November 2, 2018

Public Building Commission of Chicago
50 West Washington Street, Room 200
Chicago, Illinois 60602
Attn: Miguel F. Fernandez
Email:miguel.fernandez@cityofchicago.org

ECS Project No. 16:12610

Reference: Geotechnical Engineering Draft Report, PBC Rogers Elementary School Annex (Project No.: 05295), 7345 North Washtenaw Avenue, Chicago, Illinois

Dear Mr. Fernandez:

The below sections summarize our geotechnical subsurface exploration and draft geotechnical recommendations for foundations, slabs and hardscapes at the proposed PBC Roger Elementary School Annex to be constructed at 7345 North Washtenaw Avenue in Chicago, Illinois. Our scope of work was performed in general accordance with ECS' Proposal No. 16:18351-GP, dated September 28, 2018.

Project Description

The project site is located at 7345 North Washtenaw Avenue in Chicago, Illinois. The project site is bound to the north by West Jarvis Avenue, to the south and east by public park space and the west by North Washtenaw Avenue.

Based on ECS' current understanding, the proposed construction at the project site will consist of the following:

- New Annex addition, approximately 33,000 square feet in total, to the east of the existing school building. The new addition will be constructed adjacent to the eastern elevation of the existing building. The new building addition appears to consist of two above grade levels. The existing school building also appears to consist of 2 above grade levels.
    - It is unknown to ECS at this time if either the existing or new construction has basement levels. For the purposes of this draft report, ECS assumes that neither the existing or proposed buildings have basement levels.
    - The at-grade footprint of the new building occupies about 16,000 square feet.
    - ECS' estimated column and wall loading at the new addition is about 300 kips (or less) and 10 klf (or less), respectively.

- Site improvements consist of a new playground to be constructed to the southeast of the building addition.

- ECS anticipates that new storm water management will be included in the project footprint. *Please notify ECS if storm water management systems are planned including proposed location and invert depths.*

If our understanding of the proposed development is inaccurate or if the design changes, please contact ECS immediately so we can modify our geotechnical recommendations accordingly in the subsequent final report.

SPT Soil Borings

ECS' subcontracted drilling crew (Union MBE) performed 9 SPT soil borings at the project site to depths ranging from 10 to 60 feet below grades. The approximate as-drilled boring locations are shown on the Boring Location Diagram (attached).

Standard penetration tests (SPTs) were conducted in the borings at regular intervals in general accordance with ASTM D 1586. Split spoon sampling was performed at 2½ foot intervals in the first 15 feet and every 5 feet thereafter to the termination depth of the borings. Small representative samples were obtained during these tests and were used to classify the soils encountered. The standard penetration resistances obtained provide a general indication of soil shear strength and compressibility.

The boreholes were backfilled with spoils after the completion of drilling. Borehole backfill settlement or expansion can and will occur over time. Monitoring the boreholes after the initial drilling activities is not within our Scope. Settlement or expansion of the borehole backfill can create a hazard and should be carefully monitored by the client or property owner.

The subsurface soils generally consisted of the following:

- Typically 10 to 14 inches of topsoil (or 4 inches of asphalt at pavement areas).
- Loose to Medium Dense Sand from below surficial materials extending to depths ranging from 5 to 16 feet below grade
    - Water typically observed at about 6 to 9 feet below grades.
- Loose to Medium Dense Sandy Silts and/or Silty Sands (varying degrees of gravel) to about 20 feet below grades
- Stiff to Very Stiff Silty Clay Crust from about from about 20 to 25 feet below grade.
- Very soft to firm Clay from 25 to 60 feet (Termination of deepest boring at 60 feet below grade).

Additional Soils Testing and Field Testing

The results of ECS infiltration testing and soils laboratory testing (including select grain size analysis, Atterberg limits, and unconfined compressive strength testing) will be delivered under a separate cover.

Shallow Foundations

The proposed structure may be supported by a conventional individual column (spread) footing and continuous wall (strip) footing foundation system bearing on suitable native soil and/or engineered fill placed continuous from a suitable bearing native soil subgrade.

The following parameters are recommended for foundation design.

Design Parameter		Value
Net Allowable Bearing Pressure[2]		3,000 psf
Acceptable Bearing Soil Material		Natural Sand exhibiting an SPT N-Value of 8 bfp or greater. Or New Engineered Fill overlying competent Natural Sands
Minimum Foundation Width	Wall (Strip)	18 inches
	Column (Spread)	30 inches
Minimum Footing Embedment Depth[3]		3½ feet (El. 604+/-)
Post-Construction Estimated Settlement	Total	1 inch
	Differential	½ inch

1. Net allowable bearing pressure is the applied pressure in excess of the surrounding overburden soils above the base of the foundation, based on a factor of safety of 3.
2. Interior footings could be directly below the floor slab if the building will be heated and support soil will not freeze.

Footing pads are recommended to be directly and entirely supported by suitable-bearing native soil and/or on engineered fill placed continuous from a suitable bearing native soil subgrade. Soils suitable for direct foundation support or as the subgrade for engineered fill and indirect foundation support should have parameters as noted in the following table or greater, unless otherwise approved by the geotechnical engineer. Localized areas within the vicinity of Borings B-1 and B-4 noted low SPT value sandy material; these areas need to be densified in place prior to placement of the foundation elements. **The area within the vicinity of boring B-3 noted silt with traces of organic below the El. 602 to about EL.600. ECS recommends this area to be undercut and backfilled with suitable engineered to foundation bearing grade for support.**

ECS recommends at least 3 to 4 feet of the natural sands immediately below the foundation bearing grade of 3½ feet be moisture conditioned and compacted in place. In an effort to reduce any construction related problems due to shallow groundwater depths, ECS recommends to limit these compaction efforts to the soils, one-foot (approximately EL. 602 +/-) above the anticipated groundwater level.

Suitable bearing soils were encountered at approximate depths of 3½ feet below the ground surface at the test boring locations. However, unsuitable bearing soil may exist at the anticipated suitable bearing grade and undercut may be needed outside these boring locations.

