to SSC removal for any particle size gradation, assuming the particles are inorganic sandy-silt. Figure 2 shows CDS predictive performance for two typical particle size gradations (NJCAT gradation and OK-110 sand) as a function of operating rate.

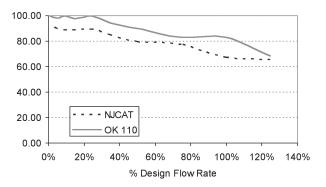


Figure 2. CDS stormwater treatment predictive performance for various particle gradations as a function of operating rate.

Many regulatory jurisdictions set a performance standard for hydrodynamic devices by stating that the devices shall be capable of achieving an 80% removal efficiency for particles having a mean particle size (d50) of 125 microns (e.g. Washington State Department of Ecology — WASDOE - 2008). The model can be used to calculate the expected performance of such a PSD (shown in Figure 3). The model indicates (Figure 4) that the CDS system with 2400 micron screen achieves approximately 80% removal at the design (100%) flow rate, for this particle size distribution (d50 = 125  $\mu$ m).

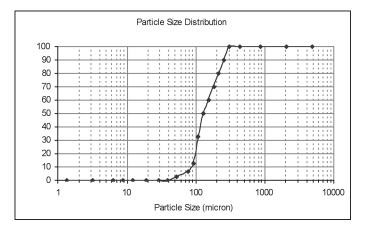
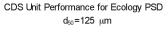


Figure 3. WASDOE PSD



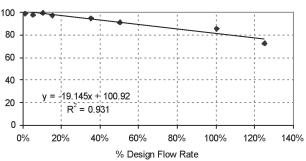


Figure 4. Modeled performance for WASDOE PSD.

### Maintenance

The CDS system should be inspected at regular intervals and maintained when necessary to ensure optimum performance. The rate at which the system collects pollutants will depend more heavily on site activities than the size of the unit. For example, unstable soils or heavy winter sanding will cause the grit chamber to fill more quickly but regular sweeping of paved surfaces will slow accumulation.

### Inspection

Inspection is the key to effective maintenance and is easily performed. Pollutant transport and deposition may vary from year to year and regular inspections will help ensure that the system is cleaned out at the appropriate time. At a minimum, inspections should be performed twice per year (e.g. spring and fall) however more frequent inspections may be necessary in climates where winter sanding operations may lead to rapid accumulations, or in equipment washdown areas. Installations should also be inspected more frequently where excessive amounts of trash are expected.

The visual inspection should ascertain that the system components are in working order and that there are no blockages or obstructions in the inlet and separation screen. The inspection should also quantify the accumulation of hydrocarbons, trash, and sediment in the system. Measuring pollutant accumulation can be done with a calibrated dipstick, tape measure or other measuring instrument. If absorbent material is used for enhanced removal of hydrocarbons, the level of discoloration of the sorbent material should also be identified



during inspection. It is useful and often required as part of an operating permit to keep a record of each inspection. A simple form for doing so is provided.

Access to the CDS unit is typically achieved through two manhole access covers. One opening allows for inspection and cleanout of the separation chamber (cylinder and screen) and isolated sump. The other allows for inspection and cleanout of sediment captured and retained outside the screen. For deep units, a single manhole access point would allows both sump cleanout and access outside the screen.

The CDS system should be cleaned when the level of sediment has reached 75% of capacity in the isolated sump or when an appreciable level of hydrocarbons and trash has accumulated. If absorbent material is used, it should be replaced when significant discoloration has occurred. Performance will not be impacted until 100% of the sump capacity is exceeded however it is recommended that the system be cleaned prior to that for easier removal of sediment. The level of sediment is easily determined by measuring from finished grade down to the top of the sediment pile. To avoid underestimating the level of sediment in the chamber, the measuring device must be lowered to the top of the sediment pile carefully. Particles at the top of the pile typically offer less resistance to the end of the rod than consolidated particles toward the bottom of the pile. Once this measurement is recorded, it should be compared to the as-built drawing for the unit to determine weather the height of the sediment pile off the bottom of the sump floor exceeds 75% of the total height of isolated sump.

### Cleaning

Cleaning of a CDS systems should be done during dry weather conditions when no flow is entering the system. The use of a vacuum truck is generally the most effective and convenient method of removing pollutants from the system. Simply remove the manhole covers and insert the vacuum hose into the sump. The system should be completely drained down and the sump fully evacuated of sediment. The area outside the screen should also be cleaned out if pollutant build-up exists in this area.

In installations where the risk of petroleum spills is small, liquid contaminants may not accumulate as quickly as sediment. However, the system should be cleaned out immediately in the event of an oil or gasoline spill. Motor oil and other hydrocarbons that accumulate on a more routine basis should be removed when an appreciable layer has been captured. To remove these pollutants, it may be preferable to use absorbent pads since they are usually less expensive to dispose than the oil/water emulsion that may be created by vacuuming the oily layer. Trash and debris can be netted out to separate it from the other pollutants. The screen should be cleaned to ensure it is free of trash and debris.

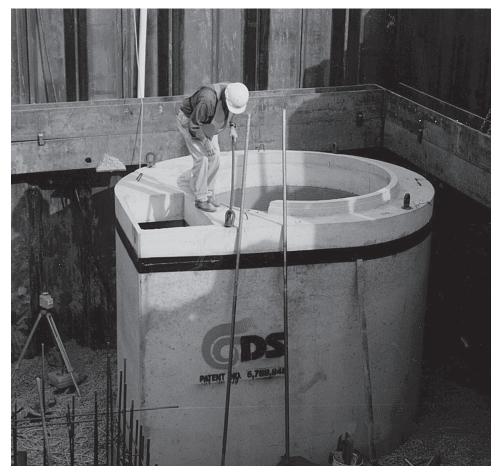
Manhole covers should be securely seated following cleaning activities to prevent leakage of runoff into the system from above and also to ensure that proper safety precautions have been followed. Confined space entry procedures need to be followed if physical access is required. Disposal of all material removed from the CDS system should be done in accordance with local regulations. In many jurisdictions, disposal of the sediments may be handled in the same manner as the disposal of sediments removed from catch basins or deep sump manholes. Check your local regulations for specific requirements on disposal.



CDS Model	Dia	meter		n Water Surfa Gediment Pile	Surface Sediment Pile Storage Capacity		
	ft	m	ft	m	yd3	m3	
CDS2015-4	4	1.2	3.0	0.9	0.5	0.4	
CDS2015	5	1.5	3.0	0.9	1.3	1.0	
CDS2020	5	1.5	3.5	1.1	1.3	1.0	
CDS2025	5	1.5	4.0	1.2	1.3	1.0	
CDS3020	6	1.8	4.0	1.2	2.1	1.6	
CDS3030	6	1.8	4.6	1.4	2.1	1.6	
CDS3035	6	1.8	5.0	1.5	2.1	1.6	
CDS4030	8	2.4	4.6	1.4	5.6	4.3	
CDS4040	8	2.4	5.7	1.7	5.6	4.3	
CDS4045	8	2.4	6.2	1.9	5.6	4.3	

Table 1: CDS Maintenance Indicators and Sediment Storage Capacities

Note: To avoid underestimating the volume of sediment in the chamber, carefully lower the measuring device to the top of the sediment pile. Finer silty particles at the top of the pile may be more difficult to feel with a measuring stick. These finer particles typically offer less resistance to the end of the rod than larger particles toward the bottom of the pile.



### **CDS Inspection & Maintenance Log**

CDS Model:	Location:

Date	Water depth to sediment <sup>1</sup>	Floatable Layer Thickness²	Describe Maintenance Performed	Maintenance Personnel	Comments

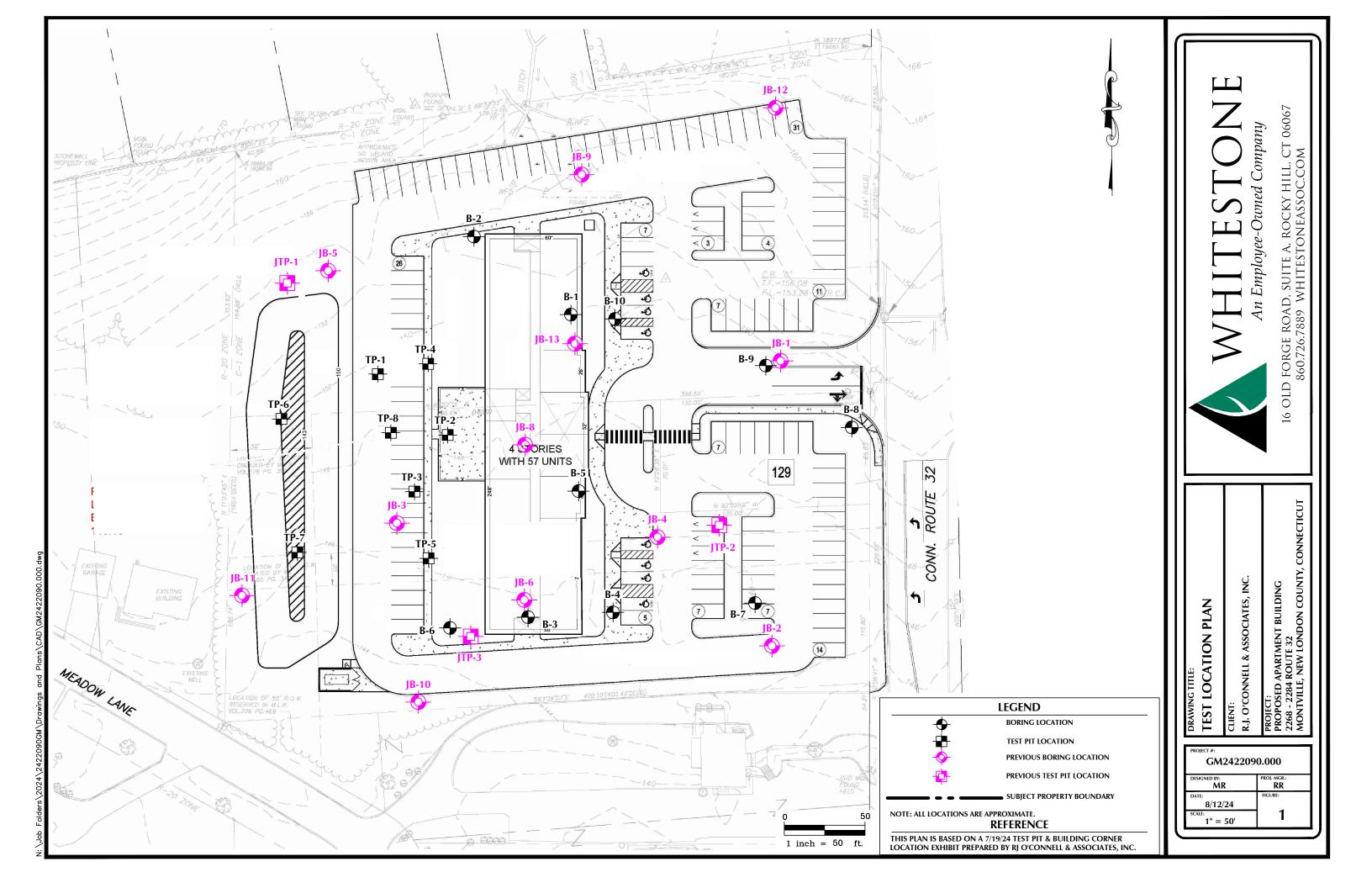
<sup>1.</sup> The water depth to sediment is determined by taking two measurements with a stadia rod: one measurement from the manhole opening to the top of the sediment pile and the other from the manhole opening to the water surface. If the difference between these measurements is less than the values listed in table 1 the system should be cleaned out. Note: to avoid underestimating the volume of sediment in the chamber, the measuring device must be carefully lowered to the top of the sediment pile.

<sup>2.</sup> For optimum performance, the system should be cleaned out when the floating hydrocarbon layer accumulates to an appreciable thickness. In the event of an oil spill, the system should be cleaned immediately.

