GEOTECHNICAL REPORT
PARK LANE – 1965 LAFAYETTE AVENUE
New York, New York

January 26, 2018

Park Lane Residence Co.
70 East 55th Street,
7th Floor
New York, NY 10001

Mueser Rutledge Consulting Engineers
225 West 34th Street
New York, New York 10122

MRCE
built on firm foundations

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January 26, 2018

Park Lane Residence Co.
70 East 55th Street, 7th Floor
New York, NY 10022

Attn: Mr. Joshua Siegel

Re: Geotechnical Report
Park Lane – 1965 Lafayette Avenue
New York, NY 10001
MRCE File No. 13132

Greetings:

In accordance with our proposal dated November 1, 2017, revised on November 8 and December 14, 2017, Mueser Rutledge Consulting Engineers (MRCE) has prepared a geotechnical report for the referenced project. This report presents a summary of our investigation, interpretation of subsurface conditions, and recommendations regarding foundation design and construction.

EXHIBITS

The following exhibits are attached to this report:

EXHIBIT	DESCRIPTION
Figure No. 1	Site Location Plan
Figure No. 2	1897 Historic Map
Figure No. 3	1947 Historic Map
Figure No. 4	1955 Historic Map
Drawing No. B-1	Boring Location Plan
Drawing No. C-1	Top of Rock Contour Plan
Drawing No. GS-1	Geologic Section A-A
Drawing No. GS-R	Geotechnical Reference Standards
Drawing No. RC-1	Rock Core Classification Criteria
Appendix A	MRCE Boring Logs

SITE AND PROJECT DESCRIPTION

The project site is in the Borough of Bronx on the block bounded by White Plains Road to the West, Turnbull Avenue to the North, Pugsley Avenue to the East, and Lafayette Avenue to the South, as shown on Figure No. 1. Based on historic maps, the project site was within the limits of THE FORMER Pugsley Creek, which was filled in during the mid-1950's for future developments as shown on Figure Nos. 2 through 4.

The site is currently occupied by an at-grade parking lot, adjacent to an existing 21-story residential structure to the east. We understand the proposed development includes the construction of two 14-story buildings adjacent to each other with a total square footage of about 33,000 square feet. The proposed development includes a basement level with an underground parking garage. In general, site topography is rather flat in the area. Grade along Lafayette Avenue is about EL. +18.0, sloping down to El. +16 to the north along Turnbull Avenue. Elevations refer to the North American Vertical Datum of 1988 (NAVD88).

SUBSURFACE INVESTIGATION

The subsurface investigation consisted of fourteen (14) borings, Borings MR-1 through MR-14. The borings were performed by Craig Geotechnical Drilling, Co., between December 26, 2017 and January 3, 2018 under continuous inspection by our Resident Engineer Mr. Khashayar Amini who prepared field logs for each boring. As-drilled locations of borings are shown on Drawing No. B-1 and are based on field measurements off existing structures by our Resident Engineer.

The borings were made using a track mounted drill rig and mud-rotary drilling techniques with casing and drilling mud to stabilize the boreholes. Borings were advanced to depths ranging from 27 feet to 50 feet below ground surface. Ground surface elevations at the boring locations were estimated based on the survey drawing by Fehringer Surveying, P.C. dated January 21, 2016.

Samples were obtained using a 2-inch O.D. split-spoon sampler driven with a 140-pound hammer falling 30 inches. The number of hammer blows required to advance the split-spoon sampler through each of four six-inch drive intervals was recorded. The Standard Penetration Test (SPT) resistance or N-value, expressed in blows per foot, is an indication of the relative density of the material sampled and is calculated by summing the blows from the second and third six-inch intervals. In some instances where the sampler was unable to penetrate the full 24 inches due to the presence of dense soils, large gravel, cobbles, boulders, or other obstructions, the sampler was driven until 100 blows were administered and the actual penetration of the sampler was measured and recorded. Split-spoon samples were generally taken at five foot intervals, with more sampling in the top 10 feet. Recovered soil samples were classified in the field and placed in jars for preservation and transport to our laboratory.

Bedrock was cored to a depth of 5 to 10-ft below the rock surface in each boring. Rock cores were sampled using an NX-size double tube core barrel with a diamond bit, recovering a nominal 2-inch diameter rock cores. Percent recovery and Rock Quality Designation (RQD) were determined for each core run. Recovery is the length of the core expressed as a percentage of the total core run. RQD is defined as the sum of the lengths of the recovered core pieces greater than four inches in length between natural breaks expressed as a percentage of the total core run. RQD is an indication of the relative frequency of jointing or natural fracturing of the bedrock. Sketches of recovered cores prepared in the field are attached to the boring logs. Rock cores were stored in wooden boxes for preservation and transport to our laboratory.

An observation well (piezometer) was installed in Boring MR-4P for the purpose of establishing a groundwater level. The well consists of a two-inch diameter PVC standpipe extending to a depth of approximately 25 feet. The bottom ten feet of the standpipe is slotted and surrounded by filter sand to allow free water movement without movement of soil particles. A bentonite clay plug was placed around the standpipe above a depth of 13 feet below grade to prevent surface water entry. A cap flush with surrounding ground surface was installed at the well for protection and to facilitate future readings. The observation well was flushed with clean water following installation until discharge was visibly clear and contained a minimal amount of fines. Observation well construction details, water level readings are recorded on the Piezometer Record accompanying the boring logs in Appendix A.

LABORATORY TESTING

In-house laboratory testing was performed as part of the subsurface investigation to assist with classification of soils and evaluation of engineering parameters for design of foundations. We performed twenty one (21) water content tests on samples obtained from the borings. Tests were performed in accordance with ASTM D2216 “Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass”.

SUBSURFACE CONDITIONS

Upon completion of the boring program, all soil samples and rock cores were delivered to our laboratory for verification of field classifications. Individual sample descriptions and rock core sketches are in the boring log attached in Appendix A. The Boring Legend and explanation of the USCS symbols are shown on Drawing No. GS-R. Rock core classification criteria are described on Drawing No. RC-1.

General descriptions of materials encountered are summarized below in order of their occurrence with depth. New York City Building Code (NYCBC) classification is noted for each stratum.

Stratum F – Fill (NYCBC Class 7) The uppermost material encountered in all borings was miscellaneous fill, with thickness ranging from 18 to 25 feet, and an average of about 20 feet. The Fill generally consists of loose to very compact brown, black, red brown, and gray fine to coarse sand, trace to some gravel, silt, with varying amounts of concrete, brick, and wood. Refusal was encountered several times within the fill, indicating the presence of obstructions. N-values ranged from 1 blows per foot (bpf) to refusal, with an average of about 20 bpf.

Stratum O – Organic Silty Clay (NYCBC Class 6) All Borings excepted Boring MR-10 encountered a layer of organic silty clay beneath Stratum F, with a thickness ranging from 4 to 12 feet. The Silty Clay primarily consists of soft to stiff gray to black organic silty clay, trace fine sand, peat, and wood. The N-Values ranged from weight of rod (WR) to 16 bpf, with an average of about 3 bpf. Natural water contents of samples obtained in Stratum O ranged from 27 to 119 percent an average of about 77 percent.

Stratum S – Sand (NYCBC Class 3b) Natural deposits of sand were present in Borings MR-5, 6, 7, 9, 11, 12, and 14 underlying Stratum O, with a thickness ranging from 4 to 7 feet when fully penetrated. The Sand generally consists of loose to very compact gray to gray green fine to coarse sand, trace to silty, trace to some gravel, silt, and shells. N-values ranged from 3 bpf to refusal with an average of about 35 bpf.

Stratum T – Till (NYCBC Class 3a) Glacial Till was present in Borings MR-2, 3, 4P, 7, 8, 9, and 13 underlying Stratum O or Stratum S where present, with a thickness ranging from 6 to 12 feet when fully penetrated. The Till generally consists of medium compact to very compact brown, gray, dark gray, light brown to green fine to coarse sand, trace to gravelly, trace to some silt, and rock fragments. N-values ranged from 17 bpf to refusal with an average of about 50 bpf.

Stratum DR – Decomposed Rock (NYCBC Class 3a) Decomposed rock was present in Borings MR-1, 5, and 6 underlying Stratum O or S, where present, with a thickness ranging from 7 to 8 feet, or at Elevation -6 to -22.5. The Decomposed Rock generally consists of gray to gray brown micaceous fine to coarse sand and rock fragments, trace to some silt. N-values for samples obtained in Stratum DR were in excess of 100 bpf.

Stratum WR – Weathered Rock (NYCBC Class 1d) Weathered rock was present in Borings MR-1, 4P, 5, 8, and 10 underlying Stratum F, T, DR, or WR, where present, with thickness ranging from 2 to 10 feet. Top of Stratum WR was encountered at elevations ranging from El. -7 to El. -30. The Weathered Rock generally consisted of weathered slightly weathered to highly weathered gray gneissic schist and schistose gneiss, closely jointed to broken, iron stained joints, and weathered joints. Core recoveries ranged from 36 to 72

percent with an average of about 48 percent, and RQDs ranged from 0 to 26 percent, with an average of about 15 percent.

Stratum R – Rock (NYCBC Classes 1c to 1b) Competent bedrock, Stratum R, was encountered in Borings MR-1 through 4P, 6, 7, 9, and 10 underlying stratum T, DR, or WR where present. Top of rock was encountered at elevations ranging from El. -12 to El. -23.The Rock generally consisted of intermediate to medium hard, highly weathered to unweathered gray to light gray gneissic schist, schistose gneiss or granite, closely jointed to broken, weathered joints, iron stained joints. Core recoveries ranged from 73 percent to 100 percent, with an average of about 90 percent. RQD's ranged from 38 to 78 percent, with an average of about 52 percent. Top of rock contours can be found on Drawing No. C-1.

Groundwater Level A piezometer was installed in Boring MR-4P to measure groundwater levels at the site. Depth to groundwater measured in the piezometer over a one week period during our investigation was about 11.3 feet below the ground surface, or about El. +5.3. Therefore, the groundwater observation well was left in place to allow for future measurements.

Groundwater levels are expected to vary seasonally throughout the year depending on precipitation levels and surface water infiltration. As such, the groundwater level at the time of construction may be different from levels observed at the time of our field investigation.

FOUNDATION DESIGN RECOMMENDATIONS

Considering the subsurface profile and foundation loads, we recommend that the proposed structure be supported on a combination of piles driven to rock with tiedowns or drilled minicaissons socketed into bedrock and tiedowns.

Driven Piles

We recommend considering closed-end steel pipe piles (12- to 13-inch diameter) filled with concrete or steel H piles. An allowable compression capacity of up to 150 tons may be used in design assuming piles will be driven to end bearing on bedrock. Driving tips or shoes should be employed penetrate stiffer soils, obstructions and/or decomposed and weathered rock above bedrock. Spudding or pre-drilling may be required to penetrate shallow obstructions.

The contractor should be responsible for determining the actual driving resistance necessary to develop the capacity selected based on the hammer used and this resistance should be confirmed by pile load tests.

If tiedowns are needed to resist uplift forces, we recommend they consist of preassembled double corrosion protected threaded bar sized assuming a side friction of 100 psi. The design should also evaluate rock/soil cone pullout capacity and combined effect of all tension elements.

Drilled Mini-Caissons

If drilled mini-caissons are used to resist uplift and compression loads, we recommend considering 9 to 13-inch diameter mini-caissons socketed into NYCBC Class 1C rock. Compression and tension capacity of the caissons should be developed within a rock socket below the permanent casing. We recommend the caisson rock sockets be sized assuming a side friction of 200 psi in compression and 100 psi in tension. The design should also evaluate rock/soil cone pullout capacity and combined effect of all tension elements.

Lateral Capacities of Caissons and Piles

Resistance of caissons and piles to lateral loads will largely depend on the diameter of the driven piles / drilled mini-caissons and the stiffness of the core steal for the drilled mini-caissons. We can provide lateral capacities of the caissons and piles when foundation plans and loads are available to us.

Steel Corrosion

Steel piles may be subject to corrosion. The corrosion protection may consist of coating the piles. In lieu of the coating, 1/16 inch of the steel pile perimeter should be considered sacrificial with stresses in the steel limited to 12,600 psi. All pile steel, including steel shells should be isolated from the reinforcing steel in the pile cap.

Foundation Slab and Walls

The cellar walls and slab should be designed as structural elements able to resist both soil and hydrostatic pressures. The long term groundwater should be assumed to be at approximately Elev. 6. The wall and slab should be checked for short term loading conditions with groundwater at Elev. +9 representing utility leak conditions. At-rest earth pressures should be used for the design of foundation walls, assuming a friction angle of 32 degrees and a total unit weight of 120 pounds per cubic foot. Seismic earth pressures should be considered in accordance with seismic design parameters provided below.

Foundation Waterproofing

We recommend that the new cellar spaces be fully protected to grade with sheet waterproofing. Hydrophilic waterstop should be used. Groutable tubes shall be considered for higher quality cellar usage. Both material and labor warranties should be obtained for the waterproofing system.

Seismic Design

We recommend using Site Class E spectral response parameters (S_{DS} = 0.444 and S_{D1} = 0.170) and Seismic Design Category (SDC) C.

CLOSURE

This report presents the results of our investigations and our recommendations for foundation design and construction for the proposed construction. We will be pleased to answer questions regarding this report and further assist in design and construction of the project as you may request.

MUESER RUTLEDGE CONSULTING ENGINEERS

Seth F. Knihtila, P.E.

Jan Cermak, P.E.

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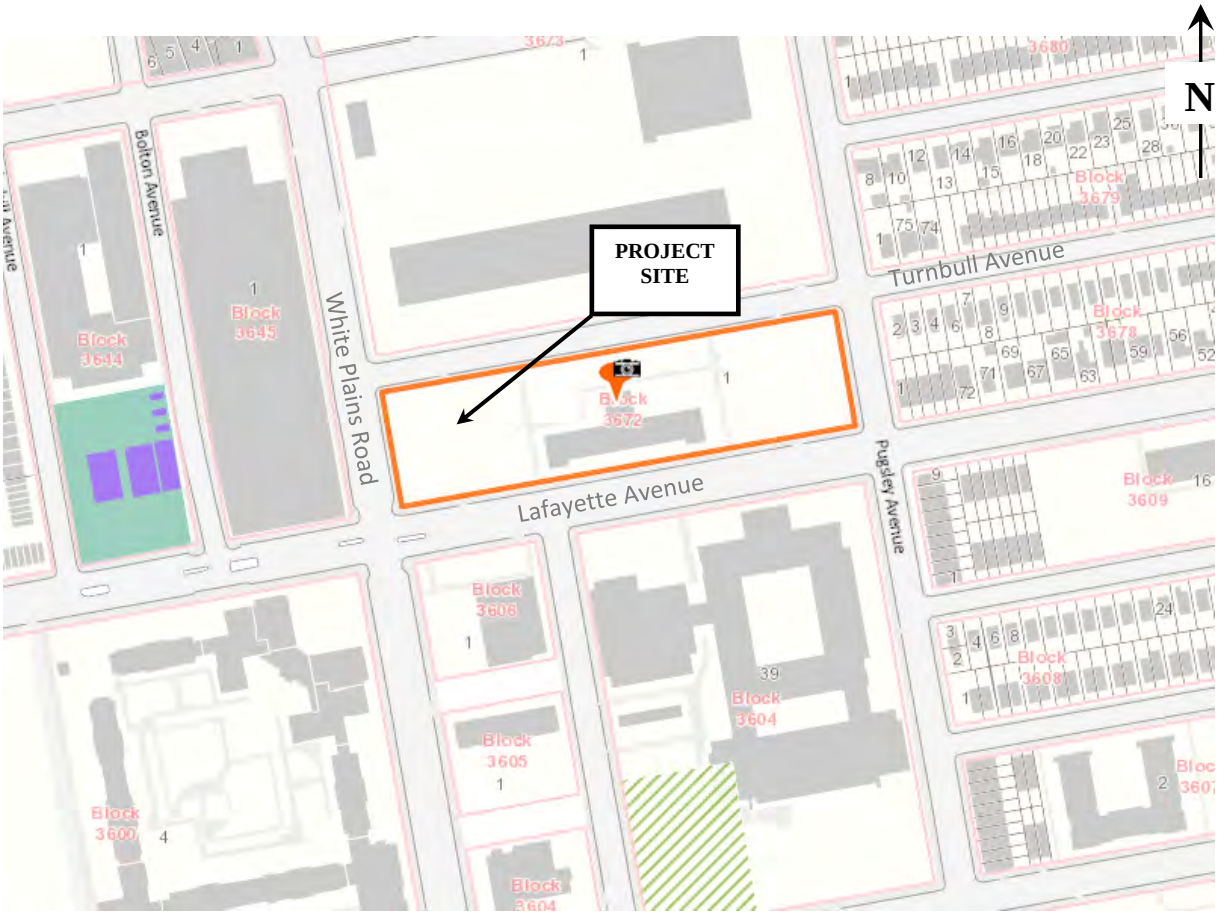
EXHIBITS



Source: www.OASISnyc.net

PARK LANE – 1965 LAFAYETTE AVENUE

BRONX NEW YORK

PARK LANE RESIDENCE CO.

