



Test Pit TP-4 - Photo 4

Project Number: 151014301





Test Pit TP-4 - Photo 6

Project Number: 151014301





Test Pit TP-5 - Photo 2

Project Number: 151014301





Test Pit TP-5 - Photo 4

Project Number: 151014301





Test Pit TP-5 - Photo 6

Project Number: 151014301





Test Pit TP-5 - Photo 8

Project Number: 151014301





Test Pit TP-6 - Photo 2

Project Number: 151014301





Test Pit TP-6 - Photo 4

Project Number: 151014301





Test Pit TP-6 - Photo 6

Project Number: 151014301





Test Pit TP-7 - Photo 2

Project Number: 151014301





Test Pit TP-7 - Photo 4

Project Number: 151014301





Test Pit TP-8 - Photo 1

Project Number: 151014301





Test Pit TP-8 - Photo 3

Project Number: 151014301





Test Pit TP-8 - Photo 5

Project Number: 151014301

## **APPENDIX C**

## Langan Test Pit Logs – East Campus Maintenance Area

		LUG UF TES			2-3	U'I	Sileet I OI I
ROJECT NA Belm	ame Nont H	Hill School - East Campus Maintenance Area	PROJEC	TNUMBE	२ ी	15101	14301 DATE 1/4/2022
OCATION 350 P	Prosp	pect Street, Belmont, MA	ELEVAT	ION			Approx 263 ft (Town of Belmont Datum)
		ITRACTOR	DEPTH		0.54		WATER LEVEL - First WATER LEVEL - Comple
	rend		FOREMA	AN .	8.5 1	t	N/E _⊻   N/A _▼ LANGAN PERSONNEL
CAT 3	303.5	5E Excavator		:	Steve	Black	kburn Timothy Light
Symbol EL (fe	DI ELEV (feet) DESCRIPTION				Iumber 2	Type	REMARKS
iymbol [[6] 15 14 +26 1 +26 1 +26 1 +26 1 +26 1 +26 1 +25 1 +25	56.0	DescRIPTION Dark brown silty fine SAND, trace fine gravel, trace clay, some roots, trace organics (moist)[TOPSOIL] Brown silty fine SAND, trace coarse-fine gravel, trace cobbles, trace roots (moist) Gray coarse-fine SAND, some coarse-fine gravel, some silt (moist)[TILL] Gray coarse-fine SAND with coarse-fine gravel, some silt, some cobbles, trace boulders (moist)[WEATHERED ROCK] Bottom of test pit		Scale - 0 1 2 3 4 5 6 7 8 8 9 9 10 11 12 13 14	S-3 S-2 S-1 Number	GRAB GRAB GRAB Type	REMARKS         S-1 from 1.5ft to 2.0ft.         Infiltration test IT-301 performed at 2.0ft.         S-2 from 4.0ft to 5.5ft.         Difficult excavation starting at about 7.0ft.         S-3 from 7.5ft to 8.5ft.         Maximum depth for equipment at 8.5ft. Test pi backfilled to grade with excavated material tamped with the excavator bucket.
	N	<b>GAN</b>		15	1		

		LOG OF TES	ΤP	IT TF	<b>&gt;_3(</b>	02		Sheet 1 of 1
PROJECT	INAME	Hill School - East Campus Maintenance Area	PROJE	CT NUMBEF	۲ 1	5101	4301	DATE 1/4/2022
LOCATIO	N N Prosi	pect Street Belmont MA	ELEVA	TION			Approx	262 ft (Town of Rolmont Datum)
EXCAVAT		VTRACTOR	DEPTH				WATER LE	VEL - First WATER LEVEL - Completion
F.E EQUIPME	E. Fren	ch Construction, Inc.	FOREMAN		6 ft	<u> </u>		N/E V N/A V LANGAN PERSONNEL
CA	T 303.	5E Excavator		5	Steve I	Black	kburn	Timothy Light
Symbol	ELEV (feet)	DESCRIPTION		Depth Scale	Number	Type		REMARKS
	+262.0 +261.0 - +259.3 - +259.0 -	Dark brown silty fine SAND, some clay, trace fine gravel, some roots, trace organics (moist)[TOPSOIL] Brown silty coarse-fine SAND, some coarse-fine gravel, trace cobbles, trace clay, trace organics, trace roots (moist) Cray coarse-fine SAND with coarse-fine gravel, some silt, trace cobbles (moist)[TILL]		$ \begin{array}{c} 0 \\ 1 \\ 2 \\ 3 \\ 4 \\ 5 \\ 6 \\ 7 \\ 8 \\ 9 \\ 10 \\ 11 \\ 12 \\ 13 \\ 14 \\ 15 \\ 15 \\ 15 \\ 15 \\ 15 \\ 15 \\ 15 \\ 15$	S-2 S-1 Nu	GRAB GRAB	S-1 from Infiltration S-2 from Refusal of backfilled tamped w	2.0ft to 2.5ft. 1 test IT-302 performed at 2.5ft. 4.0ft to 5.5ft. In bedrock or boulders at 6.0ft. Test pit to grade with excavated material <i>i</i> th the excavator bucket.
		<b>GAN</b>		- 14 - - 14 -        		_		

		LUG OF TES	ΙΡ		P-3	03	Sheet 1 of 1
ROJECT Be	NAME	Hill School - East Campus Maintenance Area	PROJE	CT NUMBE	R	1510 <sup>-</sup>	14301 DATE 1/4/2022
осатю. 350	v ) Prosi	pect Street, Belmont, MA	ELEVA	TION			Approx 260.5 ft (Town of Belmont Datum)
		NTRACTOR	DEPTH		0	A	WATER LEVEL - First WATER LEVEL - Completi
	NT 202		FOREM	IAN	0		LANGAN PERSONNEL
CA	1 303.				SIEVE	MPLE	
Symbol	ELEV (feet)	DESCRIPTION		Depth Scale	Number	Type	REMARKS
	+260.5	Dark brown silty fine SAND, trace fine gravel, trace clay, trace roots, trace organics (moist)[TOPSOIL] Grayish brown coarse-fine SAND with coarse-fine gravel, some trace roots (moist)[FILL]	silt,	0  1  			
				- - - - 3 -		GRAB	S-1 from 2.0ft to 3.0ft.
××××× 	+257.0	Brown silty fine SAND, some fine gravel, some roots (moist)[BURIED TOPSOIL]		- - - 4			
	1200.0	Gray coarse-fine SAND with coarse-fine gravel, some silt (moist)[TILL]		- 5			
				7		GRAB	S-2 from 6.5ft to 7.5ft.
	+252.5-	Bottom of test pit		- 8 - - - - - - - -			Maximum depth for equipment at 8.0ft. Test p backfilled to grade with excavated material tamped with the excavator bucket.
				10			
				- - - 11 -			
				- - 12 -	- - - -		
				- - 13 -			
				 14 	- - - -		
				_ _ 15	-		

		LOG OF TES	T Pl	ΤΤ	P-3	04		Sheet 1 of 1			
PROJECT Be	NAME Imont	Hill School - East Campus Maintenance Area	PROJE	CT NUMBE	R	15101	4301	DATE 1/4/2022			
LOCATION		aget Street Belment MA									
EXCAVAT	ION CO	NTRACTOR	DEPTH				WATER LI	EVEL - First WATER LEVEL - Completic			
	. Fren	ch Construction, Inc.	FOREM	AN	8 f	t					
CA	T 303.	5E Excavator			Steve	Blac	kburn	Timothy Light			
Symbol	ELEV (feet)	DESCRIPTION		Depth Scale	SAN	IPLE ad f		REMARKS			
	+257.0	Light brown to brown silty coarse-fine SAND, some coarse-fine		_ 0 _	z		Fill at or	ound surface.			
	+256.5	gravel, some concrete debris, some brick debris, trace glass deb trace wire debris, trace fabric fragments, trace roots (moist)[F][1]	oris,	- - - 1		tAB	S-1 from	n 0.5ft to 1.5ft.			
<u>. v. c</u> . <u>v. c</u> .	+255.5	Dark brown fine sandy SILT, some fine gravel, some clay, trace roots, trace concrete debris		- - -	S S	ц. В					
		Brown to tan fine sandy SILT, trace coarse-fine gravel, trace cobles	/	2	-						
		(moist)	-	- 3	S-2	GRA	S-2 from Infiltratio	n 2.5ft to 3.0ft. on test IT-304 performed at 3.0ft.			
	+253.3-	Gray coarse-fine SAND with coarse-fine gravel, some silt, some cobbles, trace boulders (moist)ITILL1		4							
				5		m	S-3 from	n 4.5ft to 6.5ft.			
				6	S-3	GRA					
				7							
	+249.5 +249.0	Gray coarse-fine SAND with coarse-fine gravel, trace silt (moist)[WEATHERED ROCK]		- 8	S-4	GRAB	S-4 from	n 7.7ft to 8.0ft.			
		Bottom of test pit	-	- - - - 9	-		backfille tamped	ad to grade with excavated material with the excavator bucket.			
			-	- - - -	-						
			-	-	-						
			-	- 11	-						
			-	- 12	-						
			-	- 13	-						
			-	- - - 14	-						
		<u> </u>	-	- - 15	-						
LA		GAN		— 15 —		1					

		LOG OF TES	ΤP	IT TI	P-305		Sheet 1 of 1
PROJECT Be	NAME	Hill School - East Campus Maintenance Area	PROJE	CT NUMBE	R 15101	4301	DATE 1/5/2022
LOCATION	N Prosi	pect Street Belmont MA	ELEVA	TION		Approx 26	3.5 ft (Town of Belmont Datum)
EXCAVAT		NTRACTOR	DEPTH			WATER LEY	VEL - First WATER LEVEL - Completion
F.E EQUIPME	. Fren	ch Construction, Inc.	FOREM	IAN	5.5 ft		N/E V N/A V LANGAN PERSONNEL
CA	T 303.	5E Excavator			Steve Black	kburn	Alexander Macon
Symbol	ELEV (feet)	DESCRIPTION		Depth Scale	Type		REMARKS
	+263.5 +262.8 +261.3 +258.0	Dark brown silty medium-fine SAND, trace coarse sand, trace figravel, trace roots         (moist)[TOPSOIL]         Brown coarse-fine SAND, some silt, trace coarse-fine gravel, tracedbles         (moist)         Gray coarse-fine SAND, some silt, some coarse-fine gravel, tracedbles, trace boulders, trace weathered rock fragments         (moist)[TILL]		0 - 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 - 15		S-1 from 5-gallon b Infiltration S-2 from Infiltration Roots to 4 Refusal o backfilled tamped w	1.75ft to 2.25ft. Grab sample of three puckets from 1.75ft to 2.25ft. 1 test IT-305A performed at 2.25ft. 2.5ft to 3.0ft. 1 test IT-305B performed at 3.0ft. 4.0ft.

		LOG OF TES	<u>T P</u>	IT TF	<u> 2-306 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - </u>		Sheet 1 of 1
PROJECT Be	NAME	Hill School - East Campus Maintenance Area	PROJE	CT NUMBEF	، 1510	)14301	DATE 1/5/2022
OCATION		nect Street Belmont MA	ELEVA	TION		Approv	272 ft (Town of Relmont Datum)
EXCAVAT	ION CO	NTRACTOR	DEPTH			WATER LE	VEL - First WATER LEVEL - Comple
F.E	E. Fren	ich Construction, Inc.	FORF	IAN	2 ft		N/E V N/A V
CA	T 303	.5E Excavator	I OILEN	5	Steve Bla	ckburn	Alexander Macon
Symbol	ELEV (feet)	DESCRIPTION		Depth Scale	SAMPLE Japen L Abe	_	REMARKS
<u>* 1, * * 1, *</u>	+272.0	Dark brown silty medium-fine SAND, trace fine gravel, some ro (moist)[TOPSOIL]	ots	0			
<u>\</u>	+271.2-	Brown coarse-fine SAND, some silt, trace coarse-fine gravel, tr	ace	- 1 -			
		(moist)		 	-	Roots to	1.5ft.
<u></u>	+270.0	Bottom of test pit		- 2 -	-	Refusal c	on bedrock at 2.0ft. Bedrock sloping
						2.0ft at th to grade v	he south south side. Test pit backfille with excavated material tamped with
						the excav	rator bucket.
				- 4 -			
				- 5			
				- 6 -			
				7			
				- 8 - 	-		
				 - 9 -			
					-		
				- 10 -			
				- 11 - - 11 -			
				- 12 -			
				- 13 - 			
				- 14 - - 14 -			
				 15			
LA		GAN					

		LOG OF TES	<u>T P</u>	IT TF	<b>&gt;_3</b>	07		Sheet 1 of 1
PROJECT Be	NAME	Hill School - East Campus Maintenance Area	PROJE	CT NUMBER	२	15101	14301	DATE 1/5/2022
LOCATION	v ) Prosi	pect Street, Belmont, MA	ELEVA	TION			Approx 2	56 ft (Town of Belmont Datum)
EXCAVAT		NTRACTOR	DEPTH			4	WATER LEV	EL - First WATER LEVEL - Completion
EQUIPME	NT OOO		FOREM	IAN	41			N/E _Y   IN/A _Y LANGAN PERSONNEL
CA	1 303.	5E Excavator			Steve	Blac	kburn	Alexander Macon
Symbol	ELEV (feet)	DESCRIPTION		Depth Scale	Number	Type		REMARKS
Symbol	ELEV (feet) +255.3 +253.8 +252.0 -	DESCRIPTION Dark brown silty medium-fine SAND, trace coarse sand, some roots (moist)[TOPSOIL] Brown to light brown medium-fine SAND, trace coarse sand, trac coarse-fine gravel, trace cobbles, trace roots (moist) Gray coarse-fine SAND, some silt, trace coarse-fine gravel, trac cobbles (moist)[TILL] Bottom of test pit		Depth Scale	Amper		S-1 from 1 Roots to 2 Refusal or west side ( at 3.0ft on surface). T excavated bucket.	REMARKS .5ft to 2.0ft. .5ft. bedrock at 4.0ft. Bedrock at 4.0ft on higher adjacent ground surface) and east side (lower adjacent ground 'est pit backfilled to grade with material tamped with the excavator
				- 13 - - 13 -  				
LA		GAN		  - 15				

		LOG OF TES	ΤP	<b>IT</b> 1	<u>ГР-3</u>	808		S	heet	1 of 1
PROJECT Be	NAME	Hill School - East Campus Maintenance Area	PROJE	CTNUM	BER	1510 <sup>-</sup>	14301	DATE		1/5/2022
LOCATIO		pect Street Belmont MA	ELEVA	TION			Approx 26		of Rolmo	nt Dotum)
EXCAVAT		VTRACTOR	DEPTH	1			WATER LE	VEL - First	WATER	LEVEL - Completi
F.E EQUIPME		ch Construction, Inc.	FOREM	IAN	7	ft		N/E ⊥ LANGAN PERSO	 ONNEL	N/A 👤
CA	T 303.	5E Excavator			Steve	e Blac	kburn		Alexand	ler Macon
Symbol	ELEV (feet)	DESCRIPTION		Dept Scal	h sa e mny	Type		REMA	ARKS	
<u>x 6 x 6</u> <u>1</u> 2 <u>x 6 x 6</u> <u>x 6 x 6</u>	+262.5 +261.7 -	Dark brown silty medium-fine SAND, trace coarse sand, trace re (moist)[TOPSOIL] Brown to light brown silty medium-fine SAND, some coarse san trace coarse-fine gravel, trace roots (moist)	d,							
		Gray coarse-fine SAND, some silt, trace coarse-fine gravel, trac cobbles, trace roots (moist)[TILL]	e	- 4	S-1	GRAB	Roots to S-1 from	4.0ft. 4.5ft to 5.0ft.		
	+257.0-	Gray coarse-fine SAND, some silt, some coarse-fine gravel, trac cobbles, some weathered rock fragments (moist)[TILL]		- 6	S-2	GRAB	S-2 from	6.5ft to 7.0ft.		
	. 200.0	Bottom of test pit		- 8 - 8 - 9			Test pit te grade wit excavator	erminated at 7.0 h excavated ma · bucket.	Oft. Test   aterial tar	bit backfilled to
				- 10 - 10 						
				- - - 12 -						
				_ 13 _ 13 						
LA		GAN		- - - - - 15	-					

PROJECT NANGE     PROJECT NANGE     UNITE     LISU222       Construction     Despect Street, Belinnett, MA     ELEVATEN     Approx. 264 ft (Town of Bernort Datum)       CAT 303 GE Excavator     PORE NANGE     Street Blanckurk     NA       CAT 303 GE Excavator     PORE NANGE     Interview     NA       Symbol     Bark     Despect Street, Belinnett, MA     Street Blanckurk     NA       CAT 303 GE Excavator     PORE NANGE     Street Blanckurk     NA     NA       Symbol     Bark     Despect Street, Benneth Carlsmuchter, Ince     PORE NANGE     Street Blanckurk     NA       Symbol     Bark     Despect Street, Benneth Carlsmuchter, Ince     PORE NANGE     Street Blanckurk     NA       Symbol     Bark     Despect Street, Bark     NA     Street Blanckurk     NA       Symbol     Bark     Despect Street, Bark     Street Blanckurk     NA     Street Blanckurk       Symbol     Bark     Despect Street, Bark     Street Blanckurk     NA     Street Blanckurk       Symbol     Bark     Despect Street, Bark     Street Blanckurk     Street Blanckurk     Street Blanckurk       Symbol     Bark     Despect Street, Bark     Street Blanckurk     Street Blanckurk     Street Blanckurk       Symbol     Bark     Street Blanckurk <td< th=""><th></th><th></th><th>LOG OF TES</th><th><u>T P</u></th><th>IT TI</th><th>P-3(</th><th>09</th><th></th><th>S</th><th>heet 1</th><th>of 1</th></td<>			LOG OF TES	<u>T P</u>	IT TI	P-3(	09		S	heet 1	of 1
COCKNOM 350 Prospect Streat, Beimant, MA.     FLEXITION     Approx 264 ft (Town of Beimont Datum) with ELECCONTRUCTOR, INC.       25 Prince CAT 303.5E Excavator     0 Bertin Steve Biackburn     5.8 monte Steve Biackburn     Version of Steven of Steven of Steven Name of Name Name of Name of Name of Name of Name Name of Name of Name of Name of Name Name of Name of Name of Name of Name of Name of Name Name of Name of Name of Name of Name of Name of Name of Name Name of Name of Na	PROJECT	NAME	Hill School - East Campus Maintenance Area	PROJE	ECT NUMBER	r 1	15101	4301	DATE		1/5/2022
DECAMPLE Contraction     0     0     5.1     MULTIFUEL Contract     WATER LEVEL - form with exceeded Maccon       PROFINITY     CAT 3035E Exceeded     DESCRIPTION     Serve Backborn     LVKKW PERCENCE       Symbol     Bey     DESCRIPTION     Serve Backborn     View PERCENCE       Symbol     If W     DESCRIPTION     Serve Backborn     Notes Exceeded Maccon       Symbol     If W     DESCRIPTION     Serve Backborn     Notes Exceeded Maccon       Symbol     If W     Description     Serve Backborn     Notes Exceeded Maccon       Symbol     If W     Description     Serve Backborn     Notes Exceeded Maccon       Symbol     If W     Description     Serve Backborn     Notes Exceeded Maccon       Symbol     If W     Description     Serve Backborn     Notes Exceeded Maccon       Symbol     If W     Description     Serve Backborn     Notes Exceeded Maccon       Symbol     If W     Description     Serve Backborn     Notes Exceeded Maccon       Symbol     If W     Description     Serve Backborn     Notes Exceeded Maccon       Symbol     If W     Description     Serve Backborn     Notes Exceeded Maccon       Symbol     If W     Serve Backborn     Notes Exceeded Maccon     Serve Backborn       Symbol	LOCATION	N D Prosi	pect Street, Belmont, MA	ELEVA	TION			Approx	264 ft (Town o	f Belmon	t Datum)
Control         Serve Blackburn         NAM         CAT           Symbol         CAT 300.5E Excevator         Serve Blackburn         Notes Mercevator         Allowand Percevator           Symbol         Description         Description         Serve Blackburn         Notes Mercevator         Allowand Percevator           2000         Description         Description         Serve Blackburn         Notes Mercevator         Allowand Percevator           2000         Description         Description         Serve Blackburn         Notes Mercevator         Allowand Percevator           2000         Description         Description         Serve Blackburn         Notes Mercevator         Allowand Percevator           2000         Description         Description         Serve Blackburn         Notes Mercevator         Serve Blackburn         Notes Mercevator           2000         Description         Description         Serve Blackburn         Notes Mercevator         Serve Blackburn         Notes Mercevator           2000         Description         Description         Serve Blackburn	EXCAVAT		NTRACTOR	DEPTH	1			WATER LE	VEL - First	WATER LE	VEL - Completic
CALL 303 SE Exception     Description     Streete Bischourn     Alexander Macon       Symbol     Final     Description     Softe     Softe<	EQUIPME			FORE	MAN	51	ι 		IN/E <u>V</u>	NNEL	<u>N/A </u>
Symbol         Etry (action)         Description         Description         REMARKS           2010         Dark brown sitty medium-fine SAND, trace coarse sand, trace roots (meet)(TOPSOL)         0 <t< td=""><td>CA</td><td>1 303.</td><td>SE Excavator</td><td></td><td></td><td>Steve</td><td>BIACI</td><td>kburn</td><td></td><td>Alexande</td><td>er Macon</td></t<>	CA	1 303.	SE Excavator			Steve	BIACI	kburn		Alexande	er Macon
2:00       Dark brown sity medium-fine SAND, trace coarse stand, trace roots (most)(TOPSOL)       0       Total Result       5:1 from 0.0it to 0.sit.         2:00       Brown to tan fine-coarse SAND, some silt, trace coarse-fine gravel, trace coales, trace builders, trace roots (most)       1       1       2:0 from 2.0it to 2.5it.         2:00       Gray coarse-fine SAND, some silt, trace coarse-fine gravel, trace coales, trace weathered nock fragments (most)[TLL]       5       5       Found of the store of the store trace is a store trace is a store of the store of the store trace is a sto	Symbol	ELEV (feet)	DESCRIPTION		Depth Scale	Number	Type		REMA	RKS	
		+264.0 +263.0 - +260.5 - +259.0 -	Dark brown silty medium-fine SAND, trace coarse sand, trace r (moist)[TOPSOIL] Brown to tan fine-coarse SAND, some silt, trace coarse-fine gravel trace cobbles, trace boulders, trace roots (moist) Gray coarse-fine SAND, some silt, trace coarse-fine gravel, trace cobbles, trace weathered rock fragments (moist)[TILL] Bottom of test pit	oots avel, ce	0 - 1 2 3 4 5 6 7 8 9 10 11 12 13 14 14 15	S-1	GRAB	S-1 from S-2 from Roots to 3 Refusal c backfilled tamped w	0.0ft to 0.5ft. 2.0ft to 2.5ft. 3.0ft. n bedrock or bo to grade with e ith the excavato	pulder at 5 xcavated r or bucket.	.0ft. Test pit naterial