# APPENDIX E Appendix A from the Report of Geotechnical Investigation By Whitestone Associates, Inc.



# FIGURE 1 Test Location Plan





# APPENDIX A Records of Subsurface Exploration (WAI Boring B-1 thru B-10; WAI Test Pits TP-1 thru TP-8; JP Borings JB-1 thru JB-6, JB-8 thru JB-13; JGI Test Pits JTP-1, JTP-2 & JTP-3)



Project:													
ocation:		2268	- 2284 Connecticut	Route	32, Mor	ntville, Nev	w London Cou	nty, Co	nnecticut		Client:	R.J. O'Connell &	Associates, Inc.
Surface Ele			± 150.0 fee				Date Started:		7/23/2024	Water	Depth   Elevation	Cave-Ir	Depth   Elevation
Γerminatio				t bgs			Date Complete	-	7/23/2024	(f	eet bgs)   (ft NAVD88)		eet bgs)  (ft NAVD88)
Proposed I			Building	-			ogged By:	JB -		During:	🏂		
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Project:													
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Surface Ele	evatio	n:	± 151.0 fee	t Abov	e NAVI	D88 I	Date Started:		7/23/2024	Wate	r Depth   Elevation	Cave-In	Depth   Elevation
Terminatio	n Dep	th:	9.0 fee	t bgs		l.	Date Complete	ed:	7/23/2024	(1	feet bgs)   (ft NAVD88)	(f	eet bgs)  (ft NAVD88)
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Surface Ele	evatio	n:	± 145.3 fee	t Abov	/e NAVΓ	088	Date Started:		7/23/2024	Wate	r Depth   Elevation		Depth   Elevation
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Surface Ele	evatio	n:	± 147.1 fee	t Abov	e NAVE	088 I	Date Started:		7/23/2024	Wate	r Depth   Elevation	Cave-Ir	Depth   Elevation
Terminatio	n Dep	oth:		t bgs			Date Complete		7/23/2024	(1	feet bgs)   (ft NAVD88)	(f	eet bgs)  (ft NAVD88)
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Depth (feet)	No	Туре	Blows Per 6"	Rec. (in.)	N	(feet)	STRAT	Α		DESCRIPTION (Classif		3	REMARKS
						0.0							
0 - 2	S-1	$\bigvee$	3 - 2 - 1 - 3	20	3	<u> </u>	TS	<u>~!//</u>	12" Topsoil				
		$\langle \cdot \rangle$				- -	SUBSOIL GLACIAL	 	12" Subsoil, Roots Brown, Dense, Sil	s ty Sand with Gravel (SM	)		Cobbles & Boulders
2 - 4	S-2	X	12 - 19 - 28 - 46	18	47	3.0	TILL WEATHERED						
						-	BEDROCK	蓋	Weathered Bedro				
						5.0	-		Roring Log B-6 Te	rminated upon Auger Re	erusal at Depth of 4.5	tbgs.	
						<u> </u>	1						
						-	]						
						-	1						
						<u>-</u>	1						
						-	1						
						-	1						
						10.0	1						
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						-	1						
						<del>-</del>	1						
						15.0	-						
						-	1						
						-	1						
						<u> </u>	1						
						-	-						
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						<u> </u>	]						
						20.0	1						
						20.0	1						
						<u> </u>	1						
						-	]						
						-	-						
						-	1						
						-	]						
						–	1						
						25.0	1						
						_	1						
							-		-				



Project:		Proposed Apartment Building WAI Project No.: GM2422090.000  2268 - 2284 Connecticut Route 32, Montville, New London County, Connecticut Client: R.J. O'Connell & A											
_ocation:		2268	- 2284 Connecticut	Route	32, Mor	ntville, Ne	w London Cou	nty, Co	nnecticut		Client:	R.J. O'Connell &	
Surface El	evatio	n:	± 146.3 fee	t Abov	e NAVI		Date Started:	-	7/24/2024	Water	r Depth   Elevation	Cave-Ir	Depth   Elevation
Terminatio	n Dep	th:	9.0 fee	t bgs		ļ.	Date Complete	ed:	7/24/2024	(f	eet bgs)   (ft NAVD88)	(f	eet bgs)  (ft NAVD88)
Proposed	Locati	on:	Parking				ogged By:	JB		During:	<b>T</b>		
Orill / Test	Metho	od:	HSA / SPT (A	utohai	mmer)		Contractor:	DE		At Completion:	<u> </u> -	At Completion:	<u> </u> <u> </u> <u> </u> <u> </u>
							Equipment:	Mobile	B-57	24 Hours:	<u> </u>	24 Hours:	<u>   💆 </u>
	SΛ	MDII	E INFORMATION			l							
Donth	57	VII L		_	Г	DEPTH	STRAT	Α.		DESCRIPTIO	N OF MATERIALS	;	REMARKS
Depth (feet)	No	Туре	Blows Per 6"	Rec. (in.)	N	(feet)					sification)		
						0.0							
		\ /	10/			_	TS	<u>~!''</u>	6" Topsoil				
0 - 2	S-1	Χ	0 - 1 - 1 - 5	22	2	_							
		$/ \setminus$	н			-	SUBSOIL		18" Subsoil, Roots	3			
		$( \rightarrow )$				<u> </u>		HHH					
		$\bigvee$				-			Gray-Brown, Very	Dense, Silty Sand w	rith Gravel (SM)		
2 - 4	S-2	X	8 - 20 - 38 - 21	14	58	_							
		$\angle$											
						_							
						5.0	01.407						
		\				-	GLACIAL TILL		As Above, Dense	(MA)			
5 - 7	S-3	Х	3 - 16 - 21 - 23	14	37	_	TILL		As Above, Delise	(SIVI)			Cobbles & Boulders
		$/\setminus$				-							Cobbios a Boalagie
						_							
7 - 9	S-4	V	4 - 24 - 23 - 28	10	47	_			As Above (SM)				
, 0	0 4	Λ	24 20 20	10		_							
						ļ		FEEF	Davis a Lau D 7 Ta		- D-4		
						10.0			Boring Log B-7 Te	rminated upon Auge	r Refusal at Depth of 9 ft	ogs.	
						-							
						-							
						_							
						-							
						_							
						15.0							
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						l <u> </u>							
						25.0							
						_ ∠5.0							
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Project:			sed Apartment Build										
.ocation:		2268	- 2284 Connecticut I	Route	32, Mor	ntville, Ne	w London Cou	nty, Co	nnecticut		Client:	R.J. O'Connell &	Associates, Inc.
Surface El	evatio	n:	± 148.5 fee	t Above	e NAVE	880	Date Started:		7/24/2024	Water De	epth   Elevation	Cave-Ir	Depth   Elevation
erminatio	n Dep	th:	7.3 fee	t bgs			Date Complete	ed:	7/24/2024	(feet	bgs)   (ft NAVD88)	(f	eet bgs)  (ft NAVD88)
Proposed	Locati	on:	Access				Logged By:	JB		During:	<b>T</b>		
Orill / Test	Metho	od:	HSA / SPT (A	utohan	nmer)		Contractor:	DE		At Completion:		At Completion:	<u> </u> <u>  <u>2</u></u>
							Equipment:	Mobile	B-57	24 Hours:	<u></u> Ţ	24 Hours:	<u> l</u> <u>⊠</u>
	67	MPI	INFORMATION			DEST							
Depth	JA	L	- IN OKWATION	Rec.		DEPTH	STRAT	Ά		DESCRIPTION	OF MATERIALS	;	REMARKS
(feet)	No	Туре	Blows Per 6"	(in.)	N	(feet)				(Classif	ication)		
						0.0							
		\					TS	~!!	6" Topsoil				
0 - 2	S-1	У	5 - 2 - 3 - 2	22	5	_	PAVEMENT		2" Asphalt				
		$ /\rangle $					TS	~"	6" Former Topsoil				
		$(\!$				-	SUBSOIL		22" Subsoil, Roots				
		$ \backslash / $				3.0	JOBSUIL		LE GUDSUII, RUUI	•			
2 - 4	S-2	X	2 - 2 - 15 - 30	14	17	-		14114	Gray-Brown, Dens	se, Silty Sand with Grave	el (SM)		Cobbles & Boulders
		$\c/$		_		·	1			-			
						] -	]						
						5.0	GLACIAL						
		$\setminus \Lambda$					TILL		<u> </u>				
5 - 7	S-3	$ \chi $	4 - 19 - 62 - 65	12	81	-	4		As Above, Very D	ense (SM)			
		$ / \setminus  $				7.0	-						
7 - 7.2	S-4	$\hookrightarrow$	50/2"	2		· · · · –	WEATHERED	[-]-	Weathered Bedro	ck			
	J 7	$\overline{}$		-			BEDROCK			rminated upon Auger Re	efusal at Depth of 7.3	fbgs.	
						-				. •	-		
						_ '	]						
						10.0	4						
							4						
						_	4						
							1						
						-	1						
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							]						
						15.0	4						
							4						
						_	-						
							1						
						-	1						
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							]						
						-	]						
						20.0	4						
							4						
						_	-						
							1						
						-	1						
							1						
						-	1						
							]						
							4						
						25.0	4						



Project:			sed Apartment Build								WAI Project No.:	GM2422090.000	
_ocation:		2268	- 2284 Connecticut I	Route	32, Mor	ntville, Ne	w London Cou	nty, Co	nnecticut		Client:	R.J. O'Connell &	Associates, Inc.
Surface Ele					∕e NAV⊑		Date Started:		7/24/2024	Wate	r Depth   Elevation	Cave-In	Depth   Elevation
Γerminatio				t bgs			Date Complete	-	7/24/2024		feet bgs)   (ft NAVD88)		eet bgs)   (ft NAVD88)
Proposed I			Access	J-				JB		During:	<b>A</b>	<u>`</u>	
Orill / Test			HSA / SPT (A	utohar	mmer)			DE		At Completion:		At Completion:	I <u>F</u>
, 1031								Mobile	B-57	24 Hours:		24 Hours:	
							-quipilielli.	IVIODIIE	J.01	∠→ Hours.	<u></u>   <u></u> ¥	2-7 Hours.	I <u>\</u>
	SA	MPLE	INFORMATION			DEPTH							
Depth				Rec.			STRAT	Α			N OF MATERIALS	5	REMARKS
(feet)	No	Туре	Blows Per 6"	(in.)	N	(feet)				(Clas	sification)		
						0.0							
		Ν /				_	TS	<u>~</u>	6" Topsoil				
0 - 2	S-1	١V١	2 - 4 - 4 - 14	22	8								
		$ \Lambda $				_	SUBSOIL		18" Subsoil, Roots	3			
		$\longrightarrow$		igsquare		l _							
		$\setminus$ /			i	_							
2 - 4	S-2	ΙXΙ	22 - 34 - 42 - 50	14	76	_	GLACIAL		Gray-Brown, Very	Dense, Silty Sand w	vith Gravel (SM)		
		$ /\backslash $				_	TILL						Cobbles & Boulders
	0	$(\ \ )$	0 50/4"	$\vdash$	<del> </del>	-	-						
4 - 4.6	S-3	$\sim$	6 - 50/1"	2	-	E 0		HHH	As Above (SM)	erminated one - A:	or Refugel at Danilla of 10	fhac	
					1	5.0	-		Donny Log B-9 Te	minated upon Auge	er Refusal at Depth of 4.6	iugs.	
					i	-	-						
					1	-	1						
					1	-	}						
					1	-	1						
						-	1						
					i	_							
						-							
						_	1						
					i	10.0	1						
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					i	-	1						
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					i	_	1						
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					1	-	-						
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					1	-	-						
					1	_	-						
					1	-	1						
					1	_	1						
						25.0	1						
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 Boring No.:
 B-10

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 of
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Project:		Propo	osed Apartment Buil	ding							WAI Project No.:	GM2422090.000	
ocation:		2268	- 2284 Connecticut	Route	32, Mor	ntville, Ne	w London Cou	nty, Co	nnecticut		Client:	R.J. O'Connell &	Associates, Inc.
Surface El	evatio				ve NAVE		<b>Date Started:</b> 7/23/2024			Water	Depth   Elevation		Depth   Elevation
Γerminatio				t bgs			Date Complet	-	7/23/2024		eet bgs)   (ft NAVD88)		eet bgs)   (ft NAVD88)
Proposed	-		Building	. ago			_ogged By:	JB	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	During:	<b>A</b>	`	37 ft 7
Orill / Test			HSA / SPT (A	utobai	mmor)		Contractor:	DE		At Completion:		At Completion:	N=d I
Jilli / Test	Wietiit	л.	11047 01 1 (A	utoria	illillei)								
						<u> </u>	Equipment:	MODILE	Б-37	24 Hours:	<u></u>   <b>▼</b>	24 Hours:	<u>  </u> <u>⊠</u>
	SA	MPLE	E INFORMATION	ı		DEPTH							
Depth				Rec.			STRAT	Ά			N OF MATERIALS	3	REMARKS
(feet)	No	Туре	Blows Per 6"	(in.)	N	(feet)				(Clas	sification)		
						0.0							
		N /	1			_	TS	<u>~!//</u>	8" Topsoil				
0 - 2	S-1	V	1 - 2 - 2 - 3	18	4	_							
-		Λ				-	SUBSOIL		16" Subsoil, Roots	3			
		$\longrightarrow$				l _							
		$\setminus$	1			_		%					
2 - 4	S-2	X	2 - 2 - 3 - 4	16	5	<u> </u>	EVICTING		Gray-Brown, Loos	e, Silty Sand (FILL)			
		$/\backslash$				-	EXISTING	lXX.					
		$\overline{}$				<b> </b>	FILL	IXX.					
						5.0		XX					
						5.0		14411					
		\ /				-	GLACIAL		Gray Brown Mod	um Dense, Silty San	d with Gravel (SM)		
5 - 7	S-3	X	4 - 10 - 19 - 15	16	29	<u> </u>	TILL		Gray-Brown, Med	uni Dense, Silty San	u with Graver (Sivi)		
		$/ \setminus$				7.0	1166						
		$(\!$				···~							
		$\backslash /$				-	WEATHERED	E-E-E-	Weathered Bedro	ck			
7 - 9	S-4	X	19 - 26 - 27 - 25	16	53	<del>-</del>	BEDROCK		Weathered Bedro	CK			
		$/ \setminus$				-	BEBROOK	甓					
		, ,							Boring Log B-10 7	erminated upon Aug	er Refusal at Depth of 9	fbas.	
						10.0			20g 20g 2	ommated apon riag	or residual at Dopar or o		
						-							
						<u> </u>							
						-							
						_							
						-							
						-							
						15.0							
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						l							
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						l —							
						25.0							
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Test	Pit N	No.:	TP-1	
Page	1	of	1	

