APPENDIX G – UNDER SEPARATE COVER

Soil Investigations





National Cooperative Soil Survey

Conservation Service

9/4/2019 Page 1 of 3

MAF	P LEGEND		MAP INFORMATION
Area of Interest (AOI)	8	Spoil Area	The soil surveys that comprise your AOI were mapped at
Area of Interest (AOI	1000	Stony Spot	1:15,800.
Soils	â	Very Stony Spot	Warning: Soil Map may not be valid at this scale.
Soil Map Unit Polygo	ns 💞	Wet Spot	Enlargement of maps beyond the scale of mapping can cause
Soil Map Unit Lines	Δ	Other	misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of
Soil Map Unit Points		Special Line Features	contrasting soils that could have been shown at a more detailed scale.
Special Point Features	Water Fea	tures	Scale.
BlowoutBorrow Pit	~	Streams and Canals	Please rely on the bar scale on each map sheet for map measurements.
	Transporta	ation	
Clay Spot	+++	Rails	Source of Map: Natural Resources Conservation Service Web Soil Survey URL:
Closed Depression	~	Interstate Highways	Coordinate System: Web Mercator (EPSG:3857)
Gravel Pit	~	US Routes	Maps from the Web Soil Survey are based on the Web Mercato
Gravelly Spot	~	Major Roads	projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as th
🔇 Landfill	~	Local Roads	Albers equal-area conic projection, should be used if more
👗 🛛 Lava Flow	Backgrou	nd	accurate calculations of distance or area are required.
Arsh or swamp	and the second	Aerial Photography	This product is generated from the USDA-NRCS certified data of the version date(s) listed below.
Mine or Quarry			Soil Survey Area: Essex County, Massachusetts, Northern Pa
Miscellaneous Water			Survey Area Data: Version 14, Sep 7, 2018
Perennial Water			Soil map units are labeled (as space allows) for map scales
Rock Outcrop			1:50,000 or larger.
Saline Spot			Date(s) aerial images were photographed: Dec 31, 2009—Se 12, 2016
Sandy Spot			The orthophoto or other base map on which the soil lines were
Severely Eroded Sport	t		compiled and digitized probably differs from the background
Sinkhole			imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.
Slide or Slip			
Sodic Spot			

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
1	Water	1.2	3.1%
6A	Scarboro mucky fine sandy loam, 0 to 3 percent slopes	4.9	13.2%
240A	Elmwood fine sandy loam, 0 to 3 percent slopes	0.8	2.1%
240B	Elmwood fine sandy loam, 3 to 8 percent slopes	2.5	6.6%
405C	Charlton fine sandy loam, 8 to 15 percent slopes	0.0	0.1%
411B	Sutton fine sandy loam, 0 to 8 percent slopes, very stony	0.1	0.1%
420B	Canton fine sandy loam, 3 to 8 percent slopes	0.0	0.0%
420C	Canton fine sandy loam, 8 to 15 percent slopes	0.1	0.2%
421C	Canton fine sandy loam, 8 to 15 percent slopes, very stony	0.0	0.0%
421D	Canton fine sandy loam, 15 to 25 percent slopes, very stony	0.0	0.1%
602	Urban land	8.0	21.5%
651	Udorthents, smoothed	19.8	52.9%
Totals for Area of Interest		37.3	100.0%

240A—Elmwood fine sandy loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: vj7m Elevation: 10 to 900 feet Mean annual precipitation: 45 to 54 inches Mean annual air temperature: 43 to 54 degrees F Frost-free period: 145 to 240 days Farmland classification: All areas are prime farmland

Map Unit Composition

Elmwood and similar soils: 85 percent *Minor components:* 15 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Elmwood

Setting

Landform: Lakebeds (relict), lakebeds (relict) Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Dip Down-slope shape: Concave Across-slope shape: Concave Parent material: Friable coarse-loamy glaciofluvial deposits over hard clayey glaciolacustrine deposits derived from schist

Typical profile

O - 0 to 2 inches: muck

- H2 2 to 7 inches: fine sandy loam
- H3 7 to 37 inches: fine sandy loam
- H4 37 to 60 inches: silty clay

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: 18 to 40 inches to strongly contrasting textural stratification
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 12 to 36 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Moderate (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 2w Hydrologic Soil Group: B Hydric soil rating: No

USDA

Minor Components

Melrose

Percent of map unit: 10 percent *Hydric soil rating:* No

Swanton

Percent of map unit: 5 percent Landform: Depressions Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Essex County, Massachusetts, Northern Part Survey Area Data: Version 14, Sep 7, 2018



240B—Elmwood fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: vj7q Elevation: 10 to 900 feet Mean annual precipitation: 45 to 54 inches Mean annual air temperature: 43 to 54 degrees F Frost-free period: 145 to 240 days Farmland classification: All areas are prime farmland

Map Unit Composition

Elmwood and similar soils: 85 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Elmwood

Setting

Landform: Lakebeds (relict), lakebeds (relict) Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Dip Down-slope shape: Linear Across-slope shape: Concave Parent material: Friable coarse-loamy glaciofluvial deposits over hard clayey glaciolacustrine deposits derived from schist

Typical profile

O - 0 to 2 inches: muck

- H2 2 to 7 inches: fine sandy loam
- H3 7 to 37 inches: fine sandy loam
- H4 37 to 60 inches: silty clay

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 18 to 40 inches to strongly contrasting textural stratification
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 12 to 36 inches

- Frequency of flooding: None
- Frequency of ponding: None

Available water storage in profile: Moderate (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 2w Hydrologic Soil Group: B Hydric soil rating: No

USDA

Minor Components

Melrose

Percent of map unit: 10 percent *Hydric soil rating:* No

Swanton

Percent of map unit: 5 percent Landform: Depressions Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Essex County, Massachusetts, Northern Part Survey Area Data: Version 14, Sep 7, 2018



405C—Charlton fine sandy loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2wh0q Elevation: 0 to 1,440 feet Mean annual precipitation: 36 to 71 inches Mean annual air temperature: 39 to 55 degrees F Frost-free period: 140 to 240 days Farmland classification: Farmland of statewide importance

Map Unit Composition

Charlton and similar soils: 85 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Charlton

Setting

Landform: Ridges, hills, ground moraines Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear, convex Across-slope shape: Convex Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Ap - 0 to 7 inches: fine sandy loam Bw - 7 to 22 inches: gravelly fine sandy loam C - 22 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Moderate (about 6.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 3e Hydrologic Soil Group: B Hydric soil rating: No

USDA

Minor Components

Sutton, fine sandy loam

Percent of map unit: 5 percent Landform: Ground moraines, hills, ridges Landform position (two-dimensional): Footslope Landform position (three-dimensional): Base slope Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: No

Paxton

Percent of map unit: 5 percent Landform: Ground moraines, drumlins, hills Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Convex, linear Across-slope shape: Convex Hydric soil rating: No

Chatfield

Percent of map unit: 3 percent Landform: Hills, ridges Landform position (two-dimensional): Backslope, shoulder, summit Landform position (three-dimensional): Crest, side slope, nose slope Down-slope shape: Convex Across-slope shape: Convex, linear Hydric soil rating: No

Canton

Percent of map unit: 2 percent Landform: Ground moraines, ridges, hills Landform position (two-dimensional): Shoulder, backslope, summit Landform position (three-dimensional): Side slope, nose slope, crest Down-slope shape: Linear, convex Across-slope shape: Convex Hydric soil rating: No

Data Source Information

Soil Survey Area: Essex County, Massachusetts, Northern Part Survey Area Data: Version 14, Sep 7, 2018



411B—Sutton fine sandy loam, 0 to 8 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2xfff Elevation: 0 to 1,410 feet Mean annual precipitation: 36 to 71 inches Mean annual air temperature: 39 to 55 degrees F Frost-free period: 140 to 240 days Farmland classification: Farmland of statewide importance

Map Unit Composition

Sutton, very stony, and similar soils: 85 percent Minor components: 15 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sutton, Very Stony

Setting

Landform: Hills, ground moraines Landform position (two-dimensional): Footslope Landform position (three-dimensional): Base slope Down-slope shape: Concave Across-slope shape: Linear Parent material: Coarse-loamy melt-out till derived from gneiss, granite, and/or schist

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material *A - 2 to 7 inches:* fine sandy loam *Bw1 - 7 to 19 inches:* fine sandy loam *Bw2 - 19 to 27 inches:* sandy loam *C1 - 27 to 41 inches:* gravelly sandy loam *C2 - 41 to 62 inches:* gravelly sandy loam

Properties and qualities

Slope: 0 to 8 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: About 12 to 27 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 8.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: B/D Hydric soil rating: No

Minor Components

Charlton, very stony

Percent of map unit: 7 percent Landform: Ridges, hills, ground moraines Landform position (two-dimensional): Backslope, shoulder, summit Landform position (three-dimensional): Crest, side slope Down-slope shape: Linear, convex Across-slope shape: Convex Hydric soil rating: No

Canton, very stony

Percent of map unit: 4 percent Landform: Hills, moraines, ridges Landform position (two-dimensional): Backslope, shoulder, summit Landform position (three-dimensional): Side slope, crest Down-slope shape: Linear, convex Across-slope shape: Convex Hydric soil rating: No

Leicester, very stony

Percent of map unit: 3 percent Landform: Hills, drainageways, ground moraines, depressions Landform position (two-dimensional): Footslope, toeslope Landform position (three-dimensional): Base slope Down-slope shape: Concave, linear Across-slope shape: Concave Hydric soil rating: Yes

Whitman, very stony

Percent of map unit: 1 percent Landform: Hills, ground moraines, drumlins, depressions, drainageways Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Base slope Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Essex County, Massachusetts, Northern Part Survey Area Data: Version 14, Sep 7, 2018

420B—Canton fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2w81b Elevation: 0 to 1,180 feet Mean annual precipitation: 36 to 71 inches Mean annual air temperature: 39 to 55 degrees F Frost-free period: 140 to 240 days Farmland classification: All areas are prime farmland

Map Unit Composition

Canton and similar soils: 80 percent Minor components: 20 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canton

Setting

Landform: Ridges, moraines, hills

Landform position (two-dimensional): Backslope, summit, shoulder Landform position (three-dimensional): Side slope, crest, nose slope

Down-slope shape: Convex, linear

Across-slope shape: Convex

Parent material: Coarse-loamy over sandy melt-out till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 7 inches: fine sandy loam Bw1 - 7 to 15 inches: fine sandy loam Bw2 - 15 to 26 inches: gravelly fine sandy loam 2C - 26 to 65 inches: gravelly loamy sand

Properties and qualities

Slope: 3 to 8 percent Depth to restrictive feature: 19 to 39 inches to strongly contrasting textural stratification

Natural drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat):

Moderately low to high (0.14 to 14.17 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water storage in profile: Very low (about 2.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 2s

JSDA

Hydrologic Soil Group: B Hydric soil rating: No

Minor Components

Scituate

Percent of map unit: 10 percent Landform: Ground moraines, drumlins, hills Landform position (two-dimensional): Backslope, footslope, summit Landform position (three-dimensional): Side slope, crest Down-slope shape: Linear, convex Across-slope shape: Convex Hydric soil rating: No

Montauk

Percent of map unit: 5 percent Landform: Drumlins, hills, ground moraines, moraines Landform position (two-dimensional): Backslope, shoulder, summit Landform position (three-dimensional): Side slope, crest Down-slope shape: Linear, convex Across-slope shape: Convex Hydric soil rating: No

Charlton

Percent of map unit: 4 percent Landform: Ridges, hills, ground moraines Landform position (two-dimensional): Backslope, shoulder, summit Landform position (three-dimensional): Side slope, crest Down-slope shape: Linear, convex Across-slope shape: Convex Hydric soil rating: No

Swansea

Percent of map unit: 1 percent Landform: Bogs, depressions, marshes, kettles, swamps Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Essex County, Massachusetts, Northern Part Survey Area Data: Version 14, Sep 7, 2018

421C—Canton fine sandy loam, 8 to 15 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2w814 Elevation: 0 to 1,160 feet Mean annual precipitation: 36 to 71 inches Mean annual air temperature: 39 to 55 degrees F Frost-free period: 140 to 240 days Farmland classification: Farmland of statewide importance

Map Unit Composition

Canton, very stony, and similar soils: 85 percent *Minor components:* 15 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Canton, Very Stony

Setting

Landform: Ridges, moraines, hills Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Convex, linear Across-slope shape: Convex Parent material: Coarse-loamy over sandy melt-out till derived from gneiss, granite, and/or schist

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material *A - 2 to 5 inches:* fine sandy loam *Bw1 - 5 to 16 inches:* fine sandy loam *Bw2 - 16 to 22 inches:* gravelly fine sandy loam *2C - 22 to 67 inches:* gravelly loamy sand

Properties and qualities

Slope: 8 to 15 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: 19 to 39 inches to strongly contrasting textural stratification
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: B Hydric soil rating: No

Minor Components

Montauk, very stony

Percent of map unit: 6 percent Landform: Ground moraines, recessionial moraines, drumlins, hills Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear, convex Across-slope shape: Convex Hydric soil rating: No

Scituate, very stony

Percent of map unit: 5 percent Landform: Ground moraines, drumlins, hills Landform position (two-dimensional): Footslope, backslope Landform position (three-dimensional): Side slope Down-slope shape: Linear, convex Across-slope shape: Convex Hydric soil rating: No

Chatfield, very stony

Percent of map unit: 3 percent Landform: Ridges, hills Landform position (two-dimensional): Backslope, shoulder, summit Landform position (three-dimensional): Side slope Down-slope shape: Convex Across-slope shape: Convex Hydric soil rating: No

Swansea

Percent of map unit: 1 percent Landform: Swamps, bogs, depressions, marshes, kettles Down-slope shape: Concave Across-slope shape: Concave Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Essex County, Massachusetts, Northern Part Survey Area Data: Version 14, Sep 7, 2018



602—Urban land

Map Unit Setting

National map unit symbol: vjx3 Frost-free period: 125 to 165 days Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 80 percent Minor components: 20 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land

Setting

Parent material: Excavated and filled land

Minor Components

Udorthents

Percent of map unit: 10 percent *Hydric soil rating:* No

Charlton

Percent of map unit: 2 percent Hydric soil rating: No

Hinckley

Percent of map unit: 2 percent Hydric soil rating: No

Merrimac

Percent of map unit: 2 percent Hydric soil rating: No

Paxton

Percent of map unit: 2 percent Hydric soil rating: No

Windsor

Percent of map unit: 2 percent Hydric soil rating: No

Data Source Information

Soil Survey Area: Essex County, Massachusetts, Northern Part Survey Area Data: Version 14, Sep 7, 2018

651—Udorthents, smoothed

Map Unit Setting

National map unit symbol: vjwk Elevation: 0 to 3,000 feet Mean annual precipitation: 45 to 54 inches Mean annual air temperature: 43 to 54 degrees F Frost-free period: 145 to 240 days Farmland classification: Not prime farmland

Map Unit Composition

Udorthents and similar soils: 80 percent Minor components: 20 percent Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents

Setting

Parent material: Excavated and filled land loamy and/or excavated and filled land sandy and gravelly

Typical profile

H1 - 0 to 6 inches: variable H2 - 6 to 60 inches: variable

Properties and qualities

Slope: 0 to 3 percent Depth to restrictive feature: More than 80 inches Capacity of the most limiting layer to transmit water (Ksat): Moderately low to very high (0.06 to 20.00 in/hr) Depth to water table: More than 80 inches Frequency of flooding: None Frequency of ponding: None

