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 # 1
File # 16-0264 (16-06AA)
Project: Foundation Work for Leif Erikson Viking Ship Enclosure

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

> The following documents prepared by Krech Ojard & Associates, Inc. is added to and shall become a part of the specifications and drawings for this project.

Please acknowledge receipt of this Addendum by initialing and dating Addendum #1 below the bid form on the invitation for bids.

Posted March 4, 2016.

KRECH OJARD & ASSOCIATES, INC. *Engineers & Architects*

ADDENDUM NO. 1

March 4, 2016

Krech Ojard & Associates, Inc. - Engineers & Architects
227 West First Street, Suite 500, Duluth, MN 55802
KOA Project No. 12P397

PROJECT:

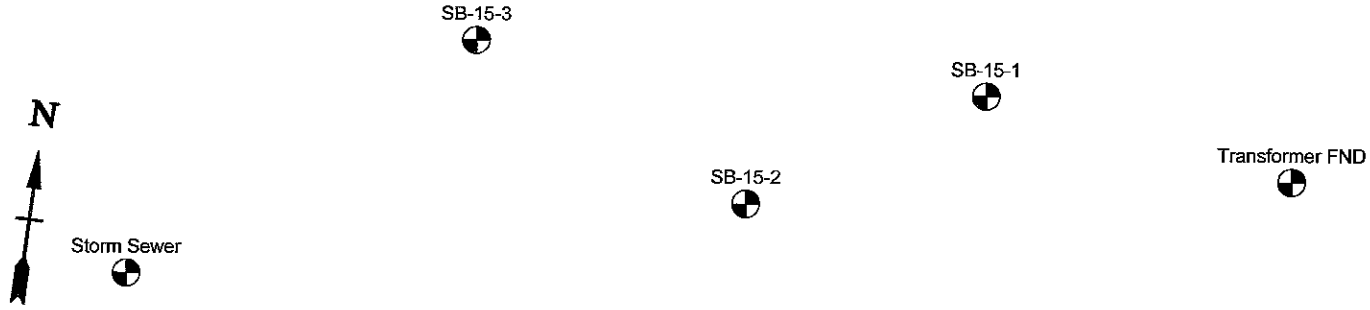
Leif Erikson Viking Ship Enclosure
Foundation Bid Package

CLARIFICATIONS

1. S001: Notes in Foundation and Subgrade section indicate bedrock is anticipated at 25'-0" below elevation 664'-0". Notes in Helical Anchor section indicate a minimum of 15'-0" or as necessary to achieve load. ***Geotechnical borings are attached*** for clarity of anticipated soil profile; bearing on bedrock is assumed to be required so bidders should anticipate approximately 25'-0" as a minimum to bear on bedrock. Alternate helical pile layouts/arrangements will not be accepted.
2. Additionally, Helical Anchor section requires the shaft to have 2x (twice) the required capacity for the torque required for installation. Because bedrock bearing is anticipated, the torque capacity of the shaft should be twice the anticipated torque to install the anchors through the existing soil profile. It is **not** intended to require the shaft capacity of the anchor to have 2x the 2.0 Factor of Safety on the 75k allowable load.
3. Erosion control and SWPP/storm water requirements will be provided by others.
4. Detail 10/S501: reinforcing in 8" retaining/stem wall should read " #4 horizontal bars at 12" oc and #4 vertical bars at 12" oc, provide continuous bottom bar through steps as shown in 3/S501.
5. Bottom of stem/retaining wall elevation was omitted from drawings on 3, 4, 5 & 6/S101.
    a. 3/S101: anticipate a thickened depth of approximately 18-24" of depth at the existing sidewalk grade as indicated in 9/S501.
    b. 4/S101: from left to right, the bottom elevation of retaining wall is 97'-0", 95'-6", 94'-0", and 92'-6" respectively.
    c. 5/S101: from left to right, the bottom elevation of retaining wall is 92'-6", 94'-0", and 95'-0" respectively.

