



Commonwealth of Massachusetts
City/Town of Southborough
Percolation Test
Form 12

Percolation test results must be submitted with the Soil Suitability Assessment for On-site Sewage Disposal. DEP has provided this form for use by local Boards of Health. Other forms may be used, but the information must be substantially the same as that provided here. Before using this form, check with the local Board of Health to determine the form they use.

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A. Site Information

FD 250 Turnpike, LLC

Owner Name

250 Turnpike Road

Street Address or Lot #

Southborough

City/Town

MA

State

01772

Zip Code

(508)281-7546

Telephone Number

Contact Person (if different from Owner)

B. Test Results

	Date	Time	Date	Time
Observation Hole #	3-16-22		3-16-22	
Depth of Perc	1		4	
Start Pre-Soak	38		41	
End Pre-Soak	9:23		9:50	
Time at 12"				
Time at 9"				
Time at 6"				
Time (9"-6")				
Rate (Min./Inch)				

Test Passed:



Test Failed:



Test Passed:



Test Failed:



Test Performed By:

Board of Health Witness

Comments:



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City/Town of Southborough
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Zip Code

(508)281-7546

Telephone Number

Contact Person (if different from Owner)

B. Test Results

	Date	Time	Date	Time
Observation Hole #	8-24-2002	14	8-24-2002	19
Depth of Perc	48"		50"	
Start Pre-Soak	9:38		10:45	
End Pre-Soak	9:53		11:00	
Time at 12"	9:53		11:00	
Time at 9"	10:04		11:39	
Time at 6"	10:17		12:39	
Time (9"-6")	13 MINUTES		60 MINUTES	
Rate (Min./Inch)	5 MIN/IN		20 MIN/IN	
Test Passed:	☒		☒	
Test Failed:	☐		☐	

Test Performed By:

Board of Health Witness

Comments:



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A. Site Information

FD 250 Turnpike, LLC

Owner Name

250 Turnpike Road

Street Address or Lot #

Southborough

City/Town

MA

State

01772

Zip Code

(508)281-7546

Telephone Number

Contact Person (if different from Owner)

B. Test Results

	Date	Time	Date	Time
Observation Hole #	8-24-2012	16		
Depth of Perc	4'3"			
Start Pre-Soak	11:04			
End Pre-Soak	11:19			
Time at 12"	11:19			
Time at 9"	11:31			
Time at 6"	11:48			
Time (9"-6")	17 MINUTES			
Rate (Min./Inch)	6			

Test Passed: ☒

Test Failed: ☐

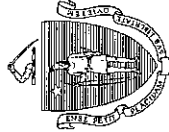
Test Passed: ☐

Test Failed: ☐

Test Performed By:

Board of Health Witness

Comments:



Commonwealth of Massachusetts
City/Town of Southborough

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

A. Facility Information

FD 250 Turnpike, LLC

Owner Name

250 Turnpike Road

Street Address

Southborough

City

MA

State

27/002A

Map/Lot #

01772

Zip Code

B. Site Information

1. (Check one) ☒ New Construction ☐ Upgrade ☐ Repair

2. Soil Survey Available? ☒ Yes ☐ No If yes:

Woodbridge

Soil Name

severe

Soil Limitations

Till

Soil Parent material

uncertain

Landform

3. Surficial Geological Report Available? ☐ Yes ☒ No If yes:

Year Published/Source

Map Unit

Web soil survey

Source

310B

Soil Map Unit

DH's 1&2
3-16-22

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

7. Current Water Resource Conditions (USGS):

03/15/21

Month/Day/ Year

If yes, MassGIS Wetland Data Layer:

Wetland Type

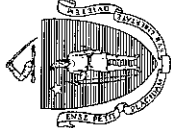
☒ Normal

☐ Below Normal

Range: ☐ Above Normal

☐ Below Normal

8. Other references reviewed:



Commonwealth of Massachusetts
City/Town of Southborough

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

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

Deep Observation Hole Number: 1 Hole # 3-16-17 Date 9-30 Time 4:00 Weather cloudy Latitude _____ Longitude: ~110
Land Use WOODLAND (e.g., woodland, agricultural field, vacant lot, etc.) Vegetation DECIDUOUS TREES Surface Stones (e.g., cobbles, stones, boulders, etc.) small Slope (%) _____

Description of Location: BEHIND #125
Soil Parent Material: TILL Landform UNCERTAIN Position on Landscape (SU, SH, BS, FS, TS) UNCERTAIN
Distances from: Open Water Body ~140 feet Drainage Way _____ feet Wetlands ~110 feet
Property Line ~35 feet Drinking Water Well N/A feet Other _____ feet
Unsuitable Materials Present: ☐ Yes ☒ No If Yes: ☐ Disturbed Soil ☐ Fill Material ☐ Weathered/Fractured Rock ☐ Bedrock
Groundwater Observed: ☐ Yes ☒ No If yes: _____ Depth Weeping from Pit _____ Depth Standing Water in Hole _____

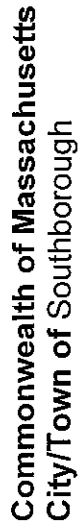
Soil Log

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			
0-6"	A _p	SANDY LOAM	10YR 3/2								
6-26"	B	SANDY LOAM	10YR 8/6								
26-46"	C1	SANDY LOAM	10YR 7/5				20	10			
46-76"	C2	SANDY LOAM	10YR 7/3			5% 10YR 2/6	20	10			

Additional Notes:

- C SOILS WERE NEARLY LOAMY SAND TEXTURE

- NO RESERVE



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

Deep Observation Hole Number:

Hole #	2	Date	3-16-22	Time	9:40	Weather	44° clear
--------	---	------	---------	------	------	---------	-----------

Hole #

Date _____

Time

Weather

Attitude

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

Vegetation

BEHIND ABUTTER PALMER

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

Slope (%)

Description of Location:

Open Water Body _____ feet

Landform

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

Open Water Body _____ feet _____

Drainage Way _____ feet _____

Wetlands
feet

Property Line _____ feet

Drinking Water Well feet

Other feet

Materials Present: ☒ Yes ☐ No

If Yes: ☒ Disturbed Soil

☐ Fill Material

☐ Weathered/Fractured Rock

5. Groundwater Observed: ☐ Yes ☒ No

If yes:

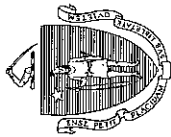
If yes: Depth Weeping from Pit

Depth Standing Water in Hole

Soil Log

[illegible]

Additional Notes:



Commonwealth of Massachusetts
City/Town of Southborough

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

D. Determination of High Groundwater Elevation

1. Method Used:

- ☒ Depth observed standing water in observation hole
- ☒ Depth weeping from side of observation hole
- ☒ Depth to soil redoximorphic features (mottles)
- ☐ Depth to adjusted seasonal high groundwater (S_h) (USGS methodology)

Obs. Hole # 1

NOT OBSERVED inches

NOT OBSERVED inches

46" inches

 inches

Obs. Hole # 2

N/A inches

N/A inches

N/A 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

2. Estimated Depth to High Groundwater: inches

E. Depth of Pervious Material

1. Depth of Naturally Occurring Pervious Material

- a. Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soil system? YES AT #1 ☒ Yes ☐ No NO AT #2 absorption
- b. If yes, at what depth was it observed (exclude A and O Horizons)? 6" inches Upper boundary: 76" inches Lower boundary: inches
- c. If no, at what depth was impervious material observed? inches Upper boundary: inches Lower boundary: inches