Interpretive groups

Land capability classification (irrigated): None specified Land capability classification (nonirrigated): 6s Hydrologic Soil Group: A Hydric soil rating: Unranked

Minor Components

Urban land

Percent of map unit: 10 percent *Hydric soil rating:* Unranked

Beaches

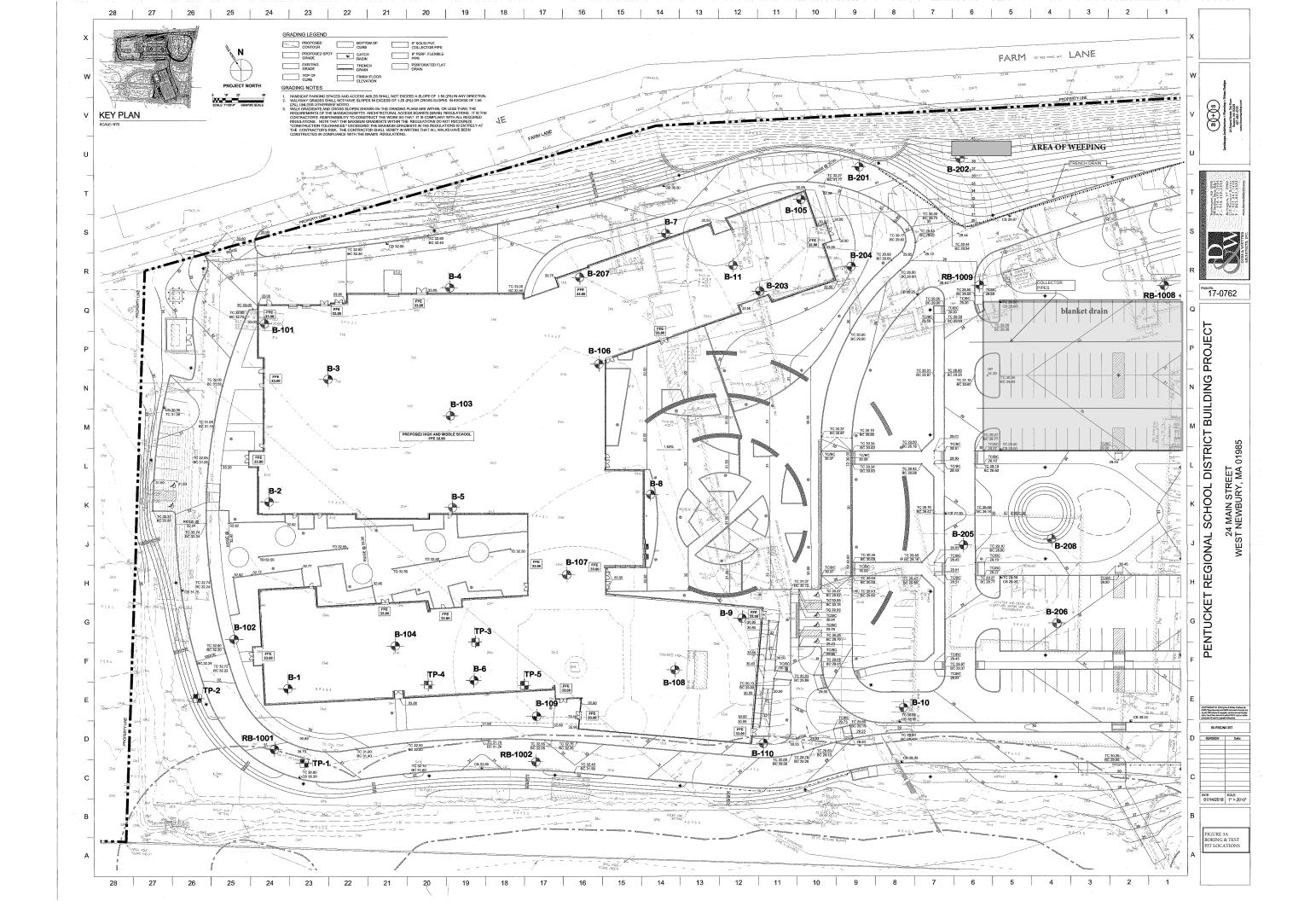
Percent of map unit: 8 percent Hydric soil rating: Unranked Dumps

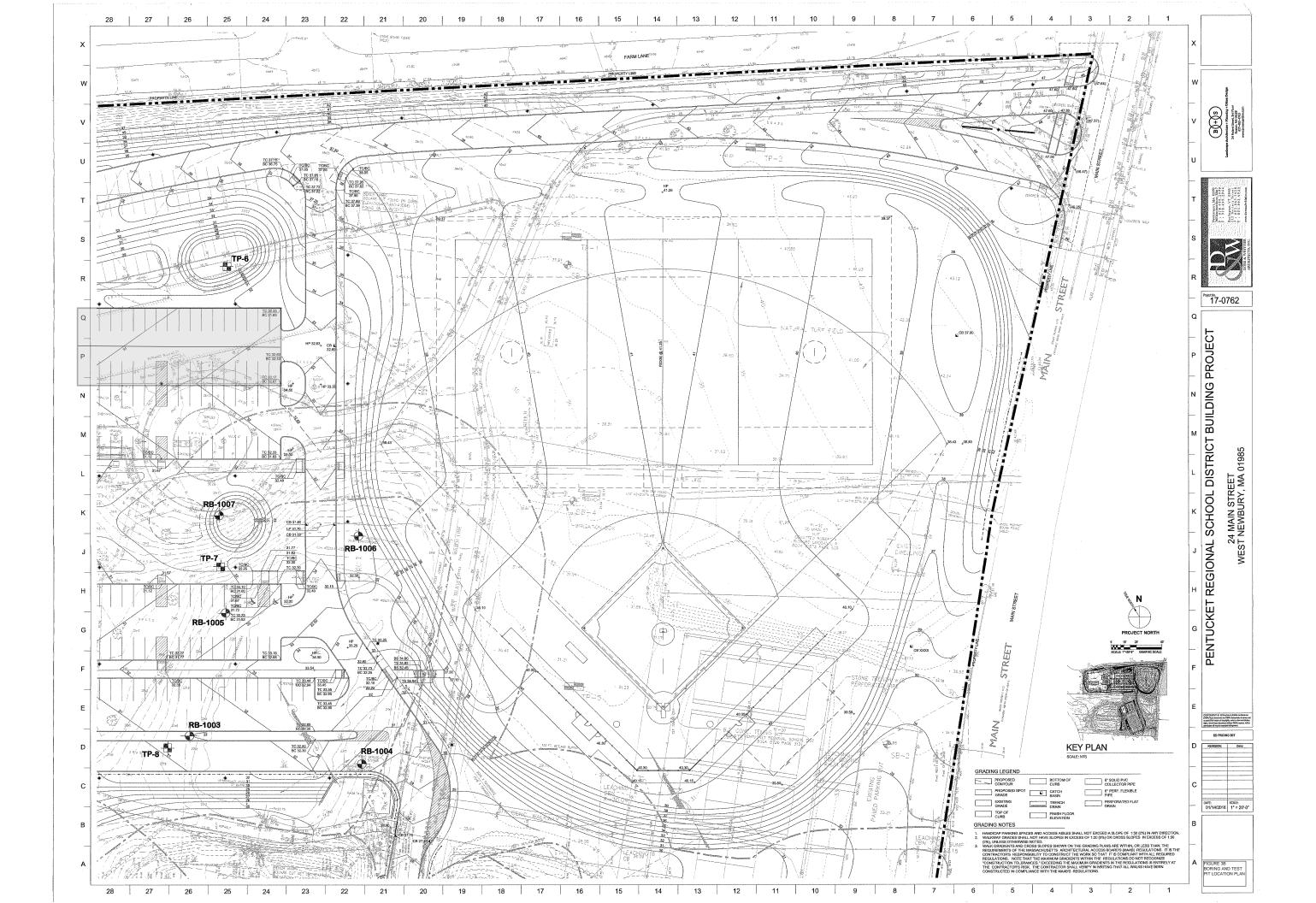
Percent of map unit: 2 percent Hydric soil rating: Unranked

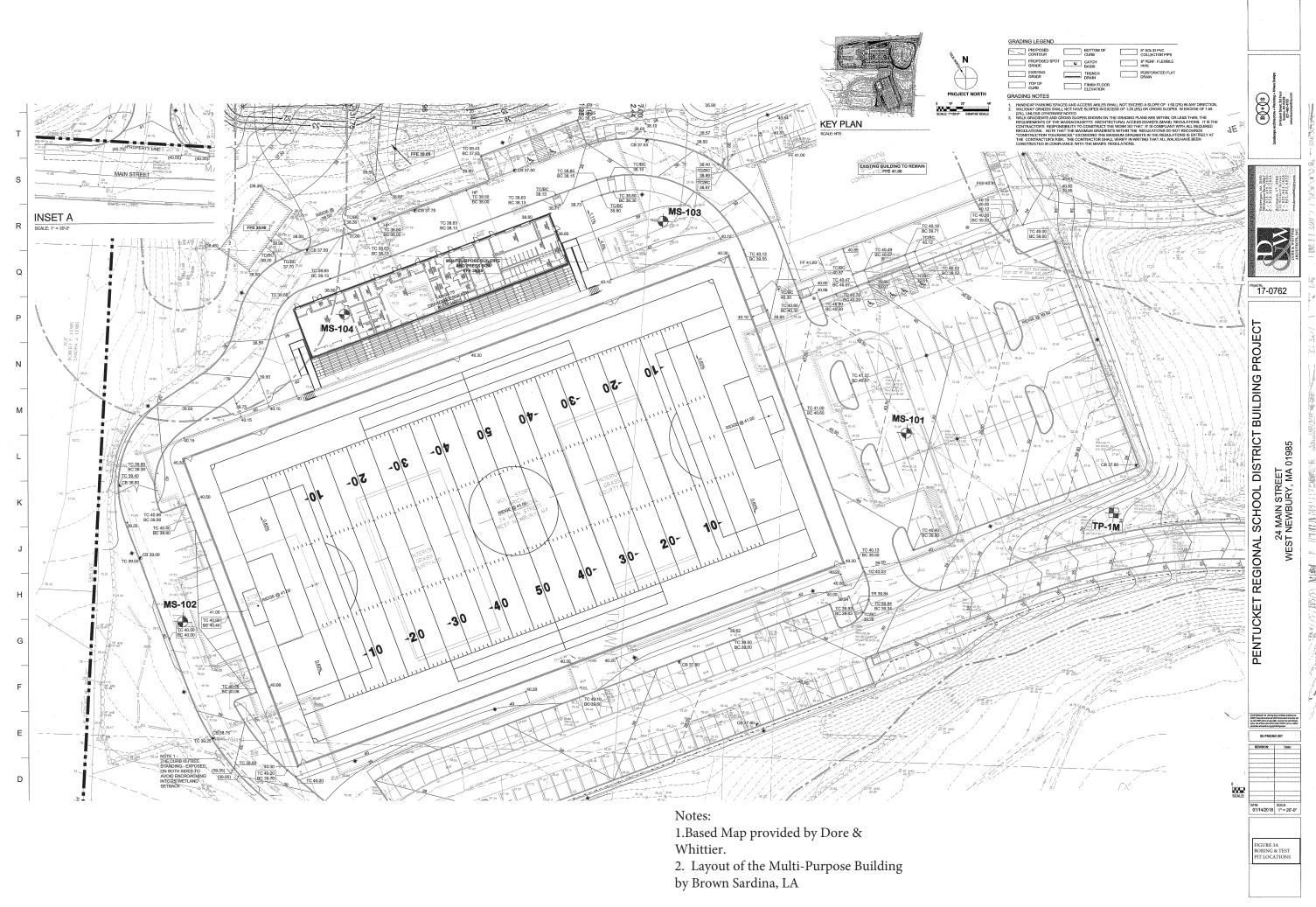
Data Source Information

Soil Survey Area: Essex County, Massachusetts, Northern Part Survey Area Data: Version 14, Sep 7, 2018









HML ASSOCIATES

Boring Log No. B-1 Pentucket Regional High/Middle School

Ham	nmer:	Safe	ty					1		Hammer weight (Ib):	: 140		Hol	e depth	(ft): 50	
Sam	pler:	Split	Sp	oon	1			Drop (in): 30	G.W.T. @ Drilling (ft): 7 Mottl	es	San	pled b	y: New Engla	nd Borin
Drill	er: Ge	eolog	jic							Drill Date: April 16 to	o 20, 2018	6	Log	ged by	: S.Reynolds	
Depth	Strata	GWT	No.	Type	Blows Per 6"	nscs			Soil Desc	ription	0	SPT. I qu(PP 20	blow/ft ?) tesf 40	60	Notes	
- 0		¥	1 2 3		1-3-7-8 2-11-16-10 9-7-8-11	SM SM	Silty	-plastic fine	s, brown, mottli							0
- 10			4		3-3-5-8	СН	-	v Clay, mod PP) 3 to 4.		lastic, yellow brown						10
			5		4-6-7-9	СН	Silty	/ Clay, mod	erately to high p	lastic, light gray						
- 20			6		1/12-2-4											20
			7		0-2-4-2											
- 30																30
- 40																40
- 50					-			/ Sand ???′								50
50							Bor	ing complet	ed at depth of 5	0 feet						
- 60																60

Boring Log No. B-101 Pentucket Regional High/Middle School

∟ocat	lion:	wes	t No	ewb	ury, MA										t: Dore & Whittier, Ar	cnite
Metho	od: W	/ash	an	d Dı	rive								G	irou	nd EL: 31.5	
Hamn	ner: S	Safe	ty						Hammer weight (lb):	140			н	ole	depth (ft): 19.5	
Samp	oler: S	Split	Sp	oon				Drop (in): 30	G.W.T. @ Drilling (ft):	5.5			L	ogg	ed by: S. Reynolds	
Drille	r: Ma	tt							Drill Date: December	3, 20	18		E	quip	oment: ATV Rotary	
Depth	Strata	GWT	No	Type	Blows Per 6"	NSCS		Soil Des	ription		0 1	Nois	blow/ ture %	, D	Notes	
-0				NI		ML	Fill:	Topsoil :Sandy Silt, dark	brown - 10"	0	2	20	40			- 0
-			1		1-2-5-5	SM	-	/ Sand, uniform, fine sand s, brown.	15-25% non-plastic							
- 5		Ţ	2		7-7-8-8	GP		ndy Gravel, poorly graded, d, 1-3% nonplastic fines, s wn.								5
- 10			3		3-14-12-17	SM	gra	cial Till: Silty Sand, widely vel, coarse to fine sand, m plastic fines, gray brown.							_	1
4 ° ° 4																
			4		3-3-5-8										_	1
			5	N	4-6-7-9		Bor	ing completed at depth of	19.5 feet	_					+	20
- 25										-		<u> </u>		+	_	2
- 30														+		30
-35 -																- 3
	mark					sal at 19.5 f										

