

June 7, 2019

Mr. James Nardozzi Interim CEO Waterbury Development Corporation 83 Bank Street, 3rd Floor Waterbury, CT 06702

RE: Geotechnical Engineering Report Naugatuck-Waterbury Industrial Park Waterbury, Connecticut MMI #1014-66

Dear Mr. Nardozzi:

Milone & MacBroom, Inc. (MMI) is pleased to submit our geotechnical engineering report for the proposed Naugatuck-Waterbury Industrial Park. The site is located at Waterbury's southern border with the borough of Naugatuck, which is accessible from Great Hill Road in Naugatuck, Connecticut. Refer to Figure 1 – Locus Plan in Appendix 1 for the general location of the project.

Recommendations for the proposed building are based in part on guidance from the 2018 Connecticut State Building Code, which includes the 2015 International Building Code (IBC) and the 2018 Connecticut Amendments. Design recommendations are based on Allowable Stress Design Methods.

Pavement recommendations are based in part on our interpretation of the subsurface conditions and traffic volumes in the project areas and guidance from the publication AASHTO Guide for Design of Pavement Structures.

PURPOSE AND SCOPE

MMI performed borings and a geotechnical engineering evaluation for the proposed building and surrounding pavements. Our scope of services included characterizing the subsurface conditions at the site, performing geotechnical engineering analyses, and providing geotechnical design and construction recommendations for the project.

SITE DESCRIPTION AND PROPOSED CONSTRUCTION

The site is currently undeveloped and wooded with site grades ranging from approximately El. 480 on the north to El. 550 on the south. The site is located northeast of an industrial property at 322 Great Hill Road; north, west, and south of residential properties; and east of additional undeveloped and wooded area that is east of South Main Street and the Naugatuck River.

A conceptual site plan has been prepared, which includes a building with a rectangular footprint of approximately 800,000 square feet (640 feet by 1,250 feet). The conceptual location of the building was used as a basis for determining the approximate location of site borings. It is understood that the final size and location of a building and other site improvements may differ from the locations shown on the

plan. The finished floor of the conceptual building will be at approximately El. 515, which will require up to 35 feet of cutting in the southwest and up to 35 feet of filling in the northeast areas of the site to achieve proposed site grades.

REGIONAL GEOLOGY

According to published geologic data (1:125,000 scale, Surficial Material Map of Connecticut, Janet Radway Stone, 1992; and Bedrock Geological Map of Connecticut, John Rodgers, 1985), the subsurface materials are mapped as glacial till over "gray to dark-gray, fine to medium grained schist or gneiss."

SUBSURFACE EXPLORATIONS

MMI observed 15 borings (MM-1 through MM-15) that were performed by SITE, LLC of Beacon Falls, Connecticut, between May 20 and May 23, 2019. The borings were performed to explore the subsurface conditions within the proposed building footprint and for paved parking and drive aisles. The borings were located using Global Positioning System (GPS), and approximate locations are shown on Figure 2 – Subsurface Exploration Plan contained in Appendix 1. Logs of the borings are included in Appendix 2.

Hollow-stem auger drilling methods were used to advance the borings to depths ranging between approximately 5.5 and 26.2 feet below existing site grades. Representative soil samples were obtained by split-barrel sampling procedures in general accordance with American Society for Testing and Materials (ASTM) Specification D-1586, and representative bedrock samples were obtained by coring in general accordance with ASTM Specification D-2113.

The split-barrel sampling procedure utilizes a standard 2-inch-outside-diameter (O.D.) split-barrel sampler that is driven into the bottom of the boring with a 140-pound hammer falling 30 inches. The number of blows required to advance the sampler the middle 12 inches of a normal 24-inch penetration is recorded as the Standard Penetration Resistance Value (N). The blows are indicated on the boring logs at their depth of occurrence and provide an indication of the relative density of the material.

Groundwater levels were measured using a weighted tape in the open drill holes or inferred from the soil samples during drilling.

In 2015, MMI observed seven borings (B-1 through B-7) that were performed by Soil Testing, Inc. of Oxford, Connecticut, between May 26 and May 27, 2015. These borings have been used for reference during our recent planning and design efforts. Their locations are also shown on Figure 2, and the logs are included in Appendix 3.

SUBSURFACE CONDITIONS

The generalized subsurface profile at the site as interpreted from the subsurface exploration data is generally consistent with published geologic information. The encountered subsurface materials are summarized as follows:

- Topsoil 2 to 12 inches thick (where encountered), over
- Subsoil 1.5 to 4.2 feet thick, over
- Glacial Till 2.9 to 23.8 feet thick, over
- Inferred Bedrock 2.9 to 23.8 feet below existing grades (where encountered).



A more detailed description of the subsurface materials encountered is provided below:

Topsoil was encountered at the surface in Borings MM-3 through MM-15 and generally consists of very loose to medium dense, dark brown, fine to medium sand, some to and silt, trace to some fine to coarse gravel, trace roots.

Subsoil was encountered in each boring and generally consists of very loose to medium dense, light brown to brown, fine to coarse sand, some to and silt, trace to some fine to coarse gravel, trace roots <u>or</u> soft, light brown, silt and clay, little fine to medium sand, trace roots.

<u>Glacial Till</u> was encountered below the subsoil in each boring and generally consists of medium dense to very dense, gray/gray-brown/brown, fine to coarse sand, little to and fine to coarse gravel, little to silt <u>or</u> fine to coarse gravel, little to and fine to coarse sand, little to some silt.

Bedrock was cored in Boring MM-3 and inferred in the other borings based on spoon and/or auger refusals. Refusal depths ranged from 5.5 to 26.1 feet below existing grades. In general, the bedrock surface slopes down from the southwest to the northeast. The cored bedrock consists of poor to fair quality, moderately hard, slightly weathered, slightly fractured to sound, gray, fine to coarse-grained gneiss. It appears the quality of the bedrock improves with depth.

Groundwater was encountered in Borings MM-3 through MM-6, MM-8, and MM-11 through MM-14 at depths from 2 to 16 feet below existing grades, or approximately El. 547 on the southwest side of the site to approximately El. 497 on the east side and El. 485 on the north side. The groundwater generally follows the topography and is likely perched atop the shallow bedrock in the southwest area of the site. Groundwater levels will vary depending on factors such as temperature, season, precipitation, construction activity, and other conditions that may be different from those at the time of these observations.

GEOTECHNICAL ANALYSES AND RECOMMENDATIONS

Building Foundations and Slabs

We recommend supporting the proposed building on conventional shallow spread footing foundations that bear on undisturbed glacial till, bedrock, or compacted granular fill (CGF) or crushed stone over these materials. We recommend a maximum net allowable bearing pressure of 6 kips per square foot (e.g., 3 tons per square foot) for footings bearing on above-described subgrade.

Where CGF or crushed stone is used beneath the footings, we recommend that it be placed 1 foot beyond the edge of the footings and at a one horizontal to one vertical (1H:1V) slope away and down from the footings.

Exterior footings should be constructed at a minimum depth of 42 inches below final grades to protect against frost unless bearing directly on bedrock. We recommend a minimum depth of 12 inches be maintained below the proposed bottom of concrete floor slab and the top of footings. The minimum isolated footing size should be 3.0 feet, and the minimum wall footing width should be 24 inches.

Bedrock was encountered in the southwest building area between approximately 6 and 10 feet above the proposed finished floor level, requiring a significant amount of bedrock removal to achieve proposed site



grades. Where footings bear on dissimilar materials of soil to rock, we recommend a transition strip to avoid abrupt transitions and minimize differential settlements. The transition strip should extend for 10 feet where bedrock is overexcavated by 12 inches and replaced with CGF. On either side of the 10-foot strip, the continuous footing would bear on bedrock and glacial till.

We anticipate that the footings will experience up to approximately 1 inch of total settlement and up to approximately 1/2 inch of differential settlement. Settlements should occur as the loads are applied and will be complete at the end of construction. We recommend a maximum coefficient of friction of 0.45 between foundations and CGF and 0.55 between foundations and bedrock.

We recommend placing the concrete floor slab over a minimum 6-inch-thick base course layer of compacted sand and gravel over undisturbed glacial till, bedrock, or CGF or crushed stone over these materials. The subgrade modulus for the recommended subgrade and base course is 250 pounds per cubic inch.

Lateral Earth Pressures

We are not aware of any changes in grade where site or foundation walls will be required. However, for cantilevered walls that are free to rotate at the top and are not braced should be designed to resist an equivalent active static horizontal fluid pressure equal to 38 pounds per square foot (psf) (based on $\phi = 34^\circ$, c = 0 psf, K_a = 0.29, and Y = 130 pounds per cubic foot [pcf]). Braced walls should be designed to resist an equivalent at-rest static horizontal fluid pressure equal to 57 psf (based on $\phi = 34^\circ$, c = 0 psf, K_a = 0.29, and Y = 130 pounds per cubic foot [pcf]). Braced walls should be designed to resist an equivalent at-rest static horizontal fluid pressure equal to 57 psf (based on $\phi = 34^\circ$, c = 0 psf, K_o = 0.44, and Y = 130 pcf). This assumes no unbalanced hydrostatic pressures (free-draining backfill), seismic forces, or traffic surcharge loads. We recommend using a traffic surcharge load of 250 psf.

Foundation Drainage and Dampproofing

In the southwest area of the site, groundwater was observed between El. 547 and El. 527, placing the finished floor at least 12 feet below observed groundwater levels.

We recommend a subslab vapor barrier over the entire building area to protect against capillary moisture impact to the concrete and to limit the transmission of moisture into the floor slab. We recommend foundation drains along the bottom of the exterior shallow foundations that consist of 4-inch perforated drainpipe, surrounded by 4 inches of crushed stone and filter fabric on all sides, gravity fed to daylight or site drainage.

In the southwest quarter of the building footprint, we recommend a subslab drainage system consisting of 12 inches of crushed stone with 4-inch-diameter perforated drainpipes, surrounded by 4 inches of crushed stone, located 25 feet on center and underlain by filter fabric. Subslab drains should be gravity fed and tied into the foundation drains.

Rock Slopes

A slope up to approximately 35 feet tall consisting of a mixed face of approximately 15 feet of soil over approximately 20 feet of rock will be constructed along the southwest side of the site. We recommend the final slope configuration of the rock be no steeper than 1H:6V and the overburden soils no steeper than 2.5H:1V, which blends into the existing grades. Where blending of the overburden soils cannot take place, a site retaining wall or erosion control measures may be required.



A catchment area at least 8 feet wide should be provided at the base of the slope along its entire length to provide an area for which fallen rock or other materials can be contained. Where there is insufficient space to provide the minimum recommended catchment area, a rock catchment fence should be installed. The design of the rock catchment fence should consider the available catchment area and the above slope geometry. The rock catchment fence, if required, should be specified by the manufacturer and installed by the contractor.

Seismic Site Class and Liquefaction Potential

The average Standard Penetration Test "N" value over a 100-foot depth below the building is between 15 and 50 blows per foot. Thus, the site class for the proposed structure is "D" (very dense soil and soft rock) profile per the IBC. According to the 2018 Connecticut Building Code for Naugatuck, Connecticut, S_s is 0.190g, and S₁ is 0.064g. We calculated S_{MS} as 0.228, S_{M1} as 0.109g, S_{DS} as 0.152g, and S_{D1} as 0.073g.

Based on the standard penetration test results, estimated depth to groundwater, soil classifications, and expected peak ground acceleration at this locale, it is our opinion that site soils are not prone to liquefaction.

Asphalt Pavement

Pavement sections should be constructed on a prepared subgrade of proof-compacted glacial till, weathered bedrock, bedrock, or CGF over these materials. Where pavement sections are constructed atop bedrock, we recommend a minimum total pavement section thickness of 12 inches, thickening the processed aggregate base as necessary. The following pavement section recommendations depend largely on the loading anticipated for a given area.

For the parking areas intended for passenger car use only, we recommend a finished course of 1.5 inches, over a binder course of 1.5 inches, over 4 inches of processed aggregate base. For roadways and parking areas used for passenger cars and routine delivery trucks, we recommend a finished course of 1.5 inches, over a binder course of 2 inches, over 8 inches of processed aggregate base. Finally, for the entrance and HS-20 truck aisles, we recommend a finished course of 3 inches, over 6 inches of processed aggregate base.

We recommend pavement drainage in the northwest area of the site where pavements will be below existing groundwater levels. The pavement drains could consist of trench drains along the edges of the pavement areas or a horizontal composite drain installed below the pavement section. The pavement drains should discharge by gravity to an appropriate location.

MATERIALS AND COMPACTION REQUIREMENTS

On-site Material Reuse

Excavated topsoil and subsoil should be stockpiled and used for the same in landscaped areas.

Based on the information contained on the boring logs, the natural glacial till may be suitable for reuse as CGF for below footings, slabs, and pavements and as backfilling around foundations, provided that required in-place density and optimum moisture contents (±2 percent) are met. Modified proctors and



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sieves should be obtained for differing materials to ensure proper in-place density requirements are being met.

Based on the information above, it is our opinion the bedrock does not contain large amounts of mica. Provided bedrock mass is the same, the excavated and/or blasted bedrock may be crushed and reused such that it meets the following requirements below for a given material type.

Material Specifications

CGF for use as structural fill should consist of inorganic soil that is free of clay, loam, ice and snow, tree stumps, roots, and other organic matter and graded within the following limits:

Sieve Size	Percent Finer by Weight
3 inches	100
No. 4	50 – 85
No. 10	25 – 50
No. 40	10 – 35
No. 100	10 – 25
No. 200	0 - 10

Sand and gravel for use as slab base course should consist of hard, durable sand and gravel that is free of clay, loam, ice and snow, tree stumps, roots, and other organic matter and graded within the following limits:

Sieve Size	Percent Finer by Weight
2 inches	100
1/2 inch	50 – 85
No. 4	40 – 75
No. 40	10 – 25
No. 200	0 – 10

Crushed stone for use around drains and below foundations and slabs should consist of sound, tough, durable rock that is graded within the following limits:

Sieve Size	Percent Finer by Weight
3/4 inch	100
1/2 inch	85 – 100
3/8 inch	15 – 45
No. 4	0 – 15
No. 8	0 – 5



Processed aggregate base should meet the requirements of Connecticut Department of Transportation Form 817 specification M.05 with the following gradation:

Sieve Size	Percent Finer by Weight
2-1/2 inches	100
2 inches	95 – 100
3/4 inch	50 – 75
1/4 inch	25 – 45
No. 40	5 – 20
No. 100	2 – 12

We recommend a minimum in-place dry density of 95 percent as per ASTM D1557 for material placed below foundations, floor slabs, and pavements. We recommend a minimum in-place dry density of 92 percent as per ASTM D1557 for material placed as backfill against structural walls. Materials should be placed within 2 percent of their optimum moisture content. We recommend a maximum loose lift thickness of 10 inches.