Commonwealth of Massachusetts
City/Town of Southborough

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

F. 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

JAMES L. PALMER SE2421
Typed or Printed Name of Soil Evaluator/ License #

DANIEL COSTELLO
Name of Approving Authority Witness

3/16/22
Date

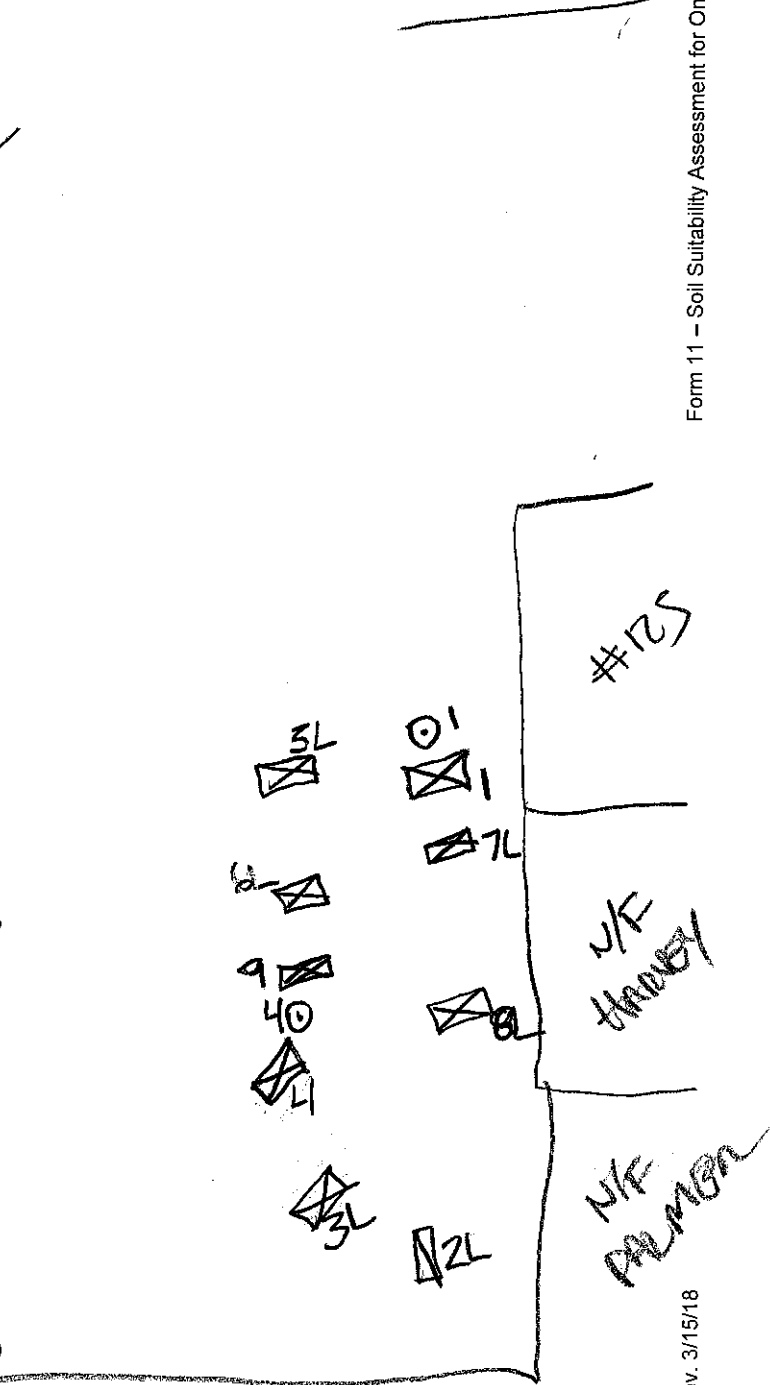
July 225
Expiration Date of License

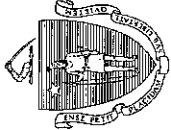
S. PALMER
Approving Authority

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.



Field Diagrams: Use this area for field diagrams:





Commonwealth of Massachusetts
City/Town of Southborough

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

A. Facility Information

FD 250 Turnpike, LLC
Owner Name
250 Turnpike Road
Street Address
Southborough
City
MA
State
27/002A
Map/Lot #
01772
Zip Code

B. Site Information

1. (Check one) ☒ New Construction ☐ Upgrade ☐ Repair
2. Soil Survey Available? ☒ Yes ☐ No If yes:

Woodbridge
Soil Name
severe
Soil Limitations
Till
uncertain
Landform
Soil Parent material

3. Surficial Geological Report Available? ☐ Yes ☒ No If yes:

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

7. Current Water Resource Conditions (USGS):

03/15/21
Month/Day/ Year

If yes, MassGIS Wetland Data Layer:

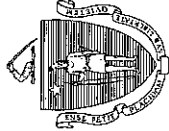
Wetland Type
☒ Normal ☐ Below Normal

Range: ☐ Above Normal ☒ Normal ☐ Below Normal

8. Other references reviewed:

DHS384
3-16-22

Web soil survey 310B
Source Soil Map Unit



Commonwealth of Massachusetts
City/Town of Southborough

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

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

Deep Observation Hole Number: 3 Date: 3-16-22 Time: 9:50 Weather: 44° sunny Longitude: 71° 10'
Land Use: WOODED Hole #: 3 Vegetation: DECIDUOUS TREES Surface Stones (e.g., cobbles, stones, boulders, etc.): some Slope (%): 2.10

Description of Location: ↑

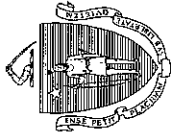
Soil Parent Material: NW of D#2

Distances from: Open Water Body _____ feet Landform _____ Position on Landscape (SU, SH, BS, FS, TS) _____
Property Line _____
Drinking Water Well _____ feet Wetlands _____ feet
Unsuitable Materials Present: ☒ Yes ☐ No If Yes: ☐ Disturbed Soil ☐ Fill Material ☐ Weathered/Fractured Rock ☒ Bedrock Other _____ feet
Groundwater Observed: ☐ Yes ☒ No If yes: _____ Depth Weeping from Pit _____ 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			
-	LEDGE AT 3'										
-	SOIL TEXTURE LIKE D#1										
-	REFUSAL										

Additional Notes:



Commonwealth of Massachusetts
City/Town of Southborough

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

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

Deep Observation Hole Number: 4 Date: 3-16-22 Time: 4:50 Weather: cloudy Latitude: _____ Longitude: N 10

1. Land Use: WOODLAND (e.g., woodland, agricultural field, vacant lot, etc.) Vegetation: DEADWOOD TREES Surface Stones (e.g., cobbles, stones, boulders, etc.): SOME STONES

Description of Location: BEHIND HANOVER, SW OF D#1

2. Soil Parent Material: TILL Landform: UNCERTAIN Position on Landscape (SU, SH, BS, FS, TS): UNCERTAIN

3. Distances from: Open Water Body 720' feet Drainage Way _____ feet Wetlands 7200' feet
Property Line 210' feet Drinking Water Well _____ feet Other _____ feet

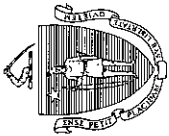
4. Unsuitable Materials Present: ☒ Yes ☐ No If Yes: ☐ Disturbed Soil ☐ Fill Material ☐ Weathered/Fractured Rock ☐ Bedrock

5. Groundwater Observed: ☐ Yes ☐ No If yes: _____ Depth Weeping from Pit _____ 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			
0-6"	Ap	SANDY LOAM	10YR5/3								
6-24"	B	SANDY LOAM	10YR5/3								
24-46"	C1	SANDY LOAM	10YR5/3				20	10			
46-78"	C2	SANDY LOAM	10YR5/3			>5% WHITE	20	10			

Additional Notes: - SOIL TEXTURE WAS SANDY LOAM IN SOME AREAS
- NO REFUGAL



Commonwealth of Massachusetts
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Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

D. Determination of High Groundwater Elevation

1. Method Used:

- ☒ Depth observed standing water in observation hole
- ☒ Depth weeping from side of observation hole
- ☒ Depth to soil redoximorphic features (mottles)
- ☐ Depth to adjusted seasonal high groundwater (S_h) (USGS methodology)

Obs. Hole # 3 Obs. Hole # 4

N/A inches N71 035E 0200 inches

N/A inches N71 035E 0200 inches

N/A inches 46 inches

_____ inches _____ inches

Index Well Number _____ Reading Date _____

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

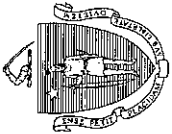
Obs. Hole/Well# _____ S_c _____ S_r _____ OW_c _____ OW_{max} _____ OW_r _____ S_h _____

2. Estimated Depth to High Groundwater: _____ inches

E. Depth of Pervious Material

1. Depth of Naturally Occurring Pervious Material

- a. Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soil system? NO #3 ☒ Yes ☒ No YES #4 absorption
- b. If yes, at what depth was it observed (exclude A and O Horizons)? Upper boundary: 16 inches Lower boundary: 73 inches
- c. If no, at what depth was impervious material observed? Upper boundary: _____ inches Lower boundary: _____ inches



Commonwealth of Massachusetts
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Form 11 - Soil Suitability Assessment for On-Site Sewage Disposal

F. 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.

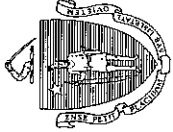
Signature of Soil Evaluator [Signature]
Typed or Printed Name of Soil Evaluator / License # JAMES L. FROST 3022121
Name of Approving Authority / Witness DAVID COSTA

Date 3/16/21
Expiration Date of License July 2021
Approving Authority SOUTH BORO TOWN BOARD

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.