Boring Log No. B-102 Pentucket Regional High/Middle School

	mer:									eight (lb): 1				epth (ft): 49.2	
Sam	pler: \$	Split	Spc	on				Drop (in): 30	G.W.T. @ [Drilling (ft): 7	7		_ogged	by: S. Reynolds	
Drille	er: Ma	tt							Drill Date:	November 3				ent: ATV Rotary	
Depth	Strata	GWT	No.	Type	Blows Per 6"	USCS		Soil De	escription		0 Mc	PT. blow bisture ^o	%	Notes	
0	222			\mathbf{T}		OL	Тор	soil: Sandy Silt, dark bro	own		0 20	40) 60		— 0
			1	7	1-1-2-5	SM/ML	yell	y Sand/Sandy Silt, fine to ow brown changing to da dium sand and gravel. F	ark gray with coa	-					
5		¥	2	15	5-16-17-17	7									5
10		_	3	\6	-11-16-17	СН		/ Clay, moderately to hig (PP) 2.25 to 4.5 tsf	yh plastic, yellow	brown					1
			4		5-17-14-1	I									
15			5		2-4-4-5										1
			6		6-5-5-6	СН		/ Clay, moderately to hig) 1.0 to 1.5 tsf	jh plastic, light gr	ay qu					
20			7		0-1-2-4										2
25			8		1-2-3-4										2
					_ • •										
30			9		2-2-2-3										3
35								λ							— 3

Boring Log No. B-102 Pentucket Regional High/Middle School

Location: We	est Ne	ewb	ury, MA								C	lient: [Dore & Whittier, Ar	chited
Method: Was	sh an	d Dr	ive								G	iround	EL: 30	
Hammer: Sat	fety						Hammer weigh	t (lb): 140			н	ole de	pth (ft): 49.2	
Sampler: Spl	it Sp	oon				Drop (in): 30	G.W.T. @ Drillin	ng (ft): 7			L	ogged	by: S. Reynolds	
Driller: Matt							Drill Date: Nove	ember 30,	2018		E	quipm	ent: ATV Rotary	
Depth Strata GWT	No.	Type	Blows Per 6"	nscs		Soil D	escription		0 N	/loist	blow/ ure %	, D	Notes	
- 40	10	1	3-4-5-4 1-15-12-9	CH	(PP) Silty non-	Clay, moderately to hig 1.0 to 1.5 tsf Sand, uniform, very fin plastic fines, light gray	e sand, 15-25%	0 qu		0	40	60		— 35 40 45
- 50	12	0	100/2"	SM		ial Till: Silty Sand	of 49.2 feet					+		50
- 55														55
- 60														60
- 65														65
- 70 ——— Remarks:														- 70

Boring Log No. B-103 Pentucket Regional High/Middle School

							cket Kegioliai I							
Location: We	est N	ewl	bury, MA								CI	ient: I	Dore & Whittier, Arc	hitect
Method: Was	sh ar	nd D	rive				1				Gi	round	EL: 31	
Hammer: Sat	fety						Hammer weight (lb):	140			Но	ole de	pth (ft): 26.0	
Sampler: Spl	it Sp	000	n			Drop (in): 30	G.W.T. @ Drilling (ft)	: 4.5			Lo	ogged	by: S. Reynolds	
Driller: Matt							Drill Date: December	5, 20	18		Ec	quipm	ent: ATV Rotary	
Depth Strata GWT	No	Type	Blows Per 6"	nscs		Soil Desc	ription	0		loist	blow/f ure % ⁴⁰	ť 60	Notes	
-0				OL	Торя	soil: Sandy Silt, dark brow	า							- 0 -
	1	$ \square$	1-2-3-4	SM	-	Sand, uniform, fine, 15-20 brown	0% nonplastic fines,							-
				GP		dy Gravel, poorly graded, 3 I, 1-3% nonplastic fines, s								
-5	2		7-8-8-8	SP		/n. d, medium to fine, 1-3% no brown, trace of coarse sa								5 –
- 10	3	$\left \right $	9-7-6-6	СН		Clay, moderately to high PP) 2.25 to 3.25 tsf	olastic, yellow brown	0						10 -
	4	$\left \right\rangle$	10-8-6-6					0	-					
- 15	5		2-3-4-4	СН		Clay, moderately to high 1.5 tsf	olastic, light gray qu	0						15 -
	6		6-5-8-10	ML	Glac	ial Till: Sandy Silt								20 -
	7		0-81-48-78	3								+		25 -
- 30					Boriı	ng completed at depth of 2	26 Teet							30 -
- 35														- 35

Boring Log No. B-104 Pentucket Regional High/Middle School

					rive										und E			
Ham	mer	Safe	ety							Hammer weight (Ib)): 140			Hole	e dept	th (ft): 63	.5	
Sam	pler	Spli	t Sp	oon				Drop (in)	: 30	G.W.T. @ Drilling (f	ť): 7			Log	ged b	y: S. Rey	/nolds	
Drill	er: N	att								Drill Date: December	er 3, 20				ipme	nt: ATV F	Rotary	
Depth	Strata	GWT	No	Type	Blows Per 6"	nscs			Soil Desc	ription	0		PT. bl Ioistur		60		Notes	
- 0	22	>		N		OL	Тор	soil: Sandy	Silt, dark brow	n. Fill			0	40	00			— 0
- 5			1		1-3-4-5 [−] 2-2-8-48	SM	fine	-	actured wx gra	ghtly plastic, mostly ivel at 5-6 ft, saturated								5
		_			_	СН				plastic, light yellow	_	$ \rangle$						
10			3	\square	8-9-10-15		brov	vn Qu (PP)	4.25 to 4.5 ts									1(
				Н							0							
			4		9-18-18-14													
15			5		3-3-4-4	СН		7 Clay, mode) 0.75 to 2.2		olastic, light gray qu	a							1
20			6		1-2-3-4													20
25			7		0-0-1-3													2!
30			8		5-7-11-12	SM	•	-plastic fines		to very fine, 10-25% wn and light orange			I					30
35						СН	Silty	[,] Clay. mode	erately to highly	/ plastic, light gray								- 35

Boring Log No. B-104 Pentucket Regional High/Middle School

Loca	ation:	We	st N	ewb	ury, MA							Cli	ent: Do	re & Whi	ttier, Arc	chitec
Meth	nod: ۱	Nasl	h an	d Di	rive				T			Gr	ound E	L: 30		
Ham	mer:	Safe	ety						Hammer weight (Ib)	: 140		Но	le dept	h (ft): 63.	5	
Sam	pler:	Spli	t Sp	oon	l			Drop (in): 30	G.W.T. @ Drilling (ft): 7		Lo	gged b	y: S. Rey	nolds	
Drille	er: M	att							Drill Date: Decembe	r 3, 20	18	Eq	uipmer	t: ATV R	otary	
Depth	Strata	GWT	No.	Type	Blows Per 6"	nscs		Soil Des	cription	0		Γ. blow/ft sture % 40	60	1	Notes	0.5
- 35			9		2-1-3-4	СН	Silty	Clay. moderately to high	y plastic, light gray							- 35
- 40			10		0-2-2-3											40
45			11		1-2-3-4	ML/SM	unifo	non to slightly plastic, ligh rm, fine to very fine, 20-3 gray brown.								45
50			12		8-11-8-6	СН	Silty	Clay, moderately to high	y plastic, light gray.							50
55			13		6-6-8-12 ⁻	SM/ML	fines	Sand, uniform, very fine, , light orange brown and n, trace of very fine sand	Silt, slighty plastic, light							55
60			14		4-7-12-11	ML	Glac	ial Till: Sandy Silt		_						60
65]	15	I	50/0"			ng completed at depth of n and roller bit	63.5 feet. Refusal with							65
70 Re	emarl		ied co	ompres	ssive stength	measured by p	oocket pene	etrometer								- 70

Boring Log No. B-105 Pentucket Regional High/Middle School

	-									0				
					bury, MA								Dore & Whittier, Are	chitects
Metho				d D)rive								EL: 35.5	
Hamn	ner:	Safe	ety						Hammer weight (Ib):	140	H	lole de	pth (ft): 16	
Samp	oler: \$	Split	t Sp	oor	n			Drop (in): 30	G.W.T. @ Drilling (ft)	: 4	L	.ogged	by: S. Reynolds	
Drille	r: Ma	itt			1				Drill Date: December				ent: ATV Rotary	
Depth	Strata	GWT	No.	Type	Blows Per 6"	nscs		Soil Des	cription	O Ma	T. blow bisture % 40	6	Notes	
0			1 2 3 4		9-7-4-5	SP SM 3 ML	Fill: coar fines Silty non- Glac bed	^r Sand, uniform, very fine -plastic fines, light gray. cial Till: Sandy Silt chang	ne, 8-12% nonplastic sand, 10-20% ng to weathered					- 0
- 30 														30 –
- 25														_ 35
	mark _{Spoor}		sal at	19 ft	t. Roller bit refu	sal at 19.5 ft								- 35-

Boring Log No. B-106 Pentucket Regional High/Middle School

Meth	nod: V	Vash	n an	d Dr	rive									G	Froun	d EL: 31	
Ham	mer:	Safe	ty							Hammer weight (Ib)	: 140			F	lole d	epth (ft): 31.5	
Sam	pler:	Split	Sp	oon				Drop (in)	: 30	G.W.T. @ Drilling (f	t): 5			L	ogge	d by: S. Reynolds	
Drill	er: Ma	att								Drill Date: Decembe	er 4, 20	18		Е	quip	ment: ATV Rotary	
Depth	Strata	GWT	No.	Type	Blows Per 6"	USCS			Soil Desc	ription				blow ture %		Notes	
- 0						OL	Fill:	Topsoil: Sa	ndy Silt, dark b	rown	0	2	20	40	6	0	— 0
			1	Ц	1-6-7-8	SP	Fill:		-	oonplastic fines, light							
5		X	2		3-6-7-9	SP			o fine, 1-3% no	onplastic fines, light nd and gravel						-	5
10			3	\square	3-6-8-9	СН	-	Clay, mode (PP) 2.50 to		plastic, yellow brown	0						1(
			4	$\left \right\rangle$	5-6-7-6						0	-					
15			5		2-2-4-6	CH		Clay, mode) 1.5 to 1.75		olastic, light gray qu						_	1
20			6		2-3-4-4						0					_	20
25			7		2-3-4-6											_	25
30			8	\g_	13-48-100/-	ML		-	tly plastic, ligh							+	30
						* ML			dy Silt/Silty Sa ed at depth of 3								
35	 emark																— 35

Boring Log No. B-107 Pentucket Regional High/Middle School

					oury, MA											Dore & Whittier, Arc	hitects
		od: Wa		nd D	rive											 i EL: 29.5	
		ner: Sa									Hammer weight (Ib):					epth (ft): 47.5	
		oler: Sp		oor	ı			Drop (in): 30		G.W.T. @ Drilling (ft)					l by: S. Reynolds	
		r: Matt									Drill Date: Decembe	r 5, 20		0.D.T		nent: ATV Rotary	
Depth		Strata	No.	Type	Blows Per 6"	USCS			:	Soil Desci	iption	0	0		blow/ ture %	Notes	
— 0 -			1	\mathbb{N}	4-6-8-8	SM		Silty San s, light br		m, fine, 20	0-30% nonplastic				40		- 0 -
-			-		-	SM				nedium to and grave	fine, light gray brown, I.						
- — 5			2	$\left \right $	7-11-13-13									 		 -	5 –
-																	•
						СН		r Clay, mo (PP) 2.50			lastic, yellow brown						
- 1 -	0		3		5-6-9-10							0		V		_	10 –
			4	$\left \right $	13-10-9-8									T			
						СН	Silty	^r Clay, mo	oderately	/ to high p	lastic, light gray						
- 1	5		5	$ \square$	2-2-2-4											-	15 –
-																	
-													I				
- 2	0		6	$ \square$	2-3-2-3											-	20 –
-																	-
2	5		7	\square	3-3-4-3												25 –
-				$ \square$	5-5-4-5												
— 3	0		8	$\left \right $	2-4-3-3											-	30 –
-																	
-																	
- — 3	5			$\left \right $						N							- 35 -

Boring Log No. B-107 Pentucket Regional High/Middle School

		Vash															
Ham	mer:	Safet	у						Hammer weight (Ib): 140					e dep	oth (ft): 47.5		
Sam	pler:	Split	Spo	oon				Drop (in): 30	G.W.T. @ Drilling (ft):	4			Log	ged	by: S. Reynolds		
Drill	er: Ma	tt								Drill Date: December	5, 20 ⁻	18		Equ	iipme	ent: ATV Rotary	
Depth	Strata	GWT	No.	Type	Blows Per 6"	nscs		Soi	il Desc	iption		■ SF ○ Mo 20			60	Notes	
- 35			9	7	2-3-5-4	СН	Silty	Clay, moderately to	o high p	lastic, light gray							- 3
- 40		1	0		6-3-10-12	SM		non to slightly plasti sand.	ic, light	brown, trace of very							4
- 45		1	1		4-4-6-21 -	ML	Glad	cial Till: Sandy Silt									4
							Bori	ng completed at dep	oth of 4	7.5 feet	_						
50																	F
- 50																	5
- 55																	5
																	5
- 60																	6
- 65														_			6
- 70																	- 70

Boring Log No. B-108 Pentucket Regional High/Middle School

Loca	ation	: We	st N	ewb	oury, MA									Clie	ent: Do	ore & Wh	ittier, Arcl	hited
Meth	nod: \	Was	h ar	d D	rive					1				Gro	ound E	L: 29.5 '		
Ham	mer:	Saf	ety						Hammer weight (Ib	Hol	Hole depth (ft): 46.0							
Sam	Sampler: Split Spoon Drop (in): 30									G.W.T. @ Drilling (ft): 6			Log	gged b	y: S. Re	ynolds	
Drill	er: M	att								Drill Date: Decemb	oer 4, 20	018		Equ	uipme	nt: ATV F	Rotary	
Depth	Strata	GWT	No.	Type	Blows Per 6"	uscs			Soil Desc	ription	0		loistu	olow/ft ire %	60		Notes	
0		1	1	\mathbb{N}	3-3-6-8	OL/SP			dy Silt, dark b astic fines, ligl	rown. Sand, uniform, nt brown	0		0	40				- 0
						SM	-		rm, fine to ver light gray brow	/ fine, 20-30% vn.								
5		¥	2		4-7-7-8	SP		and, medium to fine, 1-3% nonplastic fines, aturated, light gray brown										5
						СН		Clay, mode PP) 2.75 to		plastic, yellow brown								
10			3	\square	3-6-7-9		QU (I	11) 2.70 10	4.0 (3)									1(
			4	$\left \right\rangle$	7-7-6-4							$ \Gamma $						
						СН				olastic, light gray. Qu								
15			5	\mathbb{N}	1-2-2-4		(PP)	0.75 to 1.5	ISI									15
20			0	\square														20
_0			6	\square	0-0-2-3													20
25			7	$\left \right\rangle$	0-0-3-3													2
30			8	$\left \right $	2-2-4-4									_				30

Boring Log No. B-108 Pentucket Regional High/Middle School

	laat N	lowb	um MA									lionti I	Dore & Whittier, Arch	hitaat
Location: W													EL: 29.5 '	meet
			live				Hommor weight (I	Ib): 140						
Hammer: Sa						Due 10 (111) - 00	Hammer weight (I					pth (ft): 46.0		
Sampler: Sp		oon				Drop (in): 30	G.W.T. @ Drilling						by: S. Reynolds	
Driller: Matt							Drill Date: Decem	ber 4, 20		דחי			ent: ATV Rotary	
Strata	N	Type	Blows Per 6"	nscs		Soil D	escription	0	0 1	/loist	blow/ ure %	Ď	Notes	
-35 -40 -40 -45 -45 -50 -55	9 10 11		2-4-3-4 7-12-12-8 2-50-40-3	CH ML 3	(PP) Silt, fine) 0.75 to 1.5 tsf	gh plastic, light gray. Qu ight brown, trace of very of 46 feet				40			- 35 - 40 - 45 - 50 - 55 -
60 														60 -
- 65														65

