



Memorandum

DATE : 04/23/2020

TO: Littleton Planning Board

CC: James Garreffo, RS, NABH

FROM: Goldsmith, Prest & Ringwall Inc. (GPR)

RE: HEALY CORNER; 195 TAHATTAWAN ROAD, LITTLETON, MA

At the request of the Littleton Planning Board GPR has conducted additional soil testing on four lots of the Density Yield Plan known as Lots 6, 7, 8 & 9. The soil absorption system on these lots was previously sized based on nearby soil testing and the NRCS Soil Mapping. An official Soil Suitability Assessment for On-Site Sewage Disposal deep observation hole was recently dug and witnessed on each lot in question. The purpose of the testing was to confirm the soil mapping previously used to determine the lot's ability to site and the size of a soil absorption system for a four-bedroom dwelling on said lots.

Given the high groundwater when asked to perform the tests and the continued presence of high groundwater the size of the soil absorption system is based upon the Title 5 Policy for Alternative to Percolation testing guidance for system upgrades effective May 3, 2006. This policy assumes the slowest percolation rate for the most restrictive soil classification within the absorption area. The soils classification used was based upon an agreed visual observation by the Soil Evaluator from GPR and NABH and not a particle size analysis by a laboratory. The soils from the four lots were classified as Loamy Sands a Class I soil. This Classification is consistent with the system sizing used in the Density Yield Plan.

GPR has not reduced the size of the soil absorption system shown on the Density Yield Plan for a continued conservative approach. Please refer to the attached Soil Suitability Assessment sheets.

Goldsmith, Prest & Ringwall, Inc.

FORM 11 - SOIL EVALUATOR FORM

No. 171088

Date: 4/22/20

Commonwealth of Massachusetts
Littleton, Massachusetts

Soil Suitability Assessment for On-Site Sewage Disposal

Performed by: Bruce Ringwall, GPR Inc.

Date: 4/21/20

Witnessed by: James Garreff, BOH

Location Address: or Lot No. <u>195 Tahattawan Road</u> <u>Littleton, MA 01460</u>	Owner's Name: <u>Glavey Family Trust</u> Address: <u>195 Tahattawan Road</u> <u>Littleton, MA 01460</u> Telephone No. _____
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New Construction ☒ Upgrade ☐ Repair ☐

Office Review

Published Soil Survey Available: No ☒ Yes ☐

Year Published Internet Publication Scale na Soil Map Unit 305C, 420B, 311B

Soil Name Paxton Soil Limitations Depth to restrictive features

Soil Name Canton Soil Limitations Depth to restrictive features

Soil Name _____ Soil Limitations _____

Surficial Geologic Report Available: No ☒ Yes ☐

Year Published Mass GIS Publication Scale _____

Geologic Material(Map Unit) Glacial Till

Landform Ground Moraine

Flood Insurance Rate Map: 25017C0238F

Above 500 Year Flood Boundary No ☐ Yes ☒

Within 500 Year Flood Boundary No ☒ Yes ☐

Within 100 Year Flood Boundary No ☒ Yes ☐

Within Velocity Zone No ☒ Yes ☐

Wetland Area:

National Wetlands Inventory Map (map unit) N/A

Wetlands Conservancy Program Map (map unit) N/A

Current Water Resource Conditions (USGS): Month April

Range: Above Normal ☐ Normal ☒ Below Normal ☐

Other Reference Reviewed USGS

FORM 11 - SOIL EVALUATOR FORM

Location Address or Lot #: 195 Tahattawan Road
Littleton, MA 01460

On-Site Review

Deep Hole #: 420-1 Date: 04/21/20 Time: 7:30 AM Weather: Sunny 37°
 Location (identify on site plan) See Attached Sketch
 Land Use Edge of Meadow Slope (%) 4% Surfaces Stones None
 (eg woodland, agricultural field, vacant lot etc...)
 Vegetation Grasses
 Landform Ground Moraine
 Position on landscape See attached Sketch
 Distances from:
 Open Water Body >100 feet Drainage Way >100 feet
 Possible Wet Area >100 feet Property Line >100 feet
 Drinking Water Well >100 feet Other:
 feet

Deep Observation Hole Log					
Hole # 420-1		NB 29/83		Surface El. 290.5	
Depth from Surface (inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (MUNSELL)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % Gravel)
0-14	A	fsl	10YR3/2	@32", 10YR6/8 2.5YR6/2	
14-48	B	fsl	10YR 5/4		
48-128	C	lfs	2.5Y 6/4		

*MINIMUM OF 2 HOLES REQUIRED AT EVERY PROPOSED DISPOSAL AREA

Parent Material (geologic) Ablation Till Depth to Bedrock: >128"
 Depth to Groundwater: Standing Water in the Hole None Weeping from Pit Face: 32"
 Estimated Seasonal High Groundwater in the Hole 32"
 Additional Notes

FORM 11 - SOIL EVALUATOR FORM

Location Address or Lot #: 195 Tahattawan Road
Littleton, MA 01460

On-Site Review

Deep Hole #: 420-2 Date: 04/21/20 Time: 8:00 AM Weather: Sunny 37°
 Location (identify on site plan) See Attached Sketch
 Land Use Meadow Slope (%) 4% Surfaces Stones None
 (eg woodland, agricultural field, vacant lot etc...)
 Vegetation Grasses
 Landform Ground Moraine
 Position on landscape See attached Sketch
 Distances from:
 Open Water Body >100 feet Drainage Way >100 feet
 Possible Wet Area >100 feet Property Line 100± feet
 Drinking Water Well >100 feet Other: _____ feet

