50		
		52	31-24					

BORING NO. 214A

SHEET 2 OF 3

FILE NO. 9440

BORING NO. B-64

SURFACE ELEV.

PROJECT Lowes HOME CENTER

PROJECT LOCATION BROOKLYN NY

RES. ENGR. E. NUÑEZ

DAILY PROGRESS	SAMPLE			SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
	NO.	DEPTH	BLOWS/6"					
					(5)			
	170	55 57	24-49 37-38	BRN silty f-m sand, Tr. gl (sm)		55'		
	180	60 62	38-41 51-47	BRN M-f SAND, Tr. silt (q-sm)		60'		
1410 hrs								
01/09/01								
Tues.								
0645 hrs								
30°F								
windy								
cloudy								
	190	65 67	29-33 50-49	BRN f-c sand, sm silt (sm)		65'		
	200	70 70.4	100/5"	RED-BRN f-sand, str silt (sm)	(A) (B)	68.5' 70' 70.5'		
	210	76 76.4	100/5"	RED-BRN f-m sand AND GL, sm silt (sm)	(C)	75' 76'		Hard drilling @ 70.5 ft. to 73 ft., Reas casing to 75 ft. Hard drill @ 75 ft. Rig L. lifted up. Cont drilling past 75 ft. to 76 ft. Boulder.
	220	80 81.2	48-59 100/3"	RED-BRN clumpy silt, Tr. gl, f-sand (MU)		80' 81.2'		E.O.B @ 81.2 ft.
1345 hrs.								

BORING NO. 12

MUESER RUTLEDGE CONSULTING ENGINEERS

BORING NO. B-611
SHEET 3 OF 3
FILE NO. 9446
SURFACE ELEV. _____
DATUM _____

PROJECT LOWIE'S HOME CNTR.
LOCATION BROOKLYN, NY
BORING LOCATION A2 PLANS

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG _____ TYPE OF FEED DURING CORING _____ CASING USED ☒ YES ☐ NO
TRUCK _____ MECHANICAL _____ DIA. IN. 4 DEPTH, FT. FROM 0 TO 20
SKID ACKER HYDRAULIC X DIA. IN. _____ DEPTH, FT. FROM _____ TO _____
BARGE _____ OTHER _____ DIA. IN. _____ DEPTH, FT. FROM _____ TO _____
OTHER _____
TYPE AND SIZE OF: _____ DRILLING MUD USED ☒ YES ☐ NO
D-SAMPLER 2" O.D. SPT SPOON DIAMETER OF ROTARY BIT, IN. 2 1/4, 3 1/8
U-SAMPLER SHELBY TUBE TYPE OF DRILLING MUD SWIRGEL
S-SAMPLER _____
CORE BARREL _____ AUGER USED ☐ YES ☒ NO
CORE BIT THIN WALL BIT (CAR. FLOR) TYPE AND DIAMETER, IN. _____
DRILL RODS N
CASING HAMMER, LBS. 300 AVERAGE FALL, IN. 24
SAMPLER HAMMER, LBS. 140 AVERAGE FALL, IN. 30

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE (FEET)	DEPTH OF CASING (FEET)	DEPTH TO WATER (FEET)	CONDITIONS OF OBSERVATION
					NO OBSERVATION

PIEZOMETER INSTALLED ☐ YES ☒ NO SKETCH SHOWN ON _____
STANDPIPE: TYPE _____ ID, IN. _____ LENGTH, FT. _____ TOP ELEV. _____
INTAKE ELEMENT: TYPE _____ OD, IN. _____ LENGTH, FT. _____ TIP ELEV. _____
FILTER: MATERIAL _____ OD, IN. _____ LENGTH, FT. _____ BOT. ELEV. _____

PAY QUANTITIES

2.5" DIA. DRY SAMPLE BORING LIN. FT. 75.7 NO. OF 3" SHELBY TUBE SAMPLES 1
3.5" DIA. U-SAMPLE BORING LIN. FT. 2 NO. OF 3" UNDISTURBED SAMPLES 1
CORE DRILLING IN ROCK LIN. FT. _____ OTHER: obstructions (boulders) 3.5 FT.

BORING CONTRACTOR JED CO.
DRILLER R. Lynch HELPERS E. FELISIANO
REMARKS Gravel borehole upon completion.
RESIDENT ENGINEER E. NUNEZ DATE 01/09/01

NOTES:

- Make a separate log of each boring and each unsuccessful boring attempt. Keep a copy of all logs in the field.
- In daily progress column indicate depth at beginning and end of work day, calendar date, day of week, time at beginning and end of work day and weather conditions.
- All samples shall be numbered in consecutive order regardless of type; dry samples D, wash samples W, Shelby tube samples S, fixed piston samples U. Assign NR to lost samples and record blows. Make another sample attempt immediately below the lost sample.
- Mark each U-sample with job number, boring number, sample number, depth, penetration and recovery. Indicate method by which penetration of tube sampler was obtained.
- Record blows on spoon sampler per six inches of penetration. Note all blows and penetrations when taken at less than six-inch interval.
- List changes of material in strata column and list generalized strata descriptions.
- List under remarks the manner by which changes in material were detected, all obstructions, any loss or gain of wash water including amount and any unusual occurrences.
- For rock core, the recovery and the RQD (Rock Quality Designation) should be shown in both inches and percent of run length in the blows per six inches column. All core runs shall be numbered in consecutive order. A run number is given even if recovery is zero.
- Include sample description by Unified Soil Classification System.
- Obtain water level at the beginning of each day and at all other times when static water conditions exist.

BORING NO. B-611

MUESER RUTLEDGE CONSULTING ENGINEERS

 SHEET 1 OF 1

 FILE NO. 94416

 BORING NO. B74

 SURFACE ELEV.