Boring Log No. B-109 Pentucket Regional High/Middle School

													:	Dawa 8 Mikittian A	
				oury, MA										Dore & Whittier, A	rcnitec
Method				rive						4.40				EL: 30 '	
Hamme)		Hammer weight (lb):					pth (ft): 54.5	
Sampler: Split Spoon Drop (in): 30 Driller: Matt									G.W.T. @ Drilling (ft)		40			by: S. Reynolds	
									Drill Date: November			Ec blow/1		ent: ATV Rotary	
	Strata GWT	No.	Type	Blows Per 6"	nscs		S	oil Descri	ption			ture %		Notes	
-0	23				OL	Topsoil	: Sandy Silt, da	rk brown		7					0 -
		1		2-2-4-8	SM				onplastic fines, light xed with sand and						
-5		2		3-1-1-1	OL	Organio	c Sandy Silt, da	rk brown.	(2 ft.?)						5
	:]¥ 				СН		ay, moderately Qu (PP) 3.0 to		astic, light yellow						
10		3		4-7-8-10		brown	Qu (i i) 0.0 to	0.0 (3)			\neg				10
				2 12 10 10						0					
		4	$ \square$	2-12-10-10											
15		5	$\left \right $	1-2-2-3	СН		ay, moderately 5 to 1.5 tsf	to high pl	astic, light gray qu						15
20			\square	0.4.0.0											20
- U		6	$ \square $	2-1-2-3											20
25		7		0-0-0-2											25
30		8		2-2-2-3											30
35								N							— 35
Rem	arks:							.,							35

Boring Log No. B-109 Pentucket Regional High/Middle School

/2018	Loca	ation:	Wes	st N	ewb	ury, MA									Clie	ent: [Dore & Whittier, Arc	hitects
Date: 12/27/2018	Meth	nod: V	Vasł	n an	d Dı	rive									Gro	ound	EL: 30 '	
Date:	Ham	mer:	Safe	ety							Hammer weight (II	b): 140			Hol	e de	pth (ft): 54.5	
	Sam	pler:	Split	t Sp	oon				Drop (in	n): 30	G.W.T. @ Drilling	(ft): 7			Log	ged	by: S. Reynolds	
New.	Drill	er: Ma	att								Drill Date: Noveml	ber 30, 2	2018		Equ	uipm	ent: ATV Rotary	
JCKEI 12-18	Depth	Strata	GWT	No.	Type	Blows Per 6"	nscs			Soil Des	cription	0		/loistu	olow/ft ire % 40	60	Notes	
File: C:/Users/HML Associates/Documents-HML/Projects 2018/PES Pentucket/SD/12-18 borings/PENTUCKET 12-18 new.log	- 35 - 40 - 45			9 10 11		1-2-2-3 7-5-7-8 9-19-75-38	CH ML ML	(PP) Silt,) 0.5 to 1.5	tsf astic, light brow	plastic, light gray qu							- 35 — - - 40 — - 40 — - - - - - - - - - - - - - - - - - - -
F	- 55			12		48-50/0 L		Bori	ng comple	ted at depth of	54.5 feet							55 — - -
	- 60																	60 — - - -
	- 65																	65 — - - -
	- 70 Re	emark ^{qu is d}		ed co	mpres	ssive stength r	neasured by	pocket per	netrometer			1			I	1		- 70—

Boring Log No. B-110 Pentucket Regional High/Middle School

Meth	nod: V	Vash	an	d Dı	rive								0	Ground	EL: 28.5 '	
Ham	mer:	Safe	ty							Hammer weight (Ib):	140		F	lole de	oth (ft): 36.	0
	pler:			oon				Drop (in): 30		G.W.T. @ Drilling (ft)					by: S. Rey	
	er: Ma		-							Drill Date: Decembe					ent: ATV R	
Depth	Strata	_	No.	Type	Blows Per 6"	nscs			Soil Desci		0	Mois	blow ture %	//ft %		Notes
- 0			1	\mathbb{N}	6-3-6-5	OL/SM		Topsoil: Sandy S se to fine sand v		rown 4" Silty Sand,	0	20	40	60		0
						SM/GM		Silty Sand/Silty (ottom	Gravel, bro	wn with more gravel						
- 5		Ŧ	2		3-3-1-3											5
						СН		Clay, moderatel PP) 3.5 to 3.75		olastic, yellow brown						
- 10			3		3-5-6-8											10
- 15			4		2-4-4-5	СН		Clay, moderatel 1.5 to 2.0 tsf	ly to high p	olastic, light gray. Qu	0					1:
- 20			5		1-2-3-4											20
- 25			6		1-3-4-5											25
						ML	Silt, sand		ght brown	, trace of very fine						
- 30			7		4-12-26-52	ML	Glad	ial Till: Sandy Si	ilt							3(
- 35				\square					N							3:

Boring Log No. B-110 Pentucket Regional High/Middle School

1.000	-41-		Veel	6 NI.	b .		•													NI		Dava 9 M/hittian /	\ rahita a
						ury, MA	4															Dore & Whittier, A	Archited
Meth	hoc	l: W	ash	and	d Dr	ive													G	Grou	und	EL: 28.5 '	
Ham	nme	er: S	afet	y									Hamm	er weigh	nt (lb): 14	0			F	lole	e dej	pth (ft): 36.0	
Sam	nple	er: S	plit	Spo	oon					Drop	(in): 30)	G.W.T	@ Drilli	ng (ft): 6				L	.og	ged	by: S. Reynolds	
Drill	er:	Mat	t										Drill D	ate: Dec	ember 4,	201	8		E	qui	ipm	ent: ATV Rotary	
Depth	Charle	Strata	GWT	No	Type	Blows Per 6"		nscs				Soil Desc	ription						blow ure %			Notes	
- 35	Δ	<u>م</u>		_				ML	Glad	cial Till: \$	Sandv §	Silt				0	20		40		60		— 35
-	<u>k</u> 4	Δ.		8		3-16-22	2-30					t depth of 4	6 feet										
-																							
-																							
- 10																							40
<u> </u>																							40
-																							
- 45															-				_				45
- — 50																							50
- 50																							50
-																							
-																							
-																							
- 55															_				-				55
-																							
-																							
-																							
- 60															-								60
																							00
-																							
-																							
- 65																	+	+	+		\neg		65
-																							
_																							
70																							— 70
	em	arks	5:																				
	qı	u is co	nfine	d cor	npres	sive sten	gth me	easured by	/ pocket per	netrometer													

Boring Log No. MS-101 Pentucket Regional High/Middle School

Date: 12/27/2018	Meth																Dore & Whittier, Arc	
<u>ا</u> ۲		۱od: ۱	Nas	h ar	nd D	rive									Gr	ound	i EL: 40' +	
Date:	Ham	mer:	Safe	əty								Hammer weight (Ib):	140		Но	le de	epth (ft): 14	
	Sam	pler:	Spli	t Sp	oon	1			Drop	(in): 30)	G.W.T. @ Drilling (ft): 5		Lo	ggeo	l by: S. Reynolds	
12-18.	Drill	er: M	att									Drill Date: Decembe	r 6, 20	18	Eq	uipn	nent: ATV Rotary	
ICKET- MS	Depth	Strata	GWT	No.	Type	Blows Per 6"	NSCS				Soil Desc	ription	0	0 1	olow/ft ure % 40	60	Notes	
ngs/PENTU	- 0				\square		SP	Fill:		iniform,	fine, 8-12%	nonplastic fines, light			40			- 0 —
12-18 bori				1		3-3-7-7	SM	brov	y Sand, i wn			% nonplastic fines,	1/					_
entucket/SD	- 5		X	2		5-2-1-2	GP		d, 1-3%			85-40% coarse to fine aturated, light gray					-	5 _
2018/PES Pe				3		9-12-21-34	SM	Glao grav	cial Till: vel, coar	rse to fi		graded, 15-20% stly fine, 25-30%						_
File: C::Users\HML Associates\Documents-HML/Projects 2018/PES PentuckentSD112-18 borings\PENTUCKET- MS 12-18.log	- 10	Ï		4	3	1-67-74-10	0				d Bedrock							_ 10
s/Documents																		_
IL Associate	- 15							Bori	ing com	pleted a	at depth of 1	4.0 feet					-	15 — —
																		_
F	- 20																-	 20
w.civiltecn.c																		_
e, USA ww	- 25																-	25
ech Softwar																		_
SuperLog Civillech Software, USA www.civiltech.com	- 30																_	 30
																		_
	- 35 Re	emar Rolle		efusa	l at 14	 4.0 ft								<u> </u>				- 35 —

Boring Log No. MS-102 Pentucket Regional High/Middle School

				eket Keglonar m	3				
Location: West	-							ore & Whittier, Arcl	hitect
Method: Wash								EL: 40' +	
Hammer: Safet	-			Hammer weight (Ib): 14				oth (ft): 15	
Sampler: Split	Spoon		Drop (in): 30	G.W.T. @ Drilling (ft): 5				by: S. Reynolds	
Driller: Matt				Drill Date: December 6,				ent: ATV Rotary	
Depth Strata GWT	Type Blows Per 6"	nscs	Soil Desc	ription		PT. blow/f pisture %		Notes	
	· ШШ		- L - 14		0 20	40	60		0 -
- 1111			bhalt Sand, uniform, medium to	fine, 8-12% nonplastic					
-	1 4-4-6-9		s, light brown, trace of coar	se sand and gravel,					
-			t gray silty sand in tip. nd, uniform, fine, 5-10% nor	plastic fines, It gray					
-5			l light yellow brown						- -
-5	2 6-9-12-14								5 –
		N/I 0114	Rubahan La Ala Parta Lanana	have first					
		ML Silt	, slightly plastic, light brown d.	trace of very fine					
- 10	3 4-5-11-13				$ \rightarrow $				10 –
			cial Till: Silty Sand, widely g			\mathbb{N}			
	4 36-18-13-11		vel, coarse to fine sand, mo plastic fines, gray brown.	stly fine, 25-30%					
_ 15 🛕 💧			ing completed at depth of 1	5.0 foot					15 –
-		BOI	ing completed at depth of 1	5.0 1661					
-									
-									
- 20									20 –
									20
-									
- 25									25 –
- 30							+		30 –
									-
- 35									· 35 –
Remarks:									50

Boring Log No. RB-1001 Pentucket Regional High/Middle School

Metho	d: W	ash a	nd D)rive									Grou	nd EL: 29	•	
Hamn								Hamm	er weight (lb): '	140				depth (ft)		
Samp			рооі	n			Drop (in): 30		@ Drilling (ft):						Reynolds	
Drille							,		ate: December		18			pment: A1		
			0	\$ FO	S							PT. blo			,	
Depth	Strata	No.	Type	Blows Per 6"	nscs		Soil E	Description			0 M	oisture	e %		Notes	
-0	555				ML	Fill:	Topsoil :Sandy Silt, da	ark brown - 10	"	0	20		40	60		— 0
<u> </u>		1	$\left\ \right\ $	1-3-3-6	SM		Silty Sand, uniform, fir			_						
1			\mathbb{R}				plastic fines, brown ar		with coarse							
		2	$\ $	15-23-15-9		and r	medium sand and gra	vel.								
-5		3	$\left \right $	3-2-11-15												5
1		5	$ \square$	5-2-11-15												-
-				-	СН	Silty	Clay, moderate to hig	hly plastic lig	nt vellow	_						
					5.1		n to light gray	, piasto, ilg								
- 10		4	$\ $	4-5-6-7												1
- 15		5	$\left \right $	3-4-5-5							\square					1
						Borin	ng completed at depth	of 16.0 feet		_						
- 20																20
																_
- 25																2
- 30																3
-35 -																2
	marks												· 1			— 38

Boring Log No. RB-1002 Pentucket Regional High/Middle School

Loca	ation	We	st N	owł	bury, MA										Clien	t: Dore & Whittie	r Architects
	nod: \				-											nd EL: 29'	, , , , , , , , , , , , , , , , , , , ,
Lom	mer:										Hammer weight (Ib):	140				depth (ft): 16	
	pler:			oor	n			Drop	(in): 30		G.W.T. @ Drilling (ft					ed by: S. Reynol	ds
	er: M	-						•	()		Drill Date: Decembe		8			oment: ATV Rota	
Sam	Strata	GWT	No.	Type	Blows Per 6"	i USCS				Soil Desci	iption		■ SP [*] ⊃ Mo 20	T. blo [,] isture	w/ft %	60	-
 5 5			1 2 3	\square	3-5-8-9 - 6-8-11-15 8-17-13-6	ML SM	unife Fill: 20-3 with	orm, fine Sandy C 35% non coarse	e, 1-3% r Clay and I-plastic f and med	nonplastic f Silty Sand fines, brow dium sand	rown - 6" Sand, ines, light gray brown , uniform, fine sand, n and gray brown, and gravel. lastic, light yellow						- - - 5 — -
10 10 			4		3-5-5-7			vn to ligh		5 71							- - 10 — - -
- 15 			5		3-4-4-4		Bori	ng comp	oleted at	depth of 1	6.0 feet						15
- - 35 Re	emar	ks:															- - - 35

Boring Log No. RB-1003 Pentucket Regional High/Middle School

	==.									Fentu	cket Regional	піді	1/ 191	iuc	JIE .	SCI	001		
Loca	ation:	Wes	t Ne	ewb	ury, MA										c	lient	Dore & W	/hittier, A	rchitect
Meth	nod: V	Vash	and	d Dr	ive										G	iroun	d EL: 23.5	;	
Ham	mer:	Safet	y								Hammer weight (lb): 140			F	ole c	lepth (ft): '	11	
Sam	pler:	Split	Spo	oon				Drop	(in): 30		G.W.T. @ Drilling (1	ťt): 3			L	ogge	d by: S. R	eynolds	
Drill	er: Ma	tt									Drill Date: Decemb	er 7, 20	18		E	quip	ment: ATV	Rotary	
Depth	Strata	GWT	No	Type	Blows Per 6"	nscs				Soil Desc	iption		0 1		blow ture %	, D	0	Notes	
- 0 			1		1-3-2-2	ML		Topsoil wn sand	-	Silt, dark b	rown 6" to dark gray	0			40		0		— 0 —
-		Ŧ				ML		yey Silt, t gray	slightly p	lastic, ligh	yellow brown and								
Sam Drill 			2		4-8-16-14	SM	grav		-		raded, 15-20% 30% nnplastic fines,								5
10			3		0-20-44-56	3	Bori	ing com	pleted at	depth of 1	1.0 feet	_					+		10 —
_																			
- 15																	-		15 –
_																			
_ 20																	_		20 —
-																			
25 25 																			
25 																			25
_																			-
- 30 -																	-		30 —
-																			
- 35 Re	emark	s:																	35

