



CITY OF DULUTH
PURCHASING DIVISION
Room 100 City Hall
411 West First Street
Duluth, Minnesota 55802-1199
218/730-5340 218/730-5922 FAX
purchasing@duluthmn.gov

Addendum # 2
File # 15-0674
Fire Station No. 6 Driveway Replacement

This addendum serves to notify all bidders of the following changes to the solicitation documents:

- 1) Include the five page Soil Boring Log Report in your bid package.

Please acknowledge receipt of this Addendum by signing, dating, and submitting a copy with your bid/proposal. Thank you.

Signature

Date

Posted November 18, 2015.

EPC Engineering & Testing
Geotechnical • Environmental • Materials Engineering

539 Garfield Avenue
Duluth, Minnesota 55802

(218) 727-1239
(218) 727-1248 fax

September 24, 2015
EPC# 15G1038

City of Duluth – Property and Facilities Management
1532 W. Michigan St.
Duluth, MN 55806

Attn: Mr. Robert Hurd

Re: Soil Boring Log Report
Fire Hall # 6 Driveway
5031 E. Superior St.
Duluth, MN

Dear Mr. Hurd,

This letter report is in regard to the two (2) soil borings (5 total attempts) performed by EPC on September 22, 2015 at the above referenced site. All work was performed at the direction of yourself in accordance with the project Civil Engineer, Mr. David Bolf, P.E. of Northland Consulting Engineers. The borings were located by you and numbered in the field by EPC. Boring surface elevations were not provided. The borings, and subsequent offset borings, were drilled in the vicinity of locations indicated on the attached map. Each location encountered refusal (less than 4 feet below existing ground surface) and was confirmed with offset borings approximately 5 feet from the original boring locations. Borings were performed with EPC's CME 55 truck drill rig using 3.25-inch diameter hollow stem augers. Standard penetration tests were performed at each boring location (pending refusal depth).

Generally speaking, soils consisted of silty sand and sandy clay fill over clay / sandy clay / silty sand native soils to refusal depths ranging from 2.5 to 3.9 feet below existing grade (BEG). Substantial auger refusal was reached in all of the borings (including all offset attempts). The table below indicates the range of probable bedrock (refusal) that was reached. It should be noted that the borings contained styrofoam, plastic wire casing, coal, wood, and geotextile fabric in the suspected Fill soils. Moisture/water conditions observed in the borings during and/or shortly after the short drilling process are indicated on the boring logs. Please refer to the table below and the boring logs in the appendix for details.

Boring No.	Pavement Thickness (in.)	Depth to Bottom of Fill Below Existing Grade (BEG)(ft.)	Depth to Bottom of Native Clay / Sandy Soils BEG (ft.)	Refusal Depth Range in BEG (ft.)
15-1	7	2.1	3.7	2.5 – 3.7
15-2	4	2.4	3.9	3.8 – 3.9

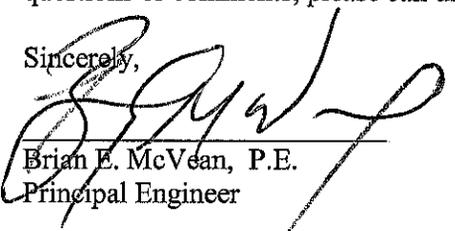
If the refusal depth is deemed critical, additional borings, bedrock cores and/or test pits should be performed to confirm the identity of the refusal material.

This report completes EPC's work on this project to date. We must caution you that this report, prepared for general soils classification and refusal depth information only, is not a complete geotechnical engineering report. EPC cannot be responsible for possible misinterpretation of the contents of the boring logs, or the

strengths of the soils described in them. Soil samples from this project will be saved for two months from the date of this report unless EPC is directed in writing to do otherwise.

We would like to thank you for allowing EPC to be of service to you on this project. If you have any questions or comments, please call us at (218) 727-1239 (w).

Sincerely,

A handwritten signature in black ink, appearing to read "B. McVean", written over a horizontal line.

