SECTION 00 00 20

ADVERTISEMENT FOR BIDS

Sealed bids for the furnishing of all labor and material necessary for the Greene County Catskill Point Shoreline Restoration Project will be received by Tammy L. Sciavillo, Acting Clerk, Greene County Legislature, 411 Main Street, Suite 408, Catskill, New York 12414 until 2:00 P.M. local time on Friday, January 19, 2024, at which time and place they will be publicly opened and read aloud.

Bids will be received for the following Contract:

Contract No. 1 – General Construction: The work shall include providing all labor, materials, machinery, tools, equipment and other means of construction necessary and incidental to the work as shown on the Contract Drawings and Specifications. Upgrades to the existing shoreline, wood deck and boardwalk including the installation of new sheet piling, geogrid tie-back systems, riprap and stone fill, refinishing wood decking, bulkhead repairs/replacement, new timber pylons, new dock edge protector, new decorative railing system, decorative gates and stamped asphalt pavement.

Additive Bid Item No. 1 – Supply and installation of sheet piling and riprap/stone fill along the existing timber decking, from the start of the decking to approximately the timber dock system.

Contract Documents, including Advertisement For Bids, Information For Bidders, Labor and Employment, Additional Instructions, Bid Documents, Agreement, General Conditions, General Requirements, Specifications, Contract Drawings and any Addenda, may be obtained from Barton & Loguidice, D.P.C., by providing contact information to jfelber@bartonandloguidice.com. Download instructions will be provided upon notification.

A Pre-Bid Meeting will be held at the Project Site, 1 Main Street, Catskill, New York 12414 on Friday, January 5, 2024 at 10:00 A.M. The meeting is optional, however all prospective Bidders are encouraged to attend.

Each bid must be accompanied by security in an amount not less than five percentum (5%) of the amount of the bid in the form and subject to the conditions provided in the Information for Bidders. No Bidder may withdraw his bid within forty-five (45) days after the actual date of opening thereof.

This is an exempt capital improvement project, and Bidders shall not include in their bid sales and compensating use taxes on the cost of materials which are to be incorporated into the work and which are to be separately sold by the Contractor to Greene County prior to incorporation into the work of the Contracts.

Greene County reserves the right to waive any irregularities or informalities in the bid forms or during the bidding process, and to reject any or all Bids.

Project Contacts:

Mathew Fuller, P.E.
Barton & Loguidice, D.P.C.
Tel: (315) 457-5200
E-mail: mfuller@bartonandloguidice.com

Warren Hart, Deputy County Administrator
Greene County Economic Development, Tourism & Planning
Tel: (518) 719-3290
E-mail: whart@greenecountyny.gov

CONTRACT DOCUMENTS
AND
SPECIFICATIONS
FOR

GREENE COUNTY

CATSKILL POINT SHORELINE RESTORATION PROJECT

CONTRACT NO. 1 – GENERAL CONSTRUCTION

TO ALL HOLDERS OF CONTRACT DOCUMENTS:

This Addendum is part of the Contract Documents in accordance with Section 00 01 00 INFORMATION FOR BIDDERS, Article 00 01 00.08 – "Addenda and Interpretations" of the Contract Documents and Specifications.

1. Reference: SECTION 00 00 20 – ADVERTISEMENT FOR BIDS – Contract No. 1- General Construction.

   a. Page 1, third paragraph, Contract No. 1 – General Construction, second sentence, DELETE in its entirety and SUBSTITUTE THEREFOR the following:

      "UPGRADES TO THE EXISTING SHORELINE, WOOD DECK AND BOARDWALK INCLUDING SUPPLY AND INSTALLATION OF NEW SHEET PILING, GEOGRID TIE-BACK SYSTEMS, HEAVY STONE FILLING, HEAVY STONE FILLING ALONG THE BOARDWALK, REFINISHING WOOD DECKING, BULKHEAD REPAIRS/REPLACEMENT, NEW TIMBER PYLONS, NEW DOCK EDGE PROTECTOR, NEW DECORATIVE RAILING SYSTEM, DECORATIVE GATES, AND ASPHALT PAVEMENT."

2. Reference: SECTION 00 01 00 – INFORMATION FOR BIDDERS

   a. Page 1, 00 01 00.02 DESCRIPTION OF WORK, under Base Bid, DELETE in its entirety and SUBSTITUTE THEREFOR the following:

      "Base Bid

      CONTRACT NO. 1: UPGRADES TO THE EXISTING SHORELINE, WOOD DECK AND BOARDWALK INCLUDING SUPPLY AND INSTALLATION OF NEW SHEET PILING, GEOGRID TIE-BACK SYSTEMS, HEAVY STONE FILLING, HEAVY STONE FILLING ALONG THE BOARDWALK, REFINISHING WOOD DECKING, BULKHEAD REPAIRS/REPLACEMENT, NEW TIMBER PYLONS, NEW DOCK EDGE PROTECTOR, NEW DECORATIVE RAILING SYSTEM, DECORATIVE GATES, AND ASPHALT PAVEMENT."

3. Reference: SECTION 00 01 60 – ADDITIONAL INSTRUCTIONS

   a. Article .01, ADD "BORINGS AND SUBSURFACE DATA" to end of this Section, as attached to Addendum No. 1.

   b. Page 7, Article .11 – PROJECT SCHEDULE AND WORK SEQUENCE – Continued, ADD the following item:

      "C. THE WORK OF THE PROJECT WILL BE PERFORMED IN ACCORDANCE WITH NYS DEC GENERAL PERMIT (GP-4-19-001). THE PERMIT REGULATES ACTIVITIES ASSOCIATED WITH THE PROJECT AND REQUIRES THAT ALL IN-WATER I.E. DISTURBANCES TO THE BED OR BANKS OF THE HUDSON RIVER BY COMPLETED MY MAY 8, 2024."

   c. ADD the following items following the end of this Section, EXISTING SITE DEMOLITION AND REMOVALS PLAN SHEET (is included for additional information purposes only and is not part of the Contact Documents), and SK-01, as attached to Addendum No. 1.

4. Reference: CONTRACT DRAWINGS - SHEET S102 – SHEET PILE SECTIONS AND DETAILS

   a. ADD 3/16" fillet weld to the right side of the detail on "SHEETING CAP DETAIL".

5. Reference: CONTRACT DRAWINGS - SHEETS S101 – SHEET PILE PLAN AND S103 SHEET PILE SECTIONS AND DETAILS

   a. ADD the following note on Sheets S101 and S103:

      "BASE BID SHALL INCLUDE HEAVY STONE FILLING ITEM 620.05 AS SHOWN ON SECTION C/ST-1. FILLING SHALL BE INSTALLED ALONG THE 94'-0" LONG TIMBER WALKWAY".

BARTON & LOGUIDICE, D.P.C.

Matthew C. Fuller, P.E.
Vice President

MCF/jms
Attachments

EMAIL TRANSMISSION – RETURN RECEIPT REQUESTED
ADDENDUM NO. 1
CATSKILL POINT SHORELINE RESTORATION PROJECT
316.037.001

CONTRACT NO. 1 – GENERAL CONSTRUCTION

PLEASE ACKNOWLEDGE BY RETURN EMAIL
(jfelber@bartonandloguidice.com)

Signature: _____ Date: _____

Title: _____

Company: _____

CME Associates, Inc.

6035 Corporate Drive
East Syracuse, New York 13057
(315) 701-0522
(315) 701-0526 (Fax)

www.cmeassociates.com

Transmittal

December 22, 2020

Barton & Loguidice, D.P.C.
443 Electronics Parkway
Liverpool, New York 13088

Attn: Mr. Matthew C. Fuller, P.E., Vice President

Re: Catskill Point Shoreline Stabilization Study
Catskill, New York
CME Project No.: 27715-05

Gentlepeople:

Enclosed you will find….

Number of Copies	Report Number	Description
3	27715B-01-1220	Subsurface Exploration Report

This report was emailed to Mr. Matthew C. Fuller at mfuller@bartonandloguidice.com on 12/22/20.

Respectfully submitted,
CME Associates, Inc.

Roonak Ghaderi, Ph.D., E.I.T.
Staff Geotechnical Engineer

RG.cw

Subsurface Exploration Report

Catskill Point Shoreline Stabilization Study
Catskill, New York

Prepared For: (Client)

Barton & Loguidice, D.P.C.
Attn: Mr. Matthew C. Fuller, P.E., Vice President
443 Electronics Parkway
Liverpool, New York 13088
Phone: 315.457.5200
Email: mfuller@bartonandloguidice.com

Prepared By: (Geotechnical Engineer)

CME Associates, Inc.
Attn: Ms. Roonak Ghaderi, Ph.D. and
Mr. Anas N. Anasthas, P.E.
6035 Corporate Drive
East Syracuse, New York 13057
Phone: 315.701.0522 Ext.: 260
Fax: 315.701.0526
Email: rghaderi@cmeassociates.com

CME Report No.: 27715B-01-1220
December 22, 2020

Table of Contents

Attachment Listing:

Existing Condition 2019 Site Plan, S-01 (1 of 1)
CME Subsurface Exploration – Test Boring Logs, B-1, B-3 and B-4 (8 of 8)
Laboratory Test Summary Report (4 of 4)
General Information & Key to Test Boring Logs (4 of 4)

Subsurface Exploration Report
Catskill Point Shoreline Stabilization Study
Catskill, New York

1.0 INTRODUCTION

CME Associates, Inc. (CME) is pleased to provide this Subsurface Exploration Report for the Shoreline Stabilization Study at Catskill Point, Catskill, New York. CME conducted a subsurface exploration consisting of advancing three Test Borings in November 2020, and conducted laboratory soil index testing on selected soil samples.