Field Diagrams: Use this area for field diagrams:

SEE LOG OF DA 182 FOR SKETCH



Commonwealth of Massachusetts
City/Town of Southborough

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

A. Facility Information

FD 250 Turnpike, LLC
Owner Name
250 Turnpike Road
Street Address
Southborough
City
MA
State
27/002A
Map/Lot #
01772
Zip Code

B. Site Information

1. (Check one) ☒ New Construction ☐ Upgrade ☐ Repair

2. Soil Survey Available? ☒ Yes ☐ No If yes:

Woodbridge
Soil Name
severe
Soil Limitations

Till
Soil Parent material
uncertain
Landform

3. Surficial Geological Report Available? ☐ Yes ☒ No If yes:

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

7. Current Water Resource Conditions (USGS):

03/15/21
Month/Day/ Year

If yes, MassGIS Wetland Data Layer:

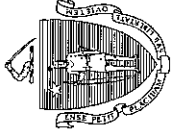
Wetland Type
☒ Normal ☐ Below Normal

Range: ☐ Above Normal

8. Other references reviewed:

D4586
3/10/22

Web soil survey
Source 310B
Soil Map Unit



Commonwealth of Massachusetts
City/Town of Southborough

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

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

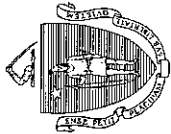
Deep Observation Hole Number: 5 Date: 5-16-22 Time: 10:15 Weather: 45° winds Longitude: 10
Land Use: WOODLAND Hole #: 5 Latitude: 42° 45' N Slope (%): 10
Description of Location: WEST OF DA 1 Vegetation: DECIDUOUS TREES Surface Stones (e.g., cobbles, stones, boulders, etc.): some

2. Soil Parent Material: TU Landform: _____ Position on Landscape (SU, SH, BS, FS, TS): _____
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 Weeping from Pit _____ 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			
1-LEDGB	AT		4								
	SOIL	VERY	MUCH LIKE DA 1								

Additional Notes:



Commonwealth of Massachusetts
City/Town of Southborough

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

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

Deep Observation Hole Number: 6

Hole #

Date

Time

Weather

Latitude

Longitude

1. Land Use:

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

Description of Location:

~ 100' west of ROAD

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

Slope (%)

2. Soil Parent Material:

Landform

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

3. Distances from:

Open Water Body _____ feet

Drainage Way _____ feet

Wetlands _____ feet

4. Unsuitable

Property Line _____ feet

Drinking Water Well _____ feet

Other _____ feet

Materials Present:

☒ Yes ☐ No

Disturbed Soil ☐ Fill Material ☐ Weathered/Fractured Rock ☐ Bedrock

Groundwater Observed: ☐ Yes ☐ No

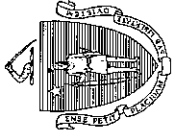
If yes: _____ Depth Weeping from Pit

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			
-	LEDGE AT 4'										
-	SOILS VERY MUCH UNB DA 1										

Additional Notes:



Commonwealth of Massachusetts
City/Town of Southborough

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

D. Determination of High Groundwater Elevation

1. Method Used:

- ☒ Depth observed standing water in observation hole
- ☒ Depth-weeping from side of observation hole
- ☒ Depth to soil redoximorphic features (mottles)
- ☐ Depth to adjusted seasonal high groundwater (S_h) (USGS methodology)

Obs. Hole # 5

N/A inches

N/A inches

N/A inches

_____ inches

Obs. Hole # 6

N/A inches

N/A inches

N/A inches

_____ inches

Index Well Number _____

Reading Date _____

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

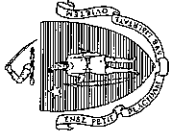
Obs. Hole/Well# _____ S_c _____ S_r _____ OW_c _____ OW_{max} _____ OW_r _____ S_h _____

2. Estimated Depth to High Groundwater: _____ inches

E. Depth of Pervious Material

1. Depth of Naturally Occurring Pervious Material

- a. Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soil system? ☐ Yes ☒ No absorption
- b. If yes, at what depth was it observed (exclude A and O Horizons)? Upper boundary: _____ inches Lower boundary: _____ inches
- c. If no, at what depth was impervious material observed? Upper boundary: _____ inches Lower boundary: _____ inches



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

F. Certification

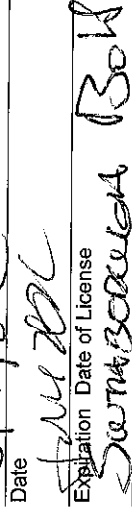
I certify that I am currently approved by the Department of Environmental Protection pursuant to 310 CMR 15.017 to conduct soil evaluations and that the above analysis has been performed by me consistent with the required training, expertise and experience described in 310 CMR 15.017. I further certify 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

James Penneker 502121
Typed or Printed Name of Soil Evaluator / License #

DAVID COSTELLO
Name of Approving Authority Witness

3/16/02
Date


Expiration Date of License

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 Perculation Test Form 12.

Field Diagrams: Use this area for field diagrams:

SEE DA182 FOR SKETCH



Commonwealth of Massachusetts
City/Town of Southborough

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

A. Facility Information

FD 250 Turnpike, LLC
Owner Name
250 Turnpike Road
Street Address
Southborough MA
City State
27/002A
Map/Lot #
01772
Zip Code

B. Site Information

1. (Check one) ☒ New Construction ☐ Upgrade ☐ Repair
2. Soil Survey Available? ☒ Yes ☐ No If yes:

Woodbridge
Soil Name
Till
Soil Parent material
3. Surficial Geological Report Available? ☐ Yes ☒ No If yes:

severe
Soil Limitations
uncertain
Landform

Web soil survey Source 310B
Soil Map Unit

DHS 788
3-16-22

Description of Geologic Map Unit:

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

5. Within a velocity zone? ☐ Yes ☒ No

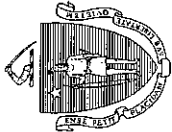
6. Within a Mapped Wetland Area? ☐ Yes ☒ No

7. Current Water Resource Conditions (USGS): 03/15/21
Month/Day/ Year

If yes, MassGIS Wetland Data Layer:

Wetland Type
☒ Normal ☐ Below Normal
Range: ☐ Above Normal ☐ Below Normal

8. Other references reviewed:



Commonwealth of Massachusetts
City/Town of Southborough

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

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

Deep Observation Hole Number: 7 Date: 3-16-22 Time: 10:50 Weather: 45° cloudy Longitude: _____
Land Use: WOODLAND (e.g., woodland, agricultural field, vacant lot, etc.) Vegetation: DECIDUOUS TREES Latitude: _____
Description of Location: BETWEEN #6 AND HARDY Surface Stones (e.g., cobbles, stones, boulders, etc.): _____ Slope (%): _____

Soil Parent Material: _____ Landform: _____ Position on Landscape (SU, SH, BS, FS, TS): _____
Distances from: Open Water Body _____ feet Drainage Way _____ feet Wetlands _____ feet
Property Line _____ feet Drinking Water Well _____ feet Other _____ feet
Unsuitable Materials Present: ☒ Yes ☐ No If Yes: ☐ Disturbed Soil ☐ Fill Material ☐ Weathered/Fractured Rock ☒ Bedrock
Groundwater Observed: ☐ Yes ☒ No If yes: _____ Depth Weeping from Pit _____ 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			
-	LEDGE AT 3'										

Additional Notes:



Commonwealth of Massachusetts
City/Town of Southborough

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

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

Deep Observation Hole Number: 8

Hole # 8

Date 3-16-22

Time 11:10

Weather 45° cloudy

Latitude

Longitude:

1. Land Use:

WOODLAND

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

Vegetation DECIDUOUS TREES

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

Slope (%)

Description of Location:

50' OFF HAWK HILL ROAD

2. Soil Parent Material:

Landform

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

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

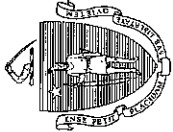
If yes: _____ Depth Weeping from Pit

_____ 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			
1-10	LEDGE AT 3'										

Additional Notes:



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

D. Determination of High Groundwater Elevation

1. Method Used:

- ☒ Depth observed standing water in observation hole
- ☒ Depth weeping from side of observation hole
- ☒ Depth to soil redoximorphic features (mottles)
- ☐ Depth to adjusted seasonal high groundwater (S_h) (USGS methodology)

Obs. Hole # 7

N/A inches

N/A inches

N/A inches

_____ inches

Obs. Hole # 8

N/A inches

N/A inches

N/A inches

_____ inches

Index Well Number _____

Reading Date _____

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

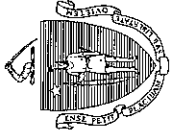
Obs. Hole/Wel# _____ S_c _____ S_r _____ OW_c _____ OW_{max} _____ OW_r _____ S_h _____

2. Estimated Depth to High Groundwater: _____ inches

E. Depth of Pervious Material

1. Depth of Naturally Occurring Pervious Material

- a. Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soil system? ☐ Yes ☒ No absorption
- b. If yes, at what depth was it observed (exclude A and O Horizons)? inches
- c. If no, at what depth was impervious material observed? inches



Commonwealth of Massachusetts
City/Town of Southborough

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

F. 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.



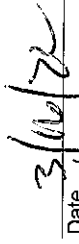
Signature of Soil Evaluator

 SB 2421

Typed or Printed Name of Soil Evaluator / License #

DENNIS COSTELLO

Name of Approving Authority Witness

 3/16/22

Date

 3/16/22

Expiration Date of License

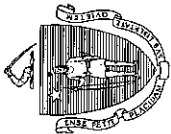
SOUTH BOROUGHS BOA

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 Perculation Test Form 12.

Field Diagrams: Use this area for field diagrams:

SEE D411



Commonwealth of Massachusetts
City/Town of Southborough

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

A. Facility Information

FD 250 Turnpike, LLC
Owner Name
250 Turnpike Road
Street Address
Southborough
City
MA
State
27/002A
Map/Lot #
01772
Zip Code

B. Site Information

1. (Check one) ☒ New Construction ☐ Upgrade ☐ Repair

2. Soil Survey Available? ☒ Yes ☐ No If yes:

Woodbridge
Soil Name
severe
Soil Limitations

Till
Soil Parent material
uncertain
Landform

3. Surficial Geological Report Available? ☐ Yes ☒ No If yes:

Year Published/Source
Map Unit

Web soil survey
Source
310B
Soil Map Unit

DIA 9
3/16/2008

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

7. Current Water Resource Conditions (USGS):

03/15/21
Month/Day/ Year

If yes, MassGIS Wetland Data Layer:

Wetland Type
☒ Normal ☐ Below Normal

8. Other references reviewed:



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

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

Deep Observation Hole Number: 9

Hole #

Date

3/16/22

Time

11:30

Weather

45° cloudy

Latitude

Longitude:

1. Land Use WOODLAND (e.g., woodland, agricultural field, vacant lot, etc.)

Description of Location: WEST OF #8

Vegetation

DECIDUOUS TREES

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

Slope (%)

2. Soil Parent Material:

Landform

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

3. Distances from: Open Water Body _____ feet

Drainage Way _____ feet

Wetlands _____ feet

Property Line

Drinking Water Well _____ feet

Other _____ feet

4. Unsuitable Materials Present: ☒ Yes ☐ No

Disturbed Soil ☐ Fill Material ☐ Weathered/Fractured Rock ☒ Bedrock

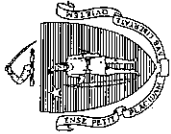
5. Groundwater Observed: ☐ Yes ☒ No

If yes: _____ Depth Weeping from Pit _____ 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			
1-2	USDB A13										

Additional Notes:



Commonwealth of Massachusetts
City/Town of Southborough

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

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) _____

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 Weeping from Pit _____ 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			

Additional Notes: _____



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

D. Determination of High Groundwater Elevation

1. Method Used:

- ☒ Depth observed standing water in observation hole
- ☒ Depth weeping from side of observation hole
- ☒ Depth to soil redoximorphic features (mottles)
- ☐ Depth to adjusted seasonal high groundwater (S_h) (USGS methodology)

Obs. Hole # 29

N/A inches

N/A inches

N/A inches

 inches

Obs. Hole #

 inches

 inches

 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

2. Estimated Depth to High Groundwater: inches

E. Depth of Pervious Material

1. Depth of Naturally Occurring Pervious Material

- a. Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soil system? ☐ Yes ☒ No absorption
- b. If yes, at what depth was it observed (exclude A and O Horizons)? inches
- c. If no, at what depth was impervious material observed? inches
- Upper boundary: inches Lower boundary: inches
- Upper boundary: inches Lower boundary: inches

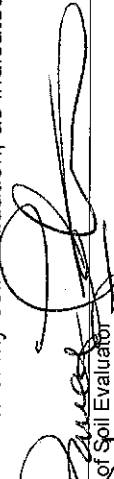


Commonwealth of Massachusetts
City/Town of Southborough

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

F. Certification

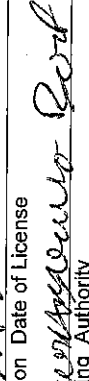
I certify that I am currently approved by the Department of Environmental Protection pursuant to 310 CMR 15.017 to conduct soil evaluations and that the above analysis has been performed by me consistent with the required training, expertise and experience described in 310 CMR 15.017. I further certify 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

JAMES P. STEWARD 5032421
Typed or Printed Name of Soil Evaluator / License #

DENNIS COSTELLO
Name of Approving Authority / Witness

3/16/22
Date


Expiration Date of License
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.

Field Diagrams: Use this area for field diagrams:

SEE DA 1



Commonwealth of Massachusetts
City/Town of Southborough

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

A. Facility Information

FD 250 Turnpike, LLC
Owner Name
250 Turnpike Road
Street Address
Southborough
City
MA
State
01772
Zip Code
27/002A
Map/Lot #

B. Site Information

1. (Check one) ☒ New Construction ☐ Upgrade ☐ Repair

2. Soil Survey Available? ☒ Yes ☐ No If yes:

Woodbridge
Soil Name

severe
Soil Limitations

Till
Soil Parent material

uncertain
Landform

3. Surficial Geological Report Available? ☐ Yes ☒ No If yes:

Year Published/Source Map Unit

Web soil survey Source

310B

Soil Map Unit

138145
ON 8-24-2022

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:

7. Current Water Resource Conditions (USGS):

08/24/22
Month/Day/ Year

Range: ☐ Above Normal

☐ Normal

☒ Below Normal

8. Other references reviewed:



Commonwealth of Massachusetts
City/Town of Southborough

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

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

Deep Observation Hole Number: 13 Hole # 13 Date 8-24-2021 Time 11:22 Weather 80° sunny Longitude: 71° 30' W
Land Use WOODLAND (e.g., woodland, agricultural field, vacant lot, etc.) Vegetation DECIDUOUS TREES Surface Stones (e.g., cobbles, stones, boulders, etc.) SOME STONES Latitude 42° 15' N
Description of Location: SW CORNER OF SITE Slope (%) 2

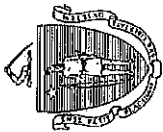
Soil Parent Material: TIK (?) Landform UNCERTAIN Position on Landscape (SU, SH, BS, FS, TS) _____
Distances from: Open Water Body _____ feet Drainage Way _____ feet Wetlands _____ feet
Property Line _____ feet Drinking Water Well _____ feet Other _____ feet
Unsuitable Materials Present: ☐ Yes ☒ No If Yes: ☐ Disturbed Soil ☐ Fill Material ☐ Weathered/Fractured Rock ☐ Bedrock
Groundwater Observed: ☐ Yes ☒ No If Yes: _____ Depth Weeping from Pit _____ 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			
0-6"	A	SANDY LOAM	10YR3/6								
6-21"	B	SANDY LOAM	10YR3/6					40			
21-40"	C1	SANDY LOAM	10YR7/4				25	20			
40-26"	C2	SANDY LOAM	10YR7/4			50% 10YR 18/2	25	20			

Additional Notes:

- NO REFUSAL



Commonwealth of Massachusetts
City/Town of Southborough

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

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

Deep Observation Hole Number: 14

Hole #

Date 8-24-2022

Time 3:00 PM

Weather 30° SUNNY

Latitude

Longitude: 71° 10'

1. Land Use:

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

DECIDUOUS TREES
Vegetation

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

Description of Location:

S.W. CORNER OF SUB

2. Soil Parent Material:

TILL (?)