    d. 5/S101: from left to right, the bottom elevation of retaining wall is 95’-0” and 97’-0” respectively.
6. Steel embedded in concrete and anchor rods, nuts (and referenced templates) are included in this scope. Assume decorative option for base embed pricing; cad drawings will be provided to fabricator.
7. Excavation and rough grading will be done by others. Concrete bid package includes final nominal grading as required for their work to be placed in compliance with the plans.
8. Landscape restoration is by others within the extents of work shown. Any damage to landscape caused by concrete contractor outside of the rough graded area and extents noted is the responsibility of the concrete contractor and shall be restored to previous conditions.
9. Clearing and grubbing will be completed by others.
10. Drain tile and geotextile fabric supply and installation are included in this concrete bid package.
11. Layout and staking will be completed by Johnson Wilson or others. This includes marking cut-off elevations for helical anchors.
12. Site has limited access and laydown areas. Damaged areas will be repaired to previous condition at no cost. Parking, sidewalk, and/or street closure permitting and coordination, for work completed under this contract, are the responsibility of the contractor.
13. Formliner patterns are specified in on S001. Form sizing shall be coordinated to provide the minimum rebar clearance as noted in the concrete specifications based on actual relief of the selected formliner.

Attached: Geotechnical Borings



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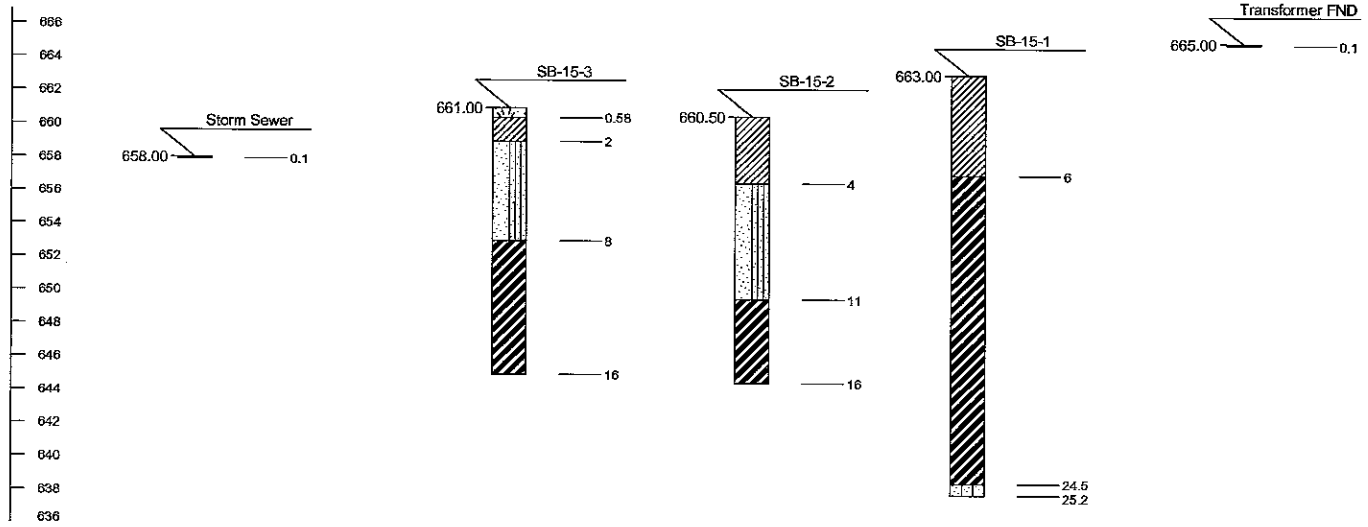
PLAN



ELEVATION

REGION	STATE	PROJECT	SHEET NO.	TOTAL SHEETS

LEGEND

Clay

Topsoil

USCS High Plasticity Clay

silty Sand

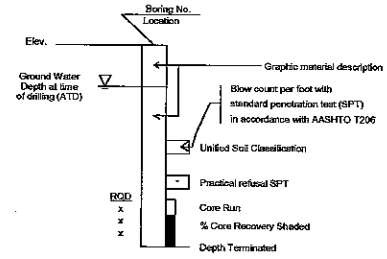
Poorly-graded Sand with Silt

TYPICAL TEST HOLE SYMBOL

Plan View

Location of any test hole

TYPICAL TEST HOLE LOG



For additional information, refer to Geotechnical Report Proposed Lief Eriksson Viking Ship Enclosure.