CONSTRUCTION CONSIDERATIONS

Site Preparation

We recommend the site be cleared of existing topsoil and subsoil. The exposed subgrades should be proof compacted prior to construction of the slabs and footings. On the southwest area of the site, groundwater is expected at or near the bottom of subsoil. Therefore, the contractor should be prepared to manage groundwater for the next stage of construction.

Bedrock Excavations

While mechanical excavation for rock removal may be used for the initial upper layers of bedrock, the effectiveness of such means may prove to be time consuming with depth as the quality of the bedrock improves. We recommend that excavation of the bedrock involve blasting. The primary requirement of the blasting is to control damage to the rock and minimize instability when excavating the final rock faces and subgrades. Another consideration of the blasting is producing a blast rock that is fragmented to suit the capacity of the excavating and hauling equipment.

The contractor should develop a blasting plan and perform a test blast so that production blasting can be designed to limit rock fracturing behind the final rock face or below final rock subgrades. The design of the production blasting program should consider, among other parameters selected by the blasting subcontractor, the bench height and burden. The bench height may be dictated by the geometry of the site, and the burden distance should range between 0.25H to 0.33H, where H is the bench height. The effective burden distance will influence the efficiency of the blasting.

Preblasting and postblasting inspection and vibration monitoring of the nearby structures to the southwest is recommended before bedrock removal occurs.



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Foundations and Slab-on-Grade Preparation

The base of footing excavations should be free of water, ice, frozen soil, and loose soils prior to placing concrete. We recommend the use of smooth-edged excavator buckets to make the final excavations in soil to help protect the subgrade, followed by proof compaction of the exposed subgrade. Concrete should be placed as soon as possible after excavation as to not disturb the bearing materials. Should the materials at bearing level become disturbed, the affected materials should be removed prior to placing concrete. A 4-inch-thick layer of crushed stone may be used to protect footing subgrades that are expected to be open for an extended period.

Where footings bear directly on bedrock, we recommend loose rock fragments be removed by hand so as to not further disturb the subgrade with the use of excavator buckets. A hoe ram should level bedrock fragments protruding into the bottom of footing footprint. Crushed stone may be placed to fill voids and provide a level bearing surface.

Temporary Excavation Support

All excavations should be sloped or shored in accordance with local, state, and federal regulations, including the Occupational Safety and Health Administration (OSHA) (29 CFR part 1926) excavation trench safety standards. Excess soils should be disposed of in accordance with federal, state, and local regulations.

The on-site material is classified as OSHA Class "C" soil and can be cut at a maximum one vertical to one and a half horizontal (1V:1.5H) slope up to a maximum excavation depth of 20 feet. These maximum slope and excavation depths assume no surcharge load (i.e., stockpiles, construction equipment, etc.) at the top of the excavations or seepage (e.g., cuts below the groundwater table).

Where excavations cannot be sloped in accordance with the above, a temporary excavation support system will be required. The temporary excavation support system should be selected by the contractor and designed by a professional engineer registered in the State of Connecticut.

Freezing Conditions

All foundation and slab-on-grade subgrades should be free of frost before placement of reinforcing steel and concrete and protected from freezing until they are backfilled. Subgrade soils that have frozen should be removed and replaced with compacted structural fill.

Dewatering

Based on Borings MM-3, MM-4, and MM-13, we expect groundwater and surface water runoff will need to be controlled from the southwest side of the site during construction. We anticipate the groundwater and surface water can be managed during construction with local sumps and positive grading. The contractor should prepare a dewatering plan in accordance with project requirements for approval by the engineer.



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CONSTRUCTION DOCUMENTS AND PLANS

Project plans should be provided to MMI to review for conformance with the geotechnical recommendations contained herein. If changes are made to the location or type of structure, the recommendations in this report will need to be reviewed.

CONSTRUCTION QUALITY CONTROL

We recommend that MMI make field observations of excavations and foundation preparation to monitor actual conditions and compliance with our recommendations and the project specifications. Specifically, we recommend field observation of removal of unsuitable materials, blasting and vibrations, groundwater management, footing subgrades, fill placement, and compaction. We can also assist in classifying material on site for segregation and/or mixing for reuse on site.

LIMITATIONS

This report is subject to the limitations included in Appendix 4. Thank you for the opportunity to be of service. Please feel free to call either of the undersigned if you have any questions.

Very truly yours,

MILONE & MACBROOM, INC.

Marie G. Bartels, PE Geotechnical Engineer

Joh Kill

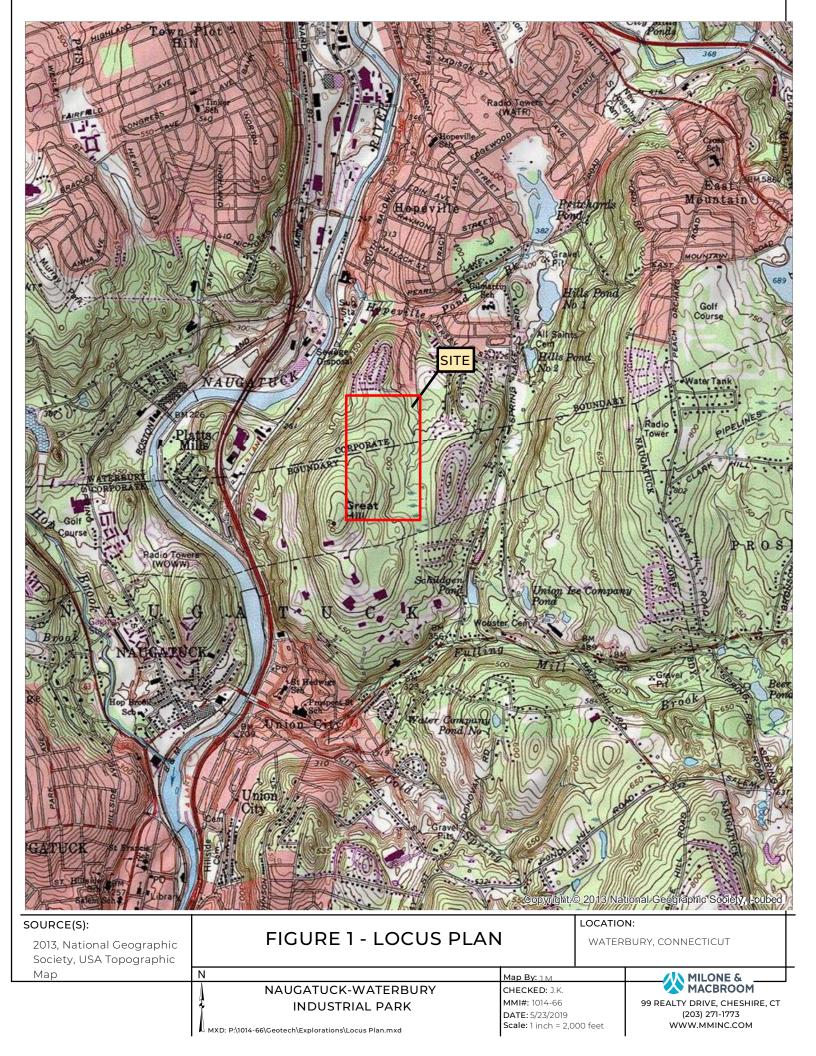
Joseph W. Kidd, PE Senior Geotechnical Manager

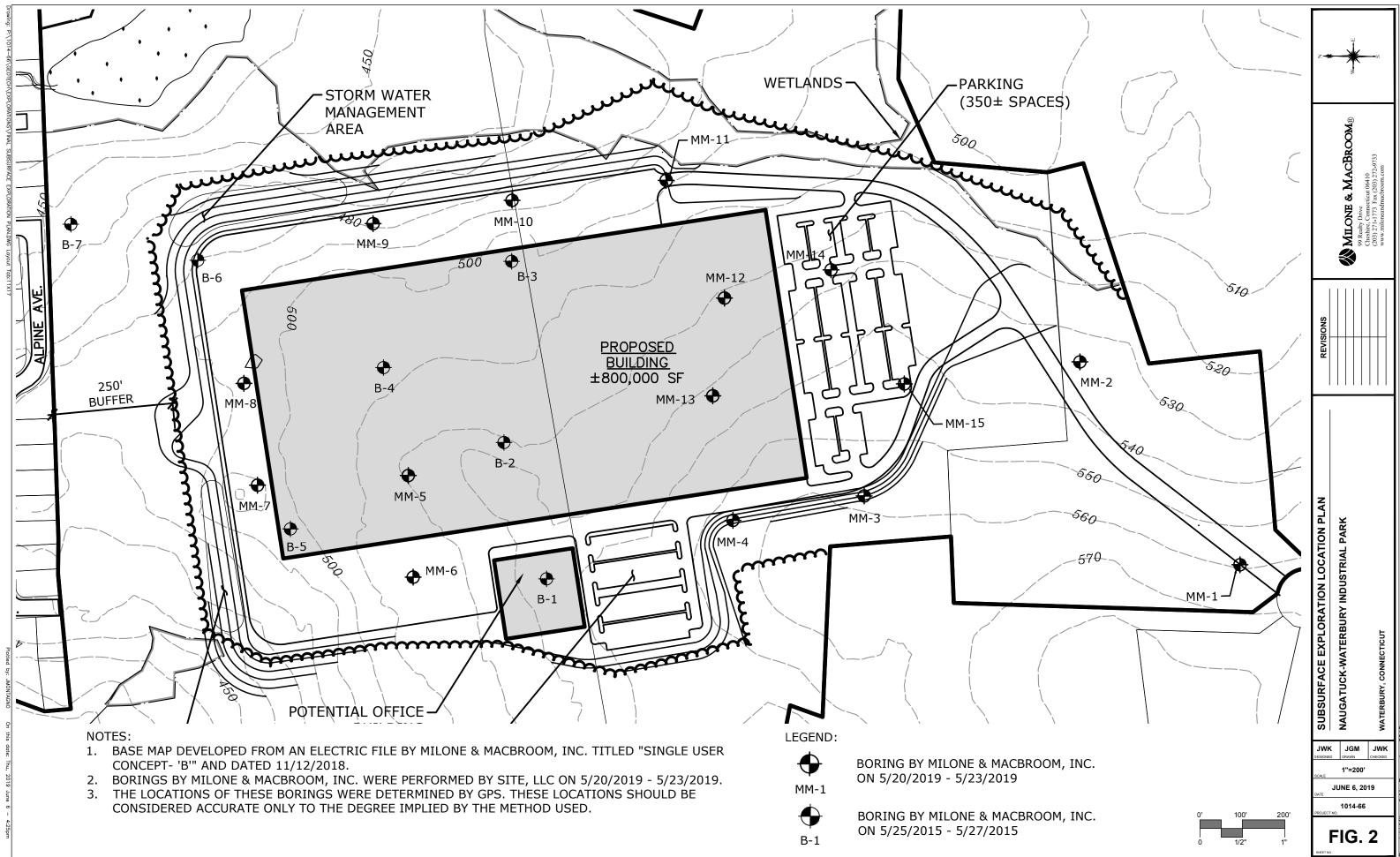
Attachments: Appendix 1 – Figures Appendix 2 – Test Boring Logs (MM-Series) Appendix 3 – 2015 Test Boring Logs (B-Series) Appendix 4 – Limitations

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APPENDIX 1 FIGURES





opvright Milone & MacBroom, Inc -

APPENDIX 2 TEST BORING LOGS

	TEST BORING LOG														
			PROJECT:	NAUGATUCI	K-WATERBU	RY INDUSTRI	AL PARK	BORING NO	: MM-1	SHEE	:T: 1of1				
	MILOI MACB		LOCATION:	WATERBUR	Y, CONNECT	ICUT		CONTRACTO	DR: SITE, LLC						
	99 Realty [Drive	PROJ. NO:	1014-66				FOREMAN: J	. DEANGELIS						
	Cheshire, CT	06410	CLIENT:	WATERBUR	Y DEVELOPN	MENT CORPO	DRATION	INSPECTOR:	J. MONTAGNO						
	(203) 271-	1773	DATE:	MAY 20, 2019	9			GROUND SL	IRFACE ELEVATION:	DN: ±560.0'					
EQUIP	MENT:	AUGER	CASING	SAMPLER	COREBRL.		GROL	JNDWATER D	DEPTH (FT.)		TYPE OF RIG:				
TYPE		HSA	-	SS	-	DATE	TIME		WATER DEPTH		TRACK W/ AUTOH	AMMEF	2		
SIZE ID) (IN.)	2 1/4	-	1 3/8	-	2019-05-20		NC	T ENCOUNTERED		RIG MODEL:				
HMR. V	VT (LB.)	-	-	140	-						CME-55 LCX				
HMR. F	ALL (IN.)	-	-	30	-						CME-55 LCX				
Depth (FT)	SAMPLE NUMBER	RECOVERY (IN)	BLOWS PER 6"	BURMI				ON-DESCRIP F ENGINEERS	TION SYSTEM (ROCK)	DEPTH (FT.)	STRATUM DESCRIPTION	ELEV. (FT.)	Remark		
	WOH S-1: Very loose, light brown, fine to coarse SAND, some Silt, little fine to coarse 1 Gravel, trace Roots.														
1											SUBSOIL				
2												558.0'			
-		6 S-2: Medium dense, gray-brown, fine to coarse SAND, little Silt, little fine to 5 Coarse Gravel.													
3	S-2	5	14												
4	4 19														
5															
			15 27	S-3: Very der	Gravel, little Silt.		GLACIAL TILL								
6	S-3	18	23												
7			26												
8															
0															
9										9.8'		550.2'	1		
10						Bottom o	of Explorati	on ±9.8'					1		
11															
12															
13															
14															
15															
16													1		
													1		
17															
18															
19															
15															
20															
21															
22															
22													1		
Remar	ks:					LESS SOILS	COHE	SIVE SOILS	SAMPLE TYPE		PROPORTIO	ONS	<u> </u>		
	ed bedrock e er refusal at ±	encountered a	at ±9.5'.		N = 0 - 4 = VE			= VERY SOFT			trace = <10%				
z. Auge	n reiusal at ±	. 0.6			4-10 = LO 10-30 = M	OSE EDIUM DENSE		= SOFT = MEDIUM	S = SPLIT SPOON UP = UNDISTURBED PIS	TON	little = 10% - 20% some = 20% - 35%				
					30-50 = D			= STIFF	UT = UNDISTURBED THI	NWALL	and = 35% - 50%				
					50+ = VEI	RY DENSE		= VERY STIFF = HARD							