Project:	Proposed	Apartment E	Building				WAII	Project No.:	GM2422090.000	
Location:	2268 - 228	34 Connection	cut Route 32	, Montville, New Lor	ndon Co	ounty, Connec	ticut	Client:	R.J. O'Connell &	
Surface Eleva	tion: ±	149.9	feet NAVD8	8 Date Started		7/22/2024	Water Depth	Elevation	Cave	In Depth   Elevation
Termination D		9.0	feet bgs	Date Comple	Date Completed: 7/22/2024		(feet bgs)	(ft NAVD88)	(	(feet bgs)   (ft NAVD88)
Proposed Loc	cation:	SWM Area		Logged By:	JB		During:	<u></u> <u>Y</u>		
Excavating M	ethod:	Midi Excava	ator	Contractor:	CL		At Completion:	l <u></u> ▽	At Completion:	<u></u>   <u>\</u>
Test Method:		Visual Obs	ervation	Rig Type:	e: Caterpillar 314		24 Hours:	l <u></u>		
SAMPLE	INFORM	IATION	DEPTH	STRATA			DESCRIPTION OF	REMARKS		
Depth (ft.)	Number	Туре	(feet)				(Classificat	tion)		
			0.0							No indication of ESGWH
				TOPSOIL	<u>~11/</u>	4" Topsoil				
					11111					1
				1						
				SUBSOIL		20" Subsoil, Ro	oots			
				1						
					14411					ł
				1						
3.5	1	Grab								
				1						
			_							
			5.0							
				GLACIAL						
			_							
				TILL	Ш	Gray-Brown, S	ilty Sand with Gravel, Cobbles, Boo	ulders (SM)		
			_	1	Ш					
	_									
7.5	2	Grab		1						
					1-1.11:1			/0E := :	10.1	
			l <u> </u>	]		Test Pit TP-1 T	erminated upon Refusal at Depth	or 9 Feet Below Gro	ound Surface.	
			10.0							
			<u> </u>	1						
			<u> </u>							
			-	1						
				]						
			-	1						
			l <u> </u>							
				1						
			l —	1						
			<u> </u>	]						
			15.0							
			"-	1						



Test	Pit N	No.: _	TP-2
Page	1	of	1

Project:	Proposed	Apartment E	Building					WAI	Project No.:	GM2422090.000		
Location:	2268 - 228	34 Connection	cut Route 32, N	Nontville, New Lor	ndon Co	ounty, Connec	ticut		Client:	R.J. O'Connell &	Associates,	Inc.
Surface Eleva	ation: ±	148.2	feet NAVD88	Date Started:		7/22/2024	Wat	ter Depth	Elevation			Elevation
Termination	Depth:	9.0	feet bgs	Date Comple	ted:	7/22/2024	(	feet bgs)	(ft NAVD88)	(	feet bgs)	(ft NAVD88)
Proposed Lo	cation:	SWM Area		Logged By:	JB		During:		<u> </u>			
Excavating M	lethod:	Midi Excava	ator	Contractor:	CL		At Completion:		∇	At Completion:		l <u></u> <u>=</u>
Test Method:		Visual Obse	ervation	Rig Type:	Caterp	oillar 314	24 Hours:		<u></u> <b>T</b>			
SAMPLE	INFORM	IATION	DEPTH	STRATA		DESCRIPTION OF MATERIALS			R	EMARKS		
Depth (ft.)	Number	Туре	(feet)				(C	Classifica	tion)			
			0.0								No indicatio	n of ESGWH
					N11/2							
			-									
					<u> </u>							
				TOPSOIL		30" Topsoil						
			-		<u> </u>							
					.>1/.							
					<u> </u>							
			+		111111							
				SUBSOIL		30" Subsoil, Ro	oots					
			5.0		ШШ							
					14141						1	
			_									
			-	01.40141		0 0111 0		5	(0.1)			
				GLACIAL		Gray, Silty San	d with Gravel, Cobble	s, Boulders (	(SM)			
				TILL								
						Test Pit TP-2 T	erminated upon Refu	sal at Denth	of 9 Feet Below Gr	ound Surface		
							ROUGH NOW	-a. a. Dopui	0 . 55t Bolow GI			
			10.0									
			_									
			-									
			-									
			15.0									



Test	Pit	No.:	TP-3
Page	1	of	1

Project:	Proposed Apartment Building WAI Project No.: GM2422090.000									
Location:	2268 - 228	4 Connection	cut Route 32,	Montville, New Lon	ndon Co	ounty, Connec	ticut	Client:	R.J. O'Connell & A	Associates, Inc.
Surface Eleva			feet NAVD8			7/22/2024	Water Depth	Elevation		In Depth   Elevation
Termination [	Depth:	8.0	feet bgs	Date Comple	ted:	7/22/2024	(feet bgs)	(ft NAVD88)	(	feet bgs)   (ft NAVD88)
Proposed Lo	cation:	SWM Area	-	Logged By:	JB		During:	<u></u> <u>Y</u>		
Excavating M	ethod:	Midi Excava	ator	Contractor:	CL		At Completion:	▽	At Completion:	<u></u> <u>\</u>
Test Method:		Visual Obse	ervation	Rig Type:	Caterp	oillar 314	24 Hours:	<u></u> 🔻		
SAMPLE	INFORM	ATION	DEPTH	STRATA		DESCRIPTION OF MATERIALS				REMARKS
Depth (ft.)	Number	Туре	(feet)				(Classificat	tion)		
			0.0							No indication of ESGWH
					N11/					
			_							
				TOPSOIL	<u> </u>	24" Topsoil				
			-							
			_		<u> </u>					
			-							
3	1	Grab								
Ü	·	0.00		SUBSOIL		30" Subsoil, Ro	oots			
			5.0		MM					
			5.0							
5.5	2	Grab								
0.0	2	Glab								
				01.40141						
			_	GLACIAL						
				TILL		Brown, Silty Sa	nd with Gravel, Cobbles, Boulders	(SM)		
			_							
			_							
					HIII					
						Test Pit TP-3 T	erminated upon Refusal at Depth of	of 8 Feet Below Gro	ound Surface.	
			10.0							
			10.0							
			_							
			-							
			45.6							
			15.0							



Test	Pit	No.:	TP-4
Page	1	of	1

Project:	Proposed	Apartment E	Building					WAI F	Project No.:	GM2422090.000	
Location:	2268 - 228	34 Connection	cut Route 32,	Montville, New Lor	ndon Co	ounty, Connec	ticut		Client:	R.J. O'Connell & A	Associates, Inc.
Surface Eleva	tion: ±	150.6	feet NAVD88	Date Started:		7/22/2024	Water De	epth	Elevation	Cave-	In Depth   Elevation
Termination [	Depth:	8.0	feet bgs	Date Comple	ted:	7/22/2024	(feet b	bgs)	(ft NAVD88)	(1	feet bgs)   (ft NAVD88)
Proposed Loc	cation:	SWM Area		Logged By:	JB		During:				
Excavating M	ethod:	Midi Excava	ator	Contractor:	CL		At Completion:		▽	At Completion:	I <u></u> <u>\</u>
Test Method:		Visual Obse	ervation	Rig Type:	Caterp	oillar 314	24 Hours:		<u></u> _\ <b>T</b>		
SAMPLE	INFORM	IATION	DEPTH	STRATA	STRATA		DESCRIPTION				REMARKS
Depth (ft.)	Number	Туре	(feet)				(Class	sificat	tion)		
			0.0								No indication of ESGWH
				TOPSOIL	<u> </u>	12" Topsoil					
			- - - -	SUBSOIL		36" Subsoil, Ro	ots				
7.5	1	Grab	5.0	GLACIAL TILL		Gray-Brown, Si	ity Sand with Gravel, Cobble	les, Bou	ulders (SM)		
			10.0			Test Pit TP-4 T	erminated upon Refusal at [	Depth c	of 8 Feet Below Gro	ound Surface.	



Test	Pit	No.:	TP-5
Page	1	of	1

Project:	Proposed Apartment Building WAI Project No.: GM2422090.000										
Location:	2268 - 228	Associates, Inc.									
Surface Eleva	ation: ±	146.3	feet NAVD88	B Date Started: 7/22/2024			Wat	er Depth	Elevation	Cave	In Depth   Elevation
Termination I	Depth:	10.0	feet bgs	Date Comple	ted:	7/22/2024	(1	feet bgs)	(ft NAVD88)	(	feet bgs)   (ft NAVD88)
Proposed Lo	cation:	SWM Area		Logged By:	JB		During:		<u> </u>		
Excavating M	lethod:	Midi Excava	ator	Contractor:	CL		At Completion:		I <u></u> ▽	At Completion:	<u></u> <u>\</u>
Test Method:		Visual Obse	ervation	Rig Type:	Caterp	oillar 314	24 Hours:		<u></u> 🔻		
SAMPLE	INFORM	IATION	DEPTH	STRATA			DESCRIPTION OF MATERIALS				REMARKS
Depth (ft.)	Number	Туре	(feet)				(C	lassifica	tion)		
			0.0								No indication of ESGWH
			0.0		21/4						
					<u>~11/</u>						
				TOPSOIL	N1/2	24" Topsoil					
			<del>-  </del>								
			_		N11/2						
					ШШ						
			_								
				SUBSOIL	ШШ	30" Subsoil, Ro	ots				
			_	00200.2	ШШ	Co Cubcon, rec					
					ШШ						
					MAL						
			5.0								
5.5	1	Grab	_								
			_	01.40141							
				GLACIAL							
				TILL		Brown to Gray-	Brown, Silty Sand with	n Gravel, Col	bbles, Boulders (SN	<b>1</b> )	
			_								
			_								
			100								
			10.0		13.141	<del>                                     </del>					
						Test Pit TP-5 T	erminated at Depth of	10 Feet Bel	ow Ground Surface		
			-								
			<del></del>								
			-								
			4								
			15.0								



Test	Pit	No.:	TP-6
Page	1	of	1

Project:	Proposed Apartment Building 2268 - 2284 Connecticut Route 32, Montville, New Lond					WAI Project No.: GM2422090.000					
Location:	2268 - 228	34 Connection	cut Route 32, M	lontville, New Lon	don Co	ounty, Connect	ticut		Client:	R.J. O'Connell & A	Associates, Inc.
Surface Eleva	ition: ±	150.0	feet NAVD88	Date Started:		8/10/2024	Water	r Depth	Elevation	Cave-	In Depth   Elevation
Termination D	Depth:	9.5	feet bgs	Date Comple	ted:	8/10/2024	(fe	et bgs)	(ft NAVD88)	(	feet bgs)   (ft NAVD88)
Proposed Loc	cation:	SWM Area	· 	Logged By:	JB		During:				
Excavating M	ethod:	Backhoe		Contractor:	CL		At Completion:		∇	At Completion:	I <u></u>
Test Method:		Visual Obse	ervation	Rig Type:	Caterp	illar 430	24 Hours:		I <u></u>		
SAMPLE	INFORM	IATION	DEPTH	STRATA					MATERIALS		REMARKS
Depth (ft.)	Number	Туре	(feet)				(Cla	assificat	tion)		
			0.0								
			0.0								
			_	TOPSOIL	<u> </u>	12" Topsoil					
					<u> </u>						
				SUBSOIL		6" Subsoil, Roo	ts				
				CODOCIE	144.11	C Cubbon, 1100					
			_								
											Indications of ESGWH
											@ 3 fbgs.
3.5	1	Grab	-								
			<b>.</b>								
			5.0								
				GLACIAL		Brown, Silty Sar	nd with Gravel, Cobbles	s, Boulders	(SM)		
				TILL							
			<del></del>								
			_								
					Ш						
			_								
			_								
			10.0			Test Pit TP-6 Te	erminated upon Refusal	l at Depth o	of 9.5 Feet Below 0	Ground Surface.	
			_								
			-								
			15.0								