NEW YORK NEW YORK

MUESER RUTLEDGE CONSULTING ENGINEERS

225 WEST 34TH STREET, NEW YORK, NY 10122

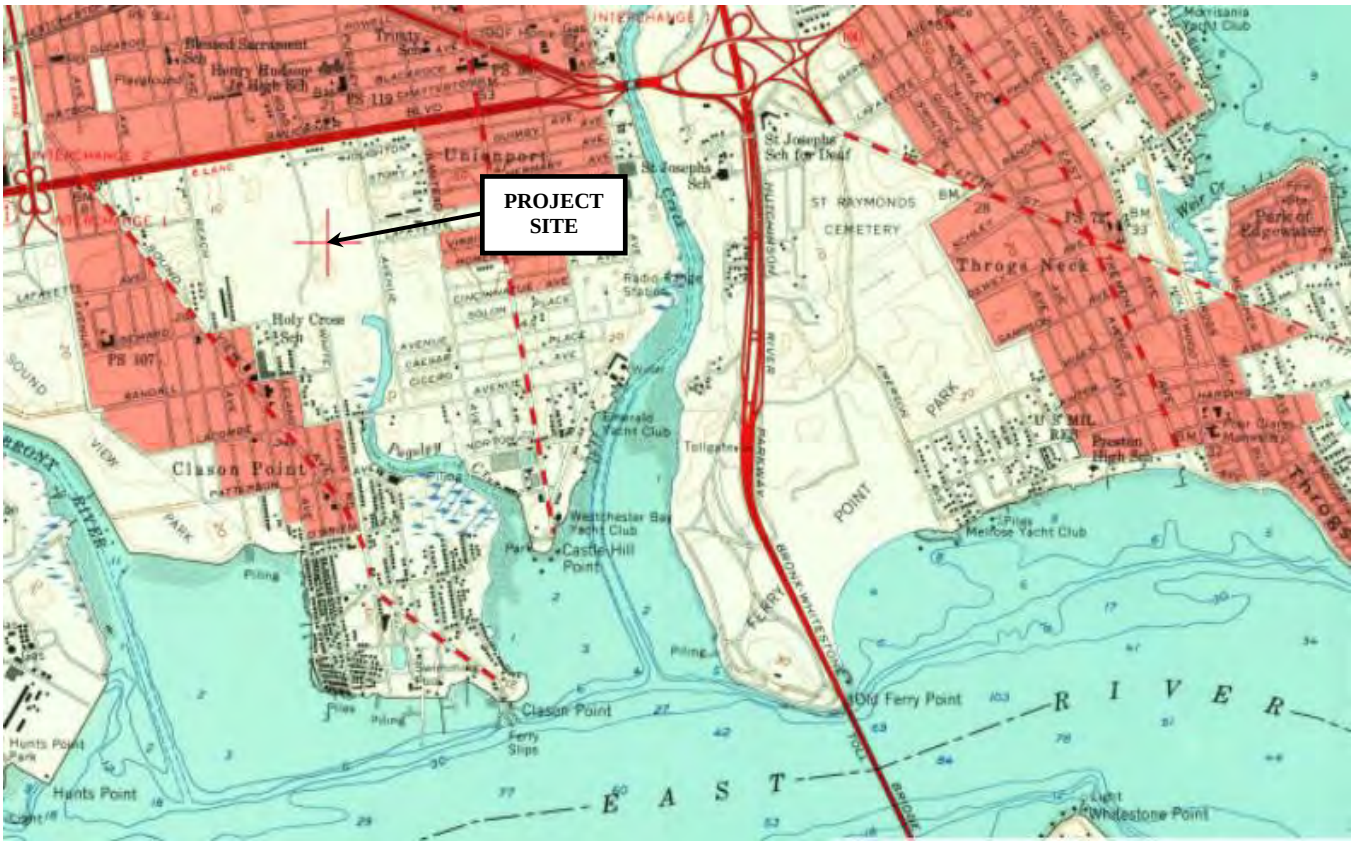
SCALE	MADE BY: SFK DATE: 12-28-17 CH'KD BY: JC DATE: 1-26-18	FILE NO.
-		13132
SITE LOCATION PLAN		FIGURE NO. 1

***Source**: Harlem Historic Map, 1897 1865.*

PARK LANE – 1965 LAFAYETTE AVENUE		
BRONX		NEW YORK
PARK LANE RESIDENCE CO.		
NEW YORK		NEW YORK
MUESER RUTLEDGE CONSULTING ENGINEERS 225 WEST 34TH STREET, NEW YORK, NY 10122		
SCALE -	MADE BY: SFK DATE: 12-27-17 CH'KD BY: JC DATE: 1-26-18	FILE NO. 13132
1897 HISTORICAL MAP		FIGURE NO. 2

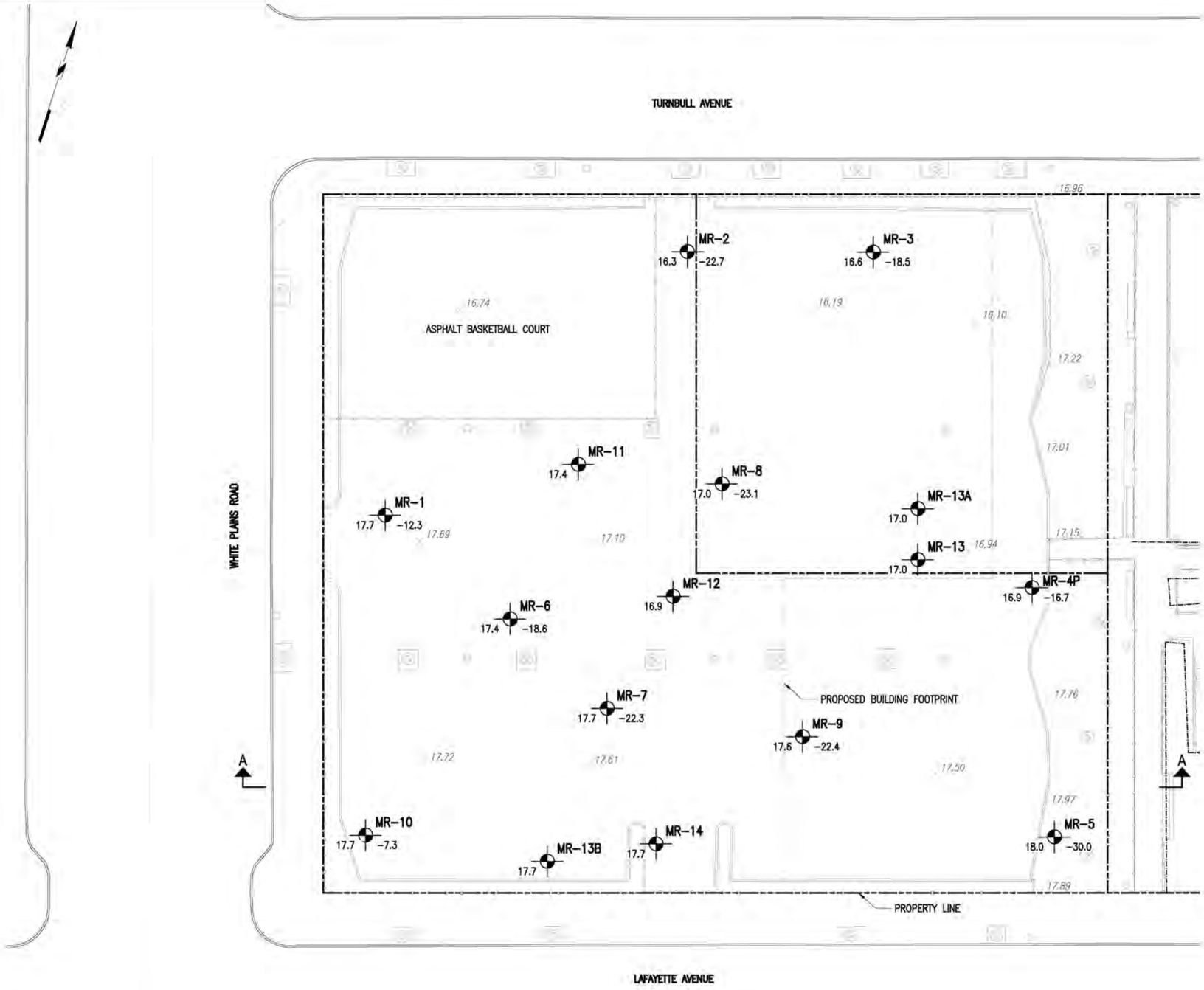
Source: *Flushing Historic Map, 1947*

PARK LANE – 1965 LAFAYETTE AVENUE		
BRONX		NEW YORK
PARK LANE RESIDENCE CO.		
NEW YORK		NEW YORK
MUESER RUTLEDGE CONSULTING ENGINEERS 225 WEST 34TH STREET, NEW YORK, NY 10122		
SCALE -	MADE BY: SFK DATE: 12-27-17 CH'KD BY: JC DATE: 1-26-18	FILE NO. 13132
1947 HISTORICAL MAP		FIGURE NO. 3



Source: *Flushing Historic Map, 1955*

PARK LANE – 1965 LAFAYETTE AVENUE		
BRONX		NEW YORK
PARK LANE RESIDENCE CO.		
NEW YORK		NEW YORK
MUESER RUTLEDGE CONSULTING ENGINEERS 225 WEST 34TH STREET, NEW YORK, NY 10122		
SCALE -	MADE BY: SFK DATE: 12-27-17 CH'KD BY: JC DATE: 1-26-18	FILE NO. 13132
1955 HISTORICAL MAP		FIGURE NO. 4



P L A N

GRAPHIC SCALE
16' 8' 0 16' 32'

GENERAL NOTES:

1. BASE DRAWING TAKEN FROM SURVEY DRAWING BY FEHRINGER SURVEYING, P.C. DATED JANUARY 21, 2016.
2. ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88)
3. BORINGS MR-1 TO MR-14 WERE MADE BY CRAIG GEOTECHNICAL DRILLING CO., INC. BETWEEN DECEMBER 26, 2017 AND JANUARY 3, 2018 UNDER THE CONTINUOUS INSPECTION OF MUESER RUTLEDGE CONSULTING ENGINEERS (MRCE).
4. AS DRILLED LOCATIONS AND GROUND SURFACE ELEVATIONS FOR BORINGS MR-1 THROUGH MR-14 WERE ESTIMATED IN THE FIELD USING THE SURVEY PROVIDED AND ARE CONSIDERED APPROXIMATE.
5. FOR GEOLOGIC SECTION A-A AND SOIL CLASSIFICATION TERMINOLOGY, SEE DRAWING NO. GS-1.
6. STRATIFICATIONS SHOWN ON THE GEOLOGIC SECTIONS AND ROCK CONTOUR PLAN ARE BASED ON NECESSARY INTERPOLATIONS BETWEEN BORINGS AND MAY NOT REPRESENT ACTUAL SUBSURFACE CONDITIONS.

LEGEND:

MR-1
17.7 -12.3 – MRCE BORING
– "A OR B" INDICATES OFFSET
– "P" INDICATES PIEZOMETER
– "17.7" INDICATES GROUND SURFACE EL. (FT.)
– "-12.3" INDICATES TOP OF ROCK EL. (FT.)

REV.	DATE	BY	DESCRIPTION

PARK LANE DEVELOPMENT
1965 LAFAYETTE AVENUE
BRONX NEW YORK

PL MM LLC AND PL SARA LLC
NEW YORK NEW YORK

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 W. 34TH STREET, NY, NY 10122

SCALE	MADE BY: H.Y.	DATE: 01-05-2018	FILE NUMBER
GRAPHIC	CH'KD BY: S.F.K.	DATE: 01-16-2018	13132

BORING LOCATION PLAN — DRAWING NUMBER B-1

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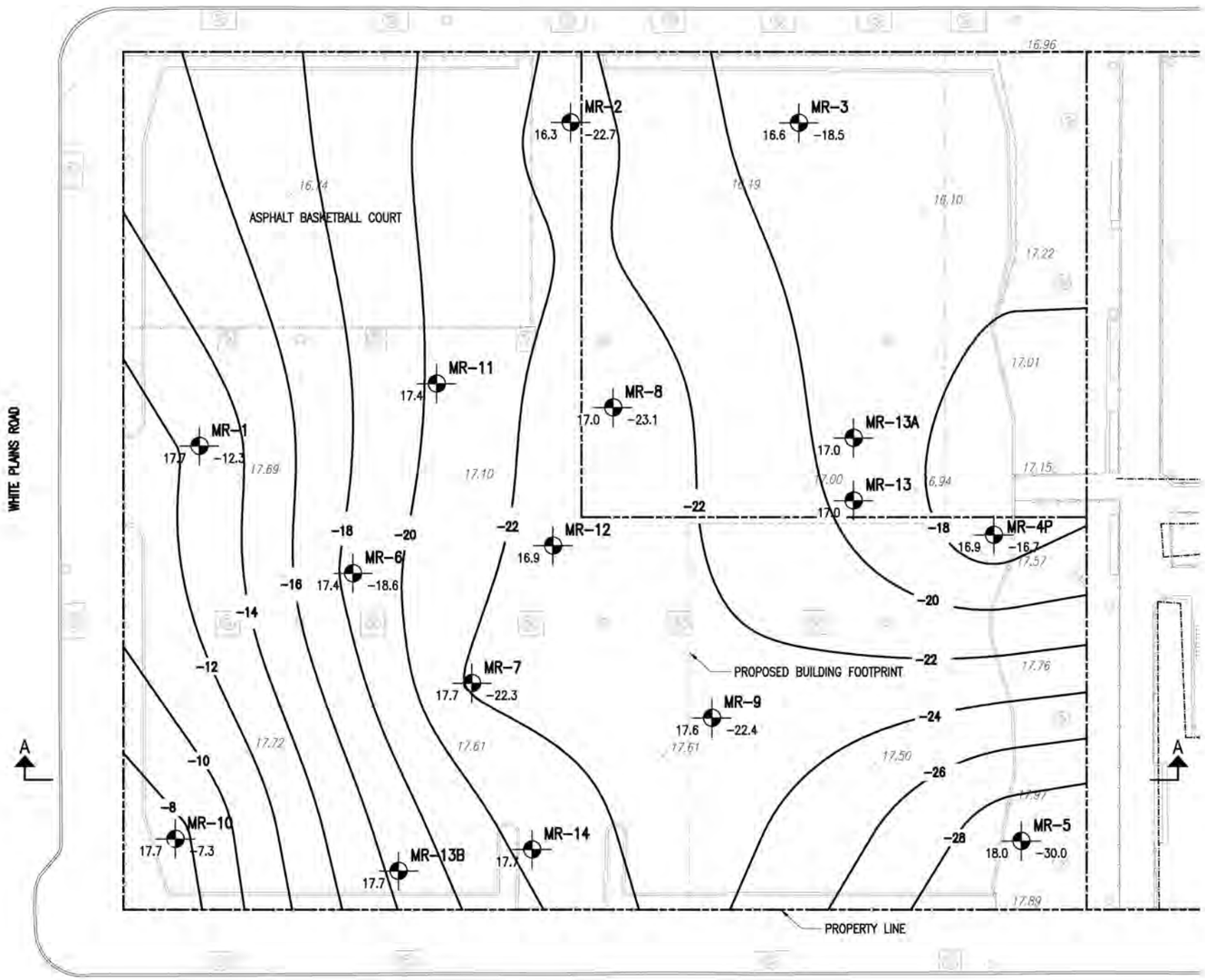

PLAN

NOTES:

1. FOR BASE PLAN, SEE DRAWING NO. B-1.
2. ELEVATIONS OF TOP OF ROCK AT BORINGS WERE INTERPRETED FROM BORING LOGS.
3. CONTOURS ILLUSTRATE SIMPLIFIED INTERPRETATIONS OF TOP OF ROCKS AND MAY NOT REPRESENT ACTUAL SUBSURFACE CONDITIONS.

LEGEND:

MR-1
17.7 -12.3 – MRCE BORING
- "A OR B" INDICATES OFFSET
- "P" INDICATES PIEZOMETER
- "17.7" INDICATES GROUND SURFACE EL. (FT.)
- "-12.3" INDICATES TOP OF ROCK EL. (FT.)

-10 – ESTIMATED TOP OF WEATHERED ROCK (CLASS 1D OR BETTER) ELEVATION (FT.)

GRAPHIC SCALE
16' 8' 0 16' 32'

REV.	DATE	BY	DESCRIPTION

PARK LANE DEVELOPMENT
1965 LAFAYETTE AVENUE
BRONX NEW YORK

PL MM LLC AND PL SARA LLC
NEW YORK NEW YORK

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 W. 34TH STREET, NY, NY 10122

SCALE	MADE BY: H.Y. DATE: 01-05-2018	FILE NUMBER
GRAPHIC	CH'KD BY: S.F.K. DATE: 01-16-2018	13132

ROCK CONTOUR PLAN

DRAWING NUMBER C-1

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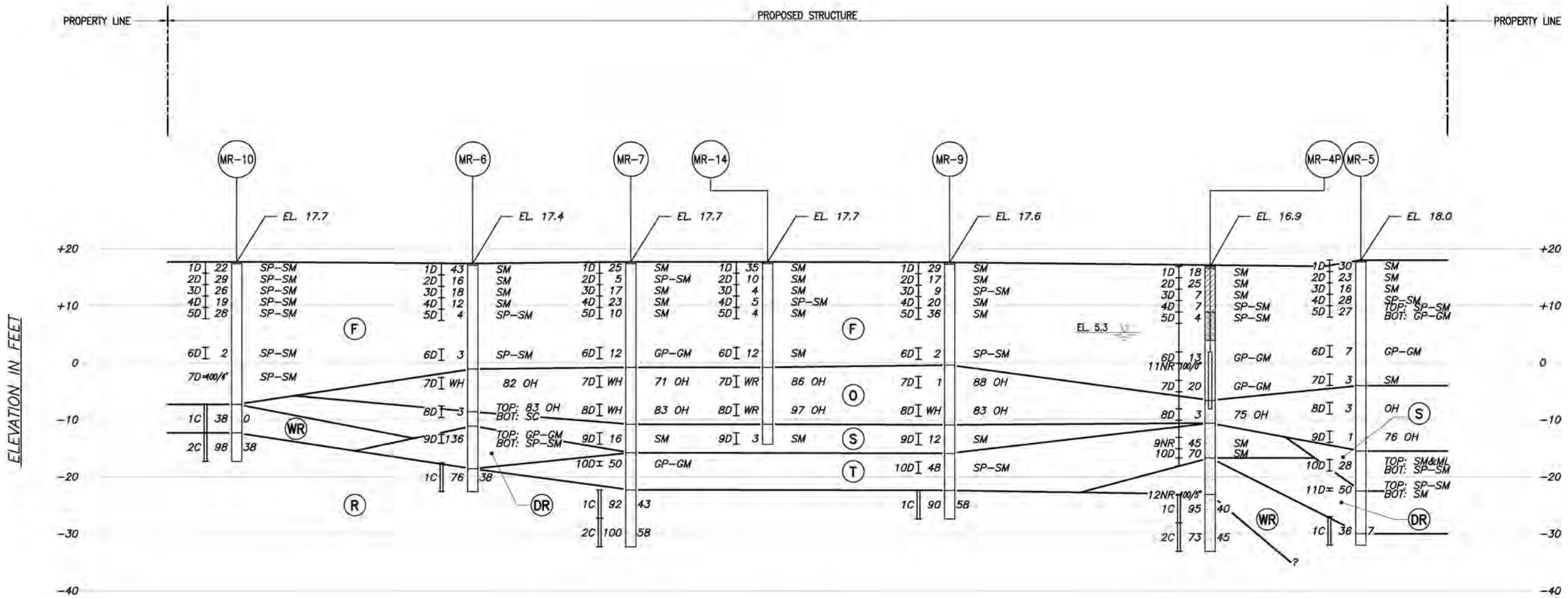


SECTION A-A

GENERAL STRATA DESCRIPTIONS:

- (F) FILL
- (O) ORGANIC
- (S) SAND
- (T) TILL
- (DR) DECOMPOSED ROCK
- (WR) WEATHERED ROCK
- (R) BEDROCK

NOTES:

1. FOR GENERAL NOTES, SEE DRAWING NO. B-1.
2. STRATIFICATIONS SHOWN ARE NECESSARY INTERPOLATION BETWEEN BORINGS AND MAY NOT REPRESENT ACTUAL SUBSURFACE CONDITIONS.
3. SEE DRAWING GS-R FOR BORING LEGEND AND SUMMARY OF USCS.
4. SEE DRAWING RC-1 FOR ROCK CLASSIFICATION CRITERIA.
5. COMPLETE SOIL & ROCK SAMPLE DESCRIPTIONS ARE PROVIDED ON BORINGS LOGS IN APPENDIX A.