APPENDIX D

Langan Test Pit Photographs – East Campus Maintenance Area





Test Pit TP-301 - Photo 2







Test Pit TP-301 - Photo 4







Test Pit TP-301 - Photo 6

LANGAN





Test Pit TP-302 - Photo 1

LANGAN





Test Pit TP-302 - Photo 3







Test Pit TP-302 - Photo 5







Test Pit TP-302 - Photo 7







Test Pit TP-303 - Photo 2

LANGAN





Test Pit TP-303 - Photo 4







Test Pit TP-303 - Photo 6







Test Pit TP-304 - Photo 2






Test Pit TP-304 - Photo 4





Test Pit TP-304 - Photo 5



Test Pit TP-305 - Photo 1







Test Pit TP-305 - Photo 3







Test Pit TP-305 - Photo 5







Test Pit TP-305 - Photo 7







Test Pit TP-306 - Photo 1







Test Pit TP-306 - Photo 3







Test Pit TP-306 - Photo 5







Test Pit TP-306 - Photo 7







Test Pit TP-307 - Photo 1







Test Pit TP-307 - Photo 3







Test Pit TP-307 - Photo 5







Test Pit TP-307 - Photo 7







Test Pit TP-308 - Photo 1







Test Pit TP-308 - Photo 3







Test Pit TP-308 - Photo 5







Test Pit TP-308 - Photo 7

LANGAN





Test Pit TP-308 - Photo 9







Test Pit TP-308 - Photo 11







Test Pit TP-309 - Photo 2







Test Pit TP-309 - Photo 4







Test Pit TP-309 - Photo 6





Test Pit TP-309 - Photo 7



Test Pit TP-309 - Photo 8

LANGAN





Test Pit TP-309 - Photo 10



## APPENDIX E

Langan Test Pit Logs – JAC Parking Lot

LANGAN

				<b>F - Z</b>	UI			
Belmont	Hill School - Jordan Athletic Center	FROJEC		.1\	1510 <sup>-</sup>	14301		10/17/2021
-OCATION 350 Pros	pect Street, Belmont, MA	ELEVAT	ION			Approx. 25	50.5 ft (Towr	n of Belmont Datum)
XCAVATION CO	ntractor ach Construction Inc	DEPTH		851	ft	WATER LE	VEL - First	WATER LEVEL - Compl
QUIPMENT FORE				0.01			LANGAN PEF	SONNEL
CAT 300	Excavator			SC	NPLE	eracni		Alexander Macon
Symbol ELEV (feet)	DESCRIPTION		Depth Scale	Number	Type		REM	MARKS
+250.5	Black ASPHALT	ŀ	0	_				
+230.2	Grayish brown coarse to fine SAND, some coarse to fine gravel trace silt, trace asphalt fragments, trace brick fragments (moist)[FILL]	I,	1	- <mark> </mark>	GRAB	S-1 from Dense gr	0.5ft to 1.0ft aded base ma	aterial
+249.2	Light brown coarse to fine SAND, trace medium to fine gravel (moist)[FILL]		2	S-2	GRAB	S-2 from	1.5ft to 2.0ft	
+248.0	Brown coarse to fine SAND, some silt, some coarse to fine grav trace cobbles, trace boulders, trace brick fragments, trace asph fragments	vel,	3	-		C 2 from	2.05 to 2.55	
	(moist)[FILL]		4		GRAE	S-3 from	3.011 10 3.511	
+246.0 +246.0	Dark brown SILT, some clay, some organics, trace medium to f sand, trace roots, trace wood fragments (moist)[TOPSOIL]	ine	5	S-55-4/6	GRABRAB	S-4 and S S-5 from	S-6 from 4.5f 4.75ft to 5.2	t to 5.0ft 5ft
+245.3	Light brownish SILT, trace clay, trace fine sand, trace roots (moist)		6	S-7	GRAB	Guelph F S-7 from	Permeameter 5.25ft to 6.25	infiltration test at 5.25f 5ft
	Brown SILT, trace clay, trace coarse to fine sand, trace fine gra (moist)	- - vel	7	-				
		_ 	8	- 8-S	GRAB	S-8 from	7.5ft to 8.0ft	
		F		-		Groundw	ater at 8.0ft	
+242.0	Bottom of test pit		9			Bottom o 4.0ft with tamped w Test pit b	f test pit at 8. lifts of excav vith the excav ackfilled to 1.	5ft. Test pit backfilled t ated material that was ator bucket. Oft with lifts of excavat
		-	10	-		compacto dense gra a plate co	or. Test pit ba aded material ompactor	ckfilled to grade with that was compacted w
		-	— 11 —	_				
LAN	<b>GAN</b>							

		LOG OF TES	ΓP	ΙΤ Τ	<b>P-2</b>	02	Sheet 1 of 1
	NAME	Hill School - Jordan Athletic Center	PROJE	CT NUMBE	R	1510 <sup>-</sup>	14301 DATE 10/16/2021
LOCATION	N ) Pros	pect Street, Belmont, MA	ELEVA	TION			Approx. 249.8 ft (Town of Belmont Datum)
EXCAVAT F.E	TION COI	NTRACTOR ich Construction, Inc.	DEPTH		8.5	ft	WATER LEVEL - First WATER LEVEL - Completion
EQUIPME	NT T 306	Excavator	FOREM	IAN	Sc	ott P	erachi LANGAN PERSONNEL Alexander Macon
				Denth	SAI	MPLE	-
Symbol	(feet)	DESCRIPTION		Scale	Iumbe	Type	REMARKS
	+249.8	Black ASPHALT		0 -			
	+249.5	(moist)[ASPHAL1] Gravish brown coarse to fine SAND, some coarse to fine gravel.	/	-	-		
		trace silt		_	-		Dense graded base material
		(moist)[FILL]		- 1 -			
≞	+248.5	Brown silty coarse to fine SAND, some coarse to fine gravel, tra	ce	_	-		
		cobbles, trace boulders, trace asphalt fragments, trace brick fragments		-	-		
		(moist)[FILL]		- 2	-		
э т	+247.2			_	-		
a Res	+247.3	Light brown to brown coarse to fine SAND, some coarse gravel, some silt trace cobbles trace boulders trace brick fragments		_			
Md P		trace wire fragments, trace concrete fragments, trace asphalt		- 3	-		
		fragments, trace tile fragments (moist)[FILL]		-			
				_	-		
Ĩ Į				4	1		C 1 from 4 Off to 4 Eft
7 KKK				_		GRAE	USDA textural classification performed
				-	-		Guelph Permeameter infiltration test at 4.5ft
				- 5			
б Б С		Light brown to dark brown coarse to fine SAND, some coarse to		_	_		
10143		fine gravel, some silt, trace clay, trace cobbles, trace boulders,		-	-		
		fragments, trace brick fragments		- 6			
		(moist)[FILL]		_	-		
9 F				-	-		
				- 7			
				-		RAB	S-2 from 7.0ft to 7.5ft
				-		0	-
				- 8	-		
				- 0	-		
	+241.3	Bottom of test pit		-	1	-	Bottom of test nit at 8 5ft. Test nit backfilled to
PROJE				-	-		4.0ft with lifts of excavated material that was
4301/1				- 9	-		tamped with the excavator bucket. Test pit backfilled to 1.0ft with lifts of excavated
/15101				-  -			material that was compacted with a plate
DATA3				-	-		dense graded material that was compacted with
BOS/E				- 10 -			a plate compactor
DATA				_	_		
COMI				-	-		
		FAN		└── 11 ─	_	1	1
	1/W						

00015-5	=	LOG OF TES	TΡ	IT T	<u>P-2</u>	03		Sheet 1 of
PROJECT	NAME	Hill School - Jordan Athletic Center	PROJE	CT NUMBE	R	<u>151</u> 0 <sup>-</sup>	14301	DATE10/16/2021
OCATION	) Pros	pect Street. Belmont. MA	ELEVA	TION			Approx 25	0.4 ft (Town of Relmont Datum)
XCAVAT		NTRACTOR	DEPTH	1			WATER LEV	/EL - First WATER LEVEL - Comp
		n	FORE	//AN	81	It		N/E _⊻   N/A _   LANGAN PERSONNEL
CA	T 306	Excavator			Sc	ott P	erachi	Alexander Macon
ymbol	ELEV (feet)	DESCRIPTION		Depth Scale	SAI	Type	-	REMARKS
XXXXI	+250.4 +250.1	Black ASPHALT (moist)[ASPHALT]		- 0 -				
		Grayish brown coarse to fine SAND, some coarse to fine gravel trace silt (moist)[FILL]	,	- - - - - -	-		Dense gra	aded base material
	+248.4	Brown silty coarse to fine SAND, some coarse to fine gravel, tracobbles, trace boulders, trace asphalt fragments, trace brick fragments, trace wood fragments, trace roots	ice	-			C 1 from (	0.54 to 0.04
		(moist)[FILL]		_ _ 3	- <mark></mark> -	GRAE		2.311 10 3.011
				- - - 4 - -	S-2	GRAB	S-2 from 4	4.0ft to 4.5ft. Roots to 4.0ft
	+245.4 +245.1	Tan to white medium to fine SAND, some silt, trace fine gravel, some ash, trace coal fragments		- - 5 -	S-3	GRAB	S-3 from s	5.0ft to 5.25ft
	-040.0	Brown coarse to fine SAND, some silt, trace coarse to fine grav trace cobbles, trace brick fragments, trace ceramic fragments, trace asphalt fragments. (moist)[FILL]	<i>]</i> el,	- - - 6 -	-			
<u>1.</u> <u>. 1.</u> <u></u>	+243.9	Dark brown SILT, some clay, trace medium to fine sand (moist)[TOPSOIL]		- 7	-			
	1240.4	Light brown SILT, trace coarse sand, trace fine gravel (moist)		- - -	S-4	GRAB	S-4 from 7	7.0ft to 7.5ft
	+242.4	Bottom of test pit		- 8	-		Bottom of	test pit at 8.0ft. Test pit backfilled
				- - - 9 - -	-		4.0ft with lifts of excavated mattamped with the excavator buck Test pit backfilled to 1.0ft with limaterial that was compacted with compactor. Test pit backfilled to dense graded material that was a plate compactor	lifts of excavated material that was ith the excavator bucket. ackfilled to 1.0ft with lifts of excavar nat was compacted with a plate r. Test pit backfilled to grade with ided material that was compacted v mpactor
				- 10 - - -	-			
		FAN		└── 11 ─				

		LOG OF TES	ΓР	IT T	P-2	04	Sheet 1 of 1
PROJECT Be	NAME	Hill School - Jordan Athletic Center	PROJE	CT NUMBE	R	15101	14301 DATE 10/16/2021
LOCATION	v ) Pros	pect Street, Belmont, MA	ELEVA	TION			Approx. 253.5 ft (Town of Belmont Datum)
EXCAVAT	TION COR	NTRACTOR I ch Construction, Inc.	DEPTH		81	ft	WATER LEVEL - First WATER LEVEL - Completic N/F V N/A
EQUIPME	NT T 306	Excavator	FOREM	IAN	Sc	ott Pe	LANGAN PERSONNEL erachi Alexander Macon
				Danth	SAI	MPLE	
Symbol	ELEV (feet)	DESCRIPTION		Scale	umbe	Type	REMARKS
<u>x 1/</u> <u>x 1/</u> .	+253.5	Dark brown silty medium to fine SAND, some roots		0			
	+253.3	(moist)[TOPSOIL]	/	-	-		
		trace asphalt fragments, trace plastic fragments, trace roots	0,	_	_		
		(moist)[FILL]		- 1	-		
				-	_		
				_	_		
	+251.5	Gravish brown coarse to fine SAND, some silt, some coarse to fi	ine	- 2	-		
		gravel, trace cobbles, trace boulders		- -	_		
		(moist)		-	-		
				- 3	_		
				_			
				_	_		
				- 4	_		
				_	-		
				-	_		
				- 5	_		
				-		RAB	S-1 from 5.0ft to 5.5ft
				-		0	Guelph Permeameter infiltration test at 5 5ft
				- 6	_		
				-	-		Roots to 6.0ft
				-			
			·		-		
				- /	_		
				-	-		
			·	-	_		
	+245.5	Bottom of test pit		- 8	1		Bottom of test pit at 8.0ft. Test pit backfilled to
				-	-		grade with lifts of excavated material that was tamped with the excavator bucket
				-	_		
				- 9			
				-	_		
				_			
				- 10	-		
				-			
				-			
				11			
		<b>BAN</b>					

		LOG OF TES	ΤP	<u>IT T</u>	P-	-20	)5	Sheet 1 of	1
PROJECT	<sup>-</sup> NAME	Hill School - Jordan Athletic Center	PROJE	CT NUME	BER	1	5101	ATE 10/16/20	21
LOCATION	v ) Prosj	pect Street, Belmont, MA	ELEVA	TION				Approx. 251.4 ft (Town of Belmont Datu	m)
EXCAVAT		NTRACTOR ch Construction Inc	DEPTH	I	5	5 ft		WATER LEVEL - First WATER LEVEL - C	ompletion
EQUIPME	NT T 206	Executor	FORE	IAN	0	<u></u>			_ <u>+</u>
	1 300			SCOLL PERACHI		PLE			
Symbol	ELEV (feet)	DESCRIPTION		Depti Scale	n Ə	Number	Type	REMARKS	
	+251.4 +251.2	Dark brown medium to fine SAND, some silt, trace coarse sand some roots	,	-	_				
		(moist)[TOPSOIL]		_					
		Brown medium to fine SAND, some silt, trace medium to fine		_	_				
		gravel, trace metal tragments, trace plastic pipe tragments (moist)[FILL]		- 1					
				-	_				
				_					
	+249.4	Grav coarse to fine SAND, some coarse to fine gravel, some sill	+	2	+		~	0.4 (	
		trace cobbles, trace boulders	ι,	_		۲ <u>-</u>	GRAE	S-1 from 2.0ft to 2.5ft	
		(moist)		-	-		-	Guelph Permeameter infiltration test at 2.	5ft
				- 3					
				-	_				
				_					
				_	_				
				- 4	<u> </u>	2	AB	S-2 from 4.0ft to 4.5ft .	
5				-		ပ်	GRV	Roots to 4.0ft	
				L					
				- 5	_				
				_					
	+245.9	Bottom of test pit		_	-			Refusal on large boulder at 5.5ft.	
				- 6				Test pit backfilled to grade with lifts of exc material that was tamped with the excavat	avated
				-	-			bucket.	
				-					
				- 7	-				
				- 1					
				-	-				
				_	_				
				- 8					
				_	_				
				L					
				- 9	-				
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				- 10					
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				_					
>>				_ 11	_				
		GAN		11 -					
· · · · · · · · · · · · · · · · · · ·									