	TEST BORING LOG												
			PROJECT:	NAUGATUC	K-WATERBU	RY INDUSTR	IAL PARK	BORING NO	: MM-2	SHEE	T: 1of1		
	MILOI MACB		LOCATION:	WATERBUR	Y, CONNECT	ICUT		CONTRACTO	DR: SITE, LLC				
	99 Realty [Drive	PROJ. NO:	1014-66				FOREMAN: J	I. DEANGELIS				
	Cheshire, CT	06410	CLIENT:	WATERBUR	Y DEVELOP	MENT CORPO	DRATION	INSPECTOR:	J. MONTAGNO				
	(203) 271-	1773	DATE:	MAY 20, 2019	9			GROUND SU	JRFACE ELEVATION:	±535.0)'		
EQUIP	MENT:	AUGER	CASING	SAMPLER	COREBRL.		GROU	JNDWATER D	DEPTH (FT.)		TYPE OF RIG:		
TYPE		HSA	-	SS	-	DATE	TIME		WATER DEPTH		TRACK W/ AUTOH	AMMER	2
SIZE IC) (IN.)	2 1/4	-	1 3/8	-	2019-05-20		NC	DT ENCOUNTERED		RIG MODEL:		
HMR. V	VT (LB.)	-	-	140	-								
HMR. F	ALL (IN.)	-	-	30	-						CME-55 LCX		
	SAMPLE	RECOVERY	BLOWS		SOIL AN	ND ROCK CL	ASSIFICATI	ON-DESCRIF	TION	E _	STRATUM	2	Ϋ́
(FT)	NUMBER	(IN)	PER 6"	BURMI	STER SYSTE	M (SOIL) U.S.	. CORPS O	F ENGINEERS	S SYSTEM (ROCK)	DEPTH (FT.)	DESCRIPTION	ELEV.	Remark
			WOH						e fine to coarse				<u> </u>
1	S-1	10	WOH	Gravel, trace	Roots.						SUBSOIL		
										2.0'		533.0	(
2	2 1 S-2 4 50/4" S-2: Very dense, gray-brown, fine to coarse SAND, some fine to coarse Gravel,											555.0	-
3	little Silt. trace Roots.												
				-									
4													
5			15	C 7: Von da	aca aray find	to coorco CA		fina ta coarca	Gravel, little Silt.		GLACIAL TILL		
-		16	15 29	Gravel, little Slit.									
6	S-3	16	30										
7			46	-									1
				-						7.8'		527.2	1
8						Bottom	of Explorati	on ±7.8'					1
9													
10				1									
10]									
11				-									
12													
				-									
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18				-									
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20													
21													
				-									
22				1									
Remar	ks:				COHESION	ILESS SOILS	СОНЕ	SIVE SOILS	SAMPLE TYPE		PROPORTIC	ONS	
1. Inferr	ed bedrock e	encountered a	at ±7.6'.		N = 0 - 4 = VE			= VERY SOFT	C = ROCK CORE		trace = <10%		
2. Auge	er refusal at ±	7.8'.			4-10 = LO 10-30 = M	OSE IEDIUM DENSE		= SOFT = MEDIUM	S = SPLIT SPOON UP = UNDISTURBED PI	STON	little = 10% - 20% some = 20% - 35%		
					30-50 = D			= MEDIOM = STIFF	UT = UNDISTURBED TH		and = 35% - 50%		
					50+ = VE	RY DENSE		= VERY STIFF = HARD					

				Т	EST	BOF	RING	G LOO	G				
			PROJECT:	NAUGATUC	K-WATERBU	RY INDUSTRI	IAL PARK	BORING NO	: MM-3	SHEE	T: 1of2		
	MILOI MACB		LOCATION:	WATERBUR	Y, CONNECT	ICUT		CONTRACTO	R: SITE, LLC				
	99 Realty I	Drive	PROJ. NO:	1014-66				FOREMAN: J	. DEANGELIS				
	Cheshire, CT		CLIENT:	WATERBUR	Y DEVELOPN	MENT CORPO	DRATION	INSPECTOR:	J. MONTAGNO				
	(203) 271-	1773	DATE:	MAY 21, 2019)			GROUND SU	RFACE ELEVATION:	±558.0	0'		
EQUIP	MENT:	AUGER	CASING	SAMPLER	COREBRL.		GRO	JNDWATER D	DEPTH (FT.)		TYPE OF RIG:		
TYPE		HSA	-	SS	NX	DATE	TIME		WATER DEPTH		TRACK W/ AUTOHA	MMER	2
SIZE ID) (IN.)	2 1/4	31/4	1 3/8	2 1/4	2019-05-22			±11.3'		RIG MODEL:		
HMR. V	VT (LB.)	-	-	140	-						İ		
HMR. F	ALL (IN.)	-	-	30	-						CME-55 LCX		
Depth	SAMPLE	RECOVERY	BLOWS/6"		SOIL AN	ND ROCK CL	ASSIFICAT	ION-DESCRIP	TION	Η Η	STRATUM	× ~	ark
(FT)	NUMBER	(IN)	OR MIN/FT	BURMI	STER SYSTE	M (SOIL) U.S.	. CORPS O	F ENGINEERS	SYSTEM (ROCK)	DEPTH (FT.)	DESCRIPTION	ELEV. (FT.)	Remark
			1						e Silt, trace fine	0.3'	TOPSOIL	557.7'	ш.
1	S-1	9	1				prown, fine	to medium SA	ND, some Silt,				
			2	trace fine Gr	ravel, trace Ro	oots.				2.0'	SUBSOIL	556.0'	
2 4 S-2: Medium dense, gray-brown, fine to coarse SAND, some fine to coarse Gravel,										2.0		000.0	
3	3 S-2 9 7 little Silt.												
			11										
4													
5 35 S-3: Very dense, gray, fine to coarse SAND, some fine to coarse Gravel,													
6	S-3	19	42		nise, gruy, mie	. to course of	(11D, 3011)C						
0	5-5	19	73										
7			41										
8													1
Ŭ											GLACIAL TILL		
9													
10					<i>c</i>			c	e				
			23 29	S-4: Very de	nse, gray, fine	e to coarse SA	AND, some	fine to coarse	Gravel, little Silt.				
11	S-4	12	31							11.3'	G.W.T. 🔻	546.7'	
12			61										
17													
13													
14													
15													
	S-5	11	18 58	S-5: Very dei	nse, gray, fine	e to coarse SA	ND, some	fine Gravel, litt	le Silt.				
16			50/2"							16.2'		541.8'	2
17			2.00		ality, modera ray, fine to co			ered, slight to	moderately		·		
10			2.25	REC = 97%, F		arse graineu	UNEISS.						
18			2.25										
19	19 C-1 58 2.00												
20			2.00								BEDROCK		
20			2.00										
21			2.50										
22			2.75		-		-	ered, moderat	ely fractured to				
	C-2	60	2.50		ound, gray, fine to coarse grained GNEISS. REC = 100%, RQD = 63%								
Remar					COHESION	ILESS SOILS		SIVE SOILS	SAMPLE TYPE	1	PROPORTIC	NS	
		ered. Offset bo encountered.	-	a at +16.2'	N = 0 - 4 = VE 4-10 = LO			= VERY SOFT = SOFT	C = ROCK CORE S = SPLIT SPOON		trace = <10% little = 10% - 20%		
	Searoer		_ sgan conny	J GC _ 10.2 .	10-30 = MEDIUM DENSE 2-4 = 30F1 3 = 3F11 3F00N Intel = 10% - 20% 10-30 = MEDIUM DENSE 4 - 8 = MEDIUM UP = UNDISTURBED PISTON some = 20% - 35%								
				30-50 = DENSE 8 -15 = STIFF UT = UNDISTURBED THINWALL and = 35% - 50% 50+ = VERY DENSE 15-30 = VERY STIFF 15-30 = VERY ST									
					50 7 = VE			= VERY STIFF = HARD					

				Т	EST	BOF	RING	G LO	G					
			PROJECT:	NAUGATUC	K-WATERBU	JRY INDUSTRI	AL PARK	BORING NO	: MM-3	SHEE	T: 2 of 2			
	MILO	NE & ROOM	LOCATION:	WATERBUR	Y, CONNEC	TICUT		CONTRACTO	CONTRACTOR: SITE, LLC					
	99 Realty [) rivo	PROJ. NO:	1014-66				FOREMAN: J	. DEANGELIS					
	Cheshire, CT	06410	CLIENT:	WATERBUR	Y DEVELOP	MENT CORPC	RATION	INSPECTOR:	J. MONTAGNO					
	(203) 271-1	773	DATE:	MAY 21, 2019)			GROUND SU	IRFACE ELEVATION:	±558.0	כ'		_	
EQUIPI	MENT:	AUGER	CASING	SAMPLER	COREBRL		GROU	JNDWATER D	DEPTH (FT.)		TYPE OF RIG:			
TYPE		HSA	-	SS	NX	DATE	TIME		WATER DEPTH		TRACK W/ AUTOH	AMMER	۲	
SIZE ID	(IN.)	2 1/4	3 1/4	1 3/8	2 1/4	2019-05-22			±11.3'		RIG MODEL:			
HMR. V	VT (LB.)	-	-	140	-									
HMR. F	ALL (IN.)	-	-	30	-						CME-55 LCX			
Depth	SAMPLE	RECOVERY	BLOWS/6"		SOIL A	ND ROCK CL4	SSIFICAT	ON-DESCRIP	TION	TH (STRATUM	> _	ark	
(FT)	NUMBER	(IN)	OR MIN/FT		STER SYSTE	EM (SOIL) U.S.	CORPS O	F ENGINEERS	SYSTEM (ROCK)	DEPTH (FT.)	DESCRIPTION	ELEV. (FT.)	Remark	
			2.50										-	
24			3.50											
	C-2	60	0.55								BEDROCK			
25			2.75	4										
26			3.50							26.2'		531.8'		
27						Bottom o	f Exploratio	on ±26.2'		20.2		551.0	1	
21														
28														
29														
				4										
30														
31				4										
70				1										
32														
33				-										
34														
35														
36														
70				1										
37				1										
38				4										
39				1										
				4										
40				1										
41				1										
				-										
42				1										
43				4										
				1										
44]										
45				-										
				1										
Remarl	<s:< td=""><td></td><td></td><td></td><td>N = 0 - 4 = V 4-10 = LC</td><td></td><td>N= 0-2 2-4</td><td>SIVE SOILS = VERY SOFT = SOFT = MEDIUM</td><td>SAMPLE TYPE C = ROCK CORE S = SPLIT SPOON UP = UNDISTURBED PI</td><td></td><td>PROPORTIO trace = <10% little = 10% - 20% some = 20% - 35%</td><td>ONS</td><td></td></s:<>				N = 0 - 4 = V 4-10 = LC		N= 0-2 2-4	SIVE SOILS = VERY SOFT = SOFT = MEDIUM	SAMPLE TYPE C = ROCK CORE S = SPLIT SPOON UP = UNDISTURBED PI		PROPORTIO trace = <10% little = 10% - 20% some = 20% - 35%	ONS		
					30-50 = 1		8 -15 15-30	= MEDIOM = STIFF = VERY STIFF = HARD	UT = UNDISTURBED TH		and = 35% - 50%			