GRAPHIC SCALE
10' 5' 0 10' 20'

REV.	DATE	BY	DESCRIPTION

PARK LANE DEVELOPMENT
1965 LAFAYETTE AVENUE
BRONX NEW YORK

PL MM LLC AND PL SARA LLC
NEW YORK NEW YORK

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 W. 34TH STREET, NY, NY 10122

SCALE	MADE BY: H.Y. DATE: 01-12-2018	FILE NUMBER
GRAPHIC	CHK'D BY: S.F.K. DATE: 01-16-2018	13132

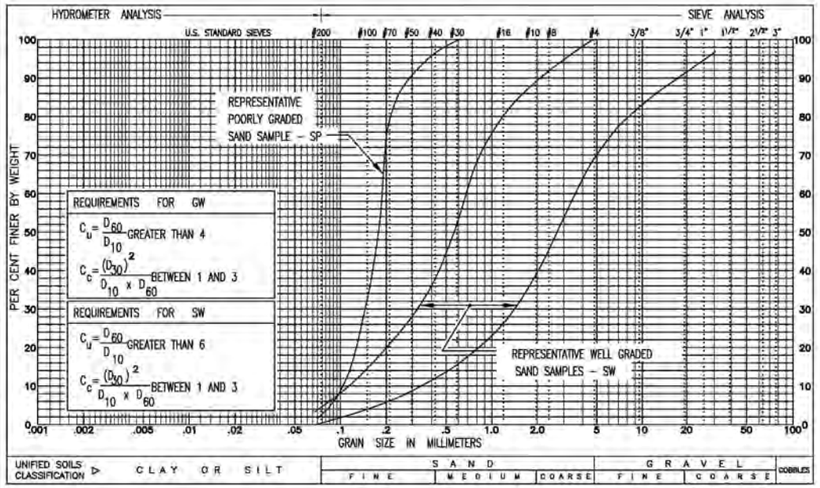
GEOLOGIC SECTION A-A — DRAWING NUMBER: GS-1

UNIFIED SOIL CLASSIFICATION (INCLUDING IDENTIFICATION AND DESCRIPTION)

MAJOR DIVISIONS			GROUP SYMBOLS	TYPICAL NAMES	FIELD IDENTIFICATION PROCEDURES (EXCLUDING PARTICLES LARGER THAN 3 IN. AND BASING FRACTIONS ON ESTIMATED WEIGHTS)
1	2		3	4	5
COARSE-GRAINED SOILS: MORE THAN HALF OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE; MORE THAN HALF OF MATERIAL IS ABOUT THE SMALLEST PARTICLE VISIBLE TO THE NAKED EYE	GRAVELS: MORE THAN HALF OF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE SIZE (FOR VISUAL CLASSIFICATION, THE 1/4 -IN. SIZE MAY BE USED AS EQUIVALENT TO THE NO. 4 SIEVE SIZE)	CLEAN GRAVELS (LITTLE OR NO FINES)	GW	WELL GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES.	WIDE RANGE IN GRAIN SIZES AND SUBSTANTIAL AMOUNTS OF ALL INTERMEDIATE PARTICLE SIZES.
			GP	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES.	PREDOMINANTLY ONE SIZE OR A RANGE OF SIZES WITH SOME INTERMEDIATE SIZES MISSING.
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)	GM	SILTY GRAVELS, GRAVEL-SAND-SILT-MIXTURES.	NONPLASTIC FINES OR FINES WITH LOW PLASTICITY (FOR IDENTIFICATION PROCEDURES SEE ML BELOW)
			GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES.	PLASTIC FINES (FOR IDENTIFICATION PROCEDURES SEE CL BELOW)
	SANDS: MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE SIZE (FOR VISUAL CLASSIFICATION, THE 1/4 -IN. SIZE MAY BE USED AS EQUIVALENT TO THE NO. 4 SIEVE SIZE)	CLEAN SANDS (LITTLE OR NO FINES)	SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES.	WIDE RANGE IN GRAIN SIZES AND SUBSTANTIAL AMOUNTS OF ALL INTERMEDIATE PARTICLE SIZES.
			SP	POORLY GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES.	PREDOMINANTLY ONE SIZE OR A RANGE OF SIZES WITH SOME INTERMEDIATE SIZES MISSING.
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)	SM	SILTY SANDS, SAND-SILT-MIXTURES.	NONPLASTIC FINES OR FINES WITH LOW PLASTICITY (FOR IDENTIFICATION PROCEDURES SEE ML BELOW)
			SC	CLAYEY SANDS, SAND-CLAY MIXTURES.	PLASTIC FINES (FOR IDENTIFICATION PROCEDURES SEE CL BELOW)
FINE-GRAINED SOILS: MORE THAN HALF OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE; THE NO. 200 SIEVE SIZE IS ABOUT					IDENTIFICATION PROCEDURES ON FRACTION SMALLER THAN NO. 40 SIEVE SIZE
					DRY STRENGTH (CRUSHING CHARACTERISTICS) / DILATANCY (REACTION TO SHAKING) / TOUGHNESS (CONSISTENCY NEAR PL)
	SILTS AND CLAYS: LIQUID LIMIT IS LESS THAN 50		ML	INORGANIC SILTS, SANDY SILTS, ROCK FLOUR, OR CLAYEY SILTS WITH SLIGHT PLASTICITY.	NONE TO SLIGHT / QUICK TO SLOW / NONE
			CL	INORGANIC CLAYS, OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS.	MEDIUM TO HIGH / NONE TO VERY SLOW / MEDIUM
			OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY.	SLIGHT TO MEDIUM / SLOW / SLIGHT
	SILTS AND CLAYS: LIQUID LIMIT IS GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS.	SLIGHT TO MEDIUM / SLOW TO NONE / SLIGHT TO MEDIUM
			CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS.	HIGH TO VERY HIGH / NONE / HIGH
			OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS.	MEDIUM TO HIGH / NONE TO VERY SLOW / SLIGHT TO MEDIUM
HIGHLY ORGANIC SOILS			PT	PEAT AND OTHER HIGHLY ORGANIC SOILS.	READILY IDENTIFIED BY COLOR, ODOR, SPONGY FEEL AND FREQUENTLY BY FIBROUS TEXTURE.

BOUNDARY CLASSIFICATIONS: SOILS POSSESSING CHARACTERISTICS OF TWO GROUPS ARE DESIGNATED BY COMBINATIONS OF GROUP SYMBOLS, I.E.: SP-SC POORLY GRADED SAND WITH CLAY BINDER.

LABORATORY CLASSIFICATION CRITERIA

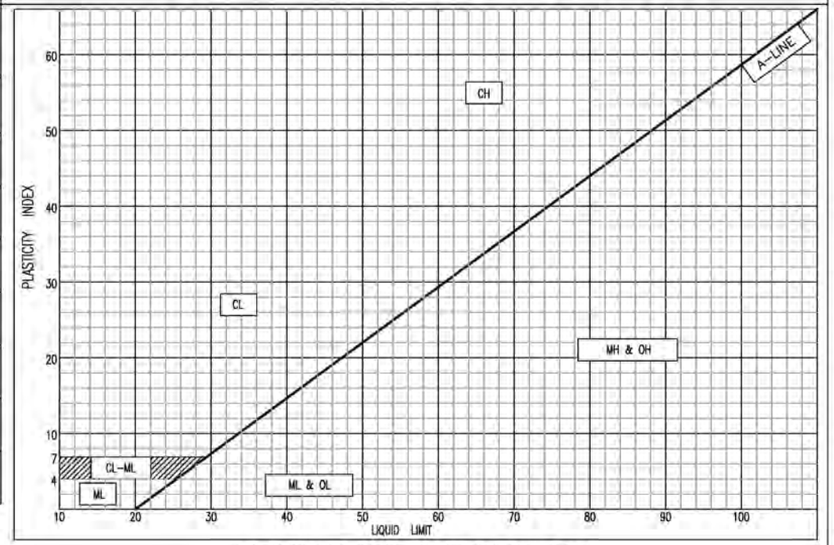


GRAIN SIZE PLOT

COBBLE 3-12"
BOULDER > 12"

DEPENDING ON PERCENTAGE OF FINES (FRACTION SMALLER THAN NO. 200 SIEVE SIZE) COARSE GRAINED SOILS ARE CLASSIFIED AS FOLLOWS:

LESS THAN 5%	GW, GP, SW, SP
MORE THAN 12%	GM, GC, SM, SC
5% TO 12%	BORDERLINE CASES REQUIRING USE OF DUAL SYMBOLS, I.E.: SP-SM, GP-GM.



PLASTICITY CHART FOR CLASSIFICATION OF FINE GRAINED SOILS

TERMINOLOGY USED IN MRCE SOIL DESCRIPTIONS

DEGREE OF COMPACTION FOR NON-PLASTIC SOIL

DEGREE OF COMPACTION	BLOWS* PER FOOT
LOOSE	0 TO 10
MEDIUM COMPACT	11 TO 29
COMPACT	30 TO 50
VERY COMPACT	GREATER THAN 50

* STANDARD PENETRATION RESISTANCE USING 140 LB. HAMMER FREE FALLING 30 INCHES TO DRIVE A 2 INCH O.D. SPLIT-SPOON SAMPLER.

CONSISTENCY OF CLAY AND CLAYEY SILT+

CONSISTENCY	UNCONFINED COMPRESSIVE STRENGTH (TSF)	IDENTIFICATION CHARACTERISTICS
SOFT	LESS THAN 0.5	EASILY REMOLDED WITH SLIGHT FINGER PRESSURE
MEDIUM	0.5 TO 1.0	REQUIRES SUBSTANTIAL PRESSURE FOR REMOLDING
STIFF	1.0 TO 4.0	DIFFICULT TO REMOLD WITH FINGERS
HARD	GREATER THAN 4.0	CANNOT BE REMOLDED WITH FINGERS

+ NONPLASTIC SILTS ARE DESCRIBED USING DEGREE OF COMPACTION AS PRESENTED FOR NON-PLASTIC SOIL.

DESCRIPTION OF CONSTITUENT PERCENTAGES AS USED IN SOIL SAMPLE CLASSIFICATIONS

1% TO 12% -	"TRACE"
13% TO 30% -	"SOME"
31% TO 49% -	ADJECTIVE FORM OF SOIL GROUP (EG. SANDY)
EQUAL AMOUNT -	"AND" (EG. SAND AND GRAVEL)

BORING LEGEND

A — NUMBER, TYPE AND LOCATION OF BORING

EL — GROUND SURFACE ELEVATION AT BORING

B — NUMBER AND TYPE OF SAMPLE

D — DRY SAMPLE TAKEN WITH 2 INCH O.D. SPLIT SPOON

U — UNDISTURBED SAMPLE TAKEN WITH 3 INCH O.D. FIXED PISTON TYPE SAMPLER

UD — UNDISTURBED SAMPLE EXTRUDED IN FIELD AND PLACED IN JAR DUE TO POOR RECOVERY OR DISTURBANCE

S — THIN TUBE SAMPLE TAKEN WITH SHELBY TUBE SAMPLER

W — WASH SAMPLE

NR — NO RECOVERY

— LENGTH OF SAMPLE ATTEMPT

N — STANDARD PENETRATION RESISTANCE. NUMBER OF BLOWS FROM 140 LB. HAMMER FREE FALLING 30 INCHES REQUIRED TO DRIVE 2 INCH O.D. SPLIT SPOON SAMPLER ONE FOOT AFTER INITIAL PENETRATION OF 6 INCHES, UNLESS A SPECIFIC PENETRATION IS INDICATED.

P — PRESSED OR PUSH SAMPLE

WH — SAMPLE TAKEN UNDER WEIGHT OF HAMMER AND RODS

WR — SAMPLE TAKEN UNDER WEIGHT OF RODS

E — AVERAGE NATURAL WATER CONTENT OF SAMPLE, IN PERCENT OF DRY WEIGHT

G — UNIFIED SOIL CLASSIFICATON GROUP SYMBOL OF SAMPLE

[J / K] = ATTERBERG LIQUID LIMIT VALUE / ATTERBERG PLASTIC LIMIT VALUE

[L] — COMPRESSIVE STRENGTH IN TSF DETERMINED FROM UNCONFINED COMPRESSION TEST

(M) — COMPRESSIVE STRENGTH IN TSF DETERMINED FROM UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION TEST

— GROUNDWATER LEVEL OBSERVED IN BORING *- MUD LEVEL

— GROUNDWATER LEVEL OBSERVED IN PIEZOMETER

C — ROCK CORE NUMBER

— LENGTH OF CORE RUN

F — LENGTH OF CORE RECOVERED EXPRESSED AS A PERCENT OF THE LENGTH OF CORE RUN

R — ROCK QUALITY DESIGNATION-THE SUM OF THE LENGTHS OF PIECES OF RECOVERED CORE WHICH ARE EQUAL TO OR GREATER THAN FOUR INCHES IN LENGTH, EXPRESSED AS A PERCENTAGE OF THE TOTAL LENGTH OF CORE RUN. LENGTHS ARE MEASURED BETWEEN IN-SITU SEPARATIONS AND MECHANICAL BREAKS RESULTING FROM CORING ARE IGNORED.

IMPERVIOUS SEAL

SAND FILTER SURROUNDING PIEZOMETER INTAKE ELEMENT

INTAKE ELEMENT

COBBLE OR BOULDER

MUESER RUTLEDGE CONSULTING ENGINEERS
225 WEST 34th STREET - 14 PENN PLAZA
NEW YORK, NY 10122

GEOTECHNICAL REFERENCE STANDARDS

DRAWING NO. GS-R

TABLE R–1 ROCK CORE CLASSIFICATION CRITERIA

HARDNESS/SOUNDNESS CLASSIFICATION	TYPICAL GEOLOGIC CLASSIFICATION	IDENTIFICATION CHARACTERISTICS	GENERAL MINIMUM CORING CHARACTERISTICS				INTACT SPECIMEN TYPICAL MINIMUM COMPRESSIVE STRENGTH
			NX OR LARGER		BX OR SMALLER		
			REC	RQD	REC	RQD	PSI
HARD ROCK UNWEATHERED MAY BE JOINTED	– CRYSTALLINE IGNEOUS, OR METAMORPHIC ROCKS – HIGHLY SILICEOUS SEDIMENTARY ROCKS	– UNWEATHERED FABRIC – RINGS WHEN STRUCK WITH BAR – SHARP AND HARD FRACTURE SURFACE WHEN BROKEN MECHANICALLY – MAY BE JOINTED, BUT JOINTS ARE GENERALLY TIGHT. JOINTS MAY BE IRON STAINED. – DOES NOT DISINTEGRATE UPON EXPOSURE – DOES NOT SLAKE IN WATER	95 OR MORE	85 OR MORE	85 OR MORE	75 OR MORE	3000
MEDIUM HARD ROCK SLIGHTLY WEATHERED MAY BE CLOSELY JOINTED	AS FOR HARD ROCKS AND: – MODERATELY SILICEOUS SEDIMENTARY ROCKS – CERTAIN CALCAREOUS ROCKS	AS FOR HARD ROCK, EXCEPT: – FABRIC MAY BE IRON STAINED – MAY BE CLOSELY JOINTED, BUT JOINTS ARE GENERALLY TIGHT. JOINTS HAVE SLIGHT WEATHERING OR MAY BE IRON STAINED.	70	50	50	40	1500
INTERMEDIATE ROCK MODERATELY WEATHERED MAY BE CLOSELY JOINTED	AS FOR MEDIUM HARD ROCKS AND: – MOST SEDIMENTARY ROCKS OTHER THAN COMPACTION SHALES – MOST CALCAREOUS ROCKS WHICH ARE NOT POROUS	AS FOR MEDIUM HARD ROCK, EXCEPT: – MODERATELY WEATHERED FABRIC – WEATHERED JOINTS – THUDS WHEN STRUCK BY BAR – CAN BE INDENTED WITH A STEEL NAIL – BREAKS READILY WITH HAMMER – PIECES OF WEATHERED SURFACE CAN BE BROKEN OFF BY HAND – DOES NOT DISINTEGRATE UPON EXPOSURE – UNWEATHERED PIECES DO NOT SLAKE	50	35	35	25	500
WEATHERED ROCK HIGHLY WEATHERED MAY BE BROKEN	AS FOR INTERMEDIATE ROCKS AND: – COMPACTION SEDIMENTARIES – CALCAREOUS ROCKS WITH SOIL–FILLED CAVITIES	AS FOR INTERMEDIATE ROCK, EXCEPT: – HIGHLY WEATHERED FABRIC – CAN BE BROKEN EASILY, CRUMBLES WITH DIFFICULTY BY HAND – CAN BE SCRAPED BY KNIFE – MAY SOFTEN UPON EXPOSURE – MAY SLAKE IN WATER – STANDARD PENETRATION RESISTANCE EXCEEDS 50 BLOWS/FOOT	LESS THAN 50	LESS THAN 35	LESS THAN 35	LESS THAN 25	150
		WHEN RECOVERED WITH SOIL SAMPLING TECHNIQUES, DESCRIBED AS FOR SOILS INCLUDING USC GROUP SYMBOLS. (WTHD ROCK) ADDED TO DESCRIPTION.					
DECOMPOSED ROCK (RESIDUAL SOILS)	ALL ROCK TYPES	– ROCK TEXTURE AND STRUCTURE OFTEN PRESERVED – GENERALLY SOIL–LIKE IN CONSISTENCY – CAN BE CRUMPLED BY SLIGHT HAND PRESSURE – CAN BE PEELED WITH A KNIFE – STANDARD PENETRATION RESISTANCE LESS THAN 50 BLOWS/FOOT	GENERALLY RECOVERED WITH SOIL SAMPLING TECHNIQUES AND DESCRIBED AS FOR SOILS INCLUDING USC GROUP SYMBOLS. (DEC ROCK) ADDED TO DESCRIPTION.				

TABLE R–2 WEATHERING AND JOINTING DEFINITIONS

DEGREE OF FABRIC WEATHERING

FABRIC WEATHERING		CHARACTERISTIC
Unweathered	UnW	No decomposition or discoloration rings when struck
Slightly Weathered	SlW	Iron Stained Rings when struck
Moderately Weathered	MdW	Deteriorated fabric Thuds when struck
Highly Weathered	HiW	Friable, easily broken by hand
Decomposed	Dec	Soil–like

DEGREE OF JOINT WEATHERING

JOINT WEATHERING		CHARACTERISTIC
Iron stained joints	FeJtS	Indicates movement of water along joints
Weathered joints	WJts	Joints are not tight and do not match. Joints have friable edges.

DEGREE OF JOINTING

JOINTING		JOINT FREQUENCY
Massive	Mssv	Less than 1 joint in 4 feet
Blocky	Blky	1 joint every 2 to 4 feet
Moderately Jointed	MdJtd	1 joint every foot to 2 feet
Jointed	Jtd	1 to 2 joints per foot
Closely Jointed	ClJtd	2 to 4 joints per foot
Broken	Bkn	More than 4 joints per foot

Vertical joints are ignored in RQD and joint frequency evaluations, but are noted in written descriptions and and on core sketches.