Subcritering Subc			LOG OF TEST	ΓΡ	ΤΤ	<b>P-2</b>	06		Sheet 1 of 1
Schöller     Lakvinov     Approx. 25.1.9 ft (Town of Belmont Datum)       CAN DB Footbackton, Inc.     Dernit     B ft       Approx. 25.1.9 ft (Town of Belmont Datum)     WATE Rance. The instruction, Inc.     WATE Rance. The instruction, Inc.       CAT 300 Exavator     DESCRIPTION     B ft     Matt Ragone       Cation     Description     B ft     RetMARKS       Cation     Dark brown SULT, some coarse to fine gravel, trace methods     1     Interpretation performed       Cation     Interpretation     Dark brown SULT, trace coarse to fine gravel, trace fine gravel, trace methods     2     Interpretation performed       Cation     Interpretation     Dark brown coarse to fine sandy SULT, trace coarse to fine gravel, trace sitt, fine gravel, trace fine g	PROJECT Be	NAME	Hill School - Jordan Athletic Center	PROJE	CT NUMBE	R	1510 <sup>,</sup>	14301	DATE 10/17/2021
Control Construction     Part of Construction     Part of Construction       CAT 300 Excavator     PACE with an interval construction in the server is the serv			nect Street Belmont MA	ELEVA	TION			Appr- 05	1 Off (Tours of Dolmont Dolma)
FEE       French Construction, Inc.       NA	EXCAVAT	ION CO	NTRACTOR	DEPTH				WATER LE	VEL - First WATER LEVEL - Completi
CAT 306 Excavator     Meth Ragone     Alexander Macon       Meth Ragone     Other Tables       Meth Ragone     Alexander Macon       Meth Ragone     Alexander Macon       Meth Ragone     Alexander Macon       Meth Ragone     Meth Ragone       Meth Ragone     Meth Ragone       Meth Ragone     Meth Ragone       Light Inconcols     Light Inconcols       Image Internet Influence     Meth Ragone       Meth Ragone     Meth Ragone       Met	F.E	E. Fren	ch Construction, Inc.	FOREM	ΙΔΝ	8	ft		N/E V N/A V
meter         Description         Batter         Batter         REMARKS           2515         Dark brown SULT. some coarse to fine sand, trace fine gravel, some roads         0         1 <td1< td=""><td>CA</td><td>Т 306</td><td>Excavator</td><td></td><td></td><td>M</td><td>latt Ra</td><td>agone</td><td>Alexander Macon</td></td1<>	CA	Т 306	Excavator			M	latt Ra	agone	Alexander Macon
128.1       Dark brown SILT. some coarse to fine sand, trace fine gravel, some roots       0       2       1         1       asphalt fragment, scale roots       1       1       1       1         1       1       1       1       1       1       1         1<	Symbol	ELEV (feet)	DESCRIPTION		Depth Scale	SAI	MPLE ed.	-	REMARKS
	<u>x 1, · </u>	+251.9	Dark brown SILT, some coarse to fine sand, trace fine gravel,		— 0 —	Z	+		
230.4     Light brown coarse to fine sandy SILT. trace coarse to fine gravel, trace roots (moist)     5.1 from 1.5ft to 2.0ft. USDA textural classification performed Cueph Permeameter infiltration test at 2.0ft       236.4     Gray coarse to fine SAND, some coarse to fine gravel, trace salt, (moist)     3     4		+251.7	some roots (moist)[TOPSOIL] Brown silty coarse to fine SAND, some coarse to fine gravel, trad asphalt fragments, trace roots (moist)[FILL]	ce	- - - - 1 -	-			
1       trace roots (moist)       use of the SAND some coarse to fine gravel, trace sit, (moist)       3       use of the SAND some coarse to fine gravel, trace sit, (moist)       3       use of the SAND some coarse to fine gravel, trace sit, (moist)       4       use of the SAND some coarse to fine gravel, trace sit, (moist)       4       use of the SAND some coarse to fine gravel, trace sit, (moist)       5       use of the SAND some coarse to fine gravel, trace sit, (moist)       5       use of the SAND some coarse to fine gravel, trace sit, (moist)       5       use of the SAND some coarse to fine gravel, trace sit, (moist)       5       use of the SAND some coarse to fine gravel, trace sit, (moist)       5       use of the SAND some coarse to fine gravel, trace sit, (moist)       5       use of the SAND some coarse to fine gravel, trace sit, (moist)       5       use of the SAND some coarse to fine gravel, trace sit, (moist)       5       use of the SAND some coarse to fine gravel, trace sould arse sould arse some coarse to fine gravel, tra	TIT.	+250.4	Light brown coarse to fine sandy SILT, trace coarse to fine grave	əl,	-		g	S-1 from	1.5ft to 2.0ft.
Cuelph Permeameter infiltration test at 2.0ft Cuelph Permeameter infiltration Cuelph Permeameter infiltrat			trace roots	-	-	- ò	GRA	USDA tex	tural classification performed
1     1     1     3     -     -     3     - <td></td> <td></td> <td>(moist)</td> <td></td> <td>- 2</td> <td></td> <td></td> <td>Guelph Pe</td> <td>ermeameter infiltration test at 2.0ft</td>			(moist)		- 2			Guelph Pe	ermeameter infiltration test at 2.0ft
Consist of the SAND, some coarse to fine gravel, trace silt,				-	- - - - - -				
some cobbles, trace boulders     4       (moist)     5       5     6       6     7       7     8       Bottom of test pit     8       9     1       10     10	╾┩╌┩╺┨╶	+248.4	Gray coarse to fine SAND, some coarse to fine gravel, trace silt,		-	-			
Provide a state of the second			some cobbles, trace boulders	-	- 1	-			
2430         Bottom of test pit         8         7         8           80         9         10         10         10           10         10         10         10         10			(moist)		- 4 -			Roots to 4	4.Oft
P2439     Bottom of test pit       Bottom of test pit     8       9     1       10     1       10     1				-	_	_			
- 243.9     Bottom of test pit     - 5     -     -       - 7     -     -     -     -       - 7     -     -     -     -       - 7     -     -     -     -       - 7     -     -     -     -       - 7     -     -     -     -       - 7     -     -     -     -       - 7     -     -     -     -       - 7     -     -     -     -       - 7     -     -     -     -       - 7     -     -     -     -       - 7     -     -     -     -       - 7     -     -     -     -       - 7     -     -     -     -       - 7     -     -     -     -       - 9     -     -     -     -       - 10     -     -     -     -       - 10     -     -     -     -       - 10     -     -     -     -       - 10     -     -     -     -				-	-	-			
12430       Bottom of test pit       8       Bottom of test pit at 8.0ft.         12430       8       1       Bottom of test pit at 8.0ft.         10       1       10       1         10       1       10       1         10       1       1       1         LANSAN       1       1       1				ł		-			
Parallel					- 5				
	•••••			-	_	_			
1243.9       Bottom of test pit       8       Bottom of test pit at 8.0ft.         -       -       -       -				-	-	-			
*243.9       Bottom of test pit       8       Bottom of test pit at 8.0ft.         -       -       -       -					-	-			
+243.9       Bottom of test pit       8       Bottom of test pit at 8.0ft.         9       9       10       10         10       10       11					- 0				
+243.9       Bottom of test pit       8       Bottom of test pit at 8.0ft.         9       9       10       10         10       11       11					_	_			
+243.9     Bottom of test pit     -     7     -     -     Bottom of test pit at 8.0ft.       -     -     -     -     -     -     -     -       -     -     -     -     -     -     -       -     -     -     -     -     -     -       -     -     -     -     -     -     -       -     -     -     -     -     -     -       -     -     -     -     -     -     -       -     -     -     -     -     -     -       -     -     -     -     -     -     -       -     -     -     -     -     -     -       -     -     -     -     -     -     -       -     -     -     -     -     -     -       -     -     -     -     -     -     -       -     -     -     -     -     -     -       -     -     -     -     -     -     -       -     -     -     -     -     -     -       -     -     -				-	-	-			
+243.9       Bottom of test pit       8       Bottom of test pit at 8.0ft.         -       -       -       -				-		-			
+243.9       Bottom of test pit       8       Bottom of test pit at 8.0ft.					- /				
+243.9       Bottom of test pit       8       Bottom of test pit at 8.0ft.         -       -       -       -       -         -       -       -       -       -         -       -       -       -       -       -         -       -       -       -       -       -       -         -       -       -       -       -       -       -       -         - <td< td=""><td></td><td></td><td></td><td>-</td><td>_</td><td>_</td><td></td><td></td><td></td></td<>				-	_	_			
+243.9       Bottom of test pit       8       Image: state in the state in th				ŀ	-	-			
Bottom of test pit       Bottom of test pit       Bottom of test pit at 8.0ft.         -       -       -       Bottom of test pit at 8.0ft.         -       -       -       -         -       -				-	- 0	-			
Image: state of the state		+243.9	Bottom of test pit		- 0		1	Bottom of	test pit at 8.0ft.
Image: state of the second state of				ļ	_	4		Test pit ba	ackfilled to grade with lifts of excavate
-     9     - <td></td> <td></td> <td></td> <td>-</td> <td>-</td> <td>-</td> <td></td> <td>material th</td> <td>hat was tamped with the excavator</td>				-	-	-		material th	hat was tamped with the excavator
- 9				-	-	-		DUCKET	
LANGAN				-	- 9	]			
LANGAN					_	]			
LANGAN				-	_	-			
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LANGAN					-	-			
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PROJECT NAME Belmont	Hill School - Jordan Athletic Center	PROJEC	TNUMBE	۲	15101	14301	DATE	10/17/2021
OCATION 350 Pros	pect Street, Belmont, MA	ELEVAT	ION			Approx 256	6.5 ft (Town o	of Belmont Datum)
EXCAVATION CO	NTRACTOR	DEPTH		7 5 4		WATER LEV	EL - First	WATER LEVEL - Comp
		FOREM	AN .	1.51	τ	<u> Т</u>	N/E ⊻ LANGAN PERS	N/A .
CAT 306	Excavator			Ma	att Ra	agone		Alexander Macon
Symbol ELEV (feet)	DESCRIPTION		Depth Scale	umber 5	Type		REM	ARKS
+256.3	Dark brown medium to fine sandy SILT, trace clay, some roots (moist)[TOPSOIL] Light brown to light gray SILT, some clay, trace medium to fine sand, trace roots	/	- - -		2AB	S-1 from 0	).5ft to 1.0ft	
+255.5	(moist)[FILL] Brown coarse to fine SAND, some silt, some coarse to fine grav trace cobbles, trace boulders, trace ceramic fragments, trace		1 -	S-2	GRAB GF	S-2 from 1 USDA text	.0ft to 1.5ft ural classifica	tion performed
	plastic fragments, trace roots (moist)[FILL]	-	2			Guelph Pe	ermeameter in	filtration test at 1.5ft
		-	3	-				
+252.5+	Gray coarse to fine SAND, some coarse to fine gravel, trace silt trace cobbles, trace boulders, trace wood fragments, trace cera fragments (moist)[FILL]	t, 	4	-				
		-	5			Roots to 5	.Oft	
		-	6	-				
+249.0	Bottom of test pit			-		Dottom of	toot nit of 7 Ef	
		-	8	-		Test pit ba material th bucket	ckfilled to grad	de with lifts of excava d with the excavator
		-	9.	-				
		-	10 ·	-				
		-	— 11 —	-				
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		LOG OF TES	<u>r P</u>	T 1	<u>[P-2</u>	<u>208</u>		Sheet 1 of 1
PROJECT NAM Belmo	AME Iont	Hill School - Jordan Athletic Center	PROJE	CT NUME	BER	1510 <sup>-</sup>	14301	DATE 10/17/2021
LOCATION 350 Pr	Pros	pect Street, Belmont, MA	ELEVA	FION			Approx 250	9.4 ft (Town of Belmont Datum)
	N CON	NTRACTOR	DEPTH		c	) fi	WATER LEV	/EL - First WATER LEVEL - Completion
	206		FOREM	AN	C			LANGAN PERSONNEL
	300	Excavator			s/	Matt Ra Ample	agone	Alexander Macon
Symbol ELE (fee	.EV eet)	DESCRIPTION		Dept Scal	h 9 Number N	Type		REMARKS
+25 +25 +25 +25	59.4 59.4 57.2 56.9 56.7 55.4 55.4	Brown coarse to fine SAND, some coarse to fine gravel, trace sit trace cobbles, trace asphalt fragments, trace plastic fragments (moist)[FILL] Light brown coarse to fine SAND, some silt, trace medium to fin gravel, trace brick fragments (moist)[FILL] Dark brown silty coarse to fine SAND (moist)[TOPSOL] Black ASPHALT (moist)[ASPHALT] Light brown coarse to fine SAND, some silt, some fine gravel (moist) Gray coarse to fine SAND, some silt, some coarse to fine gravel trace cobbles, trace boulders, trace roots (moist) Bottom of test pit	e		C     C     C     C     C     C     C     C     Nun	GRAB GRAB	S-1 from 2 S-2 from 3 Guelph Pe S-3 from 4 Roots to 6 Bottom of Test pit ba material th bucket	2.25 to 2.5ft 3.0ft to 3.5ft ermeameter infiltration test at 3.5ft 4.0ft to 4.5ft 6.0ft test pit at 8.0ft. ackfilled to grade with lifts of excavated hat was tamped with the excavator
		GAN	-	- - - - 11	-			

PROJECT NAME         PROJECT NAME           Belmont Hill School - Jordan Athletic Center         ILEXATION           330 Prospect Street, Belmont, MA         ELEVATION           EXCAVATION CONTRACTOR         DEPTH           F.E. French Construction, Inc.         FOREMANT           COURTENT         FOREMANT           COURTENT         DESCRIPTION           Symbol         ELEV           4:200         Brown to dark brown WOODD CHIPS, trace silt           (moist)[FILL]         Feedialsh brown medium to fine SAND, some silt, trace medium to fine gravel, trace wood fragments, trace glass fragments, trace brick fragments (moist)[FILL]           2:201         Dark brown SILT, trace coarse to fine gravel, trace roots (moist)[TOPSOIL]           1:201         Feedialsh trace boulders (moist)           1:201         Feedialsh trace boulders (moist)	TF	<b>-</b> 2	09	Sheet 1 of 1
LOCATION 350 Prospect Street, Belmont, MA ELEVATION 350 Prospect Street, Belmont, MA EXCAVATOR CONTRACTOR P.E. French Construction, Inc. ECUIPMENT CAT 300 Excavator POREMAN SUBJECT CAT 300 Excavator DESCRIPTION POREMAN CONTRACTOR (moist)[FILL] POREMAN CONTRACTOR (moist)[FILL] POREMAN POREMAN (moist)[FILL] POREMAN POREMAN (moist)[FILL] POREMAN POREMAN (moist)[FILL] POREMAN	NUMBEF	۲ ,	15101	14301 DATE 10/17/2021
EXCAVATION CONTRACTOR     DEPTH       FE_French Construction, Inc.     FOREMAN       FOURMENT CAT 306 Excavator     POREMAN       Symbol     ELEV (rev)     DESCRIPTION     Dr       4:20.0     Brown to dark brown WOODD CHIPS, trace silt (moist)[FILL]     Poremanne       4:20.0     Reddish brown medium to fine SAND, some silt, trace medium to fine gravel, trace wood fragments, trace glass fragments, trace brick fragments (moist)[FILL]     Poremanne       4:20.0     Dark brown SILT, trace medium to fine sand, trace roots (moist)[FILL]     Poremanne       4:20.1     Dark brown SILT, trace medium to fine sand, trace roots (moist)     Poremanne       4:20.2     Caray silly coarse to fine SAND, some coarse to fine gravel, trace clay, trace cobbles, trace boulders (moist)     Poremanne       4:20.1     Pore 5     Bottom of test pit     Poremanne	1			Approx 262 ft (Town of Belmont Datum)
EQUIPUENT CAT 306 Excavator         POREMAN           Symbol         ELEV (mist)         DESCRIPTION         Dr           *28.0         Brown to dark brown WOODD CHIPS, trace silt (moist)[FILL]         -         -           *28.0         Reddish brown medium to fine SAND, some silt, trace medium to fine gravel, trace wood fragments, trace glass fragments, trace brick fragments (moist)[FILL]         -         -           *28.0         Dark brown SILT, trace medium to fine sand, trace roots (moist)[FILL]         -         -           *28.1         Dark brown SILT, trace coarse to fine gravel, trace roots (moist)         -         -           *28.5         Gray silty coarse to fine SAND, some coarse to fine gravel, trace clay, trace cobbles, trace boulders (moist)         -         -           *28.6         Gray silty coarse to fine SAND, some coarse to fine gravel, trace clay, trace cobbles, trace boulders (moist)         -         -		8 f	ft	WATER LEVEL - First WATER LEVEL - Completion
Symbol         ELEV (refer)         DESCRIPTION         Description           *28.0         Brown to dark brown WOOD CHIPS, trace silt (moist)[FIL]         -           *28.1         Reddish brown medium to fine SAND, some silt, trace medium to fine gravel, trace wood fragments, trace glass fragments, trace brick fragments (moist)[FIL]         -           *28.5         Dark brown SILT, trace medium to fine sand, trace roots (moist)[TOPSOIL]         -           *28.6         Gray silty coarse to fine SAND, some coarse to fine gravel, trace clay, trace cobbles, trace boulders (moist)         -           *28.6         Gray silty coarse to fine SAND, some coarse to fine gravel, trace clay, trace cobbles, trace boulders (moist)         -           *28.6         Gray silty coarse to fine SAND, some coarse to fine gravel, trace clay, trace cobbles, trace boulders (moist)         -		 M	att Pr	
Symbol         FLEY (refer         DESCRIPTION         Desc Symbol           *282.0         Brown to dark brown WOOD CHIPS, trace silt (moist)[FILL]         -           *289.5         Reddish brown medium to fine SAND, some silt, trace medium to fine gravel, trace wood fragments, trace glass fragments, trace brick fragments (moist)[FILL]         -           *289.5         Reddish brown silt, trace medium to fine sand, trace roots (moist)[FILL]         -           *289.5         Dark brown SILT, trace medium to fine sand, trace roots (moist)[TOPSOIL]         -           *289.5         Dark brown silt, trace medium to fine sand, trace roots (moist)[TOPSOIL]         -           *289.6         Gray silty coarse to fine SAND, some coarse to fine gravel, trace roots (moist)         -           *289.7         Gray silty coarse to fine SAND, some coarse to fine gravel, trace clay, trace cobbles, trace boulders (moist)         -           *289.7         Bottom of test pit         -         -		SAM	MPLE	
+282.0     Brown to dark brown WOOD CHIPS, trace silt (moist)[FILL]       +284.0     Reddish brown medium to fine SAND, some silt, trace medium to fine gravel, trace wood fragments, trace glass fragments, trace brick fragments (moist)[FILL]       +284.5     Dark brown SILT, trace medium to fine sand, trace roots (moist)[TOPSOIL]       +284.5     Dark brown SILT, trace coarse to fine gravel, trace roots (moist)       +284.6     Gray silty coarse to fine SAND, some coarse to fine gravel, trace clay, trace cobbles, trace boulders (moist)       +284.0     Bottom of test pit	epth scale	Number	Type	REMARKS
	0	S-5 S-4 S-3 S-1 Nu	GRAB   GRAB   GRAB   GRAB	S-1 from 1.5ft to 2.0ft S-2 from 2.75ft to 3.25ft S-3 from 3.5ft to 4.0ft S-4 from 4.5ft to 5.0ft Guelph Permeameter infiltration test at 5.0ft S-5 from 6.5ft to 7.0ft Roots to 7.0ft Bottom of test pit at 8.0ft. Test pit backfilled to grade with lifts of excavated material that was tamped with the excavator bucket
	10 - - - 11 —	-		

## APPENDIX F

## Langan Test Pit Photographs – JAC Parking Lot

LANGAN





Test Pit TP-201 - Photo 2

LANGAN




Test Pit TP-201 - Photo 4

LANGAN





Test Pit TP-201 - Photo 6

LANGAN





Test Pit TP-202 - Photo 1

LANGAN





Test Pit TP-202 - Photo 3

LANGAN





Test Pit TP-202 - Photo 5







Test Pit TP-202 - Photo 7







Test Pit TP-203 - Photo 2







Test Pit TP-203 - Photo 4

LANGAN





Test Pit TP-203 - Photo 6

LANGAN





Test Pit TP-204 - Photo 2







Test Pit TP-204 - Photo 4







Test Pit TP-205 - Photo 1







Test Pit TP-205 - Photo 3

LANGAN





Test Pit TP-205 - Photo 5







Test Pit TP-206 - Photo 2

LANGAN





Test Pit TP-206 - Photo 4







Test Pit TP-206 - Photo 6







Test Pit TP-207 - Photo 2

LANGAN





Test Pit TP-207 - Photo 4







Test Pit TP-207 - Photo 6







Test Pit TP-208 - Photo 2







Test Pit TP-208 - Photo 4







Test Pit TP-208 - Photo 6







Test Pit TP-209 - Photo 2

LANGAN





Test Pit TP-209 - Photo 4

LANGAN





Test Pit TP-209 - Photo 6

LANGAN





### **APPENDIX G**

## Langan Boring Logs – East Campus Maintenance Area

LANGAN

	L	4		<b>\/</b>		L	_og of	Bo	ring			LB-0	)1			Sheet	1	of	1
Ρ	roject		Belmont Hill School -	East Campus Ma	intenanc	ce	F	Project No.											
L	ocation	l	Area				E	Elevation and Datum											
	350 Prospect Street, Belmont, MA rilling Company						[	Date	Starte	d		Appro	x. 255.	ר <u>) 5 ft.</u> ו	own Date F	of Belmon inished	t Datum	ו)	
	Geologic Earth Exploration Inc.							Com	pletion	Dent	( th	01/06/2	2022		Rock	Denth	01/06	/2022	
	Acker Scout								pietion	Бер		10	).5 ft	'		Берш		7.5 ft	
S	Size and Type of Bit 3-7/8in Tricone Roller Bit							Num	ber of	Samp	oles	Disturl	bed	4	Uno	disturbed N	I/A	Core	1
C	Casing Diameter (in) Casing Depth (ft) 7.5						ft) .5	Nate	er Leve	el (ft.)		First 		N/E	Cor	mpletion	I/A	24 HR. V	N/A
C	asing H	lamm	<sup>e</sup> Donut	Weight (lbs)	300	Drop (in)	30 <sup>[</sup>	Drilli	ng For	eman	ו ים	avo Sh	oldon						
	ampler	Home	2-inch-diameter split	spoon Weight (lbs)		Dron (in)	F	-ield	Engin	eer	D								
- LAN		папп	Donut		140		30	Ê			Al	exando Sami	er Mac	on a					
Report: Log	MATERIA SYMBOL	Elev. (ft) +255.5	S	ample Descripti	on		Casng blws	Coring (m	Depth Scale	Number	Type	Recov. (in) Penetr.	resist BL/6in	N-Val (Blows	ue s/ft) 0 40	(Drilling Fluid Loss,	Rema Fluid, De Drilling F	I <b>IKS</b> pth of Casi Resistance	ing, , etc.)
9 AM R	<u>1,</u>	+255.0	Dark brown silty me trace roots (moist)ITOPSOIL1	edium-fine SAND,	trace coa	arse sand,	/	-	0 -	S-1A		2	11			S-1 at 0	ft.		
2022 10:55:1		050 5	Brown medium-fine trace fine gravel, tra (moist)	e SAND, some silt, ace roots	some co	oarse sand,	_/Sp	in	1 -	S-1B	SS IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	₽ 2	11	32					
1/14/		-253.5	Gray coarse-fine S/	AND, some silt, tra	ace fine g	gravel		E	2 -			1	7			Attempte	ed to sa deflect	ample an ed latera	d the IIv
E.GPJ								-	3 -	S-2	SS	7	25		75	Drill to 2 Some rig	.0ft. Mo g chatte	oderate o er from 1	drilling. .0ft to
NTERPRIS			Gray coarso fino S	ND como cilt tra	nco fino d	arovol	90		4 -				50/1			1.0ft to Switch to casing.	1.5ft. S o 3-inch Switch	-2 at 2ft. 1-diamet to 2 3/4-	er inch
0GS/151014301_E			(moist)[TILL]	ave, some sit, te		graver	11	5	5 -	S-3	SS	8 8 1	9 54 50/2		50/2·	roller bit Drive ca 4.0ft. Mo rig chatt Gray wa S-3 at 4	. Spin c sing to oderate er from ish. ft	asing to 4.0ft. Dr drilling. 3.5ft to	3.0ft. ill to Some 4.0ft.
ECHNICAL/GIN IL(		-248 0	Gray coarse-fine S/ (moist)[TILL]	AND, some silt, so	me fine	gravel	Sp	in _	6 -	S-4	SS	4	4 39 50/1		50/1	Drill to 6 drilling. 5.5ft to 6 casing to casing. S-4 at 6	6.0ft. Mo Some ri 6.0ft. G 5 6.0ft. ft.	oderate t g chatte ray wash Clean o	o hard r from n. Drive ut
CIPLINE/GEOI			Brown GRANODIO [BOULDER]	RITE			3:0	)0 - - - -	8 -	-	e					Drill to 7 drilling to drilling fi wash. S	.5ft. Mo o 7.0ft. rom 7.0 pin casi	oderate t Very har Ift to 7.5 ing to 7.5	o hard <sup>-</sup> d ft. Gray 5ft.
AL DISC		246.5	Inferred gray coarse	-fine SAND, some	e silt, so	me fine	- 1:3	36 <del>-</del>	9 -	- <u>-</u>	NX Col	15				C-1 at 7	.5ft Adv terial at	9. /anced tl 9.0ft	hrough
ECT DATA			gravel (moist)[TILL]				2:0	 )1	10 -										
3/151014301/PROJ		245.0	Bottom of boring						11 -							Boring to Boring b soil cutti	erminat ackfille ngs and	ed at 10 d to grac d #2 san	.5ft. le with d.
									13 -	-									
ANGAN.CUMIL									14 -										