				Т	EST	BOF	RING	S LO	G				
			PROJECT:	NAUGATUC	K-WATERBU	RY INDUSTRI	IAL PARK	BORING NO	: MM-4	SHEE	T: 1of1		_
	MILOI MACB	NE & ROOM	LOCATION:	WATERBUR	Y, CONNECT	ICUT		CONTRACTO	DR: SITE, LLC				
	99 Realty I	Drive	PROJ. NO:	1014-66				FOREMAN: J	. DEANGELIS				
	Cheshire, CT		CLIENT:	WATERBUR	Y DEVELOP	MENT CORPO	DRATION	INSPECTOR:	J. MONTAGNO				
	(203) 271-	1773	DATE:	MAY 21, 2019)			GROUND SU	IRFACE ELEVATION:	±554.0	0'		
EQUIPI	MENT:	AUGER	CASING	SAMPLER	COREBRL.		GRO	JNDWATER D	DEPTH (FT.)		TYPE OF RIG:		
TYPE		HSA	-	SS	-	DATE	TIME		WATER DEPTH		TRACK W/ AUTOHA	AMMER	R
SIZE ID) (IN.)	2 1/4	-	1 3/8	-	2019-05-22			±8.0'		RIG MODEL:		
HMR. V		-	-	140	-						1		
HMR. F	ALL (IN.)	-	-	30	-						CME-55 LCX		
	SAMPLE	RECOVERY	BLOWS		SOIL AN	I ND ROCK CL/	L ASSIFICAT	ION-DESCRIP	TION	Ξ	STRATUM	× ~	Ϋ́
(FT)	NUMBER	(IN)	PER 6	BUDM					SYSTEM (ROCK)	DEPTH (FT.)	DESCRIPTION	ELEV.	Remark
(,		. ,	1						, trace fine Gravel,	∩ 0.5'	TOPSOIL	553.5'	
	6.1		3						me fine to coarse	0.5	TOPSOIL	<u> </u>	
1	S-1	11	4	Gravel, some	e Silt, trace Ro	oots.					SUBSOIL		
2			6	C Di Maldiuro		fina ta anara		ome fine to coa		2.0'		552.0'	-
			6	little Silt.	i dense, gray,	, fine to coars	e sand, sc	ine line to coa	arse Gravel,				
3	S-2	9	17										
4			19										
5			13	S-3: Dense, g	gray, fine to c	oarse SAND,	some fine	to coarse Grav	el, little Silt.				
6	S-3	18	21										
			19 20										
7			20										
8										8.0'	G.W.T. 🔻	546.0'	
											GLACIAL TILL		
9													
10								_					
			15 14	S-4: Dense, g	gray, fine to c	oarse GRAVE	EL, little fine	e to coarse Sar	nd, little Silt.				
11	S-4	15	31										
12			42										
13													
14													
15	S-5	5	50/5"	S-5: Very der	nse, gray, fine	e to coarse GF	RAVEL, son	ne Silt, trace fir	ne to coarse Sand.				
16													1
						Bottomic	of Explorati	on +162'		16.2'		537.8'	2
17						Doctorre	piorati						
18													
19													
20													
21													
22													
~~~													
Remar	ks:	1		1	COHESION	ILESS SOILS	СОНЕ	SIVE SOILS	SAMPLE TYPE	1	PROPORTIC	ONS	L
		encountered a	at ±15.3'.		N = 0 - 4 = VE			= VERY SOFT	C = ROCK CORE		trace = <10%		
2. Auge	r refusal at ±	16.2'.			4-10 = LO 10-30 = M	OSE EDIUM DENSE		= SOFT = MEDIUM	S = SPLIT SPOON UP = UNDISTURBED PIS	TON	little = 10% - 20% some = 20% - 35%		
					30-50 = D			= MEDIOM = STIFF	UT = UNDISTURBED TH				
					50+ = VEI	RY DENSE		= VERY STIFF					
							30 +	= HARD					

	TEST BORING LOG												
			PROJECT:	NAUGATUC	K-WATERBU	RY INDUSTRI	IAL PARK	BORING NO.	: MM-5	SHEE	<b>T:</b> 1 of 2		
	MILOI MACB	NE & ROOM	LOCATION:	WATERBUR	Y, CONNECT	ICUT		CONTRACTO	DR: SITE, LLC	1			
	99 Realty I	Drivo	PROJ. NO:	1014-66				FOREMAN: J	. DEANGELIS				
	Cheshire, CT		CLIENT:	WATERBUR		MENT CORPO	DRATION	INSPECTOR:	J. MONTAGNO				
	(203) 271-	1773	DATE:	MAY 22, 2019	9			GROUND SU	IRFACE ELEVATION:	±520.0	)'		
EQUIPI	MENT:	AUGER	CASING	SAMPLER	COREBRL.		GRO	JNDWATER D	DEPTH (FT.)		TYPE OF RIG:		
TYPE		HSA	-	SS	-	DATE	TIME		WATER DEPTH		TRACK W/ AUTOHA	MMER	2
SIZE ID	(IN.)	2 1/4	-	1 3/8	-	2019-05-22			±16.0'		RIG MODEL:		
HMR. V		=	-	140	-				_10.0				
	ALL (IN.)	-	_	30	-						CME-55 LCX		
				50				ON-DESCRIP	TION	Т			¥
Depth (FT)	SAMPLE NUMBER	RECOVERY (IN)	BLOWS PER 6"	DUDM						DEPTH (FT.)	STRATUM DESCRIPTION	ELEV. (FT)	Remark
(FI)         NUMBER         (IN)         PER 6"         BURMISTER SYSTEM (SOIL) U.S. CORPS OF ENGINEERS SYSTEM (ROCK)           1         S-1: Loose, Top 5": Dark brown, fine to medium SAND, some Silt, trace fine Gravel,										0.4'			
2 trace Roots Bottom 8" Light brown fine to medium SAND some Silt trace fine										0.4' <b>TOPSOIL</b> 519.6			
1	S-1	S-I IS Gravel, trace Roots.											
2			2			<i>c</i>			1. 1		SUBSOIL		
			2		1 0	,		AND, some Sil to coarse SAN	It, little fine to D, little fine Gravel,	2.3'		517.7'	-
3	S-2	15	6	little Silt.		5. Dottorri 12	. oray, mic						
4			7										
5			11	S-3: Dense, g									
6	S-3:	22	16										
Ŭ	0 0.	~~~	17	-									
7			20										
				-									
8													
9				-									
10			23	S-4: Dense,	gray, fine to c	oarse SAND a	and fine to	coarse GRAVE	EL, little Silt.				
11	S-4	18	21 16										
			16	-									
12													
13				-							GLACIAL TILL		
				-									
14													
15			05	C 5 1 /		<b>C</b>	CAND	<i>c</i>					
			25 34	S-5: Very dei little Silt.	nse, gray-bro	wn, rine to co	arse SAND	, some fine to	coarse Gravel,	16.0'	G.W.T. 🔻	504 0'	
16	S-5	16	26							10.0		50 1.0	1
17			33										
				-									
18				1									
19													
				-									
20			18	S-6: Dense, g	gray-brown, f	ine to coarse	GRAVELa	nd fine to coar	se SAND, little Silt.				
21	S-6	17	24										
	00		18 28										
22			20										
<b>D</b> .				1			-						
Remar	<s:< td=""><td></td><td></td><td></td><td>COHESION</td><td>ILESS SOILS</td><td></td><td>SIVE SOILS = VERY SOFT</td><td>SAMPLE TYPE C = ROCK CORE</td><td></td><td>PROPORTIO trace = &lt;10%</td><td>NS</td><td></td></s:<>				COHESION	ILESS SOILS		SIVE SOILS = VERY SOFT	SAMPLE TYPE C = ROCK CORE		PROPORTIO trace = <10%	NS	
					4-10 = LO			= SOFT	S = SPLIT SPOON		little = 10% - 20%		
						EDIUM DENSE		= MEDIUM			some = 20% - 35%		
					30-50 = D 50+ = VE	ENSE RY DENSE		= STIFF = VERY STIFF	UT = UNDISTURBED THI	NWALL	and = 35% - 50%		
								= HARD					

Description (particular)         Description (particular) <thdescription (particular)         <thdescripti< th=""><th></th><th></th><th></th><th></th><th>Т</th><th>EST</th><th>BOF</th><th>RINC</th><th>S LO</th><th>G</th><th></th><th></th><th></th><th></th></thdescripti<></thdescription 					Т	EST	BOF	RINC	S LO	G				
Bit Structure (bdf/arc.1040)         BOD, No:         Mode #         TORE MAY.1 CONCUSION         INSPECTOR				PROJECT:	NAUGATUC	K-WATERBU	RY INDUSTRI	AL PARK	BORING NO.	: MM-5	SHEE	<b>T:</b> 2 of 2		
Humany mark         CLUENT:         WATCHDUPY DEVELOMENT CORPORT ON         INSPECTOR 3. MONTACAD           CRUIMENT:         CALCE         WATCHDUPY DEVELOMENT CORPORT ON         CARCINO SURFACE LEXATION         15200           CRUIMENT:         HAA         V.V.V.V.V.V.V.V.V.V.V.V.V.V.V.V.V.V.V.		MILO		LOCATION:	WATERBUR	Y, CONNECT	ICUT		CONTRACTO	DR: SITE, LLC				
Closely (1994)         Closely		99 Dealty [	Drive	PROJ. NO:	1014-66				FOREMAN: J	. DEANGELIS				
EQUIPMENT:         DALCE         CANNON SAME LEVATION:         DIFFUNCTION CALL         DIFFUNCTION CALL <thdiffunction call<="" th=""> <thdiffunction call<="" th="">         &lt;</thdiffunction></thdiffunction>		Cheshire, CT	06410	CLIENT:	WATERBUR	Y DEVELOPN	IENT CORPO	RATION	INSPECTOR:	J. MONTAGNO				
CONTINUE         Direction         Direction         Direction         Direction         Direction         Market with the second secon		(203) 271-	1773	DATE:	MAY 22, 2019	9			GROUND SU	IRFACE ELEVATION:	±520.0	)'		
SIZE LD (IN)     2 1/4     -     1.5.0     -     2010     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     <	EQUIPI	MENT:	AUGER	CASING	SAMPLER	COREBRL.		GROI	JNDWATER D	)EPTH (FT.)		TYPE OF RIG:		
SizeE D (N)       21/4        138        209-05-22         R0 MODEL         HMR WT (LB)	TYPE		HSA	-	SS	-	DATE	TIME		WATER DEPTH		TRACK W/ AUTOH,	AMMER	R
MMR. WT(LB)     ·     ·     HAO     ·     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I     I	SIZE ID	) (IN.)	2 1/4	-	1 3/8	-	2019-05-22					RIG MODEL:		
HMR. FAIL (N)     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·     ·				-	140	-				_10.0				
Depth         SAMPLE         RECOVERY (N)         BLOWS PERP         SOIL AND ROCK CLASSIFICATION-DESCRIPTION BURMISTER SYSTEM (SOIL) U.S. CORPS OF ENGINEERS SYSTEM (ROCK)         Total Status Description			-	_	30	-						CME-55 LCX		
24         26         27         11         31           26         5-7         11         31         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         <				BLOW/S		SOIL AN	ID ROCK CLA	ASSIFICATI	ON-DESCRIP	TION	Ξ	STDATUM	× -	Ϋ́
24         26         27         11         31           26         5-7         11         31         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         20.1         <					BUDM						ЕРТ (FT.)			ema
Image: second			. ,		BORM	SIER STSTE	M (301L) 0.3.	CORPSO	FENGINEERS	STSTEM (ROCK)	Δ		ш	æ
Image: second	24				1									
25         27         11         26         5-7. Very dense, brown, fine to coarse CRAVEL and fine to coarse SANE, little Sit.           26         5-7         11         30/1         26.1'         43.2'           27         26.1'         90.7'         Bottom of Exploration 126.1'         26.1'         43.2'           28         20         20.1'         20.1'         10.1'         10.1'         10.1'           29         20         20.1'         20.1'         20.1'         10.1'         10.1'           30         20         20.1'         20.1'         20.1'         10.1'         10.1'           31         20         20.1'         20.1'         20.1'         20.1'         10.1'         10.1'           32         20         20.1'         20.1'         20.1'         20.1'         20.1'         20.1'         20.1'         20.1'         20.1'         20.1'         20.1'         20.1'         20.1'         20.1'         20.1'         20.1'         20.1'         20.1'         20.1'         20.1'         20.1'         20.1'         20.1'         20.1'         20.1'         20.1'         20.1'         20.1'         20.1'         20.1'         20.1'         20.1'         20.1	24				]									
S-7         N         Si           2         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -	25			26	S-7: Verv de	nse brown fi	ne to coarse i	GRAVEL ar	nd fine to coar	se SAND little Silt		GLACIAL TILL		
201         501*         Bottom of Exploration +261         20.1         493.9         1           20         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1	26	S-7	11		57. Very der	130, 010001, 11				Se SAND, Intile Silt.				
28	20		50/1"										493.9	1
3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3	27			Bottom of Exploration ±26.1'										
3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3	20				1									
30	20													
3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3	29													
3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3       3	70													
32	30													
33	31													
33	70				1									
34	52													
36	33				-									
36	34													
36	0.													
37       38         39       39         40       40         41       41         42       41         43       41         44       43         44       44         45       41         1.Spoon refusal at ±26.1.       N= 0-4 = vERY LOOSE         N= 0-4 = vERY LOOSE       N= 0-2 = vERY SOFT         2.4 = SOFT       0 = SPLIT SPOON         10 = LOOSE       2-4 = SOFT         2.4 = SOFT       0 = SPLIT SPOON         UP = UNDISTURBED FISTON       some = 20% - 33%         30 = VERY DENSE       15-30 = VERY SIFF         15-30 = VERY SIFF       UT = UNDISTURBED FISTON         30 = VERY SIFF       15-30 = VERY SIFF	35													