Adjacent Existing Foundations

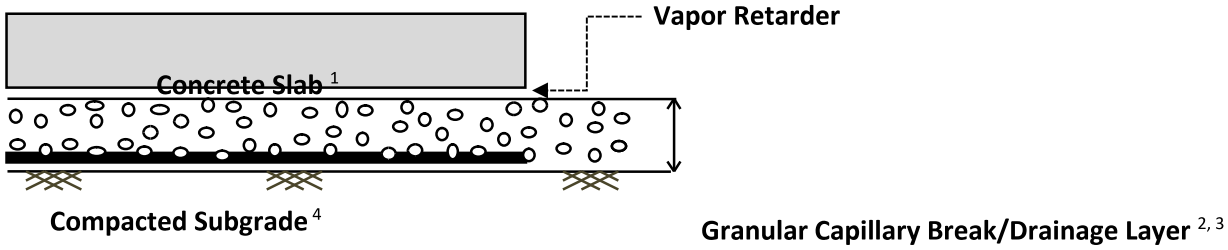
Care must be taken to protect the existing structure. Excavations must be done so as to not undermine the existing construction, or otherwise adversely affect the structural integrity of the existing building. Excavations should not extend below adjacent existing foundation unless underpinning or other forms of support are provided. It is unknown if additional load will be placed on the existing footings from the new addition. ECS must be contacted if existing foundations will be subjected to additional loads. Additional load added to the existing footings will result in some additional settlement. The actual settlement will depend on the added load, the existing load, size of the existing footings, and strength and settlement characteristics of the support soil.

The foundations for the addition are recommended to bear at the same elevation as the existing nearby foundations. When the actual existing and proposed building foundation systems and depths can be confirmed, contact ECS to evaluate whether our recommendations need to be altered to accommodate the existing foundation system accordingly.

Floor Slabs

The anticipated soils near the anticipated slab subgrade elevation (within 1 or 2 feet of existing grades) appear to be suitable for slab support. ECS recommends the slab subgrades are initial stripped to design elevation and proofrolled. Based on proofroll observations, soft spots should be undercut and replaced with compacted engineered fill.

Based on the anticipated subgrade soils and floor loading, the following graphic depicts our general soil-supported slab recommendations.



1. **Concrete Slab:** Minimum 5 inches thick

2. **Drainage Layer:** Minimum 6 inches thick
3. **Drainage Layer Material:** GRAVEL (GP, GW) having a maximum aggregate size of 1½ inches and no more than 5 percent passing the No. 200 sieve. Locally available IDOT CA-6 material could be used as base course material. Material meeting ASTM D448 Size Nos. 467, 57 or 67 could also be used.
4. **Compacted Subgrade:** Compacted to at least 95 percent of the maximum dry density per ASTM D1557.

We recommend slabs-on-grade be underlain by a granular drainage layer placed on a properly prepared subgrade. The granular material will serve as a capillary break, which if properly designed and installed, can sometimes eliminate the need for a moisture retarder and can assist in more uniform curing of concrete. If the anticipated finish floor slab areas are at or about the existing site grade (El. 608+/-), a vapor retarder would not be necessary, however, if significant grade changes are anticipated or a basement option is considered, then a vapor retarder should be considered to provide additional moisture protection. In the area of vapor retarder give special attention to the surface curing of the slabs to reduce uneven drying of the slabs and associated cracking and/or slab curling. The use of a blotter or cushion layer above the vapor retarder can also be considered for project specific reasons. Refer to ACI 302.1R04 Guide for Concrete Floor and Slab Construction and ASTM E 1643 Standard Practice for Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs for additional guidance on these issues.Implement positive drainage around the perimeter of the proposed structures to reduce the potential for water accumulation under the floor slab and foundation elements. Slope exterior grades adjacent to the building such that runoff is directed away from the building walls. Direct building downspouts away from the building walls/foundations. Direct slab and pavement surface runoff to appropriate stormwater infrastructure.

Provided the Subgrade is prepared, and any Engineered Fill and the Granular Drainage Layer are placed as recommended in this report, design the slabs assuming a modulus of subgrade reaction, k of 125 psi/in (pounds per square inch per inch). This modulus of subgrade reaction value assumed is based on the recommended minimum drainage base thickness and a 1 foot by 1 foot plate load test.

Ground-supported slabs should be isolated from the foundations and foundation-supported elements of the structure so that differential movement between the foundations and slab will not induce excessive shear and bending stresses in the floor slab.

Engineered Fill

All fills should consist of approved materials, free of organic matter and debris, particles greater than 3-inches and have a Liquid Limit and Plasticity Index less than 40 and 15, respectively. Unacceptable fill materials include topsoil and organic materials (OH, OL, PT), high plasticity silts and clays (CH, MH), and low-plasticity silts (ML). Under no circumstances should high plasticity soils be used as fill material in proposed structural areas or close to site slopes.

With the exception of the Topsoil, the on-site soil may be feasible to use as Engineered Fill, but should be further evaluated and approved by ECS prior to its use. On-site soil used as Engineered Fill must not contain an adverse amount of organic matter, and must be free of frozen matter, deleterious materials, over-sized material (maximum 3-inch particle diameter), or chemicals that may result in the material being classified as “contaminated.” Depending on the conditions at the time of construction, the use of on-site soil may not be practical, and use of an imported, high quality, less moisture sensitive granular material may be needed. The material used as Engineered Fill must be considered low volume change

material with a maximum Liquid Limit of 40 and maximum Plasticity Index of 15, unless specifically tested and found to have low volume change properties and approved by ECS. The soils must be compacted within a narrow range of the materials optimum moisture content. Some of the soil samples had relatively high moisture contents so some drying of on-site soil prior to reuse as Engineered Fill is expected to be needed. The soil should not be compacted too dry as it may lose its apparent stability if it later becomes wet. The suitability of Engineered Fill materials is recommended to be checked by ECS prior to placement.

Engineered fill within the expanded building limits should be placed in maximum 8-inch thick loose lifts, moisture conditioned as necessary to between ±2 percent of the soil's optimum moisture content, and be compacted with suitable equipment to a dry density of at least 95 percent of the Modified Proctor maximum dry density (ASTM D1557). Beyond these areas, compaction of at least 90 percent should be achieved. Considering the moisture sensitivity of the soil the moisture requirements should be given as much importance as the density requirements during placement and compaction. ECS should be called on to check and document that proper fill compaction has been achieved.