 PROJECT Lowie's Home Center

 PROJECT LOCATION Brooklyn, NY

 RES. ENGR. F. MUNEZ

DAILY PROGRESS	SAMPLE			SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
	NO.	DEPTH	BLOWS/6"					
01/18/01 THREE CLAY 32" P 14" S.W. 1230 HRS	10	1	7-8	BROWN M. SAND, SILT, TR. CLAY, (fill) (SM)	(F)		Drilled Mud	8" core, slab
	20	3	40-34	BRICK (fill) (SM)				
	30	5	40-23	DO-10, TR. CONC. (fill) (SM)				
	40	5	17-12			5		
	50	7	21-15	BROWN M. SAND, SILT, TR. CLAY, CINDER (fill) (SM)			MUD	
	60	7	9-11					
	70	9	13-10	DO-30 (fill) (SM)				
	80	9	14-14					
	90	10	26-19	DO-30 (fill) (SM)		10		
	100	12	11-9					
	110	12	12-11	BROWN C. SAND, SILT, TR. CLAY, CINDER (fill) (SP-SM)				
	120	14	6-4					
	130	15	4-7	NO RECOVERY		15		WASH - sample
	140	17	5-2					
1/19/01 0900 RAIN 2:00 P.M.	150	17	2-2	RED-gray org. silty clay, TR. CLAY, F. SAND (OH)	(S)	18.3		P.P. = 5.1 T.S.F.
	160	19	2-1			20	V	
	170	20	P=24"	DO-80 (OH)				
	180	22	P=18"					
	190	22	P=24"	TOP - DO 80 (OH)				
	200	24	P=22"	POT - BROWN PEAT (PE)				
	210	24	WOB-2	TOP (11") - Soft gray org. silty clay, TR. F. SAND, PEAT (OH)		24.9		
	220	26	2-3	POT (13") BROWN silty M. SAND, TR. CLAY (SM)				
	230							
	240							
	250							
	260							
	270							
	280							
1/19/01 0900 RAIN 2:00 P.M.	290				(S)	30		P.P. = 0.75 T.S.F.
	300	30	20-21	BROWN M. SAND, TR. SILT, CLAY (SP-SM)				
	310	32	26-17					
	320							
	330							
	340							
	350							
	360							
	370							
	380							
	390							
	400							
	410							
	420							
	430							
1/19/01 0900 RAIN 2:00 P.M.	440				(S)	33.5		
	450					35		
	460							
	470							
	480							
	490							
	500							
	510							
	520							
	530							
	540							
	550							
	560							
	570							
	580							
1/19/01 0900 RAIN 2:00 P.M.	590				(S)	38.5		
	600					40		
	610							
	620							
	630							
	640							
	650							
	660							
	670							
	680							
	690							
	700							
	710							
	720							
	730							
1/19/01 0900 RAIN 2:00 P.M.	740				(S)	45		
	750							
	760							
	770							
	780							
	790							
	800							
	810							
	820							
	830							
	840							
	850							
	860							
	870							
	880							
1/19/01 0900 RAIN 2:00 P.M.	890				(S)			
	900							
	910							
	920							
	930							
	940							
	950							
	960							
	970							
	980							
	990							
	1000							
	1010							
	1020							
	1030							

BORING NO. 07

MUESER RUTLEDGE CONSULTING ENGINEERS

SHEET 2 OF 3

FILE NO. 9446

PROJECT Loose's Home Center

BORING NO. B74

PROJECT LOCATION Knockdown NY

RES. ENGR. R. MUEER

DAILY PROGRESS	SAMPLE			SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
	NO.	DEPTH	BLOWS/6"					
					(S)	53.5		
	170	55 57	WOB/12" 6-16	Soft gray org. silty clay, Tr. P. sand (OH)	(S)	55		P.P. < 0.5 TR.F.
						58.5		
	180	60 62	17-27 34-38	BRN f-c sand, Tr. silt (sp. sm)	(S)	60		
					(B)	62.5		ROD CHATTERING @ 62.5
						64		Had drilling to 64 FT.
	190	65 67	39-37 34-45	RED-BRN f-c sand, sm silt, Tr. sil (sm)	(T)	65		
						70		ROD CHATTERING @ 67.5 FT. to 75 FT.
	200	70 70.4	100/5"	RED-BRN f-c sand, sm silt, gr. (sm)		70		
						75		
	210	75 75.3	100/4"	20-200, sm rock frag. (sm)		75		rock frag. in the tip of the spoon - ROD CHATTERING @ 75.5 FT.
						80		
1535	220	80 82	14-40 40-26	RED-BRN f-c sand, sm silt, gr. (sm)		82		E.O. @ 82 FT.

BORING NO. P74

MUESER RUTLEDGE CONSULTING ENGINEERS

PROJECT Lowie's Home Center
 LOCATION Brooklyn Hg
 BORING LOCATION AS SHOWN

BORING NO. B-74
 SHEET 3 OF 3
 FILE NO. 9446
 SURFACE ELEV. _____
 DATUM _____

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG	TYPE OF FEED DURING CORING	CASING USED	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
TRUCK	MECHANICAL	DIA., IN. <u>4</u>	DEPTH, FT. FROM <u>0</u>	TO <u>20</u>
SKID <u>ACKER</u>	HYDRAULIC <u>X</u>	DIA., IN. _____	DEPTH, FT. FROM _____	TO _____
BARGE	OTHER	DIA., IN. _____	DEPTH, FT. FROM _____	TO _____
OTHER				

TYPE AND SIZE OF:	DRILLING MUD USED <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
D-SAMPLER <u>2" O.D. split spoon</u>	DIAMETER OF ROTARY BIT, IN. <u>3 1/8", 2 1/2"</u>
U-SAMPLER <u>SHELBY TUBE</u>	TYPE OF DRILLING MUD <u>QUICK SET</u>
S-SAMPLER _____	
CORE BARREL _____	AUGER USED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
CORE BIT <u>Thru-hole bit</u>	TYPE AND DIAMETER, IN. _____
DRILL RODS <u>N</u>	

CASING HAMMER, LBS. <u>300</u>	AVERAGE FALL, IN. <u>24</u>
SAMPLER HAMMER, LBS. <u>140</u>	AVERAGE FALL, IN. <u>30</u>

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE (FEET)	DEPTH OF CASING (FEET)	DEPTH TO WATER (FEET)	CONDITIONS OF OBSERVATION
					<u>No observation.</u>

PIEZOMETER INSTALLED ☐ YES ☒ NO SKETCH SHOWN ON _____

STANDPIPE: TYPE _____	ID, IN. _____	LENGTH, FT. _____	TOP ELEV. _____
INTAKE ELEMENT: TYPE _____	OD, IN. _____	LENGTH, FT. _____	TIP ELEV. _____
FILTER: MATERIAL _____	OD, IN. _____	LENGTH, FT. _____	BOT. ELEV. _____