The Scope of Basic Services and this report have been provided pursuant to an Agreement for Professional Services between CME and Barton & Loguidice, D.P.C. (Client), on 10/15/2020, which incorporates CME Proposal/Agreement No.: 05.6217, dated 10/01/2020.

This report presents a summary of exploration activities conducted at the subject project site and provides a summary of subsurface conditions identified in the explorations. CME understands that details of the proposed retaining structure are not developed at this time. Please forward us the details of the proposed retaining structure, when available, so that CME can provide appropriate lateral earth pressure recommendations for said structure, as contracted in the above referenced agreement.

2.0 EXPLORATION METHODOLOGY

2.1 Exploration Layout and Utility Clearance

Test Boring locations, labeled B-1 to B-4, were selected and staked in the field by Client. Boring B-2 was deleted from the exploration program at the direction of Client. Please refer to the attached *Existing Condition 2019 Site Plan*, labeled S-01, 3/12/2019, provided by Client, for approximate Test Boring locations.

Prior to advancing the Test Borings, CME contacted Dig Safely New York (DSNY) to clear public utilities at the exploration locations. Utility conflicts were not identified at the exploration locations.

2.2 Test Borings

The Test Borings were advanced using a Central Mine Equipment Model 550X, ATV mounted, rotary exploration drill rig, equipped with 3-¼" I.D. hollow stem augers. Soil sampling was conducted using a 140-pound automatic hammer dropping through a distance of 30-inches to drive a 2" O.D. split barrel sampler in general conformance with ASTM D1586 Standard Practice. Upon completion, each borehole was backfilled with auger cuttings to closely match existing grade. *The Subsurface Exploration Test Boring Logs*, labeled B-1, B-3 and B-4, are attached.

The soil samples were logged and visually classified in the field by a driller, and a portion of each soil sample was placed and sealed in a glass jar. The field classifications were later reviewed by a Senior Geologist and the undersigned Engineer in CME's AASHTO re:source[1] accredited East Syracuse Laboratory. The visual soil classifications were made using a modified Burmister Classification System, as practiced by CME, and as described in the attached document entitled, *General Information & Key to Test Boring Logs* (Key).

[1]**AASHTO re:source** – American Association of State Highway & Transportation Officials (AASHTO) Materials Reference Laboratory, a Federal Agency having jurisdiction to assess laboratory competency according to the Standards of the United States of America. CME East Syracuse accreditation includes testing of Portland Cement Concrete, Aggregate and Soil Materials. www.AASHTOresource.org.

2.3 Laboratory Testing

Laboratory testing, consisting of Natural Moisture Content, Atterberg Limits and Particle Size Analysis, on soil samples selected by the undersigned Engineer was conducted at CME's AASHTO re:source Accredited East Syracuse Laboratory. Please refer to the attached *CME Laboratory Test Summary Report* for the ASTM test methods and test results.

3.0 SUBSURFACE CONDITIONS

The subsurface conditions presented herein have been generalized for simplicity and brevity by CME from the actual data presented on the Test Boring Logs. Please refer to said logs for actual conditions encountered at the time, location and elevation of each sample obtained. It is possible for the subsurface conditions between sampling intervals and between exploration locations to vary from those expressed in this section or on the Boring Logs.

3.1 Surface Conditions and Subsurface Profile

All Borings penetrated about 1 to 5 inches of Topsoil and Organic Material (Surfacings) at grade. Below Surfacings, a subsurface profile consisting of Existing Fill, underlain by Silt/ Organic Silt, underlain by Sand and Gravel was penetrated. A brief description of each stratum is given below, in the order of encounter in the explorations.

Existing Fill: All Borings identified Existing Fill (Man-placed Fill) to a depth of about 6 to 10 feet below existing grade. Existing Fill consists of a mixture of sand, gravel, silt, clay and organic material, mixed with miscellaneous debris such as brick, ash, coal, roots, etc. Based on Standard Penetration Testing (SPT) blow counts, the Existing Fill on this site appears to have been placed in an unprepared manner (i.e., not placed in controlled, compacted lifts).

It is difficult to accurately characterize Man-placed Fill using the relatively small (1⅜" diameter) split spoon samples retrieved from the Test Borings. A backhoe excavated Test Pit exploration will be more appropriate to better characterize the Existing Fill at this site.

Silt/Organic Silt: Below Existing Fill, all Borings penetrated a stratum consisting of layers of Silt and Organic Silt, with lesser Sand, Gravel and Clay contents. This stratum was penetrated to Boring termination depth (30 feet) in Boring B-4 and to about 48 and 53 feet below grade in Borings B-1 and B-3, respectively. Woody Organic materials, in various stages of decomposition, were sampled at various depths within this Stratum. Based on SPT blow counts, the Silt/Organic Silt stratum is very soft to medium stiff in consistency.

A gravelly layer, consisting predominately of Gravel mixed with Sand and Silt, was penetrated within this Silt stratum from about 14 feet to 23 feet below grade. Based on SPT Blow Counts, the Gravelly layer has a relative density of loose to medium compact.

Please note, three soil samples retrieved from this stratum were subjected to Atterberg Limits testing, in natural moisture and oven-dried conditions. The results indicated that all three tested samples are represented by USCS[2] group symbol OL (Organic Silt). Organic Silt is moderately to highly compressible under new loads imposed, as it is susceptible to compression, consolidation, and creep over time. Organic Silt is not a reliable bearing material for pavements, slabs, foundations, etc.

[2]**USCS** – Unified Soil Classification System.

Sand and Gravel: Below the Silt/Organic Silt stratum, Borings B-1 and B-3 identified a Sand and Gravel stratum. This stratum was penetrated to boring termination depth (70 feet). This Stratum consists predominantly of Sand and Gravel with lesser and variable Silt and Clay content. Woody Organic material was sampled at various depths within this Stratum. Based on SPT blow counts, this stratum is medium compact to very compact in relative density.

3.2 Groundwater Observations

Groundwater level observations and measurements are made by the CME field crew when groundwater accumulates in the Borehole. CME notes water level inside the borehole during advancement and following casing (auger) removal. CME also notes the visual appearance of the moisture condition of the samples as retrieved. The condition and time of groundwater level observations are unique to each boring, time and date, and are recorded on the individual Test Boring Logs.

While drilling, groundwater was observed in all Borings at depths ranging from 3.8 to 4.5 feet below existing grade. Groundwater at this site is generally expected to reflect the Hudson River level.

Groundwater levels will fluctuate depending on several factors including, but not limited to, river stage, prevailing climate, seasonal changes, precipitation and adjacent construction, among other factors.

4.0 STANDARD OF CARE AND WARRANTY

CME has endeavored to conduct the services identified herein in a manner consistent with that level of care and skill ordinarily exercised by members of the geotechnical engineering profession currently practicing in the same locality and under similar conditions as this project. No warranty, either express or implied, is made or intended by CME's proposal, contract, and written and oral reports, all of which warranties are hereby expressly disclaimed. CME shall not be responsible for the acts or omissions of Client, its contractors, agents and consultants. CME has relied upon information supplied by Client, its contractors, agents and consultants, or information available from generally accepted reputable sources, without independent verification, and CME assumes no responsibility for the accuracy thereof.

5.0 CLOSING COMMENTS

In accordance with CME's Subcontract for Geotechnical Services, CME will dispose of all unconsumed samples sixty (60) days after submission of this report. All consumed samples were disposed of immediately after test completion. If you would like to keep the unconsumed samples for a longer time period, please email a request to do so, within five (5) business days from the date of this report to Cristina White, cwhite@cmeassociates.com.

Please do not hesitate to contact our office if you have any questions regarding this report, its conclusions, its recommendations, or its application to actual field conditions revealed during construction.

Respectfully Submitted,
CME Associates, Inc.