LA		of Boring LB-02 (OW) Sheet 1 of 2								
Project	Belmont Hill School - East Campus Maintenance	Project No. 151014301								
Location	250 Prospect Street Relmont MA	Elevation and Datum Approx 261 ft (Town of Belmont Datum)								
Drilling Cor	pany	Date Started Date Finished								
Drilling Equ	Geologic Earth Exploration Inc.	01/06/2022         01/06/2022           Completion Depth         Rock Depth								
Size and Ty	Acker Scout	16 ft N/E Number of Correlated Disturbed Core								
Casing Dia	3-7/8in Tricone Roller Bit leter (in) Casing Depth (ft)	Number of Samples         6         N/A         1           Number of Samples         First         Completion         24 HR.								
Casing Har	4 13 mer Weight (lbs) 200 Drop (in) 20	Water Level (π.)N/EN/AN/AN/AN/A								
Sampler	2-inch-diameter split spoon	- Dave Sheldon								
Sampler Ha	nmer Donut Weight (lbs) Drop (in) 30	Alexander Macon								
ATERIAL SYMBOL		Scale								
	0 Dark brown silty medium-fine SAND, trace wood chips,	$\frac{2}{60} + 0 + \frac{2}{60} + \frac{2}{$								
	trace roots (moist)[TOPSOIL]									
	Dark brown silty medium-fine SAND, some coarse sand, trace fine gravel, trace roots (moist)[FILL]									
25	<sup>.8</sup> Grayish brown coarse-fine SAND, some silt	$\operatorname{Spin} = 2 \xrightarrow{5.2A} 7 \operatorname{S-2at} 2ft.$								
	Dark brown silty medium-fine SAND, some coarse sand, trace fine gravel trace wood chips	-3 $-1$ $-1$ $-1$ $-1$ $-1$ $-1$ $-1$ $-1$								
	(moist)[FILL]	S-28 9 13								
	Gray coarse-fine SAND, some silt, trace fine gravel (moist) [FII I ]	4 Spin casing to 4.0ft. Drill to 4.0ft. Easy drilling. Hard								
		16 $26$ drilling from 3.5ft to 4.0ft. Some rig chatter from 3.5ft to 4.0ft.								
		color changed to grayish 8 8 brown at 3.5ft. Inferred cobble								
	Brown medium-fine SAND, trace silt (moist)	61 6 from 3.5ft to 4.0ft. S-3 at 4ft. S-4 at 6.0ft. No recovery.								
25	.0 Gray coarse-fine SAND, some silt, trace fine gravel	$\begin{bmatrix} -7 & \frac{1}{5} & \frac{1}{5} & \frac{1}{2} \\ -7 & \frac{1}{5} & \frac{1}{5} & \frac{5}{12} \\ -7 & \frac{1}{5} & \frac{1}{5$								
	(moist)[TILL]	Blows: 4-4-6-6. Blows: 12-inches								
	Gray coarse-fine SAND, some silt, trace fine gravel (moist)[TILL]	42 30 Drive casing to 8.0ft. Drill to 8.0ft. Moderate drilling. Light								
		$-\frac{1}{9}$ $-\frac{1}{9}$ $-\frac{1}{9}$ $-\frac{1}{9}$ $-\frac{1}{74}$ $-\frac{35}{74}$ $-\frac{35}{109}$ wash. S-5 at 8ft.								
	*	50/3 Sec 55 5 10/5								
	Gray coarse-fine SAND, some silt, trace fine gravel (moist)[TILL]	10.0ft. Moderate drilling. Light 11/5								
		Spin - 11 - Drill to 13.0ft. Hard drilling.								
24	.5	drilling from 11.5ft to 13.0ft.								
		wash. Switch to 3-inch-diameter casing. Spin								
	Brown GRANODIORITE: medium to coarse grained	13 - 13 - 13 - 13 - 13 - 13 - 13 - 13 -								
	moderately weathered; close fracture spacing; fractures near horizontal; poor rock quality	3:14 3:14 C-1 at 13ft.								
	[BEDROCK]									

Drois	/ 1		og of E	g of Boring LB-02 (OW) Sheet 2 of 2										
Project		Belmont Hill School - East Campus Maintenance Area	Pr	oject No.			1510	)1430 <sup>,</sup>	1					
Locatio	n	350 Prospect Street, Belmont, MA	El	evation a	nd Da	itum	Appr	ox. 26	1 ft (T	own o	f Belmont	Datum)		
ŕŁ		· · · ·	/s/ ft in)	تو المعادم معادم معاد معادم معادم معام معا					ata				rko	
MATERI	Elev. (ft) +246.0	Sample Description	Casng blv Coring (n	Depth Scale	Number	Type	Recov. (in)	Penetr. resist BL/6in	N-V (Blov 10 20	alue vs/ft) 30 40	(Drilling Fluid Los	g Fluid, Dep s, Drilling F	oth of Casin Resistance,	ng, etc.)
			3:54		5	NX Core								
	\$245.0	Bottom of boring		-16 -17 -17 -18 -19 -20 -21 -22 -23 -22 -23 -22 -23 -22 -23 -22 -23 -22 -23 -31 -31 -31 -32 -32							Boring observa with a f	terminati converte flush-mo	ed at 16.0	Dft. shed II box.

#### **APPENDIX H**

Langan Boring Groundwater Observation Well Log – East Campus Maintenance Area

LANGAN

			WELL ( Well	No. LB-02(OW)								
PROJECT	Belmont Hill Sc	hool		<b>PROJECT NO.</b> 151014301								
LOCATION	350 Prospect S	treet, Belmont, MA		ELEVATION AND DATUM A	pprox.	261	Town of Belmont Datum					
DRILLING AGENCY	Geologic Earth	Exploration, Inc		DATE STARTED         01/06/2022         DATE FINISHED         01/06/2022								
DRILLING EQUIPMENT	CME Truck-Mo	unted Drill Rig		DRILLER Dave Sheldon								
SIZE AND TYPE OF BIT	3-7/8" Tri-Cone	Roller Bit		INSPECTOR Alexander Macon								
METHOD OF INSTALLAT Boring LB-2(OW) was bottom of the hole. #2 with #2 sand.	TION advanced to a de sand was poure	epth of about 16ft with mud d around the pipe to 1ft. abo	rotary drilling a ove the screen.	nd rock coring techniques. The screen and ri A 1-foot-thick seal of 3/8* Bentonite Chips v	iser for the vas placed	well were placed into the b above the sand. The rest of	orehole amd set to the the borehole was backfilled					
METHOD OF WELL DEV	ELOPMENT											
TYPE OF CASING	PVC	DIAMETER	2in.	TYPE OF BACKFILL MATERIAL		#2 Sand						
TYPE OF SCREEN	PVC	DIAMETER	2in.	TYPE OF SEAL MATERIAL		3/8" Bentonite Ch	nips					
BOREHOLE DIAMETER	4-1/4"			TYPE OF FILTER MATERIAL		#2 sand						
TOP OF CASING el.	<b>ELEVATION</b> 261		<b>DEPTH (ft)</b> 0	WELL DETAILS		SUMMARY SOIL CLASSIFICATION	DEPTH (FT)					
el. TOP OF SEAL el. TOP OF FILTER el. BOTTOM OF BORING el. SCREEN LENGTH SLOT SIZE GROUNI DATE DATE DATE DATE DATE	261 ELEVATION 257 ELEVATION 256 ELEVATION 245 10ft. .1in. DWATER ELEVATION ELEVATION ELEVATION ELEVATION ELEVATION ELEVATION	EVATIONS DEPTH TO WATER (ft) DEPTH TO WATER (ft)	0 DEPTH (ft) 4 DEPTH (ft) 6 DEPTH (ft) 16 NOTE(s)	2° PVC	Backfill - Seal Sand Pack	Topsoil Fill Sand Glacial Till Bedrock	0.5 6.0 7.0 11.5 16.0					
NOTES:							<u> </u>					

LANGAN MA, Inc.

## **APPENDIX I**

Laboratory Test Results

LANGAN



Client:	Langan En	gineering				
Project:	Belmont H	igh School				
Location:	Belmont, N	٩A			Project No:	GTX-314519
Boring ID:	TP-5		Sample Type:	bag	Tested By:	ckg
Sample ID	: S-3		Test Date:	10/28/21	Checked By:	bfs
Depth :	4.5-5.0 ft		Test Id:	636906		
Test Comm	ent:					
Visual Desc	cription:	Moist, gray sil	ty sand with gr	avel		
Sample Co	mment:					

# **USDA** Textural Classification

Boring ID	Sample ID	Depth	Sand, %	Silt, %	Clay, %	Classification
TP-5	S-3	4.5-5.0 ft	66	33	1	Sandy Loam

Classifications based only on material passing the #10 sieve

Sand: material passing 2.0 mm and retained on 0.05 mm diameter Silt: material passing 0.05 mm and retained on 0.002 mm diameter Clay: material passing 0.002 mm diameter





	Client:	Langan Eng	gineering				
	Project:	Belmont Hi	gh School				
stind	Location:	Belmont, M	IA			Project No:	GTX-314519
, ing	Boring ID:	TP-5		Sample Type	: bag	Tested By:	ckg
	Sample ID:	S-3		Test Date:	10/28/21	Checked By:	bfs
	Depth :	4.5-5.0 ft		Test Id:	636902		
	Test Comm	ent:					
	Visual Desc	ription:	Moist, gray si	ilty sand with g	ravel		
	Sample Cor	mment:					
Particl	o Siza	Δna	lvcic -	Δςτμ	D691	3/079	28
Tartici			17313	AJIM	0071	5/0/5	20
		555					
		4 0.00 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	_ O	0 9 00	0 4 0 5		
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	1000	100	10		1	0.1	1	0.01	0.001		
				Gra	ain Size (mm)						
				0.0							
			~ ~ .				a/ <b>a</b> /				
	% Cobb	le	% Gravel		% Sand		% Sili	t & Clay Size			
			27.2		A7 A		25.4				
		•									
Sieve Nar	ne Sieve Size, mm	Percent Finer	Spec. Percent	Complies		Coefficients					
						$D_{85} = 10.1$	511 mm	D <sub>30</sub> =0.1104 r	nm		
3/4 inch	19.00	100				$D_{60} = 1.47$	87 mm	D <sub>15</sub> =0.0232 r	nm		
1/2 inch	12.50	89					$D_{10} = 0.5900 \text{ mm}$ $D_{10} = 0.0140 \text{ mm}$				
3/8 inch	9.50	84			4	D50 - 0.39					
#4	4.75	63			-	C <sub>u</sub> =105.	621	$C_{c} = 0.589$			
#10	0.85	54			-		ification				
#40	0.42	46			-	ASTM	N/A				
#50	0.30	42			-						
#60	0.25	40			1		Ciltu Convel	and Cond (A. D. 4	(0))		
#100	0.15	33			1	AASTIU	Sity Gravel a	anu Sanu (A-2-4	(0))		
#140	0.11	30			1						
#200	0.075	25			]		Sample/Te	st Description			
#270	0.053	22				Sand/Grav	vel Particle Sh	ape : ANGULAR			
Hydromete	r Particle Size (mm)	Percent Finer	Spec. Percent	Complies		Sand/Gray	vel Hardness	: HARD			
	0 0 0 0 0 0 0	17				Sundy Cru					
	0.0290				1	Dispersion	1 Device ' Apr	paratus A - Mech	Mixer		
	0.0290	14			-						
	0.0230	14 9			-	Dispersior	Period : 1 m	inute			
	0.0290 0.0216 0.0131 0.0093 0.0067	14 9 6 4			-	Dispersion	Period : 1 m	inute			
	0.0290 0.0216 0.0131 0.0093 0.0067 0.0048	14 9 6 4				Dispersior Est. Speci	n Period : 1 m fic Gravity : 2	inute 			
	0.0210 0.0216 0.0131 0.0093 0.0067 0.0048 0.0034	14 9 6 4 3 2			-	Dispersion Est. Speci Separation	Period : 1 m fic Gravity : 2 n of Sample:	inute 1.65 #270 Sieve			
    	0.0236 0.0216 0.0131 0.0093 0.0067 0.0048 0.0034 0.0014	14 9 6 4 3 2 0			-	Dispersior Est. Speci Separation	n Period : 1 m fic Gravity : 2 n of Sample:	inute 65 #270 Sieve			
    	0.0296 0.0216 0.0131 0.0093 0.0067 0.0048 0.0034 0.0034	14 9 6 4 3 2 0				Dispersior Est. Speci Separation	n Period : 1 m fic Gravity : 2 n of Sample:	inute 65 #270 Sieve			


	Client:	Langan En	gineering				
	Project:	Belmont H	igh School				
stind	Location:	Belmont, N	1A			Project No:	GTX-314519
, ing	Boring ID:	TP-5		Sample Type:	bag	Tested By:	ckg
	Sample ID:	S-3		Test Date:	10/28/21	Checked By:	bfs
	Depth :	4.5-5.0 ft		Test Id:	636902		
	Test Comm	ent:	Only minus No	b. 10 sieve for l	USDA classi	fication	
	Visual Desc	ription:	Moist, gray sil	ty sand with gr	avel		
	Sample Cor	nment:					
Particl	e Size	e Ana	lysis -	ASTM	D691	3/D79	28
		4 inch 2 inch 3 inch	0	0 0 00	8 6 8 8		

	400			3/4 inch 1/2 inch 3/8 inch	#4 )#10	#20	#40 #50 #100	#140 #200 #270		
	100									
	90									
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	100	00	100	10		1		0.1	0.01	0.001
					Gra	ain Size (m	nm)			
		% Cobbl	e	% Gravel	% Gravel % Sand			% \$	Silt & Clay Size	
				0.0		59.9			40.1	
Sieve N	Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies			Coe	efficients	
							D <sub>85</sub> =0.8	8322 mm	D <sub>30</sub> =0.0378 m	ım
							$D_{60} = 0.2$	2141 mm	D <sub>15</sub> =0.0136 m	ım
						-	$D_{50} = 0.1$	1277 mm	D <sub>10</sub> =0.0101 m	ım
						-	C21	108	C <sub>-</sub> =0.661	
#10	)	2.00	100				Cu -21			
#20	)	0.85	85				ASTM	N/A	sification	
#40		0.42	67			-				
#60	)	0.25	63			-				
#10	0	0.15	53				AASHIC	<u>J</u> Silty Solis (	(A-4 (U))	
#14	0	0.11	47							
#20	0	0.075	40					Sample/T	est Description	
Hydron	neter	Particle Size (mm)	Percent Finer	Spec. Percent	Complies		Sand/G	ravel Particle s	Snape : ANGULAR	
		0.0290	26				Sand/G	ravel Hardnes	s:HARD	
		0.0216	22				Dispers	ion Device : A	pparatus A - Mech N	Mixer
	-	0.0131	15				Dispers	ion Period: 1	minute	
		0.0093	9			-	Fet Sna	ecific Gravity	2 65	
		0.0048	5	+		-	Course la		2.00 . #070 Ci	
		0.0034	3	+ +		-	Separat	lion of Sample	: #270 SIEVE	
		0.0014	0			1				



Client:	Langan En	gineering				
Project:	Belmont H	igh School				
Location:	Belmont, M	1A			Project No:	GTX-314519
Boring ID:	TP-202		Sample Type:	bag	Tested By:	ckg
Sample ID:	S-1		Test Date:	10/28/21	Checked By:	bfs
Depth :	4.0-4.5 ft		Test Id:	636907		
Test Comm	ent:					
Visual Desc	ription:	Moist, dark bro	own silty sand	with gravel		
Sample Cor	nment:	Removed one	unrepresentati	ve 2 inch ro	ock	

#### USDA Textural Classification

Boring ID	Sample ID	Depth	Sand, %	Silt, %	Clay, %	Classification
TP-202	S-1	4.0-4.5 ft	75	25	0	Loamy Sand

Classifications based only on material passing the #10 sieve

Sand: material passing 2.0 mm and retained on 0.05 mm diameter Silt: material passing 0.05 mm and retained on 0.002 mm diameter Clay: material passing 0.002 mm diameter





	Client:	Langan En	gineering				
	Project:	Belmont Hi	gh School				
<b>N</b>	Location:	Belmont, M	1A			Project No:	GTX-314519
9	Boring ID:	TP-202		Sample Type:	bag	Tested By:	ckg
	Sample ID:	S-1		Test Date:	10/28/21	Checked By:	bfs
	Depth :	4.0-4.5 ft		Test Id:	636903		
Ī	Test Comm	ent:					
	Visual Desc	ription:	Moist, dark bro	own silty sand	with gravel		
	Sample Cor	nment:	Removed one	unrepresentati	ve 2 inch ro	ock	
-							
	$\sim$ $\cap$ := $\sim$		ly ala			$\gamma / \rho = \gamma \rho$	าก







	Client:	Langan En	gineering				
	Project:	Belmont H	igh School				
	Location:	Belmont, M	1A			Project No:	GTX-314519
Ī	Boring ID:	TP-206		Sample Type:	bag	Tested By:	ckg
	Sample ID:	S-1		Test Date:	10/28/21	Checked By:	bfs
	Depth :	1.5-2.0 ft		Test Id:	636908		
	Test Comm	ent:					
	Visual Desc	ription:	Moist, dark ye	llowish brown s	sandy silt		
	Sample Cor	nment:					

#### **USDA** Textural Classification

Boring ID	Sample ID	Depth	Sand, %	Silt, %	Clay, %	Classification
TP-206	S-1	1.5-2.0 ft	36	64	0	Silt Loam

Classifications based only on material passing the #10 sieve

Sand: material passing 2.0 mm and retained on 0.05 mm diameter Silt: material passing 0.05 mm and retained on 0.002 mm diameter Clay: material passing 0.002 mm diameter





	Client:	Langan En	gineering				
	Project:	Belmont H	igh School				
	Location:	Belmont, M	1A			Project No:	GTX-314519
	Boring ID:	TP-206		Sample Type:	bag	Tested By:	ckg
	Sample ID:	S-1		Test Date:	10/28/21	Checked By:	bfs
	Depth :	1.5-2.0 ft		Test Id:	636904		
	Test Comm	ent:					
	Visual Desc	ription:	Moist, dark ye	llowish brown s	andy silt		
	Sample Cor	mment:					
~	e Size	Ana د	lvsis -	Δςτμ	D691	3/079	28
- 1		- / III	1,515			5,0,5,	





	Client:	Langan En	gineering				
	Project:	Belmont H	igh School				
sting	Location:	Belmont, N	1A			Project No:	GTX-314519
, in g	Boring ID:	TP-206		Sample Type:	bag	Tested By:	ckg
	Sample ID:	S-1		Test Date:	10/28/21	Checked By:	bfs
	Depth :	1.5-2.0 ft		Test Id:	636904		
	Test Comm	ent:	Only minus No	o. 10 sieve for	USDA classi	fication	
	Visual Desc	ription:	Moist, dark ye	llowish brown s	sandy silt		
	Sample Cor	nment:					
	<u> </u>	•					20
Particl	e Size	e Ana	IYSIS -	ASIM	D691	3/0/9	28
		<u>ح</u>					
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Client:	Langan Er	ngineering				
Project:	Belmont H	ligh School				
Location:	Belmont, I	MA			Project No:	GTX-314519
Boring ID:	TP-207		Sample Type:	bag	Tested By:	ckg
Sample ID	: S-2		Test Date:	10/28/21	Checked By:	bfs
Depth :	1.0-1.5 ft		Test Id:	636909		
Test Comm	nent:					
Visual Des	cription:	Moist, dark b	rown silty sand	with gravel		
Sample Co	mment:					