PAY QUANTITIES

2.5" DIA. DRY SAMPLE BORING	LIN. FT. <u>75.5</u>	NO. OF 3" SHELBY TUBE SAMPLES <u>2</u>	
1.5" DIA. U-SAMPLE BORING	LIN. FT. <u>4</u>	NO. OF 3" UNDISTURBED SAMPLES <u>—</u>	
CORE DRILLING IN ROCK	LIN. FT. <u>—</u>	OTHER: <u>obstructions (boulders)</u>	<u>2.5 FT</u>

BORING CONTRACTOR JBD Co.
 DRILLER R. Lynch HELPERS E. Feliciano / LOUIE ABBATE
 REMARKS Grouted borehole upon completion
 RESIDENT ENGINEER R. NUNEZ DATE 01/19/01

NOTES:

1. Make a separate log of each boring and each unsuccessful boring attempt. Keep a copy of all logs in the field.
2. In daily progress column indicate depth at beginning and end of work day, calendar date, day of week, time at beginning and end of work day and weather conditions.
3. All samples shall be numbered in consecutive order regardless of type; dry samples D, wash samples W, shelly tube samples S, fixed piston samples U. Assign NFR to lost samples and record blows. Make another sample attempt immediately below the lost sample.
4. Mark each U-sample with job number, boring number, sample number, depth, penetration and recovery. Indicate method by which penetration of tube sampler was obtained.
5. Record blows on spoon sampler per six inches of penetration. Note all blows and penetrations when taken at less than six-inch interval.
6. List changes of material in strata column and list generalized strata descriptions.
7. List under remarks the manner by which changes in material were detected, all obstructions, any loss or gain of wash water including amount and any unusual occurrences.
8. For rock core, the recovery and the RQD (Rock Quality Designation) should be shown in both inches and percent of run length in the blows per six inches column. All core runs shall be numbered in consecutive order. A run number is given even if recovery is zero.
9. Include sample description by Unified Soil Classification System.
10. Obtain water level at the beginning of each day and at all other times when stable water conditions exist.

BORING NO. B74

MUESER RUTLEDGE CONSULTING ENGINEERS

 SHEET 1 OF 3

 FILE NO. 9446

 BORING NO. B8

SURFACE ELEV. _____

 PROJECT LOWE'S HOME CTR

 PROJECT LOCATION BROOKLYN NY

RES. ENGR. _____

DAILY PROGRESS	SAMPLE			SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
	NO.	DEPTH	BLOWS/6"					
4/22/01 MON. SUNNY 25°F 0700 hrs	10	1	16-20	gray-bw f. sand, silty, Tr. silty, cinders (fill) (sm)	⑤		drilled	8" conc slab.
	3	27-45					ALLOW	
	20	3	10-15	DO-10 (fill) (sm)				
	3	24-32				5		
	30	5	17-19	gray-bw c. f. sand, silty, cinders, Tr. silty, brick (fill) (sm)			WHD	
	7	24-10						
	40	7	7-8	DO-30, silty brick (fill) (sm)				
	9	12-7				10		
	50	10	23-8	gray-bw c. f. sand, silty, cinders, Tr. silty, brick (fill) (sm)				
	12	9-3						
	60	12	2-2	gray-bw m. f. sand, silty, Tr. very, cinders, brick (fill) (sm)	⑥			
	14	7-8				15		
	70	15	12-8	gray-bw m. f. sand, silty, cinders, Tr. silty, metal (fill) (sm)				
	17	8-5						
	80	17	4-3	gray-bw c. f. sand, silty, cinders, Tr. silty, wood (fill) (sm)				R-5"
	19	4-3				19.5		
	90	20	3-4	BRN Root (PL)				
	22	7-7				23.5		
						25		
	100	25	8-7	BRN f. m. sand, Tr. silty, veg (sp-sm)	⑦			
	27	9-10						
						30		
	110	30	15-20	BRN c. f. sand, Tr. silty (sp-sm)				
	32	23-17				35		
						40		
	120	35	7-4	top (15') - gray, clay, silty, m. f. sand (MU)				
	37	11-9		bot (9') - gray, silty f. m. sand, Tr. clay (sm)				
						45		
	130	40	20-25	gray, m. f. sand, Tr. silty, mica (sp-sm)				
	42	25-21				50		
						55		
	140	45	12-15	DO-130 (sp-sm)				
	47	22-21				60		
	150	50	12-14	BRN m. f. sand, Tr. silty, mica (sp-sm)				
	52	14-15						

 BORING NO. 1

MUESER RUTLEDGE CONSULTING ENGINEERS

SHEET 2 OF 3
FILE NO. 9446
BORING NO. B8
SURFACE ELEV. _____
R. Nunez

PROJECT

Lowa's Home Care

PROJECT LOCATION

Bakhy Nq

RES. ENGR

R. Number

[illegible]

Boring No. 7

MUESER RUTLEDGE CONSULTING ENGINEERS

PROJECT Lower House Cape
LOCATION Brooklyn N.Y.
BORING LOCATION _____

BORING NO. B-8
SHEET 3 OF 3
FILE NO. 9446
SURFACE ELEV. _____
DATUM _____

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG	TYPE OF FEED DURING CORING	CASING USED	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
TRUCK	MECHANICAL	DIA., IN. <u>4</u>	DEPTH, FT. FROM <u>0</u>	TO <u>20</u>
SKID	HYDRAULIC <u>X</u>	DIA., IN. _____	DEPTH, FT. FROM _____	TO _____
GARGE	OTHER	DIA., IN. _____	DEPTH, FT. FROM _____	TO _____
OTHER				

TYPE AND SIZE OF:	DRILLING MUD USED	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
D-SAMPLER <u>2" dia. split spoon</u>	DIAMETER OF ROTARY BIT, IN. <u>3 7/8, 4 1/8</u>		
U-SAMPLER _____	TYPE OF DRILLING MUD <u>Gunkel</u>		
S-SAMPLER _____			
CORE BARREL _____	AUGER USED	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
CORE BIT _____	TYPE AND DIAMETER, IN. _____		
DRILL RODS <u>N</u>			