Boring Log No. RB-1006 Pentucket Regional High/Middle School

Method: W	Vash	and [Drive					Ground El	.: 23.5'
Hammer:	Safet	у				Hammer weight (lb): 1	40	Hole depth	n (ft): 11
Sampler:	Split	Spoo	n		Drop (in): 30	G.W.T. @ Drilling (ft):	3	Logged by	: S. Reynolds
Driller: Ma	att	_				Drill Date: December	10, 2018	Equipmen	t: ATV Rotary
oth ata	Ļ	e .	ws 6"	S			SPT. b		
Depth Strata	GWT	Tvpe	Blows Per 6"	nscs	Soil Des	scription	 Moistu 20 	40 60	Notes
-0				ML ML	Fill: Topsoil :Sandy Silt, dark			40 00	0
		1	1-8-4-4		Sandy Silt, slightly plastic, 20 gray, trace of coarse and me				
	Ŧ	2	7-16-10-20	ML	Glacial Till: Sandy Silt, nonpl	astic, 15-20% gravel,	-		
					20-30% coarse to fine sand,	mostly fine, brown gray			
-5	:	3 \	22-17-14-1	7					5
			۲ د						
[۵ <u>¯</u> ۵			1						
- 10		4 \	17-20-29-4	o					1
<u>, </u>			<u>ا</u> لا		Boring completed at depth of	11.0 feet			
- 15									1
- 20									2
- 25									2
- 30									3
									3

Boring Log No. RB-1004 Pentucket Regional High/Middle School

Meth	od: V	Vash	and	d Driv	e								Gro	ound	EL: 23.5'	
Ham	mer:	Safe	ty					1	Hammer we	eight (lb): 1	40		Ho	le de	pth (ft): 11	
Sam	pler:	Split	Spo	oon				Drop (in): 30	G.W.T. @ D	rilling (ft):	3		Log	gged	by: S. Reynolds	
Drille	ər: Ma	att							Drill Date: [)ecember '	10, 201	8	Equ	uipm	ent: ATV Rotary	
Depth	Strata	۲	ö	Type	Blows Per 6"	nscs		0-11	Description				blow/ft		Natas	
De	Str	GWT	No.	[⊥]	Blo Pei	SU		5011	Description			20	ture % 40	60	Notes	
-0						ML ML		: Topsoil :Sandy Silt, c								— 0
			1	1	-4-3-3	IVIL	Jai	ndy Silt, slightly plastic y, trace of coarse and		brown						
	Δ. Δ. Δ. Δ.	Ŧ	2	\int	14-12-1	ML		cial Till: Sandy Silt, no			1	/				
	8,8	_	2		14-12-1	2		20% gravel, 20-30% c	parse to fine sand, i	nostly						
-5	88		3	12-	11-9-12	2	fine	e, brown gray								5
	â_â,															
	22															
	م گ _ی گ															
- 10				ΠL.	0.40.47											1
10	° °, °,		4	/r-1	0-13-17											1
							Bor	ring completed at depth	of 11.0 feet							
- 15																1
- 20																2
- 25																2
20																2
- 30														$\left \right $		3
-																
- 35																- 3

Boring Log No. RB-1007 Pentucket Regional High/Middle School

Meth	nod: N	Vasł	n an	d D	rive								Gro	ound	EL: 37'	
	mer:									Hammer weight (Ib):	140	 			pth (ft): 16	
	pler:			000				Drop (in): 30		G.W.T. @ Drilling (ft):		 			by: S. Reynolds	
			l Sp	001				Diop (iii). 30				 				
	er: Ma	att								Drill Date: December	10, 2		blow/ft		ent: ATV Rotary	
Depth	Strata	GWT	No.	Type	Blows Per 6"	nscs		Soil	Desc	iption	0	loistu		60	Notes	
- 0		countered	1		4-8-7-8	ML SM	Fill: to fi	Topsoil :Sandy Silt, o Silty Sand, widely gra ine sand, mostly fine, wn, small coal pieces	aded,	5-10% gravel, coarse			40			- 0
- 5		GWT not encountered	2		12-13-9-9	SM	Gla grav	icial Till: Silty Sand, wi vel, coarse to fine san plastic fines, gray bro	d, mo							5
- 10			3	M	0-19-18-1)										1
- 15			4		1-40-34-3	5	Bor	ing completed at dept	h of 1	6.0 feet	_			+		1
- 20																2
- 25																2
- 30																3
2F																2
- 35	emarl	(e·			<u> </u>							 1		1		- 3

Boring Log No. RB-1005 Pentucket Regional High/Middle School

Meth	nod: V	Vash	n an	d Di	rive								Gr	ound	EL: 23.5'	
Ham	mer:	Safe	ty						Hammer wei	ght (lb): 14	40		Но	le de	oth (ft): 11	
Sam	pler:	Split	Sp	oon	l			Drop (in): 30	G.W.T. @ Dri	lling (ft): 3	3		Lo	gged	by: S. Reynolds	
Drille	er: Ma	att							Drill Date: De	ecember 7	, 2018	3	Eq	uipm	ent: ATV Rotary	
Depth	Strata	GWT	No.	Type	Blows Per 6"	NSCS		Soil D	escription				. blow/f sture %	t	Notes	
口 - 0	о О	0			<u>ш</u> с						0	20	40	60		_ 0
		×	1 2		1-2-2-2 9-11-14	ML ML ML	Sar gra Gla	Topsoil :Sandy Silt, da dy Silt, slightly plastic, y, trace of coarse and n cial Till: Sandy Silt, nor	20-30% fine sand, b nedium sand. i to slightly plastic,							
_	\$_\$ `^`^			\square				20% gravel, 20-30% co , brown gray	arse to fine sand, m	ostly						
- 5	8_8 8_8		3	∐1	1-30-23-2	1										5
	\$ \$ `^^													+		
- 10			4	$\left \right\rangle \right $	15-24-50									+		1
							Bor	ing completed at depth	of 11.0 feet							
- 15																1
- 20											$\left \right $			+		2
- 25												_		+		2
00																~
- 30																3
- 35																- 3

Boring Log No. RB-1008 Pentucket Regional High/Middle School

Method: Wa	sh an	d Drive					Ground EL	: 41
Hammer: Sa	fety				Hammer weight (Ib): 14	40	Hole depth	(ft): 14.2
Sampler: Sp	lit Sp	oon		Drop (in): 30	G.W.T. @ Drilling (ft): 9)	Logged by:	S. Reynolds
Driller: Matt					Drill Date: December 1	0, 2018	Equipment	: ATV Rotary
Depth Strata GWT	No.	Type Blows Per 6"	nscs	Soil Desc	cription	■ SPT. bl ○ Moistur		Notes
ບ ເ ັ ຍັ			l s			0 20	40 60	
-10	1 2 3 4 5	11-4-9-9 15-17-13-1 17-20-25-2 13-10-9-10 100/2"	ML 1	Fill: Topsoil :Sandy Silt, dark I Fill: Silty Sand, widely graded, to fine sand, mostly fine, 15-20 brown, small coal pieces Silt, nonplastic, light brown, tra Glacial Till: Sandy Silt, non to 10-20% gravel, 20-30% coarse fine, brown gray Weathered bedrock Boring completed at depth of	5-10% gravel, coarse 0% nonplastic fines, ace of fine sand slightly plastic, e to fine sand, mostly			5 1(1) 2(2) 3(

Boring Log No. RB-1009 Pentucket Regional High/Middle School

					ury, MA										FL : 20	chitec
	hod: V			d Dr	ive										EL: 39	
Ham	nmer:	Safet	y						Hammer weight (Ib	o): 140			Hol	e de	pth (ft): 10.2	
Sam	pler:	Split	Sp	oon				Drop (in): 30	G.W.T. @ Drilling ((ft): 2			Log	gged	by: S. Reynolds	
Drill	er: Ma	tt							Drill Date: Decemb	oer 10, 2	2018		Equ	ıipm	ent: ATV Rotary	
oth	ata	7		be	%s .0	cs							low/ft			
Depth	Strata	GWT	Š	Type	Blows Per 6"	nscs		Soli L	escription		о м			60	Notes	
- 0				NI		ML SM		Topsoil :Sandy Silt, da		0	20	,	40	69		— 0
-		_	1	\ E	8-15-47-42	SM			ed, 5-10% gravel, coarse							
	阙	-			-			ne sand, mostly fine, 1 vn, small coal pieces	-20% nonplastic fines,							
-								athered bedrock								
- 5														I		5
			2	\mathbb{N}	50/1"											-
			-	\square	00/1											
-																
— 10	622	:	3	_	50/2"		Bori	ng completed at depth	of 10.2 feet					•		10
-							Boli									
-																
- — 15																15
- 15																15
-																
_																
-																
- 20																20
-																
-																
-																
-																05
- 25																25
_																
-																
_																
- 30											+			\square		30
-																
-																
-																
-																
- 35																- 35

Boring Log No. B-2 Pentucket Regional High/Middle School

					ury, MA										Dore & Whittier, Archite
	nod: V	vasr	i an	d Di	rive									Ground	
Ham										Hammer weight (lb)					epth (ft): 34
Sam	pler:	Split	Sp	oon				Drop (in): 30		G.W.T. @ Drilling (ft	t): non	e		Sample	ed by: New England Bo
Drille	er: Ge	olog	gic							Drill Date: April 16 to	o 20, 2	018		Logge	d by: S.Reynolds
Depth	Strata	GWT	No	Type	Blows Per 6"	nscs		So	oil Descri	ption	0	■ SF ○ qu 20	(PP) t		Notes
— 0				NI		SM	Торя	soil							(
- - -		not encountered	1		1-2-3-6	SM	-	Sand, uniform, fine -plastic fines, light b	-						
— 5 -		GWT	2	Д	2-2-2-9										
			3	\mathbb{N}	7-6-6-9	СН		Clay, moderately to (PP) 2.5 to 4 tsf	o high pl	astic, yellow brown		T			
- — 10 -			4		3-4-6-6						0				
- - 15 -			5		1-3-4-4						C				
- - - 20			6	\square	1-2-2-4	СН		7 Clay, moderately to) 0.25	o high pl	astic, light gray qu					
- 25 -			7		6-4-5-4	SM	Silty	r Sand, uniform, fine S	e sand, 2	0-30% non-plastic					_ 2
							Glac	sial Till							
-	<u> </u>				-		Bori	ng completed at de	nth of 24	fa t					

Boring Log No. B-3 Pentucket Regional High/Middle School

weu	nod: V	vasn	an	d Di	rive								Grour	nd EL: 31.5
Ham	mer:								Hammer weight (lb)	: 140			Hole o	depth (ft): 21
Sam	pler:	Split	Sp	oon				Drop (in): 30	G.W.T. @ Drilling (ft): 7			Samp	led by: New England Bori
Drill	er: Ge	olog	jic						Drill Date: April 16 t	o 20, 201	8		Logge	ed by: S.Reynolds
Depth	Strata	GWT	No.	Type	Blows Per 6"	nscs		Soil De	escription	0	SPT qu(F	PP) te	esf	Notes
- 0			_	NI		SM	Тор	soil		0	20	4	0 (<u>60</u> 0
			1		1-2-5-9	SM	-	v Sand, uniform, fine to v -plastic fines, light brown	-					
- 5			2	\square	5-8-10-8	SP		d, poorly graded, mediu -plastic fines, It gray, mo			Ţ			5
		Ţ	3		9-9-12-14									
- 10			4		8-7-9-9	SM	-	v Sand, uniform, fine to v -plastic fines, yellow bro	-					10
- 15			5	\square	9-11-12-10	GM-ML	Glad	cial Till: Silty Gravel/Sa	ndy Silt					15
- 20			6		2-16-28-34	1								20
							Bori	ing completed at depth o	of 21 feet					
- 25														2
- 30														30
- 35	emarl													35

Boring Log No. B-4 Pentucket Regional High/Middle School

Meth	nod: V	Vash	an	d D	rive										Grou	nd E	L: 32	
Ham	mer:									Hammer weight (lb):	: 140			I	Hole	dept	h (ft): 19.5	
Sam	pler:	Split	Sp	oon	l			Drop (in): 30		G.W.T. @ Drilling (ft): 5				Sam	oled I	by: New England	Bori
	er: Ge							1		Drill Date: April 16 to		2018					y: S.Reynolds	
				Ð	s "o	Ŋ							SPT.	blow			<u> </u>	
Depth	Strata	GWT	No	Type	Blows Per 6"	nscs		Soi	il Desci	ription				P) te			Notes	
- 0						SM	Тор	osoil			0	2	20	40)	60		- 0
-			1		1-6-8-9	SM	-	y Sand, uniform, fine n-plastic fines, light or	-									
- - — 5		•		\square		SP		nd, poorly graded, me		o fine sand, 3-5%								5
- J		-	2 3	$\left \right $	4-5-9-10 12-7-12-13			i-plastic fines, brown			0							5
-			3		12-7-12-13	CH		y Clay, moderately to (PP) 2.75 to 3 tsf	o high p	lastic, yellow brown	0							
— 10 -			4		6-7-6-8													10
						GM-ML	Gla	cial Till: Silty Gravel	/Sandy	Silt with fractured								
- — 15			5		6-36-44-34	4	rocł	k	-									15
-																		
- 			6		100		Bor	ing completed at dep	oth of 1	9.5 feet Spoon						+		20
							Ref	usal										
- 25 -																		25
-																		
- — 30																		30
-																		
- — 35																		- 35

Boring Log No. B-5 Pentucket Regional High/Middle School

Loc	cation	: We	st N	ewb	oury, MA									(Client	Dore 8	Whittier	, Architec
Met	thod:	Was	h ar	nd D	rive									(Groun	d EL: 3	0.5	
Har	nmer	:								Hammer weight (Ib):	140			ł	lole d	epth (f	t): 41	
San	npler	: Spli	t Sp	oon	ı			Drop (in): 30		G.W.T. @ Drilling (ft):	5			5	Sampl	ed by:	New Eng	land Bori
Dril	ller: G	ieolo	gic							Drill Date: April 16 to	20, 2	018		L	.ogge	d by: S	.Reynold	ls
Depth Depth	ata	П		e	vs 6"	S								blow				
Depth	Strata	GWT	No.	Type	Blows Per 6"	nscs		Soi	il Desci	iption				P) tes			Note	es
<u>⊢</u> 0		; 	1		1-2-4-8	SM	Тор				0		0	40	6	0		0
- - - - - - - - - - - - - - - - - - -			-			SM SP-SM	-	/ Sand, uniform, fine -plastic fines, light o	-			$\left \right $						
		×	2		5-7-10-11			d, poorly graded, co	-									
-			3	$ \square $	6-8-9-10		med	dium, 8-12% non-pla	stic fine	es, brown, wet								
- 10			4		4-4-5-6	СН	Silty	y Clay, moderately to	high p	lastic, lt. brown						_		10
-						СН	Silty	/ Clay, moderately to	high p	lastic, light gray qu	+/							
-			5	$\left \right $	0-1-2-3		(PP)) 1.25 to 1.5 tsf										
20			6		0-4-4-7						0				_	_		20
-																		
-			7		0-2-1-3													
Ľ																		
30			8		9-10-8-9	SM	Silty	/ Sand, uniform, ver	y fine s	and, 15-20 %			Į			_		30
-			Ū				non-	-plastic fines, brown	, wet				\backslash					
-		, ,	9		0-17-18-2	GM-ML	Glad	cial Till: Sandy Silt v	vith gra	vel								
-			0		0 17 10 2	5												
40		2	10		2-28-24-2	8										_		40
1	12 2	2	10		2-20-24-2	5	Bori	ing completed at dep	oth of 4	1 feet								
_																		
-																		
- 																		50
																		50
F																		
-																		
_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _																		00
60 																		60
L																		
╞																		
-																		
-70	l Remai	drag	1		I							1			I			70