EPC ENGINEERING & TESTING
539 Garfield Avenue
Duluth, MN 55802

SUBSURFACE PROFILE
Proposed Lief Erickson Viking Ship Enclosure
Superior Street and London Road

DRAWING NO.

EPC Engineering & Testing
Geotechnical • Environmental • Materials Engineering
539 Garfield Avenue
Duluth, Minnesota 55802

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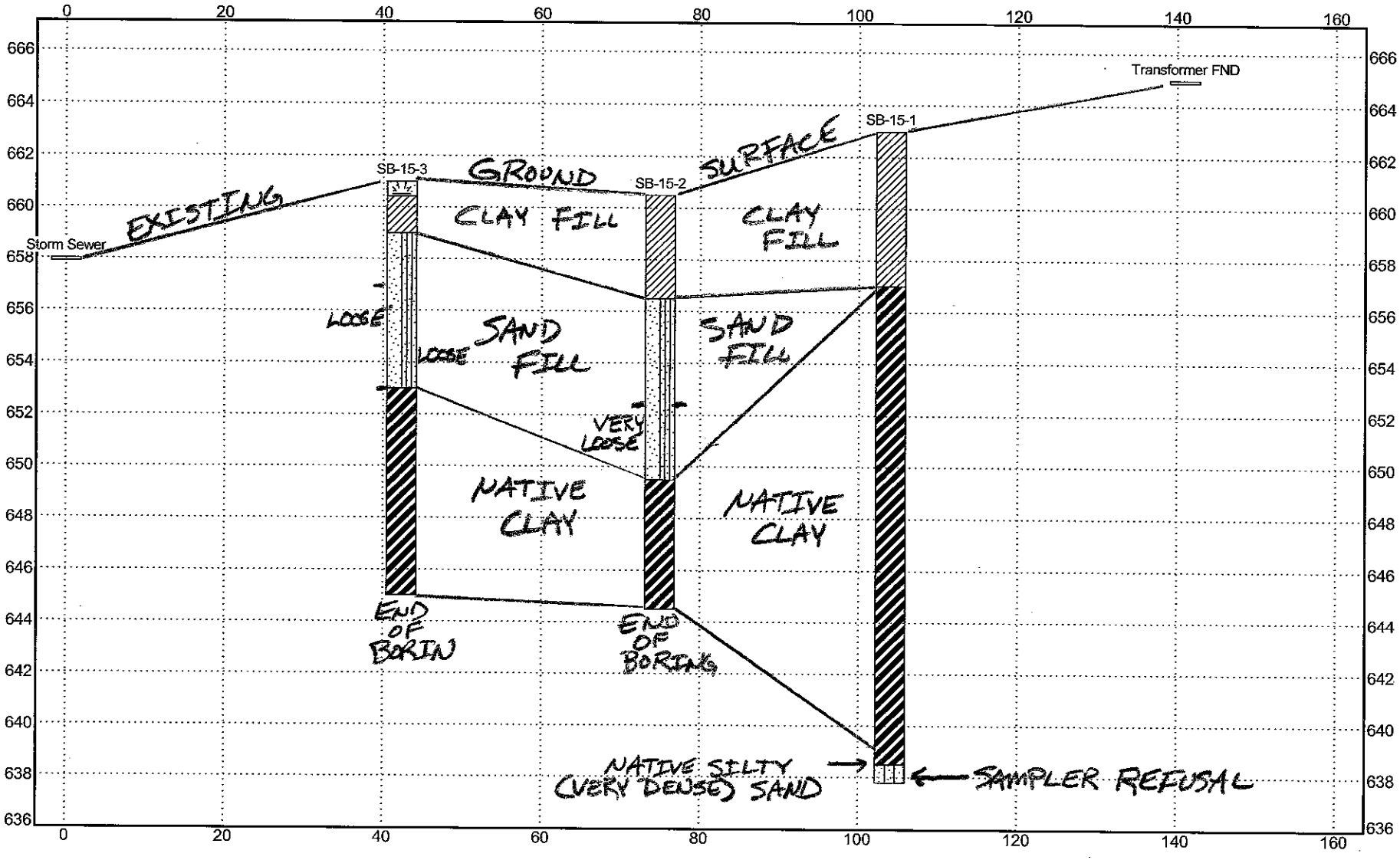
SUBSURFACE DIAGRAM