CASING HAMMER, LBS. <u>700</u>	AVERAGE FALL, IN. <u>24</u>
SAMPLER HAMMER, LBS. <u>140</u>	AVERAGE FALL, IN. <u>30</u>

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE (FEET)	DEPTH OF CASING (FEET)	DEPTH TO WATER (FEET)	CONDITIONS OF OBSERVATION
					<u>No observation</u>

PIEZOMETER INSTALLED ☐ YES ☒ NO SKETCH SHOWN ON _____

STANDPIPE: TYPE _____	ID, IN. _____	LENGTH, FT. _____	TOP ELEV. _____
INTAKE ELEMENT: TYPE _____	OD, IN. _____	LENGTH, FT. _____	TIP ELEV. _____
FILTER: MATERIAL _____	OD, IN. _____	LENGTH, FT. _____	BOT. ELEV. _____

PAY QUANTITIES

2.5" DIA. DRY SAMPLE BORING	LIN. FT. <u>70.0</u>	NO. OF 3" SHELBY TUBE SAMPLES _____
3.5" DIA. U-SAMPLE BORING	LIN. FT. <u>-</u>	NO. OF 3" UNDISTURBED SAMPLES _____
CORE DRILLING IN ROCK	LIN. FT. <u>-</u>	OTHER: <u>obstruction (boulder)</u> <u>5 FT</u>

BORING CONTRACTOR JRDCO.
DRILLER R. Lynch HELPERS E. Feliciano
REMARKS Grouted borehole upon completion
RESIDENT ENGINEER R. NUNEZ DATE 01/24/01

NOTES:

- Make a separate log of each boring and each unsuccessful boring attempt. Keep a copy of all logs in the field.
- In daily progress column indicate depth at beginning and end of work day, calendar date, day of week, time at beginning and end of work day and weather conditions.
- All samples shall be numbered in consecutive order regardless of type; dry samples D, wash samples W, shelly tube samples S, fixed piston samples U. Assign NR to lost samples and record blows. Make another sample attempt immediately below the lost sample.
- Mark each U-sample with job number, boring number, sample number, depth, penetration and recovery. Indicate method by which penetration of tube sampler was obtained.
- Record blows on spoon sampler per six inches of penetration. Note all blows and penetrations when taken at less than six-inch interval.
- List changes of material in strata column and list generalized strata descriptions.
- List under remarks the manner by which changes in material were detected, all obstructions, any loss or gain of wash water including amount and any unusual occurrences.
- For rock core, the recovery and the RQD (Rock Quality Designation) should be shown in both inches and percent of run length in the blows per six inches column. All core runs shall be numbered in consecutive order. A run number is given even if recovery is zero.
- Include sample description by Unified Soil Classification System.
- Obtain water level at the beginning of each day and at all other times when stable water conditions exist.

BORING NO. B-8

MUESER RUTLEDGE CONSULTING ENGINEERS

SHEET 1 OF 3

FILE NO. 9440

BORING NO. B41

SURFACE ELEV. _____

PROJECT Low's Home Center

PROJECT LOCATION Brooklyn NY

RES. ENGR. R. NUNEZ

DAILY PROGRESS	SAMPLE			SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
	NO.	DEPTH	BLOWS/6"					
01/16/01 0645 WES. 35°F cloudy	10	1	7-17	BW M-f sand, silty, Tr. sh. Brick cinders (fill) (sm)	⑤		Drilled 8" conc. slab ANRAD	
	20	3	18-12	RY SAND f-sand, silty, sh. brick, sh. Tr. Brick (fill) (sm)		5		
	30	5	21-27	BW f-m sand, silty, cinders, Tr. sh. (fill) (sm)				
	40	7	29-15					
		9	11-6	BW-BW M-f sand, sh. brick, Tr. cinders, sh. silt (sp sm) (fill)		10		
	50	10	32-22	BW C-f sand, silty, Tr. brick, sh. cinders (fill) (sm)				
		12	20-8					
	60	12	4-2	gray silty C-f sand, silty, cinders, Tr. sh. (fill) (sm)		15		
		14	3-4					
	70	15	5-5	DO-60 (fill) (sm)				
		17	2-2		⑥ 3			
	80	17	2-5	DO-60, Tr. veg (fill) (sm)				
		19	4-2					
	90	20	3-4	BW C-f sand, Tr. brick, sh. (fill) (concrete)		20		Ref. play in water @ 23°F.
		22	5-4					
	100	23	P=24"	TOP-gray org. silty clay, sh. f sand (OL)				
		25	R=21"	BOT-BW silty M-f sand, Tr. veg. (sm)				
	110	25	7-8	DO-100-BOT (sm)				
		27	18-16					
					⑤	30		
	120	30	15-15	BW M-f sand, Tr. silt (sp-sm)				
		32	22-21					
	130	35	8-12	BW silty, f-m sand (sm)		35		
		37	12-11					
						40		
	140	40	23-24	BW M-f sand, Tr. silt (sp-sm)				
		42	23-28					
						45		
	150	45	10-10	DO-140, Tr. mica (sp-sm)				
		47	13-12					
	160	50	10-14	BW clayey f-sand, silty, Tr. mica (sm) (x)				
410		52	4-11					

BORING NO. B41

MUESER RUTLEDGE CONSULTING ENGINEERS

SHEET 2 OF 3

FILE NO. 9446

BORING NO. B9u

SURFACE ELEV. _____

PROJECT Low's Home CenterPROJECT LOCATION Brooklyn, NYRES. ENGR. R. NUNEZ

DAILY PROGRESS	SAMPLE			SAMPLE DESCRIPTION	STRATA	DEPTH	CASINO BLOWS	REMARKS
	NO.	DEPTH	BLOWS/6"					
adj to b1 OLMS P. 2/4 clay 38°F					③			
	170	55	32-28	Brown f. m. sand, silty (sn)	③	55		
		57	41-34					
					③			
	180	60	28-32	Brown f. m. sand, silty (sp. sn)	③	60		
		62	30-29					
					③			
	190	65	100/4"	NO RECOVERY	③	65		Spun boring hard drilling from 65' to 68 ft, cobbles
	200	70	100/4"	NO RECOVERY	③	70		2-1 attempt, NO REC. Red chattering @ 70.2'
		70.3						
					③			
	210	75	56-41	Red-Brown f. c. sand, silty, grt (sn)	③	75		Back from in the tip of the spoon.
			30-32					
					③			
1230	220	80	23-21	Red-Brown f. m. sand, silty, Tr. Mica (sn)	③	80		
		82	41-34			82		