The expanded footprint of the proposed structure pad and fill areas should be well defined, including the limits of the fill zones at the time of fill placement. Grade control should be maintained throughout the fill placement operations. All fill operations should be observed on a full-time basis by ECS to check that the specified compaction requirements are being met. A minimum of one compaction test per 2,500 square foot area or 50 linear feet of trench should be tested in each lift placed with a minimum of 3 tests per lift. The elevation and location of the tests should be clearly identified at the time of fill placement.

Site Temporary Dewatering

The estimated water level is about 6 to 9 feet below existing grade. Seasonal variations in precipitation and site drainage conditions can cause the accumulation of water in the upper soils, particularly within existing If water control cannot be maintained with sump pumps, or where excavations extend more than 2 feet below the groundwater level, dewatering likely will require installation of a well-point system or some other dewatering system to aid in maintaining the groundwater level below the excavation bottom. A qualified dewatering contractor should be consulted if groundwater cannot be satisfactorily controlled through the use of sump pumps. Lowering the static groundwater level can adversely affect nearby structures, utilities and other construction. ECS recommends any dewatering scheme be reviewed by us and a contractor who specializes in this type of work prior to its implementation.

Closing

We appreciate the opportunity to be of service to PBC during the design and construction phase of this project. If you have questions with regard to the information and recommendations contained in this report, please do not hesitate to contact the undersigned.

Respectfully,
ECS Midwest, LLC

Eric E. Borys, P.E
Senior Geotechnical Project Manager
Illinois PE Renews 11/30/19

Kalyan Chandhuri, P.E.
Geotechnical Department Manager
Illinois PE Renews 11/30/19

Enclosed: Boring Location Diagram
SPT Soil Boring Logs

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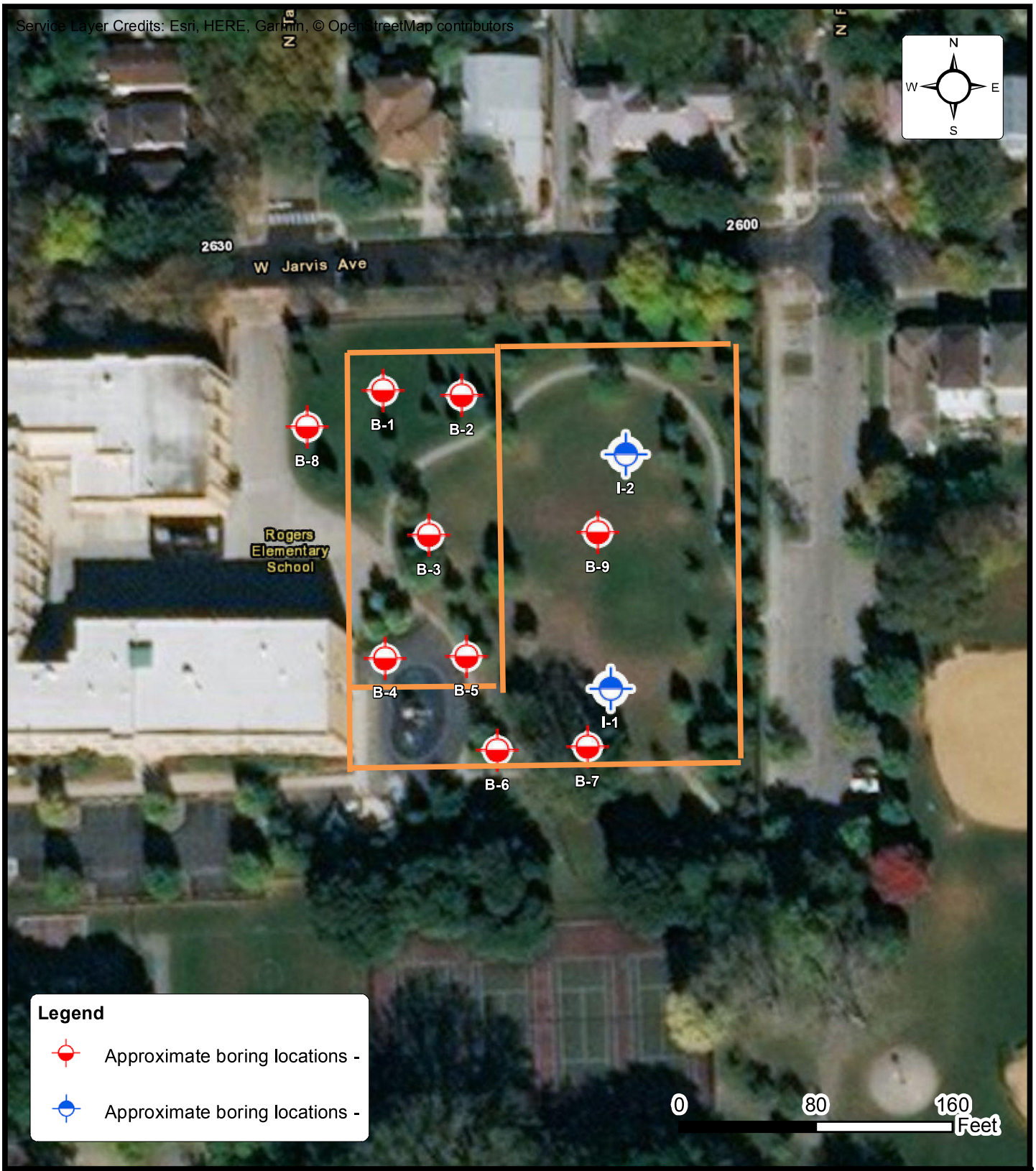


Boring Location Diagram
PBC ROGERS SCHOOL

7345 NORTH WASHTENAW AVENUE, CHICAGO, IL

PUBLIC BUILDING COMMISSION OF CHICAGO

ENGINEER	KSC
SCALE	1 " = 80 '
PROJECT NO.	16:12610
SHEET	1 OF 1
DATE	11/2/2018

CLIENT	Job #:	BORING #	SHEET
Public Building Commission of Chicago	16:12610	B-1	1 OF 2