37       38         39       39         40       40         41       41         42       41         43       41         44       43         44       44         45       41         1.Spoon refusal at ±26.1.       N= 0-4 = vERY LOOSE         N= 0-4 = vERY LOOSE       N= 0-2 = vERY SOFT         2.4 = SOFT       0 = SPLIT SPOON         10 = LOOSE       2-4 = SOFT         2.4 = SOFT       0 = SPLIT SPOON         UP = UNDISTURBED FISTON       some = 20% - 33%         30 = VERY DENSE       15-30 = VERY SIFF         15-30 = VERY SIFF       UT = UNDISTURBED FISTON         30 = VERY SIFF       15-30 = VERY SIFF	36													
38					-									
39	37				1									
39	38				1									
40       41         41       42         42       43         43       44         44       45         1. Spoon refusal at ±26.1'.       N= 0-4 = VERY LOOSE 1-0 30 = MEDIUM DENSE 30-50 = DENSE 50+ = VERY DENSE       N= 0-2 = VERY SOFT 1-30 = VERY STIFF       SAMPLE TYPE       PROPORTIONS 10 - 4 = SOFT 2 - 4 = SOFT 15-30 = VERY STIFF       C = ROCK CORE 2 - 4 = SOFT 15-30 = VERY STIFF       Trace = 10% 10 NISTURBED THINWALL 10 = 100% - 20% 10 - 30 = MEDIUM DENSE 50+ = VERY DENSE					4									
41       42         42       43         43       44         44       44         45       44         44       44         45       44         46       45         1. Spoon refusal at ±26.1'.       COHESIONLESS SOILS       COHESIVE SOILS       SAMPLE TYPE       PROPORTIONS         N = 0 -4 = VERY LOOSE 4-10 = LOOSE 10-30 = MEDIUM DENSE 30-50 = DENSE 50+ = VERY DENSE       N = 0 -2 = VERY SOFT 2 - 4 = SOFT 10-30 = MEDIUM DENSE 30-50 = DENSE 50+ = VERY DENSE       C = ROCK CORE 2 - 4 = SOFT 10-30 = MEDIUM DENSE 30-50 = DENSE 50+ = VERY DENSE       T = UNDISTURBED PISTON 10 = UNDISTURBED THINWALL and = 35% - 50%	39				1									
41       42         42       43         43       44         44       44         45       44         44       44         45       44         46       45         1. Spoon refusal at ±26.1'.       COHESIONLESS SOILS       COHESIVE SOILS       SAMPLE TYPE       PROPORTIONS         N = 0 -4 = VERY LOOSE 4-10 = LOOSE 10-30 = MEDIUM DENSE 30-50 = DENSE 50+ = VERY DENSE       N = 0 -2 = VERY SOFT 2 - 4 = SOFT 10-30 = MEDIUM DENSE 30-50 = DENSE 50+ = VERY DENSE       C = ROCK CORE 2 - 4 = SOFT 10-30 = MEDIUM DENSE 30-50 = DENSE 50+ = VERY DENSE       T = UNDISTURBED PISTON 10 = UNDISTURBED THINWALL and = 35% - 50%	40				1									
42       43         43       44         44       45         45       45         1. Spoon refusal at ±26.1'.       COHESIONLESS SOILS         N= 0 - 4 = VERY LOOSE       N = 0 - 2 = VERY SOFT         4-10 = LOOSE       2 - 4 = SOFT         10-30 = MEDIUM DENSE       8 - 15 = STIFF         10-30 = MEDIUM DENSE       8 - 15 = STIFF         10-30 = VERY DENSE       8 - 15 = STIFF         10-30 = VERY DENSE       15-30 = VERY STIFF					4									
43       43       44         44       44         45       44         45       45         1. Spoon refusal at ±26.1'.       COHESIONLESS SOILS       COHESIVE SOILS       SAMPLE TYPE       PROPORTIONS         N = 0 - 4 = VERY LOOSE       N = 0 - 2 = VERY SOFT       C = ROCK CORE       trace = <10%         1. Spoon refusal at ±26.1'.       N = 0 - 4 = VERY LOOSE       N = 0 - 2 = VERY SOFT       C = ROCK CORE       trace = <10%         10 - 30 = MEDIUM DENSE       30-50 = DENSE       8 -15 = STIFF       UP = UNDISTURBED PISTON       some = 20% - 35%         30-50 = DENSE       50 + EVERY DENSE       15-30 = VERY STIFF       UT = UNDISTURBED THINWALL       and = 35% - 50%	41				1									
44       44         45       45         A5       45         1. Spoon refusal at ±26.1'.       COHESIONLESS SOILS       COHESIVE SOILS       SAMPLE TYPE       PROPORTIONS         N = 0 - 4 = VERY LOOSE       N = 0 - 2 = VERY SOFT       C = ROCK CORE       trace = <10%         1. Spoon refusal at ±26.1'.       N = 0 - 4 = VERY LOOSE       N = 0 - 2 = VERY SOFT       C = ROCK CORE       trace = <10%         10 - 30 = MEDIUM DENSE       4 - 8 = MEDIUM       UP = UNDISTURBED PISTON       some = 20% - 35%       some = 20% - 35%         30 - 50 = DENSE       50 + = VERY DENSE       15-30 = VERY STIFF       UT = UNDISTURBED THINWALL       and = 35% - 50%	42				]									
44       44         45       45         A5       45         1. Spoon refusal at ±26.1'.       COHESIONLESS SOILS       COHESIVE SOILS       SAMPLE TYPE       PROPORTIONS         N = 0 - 4 = VERY LOOSE       N = 0 - 2 = VERY SOFT       C = ROCK CORE       trace = <10%         1. Spoon refusal at ±26.1'.       N = 0 - 4 = VERY LOOSE       N = 0 - 2 = VERY SOFT       C = ROCK CORE       trace = <10%         10 - 30 = MEDIUM DENSE       4 - 8 = MEDIUM       UP = UNDISTURBED PISTON       some = 20% - 35%       some = 20% - 35%         30 - 50 = DENSE       50 + = VERY DENSE       15-30 = VERY STIFF       UT = UNDISTURBED THINWALL       and = 35% - 50%					-									
45       Image: Contestion less solls       Contestion less solls       Contestion less solls       Sample Type       PROPORTIONS         Remarks:       1. Spoon refusal at ±26.1'.       N = 0 - 4 = VERY LOOSE       N = 0 - 2 = VERY SOFT       C = ROCK CORE       trace = <10%         10-30 = MEDIUM DENSE       4 - 8 = MEDIUM       UP = UNDISTURBED PISTON       some = 20% - 35%       some = 20% - 35%         30-50 = DENSE       50+ = VERY DENSE       15-30 = VERY STIFF       UT = UNDISTURBED THINWALL       and = 35% - 50%	43													
Remarks:       COHESIONLESS SOILS       COHESIVE SOILS       SAMPLE TYPE       PROPORTIONS         1. Spoon refusal at ±26.1'.       N = 0 - 4 = VERY LOOSE       N = 0 - 2 = VERY SOFT       C = ROCK CORE       trace = <10%         4-10 = LOOSE       2 - 4 = SOFT       S = SPLIT SPOON       little = 10% - 20%         10-30 = MEDIUM DENSE       4 - 8 = MEDIUM       UP = UNDISTURBED PISTON       some = 20% - 35%         30-50 = DENSE       8 -15 = STIFF       UT = UNDISTURBED THINWALL       and = 35% - 50%	44				]									
Remarks:       COHESIONLESS SOILS       COHESIVE SOILS       SAMPLE TYPE       PROPORTIONS         1. Spoon refusal at ±26.1'.       N = 0 - 4 = VERY LOOSE       N = 0 - 2 = VERY SOFT       C = ROCK CORE       trace = <10%         4-10 = LOOSE       2 - 4 = SOFT       S = SPLIT SPOON       little = 10% - 20%         10-30 = MEDIUM DENSE       4 - 8 = MEDIUM       UP = UNDISTURBED PISTON       some = 20% - 35%         30-50 = DENSE       8 -15 = STIFF       UT = UNDISTURBED THINWALL       and = 35% - 50%					4									
N = 0 - 4 = VERY LOOSE         N = 0 - 2 = VERY SOFT         C = ROCK CORE         trace = <10%	45		1		1									
N = 0 - 4 = VERY LOOSE         N = 0 - 2 = VERY SOFT         C = ROCK CORE         trace = <10%	Pemar	<b>4</b> 5'				COLLEGION		COUF			L	DDODODTY	אר	
10-30 = MEDIUM DENSE4 - 8 = MEDIUMUP = UNDISTURBED PISTONsome = 20% - 35%30-50 = DENSE8 -15 = STIFFUT = UNDISTURBED THINWALLand = 35% - 50%50+ = VERY DENSE15-30 = VERY STIFF			26.1'.			N = 0 - 4 = VE	RY LOOSE	N = 0-2	= VERY SOFT	C = ROCK CORE		trace = <10%	CINO	
30-50 = DENSE8 -15 = STIFFUT = UNDISTURBED THINWALLand= 35% - 50%50+ = VERY DENSE15-30 = VERY STIFF											TON			
						30-50 = D	ENSE	8 -15	= STIFF					
						50+ = VEF	RY DENSE							

				Т	EST	BOF	RING	G LO	G						
			PROJECT:	NAUGATUC	K-WATERBU	RY INDUSTRI	IAL PARK	BORING NO	: MM-6	SHEE	<b>T:</b> 1of1				
	MILOI	NE & ROOM	LOCATION:	WATERBUR	RY, CONNECT	ICUT		CONTRACTO	DR: SITE, LLC						
			PROJ. NO:	1014-66				FOREMAN: J	. DEANGELIS						
	99 Realty I Cheshire, CT		CLIENT:	WATERBUR		MENT CORPO	DRATION	INSPECTOR:	J. MONTAGNO						
	(203) 271-	1773	DATE:	MAY 22, 2019	9			GROUND SU	IRFACE ELEVATION:	±514.0	)'				
EQUIP	MENT:	AUGER	CASING	SAMPLER	COREBRL.		GRO	JNDWATER D	DEPTH (FT.)		TYPE OF RIG:				
TYPE		HSA	-	SS	-	DATE	ТІМЕ		WATER DEPTH		TRACK W/ AUTOH	AMMEF	R		
SIZE ID	) (IN.)	2 1/4	_	13/8	-	2019-05-22			±15.4'		RIG MODEL:				
HMR. V			_	140	_	2013 00 22			±13.4						
	ALL (IN.)	-	_	30							CME-55 LCX				
				50						Г			¥		
Depth         SAMPLE         RECOVERY         BLOWS         SOIL AND ROCK CLASSIFICATION-DESCRIPTION           (FT)         NUMBER         (IN)         PER 6"         BUDMISTER SYSTEM (SOIL) U.S. CORPS OF ENGINEERS SYSTEM (ROCK)									DEPTH (FT.)	STRATUM DESCRIPTION	ELEV. (FT.)	Remark			
(F1)         NUMBER         (IN)         PER 6"         BURMISTER SYSTEM (SOIL) U.S. CORPS OF ENGINEERS SYSTEM (ROCK)           1         S-1: Medium dense, Top 6": Dark brown, fine to medium SAND, some Silt, trace															
			2	S-I: Medium fine Gravel, t	iedium SAND,	some Silt, trace	0.5'	TOPSOIL	513.5'						
1	S-1	13	14			medium SA	ND, some S	Silt, little fine to	o coarse Gravel,		SUBSOIL				
2			11	trace Roots.						2.0'		512.0'			
16 S-2: Dense, gray, fine to coarse GRAVEL, little fine to coarse Sand, trace Silt.															
<b>3</b> S-2 10 <u>33</u> 16															
,			26	-											
4															
5			10												
16     S-3: Very dense, gray, fine to coarse SAND, some fine to coarse Gravel, little Silt.       25     25															
6	S-3	21	25												
7			36	]											
,															
8															
				-							GLACIAL TILL				
9															
10				]											
			15	5	nse, gray-bro	wn, fine to co	barse GRAV	/EL and fine to	coarse SAND,						
11	S-4	16	47 54	little Silt.											
			27	•											
12				]											
13															
				-											
14															
15				]											
			17	-		wn, fine to co	arse GRAV	'EL, some Silt,	little fine to	15.4'	G.W.T. 🔻	498.6'			
16	S-5	14	16 37	coarse Sand	Ι.					1					
			22	1						17.0'		497.0'			
17						Bottom c	of Explorati	on ±17.0'							
18															
				-											
19				-											
20															
20				4						1					
21				4						1					
				1						1					
22															
Demor	<u> </u>				COULCION					1	DDODODTY				
Remar	NG.				COHESION N = 0 - 4 = VE	ILESS SOILS ERY LOOSE		SIVE SOILS = VERY SOFT	SAMPLE TYPE C = ROCK CORE		PROPORTIC trace = <10%	JNS			
					4-10 = LO			= SOFT	S = SPLIT SPOON		little = 10% - 20%				
						EDIUM DENSE		= MEDIUM			some = 20% - 35%				
					30-50 = D 50+ = VE	DENSE RY DENSE		= STIFF = VERY STIFF	UT = UNDISTURBED TH	NWALL	and = 35% - 50%				
								= HARD							

				Т	EST	BOF	RING	G LO	G				
			PROJECT:	NAUGATUC	K-WATERBL	JRY INDUSTRI	IAL PARK	BORING NO	.: MM-7	SHEE	<b>T:</b> 1of1		
	MACB	NE & ROOM	LOCATION:	WATERBUR	RY, CONNECT	TICUT		CONTRACTO	DR: SITE, LLC				
	99 Realty [	Vrive	PROJ. NO:	1014-66				FOREMAN: J	J. DEANGELIS				
	Cheshire, CT		CLIENT:	WATERBUR	RY DEVELOP	MENT CORPO	DRATION	INSPECTOR:	; J. MONTAGNO				
	(203) 271-1	773	DATE:	MAY 22, 201	9			GROUND SU	JRFACE ELEVATION:	±500.	0'		
EQUIPI	MENT:	AUGER	CASING	SAMPLER	COREBRL.		GRO	UNDWATER D	DEPTH (FT.)		TYPE OF RIG:		
TYPE		HSA	-	SS	-	DATE	ТІМЕ		WATER DEPTH		TRACK W/ AUTOH	AMMEF	R
SIZE ID	(IN)	2 1/4		1 3/8	-	2019-05-22					RIG MODEL:		
HMR. V		-	-	140	_	2015 05 22		INC	DI ENCOUNTERED				
	ALL (IN.)	-	-	30	_						CME-55 LCX		
		-	-	- 30	-					I <del>_</del>			X
Depth		RECOVERY	BLOWS					ION-DESCRIF		DEPTH (FT.)	STRATUM	ELEV. (FT.)	Remark
(FT)	NUMBER	(IN)	PER 6"						S SYSTEM (ROCK)				Re
			2	S-1: Loose, To trace Roots.		prown, fine to r	medium S/	AND, some Silt	t, trace fine Gravel,	0.3'	TOPSOIL	499.7'	
1	S-1	6	4			fine to mediu	ım SAND, s	ome Silt, little	fine to coarse				