Test	Pit	No.:	TP-7
Page	1	of	1

Project:	Proposed A	Apartment E	Building				WAII	Project No.:	GM2422090.000	
Location:	2268 - 228	4 Connection	cut Route 32, N	Nontville, New Lor	ndon Co	ounty, Connec	ticut	Client:	R.J. O'Connell &	Associates, Inc.
Surface Eleva	tion: ±	146.0	feet NAVD88	Date Started:	: -	3/10/2024	Water Depth	Elevation	Cave	In Depth   Elevation
Termination D	epth:	9.5	feet bgs	Date Comple	ted:	3/10/2024	(feet bgs)	(ft NAVD88)		feet bgs)   (ft NAVD88)
Proposed Loc	ation:	SWM Area	_	Logged By:	JB		During:			
Excavating Mo	ethod:	Backhoe	·	Contractor:	CL		At Completion:	▽	At Completion:	<u></u> <u>F</u>
Test Method:		Visual Obse	ervation	Rig Type:	Caterp	illar 430	24 Hours:	<u></u> <b>T</b>		
SAMPLE	INFORM	ATION	DEPTH	STRATA			DESCRIPTION OF	MATERIALS		REMARKS
Depth (ft.)	Number	Туре	(feet)				(Classifica	tion)		
			0.0							No indication of ESGWH
					<u> </u>					
				TOPSOIL	<u> </u>	24" Topsoil				
				1010012		24 Topoon				
					<u> </u>					
					<u> </u>					
				SUBSOIL		6" Subsoil, Roc	ots			
			🕇		1111					
			$H \rightarrow$							
3.5	1	Grab								
			1 🗇							
			-							
			5.0							
			⊢	GLACIAL		Brown Cilty Ca	nd with Gravel, Cobbles, Boulders	· (CM)		
				GLACIAL		Brown, Silty Sa	ind with Gravei, Cobbles, Boulders	S (SIVI)		
				TILL						
			l —							
			<u>_</u>							
			-							
			I →							
			10.0		F4 F151	Test Pit TP-7 T	erminated upon Refusal at Depth	of 9.5 Feet Below G	round Surface.	
			-							
			-							
			-							
			]							
			4							
			-							
			15.0							



Test	Pit N	No.:	TP-8
Page	1	of	1

Project:	Proposed.	Apartment E	Building		WAI Project No.: GM2422090.000						
Location:	2268 - 228	4 Connection	cut Route 32,	Montville, New Lon	idon Co	ounty, Connect	ticut	Client:	R.J. O'Connell & /	Associates, Inc.	
Surface Eleva			feet NAVD88			8/10/2024		Elevation		In Depth   Elevation	
Termination D	epth:	9.0	feet bgs	Date Comple	-	8/10/2024	(feet bgs)	(ft NAVD88)	(	feet bgs)   (ft NAVD88)	
Proposed Loc		SWM Area	•	Logged By:	-		During:	Ā			
Excavating M		Backhoe		Contractor:			At Completion:		At Completion:	I <u>E</u>	
Test Method:		Visual Obse	ervation			illar 430	24 Hours:			<del></del> =	
CAMPLE	INICODM	ATION									
SAMPLE	INFORM	ATION	DEPTH	STRATA			DESCRIPTION OF			REMARKS	
Depth (ft.)	Number	Туре	(feet)				(Classific	ation)			
			0.0							No indication of ESGWH	
					N11/2						
			_	TOPSOIL		12" Topsoil					
					<u>~11/</u>						
				SUBSOIL		6" Subsoil, Roo	ts				
			-		MAG						
			_								
4 E	1	Grab									
4.5	'	Grab	5.0	GLACIAL							
			3.0								
				TILL		Brown, Silty Sa	nd with Gravel, Cobbles, Boulde	ers (SM)			
			_								
			_								
			_								
					1111						
						Test Pit TP-8 To	erminated upon Refusal at Dept	h of 9 Feet Below Gr	ound Surface.		
			-								
			10.0								
			4								
			15.0								

PROJ. NAME: Proposed Rite Aid Pharmacy LOCATION: Montville, Connecticut PROJECT NO:: J2075388  DATE START: August 29, 2007  DATE END: August 29, 2007  BORING CO.: New England Boring Contract CO: LOCATION: Glastonbury, Connecticut Trent Rowe  JGI REP: Brian Opp  SAMPLING  Depth Blows/ Penet./						HAMME TYPE: SIZE: FALL: DATE 8/29/07	Safety 140 lbs. 30"  DEPTH Not Encounter	CASING AT	SSA 4" dia. Winch/Cable	BORING: LOCATION SURF. EL:	150' +/-
(33)		T	******	T	-		Commis D			Strata	
Depth (ft)	No.	(ft.)	6"	Penet./ Rec. (in)			Sample D	escription		Change Depth (ft)	Notes
	110.	(11.)		Rec. (III)		Topsoil				0.2	
5							ne SAND, some Grave	I, trace Silt.		A B	
										7.0	
						Brown, fin	e SAND, trace Silt.				
10										10.0	
						Brown, coa	arse to fine SAND, Gr	avel, with Cobbles.	(Glacial T	ill)   11.3	
15	15					Auger refu	sal at 11.3', on possibl	e Boulder or Bedrock.			
20											
20											
75											
25											
$\dashv$											
$\dashv$											
$\dashv$											
_											
30											
EASTERN, Inc. allerracon company							Proportions Used: t Cohesive Consistency very soft soft medium stiff stiff very stiff hard		-20%), some (20-35%), Cohesionless Relatively loose loose medium dense dense very dense		IR-1

IACCATIONS   Monthuile, Connecticut   Syryin   Safary   SS   SSA   BORNOG:   III-2	PROJ. NAME: Proposed Rite Aid Pharmacy					narmacy	y HAMMER SAMPLER CASING SHEET 1 OF 1						
PROJECTION:   2007588   2007							TYPE:	Safety					
DATE STARTS:   August 29, 2007   SURE: ELS:   145° +	PR	OJEC	T NO.:	J207538	8				2" OD	4" dia.			:
BORING CO.;   New England Boring Contractors (Classobary, Connected)   STEP   CASING AT   DURATION ATTER BUILLING	DA	TE SI	ART:	August 2	29, 2007		FALL:	30"			1	2-2-2-2-2-2-	•
Second Content   Standard   Standard   Strata   Strata	DA	TE EN	vD:								SURF	EL:	148' +/-
SAMPLING   Sample Description   Sirata   Moisture Content				New Eng	gland Boring	Contractors			GROUNDWAT	ER OBSERVATIONS	<b>,</b>		
						ticut				DURATIO	N AFTER	DRILLIN	G
SAMPLING							8/29/07	Not Encountered	l				
No.   Chord   Change   Content   Change   Content   Change   Content   Change   Content   Change   Content   Change	JG	REP		***************************************		:	1						T
SS-1   G-2   3-2   3-418   SS-1   Loose, brown, fine SAND, taxe Site.   Gaze Sand Sand Sand Sand Sand Sand Sand Sand	£		SAN	1PLIN	G						Str	ata	Moisture
SS-1   G-2   3-2   3-418   SS-1   Loose, brown, fine SAND, taxe Site.   Gaze Sand Sand Sand Sand Sand Sand Sand Sand	p (t		Depth	Blows/	Penet./			Sample De	scription		Ch	ange	Content
SS-1   G-2   3-2   3-418   SS-1   Loose, brown, fine SAND, taxe Site.   Gaze Sand Sand Sand Sand Sand Sand Sand Sand	Dept	No.	(ft.)	6"	Rec. (in)			•	•			_	1
SS-2   2-4   2-3   2-4/12   SS-2   Medium desse, fine SAND, some Gravel, trace Sile.   Possible Fill)   3-5		1100	1 (10.)	<del>                                     </del>	ree: (III)	<u> </u>	Topsoil				Бер		(70)
SS-2   2-4		SS-1	0-2	2-2	24/18	SS-1:	Loose, brow	vn, fine SAND, trace S	ilt.		******		5.2
SS-2   2-4				3-3							<b>******</b>		
SS-1						1					*****		
S	_	SS-2	2-4	2-3	24/12	SS-2:	Medium der	nse, fine SAND, some	Gravel, trace Silt.	(D	*****	2.5	2.5
SS-3   S-5.6   30-1001*   7.77   SS-3:				8-18						(Possible Fill)	OXXXX	3.3	
SS-3   S-5.6   30-100/1*   7/7   SS-3:   Medium dense to dense, brown, medium to fine SAND, some Gravel, trace Sit, with Cobbles.   1.2	_					1							
SS-4   7-9   27-31   24/18   SS-4:   Very dense, brown, coarse to fine SAND, some Gravel, trace Silt, occasional Cobbles.   1.2	3			<u> </u>		+							
SS-4   7-9   27-31   24/18   SS-4:   Very dense, brown, coarse to fine SAND, some Gravel, trace Sift, occasional Cobbles   1.2		SS-3	5-5.6	30-100/1"	7/7	SS-3:	Medium der	nse to dense, brown, m	edium to fine SAND, so	me Gravel, trace Silt, with			1.3
1.7							Cobbles.						
1.7						1							
1.7   1.7		SS-4	7-9	27-31	24/18	SS-4:	Very dense,	brown, coarse to fine	SAND, some Gravel, tra	ce Silt, occasional Cobbles.			1.2
1.7   1.7				43-45									
A7-50   (Glacial Till)   11.0	_			15 15									
Auger Refusal at 11.0°, on possible Boulder or Bedrock.    Auger Refusal at 11.0°, on possible Boulder or Bedrock.    Auger Refusal at 11.0°, on possible Boulder or Bedrock.    Boulder or Bedrock.	10	SS-5	9-11	44-41	24/18	SS-5:	Similar to SS	S-4.					1.7
Auger Refusal at 11.0°, on possible Boulder or Bedrock.    13				47-50						(Glacial Till)		11.0	
15										(======================================	er-sage vier droits-site in		
20	-+						Auger Refus	sal at 11.0', on possible	Boulder or Bedrock.				
20													
20													
20	-												
Notes:	15												
Notes:													
Notes:													
Notes:													
Notes:													
Notes:													
Notes:	_												
Notes:   Proportions Used: trace (1-10%), little (10-20%), some (20-35%), and (35-50%).   Cohesive Consistency (Blows/ft.)   Cohesionless Relative Density (Blows/ft)   very soft   0-2   very loose   0-4   soft   2-4   loose   4-10   medium stiff   4-8   medium dense   10-30   stiff   8-15   dense   30-50   very stiff   8-15   dense   30-50   very stiff   15-30   very dense   50+	20												
Notes:   Proportions Used: trace (1-10%), little (10-20%), some (20-35%), and (35-50%).   Cohesive Consistency (Blows/ft.)   Cohesionless Relative Density (Blows/ft)   very soft   0-2   very loose   0-4   soft   2-4   loose   4-10   medium stiff   4-8   medium dense   10-30   stiff   8-15   dense   30-50   very stiff   8-15   dense   30-50   very stiff   15-30   very dense   50+													
Notes:   Proportions Used: trace (1-10%), little (10-20%), some (20-35%), and (35-50%).   Cohesive Consistency (Blows/ft.)   Cohesionless Relative Density (Blows/ft)   very soft   0-2   very loose   0-4   soft   2-4   loose   4-10   medium stiff   4-8   medium dense   10-30   stiff   8-15   dense   30-50   very stiff   8-15   dense   30-50   very stiff   15-30   very dense   50+	$\dashv$											]	1
Notes:   Proportions Used: trace (1-10%), little (10-20%), some (20-35%), and (35-50%).   Cohesive Consistency (Blows/ft.)   Cohesionless Relative Density (Blows/ft)   very soft   0-2   very loose   0-4   soft   2-4   loose   4-10   medium stiff   4-8   medium dense   10-30   stiff   8-15   dense   30-50   very stiff   8-15   dense   30-50   very stiff   15-30   very dense   50+	_										1 1		
Notes:   Proportions Used: trace (1-10%), little (10-20%), some (20-35%), and (35-50%).   Cohesive Consistency (Blows/ft.)   Cohesionless Relative Density (Blows/ft)   very soft   0-2   very loose   0-4   soft   2-4   loose   4-10   medium stiff   4-8   medium dense   10-30   stiff   8-15   dense   30-50   very stiff   8-15   dense   30-50   very stiff   15-30   very dense   50+													
Notes:   Proportions Used: trace (1-10%), little (10-20%), some (20-35%), and (35-50%).   Cohesive Consistency (Blows/ft.)   Cohesionless Relative Density (Blows/ft)   very soft   0-2   very loose   0-4   soft   2-4   loose   4-10   medium stiff   4-8   medium dense   10-30   stiff   8-15   dense   30-50   very stiff   8-15   dense   30-50   very stiff   15-30   very dense   50+													
Notes:   Proportions Used: trace (1-10%), little (10-20%), some (20-35%), and (35-50%).   Cohesive Consistency (Blows/ft.)   Cohesionless Relative Density (Blows/ft)   very soft   0-2   very loose   0-4   soft   2-4   loose   4-10   medium stiff   4-8   medium dense   10-30   stiff   8-15   dense   30-50   very stiff   8-15   dense   30-50   very stiff   15-30   very dense   50+	$\dashv$		· ·									İ	
Notes:   Proportions Used: trace (1-10%), little (10-20%), some (20-35%), and (35-50%).	25											İ	
Notes:   Proportions Used: trace (1-10%), little (10-20%), some (20-35%), and (35-50%).	T												
Notes:   Proportions Used: trace (1-10%), little (10-20%), some (20-35%), and (35-50%).	$-\dagger$												
Notes:   Proportions Used: trace (1-10%), little (10-20%), some (20-35%), and (35-50%).	$\perp$												
Notes:   Proportions Used: trace (1-10%), little (10-20%), some (20-35%), and (35-50%).													
Notes:   Proportions Used: trace (1-10%), little (10-20%), some (20-35%), and (35-50%).	$\dashv$												
Notes:   Proportions Used: trace (1-10%), little (10-20%), some (20-35%), and (35-50%).	_												
Notes:   Proportions Used: trace (1-10%), little (10-20%), some (20-35%), and (35-50%).	30				l								
Cohesive Consistency (Blows/ft.) very soft 2-4 loose 4-10 medium stiff 4-8 medium dense 10-30 stiff 8-15 dense 30-50 very dense 50+				Notes:			<u>P</u> 1	roportions Used: tra	ce (1-10%), little (10-20	0%), some (20-35%), and (3	55-50%).		
Soft   2-4   loose   4-10							Cohesive Consistency (Blows/ft.) Cohesionless Relative Dens				sity (Blows	<u>/ft)</u>	
EASTERN,Inc.         medium stiff         4-8         medium dense         10-30           stiff         8-15         dense         30-50           very stiff         15-30         very dense         50+			han .	Initial refusa	at 4.3' offset 5	o' to the west.	1	•		-			
EASTERN, Inc.         stiff         8-15         dense         30-50           very stiff         15-30         very dense         50+													
A TIETTECON COMPANY very stiff 15-30 very dense 50+													-
	۸7fe	rracor	1 COMPANY				ve	ery stiff	15-30	•			