Roonak Ghaderi

Roonak Ghaderi, Ph.D., E.I.T.
Staff Geotechnical Engineer

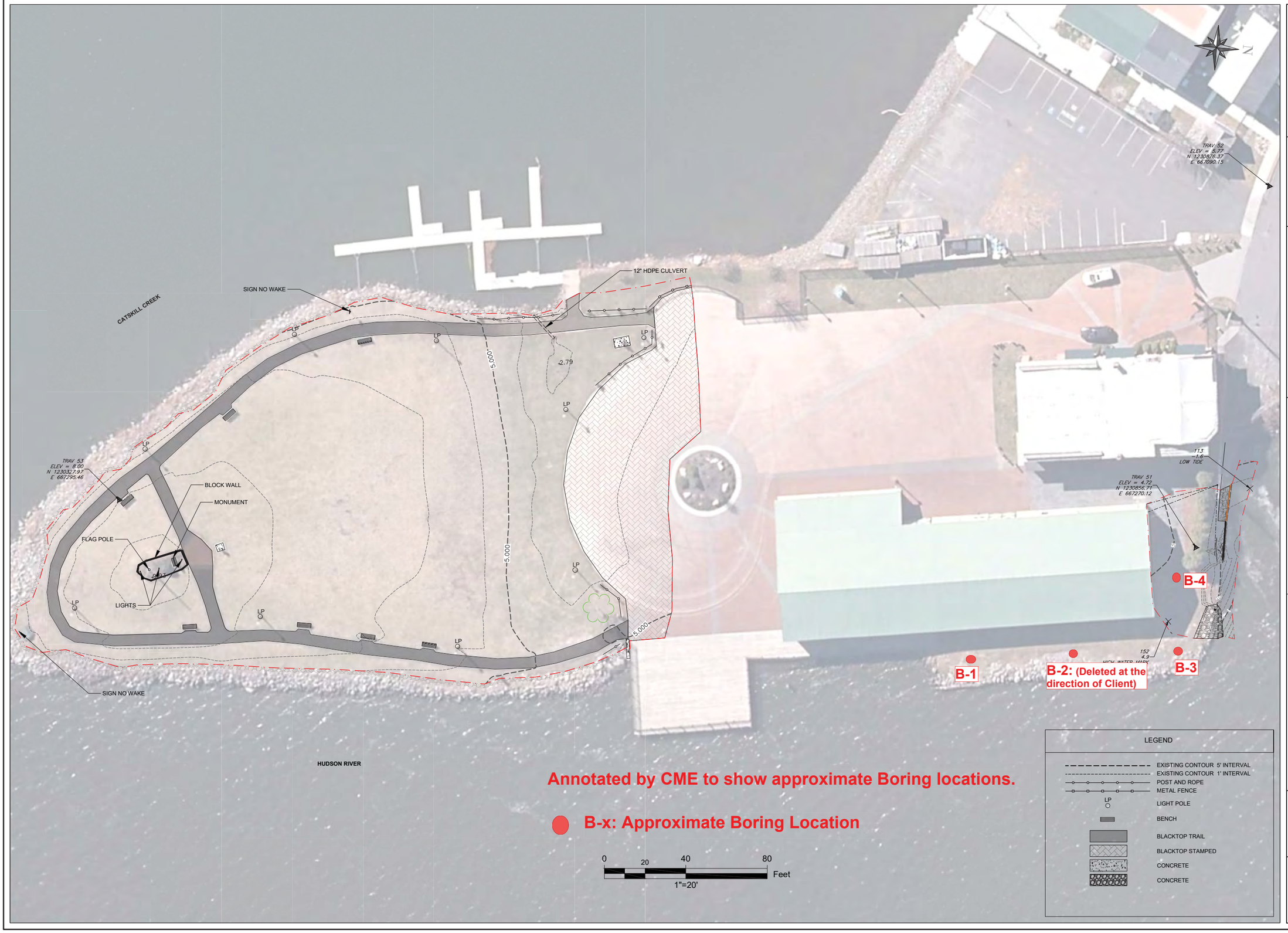
Reviewed By,
CME Associates, Inc.

Cristina White for:

Anas N. Anasthas, P.E.
Senior Geotechnical Engineer

RG.cw

Attachment to CME Report No. 27715B-01-1220



PROJECT SPONSORS

GREENE COUNTY SOIL & WATER CONSERVATION DISTRICT

BOX 907 GREENE COUNTY OFFICE BUILDING
CAIRO, NY 12413
PHONE: (518) 622-3620
FAX: (518) 622-0344

HISTORIC CATSKILL POINT

1 MAIN ST.
CATSKILL, NY

EXISTING CONDITION 2019

PROJECT: DL2019-1
DATE: 3/12/2019
SCALE: 1"=20'
SURVEYED BY: CJL
DRAFTED BY: CJL
REVIEWED BY: JD

DRAWING:

S-01

SHEET 1 OF 1

CME Associates, Inc.	6035 Corporate Drive East Syracuse, NY 13057 Phone: 315-701-0522	**SUBSURFACE EXPLORATION TEST BORING LOG**	**Boring No.**	**B-1**
			Page No.	1 of 3
			Report No.	27715B-01-1220

Project Name:	Catskill Point Shoreline Stabilization Study, Catskill, New York	**Date Started**	11/10/20
Client:	Barton & Loguidice, D.P.C.	**Date Finished**	11/11/20
Location:	See Client-provided Drawing S-01	**Surface Elev.**	Remark 1

METHODS OF INVESTIGATION

Driller:	Al Linstruth	**Casing:**	3¼" ID H.S.A.
Driller:	John Winks	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV Mounted	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
11/10/20	While Drilling	3.8'	4.0'
11/11/20	Before Casing Removed	9.0'	68.5'
11/11/20	After Casing Removed	4.3'	out
11/11/20	After Casing Removed	caved @ 28.0'	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine and - 35 to 50% / some - 20 to 35% little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
0	1A	0.0	0.1	SS/10	4-8-10-16	0.1	Topsoil and Organic Material (moist)	18
	1B	0.1	2.0				Miscellaneous FILL; Brown cmf gravel, cmf sand, brick, silt, ash, roots (moist)	
1								
2	2	2.0	4.0	SS/8	3-5-3-3		Miscellaneous FILL; Brown cmf sand, cmf gravel, silt, brick, coal, ash (moist)	8
3								
4	3	4.0	6.0	SS/0	6-5-3-3		*No recovery, see remark 2*	8
5								
6	4	6.0	8.0	SS/10	4-3-1-1		FILL; Brown clay, mf gravel, cmf sand, silt (wet)	4
7								
8	5	8.0	10.0	SS/13	3-1-3-7		Possible FILL; Grey/Brown SILT, some CLAY, little cmf GRAVEL, trace cmf SAND, trace decayed woody ORGANIC MATERIAL (wet, medium stiff)	4
9								
10	6	10.0	12.0	SS/14	7-3-2-2		ORGANIC SILT/CLAY (OL); Brown/Grey SILT, little CLAY, little fine SAND, trace decayed woody ORGANIC MATERIAL (wet, medium stiff)	5
11								
12	7	12.0	14.0	SS/17	1-2-3-4		Grey SILT, some mf SAND, little CLAY (moist, medium stiff)	5
13								
14	8	14.0	16.0	SS/19	1-3-2-2		Similar as above (wet, medium stiff)	5
15								
16	9	16.0	18.0	SS/19	3-4-6-8		Grey cmf GRAVEL and SILT, some cmf SAND, trace CLAY (wet, medium compact)	10
17								
18	10	18.0	20.0	SS/11	4-3-4-7		Grey cmf GRAVEL and cmf SAND, trace SILT, trace CLAY (wet, loose)	7
19								
20							Continued on page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks: 1. Suface elevation not provided by Client, who is responsible for boring layout and elevation survey.
2. No recovery with a 2" split spoon and 3" split spoon.

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-1
Page No.	2 of 3
Report No.	27715B-01-1220

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine; and - 35 to 50% / some - 20 to 35% little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from page 1	
21								
22								
23	11A	23.5	23.8	SS/4	4-1-1		Grey mf GRAVEL and cmf SAND, trace SILT, trace CLAY (wet)	2
24	11B	24.0	25.0				Brown/Grey SILT, some mf SAND, trace CLAY (wet, soft)	
25								
26								
27								
28	12	28.5	30.0	SS/11	3-2-3		Grey/Brown decayed woody ORGANIC MATERIAL and SILT, trace CLAY, trace fine SAND (moist, medium stiff)	5
29								
30								
31								
32								
33	13	33.5	35.0	SS/15	2-1-1		ORGANIC SILT/CLAY (OL); Grey/Brown SILT, little CLAY, little fine SAND, trace decayed ORGANIC MATERIAL (moist, soft)	2
34								
35								
36								
37								
38	14	38.5	40.0	SS/13	2-1-2		ORGANIC SILT/CLAY (OL); Grey/Brown SILT, little CLAY, little fine SAND, little decayed ORGANIC MATERIAL (wet, soft)	3
39								
40								
41								
42								
43	15	43.5	45.0	SS/15	WH-2-3		Grey/Brown SILT, some cmf SAND, little CLAY, trace mf GRAVEL, trace ORGANIC MATERIAL, (wet, medium stiff)	5
44								
45							Continued on page 3	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-1
Page No.	3 of 3
Report No.	27715B-01-1220