CLIENT City of Duluth

PROJECT NUMBER 15G1046

PROJECT NAME Proposed Lief Erickson Viking Ship Enclosure

PROJECT LOCATION Superior Street and London Road



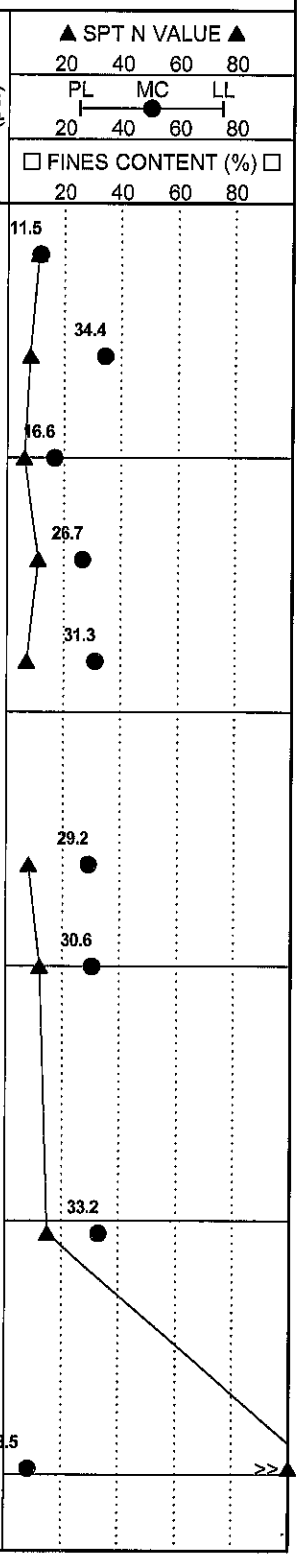
STRATIGRAPHY & GW - A SIZE 15G1046 COFD VIKING SHIP.GPJ GINT US LAB.GDT 11/2/15

EPC Engineering & Testing
Geotechnical • Environmental • Materials Engineering
539 Garfield Avenue
Duluth, Minnesota 55802

BORING NUMBER SB-15-1

CLIENT City of Duluth
PROJECT NAME Proposed Lief Erickson Viking Ship Enclosure
PROJECT NUMBER 15G1046
PROJECT LOCATION Superior Street and London Road
DATE STARTED 10/30/15 **COMPLETED** 10/30/15
GROUND ELEVATION 663 ft **HOLE SIZE** 7-inch
DRILLING CONTRACTOR EPC Engineering & Testing
GROUND WATER LEVELS:
DRILLING METHOD CME 750 ATV with HSA and SPT Cal. to N67
AT TIME OF DRILLING None
LOGGED BY NEW **CHECKED BY** GH
AT END OF DRILLING None
NOTES East-most boring.
0hrs AFTER DRILLING None