TABLE R–3 ABBREVIATIONS FOR ROCK CORE CLASSIFICATION

Blocky	Blky	Intermediate	Int
Broken	Bkn	Light	Lt
Brown	brn	Lignite	lign
Calcareous or Calcite	calc	Limestone	lms
Cavities	cvts	Jointed	Jtd
Chlorite	chl	Joints	Jts
Clay, Clayey	cl	Massive	Mssv
Closely Jointed	ClJtd	Medium Hard	MdHd
Coating on joint surface	coat	Mica, Micaceous	Mic
Crushed	crsh	Moderately Jointed	MdJtd
Dark	dk	Moderately Weathered	MdW
Decomposed	Dec	Pockets	pkts
Ditto	do	Quartz	qtz
Dolomite, Dolomitic	Dol	Recovery	Rec
Iron stained Joints	FeJts	Rock Quality Designation	RQD
Iron Stained	FeStn	Sand	sa
Feldspar	feld	Sandstone	ss
Foliation	Fol	Schist, Schistose	sch
Fractured	frct	Shale	sh
Fragments	fgmts	Shear zone	Sz
Gneiss, Gneissic	gns	Siliceous	sil
Gouge	gog	Silt	si
Granite, Granitic	gr	Slickensided	slks
Gray	gry	Slightly Weathered	SlW
Hard	Hd	Unweathered	UnW
Highly Weathered	HiW	Weathered	Wthd
Hornblende	Hbl	Weathered Joints	WJts
Injected	inj	Vein	Vn
Interbedded	Intrbd	Vertical Joints	VJts

NOTES:

1. ROCK CORE DESCRIPTIONS REPRESENT ONLY THE MATERIAL RECOVERED IN THE CORING OPERATIONS.
2. GENERAL MINIMUM CORING CHARACTERISTICS ASSUME ROCK CORING WITH A DOUBLE TUBE SERIES "M" OR EQUIVALENT CORE BARREL USING GOOD CORING TECHNIQUES AND EQUIPMENT.
3. REC – RECOVERY IS THE LENGTH OF CORE RECOVERED, EXPRESSED AS A PERCENTAGE OF THE LENGTH OF CORE RUN.
4. RQD – ROCK QUALITY DESIGNATION IS THE SUM OF THE LENGTHS OF CORE PIECES FOUR INCHES OR LONGER EXPRESSED AS A PERCENTAGE OF THE TOTAL LENGTH OF CORE RUN. LENGTHS ARE MEASURED BETWEEN IN–STU SEPARATIONS; MECHANICAL BREAKS RESULTING FROM CORING AND VERTICAL JOINTS ARE IGNORED.

TABLE R–4 ROCK CORE SKETCH KEY

SKETCH SYMBOLS

- Joint
- Healed Joint
- Broken
- Part of Core Not Recovered
- Cavities or Vugs in Core
- Clay
- Sand

JOINT ORIENTATION AND CONDITION

			SURFACE –		CONDITION	
Parallel	–	//	Curved	– C	Slick	– 1
Crossing	–	X	Irregular	– I	Smooth	– 2
Foliation	–	F	Straight	– S	Rough	– 3
Stratification	–	S				
Unfoliated or Unstratified	–	U				
Mechanical Break	–	MB				

MUESER RUTLEDGE CONSULTING ENGINEERS
225 WEST 34th STREET – 14 PENN PLAZA
NEW YORK, NY 10122

ROCK CORE CLASSIFICATION CRITERIA

DRAWING NO. RC–1

APPENDIX A

MUESER RUTLEDGE CONSULTING ENGINEERS

BORING LOG

BORING NO. MR-1
SHEET 1 OF 3
FILE NO. 13132
SURFACE ELEV. 17.69
RES. ENGR. KASH AMINI

PROJECT: PARK LANE - 1965 LAFAYETTE AVENUE
LOCATION: BRONX, NEW YORK

DAILY PROGRESS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
08:35	1D	0.0	12-13	Brown fine to coarse sand, some silt, wood,	**	0.3	DRILLED	**Asphalt from 0' to 0.3'
12-28-17		2.0	50-26	trace brick, gravel (Fill) (SM)			AHEAD	
Thursday	2D	2.0	9-12	Brown fine to coarse sand, some silt, brick, trace			4"	
Clear		4.0	8-18	gravel (Fill) (SM)				
14°F	3D	4.0	13-26	Brown fine to medium sand, some silt, brick,		5		
		6.0	22-13	trace asphalt, gravel, coarse sand (Fill) (SM)				
	4D	6.0	6-5	Black fine to coarse sand, some asphalt, silt,				
		8.0	7-6	trace gravel (Fill) (SM)				
	5D	8.0	2-3	Gray fine to coarse sand, some silt, trace				REC=6"
		10.0	3-3	gravel, wood (Fill) (SM)	F	10		
								Wash color changed at 12'.
						15		
	6D	15.0	1/12"	Black gravel, some fine to coarse sand, trace				No recovery; used 3"
		17.0	1-1	silt (Fill) (GP-GM)				split spoon.
								6D: REC=3"
						18.5		
						20		
	7D	20.0	WR/12"	Soft gray organic silty clay, trace fine sand, wood	O			WC=69
		22.0	5-1	(OH)				
						23.5		
						25		
	8NR	25.0	50-1/4"	No recovery				Sample in shoe
		27.0			DR			showed highly weathered soil-like gneissic schist.
						30		
	1C	30.0	REC=46%	Weathered highly weathered to moderately			2*	*Coring time in minutes per foot.
		35.0	RQD=17%	weathered gray gneissic schist, some	WR		2*	
				pegmatite, closely jointed to broken, iron			1*	
				stained & weathered joints		34	2*	
						35	2*	
	2C	35.0	REC=95%	Intermediate to medium hard highly weathered			2*	
		40.0	RQD=45%	to unweathered gray gneissic schist, closely	R		2*	
				jointed to jointed, weathered joints			2*	
							1*	
10:50						40	3*	End of Boring at 40'.
								WC=Water Content in percent of dry weight.
						45		
						50		

MRCE Form BL-1

BORING NO. MR-1

ROCK CORE SKETCH

MRCE
built on firm foundations
Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street
New York, NY 10122

PROJECT: Park Lane - 1965 Lafayette Ave
LOCATION: The Bronx, NY
TEST/INSP. EQUIPMENT
REF. CODES/STANDARDS

BORING NO. MR-1
SHEET 2 OF 3
FILE NO. 13132
SURFACE ELEV. 17.69
RES ENGR. Kash Amini

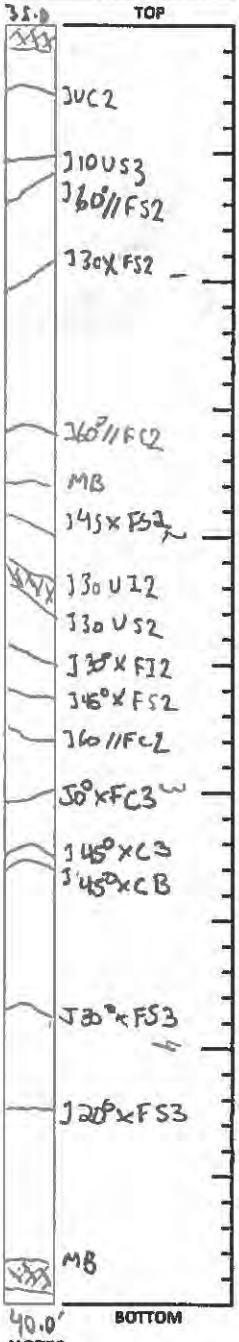
Run No.	REC/RQD
2C	REC=95% RQD=45%

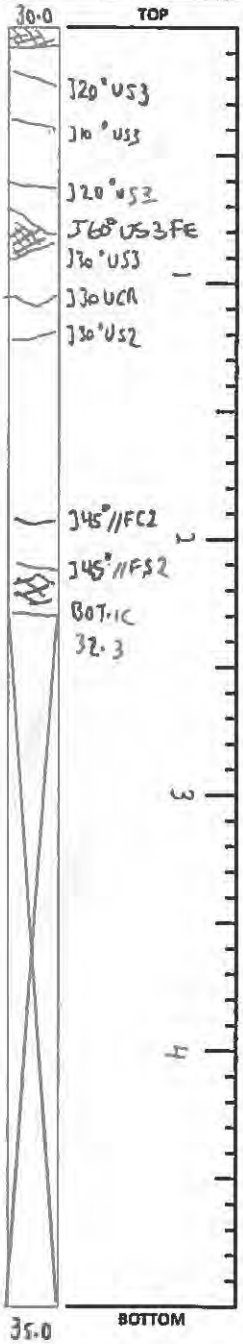
Run No.	REC/RQD
1C	REC=46% RQD=17%

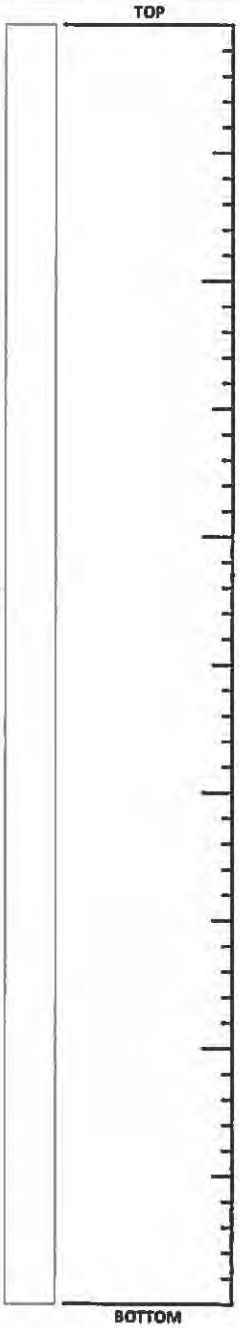
Run No.	REC/RQD

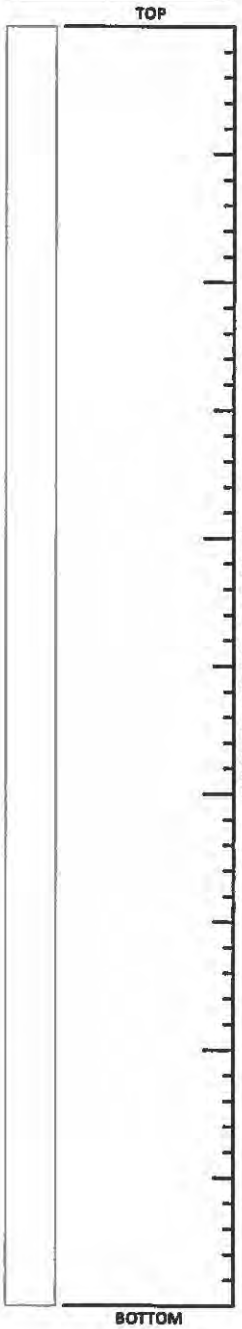
Run No.	REC/RQD

12 +2
14 +2
16 +2
18 +2









SCALE: 1 division = 0.1 feet

ROCK CORE SKETCH LEGEND

JOINTING
- J - Joint
- MB - Mechanical Break
- Θ - Angle w/ Horizontal
- // - Parallel
- X - Crossing
- F - Foliation
- S - Stratification
- U - Unfoliated or Unstratified

JOINT SURFACE
- C - Curved
- I - Irregular
- S - Straight

JOINT CONDITION
- 1 - Slick
- 2 - Smooth
- 3 - Rough

SKETCH SYMBOLS
- Joint
- Healed Joint
- Broken
- Part of Core Not Recovered
- Cavities or Vugs in Core
- Clay
- Sand
- Empty Space

MUESER RUTLEDGE CONSULTING ENGINEERS

		BORING NO.	MR-1
		SHEET 3	OF 3
PROJECT	PARK LANE - 1965 LAFAYETTE AVENUE	FILE NO.	13132
LOCATION	BRONX, NEW YORK	SURFACE ELEV.	17.69
BORING LOCATION	SEE BORING LOCATION PLAN	DATUM	NAVD 88

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG		TYPE OF FEED DURING CORING		CASING USED	X YES	NO		
TRUCK		MECHANICAL		DIA., IN.	4	DEPTH, FT. FROM	0	TO 20
SKID	CME-55 LC	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	X NO
D-SAMPLER	2" O. D. SPLIT SPOON	DIAMETER OF ROTARY BIT, IN.	3-7/8	
U-SAMPLER		TYPE OF DRILLING MUD		
S-SAMPLER				
CORE BARREL	NX DOUBLE BARREL	AUGER USED	YES	X NO
CORE BIT	NX DIAMOND	TYPE AND DIAMETER, IN.		
DRILL RODS	NWJ			

*CASING HAMMER, LBS.	140	AVERAGE FALL, IN.	30
*SAMPLER HAMMER, LBS.	140	AVERAGE FALL, IN.	30
*HAMMER TYPE (DONUT/SAFETY/AUTOMATIC):	AUTOMATIC		

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATION
					NO WATER LEVEL OBSERVATIONS MADE.

PIEZOMETER INSTALLED YES X 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

3.5" DIA. DRY SAMPLE BORING	LIN. FT.	30	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.	10	OTHER:	

BORING CONTRACTOR	CRAIG GEOTECHNICAL DRILLING		
DRILLER	NICHOLAS BEEHLER	HELPERS	MILES NEIPERT
REMARKS	BOREHOLE GROUTED UPON COMPLETION.		
RESIDENT ENGINEER	KASH AMINI	DATE	12-28-17
CLASSIFICATION CHECK:	CHERYL J. MOSS	TYPING CHECK:	SETH F. KNIHTILA

MUESER RUTLEDGE CONSULTING ENGINEERS

BORING LOG

BORING NO. MR-2
SHEET 1 OF 3
FILE NO. 13132
SURFACE ELEV. 16.32
RES. ENGR. KASH AMINI

PROJECT: PARK LANE - 1965 LAFAYETTE AVENUE
LOCATION: BRONX, NEW YORK

DAILY PROGRESS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
08:10	1D	0.0	11-15	Light brown, gray gravelly fine to coarse sand,	**	0.3	DRILLED	**Asphalt from 0' to 0.3'
12-27-17		2.0	9-6	trace silt (Fill) (SP-SM)			AHEAD	
Wednesday	2D	2.0	4-2	Light brown fine to coarse sand, some silt,			4"	REC=6"
Cloudy		4.0	3-4	trace roots, gravel, brick (Fill) (SM)				
19°F	3D	4.0	1-4	Brown fine to coarse sand, some silt, gravel		5		
		6.0	7-7	(Fill) (SM)				
	4D	6.0	8-4	Red brown fine to coarse sand, some brick,				REC=6"
		8.0	3-3	trace silt, gravel (Fill) (SP-SM)				
	5D	8.0	2-4	Brown gray fine to coarse sand, some concrete,				REC=4"
		10.0	6-3	trace gravel, brick, silt (Fill) (SP-SM)		10		
							46	
							47	
					F		34	
							25	
						15	23	
	6D	15.0	3-2	Black gravel, some fine to coarse sand, trace				1" Recovery on 2nd
		17.0	3-2	silt, glass (Fill) (GP-GM)				attempt with 3" split
								spoon from 15' to 19'.
						20		
	7D	20.0	WH/18"	Black fine to coarse sandy gravel, trace silt				REC=1"
		22.0	2	(Fill) (GP-GM)				
						23.5		
						25		
	8D	25.0	WH-2	Soft gray organic silty clay, trace fine sand,	O			WC=27
		27.0	1-3	shells (OH)				
						28.5		
						30		
	9D	30.0	7-8	Brown fine to coarse sand, some silt, trace				
		32.0	9-10	gravel (SM)				
					T			
						35		
	10D	35.0	17-21	Top 6": Gray fine to coarse sand, trace gravel,				
		37.0	25-20	silt (SP-SM)				
				Bot 11": Dark gray fine to coarse sand, some				
				rock fragments, silt (SM)		39		Hard drilling at 39'.
						40		
	1C	40.0	REC=96%	Medium hard slightly weathered to unweathered			4*	*Coring time in
		45.0	RQD=62%	gray schistose gneiss, jointed to closely jointed,			5*	minutes per foot.
				weathered joints			5*	
							5*	
					R	45	4*	
	2C	45.0	REC=100%	Medium hard slightly weathered to unweathered			5*	WC=Water Content
		50.0	RQD=78%	gray schistose gneiss, trace pegmatite,			5*	in percent of dry
				jointed, weathered joints			5*	weight.
							5*	
10:40						50	4*	End of Boring at 50'.

MRCE Form BL-1

BORING NO. MR-2

ROCK CORE SKETCH

MRCE
built on firm foundations
Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street
New York, NY 10122

BORING NO. MR-2
SHEET 2 OF 3
FILE NO. 13132
SURFACE ELEV. 16.92
RES ENGR. Kash Amini

PROJECT: Park Lane - 1965 Lafayette Ave
LOCATION: The Bronx, NY
TEST/INSP. EQUIPMENT
REF. CODES/STANDARDS

Run No.	REC/RQD
2C	REC = 100% RQD = 78%

45.0 TOP

J 45° UC2
J 45° U13
J 45° U53
J 45° U53
J10° U53
J10° U53

50.0' BOTTOM

Run No.	REC/RQD
1C	REC = 4.8' = 96% RQD = 37' = 62%

40.0 TOP

J30° U53
J45 U53
J10° U53
J0° UC3
J0° UC3
J10° U53
J10 U53
J10 U53
J45° U52
J10° U53
J10° U53
BOT. 1C 45.0

BOTTOM

Run No.	REC/RQD

TOP

BOTTOM

Run No.	REC/RQD

TOP

BOTTOM

SCALE: 1 division = 0.1 feet

ROCK CORE SKETCH LEGEND

JOINTING
J - Joint
MB - Mechanical Break
Θ - Angle w/ Horizontal
// - Parallel
X - Crossing
F - Foliation
S - Stratification
U - Unfoliated or Unstratified

JOINT SURFACE
C - Curved
I - Irregular
S - Straight

JOINT CONDITION
1 - Slick
2 - Smooth
3 - Rough

SKETCH SYMBOLS
Joint
Healed Joint
Broken
Part of Core Not Recovered
Cavities or Vugs in Core
Clay
Sand
Empty Space

NOTES

MUESER RUTLEDGE CONSULTING ENGINEERS

		BORING NO.	MR-2
		SHEET	3 OF 3
PROJECT	PARK LANE - 1965 LAFAYETTE AVENUE	FILE NO.	13132
LOCATION	BRONX, NEW YORK	SURFACE ELEV.	16.32
BORING LOCATION	SEE BORING LOCATION PLAN	DATUM	NAVD 88

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG		TYPE OF FEED DURING CORING		CASING USED	X YES	NO		
TRUCK		MECHANICAL		DIA., IN. 4	DEPTH, FT. FROM 0	TO 15		
SKID	CME-55 LC	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	X NO
D-SAMPLER	2" O. D. SPLIT SPOON	DIAMETER OF ROTARY BIT, IN.	3-7/8	
U-SAMPLER		TYPE OF DRILLING MUD		
S-SAMPLER				
CORE BARREL	NX DOUBLE BARREL	AUGER USED	YES	X NO
CORE BIT	NX DIAMOND	TYPE AND DIAMETER, IN.		
DRILL RODS	NWJ			

*CASING HAMMER, LBS.	140	AVERAGE FALL, IN.	30
*SAMPLER HAMMER, LBS.	140	AVERAGE FALL, IN.	30
*HAMMER TYPE (DONUT/SAFETY/AUTOMATIC):	AUTOMATIC		

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATION
					NO WATER LEVEL OBSERVATIONS MADE.