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine; and - 35 to 50% / some - 20 to 35% little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
45							Continued from page 2	
46								
47								
48	16	48.5	50.0	SS/4	6-7-6		Grey/Brown cmf GRAVEL, little cmf SAND, little SILT, trace CLAY (wet, medium compact)	13
49								
50								
51								
52								
53	17	53.5	55.0	SS/5	7-8-10		Grey/Brown cmf GRAVEL, some cmf SAND, little SILT, trace CLAY (wet, medium compact)	18
54								
55								
56								
57								
58	18	58.5	60.0	SS/7	15-15-15		Similar as above (wet, compact)	30
59								
60								
61							*Drills harder @ 61.5'*	
62								
63	19	63.5	65.0	SS/4	51-56-62		Grey cmf SAND, some cmf GRAVEL, little SILT, trace CLAY (wet, very compact)	118
64								
65								
66								
67								
68	20	68.5	70.0	SS/7	15-15-15		Grey cmf GRAVEL and cmf SAND, little SILT, trace CLAY (wet, compact)	30
69								
70							Bottom of Boring @ 70.0'	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.	6035 Corporate Drive East Syracuse, NY 13057 Phone: 315-701-0522	**SUBSURFACE EXPLORATION TEST BORING LOG**	**Boring No.**	**B-3**
			Page No.	1 of 3
			Report No.	27715B-01-1220

Project Name:	Catskill Point Shoreline Stabilization Study, Catskill, New York	**Date Started**	11/11/20
Client:	Barton & Loguidice, D.P.C.	**Date Finished**	11/11/20
Location:	See Client-provided Drawing S-01	**Surface Elev.**	Remark 1

METHODS OF INVESTIGATION

Driller:	Al Linstruth	**Casing:**	3¼" ID H.S.A.
Driller:	John Winks	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV Mounted	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
11/11/20	While Drilling	4.1'	4.0'
11/11/20	Before Casing Removed	6.5'	68.5'
11/11/20	After Casing Removed	4.5'	out
11/11/20	After Casing Removed	caved @ 25.5'	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
0	1A	0.0	0.2	SS/7	5-5-100@5"	0.2	Topsoil and Organic Material (moist)	100+
	1B	0.2	2.0				FILL; Grey cmf sand, cmf gravel, silt, roots (moist)	
1							*Drilled through large rip rap pieces and cobbles From 1.5' to 4.0'*	
2	2	2.0	2.1	SS/0	100@1"		*No recovery*	100+
3								
4	3	4.0	6.0	SS/0	2-2-1-1		*No recovery, piece of gravel lodged in tip of spoon.*	3
5								
6	4	6.0	8.0	SS/6	2-2-2-1		FILL; Brown/Grey cmf gravel, cmf sand, silt, roots (wet)	4
7								
8	5	8.0	10.0	SS/4	1-1-7-4		FILL; Grey cmf gravel, silt, cmf sand (wet)	8
9								
10	6	10.0	12.0	SS/16	2-2-3-4		Brown/Grey SILT, little CLAY, little fine SAND (wet, medium stiff)	5
11								
12	7	12.0	14.0	SS/10	4-2-2-6		Brown/Grey SILT, some cmf GRAVEL, some cmf SAND, trace CLAY (wet, medium stiff)	4
13								
14	8	14.0	16.0	SS/0	5-8-8-7		*No recovery, piece of gravel lodged in tip of spoon.*	16
15								
16	9	16.0	18.0	SS/3	4-3-3-3		Grey/Brown cmf GRAVEL, some cmf SAND, little SILT, trace CLAY (wet, loose)	6
17								
18	10	18.0	20.0	SS/10	2-2-2-2		Grey/Brown cmf GRAVEL and SILT, some cmf SAND, little CLAY, trace decayed woody ORGANIC MATERIAL (wet, loose)	4
19								
20							Continued on page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks: 1. Suface elevation not provided by Client, who is responsible for boring layout and elevation survey.

CME Associates, Inc.
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East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-3
Page No.	2 of 3
Report No.	27715B-01-1220

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from page 1	
21								
22								
23	11	23.5	25.0	SS/11	1-2-2		Grey/Brown SILT, little cmf SAND, little CLAY, trace mf GRAVEL (wet, medium stiff)	4
24								
25								
26								
27								
28	12	28.5	30.0	SS/2	1-1-1		Brown/Grey SILT, little CLAY, little fine SAND (wet, soft)	2
29								
30								
31								
32								
33	13	33.5	35.0	SS/13	2-2-1		Brown/Grey SILT, some CLAY, little mf SAND (wet, soft)	3
34								
35								
36								
37								
38	14	38.5	40.0	SS/10	1-1-2		Similar as above (wet, soft)	3
39								
40								
41								
42								
43	15	43.5	45.0	SS/13	WH-1-1		Grey/Brown SILT, little fine SAND, little CLAY (wet, soft)	2
44								
45							Continued on page 3	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-3
Page No.	3 of 3
Report No.	27715B-01-1220

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine / and - 35 to 50% / some - 20 to 35% / little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
45							Continued from page 2	
46								
47								
48								
49	16	48.5	50.0	SS/13	1-2-2		Grey/Brown SILT and cmf SAND, little CLAY (wet, medium stiff)	4
50								
51								
52								
53							*Drills gravelly starting @ 52.5'*	
54	17	53.5	55.0	SS/11	7-3-7		Brown/Grey cmf GRAVEL and SILT, little cmf SAND, little CLAY trace ORGANIC MATERIAL (wet, medium compact)	10
55								
56								
57								
58								
59	18	58.5	60.5	SS/13	10-9-7-23		Grey cmf SAND and mf GRAVEL, some SILT, trace CLAY (wet, medium compact)	16
60								
61								
62							*Drills harder beginning @ 62.0'*	
63								
64	19	63.5	65.0	SS/11	16-16-12		Grey cmf GRAVEL and cmf SAND, little SILT, trace CLAY (wet, medium compact)	28
65								
66								
67								
68								
69	20	68.5	70.0	SS/10	19-16-30		Grey cmf GRAVEL and SILT, some cmf SAND, trace CLAY (wet, compact)	46
70							Bottom of Boring @ 70.0'	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	**B-4**
Page No.	1 of 2
Report No.	27715B-01-1220
Date Started	11/11/20
Date Finished	11/12/20
Surface Elev.	Remark 1

Project Name:	Catskill Point Shoreline Stabilization Study, Catskill, New York
Client:	Barton & Loguidice, D.P.C.
Location:	See Client-provided Drawing S-01

METHODS OF INVESTIGATION

Driller:	Al Linstruth	**Casing:**	3¼" ID H.S.A.
Driller:	John Winks	**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:	CME 550X	**Soil Sampler:**	2" OD Split Barrel
Type:	ATV Mounted	**Hammer Wt:**	140 lbs.
Rod Size:	AWJ	**Hammer Fall:**	30 in.

GROUNDWATER OBSERVATIONS

Date	Time	Depth (Ft.)	Casing At (Ft.)
11/11/20	While Drilling	4.5'	4.0'
11/12/20	Before Casing Removed	15.5'	28.5'
11/12/20	After Casing Removed	4.8'	out
11/12/20	After Casing Removed	caved @ 13.5'	out

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
0	1A	0.0	0.4	SS/19	4-4-6-5	0.4	Topsoil and Organic Material (moist)	10
1	1B	0.4	2.0				Miscellaneous FILL; Brown silt, cmf gravel, cmf sand, brick (moist)	
2	2	2.0	4.0	SS/14	3-3-3-3		Miscellaneous FILL; Brown silt, cmf gravel, clay, cmf sand, ash (wet)	6
3								
4	3	4.0	6.0	SS/17	2-2-3-3		FILL; Brown/Grey silt, cmf gravel, cmf sand, roots (wet) *Reworked Material*	5
5								
6	4	6.0	8.0	SS/16	2-2-1-2		Grey SILT, little cmf SAND, trace mf GRAVEL, trace woody ORGANIC MATERIAL (wet, soft)	3
7								
8	5	8.0	10.0	SS/15	6-4-3-4		Brown/Grey SILT, little mf GRAVEL, little cmf SAND, little CLAY (wet, medium stiff)	7
9								
10	6	10.0	12.0	SS/11	2-3-3-4		Brown/Grey SILT, little fine SAND, little CLAY (wet, medium stiff)	6
11								
12	7	12.0	14.0	SS/15	3-3-3-4		Similar as above (wet, medium stiff)	6
13								
14	8	14.0	16.0	SS/19	2-2-1-2		Similar as above (wet, soft)	3
15								
16	9	16.0	18.0	SS/18	2-1-1-1		ORGANIC SILT/CLAY (OL); Grey SILT, trace CLAY, trace fine SAND, trace decayed ORGANIC MATERIAL (wet, soft)	2
17								
18	10	18.0	20.0	SS/20	WH-WH-WH-1		Grey SILT, little CLAY, little fine SAND (wet, very soft)	0
19								
20							Continued on page 2	

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks: 1. Suface elevation not provided by Client, who is responsible for boring layout and elevation survey.

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SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	B-4
Page No.	2 of 2
Report No.	27715B-01-1220

LOG OF BORING SAMPLES / VISUAL CLASSIFICATION OF MATERIAL

Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse, m - medium, f - fine; and - 35 to 50% / some - 20 to 35%, little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
20							Continued from page 1	
	11	20.0	22.0	SS/20	WH-WH-1-2		Simlar as above (wet, very soft)	1
21								
22	12	22.0	24.0	SS/18	2-2-2-2		ORGANIC SILT/CLAY (OL); Brown/Grey SILT, little CLAY, little fine SAND, trace decayed ORGANIC MATERIAL (wet, medium stiff)	4
23								
24	13	24.0	25.5	SS/13	1-2-2		Grey/Brown SILT, little CLAY, little fine SAND (wet, medium stiff)	4
25								
26								
27								
28								
	14	28.5	30.0	SS/17	WH-WH-1		Similar as above (wet, very soft)	1
29								
30							Bottom of Boring @ 30.0'	
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:

CME Associates, Inc.