Landform

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

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

☐ Disturbed Soil ☐ Fill Material

☐ Weathered/Fractured Rock ☐ Bedrock

5. Groundwater Observed: ☐ Yes ☒ No

If yes: _____ Depth Weeping from Pit

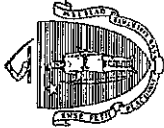
_____ Depth Standing Water in Hole

Soil Log

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				
0-6"	A	SANDY LOAM	10YR 2/2									
6"-20"	B	SANDY LOAM	10YR 2/6						20			
20"-44"	C1	SANDY LOAM	10YR 2/2					25	20			
44"-68"	C2	SANDY LOAM	10YR 2/1			50% MINERAL		25	20			

Additional Notes:

- NO REFUSAL



Commonwealth of Massachusetts
City/Town of Southborough

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

D. Determination of High Groundwater Elevation

1. Method Used:

☒ Depth observed standing water in observation hole

☐ Depth weeping from side of observation hole

☒ Depth to soil redoximorphic features (mottles)

☐ Depth to adjusted seasonal high groundwater (S_h)
(USGS methodology)

Obs. Hole # 13

~~Not Observed~~ inches

~~Not Observed~~ inches

40 inches

 inches

Obs. Hole # 14

~~Not Observed~~ inches

~~Not Observed~~ inches

44 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

2. Estimated Depth to High Groundwater: inches

E. Depth of Pervious Material

1. Depth of Naturally Occurring Pervious Material

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

☒ Yes ☐ No

b. If yes, at what depth was it observed (exclude A and O Horizons)?

c. If no, at what depth was impervious material observed?

Upper boundary:

Upper boundary:

6' 6" inches

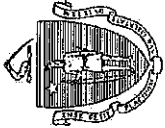
 inches

Lower boundary:

Lower boundary:

6' 11" inches

6' 8" inches



Commonwealth of Massachusetts
City/Town of Southborough

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

F. Certification

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Signature of Soil Evaluator

JAMES LEBREULT SE 2401
Typed or Printed Name of Soil Evaluator / License #

DENNIS COSTELLO
Name of Approving Authority Witness

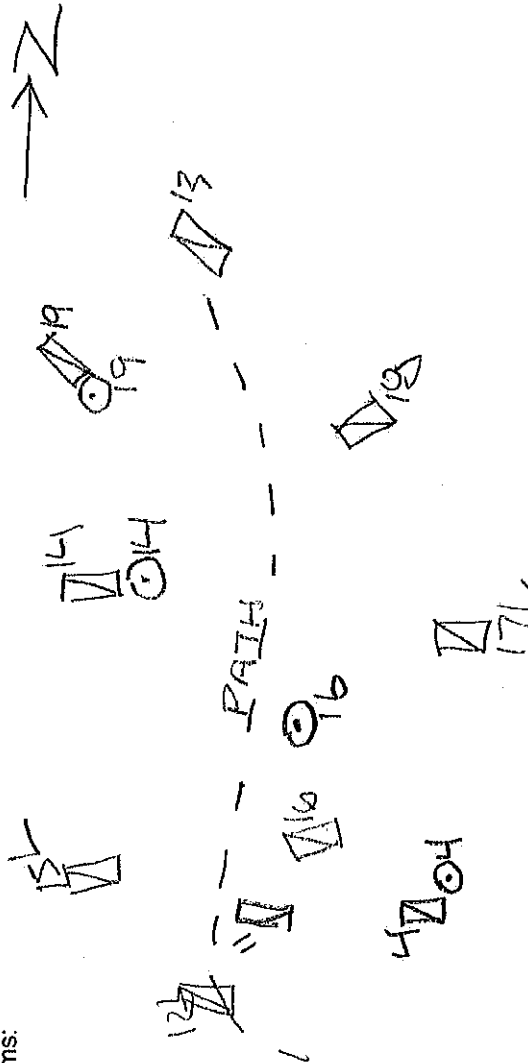
8-24-2022
Date

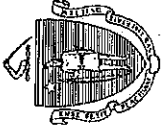
JULY 2025
Expiration Date of License

SOUTHBOROUGH BOM
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.

Field Diagrams: Use this area for field diagrams:





Commonwealth of Massachusetts
City/Town of Southborough

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

A. Facility Information

FD 250 Turnpike, LLC
Owner Name
250 Turnpike Road
Street Address
Southborough MA 01772
City State Zip Code
27002A
Map/Lot #
01772
Zip Code

B. Site Information

1. (Check one) ☒ New Construction ☐ Upgrade ☐ Repair

2. Soil Survey Available? ☒ Yes ☐ No If yes:

Woodbridge

Soil Name

severe
Soil Limitations

Till

Soil Parent material

uncertain
Landform

3. Surficial Geological Report Available? ☐ Yes ☒ No If yes:

Year Published/Source

Map Unit

Web soil survey
Source

310B

Soil Map Unit

586
018-29-22

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

7. Current Water Resource Conditions (USGS):

08/24/22

Month/Day/Year

If yes, MassGIS Wetland Data Layer:

Range: ☐ Above Normal ☐ Normal ☒ Below Normal

Wetland Type

☐ Normal ☒ Below Normal

8. Other references reviewed:



Commonwealth of Massachusetts
City/Town of Southborough

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

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

- Deep Observation Hole Number: 142 Date: 8-24-2022 Time: 8:50 AM Weather: Cloudy Latitude: 42° 57' Longitude: 71° 57'
1. Land Use: WOODLAND (e.g., woodland, agricultural field, vacant lot, etc.) Vegetation: DECIDUOUS TREES Surface Stones (e.g., cobbles, stones, boulders, etc.): SOME STONES
- Description of Location: SW CORNER OF LOT 570
2. Soil Parent Material: TIU? Landform: DRAINAGE WAY Position on Landscape (SU, SH, BS, FS, TS): WETLANDS feet
3. Distances from: Open Water Body 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 Weeping from Pit Depth Standing Water in Hole

Soil Log

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				
0-5"	A	SANDY LOAM	10YR 3/2									
5-25"	B	SANDY LOAM	10YR 7/6						20			
25-40"	C1	SANDY LOAM	10YR 7/2					25	20			
40-70"	C2	SANDY LOAM	10YR 7/2			5% water		25	20			

Additional Notes:

- NO WEEDING
- NO REFUSAL



Commonwealth of Massachusetts
City/Town of Southborough

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

D. Determination of High Groundwater Elevation

1. Method Used:

- ☒ Depth observed standing water in observation hole
- ☒ Depth weeping from side of observation hole
- ☒ Depth to soil redoximorphic features (mottles)
- ☐ Depth to adjusted seasonal high groundwater (S_h) (USGS methodology)

Obs. Hole # 15 inches

Obs. Hole # 16 inches

13 inches

40 inches

40 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 _____

2. Estimated Depth to High Groundwater: _____ inches

E. Depth of Pervious Material

1. Depth of Naturally Occurring Pervious Material

- a. Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soil system? _____ absorption

☒ Yes ☐ No

- b. If yes, at what depth was it observed (exclude A and O Horizons)?

- c. If no, at what depth was impervious material observed?

Upper boundary:

Upper boundary:

Lower boundary:

Lower boundary:

5 inches

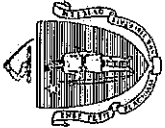
inches

inches

78 inches

inches

inches



Commonwealth of Massachusetts
City/Town of Southborough

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

F. 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

JAMES LEMAIRE SE 2421

Typed or Printed Name of Soil Evaluator / License #

DENNIS COSTO

Name of Approving Authority / Witness

8-24-2022

Date

JULY 2025

Expiration Date of License

Bokeston Bldg

Approving Authority

SARAH BORDA

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.