Boring Log No. B-6 Pentucket Regional High/Middle School

Loca	ntion [.]	West	Nev	vbury, MA						Client	Dore & Whittier, Architects
				Drive							d EL: 29.2
Ham								Hammer weight (Ib)	: 140		epth (ft): 41
	pler:	Split	Spo	on			Drop (in): 30	G.W.T. @ Drilling (f			ed by: New England Boring
	er: Ge	-	-					Drill Date: April 16 1			d by: S.Reynolds
				n 6 50	S			Dimbator, printer	■ SPT.		
Depth	Strata	GWT	Ŝ	Blows Per 6"	nscs		Soil De	scription		P) tesf	Notes
- 0			1	1-2-3-5	SM	Fill:	Topsoil		0 20	40 60	0 -
			'	1-2-3-3	OL	Org	anic Silt, dark brown, sa	turated	\neg		
			2	1-1-1-2							
	Ī	-	з [1-5-6-11	SM	Silty	Sand, uniform, fine to v	ery fine sand, 15-25 %			
- 10			4	3-7-10-14	сн		-plastic fines, gray brown Clay, moderately to hig				- 10 -
				-	СН	-) 4 to 4.25 tsf	n plastic, it. brown qu			
			5	2-3-3-3			y Clay, moderately to hig) 1.25 to 0.75 tsf	h plastic, light gray qu			
							1.23 10 0.73 13				
- 20			а Г	1-2-2-4							20 -
			7	0-0-0-3							
- 30			в	1-0-1-1					4		30 -
			9 F	0-2-4-2							
				J 0-2-4-2							
- 40		1	0	2-2-1-1							- 40 -
				2-2-1-1		Bori	ng completed at depth c	f 41 feet			
- 50											- 50 -
- 50											
~~											
- 60											- 60 -
- 70	mark										70 -

Boring Log No. B-7 Pentucket Regional High/Middle School

											-					
Loc	ation	We	st N	ewb	oury, MA									Clie	ent D	ore & Whittier, Architec
Met	hod: /	Auge	ers											Gro	ound	EL: 33
Ham	mer:									Hammer weight (Ib): 7	140			Hol	e de	pth (ft): 22
Sam	pler:	Spli	t Sp	oon	ı			Drop (in): 30		G.W.T. @ Drilling (ft):	3			Sar	nple	d by: New England Bori
Drill	er: G	eolo	aic					1		Drill Date: April 16 to	20. 2	018		Loc	aed	by: S.Reynolds
			<u>J</u>	0	<u>ه</u> ک	S				p			SPT. I	plow/ft	<u> </u>	
Depth	Strata	GWT	Ň.	Type	Blows Per 6"	nscs		Soil D	Descri	ption) tesf		Notes
0											0	2	0	40	60	0
_				\square		GM	Asp	halt Gravelly Sand				-				
_			1	$\left \right\rangle$	8-5-7-6	SM		/ Sand, uniform, fine to	verv	fine sand. 20-25 %						
							-	-plastic fines, yellow br	-	,						
						SP		id, poorly graded, medi		o fine sand, 5-8 %	1					
							non-	-plastic fines, brown								-
— 5				\square								-				5
_		-	2		2-5-8-12	MH	Silty	/ Clay, moderately to hi	igh pl	astic, yellow brown						
_																
_																
_																
— 10				\square												10
_			3	$\left \right\rangle \right $	1-2-11-10											
_																
_																
_																
— 15																15
_			4		3-5-10-10											
_				\square									$ \setminus$			
_														\backslash		
_																
<u> </u>	ЩЩ				-	ML	Glad	cial Till: Sandy Silt							+	20
20	22	1	_					,								20
		•	5	\ 1	6-28-38-62	2										
_							Bori	ing completed at depth	of 22	? feet						
_																
_																
— 25																25
_																
_																
_																
_																
— 30																30
L																
F																
F																
_																
— 35																35
R	emar	ks:														
	qu is	confin	ed co	ompre	essive stength r	measured by	y pocket per	netrometer								

Boring Log No. B-8 Pentucket Regional High/Middle School

	_											•							
Loca	ation:	We	st N	ewb	oury, MA										(Clie	nt D	ore & Whittier, Arc	chitects
Meth	nod: A	Auge	ərs												(Grou	und	EL: 29.5	
Ham	mer:										Hammer weight (lb): [/]	140			ł	Hole	e dej	pth (ft): 44.5	
Sam	pler:	Spli	t Sp	oor	า			Drop ((in): 30		G.W.T. @ Drilling (ft):	4			5	Sam	pleo	d by: New England	l Boring
Drill	er: Ge	eolo	gic								Drill Date: April 16 to	20, 2	018		I	Log	ged	by: S.Reynolds	
gt	ata	٧T	ö	be	.9	SS							s						
Depth	Strata	GWT	No.	Type	Blows Per 6"	nscs			Soi	l Descr	iption	0	○ q 2		te: 40		60	Notes	
n n−0			1		2-5-9-16	ML ML		Topsoil						,	40	,	00		_ 0 _
		¥			-	SP	Fill: \sqrav		Silt & Silty C	lay mix	es with sand and								_
		_	2	$ \square $	7-9-10-12				graded, me	edium t	o fine sand, 5-8 %		/						_
							non-	-plastic fi	ines, brown,	, wet			/						_
- 10			3		3-6-9-11								-						10 —
-						MH	Cilty		adarataly ta	bigh n	lastic,light gray	_							_
			4	$ \square$	2-3-3-4		Siity	Ciay, III		nign p	lastic,light gray								_
																			_
20			5		2-2-3-4														20 —
-																			-
-			6		2-4-2-4														-
			-																_
30			7		2-2-5-6							0							
			'		2-2-0-0								$\left \right $						_
-			•		2-4-7-7														_
	ЩЩ		8		2-4-7-7	ML	Glad	cial Till: 3	Sandy Silt			_	$ \setminus$						-
			_																- 40 —
			9		8-12-11-10										$\overline{\}$				40 —
_	22		10		100												+		_
-			10		100			ng comp fusal	leted at dep	oth of 4	4.5 feet Spoon								_
-																			-
50																			50 —
																			_
-																			_
-																			_
60												-							60 —
; -																			_
Ĺ																			_
F																			_
- 70																			— 70—
Re	emarl		ied cr	ompre	essive stength i	measured bv	pocket per	etrometer											
					5	.,													

Boring Log No. B-9 Pentucket Regional High/Middle School

	_										-						
Loc	ation:	We	st N	ewb	oury, MA									Clie	ent D	ore & Whittier, Arc	hitects
Met	nod: /	Auge	ers											Gro	und	EL: 29	
Ham	mer:								Hammer w	eight (lb): 1	40			Hol	e de	pth (ft): 40	
Sam	pler:	Spli	t Sp	oon	1			Drop (in): 30	G.W.T. @ D	orilling (ft):	6			San	nple	d by: New England	Boring
Drill	er: Ge	eolo	gic						Drill Date:	April 16 to 2	20, 20	18		Log	ged	by: S.Reynolds	
Depth	Strata	GWT	No.	Type	Blows Per 6"	nscs		Soil D	escription			∎ SF ⊃qu		tesf		Notes	
0			1		4-4-4-5	GM	Fill:	Gravelly Sand			0	20		40	60		- 0
E						SM	Siltv	Sand, uniform, fine to	verv fine sand. 15	-25 %	-	\backslash					_
		¥	2		8-11-12-15		non-	plastic fines, yellow bro	own	/		/					_
-								d, poorly graded, mediu plastic fines, brown	im to fine sand, 5	5-8 %		Λ					_
- 10	Î		3		3-6-8-9	MH		Clay, moderately to hi	gh plastic, light gra	ау	10	-					10 —
-												/					_
			4		2-3-3-4												_
_																	_
20			5		1-3-3-3							_	_	-			20 —
-																	_
			6		3-3-3-4												_
																	_
- 30			7	$\left \right $	1-4-4-5									_			30 —
-																	_
-			8		2-5-5-6												_
														\downarrow			_
-40	ΔÅ		9		2-22-50-10			ial Till: Sandy Silt									40 —
-							Bori	ng completed at depth	of 40 feet Spoon	Refusal							_
-																	_
Ľ																	_
_ 50														_			50 —
																	_
-																	-
-																	_
60																	60
· -																	-
+																	_
+																	_
70																	_ _ 70 _
	emarl	ks:															
	qu is	confin	ied co	ompre	ssive stength	measured by	pocket pen	etrometer									
1																	

Boring Log No. B-10 Pentucket Regional High/Middle School

tion: V	/est l	lewb	ourv. MA					Client D	ore & Whittier, Architects
			,						
	gers					Hammor woight (Ik	»): 140		
	alit 6				Drop (in): 20				d by: New England Borin
		-	1		Drop (iii). 30				
			10 F	(0		Drill Date: April 16			by: S.Reynolds
Strata	N N	Type	Blows Per 6'	nscs	Soil D	escription			Notes
			-	CL	Asphalt Fill: Sandy Clay with grave	l grav			
	1	$\ $	5-5-5-5	МН					
						gn plaoto, iignt gray			
		\square							F
JJJJ _	2 2		5-2-4-6						5
	_			СН	Silt Clay, mediuj t highly pla	itic, yellow brown			
	3	$\left\ \right\ $	2-3-4-6						10
	4	$\left \left \right\rangle\right $	3-3-3-4						15
			-						
Δ.				ML	Glacial Till: Sandy Silt				
Δ.									
Δ.	5	\1	8-20-16-12	2					20
ι <u>Δ</u> .									
ХХ A.A.			-						
					Boring completed at depth	of 23 feet Refusal			
									25
									30
									35
			essive stength						
	od: Au mer: pler: Si pr: Geo	od: Augers mer: pler: Split S or: Geologic statistics stati statistics statistics statistics statistics statistics st	od: Augers mer: pler: Split Spoor sr: Geologic state state	mer: split Spoon ar: Geologic ar: Colspan="5">Solidities ar: Arrow arrow Arrow Arrow arrow Arrow Arrow arrow Arrow Arrow	od: Augers mer: pler: Split Spoon sr: Geologic at box a	od: Augers mer: pler: Split Spoon Drop (in): 30 gr Geologic Image: Split Spoon CL Asphalt Fill: Sandy Clay with grave Image: Split Spoon CL Asphalt Fill: Sandy Clay with grave Image: Split Spoon 2 Solid Display CL Asphalt Image: Split Spoon 2 Solid Display CL Asphalt Image: Split Spoon 2 Solid Display CL Asphalt Image: Split Spoon 5-5-5-5 CL Asphalt Solid Display Image: Split Spoon 2 Solid Display Solid Display Auge: Split Sp	Image: Index in the second s	Hammer weight (lb): 140 Drop (in): 30 G.W.T.@ Drilling (ft): 6 Drop (in): 30 G.W.T.@ Drilling (ft): 6 Second Colspan="4">Origin (ft): 30 G.W.T.@ Drilling (ft): 6 Second Colspan="4">Second Colspan="4"	Ground mar: Ground market (lb): 140 Hammer weight (lb): 140 Hole de plet: Spit Spoon Ground Market (lb): 140 Hole de plet: Spit Spoon Ground Market (lb): 140 Hole de plet: Spit Spoon Ground Market (lb): 140 Hole de plet: Spit Spoon Ground Market (lb): 140 Hole de plet: Spit Spoon Ground Market (lb): 140 Hole de plet: Spit Spoon Ground Market (lb): 140 Hole de plet: Spit Spoon Orong (lb): 140 Ground Market (lb): 140 Logged g </td

Boring Log No. B-11 Pentucket Regional High/Middle School

Location: West Newb	ury, MA				Client Do	re & Whittier, Architects
Method: Augers			1		Ground E	L: 29.5
Hammer:			Hammer weight (lb): 14	40	Hole dept	h (ft): 16
Sampler: Split Spoon		Drop (in): 30	G.W.T. @ Drilling (ft): 3	3	Sampled	by: New England Boring
Driller: Geologic			Drill Date: April 16 to 2	20, 2018	Logged b	y: S.Reynolds
Depth Strata GWT No. Type	Blows Per 6" USCS	Soil Desc	cription	■ SPT.t ○ qu(PP		Notes
	SM Sil 10-9-10-15 fin 2-3-7-11 CH no	: Gravelly Sand ty Sand, medium to fine sar es, gray brown nd, poorly graded, medium n-plastic fines, wet, gray-bro ty Clay, med. plastic, green ises	to fine sand, 1-3%		40 60	
- 10 - 10 	3-5-6-9					- 10 — - -
4	1-2-3-3 Bc	ring completed at depth of	16 feet			- - 15 -
- 20 						- 20 — -
- 						- - 25 — -
- 						- - 30 — -
- 35	ssive stength measured by pocket p	enetrometer				- -

Boring Log No. B-201 Pentucket Regional High/Middle School

ł	Loca	ation: We	et No	wbury, MA						Client	Dore & Whittier, Architects
				-							
ł		mer: Saf		em Augers				Hammer weight (lb): 1	40		d EL: 38 epth (ft): 8.5
019		pler: Spl	-	on			Drop (in): 30	G.W.T. @ Drilling (ft):			ed by: New England Boring
Date: 7/17/2019			-	nd Boring Co	ontractors			Drill Date: July 9, 2019			d by: S.Reynolds
Date:						,		Drin Date. July 3, 2013	SPT. b		
S.log	Depth	Strata GWT	No.	Type Blows Per 6"	nscs		Soil Desc	ription	O Moistur 0 20		Notes
SuperLog CiviTech Software, USA www.civiltech.com File: C:Usersinick/Documents/Projects 2016/PES Pentucket/DD/LOGS/PENTUCKET hs JuLY 19 LOGS.log	0 2		1 2 3 4	- с с 4-5-11-9 - 13-15-35-28 9-17-16-16 18-21-75	SM SP ML	Glac	halt Gravelly Sand, It. brown Sial Till: Sandy Silt, 20-30% tly fine, 10-20% gravel, gr	ay brown			0 - 0 0
	- - 14										14-
		emarks:									

Boring Log No. MS-101 Pentucket Regional High/Middle School

Loc	ation	: We	st N	lewb	oury, MA												Clie	nt: C	Oore & Whittier, Ar	chitects
Met	thod: \	Was	h ar	nd D	rive												Gro	und	EL: 40' +	
Har	nmer:	Saf	ety					1				Hammer weight (Ib	b): 14	0			Hole	e dep	oth (ft): 14	
Sar	npler:	Spli	it Sp	oon	1			Drop	o (in): 3	30		G.W.T. @ Drilling ((ft): 5				Sam	plec	d by: S. Reynolds	
Dril	ller: M	att										Drill Date: Decemb	oer 6,					ged	by: ATV Rotary	
Depth	Strata	GWT	No.	Type	Blows Per 6"	nscs				Soil De	escrip	tion			0 1	. blo\ ture 4	%	60	Notes	
— 0 —		1		Π		SP	Asp Fill: brov	Sand, u	uniform	ı, fine, 8-12	2% n	onplastic fines, light	-	I	/					- 0 -
_			1		3-3-7-7	SM	Silty brov	/ Sand, wn				nonplastic fines,								-
5		Ŧ	2		5-2-1-2	GP	1	d, 1-3%				-40% coarse to fine Irated, light gray								5 –
_		4	3	$\left \right $	9-12-21-34	SM	Glao grav	cial Till: /el, coar	rse to fi	fine sand, r	mostl	aded, 15-20% ly fine, 25-30%								-
_ 10 _			4	3	1-67-74-10	0				ray brown ed Bedrocł								+		- 10 —
																				-
_ 15		1			L		Bori	ing com	pleted	at depth o	of 14.0	0 feet								- 15 —
_																				-
- 20													_							20 —
_																				
- - 25																				- 25 —
— 23 —																				
_																				
— 30 -													_							30 —
																				-
- 35																				- 35 -
- 35 R	lemar	ks: er bit r	efusa	I at 14	4.0 ft															— 35

