



Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

A. Facility Information

Owner Name Nicholas F. Ieronimo

Street Address 457 - 459 Wareham Street Map/Lot # Map 87, Lot 2445 & 3128

City Middleborough State MA Zip Code 02346

B. Site Information

1. (Check one) New Construction Upgrade

2. Soil Survey NRCS Soil Map 321 Birchwood sand
Source Soil Map Unit Soil Series
Till plains, ground moraines, drumlins None stated
Landform Soil Limitations
Sandy eolian deposits and/or sandy glaciofluvial deposits over coarse-loamy lodgement till
Soil Parent material

3. Surficial Geological Report _____
Year Published/Source Map Unit

Description of Geologic Map Unit: _____

4. Flood Rate Insurance Map Within a regulatory floodway? Yes No

5. Within a velocity zone? Yes No

6. Within a Mapped Wetland Area? Yes No If yes, MassGIS Wetland Data Layer: _____
Wetland Type

7. Current Water Resource Conditions (USGS): 01/19/2022 Range: Above Normal Normal Below Normal
Month/Day/ Year

8. Other references reviewed: _____
(Zone II, IWPA, Zone A, EEA Data Portal, etc.)



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C. On-Site Review *(minimum of two holes required at every proposed primary and reserve disposal area)*

Deep Observation Hole Number: 1 Hole # 01/19/2022 Date 8:15 am Time Clear Weather 41.844056 Latitude -70.845497 Longitude

1. Land Use Landscape yard (e.g., woodland, agricultural field, vacant lot, etc.) Trees Vegetation None Surface Stones (e.g., cobbles, stones, boulders, etc.) 0-5% Slope (%)

Description of Location: Open space in front of material stock piles
Sandy eolian deposits and/or sandy glaciofluvial

2. Soil Parent Material: deposits over coarse-loamy lodgement till Till plains, ground moraines, drumlins Landform TS Position on Landscape (SU, SH, BS, FS, TS, Plain)

3. Distances from: Open Water Body >100 feet Drainage Way >100 feet Wetlands 760 feet
 Property Line 115 feet Drinking Water Well >100 feet Other _____ feet

4. Unsuitable Materials Present: Yes No If Yes: Disturbed Soil/Fill Material Weathered/Fractured Rock Bedrock

5. Groundwater Observed: Yes No If yes: 66" Depth to Weeping in Hole 109" Depth to Standing Water in Hole

Soil Log

Depth (in)	Soil Horizon /Layer	Soil Texture (USDA)	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
				Depth	Color	Percent	Gravel	Cobbles & Stones			
0-47	Fill				Cnc : Dpl:						
47-67	AB	Sandy Loam	10YR3/2		Cnc : Dpl:						
67-118	C1	Sandy Loam	10YR5/2		Cnc : Dpl:			5%			
					Cnc : Dpl:						
					Cnc : Dpl:						
					Cnc : Dpl:						

Additional Notes:



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C. On-Site Review (minimum of two holes required at every proposed primary and reserve disposal area)

Deep Observation Hole Number: 2 01/19/2022 8:48 am Clear 41.844056 -70.845497
Hole # Date Time Weather Latitude Longitude

1. Land Use: Landscape yard Trees None 0-5%
(e.g., woodland, agricultural field, vacant lot, etc.) Vegetation Surface Stones (e.g., cobbles, stones, boulders, etc.) Slope (%)

Description of Location: Edge of driveway next to granite blocks
Sandy eolian deposits and/or sandy glaciofluvial

2. Soil Parent Material: deposits over coarse-loamy lodgement till Till plains, ground moraines, drumlins TS
Landform Position on Landscape (SU, SH, BS, FS, TS, Plain)

3. Distances from: Open Water Body >100 feet Drainage Way >100 feet Wetlands 770 feet
 Property Line 110 feet Drinking Water Well >100 feet Other _____ feet

4. Unsuitable Materials Present: Yes No If Yes: Disturbed Soil/Fill Material Weathered/Fractured Rock Bedrock

5. Groundwater Observed: Yes No If yes: 48" Depth to Weeping in Hole 96" Depth Standing Water in Hole

Soil Log

Depth (in)	Soil Horizon /Layer	Soil Texture (USDA)	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
				Depth	Color	Percent	Gravel	Cobbles & Stones			
0-19	Fill				Cnc : Dpl:						
19-31	AB	SL	10YR5/1		Cnc : Dpl:						
31-104	C1	Fine Sandy Loam	10YR6/4	48"	Cnc : 5YR6/8 Dpl:	>2%		5%			
					Cnc : Dpl:						
					Cnc : Dpl:						
					Cnc : Dpl:						

Additional Notes:



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D. Determination of High Groundwater Elevation