Field Diagrams: Use this area for field diagrams:

SEE LOG OF DWS 13 & 14 FOR SKETCH



Commonwealth of Massachusetts
City/Town of Southborough

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

A. Facility Information

FD 250 Turnpike, LLC
Owner Name
250 Turnpike Road
Street Address
Southborough
City
MA
State
27/002A
Map/Lot #
01772
Zip Code

B. Site Information

1. (Check one) ☒ New Construction ☐ Upgrade ☐ Repair

2. Soil Survey Available? ☒ Yes ☐ No If yes:

Woodbridge

Soil Name

severe

Soil Limitations

Till

Soil Parent material

uncertain

Landform

3. Surficial Geological Report Available? ☐ Yes ☒ No If yes:

Year Published/Source

Map Unit

Web soil survey

Source

310B

Soil Map Unit

0128-24202

171213

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:

7. Current Water Resource Conditions (USGS):

08/24/22

Month/Day/ Year

Range: ☐ Above Normal

Wetland Type
☐ Normal

☒ Below Normal

8. Other references reviewed:



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

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

Deep Observation Hole Number:

75

Date 8-24-2022

Time

Weather

Latitude

Optimal

- | 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: | | | |
| 3. Distances from: | | | |
| Open Water Body | _____ feet | Drainage Way | _____ feet |
| Property Line | _____ feet | Drinking Water Well | _____ feet |
| Unsuitable Materials Present: ☐ Yes ☐ No | If Yes: ☐ Disturbed Soil ☐ Fill Material ☐ Weathered/Fractured Rock ☐ Bedrock | | |
| Groundwater Observed: ☐ Yes ☐ No | If yes: _____ Depth Weeping from Pit _____ | | _____ Depth Standing Water in Hole _____ |

Soil Log

[illegible]

Additional Notes:



Commonwealth of Massachusetts
City/Town of Southborough

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

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

Deep Observation Hole Number: 12 Date: 8-24-2007 Time: 8:50 AM Weather: Cloudy Longitude: 71° 55'
Hole #: WOODLAND Vegetation: DECIDUOUS TREES Surface Stones (e.g., cobbles, stones, boulders, etc.): SOME STONES Slope (%): 25

Land Use: WOODLAND (e.g., woodland, agricultural field, vacant lot, etc.)
Description of Location: SW OF STB

Soil Parent Material: TIU(?)

Distances from: Open Water Body _____ feet
Property Line _____ feet
Drainage Way _____ feet
Wetlands _____ feet
Drinking Water Well _____ feet
Other _____ feet

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

5. Groundwater Observed: ☐ Yes ☒ No If yes: _____ Depth Weeping from Pit _____ 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			
0-8"	A	SANDY LOAM	10YR 13/2								
8"-21"	B	SANDY LOAM	10YR 7/6					20			
21"-40"	C1	SANDY LOAM	10YR 7/2				25	20			
40"-72"	C2	SANDY LOAM	10YR 7/2			SIP WHITE	25	20			

Additional Notes:

- NO WEEDING
- NO REFUSAL



Commonwealth of Massachusetts
City/Town of Southborough

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

D. Determination of High Groundwater Elevation

1. Method Used:

- ☒ Depth observed standing water in observation hole
- ☒ Depth weeping from side of observation hole
- ☒ Depth to soil redoximorphic features (mottles)
- ☐ Depth to adjusted seasonal high groundwater (S_h) (USGS methodology)

Obs. Hole # 17

Obs. Hole # 18

NOT OBSERVED inches

NOT OBSERVED inches

40" inches

 inches

Index Well Number _____ Reading Date _____

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

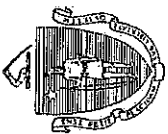
Obs. Hole/Well# _____ S_c _____ S_r _____ OW_c _____ OW_{max} _____ OW_r _____ S_h _____

2. Estimated Depth to High Groundwater: _____ inches

E. Depth of Pervious Material

1. Depth of Naturally Occurring Pervious Material

- a. Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soil system? ☒ Yes ☐ No absorption
- b. If yes, at what depth was it observed (exclude A and O Horizons)? Upper boundary: 8" inches Lower boundary: 62" inches
- c. If no, at what depth was impervious material observed? Upper boundary: _____ inches Lower boundary: _____ inches



Commonwealth of Massachusetts
City/Town of Southborough

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

F. 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

JAMES LEMKAU SE 2421
Typed or Printed Name of Soil Evaluator / License #

DENNIS COSTELLO
Name of Approving Authority Witness

8-24-2026
Date

JULY 2025
Expiration Date of License


Approving Authority
JAMES LEMKAU

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.

Field Diagrams: Use this area for field diagrams:

SEE SKETCH IN LOG FOR DAs B & K4



Commonwealth of Massachusetts
City/Town of Southborough

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

A. Facility Information

FD 250 Turnpike, LLC

Owner Name

250 Turnpike Road

Street Address

Southborough

City

MA

State

27/002A

Map/Lot #

01772

Zip Code

B. Site Information

1. (Check one) ☒ New Construction ☐ Upgrade ☐ Repair

2. Soil Survey Available? ☒ Yes ☐ No If yes:

Woodbridge

Soil Name

severe

Soil Limitations

Till

Soil Parent material

uncertain

Landform

3. Surficial Geological Report Available? ☐ Yes ☒ No If yes:

Year Published/Source

Map Unit

Web soil survey
Source

310B

Soil Map Unit

DH19

028-24-282

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:

7. Current Water Resource Conditions (USGS):

08/24/22

Month/Day/ Year

Range: ☐ Above Normal

Wetland Type
☐ Normal

☒ Below Normal

8. Other references reviewed:



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

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

Deep Observation Hole Number: 19

8-24-2026 12:30
Date Time

Weather 005050233

Hole

Time

Weather Latitude

Optima

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

Vegetation

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

58

Description of Location: SW corner of S1T8

2. Soil Parent Material: Till (?)

UN 579, n

100

101

3. Distances from: Open Water Body _____ feet _____

Drainage Way

feet
Wetlands

fest

Property Line

Drinking Water Well

Other _____ feet _____

fee

4. Unsuitable Materials Present: ☐ Yes ☒ No If Yes:

☐ Fill Material☐ Weathered/Fractured Rock ☐ Bedrock

rock

5. Groundwater Observed: ☐ Yes ☒ No

If yes:

Death Certificate - 1874-1900

Soil Log

[illegible]

Additional Notes:

125028



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

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

Deep Observation Hole Number:

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: _____

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
Drilling Water Used _____ feet _____ feet _____ feet _____ feet

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

Soil Log

[illegible]

Additional Notes:



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

D. Determination of High Groundwater Elevation

1. Method Used:

- ☒ Depth observed standing water in observation hole
- ☒ Depth weeping from side of observation hole
- ☒ Depth to soil redoximorphic features (mottles)
- ☐ Depth to adjusted seasonal high groundwater (S_h) (USGS methodology)

Obs. Hole # 19 Obs. Hole # _____
Not Observed inches _____ inches
Not Observed inches _____ inches
38" inches _____ inches
_____ 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 _____

2. Estimated Depth to High Groundwater: _____ inches

E. Depth of Pervious Material

1. Depth of Naturally Occurring Pervious Material

- a. Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soil system? absorption

☒ Yes ☐ No

- b. If yes, at what depth was it observed (exclude A and O Horizons)?

Upper boundary: _____

7"
inches

Lower boundary: _____

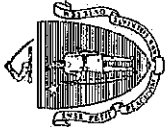
74"
inches

- c. If no, at what depth was impervious material observed?

Upper boundary: _____

Lower boundary: _____

inches



Commonwealth of Massachusetts
City/Town of Southborough

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

F. 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
JAMES LEMBARIS SE 2421
Typed or Printed Name of Soil Evaluator / License #
DENNIS GOSNARD
Name of Approving Authority Witness

8-24-2021
Date
JUNE 2025
Expiration Date of License
SOUTH BOROUGHS BOM
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.

Field Diagrams: Use this area for field diagrams:

SEE LOG OF DW'S 13 & 14 FOR SKETCHES



Commonwealth of Massachusetts
City/Town of Southborough

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

A. Facility Information

FD 250 Turnpike, LLC
Owner Name
250 Turnpike Road
Street Address
Southborough
City
MA
State
27/002A
Map/Lot #
01772
Zip Code

B. Site Information

1. (Check one) ☒ New Construction ☐ Upgrade ☐ Repair
2. Soil Survey Available? ☒ Yes ☐ No If yes: severe
Woodbridge
Soil Name
uncertain
Soil Limitations
Landform
Web soil survey 310B
Source Soil Map Unit
7-20-2023
DHZO
3. Surficial Geological Report Available? ☐ Yes ☒ No If yes: 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:
7. Current Water Resource Conditions (USGS): 07/20/22
Month/Day/ Year Range: ☐ Above Normal ☒ Normal ☐ Below Normal
Wetland Type
8. Other references reviewed:



Commonwealth of Massachusetts
City/Town of Southborough

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

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

Deep Observation Hole Number: 20 Date: 7-20-2023 Time: 11 A.M. Weather: None Latitude: _____ Longitude: _____