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LABORATORY TEST SUMMARY
Catskill Point Shoreline Stabilization Study, Catskill, New York
CME Report No.: 27715L-01-1220
December 17, 2020

CME Representatives obtained soil samples from Test Borings advanced as part of the Subsurface Exploration Program conducted for the subject project. Selected samples were delivered to CME's East Syracuse facility, an AASHTO re:source[1] accredited laboratory for various laboratory testing. The results are presented below:

Sample ID Notations: B - Test Boring, S - Sample

I. Natural Moisture Content (ASTM D2216)

Sample ID	Natural Moisture (%)
B-3; S-1A	14.6
B-3; S-1B	3.4
B-3; S-4	16.8
B-3; S-5	49.6
B-3; S-6	36.5
B-3; S-7	22.1
B-3; S-8	7.8
B-3; S-9	37.7
B-3; S-10	25.0
B-3; S-11	38.8
B-3; S-12	38.8
B-3; S-13	40.4
B-3; S-14	34.8
B-3; S-15	38.8
B-3; S-16	35.2
B-3; S-17	23.8
B-3; S-18	14.2
B-3; S-19	9.2
B-3; S-20	12.2
B-1; S-6	38.9
B-1; S-14	42.2
B-4; S-9	40.2

[1]**AASHTO re:source** – American Association of State Highway & Transportation Officials (AASHTO) Materials Reference Laboratory, a Federal Agency having jurisdiction to assess laboratory competency according to the Standards of the United States of America. CME East Syracuse accreditation includes testing of Portland Cement Concrete, Aggregate and Soil Materials. www.AASHTOresource.org.

II. Atterberg Limits Testing (ASTM D4318)

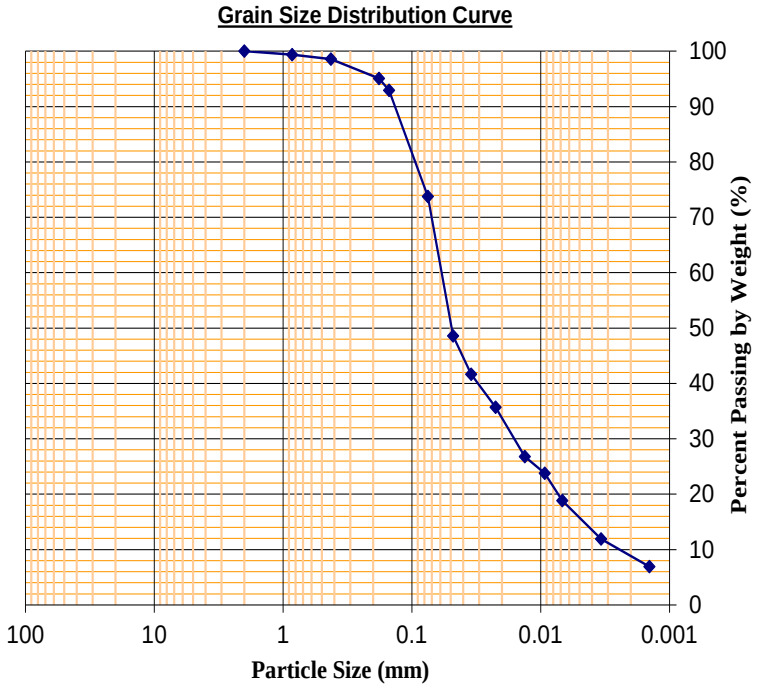
Sample ID	Liquid Limit	Plastic Limit	Plasticity Index	Natural Moisture (%)
B-1; S-6 (Natural Moisture)	43	30	13	38.9
B-1; S-6 (Oven Dry)	Non-Plastic			38.9
B-1; S-14 (Natural Moisture)	38	33	5	42.2
B-1; S-14 (Oven Dry)	Non-Plastic			42.2
B-4; S-9 (Natural Moisture)	38	30	8	40.2
B-4; S-9 (Oven Dry)	Non-Plastic			40.2

III. Particle Size Analysis (ASTM D422)

Sample #
B-1; S-7

Classification
Grey SILT, some mf SAND, little CLAY

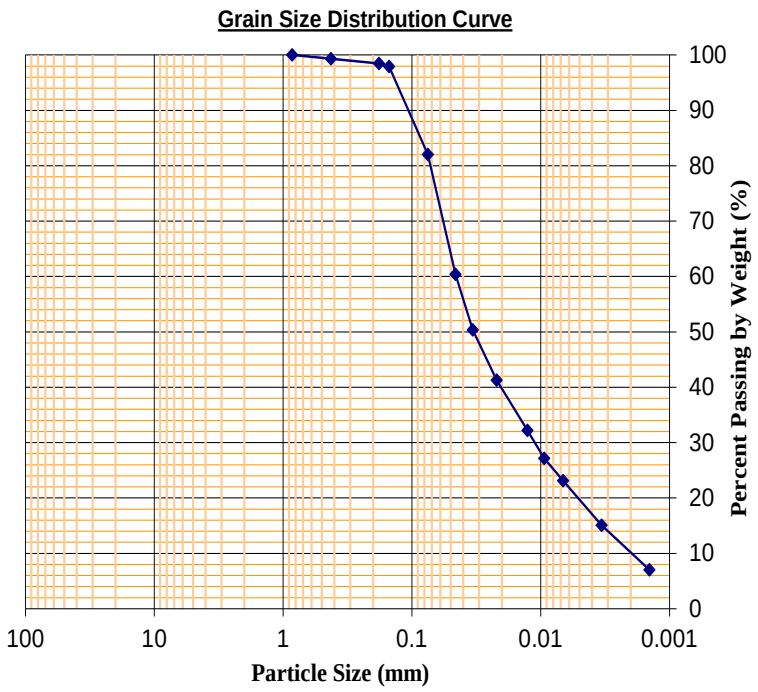
Sieve Designation	Size (mm)	Percent Passing by Weight (%)
No.10	2.00	100
No.20	0.850	99
No.40	0.425	99
No.80	0.180	95
No.100	0.150	93
No.200	0.075	74
Hydrometer	0.048	49
	0.035	42
	0.022	36
	0.013	27
	0.009	24
	0.007	19
	0.003	12
	0.001	6.9



Sample #
B-3; S-13

Classification
Brown/Grey SILT, some CLAY, little mf SAND

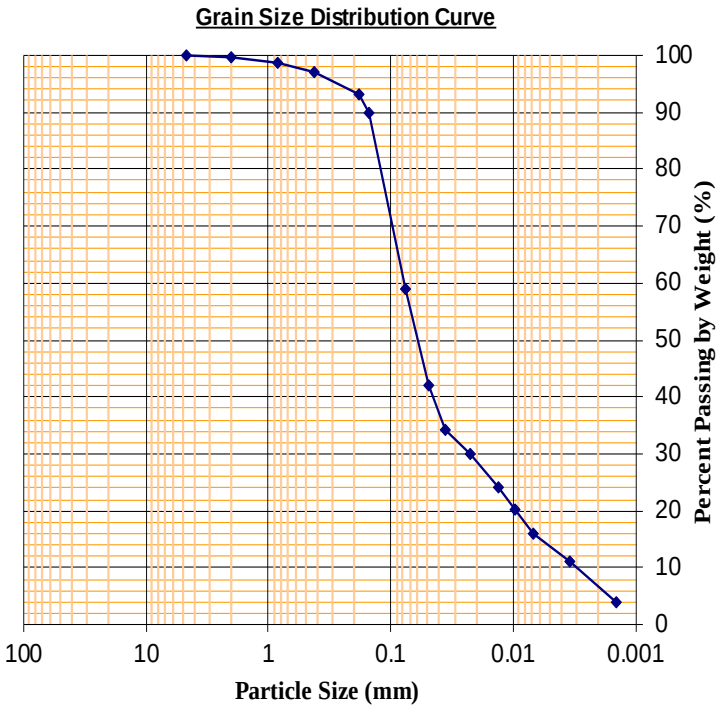
Sieve Designation	Size (mm)	Percent Passing by Weight (%)
No.20	0.850	100
No.40	0.425	99
No.80	0.180	98
No.100	0.150	98
No.200	0.075	82
Hydrometer	0.046	60
	0.034	50
	0.022	41
	0.013	32
	0.009	27
	0.007	23
	0.003	15
	0.001	7.0



Sample #
B-3; S-16

Classification
Grey/Brown SILT and cmf SAND, little CLAY

Sieve Designation	Size (mm)	Percent Passing by Weight (%)
No.4	4.75	100
No.10	2.00	99
No.20	0.850	99
No.40	0.425	97
No.80	0.180	93
No.100	0.150	90
No.200	0.075	59
Hydrometer	0.049	42
	0.036	34
	0.023	30
	0.013	24
	0.010	20
	0.007	16
	0.003	11
	0.001	4.0