Brian E. McVean, P.E.
Principal Engineer

Enclosures: Boring Logs and Location Map

CLIENT City of Duluth PROJECT NAME Lakeside Firehall Parking Lot
 PROJECT NUMBER 15G1038 PROJECT LOCATION 5031 E Superior St
 DATE STARTED 9/22/15 COMPLETED 9/22/15 GROUND ELEVATION _____ HOLE SIZE 7-inch
 DRILLING CONTRACTOR EPC Engineering & Testing GROUND WATER LEVELS:
 DRILLING METHOD CME 55 Truck Rig with HSA Cal. to N68 AT TIME OF DRILLING ---
 LOGGED BY NEW CHECKED BY GH AT END OF DRILLING ---
 NOTES _____ AFTER DRILLING ---

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	Pocket Penetrometer (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲						
									20	40	60	80			
	0.0		7-inches Bituminous Pavement. Drillers note: Wood, orange coated wire casing & white styrofoam insulation present in auger cuttings from about 1.75-feet.												
			SILTY SAND (SM) (FILL) Dark brown to brown, dry to moist, trace gravel.	SPT 1	50	2				4.5					
			SANDY CLAY (CL-CH) (FILL) Brown to reddish brown, moist, trace gravel and coal, medium to stiff consistency.	SPT 2	75	3	3.5	104		18.9					
			SILTY SAND (SM) (FILL) Brown, moist, loose to medium dense relative density.	SPT 3	33	5				11.0					
	2.5		FAT CLAY (CH) Reddish brown, moist, with dry silt lenses, trace gravel, stiff consistency. Two (2) additional attempts at five foot horizontal offsets reached substantial auger refusal at 2.5 and 3.0-feet. One boring contained woven fabric below the silty sand fill.	SPT 4	100	6	3.5	111		20.8					
			SILTY SAND (SM) Reddish brown to brown, moist, trace gravel and apparent bedrock chips, very dense relative density.	SPT 5	100	2-50/4"		97		26.3					
			Substantial auger refusal at 3.7-feet. Bottom of hole at 3.7 feet.							9.4					

GEOTECH BH PLOTS 15G1038 COFD LAKESIDE FIREHALL PLOT.GPJ GINT US LAB.GDT 9/24/15

CLIENT City of Duluth PROJECT NAME Lakeside Firehall Parking Lot
 PROJECT NUMBER 15G1038 PROJECT LOCATION 5031 E Superior St
 DATE STARTED 9/22/15 COMPLETED 9/22/15 GROUND ELEVATION _____ HOLE SIZE 7-Inch
 DRILLING CONTRACTOR EPC Engineering & Testing GROUND WATER LEVELS:
 DRILLING METHOD CME 55 Truck Rig with HSA Cal. to N68 AT TIME OF DRILLING ---
 LOGGED BY NEW CHECKED BY GH AT END OF DRILLING ---
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ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	Pocket Penetrometer (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲						
									20	40	60	80			
									PL — MC — LL 20 40 60 80 <input type="checkbox"/> FINES CONTENT (%) <input type="checkbox"/> 20 40 60 80						
0.0			4-inches Bituminous Pavement.												
			SILTY SAND (SM) (FILL) Brown, moist, trace silt/clay chunks, trace gravel, medium dense relative density. 1-inch piece of yellow styrofoam in sample from 0 to 2-feet. One (1) additional attempt at five foot horizontal offset reached substantial auger refusal at 3.8-feet.	SPT 1	54	3-8-3-4 (11)						13.0			
2.5			SANDY CLAY (CL-CH) Brown to reddish brown, dry, trace silt lenses, trace gravel, hard consistency.	SPT 2	88	3-22-50/5"	4.5+	119				13.4			>>
			SILTY CLAYEY SAND (SC-SM) Reddish brown, dry, trace gravel, trace apparent bedrock chips, very dense relative density. Substantial auger refusal at 3.9-feet. Bottom of hole at 3.9 feet.	SPT 3		50/0"						9.0			>>

GEOTECH BH PLOTS 15G1038 COFD LAKESIDE FIREHALL P-LOT.GPJ GINT US LAB.GDT 9/24/15



5031 E Superior St

SB-15-1

SB-15-2

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1992

46°49'58.98" N 92°01'20.51" W elev 678 ft eye alt 872 ft