PROJECT NAME	ARCHITECT-ENGINEER
PBC Rogers School	

SITE LOCATION: 7345 North Washtenaw Avenue, Chicago, Illinois

NORTHING | EASTING | STATION

CALIBRATED PENETROMETER TONS/FT^2

ROCK QUALITY DESIGNATION & RECOVERY
RQD% – — – REC% ———

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

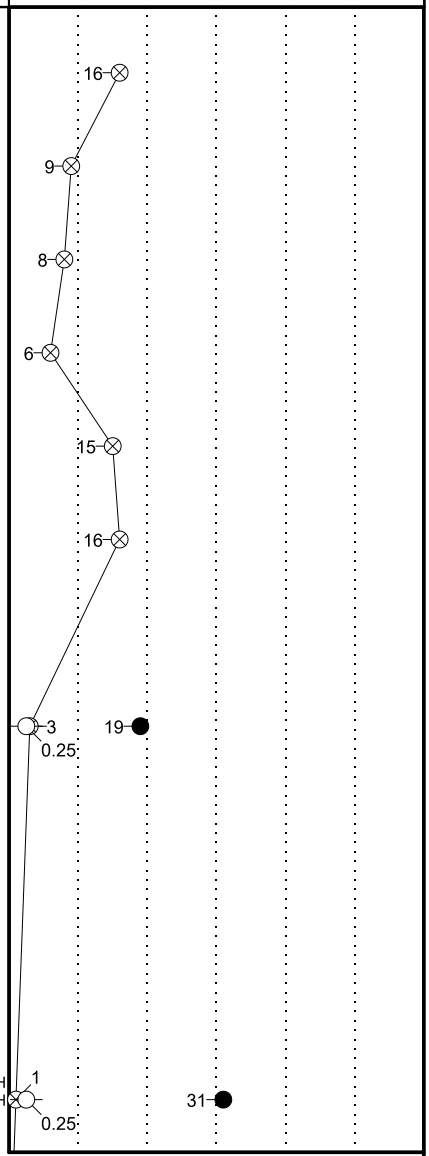
STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING | LOSS OF CIRCULATION (100%)

SURFACE ELEVATION 608 +/-

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0					Topsoil [12" +/-]			
	S-1	SS	18	6	(SP) POSSIBLE FILL, SAND, trace gravel, contains silt, trace clay, black, moist, medium dense			8 9 7
					(SP) SAND, trace gravel, contains silt, trace clay, brown and gray, moist to wet about 6 feet, medium dense to loose		605	
	S-2	SS	18	18				4 4 5
5								
	S-3	SS	18	18				4 4 4
							600	
	S-4	SS	18	18				2 2 4
10								
	S-5	SS	18	18	(ML) SANDY SILT, trace gravel, trace clay, gray, wet, medium dense			4 7 8
							595	
	S-6	SS	18	6				5 7 9
15								
							590	
	S-7	SS	18	18	(CL/ML) SILTY CLAY, trace gravel, slight sand, gray, moist, soft			5 2 1
20								
							585	
25								
							580	
	S-8	SS	18	18				WOH WOH 1
30								



CONTINUED ON NEXT PAGE.

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 6.0 WS ☒ WD ☐	BORING STARTED 10/18/18	CAVE IN DEPTH
WL(SHW) WL(ACR)	BORING COMPLETED 10/18/18	HAMMER TYPE Auto
WL	RIG Truck FOREMAN Rob	DRILLING METHOD

CLIENT	Job #:	BORING #	SHEET
Public Building Commission of Chicago	16:12610	B-1	2 OF 2

PROJECT NAME	ARCHITECT-ENGINEER
PBC Rogers School	

SITE LOCATION: 7345 North Washtenaw Avenue, Chicago, Illinois

NORTHING | EASTING | STATION

CALIBRATED PENETROMETER TONS/FT^2

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RQD% – — – REC% ———

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STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING | LOSS OF CIRCULATION (100%)

SURFACE ELEVATION 608 +/-

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
						575	
35	S-9	SS	18	18			WOH WOH WOH
						570	
40							
						565	
45							
						560	
50							
						555	
55							
						550	
60							

(CL/ML) SILTY CLAY, trace gravel, slight sand, gray, moist, soft

0.25
0
32

END OF BORING @ 40'

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 6.0 WS ☒ WD ☐	BORING STARTED 10/18/18	CAVE IN DEPTH
WL(SHW) WL(ACR)	BORING COMPLETED 10/18/18	HAMMER TYPE Auto
WL	RIG Truck FOREMAN Rob	DRILLING METHOD

CLIENT	Job #:	BORING #	SHEET
Public Building Commission of Chicago	16:12610	B-2	1 OF 1

PROJECT NAME	ARCHITECT-ENGINEER
PBC Rogers School	

SITE LOCATION: 7345 North Washtenaw Avenue, Chicago, Illinois

NORTHING | EASTING | STATION

CALIBRATED PENETROMETER TONS/FT^2

ROCK QUALITY DESIGNATION & RECOVERY
RQD% – — – REC%

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

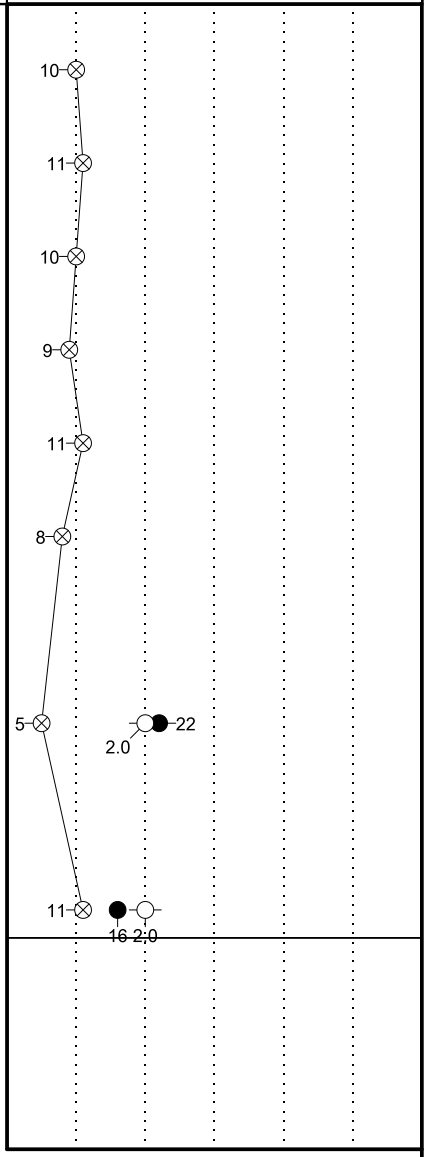
STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING | LOSS OF CIRCULATION (100%)