2			3	Gravel, trace	e Roots.								
			4	S-2: Loose, li some Silt, tr	-	ine to mediur	n SAND, so	ome fine to co	arse Gravel,		SUBSOIL		
3	S-2	11	3	sonne sint, ti	ace Roots.								
4			3										
				-						4.5'		495.5'	
5			4	S-3: Very de	nse, gray, fin	e to coarse GP	RAVEL and	fine to coarse	SAND, little Silt.				
6	S-3	13	20										
_			50/4"	4									
7				1									
8											GLACIAL TILL		
_				4									
9				1									
10													
	S-4	12	32 50/6"	S-4: Very de	ense, gray, fin	e to coarse GI	RAVEL and	fine to coarse	SAND, little Silt.	11.0'		489.0'	
11			50/0			Bottom o	of Explorati	ion ±11.0'		11.0		+09.0	
12													
13													
14													
				4									
15				1									
16													
				4									
17				1									
18				]									
				4									
19				1									
20				4									
				4									
21				1									
22				4									
				-									
Remar	KS:			1	COHESIO	NLESS SOILS	СОНЕ	SIVE SOILS	SAMPLE TYPE		PROPORTIO	ONS	
					N = 0 - 4 = V			= VERY SOFT			trace = <10%		
					4-10 = LC 10-30 = N	DOSE VEDIUM DENSE		= SOFT = MEDIUM	S = SPLIT SPOON UP = UNDISTURBED PI	STON	little = 10% - 20% some = 20% - 35%		
					30-50 = [	DENSE	8 -15	= STIFF	UT = UNDISTURBED TH		and = 35% - 50%		
					50+ = VE	ERY DENSE		= VERY STIFF					
							30 +	= HARD					

				Т	EST	BOF	RING	S LO	G				
			PROJECT:	NAUGATUC	K-WATERBU	RY INDUSTR	IAL PARK	BORING NO	.: MM-8	SHEE	<b>T:</b> 1 of 1		
	MILOI MACB	NE & ROOM	LOCATION:	WATERBUR	Y, CONNECT	ICUT		CONTRACTO	DR: SITE, LLC				
	99 Realty I	Drivo	PROJ. NO:	1014-66				FOREMAN: J	I. DEANGELIS				
	Cheshire, CT		CLIENT:	WATERBUR	Y DEVELOPN	MENT CORPO	RATION	INSPECTOR:	. J. MONTAGNO				
	(203) 271-	1773	DATE:	MAY 22, 2019	9			GROUND SU	JRFACE ELEVATION:	±492.	0'		
EQUIP	MENT:	AUGER	CASING	SAMPLER	COREBRL.		GROU	JNDWATER [	DEPTH (FT.)		TYPE OF RIG:		
TYPE		HSA	-	SS	-	DATE	TIME		WATER DEPTH		TRACK W/ AUTOH.	AMMER	2
SIZE ID	) (IN.)	2 1/4	-	13/8	-	2019-05-22			+2.0'		RIG MODEL:		
HMR. V	VT (LB.)	-	-	140	-								
HMR. F	ALL (IN.)	-	-	30	-						CME-55 LCX		
					SOIL AN	I ND ROCK CL/	I ASSIFICATI	I ON-DESCRIF		Ξ	STRATUM	× -	¥
Depth (FT)	NUMBER	RECOVERY (IN)	BLOWS PER 6"	BUDMI					SYSTEM (ROCK)	DEPTH (FT.)	DESCRIPTION	ELEV. (FT.)	Remark
. ,			WOH					im SAND and				ш	щ
l ,	S-1	24	1						im SAND and SILT,	1.0'	TOPSOIL	491.0'	
	3-1	24	0	trace fine Gr	avel, trace Ro	oots.				2.01		(00.0)	
2			1 3	S-2: Loose. T	op 6": Liaht b	prown, fine to	medium S	AND and SILT	, trace fine Gravel,	2.0'	G.W.T. ▼ SUBSOIL	490.0'	
3	S-2	12	4	trace Roots.	op o : Eigneis		ediae		, addo into oravoi,	3.0'		489.0'	
5	5=2	12	3	Bottom 6": E	Brown, fine to	coarse SANI	D, some Silt	, little fine to a	coarse Gravel.				
4			2							4.5'	SILTY SAND	487.5'	
5												107.0	
5			8		n dense, gray,	, fine to coars	e SAND, so	me fine to coa	arse Gravel,				
6	S-3	6	11	little Silt.									
7			12										
, í													
8											GLACIALTILL		
9													
5													
10			21	S-4 [.] Dense (	arav fine to c	oarse GRAVE	I little fine	e to coarse Sar	nd little Silt				
11	S-4	16	20	0 1. 2 of 100, 5	9.49,		. <u>.</u> ,						
	5-4	10	20							10.01			
12			19			Bottom c	of Exploration	on ±12.0'		12.0'		480.0'	
13													
15													
14													
15													
.5													
16													
17				1									
.,													
18													
19													
20													
21													
22													
Dem								an (= 6 - ···					
Remar	KS:				COHESION N = 0 - 4 = VE	ILESS SOILS ERY LOOSE		SIVE SOILS = VERY SOFT	SAMPLE TYPE C = ROCK CORE		PROPORTIO trace = <10%	JNS	
					4-10 = LO			= SOFT	S = SPLIT SPOON		little = 10% - 20%		
						EDIUM DENSE			UP = UNDISTURBED PIS UT = UNDISTURBED TH		some = 20% - 35%		
					30-50 = D 50+ = VEI	RY DENSE		= STIFF = VERY STIFF	UT - UNDISTURBED TH	INVALL	and = 35% - 50%		
							30 +	= HARD					

				Т	EST	BOF	RING	S LO	G				
			PROJECT:	NAUGATUC	K-WATERBU	RY INDUSTR	IAL PARK	BORING NO	: MM-9	SHEE	<b>T:</b> 1of1		
	MILO	NE & ROOM	LOCATION:	WATERBUR	Y, CONNECT	ICUT		CONTRACTO	DR: SITE, LLC				
	99 Realty [	Drivo	PROJ. NO:	1014-66				FOREMAN: J	. DEANGELIS				
	Cheshire, CT		CLIENT:	WATERBUR		MENT CORPO	DRATION	INSPECTOR:	J. MONTAGNO				
	(203) 271-	1773	DATE:	MAY 22, 2019	9			GROUND SU	IRFACE ELEVATION:	±479.(	C'		
EQUIP	MENT:	AUGER	CASING	SAMPLER	COREBRL.		GRO	JNDWATER D	DEPTH (FT.)		TYPE OF RIG:		
TYPE		HSA	-	SS	-	DATE	TIME		WATER DEPTH		TRACK W/ AUTOH.	AMMER	2
SIZE ID	) (IN.)	2 1/4	-	13/8	-	2019-05-22					RIG MODEL:		
	VT (LB.)	-	-	140	-			110					
	ALL (IN.)	-	-	30	-						CME-55 LCX		
			DL OLVG			ID BOCK CL		I ION-DESCRIP		I		<u>.</u> .	Ϋ́
Depth (FT)	SAMPLE NUMBER	RECOVERY (IN)	BLOWS PER 6"							DEPTH (FT.)	STRATUM DESCRIPTION	ELEV. (FT.)	Remark
(* */	NUMBER	()	1						SYSTEM (ROCK) e Silt, trace fine	<b>О</b> –	TOPSOIL		å
		10	0	Gravel, trace		ik diowii, iiri	e to mediu	III SAND, SUIT	e siit, trace inte	0.0	TOPSOIL	478.4'	
1	S-1	18	1		÷ .	fine to mediu	um SAND, s	ome Silt, trace	e fine Gravel,				
2			1	trace Roots.			un finata	no o di uno CANI	D, some Silt, little		SUBSOIL		
			6		i dense, Top i se Gravel, trac	•	wn, fine to	meaium SAINI	J, some Silt, little	3.0'		476.0'	
3	S-2	14	14		,		some fine ⁻	to coarse Grav	el, little Silt.				
4			7										
5			19	S-3: Very der	nse, gray, fine	to coarse GI	RAVEL and	fine to coarse	SAND, little Silt.		GLACIAL TILL		
6	S-3	17	27										
			39 50/0"							7.0'		472.0'	
7			00,0			Bottom	of Explorati	on ±7.0'		7.0			
8													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
10													
19													
20													
21													
22													
Remar	ks:					LESS SOILS			SAMPLE TYPE	•	PROPORTI	ONS	*
					N = 0 - 4 = VE 4-10 = LO			= VERY SOFT = SOFT	C = ROCK CORE S = SPLIT SPOON		trace = <10% little = 10% - 20%		
						EDIUM DENSE		= MEDIUM	UP = UNDISTURBED PIS	STON	some = 20% - 35%		
					30-50 = D				UT = UNDISTURBED TH	INWALL	and = 35% - 50%		
					50+ = VEI	RY DENSE		= VERY STIFF = HARD					

				Т	EST	BOF	RING	G LO	G				
			PROJECT:	NAUGATUC	K-WATERBU	IRY INDUSTR	IAL PARK	BORING NO	: MM-10	SHEE	<b>T:</b> 1 of 1		
	MILOI		LOCATION:	WATERBUF	RY, CONNECT	ICUT		CONTRACTO	DR: SITE, LLC				
	99 Realty I	Drive	PROJ. NO:	1014-66				FOREMAN: J	. DEANGELIS				
	Cheshire, CT	06410	CLIENT:	WATERBUR	Y DEVELOP	MENT CORPO	ORATION	INSPECTOR:	J. MONTAGNO				
	(203) 271-	1773	DATE:	MAY 23, 2019	9			GROUND SL	IRFACE ELEVATION:	±485.	0'		
EQUIP	MENT:	AUGER	CASING	SAMPLER	COREBRL.		GRO	JNDWATER D	DEPTH (FT.)		TYPE OF RIG:		
TYPE		HSA	-	SS	-	DATE	TIME		WATER DEPTH		TRACK W/ AUTOH	AMMEF	2
SIZE IC	) (IN.)	2 1/4	-	1 3/8	-	2019-05-23		NC	T ENCOUNTERED		RIG MODEL:		
HMR. V	VT (LB.)	-	-	140	-						CME-55 LCX		
HMR. F	ALL (IN.)	-	-	30	-						CME-33 LCX		
•	SAMPLE NUMBER	RECOVERY	BLOWS PER 6"					ION-DESCRIP		DEPTH (FT.)	STRATUM DESCRIPTION	ELEV. (FT.)	Remark
(FT)	NUMBER	(IN)							SYSTEM (ROCK)				
	S-1	5	1 30	S-I: Very der Silt, trace Ro		ne to mediur	n SAND, so	ome fine to co	arse Gravel, some	0.5'	TOPSOIL	484.5	
			50/1"								SUBSOIL		1
2													
3				4						3.0'		482.0	2
4													
5	6.2	10	23	S-2: Very de	nse, gray, fine	e to coarse GI	RAVEL and	fine to coarse	SAND, little Silt.				
6	S-2	10	50/5"								GLACIAL TILL		
_													
7													
8						Bottom	of Explorati	on +79'		7.9'		477.1	3
9				-		Dottoini		011 17.5					
5				-									
10													
11													
10													
12													
13													
14													
				-									
15													
16													
17													
17													
18													
19													
20													
21				-									
22													
				4									
Remar		I	1	l		ILESS SOILS	СОНЕ	SIVE SOILS	SAMPLE TYPE	<u> </u>	PROPORTI	ONS	I
	erous surface oil found in a	e cobbles. Aug Juger spoils	ered to ±5.0'		N = 0 - 4 = VE 4-10 = LO			= VERY SOFT = SOFT	C = ROCK CORE S = SPLIT SPOON		trace = <10% little = 10% - 20%		
	er refusal at ±					IEDIUM DENSE		= MEDIUM	UP = UNDISTURBED PIS	TON	some = 20% - 35%		
					30-50 = D	DENSE RY DENSE		= STIFF = VERY STIFF	UT = UNDISTURBED THI	NWALL	and = 35% - 50%		
					507 - VE			= VERY STIFF = HARD					

				Т	EST	BOF	RINC	S LO	G				
			PROJECT:	NAUGATUC	K-WATERBU	RY INDUSTRI	AL PARK	BORING NO	.: MM-11	SHEE	<b>T:</b> 1of1		
	MILOI MACB		LOCATION:	WATERBUR	Y, CONNECT	ICUT		CONTRACTO	DR: SITE, LLC				
	99 Realty I	Drive	PROJ. NO:	1014-66				FOREMAN: J	. DEANGELIS				
	Cheshire, CT		CLIENT:	WATERBUR	Y DEVELOPN	IENT CORPO	DRATION	INSPECTOR:	J. MONTAGNO				
	(203) 271-	1773	DATE:	MAY 23, 2019	9			GROUND SU	IRFACE ELEVATION:	±499.	0'		
EQUIPI	MENT:	AUGER	CASING	SAMPLER	COREBRL.		GROU	JNDWATER D	DEPTH (FT.)		TYPE OF RIG:		
TYPE		HSA	-	SS	-	DATE	TIME		WATER DEPTH		TRACK W/ AUTOH	AMMEF	2
SIZE ID	) (IN.)	2 1/4	-	1 3/8	-	2019-05-23			±2.0'		RIG MODEL:		
HMR. V	VT (LB.)	-	-	140	-						İ		
HMR. F	ALL (IN.)	-	-	30	-						CME-55 LCX		
Depth		RECOVERY	BLOWS		SOIL AN	ID ROCK CL	ASSIFICATI	ON-DESCRIP	TION	۲.	STRATUM	N O	, X
(FT)	NUMBER	(IN)	PER 6"	BUDMI					SYSTEM (ROCK)	DEPTH (FT.)	DESCRIPTION	ELEV. (FT.)	Remark
. ,			WOH						e Silt, trace fine	0.3'	TOPSOIL	498.7	Å
	S-1	17	1	Gravel, trace	Roots.							13017	1
	5-1	17	0	Bottom 13": trace Roots.	Light brown,	fine to mediu	um SAND a	nd SILT, trace	fine Gravel,	2.01		(07.0	
2			WOH		n dense, Top 5	5": Light brow	/n, fine to m	nedium SAND	and SILT, little	2.0' 2.4'	G.W.T. 🔻	497.0' 496.6'	
3	S-2	14	6		e Gravel, trac								1
_			9	Bottom 9": E	Brown, fine to	coarse SAN	D and fine t	o coarse GRA'	VEL, little Silt.				
4													
5			_			<i>c</i> .							
			5	S-3: Medium	n dense, gray,	fine to coars	e SAND, litt	le fine to coar	se Gravel, little Silt.		GLACIAL TILL		
6	S-3	14	13										
7			25										
8													
9										9.1'		489.9'	1
_						Bottom	of Explorati	on ±9.1'					
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
21													
22													
Remar	<u> </u>				COLLESION	LESS SOILS		SIVE SOILS	SAMPLE TYPE		PROPORTI	ONG	
	<b>~s.</b> r refusal at ±!	9.1'.			N = 0 - 4 = VE			= VERY SOFT	C = ROCK CORE		trace = <10%	CINO	
					4-10 = LO			SOFT			little = 10% - 20%		
					10-30 = M 30-50 = D	EDIUM DENSE ENSE		= MEDIUM = STIFF	UP = UNDISTURBED PIS UT = UNDISTURBED TH		some = 20% - 35% and = 35% - 50%		
						RY DENSE		= VERY STIFF					
							30 + :	= HARD					

				Т	EST	BOF	RINC	S LO	G				
			PROJECT:	NAUGATUC	K-WATERBU	RY INDUSTRI	IAL PARK	BORING NO	:: MM-12	SHEE	<b>T:</b> 1of1		
	MILOI MACB		LOCATION:	WATERBUR	Y, CONNECT	ICUT		CONTRACTO	DR: SITE, LLC				
	99 Realty I	Drivo	PROJ. NO:	1014-66				FOREMAN: J	. DEANGELIS				
	Cheshire, CT	06410	CLIENT:	WATERBUR	Y DEVELOPN	MENT CORPO	DRATION	INSPECTOR:	J. MONTAGNO				
	(203) 271-	1773	DATE:	MAY 23, 2019	9			GROUND SU	IRFACE ELEVATION:	±521.0	)'		
EQUIP	MENT:	AUGER	CASING	SAMPLER	COREBRL.		GROU	JNDWATER D	DEPTH (FT.)		TYPE OF RIG:		
TYPE		HSA	-	SS	-	DATE	TIME		WATER DEPTH		TRACK W/ AUTOH.	AMMER	2
SIZE ID	) (IN.)	2 1/4	-	1 3/8	-	2019-05-23			±2.5'		RIG MODEL:		
HMR. V	VT (LB.)	-	-	140	-								
HMR. F	ALL (IN.)	-	-	30	-						CME-55 LCX		
	SAMPLE NUMBER	RECOVERY (IN)	BLOWS PER 6"	BURMI				ON-DESCRIF F ENGINEERS	PTION S SYSTEM (ROCK)	DEPTH (FT.)	STRATUM DESCRIPTION	ELEV. (FT.)	Remark
			WOH		op 4": Dark bi	rown, fine to I	medium S/	AND, some Silt	t, trace fine Gravel,	0.3'	TOPSOIL	520.7	