BORING NO. D 31

MUESER RUTLEDGE CONSULTING ENGINEERS

PROJECT Lowie's Home Center
 LOCATION Brooklyn NY
 BORING LOCATION As planned

BORING NO. B94
 SHEET 3 OF 3
 FILE NO. 9446
 SURFACE ELEV. _____
 DATUM _____

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG _____ TYPE OF FEED _____ CASING USED ☒ YES ☐ NO
 TRUCK _____ DURING CORING _____ MECHANICAL _____ DIA., IN. 4 DEPTH, FT. FROM 0 TO 20
 SKID Rock HYDRAULIC X DIA., IN. _____ DEPTH, FT. FROM _____ TO _____
 BARGE _____ OTHER _____ DIA., IN. _____ DEPTH, FT. FROM _____ TO _____
 OTHER _____

TYPE AND SIZE OF: _____ DRILLING MUD USED ☒ YES ☐ NO
 D-SAMPLER 2" dia. split spoon DIAMETER OF ROTARY BIT, IN. 3 7/8" 2 1/2" 1 1/2"
 U-SAMPLER Shelby tube TYPE OF DRILLING MUD Quick Gel
 S-SAMPLER _____
 CORE BARREL _____ AUGER USED ☐ YES ☒ NO
 CORE BIT Thru hole bit TYPE AND DIAMETER, IN. _____
 DRILL RODS N

CASING HAMMER, LBS. 300 AVERAGE FALL, IN. 24
 SAMPLER HAMMER, LBS. 140 AVERAGE FALL, IN. 30

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE (FEET)	DEPTH OF CASING (FEET)	DEPTH TO WATER (FEET)	CONDITIONS OF OBSERVATION
01/17/01	1245	82	—	7.2	Upon completion.

PIEZOMETER INSTALLED ☐ YES ☒ NO SKETCH SHOWN ON _____
 STANDPIPE: TYPE _____ ID, IN. _____ LENGTH, FT. _____ TOP ELEV. _____
 INTAKE ELEMENT: TYPE _____ OD, IN. _____ LENGTH, FT. _____ TIP ELEV. _____
 FILTER: MATERIAL _____ OD, IN. _____ LENGTH, FT. _____ BOT. ELEV. _____

PAY QUANTITIES

2.5" DIA. DRY SAMPLE BORING LIN. FT. 80 NO. OF 3" SHELBY TUBE SAMPLES 1
 3.5" DIA. U-SAMPLE BORING LIN. FT. 2 NO. OF 3" UNDISTURBED SAMPLES —
 CORE DRILLING IN ROCK LIN. FT. — OTHER: —

BORING CONTRACTOR JED CO.
 DRILLER R. Lynch HELPERS B. FELICIANO
 REMARKS Grouted borehole upon completion
 RESIDENT ENGINEER R. NUNGZ DATE 01/17/01

NOTES:

- Make a separate log of each boring and each unsuccessful boring attempt. Keep a copy of all logs in the field.
- In daily progress column indicate depth at beginning and end of work day, calendar date, day of week, time at beginning and end of work day and weather conditions.
- All samples shall be numbered in consecutive order regardless of type; dry samples D, wash samples W, shelby tube samples S, fixed piston samples U. Assign NR to lost samples and record blows. Make another sample attempt immediately below the lost sample.
- Mark each U-sample with job number, boring number, sample number, depth, penetration and recovery. Indicate method by which penetration of tube sampler was obtained.
- Record blows on spoon sampler per six inches of penetration. Note all blows and penetrations when taken at less than six-inch interval.
- List changes of material in strata column and list generalized strata descriptions.
- List under remarks the manner by which changes in material were detected, all obstructions, any loss or gain of wash water including amount and any unusual occurrences.
- For rock core, the recovery and the RQD (Rock Quality Designation) should be shown in both inches and percent of run length in the blows per six inches column. All core runs shall be numbered in consecutive order. A run number is given even if recovery is zero.
- Include sample description by Unified Soil Classification System.
- Obtain water level at the beginning of each day and at all other times when stable water conditions exist.

BORING NO. B94

MUESER RUTLEDGE CONSULTING ENGINEERS

SHEET 1 OF 3
 FILE NO. 9442
 BORING NO. B-11
 SURFACE ELEV. _____

PROJECT Levee's Home Center

PROJECT LOCATION Brooklyn, NY

RES. ENGR. R. MUNEZ

DAILY PROGRESS	SAMPLE			SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
	NO.	DEPTH	BLOWS/FT					
12/19/00 Tues. 5:45 P Levee 1200 hrs.	10	1	18-23	Bl. f. m. sand, sm silt, tr. mica (5m)	④			Drilled Safety Hammer
	20	3	24-32	ov. (f. m. sand)				1000 @ surface
	30	3	10-11	bl. f. m. (f. m. sand)				4 ft. deep
	40	5	3-3	water sample				
	50	7	4-4					
	60	7	3-4	gray m. f. sand, sm silt, tr. mica				
	70	9	6-3					
	80	10	2-1	gray f. m. sand, sm silt, tr. mica				
	90	12	1-1					
	100	12	2-1	DO-50, tr. mica (f. m. sand)				
1425 hr 12/20/00 WED at 10:30 hr windy cloudy 30-40	110	14	1-1		⑤			
	120	15	3-4	silt gray org. silty clay, tr. mica (f. m. sand)				
	130	17	4-8					
	140	17	2-2	DO-70 (OR)				
	150	19	2-2					
	160	20	1-1	gray silty f. m. sand, tr. mica, clay (sm)				
	170	22	1-1					
	180	25	8-10	bl. m. f. sand, sm silt (sm)				
	190	27	15-10					
	200	30	5-4	gray-blu clayey silt, tr. f. m. sand, mica (sm)				
	210	32	4-5		⑥			
	220	35	10-12	bl. m. f. sand, tr. silt, mica (sm)				
	230	37	12-15					
	240	40	16-14	PRM m. f. sand, tr. silt, mica (sp. sm)				
	250	42	21-17					
	260	45	10-13	bl. m. f. sand, tr. mica (sm)				
	270	47	12-17					
	280	50	12-14	DO-140 (sm)				
	290	52	13-12					
	300							