PIEZOMETER INSTALLED YES X 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

3.5" DIA. DRY SAMPLE BORING	LIN. FT.	40	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.	10	OTHER:	

BORING CONTRACTOR	CRAIG GEOTECHNICAL DRILLING		
DRILLER	NICHOLAS BEEHLER	HELPERS	MILES NEIPERT
REMARKS	BOREHOLE GROUTED UPON COMPLETION.		
RESIDENT ENGINEER	KASH AMINI	DATE	12-27-17
CLASSIFICATION CHECK:	CHERYL J. MOSS	TYPING CHECK:	SETH F. KNIHTILA

MUESER RUTLEDGE CONSULTING ENGINEERS

BORING LOG

BORING NO. MR-3
SHEET 1 OF 3
FILE NO. 13132
SURFACE ELEV. 16.60
RES. ENGR. KASH AMINI

PROJECT: PARK LANE - 1965 LAFAYETTE AVENUE
LOCATION: BRONX, NEW YORK

DAILY PROGRESS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
08:25	1D	0.0	24-36	Light brown fine to medium sand, some silt,	**	0.3	DRILLED	**Asphalt from 0' to 0.3'.
01-03-18		1.5	100/5"	trace gravel, coarse sand (Fill) (SM)			AHEAD	
Wednesday	2D	2.0	7-11	Light brown gravelly fine to coarse sand, trace			4"	REC=4"
Clear		4.0	13-6	silt (Fill) (SP-SM)				
13°F	3D	4.0	2-3	Brown fine to coarse sand, some silt, trace		5		REC=4"
		6.0	5-2	gravel (Fill) (SM)				
	4NR	6.0	2-1	No recovery				
		8.0	1-1					Wash color changed
	5D	8.0	2-2	Red brown brick, some fine to coarse sand,				at 9'.
		10.0	7-5	trace silt (Fill) (SP-SM)	F	10		
						15		Losing water at 15'.
	6D	15.0	2-1	Black fine to coarse sand, some wood, trace				REC=3"
		17.0	1-5	gravel, brick, silt (Fill) (SP-SM)				
						18.5		
						20		
	7D	20.0	WH-1	Soft gray organic silty clay, trace wood (OH)				WC=52
		22.0	1-1		O			
						25		
	8D	25.0	14-8	Stiff gray organic silty clay, some fine sand				REC=1"
		27.0	6-4	(OH)				Rig chatter at 26'.
						27.5		
								Hard drilling at 29'.
						30		
	9D	30.0	13-17	Light brown, green gravelly fine to coarse sand,				
		32.0	21-20	some silt (SM)	T			
						35		
	10D	35.0	50/1"	Gray green gravelly fine to coarse sand, some		35.1	1.5*	*Coring time in
		35.1		silt (SM)			2*	minutes per foot.
	1C	35.0	REC=90%	Medium hard slightly weathered to highly	R		2.5*	
		40.0	RQD=60%	weathered gray schistose gneiss, jointed to			2*	
10:25				closely jointed, iron stained & weathered		40	2*	End of Boring at 40'.
				joints				
						45		WC=Water Content in percent of dry weight.
						50		

MRCE Form BL-1

BORING NO. MR-3

ROCK CORE SKETCH

MRCE
built on firm foundations
Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street
New York, NY 10122

PROJECT: Park Lane 1965 Lafayette Ave
LOCATION: The Bronx, NY
TEST/INSP. EQUIPMENT
REF. CODES/STANDARDS

BORING NO. MR-3
SHEET 2 OF 3
FILE NO. 13132
SURFACE ELEV. 16.60
RES ENGR. Kash Amini

Run No.	REC/RQD
1C	REC: 90% RQD = 60%

Run No.	REC/RQD

Run No.	REC/RQD

Run No.	REC/RQD

35' TOP

J 35° x FS2 FE

J 45° x FS12 FE

MB
J 45° MS2FE

J 60° MFS2
J 45° x FS2 FE

J 45° x FS12 FE

J 45° x FS2 FE

J 45° x FS2 FE

MB
BOT. 1C
40'

BOTTOM

SCALE: 1 division = 0.1 feet

ROCK CORE SKETCH
LEGEND

JOINTING
J - Joint
MB - Mechanical Break
∢ - Angle w/ Horizontal
// - Parallel
X - Crossing
F - Foliation
S - Stratification
U - Unfoliated or Unstratified

JOINT SURFACE
C - Curved
I - Irregular
S - Straight

JOINT CONDITION
1 - Slick
2 - Smooth
3 - Rough

SKETCH SYMBOLS
Joint
Healed Joint
Broken
Part of Core Not Recovered
Cavities or Vugs in Core
Clay
Sand
Empty Space

NOTES

MUESER RUTLEDGE CONSULTING ENGINEERS

		BORING NO.	MR-3
		SHEET	3 OF 3
PROJECT	PARK LANE - 1965 LAFAYETTE AVENUE	FILE NO.	13132
LOCATION	BRONX, NEW YORK	SURFACE ELEV.	16.6
BORING LOCATION	SEE BORING LOCATION PLAN	DATUM	NAVD 88

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG		TYPE OF FEED DURING CORING		CASING USED	X YES	NO		
TRUCK		MECHANICAL		DIA., IN.	4	DEPTH, FT. FROM	0	TO 20
SKID	CME-55 LC	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	X NO
D-SAMPLER	2" O. D. SPLIT SPOON	DIAMETER OF ROTARY BIT, IN.	3-7/8	
U-SAMPLER		TYPE OF DRILLING MUD		
S-SAMPLER				
CORE BARREL	NX DOUBLE BARREL	AUGER USED	YES	X NO
CORE BIT	NX DIAMOND	TYPE AND DIAMETER, IN.		
DRILL RODS	NWJ			

*CASING HAMMER, LBS.	140	AVERAGE FALL, IN.	30
*SAMPLER HAMMER, LBS.	140	AVERAGE FALL, IN.	30
*HAMMER TYPE (DONUT/SAFETY/AUTOMATIC):	AUTOMATIC		

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATION
					NO WATER LEVEL OBSERVATIONS MADE.

PIEZOMETER INSTALLED YES X 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

3 5" DIA. DRY SAMPLE BORING	LIN. FT.	35	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.	5	OTHER:	

BORING CONTRACTOR	CRAIG GEOTECHNICAL DRILLING		
DRILLER	NICHOLAS BEEHLER	HELPERS	MILES NEIPERT
REMARKS	BOREHOLE GROUTED UPON COMPLETION.		
RESIDENT ENGINEER	KASH AMINI	DATE	01-03-18
CLASSIFICATION CHECK:	CHERYL J. MOSS	TYPING CHECK:	SETH F. KNIHTILA

MUESER RUTLEDGE CONSULTING ENGINEERS

BORING LOG

BORING NO. MR-4P
SHEET 1 OF 4
FILE NO. 13132
SURFACE ELEV. 16.94
RES. ENGR. KASH AMINI

PROJECT: PARK LANE - 1965 LAFAYETTE AVENUE
LOCATION: BRONX, NEW YORK

DAILY PROGRESS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
09:00	1D	0.0	13-8	Gray fine to coarse sand, some gravel, silt	**	0.3	DRILLED	**Asphalt from 0' to 0.3'.
09-26-17		2.0	10-16	(Fill) (SM)			AHEAD	REC=5"
Tuesday	2D	2.0	19-6	Brown gray fine to coarse sand, some gravel,			4"	
Clear		4.0	19-16	silt (Fill) (SM)				
24°F	3D	4.0	7-4	Brown gravelly fine to coarse sand, trace silt		5		
		6.0	3-8	(Fill) (SM)				
	4D	6.0	5-4	Red gray fine to coarse sand, some brick, trace				REC=4"
		8.0	3-2	silt (Fill) (SP-SM)				
	5D	8.0	3-2	Gray fine to coarse sand, some gravel, trace silt				REC=3"
		10.0	2-2	brick (Fill) (SP-SM)		10		
					F			
						15		
	6D	15.0	7-8	Black gravel, some fine to coarse sand, trace				REC=5"
		17.0	5-20	wood, silt (Fill) (GP-GM)				
						20		
	7D	20.0	8-16	Black gravel & brick, some wood, trace fine to				REC=3"
		22.0	4-6	coarse sand, silt (Fill) (GP-GM)				
						23.5		
						25		
	8D	25.0	1-1	Soft gray organic silty clay, trace peat, shells	O			WC=75
		27.0	2-2	(OH)				
						27.5		
						30		
	9NR	30.0	13-23	No recovery	T			
		32.0	22-22					
	10D	32.0	9-10	Gray fine to coarse sand, some silt, trace gravel				
		33.6	60-100/1"	(SM)		33.6		
						35		
	11NR	35.0	100/0"	No recovery				
					WR			
						40		
	12NR	40.0	100/0.5"	No recovery			7*	*Coring time in
		40.1					4*	minutes per foot.
	1C	40.0	REC=95%	Intermediate slightly weathered to unweathered			3*	
		45.0	RQD=40%	gray gneissic schist, jointed to broken, weathered			3*	WC=Water Content
				joints		45	2*	in percent of dry
	2C	45.0	REC=73%	Intermediate to medium hard slightly	R		6*	weight.
		50.0	RQD=45%	weathered to unweathered schistose gneiss,			6*	
				jointed to closely jointed, weathered joints			6*	
							5*	
12:55						50	6*	End of Boring at 50'

ROCK CORE SKETCH

MRCE
built on firm foundations
Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street
New York, NY 10122

PROJECT: PARK LANE - 1965 LAFAYETTE AVE
LOCATION: THE BRONX, NY
TEST/INSP. EQUIPMENT
REF. CODES/STANDARDS

BORING NO. MR-4P
SHEET 2 OF 4
FILE NO. 13132
SURFACE ELEV. 16.94
RES ENGR. Kash Amini

Run No.	REC/RQD

TOP

BOTTOM

Run No.	REC/RQD

TOP

BOTTOM

Run No.	REC/RQD
2C	REC = 3.65' = 73% RQD = 27" = 45%

45.0 TOP

J20°// FS3
J30°// FS2
J90° X UC2
J0° US3
MB
BOT. 2C 50.0

BOTTOM

Run No.	REC/RQD
1C	REC = 4.75 = 95% RQD = 2' 40%

40.0' TOP

J20° X FS3
J30° // FS3
J30° // FS3
MB
MB
J60° X FS3
MB
MB
J20° // FS3
J30° // FS3
J0° // S3
J0° // C2
J90° // FS3
J60° // FS3
J60° // FS3
J20° X FS3
J90° // FS3
J20° X FS3
MB
J60° X FS3
J45° X FS3
J45° X FS3
BOT. 1C 45.0'

BOTTOM

SCALE: 1 division = 0.1 feet

ROCK CORE SKETCH LEGEND

JOINTING
J - Joint
MB - Mechanical Break
∠ - Angle w/ Horizontal
// - Parallel
X - Crossing
F - Foliation
S - Stratification
U - Unfoliated or Unstratified

JOINT SURFACE
C - Curved
I - Irregular
S - Straight

JOINT CONDITION
1 - Slick
2 - Smooth
3 - Rough

SKETCH SYMBOLS
Joint
Healed Joint
Broken
Part of Core Not Recovered
Cavities or Vugs in Core
Clay
Sand
Empty Space

NOTES

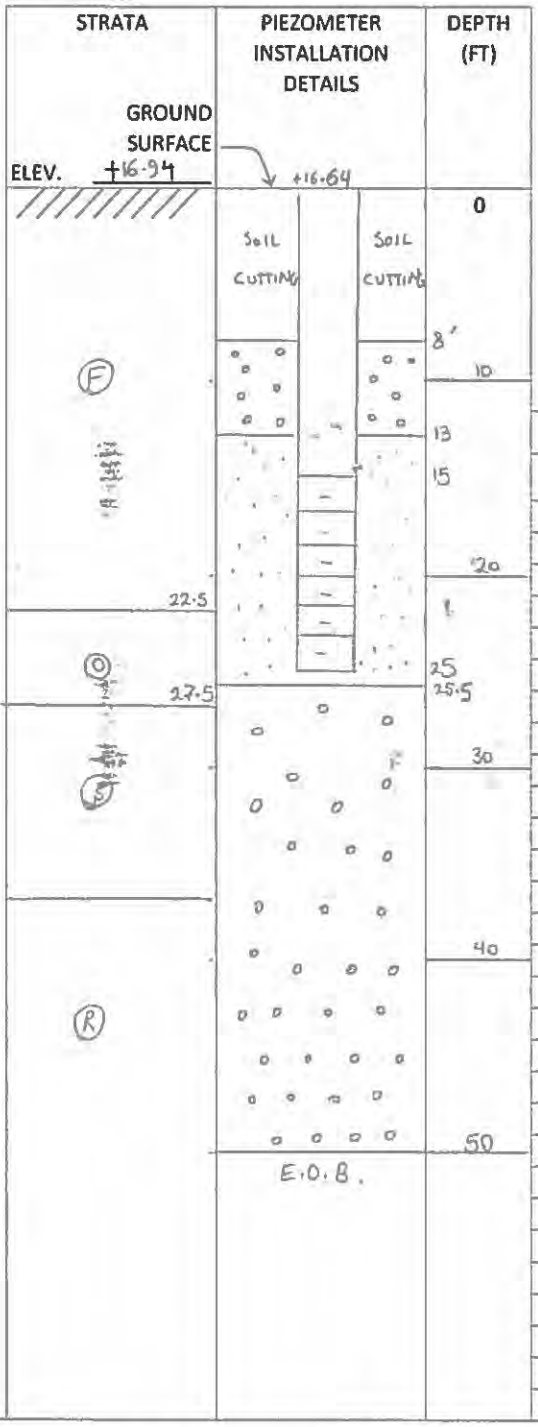
PIEZOMETER RECORD

MRCE
built on firm foundations
Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street
New York, NY 10122

PIEZOMETER OR BORING NO. MR-4P
SHEET 3 OF 4
FILE NO. 13132
INSTALLATION DATE 12/26/2017
RES ENGR. Kash Amini

PROJECT: PARK LANE - 1965 LAFAYETTE AVE
LOCATION: THE BRONX, NY
PIEZOMETER LOCATION: SEE BORING LOCATION PLAN

☐ SEE SKETCH ON BACK



PIEZOMETER TYPE PVC SLOTTED PIPE

INTAKE POINT (FILTER)
depth to bottom, ft = 25.5
depth to top, ft = 13
length, ft = 12.5 = L
diameter, in = 4 , ft = 0.33 = 2R

STANDPIPE/RISER
elevation of rim, ft = 16.64
diameter, in = 2 , ft = 0.17 = 2r

READING TIME		DEPTH – RIM TO WATER	ELEVATION OF WATER	REMARKS
DATE	CLOCK			
12-26-17	1415	10.6	+6.04	AFTER INSTALLATION
				WITHOUT FILLING THE
				WELL
12-29-17	1325	11.4	+5.24	
01-02-18	0905	11.35	+5.29	
01-02-18	1435	11.32	+5.32	
01-03-18	0750	11.34	+5.30	
01-03-18	1045	11.32	+5.32	
01-03-18	1235	11.32	+5.32	
01-03-18	1730	11.32	+5.32	

SAND
GRAVEL
BENTONITE
GROUT

GROUND SURFACE ELEV. +16.94

PIEZOMETER NO. MR-4P

MUESER RUTLEDGE CONSULTING ENGINEERS

		BORING NO.	MR-4P
		SHEET	4 OF 4
PROJECT	PARK LANE - 1965 LAFAYETTE AVENUE	FILE NO.	13132
LOCATION	BRONX, NEW YORK	SURFACE ELEV.	16.94
BORING LOCATION	SEE BORING LOCATION PLAN	DATUM	NAVD 88

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG		TYPE OF FEED DURING CORING		CASING USED		[X] YES [ ] NO		
TRUCK		MECHANICAL		DIA., IN.	4	DEPTH, FT. FROM	0	TO 25
SKID	CME-55 LC	HYDRAULIC	X	DIA., IN.		DEPTH, FT. FROM		TO
BARGE		OTHER		DIA., IN.		DEPTH, FT. FROM		TO
OTHER								

TYPE AND SIZE OF			
D-SAMPLER	2" O. D. SPLIT SPOON	DRILLING MUD USED	[ ] YES [X] NO
U-SAMPLER		DIAMETER OF ROTARY BIT, IN.	3-7/8
S-SAMPLER		TYPE OF DRILLING MUD	
CORE BARREL	NX DOUBLE BARREL	AUGER USED	[ ] YES [X] NO
CORE BIT	NX DIAMOND	TYPE AND DIAMETER, IN.	
DRILL RODS	NWJ		

*CASING HAMMER, LBS.	140	AVERAGE FALL, IN.	30
*SAMPLER HAMMER, LBS.	140	AVERAGE FALL, IN.	30
*HAMMER TYPE (DONUT/SAFETY/AUTOMATIC):	AUTOMATIC		

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATION
12-26-17	14:15	25		10.6	INITIAL READING WITHOUT FILLING THE WELL.

PIEZOMETER INSTALLED [X] YES [ ] NO **SKETCH SHOWN ON** SEE SHEET NO. 3

STANDPIPE:	TYPE	PVC	ID, IN.	1-3/4	LENGTH, FT.	15	TOP ELEV.	16.7
INTAKE ELEMENT:	TYPE	SLOTTED PVC	OD, IN.	2	LENGTH, FT.	10	TIP ELEV.	-8.3
FILTER:	MATERIAL	SAND	OD, IN.	4	LENGTH, FT.	12.5	BOT. ELEV.	-8.8

PAY QUANTITIES

3.5" DIA. DRY SAMPLE BORING	LIN. FT.	40	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.	10	OTHER:	

BORING CONTRACTOR	CRAIG GEOTECHNICAL DRILLING		
DRILLER	NICHOLAS BEEHLER	HELPERS	MILES NEIPERT
REMARKS	PIEZOMETER INSTALLED.		
RESIDENT ENGINEER	KASH AMINI	DATE	12-26-17
CLASSIFICATION CHECK:	CHERYL J. MOSS	TYPING CHECK:	SETH F. KNIHTILA

MUESER RUTLEDGE CONSULTING ENGINEERS

BORING LOG

BORING NO. MR-5
SHEET 1 OF 3
FILE NO. 13132
SURFACE ELEV. 17.97
RES. ENGR. KASH AMINI

PROJECT: PARK LANE - 1965 LAFAYETTE AVENUE
LOCATION: BRONX, NEW YORK

DAILY PROGRESS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
11:40	1D	0.0	39-16	Brown fine to coarse sand, some silt, trace	**	0.3	DRILLED	**Asphalt from 0' to 0.3'.
12-29-17		2.0	14-21	brick, trace gravel (Fill) (SM)			AHEAD	
Friday	2D	2.0	13-14	Do 1D (Fill) (SM)			4"	
Clear		4.0	9-8					
14°F	3D	4.0	8-8	Brown fine to medium sand, some silt, brick,		5		REC=5"
		6.0	8-5	trace gravel (Fill) (SM)				
	4D	6.0	13-14	Brown fine to coarse sand, some gravel, trace				REC=6"
		8.0	14-12	silt, trace brick (Fill) (SP-SM)				
	5D	8.0	12-10	Top 8": Brown fine to coarse sand & brick, trace				
		10.0	17-13	silt (Fill) (SP-SM)		10		
				Bot 9": Gray gravel, some fine to coarse sand,	F			
				trace silt, brick (Fill) (GP-GM)				
						15		
	6D	15.0	2-4	Black gravel, some fine to coarse sand, trace				REC=2"
		17.0	3-4	silt, brick (Fill) (GP-GM)				
								Wash color changed at 19'.
						20		
	7D	20.0	2-2	Fine to medium sand & wood, some organic				REC=1"
		22.0	1-2	silt (Fill) (SM)		22		
						25		
	8D	25.0	WH-1	Soft gray organic silty clay, trace peat, trace fine				Broken jar.
		27.0	2-1	sand (OH)	O			
						30		
	9D	30.0	WH/12"	Do 8D, trace shells (OH)				WC=76
		32.0	1-3					
						33.5		
						35		
	10D	35.0	6-14	Top 4": Gray fine to coarse sand, some silt,				
		37.0	14-16	clayey silt seams (SM&ML)	S			
				Bot 10": Gray fine to medium sand, trace silt				
				(SP-SM)				
						40		
	11D	40.0	38-50/1"	Top 3": Gray fine to coarse sand, some gravel,		40.5		Top sample is possible
		40.5		trace silt (SP-SM)				wash.
				Bot 4": Gray fine to coarse sand, some silt				WC=Water Content
				(Decomposed Rock) (SM)				in percent of dry
13:10					DR	45		weight.
07:30	1C	45.0	REC=36%	Weathered highly weathered gray gneissic			1*	*Coring time in
01-02-18		50.0	RQD=7%	schist, broken, weathered joints			2*	minutes per foot.
Tuesday						48	2*	
Clear							3*	
13°F, 08:45					WR	50	3*	End of Boring at 50'.