1	S-1	13	1	trace Roots.	ight brown f	fine to mediu		nd SILT, trace	fine Gravel		SUBSOIL		
2			2	trace Roots.	-	inte to media	IIII SAND a	nu sier, trace	line Gravel,		3083012		
2			1	S-2: Soft, ligł	nt brown, SIL ⁻	T and CLAY, li	ittle fine to	medium Sano	d, trace Roots.	2.5'	G.W.T. 🔻	518.5	-
3	S-2	19	1	-						3.5'		517.5	
4			10										1
				-									
5			9	S-3: Medium	n dense, gray,	, fine to coars	e SAND, so	me fine to coa	arse Gravel,		GLACIAL TILL		
6	S-3	13	12 16	little Silt.									
			43										1
7							<u>(</u>			7.4'		513.6	2
8				-		Bottom	of Explorati	on ±7.4'					
9													
5				-									
10				-									
11				1									
				-									
12													
13				-									
14													
17				-									
15				-									
16				]									
				-									
17													
18				-									
19													
15													
20				-									
21				]									
				-									
22													
Remar	ks:				COHESION	ILESS SOILS	COHF	SIVE SOILS	SAMPLE TYPE		PROPORTIO	ONS	1
1. Inferr	ed bedrock e	encountered a	at ±7.2'.		N = 0 - 4 = VE	ERY LOOSE	N = 0-2	= VERY SOFT	C = ROCK CORE		trace = <10%		
2. Auge	er refusal at ±	7.4'.			4-10 = LO 10-30 = M	OSE IEDIUM DENSE		= SOFT = MEDIUM	S = SPLIT SPOON UP = UNDISTURBED PIS	STON	little = 10% - 20% some = 20% - 35%		
					30-50 = D			= STIFF	UT = UNDISTURBED TH				
					50+ = VEI	RY DENSE		= VERY STIFF = HARD					

TYPE       HSA       -       SS       -       DATE       TIME       WATER DEPTH       TRA         SIZE ID (IN.)       2 1/4       -       1 3/8       -       2019-05-23       ±4.5'       RIC         HMR. WT (LB.)       -       -       140       -         CM         HMR. FALL (IN.)       -       -       30       -         E       E         Depth       SAMPLE       RECOVERY       BLOWS       SOIL AND ROCK CLASSIFICATION-DESCRIPTION       E       E       E       E       E	
PROJ. NO: 1014-66         FOREMAN: J. DEANGELIS           99 Realty Drive Cheshire, CT 06410 (203) 271-1773         WATERBURY DEVELOPMENT CORPORATION         INSPECTOR: J. MONTAGNO           DATE:         MAY 23, 2019         GROUND SURFACE ELEVATION: ±532.0'         GROUND SURFACE ELEVATION: ±532.0'           EQUIPMENT:         AUGER         CASING         SAMPLER         COREBRL         GROUND SURFACE ELEVATION: ±532.0'           TYPE         HSA         -         SS         -         DATE         TIME         WATER DEPTH (FT.)         TRA           SIZE ID (IN.)         21/4         -         13/8         -         2019-05-23         ±4,5'         RIC           HMR. WT (LB.)         -         -         300         -         I         I         CM         CM	1
99 Realty Drive Cheshire, CT 06410 (203) 271-1773         CLIENT:         WATERBURY DEVELOPMENT CORPORATION         INSPECTOR: J. MONTAGNO           EQUIPMENT:         AUGER         CASING         SAMPLER         COREBRL         GROUND SURFACE ELEVATION: ±532.0'           FQUIPMENT:         AUGER         CASING         SAMPLER         COREBRL         GROUND SURFACE ELEVATION: ±532.0'           TYPE         HSA         -         SS         -         DATE         TIME         WATER DEPTH (FT.)         TRA           SIZE ID (IN.)         21/4         -         13/8         -         2019-05-23         ±4.5'         RIC           HMR. WT (LB.)         -         -         30         -         I         I         CM         CM	
Cheshire, CT 06410 (203) 271-1773       CLIENT:       WATERBURY DEVELOPMENT CORPORATION       INSPECTOR: J. MONTAGNO         DATE:       MAY 23, 2019       GROUND SURFACE ELEVATION: ±532.0°         EQUIPMENT:       AUGER       CASING       SAMPLER       COREBRL       GROUND WATER DEPTH (FT.)       TYPE         HSA       -       SS       -       DATE       TIME       WATER DEPTH       TR/         SIZE ID (IN.)       2 1/4       -       1 3/8       -       2019-05-23       ±4.5'       RIC         HMR. WT (LB.)       -       -       30       -       Image: Comparison of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of t	
EQUIPMENT:         AUGER         CASING         SAMPLER         COREBRL         GROUND SURFACE ELEVATION:         ±532.0           TYPE         HSA         -         SS         -         DATE         TIME         WATER DEPTH (FT.)         TRA           SIZE ID (IN.)         21/4         -         13/8         -         2019-05-23         ±4.5'         RIC           HMR. WT (LB.)         -         -         30         -         Image: Construction of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second	
TYPE         HSA         -         SS         -         DATE         TIME         WATER DEPTH         TR/           SIZE ID (IN.)         21/4         -         13/8         -         2019-05-23         ±4.5'         RIC           HMR. WT (LB.)         -         -         140         -         Image: Comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of the comparison of	
SIZE ID (IN.)       2 1/4       -       1 3/8       -       2019-05-23       ±4.5'       RIC         HMR. WT (LB.)       -       -       140       - <t< td=""><td>OF RIG:</td></t<>	OF RIG:
HMR. WT (LB.)     -     140     -     CM       HMR. FALL (IN.)     -     -     30     -     CM	K W/ AUTOHAMMER
HMR. FALL (IN.)	IODEL:
HMR. FALL (IN.) 30 -	55 LCX
Depth         SAMPLE         RECOVERY         BLOWS         SOIL AND ROCK CLASSIFICATION-DESCRIPTION         Here         Here <td></td>	
(FT) NUMBER (IN) PER 6" BURMISTER SYSTEM (SOIL) U.S. CORPS OF ENGINEERS SYSTEM (ROCK) [ 변 년 [	STRATUM
	SCRIPTION
1 S-1: Very loose, Top 3": Dark brown, fine to medium SAND, some Silt, trace fine	TOPSOIL 531.7'
1     S-1     14     0     Gravel, trace Roots.       0     Bottom 11": Light brown, fine to medium SAND and SILT, trace fine Gravel,	
2 1 trace Roots.	SUBSOIL
4 S-2: Medium dense, Top 2": Light brown, fine to medium SAND and SILT, trace 2.2' 10 fine Gravel, trace Roots.	529.8'
<b>3</b> S-2 9 10 Bottom 7": Gray, fine to coarse SAND, some fine to coarse Gravel, little Silt.	
4 16	
4.5'	<b>G.W.T.</b> ▼ 527.5'
5 S-3: Very dense, gray, fine to coarse SAND, some fine to coarse Gravel, little Silt.	
6 S-3 15 10	ACIAL TILL
7 26	
8	
9	
10 35 S-4: Very dense, gray, fine to coarse SAND and fine to coarse GRAVEL, little Silt.	
10         50/4"         10.8'           11         Bottom of Exploration ±10.8'         10.8'	521.2' 1
13	
14	
15	
16	
18	
19	
20	
21	
Remarks:     COHESIONLESS SOILS     COHESIVE SOILS     SAMPLE TYPE	PROPORTIONS
1. Auger refusal at ±10.8'.     N = 0 - 4 = VERY LOOSE     N = 0 - 2 = VERY SOFT     C = ROCK CORE     training	e = <10%
	e = 10% - 20% e = 20% - 35%
	= 35% - 50%
50+ = VERY DENSE 15-30 = VERY STIFF 30 + = HARD	

				Т	EST	BOF	RINC	G LO	G				
			PROJECT:	NAUGATUC	K-WATERBU	RY INDUSTR	IAL PARK	BORING NO	:: MM-14	SHEE	<b>T:</b> 1 of 1		
	MILOI MACB		LOCATION:	WATERBUR	RY, CONNECT	ICUT		CONTRACTO	DR: SITE, LLC				
	99 Realty [	Drive	PROJ. NO:	1014-66				FOREMAN: J	I. DEANGELIS				
	Cheshire, CT		CLIENT:	WATERBUR		MENT CORPO	DRATION	INSPECTOR:	J. MONTAGNO				
	(203) 271-	1773	DATE:	MAY 23, 2019	9			GROUND SU	JRFACE ELEVATION:	±525.0	D'		
EQUIP	MENT:	AUGER	CASING	SAMPLER	COREBRL.		GROL	JNDWATER [	DEPTH (FT.)		TYPE OF RIG:		
TYPE		HSA	-	SS	-	DATE	TIME		WATER DEPTH		TRACK W/ AUTOH.	AMMEF	2
SIZE ID	) (IN.)	2 1/4	-	1 3/8	-	2019-05-23			±2.0'		RIG MODEL:		
HMR. V	VT (LB.)	-	-	140	-								
HMR. F	ALL (IN.)	-	-	30	-						CME-55 LCX		
Depth	SAMPLE	RECOVERY	BLOWS		SOIL AN	ID ROCK CL	ASSIFICATI	ON-DESCRIF	TION	E 🤉	STRATUM	× ¬	ark
(FT)	NUMBER	(IN)	PER 6"	BURMI	STER SYSTE	M (SOIL) U.S		FENGINEERS	S SYSTEM (ROCK)	DEPTH (FT.)	DESCRIPTION	ELEV. (FT.)	Remark
			1						e Silt, trace fine	0.4'	TOPSOIL	524.6'	
1	S-1	16	1	Gravel, trace									
			0	Bottom 11": l	_ight brown, 1	fine to mediu	ım SAND a	nd SILT, trace	fine Gravel.	2.0'	SUBSOIL G.W.T.	523.0'	
2			1	S-2: Very loo	se, Top 10": Li	ght brown, fi	ne to medi	um SAND and	d SILT.	2.0	0	525.0	
3	S-2	13	1	Bottom 3": C	Gray, fine to m	nedium SANI	D, some fin	e to coarse Gr	avel, little Silt.	7 51		501 51	
			2	1						3.5'		521.5'	
4													
5			23	S Z: Von da	nco arov fina	to coarco Cl	) / / EI   li++ /	fina ta coarc	e Sand, little Silt.		GLACIAL TILL		
C	6.7	15	23	5-5. Very der	nse, gray, nne	to coarse of	KAVEL, IIIIE	e nine to coarsi	e Sand, little Silt.				
6	S-3	15	30					6.5'		518.5'	-		
7			50/0"	-		Bottom	of Explorati	on ±6.5'					1
8													
0													
9				-									
10													
11													
12													
13													
14													
15													
15													
16				-									
17													
				-									
18				-									
19													
20													
21													
				1									
22				1									
Remar	ks:				COHESION	ILESS SOILS	COLLE	SIVE SOILS	SAMPLE TYPE		PROPORTIO		
	<b>r s.</b> r refusal at ±0	6.5'.			N = 0 - 4 = VE			= VERY SOFT	C = ROCK CORE		trace = <10%	CINO	
					4-10 = LO			= SOFT			little = 10% - 20%		
					10-30 = M 30-50 = D	EDIUM DENSE ENSE		= MEDIUM = STIFF	UP = UNDISTURBED PIS UT = UNDISTURBED TH		some = 20% - 35% and = 35% - 50%		
					50+ = VE	RY DENSE		= VERY STIFF					
							30 + :	= HARD					

				Т	EST	BOF	RING	G LO	G				
			PROJECT:	NAUGATUC	K-WATERBU	RY INDUSTR	IAL PARK	BORING NO	: MM-15	SHEE	<b>T:</b> 1 of 1		
	MILOI MACB		LOCATION:	WATERBUR	Y, CONNECT	ICUT		CONTRACTO	DR: SITE, LLC				
	99 Realty [	Drive	PROJ. NO:	1014-66				FOREMAN: J	. DEANGELIS				
	Cheshire, CT	06410	CLIENT:	WATERBUR	Y DEVELOP	MENT CORPO	ORATION	INSPECTOR:	J. MONTAGNO				
	(203) 271-	1773	DATE:	MAY 23, 2019	9			GROUND SU	IRFACE ELEVATION:	±544.	0'		
EQUIP	MENT:	AUGER	CASING	SAMPLER	COREBRL.		GRO	JNDWATER D	DEPTH (FT.)		TYPE OF RIG:		
TYPE		HSA	-	SS	-	DATE	TIME		WATER DEPTH		TRACK W/ AUTOH	AMMEF	2
SIZE ID	) (IN.)	2 1/4	-	13/8	-	2019-05-23		NC	T ENCOUNTERED		RIG MODEL:		
HMR. V	VT (LB.)	-	-	140	-								
HMR. F	ALL (IN.)	-	-	30	-						CME-55 LCX		
Depth	SAMPLE	RECOVERY	BLOWS		SOIL AN	ND ROCK CL	ASSIFICAT	ON-DESCRIP	TION	Ŧ 🦳	STRATUM	× ~	r k
(FT)	NUMBER	(IN)	PER 6"	BURMI	STER SYSTE	M (SOIL) U.S.	. CORPS O	F ENGINEERS	SYSTEM (ROCK)	DEPTH (FT.)	DESCRIPTION	ELEV. (FT.)	Remark
			1						e Silt, trace fine	0.2'	TOPSOIL		
1	S-1	7	1	Gravel, trace	Roots.								1
	51	,	1	Bottom 5": L Gravel.	ight brown, f	fine to mediu	im SAND, s	ome Silt, little	fine to coarse	2.01	SUBSOIL	E ( 2 O	
			3		n dense, arav	. fine to coars	e SAND an	d fine to coars	e GRAVEL, little Silt.	2.0'		542.0'	
3	S-2	9	8		, , , , ,	,			,				
5	J-2	2	8										
4			50/1"								GLACIAL TILL		
5													
5						Detterre	- f (;			5.5'		538.5'	1
6						Bottom	of Explorat	on ±5.5					
7													
,													
8				1									
9													
5													
10				1									
11													
12													
13													
15													
14				1									1
15				1									1
13				4									1
16				1									1
17				1									1
.,				-									
18				-									
19				]									
15				-									
20													
21													
21				-									
22				1									1
				<u> </u>									
		5.5'. Offset bor	ing +4.0'		COHESION			SIVE SOILS = VERY SOFT	SAMPLE TYPE C = ROCK CORE		PROPORTI- trace = <10%	ONS	
_	r refusal at ±: r refusal at ±:		n ig ≟4.0.		N = 0 - 4 = VE 4-10 = LO			= VERY SOFT = SOFT	S = SPLIT SPOON		trace = <10% little = 10% - 20%		