MUESER RUTLEDGE CONSULTING ENGINEERS

PROJECT LOWE'S HOME CENTER
 LOCATION BROOKLYN NY
 BORING LOCATION off lot -> 16 ft. W

BORING NO. B-11
 SHEET 3 OF 3
 FILE NO. 9446
 SURFACE ELEV. _____
 DATUM _____

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG _____ TYPE OF FEED DURING CORING _____ CASING USED ☒ YES ☐ NO
 TRUCK CHESS MECHANICAL _____ DIA. IN. 4 DEPTH, FT. FROM 0 TO 20
 SKID _____ HYDRAULIC _____ DIA. IN. _____ DEPTH, FT. FROM _____ TO _____
 BARGE _____ OTHER _____ DIA. IN. _____ DEPTH, FT. FROM _____ TO _____
 OTHER _____

TYPE AND SIZE OF: _____ DRILLING MUD USED ☒ YES ☐ NO
 D-SAMPLER 2" o.d. split spoon DIAMETER OF ROTARY BIT, IN. 5 7/8, 3/8, 2 1/4
 U-SAMPLER _____ TYPE OF DRILLING MUD QUIK GEL
 S-SAMPLER _____ AUGER USED ☐ YES ☒ NO
 CORE BARREL _____ TYPE AND DIAMETER, IN. _____
 CORE BIT _____
 DRILL RODS N

CASING HAMMER, LBS. 340 AVERAGE FALL, IN. 24
 SAMPLER HAMMER, LBS. 140 AVERAGE FALL, IN. 30

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE (FEET)	DEPTH OF CASING (FEET)	DEPTH TO WATER (FEET)	CONDITIONS OF OBSERVATION
					<u>NO observation</u>

PIEZOMETER INSTALLED ☐ YES ☒ NO SKETCH SHOWN ON _____
 STANDPIPE: TYPE _____ ID, IN. _____ LENGTH, FT. _____ TOP ELEV. _____
 INTAKE ELEMENT: TYPE _____ OD, IN. _____ LENGTH, FT. _____ TIP ELEV. _____
 FILTER: MATERIAL _____ OD, IN. _____ LENGTH, FT. _____ BOT. ELEV. _____

PAY QUANTITIES

2.5" DIA. DRY SAMPLE BORING LIN. FT. 102 NO. OF 3" SHELBY TUBE SAMPLES -
 3.5" DIA. U-SAMPLE BORING LIN. FT. - NO. OF 3" UNDISTURBED SAMPLES -
 CORE DRILLING IN ROCK LIN. FT. - OTHER: _____

BORING CONTRACTOR JRDC
 DRILLER R. Lynch HELPERS E. Feliciano

REMARKS Grouted borehole upon completion.

RESIDENT ENGINEER R. NUNO DATE 12/20/00

NOTES:

- Make a separate log of each boring and each unsuccessful boring attempt. Keep a copy of all logs in the field.
- In daily progress column indicate depth at beginning and end of work day, calendar date, day of week, time at beginning and end of work day and weather conditions.
- All samples shall be numbered in consecutive order regardless of type; dry samples D, wash samples W, Shelby tube samples S, fixed piston samples U. Assign N/A to lost samples and record blows. Make another sample attempt immediately below the lost sample.
- Mark each U-sample with job number, boring number, sample number, depth, penetration and recovery. Indicate method by which penetration of tube sampler was obtained.
- Record blows on spoon sampler per six inches of penetration. Note all blows and penetrations when taken at less than six-inch interval.
- List changes of material in strata column and list generalized strata descriptions.
- List under remarks the manner by which changes in material were detected, all obstructions, any loss or gain of wash water including amount and any unusual occurrences.
- For rock core, the recovery and the RQD (Rock Quality Designation) should be shown in both inches and percent of run length in the blows per six inches column. All core runs shall be numbered in consecutive order. A run number is given even if recovery is zero.
- Include sample description by Unified Soil Classification System.
- Obtain water level at the beginning of each day and at all other times when stable water conditions exist.

BORING NO. B-11

MUESER RUTLEDGE CONSULTING ENGINEERS

SHEET 1 OF 3

FILE NO. 9446

BORING NO. B-12

SURFACE ELEV.

PROJECT Lee's Home Center

PROJECT LOCATION Brooklyn NY

RES. ENGR. R. NUNEZ

DAILY PROGRESS	SAMPLE			SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
	NO.	DEPTH	BLOWS/8"					
12/11/00 30 deg Tues Cloudy 12/15 hr	10	0.5	5-10	Blk-Brown f. sand, Silty, Tr. qtz, coarse	⑤		Drilled	Automatic Hammer
	2		23	fine (fill) (sm)			Alto	Concrete @ surface
	20	2	9-19	DO-10 (fill) (sm)				4" Hack!
	4		12-6					10-1.5 ft sample.
	30	4	1-1	Blk. f. sand, Silty, Tr. Pent, fine		5		
	6		1-1	(fill) (sm)			mo	
	40	6	2-2	Blk. gray f. m. sand, Silty, coarse Tr. Rock,				
	8		2-2	weak (fill) (sm)				
	50	8	2-3	Blk. gray f. m. sand, Silty, coarse Tr. qtz		10		
	10		3-4	(fill) (sm)				
1415 12/10/00 Wed. 0630 hrs Windy cloudy 16 hr	60	10	2-2	DO-50 (fill) (sm)	⑤			
	12		1-1					
	70	12	2-2	DO-50 (fill) (sm)				
	14		2-1					
	80	14	1-1	TOP (G)-DO-50 (fill) (sm)		15		R-12'
	16		1-1	Bot (G) gray silty clay, silty Tr. Pent (sm)				
	90	16	1-1	DO-80-Bot (sm)				
	18		1-1					
	100	20	1-1	gray silty f. m. sand, Tr. veg (sm)		20		
	22		1-2					
	110	25	4-6	Blk. H. f. sand, Tr. silt (sp-sm)		25		
	27		8-8					
	120	30	3-3	Top (G)-Blk. G. f. sand, Tr. silt (sp-sm)		30		
	32		2-2	Bot (G)-Stiff gray Blk. silt, silty sand (sm)				Bot PD = 15 F.S.F.
	130	35	5-8	Blk. H. f. sand, Tr. silt, mica (sp-sm)		35		
	37		12-15					
	140	40	6-8	DO-130 (sp-sm)		40		
	42		11-11					
	150	45	3-3	DO-150, Tr. qtz. (sp-sm)		45		
	47		5-4					
	160	50	4-4	Blk. silty f. sand, Tr. mica (sm)		50		
	52		6-5					