PR DA DA BO CO FO	PROJ. NAME: Proposed Rite Aid Pharmacy Montville, Connecticut J2075388  DATE START: August 30, 2007  DATE END: August 30, 2007  BORING CO.: New England Boring Contractor Glastonbury, Connecticut Tim Carpenter Michael Kraemer  SAMPLING  Depth Blows/ Penet./ No. (ft.) 6" Rec. (in)  SS-1 0-2 4-5 24/20 SS-1: 7-8					SIZE: FALL: DATE 8/30/07  Topsoil Medium der	Safety 140 lbs. 30"  DEPTH  Not Encountered  Sample De	SURF. TION AFTER I	EL:  DRILLING  ata  inge	JB-3 <b>See Plan</b> 148.5' +/-		
5	SS-2	5-5.5	62	6/4	SS-2:				ttle Silt, frequent Cobble		8.0	
10						Auger Refus	sal at 8.0', on possible l	Boulder or Bedrock.				
20												
25												
	Notes: Offset 10' west. Refusal at 9.3'.  EASTERN, Inc. Ilerracon company			C ve sc m st	roportions Used: tracohesive Consistency (lery soft of the dium stiff of the consistency trace the consistency (left of the consistency trace).		0%), some (20-35%), a Cohesionless Relative very loose loose medium dense dense very dense			ID 2		

LO PRO DA BO CO FO	TE ST TE EN RING	DN: F NO.: ART: D: CO.: ATION: N:	Montville J2075388 August 2 August 2 New Eng Glastonb Trent Ro Brian Op	9, 2007 9, 2007 gland Boring ury, Connect we	Contractors icicut	SIZE: 140 lbs.						JB-4 See Plan 148.5' +/-
9		<del> </del>	IPLING	<del>,                                    </del>							Strata	Moisture
Depth (ft)		Depth	Blows/	Penet./			Sample De	scription			Change	Content
Ã	No.	(ft.)	6"	Rec. (in)	То	psoil					0.2	(%)
	SS-1A	0-0.9	2-5	24/20	SS-1A: Me	edium d	lense, brown, medium to	fine SAND, some Silt.			1.0	
	SS-1B	0.9-2	6-7		SS-1B: Me	edium d	lense, brown, coarse to f	ine SAND, some Grave	el, trace Silt.	<b>***</b>		
	SS-2	2-4	7-7	24/12			lense, brown, coarse to	fine SAND, some Grave		<b>***</b>	▩	1.3
			9-21		wi	th Brick	ς.	<u> </u>	(Fi	ll) <b>888</b>	3.5	
5												
	SS-3	5-6.7	28-41	20/14	SS-3: Ve	ru dence	e, brown, coarse to fine	SAND come Gravel tr	noo Silt			1.4
H	33-3	3-0.7		20/14	33-3. Ve	ry dense	e, brown, coarse to fine	SAND, some Graver, ii	ace Siit.			1.4
			33-100/2"								6.7	
					Со	bbles an	nd Boulders					
									(Glacial Til	ın İ	9.5	
10						D . C	21	D - 11 D - 1 1-	(Oluciai III	u) symm	7.5	
					Au	ger Ken	fusal at 9.5', on possible	Boulder or Bedrock.				
15												
-												
			-									
20												
П												
+												
25												
$\dashv$												
4		:										
30												
in the second	Notes:			1	Proportions Used: tra		20%), some (20-35%), a Cohesionless Relative					
16			_	sal at 6.7' on bo	ılder, offset 12'		very soft	0-2	very loose	0-4	-10W3/IL)	
Q	northwest.					soft medium stiff	2-4 4-8	loose medium dense	4-10 10-30		l	
	FASTERN, Inc.						stiff	8-15	dense	30-50		İ
EASTERN, Inc. Allerracon COMPANY							very stiff	15-30	very dense	50+		

DD	OJ. NA	N/E	Proposed	Rite Aid Ph	armacy HAA	MMER	SAMPLER	CASING		HEET 1	OF 1
	CATK			e, Connectic			SS	HSA	BORIN		JB-5
4: -: -: -	OJECI	[+1+1+1+1+1+1+1+1+1+1+1+1+1	J207538		SIZE		2" OD	3 1/4" ID	LOCA	TION:	See Plan
E + : + : + :	TE ST		August 3		FAL	.L: 30"	Drop Method:	Winch/Cable	]		
	TE EN		August 3						SURF.	EL:	152' +/-
	RING			gland Boring				R OBSERVATION			
		ATION:		ury, Connect			CASING AT	DURATIO	N AFTER D	RILLIN	G
	REMA	N:	Tim Car		8/30	0/07 Not Encounter	red				
JG	REP:	G 4 % .	Michael		1						
(t)		SAIV	PLIN	9					Str		
Depth (ft)		Depth	Blows/	Penet./		Sample D	escription		Cha	nge	Notes
Der	No.	(ft.)	6"	Rec. (in)				and the second s	Dept	h (ft)	
	SS-1	0-2	3-5	24/18	Tops SS-1: Med	soil lium dense, brown, medium	to fine SAND, some Silt, to	race Gravel.	************	0.5	
	33-1	0-2	3-3	24/10	55-1.	mani dense, orown, median	to line of E.D., some only a	(Subsoil)		1.5	
			9-14								
					Cobb	bles and Boulders.					
-			-		1						
5					1						
	SS-2	5-6	38-62	12/1	SS-2: Very	y dense, brown, coarse to fi	ne SAND, some Gravel, litt	le Silt, occasional Cobbles			
	55 2	- "	1 30 02		100 21	,,,	,	,			
$\vdash$											
$\vdash$			<b>-</b>								
10		10.10.1	50/57	1/0	99.9	7					
	SS-3	10-10.1	50/1"	1/0	SS-3: Simi	ilar to SS-2, except with free	quent Cobbies.				
								(01 : 1 771)		12.0	
								(Glacial Till)		12.0	
					Auge	er Refusal at 12.0', on possi	ble Boulder or Bedrock.				
					-						
15											
					5						
20			-		1						
					1						
					1						
					]						
25											
23					1						
			L								
30											
50		l	Notes:		1	Proportions Used:	trace (1-10%), little (10-2	0%), some (20-35%), and	(35-50%).		
1/3						Cohesive Consisten	cy (Blows/ft.)	Cohesionless Relative D	ensity (Blow	<u>s/ft)</u>	
	176					very soft	0-2 2-4	•	-4 -10		
						medium stiff	4-8		0-30		
E	ASTE	RN, Inc.				stiff	8-15		0-50		
		COMPANY				very stiff	15-30	very dense 5	0+	NI.	ID 5

PR DA BO CC FO	CATIO OJEC TE ST TE EN PRING L LOC REMA I REP:	I NO.: ART: ID: CO.: ATION: IN:	Montville J2075388 August 2 August 2 New Eng	19, 2007 19, 2007 Igland Boring Jury, Connective	Contractors	EAMMER         CASING           TYPE:         Safety         SS         H S A           SIZE:         140 lbs.         2" OD         3 1/4" ID           FALL:         30"         Drop Method:         Winch/Cable           GROUNDWATER OBSERVATION           DATE         DEPTH         CASING AT         DURATE           8/29/07         Not Encountered	BORING: LOCATION: SURF. EL:	148' +/-		
		SAM	IPLIN	G			Strata			
Depth (ft)		Depth	Blows/	Penet./	1	Sample Description	Change	Content		
)ebt	No.	(ft.)	6"	Rec. (in)			Depth (ft)			
						Topsoil	0.2			
	SS-1	0-2	4-5	24/10	SS-1:	Brown, medium to fine SAND, some Silt, trace root matter. (Subsoil) Brown, medium to fine SAND, some Silt and Gravel, occasional Cobbles.	1.0	-		
			5-5		33-1.	Brown, medium to fine SAND, some sint and Graver, occasional Coopies.	2.0			
5	SS-2	2-2.3	60/4"	4/0	SS-2:	No Recovery.				
						Brown, coarse to fine SAND, Some Gravel, little Silt.				
						Cobbles and Boulders.				
10						(Glacial Till	al Till) 10.5			
				•		Auger Refusal at 10.5', on possible Boulder or Bedrock.	10.5			
15										
20										
25										
_							, i			
30			Nets			Deconstitute Florida ( /1 100/) 1541, (10 200/) (20 200/)	nd (25 509()			
	Notes:  Refusal at 4.3'. Offset 5' to the north.  EASTERN, Inc.  Allerracon company			.3'. Offset 5' to	the north.	Proportions Used: trace (1-10%), little (10-20%), some (20-35%), a  Cohesive Consistency (Blows/ft.)  very soft  very soft  2-4  medium stiff  4-8  stiff  8-15  very stiff  15-30  very dense  hard  30+		JB-6		

LO PR DA DA BO CO FO	PROJ. NAME: Proposed Rite Aid Pharmacy Montville, Connecticut PROJECT NO.: J2075388  DATE START: DATE END: DATE END: DOI: DOI: DOI: DOI: DOI: DOI: DOI: DO						Safety 140 lbs. 30"	SURI ATION AFTER St	ATION:	JB-8 See Plan 149; +/-		
5	SS-1	5-7	18-14	24/15	SS-1:	Dense, bro	own, medium to fine S	AND, some Gravel, lit	tle Silt, occasional Cobbl	es.	5.0	
15						Auger Ref	fusal at 9.8', on possibl	e Boulder or Bedrock.	(Glacial T	ill)	9.8	
20												
25												
Notes:  EASTERN, Inc. allerracon company					Proportions Used: ti Cohesive Consistency very soft soft medium stiff stiff very stiff		0-20%), some (20-35%).  Cohesionless Relati very loose loose medium dense dense very dense			IR 9		

рD	OI NA	ME	Proposes	l Rite Aid Pl	narmacy	HAMME	<b>,</b>	SAMPLER	CASING		SHEET 1	OF 1	
PROJ. NAME: LOCATION:				e, Connectic		TYPE:	Safety	SS	HSA	BORI		JB-9	
	OJEC		J2075388			SIZE:	140 lbs.	2" OD	3 1/4" ID	F191111111111		See Plan	
			gust 30, 2007		FALL:	30"	Drop Method:	Winch/Cable		i e e e e e e e e e e e e e e e e e e e			
DATE END: August 30, 2007					180000			SURF	EL:	151.5' +/-			
BORING CO.: New England Boring Contractors						GROUNDWATI	ER OBSERVATIO						
CO. LOCATION: Glastonbury, Connecticut				DATE	DEPTH	CASING AT	DURAT	ON AFTER	DRILLIN	G			
FOREMAN: Tim Carpenter						8/30/07	Not Encountered						
JGIREP: Michael Kraemer												******	
SAMPLING										Stı	rata		
Depth (ft)		Depth	Blows/	Penet./	1		Sample De	scription		Ch	ange	Notes	
)epí	No.	(ft.)	6"	Rec. (in)				•		1	th (ft)		
::=::		(11.)	"	Rec. (III)		Topsoil				Бер	0.5		
	SS-1A	0-1	2-7	24/16	SS-1A:	Medium d	lense, brown, medium to	fine SAND, some Silt,	trace Gravel. (Subsoil)	******	1.0		
	SS-1B	1-2	14-18		SS-1B:	Dense, bro	own, coarse to fine SAN	D, little Gravel and Silt,	occasional Cobbles.				
5													
	SS-2	5-5.5	62	6/2	SS-3:	Very dens	e, brown, coarse to fine	SAND and Gravel, trace	Silt, occasional Cobbles				
					1					-			
									(0) 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		0.5		
10									(Glacial Till)		9.5		
						Auger Ref	usal at 9.5', on possible l	Boulder or Bedrock.					
					-								
15													
_													
l													
$\dashv$											l		
20													
											1		
_													
_													
25													
25													
_													
$\exists$													
$\dashv$													
30													
			Notes:				Proportions Used: tra	d (35-50%).					
							Cohesive Consistency (		Cohesionless Relative I		nsity (Blows/ft)		
		601 12	Offset 8' north. Refusal at 8.5'.			very soft 0-2 very loose 0-4 soft 2-4 loose 4-10							
	100					medium stiff 4-8 medium dense 10-30							
EASTERN, Inc.							stiff	30-50	50				
A lerracon COMPANY							very stiff	15-30	very dense	50+	NT.	ID 0	