SURFACE ELEVATION 608 +/-

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0					Topsoil [14" +/-]			
	S-1	SS	18	18	(SP) SAND, trace gravel, contains silt, contains clay, light gray and brown, moist, loose to medium dense		605	4 5 5
	S-2	SS	18	18				3 5 6
5	S-3	SS	18	18	(ML) SANDY SILT, trace gravel, trace clay, brown to gray about 11 feet, wet, medium dense to loose		600	3 5 5
	S-4	SS	18	18				2 4 5
10	S-5	SS	18	18			595	3 5 6
	S-6	SS	18	18				2 3 5
15					(CL/ML) SILTY CLAY, slight gravel, trace sand, trace roots, gray, moist, very stiff		590	
	S-7	SS	18	18				2 2 3
20							585	
	S-8	SS	18	18				3 5 6
25					END OF BORING @ 25'		580	
30								



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL WS ☐ WD ☒	BORING STARTED 10/18/18	CAVE IN DEPTH
WL(SHW) WL(ACR)	BORING COMPLETED 10/18/18	HAMMER TYPE Auto
WL	RIG Truck FOREMAN Rob	DRILLING METHOD

CLIENT	Job #:	BORING #	SHEET
Public Building Commission of Chicago	16:12610	B-3	1 OF 1

PROJECT NAME	ARCHITECT-ENGINEER
PBC Rogers School	

SITE LOCATION

7345 North Washtenaw Avenue, Chicago, Illinois

NORTHING	EASTING	STATION

CALIBRATED PENETROMETER TONS/FT^2

ROCK QUALITY DESIGNATION & RECOVERY
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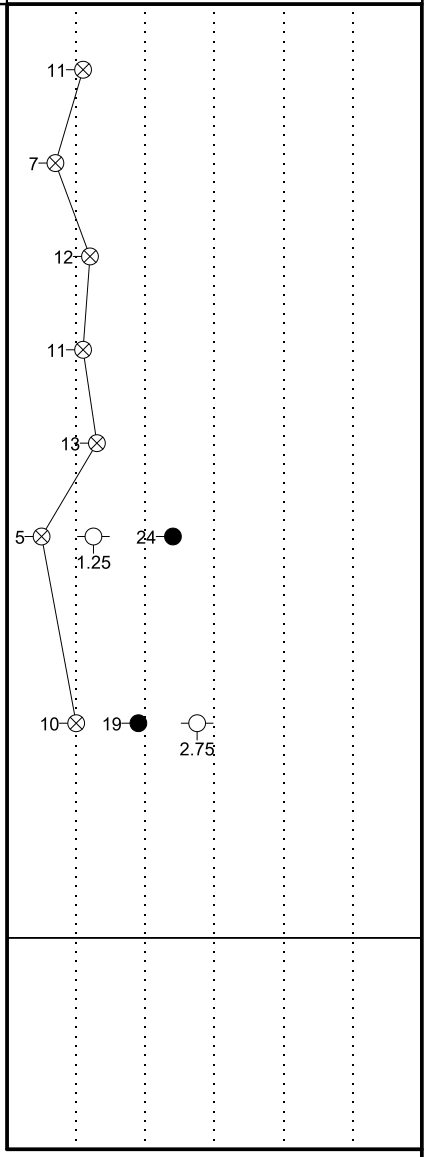
DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING ▰ LOSS OF CIRCULATION (100%)

SURFACE ELEVATION 607 +/-

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0					Topsoil [12" +/-]			
	S-1	SS	18	14	(SP) SAND, trace gravel, trace silt, trace clay, trace roots, orangish brown and tan, moist, medium dense to loose		605	3 5 6
	S-2	SS	18	18				4 3 4
5								
	S-3	SS	18	10	(ML) SILT, trace gravel, contains sand, trace clay, contains organics, significant wood, dark gray, wet, medium dense		600	5 5 7
					(SP) SAND, trace gravel, trace silt, trace clay, tan, wet, medium dense			
	S-4	SS	18	18	(SP) SAND WITH GRAVEL, trace silt, trace clay, contains wood, dark gray, wet, medium dense			2 4 7
10								
	S-5	SS	18	18	(SM) SILTY SAND, trace gravel, trace clay, brown and gray, wet, medium dense		595	4 6 7
	S-6	SS	18	18	(ML) SILT, trace gravel, contains sand, trace clay, trace roots, gray, wet, loose			2 3 2
15								
					(CL/ML) SILTY CLAY, slight gravel, trace sand, trace roots, gray, moist, stiff to very stiff		590	
	S-7	SS	18	18				2 4 6
20								
							585	
25					END OF BORING @ 25'			
							580	
30								



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL WS ☐ WD ☒	BORING STARTED 10/18/18	CAVE IN DEPTH
WL(SHW) WL(ACR)	BORING COMPLETED 10/18/18	HAMMER TYPE Auto
WL	RIG Truck FOREMAN Rob	DRILLING METHOD

CLIENT	Job #:	BORING #	SHEET
Public Building Commission of Chicago	16:12610	B-4	1 OF 1