Boring Log No. MS-102 Pentucket Regional High/Middle School

Loca	ation:	We	st N	ewb	oury, MA								Clie	nt: Dore	& Whittier	, Archited
Meth	nod: N	Nas	h an	d D	rive								Gro	und EL:	40' +	
Ham	mer:	Safe	əty						Hammer v	/eight (lb): 14	0		Hole	e depth	(ft): 15	
Sam	pler:	Spli	t Sp	oor	l			Drop (in): 30	G.W.T. @	Drilling (ft): 5			Sam	pled by	: S. Reynol	ds
Drille	er: Ma	att							Drill Date:	December 6,	2018		Log	ged by:	ATV Rotar	y
Depth	Strata	GWT	No.	Type	Blows Per 6"	NSCS		Soil [Description		■ S ○ N	<i>l</i> oistu	olow/ft ire %		Note	
		▶]_1	1 2 3 4		4-4-6-9 6-9-12-14 4-5-11-13 6-18-13-1	SP SP ML	Fill: fine ligh San and Silt, san Gla grav non	halt Sand, uniform, mediur s, light brown, trace of t gray silty sand in tip. Id, uniform, fine, 5-10% light yellow brown slightly plastic, light br d. cial Till: Silty Sand, wid vel, coarse to fine sand plastic fines, gray brow ing completed at depth	coarse sand and nonplastic fines, own, trace of very ely graded, 15-20 , mostly fine, 25-3	onplastic gravel, It gray				60		0 5 10 15 20
- 25 -																25
- 30																30
- 35																35

Boring Log No. MS-103 Pentucket Regional High/Middle School

Location: W	lest N	lewb	oury, MA									Client:	Dore & Whittier, Arc	hite
Method: Wa	ish a	nd D	rive									Groun	d EL:	
Hammer: Sa	afety						Hamme	er weight (lb): 1	40			Hole d	epth (ft): 16	
Sampler: S	olit S	oor	ı			Drop (in): 30	G.W.T.	@ Drilling (ft): '	10		:	Sample	ed by: S. Reynolds	
Driller: NE E	Borin	g Co	ntractors				Drill Da	ite: July 9, 2019)			Logge	d by: ATV Rotary	
Strata	No.	Type	Blows Per 6"	nscs	Тор		escription		0	■ SPT ○ Moi 20		%	Notes	- 0
-5	1		8-5-8-8	SP SP	10-1 gray San	Silty Sand, poorly grad 5% gravel,15-25 % no r brown d, poorly graded, medi olastic fines, light gray	nplastic fines, um to fine, 1-3	dry, light					_	5
	3	_ 1	3-14-13-1	SM 4	grav	cial Till: Silty Sand, wid rel, coarse to fine sand olastic fines, gray brow	mostly fine, 2	20-30%					_	10
- 15	4	4	7-48-41-5	D	Bori	ng completed at depth	of 16 feet		_				+	1
- 20													_	20
- 25													_	25
- 30													_	30
- 35														- 35
Remarks														

Boring Log No. MS-104 Pentucket Regional High/Middle School

Loca	ation:	Wes	t Ne	ewb	ury, MA								Clie	nt: Dore	& Whittier, A	Archite
Meth	nod: V	Vash	an	d Dr	rive								Gro	und EL:		
Ham	mer:	Safe	ty						Hammer	r weight (lb): 14	10		Hole	e depth (1	it): 17	
Sam	pler:	Split	Sp	oon				Drop (in): 30	G.W.T. @	Drilling (ft): 1	4		Sam	pled by:	S. Reynolds	6
Drille	er: NE	Ε Βοι	ring	Co	ntractors				Drill Dat	e: July 9, 2019			Log	ged by: A	ATV Rotary	
Depth	Strata	GWT	No.	Type	Blows Per 6"	NSCS		Soil E	escription		0 N	<i>l</i> loistu		60	Notes	
- 0 - 5 - 10 - 15		▼	1 2 3 4	65	5-3-6-8 0-9-16-14 5-1515-1 5-18-24-2	SP-SM 0 SM	Fill: 10- gray Silty non Gra 20-2 Gla gray	Soil Silty Sand, poorly grac 15% gravel,15-20 % nc / brown / Sand, uniform, very f plastic fines, light gray, velly Sand, poorly grac 25% gravel, 8-12% fine cial Till: Silty Sand, wid /el, coarse to fine sand plastic fines, gray brow	nplastic fines,d ine sand, 12-20 dry ed, medium to s, gray brown ely graded, 10- , mostly fine, 15	lium sand, ry, light % fine sand, 15%				60		0 5 10
- 20							Bor	ing completed at depth	of 17 feet							20 25
- 30																30

Boring Log No. B-202 Pentucket Regional High/Middle School

								Creation	
			n Augers				40		1d EL: 39
Hamme Sample			•		Drop (in): 30	G.W.T. @ Drilling (ft):	40		depth (ft): 15 led by: New England Boring
			Boring Co	ontractors		Drill Date: July 9, 2019			ed by: S.Reynolds
						Drin Date. July 9, 2019		. blow/ft	
Depth	GWT	Type	Blows Per 6"	nscs	Soil D	Description	O Mois	ture %	Notes
-0 -0 -10 -10 -10 -10 -10 -1		1	1-3-7-8	S₩ ML	Asphalt Fill: Gravelly Sand, It. brow Glacial Till: Sandy Silt, 20- mostly fine, 10-20% gravel Metamorphic Sandstone/S unweathered Boring completed at depth	30% coarse to fine sand, , gray brown Shale, dark gray, hard,			- 0 - 5 - 5 - 10 - 10 - 10 - 10 - 10 - 1
_ _ 35									35

Boring Log No. B-203 Pentucket Regional High/Middle School

Loca	ation:	Wes	st N	ewb	oury, MA								Clien	t: Dore & Whittier, Architect
					Augers									nd EL: 34
	nmer:								Hammer weight (lb):	140			Hole	depth (ft): 14.25
Sam	pler:	Split	Sp	oon	1			Drop (in): 30	G.W.T. @ Drilling (ft):	: 14			Samp	oled by: New England Borin
Drill	er: Ne	w E	ngla	and	Boring Co	ontractors			Drill Date: July 9, 201	9			Logg	ed by: S.Reynolds
Depth	Strata	GWT	No.	Type	Blows Per 6"	uscs		Soil De	escription		■ SF ○ Mo 20	oisture	e %	Notes
— 0 —			1	\square	3-4-5-5	§₩	Asph Fill: C	alt Gravelly Sand	/		•		40	0 -
_						SP-SM		Sand, uniform, fine sar , lt. brown	d, 10-15% non-plastic					
5			2	\square	4-5-6-12	SP		l, uniform, fine sand, 1- n, moist	3 % non-plastic fines, lt.					5 -
0 0 5 5 10 10 15 15 15						СН		Clay, moderately to hig	hly plastic, light yellow					
_ 10 _			3		2-2-3-4						I			10 -
- - 15 		¥	4		4-100	ML		ey Silt, moderately plas ig completed at depth o	tic, lt. brown, saturated f 14.75 Refusal		•			Wx bedrock in spoon 15 - tip
_ _ 20														20 -
25 														25 -
_ - -														
— 30 — —														
- - 35	emarł													35-

Boring Log No. B-204 Pentucket Regional High/Middle School

Loca	ation: W	est N	lewk	oury, MA								С	lien	t: Dor	e & Whitt	er, Archite
Meth	nod: Ho	lows	Sten	n Augers								G	irou	nd EL	.: 36.5	
Ham	imer: Sa	fety							Hammer weight (Ib)	: 140		н	ole	depth	n (ft): 10	
Sam	pler: Sp	lit Sp	oor	ı			Drop (in): 30		G.W.T. @ Drilling (ff	t): non	e	s	amp	oled b	y: New Er	igland Boi
Drille	er: New	Engl	and	Boring Co	ontractors	6			Drill Date: July 9, 20)19		L	ogg	ed by	: S.Reyno	lds
Depth	Strata	No.	Type	Blows Per 6"	uscs			Soil Descr	iption	0	■ S ○ N 2		þ	60	No	otes
- 0 - - - - - 2 - -	B B C <td>1</td> <td></td> <td>5-5-8-8</td> <td>SM SP SM</td> <td>Glac fine,</td> <td>Gravelly Sand,</td> <td>nd, coarse t</td> <td>o fine sand, mostly n-plastic fines,</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td> 0</td>	1		5-5-8-8	SM SP SM	Glac fine,	Gravelly Sand,	nd, coarse t	o fine sand, mostly n-plastic fines,							0
- 6		2		10-10-10-9												4
- 8 - -														_+		8
		3		7-100	СН	Bedr	rock Refusal									
– 10	222					Boriı	ng completed a	t depth of 10) feet							1
- 12																1
- 14 Re																1

Boring Log No. B-205 Pentucket Regional High/Middle School

Location: West Newbury, MA				Client: I	Dore & Whittier, Architects
Method: Hollow Stem Augers				Ground	
Hammer: Safety		Hammer weight (Ib): 14	10	Hole de	pth (ft): 4.5
Sampler: Split Spoon	Drop (in): 30	G.W.T. @ Drilling (ft): r	ione	Sample	d by: New England Boring
Driller: New England Boring Contractor	S	Drill Date: July 10, 201	9	Logged	by: S.Reynolds
Depth Strata GWT No. Type Blows Per 6" USCS	Soil De	scription	SPT. bl	re %	Notes
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Top Soil Fill: Gravelly Sand, It. brown Glacial Till: Sandy Silt, 20-30 mostly fine, 10-20% gravel, g Boring completed at depth o	0% coarse to fine sand, gray brown			
					 10
– 14 – 14 –					14

Boring Log No. B-206 Pentucket Regional High/Middle School

Hamm	ner: Sa	fety						Hammer weight	t (lb): 140)	Но	le dept	h (ft): 11.5	
Samp	ler: Sp	olit Sp	oon	1			Drop (in): 30	G.W.T. @ Drillir	ng (ft): no	one	Sai	npled	by: New Eng	land Bori
Driller	r: New	Engl	and	Boring Co	ontracto	rs		Drill Date: July	10, 2019		Log	gged b	y: S.Reynold	s
	Strata	No.	Type	Blows Per 6"	NSCS			Description	0	O Moi	Γ. blow/ft sture % 40	60	Note	
-2		2		4-6-9-11 9-26-36-22	SM	Gla	Soil cial Till: Silty Sand, coa , 10-15% gravel, 15-30 _/ -brown	rse to fine sand, mostly % non-plastic fines,						0 2 4 6 8
- 10	Δ.	3		56-54-64		Bor	ing completed at depth	of 11.5 feet						10 12

Boring Log No. B-207 Pentucket Regional High/Middle School

ł																					
ł	Loc	ation: We	st N	ewb	oury, MA											0	Client	Dore	& Whitti	ier, Arcl	hitects
	Met	hod: Holl	ow S	tem	Augers											(Groun	d EL:	32		
	Han	nmer: Saf	ety					1			Hamme	er weight (lb)	: 140			ŀ	lole d	epth (ft): 16		
Date: 7/17/2019	San	npler: Spl	it Sp	oon	1			Drop	o (in): 30	0	G.W.T.	@ Drilling (f	t): 5			5	Sampl	ed by:	New Er	ngland E	Boring
te: 7/1	Dril	ler: New I	Engla	and	Boring C	ontractors	5				Drill Da	ite: July 9, 2	019			L	.ogge	d by: \$	S.Reyno	lds	
	Depth	Strata GWT	No	Type	Blows Per 6"	nscs				Soil Desc	cription			0 1	SPT. Noist	ure 9	6		No	otes	
Y 19 LOGS	— 0 -					SM	Тор	Soil					0	2	20	40	6	0			0 —
JCKET hs JuL	_		1		3-4-4-3	ML	San	dy Silt,	non-pla	astic, 20% fi	ine sand, y	ellow brown									-
File: C:UsersInickI/Documents/Projects 2018/PES Pentucket/DD/LOGS/PENTUCKET hs JuLY 19 LOGS.log	—2 - -					SP			ium to fi gray-bro	fine sand, 1-	-4% non-pl	astic fines,						_			2 —
ES Pentucket/U	- - 4						Salu	nated, g	Jiay-bio	own											- 4 —
rojects 2018/PE	_	¥	2		4-8-5-5	CL	Silty	v Clay, r	modera	te to highly	plastic, It g	ray brown,		T							_
(NDocuments/P	- 6 						with	silt pari	ings wit	th increasin	g depth							_			6 —
: C:\Users\nich	_																				-
t	— 8 -																	_			8 —
A www.civiite	-																				-
Software, US	— 10 - -		3		3-4-5-7																10 —
SuperLog CivilTech Software, USA www.civiltech.com	- - 12																				_ 12
adne	-																				-
-	- 14 R	emarks:								N											_ 14 —

Boring Log No. B-207 Pentucket Regional High/Middle School

Location: West N	ewbury, MA				Client:	Dore & Whittier, Architect
Method: Hollow S	tem Augers				Ground	EL: 32
Hammer: Safety			Hammer weight (lb): 140)	Hole de	pth (ft): 16
Sampler: Split Sp	oon	Drop (in): 30	G.W.T. @ Drilling (ft): 5		Sample	d by: New England Boring
Driller: New Engla	and Boring Contractors	;	Drill Date: July 9, 2019		Logged	by: S.Reynolds
epth VT No	Type Blows Per 6"		scription	■ SPT. b ○ Moistur	ow/ft e %	Notes
	2-5-5-4	Silty Clay, moderate to high with silt parings with increas			40 60	14 -
- 16		Boring completed at depth c	f 16 feet			16 –
18 			_			- 18 -
20 						20 -
22						22 -
24 						- 24 -
26 						- 26 -
28 Remarks:						28 -

Boring Log No. B-208 Pentucket Regional High/Middle School

Ī	Loca	ation:	West	t Ne	wbu	ıry, MA															Client: Dore & Whittier, Architects			ts
	Meti	nod: H	lollov	v St	em	Augers														(Gro	und	EL: 32	
	Ham	mer:	Safet	y										Ham	mer wei	ight (lb):	140			I	Hole	e dej	oth (ft): 4	
Date: 7/17/2019	Sam	pler:	Split	Spo	oon					Drop	p (in):	: 30		G.W.	T. @ Dr	illing (ft)):4 m	ottle	s		Sampled by: New England Boring			
te: 7/1	Drill	er: Ne	w En	gla	nd E	Boring C	ontra	actors						Drill	Date: Jı	uly 10 2	019				Logged by: S.Reynolds			
								ioil Desc	escription						blow ture ^o 40	%	60	Notes						
File: C:/Users/nick/\Documents\Projects 2018\PES Pentucket\DD\LOGS\PENTUCKET hs JuLY 19 LOGS.log				1	8-	-16-23-2		AL	fine, gray	, 15-20 /-browr	0% gra n	avel, 20	, coarse 0-30% n epth of 4	on-plas	tic fines,	-						60	0 2 wx bedrock is spoon tip 4	
ile: C:\Users\nicki\Documer	6 - -																						6	
f	- 8 - -																						8	
	10 - - -																						10	
onhairo	- 12 - - -																						12	-
	– 14 Re	emark	ks:																<u> </u>					