PROJ. NAME: LOCATION: PROJECT NO.: DATE START: DATE END: BORING CO.: CO. LOCATION: FOREMAN: JGI REP: SAM			Proposed Rite Aid Pharmacy Montville, Connecticut J2075388 August 29, 2007 August 29, 2007 New England Boring Contractors Glastonbury, Connecticut Trent Rowe Brian Opp			HAMME) TYPE: SIZE: FALL: DATE 8/29/07	Safety 140 lbs. 30"  DEPTH  Not Encountere	CASING SSA 4" dia. Winch/Cable FER: OBSERVATI DURA	A BORING: JB-10 Lia. LOCATION: See Plan Cable SURF. EL: 146.5' +/- VATIONS DURATION AFTER DRILLING  Strata			
Depth (ft)	No.	Depth (ft.)	Blows/	Penet./ Rec. (in)	Sample Description						ange th (ft)	Notes
	110.	(11.)		Rec. (III)		Topsoil				Дер	0.2	
5						Brown, coa	arse to fine SAND and	Gravel, trace Silt, with	Brick.	ill)	5.0	
10						Brown, coa	arse to fine SAND, som	ne Gravel and Silt, freq	uent Cobbles.			
$\dashv$									(Glacial Ti	11)	11.0	
15						Auger refus	sal at 11.0', on possible	Boulder or Bedrock.				
20												
				·								
25												
30												
EASTERN, Inc.  Allerracon COMPANY			Notes:			<u>!</u> : :	Proportions Used: tr: Cohesive Consistency very soft soft medium stiff stiff very stiff		-20%), some (20-35%), Cohesionless Relativ very loose loose medium dense dense very dense			IP 10

PROJ. NAME: Proposed Rite Aid LOCATION: Montville, Connec PROJECT NO: J2075388  DATE START: August 30, 2007  DATE END: August 30, 2007  BORING CO: New England Bor CO: LOCATION: Glastonbury, Cont FOREMAN: Tim Carpenter JGI REP: Michael Kraemer  SAMPLING					ut T SI FA Contractors	AMMI YPE: ZE: ALL: ATE	Safety 140 lbs. 30"	DEPTH ncountered	SAMPY SS 2" Ol Drop Method: CASING	D :	CASING HSA 3 1/4" ID Winch/Cable	H S A BORING: JB-11 1/4" ID LOCATION: See Plan				
Depth (ft)			Blows/	Penet./		Sample Description							Change			
Dep	No.	(ft.)	6"	Rec. (in)								Dep	th (ft)			
	SS-1	0-2	2-8	24/14		psoil edium	dense, brown	n, medium to f	ine SAND, som	ne Silt, litt	le Gravel.		0.5			
											(Subsoil	)	1.5			
5	SS-2	5-6.5	16-37	18/8			and Boulders		AND, some Gra	avel. little	Silt, occasional Cobb	les.				
	33-2	3-0.5	64	16/6	. 33-2. V	ny den	isc, brown, c	oarse to the S.	in (D, some on	avoi, iiiio	Siit, Occusionar Coop	los.				
							-C1 7 7		oulder as D : 1	n als	(Glacial Till	)	7.5			
					At	iger Ke	etusai at 7.5',	on possible B	oulder or Bedro	ock.						
10					1											
1,5																
15																
Н																
$\vdash$																
20																
25																
$\vdash$																
30																
C E	J(	RN, Inc.	Offset 10' east. Refusal at 8.0'.					Consistency (E			Cohesionless Relative very loose loose medium dense dense		<u>s/ft)</u>			
		COMPANY					very stiff		15-30		very dense	50+				

# **TEST BORING LOG**

LO PRO DA DA BO CO FOI JGI	TE ST TE EN RENG	ON: FNO.: ART: ID: CO.: ATION: N: SAM	Montvill. J207538: August 2 August 2 New Eng Glastonb Trent Ro Brian Op	9, 2007 9, 2007 gland Boring ury, Connect we	Contractors	HAMME) FYPE: SIZE: FALL: DATE 8/29/07	Safety 140 lbs. 30"  DEPTH  Not Encountered  Sample D	CASING ed	SS D 4" d : Winch/	A lia. Cable	BORI LOCA SURF.	TION: EL: DRILLING	JB-12 See Plan 160.5' +/-
Depth (ft)	No	Depth	Blows/	Penet./			Sample D	escription			1	ange th (ft)	Notes
•	No.	(ft.)	6	Rec. (in)							<b>888888</b>	n (1t)	
					Г	Dark brown	n, medium to fine SAN	ND, some Gravel, l	ittle Silt, trace Brick.	(Fill)		3.0	
5													
					L	ight brow	n, fine SAND, trace S	ilt.				7.5	
					В	Brown, me	edium to fine SAND, s	ome Gravel, trace S	Silt, frequent Cobbles.				
10													
$\dashv$									(Gl	acial Till)		12.0	
					A	Auger refus	sal at 12.0', on possible	e Boulder or Bedro	ck.				
15				-									
$\dashv$													
-													
_													
20													
T													
1													
$\dashv$													
$\dashv$													
25													
_													
T													
30													
			Notes:						e (10-20%), some (20			1	
100							Cohesive Consistency very soft	<u>/ (Blows/ft.)</u> 0-2	Cohesionless very loose	Relative Den 0-4		s/ft)	
G		100					soft	2-4	loose	4-1	0		
EA	STE	RN, Inc.					medium stiff stiff	4-8 8-15	medium dens dense	se 10- 30-			
		COMPANY					very stiff	15-30	very dense	50+		No	ID 12

### **TEST BORING LOG**

	OJ. NA			l Rite Aid Pl e, Connectic		НАММ ТҮРЕ:	<b>ER</b> Safety	SAMPLER SS	CASING HSA/FW	C	SHEET BORING:	1 <b>OF 1</b> JB-13
F:-:-:-		ΓNO.;	J207538			SIZE:	140 lbs.	2" OD	3 1/4" ID / 4"		LOCATION:	
	TE ST		August 3			FALL:	30"	Drop Method:	Winch/Cable			•.
	TE EN		August 3		<u> </u>	141414141414				******	SURF. EL:	150' +/-
	RING	CO.: ATION:		gland Boring oury, Connec	Contractors	DATE	DEPTH	CASING AT	DID	ATION	AFFED DDILLI	
	REMA		Tim Car		licut	8/30/07		ed CASING AT	DUK	ATION	AFTER DRILLIN	NG.
10-10-10-1	REP:			Kraemer		0.00.07	, 1100 21100 41100					
		SAM	PLIN	G							Strata	
Depth (ff)		Depth	Blows/	Penet./	1		Sample D	escrintion			Change	Notes
epti	No.	(ft.)	6"				Sample D	escription				Notes
	110.	(11.)	0	Rec. (in)		Topsoil					<b>Depth (ft)</b> 0.3	
	SS-1	0-2	4-8	24/14	SS-1:	Medium	dense, brown, medium	to fine SAND, little Gra	ivel, trace Silt.			1
			11-12									
					1							
-					1						3.5	
												1
5												
	SS-2	5-5.3	50/3"	3/0	SS-2:	Very den	se, brown, coarse to fin	e SAND, some Gravel,	little Silt, occasional Co	bbles.		
			-									
_												
$\dashv$												
10												
						0.111	15.11					
						Cobbles a	and Boulders.					
15												
$\dashv$											40° 00	
20									(Glacial Till)			
$\neg$						D-II. D'	4 D-61-4 20 01	hl D. l !				
+						Koner Bit	t Refusal at 20.0', proba	bry on Bedrock.				
_												
+												
25												
T												
$\dashv$												
_												
30												
30			Notes:		3.0.00		Proportions Used: to	race (1-10%), little (10	-20%), some (20-35%).	, and (35	-50%).	
18							Cohesive Consistency	(Blows/ft.)	Cohesionless Relati	ve Densi		
			_		r bit used from 8.5'	to	very soft	0-2	very loose	0-4		
		2000	roller bit ref	usal at 20.0'.			soft medium stiff	2-4 4-8	loose medium dense	4-10 10-30	)	
		RN, Inc.					stiff	8-15	dense	30-50		
۸٦ſe	macor	COMPANY					very stiff	15-30	very dense	50+		
		l					hard	30+		1	Boring No.	JB-13

PROJECT: Proposed Rite Aid Pharmacy	JGI INSPECTOR:	SHEET 1 OF 1
LOCATION: Montville, Connecticut	Doug Yates	TEST PIT NO: JTP-1
PROJECT NO.: J2075388	WEATHER:	LOCATION: See Plan
DATE: December 11, 2007	Sunny, High 20° Degrees	SURFACE EL: 153' ±

B & L Construction, Inc.

EXCAVATION EQUIPMENT: GROUNDWATER OBSERVATIONS

TIME

**DEPTH** 

**NOTES** 

OPERATOR:

CONTRACTOR:

Bruce Sypher

12/11/07

**DATE** 

Not Encountered

CAPA

MAKE: Komatsu

MODEL: PL120

11111			121212121212121212121212121
AC	ITY:	3/4 c.v.	<b>REACH:</b> 15.0'

Depth (ft.)	Stratum (	Change	SOIL DESCRIPTION	Boulder Size/Count	Notes
		0.5	Topsoil		
2			Orange-brown, fine SAND and Silt, trace Gravel and Roots.		
			Grange brown, time brit 15 and bitt, trace Graver and Robas.		
3		3.0	(Subsoil)		
4			Brown, coarse to fine SAND, some Gravel, trace Silt, frequent	> 6"	Mottling observed
5			Cobbles and Boulders.		at 3.5'
6		6.0	(Glacial Till)		
7			Exploration Terminated at 6.0'.		
8					
9					
10					
11					
12					
13					
14					
15					
16					

NOTES:

PIT DIMENSIONS:

Length: Width: Depth: 5'

REMARKS: The stratification lines represent the approximate boundary between soil types and the transiti may be gradual. Water level readings have been made in the test pits at times under conditions stated on tl test pit logs. Fluctuations in the level of the groundwater may occur due to other factors than those prese at the time measurements were made

Proportions Used: trace (0-10%), little (10-20%), some (20-35%), and (35-50%)



PROJECT:	Proposed Rite Aid	Pharmacy	JGI INS	PECTOR:	SHEET	1 OF 1
LOCATION:	Montville, Connect	icut	Doug	Yates	TEST PIT NO:	JTP-2
PROJECT NO.: J2075388		WEA	THER:	LOCATION:	See Plan	
DATE:	December 11, 2007	1	Sunny, High	n 20° Degrees	SURFACE EL:	148' ±
EXCAVATION EQUIPMI	ENT;		G	ROUNDWA	TER OBSERVATI	ONS
CONTRACTOR:	B & L Construction	n, Inc.	DATE	TIME	DEPTH	NOTES
OPERATOR:	Bruce Sypher		12/11/07		Not Encountered	
MAKE:	Komatsu	MODEL: PL120				
CAPACITY:	3/4 c.y.	<b>REACH:</b> 15.0'				

CAPACIT			3/4 c.y. <b>REACH:</b> 15.0'	÷1	T
Depth	Stratum Cl			Boulder	Notes
(ft.)	Depth (	ft)	SOIL DESCRIPTION	Size/Count	
		0.5	Topsoil		
1	***************************************		-		
2	<b>**********</b>		Orange-brown, medium to fine SAND, some Gravel, little Silt,		
			trace Roots and Asphalt.		
3	<b></b>				
4	***************************************				
_					
5	<b>**********</b>	<b>5</b> 0	(TV)	10	
	***************************************	5.0	(Fil	1)	
6	-		Exploration Terminated at 5.0'.		
7			Exploration Terminated at 5.0.		
	1				
8					
	1				
9					
	1				
10					
	1				
11	]				
12	]				
13	1				
1.4					
14	-				
15					
13	1				
16					
10				1.1	

NOTES: PIT DIMENSIONS: Depth: Width: Length:

5'

Proportions Used: trace (0-10%), little (10-20%), some (20-35%), and (35-50%

REMARKS: The stratification lines represent the approximate boundary between soil types and the transiti may be gradual. Water level readings have been made in the test pits at times under conditions stated on tl test pit logs. Fluctuations in the level of the groundwater may occur due to other factors than those press at the time measurements were made