_						EDIUM DENSE		= MEDIUM	UP = UNDISTURBED PI		some = 20% - 35%		
					30-50 = D 50+ = VE	ENSE RY DENSE		= STIFF = VERY STIFF	UT = UNDISTURBED TH	INWALL	and = 35% - 50%		
								= HARD					

APPENDIX 3 2015 TEST BORING LOGS

MMI Job 1	<u>No.:</u> 1014-53			Milo	ne & Ma	cBroom, Inc.	Sheet:			
					99 Realt	y Drive	1 of 1			
					Cheshire, C	CT 06410				
Drilling Co	o.: Soil Testing, Ll	LC		Project Nar	ne: WDC		Hole ID: B-1			
Operator:	Matt			Town: Wat	erbury, Conn	ecticut	Date			
							Start: 5/26/2015 Finish: 5/26/2015			
MMI Inspe	ector: Corey Pellet	tier		Boring Loc			Boring Type:			
Constant W				South Main			General Test Boring			
Ground W		16.00		Drilling De		<b>U</b>	Commission 241 and 14			
		ne: 16:00		Method:	H.S.A. 4"	Hammer Wt: 140 lb. Hammer Fall: 30"	Sampler: 24" split spoon Misc.:			
		me:		Casing:	4	Hammel Fan. 50	Misc.:			
Depth:	Blows: 0-6", 6-12", 12-18", 18-24"	Recovery:	Sample:	PID (NA)	Moisture:	Field Description:				
0-5			AG		Dry	light-brown TOP-SOIL	, m-f SAND, some Silt, trace Organic			
5-7	7,13,14,19	18"	SS		Dry	light brown f-m SAND,	, some Gravel, some Silt			
10-12	17,23,50,50+	12"	SS		Wet	brown m-c SAND, som boulders/cobbles @ 111				
15-17	35,50+	7"	SS		Dry	weathered bedrock FRA Refusal at 16 ft	RAGMENT (Gneiss)			
						End of Boring - 16.0 ft	ftbg			
					1					
				1	1					
				1	1					
					]					
					ļ					
Dorth f	theless and (61		NTA NT	t Apr 1: 1.1.			Enginaaring			
-	t below grade (ftbg ollow Stem Auger	)	$\mathbf{N}\mathbf{A} = \mathbf{N}\mathbf{O}$	t Applicable			Engineering, Landscape Architecture			
AG = Auge	-						and Environmental Science			
-	Spoon Sample					INITLON NOT	NE & MACBROOM®			

MMI Job 1	<u>No.:</u> 1014-53			Milo	ne & Ma	cBroom, Inc.	Sheet:
					99 Realty	y Drive	1 of 1
					Cheshire, C	CT 06410	
Drilling Co	o.: Soil Testing, Ll	LC		Project Nan	ne: WDC		Hole ID: B-2
Operator:	Matt			Town: Wat	erbury, Conn	ecticut	Date
							Start: 5/26/2015 Finish: 5/26/2015
MMI Inspe	ector: Corey Pelle	tier		Boring Loca			Boring Type:
C IN	01			South Main			General Test Boring
Ground W				Drilling Det		<b>H</b>	
		ne:		Method:		Hammer Wt: 140 lb. Hammer Fall: 30"	Sampler: 24" split spoon
		me:		Casing:	4"	Hammer Fail: 50	Misc.:
Depth:	Blows: 0-6", 6-12", 12-18", 18-24"	Recovery:	Sample:	PID (NA)	Moisture:	Field Description:	
0-5			AG		Dry	light-brown TOP-SOIL	, m-f SAND, some Silt, trace Organic
5-10			AG		Dry	brown f-m SAND, som	e Gravel, some Silt
10-13			AG			weathered rock fragmen	nts, refusal at 13 ftbg
						End of Boring - 13 ftbg	
Der (1 - C	4 h a l a a a a 1 - 764			A			Engineering
-	t below grade (ftbg ollow Stem Auger	;) [	NA = Not	t Applicable			Engineering, Landscape Architecture
AG = Auge	-						and Environmental Science
-	Spoon Sample					<b>MILON</b>	NE & MACBROOM®

<u>MMI Job I</u>	<u>No.:</u> 1014-53			Milo	99 Realt	•	Sheet: 1 of 1
Drilling Co	o.: Soil Testing, Ll	LC		Project Nat	Cheshire, 0 me: WDC	CT 06410	Hole ID: B-3
Operator:	Matt			Town: Wa	terbury, Conn	ecticut	Date Start: 5/26/2015 Finish: 5/26/2015
MMI Inspe	ector: Corey Pelle	tier		Boring Loc	cation:		Boring Type:
				South Main			General Test Boring
Ground W	ater Obs:			Drilling De	etails:		8
I	DTW: 10~ Tin	ne: 16:00		Method:	H.S.A.	Hammer Wt: 140 lb.	Sampler: 24" split spoon
	DTW: Ti	ime:		Casing:	4"	Hammer Fall: 30"	Misc.:
Depth:	Blows: 0-6", 6-12", 12-18", 18-24"	Recovery:	Sample:	PID (NA)	Moisture:	Field Description:	
0-5			AG		Dry	light-brown TOP-SOIL	, m-f SAND, some Silt, trace Organic
5-7	19,23,41,50	18"	SS		Dry	light brown f-m SAND,	some Gravel, some Silt
10-12	50+	1"	SS		Dry	bedrock FRAGMENT (	(Gneiss)
						Refusal at 12 ftbg (weat	thered rock)
						End of Boring - 12.0 fth	og
					-		
					-		
					-		
					-		
					-		
					]		
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					_		
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					]		
					-		
					-		
					]		
					-		
H.S.A = HotAG = Auge	t below grade (ftbg illow Stem Auger r Cuttings Spoon Sample	)	NA = Nc	ot Applicable	A15	<b>MILON</b>	Engineering, Landscape Architecture and Environmental Science NE & MACBROOM®

<u>MMI Job No.:</u> 1014-53				Milone & MacBroom, Inc.			Sheet:
				99 Realty Drive			1 of 1
				Cheshire, CT 06410			
Drilling Co	o.: Soil Testing, L	LC		Project Name: WDC			<u>Hole ID:</u> <b>B-4</b>
Operator:	Matt			Town · Wat	erbury, Conn	ecticut	Date
<u>operator</u> .	Watt			<u>10wii.</u> wat	croury, com	cetteut	Start: 5/26/2015 Finish: 5/26/2015
MMI Insp	ector: Corey Pelle	tier		Boring Loc			Boring Type:
				South Main Street			General Test Boring
Ground W	ater Obs:			Drilling Details:			
I	DTW: 14~ Tin	ne: 16:00		Method:	H.S.A.	Hammer Wt: 140 lb.	Sampler: 24" split spoon
	DTW: Ti	me:		Casing:	4"	Hammer Fall: 30"	Misc.:
Depth:	Blows: 0-6", 6-12", 12-18", 18-24"	Recovery:	Sample:	PID (NA)	Moisture:	Field Description:	
0-5			AG		Dry	light-brown TOP-SOIL	, m-f SAND, some Silt, trace Organic
5-7			AG		Dry	brown f-m SAND, som	e Gravel, some Silt
10-12			AG		Dry	brown f-m SAND, som	e Gravel, some Silt, trace Cobbles
14.5-15			AG		-	BEDROCK (inferred b	ased upon site observations)
						Refusal at 15 ftbg	_
						End of Boring - 15 ftbg	;
					-		
					-		
					-		
					-		
					]		
	et below grade (ftbg	() ()	NA = No	t Applicable			Engineering, Landscape Architecture
	ollow Stem Auger						and Environmental Science
AG = Auge	r Cuttings Spoon Sample					MILON	NE & MACBROOM®
ss – spiit-s	spoon sample						

<u>MMI Job No.:</u> 1014-53				Milone & MacBroom, Inc. 99 Realty Drive			Sheet: 1 of 1
Drilling Co.: Soil Testing, LLC				Cheshire, CT 06410 Project Name: WDC			Hole ID: B-5
Operator:	Matt			Town: Waterbury, Connecticut			<u>Date</u> Start: 5/26/2015 Finish: 5/27/2015
MMI Inspe	ector: Corey Pellet	tier		Boring Location: South Main Street			Boring Type: General Test Boring
Ground W	ater Obs			Drilling Details:			General Test Bornig
		ne: 16:00					Sampler: 24" split spoon
		me:		Casing:	H.S.A. 4"	Hammer Fall: 30"	Misc.:
Depth:	Blows: 0-6", 6-12", 12-18", 18-24"	Recovery:	Sample:	PID (NA)	Moisture:	Field Description:	Wilse
0-5			AG		Dry	light-brown TOP-SOIL	, m-f SAND, some Silt
5-7	55,50,50+	3"	SS		Dry	rock fragments (no soil	recovery)
10-12	15,50,50+	6"	SS		Moist	brown m-c SAND, som	e Gravel, little f Sand, trace Silt
15-17	60,50,50+	12"	SS		Wet	brown m-c SAND, som	e f Sand, little Gravel, trace Silt
20-22	30,41,56,73	18"	SS		Wet	brown m-c SAND, som	e f Sand, little Gravel, trace Silt
25-27	48,50,50+	12"	SS		Wet	brown m-c SAND, som	e Gravel, little Silt
30-32	34,51,50,50+	16"	SS		Wet	brown m-c SAND, som	e Gravel, some Silt
34.5	100+	0"	SS		Wet	rock FRAGMENTS, be	edrock (Gneiss)
						End of Boring - 34.5 ftt	og
					-		
					-		
					-		
Dorth for	t holow and - (file	)	NA – N	t Applies11	l	I	Engineering,
H.S.A = Ho	t below grade (ftbg ollow Stem Auger	)		t Applicable ottom of Bori	ng		Landscape Architecture and Environmental Science
AG = Auge SS = Split-S	r Cuttings Spoon Sample				A17	MILON	NE & MACBROOM®

MMI Job 1	<u>No.:</u> 1014-53			Milone & MacBroom, Inc.			Sheet:
				99 Realty Drive			1 of 1
				Cheshire, CT 06410			
Drilling Co	o.: Soil Testing, Ll	LC		Project Nar	me: WDC		Hole ID: B-6
Operator:	Matt			Town: Wat	terbury, Conn	ecticut	Date
<u></u>							Start: 5/27/2015 Finish: 5/27/2015
MMI Inspe	ector: Corey Pelle	tier		Boring Loc			Boring Type:
				South Main Street			General Test Boring
Ground W				Drilling Details:			
I		ne: 16:00		Method:	H.S.A.		Sampler: 24" split spoon
	DTW: Ti	ime:		Casing:	4"	Hammer Fall: 30"	Misc.:
Depth:	Blows: 0-6", 6-12", 12-18", 18-24"	Recovery:	Sample:	PID (NA)	Moisture:	Field Description:	
0-5			AG		Dry	light-brown TOP-SOIL	, m-f SAND, some Silt, trace Organic
5-7			AG		Dry	BEDROCK (inferred ba Refusal at 7 ftbg End of Boring - 7 ftbg	ased upon site observations)
-	t below grade (ftbg	)	NA = No	t Applicable	-		Engineering, Landscape Architecture
AG = Auge	ollow Stem Auger r Cuttings Spoon Sample				A18	MILON	and Environmental Science

MMI Job 1	<u>No.:</u> 1014-53			Milone & MacBroom, Inc.			Sheet:
				99 Realty Drive			1 of 1
				Cheshire, CT 06410			
Drilling Co	D.: Soil Testing, Ll	LC		Project Name: WDC			Hole ID: B-7
Operator:	Matt			Town: Wat	erbury, Conn	ecticut	Date
*					•		Start: 5/27/2015 Finish: 5/27/2015
MMI Inspe	ector: Corey Peller	tier		Boring Loca			Boring Type:
<u>a</u> 1.11				South Main			General Test Boring
Ground W		1 - 00		Drilling Details:			
-		e: 16:00		Method:		Hammer Wt: 140 lb.	Sampler: 24" split spoon
	DTW: Ti	me:		Casing:	4"	Hammer Fall: 30"	Misc.:
Depth:	Blows: 0-6", 6-12", 12-18", 18-24"	Recovery:	Sample:	PID (NA)	Moisture:	Field Description:	
0-5			AG		Dry	light-brown TOP-SOIL	, m-f SAND, some Silt, trace Organic
5-10			AG				ased upon site observations)
						Refusal at 10 ftbg	
10-15	RQD = 40%		CO			Coring Start - 10 Ftbg	
						Gniess, f-m grained we	Il bandad fractures
						with iron staining prese	
						End of boring- 15 ftbg	
					]		
_	t below grade (ftbg			t Applicable			Engineering, Landscape Architecture
	bllow Stem Auger		CO = Bec	lrock Core			and Environmental Science
AG = Auge SS = Split-S	r Cuttings Spoon Sample					MILON	NE & MACBROOM®

APPENDIX 4 LIMITATIONS

#### **GEOTECHNICAL LIMITATIONS**

#### **Explorations**

- 1. The analyses and recommendations submitted in this report are based in part on data contained on the subsurface exploration logs. The nature and extent of variations between these explorations may not become evident until construction. If variations then appear evident, it will be necessary to reevaluate the recommendations of this report.
- 2. The generalized soil profile described in the text is intended to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized and have been developed from interpretations of widely spaced explorations and samples; actual soil transitions are probably more erratic. For specific information, refer to the subsurface exploration logs referenced above.
- 3. Water level readings were reported on the logs referenced above. These data have been reviewed and interpretations have been made in the text of this report. However, it must be noted that fluctuations in the level of the groundwater may occur due to variations in rainfall, temperature, and other factors occurring since the time measurements were made.

#### <u>Review</u>

4. If any changes in the nature, design or location of the proposed project are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed, and the conclusions of this report modified or verified in writing by Milone & MacBroom, Inc. It is recommended that this firm be provided the opportunity for a general review of final design and specifications in order that earthwork and foundation recommendations may be properly interpreted and implemented in the design and specifications.

#### Use of Report

5. This report has been prepared for the exclusive use of Waterbury Development Corporation and their design team for specific application to the proposed Naugatuck-Waterbury Industrial Park located in Waterbury, Connecticut in accordance with generally accepted soil and foundation engineering practices. No other warranty, express or implied, is made.