1. Land Use: NEXT TO PARKING Vegetation: GRASS Surface Stones (e.g., cobbles, stones, boulders, etc.): _____ Slope (%): _____

Description of Location: ON EAST SIDE OF LOWER PARKING

2. Soil Parent Material: UNCERTAIN Landform: UNCERTAIN Position on Landscape (SU, SH, BS, FS, TS): _____

3. Distances from: Open Water Body _____ feet Drainage Way _____ feet Wetlands ~100 feet
Property Line 15-20' feet Drinking Water Well _____ feet Other _____ feet

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

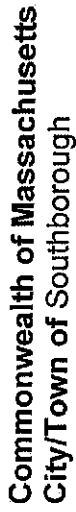
5. Groundwater Observed: ☐ Yes ☒ No If yes: _____ Depth Weeping from Pit _____ Depth Standing Water in Hole _____

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			
0-3"	NEW A	SANDY LOAM	10YR2.3/2				-	-			
3"-60"	FILL										
60"-78"	B	SANDY LOAM	10YR2.7/6				-	-			
78"-126"	C	LOAMY SAND	10YR2.7/3				25	10			

Additional Notes:

- NO SIGNIFICANT MOTTLING
- SOME TEXTURE TEST CAME OUT AS SAND
- NO WEEPING



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

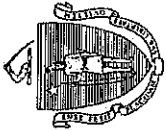
[illegible]

- Description of Location:

2. Soil Parent Material: _____
3. Distances from: Open Water Body _____ feet
Property Line _____ feet
Drainage Way _____ feet
Drinking Water Well _____ feet
Wetlands _____ 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 Weeping from Pit _____ Depth Standing Water in Hole _____

[illegible]

t5form11 • rev. 3/15/18



Commonwealth of Massachusetts
City/Town of Southborough

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

D. Determination of High Groundwater Elevation

1. Method Used:

- ☒ Depth observed standing water in observation hole
☒ Depth weeping from side of observation hole
☒ Depth to soil redoximorphic features (mottles)
☐ Depth to adjusted seasonal high groundwater (S_h) (USGS methodology)

Obs. Hole # 20

Obs. Hole # _____
_____ inches
_____ inches
_____ inches
_____ inches

NOT OBSERVED inches

NOT OBSERVED inches

NOT OBSERVED 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 _____

2. Estimated Depth to High Groundwater: _____ inches

E. Depth of Pervious Material

1. Depth of Naturally Occurring Pervious Material

- a. Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soil system? ☒ Yes ☐ No absorption

b. If yes, at what depth was it observed (exclude A and O Horizons)?

c. If no, at what depth was impervious material observed?

Upper boundary: 60 inches

Lower boundary: 126 inches

Upper boundary: _____ inches

Lower boundary: _____ inches



Commonwealth of Massachusetts
City/Town of Southborough

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

F. 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

JAMES TETRSAUT SE 2421
Typed or Printed Name of Soil Evaluator / License #

7-20-2023

Date

JULY 2025

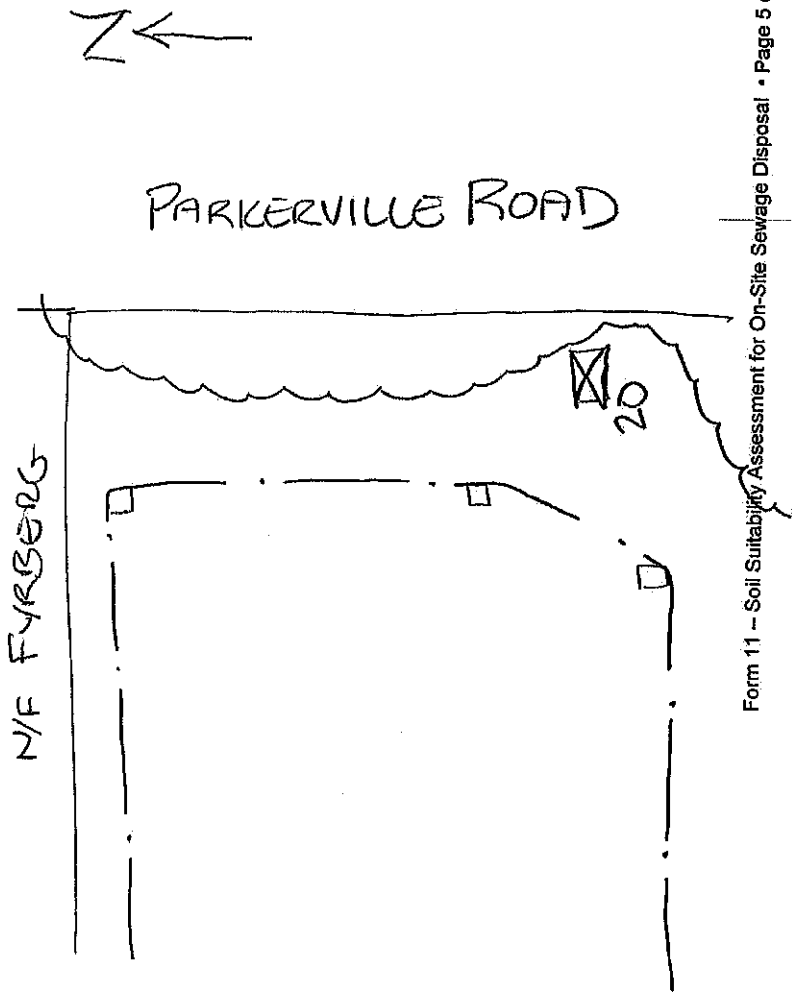
Expiration Date of License

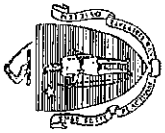
Name of Approving Authority Witness

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.

Field Diagrams: Use this area for field diagrams:





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

A. Facility Information

FD 250 Turnpike, LLC

Owner Name

250 Turnpike Road

Street Address

Southborough

City

MA

State

27/002A

Map/Lot #

01772

Zip Code

B. Site Information

1. (Check one) ☒ New Construction ☐ Upgrade ☐ Repair

2. Soil Survey Available? ☒ Yes ☐ No If yes:

Woodbridge(near edge of mapped Canton)

Soil Name

severe

Soil Limitations

Till

Soil Parent material

uncertain

Landform

3. Surficial Geological Report Available? ☐ Yes ☒ No If yes:

Year Published/Source

Map Unit

Web soil survey Source

310B

Soil Map Unit

OH 218222
11-13-2023

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

7. Current Water Resource Conditions (USGS):

11/13/23

Month/Day/Year

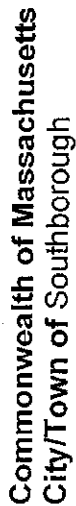
If yes, MassGIS Wetland Data Layer:

Range: ☐ Above Normal ☒ Normal ☐ Below Normal

Wetland Type

☒ Normal ☐ Below Normal

8. Other references reviewed:



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

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

Deep Observation Hole Number: 21 Hole #

1. Land Use WOODLAND

Vegetation

Description of Location:

2. Soil Parent Material:

3. Distances from:

Open Water Body

Property Line

☒ Yes ☐ No

5. Groundwater Observed: ☐ Yes ☒ No

If yes; _____ Depth Weeping from Pit _____

Depth Standing Water in Hole

Soil Log

[illegible]

Additional Notes:

C1C2 JUST SLIGHTLY BETTER THAN SAND / LOAM TEXTURE, NOT ON THE SAND SIDE OF THE RUBBER



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

D. Determination of High Groundwater Elevation

1. Method Used:

- ☒ Depth observed standing water in observation hole
- ☒ Depth weeping from side of observation hole
- ☒ Depth to soil redoximorphic features (mottles)
- ☐ Depth to adjusted seasonal high groundwater (S_h) (USGS methodology)

Obs. Hole # 21 Obs. Hole # 22

NOT OBSERVED inches NOT OBS inches

NOT OBS inches NOT OBS inches

66 inches 42 inches

 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

2. Estimated Depth to High Groundwater: inches

E. Depth of Pervious Material

1. Depth of Naturally Occurring Pervious Material

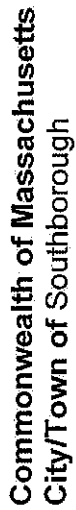
a. Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soil system? ☒ Yes ☐ No absorption

b. If yes, at what depth was it observed (exclude A and O Horizons)?

c. If no, at what depth was impervious material observed?