MRCE built on firm foundations

Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street
New York, NY 10122

ROCK CORE SKETCH

PROJECT: Park Lane - 1965 Lafayette Ave

LOCATION: The Bronx, NY

TEST/INSP. EQUIPMENT

REF. CODES/STANDARDS

BORING NO. MR-5

SHEET 2 OF 3

FILE NO. 13132

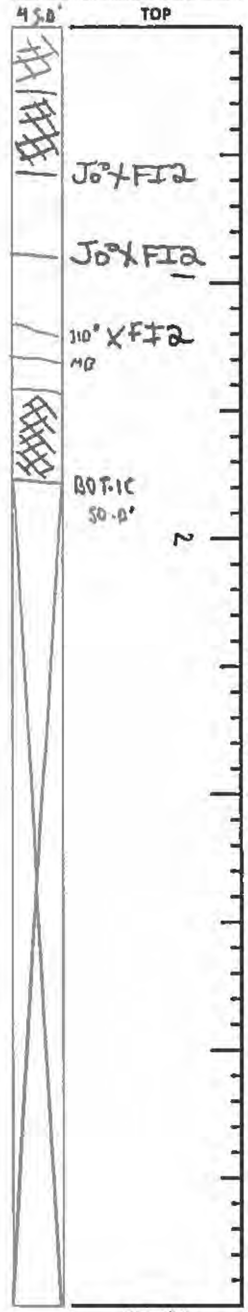
SURFACE ELEV. 17.97

RES ENGR. Kash Amini

Run No.	REC/RQD	Run No.	REC/RQD	Run No.	REC/RQD	Run No.	REC/RQD
						1C	REC= 36% RQD= 7%

TOP

45.0'



BOTTOM

SCALE: 1 division = 0.1 feet

ROCK CORE SKETCH LEGEND

JOINTING
- J - Joint
- MB - Mechanical Break
- Ө - Angle w/ Horizontal
- // - Parallel
- X - Crossing
- F - Foliation
- S - Stratification
- U - Unfoliated or Unstratified

JOINT SURFACE
- C - Curved
- I - Irregular
- S - Straight

JOINT CONDITION
- 1 - Slick
- 2 - Smooth
- 3 - Rough

SKETCH SYMBOLS
- Joint
- Healed Joint
- Broken
- Part of Core Not Recovered
- Cavities or Vugs in Core
- Clay
- Sand
- Empty Space

NOTES

MUESER RUTLEDGE CONSULTING ENGINEERS

		BORING NO.	MR-5
		SHEET	3 OF 3
PROJECT	PARK LANE - 1965 LAFAYETTE AVENUE	FILE NO.	13132
LOCATION	BRONX, NEW YORK	SURFACE ELEV.	17.97
BORING LOCATION	SEE BORING LOCATION PLAN	DATUM	NAVD 88

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG		TYPE OF FEED DURING CORING		CASING USED	X YES	NO		
TRUCK		MECHANICAL		DIA., IN.	4	DEPTH, FT. FROM	0	TO 42
SKID	CME-55 LC	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	X NO
D-SAMPLER	2" O. D. SPLIT SPOON	DIAMETER OF ROTARY BIT, IN.	3-7/8	
U-SAMPLER		TYPE OF DRILLING MUD		
S-SAMPLER				
CORE BARREL	NX DOUBLE BARREL	AUGER USED	YES	X NO
CORE BIT	NX DIAMOND	TYPE AND DIAMETER, IN.		
DRILL RODS	NWJ			

*CASING HAMMER, LBS.	140	AVERAGE FALL, IN.	30
*SAMPLER HAMMER, LBS.	140	AVERAGE FALL, IN.	30
*HAMMER TYPE (DONUT/SAFETY/AUTOMATIC):	AUTOMATIC		

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATION
					NO WATER LEVEL OBSERVATIONS MADE.

PIEZOMETER INSTALLED YES X 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

3.5" DIA. DRY SAMPLE BORING	LIN. FT.	45	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.	5	OTHER:	

BORING CONTRACTOR	CRAIG GEOTECHNICAL DRILLING		
DRILLER	NICHOLAS BEEHLER	HELPERS	MILES NEIPERT
REMARKS	BOREHOLE GROUTED UPON COMPLETION.		
RESIDENT ENGINEER	KASH AMINI	DATE	01-02-18
CLASSIFICATION CHECK:	CHERYL J. MOSS	TYPING CHECK:	SETH F. KNIHTILA

MUESER RUTLEDGE CONSULTING ENGINEERS

BORING LOG

PROJECT: PARK LANE - 1965 LAFAYETTE AVENUE
LOCATION: BRONX, NEW YORK

BORING NO. MR-6
SHEET 1 OF 3
FILE NO. 13132
SURFACE ELEV. 17.39
RES. ENGR. KASH AMINI

DAILY PROGRESS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
12:55	1D	0.0	31-23	Brown fine to coarse sand, some brick, silt,	**	0.3	DRILLED	**Asphalt from 0' to 0.3'.
01-02-18		2.0	20-25	trace gravel (Fill) (SM)			AHEAD	
Tuesday	2D	2.0	10-9	Do 1D (Fill) (SM)			4"	
Clear		4.0	7-9					
13°F	3D	4.0	11-12	Brown fine to medium sand & brick, some silt,		5		
		6.0	6-8	concrete, trace gravel (Fill) (SM)				
	4D	6.0	8-6	Brown fine to medium sand, some silt, brick,				
		8.0	6-7	trace concrete (Fill) (SM)				
	5D	8.0	3-2	Brown fine to medium sand, some concrete,				REC=2"
		10.0	2-3	trace brick, silt, gravel (Fill) (SP-SM)	F	10		
						15		
	6D	15.0	2-2	Black fine to coarse sand, some gravel, trace				REC=6"
		17.0	1-2	wood, silt (Fill) (SP-SM)				
						18.5		Wash color changed
						20		at 20'.
	7D	20.0	WH/18"	Soft gray organic silty clay, trace fine sand,				WC=82
		22.0	2	peat (OH)	O			
						25		
	8D	25.0	WR-1	Top 13": Soft gray organic silty clay, trace peat		26		8D Top: WC=83
		27.0	2-5	(OH)				
				Bot 4": Gray organic clayey fine to medium sand,	S			
				trace shells (SC)		28.5		
						30		
	9D	30.0	48-50	Top 9": Gray rock fragments, some coarse to				
		31.5	86/5"	fine sand, trace silt				
				(Decomposed Rock) (GP-GM)	DR			
				Bot 5": Gray brown fine to coarse sand, trace				
				silt (Decomposed Rock) (SP-SM)		35		
	1C	35.0	REC=76%	Intermediate slightly weathered to highly		36	2*	*Coring time in
		40.0	RQD=38%	weathered gray schistose gneiss, jointed to			2*	minutes per foot.
				broken, weathered joints	R		1*	
							1*	
14:20						40	2*	End of Boring at 40'.
								WC=Water Content
								in percent of dry
								weight.
						45		
						50		

MRCE Form BL-1

BORING NO. MR-6

ROCK CORE SKETCH

Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street
New York, NY 10122

built on firm foundations

PROJECT: Park Lane - 1965 Lafayette Ave
LOCATION: The Bronx, NY
TEST/INSP. EQUIPMENT
REF. CODES/STANDARDS

BORING NO. MR-6
SHEET 2 OF 3
FILE NO. 13132
SURFACE ELEV. 17.39
RES ENGR. Kash Amini

Run No.	REC/RQD

TOP

Run No.	REC/RQD
1C	REC=76% RQD=38%

35.0' TOP

J45°052
MB
J60°11FS2
J45°XF12
J60°11FS2
MB
J60°XFS3
MB
BOT. 1C 40.0'

BOTTOM

Run No.	REC/RQD

TOP

BOTTOM

Run No.	REC/RQD

TOP

BOTTOM

SCALE: 1 division = 0.1 feet

ROCK CORE SKETCH LEGEND

JOINTING
J - Joint
MB - Mechanical Break
Θ - Angle w/ Horizontal
// - Parallel
X - Crossing
F - Foliation
S - Stratification
U - Unfoliated or Unstratified

JOINT SURFACE
C - Curved
I - Irregular
S - Straight

JOINT CONDITION
1 - Slick
2 - Smooth
3 - Rough

SKETCH SYMBOLS
Joint
Healed Joint
Broken
Part of Core Not Recovered
Cavities or Vugs in Core
Clay
Sand
Empty Space

NOTES

MUESER RUTLEDGE CONSULTING ENGINEERS

		BORING NO.	MR-6
		SHEET	3 OF 3
PROJECT	PARK LANE - 1965 LAFAYETTE AVENUE	FILE NO.	13132
LOCATION	BRONX, NEW YORK	SURFACE ELEV.	17.39
BORING LOCATION	SEE BORING LOCATION PLAN	DATUM	NAVD 88

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG		TYPE OF FEED DURING CORING		CASING USED		X YES		NO	
TRUCK		MECHANICAL		DIA., IN.	4	DEPTH, FT. FROM	0	TO	20
SKID	CME-55 LC	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	X	NO
D-SAMPLER	2" O. D. SPLIT SPOON	DIAMETER OF ROTARY BIT, IN.	3-7/8			
U-SAMPLER		TYPE OF DRILLING MUD				
S-SAMPLER						
CORE BARREL	NX DOUBLE BARREL	AUGER USED		YES	X	NO
CORE BIT	NX DIAMOND	TYPE AND DIAMETER, IN.				
DRILL RODS	NWJ					

*CASING HAMMER, LBS.	140	AVERAGE FALL, IN.	30
*SAMPLER HAMMER, LBS.	140	AVERAGE FALL, IN.	30
*HAMMER TYPE (DONUT/SAFETY/AUTOMATIC):	AUTOMATIC		

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATION
					NO WATER LEVEL OBSERVATIONS MADE.

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

3.5" DIA. DRY SAMPLE BORING	LIN. FT.	35	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.	5	OTHER:	

BORING CONTRACTOR	CRAIG GEOTECHNICAL DRILLING		
DRILLER	NICHOLAS BEEHLER	HELPERS	MILES NEIPERT
REMARKS	BOREHOLE GROUTED UPON COMPLETION.		
RESIDENT ENGINEER	KASH AMINI	DATE	01-02-18
CLASSIFICATION CHECK:	CHERYL J. MOSS	TYPING CHECK:	SETH F. KNIHTILA

MUESER RUTLEDGE CONSULTING ENGINEERS

BORING LOG

BORING NO. MR-7
SHEET 1 OF 3
FILE NO. 13132
SURFACE ELEV. 17.74
RES. ENGR. KASH AMINI

PROJECT: PARK LANE - 1965 LAFAYETTE AVENUE
LOCATION: BRONX, NEW YORK

DAILY PROGRESS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
12:00	1D	0.0	11-14	Brown fine to coarse sand, some silt, trace	**	0.3	DRILLED	**Asphalt from 0' to 0.3'.
12-28-17		2.0	11-4	brick, gravel (Fill) (SM)			AHEAD	
Thursday	2D	2.0	3-3	Brown gravelly fine to medium sand, trace silt			4"	REC=2"
Sunny		4.0	2-12	(SP-SM)				
14°F	3D	4.0	28-10	Brown gray fine to medium sand, some brick,		5		REC=5"
		6.0	7-17	gravel, silt, trace coarse sand (Fill) (SM)				
	4D	6.0	13-10	Brown fine to coarse sand, some gravel, silt,				
		8.0	13-8	trace brick (Fill) (SM)				
	5D	8.0	7-5	Brown fine to coarse sand, some silt, trace				
		10.0	5-4	gravel, brick (Fill) (SM)	F	10		
						15		
	6D	15.0	10-9	Gray gravel, trace coarse to fine sand, silt				REC=1"
		17.0	3-3	(GP-GM)				
						18.5		
						20		
	7D	20.0	WR-WH/12"	Soft gray organic silty clay, trace peat (OH)				WC=71
		22.0	2					
					O			
						25		
	8D	25.0	WR-WH/18"	Do 7D, trace shells (OH)				WC=83
		27.0						
						28.5		
						30		
	9D	30.0	5-7	Gray fine to medium sand, some silt (SM)	S			
		32.0	9-12					
						33.5		
						35		
	10D	35.0	16-50/3"	Gray gravel, some fine to coarse sand, trace				
		35.75		silt, silty clay seams (GP-GM)	T			
						40		
	1C	40.0	REC=92%	Intermediate slightly weathered to unweathered			2*	*Coring time in
		45.0	RQD=43%	gray schistose gneiss, some white granite,			2*	minutes per foot.
				jointed to broken, iron stained & weathered			2*	
				joints			3*	
						45	2*	
	2C	45.0	REC=100%	Medium hard slightly weathered to unweathered	R		1*	WC=Water Content
		50.0	RQD=58%	light gray granite, some gray schistose gneiss,			2*	in percent of dry
				jointed to closely jointed, weathered joints			2*	weight.
							2*	
13:55						50	2*	End of Boring at 50'.

MRCE Form BL-1

BORING NO. MR-7

ROCK CORE SKETCH

MRCE
built on firm foundations

Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street
New York, NY 10122

PROJECT: Park Lane - 1965 Lafayette Ave
LOCATION: The Bronx, NY
TEST/INSP. EQUIPMENT
REF. CODES/STANDARDS

BORING NO. MR-7
SHEET 2 OF 3
FILE NO. 13132
SURFACE ELEV. 17.74
RES ENGR. Kash Amini

Run No.	REC/RQD

TOP

BOTTOM

Run No.	REC/RQD

TOP

BOTTOM

Run No.	REC/RQD
2C	REC = 100% RQD = 58%

45.0 TOP

MB
J20°US2
MB
J0°US3
MB
J10°US3
J30°US3
J10°US3
J60°US2
J20°//FS2
J20°//FS2
J60°XFS2
J20°//FS2
J30°//FS2
J45°XFC2

GRANITE

50.0 BOTTOM

Run No.	REC/RQD
1C	REC = 98% RQD = 26" = 43%

41.0 TOP

J90°U I2
MB
MB
J30°US2
J60°UI3
J60°XFS2
J45°//FS2
J0°XFS2 FE
J0°XFS2 FE
J45°XFS2 FE
J45°//FS2
J30°UC3
BOT.IC

GRANITE

45.0 BOTTOM

SCALE: 1 division = 0.1 feet

ROCK CORE SKETCH LEGEND

JOINTING
J - Joint
MB - Mechanical Break
θ - Angle w/ Horizontal
// - Parallel
X - Crossing
F - Foliation
S - Stratification
U - Unfoliated or Unstratified

JOINT SURFACE
C - Curved
I - Irregular
S - Straight

JOINT CONDITION
1 - Slick
2 - Smooth
3 - Rough

SKETCH SYMBOLS
Joint
Healed Joint
Broken
Part of Core Not Recovered
Cavities or Vugs in Core
Clay
Sand
Empty Space

NOTES

MUESER RUTLEDGE CONSULTING ENGINEERS

		BORING NO.	MR-7
		SHEET	3 OF 3
PROJECT	PARK LANE - 1965 LAFAYETTE AVENUE	**FILE NO.**	13132
LOCATION	BRONX, NEW YORK	**SURFACE ELEV.**	17.74
BORING LOCATION	SEE BORING LOCATION PLAN	**DATUM**	NAVD 88

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG		TYPE OF FEED DURING CORING		CASING USED	[X] YES [ ] NO		
TRUCK		MECHANICAL		DIA., IN.	4	DEPTH, FT. FROM 0	TO 20
SKID	CME-55 LC	HYDRAULIC	X	DIA., IN.		DEPTH, FT. FROM	TO
BARGE		OTHER		DIA., IN.		DEPTH, FT. FROM	TO
OTHER							

TYPE AND SIZE OF			
D-SAMPLER	2" O. D. SPLIT SPOON	DRILLING MUD USED	[ ] YES [X] NO
U-SAMPLER		DIAMETER OF ROTARY BIT, IN.	3-7/8
S-SAMPLER		TYPE OF DRILLING MUD	
CORE BARREL		AUGER USED	[ ] YES [X] NO
CORE BIT		TYPE AND DIAMETER, IN.	
DRILL RODS			

*CASING HAMMER, LBS. 140 AVERAGE FALL, IN. 30
*SAMPLER HAMMER, LBS. 140 AVERAGE FALL, IN. 30
*HAMMER TYPE (DONUT/SAFETY/AUTOMATIC): AUTOMATIC

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATION
					NO WATER LEVEL OBSERVATIONS MADE.

PIEZOMETER INSTALLED [ ] YES [X] 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

3.5" DIA. DRY SAMPLE BORING	LIN. FT.	40	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.	10	OTHER:	

BORING CONTRACTOR CRAIG GEOTECHNICAL DRILLING
DRILLER NICHOLAS BEEHLER **HELPERS** MILES NEIPERT
REMARKS BOREHOLE GROUTED UPON COMPLETION.
RESIDENT ENGINEER KASH AMINI **DATE** 12-28-17
CLASSIFICATION CHECK: CHERYL J. MOSS **TYPING CHECK:** SETH F. KNIHTILA

MUESER RUTLEDGE CONSULTING ENGINEERS

BORING LOG

BORING NO. MR-8
SHEET 1 OF 3
FILE NO. 13132
SURFACE ELEV. 16.94
RES. ENGR. KASH AMINI

PROJECT: PARK LANE - 1965 LAFAYETTE AVENUE
LOCATION: BRONX, NEW YORK

DAILY PROGRESS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
08:35	1D	0.0	22-21	Brown silty fine to coarse sand, trace gravel	**	0.3	DRILLED	**Asphalt from 0' to 0.3'.
12-29-17		2.0	15-18	(Fill) (SM)			AHEAD	
Friday	2D	2.0	9-7	Brown silty fine to coarse sand, trace gravel,			4"	
Clear		4.0	5-4	brick (Fill) (SM)				
13°F	3D	4.0	7-9	Brown fine to coarse sand, some silt, some		5		
		6.0	4-10	asphalt, trace gravel (Fill) (SM)				
	4D	6.0	10-9	Stiff gray silt, trace fine to medium sand (ML)				
		8.0	9-12					
	5D	8.0	4-7	Top 6": Stiff gray silt, some medium to fine				
		10.0	7-7	sand, trace gravel (Fill) (ML)	F	10		Wash cover changed at 11'.
				Bot 6": Red brick & asphalt, some medium to				
				fine sand, trace gravel, silt (Fill) (SP-SM)				Rig chatter at 12'.
						15		
	6D	15.0	2-1	Asphalt & brick fragments, some gravel, trace				REC=3"
		17.0	1-1	fine to coarse sand, trace silt (Fill) (SP-SM)				
						18.5		
						20		
	7D	20.0	WH-1	Soft gray organic silty clay, trace peat (OH)				WC=66
		22.0	2-1					
						25		
	8D	25.0	WH/18"	Do 7D, trace shells (OH)	O			WC=45
		27.0	2					
						30		
	9D	30.0	13-15	Gray brown fine to coarse sand, some silt,				No recovery; 18" recovery with 3" split spoon.
		32.0	19-15	gravel, trace clay (SM)				
						28.5		
						35		
	10D	35.0	21-30	Gray fine to coarse sand, some rock fragments				REC=6"
		40.0	20-14	(SM)	T			
						40		Refusal at 40'.
	1C	40.0	REC=50%	Weathered slightly weathered to highly			2*	*Coring time in minutes per foot.
		45.0	RQD=24%	weathered gray schistose gneiss, jointed to			1.5*	
				broken, weathered joints			2*	
							2*	
						45	3*	
	2C	45.0	REC=72%	Weathered slightly weathered to highly	WR		1*	WC=Water Content
		50.0	RQD=26%	weathered black schistose gneiss, jointed to			1*	in percent of dry
				broken, iron stained & weathered joints			1*	weight.
							2*	
10:45						50	2*	End of Boring at 50'.