Deep Observation Hole Log					
Hole # 420-2		NB 29/83		Surface El. 285	
Depth from Surface (inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (MUNSELL)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % Gravel)
0-14	A	fsl	10YR3/2	@24", 7.5YR5/8 @ 36", 10YR5/8 2.5Y6/2	
14-38	B	sl	10YR 5/6		
38-108	C	lfs	2.5Y 6/4		

*MINIMUM OF 2 HOLES REQUIRED AT EVERY PROPOSED DISPOSAL AREA

Parent Material (geologic) Ablation Till Depth to Bedrock: >108"
 Depth to Groundwater: Standing Water in the Hole None Weeping from Pit Face: 24"
 Estimated Seasonal High Groundwater in the Hole 24"
 Additional Notes _____

FORM 11 - SOIL EVALUATOR FORM

Location Address or Lot #: 195 Tahattawan Road
Littleton, MA 01460

On-Site Review

Deep Hole #: 420-3 Date: 04/21/20 Time: 8:30 AM Weather: Sunny 37°
 Location (identify on site plan) See Attached Sketch
 Land Use Woodland Slope (%) 2% Surfaces Stones None
 (eg woodland, agricultural field, vacant lot etc...)
 Vegetation mixed hardwoods and pines
 Landform Moraine
 Position on landscape See attached Sketch
 Distances from:
 Open Water Body >100 feet Drainage Way >100 feet
 Possible Wet Area >90 feet Property Line 100± feet
 Drinking Water Well >100 feet Other: _____ feet

Deep Observation Hole Log					
Hole # 420-3		NB 29/83		Surface El. 270.5	
Depth from Surface (inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (MUNSELL)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % Gravel)
0-10	A	fsl	10YR3/2	@ 30", 10YR6/3 7.5YR5/8 @ 36" 10YR5/8 2.5Y6/2	
10-24	B1	fsl	10YR 5/6		
24-38	B2	ls	10YR 5/6		
38-138	C	ls	2.5Y6/4		

*MINIMUM OF 2 HOLES REQUIRED AT EVERY PROPOSED DISPOSAL AREA

Parent Material (geologic) Ablation Till Depth to Bedrock: >138"
 Depth to Groundwater: Standing Water in the Hole None Weeping from Pit Face: 30"
 Estimated Seasonal High Groundwater in the Hole 30"
 Additional Notes _____

FORM 11 - SOIL EVALUATOR FORM

Location Address or Lot #: 195 Tahattawan Road
Littleton, MA 01460

On-Site Review

Deep Hole #: 420-4 Date: 08/29/18 Time: 9:00 AM Weather: Sunny 37°
 Location (identify on site plan) See Attached Sketch
 Land Use Woodland Slope (%) 4% Surfaces Stones None
 (eg woodland, agricultural field, vacant lot etc...)
 Vegetation mixed hardwoods and pines
 Landform Moraine
 Position on landscape See attached Sketch
 Distances from:
 Open Water Body >100 feet Drainage Way >100 feet
 Possible Wet Area >70 feet Property Line 100± feet
 Drinking Water Well >100 feet Other: feet

Deep Observation Hole Log					
Hole # 420-4		NB E-29	Surface El. 272		
Depth from Surface (inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (MUNSELL)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % Gravel)
0-10	A	fsl	10YR3/3	@ 42", 10YR6/6 2.5Y6/2	
10-20	B	sl	10YR 5/6		
20-120	C	ls	2.5Y 5/4		

*MINIMUM OF 2 HOLES REQUIRED AT EVERY PROPOSED DISPOSAL AREA

Parent Material (geologic) Ablation Till Depth to Bedrock: >120"
 Depth to Groundwater: Standing Water in the Hole none Weeping from Pit Face: 52"
 Estimated Seasonal High Groundwater in the Hole 42"
 Additional Notes

FORM 11 - SOIL EVALUATOR FORM

Location Address or Lot#: 195 Tahattawan Road
Littleton, MA 01460

Determination for Seasonal High Water Table

Method Used:

- ☐ Depth observed standing in observation hole _____ inches
☐ Depth weeping from side of observation hole _____ inches
☒ Depth to soil mottles * _____ inches See individual Reports
☐ Ground water adjustment _____ feet

Index Well Number _____ Reading Date _____ Index Well Level _____

Adjustment Factor _____ Adjusted Ground Water Level _____

Depth of Naturally Occuring Pervious Material

Does at least four feet of naturally occuring pervious material exist in all areas
observed throughout the area proposed for the soil absorption system? Yes

If not, what is the depth of naturally occuring pervious material? _____ Feet

Certification

I certify that I am currently approved by the Department of Environmental Protection pursuant to 310 CMR 15.017 to conduct soil evaluations and that the above analysis has been performed by me consistent with the training, expertise and experience described in 310 CMR 15.017. I further certify that the results of my soil evaluation, as indicated, on the attached soil evaluation form, are accurate and in accordance with 310 CMR 15.100 through 15.107.

Signature BDRB Date 4/22/20

Notes: _____