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	Pocket Penetrometer (tsf)	DRY UNIT WT. (pcf)
	0		SANDY CLAY (CL-CH) to CLAYEY SAND (SC) (FILL) Brown, wet, trace gravel and organics, stiff to medium consistency / medium dense to loose relative density.	SPT 1	83	1-6-5-6 (11)		
660			With to trace black organic (topsoil-like) in sample from 2 to 4-feet.	SPT 2	21	3-5-3-4 (8)		
	5			SPT 3	79	4-3-3-4 (6)	.5	114
			FAT CLAY (CH) Reddish brown to brown, wet, trace gravel, stiff to medium to stiff consistency.	SPT 4	83	3-4-7-6 (11)	2.1	98
655				SPT 5	100	3-3-4-6 (7)	1.4	93
	10			ST 6	88			
650				SPT 7	100	2-4-4-5 (8)	1	
	15			SPT 8	100	3-5-7-8 (12)	1.5	94
645								
	20			SPT 9	33	4-6-9 (15)		
640			Boulder(s) at 22-feet.					
			SILTY SAND (SM) Brown, dry to moist, dense to very dense relative density. Cave-in level = none.					
	25			SPT 10	44	17-50/3"		
			Substantial sampler refusal at 25.2-feet. Bottom of hole at 25.2 feet.					



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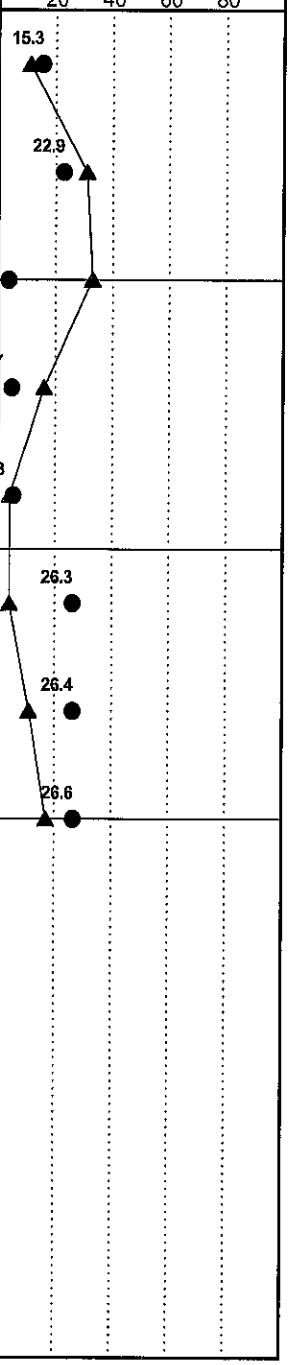
Geotechnical • Environmental • Materials Engineering
539 Garfield Avenue
Duluth, Minnesota 55802

BORING NUMBER SB-15-2

CLIENT City of Duluth
PROJECT NAME Proposed Lief Erickson Viking Ship Enclosure
PROJECT NUMBER 15G1046
PROJECT LOCATION Superior Street and London Road
DATE STARTED 10/30/15 **COMPLETED** 10/30/15
GROUND ELEVATION 660.5 ft **HOLE SIZE** 7-Inch
DRILLING CONTRACTOR EPC Engineering & Testing
GROUND WATER LEVELS:
DRILLING METHOD CME 750 ATV with HSA and SPT Cal. to N67
AT TIME OF DRILLING None
LOGGED BY NEW **CHECKED BY** GH
AT END OF DRILLING None
NOTES Center-most.
0hrs AFTER DRILLING None

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	Pocket Penetrometer (tsf)	DRY UNIT WT. (pcf)
660	0		SANDY CLAY (CL-CH) to CLAYEY SAND (SC) (FILL) Brown, wet, trace gravel and organics, trace bituminous pavement, stiff to hard consistency / medium to dense relative density. Trace black topsoil/organics in sample from 0 to 2-feet.	SPT 1	42	1-5-6-7 (11)		
			Trace dark brown sand lens in sample from 2 to 4-feet.	SPT 2	8	12-16-15-25 (31)		
655	5		SAND with Silt (SP-SM) to SAND (SP) (FILL) Brown, dry to moist, fine grained, trace gravel, dense to medium dense to loose to very loose relative density.	SPT 3	50	5-19-14-14 (33)		
				SPT 4	100	10-8-8-9 (16)		
	10		Loose to very loose relative density and trace clay in samples from 8 to 11-feet.	SPT 5	58	2-2-2-3 (4)		
650			FAT CLAY (CH) Brown to reddish brown, wet, trace gravel, medium to stiff to very stiff consistency.	SPT 6	21	3-2-2-2 (4)		
				SPT 7	83	3-5-6-9 (11)	1.5	
	15		Cave-in level = none.	SPT 8	83	4-9-8-11 (17)	2.2	98
645			Bottom of hole at 16.0 feet.					