ROCK CORE SKETCH

MRCE
built on firm foundations

Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street
New York, NY 10122

PROJECT: Park Lane - 1965 Lafayette Ave
LOCATION: The Bronx, NY
TEST/INSP. EQUIPMENT
REF. CODES/STANDARDS

BORING NO. MR-8
SHEET 2 OF 3
FILE NO. 13132
SURFACE ELEV. 16.94
RES ENGR. Kash Amini

Run No.	REC/RQD
2C	REC = 72% RQD = 26%

45.0 TOP

J30°XFS3
J10°XFS3
MB
MB
MB FE
J45°XFS2
J45°xFS2
J30°xFS2FE
BOT. 2C
50'

BOTTOM

Run No.	REC/RQD
1C	REC = 58% RQD = 24%

40.0 TOP

J30°//FS2
J10°//FS2
J10°xFS2
J10°xFS2
J10°xFS2
J10°XFC3
J60°//FC2
BOT. 1C
45'

BOTTOM

Run No.	REC/RQD

TOP

BOTTOM

Run No.	REC/RQD

TOP

BOTTOM

SCALE: 1 division = 0.1 feet

ROCK CORE SKETCH
LEGEND

JOINTING
J - Joint
MB - Mechanical Break
Θ - Angle w/ Horizontal
// - Parallel
X - Crossing
F - Foliation
S - Stratification
U - Unfoliated or Unstratified

JOINT SURFACE
C - Curved
I - Irregular
S - Straight

JOINT CONDITION
1 - Slick
2 - Smooth
3 - Rough

SKETCH SYMBOLS
Joint
Healed Joint
Broken
Part of Core Not Recovered
Cavities or Vugs in Core
Clay
Sand
Empty Space

NOTES

MUESER RUTLEDGE CONSULTING ENGINEERS

		BORING NO.	MR-8
		SHEET	2 OF 3
PROJECT	PARK LANE - 1965 LAFAYETTE AVENUE	FILE NO.	13132
LOCATION	BRONX, NEW YORK	SURFACE ELEV.	16.94
BORING LOCATION	SEE BORING LOCATION PLAN	DATUM	NAVD 88

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG		TYPE OF FEED DURING CORING		CASING USED	X YES	NO		
TRUCK		MECHANICAL		DIA., IN.	4	DEPTH, FT. FROM	0	TO 20
SKID	CME-55 LC	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	X NO
D-SAMPLER	2" O. D. SPLIT SPOON	DIAMETER OF ROTARY BIT, IN.	3-7/8	
U-SAMPLER		TYPE OF DRILLING MUD		
S-SAMPLER				
CORE BARREL	NX DOUBLE BARREL	AUGER USED	YES	X NO
CORE BIT	NX DIAMOND	TYPE AND DIAMETER, IN.		
DRILL RODS	NWJ			

*CASING HAMMER, LBS.	140	AVERAGE FALL, IN.	30
*SAMPLER HAMMER, LBS.	140	AVERAGE FALL, IN.	30
*HAMMER TYPE (DONUT/SAFETY/AUTOMATIC):	AUTOMATIC		

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATION
					NO WATER LEVEL OBSERVATIONS MADE.

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

3.5" DIA. DRY SAMPLE BORING	LIN. FT.	40	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.	10	OTHER:	

BORING CONTRACTOR	CRAIG GEOTECHNICAL DRILLING		
DRILLER	NICHOLAS BEEHLER	HELPERS	MILES NEIPERT
REMARKS	BOREHOLE GROUTED UPON COMPLETION.		
RESIDENT ENGINEER	KASH AMINI	DATE	12-29-17
CLASSIFICATION CHECK:	CHERYL J. MOSS	TYPING CHECK:	

MUESER RUTLEDGE CONSULTING ENGINEERS

BORING LOG

BORING NO. MR-9
SHEET 1 OF 3
FILE NO. 13132
SURFACE ELEV. 17.61
RES. ENGR. KASH AMINI

PROJECT: PARK LANE - 1965 LAFAYETTE AVENUE
LOCATION: BRONX, NEW YORK

DAILY PROGRESS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
09:45	1D	0.0	22-17	Brown fine to medium sand, some brick, silt,	**	0.3	DRILLED	**Asphalt from 0' to 0.3'.
01-02-18		2.0	12-16	trace gravel (Fill) (SM)			AHEAD	
Tuesday	2D	2.0	4-8	Brown gravelly fine to coarse sand, some brick,			4"	
Clear		4.0	9-11	silt (Fill) (SM)				
13°F	3D	4.0	3-5	Brown fine to coarse sand, some brick, gravel,		5		REC=4"
		6.0	4-6	trace silt (Fill) (SP-SM)				
	4D	6.0	4-9	Brown fine to coarse sand, some gravel, silt,				
		8.0	11-10	trace brick (Fill) (SM)				
	5D	8.0	19-24	Light brown fine to coarse sand, some brick,				
		10.0	12-11	concrete, silt, trace gravel (Fill) (SM)	F	10		
						15		
	6D	15.0	1-1	Gray fine to coarse sand, some gravel, trace				
		17.0	1-1	silt (Fill) (SP-SM)				Wash color changed
						18		at 18'.
						20		
	7D	20.0	WH/12"	Soft gray organic silty clay, trace peat, shells				WC=88
		22.0	1-2	(OH)				
					O			
						25		
	8D	25.0	WR-WH/18"	Soft gray organic silty clay ,trace shells (OH)				WC=83
		27.0						
						28.5		
						30		
	9D	30.0	4-7	Gray silty fine to coarse sand, trace gravel,	S			
		32.0	5-4	clay (SM)				
						33.5		
						35		
	10D	35.0	14-23	Gray brown fine to coarse sand, some gravel,				
		37.0	25-19	trace silt (SP-SM)	T			Rig chatter at 37'.
						40		
	1C	40.0	REC=90%	Medium hard slightly weathered gray schistose			3*	*Coring time in
		45.0	RQD=58%	gneiss, jointed to broken, iron stained &			2*	minutes per foot.
				weathered joints	R		2*	
							3*	
12:05						45	3*	End of Boring at 45'.
								WC=Water Content
								in percent of dry
								weight.
						50		

MRCE Form BL-1

BORING NO. MR-9

ROCK CORE SKETCH

Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street
New York, NY 10122

built on firm foundations

PROJECT: Park Lane - 1965 Lafayette Ave

LOCATION: The Bronx, NY

TEST/INSP. EQUIPMENT

REF. CODES/STANDARDS

BORING NO. MR-9

SHEET 2 OF 3

FILE NO. 13132

SURFACE ELEV. 17.61

RES ENGR. Kash Amini

Run No.	REC/RQD

TOP

BOTTOM

Run No.	REC/RQD

TOP

BOTTOM

Run No.	REC/RQD
1C	REC = 90% RQD = 58%

90' TOP

J80°xFS2

mB

mB

J60°xFC2

J45°/S2

J60°/S2

J40°xFC2

J30°xFS2 Fe

BOT-1C
45.0'

BOTTOM

Run No.	REC/RQD

TOP

BOTTOM

SCALE: 1 division = 0.1 feet

ROCK CORE SKETCH LEGEND

JOINTING

J - Joint

MB - Mechanical Break

Θ - Angle w/ Horizontal

// - Parallel

X - Crossing

F - Foliation

S - Stratification

U - Unfoliated or Unstratified

JOINT SURFACE

C - Curved

I - Irregular

S - Straight

JOINT CONDITION

1 - Slick

2 - Smooth

3 - Rough

SKETCH SYMBOLS

Joint

Healed Joint

Broken

Part of Core Not Recovered

Cavities or Vugs in Core

Clay

Sand

Empty Space

NOTES

MUESER RUTLEDGE CONSULTING ENGINEERS

		BORING NO.	MR-9
		SHEET	3 OF 3
PROJECT	PARK LANE - 1965 LAFAYETTE AVENUE	FILE NO.	13132
LOCATION	BRONX, NEW YORK	SURFACE ELEV.	17.61
BORING LOCATION	SEE BORING LOCATION PLAN	DATUM	NAVD 88

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG		TYPE OF FEED DURING CORING		CASING USED	X YES	NO		
TRUCK		MECHANICAL		DIA., IN.	4	DEPTH, FT. FROM	0	TO 15
SKID	CME-55 LC	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	X NO
D-SAMPLER	2" O. D. SPLIT SPOON	DIAMETER OF ROTARY BIT, IN.	3-7/8	
U-SAMPLER		TYPE OF DRILLING MUD		
S-SAMPLER				
CORE BARREL	NX DOUBLE BARREL	AUGER USED	YES	X NO
CORE BIT	NX DIAMOND	TYPE AND DIAMETER, IN.		
DRILL RODS	NWJ			

*CASING HAMMER, LBS.	140	AVERAGE FALL, IN.	30
*SAMPLER HAMMER, LBS.	140	AVERAGE FALL, IN.	30
*HAMMER TYPE (DONUT/SAFETY/AUTOMATIC):	AUTOMATIC		

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATION
					NO WATER LEVEL OBSERVATIONS MADE.

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

3.5" DIA. DRY SAMPLE BORING	LIN. FT.	40	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.	5	OTHER:	

BORING CONTRACTOR	CRAIG GEOTECHNICAL DRILLING		
DRILLER	NICHOLAS BEEHLER	HELPERS	MILES NEIPERT
REMARKS	BOREHOLE GROUTED UPON COMPLETION.		
RESIDENT ENGINEER	KASH AMINI	DATE	01-02-18
CLASSIFICATION CHECK:	CHERYL J. MOSS	TYPING CHECK:	

MUESER RUTLEDGE CONSULTING ENGINEERS

BORING LOG

BORING NO. MR-10
SHEET 1 OF 3
FILE NO. 13132
SURFACE ELEV. 17.72
RES. ENGR. KASH AMINI

PROJECT: PARK LANE - 1965 LAFAYETTE AVENUE
LOCATION: BRONX, NEW YORK

DAILY PROGRESS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
11:30	1D	0.0	10-9	Brown fine to coarse sand, some brick, trace	**	0.3	DRILLED	**Asphalt from 0' to 0.3'.
12-27-17		2.0	13-17	gravel, silt (Fill) (SP-SM)			AHEAD	
Wednesday	2D	2.0	14-14	Do 1D (Fill) (SP-SM)			4"	
Clear		4.0	15-14					
19°F	3D	4.0	13-10	Brown fine to coarse sand, some gravel, brick,		5		
		6.0	16-8	trace silt (Fill) (SP-SM)				
	4D	6.0	4-5	Brown gravelly fine to coarse sand, trace silt				REC=3"
		8.0	14-8	(Fill) (SP-SM)				
	5D	8.0	34-18	Brown fine to coarse sand, brick, gravel, trace				
		10.0	10-7	silt (Fill) (SP-SM)		10		
					F			
						15		
	6D	15.0	2-1	Black fine to coarse sand, some gravel, wood,				REC=3"
		17.0	1-3	trace silt (Fill) (SP-SM)				Distinctive odor.
								Wash color changed
						20		at 20'.
	7D	20.0	100/4"	Black gray fine to coarse sand, some wood,				REC=3"
		20.3		trace silt, gravel (Fill) (SP-SM)				
						25		
	1C	25.0	REC=38%	Weathered slightly weathered to highly			2*	*Coring time in
		30.0	RQD=0%	weathered gray gneissic schist, broken, iron			3*	minutes per foot.
				stained & weathered joints	WR		4*	
							2*	
						30	3*	
	2C	30.0	REC=98%	Intermediate slightly weathered to moderately			3*	
		35.0	RQD=38%	weathered gray gneissic schist, closely jointed			1*	
				to broken, iron stained & weathered joints	R		1*	
							1*	
13:10						35	1*	End of Boring at 35'.
						40		
						45		
						50		

ROCK CORE SKETCH

MRCE
built on firm foundations
Mueser Rutledge Consulting Engineers
14 Penn Plaza, 225 W. 34th Street
New York, NY 10122

PROJECT: Park Lane - 1965 Lafayette Ave
LOCATION: The Bronx, NY
TEST/INSP. EQUIPMENT
REF. CODES/STANDARDS

BORING NO. MR-1D
SHEET 2 OF 3
FILE NO. 13132
SURFACE ELEV. 17.72'
RES ENGR. Kash Amini

Run No.	REC/RQD

TOP

BOTTOM

Run No.	REC/RQD

TOP

BOTTOM

Run No.	REC/RQD
2C	REC = 98% RQD = 38%

TOP

MB
J30° US 3
J 60°x FS2
J45°x FS3
J60°//FS2 FE
J90°x FS2 FE
J30°x FS3
J60°//FS2 FE
J 60°//FS2
J 60°//FS2
J 60°//FS2
J 60°//FS2
J 60°//FS2
J 60°//FS2
J 60°//FS2 FE
J 60°//FS2
J 60°//FS3
BOT·2C
34.9'

BOTTOM

Run No.	REC/RQD
1C	REC = 38% RQD = 0%

25.0 TOP

MB
MB
MB
J30°//FS2
J30°//FS3
MB
BOT·1C
26.9'

BOTTOM

SCALE: 1 division = 0.1 feet

ROCK CORE SKETCH LEGEND

JOINTING
J - Joint
MB - Mechanical Break
θ - Angle w/ Horizontal
// - Parallel
X - Crossing
F - Foliation
S - Stratification
U - Unfoliated or Unstratified

JOINT SURFACE
C - Curved
I - Irregular
S - Straight

JOINT CONDITION
1 - Slick
2 - Smooth
3 - Rough

SKETCH SYMBOLS
Joint
Healed Joint
Broken
Part of Core Not Recovered
Cavities or Vugs in Core
Clay
Sand
Empty Space

NOTES

MUESER RUTLEDGE CONSULTING ENGINEERS

		BORING NO.	MR-10
		SHEET	3 OF 3
PROJECT	PARK LANE - 1965 LAFAYETTE AVENUE	FILE NO.	13132
LOCATION	BRONX, NEW YORK	SURFACE ELEV.	17.72
BORING LOCATION	SEE BORING LOCATION PLAN	DATUM	NAVD 88

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG		TYPE OF FEED DURING CORING		CASING USED	X YES	NO		
TRUCK		MECHANICAL		DIA., IN.	4	DEPTH, FT. FROM	0	TO 20
SKID	CME-55 LC	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	X NO
D-SAMPLER	2" O. D. SPLIT SPOON	DIAMETER OF ROTARY BIT, IN.	3-7/8	
U-SAMPLER		TYPE OF DRILLING MUD		
S-SAMPLER				
CORE BARREL	NX DOUBLE BARREL	AUGER USED	YES	X NO
CORE BIT	NX DIAMOND	TYPE AND DIAMETER, IN.		
DRILL RODS	NWJ			

*CASING HAMMER, LBS.	140	AVERAGE FALL, IN.	30
*SAMPLER HAMMER, LBS.	140	AVERAGE FALL, IN.	30
*HAMMER TYPE (DONUT/SAFETY/AUTOMATIC):	AUTOMATIC		

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATION
					NO WATER LEVEL OBSERVATIONS MADE.

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

3 5" DIA. DRY SAMPLE BORING	LIN. FT.	25	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.	10	OTHER:	

BORING CONTRACTOR	CRAIG GEOTECHNICAL DRILLING		
DRILLER	NICHOLAS BEEHLER	HELPERS	MILES NEIPERT
REMARKS	BOREHOLE GROUTED UPON COMPLETION.		
RESIDENT ENGINEER	KASH AMINI	DATE	12-27-17
CLASSIFICATION CHECK:	CHERYL J. MOSS	TYPING CHECK:	

MUESER RUTLEDGE CONSULTING ENGINEERS

BORING LOG

BORING NO. MR-11
SHEET 1 OF 2
FILE NO. 13132
SURFACE ELEV. 17.39
RES. ENGR. KASH AMINI

PROJECT: PARK LANE - 1965 LAFAYETTE AVENUE
LOCATION: BRONX, NEW YORK

DAILY PROGRESS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
10:55	1D	0.0	40-22	Brown fine to medium sand & brick, trace silt,			DRILLED	
01-03-18		2.0	11-7	gravel (Fill) (SP-SM)			AHEAD	
Wednesday	2D	2.0	7-13	Brown coarse to fine sand & concrete, some			4"	
Sunny		4.0	4-4	gravel, trace silt (Fill) (SP-SM)				
15°F	3D	4.0	24-17	Black asphalt & concrete, some fine to medium		5		
		6.0	16-13	sand, trace silt (Fill) (SP-SM)				
	4D	6.0	20-40	Brown fine to coarse sand, some silt, trace				
		8.0	17-24	asphalt, gravel (Fill) (SP-SM)				
	5D	8.0	95-63/4"	Brown fine to medium sand, some silt, gravel,				REC=5"
		10.0		trace concrete, brick (Fill) (SM)	F	10		Wash color changed at 11'.
						15		
	6D	15.0	2-1	Black fine to coarse sand, some gravel, silt				REC=6"
		17.0	1-1	(Fill) (SM)				
						18.5		
						20		
	7D	20.0	WH/18"	Soft gray organic silty clay, trace fine to medium				WC=82
		22.0	1	sand, peat (OH)	O			
						25		
	8D	25.0	WH-2	Top 8": Do 7D, trace gravel (OH)		26		8D Top: WC=85
		27.0	68-44	Bot 6": Gray fine to coarse sand, some silt,	S			
12:20				trace gravel (SM)		27		End of Boring at 27'.
						30		WC=Water Content in percent of dry weight.
						35		
						40		
						45		
						50		

MUESER RUTLEDGE CONSULTING ENGINEERS

		BORING NO.	MR-11
		SHEET	2 OF 2
PROJECT	PARK LANE - 1965 LAFAYETTE AVENUE	FILE NO.	13132
LOCATION	BRONX, NEW YORK	SURFACE ELEV.	17.39
BORING LOCATION	SEE BORING LOCATION PLAN	DATUM	NAVD 88

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG		TYPE OF FEED DURING CORING		CASING USED		X YES		NO		
TRUCK		MECHANICAL		DIA., IN.	4	DEPTH, FT. FROM	0	TO	15	
SKID	CME-55 LC	HYDRAULIC	X	DIA., IN.		DEPTH, FT. FROM		TO		
BARGE		OTHER		DIA., IN.		DEPTH, FT. FROM		TO		
OTHER										

TYPE AND SIZE OF					
D-SAMPLER	2" O. D. SPLIT SPOON	DRILLING MUD USED		YES	X NO
U-SAMPLER		DIAMETER OF ROTARY BIT, IN.	3-7/8		
S-SAMPLER		TYPE OF DRILLING MUD			
CORE BARREL	NX DOUBLE BARREL	AUGER USED		YES	X NO
CORE BIT	NX DIAMOND	TYPE AND DIAMETER, IN.			
DRILL RODS	NWJ				

*CASING HAMMER, LBS.	140	AVERAGE FALL, IN.	30
*SAMPLER HAMMER, LBS.	140	AVERAGE FALL, IN.	30
*HAMMER TYPE (DONUT/SAFETY/AUTOMATIC):	AUTOMATIC		

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATION
					NO WATER LEVEL OBSERVATIONS MADE.