Sample #
B-4; S-10

Classification
Grey SILT, little CLAY, little fine SAND

Sieve Designation	Size (mm)	Percent Passing by Weight (%)
No.40	0.425	100
No.80	0.180	98
No.100	0.150	98
No.200	0.075	87
Hydrometer	0.046	63
	0.034	51
	0.022	38
	0.013	30
	0.009	24
	0.007	19
	0.003	14
	0.001	7.1

If you have any questions regarding this report please contact our office.

for:

Kelly Teeter
Laboratory Supervisor

GENERAL INFORMATION & KEY TO TEST BORING LOGS

The **Subsurface Exploration – Test Boring Logs** produced **by CME Associates, Inc.** (CME) present observations and mechanical data collected by the CME Drill Crew while at the site, supplemented, at times, by classification of the materials removed from the borings determined through visual identification by technicians in the laboratory. It is cautioned that the materials removed from the borings represent only a fraction of the total volume of the deposits at the site and may not necessarily be representative of the subsurface conditions between adjacent borings or between the sampled intervals. The data presented on the Exploration Logs together with the recovered samples will provide a basis for evaluating the character of the subsurface conditions relative to the proposed construction. The evaluation must consider all the recorded details and their significance relative to each other. Often, analyses of standard boring data indicate the need for additional testing and sampling procedures to more accurately evaluate the subsurface conditions. Any evaluations of the contents of CME's report and the recovered samples must be performed by Licensed Professionals having experience in Soil Mechanics, Geological Sciences and Geotechnical Engineering. The information presented in this Key defines some of the methods, procedures and terms used on the CME Exploration Logs to describe the conditions encountered. Refer to the Log on page 4 for key number.

Key No. **Description**

1. The figures in the **DEPTH SCALE** column define the vertical scale of the Boring Log.

2. The **SAMPLE NO.** is used for identification on the sample containers and in the Laboratory Test Report or Summary.

3. The **SAMPLE DEPTH** column gives the depth range from which a sample was recovered.

4. The **TYPE / SAMPLE RECOVERY** column is used to signify the various types of samples. "SS is Split Spoon, "U" is Undisturbed Tube, and "C" is Rock Core. For soil and rock samples, the recovered length of the sample is recorded in inches.

5. **BLOWS ON SAMPLER** – This column shows the results of the "Standard Penetration Test (SPT) ASTM D1586", recording the number of blows required to drive a 2-inch outside diameter (O.D.) split spoon sampler into the ground beneath the casing. The number of blows required for each six inches of penetration is recorded. The total number of blows required for the 6-inch to 18-inch interval is summarized in the **SPT "N"** column and represents the "Standard Penetration Number". The outside diameter of the sampler, the hammer weight and the length of drop are noted in the **Methods of Investigation** portion of the log. A "WH" or "WR" in this column indicates that the sample spoon advanced a 6-inch interval under the **W**eight of **H**ammer + Rod or **W**eight of **R**od, respectively. If a rock core sample is taken, the core bit size designation is given here.

6. The **DEPTH OF CHANGE** column designates the depth (in feet) that the driller noted a compactness or stratum change. In soft materials or soil strata exhibiting a consistent relative density, it is difficult for the driller to determine the exact change from one stratum to the next. In addition, a grading or gradual change may exist. In such cases the depth noted is approximate or estimated only and may be represented by a dashed line. When continuous split spoon sampling is not employed, or an interval of several feet exists between samplings, the Depth of Change may not be indicated at all.

7. **VISUAL CLASSIFICATION OF MATERIAL** – Soil materials sampled and recovered are described by the Driller or Geotechnical Representative on the original field log. Notes of the Drillers observations are also placed in this column. Recovered samples may also be visually classified by a Geologist, Engineer, or Soil Technician. Visual soil classifications are made using a modified Burmister System as practiced by CME and as generally described in this Key and abbreviated on the Test Boring Log. This modified Burmister System is a type of visual-manual textural classification estimated by the Driller, Geologist, Engineer, or Technician on the basis of weight-fraction of the recovered material and estimated plasticity, among other characteristics. See Table 1 **"Classification of Materials"**. The description of the relative compactness or consistency is based upon the standard penetration number as defined in Table 2. The description of the recovered sample moisture condition is described as dry, moist, wet, or saturated. Water used to advance the boring may affect the moisture content of the recovered sample. Special terms may be used to describe recovered materials in greater detail, such terms are listed in ASTM D653. When sampling gravelly soils with a standard two-inch O.D. Split Spoon, the true percentage of gravel is often not recovered due to the relatively small sampler diameter. The presence of boulders, cobbles, and large gravel is sometimes, but not necessarily, detected by observation of the casing advancement and sampler blows and/or through the "action" of the drill rig, sampler and/or casing as reported by the Driller.

   The description of **Rock** is based upon the recovered rock core. Terms frequently used in the description are included in Tables 3, 4 and 5. The length of core run is defined as length of penetration between retrievals of the core barrel from the bore hole, expressed in inches. The core recovery expresses the length of core recovered from the core barrel per core run, in percent. The size core barrel used is noted in Column 5. An "N" size core, being larger in diameter than "A" size core, often produces better recovery, and is frequently utilized where accurate information regarding the geologic conditions and engineering properties is needed. An estimate of in-situ rock quality is provided by a modified core recovery ratio known as the **"Rock Quality Designation" (RQD)**. This ratio is determined by considering only pieces of core that are at least 4 inches long and are hard and sound. Breaks obviously caused by drilling are ignored. The percentage ratio between the total length of such core recovered and the length of core drilled on a given run is the RQD. Table 4 indicates in-situ rock quality as related to the **RQD**.

8. The **SPT "N"** or **RQD** is given in this column as applicable to the specific sample taken. In Very Compact coarse-grained soils and in Hard fine-grained soils the N-value may be indicated as 50+ or 100+. This typically means that the blow count was achieved prior to driving the sampler the entire 6-inch interval or the sampler refused further penetration. For an "N"size rock core, the RQD is reported here, expressed in percent (%).

9. **GROUNDWATER OBSERVATIONS** and timing noted by the Drill Crew are shown in this section. It is important to realize that the reliability of the water level observations depend upon the soil type (e.g. water does not readily stabilize in a hole through fine grained soils), and that drill water used to advance the boring may have influenced the observations. Groundwater levels typically fluctuate seasonally so those noted on the log are only representative of that exhibited during the period of time noted on the log. One or more perched or trapped water levels may exist in the ground seasonally. All the available resources and data should be evaluated. If definite conclusions cannot be made, it is often prudent to examine the conditions more thoroughly through test pit excavations or through groundwater observation well installations.

10. **METHODS of INVESTIGATION** provides pertinent information regarding the identity of the Drill Crew members, inspector (if any), drill rig make and model, drill rig mount vehicle, casing and type of advancement, soil and rock sampling tools and appurtenances used in the installation of the Test Boring.

TABLE 1 - CLASSIFICATION OF MATERIALS	
GROUP	**COARSE GRAINED SOILS TEXTURAL SIZES**
BOULDERS	larger than 12" diameter
COBBLES	12" diameter to 3" sieve
GRAVEL	3" - coarse - 1" - medium - 1/2" - fine - #4 sieve
SAND	#4 - coarse - #10 - medium - #40 - fine - #200 sieve
GROUP	**FINE GRAINED SOILS SIZE (PLASTICITY*)**
SILT	#200 sieve (0.074mm) to 0.005mm size (see below *)
CLAY	0.005mm size to 0.001 mm size (see below *)
GROUP	**ORGANIC SOILS, PEAT, MUCK, MARL**
ORGANIC	Based on smell, visual-manual and laboratory testing

ABBREVIATIONS	**TERM**	**ESTIMATED PERCENT OF TOTAL SAMPLE BY WEIGHT**
f - fine	and	35 to 50%
m - medium	some	20 to 35%
c - coarse	little	10 to 20%
	trace	0 to 10%

***PLASTICITY DESCRIPTIONS and INDICATOR FIELD TESTS**			
		DRY STRENGTH TEST	
TERM	**PLASTICITY INDEX**	**INDICATION**	**FIELD TEST RESULT**
non-plastic	0 - 3	Very low	falls apart easily
slightly plastic	4 - 15	Slight	easily crushed by fingers
plastic	15 - 30	Medium	difficult to crush
highly plastic	31 or more	High	impossible to crush with fingers
Other Field Tests include: Dilatancy, Thread and Shine Testing			

*TABLE 2 - DESCRIPTION OF SOIL COMPACTNESS OR CONSISTENCY based on SPT "N"**		
Primary Soil Type	**Descriptive Term of Compactness**	**Range of Standard Penetration Resistance (N)**
COARSE GRAINED SOILS	Very Loose	less than 4 blows per foot
(More than half of Material is larger than No. 200 sieve size)	Loose	4 to 10
	Medium Compact	10 to 30
	Compact	30 to 50
	Very Compact	Greater than 50
FINE GRAINED SOILS	**Descriptive Term of Consistency**	**Range of Standard Penetration Resistance (N)**
(More than half of material is smaller than No. 200 sieve size)	Very Soft	less than 2 blows per foot
	Soft	2 to 4
	Medium Stiff	4 to 8
	Stiff	8 to 15
	Very Stiff	15 to 30
	Hard	Greater than 30
*The number of blows of 140-pound weight falling 30 inches to drive a 2-inch O.D., 1-3/8 inch I.D. sampler 12 inches is defined as the Standard Penetration Resistance, designated "N".		