PROJECT NAME	ARCHITECT-ENGINEER
PBC Rogers School	

SITE LOCATION

7345 North Washtenaw Avenue, Chicago, Illinois

NORTHING	EASTING	STATION

CALIBRATED PENETROMETER TONS/FT^2

ROCK QUALITY DESIGNATION & RECOVERY
RQD% – — – REC% ———

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

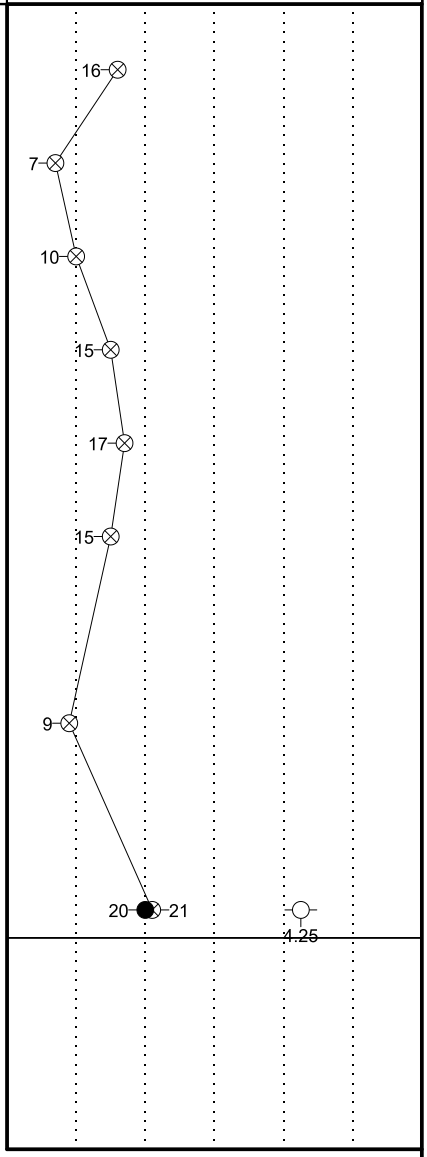
STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING ▰ LOSS OF CIRCULATION (100%)

SURFACE ELEVATION 609 +/-

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0					Bituminous Pavement [4" +/-]			
	S-1	SS	18	14	(SM) FILL, SILTY SAND WITH GRAVEL, trace clay, slight brick, gray and dark brown, moist, medium dense			8 11 5
	S-2	SS	18	18	(SP) SAND, trace gravel, contains silt, trace clay, orangish tan and brown, moist to wet about 8½ feet, loose to medium dense		605	2 3 4
5	S-3	SS	18	14				2 4 6
	S-4	SS	18	14		▽	600	4 6 9
10	S-5	SS	18	18	(ML) SANDY SILT, trace gravel, trace clay, brown to gray, wet, medium dense to loose			5 7 10
	S-6	SS	18	18			595	5 7 8
15								
	S-7	SS	18	18			590	2 3 6
20					(CL/ML) SILTY CLAY, slight gravel, trace sand, gray, moist, hard			
	S-8	SS	18	18			585	5 9 12
25					END OF BORING @ 25'			
							580	
30								



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

▽ WL 8.5 WS ☒ WD ☐	BORING STARTED 10/18/18	CAVE IN DEPTH
▽ WL(SHW) ▼ WL(ACR)	BORING COMPLETED 10/18/18	HAMMER TYPE Auto
▽ WL	RIG Truck FOREMAN Rob	DRILLING METHOD

CLIENT	Job #:	BORING #	SHEET
Public Building Commission of Chicago	16:12610	B-5	1 OF 2

PROJECT NAME	ARCHITECT-ENGINEER
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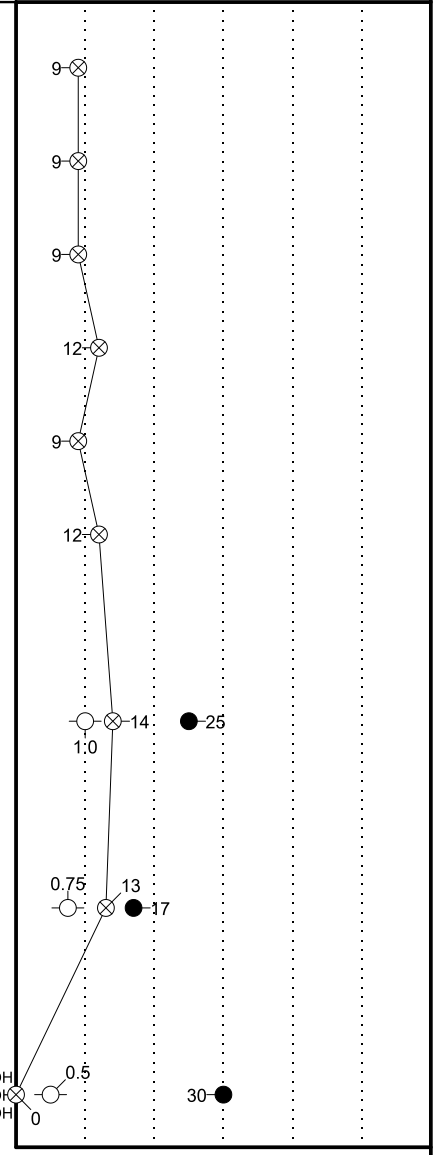
DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0							
	S-1	SS	18	18			7 5 4
						605	
	S-2	SS	18	18			5 5 4
5							
	S-3	SS	18	18			5 5 4
						600	
	S-4	SS	18	18			3 5 7
10							
	S-5	SS	18	18			3 4 5
						595	
	S-6	SS	18	18			3 5 7
15							
						590	
	S-7	SS	18	18			2 5 9
20							
						585	
	S-8	SS	18	6			7 7 6
25							
						580	
	S-9	SS	18	15			WOH WOH WOH
30							

Bituminous Pavement [4" +/-]

(SP) SAND, contains gravel, contains silt, trace clay, tan and brown and gray, moist to wet about 6 feet, loose to medium dense

(ML) SANDY SILT, trace gravel, slight clay, brown and gray, wet, medium dense

(CL/ML) SILTY CLAY, slight gravel, slight sand, gray, moist, soft and firm



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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 8.5 WS ☒ WD ☐	BORING STARTED 10/18/18	CAVE IN DEPTH
WL(SHW) WL(ACR)	BORING COMPLETED 10/18/18	HAMMER TYPE Manual
WL	RIG Truck FOREMAN Rob	DRILLING METHOD

CLIENT	Job #:	BORING #	SHEET
Public Building Commission of Chicago	16:12610	B-5	2 OF 2