#### **USDA** Textural Classification

Boring ID	Sample ID	Depth	Sand, %	Silt, %	Clay, %	Classification
TP-207	S-2	1.0-1.5 ft	75	24	1	Silt Loam

Classifications based only on material passing the #10 sieve

Sand: material passing 2.0 mm and retained on 0.05 mm diameter Silt: material passing 0.05 mm and retained on 0.002 mm diameter Clay: material passing 0.002 mm diameter





-							
	Client:	Langan En	gineering				
	Project:	Belmont H	igh School				
stind	Location:	Belmont, M	1A			Project No:	GTX-314519
, in g	Boring ID:	TP-207		Sample Type:	bag	Tested By:	ckg
	Sample ID:	S-2		Test Date:	10/28/21	Checked By:	bfs
	Depth :	1.0-1.5 ft		Test Id:	636905		
	Test Comm	ent:					
	Visual Desc	ription:	Moist, dark bro	own silty sand <sup>•</sup>	with gravel		
	Sample Cor	nment:					
		-					
Particl	e Size	e Ana	lysis -	ASTM	D691	3/D792	28
		_ <u>ب</u>					

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	1000	100	10	Crain 6		0.1 0.01 0.						
	% Cob	ble	% Gravel	%	Sand	% Silt & Clay Size						
			19.1		58.6	22.3						
eve Nan	ne Sieve Size, m	m Percent Finer	Spec. Percent	Complies		<u>Coefficients</u>						
0.75 in	19.00	100			D <sub>85</sub> =6	$D_{30} = 0.1396 \text{ mm}$						
0.5 in	12.50	93			$D_{60} = 0$	$D_{15} = 0.0349 \text{ mm}$						
0.375 in	9.50	89			D <sub>50</sub> =0	.3565 mm $D_{10} = 0.0160 \text{ mm}$						
#4	4.75	81			C <sub>u</sub> =3	6.831 C <sub>c</sub> =2.067						
#20	0.85	67				Classification						
#40	0.42	54			ASIM	N/A						
#50	0.30	46										
#100	0.25	31			AASHT	O Silty Gravel and Sand (A-2-4 (0))						
#140	0.11	26										
#200	0.075	22				Sample/Test Description						
#270	0.053	19 n) Percent Finer	Spec. Percent	Complies	Sand/0	Gravel Particle Shape :						
., aronicie	0.0343	15	open electric		Sand/0	Gravel Hardness :						
	0.0210	12			Dispers	Dispersion Device : Apparatus A - Mech Mix						
	0.0132	8			Dispers	Dispersion Period : 1 minute						
	0.0005				Est. Specific Gravity · 2.65							
	0.0095	6			Concention of Complex #270 Circle							
   	0.0095 0.0066 0.0047	6 5 3			Conorra	Decific Gravity : 2.65						
	0.0095 0.0066 0.0047 0.0034	6 5 3 2			Separa	ation of Sample: #270 Sieve						
	0.0095 0.0066 0.0047 0.0034 0.0014	6 5 3 2 0			Separa	ation of Sample: #270 Sieve						



	Client:	Langan En	gineering				
	Project:	Belmont H	igh School				
à	Location:	Belmont, M	1A			Project No:	GTX-314519
9	Boring ID:	TP-207		Sample Type:	bag	Tested By:	ckg
	Sample ID:	S-2		Test Date:	10/28/21	Checked By:	bfs
	Depth :	1.0-1.5 ft		Test Id:	636905		
Γ	Test Comm	ent:	Only minus No	. 10 sieve for l	JSDA classi	fication	
	Visual Desc	ription:	Moist, dark bro	own silty sand	with gravel		
	Sample Cor	nment:					
ticl	e Size	Δna د	lysis -	Δςτμ	D691	3/079	28
		- 7110		$\Lambda \mathcal{S} \cap \mathcal{C}$		J D J J	20



**APPENDIX J** 

Infiltration Testing Results – East Campus

				INFILTR	ATION TE	<b>STS</b> TP-2				
PROJECT	Belmont Hill S	School		PROJECT NO		151014301				
LOCATION	Belmont, MA			DATE		June 8th, 202	1			
INSPECTOR	Alex Macon			WEATHER		Sunny, 75-85 c	legrees			
TEST N	UMBER	STATIC HE	AD (CM)		ELEVATION	AND DATUM				
	I	3			Su	rface Elevation	Approx.	261.5	Town of Belmont Datum	
:	2	7			Town of Belmont Datum					
				Bottom of Hole Elevation Approx. 258.0 Town of Belmont Datum						
auger. The hc method. H1 = time period. T below summa	le was cleaned 3 cm and H2 = est 1 (A) was n rizes the field o	d using a well prep = 7 cm for these te neasured using the data and the calcul	brush and a sizests. After even inner reservoir ations for deter	r cylinder only rmining the ra	in e infiltration te , the height of . Test 2 (B) wa ates in which th	st was perform the water was i is measured us ne water infiltra	ed using a G measured to ing the inner red.	and outer res	ameter with the two head total drop of water over the servoir cylinders. The table	
	TIME (MIN)	HEIGHT OF WATER (CM)	DROP (CM)	RATE (IN/MIN)	RATE (IN/HOUR)	SOIL CONDITIONS				
	0	43.5	-	-	-					
	1	51.6	8.1	3.2	191.5					
	2	55.3	3.7	1.5	87.5					
	3	59.6	4.3	1.7	101.7	Crowneeree	to fine CANI	)	waaa aaawaa ta fina awayal	
TEST 1 (A)	4	62.5	2.9	1.1	68.6	Gray coarse	to fine SAINL	J, some slit, i esi trace bou	Indee coarse to fine gravel,	
TEST T (A)	5	65.3	2.8	1.1	66.2					
	6	69.6	4.3	1.7	101.7	]				
	7	72.1	2.5	1.0	59.1	]				
	8	74.8	2.7	1.1	63.8					
			Steady	/ State Rate:	64.4	inches/hour				
	TIME (MIN)	WATER (CM)	DROP (CM)	(IN/MIN)	(IN/HOUR)					
	0	5.5	-	-	-					
	1	5.9	0.4	0.2	9.5					
	2	6.5	0.6	0.2	14.2					
	3	7.1	0.6	0.2	14.2					
TEST 2 (B)	4	7.8	0.7	0.3	16.5	Field Sat	urated Hy	draulic Cor	nductivity, Ksat: N/A	
	5	8.4	0.6	0.2	14.2					
	6	9.0	0.6	0.2	14.2					
	7	9.5	0.5	0.2	11.8					
	8	10.1	0.6	0.2	14.2					
	9	10.7	0.6	0.2	14.2					
	10	11.3	0.6	0.2	14.2				-	
			Steady	/ State Rate:	14.2	inches/hour				

PROJECT     Belmont Hill School     PROJECT NO.     151014301       LOCATION     Belmont, MA     DATE     June 8th, 2021       INSPECTOR     Alor Macon     WEATHER     Supply 75.85 dogroop							
LOCATION     Belmont, MA     DATE     June 8th, 2021       INSPECTOR     Veather     Supply 75 85 degrees							
INSPECTOR WEATHER Supply 75.95 degrees							
Alex Macon Sullity, 75-55 degrees	WEATHER Sunny, 75-85 degrees						
TEST NUMBER STATIC HEAD (CM) ELEVATION AND DATUM	ELEVATION AND DATUM						
1 5 Surface Elevation Approx. 26	51.0 Town of Belmont Datum						
2 10 Top of Hole Elevation Approx. 25	57.0 Town of Belmont Datum						
Bottom of Hole Elevation Approx. 25	Bottom of Hole Elevation Approx. 256.4 Town of Belmont Datum						
method. H1 = 5 cm and H2 = 10 cm for these tests. After every 60 seconds, the height of the water was measured to calcu time period. Test 1 (A) and Test 2 (B) were measured using the inner and outer reservoir cylinders. The table below summar calculations for determining the rates in which the water infiltrated.	late the total drop of water over the izes the field data and the						
TIME (MIN) WATER (CM) DROP (CM) (IN/MIN) (IN/HOUR) SOIL CO	NDITIONS						
0 3.5							
1 5.1 1.6 0.6 37.8							
2 6.4 1.3 0.5 30.7							
3 7.6 1.2 0.5 28.4 Gray coarse to fine SAND, some :	silt, trace coarse to fine gravel, trace						
TEST 1 (A) 4 8.8 1.2 0.5 28.4 cobbles, trace	boulders (moist)						
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$							
8 132 11 04 260							
Steady State Bate: 26.0 inches/hour							
TIME (MIN) WATER (CM) DROP (CM) (IN/MIN) (IN/HOUR)							
0 4.0							
1 10.6 6.6 2.6 156.0							
2 12.4 1.8 0.7 42.6							
<b>TEST 2 (B)</b> 3 14.0 1.6 0.6 37.8 Eield Saturated Hydraulic	Conductivity, Ksat: 0.80 in/br						
	conductivity, rodt. 0.00 m/m						
b     17.0     1.5     0.6     35.5       0     10.0     1.0     0.0     07.0							
/         20.2         1.0         0.0         3/.8           Q         21.0         1.6         0.6         27.9							
0 21.8 1.0 0.0 37.0							
Steady State Bate: 37.8 inches/hour							

				INFILTR IT-4 per	formed in	STS TP-4					
PROJECT	Belmont Hill S	School		PROJECT NO		151014301					
LOCATION	Belmont, MA			DATE		June 9th, 202	1				
INSPECTOR	Alex Macon			WEATHER		Sunny, 75-85 c	legrees				
TEST N	IUMBER	STATIC HE	AD (CM)		ELEVATION	AND DATUM					
	1	5		Surface Elevation Approx. 265.5 Town of Belmont Datur							
	2	15		Top of Hole Elevation Approx. 264.0 Town of Belmont Datum							
					Bottom of	Hole Elevation	Approx.	263.3	Town of Belmont Datum		
TP-4 was exc auger. The he method. H1 = the time peric calculations fo	avated to a dep ole was cleaned 5 cm and H2 : od. Test 1 (A) ar or determining	oth of about 18 incr d using a well prep = 15 cm for these t nd Test 2 (B) were the rates in which	nes below exist brush and a siz tests. After eve measured using the water infiltr	ing grades. A zing auger. Th ery 60 seconds g the inner an rated.	n 9-inch-deep a e infiltration te s, the height o d outer reserve	and 6-centimete st was perform f the water was oir cylinders. Th	er-diameter h ed using a G measured to e table belov	ole was then uelph Permea o calculate the v summarizes	advanced using a hand meter with the two head a total drop of water over the field data and the		
		HEIGHT OF		RATE	RATE						
	TIME (MIN)	WATER (CM)	DROP (CM)	(IN/MIN)	(IN/HOUR)		SC		INS		
	0	2.3	-	-	-	4					
	1	2.9	0.6	0.2	14.2	Brown fine sandy SILT, some medium sand, trace coarse to fi gravel, trace cobbles, trace boulders, trace roots (dry)					
	2	3.6	0.7	0.3	16.5						
	3	4.5	0.9	0.4	21.3						
	4	5.2	0.7	0.3	16.5						
IESI 1 (A)	5	6.0	0.8	0.3	18.9						
	6	6./	0.7	0.3	16.5						
	/	7.4	0.7	0.3	16.5						
	8	8.1	0.7	0.3	16.5						
	9	0.0	0.7	U.3	16.5	inches/hour			1		
		HEIGHT OF	Steady	RATE	IO.5 RATE	menes/nour					
	TIME (MIN)	WATER (CM)	DROP (CM)	(IN/MIN)	(IN/HOUR)						
	0	9.8	-	-	-						
	1	12.0	2.2	0.9	52.0						
	2	13.0	1	0.4	23.6						
	3	14.7	1.7	0.7	40.2						
TEST 2 (B)	4	16.5	1.8	0.7	42.6	Field Satu	rated Hydra	aulic Conduc	ctivity, Ksat: 0.61 in/hr		
	5	18.3	1.8	0.7	42.6						
	6	19.9	1.6	0.6	37.8						
	7	21.4	1.5	0.6	35.5	5					
	8	22.9	1.5	0.6	35.5						
	9	24.4	1.5	0.6	35.5	-1					
	10	20.9	1.5 Stord	U.0	35.5 25 5	inchos/hour			1		
	I		Steady	JEATE HATE:	35.5	incnes/hour					



#### INFILTRATION TESTS

IT-5 performed in TP-5

PROJECT	Belmont Hill S	School	PROJECT NO.	PROJECT NO. 151014301						
LOCATION	Belmont, MA		DATE	DATE June 9th, 2021						
INSPECTOR	Alex Macon		WEATHER	WEATHER Sunny, 75-85 degrees						
TEST	NUMBER	STATIC HEAD (CM)		ELEVATION AND DATUM						
	1	5		Surface Elevation	Approx.	265.0	Town of Belmont Datum			
<b>2</b> 10				Top of Hole Elevation	Approx.	259.5	Town of Belmont Datum			
				Bottom of Hole Elevation	Approx.	259.0	Town of Belmont Datum			

#### METHOD OF INFILTRATION TEST

TP-5 was excavated to a depth of about 66 inches below existing grades. An 6-inch-deep and 6-centimeter-diameter hole was then advanced using a hand auger. The hole was cleaned using a well prep brush and a sizing auger. The infiltration test was performed using a Guelph Permeameter with the two head method. H1 = 5 cm and H2 = 10 cm for these tests. After every 60 seconds, the height of the water was measured to calculate the total drop of water over the time period. Test 1 (A) and Test 2 (B) were measured using the inner and outer reservoir cylinders. The table below summarizes the field data and the calculations for determining the rates in which the water infiltrated.

	TIME (MIN)	HEIGHT OF WATER (CM)	DROP (CM)	RATE (IN/MIN)	RATE (IN/HOUR)	SOIL CONDITIONS					
	0	2.5	-	-	-						
	1	3.1	0.6	0.2	14.2						
	2	3.7	0.6	0.2	14.2						
	3	4.2	0.5	0.2	11.8						
	4	4.6	0.4	0.2	9.5						
	5	5.0	0.4	0.2	9.5						
	6	5.5	0.5	0.2	11.8						
	7	5.9	0.4	0.2	9.5	Gray coarse to fine SAND, some silt, trace coarse to fine gr trace cobbles, trace boulders (moist)					
	8	6.2	0.3	0.1	7.1						
	9	6.6	0.4	0.2	9.5						
	10	7.0	0.4	0.2	9.5						
	11	7.3	0.3	0.1	7.1						
	12	7.6	0.3	0.1	7.1						
TEST 1 (A)	13	8.1	0.5	0.2	11.8						
,	14	8.4	0.3	0.1	7.1						
	15	8.7	0.3	0.1	7.1						
	16	9.1	0.4	0.2	9.5						
	17	9.5	0.4	0.2	9.5						
	18	9.8	0.3	0.1	7.1						
	19	10.2	0.4	0.2	9.5						
	20	10.4	0.2	0.1	4.7						
	21	10.8	0.4	0.2	9.5						
	22	11.1	0.3	0.1	7.1						
	23	11.5	0.4	0.2	9.5						
	24	11.8	0.3	0.1	7.1						
	25	12.1	0.3	0.1	7.1						
	26	12.4	0.3	U.I	7.1	in choo /hour					
		HEIGHT OF	Steady	BATE	7.1 BATE	inches/nour					
	TIME (MIN)	WATER (CM)	DROP (CM)	(IN/MIN)	(IN/HOUR)						
	0	5.8	-	-	-						
	1	6.4	0.6	0.2	14.2						
	2	6.6	0.2	0.1	4.7						
	3	7.1	0.5	0.2	11.8						
	4	8.0	0.9	0.4	21.3						
	5	9.1	1.1	0.4	26.0						
TEST 2 (B)	6	9.9	0.8	0.3	18.9	Field Saturated Hydraulic Conductivity, Ksat: 0.63 in/hr					
	7	10.6	0.7	0.3	16.5						
	8	11.5	0.9	0.4	21.3						
	9	12.3	0.8	0.3	18.9						
	10	13.2	0.9	0.4	21.3						
	11	14.1	0.9	0.4	21.3						
	12	15.0	0.9	0.4	21.3						
	13	15.9	0.9	0.4	21.3						
			Steady	State Rate:	21.3	inches/hour					

#### INFILTRATION TESTS IT-6 performed in TP-6 PROJECT PROJECT NO. Belmont Hill School 151014301 DATE LOCATION Belmont, MA June 9th, 2021 WEATHER INSPECTOR Alex Macon Sunny, 75-85 degrees ELEVATION AND DATUM TEST NUMBER STATIC HEAD (CM) Surface Elevation 272 0 Town of Belmont Datum 5 1 Approx. 10 2 Top of Hole Elevation 269.0 Town of Belmont Datum Approx Bottom of Hole Elevation Approx. 268.5 Town of Belmont Datum METHOD OF INFILTRATION TEST TP-6 was excavated to a depth of about 36 inches below existing grades. An 6-inch-deep and 6-centimeter-diameter hole was then advanced using a hand auger. The hole was cleaned using a well prep brush and a sizing auger. The infiltration test was performed using a Guelph Permeameter with the two head method. H1 = 5 cm and H2 = 10 cm for these tests. After every 60 seconds, the height of the water was measured to calculate the total drop of water over the time period. Test 1 (A) and Test 2 (B) were measured using the inner and outer reservoir cylinders. The table below summarizes the field data and the calculations for determining the rates in which the water infiltrated. HEIGHT OF RATE RATE TIME (MIN) DROP (CM) SOIL CONDITIONS WATER (CM) (IN/MIN) (IN/HOUR) 0 4.9 7.2 2.3 0.9 54.4 1 2 7.6 0.4 0.2 9.5 3 8.9 1.3 0.5 30.7 4 9.9 1 0.4 23.6 10.9 0.4 23.6 5 1 6 11.9 0.4 23.6 12.8 0.9 0.4 21.3 8 0.4 21.3 13.7 0.9 Gray coarse to fine SAND, some silt, trace coarse to fine gravel, 9 14.5 0.8 0.3 18.9 TEST 1 (A) trace cobbles, trace boulders (moist) 10 15.4 0.9 0.4 21.3 11 16.3 0.9 0.4 21.3 12 21.3 0.9 0.4 17.2 13 18.0 0.8 0.3 18.9 14 18.9 0.9 0.4 21.3 15 19.7 0.8 0.3 18.9 16 20.5 0.8 0.3 18.9 17 21.3 0.8 0.3 18.9 18 22.1 0.8 0.3 18.9 **Steady State Rate:** 18.9 inches/hour HEIGHT OF RATE RATE TIME (MIN) DROP (CM) WATER (CM) (IN/MIN) (IN/HOUR) 0 9.4 11.1 0.7 40.2 1.7 1 2 13.1 2 0.8 47.3 42.6 3 14.9 1.8 0.7 4 16.6 1.7 0.7 40.2 5 18.5 1.9 0.7 44.9 1.7 6 20.2 0.7 40.2 22.0 1.8 7 0.7 42.6 TEST 2 (B) Field Saturated Hydraulic Conductivity, Ksat: 1.37 in/hr 23.8 18 0.7 42.6 8 1.8 0.7 42.6 9 25.6 10 27.2 1.6 0.6 37.8 11 29.0 1.8 0.7 42.6 12 30.8 1.8 0.7 42.6 13 32.4 1.6 0.6 37.8 1.7 0.7 40.2 14 34.1 15 1.7 0.7 40.2 35.8 16 40.2 37.5 1.7 0.7 17 39.2 40.2 0.7 1.7 **Steady State Rate:** 40.2 inches/hour