BORING NO. B-12

MUESER RUTLEDGE CONSULTING ENGINEERS

PROJECT Low's Home Center
 LOCATION Brooklyn NY
 BORING LOCATION off Rt 169 SW

BORING NO. B-12
 SHEET 2 OF 3
 FILE NO. 9446
 SURFACE ELEV. _____
 DATUM _____

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG _____ TYPE OF FEED _____ CASING USED ☒ YES ☐ NO
 TRUCK CHS 75 MECHANICAL _____ DIA., IN. 4 DEPTH, FT. FROM 0 TO 20
 SKID _____ HYDRAULIC X DIA., IN. _____ DEPTH, FT. FROM _____ TO _____
 BARGE _____ OTHER _____ DIA., IN. _____ DEPTH, FT. FROM _____ TO _____
 OTHER _____

TYPE AND SIZE OF: _____ DRILLING MUD USED ☒ YES ☐ NO
 D-SAMPLER 2" o.d. split spoon DIAMETER OF ROTARY BIT, IN. 3 1/8", 5 1/8", 2 1/4"
 U-SAMPLER _____ TYPE OF DRILLING MUD Quik Gel
 S-SAMPLER _____
 CORE BARREL _____ AUGER USED ☐ YES ☒ NO
 CORE BIT _____ TYPE AND DIAMETER, IN. _____
 DRILL RODS N

CASING HAMMER, LBS. 300 AVERAGE FALL, IN. 24
 SAMPLER HAMMER, LBS. 190 AVERAGE FALL, IN. 30

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE (FEET)	DEPTH OF CASING (FEET)	DEPTH TO WATER (FEET)	CONDITIONS OF OBSERVATION
					<u>No observation.</u>

PIEZOMETER INSTALLED ☐ YES ☒ NO SKETCH SHOWN ON _____
 STANDPIPE: TYPE _____ ID, IN. _____ LENGTH, FT. _____ TOP ELEV. _____
 INTAKE ELEMENT: TYPE _____ OD, IN. _____ LENGTH, FT. _____ TIP ELEV. _____
 FILTER: MATERIAL _____ OD, IN. _____ LENGTH, FT. _____ BOT. ELEV. _____

PAY QUANTITIES

2.5" DIA. DRY SAMPLE BORING LIN. FT. 99.5 NO. OF 3" SHELBY TUBE SAMPLES _____
 3.5" DIA. U-SAMPLE BORING LIN. FT. _____ NO. OF 3" UNDISTURBED SAMPLES _____
 CORE DRILLING IN ROCK LIN. FT. _____ OTHER: obstruction (boulders) 2.5

BORING CONTRACTOR JSD Co.
 DRILLER M. Maguana HELPERS D. Keith
 REMARKS Grouted borehole upon completion
 RESIDENT ENGINEER T. NUNER DATE 12/20/00

- NOTES:
- Make a separate log of each boring and each unsuccessful boring attempt. Keep a copy of all logs in the field.
 - In daily progress column indicate depth at beginning and end of work day, calendar date, day of week, time at beginning and end of work day and weather conditions.
 - All samples shall be numbered in consecutive order regardless of type; dry samples D, wash samples W, shelly tube samples S, fixed piston samples U. Assign NR to lost samples and record blows. Make another sample attempt immediately below the lost sample.
 - Mark each U-sample with job number, boring number, sample number, depth, penetration and recovery. Indicate method by which penetration of tube sampler was obtained.
 - Record blows on spoon sampler per six inches of penetration. Note all blows and penetrations when taken at less than six-inch interval.
 - List changes of material in strata column and list generalized strata descriptions.
 - List under remarks the manner by which changes in material were detected, all obstructions, any loss or gain of wash water including amount and any unusual occurrences.
 - For rock core, the recovery and the RQD (Rock Quality Designation) should be shown in both inches and percent of run length in the blows per six inches column. All core runs shall be numbered in consecutive order. A run number is given even if recovery is zero.
 - Include sample description by Unified Soil Classification System.
 - Obtain water level at the beginning of each day and at all other times when stable water conditions exist.

BORING NO. B-12

MUESER RUTLEDGE CONSULTING ENGINEERS

SHEET 1 OF 3

FILE NO. 9440

BORING NO. B-13

SURFACE ELEV. _____

PROJECT Levee's Home Center

PROJECT LOCATION Brooklyn NY

RES. ENGR. T. NUNEZ

DAILY PROGRESS	SAMPLE			SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
	NO.	DEPTH	BLOWS/6"					
12/20/00 WED. Wind Clear 30-50F 3-50 hrs	10	0-5	24-15	dk f-sand, sm silt, tr. cinders, gh	(1)			Drilled Automatic Hammer
		2	17	Brick (fill) (sm)				4" thick concrete
	20	2	7-11	DO-10 (fill) (sm)				Surface
		4	16-6					
	30	4	4-4	DO-10 (fill) (sm)		5		Start penetration
		6	2-2					
	40	6	1-1	gray f-m sand, sm silt, tr. veg. det.				
		8	1-1	Brick (fill) (sm)				
	50	8	2-1	DO-40, tr. cinders (fill) (sm)				
		10	2-2			10		
	60	10	4-2	dk gray f-sand, sm silt, cinders, tr. veg.				
		12	2-1	Brick (fill) (sm)				
	70	12	1-1	dk-gray f-sand, sm silt, cinders, tr.				
		14	1-1	Brick (fill) (sm)				
10/15 hrs 12/21/10 Tues 20-28 occasional cloudy	80	15	8-6	Black cinders, sm f-m sand, tr. silt	(1E)	15		R=1"
		17	5-5	(fill) (cinders)		17		
	90	17	2-1	Bwn Peat (pt)				
		19	1-1					
	100	20	WASH/18"	gray silty f-m sand, tr. peat (sm)		19.5	✓	
		22	1					
						23.5		
	110	25	4-5	Bwn f-c sand, tr. silt, mica (sp. sm)		25		
		27	5-9					
						30		
	120	30	8-7	Bwn silty f-sand, tr. mica (sm)				
		32	4-4			33.5		
						35		PR 1.25 T.S.F
	130	35	2-2	stiff gray org. silty clay, sm f-sand	(2)	38.5		
		37	7-5	(fill) (OH)		40		
						45		
	140	40	3-5	gray m-f sand, tr. silt, mica (sp. sm)				
		42	4-6					
						50		
	150	45	4-4	DO-140 (sp. sm)				
		47	4-7					
	160	50	2-4	gray f-m sand, sm silt (sm)				
		52	4-6					