1. Method Used (Choose one):
- | | | |
|--|--|--|
| <input checked="" type="checkbox"/> Depth to soil redoximorphic features | Obs. Hole # <u> 1 </u>
<u> 66 </u> inches | Obs. Hole # <u> 2 </u>
<u> 48 </u> inches |
| <input type="checkbox"/> Depth to observed standing water in observation hole | <u> </u> inches | <u> </u> inches |
| <input type="checkbox"/> Depth to adjusted seasonal high groundwater (S_h)
(USGS methodology) | <u> </u> inches | <u> </u> inches |

Index Well Number _____

Reading Date _____

$$S_h = S_c - [S_r \times (OW_c - OW_{max}) / OW_r]$$

Obs. Hole/Well# _____ S_c _____ S_r _____ OW_c _____ OW_{max} _____ OW_r _____ S_h _____

E. 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 required training, expertise and experience described in 310 CMR 15.017. I further certify that the results of my soil evaluation, as indicated in the attached Soil Evaluation Form, are accurate and in accordance with 310 CMR 15.100 through 15.107.

Signature of Soil Evaluator

Brandon Barry / 14024

Typed or Printed Name of Soil Evaluator / License #

Kayla Smith

Name of Approving Authority Witness

01/21/2022

Date

06/30/2022

Expiration Date of License

Middleborough Board of Health

Approving Authority

Note: In accordance with 310 CMR 15.018(2) this form must be submitted to the approving authority within 60 days of the date of field testing, and to the designer and the property owner with [Percolation Test Form 12](#).



Commonwealth of Massachusetts
City/Town of

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Field Diagrams: Use this area for field diagrams:



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 City Middleborough State MA Zip Code 02346

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 Source Till plains, ground moraines, drumlins Soil Map Unit None stated Soil Series
 Landform Sandy eolian deposits and/or sandy glaciofluvial deposits over coarse-loamy lodgement till Soil Limitations
 Soil Parent material
 3. Surficial Geological Report _____ Map Unit _____
 Year Published/Source _____
 Description of Geologic Map Unit:
 4. Flood Rate Insurance Map Within a regulatory floodway? Yes No
 5. Within a velocity zone? Yes No
 6. Within a Mapped Wetland Area? Yes No If yes, MassGIS Wetland Data Layer: _____
 Wetland Type
 7. Current Water Resource Conditions (USGS): 01/19/2022 Range: Above Normal Normal Below Normal
 Month/Day/ Year
 8. Other references reviewed: _____
 (Zone II, IWPA, Zone A, EEA Data Portal, etc.)



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C. On-Site Review *(minimum of two holes required at every proposed primary and reserve disposal area)*

Deep Observation Hole Number: 3 01/19/2022 10:00 am Clear 41.844056 -70.845497
Hole # Date Time Weather Latitude Longitude

1. Land Use Landscape yard Trees None 0-5%
(e.g., woodland, agricultural field, vacant lot, etc.) Vegetation Surface Stones (e.g., cobbles, stones, boulders, etc.) Slope (%)

Description of Location: Open space in front of mulch piles
Sandy eolian deposits and/or sandy glaciofluvial

2. Soil Parent Material: deposits over coarse-loamy lodgement till Till plains, ground moraines, drumlins TS
Landform Position on Landscape (SU, SH, BS, FS, TS, Plain)

3. Distances from: Open Water Body >100 feet Drainage Way >100 feet Wetlands 785 feet
 Property Line 35 feet Drinking Water Well >100 feet Other _____ feet

4. Unsuitable Materials Present: Yes No If Yes: Disturbed Soil/Fill Material Weathered/Fractured Rock Bedrock

5. Groundwater Observed: Yes No If yes: _____ Depth to Weeping in Hole _____ Depth to Standing Water in Hole

Soil Log

Depth (in)	Soil Horizon /Layer	Soil Texture (USDA)	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
				Depth	Color	Percent	Gravel	Cobbles & Stones			
0-24	Fill				Cnc : Dpl:						
24-36	AB	Sandy Loam	10YR3/1		Cnc : Dpl:						
36-48	C1	Sandy Loam	10YR6/4	46"	Cnc : 5YR5/6 Dpl:	>2%	5%	5%			
48-118	C2	Fine Sandy Loam	10YR6/3		Cnc : Dpl:		5%	5%			
					Cnc : Dpl:						
					Cnc : Dpl:						

Additional Notes:



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C. On-Site Review *(minimum of two holes required at every proposed primary and reserve disposal area)*

Deep Observation Hole Number: _____

Hole # _____

Date _____

Time _____

Weather _____

Latitude _____

Longitude _____

1. Land Use: _____

(e.g., woodland, agricultural field, vacant lot, etc.)