				INFILTR IT-7 perf	ATION TE	<b>STS</b> ГР-7						
PROJECT	Belmont Hill S	School		PROJECT NO		151014301						
LOCATION	Belmont, MA			DATE		June 9th, 202	1					
INSPECTOR	Alex Macon			WEATHER		Sunny, 75-85 c	legrees					
TEST N	UMBER	STATIC HE	AD (CM)		ELEVATION AND DATUM							
	1	3			Su	rface Elevation	Approx.	272.5	Town of Belmont Datum			
	2	6			Town of Belmont Datum							
				Bottom of Hole Elevation Approx. 268.0 Town of Belmont Datum								
TP-7 was exca auger. The ho method. H1 = time period. T calculations fo	avated to a dep ole was cleaned 3 cm and H2 = est 1 (A) and To or determining =	oth of about 48 incl d using a well prep = 6 cm for these te est 2 (B) were mea the rates in which	nes below exist brush and a siz ests. After every asured using the the water infiltr	ing grades. A ting auger. Th y 60 seconds, e inner and ou ated.	n 6-inch-deep a e infiltration te , the height of uter reservoir c	and 6-centimete st was perform the water was r ylinders. The ta	er-diameter H ed using a G measured to ble below su	nole was then iuelph Permea calculate the ummarizes the	advanced using a hand ameter with the two head total drop of water over the a field data and the			
	TIME (MIN)	HEIGHT OF WATER (CM)	DROP (CM)	RATE (IN/MIN)	RATE (IN/HOUR)		so		DNS			
	0	1.0	-	-	-							
	1	1.2	0.2	0.1	4.7							
	2	1.5	0.3	0.1	7.1							
	3	1.9	0.4	0.2	9.5							
F	4	2.1	0.2	0.1	4.7							
	5	2.5	0.4	0.2	9.5							
	6	2.7	0.2	0.1	4.7							
	7	2.9	0.2	0.1	4.7	Gray coarse to fine SAND, some silt, some coarse to fine gray trace cobbles, trace boulders (moist)						
TEST 1 (A)	8	3.1	0.2	0.1	4.7							
	9	3.4	0.3	0.1	7.1							
	10	3.6	0.2	0.1	4.7							
	11	3.9	0.3	0.1	7.1							
	12	4.2	0.3	0.1	7.1							
	13	4.4	0.2	0.1	4.7							
	14	4.0	0.2	0.1	4.7							
	10	1.0	Steady	/ State Bate	5.9	inches/hour			1			
	TIME (MIN)	HEIGHT OF WATER (CM)	DROP (CM)	RATE (IN/MIN)	RATE (IN/HOUR)				1			
	0	1.4	-	-	-							
	1	1.6	0.2	0.1	4.7							
	2	2.3	0.7	0.3	16.5							
	3	3.0	0.7	0.3	16.5							
TEST 2 (B)	4	3.5	0.5	0.2	11.8	Field Satu	rated Hydr	aulic Conduc	ctivity, Ksat: 0.59 in/hr			
	5	3.8	0.3	0.1	/.1	.1 .4 1.8 1.8 1.8						
	0	3.9	U.1	0.0	2.4							
	/	4.4	0.5	0.2	11.0							
	Ö Q	4.9	0.5	0.2	11.0 11.0							
	10	5.4	0.5	0.2	11.0							
	10	0.0	Steady	/ State Rate:	11.8	inches/hour			1			

				INFILTR IT-8 perf	ATION TE	<b>STS</b> TP-8					
PROJECT	Belmont Hill S	School		PROJECT NO	).	151014301					
LOCATION	Belmont, MA			DATE		June 9th, 202	1				
INSPECTOR	Alex Macon			WEATHER		Sunny, 75-85 c	legrees				
TEST N	UMBER	STATIC HE	AD (CM)		ELEVATION	AND DATUM					
	1	4			Su	rface Elevation	Approx.	277.5	Town of Belmont Datum		
:	2	8			Top of	Hole Elevation	Approx.	273.5	Town of Belmont Datum		
					Bottom of	Hole Elevation	Approx.	273.0	Town of Belmont Datum		
auger. The ho method. H1 = time period. T calculations fo	le was cleaned 4 cm and H2 est 1 (A) and T or determining	d using a well prep = 8 cm for these te est 2 (B) were mea the rates in which	brush and a siz ests. After every asured using the the water infiltr	ing auger. Th (60 seconds, e inner and ou ated.	te infiltration te , the height of uter reservoir c	ist was perform the water was i cylinders. The ta	ed using a G measured to ble below su	uelph Permea calculate the immarizes the	ameter with the two head total drop of water over the e field data and the		
	TIME (MIN)	HEIGHT OF WATER (CM)	DROP (CM)	RATE (IN/MIN)	RATE (IN/HOUR)	RATE SOIL CONDITIONS					
	0	1.4	-	-	-						
	1	2.5	1.1	0.4	26.0	Gray coarse to fine SAND, some silt, some coarse to fine gravel, trace cobbles, trace boulders (moist)					
	2	3.1	0.6	0.2	14.2						
	3	3.6	0.5	0.2	11.8						
TEST 1 (A)	4	4.2	0.6	0.2	14.2						
	5	4.7	0.5	0.2	11.8						
	6	5.2	0.5	0.2	11.8						
	/	5.7	0.5	0.2	11.8						
	8	0.2	0.5	U.Z	11.8	inches/hour			1		
	TIME (MIN)	HEIGHT OF	DROP (CM)	RATE	RATE	inches/noui			J		
	0	WATER (CM)	,	(IN/MIN)	(IN/HOUR)	•					
	1	2.0	- 0.1	- 0.0	- 24	1					
	2	2.8	0.1	0.0	47						
	3	3.5	0.7	0.3	16.5						
	4	4.4	0.9	0.4	21.3						
TEST 2 (B)	5	5.1	0.7	0.3	16.5	Field Satu	rated Hydra	aulic Condu	ctivity, Ksat: 0.39 in/hr		
	6	5.8	0.7	0.3	16.5	1					
	7	6.4	0.6	0.2	14.2	1					
	8	7.1	0.7	0.3	16.5	1					
	9	7.8	0.7	0.3	16.5	]					
	10	8.5	0.7	0.3	16.5	]					
	11	9.2	0.7	0.3	16.5				_		
			Steady	State Rate:	16.5	inches/hour					

**APPENDIX K** 

Infiltration Testing Results – East Campus Maintenance Area



			ľ	INFILTR T-301 peri	formed in	<b>STS</b> FP-301						
PROJECT	Belmont Hill S	School		PROJECT NO	).	151021201						
LOCATION	Belmont, MA			DATE		January 4th, 2	2022					
INSPECTOR	Tim Light			WEATHER		Sunny, 25-30	degrees					
TEST N	IUMBER	STATIC HE	AD (CM)		ELEVATION AND DATUM							
	1	5			Surface Elevation Approx. 263.0 Town of Belmont							
	2	10			Top of Hole Elevation Approx. 261.5 Town of Belmont Da							
METHOD OF I	NFILTRATION TE	ST			Bottom of	Hole Elevation	Approx.	261.0	Town of Belmont Datum			
TP-302 was e auger. The ho method. H1 = over the time and the calcul	xcavated to a c ole was cleaned 5 cm and H2 = period. Test 1 lations for dete	lepth of about 18 in d using a well prep = 10 cm for these (A) and Test 2 (B) v rmining the rates in	nches below ex brush and a siz tests. After eve were measured n which the wa	tisting grades zing auger. Th ery 15 to 60 se using both th ter infiltrated.	A 6-inch-deep ne infiltration te econds, the he ne inner and ou	and 6-centime est was perform ight of the wat iter reservoir cy	eter-diameter ned using a G er was mease vlinders. The	hole was the uelph Permea ured to calcula table below si	n advanced using a hand ameter with the two head ate the total drop of water ummarizes the field data			
	TIME (MIN)	HEIGHT OF	DROP (CM)	RATE	RATE		sc		INS			
	0	WATER (CM)	2	(IN/MIN)	(IN/HOUR)							
	1	4.9	_	-								
	2	5.9	1.0	0.4	23.6		,					
	3	6.9	1.0	0.4	23.6	Brown silty fir	ne SAND, tra	ce coarse-fine	gravel, trace cobbles, trace			
	4	7.9	1.0	0.4	23.6			roots (moist)				
	5	8.9	1.0	0.4	23.6							
	6	9.6	0.7	0.3	16.5							
TEST 1 (A)	7	10.3	0.7	0.3	16.5							
	8	11.0	0.7	0.3	16.5							
	9	12.0	1.0	0.4	23.6							
	10	12.8	0.8	0.3	18.9							
	11	13.6	0.8	0.3	18.9							
	12	14.4	0.8	0.3	18.9	4						
	13	15.2	0.8	0.3	18.9				1			
-		HEIGHT OF	Stead	/ State Rate:	18.9 BATE	inches/hour			]			
	TIME (MIN)	WATER (CM)	DROP (CM)	(IN/MIN)	(IN/HOUR)							
	0	-	-	-	-							
	0.25	6.0	-	-	-	]						
	0.5	9.1	3.1	4.9	293.1							
	0.75	12.1	3	4.7	283.7							
	1	15.1	3	4.7	283.7							
	1.25	18.1	3	4./	283.7							
	1.5	21.1	3	4.7	283.7							
TEST 2 (B)	1.75	24.1	3	4.7	203.7	Field Satu	urated Hydra	aulic Conduc	ctivity, Ksat: 3.53 in/hr			
	2 25	30.1	3	4.7	283.7							
	3	36.1	6	3.2	189.1	1						
	4	43.2	7.1	2.8	167.8	1						
	5	50.5	7.3	2.9	172.6	1						
	6	57.0	6.5	2.6	153.7	1						
	7	63.5	6.5	2.6	153.7	]						
	8	70.0	6.5	2.6	153.7							
	9	76.5	6.5	2.6	153.7				_			
			Steady	/ State Bate	153 7	inches/hour			]			

			ľ	T-302 perf	formed in	<b>STS</b> TP-302							
PROJECT	Belmont Hill S	School		PROJECT NO		151021201							
LOCATION	Belmont, MA			DATE		January 4th, 2	022						
INSPECTOR	Tim Light			WEATHER		Sunny, 25-30 c	legrees						
TEST N	IUMBER	STATIC HE	AD (CM)		ELEVATION AND DATUM								
	1	5	,		Su	rface Elevation	Approx.	262.0	Town of Belmont Datum				
	2	10			Top of	Hole Elevation	Approx.	260.0	Town of Belmont Datum				
		<b>.</b>			Bottom of	Hole Elevation	Approx.	259.5	Town of Belmont Datum				
TP-301 was e auger. The ho method. H1 = over the time and the calcul	xcavated to a c ole was cleaned 5 cm and H2 : period. Test 1 ations for dete	lepth of about 24 in d using a well prep = 10 cm for these (A) and Test 2 (B) v rmining the rates in	nches below ex brush and a siz tests. After eve vere measured n which the wa	kisting grades. zing auger. Th ery 30 to 60 se l using both th ter infiltrated.	. A 6-inch-deep le infiltration te econds, the he ne inner and ou	and 6-centime est was perform ight of the wate iter reservoir cy	ter-diameter ed using a G r was measu linders. The	hole was the uelph Permea ured to calcula table below s	n advanced using a hand ameter with the two head ate the total drop of water ummarizes the field data				
	TIME (MIN)	HEIGHT OF	DROP (CM)	RATE (IN/MIN)	RATE (IN/HOUR)		sc	IL CONDITIC	ONS				
	0	-	-	-	-								
	1	1.2	-	-									
	2	2.0	0.8	0.3	18.9	Deres alle	<i>t</i>		fine and the				
	3	2.8	0.8	0.3	18.9	Brown slity	coarse-tine	SAND, some	coarse-tine gravel, trace				
TEST 1 (A)	4	3.5	0.7	0.3	16.5	CODDIE:	s, trace clay,						
	5	4.1	0.6	0.2	14.2								
IESI I (A)	6	4.8	0.7	0.3	16.5								
	7	5.5	0.7	0.3	16.5								
	8	6.2	0.7	0.3	16.5								
	9	6.9	0.7	0.3	16.5								
	10	7.6	0.7	0.3	16.5				-				
			Stead	State Rate:	16.5	inches/hour							
	TIME (MIN)	HEIGHT OF	DROP (CM)	RATE	RATE								
	0			(IIN/IVIIIN)	(IN/HOUR)								
	0.5	5.1		-	-	1							
	1	5.5	0.4	0.3	18.9	1							
	1.5	5.8	0.3	0.2	14.2	1							
	2	6.0	0.2	0.2	9.5	1							
	3	6.6	0.6	0.2	14.2	1							
	4	8.3	1.7	0.7	40.2	1							
TEST 2 (B)	5	9.6	1.3	0.5	30.7	Field Satu	rated Hydra	aulic Condu	ctivity, Ksat: 0.80 in/hr				
	6	10.9	1.3	0.5	30.7	]							
	7	12.1	1.2	0.5	28.4	]							
	8	13.2	1.1	0.4	26.0	]							
	9	14.3	1.1	0.4	26.0	l							
	10	15.4	1.1	0.4	26.0	1							
	11	16.5	1.1	0.4	26.0	]							
	12	17.6	1.1	0.4	26.0								
	13	18.7	1.1	0.4	26.0				•				
	I		Stead	y State Rate:	26.0	inches/hour							



			רו	T-304 perf	formed in T	515 FP-304				
PROJECT	Belmont Hill S	School		PROJECT NO		151021201				
LOCATION	Belmont, MA			DATE		January 4th, 2	2022			
INSPECTOR	Tim Light			WEATHER		Sunny, 25-30 c	legrees			
TEST N	UMBER	STATIC HE	AD (CM)		ELEVATION	AND DATUM				
1	1	4.9	)		Su	rface Elevation	Approx.	257.0	Town of Belmont Datum	
2	2	10			Top of	Hole Elevation	Approx.	254.5	Town of Belmont Datum	
					Bottom of	Hole Elevation	Approx.	254.0	Town of Belmont Datum	
auger. The hc method. H1 = the time perior calculations fo	Accavated to a d ble was cleaned 4.9 cm and H2 d. Test 1 (A) an or determining t	d using a well prep 2 = 10 cm for these id Test 2 (B) were the rates in which	brush and a siz e tests. After ev measured using the water infiltr	ting grades. ting auger. Th very 60 secon g both the inn ated.	e infiltration te ods, the height ier and outer re	st was perform of the water w servoir cylinde	as measured rs. The table	to calculate t below summa	the total drop of water over arizes the field data and the	
	TIME (MIN)	HEIGHT OF	DROP (CM)	RATE	RATE	SOIL CONDITIONS				
	0	VVAIER (CM)	-	(IN/MIN) -	(IN/HOUR)					
	1	2.8	-					~		
	2	3.3	0.5	0.2	11.8			_		
	3	3.8	0.5	0.2	11.8	Brown to tan f	ine sandy SIL	LT, trace coars	se-fine gravel, trace cobbles	
TEOT 4 (A)	4	4.3	0.5	0.2	11.8		L	(moist)		
1251 T (A)	5	4.8	0.5	0.2	11.8					
	6	5.3	0.5	0.2	11.8					
	7	5.8	0.5	0.2	11.8					
	8	6.3	0.5	0.2	11.8				•	
			Steady	State Rate:	11.8	inches/hour			J	
	TIME (MIN)	HEIGHT OF WATER (CM)	DROP (CM)	RATE (IN/MIN)	RATE (IN/HOUR)					
	0	-		-		Į				
	1	3.7		-	-	Į				
	2	4.8	1.1	0.4	26.0	ł				
TEST 2 (B)	3	6.0	1.2	0.5	28.4	Field Satu	rated Hvdra	aulic Conduc	tivity, Ksat: 1.28 in/hr	
_ ,_,	4 5	7.0		0.4	23.0 22.6				,,	
	6	9.0	1	0.4	23.0	1				
	7	10.0	1	0.4	23.0	1				
	, 8	11.0	1	0.4	23.6	1				
	9	12.0	1	0.4	23.6	1				
			Steady	State Rate	23.6	inches/hour			1	
			Cloudy	51010 1010.	20.0					