BORING NO. B-13

MUESER RUTLEDGE CONSULTING ENGINEERS

SHEET 2 OF 3

FILE NO. 9446

BORING NO. B-13

SURFACE ELEV.

PROJECT Lois's Home Center

PROJECT LOCATION Brooklyn

RES. ENGR. F. MUEER

DAILY PROGRESS	SAMPLE			SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
	NO.	DEPTH	BLOWS/6"					
					(S)			
						53.5		
	170	55	57	Wet / soft gray org. silty clay, with f-sand Scum (OH)	(O)	55		P.D. = < 0.5 T.S.F.
						58.5		
	180	60	62	Red-brown silty f-c sand, Tr. gul, Rock frag. (sm)	(T)	60		R=2"
						65		
	190	65	67	DO-18 (sm)				2-3" Rock frag. in the tip of the Spoon.
						70		
	200	70	72	Red-brown f-c sand, sm silt, sil (sm)				
					(S)	73		Hard drilling @ 73 ft. boulder.
						74		
	210	75	77	DO-20 (sm)		75		
								Borehole cased in boulder rolled into borehole.
						80		
	220	80	82	DO-20 (sm) Rock frag. (sm)				Rec: 3" Rock frag. in the tip of the Spoon.
	230	85	87	Red-brown f-c sand, silt, sil (sm)	(T)	85		Borehole cased in to boulder to 70 ft. Reamed boulder to 85 ft.
						89		
					(S)	90		Hard drilling from 89-90'
	240	90	92	DO-23 (sm)				
						95		
	250	95	97	DO-23 (sm)				
						100		
	260	100	102	DO-23 (sm)				
						102		E.O.B @ 102

1410

BORING NO. B-13

MUESER RUTLEDGE CONSULTING ENGINEERS

PROJECT Lowe's Home Center
 LOCATION Brooklyn, NY
 BORING LOCATION See Site # 7

BORING NO. B-13
 SHEET 3 OF 5
 FILE NO. 9446
 SURFACE ELEV. _____
 DATUM _____

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG _____ TYPE OF FEED DURING CORING _____ CASING USED ☒ YES ☐ NO
 TRUCK CME 75 MECHANICAL _____ DIA., IN. 4 DEPTH, FT. FROM 0 TO 20
 SKID _____ HYDRAULIC X DIA., IN. _____ DEPTH, FT. FROM _____ TO _____
 BARGE _____ OTHER _____ DIA., IN. _____ DEPTH, FT. FROM _____ TO _____
 OTHER _____
 TYPE AND SIZE OF: _____ DRILLING MUD USED ☒ YES ☐ NO
 D-SAMPLER 2" O.D. split spoon DIAMETER OF ROTARY BIT, IN. 2 3/16, 3 1/8, 4 1/8
 U-SAMPLER _____ TYPE OF DRILLING MUD Quick Gel
 S-SAMPLER _____
 CORE BARREL _____ AUGER USED ☐ YES ☒ NO
 CORE BIT _____ TYPE AND DIAMETER, IN. _____
 DRILL RODS N

CASING HAMMER, LBS. 200 AVERAGE FALL, IN. 24
 SAMPLER HAMMER, LBS. 140 AVERAGE FALL, IN. 30

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE (FEET)	DEPTH OF CASING (FEET)	DEPTH TO WATER (FEET)	CONDITIONS OF OBSERVATION
12/21/00	1400	102	20	11.0 ±	Mud/water level upon completion.

PIEZOMETER INSTALLED ☐ YES ☒ NO SKETCH SHOWN ON _____
 STANDPIPE: TYPE _____ ID, IN. _____ LENGTH, FT. _____ TOP ELEV. _____
 INTAKE ELEMENT: TYPE _____ OD, IN. _____ LENGTH, FT. _____ TIP ELEV. _____
 FILTER: MATERIAL _____ OD, IN. _____ LENGTH, FT. _____ BOT. ELEV. _____

PAY QUANTITIES

2.5" DIA. DRY SAMPLE BORING LIN. FT. 100 NO. OF 3" SHELBY TUBE SAMPLES _____
 3.5" DIA. U-SAMPLE BORING LIN. FT. _____ NO. OF 3" UNDISTURBED SAMPLES _____
 CORE DRILLING IN ROCK LIN. FT. _____ OTHER: Construction (barbers) 2 FT

BORING CONTRACTOR JEN CO.
 DRILLER M. Blawie HELPERS D. Keith
 REMARKS Grouted borehole upon completion.
 RESIDENT ENGINEER R. Nunez DATE 12/21/00

- NOTES:
- Make a separate log of each boring and each unsuccessful boring attempt. Keep a copy of all logs in the field.
 - In daily progress column indicate depth at beginning and end of work day, calendar date, day of week, time at beginning and end of work day and weather conditions.
 - All samples shall be numbered in consecutive order regardless of type; dry samples D, wash samples W, shelly tube samples S, fixed piston samples U. Assign NPT to lost samples and record blows. Make another sample attempt immediately below the lost sample.
 - Mark each U-sample with job number, boring number, sample number, depth, penetration and recovery. Indicate method by which penetration of tube sampler was obtained.
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 - Obtain water level at the beginning of each day and at all other times when stable water conditions exist.

BORING NO. B-13