PROJECT:	Proposed Rite Aid Pharmacy	JGI INS	PECTOR:	SHEET	1 OF 1
LOCATION:	Montville, Connecticut	*:*::::::::::::::::::::::::::::::::::::	g Yates	TEST PIT NO:	JTP-3
PROJECT NO.:	J2075388	WEA	THER:	LOCATION:	See Plan
DATE:	December 11, 2007	Sunny, Hig	h 20° Degrees	SURFACE EL:	145' ±
EXCAVATION EQUIPM	ENT:	G	ROUNDWA	TER OBSERVATI	ONS
CONTRACTOR:	B & L Construction, Inc.	DATE	TIME	DEPTH	NOTES
OPERATOR:	Bruce Sypher	12/11/07		Not Encountered	
MAKE:	Komatsu <b>MODEL:</b>	PL120			
CAPACITY:	3/4 c v <b>REACH</b> :	15.0'			

Depth (ft.)	Stratum (		SOIL DESCRIPTION	Boulder Size/Count	Notes
1		0.7	Topsoil		
2			Orange-brown, medium to fine SAND, some Gravel, little Silt, trace Roots.		
3		3.0	(Subsoil)		
4			Brown, coarse to fine SAND, some Gravel, trace Silt, frequent Cobbles and Boulders.	>6"	
5		5.0	(Glacial Till)		
6			Exploration Terminated at 5.0'.		
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

NOTES:

PIT DIMENSIONS:

**Length: Width: Depth:** 14' 5' 5'

REMARKS: The stratification lines represent the approximate boundary between soil types and the transiti may be gradual. Water level readings have been made in the test pits at times under conditions stated on tl test pit logs. Fluctuations in the level of the groundwater may occur due to other factors than those presulat the time measurements were made

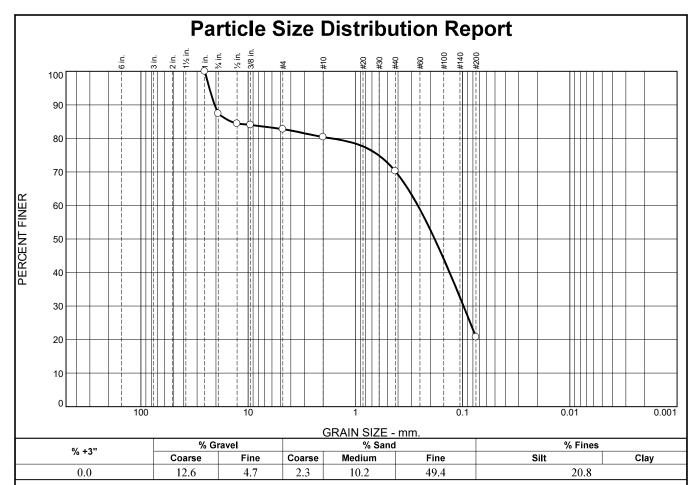
Proportions Used: trace (0-10%), little (10-20%), some (20-35%), and (35-50%)

EASTERN, Inc.

Allerracon COMPANY



# **APPENDIX B Laboratory Test Results**



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
1"	100.0		
3/4"	87.4		
1/2"	84.4		
3/8"	84.0		
#4	82.7		
#10	80.4		
#40	70.2		
#200	20.8		
*			

<u>Material Description</u> Silty Sand with Gravel					
PL= NP	Atterberg Limits LL= NV	PI= NV			
D <sub>90</sub> = 20.5856 D <sub>50</sub> = 0.1823 D <sub>10</sub> =	Coefficients D <sub>85</sub> = 14.3912 D <sub>30</sub> = 0.0982 C <sub>u</sub> =	D <sub>60</sub> = 0.2618 D <sub>15</sub> = C <sub>c</sub> =			
USCS= SM	Classification AASHTC	)= A-2-4(0)			
Remarks Moisture Content: 11.6%					

\* (no specification provided)

**Location:** B-5 **Sample Number:** S-2

**Depth:** 2' - 4'

Client: R.J. O'Connell and Associates, Inc.

Project: Proposed Apartment Building

2268-2284 CT Route 32, Montville, New London County, CT

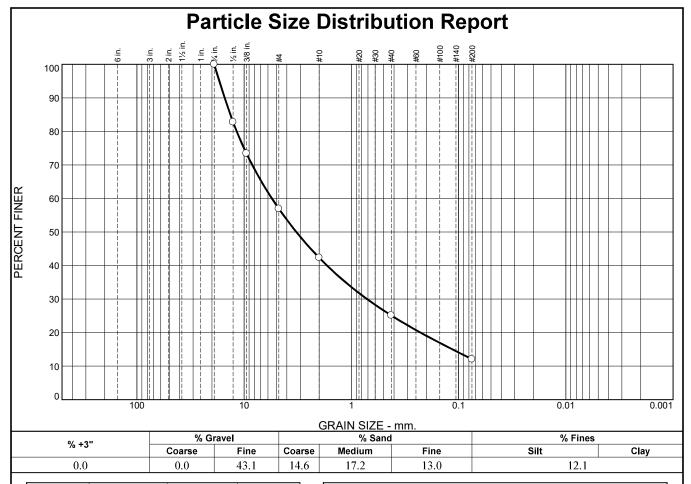
**Project No:** GM2422090.000

Figure S-

**Date:** 7/30/24



Tested By: MM Checked By: RWM



SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
3/4"	100.0		
1/2"	82.8		
3/8"	73.4		
#4	56.9		
#10	42.3		
#40	25.1		
#200	12.1		

Material Description						
Silty Sand with Gra	avel					
PL= NP	Atterberg Limits LL= NV	PI= NV				
	Coefficients					
$D_{90} = 15.2013$	$D_{85}$ = 13.4589 $D_{30}$ = 0.7150	D <sub>60</sub> = 5.5190 D <sub>15</sub> = 0.1143				
D <sub>90</sub> = 15.2013 D <sub>50</sub> = 3.2631 D <sub>10</sub> =	$C_{11}^{30}$ = 0.7130	C <sub>C</sub> = 0.1143				
. •	Classification	•				
USCS= SM	AASHTO	= A-1-a				
	Remarks					
Moisture Content:	3.2%					

(no specification provided)

Location: B-8 Sample Number: S-3

**Depth:** 5' - 7'

Client: R.J. O'Connell and Associates, Inc.
Project: Proposed Apartment Building

2268-2284 CT Route 32, Montville, New London County, CT

**Project No:** GM2422090.000

Figure S-2

**Date:** 7/30/24

WHITESTONE

Tested By: MM Checked By: RWM



# APPENDIX C Supplemental Information (USCS, Terms & Symbols)



# UNIFIED SOIL CLASSIFICATION SYSTEM

SOIL CLASSIFICATION CHART

ı	MAJOR DIVISIONS		LETTER SYMBOL	TYPICAL DESCRIPTIONS
	GRAVEL AND	CLEAN GRAVELS	GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
COARSE GRAINED SOILS	GRAVELLY SOILS	(LITTLE OR NO FINES)	GP	POORLY-GRADED GRAVELS, GRAVELSAND MIXTURES, LITTLE OR NO FINES
	MORE THAN 50% OF COARSE FRACTION	GRAVELS WITH FINES	GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES
	RETAINED ON NO. 4 SIEVE	(APPRECIABLE AMOUNT OF FINES)	GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
	SAND AND SANDY	CLEAN SAND (LITTLE OR NO	SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
	SOILS	FINES)	SP	POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
MORE THAN	MORE THAN 50% OF	SANDS WITH	SM	SILTY SANDS, SAND-SILT MIXTURES
50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	COARSE FRACTION PASSING NO. 4 SIEVE	FINES (APPRECIABLE AMOUNT OF FINES)	SC	CLAYEY SANDS, SAND-CLAY MIXTURES
FINE	SILTS AND CLAYS	LIQUID LIMITS LESS THAN 50	ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
GRAINED SOILS			CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
MORE THAN 50% OF MATERIAL IS			МН	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
SMALLER THAN NO. 200 SIEVE	SILTS AND CLAYS	LIQUID LIMITS <u>GREATER</u> THAN 50	СН	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
SIZE			ОН	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
F	HIGHLY ORGANIC SOILS		PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS FOR SAMPLES WITH 5% TO 12% FINES

GRADATION*	COMPACTNESS* Sand and/or Gravel	CONSISTENCY* Clay and/or Silt		
% FINER BY WEIGHT	RELATIVE DENSITY	RANGE OF SHEARING STRENGTH IN POUNDS PER SQUARE FOOT		
TRACE 1% TO 10% LITTLE 10% TO 20% SOME 20% TO 35% AND 35% TO 50%	LOOSE	VERY SOFT LESS THAN 250 SOFT		

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Office Locations:

**NEW JERSEY** PENNSYLVANIA MASSACHUSETTS CONNECTICUT FLORIDA New Hampshire **NEW YORK** 

<sup>\*</sup> VALUES ARE FROM LABORATORY OR FIELD TEST DATA, WHERE APPLICABLE. WHEN NO TESTING WAS PERFORMED, VALUES ARE ESTIMATED.



#### GEOTECHNICAL TERMS AND SYMBOLS

#### SAMPLE IDENTIFICATION

The Unified Soil Classification System is used to identify the soil unless otherwise noted.

#### SOIL PROPERTY SYMBOLS

N: Standard Penetration Value: Blows per ft. of a 140 lb. hammer falling 30" on a 2" O.D. split-spoon.

Qu: Unconfined compressive strength, TSF.

Qp: Penetrometer value, unconfined compressive strength, TSF.

Mc: Moisture content, %.LL: Liquid limit, %.PI: Plasticity index, %.δd: Natural dry density, PCF.

▼: Apparent groundwater level at time noted after completion of boring.

#### DRILLING AND SAMPLING SYMBOLS

NE: Not Encountered (Groundwater was not encountered).

SS: Split-Spoon - 1 3/8" I.D., 2" O.D., except where noted.

ST: Shelby Tube - 3" O.D., except where noted.

AU: Auger Sample.
OB: Diamond Bit.
CB: Carbide Bit
WS: Washed Sample.

#### RELATIVE DENSITY AND CONSISTENCY CLASSIFICATION

#### Term (Non-Cohesive Soils)

#### **Standard Penetration Resistance**

Very Loose	0-4
Loose	4-10
Medium Dense	10-30
Dense	30-50
Very Dense	Over 50

Term (Cohesive Soils)	Qu (TSF)
Very Soft	0 - 0.25
Soft	0.25 - 0.50
Firm (Medium)	0.50 - 1.00
Stiff	1.00 - 2.00
Very Stiff	2.00 - 4.00
Hard	4.00 +

#### PARTICLE SIZE

**NEW JERSEY** 

Boulders	8 in.+	Coarse Sand	5mm-0.6mm	Silt	0.074mm-0.005mm
Cobbles	8 in3 in.	Medium Sand	0.6mm-0.2mm	Clay	-0.005mm
Gravel	3 in5mm	Fine Sand	0.2mm-0.074mm	•	

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Office Locations:

# APPENDIX F Addendum to Geotechnical Evaluation By JGI Eastern, Inc.



December 20, 2007

201 Hammer Mill Road Rocky Hill, CT 06067 Phone (860) 721-1900 Fax (860) 721-1939 www.terracon.com

Mr. Brian McCarthy Vice President R.J. O'Connell & Associates, Inc. 80 Montvale Avenue, Suite 201 Stoneham, MA 02180

Advance Copy by Email

Re:

Addendum to Geotechnical Evaluation

Proposed Rite Aid Pharmacy

Route 32

Montville, Connecticut

JGI Project No. J2075388

Dear Mr. McCarthy:

JGI EASTERN, Inc., A Terracon Company (JGI), is pleased to provide this addendum to our September 25, 2007 Geotechnical Evaluation for the above-referenced project. The purpose of our additional work was to conduct subsurface explorations to evaluate the soil conditions and percolation rates as they relate to the proposed subsurface stormwater infiltration systems. This letter should be read in conjunction with the September Geotechnical Evaluation and is subject to the Limitations included in that report.

#### SITE AND PROJECT DESCRIPTION

The approximately 3.4-acre project site is located west of Route 32, north of Gallivan's Lane, and immediately northeast of Meadow Lane in the Town of Montville, Connecticut. The site is developed with both commercial and residential structures and associated paved and landscaped areas. The topography of the site generally slopes up to the north from approximately Elevation (El) 144 to 165 feet.

The project consists of demolishing the existing structures and constructing an approximately 14,700 square foot (sf) single-story Rite Aid Pharmacy building within the south central portion of the site. An additional restaurant/retail outparcel with an overall footprint of about 6,100 sf is planned to the north of the pharmacy. Parking areas are planned to the east, south, and west of both buildings. Finished floor elevations of the buildings were not provided prior to the issuance of this report. However, based on site topography, we have assumed that cuts and fills on the order of about 10 feet will be required to develop the site.