PROJECT         Belmont Hill School         PROJECT NO.         151021201           LOCATION         Belmont, MA         PATE         January 5th, 2022           INSPECTOR         Alex Macon         WEATHER         Sunny, 25-30 degrees           TEST NUMBER         STATIC HEAD (CM)         ELEVATION AND DATUM         Approx.         263.5         Town of Belmo           2         10         Top of Hole Elevation         Approx.         263.5         Town of Belmo           2         10         Top of Hole Elevation         Approx.         263.8         Town of Belmo           METHOD OF INFLITRATION TEST         To and dept of about 21 inches below existing grades. A 6-inch-deep and 6-centimeter-diameter hole was then advanced using auger. The infiltration test was performed using a Gue(ph Permeameter with the tor more 30 to 60 seconds, the height of the water was measured to calculate the total drop.           METHOD OF INFLITRATION TEST         Time (MIIN)         MATE (CM)         DROP (CM)         RATE           Method Lins of Second Lins of the determining the rates in which the water infiltrated.         Soill CONDITIONS         Cobbles (moist)           TIME (MIIN)         MATE (CM)         DROP (CM)         RATE         NATE         Soill CONDITIONS           TEST 1 (A)         5         1.6         0.3         0.1         7.1         Soill conductivity, K				IT	-305a per	formed in	<b>515</b> TP-305					
LOCATION INSPECTOR Alex Macon         DATE WEATHER         January 5th, 2022           INSPECTOR Alex Macon         WEATHER Sunny, 25-30 degrees         Sunny, 25-30 degrees           TEST NUMBER         STATIC HEAD (CM)         ELEVATION AND DATUM           1         5         Surney, 25-30 degrees           2         10         Top of Hole Elevation Bottom of Hole Elevation Approx.         Approx.         261.8         Town of Belmon Approx.           METHOD OFINFILITATION TEST         Town of balow existing grades. A 6-inch-deep and 6-centimeter-diameter-hole was then advanced using auger. The hole was cleaned using a well prep brush and a sizing auger. The infiltration test was performed using a Guelph Permeameter with the two over the time period. Test 1 (A) and Test 2 (B) were measured to acloud to the total drop over the time period. Test 1 (A) and Test 2 (B) were measured using both the inner and outer reservoir cylinders. The table below summarizes the fie and the calculations for determining the rates in which the water infiltrated.         SOIL CONDITIONS           TIME (MIN)         HEIGHT OF 2         DROP (CM)         RATE (IN/HOUR)         Inches/hour           TEST 1 (A)         4         1.3         0.3         0.1         7.1           5         1.6         0.3         0.1         7.1           6         1.9         0.3         0.1         7.1           7         2.2         0.3         0.1 <td< th=""><th>PROJECT</th><th>Belmont Hill S</th><th>School</th><th></th><th colspan="8">PROJECT NO. 151021201</th></td<>	PROJECT	Belmont Hill S	School		PROJECT NO. 151021201							
INSPECTOR         Alex Macon         WEATHER         Sunny, 25-30 degrees           TEST NUMBER         STATIC HEAD (CM)         ELEVATION AND DATUM         Approx.         263.5         Town of Belmo           2         10         Top of Hole Elevation         Approx.         261.8         Town of Belmo           0         Top of Hole Elevation         Approx.         261.8         Town of Belmo           METHOD OF INFLITATION TEST           TP-305 was excavated to a depth of about 21 inches below existing grades. A 6-inch-deep and 6-centimeter diameter bloe was them advanced using a Guelph devas of and a using a uger. The infiltration test was performed using a Guelph Permeameter with the tw method. H1 = 5 cm and H2 = 10 cm for these tests. After every 30 to 60 seconds, the height of the water was measured to calculate the total drop o over the timp period. Test 1 (van Test 2 (B) were measured using both the inner and outer reservor vindres. The table below summarizes the fie and the calculations for determining the rates in which the water infiltrate.         Soil CONDITIONS           0         0.0          8         Soil CONDITIONS           1         0.4         0.2         9.5         9           2         0.6         0.2         0.1         4.7           3         1.0         0.4         0.2         9.5           2         0.6         0.2         0.1 <td< th=""><td>LOCATION</td><td>Belmont, MA</td><td></td><td></td><td colspan="8">DATE January 5th, 2022</td></td<>	LOCATION	Belmont, MA			DATE January 5th, 2022							
TEST NUMBER         STATIC HEAD (CM)         ELEVATION AND DATUM           1         5         Surface Elevation         Approx.         263.5         Town of Belmo           2         10         Top of Hole Elevation         Approx.         261.8         Town of Belmo           METHOD OF INFLITENTION TEST           TP-306 was excavated to a depth of about 21 inches below existing grades. A 6-inch-deep and 6-centimeter-diameter hole was then advanced using ager. The infiltration test was performed using a Guelph Permeameter with the tw method. H1 = 5 cm and H2 = 10 cm for these tests. After every 30 to 60 seconds, the height of the water was measured to calculate the total drop o wore the time period. Test 1 (Va) and Test 2 (B) were measured using the inner and outer reservoir cylinders. The table below summarizes the fie and the calculations for determining the rates in which the water infiltrated.         SOIL CONDITIONS           1         0.4         0.2         9.5           SOIL CONDITIONS           1         0.4         0.2         9.5                 1         0.4         0.4         0.2         9.5 <td< th=""><td>INSPECTOR</td><td>Alex Macon</td><td></td><td></td><td colspan="8">WEATHER Sunny, 25-30 degrees</td></td<>	INSPECTOR	Alex Macon			WEATHER Sunny, 25-30 degrees							
1         5         Surface Elevation         Approx.         263.5         Town of Belmo           2         10         Top of Hole Elevation         Approx.         261.8         Town of Belmo           METHOD OF INFILTRATION TEST           TP-305 was excavated to a depth of about 21 inches below existing grades. A 6-inch-deep and 6-centimeter-filemeter hole was cleaned using a well prep brush and a sizing auger. The infiltration test was performed using a deciph Permeanerer with the tv method. H1 = 5 cm and H2 = 10 cm for these tests. After every 30 to 60 seconds, the height of the water was measured to calculate the total drop over the time period. Test 1 (A) and Test 2 (B) were measured using both the inner and outer reservoir cylinders. The table below summarizes the fie and the calculations for determining the rates in which the water infiltrated.           1         0         0.0         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -	TEST N	UMBER	STATIC HE	AD (CM)		ELEVATION	AND DATUM					
2         10         Top of Hole Elevation Bottom of Hole Elevation Approx.         261.8         Town of Belmo           METHOD OF INFLITATION TEST           TP-305 was excavated to a depth of about 21 inches below existing grades. A 6-inch-deep and 6-centimeter-diameter hole was then advanced using auger. The hole was cleaned using a well prep brush and a sizing auger. The infiltration test was performed using a Guelph Permeaneter with the tw method. H1 = 5 cm and H2 = 10 cm for these tests. After very 30 to 60 seconds, the height of the water was measured to calculate the tot ald drop over the time period. Test 1 (A) and Test 2 (B) were measured using both the inner and outer reservoir cylinders. The table below summarizes the fie and the calculations for determining the rates in which the wate infiltrated.         SOIL CONDITIONS           1         0.4         0.2         9.5            2         0.6         0.2         0.1         4.7           3         1.0         0.4         0.2         9.5           2         0.6         0.2         0.1         4.7           3         1.0         0.4         0.2         9.5           2         0.6         0.2         0.1         7.1           5         1.6         0.3         0.1         7.1           6         1.9         0.3         0.1         7.1           Steady State Rate <td< th=""><td></td><td>1</td><td>5</td><td></td><td></td><td>Su</td><td>rface Elevation</td><td>Approx.</td><td>263.5</td><td>Town of Belmont Datum</td></td<>		1	5			Su	rface Elevation	Approx.	263.5	Town of Belmont Datum		
Bottom of Hole Elevation         Approx.         261.3         Town of Belmo           METHOD OF INFILTRATION TEST         TP-305 was excavated to a depth of about 21 inches below existing grades. A 6-inch-deep and 6-centimeter-diameter hole was then advanced using a guer. The hole was cleaned using a well prep brush and a sizing auger. The infiltration test was performed using a Guelph Permeameter with the tw method. H1 = 5 cm and H2 = 10 cm for these tests. After every 30 to 60 seconds, the height of the water was measured to calculate the total drop or over the time period. Test 1 (A) and Test 2 (B) were measured using both the inner and outer reservoir cylinders. The table below summarizes the fie and the calculations for determining the rates in which the water infiltrated.         TIME (MIN)         MEGHT OF         Nove 700 (MIN)         Nove 700 (MI		2	10			Top of	Hole Elevation	Approx.	261.8	Town of Belmont Datum		
METHOD OF INFLICTATION TEST           TP-305 was excavated to a depth of about 21 inches below existing grades. A 6-inch-deep and 6-centimeter-diameter hole was then advanced using auger. The infiltration test was performed using a Guelph Permeameter with the tw method. H1 = 5 cm and H2 = 10 cm for these tests. After every 30 to 60 seconds, the height of the water was measured to calculate the total drop or over the time period. Test 1 (A) and Test 2 (B) were measured using both the inner and outer reservoir cylinders. The table below summarizes the fie and the calculations for determining the rates in which the water infiltrated.           Image: The MININ MEIGHT OF WATER (CM)         DROP (CM)         RATE (IN/NHOUR)         SOIL CONDITIONS           0         0.0         -         -         -         -           1         0.4         0.2         9.5         -         -         -           2         0.6         0.2         0.1         4.7         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         - <td< th=""><td></td><td></td><td></td><td></td><td></td><td>Bottom of</td><td>Hole Elevation</td><td>Approx.</td><td>261.3</td><td>Town of Belmont Datum</td></td<>						Bottom of	Hole Elevation	Approx.	261.3	Town of Belmont Datum		
TIME (MIN)         HEIGHT OF WATER (CM)         DROP (CM)         RATE (IN/MIN)         RATE (IN/MOUR)         SOIL CONDITIONS           0         0.0         -         -         -         -           1         0.4         0.4         0.2         9.5         -           2         0.6         0.2         0.1         4.7         -           3         1.0         0.4         0.2         9.5         -         -           3         1.0         0.4         0.2         9.5         -         -         -           3         1.0         0.4         0.2         9.5         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -	auger. The hc method. H1 = over the time and the calcul	ble was cleaned 5 cm and H2 = period. Test 1 ations for deter	a using a well prep = 10 cm for these t (A) and Test 2 (B) v rmining the rates in	brush and a siz tests. After eve were measured n which the wa	ring grades. ring auger. Th ry 30 to 60 se using both th ter infiltrated.	e infiltration te econds, the hei ne inner and ou	st was perform ight of the wate	ed using a G er was measu linders. The	uelph Permea ured to calcula table below s	ameter with the two head ate the total drop of water ummarizes the field data		
0         0.0         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -		TIME (MIN)	HEIGHT OF WATER (CM)	DROP (CM)	RATE (IN/MIN)	RATE (IN/HOUR)		sc	IL CONDITIC	DNS		
Image: Normal Section 1         Image: Normal		0	0.0	-	-	-						
1         2         0.6         0.2         0.1         4.7           3         1.0         0.4         0.2         9.5           4         1.3         0.3         0.1         7.1           5         1.6         0.3         0.1         7.1           6         1.9         0.3         0.1         7.1           7         2.2         0.3         0.1         7.1           7         2.2         0.3         0.1         7.1           7         2.2         0.3         0.1         7.1           7         2.2         0.3         0.1         7.1           7         0.2         0.3         0.1         7.1           7         0.3         0.1         7.1           8         0.6         7.8         8           9         0.5         7.7         4.2         3.3         198.6           1         9.0         1.3         1.0         61.5         1.5           1.5         9.8         0.8         0.6         33.1           2.5         11.1         0.6         0.5         28.4           3.5         12.3         0		1	0.4	0.4	0.2	9.5						
3       1.0       0.4       0.2       9.5       Drow Ioal Service SALE, some Sale, trace coalservice and grad cobbles (moist)         TEST 1 (A)       4       1.3       0.3       0.1       7.1         5       1.6       0.3       0.1       7.1         6       1.9       0.3       0.1       7.1         7       2.2       0.3       0.1       7.1         7       2.2       0.3       0.1       7.1         7       2.2       0.3       0.1       7.1         0       3.5       -       -       -         0       3.5       -       -       -         0.5       7.7       4.2       3.3       198.6         1       9.0       1.3       1.0       61.5         0.5       7.7       4.2       3.3       198.6         1.5       9.8       0.8       0.6       37.8         2.1       10.5       0.7       0.6       33.1         2.5       11.1       0.6       0.5       28.4         3       11.7       0.6       0.5       28.4         3.5       12.3       0.6       0.5       28.4 <td></td> <td>2</td> <td>0.6</td> <td>0.2</td> <td>0.1</td> <td>4.7</td> <td colspan="6" rowspan="4">Brown coarse-fine SAND, some silt, trace coarse-fine gravel, trac cobbles (moist)</td>		2	0.6	0.2	0.1	4.7	Brown coarse-fine SAND, some silt, trace coarse-fine gravel, trac cobbles (moist)					
TEST 1 (A)       4       1.3       0.3       0.1       7.1         5       1.6       0.3       0.1       7.1         6       1.9       0.3       0.1       7.1         7       2.2       0.3       0.1       7.1         7       2.2       0.3       0.1       7.1         Time (MIN)         HEIGHT OF WATER (CM)       DROP (CM)       RATE (IN/MIN)       Inches/hour         0       3.5       -       -       -         0.5       7.7       4.2       3.3       198.6         1       9.0       1.3       1.0       61.5         1.5       9.8       0.8       0.6       37.8         2       10.5       0.7       0.6       33.1         2.5       11.1       0.6       0.5       28.4         3       11.7       0.6       0.5       28.4         3.5       12.3       0.6       0.5       28.4         4       12.9       0.6       0.5       28.4         4       12.9       0.6       0.5       28.4         4       12.9       0.6       0.5       28.4		3	1.0	0.4	0.2	9.5						
5         1.6         0.3         0.1         7.1           6         1.9         0.3         0.1         7.1           7         2.2         0.3         0.1         7.1           Time (MIN)         HEIGHT OF WATER (CM)         RATE (IN/MIN)           0         3.5         -         -         -           0.5         7.7         4.2         3.3         198.6           1         9.0         1.3         1.0         61.5           1.5         9.8         0.8         0.6         37.8           2.5         11.1         0.6         0.5         28.4           3         11.7         0.6         0.5         28.4           3.5         12.3         0.6         0.5         28.4           4         12.9         0.6         0.5         28.4           4         12.9         0.6         0.5         28.4           4         12.9         0.6         0.5         28.4	TEST 1 (A)	4	1.3	0.3	0.1	7.1						
6         1.9         0.3         0.1         7.1           7         2.2         0.3         0.1         7.1           Steady State Rate:         7.1           inches/hour           TIME (MIN)         HEIGHT OF WATER (CM)         RATE (IN/MIN)         (IN/HOUR)           0         3.5         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -		5	1.6	0.3	0.1	7.1						
7         2.2         0.3         0.1         7.1           Steady State Rate:         7.1           Image: Steady State Rate:         7.1           TIME (MIN)         HEIGHT OF WATER (CM)         DROP (CM)         RATE (IN/MIN)         RATE (IN/HOUR)           0         3.5         -         -         -           0.5         7.7         4.2         3.3         198.6           1         9.0         1.3         1.0         61.5           1.5         9.8         0.8         0.6         37.8           2         10.5         0.7         0.6         33.1           2.5         11.1         0.6         0.5         28.4           3         11.7         0.6         0.5         28.4           3.5         12.3         0.6         0.5         28.4           4         12.9         0.6         0.5         28.4           4         12.9         0.6         0.5         28.4           4         12.9         0.6         0.5         28.4		6	1.9	0.3	0.1	7.1						
Time (MIN)         HEIGHT OF WATER (CM)         DROP (CM)         RATE (IN/MIN)         RATE (IN/MOUR)           0         3.5         -         -         -           0.5         7.7         4.2         3.3         198.6           1         9.0         1.3         1.0         61.5           1.5         9.8         0.8         0.6         37.8           2         10.5         0.7         0.6         33.1           2.5         11.1         0.6         0.5         28.4           3         11.7         0.6         0.5         28.4           4         12.9         0.6         0.5         28.4           4         12.9         0.6         0.5         28.4		7	2.2	0.3	0.1	7.1						
TIME (MIN)         Halam of WATER (CM)         DROP (CM)         (IN/HOUR) (IN/MIN)         IN/HOUR) (IN/HOUR)           0         3.5         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -				Steady	State Rate:		inches/hour			J		
0         3.5         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -		TIME (MIN)	WATER (CM)	DROP (CM)	(IN/MIN)	(IN/HOUR)						
0.5         7.7         4.2         3.3         198.6           1         9.0         1.3         1.0         61.5           1.5         9.8         0.8         0.6         37.8           2         10.5         0.7         0.6         33.1           2.5         11.1         0.6         0.5         28.4           3         11.7         0.6         0.5         28.4           3.5         12.3         0.6         0.5         28.4           4         12.9         0.6         0.5         28.4           4         12.9         0.6         0.5         28.4		0	3.5	-	-	-						
1         9.0         1.3         1.0         61.5           1.5         9.8         0.8         0.6         37.8           2         10.5         0.7         0.6         33.1           2.5         11.1         0.6         0.5         28.4           3         11.7         0.6         0.5         28.4           3.5         12.3         0.6         0.5         28.4           4         12.9         0.6         0.5         28.4           4         12.9         0.6         0.5         28.4		0.5	7.7	4.2	3.3	198.6						
1.5         9.8         0.8         0.6         37.8           2         10.5         0.7         0.6         33.1           2.5         11.1         0.6         0.5         28.4           3         11.7         0.6         0.5         28.4           3.5         12.3         0.6         0.5         28.4           4         12.9         0.6         0.5         28.4           4.5         10.5         0.6         0.5         28.4		1	9.0	1.3	1.0	61.5						
2         10.5         0.7         0.6         33.1           2.5         11.1         0.6         0.5         28.4           3         11.7         0.6         0.5         28.4           3.5         12.3         0.6         0.5         28.4           4         12.9         0.6         0.5         28.4           4.5         10.5         0.6         0.5         28.4	TECT 2 (P)	1.5	9.8	0.8	0.6	37.8	Field Cat	سمعمط المنطح	oulio Condu	ativity Kaats 0.74 in the		
2.5       11.1       0.6       0.5       28.4         3       11.7       0.6       0.5       28.4         3.5       12.3       0.6       0.5       28.4         4       12.9       0.6       0.5       28.4	1517(B)	2	10.5	0.7	0.6	33.1	Field Satu	irated Hydra	aulic Conduc	Cuvity, Ksat: 0.74 in/hr		
3       11.7       0.6       0.5       28.4         3.5       12.3       0.6       0.5       28.4         4       12.9       0.6       0.5       28.4		2.5	11.1	0.6	0.5	28.4						
3.5     12.3     0.6     0.5     28.4       4     12.9     0.6     0.5     28.4		3	11.7	0.6	0.5	28.4						
4 12.9 0.6 0.5 28.4		3.5	12.3	0.6	0.5	28.4						
•		4	12.9	0.6	0.5	28.4						
4.0 13.0 0.0 0.5 28.4		4.5	13.5	U.b	U.5	28.4	inchos/hour			1		
Steady State Rate: 28.4 Inches/hour				Steady	State Hate:	28.4	inches/nour					

			IT	-305b per	formed in	STS TP-305						
PROJECT	Belmont Hill S	School		PROJECT NO		151021201						
LOCATION	Belmont, MA			DATE		January 5th, 2	2022					
INSPECTOR	Alex Macon			WEATHER	WEATHER Sunny, 25-30 degrees							
TEST N	UMBER	STATIC HE	AD (CM)		ELEVATION	AND DATUM						
	1	5			Surface Elevation Approx. 263.5 Town of Belmont Datu							
:	2	10			Top of Hole Elevation Approx. 261.0 Town of Belmont Datu							
					Bottom of	Hole Elevation	Approx.	260.5	Town of Belmont Datum			
METHOD OF IN TP-305 was ex auger. The ho method. H1 = over the time and the calcul	IFILTRATION TE xcavated to a c ble was cleaned 5 cm and H2 = period. Test 1 ations for dete	EST lepth of about 30 ir d using a well prep = 10 cm for these f (A) and Test 2 (B) v rmining the rates ir	nches below ex brush and a siz tests. After ever vere measured n which the wa	kisting grades. zing auger. Th ery 30 to 60 se using both th ter infiltrated.	. A 6-inch-deep e infiltration te econds, the hei ne inner and ou	and 6-centime st was perform ight of the wate ter reservoir cy	ter-diameter ed using a G er was meas rlinders. The	hole was the juelph Perme ured to calcul table below s	n advanced using a hand ameter with the two head ate the total drop of water ummarizes the field data			
		HEIGHT OF		RATE	RATE		60		NE			
	TIVIE (IVIIIN)	WATER (CM)	DROP (CIVI)	(IN/MIN)	(IN/HOUR)		50		0115			
	0	2.5	-	-	-							
	0.5	2.7	0.2	0.2	9.5							
	15	3.5	0.3	0.4	14.2							
	2	3.9	0.4	0.2	18.9							
	2.5	4.2	0.3	0.2	14.2							
	3	4.6	0.4	0.3	18.9							
	3.5	5.0	0.4	0.3	18.9							
	4	5.3	0.3	0.2	14.2	Gray coarse-	fine SAND, s	some silt, son	ne coarse-fine gravel, trace			
TEST 1 (A)	4.5	5.7	0.4	0.3	18.9	cobbles, trac	e boulders,	trace weathe	red rock fragments (moist)			
	5	6.1	0.4	0.3	18.9							
	5.5	6.3	0.2	0.2	9.5							
	6	6.5	0.2	0.2	9.5							
	6.5	6.9	0.4	0.3	18.9							
	7	7.2	0.3	0.2	14.2							
	7.5	7.5	0.3	0.2	14.2							
	8 9 E	7.8	0.3	0.2	14.2							
	0.0	0.1	0.5 Steady	/ State Bate:	14.2	inches/hour			7			
		HEIGHT OF		RATE	RATE	inoneo, neur			J			
		WATER (CM)	DROP (CIVI)	(IN/MIN)	(IN/HOUR)							
	0	6.9	-	-	-							
	0.5	9.2	2.3	1.8	108.7							
	1.5	10.6	1.4	0.6	33.1							
	2	14.0	1.4	2.7	66.2							
	2.0	16.8	1.4	1.1	66.2							
TEST 2 (B)	35	10.8	1.4	0.8	47.3	Field Satu	Field Saturated Hydraulic Conductivity, Ksat: 2.15					
	4	18.9	1.1	0.9	52.0							
	4.5	20.1	1.2	0.9	56.7							
	5	21.2	1.1	0.9	52.0							
	5.5	22.3	1.1	0.9	52.0							
	6	23.4	1.1	0.9	52.0							
	6.5	24.5	1.1	0.9	52.0	1						
	7	25.6	1.1	0.9	52.0				-			
			Steady	/ State Rate:	52.0	inches/hour						

APPENDIX L

Infiltration Testing Results – JAC Parking Lot

			I <sup>-</sup>	INFILTR I-201 per	formed in	<b>STS</b> [P-201						
PROJECT	Belmont Hill S	School		PROJECT NO	).	151014301						
LOCATION	Belmont, MA			DATE	DATE October 16th, 2021							
INSPECTOR	Alex Macon /	Tim Light		WEATHER Sunny, 65-70 degrees								
TEST N	UMBER	STATIC HE	AD (CM)	ELEVATION AND DATUM								
	1	5			Su	rface Elevation	Approx.	250.5	Town of Belmont Datum			
<b>2</b> 10					Top of	Hole Elevation	Approx.	245.8	Town of Belmont Datum			
					Bottom of	Hole Elevation	Approx.	245.3	Town of Belmont Datum			
method. H1 = time period. T determining tl	5 cm and H2 fest 1 (A) and T he rates in whit	= 10 cm for these est 2 (B) were mea ch the water infiltra	tests. After eve asured using the ated.	ry 3 minutes, e inner reserv	, the height of t	he water was r y. The table be	neasured to low summari	calculate the	total drop of water over the data and the calculations for			
	TIME (MIN)	WATER (CM)	DROP (CM)	(IN/MIN)	(IN/HOUR)		SO	IL CONDITIC	ONS			
	0	-	-	-	-							
	1	0.4	-	-	-							
	3	0.5	0.1	0.0	1.2	Light brownish tan SILT, trace clay, trace fine sand, trace ro						
	6	2.0	1.5	0.2	11.8	(moist)						
	9	6.6	4.6	0.6	36.2							
TEST 1 (A)	12	10.4	3.8	0.5	29.9							
	10	17.8	4.2	0.0	25.2							
	21	21.6	3.8	0.5	29.9							
	24	25.4	3.8	0.5	29.9							
	27	29.2	3.8	0.5	29.9							
			Steady	State Rate:	29.9	inches/hour			1			
	TIME (MIN)	HEIGHT OF WATER (CM)	DROP (CM)	RATE (IN/MIN)	RATE (IN/HOUR)				-			
	0	-	-	-	-							
	3	2.5	-	-	-							
TEST 2 (B)	6	16.4	13.9	1.8	109.5	Field Saturated Hydraulic Conductivity, Ksat: 0.07 i						
	9	24.9	8.5	1.1	67.0							
	12	33.1	8.2	1.1	64.6							
	15	41.3	8.2	1.1	64.6							
	18	49.5	8.2	1.1	64.6				1			
			Steady	State Rate:	64.6	inches/hour						