PROJECT NAME	ARCHITECT-ENGINEER
PBC Rogers School	

SITE LOCATION: 7345 North Washtenaw Avenue, Chicago, Illinois

NORTHING | EASTING | STATION

CALIBRATED PENETROMETER TONS/FT^2

ROCK QUALITY DESIGNATION & RECOVERY
RQD% – — – REC% ———

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING | LOSS OF CIRCULATION

SURFACE ELEVATION 608 +/-

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	ELEVATION (FT)	BLOWS/6"
					608	
						(CL/ML) SILTY CLAY, slight gravel, slight sand, gray, moist, soft and firm
					575	
	S-10	SS	18	6		WOH WOH WOH 0.25 0 31
35						
					570	
	S-11	SS	18	18		WOH WOH WOH 0.25 0 30
40						
					565	
	S-12	SS	18	18		WOH 1 2 3 0.5 24
45						
					560	
	S-13	SS	18	6		2 4 4 0.25 8 20
50						
					555	
	S-14	SS	18	12		5 11 8 0.5 19 27
55						
					550	
	S-15	SS	18	18		2 3 4 0.5 7 26
60						
						END OF BORING @ 60'

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 8.5 WS ☒ WD ☐	BORING STARTED 10/18/18	CAVE IN DEPTH
WL(SHW) WL(ACR)	BORING COMPLETED 10/18/18	HAMMER TYPE Manual
WL	RIG Truck FOREMAN Rob	DRILLING METHOD

CLIENT	Job #:	BORING #	SHEET
Public Building Commission of Chicago	16:12610	B-6	1 OF 1

PROJECT NAME	ARCHITECT-ENGINEER
PBC Rogers School	

SITE LOCATION

7345 North Washtenaw Avenue, Chicago, Illinois

NORTHING	EASTING	STATION

CALIBRATED PENETROMETER TONS/FT^2

ROCK QUALITY DESIGNATION & RECOVERY
RQD% – — – REC% ———

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

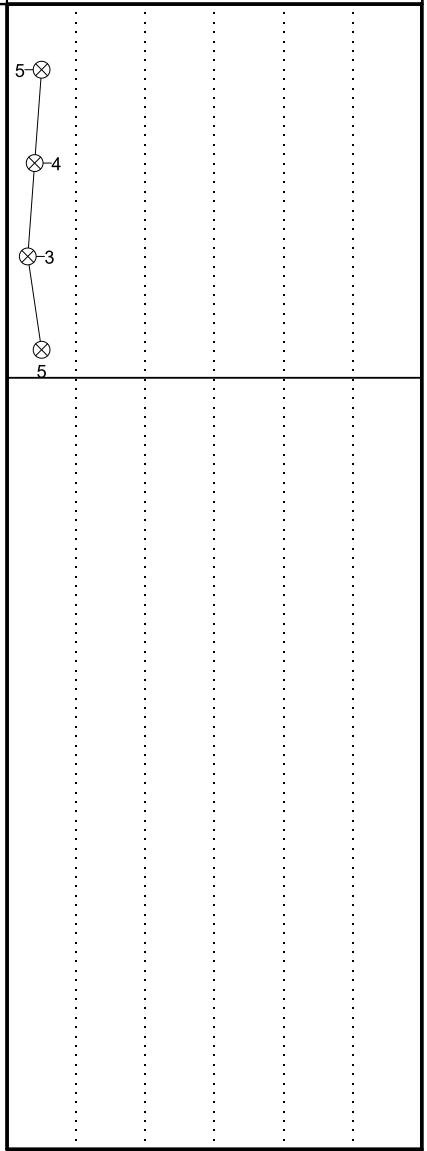
STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING ▰ LOSS OF CIRCULATION ⟩100%⟨

SURFACE ELEVATION 608 +/-

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0					Topsoil [12" +/-]			
	S-1	SS	18	18	(SP) SAND, slight gravel, trace silt, trace clay, dark brown and orangish tan to dark gray about 8 feet, moist to wet about 8 feet, loose to very loose		605	2 2 3
	S-2	SS	18	18				2 2 2
5	S-3	SS	18	14				1 1 2
	S-4	SS	18	18			600	2 2 3
10					END OF BORING @ 10'		595	
15							590	
20							585	
25							580	
30								



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

▽ WL WS ☐ WD ☒	BORING STARTED 10/18/18	CAVE IN DEPTH
▽ WL(SHW) ▼ WL(ACR)	BORING COMPLETED 10/18/18	HAMMER TYPE Auto
▽ WL	RIG Truck FOREMAN Rob	DRILLING METHOD

CLIENT	Job #:	BORING #	SHEET
Public Building Commission of Chicago	16:12610	B-7	1 OF 1

PROJECT NAME	ARCHITECT-ENGINEER
PBC Rogers School	

SITE LOCATION

7345 North Washtenaw Avenue, Chicago, Illinois

NORTHING	EASTING	STATION

CALIBRATED PENETROMETER TONS/FT^2

ROCK QUALITY DESIGNATION & RECOVERY
RQD% – — – REC% ———

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

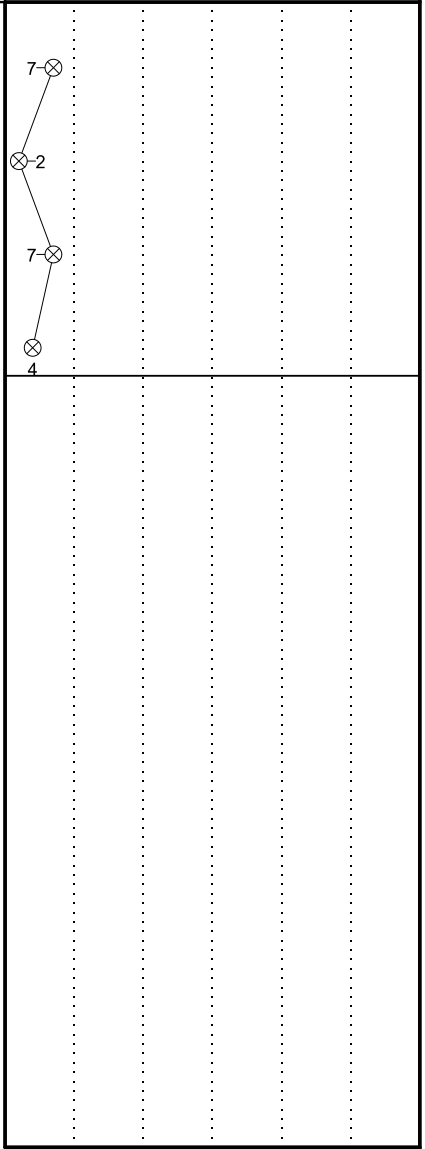
STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING ▰ — LOSS OF CIRCULATION ⟩100%⟨