Mr. Brian McCarthy Page 2 December 20, 2007

Three subsurface stormwater infiltration systems will be installed as part of the site development. An approximately 900 cubic-foot (cf) system will be located in the northwest corner of the site, west of the proposed outparcel building. Two systems will be located south and east of the proposed pharmacy building with approximate capacities of 2,700 cf and 2,200 cf, respectively.

#### ADDITIONAL SUBSURFACE EXPLORATIONS AND CONDITIONS

JGI monitored the excavation of three test pits (JTP-1, JTP-2, and JTP-3) on December 11, 2007, using a Komatsu PL120 excavator, owned and operated by B & L Construction, Inc. of Old Saybrook, Connecticut. Pursuant to your requests, the test pits were advanced within the locations of the proposed infiltration systems. The test pits were advanced to depths ranging between 5 and 6 feet below the existing grade. Bedrock was not encountered in any of the test pits.

The approximate exploration locations are shown on the attached Subsurface Exploration Location Plan. The exploration elevations were interpolated from contours shown on the RJ O'Connell and Associates, Inc. "Grading and Drainage Plan", dated September 28, 2007. The exploration logs are attached.

The subsurface profile at the location of the three test pits generally consists of topsoil over subsoil, underlain by glacial till. However, fill was encountered in JTP-2. Topsoil (about 6 to 8 inches) was encountered in all of the test pits. The topsoil generally consists of dark brown, fine sand and silt, trace gravel with root matter. Subsoil, which was encountered below the topsoil in all but JTP-1 and JTP-3, extends to a depth of approximately 3 feet. The subsoil generally consists of brown, medium to fine sand, little to and silt, trace to some gravel, trace roots. Fill was encountered below the topsoil to a depth of at least 5 feet in JTP-2. The fill generally consists of orange-brown, medium to fine sand, some gravel, little silt, trace roots and asphalt. Glacial till, which was encountered below the subsoil in JTP-1 and JTP-3, generally consists of brown, coarse to fine sand, some gravel, trace silt, frequent cobble and boulders.

Groundwater was not encountered in the test pits. However, soil mottling was observed in the side walls of JTP-1 at an approximate depth of 3.5 feet below the existing grade. Therefore the high groundwater elevation may be approximately at Elevation 149.5 feet.

#### **Percolation Testing**

Percolation testing was completed within each test pit, in general accordance with the requirements in the Connecticut Public Health Code, revised January 1, 2007. The percolation test holes were approximately 12 inches in diameter and ranged in depth from about 20 to 22 inches. The percolation test results range between 0.9 and 1.2 minutes per inch and are shown on the attached Subsurface Exploration Location Plan.

This addendum letter has been prepared for the exclusive use of R.J. O'Connell & Associates, Inc., in accordance with generally accepted engineering practices. No other warranty, expressed or implied, is made.

Mr. Brian McCarthy Page 3 December 20, 2007

If you have questions, please contact us. It was a pleasure working with you on this project and we look forward to continuing our work as the project progresses.

Robert W. Olah, P.E.

Geotechnical Engineer

Very truly yours,

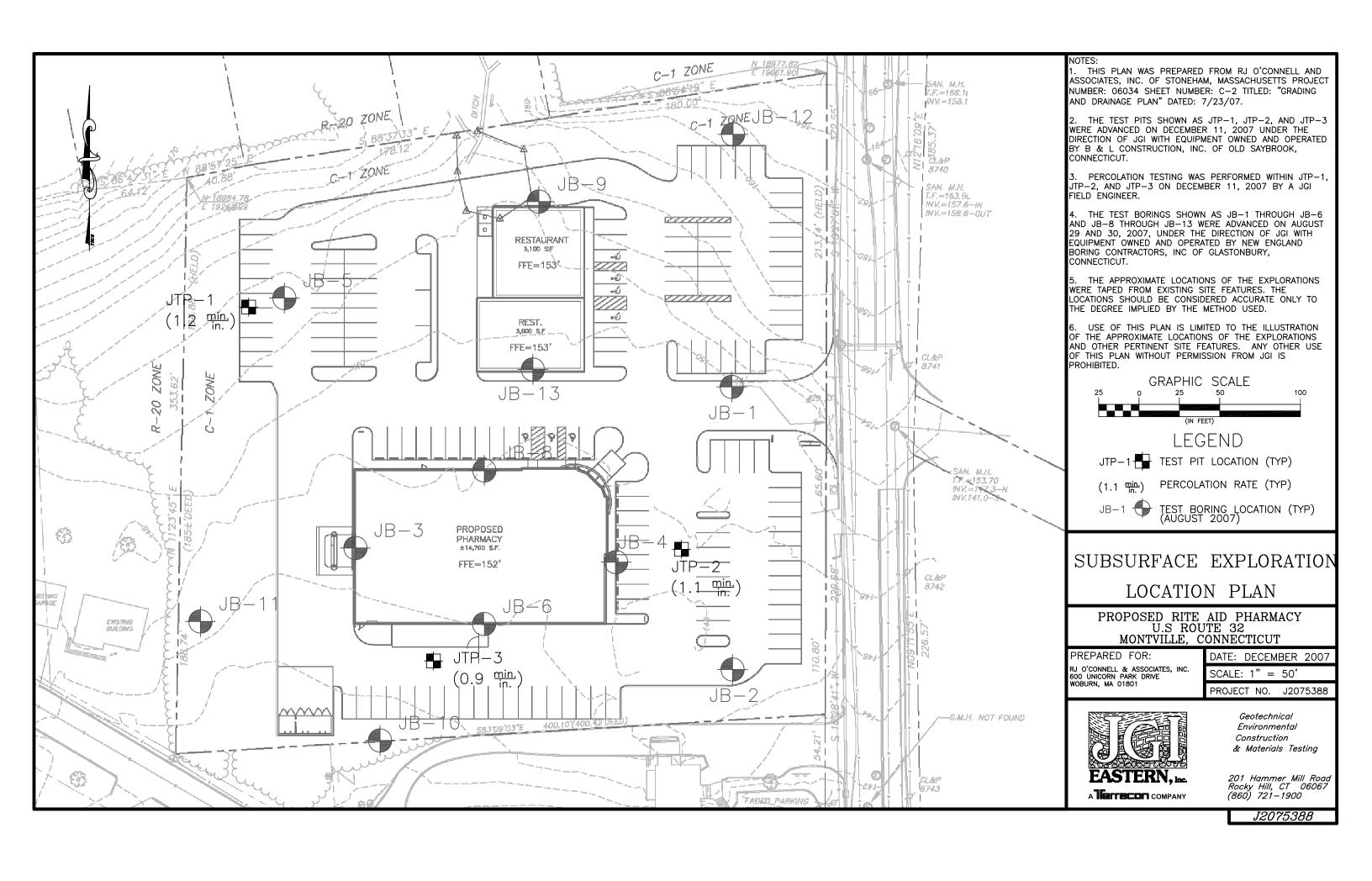
JGI EASTERN, Inc. A Terracon Company

Brian D. Opp, P.E. Geotechnical Engineer

/ekc/J2075388

Attachments: Subsurface Exploration Location Plan

Test Pit Logs, JTP-1, JTP-2, JTP-3



PROJECT: Proposed Rite Aid Pharmacy	JGI INSPECTOR:	SHEET 1 OF 1
LOCATION: Montville, Connecticut	Doug Yates	TEST PIT NO: JTP-1
PROJECT NO.: J2075388	WEATHER:	LOCATION: See Plan
DATE: December 11, 2007	Sunny, High 20° Degrees	SURFACE EL: 153' ±

B & L Construction, Inc.

EXCAVATION EQUIPMENT: GROUNDWATER OBSERVATIONS

TIME

**DEPTH** 

**NOTES** 

OPERATOR:

CONTRACTOR:

Bruce Sypher

12/11/07

**DATE** 

Not Encountered

CAPA

MAKE: Komatsu

MODEL: PL120

11111			121212121212121212121212121
AC	ITY:	3/4 c.v.	<b>REACH:</b> 15.0'

Depth (ft.)	Stratum (	Change	SOIL DESCRIPTION	Boulder Size/Count	Notes
		0.5	Topsoil		
2			Orange-brown, fine SAND and Silt, trace Gravel and Roots.		
			Grange brown, time brit 15 and bitt, trace Graver and Robas.		
3		3.0	(Subsoil)		
4			Brown, coarse to fine SAND, some Gravel, trace Silt, frequent	> 6"	Mottling observed
5			Cobbles and Boulders.		at 3.5'
6		6.0	(Glacial Till)		
7			Exploration Terminated at 6.0'.		
8					
9					
10					
11					
12					
13					
14					
15					
16					

NOTES:

PIT DIMENSIONS:

Length: Width: Depth: 5'

REMARKS: The stratification lines represent the approximate boundary between soil types and the transiti may be gradual. Water level readings have been made in the test pits at times under conditions stated on tl test pit logs. Fluctuations in the level of the groundwater may occur due to other factors than those prese at the time measurements were made

Proportions Used: trace (0-10%), little (10-20%), some (20-35%), and (35-50%)



PROJECT:	Proposed Rite Aid	Proposed Rite Aid Pharmacy		JGI INSPECTOR:		SHEET 1 OF 1	
LOCATION:	Montville, Connect	Montville, Connecticut		Doug Yates		JTP-2	
PROJECT NO.:	J2075388	WEATHER:		LOCATION: See Plan			
DATE:	December 11, 2007	1	Sunny, High 20° Degrees		SURFACE EL:	148' ±	
EXCAVATION EQUIPMI	ENT;		G	ROUNDWA	TER OBSERVATI	ONS	
CONTRACTOR:	B & L Construction	n, Inc.	DATE	TIME	DEPTH	NOTES	
OPERATOR:	Bruce Sypher		12/11/07 Not Encountered				
MAKE:	Komatsu	MODEL: PL120					
CAPACITY:	3/4 c.y.	<b>REACH:</b> 15.0'					

CAPACIT			3/4 c.y. <b>REACH:</b> 15.0'	÷1	T
Depth	Stratum Cl			Boulder	Notes
(ft.)	Depth (	ft)	SOIL DESCRIPTION	Size/Count	
		0.5	Topsoil		
1	***************************************		-		
2	<b>**********</b>		Orange-brown, medium to fine SAND, some Gravel, little Silt,		
			trace Roots and Asphalt.		
3	<b></b>				
4	***************************************				
_					
5	<b>**********</b>	<b>5</b> 0	(TV)	10	
	***************************************	5.0	(Fil	1)	
6	-		Exploration Terminated at 5.0'.		
7			Exploration Terminated at 5.0.		
	1				
8					
	1				
9					
	1				
10					
	1				
11	]				
12	]				
13	1				
1.4					
14	-				
15					
13	1				
16					
10				1.1	

NOTES: PIT DIMENSIONS: Depth: Width: Length:

5'

Proportions Used: trace (0-10%), little (10-20%), some (20-35%), and (35-50%

REMARKS: The stratification lines represent the approximate boundary between soil types and the transiti may be gradual. Water level readings have been made in the test pits at times under conditions stated on tl test pit logs. Fluctuations in the level of the groundwater may occur due to other factors than those press at the time measurements were made



PROJECT:	Proposed Rite Aid Pharmacy	JGI INS	PECTOR:	SHEET	1 OF 1		
LOCATION:	Montville, Connecticut	*:*::::::::::::::::::::::::::::::::::::	Doug Yates		JTP-3		
PROJECT NO.:	J2075388	WEA	WEATHER:		THER: LOCATION:		See Plan
DATE:	December 11, 2007	Sunny, Hig	Sunny, High 20° Degrees		145' ±		
EXCAVATION EQUIPM	ENT:	G	ROUNDWA	TER OBSERVATI	ONS		
CONTRACTOR:	B & L Construction, Inc.	DATE	TIME	DEPTH	NOTES		
OPERATOR:	Bruce Sypher	12/11/07		Not Encountered			
MAKE:	Komatsu <b>MODEL:</b>	PL120					
CAPACITY:	3/4 c v <b>REACH</b> :	15.0'					

Depth (ft.)	Stratum Change Depth (ft)		SOIL DESCRIPTION	Boulder Size/Count	Notes
1		0.7	Topsoil		
2			Orange-brown, medium to fine SAND, some Gravel, little Silt, trace Roots.		
3		3.0	(Subsoil)		
4			Brown, coarse to fine SAND, some Gravel, trace Silt, frequent Cobbles and Boulders.	>6"	
5		5.0	(Glacial Till)		
6			Exploration Terminated at 5.0'.		
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

NOTES:

PIT DIMENSIONS:

**Length: Width: Depth:** 14' 5' 5'

REMARKS: The stratification lines represent the approximate boundary between soil types and the transiti may be gradual. Water level readings have been made in the test pits at times under conditions stated on tl test pit logs. Fluctuations in the level of the groundwater may occur due to other factors than those presulat the time measurements were made

Proportions Used: trace (0-10%), little (10-20%), some (20-35%), and (35-50%)

EASTERN, Inc.

Allerracon COMPANY