TABLE 3 - ROCK CLASSIFICATION TERMS		
Rock Classification Terms		**Field Test or Meaning of Term**
Hardness	Soft	Scratched by fingernail. Crumbles under firm blows with a geologic pick.
	Medium Soft	Shallow indentations (1 to 3 mm) can be made by firm blows of a geologic pick. Can be peeled with a pocketknife with difficulty.
	Medium Hard	Scratched distinctly by penknife or steel nail. Can't be peeled or scraped with knife.
	Hard	Scratched with difficulty by penknife or steel nail. Requires more than one blow with a geologic hammer to break it
	Very Hard	Cannot be scratched by penknife or steel nail. Breaks only by repeated heavy blows with a geologic hammer.
Bedding (Divisional planes and/or surfaces separating it from layers above and below)	Thinly Laminated Laminated Thinly Bedded Medium Bedded Thickly Bedded Massive	less than 1/8th inch 1/8th to 1 inch 1 inch to 4 inches 4 inches to 12 inches 12 inches to 48 inches greater than 48 inches

TABLE 4 **Relation of Rock Quality Designation (RQD) and in-situ Rock Quality**	
RQD %	**Rock Quality Term Used**
90 to 100	Excellent
75 to 90	Good
50 to 75	Fair
25 to 50	Poor
0 to 25	Very Poor

TABLE 5 – BEDROCK WEATHERING CLASSIFICATION	
Classification	**Diagnostic Features**
Fresh	No visible sign of decomposition or discoloration. Rings under hammer impact.
Slightly Weathered	Slight discoloration inwards from open fractures, otherwise similar to Fresh.
Moderately Weathered	Discoloration throughout. Strength somewhat less than fresh rock but cores cannot be broken by hand or scraped with knife. Texture observed.
Highly Weathered	Most minerals somewhat decomposed. Specimens can be broken by hand with effort or shaved with knife. Core stones present in rock mass. Texture becoming indistinct but fabric preserved.
Completely Weathered	Minerals decomposed to soil, but fabric and structure preserved (e.g. Saprolite). Specimens easily crumbled or penetrated.
Residual Soil	Advanced state of decomposition resulting in plastic soils. Rock fabric and structure completely destroyed. Large volume change.

CME Associates, Inc.
6035 Corporate Drive
East Syracuse, NY 13057
Phone: 315-701-0522

SUBSURFACE EXPLORATION TEST BORING LOG

Boring No.	**B-2**		
Page No.	1 of 1		
Report No.			
Project Name:		**Date Started**	
Client:		**Date Finished**	
Location:		**Surface Elev.**	

METHODS OF INVESTIGATION

Driller:	10	**Casing:**	10
Driller:		**Casing Hammer:**	
Inspector:		**Other:**	
Drill Rig:		**Soil Sampler:**	
Type:		**Hammer Wt:**	
Rod Size:		**Hammer Fall:**	

GROUNDWATER OBSERVATIONS

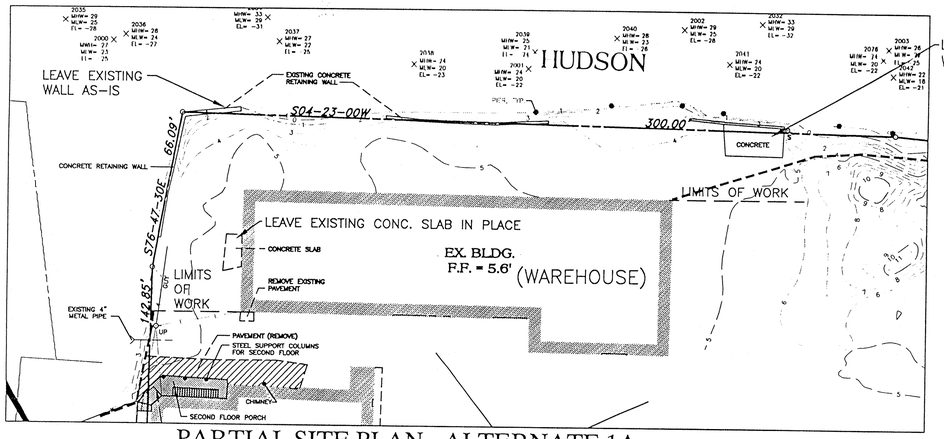
Date	Time	Depth (Ft.)	Casing At (Ft.)
	While Drilling	9	9
	Before Casing Removed		
	After Casing Removed		
	After Casing Removed		

LOG OF BORING SAMPLES | **VISUAL CLASSIFICATION OF MATERIAL**

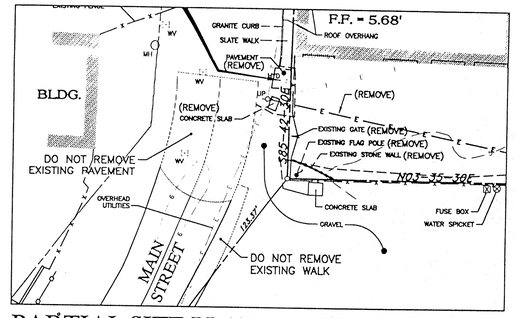
Depth Scale (Feet)	Sample No.	Sample Depth (Ft.) From	Sample Depth (Ft.) To	Type / Sample Rec. (in.)	Blows on Sampler Per 6 Inches	Depth of Change (Ft.)	c - coarse m - medium f - fine / and - 35 to 50% / some - 20 to 35% little - 10 to 20% / trace - 0 to 10%	SPT "N" or RQD %
1	2	3	3	4	5	6	7	8

SS - Split Spoon, U - Undisturbed Tube, C - Core, WH - Weight of Hammer + Rod, WR - Weight of Rod

Remarks:



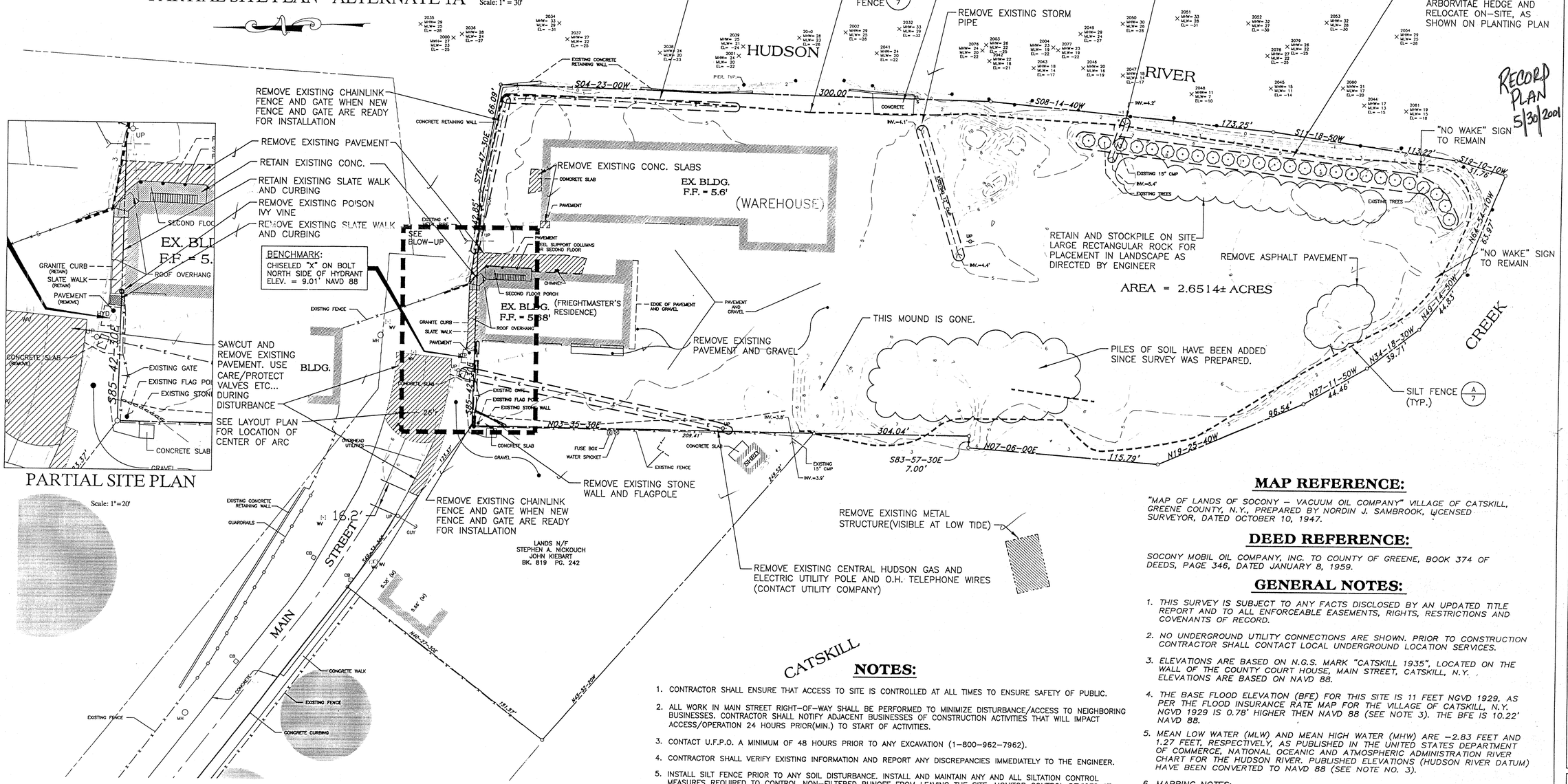
PARTIAL SITE PLAN - ALTERNATE 1A Scale: 1" = 30'