SURFACE ELEVATION 608 +/-

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0					Topsoil [12" +/-]			
	S-1	SS	18	18	(SP) POSSIBLE FILL, SAND, trace gravel, trace silt, trace clay, tan and brown, moist, loose			2 3 4
					(SP) SAND, trace gravel, trace silt, trace clay, brown and gray, moist to wet about 7 feet, very loose to loose		605	
	S-2	SS	18	18				1 1 1
5								
	S-3	SS	18	18				2 3 4
							600	
	S-4	SS	18	18				2 2 2
10					END OF BORING @ 10'			
							595	
15								
							590	
20								
							585	
25								
							580	
30								



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

▽ WL WS ☐ WD ☒	BORING STARTED 10/18/18	CAVE IN DEPTH
▽ WL(SHW) ▼ WL(ACR)	BORING COMPLETED 10/18/18	HAMMER TYPE Auto
▽ WL	RIG Truck FOREMAN Rob	DRILLING METHOD

CLIENT	Job #:	BORING #	SHEET
Public Building Commission of Chicago	16:12610	B-8	1 OF 1

PROJECT NAME	ARCHITECT-ENGINEER
PBC Rogers School	

SITE LOCATION

7345 North Washtenaw Avenue, Chicago, Illinois

NORTHING	EASTING	STATION

CALIBRATED PENETROMETER TONS/FT^2

ROCK QUALITY DESIGNATION & RECOVERY
RQD% – — – REC% ———

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

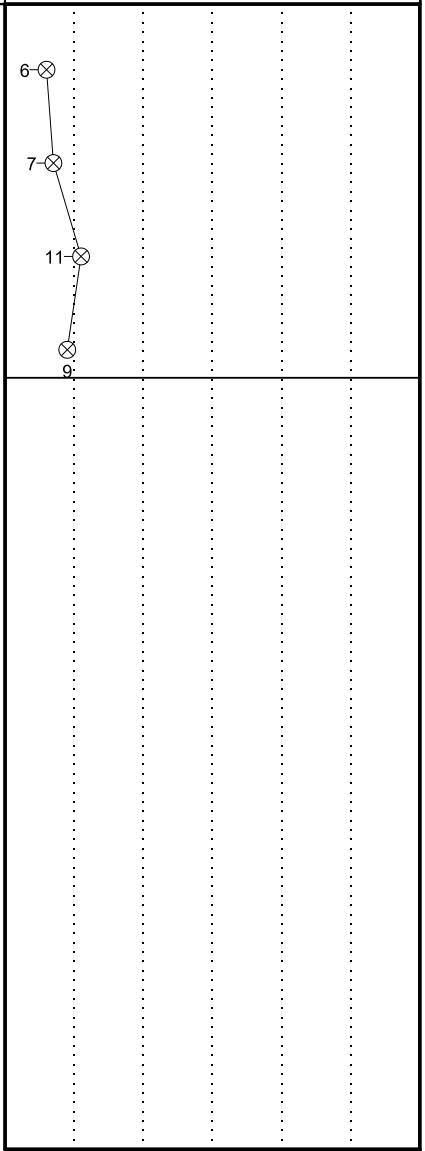
STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING ▰ — LOSS OF CIRCULATION (100%)

SURFACE ELEVATION 608 +/-

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0					Topsoil [12" +/-]			
	S-1	SS	18	18	(SP) POSSIBLE FILL, SAND, slight gravel, trace silt, trace clay, slight roots, reddish brown and dark brown, moist, loose			4 3 3
					(SP) SAND, contains gravel, contains silt, trace clay, brown and gray, moist, loose to medium dense		605	
	S-2	SS	18	6				3 3 4
5								
	S-3	SS	18	18				3 4 7
							600	
	S-4	SS	18	18				3 4 5
10					END OF BORING @ 10'			
							595	
15								
							590	
20								
							585	
25								
							580	
30								



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 6.0 WS ☒ WD ☐	BORING STARTED 10/18/18	CAVE IN DEPTH
WL(SHW) WL(ACR)	BORING COMPLETED 10/18/18	HAMMER TYPE Auto
WL	RIG Truck FOREMAN Rob	DRILLING METHOD

CLIENT	Job #:	BORING #	SHEET
Public Building Commission of Chicago	16:12610	B-9	1 OF 1

PROJECT NAME	ARCHITECT-ENGINEER
PBC Rogers School	

SITE LOCATION

7345 North Washtenaw Avenue, Chicago, Illinois

NORTHING	EASTING	STATION

CALIBRATED PENETROMETER TONS/FT^2

ROCK QUALITY DESIGNATION & RECOVERY
RQD% – — – REC% ———

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING ▶ — LOSS OF CIRCULATION (100%)

SURFACE ELEVATION 606 +/-

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0					Topsoil [10" +/-]			
	S-1	SS	18	18	(SP) SAND, contains gravel, trace silt, tan and brown to gray, moist to wet about 6 feet, medium dense to loose		605	3 9 7
	S-2	SS	18	12				5 6 6
5						▽	600	
	S-3	SS	18	18				3 4 5
	S-4	SS	18	18				3 4 4
10					END OF BORING @ 10'		595	
15							590	
20							585	
25							580	
30								

16 / 12 / 9 / 8

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

▽ WL 6.0 WS ☒ WD ☐	BORING STARTED 10/17/18	CAVE IN DEPTH
▽ WL(SHW) ▼ WL(ACR)	BORING COMPLETED 10/17/18	HAMMER TYPE Auto
▽ WL	RIG Truck FOREMAN Rob	DRILLING METHOD