Vegetation _____

Surface Stones (e.g., cobbles, stones, boulders, etc.) _____

Slope (%) _____

Description of Location: _____

2. Soil Parent Material: _____

Landform _____

Position on Landscape (SU, SH, BS, FS, TS, Plain) _____

3. Distances from:

Open Water Body _____ feet

Drainage Way _____ feet

Wetlands _____ feet

Property Line _____ feet

Drinking Water Well _____ feet

Other _____ feet

4. Unsuitable Materials Present: Yes No

If Yes: Disturbed Soil/Fill Material

Weathered/Fractured Rock

Bedrock

5. Groundwater Observed: Yes No

If yes: _____ Depth to Weeping in Hole

_____ Depth Standing Water in Hole

Soil Log

Depth (in)	Soil Horizon /Layer	Soil Texture (USDA)	Soil Matrix: Color-Moist (Munsell)	Redoximorphic Features			Coarse Fragments % by Volume		Soil Structure	Soil Consistence (Moist)	Other
				Depth	Color	Percent	Gravel	Cobbles & Stones			
					Cnc :						
					Dpl:						
					Cnc :						
					Dpl:						
					Cnc :						
					Dpl:						
					Cnc :						
					Dpl:						
					Cnc :						
					Dpl:						

Additional Notes: _____



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D. Determination of High Groundwater Elevation

1. Method Used (Choose one):
- | | | |
|--|--|-----------------------------------|
| <input checked="" type="checkbox"/> Depth to soil redoximorphic features | Obs. Hole # <u>3</u>
<u>46</u> inches | Obs. Hole # _____
_____ inches |
| <input type="checkbox"/> Depth to observed standing water in observation hole | _____ inches | _____ inches |
| <input type="checkbox"/> Depth to adjusted seasonal high groundwater (S_h)
(USGS methodology) | _____ inches | _____ inches |

Index Well Number _____ Reading Date _____

$S_h = S_c - [S_r \times (OW_c - OW_{max}) / OW_r]$

Obs. Hole/Well# _____ S_c _____ S_r _____ OW_c _____ OW_{max} _____ OW_r _____ S_h _____

E. 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 required training, expertise and experience described in 310 CMR 15.017. I further certify that the results of my soil evaluation, as indicated in the attached Soil Evaluation Form, are accurate and in accordance with 310 CMR 15.100 through 15.107.

Signature of Soil Evaluator Brandon Barry / 14024	Date 01/21/2022
Typed or Printed Name of Soil Evaluator / License # Kayla Smith	Expiration Date of License 06/30/2022
Name of Approving Authority Witness	Middleborough Board of Health
	Approving Authority

Note: In accordance with 310 CMR 15.018(2) this form must be submitted to the approving authority within 60 days of the date of field testing, and to the designer and the property owner with [Percolation Test Form 12](#).



Commonwealth of Massachusetts
City/Town of

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Field Diagrams: Use this area for field diagrams:

Site Location or lot #	457-459 Wareham St. Middleborough MA				DEEP HOLE # TP 9		
Applicant/owner:	2022						
DATE:	01/19/2022	WEATHER:	Pt. Sunny	TEMP:	30 °		
LOCATION: (Refer to sketch attached)							
PERFORMED BY:	Brandon Barry, E.I.T. (Mass SE#14024)						
WITNESSED BY:	Kayla Smith, Board of Health Agent						
Land Use:	Landscape Yard			Landform:			
Vegetation:	Trees			Slope:	0-5%		
Stone Walls:	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N			Surface Stones:	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N		
Distance From:							
Open Water Bodies:	>100 ft.		Possible Wet Area:	>100 ft.			
Drinking Water Well:	N/A ft.		Drainageway:	N/A ft.			
Property Line:	95 ft.		Other:				
DEEP OBSERVATION HOLE LOG							
Depth	Soil Horizon	Soil Texture	Soil Color	Other: Structures; Stones; Boulders; Consistency; % gravel			
0-74"	FILL	-					
74-83"	A	Sandy Loam	10YR6/8				
83-122"	C1	Loamy Sand	10YR6/3	5% Gravel			
	-						
Parent Material (geologic):	Glacial Till		Depth to Bedrock:	None			
Depth to Groundwater:	Standing Water in Hole:		None				
	Weeping From Pit Face:		None				
	Estimated Seasonal High Groundwater:			122"			
DETERMINATION FOR SEASONAL HIGH WATER TABLE							
Method used:	Depth observed standing in obs. hole:			122"			
	Depth to weeping from side of obs. hole:						
	Depth to soil mottles, description:						
	Groundwater adjustment:						
Index Well #:	NA	Reading Date:	NA	Index Well Level:	NA	Adj. Factor:	NA
Adj. ground water level:	NA						
Notes:	ESHOW=122" Bottom of hole						