PARTIAL SITE PLAN - ALTERNATE 1B Scale: 1"=30'

PARTIAL SITE PLAN

Scale: 1"=20'



CATSKILL

NOTES:

1. CONTRACTOR SHALL ENSURE THAT ACCESS TO SITE IS CONTROLLED AT ALL TIMES TO ENSURE SAFETY OF PUBLIC.
2. ALL WORK IN MAIN STREET RIGHT-OF-WAY SHALL BE PERFORMED TO MINIMIZE DISTURBANCE/ACCESS TO NEIGHBORING BUSINESSES. CONTRACTOR SHALL NOTIFY ADJACENT BUSINESSES OF CONSTRUCTION ACTIVITIES THAT WILL IMPACT ACCESS/OPERATION 24 HOURS PRIOR(MIN.) TO START OF ACTIVITIES.
3. CONTACT U.F.P.O. A MINIMUM OF 48 HOURS PRIOR TO ANY EXCAVATION (1-800-962-7962).
4. CONTRACTOR SHALL VERIFY EXISTING INFORMATION AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ENGINEER.
5. INSTALL SILT FENCE PRIOR TO ANY SOIL DISTURBANCE. INSTALL AND MAINTAIN ANY AND ALL SILTATION CONTROL MEASURES REQUIRED TO CONTROL NON-FILTERED RUNOFF FROM LEAVING THE SITE. MONITOR CONTROL DEVICES AT LEAST ONCE / WEEK.

MAP REFERENCE:

"MAP OF LANDS OF SOCONY - VACUUM OIL COMPANY" VILLAGE OF CATSKILL, GREENE COUNTY, N.Y., PREPARED BY NORDIN J. SAMBROOK, LICENSED SURVEYOR, DATED OCTOBER 10, 1947.

DEED REFERENCE:

SOCONY MOBIL OIL COMPANY, INC. TO COUNTY OF GREENE, BOOK 374 OF DEEDS, PAGE 346, DATED JANUARY 8, 1959.

GENERAL NOTES:

1. *THIS SURVEY IS SUBJECT TO ANY FACTS DISCLOSED BY AN UPDATED TITLE REPORT AND TO ALL ENFORCEABLE EASEMENTS, RIGHTS, RESTRICTIONS AND COVENANTS OF RECORD.*
2. *NO UNDERGROUND UTILITY CONNECTIONS ARE SHOWN. PRIOR TO CONSTRUCTION CONTRACTOR SHALL CONTACT LOCAL UNDERGROUND LOCATION SERVICES.*
3. *ELEVATIONS ARE BASED ON N.G.S. MARK "CATSKILL 1935", LOCATED ON THE WALL OF THE COUNTY COURT HOUSE, MAIN STREET, CATSKILL, N.Y. ELEVATIONS ARE BASED ON NAVD 88.*
4. *THE BASE FLOOD ELEVATION (BFE) FOR THIS SITE IS 11 FEET NGVD 1929, AS PER THE FLOOD INSURANCE RATE MAP FOR THE VILLAGE OF CATSKILL, N.Y. NGVD 1929 IS 0.78' HIGHER THEN NAVD 88 (SEE NOTE 3). THE BFE IS 10.22' NAVD 88.*
5. *MEAN LOW WATER (MLW) AND MEAN HIGH WATER (MHW) ARE -2.83 FEET AND 1.27 FEET, RESPECTIVELY, AS PUBLISHED IN THE UNITED STATES DEPARTMENT OF COMMERCE, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION RIVER CHART FOR THE HUDSON RIVER. PUBLISHED ELEVATIONS (HUDSON RIVER DATUM) HAVE BEEN CONVERTED TO NAVD 88 (SEE NOTE NO. 3).*
6. *MAPPING NOTES:*
   dMLW - DEPTH (IN FEET) FROM MLW TO BOTTOM OF RIVER
   dMHW - DEPTH (IN FEET) FROM MHW TO BOTTOM OF RIVER
   EL - BOTTOM ELEVATION (IN FEET)

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REGISTERED LANDSCAPE ARCHITECT ROBERT H. WURSTER 556 STATE OF NEW YORK

SRG
SCHUCHER RITT - GRAVOIS ARCHITECTS
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143 JAY STREET, SCHENECTADY, NY 12305
(518) 374-9412 FAX (518) 374-4049
info@srgarch.com

REVISIONS:

NO.	REVISION	DATE

PROJECT NUMBER	2614-000
DRAWING DATE	6/7/99
ISSUE DATE	6/7/99
DRAWN BY	KSK
CHECKED BY	RHW
SCALE	1"=30'

The Point at Catskill
A Project of Greene County
Contract G- General Construction and/or
Contract E- Electrical Construction

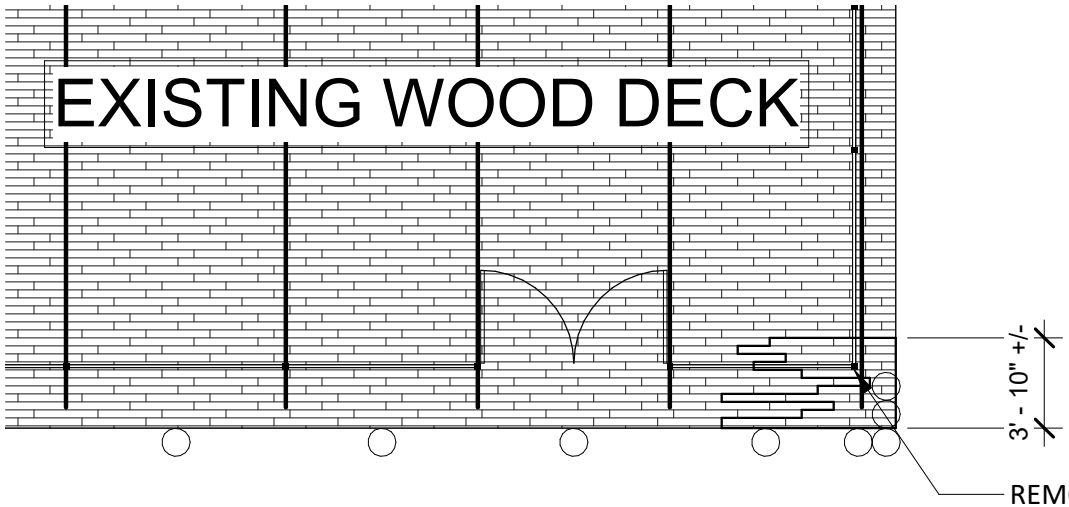
Site Demolition & Removals Plan

SHEET 1 OF 12

DRAWING NUMBER 2614-001

CATSKILL POINT SHORELINE RESTORATION

Barton & Loguidice

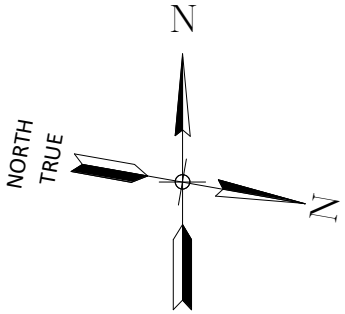


HUDSON RIVER

REMOVE & REPLACE DAMAGED 2x6 PRESSURE TREATED DECKING. CONTRACTOR TO REMOVE ENTIRE LENGTH OF DAMAGED PLYS TO EDGE OF DECK AND REPLACE IN KIND. WOOD SPECIES SHALL BE SOUTHERN YELLOW PINE NO.2 OR GREATER RE: DECK LAMINATION NAIL PATTERN 6/S501 FOR REINSTALLATION OF DECK PLYS

1 / SK-01 EXISTING WOOD DOCK NORTH-EAST CORNER REPAIR

1/8" = 1'-0"



Drawing Name: I:\Projects\300\316 - Green County\316.037.001 - Catskill Point Shoreline
Date Plotted: 1/1\Restoration\ARCH\316.037.001_Castskill Point_Shoreline Restoration2.rvt

Drawn BY:	KLN	Project No:	316.037.001
Checked BY:	MCF	Date:	01/12/24
		Scale:	1/8" = 1'-0"

SK-01

443 Electronics Parkway, Liverpool, New York 13088 | (315) 457-5200 | BartonandLoguidice.com