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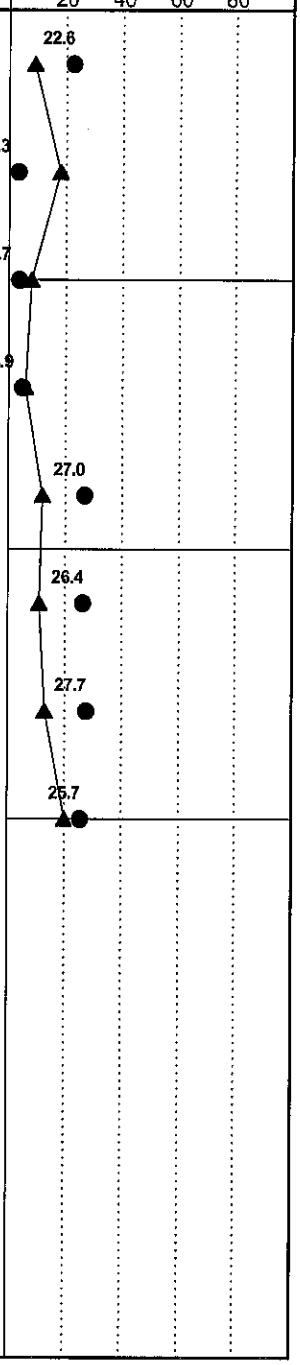
Geotechnical • Environmental • Materials Engineering
539 Garfield Avenue
Duluth, Minnesota 55802

BORING NUMBER SB-15-3

CLIENT City of Duluth
PROJECT NAME Proposed Lief Erickson Viking Ship Enclosure
PROJECT NUMBER 15G1046
PROJECT LOCATION Superior Street and London Road
DATE STARTED 10/30/15 **COMPLETED** 10/30/15
GROUND ELEVATION 661 ft **HOLE SIZE** 7-inch
DRILLING CONTRACTOR EPC Engineering & Testing
GROUND WATER LEVELS:
DRILLING METHOD CME 750 ATV with HSA and SPT Cal. to N67
AT TIME OF DRILLING None
LOGGED BY NEW **CHECKED BY** GH
AT END OF DRILLING None
NOTES West-most.
0hrs AFTER DRILLING None

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	Pocket Penetrometer (tsf)	DRY UNIT WT. (pcf)
	0		7-inches TOPSOIL.					
660			SANDY CLAY (CL) (FILL) Brown, moist to wet, with to trace black topsoil/organics, stiff consistency.	SPT 1	21	2-5-4-5 (9)		
			SAND with Silt (SP-SM) to SAND (SP) (FILL) Brown, dry to moist, fine grained, trace gravel, medium dense to loose relative density.	SPT 2	50	5-8-10-6 (18)		
	5			SPT 3	63	4-4-4-5 (8)		
655				SPT 4	58	4-4-2-3 (6)		
			FAT CLAY (CH) Reddish brown to brown, moist to wet, trace gravel, stiff to very stiff consistency.	SPT 5	71	3-6-6-8 (12)	2.1	93
	10			SPT 6	63	3-4-7-7 (11)	2	96
650				SPT 7	50	7-7-6-7 (13)	2.7	97
			Trace silt lens in sample from 14 to 16-feet.	SPT 8	63	3-8-12-4 (20)	2.2	
	15		Cave-in level = none.					
645			Bottom of hole at 16.0 feet.					



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