PENTUCKET HIGH SCHOOL, WEST NEWBURY, MA <u>On-site Review</u>

Deep Hole Nun Location (ident		_ Date	6/27/19	Time	am	Weather_	clear 70's			
•	school		2-10 %	_Surface Stor	nes <u>no</u>					
Vegetation	trees, shrubs, o	grass		Landform						
Position on lan	Position on landscape (sketch on back)									
Distances from	:									
Open V	Vater Body	400' +	feet	Drair	nage Way	NA	feet			
Possibl	e Wet Area	400′ +	feet	Prope	erty Line	20' +	feet			
Drinkin	g Water Well	NA	feet	Othe	r		feet			

		DEEP OB	SERVATION	HOLE LOG	*
Depth from Surface	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % gravel)
0 – 16″	Fill	Loam	10YR-3/2		
16 – 39″	Fill	Sandy Loam	10YR-6/8		
39 - 72″	Fill	Sandy Clay	2.5Y-6/2		
72 – 96″	C ₁	Loamy Sand	2.5Y-7/6	72″	Medium to fine
96 - 120	C ₂	Clay	2.5Y-6/1		

Parent Material (geologic) Glacial outwash	n/lacustrine		_ Depth to Bedrock	: <u>NA</u>
Depth to Groundwater: Standing Water in t	the Hole:	none	Weeping from Pit Face:	none
Estimated Seasonal High Ground Water:	72″			

	Percolation Test*
Date:	Time:
Observation Hole #	
Depth of Perc	
Start Pre-soak	
End Pre-soak	
Time at 12"	
Time at 9"	
Time at 6"	
Time (9"-6")	
Rate Min./Inch	
*Minimum of 1 percolation test m	nust be performed in both the primary area AND reserve area.
Site passed: Site failed:	
Performed By:	nolds SE 2029

PENTUCKET HIGH SCHOOL, WEST NEWBURY, MA <u>On-site Review</u>

	umber <u>TP-1M</u> entify on site plan	Date	e <u>6/27/19</u>	Time	pm	Weather_	clear 70's				
•	school	Slope (%)	2-10 %	Surface Stone	s <u>no</u>						
Vegetation	trees, shrubs, g	grass		Landform							
Position on I	Position on landscape (sketch on back)										
Distances fro	om:										
Ope	n Water Body	400' +	feet	Draina	ge Way	NA	feet				
Poss	ible Wet Area	400′ +	feet Property Line			20' +	feet				
Drin	king Water Well	NA	feet	Other_	-		feet				

		DEEP OB	SERVATION	HOLE LOG	*
Depth from Surface	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % gravel)
0 – 12″	Fill	Loam	10YR-3/2		
12 – 24″	Fill	Sand/Loamy Sand	2.5Y-6/3		
24 - 72″	C ₁	Clay	2.5Y-5/3	72″	Cobbles gravel
72 – 96″	C ₂	Clay	2.5Y-6/1		

Parent Material (geologic) <u>Glacial lacustri</u>	ne		Depth to Bedrock	: <u>NA</u>
Depth to Groundwater: Standing Water in	the Hole:	none	Weeping from Pit Face:	none
Estimated Seasonal High Ground Water:	72″			
Estimated Seasonal right of band water.	12			

	Percolation	on Test*	
Date:	Time:		
Observation Hole #			
Depth of Perc			
Start Pre-soak			
End Pre-soak			
Time at 12"			
Time at 9"			
Time at 6"			
Time (9"-6")			
Rate Min./Inch			
*Minimum of 1 percolation	on test must be performe	d in both the primar	y area AND reserve area.
Site passed: Site	e failed:		
5	ve Reynolds	SE2029	
Witnessed By:			

PENTUCKET HIGH SCHOOL, WEST NEWBURY, MA <u>On-site Review</u>

Deep Hole Nun Location (ident	nber <u>TP-2</u> ify on site plan	Date	e <u>6/27/19</u>	Time	am	Weather_	clear 70's			
Land Use	J . —		2-10 %		es <u>no</u>					
Vegetation	trees, shrubs, o	grass		Landform						
Position on landscape (sketch on back)										
Distances from	:									
Open \	Vater Body	400' +	feet	Draina	age Way	NA	feet			
Possibl	e Wet Area	400′ +	feet	Prope	rty Line	20' +	feet			
Drinkin	g Water Well	NA	feet	Other	-		feet			

		DEEP OB	SERVATION	HOLE LOG'	*
Depth from Surface	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % gravel)
0 - 6"	Fill	Loam	10YR-3/2		
16 – 48″	Fill	Loamy Sand	10YR-6/8		
48 – 66″	C ₁	Sand	2.5Y-6/3		
66 – 90″	C ₂	Silt	2.5Y-6/6	72″	
90 – 120″	C ₃	Clay	2.5Y-5/3		

ine		Depth to Bedrock:	NA
the Hole:	96″	Weeping from Pit Face:	90″
72″			
	the Hole:	the Hole: 96"	the Hole: <u>96"</u> Weeping from Pit Face:

	Percolation Test*
Date:	Time:
Observation Hole #	
Depth of Perc	
Start Pre-soak	
End Pre-soak	
Time at 12"	
Time at 9"	
Time at 6"	
Time (9"-6")	
Rate Min./Inch	
*Minimum of 1 percolation test m	ust be performed in both the primary area AND reserve area.
Site passed: Site failed:	
Performed By: <u>Steve Reyr</u> Witnessed By:	nolds SE2029

Location Address or Lot No. <u>PENTUCKET HIGH SCHOOL, WEST NEWBURY, MA</u> <u>On-site Review</u>

•	nber <u>TP-3</u> tify on site plan	Date	e <u>6/27/19</u>	Time	am	Weather_	clear 70's
Land Use	school		2-10 %		es <u>no</u>		
Vegetation	trees, shrubs,	grass		Landform			
Position on lan	dscape (sketch d	on back)					
Distances from	1:						
Open '	Water Body	400' +	feet	Draina	ige Way_	NA	feet
Possib	le Wet Area	400' +	feet	Propei	rty Line	20' +	feet
Drinkir	ng Water Well	NA	feet	Other	-		feet

	DEEP OBSERVATION HOLE LOG*							
Depth from Surface	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % gravel)			
0 – 6″	Fill	Loam	10YR-3/2					
6 – 18″	Fill	Sand	2.5Y-6/3					
18 - 72″	Fill	Sandy Clay	2.5Y-6/2		Organics, stump			
72 – 84″	C ₁	Sand	2.5Y-7/1	72″	fine			
84 - 120	C ₂	Clay	2.5Y-5/3					

h		Depth to Bedrock:	NA
the Hole:	none	Weeping from Pit Face:	none
72″			
			•

	Percolation Test*
Date:	Time:
Observation Hole #	
Depth of Perc	
Start Pre-soak	
End Pre-soak	
Time at 12"	
Time at 9"	
Time at 6"	
Time (9"-6")	
Rate Min./Inch	
*Minimum of 1 percolation test r	must be performed in both the primary area AND reserve area.
Site passed: Site failed	1:
Performed By: <u>Steve Rey</u>	ynolds SE2029
Witnessed By:	

PENTUCKET HIGH SCHOOL, WEST NEWBURY, MA <u>On-site Review</u>

Deep Hole Nun Location (ident	nber <u>TP-4</u> ify on site plan	Date	e <u>6/27/19</u>	Time	am	Weather_	clear 70's
•	school		2-10 %	_Surface Stone	es <u>no</u>		
Vegetation	trees, shrubs, o	grass		Landform			
Position on lan	dscape (sketch d	n back)					
Distances from	:						
Open V	Vater Body	400' +	feet	Drain	age Way	NA	feet
Possibl	e Wet Area	400' +	feet	Prope	rty Line	20' +	feet
Drinkin	g Water Well	NA	feet	Other			feet

	DEEP OBSERVATION HOLE LOG*							
Depth from Surface	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % gravel)			
0 – 12″	Fill	Loam	10YR-3/2					
12 – 24″	Fill	Sandy Clay	2.5Y-6/2					
24 – 84″	C ₁	Silt Loam	10YR-2/2		organic			
84 - 108″	C ₂	Sandy Loam	2.5Y-7/1	84″				

h		Depth to Bedrock:	NA
the Hole:	none	Weeping from Pit Face:	none
84″			
	the Hole:	the Hole: none	the Hole: Weeping from Pit Face:

	Percolation Test*
Date:	Time:
Observation Hole #	
Depth of Perc	
Start Pre-soak	
End Pre-soak	
Time at 12"	
Time at 9"	
Time at 6"	
Time (9"-6")	
Rate Min./Inch	
*Minimum of 1 percolation test m	nust be performed in both the primary area AND reserve area.
Site passed: Site failed:	
Performed By: <u>Steve Reyr</u>	nolds SE2029
Witnessed By:	

PENTUCKET HIGH SCHOOL, WEST NEWBURY, MA <u>On-site Review</u>

	umber <u>TP-5</u> ntify on site plan_	Date	6/27/19	Time	pm	Weather	clear 70's
	<u> </u>	Class (0/)	2 10 0/	Curfage Ctarge			
	school		2-10 %	_Surface Stone	s <u>no</u>		
Vegetation	trees, shrubs,	grass		Landform			
Position on la	ndscape (sketch d	on back)					
Distances fro	m:						
Open	Water Body	400' +	feet	Draina	ge Way	NA	feet
Possi	ble Wet Area	400' +	feet	Proper	ty Line	20′+	feet
Drink	ing Water Well	NA	feet	Other_	-		feet

	DEEP OBSERVATION HOLE LOG*							
Depth from Surface	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % gravel)			
0 - 8"	Fill	Loam	10YR-3/2					
8 – 18″	Fill	Loamy Sand	2.5Y-6/3					
18 - 72″	Fill	Sandy Clay	2.5Y-6/2		Cobbles gravel			
72 – 96″	C ₁	Sandy Loam	2.5Y-7/1	84″				

sh		Depth to Bedrock:	NA
the Hole:	none	_Weeping from Pit Face:	none
84""			
	sh the Hole: 84""	the Hole: none	the Hole: Weeping from Pit Face:

	Percolation Test*
Date:	Time:
Observation Hole #	
Depth of Perc	
Start Pre-soak	
End Pre-soak	
Time at 12"	
Time at 9"	
Time at 6"	
Time (9"-6")	
Rate Min./Inch	
*Minimum of 1 percolation test r	must be performed in both the primary area AND reserve area.
Site passed: Site failed	d:
Performed By: <u>Steve Rey</u>	ynolds SE2029
Witnessed By:	

<u>PENTUCKET HIGH SCHOOL, WEST NEWBURY, MA</u> <u>On-site Review</u>

Deep Hole Number <u>TP-6</u> Location (identify on site pla		e <u>6/27/19</u>	Timepm	Weather_	clear 70's
Land Use school		2-10 %	Surface Stones no		
Vegetation trees, shrub	s, grass		Landform		
Position on landscape (sketc	h on back)				
Distances from:					
Open Water Body	400' +	feet	Drainage Way	NA	feet
Possible Wet Area	400' +	feet	Property Line	20' +	feet
Drinking Water Well	NA	feet	Other		feet

	DEEP OBSERVATION HOLE LOG*							
Depth from Surface	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % gravel)			
0 - 6"	Fill	Loam	10YR-3/2					
6 – 12″	Fill	Sand	2.5Y-6/3		gravel			
12 - 66″	Fill	Clay	2.5Y-5/3	66″	disturbed			
					Hit clay drain pipe			

Parent Material (geologic)		_	Depth to Bedrock:	NA
Depth to Groundwater: Standing Water in	the Hole:	none	_Weeping from Pit Face:	none
Estimated Seasonal High Ground Water:	66″		-	

	Percolation Test*
Date:	Time:
Observation Hole #	
Depth of Perc	
Start Pre-soak	
End Pre-soak	
Time at 12"	
Time at 9"	
Time at 6"	
Time (9"-6")	
Rate Min./Inch	
*Minimum of 1 percolation test n	nust be performed in both the primary area AND reserve area.
Site passed: Site failed	
Performed By: <u>Steve Rey</u>	nolds SE2029
Witnessed By:	

<u>PENTUCKET HIGH SCHOOL, WEST NEWBURY, MA</u> <u>On-site Review</u>

	Number <u>TP-7</u> dentify on site plan	Date	e <u>6/27/19</u>	Time	pm	Weather	<u>clear 70's</u>
•	school		2-10 %		es <u>no</u>		
Vegetation	<u>trees, shrubs, c</u>	grass		Landform			
Position or	n landscape (sketch c	on back)					
Distances	from:						
Op	oen Water Body	400′ +	feet	Draina	age Way	NA	feet
Po	ssible Wet Area	400′ +	feet	Prope	rty Line	20' +	feet
Dr	inking Water Well	NA	feet	Other	5		feet

DEEP OBSERVATION HOLE LOG*							
Depth from Surface	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % gravel)		
0 – 10″	Fill	Loam	10YR-3/2				
10 – 12″	C ₁	Loamy Sand	2.5Y-5/4		15% gravel		
12 - 96″	C ₂	Sandy Loam	2.5Y-5/3	78″	15% gravel		
					Refusal		

Parent Material (geologic) Glacial till			Depth to Bedrock:	96 "	_
Depth to Groundwater: Standing Water in	the Hole:	none	_Weeping from Pit Face:		none
Estimated Seasonal High Ground Water:	78″				_

		Percolation Test*
	Date:	Time:
	Observation Hole #	
	Depth of Perc	
	Start Pre-soak	
	End Pre-soak	
	Time at 12"	
	Time at 9"	
	Time at 6"	
	Time (9"-6")	
	Rate Min./Inch	
	*Minimum of 1 percolation test m	must be performed in both the primary area AND reserve area.
Site	passed: Site failed:	I:
	ormed By: <u>Steve Rey</u>	nolds SE2029
Witr	nessed By:	

PENTUCKET HIGH SCHOOL, WEST NEWBURY, MA <u>On-site Review</u>

Deep Hole Num Location (identi	ber <u>TP-8</u> fy on site plan	Date	e <u>6/27/19</u>	Time	pm	Weather	clear 70's
•	school		2-10 %	_Surface Ston	es <u>no</u>		
Vegetation	trees, shrubs,	grass		Landform			
Position on land	dscape (sketch d	on back)					
Distances from							
Open V	Vater Body	400' +	feet	Drain	age Way_	NA	feet
Possible	e Wet Area	400' +	feet	Prope	erty Line	20′ +	feet
Drinkin	g Water Well	NA	feet	Other			feet

DEEP OBSERVATION HOLE LOG*							
Depth from Surface	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % gravel)		
0 – 12″	Fill	Loam	10YR-3/2				
12 – 48″	Fill	Sandy Loam	2.5Y-5/4		Cobbles, stumps		
48 - 84″	C ₁	Silt	2.5Y-7/1	48″	Very fine sand		
84 – 96	C ₂	Sandy Loam	2.5Y-6/4				
					Refusal boulders		

Parent Material (geologic) <u>Glacial outwas</u>	h		Depth to Bedrock:	NA
Depth to Groundwater: Standing Water in	the Hole:	96″	Weeping from Pit Face:	84″
Estimated Seasonal High Ground Water:	48″			

Percolation Test*	
Date:	Time:
Observation Hole #	
Depth of Perc	
Start Pre-soak	
End Pre-soak	
Time at 12"	
Time at 9"	
Time at 6"	
Time (9"-6")	
Rate Min./Inch	
*Minimum of 1 percolation test must be performed in both the primary area AND reserve area.	
Site passed: Site failed:	
Performed By: <u>Steve Reyr</u>	nolds SE2029
Witnessed By:	