PIEZOMETER INSTALLED [ ] YES [X] 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

3.5" DIA. DRY SAMPLE BORING	LIN. FT.	27	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	CRAIG GEOTECHNICAL DRILLING		
DRILLER	NICHOLAS BEEHLER	HELPERS	MILES NEIPERT
REMARKS	BOREHOLE GROUTED UPON COMPLETION.		
RESIDENT ENGINEER	KASH AMINI	DATE	01-03-18
CLASSIFICATION CHECK:	CHERYL J. MOSS	TYPING CHECK:	SETH F. KNIHTILA

MUESER RUTLEDGE CONSULTING ENGINEERS

BORING LOG

BORING NO. MR-12
SHEET 1 OF 2
FILE NO. 13132
SURFACE ELEV. 16.94
RES. ENGR. KASH AMINI

PROJECT: PARK LANE - 1965 LAFAYETTE AVENUE
LOCATION: BRONX, NEW YORK

DAILY PROGRESS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
12:40	1D	0.0	35-23	Brown fine to coarse sand, some concrete,			DRILLED	
01-03-18		2.0	12-7	brick, some silt, trace gravel (Fill) (SM)			AHEAD	
Wednesday	2D	2.0	3-2	Light brown fine to coarse sand, some			4"	REC=6"
Sunny		4.0	3-1	concrete, silt, trace gravel (Fill) (SM)				
15°F	3D	4.0	2-4	Gray fine to coarse sand, some gravel, trace		5		
		6.0	2-10	brick, silt (Fill) (SP-SM)				
	4D	6.0	37-35	Light brown fine to coarse sand, some concrete,				
		8.0	11-7	brick, trace gravel, silt (Fill) (SP-SM)				
	5D	8.0	21-12	Light brown fine to coarse sand, some silt,				
		10.0	10-16	trace gravel, trace brick (Fill) (SM)	F	10		
								Wash color changed at 14'.
						15		
	6NR	15.0	3-4	No recovery				
		17.0	5-4					
						18.5		
						20		
	7D	20.0	WH/12"	Soft gray organic silty clay, some roots, trace				WC=119
		22.0	2-3	fine sand (OH)				
					O			
						25		
	8D	25.0	WH/24"	Soft gray organic silty clay, trace shells (OH)				WC=80
		27.0						
						28.5		
						30		
	9D	30.0	10-12	Gray green fine to coarse sand, some silt, trace	S			
13:45		32.0	16-15	gravel (SM)		32		End of Boring at 32'.
								WC=Water Content in percent of dry weight.
						35		
						40		
						45		
						50		

MRCE Form BL-1

BORING NO. MR-12

MUESER RUTLEDGE CONSULTING ENGINEERS

		BORING NO.	MR-12
		SHEET	2 OF 2
PROJECT	PARK LANE - 1965 LAFAYETTE AVENUE	FILE NO.	13132
LOCATION	BRONX, NEW YORK	SURFACE ELEV.	16.94
BORING LOCATION	SEE BORING LOCATION PLAN	DATUM	NAVD 88

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG		TYPE OF FEED DURING CORING		CASING USED	X YES	NO		
TRUCK		MECHANICAL		DIA., IN.	4	DEPTH, FT. FROM	0	TO 15
SKID	CME-55 LC	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	X NO
D-SAMPLER	2" O. D. SPLIT SPOON	DIAMETER OF ROTARY BIT, IN.	3-7/8	
U-SAMPLER		TYPE OF DRILLING MUD		
S-SAMPLER				
CORE BARREL	NX DOUBLE BARREL	AUGER USED	YES	X NO
CORE BIT	NX DIAMOND	TYPE AND DIAMETER, IN.		
DRILL RODS	NWJ			

*CASING HAMMER, LBS.	140	AVERAGE FALL, IN.	30
*SAMPLER HAMMER, LBS.	140	AVERAGE FALL, IN.	30
*HAMMER TYPE (DONUT/SAFETY/AUTOMATIC):	AUTOMATIC		

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATION
					NO WATER LEVEL OBSERVATIONS MADE.

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

3.5" DIA. DRY SAMPLE BORING	LIN. FT.	32	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	CRAIG GEOTECHNICAL DRILLING		
DRILLER	NICHOLAS BEEHLER	HELPERS	MILES NEIPERT
REMARKS	BOREHOLE GROUTED UPON COMPLETION.		
RESIDENT ENGINEER	KASH AMINI	DATE	01-03-18
CLASSIFICATION CHECK:	CHERYL J. MOSS	TYPING CHECK:	SETH F. KNIHTILA

MUESER RUTLEDGE CONSULTING ENGINEERS

BORING LOG

BORING NO. MR-13
SHEET 1 OF 2
FILE NO. 13132
SURFACE ELEV. 16.48
RES. ENGR. KASH AMINI

PROJECT: PARK LANE - 1965 LAFAYETTE AVENUE
LOCATION: BRONX, NEW YORK

DAILY PROGRESS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
13:54	1D	0.0	50/4"	Brown silty fine to coarse sand, trace asphalt, concrete, gravel (Fill) (SM)	F			Boring offset; steel obstruction at 2'; offset at 3.5' to the North. See Boring MR-13A. End of Boring at 2'.
01-03-18		0.3				2		
Wed., Clear								
14°F, 14:30								
						5		
						10		
						15		
						20		
						25		
						30		
						35		
						40		
						45		
						50		

MRCE Form BL-1

BORING NO. MR-13

MUESER RUTLEDGE CONSULTING ENGINEERS

		BORING NO.	MR-13
		SHEET	2 OF 2
PROJECT	PARK LANE - 1965 LAFAYETTE AVENUE	FILE NO.	13132
LOCATION	BRONX, NEW YORK	SURFACE ELEV.	16.48
BORING LOCATION	SEE BORING LOCATION PLAN	DATUM	NAVD 88

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG		TYPE OF FEED DURING CORING		CASING USED		[ ] YES [X] NO		
TRUCK		MECHANICAL		DIA., IN.		DEPTH, FT. FROM		TO
SKID	CME-55 LC	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	[X] NO
D-SAMPLER	2" O. D. SPLIT SPOON	DIAMETER OF ROTARY BIT, IN.	3-7/8	
U-SAMPLER		TYPE OF DRILLING MUD		
S-SAMPLER				
CORE BARREL		AUGER USED	[ ] YES	[X] NO
CORE BIT		TYPE AND DIAMETER, IN.		
DRILL RODS				

*CASING HAMMER, LBS.	140	AVERAGE FALL, IN.	30
*SAMPLER HAMMER, LBS.	140	AVERAGE FALL, IN.	30
*HAMMER TYPE (DONUT/SAFETY/AUTOMATIC):	AUTOMATIC		

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATION
					NO WATER LEVEL OBSERVATIONS MADE.

PIEZOMETER INSTALLED [ ] YES [X] 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

3.5" DIA. DRY SAMPLE BORING	LIN. FT.	2	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	CRAIG GEOTECHNICAL DRILLING		
DRILLER	NICHOLAS BEEHLER	HELPERS	MILES NEIPERT
REMARKS	BOREHOLE GROUTED UPON COMPLETION.		
RESIDENT ENGINEER	KASH AMINI	DATE	01-03-18
CLASSIFICATION CHECK:	CHERYL J. MOSS	TYPING CHECK:	SETH F. KNIHTILA

MUESER RUTLEDGE CONSULTING ENGINEERS

BORING LOG

PROJECT: PARK LANE - 1965 LAFAYETTE AVENUE
LOCATION: BRONX, NEW YORK

BORING NO. MR-13A
SHEET 1 OF 2
FILE NO. 13132
SURFACE ELEV. 16.48
RES. ENGR. KASH AMINI

DAILY PROGRESS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
14:15	1D	0.0	29-23	Brown fine to coarse sand, some concrete,	F			Boring offset; steel
01-03-18		0.2	20-34/5"	trace silt, gravel (Fill) (SM)		2		obstruction at 2';
Wed., Clear								See boring location
14°F, 14:30								plan fro offset location.
						5		See Boring MR-13B.
								End of Boring at 2'.
						10		
						15		
						20		
						25		
						30		
						35		
						40		
						45		
						50		

MUESER RUTLEDGE CONSULTING ENGINEERS

		BORING NO.	MR-13A
		SHEET	2 OF 2
PROJECT	PARK LANE - 1965 LAFAYETTE AVENUE	FILE NO.	13132
LOCATION	BRONX, NEW YORK	SURFACE ELEV.	16.48
BORING LOCATION	SEE BORING LOCATION PLAN	DATUM	NAVD 88

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG		TYPE OF FEED DURING CORING		CASING USED		YES		NO	
TRUCK		MECHANICAL		DIA., IN.		DEPTH, FT. FROM		TO	
SKID	CME-55 LC	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	
U-SAMPLER		TYPE OF DRILLING MUD		
S-SAMPLER				
CORE BARREL		AUGER USED	YES	NO
CORE BIT		TYPE AND DIAMETER, IN.		
DRILL RODS				

*CASING HAMMER, LBS.	140	AVERAGE FALL, IN.	30
*SAMPLER HAMMER, LBS.	140	AVERAGE FALL, IN.	30
*HAMMER TYPE (DONUT/SAFETY/AUTOMATIC):	AUTOMATIC		

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATION
					NO WATER LEVEL OBSERVATIONS MADE

PIEZOMETER INSTALLED [ ] YES [X] 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

3.5" DIA. DRY SAMPLE BORING	LIN. FT.	2	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	CRAIG GEOTECHNICAL DRILLING		
DRILLER	NICHOLAS BEEHLER	HELPERS	MILES NEIPERT
REMARKS	BOREHOLE GROUTED UPON COMPLETION.		
RESIDENT ENGINEER	KASH AMINI	DATE	01-03-18
CLASSIFICATION CHECK:	CHERYL J. MOSS	TYPING CHECK:	SETH F. KNIHTILA

MUESER RUTLEDGE CONSULTING ENGINEERS

BORING LOG

BORING NO. MR-13B
SHEET 1 OF 2
FILE NO. 13132
SURFACE ELEV. 17.74
RES. ENGR. KASH AMINI

PROJECT: PARK LANE - 1965 LAFAYETTE AVENUE
LOCATION: BRONX, NEW YORK

DAILY PROGRESS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
13:05	1D	0.0	20-48	Brown fine to coarse sand, some silt, concrete,			DRILLED	
01-03-18		2.0	28-14	trace asphalt, brick (Fill) (SM)			AHEAD	
Wednesday	2D	2.0	3-7	Brown fine to medium sand, some brick, silt,			4"	
Clear		4.0	24-13	trace coarse sand (Fill) (SM)				
13°F	3D	4.0	6-4	Brown fine to medium sand, some brick, silt,		5		REC=3"
		6.0	4-5	trace gravel, coarse sand (Fill) (SM)				
	4D	6.0	2-3	Brown fine to coarse sand & brick, trace gravel,				REC=3"
		8.0	3-5	silt (Fill) (SP-SM)				
	5D	8.0	3-7	Brown fine to coarse sand, some brick, trace				REC=6"
		10.0	11-15	silt (Fill) (SP-SM)	F	10		Loss of water at 10'.
						15		
	6D	15.0	3-5	Black gravel, trace fine to coarse sand, brick,				REC=1"
		17.0	6-9	silt (Fill) (GP-GM)				
						18.5		
						20		
	7D	20.0	5-3	Medium black organic silty clay, trace fine sand,				WC=88
		22.0	4-5	peat (OH)				
					O			
						25		
	8D	25.0	9-10	Do 7D, trace shells (OH)				WC=85
		27.0	6-7					
						28.5		
						30		
	9D	30.0	13-13	Gray fine to coarse sand, some silt, gravel,	T			
16:10		32.0	16-23	trace clay (SM)		32		End of Boring at 32'.
								WC=Water Content
						35		in percent of dry
								weight.
						40		
						45		
						50		

MRCE Form BL-1

BORING NO. MR-13B

MUESER RUTLEDGE CONSULTING ENGINEERS

		BORING NO.	MR-13B
		SHEET	2 OF 2
PROJECT	PARK LANE - 1965 LAFAYETTE AVENUE	FILE NO.	13132
LOCATION	BRONX, NEW YORK	SURFACE ELEV.	17.74
BORING LOCATION	SEE BORING LOCATION PLAN	DATUM	NAVD 88

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG		TYPE OF FEED DURING CORING		CASING USED	X YES	NO		
TRUCK		MECHANICAL		DIA., IN.	4	DEPTH, FT. FROM	0	TO 10
SKID	CME-55 LC	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	X NO
D-SAMPLER	2" O. D. SPLIT SPOON	DIAMETER OF ROTARY BIT, IN.	3-7/8	
U-SAMPLER		TYPE OF DRILLING MUD		
S-SAMPLER				
CORE BARREL	NX DOUBLE BARREL	AUGER USED	YES	X NO
CORE BIT	NX DIAMOND	TYPE AND DIAMETER, IN.		
DRILL RODS	NWJ			

*CASING HAMMER, LBS.	140	AVERAGE FALL, IN.	30
*SAMPLER HAMMER, LBS.	140	AVERAGE FALL, IN.	30
*HAMMER TYPE (DONUT/SAFETY/AUTOMATIC):	AUTOMATIC		

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATION
					NO WATER LEVEL OBSERVATIONS MADE.

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

3.5" DIA. DRY SAMPLE BORING	LIN. FT.	32	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	CRAIG GEOTECHNICAL DRILLING		
DRILLER	NICHOLAS BEEHLER	HELPERS	MILES NEIPERT
REMARKS	BOREHOLE GROUTED UPON COMPLETION.		
RESIDENT ENGINEER	KASH AMINI	DATE	01-03-18
CLASSIFICATION CHECK:	CHERYL J. MOSS	TYPING CHECK:	SETH F. KNIHTILA

MUESER RUTLEDGE CONSULTING ENGINEERS

BORING LOG

BORING NO. MR-14
SHEET 1 OF 2
FILE NO. 13132
SURFACE ELEV. 17.68
RES. ENGR. KASH AMINI

PROJECT: PARK LANE - 1965 LAFAYETTE AVENUE
LOCATION: BRONX, NEW YORK

DAILY PROGRESS	SAMPLE NO.	SAMPLE DEPTH	SAMPLE BLOWS/6"	SAMPLE DESCRIPTION	STRATA	DEPTH	CASING BLOWS	REMARKS
16:35	1D	0.0	45-23	Brown fine to medium sand, some concrete,	**	0.3	DRILLED	**Asphalt from 0' to 0.3'.
01-03-18		2.0	12-12	silt, trace brick, coarse sand (Fill) (SM)			AHEAD	
Wednesday	2D	2.0	5-6	Light brown fine to coarse sand, some silt,			4"	
Clear		4.0	4-3	some concrete, trace brick (Fill) (SM)				
12°F	3D	4.0	1-2	Do 2D (Fill) (SM)		5		REC=3"
		6.0	2-3					
	4D	6.0	2-3	Brown concrete & brick, some fine to medium				REC=2"
		8.0	2-1	sand, trace silt (Fill) (SP-SM)				
	5D	8.0	1-2	Brown fine to coarse sand & brick, some silt,				REC=4"
		10.0	2-5	trace concrete (Fill) (SM)	F	10		
								Wash color changed at 14'.
						15		
	6D	15.0	8-7	Black fine to coarse sand, some silt, wood,				REC=5"
		17.0	5-3	trace gravel (Fill) (SM)				
						18.5		
						20		
	7D	20.0	WR/24"	Soft gray organic silty clay, trace peat, trace fine				WC=86
		22.0		sand (OH)				
					O			
						25		
	8D	25.0	WR/24"	Do 7D, trace shells (OH)				WC=97
		27.0						
						28.5		
						30		
	9D	30.0	WR/12"	Gray fine to coarse sand, some silt, trace shells	S			
17:20		32.0	3-4	(SM)		32		End of Boring at 32'.
								WC=Water Content in percent of dry weight.
						35		
						40		
						45		
						50		

MUESER RUTLEDGE CONSULTING ENGINEERS

		BORING NO.	MR-14
		SHEET	2 OF 2
PROJECT	PARK LANE - 1965 LAFAYETTE AVENUE	FILE NO.	13132
LOCATION	BRONX, NEW YORK	SURFACE ELEV.	17.68
BORING LOCATION	SEE BORING LOCATION PLAN	DATUM	NAVD 88

BORING EQUIPMENT AND METHODS OF STABILIZING BOREHOLE

TYPE OF BORING RIG		TYPE OF FEED DURING CORING		CASING USED		X YES		NO		
TRUCK		MECHANICAL		DIA., IN.	4	DEPTH, FT. FROM	0	TO	15
SKID	CME-55 LC	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	X	NO
D-SAMPLER	2" O. D. SPLIT SPOON	DIAMETER OF ROTARY BIT, IN.	3-7/8			
U-SAMPLER		TYPE OF DRILLING MUD				
S-SAMPLER						
CORE BARREL	NX DOUBLE BARREL	AUGER USED		YES	X	NO
CORE BIT	NX DIAMOND	TYPE AND DIAMETER, IN.				
DRILL RODS	NWJ					

*CASING HAMMER, LBS.	140	AVERAGE FALL, IN.	30
*SAMPLER HAMMER, LBS.	140	AVERAGE FALL, IN.	30
*HAMMER TYPE (DONUT/SAFETY/AUTOMATIC):	AUTOMATIC		

WATER LEVEL OBSERVATIONS IN BOREHOLE

DATE	TIME	DEPTH OF HOLE	DEPTH OF CASING	DEPTH TO WATER	CONDITIONS OF OBSERVATION
					NO WATER LEVEL OBSERVATIONS MADE.

PIEZOMETER INSTALLED [ ] YES [X] 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

3.5" DIA. DRY SAMPLE BORING	LIN. FT.	32	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	CRAIG GEOTECHNICAL DRILLING		
DRILLER	NICHOLAS BEEHLER	HELPERS	MILES NEIPERT
REMARKS	BOREHOLE GROUTED UPON COMPLETION.		
RESIDENT ENGINEER	KASH AMINI	DATE	01-03-18
CLASSIFICATION CHECK:	CHERYL J. MOSS	TYPING CHECK:	SETH F. KNIHTILA