			ľ	T-202 per	formed in T	STS FP-202						
PROJECT	Belmont Hill S	School		PROJECT NO. 151014301								
LOCATION	Belmont, MA			DATE October 16th, 2021								
INSPECTOR	Alex Macon /	Tim Light		WEATHER Sunny, 65-70 degrees								
TEST N	IUMBER	STATIC HE	AD (CM)	ELEVATION AND DATUM								
	1	8			Su	rface Elevation	Approx.	249.8	Town of Belmont Datum			
:	<b>2</b> 14				Top of	Hole Elevation	Approx.	245.8	Town of Belmont Datum			
Bottom of Hole Elevation Approx. 245.3 T						Town of Belmont Datum						
TP-202 was e auger. The ho method. H1 = the time peric calculations fo	xcavated to a c ole was cleaned 8 cm and H2 = od. Test 1 (A) ar or determining	lepth of about 48 in d using a well prep = 14 cm for these nd Test 2 (B) were the rates in which	nches below ex brush and a siz tests. After eve measured using the water infiltr	isting grades ing auger. Th ry 60 second g the inner re ated.	. A 6-inch-deep le infiltration te s, the height o servoir cylinde	and 6-centime st was perform f the water was r only. The table	ter-diameter ed using a G measured to below sumr	hole was the uelph Perme calculate th marizes the fi	en advanced using a hand ameter with the two head e total drop of water over ield data and the			
		HEIGHT OF		BATE	BATE							
	TIME (MIN)	WATER (CM)	DROP (CM)	(IN/MIN)	(IN/HOUR)		SO	IL CONDITIO	ONS			
	0	-	-	-	-							
	0.5	27.0	-	-	-	Light brown	to brown oo	area ta fina S				
	1.5	28.5	1.5	0.6	35.5	some silt_trac	e cobbles tra	arse to nne s ace houlders	trace brick fragments trace			
	2	29.5	1	0.8	47.3	wire fragment	s, trace conc	rete fragmer	nts, trace asphalt fragments,			
	3	30.8	1.3	0.5	30.7	Ũ	trace tile f	ragments (m	noist) [FILL]			
	4	31.9	1.1	0.4	26.0							
	5	33.2	1.3	0.5	30.7							
TEST 1 (A)	6	34.5	1.3	0.5	30.7							
	7	36.2	1.7	0.7	40.2							
	8	38.2	2	0.8	47.3							
	9	39.8	1.6	0.6	37.8							
	10	41.4	1.6	0.6	37.8							
	12	43.0	1.0	0.0	37.0							
	12	44.0	0.1 Ubeat2	V.U	37.8	inches/hour						
	TIME (MIN)	HEIGHT OF WATER (CM)	DROP (CM)	RATE (IN/MIN)	RATE (IN/HOUR)	inches/nou			3			
	0	-	-	-	-	1						
	1	4.2	-	-	-							
	2	6.6	2.4	0.9	56.7	E LLO I						
TEST 2 (B)	3	9.8	3.2	1.3	75.6	Field Satu	rated Hydra	aulic Condu	ctivity, Ksat: 0.17 in/hr			
	4	12.8	3	1.2	70.9							
	5	15.8	3	1.2	70.9							
	6	18.8	3	1.2	70.9							
	7	21.8	3	1.2	70.9				-			
			Steady	State Rate:	70.9	inches/hour						



#### **INFILTRATION TESTS** IT-204 performed in TP-204 PROJECT PROJECT NO. Belmont Hill School 151014301 LOCATION DATE Belmont, MA October 16th, 2021 WEATHER INSPECTOR Alex Macon / Tim Light Sunny, 65-70 degrees TEST NUMBER STATIC HEAD (CM) FLEVATION AND DATUM Surface Elevation 1 5 Approx. 253.5 Town of Belmont Datum Top of Hole Elevation 2 10 Approx. 248.5 Town of Belmont Datum Bottom of Hole Elevation Approx. 248.0 Town of Belmont Datum METHOD OF INFILTRATION TEST TP-204 was excavated to a depth of about 60 inches below existing grades. A 6-inch-deep and 11-centimeter-diameter hole was then advanced using a hand auger. The hole was cleaned using a well prep brush and a sizing auger. The infiltration test was performed using a Guelph Permeameter with the two head method. H1 = 5 cm and H2 = 10 cm for these tests. After every 15 seconds, the height of the water was measured to calculate the total drop of water over the time period. Test 1 (A) and Test 2 (B) were measured using both the inner and outer reservoir cylinders. The table below summarizes the field data and the calculations for determining the rates in which the water infiltrated. RATE HEIGHT OF RATE TIME (MIN) DROP (CM) SOIL CONDITIONS WATER (CM) (IN/MIN) (IN/HOUR) 0 0.5 14.8 --1 20.0 5.2 4.1 245.9 Grayish brown coarse to fine SAND, some silt, some coarse to fine 1.5 24.9 4.9 3.9 231.7 gravel, trace cobbles, trace boulders (moist) 2 30.6 5.7 4.5 269.5 2.5 36.0 5.4 4.3 255.3 3 41.3 5.3 4.2 250.6 3.5 46.9 5.6 4.4 264.8 4 52.9 6 4.7 283.7 TEST 1 (A) 4.25 55.5 2.6 4.1 245.9 4.5 58.1 2.6 4.1 245.9 4.75 60.8 2.7 4.3 255.3 5 63.8 3 4.7 283.7 5.25 66.8 3 4.7 283.7 5.5 69.8 3 4.7 283.7 5.75 72.8 3 4.7 283.7 6 75.8 3 4.7 283.7 inches/hour **Steady State Rate** 283.7 HEIGHT OF RATE RATE TIME (MIN) DROP (CM) WATER (CM) (IN/MIN) (IN/HOUR) 0 0.25 13.5 17.7 4.2 397.2 0.5 6.6 0.75 21.6 3.9 6.1 368.8 283.7 1 24.6 3 4.7 1.25 5.5 331.0 28.1 3.5 1.5 3.4 5.4 321.5 31.5 1.75 35.0 3.5 5.5 331.0 2 38.5 3.5 5.5 331.0 TEST 2 (B) Field Saturated Hydraulic Conductivity, Ksat: 14.46 in/hr 5.5 2 25 42.0 35 331.0 5.5 25 45.5 35 331.0 5.5 331.0 2 75 49.0 35 3 52.5 35 5.5 331.0 3.25 3.5 5.5 331.0 56.0 3.5 59.5 3.5 5.5 331.0 3.75 5.5 331.0 63.0 3.5 66.5 4 3.5 5.5 331.0 4.25 70.0 3.5 5.5 331.0 73.5 45 3.5 55 331.0 Steady State Rate: 331.0 inches/hour

			רו	T-205 perf	formed in T	515 [P-205					
PROJECT	Belmont Hill S	School		PROJECT NO		151014301					
LOCATION	Belmont, MA			DATE October 16th, 2021							
INSPECTOR	Alex Macon			WEATHER Sunny, 65-70 degrees							
TEST N	UMBER	STATIC HE	AD (CM)	ELEVATION AND DATUM							
	1	5			Su	rface Elevation	Approx.	251.4	Town of Belmont Datum		
<b>2</b> 10					Top of	Hole Elevation	Approx.	249.4	Town of Belmont Datum		
					Bottom of	Hole Elevation	Approx.	248.9	Town of Belmont Datum		
the time perio	5 cm and H2 = d. Test 1 (A) ar	= 10 cm for these ad Test 2 (B) were the rates in which	tests. After eve measured using the water infiltr	ry 30 seconds g both the inn ated.	s, the height or her and outer re	f the water was eservoir cylinde	measured to rs. The table	calculate th below summ	e total drop of water over larizes the field data and the		
	TIME (MIN)	HEIGHT OF	DROP (CM)	RATE (IN/MIN)			SO	IL CONDITIO	DNS		
	0	-	-	-	-						
-	0.5	3.4	-	-	-						
	1	3.9	0.5	0.4	23.6	Gray coarse to fine SAND, some coarse to fine gravel, trace si trace cobbles, trace boulders (moist)					
	1.5	4.3	0.4	0.3	18.9						
TEST 1 (A)	2	4.7	0.4	0.3	18.9						
	2.5	5.1	0.4	0.3	18.9						
	3	5.5	0.4	0.3	18.9						
	3.5	5.9	0.4	0.3	18.9				-		
			Steady	State Rate:	18.9 DATE	inches/hour					
	TIME (MIN)	WATER (CM)	DROP (CM)	(IN/MIN)	(IN/HOUR)						
	0	-	-	-	-						
	0.5	3.4	-	-	-						
	1	3.9	0.5	0.4	23.6						
TECT O (D)	1.5	4.4	0.5	0.4	23.6	Eadd Cat					
1591 Z (B)	2	4.7	0.3	0.2	14.2	Field Satu	Field Saturated Hydraulic Conductivity, Ksat: 1.6				
	2.5	5.2	0.5	0.4	23.6						
	3	5.7	0.5	0.4	23.6						
	3.5	6.2	0.5	0.4	23.6						
	4	6.7	0.5	0.4	23.6						
	4.5	7.2	0.5	0.4	23.6				7		
			Steady	State Rate:	23.6	inches/hour					

			I	T-206 perf	formed in T	515 [P-206						
PROJECT	Belmont Hill S	School		PROJECT NO	<b>0</b> . 151014301							
LOCATION	Belmont, MA			DATE	ATE October 16th, 2021							
INSPECTOR	Alex Macon			WEATHER	VEATHER Sunny, 65-70 degrees							
TEST N	UMBER	STATIC HE	AD (CM)		ELEVATION AND DATUM							
	1	5			Su	rface Elevation	Approx.	251.9	Town of Belmont Datum			
	2	10			Top of	Top of Hole Elevation Approx. 250.4 I own of Belm						
					Bottom of	ottom of Hole Elevation Approx. 249.9 Town of Belmont [						
TP-206 was ex auger. The ho method. H1 = the time perio calculations fo	xcavated to a d ole was cleaned 5 cm and H2 = d. Test 1 (A) ar or determining	lepth of about 18 in d using a well prep = 10 cm for these t nd Test 2 (B) were the rates in which	nches below ex brush and a siz tests. After eve measured using the water infiltr	isting grades. ting auger. Th ry 30 seconds g both the inn ated.	. A 6-inch-deep e infiltration te s, the height of her and outer re	and 6-centime st was perform the water was eservoir cylinde	ter-diameter ed using a G measured to rs. The table	hole was the uelph Permea o calculate the below summ	n advanced using a hand ameter with the two head a total drop of water over arizes the field data and the			
	TIME (MIN)	HEIGHT OF WATER (CM)	DROP (CM)		so		DNS					
	0	1.8	-	-	-							
	0.5	1.9	-	-	-							
	1	2.4	0.5	0.4	23.6	Light brown (	poorco to fina	sandy SILT	trace coarse to fine gravel			
	1.5	2.7	0.3	0.2	14.2		tra	ece roots (mo	ist)			
	2	2.9	0.2	0.2	9.5							
	2.5	3.2	0.3	0.2	14.2							
TEST 1 (A)	3	3.5	0.3	0.2	14.2							
,	3.5	3.7	0.2	0.2	9.5							
	4	3.9	0.2	0.2	9.5							
	4.5	4.2	0.3	0.2	14.2							
	5	4.5	0.3	0.2	14.2							
	5.5	4.8 E 1	0.3	0.2	14.2							
	0	0.1	0.3	U.Z	14.2	inches /hour						
	TIME (MIN)	HEIGHT OF WATER (CM)	DROP (CM)	RATE (IN/MIN)	RATE	inches/ nour			1			
	0	9.7	-	-	-							
	0.5	9.9	-	-	-							
	1	10.3	0.4	0.3	18.9							
	1.5	10.9	0.6	0.5	28.4							
TEST 2 (B)	2	11.4	0.5	0.4	23.6							
	2.5	11.8	0.4	0.3	18.9	Field Satu	rated Hydra	aulic Conduc	ctivity, Ksat: 0.41 in/hr			
	3	12.2	0.4	0.3	18.9							
	3.5	12.7	0.5	0.4	23.6							
	4	13.2	0.5	0.4	23.6							
	4.5	13.5	0.3	0.2	14.2							
	5	13.9	0.4	0.3	18.9							
	5.5 6	14.3	0.4	0.3	10.9							
	0	14.7	4.U Stoody	U.J	10.9 19 0	inches/hour			1			
	I		Sleady		10.9	inches/flour						

			ľ	INFILTR T-207 per	formed in	<b>STS</b> [P-207					
PROJECT	Belmont Hill S	School		PROJECT NO		151014301					
LOCATION	Belmont, MA			DATE October 16th, 2021							
INSPECTOR	Alex Macon			WEATHER Sunny, 65-70 degrees							
TEST N	UMBER	STATIC HE	AD (CM)	ELEVATION AND DATUM							
1		5			Su	rface Elevation	Approx.	256.5	Town of Belmont Datum		
2	<b>2</b> 10				Top of	Hole Elevation	Approx.	255.5	Town of Belmont Datum		
					Bottom of	Hole Elevation	Approx.	255.0	Town of Belmont Datum		
auger. The ho method. H1 = the time period calculations fo	le was cleaned 5 cm and H2 = d. Test 1 (A) ar r determining =	d using a well prep = 10 cm for these t nd Test 2 (B) were the rates in which	brush and a siz tests. After eve measured using the water infiltr	ring auger. Th ry 60 second g both the inr ated.	e infiltration te s, the height o her and outer re	st was perform f the water was eservoir cylinde	ned using a G s measured to rs. The table	uelph Permea o calculate the below summ	ameter with the two head e total drop of water over arizes the field data and the		
	TIME (MIN)	HEIGHT OF WATER (CM)	DROP (CM)	RATE (IN/MIN)	RATE (IN/HOUR)	SOIL CONDITIONS					
	0	1.9	-	-	-						
	1	2.1	-	-	-						
	2	2.5	0.4	0.2	9.5	Brown coarse to fine SAND, some silt, some coarse to fine gra trace cobbles, trace boulders, trace ceramic fragments, trace pla fragments, trace roots (moist) [FILL]					
	3	2.7	0.2	0.1	4.7						
	4	3.1	0.4	0.2	9.5						
TEST 1 (A)	5	3.2	0.1	0.0	2.4						
	6	3.4	0.2	0.1	4.7						
	7	3.6	0.2	0.1	4.7						
	8	3.8	0.2	0.1	4.7						
	9	4.0	0.2	0.1	4.7	in also a /l			1		
		HEIGHT OF	Steady	RATE	4.7 RATE	menes/nour			J		
	TIME (MIN)	WATER (CM)	DROP (CM)	(IN/MIN)	(IN/HOUR)						
	0	3.6	-	-	-						
	1	3.8	-	-	-						
	2	4.3	0.5	0.2	11.8						
TEST 2 (B)	3	4.0	0.3	0.1	7.1	Field Saturated Hydraulic Conductivity, Ksat: 0.18					
	4	5.0	0.4	0.2	9.5 7 1						
	6	5.5	0.3	0.1	7.1						
	7	5.0	0.3	0.1	7.1	1					
	, 8	6.2	0.3	0.1	7.1						
	Ŭ	0.2	Steady	/ State Rate:	7.1	inches/hour			1		



			I.	T-208 per	formed in T	<b>STS</b> FP-208							
PROJECT	Belmont Hill S	School		PROJECT NO	).	151014301							
LOCATION	Belmont, MA			DATE October 16th, 2021									
INSPECTOR	Alex Macon			WEATHER Sunny, 65-70 degrees									
TEST N	UMBER	STATIC HE	AD (CM)	ELEVATION AND DATUM									
	1	3			Su	rface Elevation	Approx.	259.4	Town of Belmont Datum				
:	2	6			Top of	Hole Elevation	Approx.	256.4	Town of Belmont Datum				
					Bottom of	Hole Elevation	Approx.	255.9	Town of Belmont Datum				
TP-208 was es auger. The ho method. H1 = time period. T calculations fo	xcavated to a c ole was cleaned 3 cm and H2 = est 1 (A) and T or determining	depth of about 36 i d using a well prep = 6 cm for these te rest 2 (B) were mea the rates in which	nches below ex brush and a siz ests. After ever asured using bo the water infilt	tisting grades ting auger. Th y 60 seconds, th the inner a rated.	. A 6-inch-deep ne infiltration te , the height of and outer reser	and 6-centime st was perform the water was voir cylinders. T	ter-diameter ed using a G measured to he table belo	hole was the uelph Permea calculate the ow summarize	n advanced using a hand ameter with the two head total drop of water over the es the field data and the				
	TIME (MIN)	HEIGHT OF WATER (CM)	DROP (CM)	RATE (IN/MIN)	RATE (IN/HOUR)		sc		ONS				
	0	0.4	-	-	-								
	1	0.6	-	-	-								
	2	1.2	0.6	0.2	14.2	Linhthrow			ma ailt anna fina araval				
	3	1.6	0.4	0.2	9.5	Light brow	(moist)						
	4	2.0	0.4	0.2	9.5								
TEST 1 (A)	5	2.1	0.1	0.0	2.4								
	6	2.4	0.3	0.1	7.1								
	7	2.7	0.3	0.1	7.1								
	8	3.0	0.3	0.1	7.1								
	9	3.3	0.3	0.1	7.1								
			Steady	State Rate:	7.1 DATE	inches/hour			J				
	TIME (MIN)	WATER (CM)	DROP (CM)	(IN/MIN)	(IN/HOUR)								
	0	1.3	-	-	-								
	1	2.4	-	-	-								
	2	3.1	0.7	0.3	16.5								
	3	4.0	0.9	0.4	21.3								
TEST 2 (B)	4 5	4.Z	0.2	0.1	4.7 7.1	Field Satu	Field Saturated Hydraulic Conductivity, Ksat. 0						
	6	4.0	0.3	0.1	9.5								
	7	5.4	0.4	0.2	11.8								
	, 8	6.0	0.6	0.2	14.2								
	9	6.5	0.5	0.2	11.8	1							
	10	7.0	0.5	0.2	11.8	1							
	11	7.5	0.5	0.2	11.8	1							
		•	Steady State Rate: 11.8 inches/hour										

			ľ	T-209 perf	formed in T	515 TP-209						
PROJECT	Belmont Hill S	School		PROJECT NO		151014301						
LOCATION	Belmont, MA			DATE October 16th, 2021								
INSPECTOR	Alex Macon			WEATHER	WEATHER Sunny, 65-70 degrees							
TEST N	UMBER	STATIC HE	AD (CM)	ELEVATION AND DATUM								
	1	5			Su	rface Elevation	Approx.	262.0	Town of Belmont Datum			
:	<b>2</b> 10				Top of	Hole Elevation	Approx.	257.5	Town of Belmont Datum			
					Bottom of	Hole Elevation	Approx.	257.0	Town of Belmont Datum			
TP-209 was ex auger. The ho method. H1 = the time perio calculations fo	xcavated to a d ole was cleaned 5 cm and H2 = d. Test 1 (A) ar or determining t	lepth of about 54 in d using a well prep = 10 cm for these t ad Test 2 (B) were the rates in which	nches below ex brush and a siz cests. After eve measured using the water infiltr	isting grades. ing auger. Th ry 60 second: g both the inn ated.	. A 6-inch-deep e infiltration te s, the height o her and outer re	and 6-centime est was perform f the water was eservoir cylinde	ter-diameter ed using a G measured to rs. The table	hole was the uelph Permea o calculate the below summ	n advanced using a hand ameter with the two head e total drop of water over arizes the field data and the			
	TIME (MIN)	HEIGHT OF WATER (CM)	DROP (CM)	RATE (IN/MIN)	RATE (IN/HOUR)		so	DIL CONDITIC	DNS			
	0	1.4	-	-	-							
	1	1.8	-	-	-							
	2	2.1	0.3	0.1	7.1	Light brown	sandy SILT	trace coarse	to fine gravel trace roots			
	3	2.6	0.5	0.2	11.8	Light brown	oundy oren,	(moist)				
	4	2.8	0.2	0.1	4.7							
	5	3.2	0.4	0.2	9.5							
	6	3.5	0.3	0.1	7.1							
IESI 1 (A)	/	3.7	0.2	0.1	4.7	4						
	8	4.0	0.3	0.1	/.							
	10	4.2	0.2	0.1	4.7	1						
	10	4.4	0.2	0.1	7.1							
	12	5.0	0.3	0.1	7.1							
	13	5.3	0.3	0.1	7.1							
			Steady	State Rate:	7.1	inches/hour			1			
	TIME (MIN)	HEIGHT OF	DROP (CM)	RATE	RATE				•			
	0	2 9	-	(IN/IVIIN) -	(IN/HOUR)							
	1	3.1	-	-	-							
	2	3.8	0.7	0.3	16.5	1						
TEST 2 (B)	3	4.4	0.6	0.2	14.2	Field Satu	rated Hydr	aulic Condur	rtivity Ksat: 0.38 in/br			
12012(0)	4	5.1	0.7	0.3	16.5	i iciu odlu	rateu riyuli					
	5	5.6	0.5	0.2	11.8	1						
	6	6.1	0.5	0.2	11.8	]						
	7	6.6	0.5	0.2	11.8	]						
	8	7.1	0.5	0.2	11.8				_			
			Steady	State Rate:	11.8	inches/hour						

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