Upper boundary: 30 inches Lower boundary: 88 inches

Upper boundary: inches Lower boundary: inches



F. 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 _____

James E. Treawell
Typed or Printed Name of Soil Evaluator / License #

Date 11/13/23

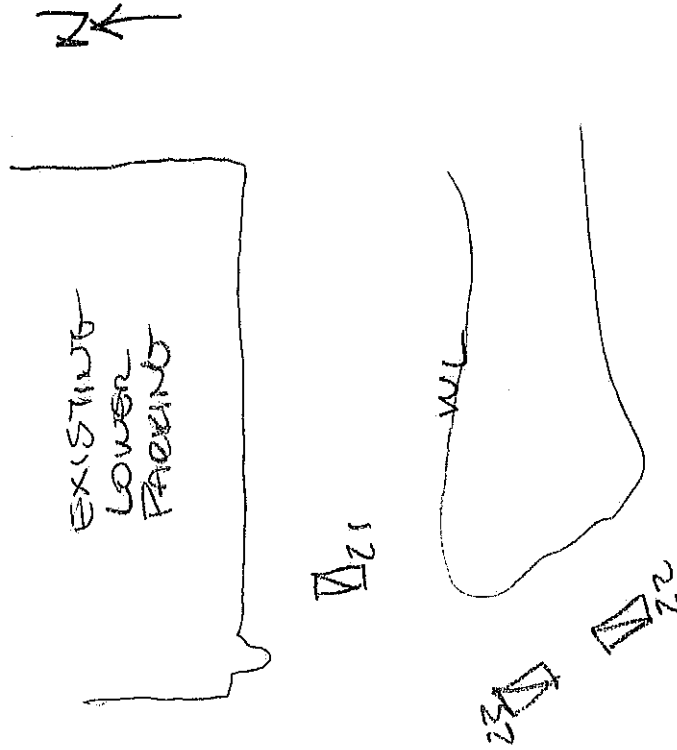
62476
Expiration Date of License

Name of Approving Authority Witness

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.

Field Diagrams: Use this area for field diagrams:





Commonwealth of Massachusetts
City/Town of Southborough

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

A. Facility Information

FD 250 Turnpike, LLC

Owner Name

250 Turnpike Road

Street Address

Southborough

City

MA

State

27/002A

Map/Lot #

01772

Zip Code

B. Site Information

1. (Check one) ☒ New Construction ☐ Upgrade ☐ Repair

2. Soil Survey Available? ☒ Yes ☐ No If yes:

Woodbridge (near edge of mapped Canton)

Soil Name

severe

Soil Limitations

Till

Soil Parent material

uncertain

Landform

3. Surficial Geological Report Available? ☐ Yes ☒ No If yes:

Year Published/Source

Map Unit

Web soil survey

Source

310B

Soil Map Unit

OH 23
11/13/2023

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:

7. Current Water Resource Conditions (USGS):

11/13/23

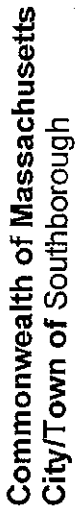
Month/Day/ Year

Range: ☐ Above Normal

☒ Normal

☐ Below Normal

8. Other references reviewed:



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

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

Deep Observation Hole Number:

Hole # 23

Date 11/13/23

Time 10:10

33 PE Cloud

Longitude:

Latitude

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

Description of Location:

1.0

2. Soil Parent Material:

FILE

UNCE-TR-12

VUCETA

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

40 feet

Wetlands

feet
—

Call

_____ Depth Standing Water in Hole

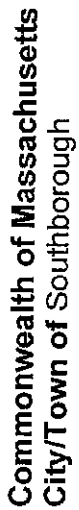
If yes: _____ Depth Weeping from Pit

Soil Log

[illegible]

Additional Notes:

VERY SIMILAR TO DH22



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

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:	Vegetation	Surface Stones (e.g., cobbles, stones, boulders, etc.)	Slope (%)
(e.g., woodland, agricultural field, vacant lot, etc.)			

Description of Location:

2. Soil Parent Material: _____

3. Distances from: Ocean Water Body: _____

Landform

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

3. Distances from:

	Open Water Body	Drainage Way	Wetlands
	_____ feet	_____ feet	_____ feet

4. Unsuitable

	Property Line	Drinking Water Well	Other
	_____ feet	_____ feet	_____ feet

4. Unsuitable

Materials Present: ☐ Yes ☐ No If Yes: ☐ Disturbed Soil

5. Groundwater Observed: ☐ Yes ☐ No

Material ☐ Weathered/Fractured Rock ☐ Bedrock
If yes: _____ Depth Weeping from Pit _____ Depth Standing Water in Hole _____

Soil Log

[illegible]

Additional Notes:



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

D. Determination of High Groundwater Elevation

1. Method Used:

- ☒ Depth observed standing water in observation hole
- ☒ Depth weeping from side of observation hole
- ☒ Depth to soil redoximorphic features (mottles)
- ☐ Depth to adjusted seasonal high groundwater (S_h) (USGS methodology)

Obs. Hole # 23 inches

Obs. Hole # 23 inches

Obs. Hole # 23 inches

Obs. Hole # 23 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 _____

2. Estimated Depth to High Groundwater: _____ inches

E. Depth of Pervious Material

1. Depth of Naturally Occurring Pervious Material

- a. Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soil system? ☒ Yes ☐ No
- b. If yes, at what depth was it observed (exclude A and O Horizons)?
- c. If no, at what depth was impervious material observed?

Upper boundary: 6" inches

Lower boundary: 74" inches

Upper boundary: _____ inches

Lower boundary: _____ inches



Commonwealth of Massachusetts
City/Town of Southborough

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

F. 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

[Handwritten Signature]

Typed or Printed Name of Soil Evaluator / License #

JAMES TERPANI 502421

Date

11/3/23

Expiration Date of License

JULY 25

Name of Approving Authority Witness

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.

Field Diagrams: Use this area for field diagrams:

SEE LOG FOR DATA 21 & 22



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

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250 Turnpike Road

Street Address

Southborough

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MA

State

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Zip Code

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Woodbridge(near edge of mapped Canton)

Soil Name

Till

Soil Parent material

3. Surficial Geological Report Available? ☐ Yes ☒ No If yes:

severe
Soil Limitations

uncertain
Landform

If yes:

Year Published/Source

Map Unit

Web soil survey
Source

310B

Soil Map Unit

DH 24
12-10-24

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:

7. Current Water Resource Conditions (USGS):

12/3/24

Month/Day/ Year

Range: ☐ Above Normal

☒ Normal

☐ Below Normal

8. Other references reviewed:



Commonwealth of Massachusetts
City/Town of Southborough

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

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

Deep Observation Hole Number: 24 12-10-2024 1:45 33° overcast Latitude Longitude:
Date Time Weather Surface Stones (e.g., cobbles, stones, boulders, etc.) Slope (%)
WOODGARD A FEW STONES ~10%

1. Land Use (e.g., woodland, agricultural field, vacant lot, etc.) 55 SOUTH OF WL FLAG 25 Vegetation

2. Soil Parent Material: TILL Landform UNCEERIAN Position on Landscape (SU, SH, BS, FS, TS) UNCEERIAN

3. Distances from: Open Water Body 55' feet Drainage Way — feet Wetlands SS feet
Property Line 55' 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 Weeping from Pit — 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			
0-9"	A	SANDY LOAM	10YR 3/2								
9-29"	B	SANDY LOAM	10YR 2/4								
29-42"	C1	SANDY LOAM	10YR 2/3				15	15			
42-60"	C2	SANDY LOAM	10YR 2/3			75% 10YR 2/4	15	15			

Additional Notes:

— NO REFUSAL

— NOTHING WAS SO MUCH AT FIRST
— SOME AREAS OF THE DA HAD
LOAMY SAND TEXTURES



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

Deep Observation Hole Number:

1. Land Use: _____
(e.g., woodland, agricultural field, vacant lot, etc.)
Vegetation _____
Surface Stones (e.g., cobbles, stones, boulders, etc.) _____
Slope (%) _____
2. Soil Parent Material: _____
Landform _____
3. Distances from: Open Water Body _____ feet
Property Line _____ feet
Drainage Way _____ feet
Drinking Water Well _____ feet
Wetlands _____ feet
Other _____ feet
Position on Landscape (SU, SH, BS, FS, TS) _____
4. Unsuitable Materials Present: ☐ Yes ☐ No If Yes: ☐ Disturbed Soil ☐ Fill Material ☐ Weathered/Fractured Rock ☐ Bedrock
If yes: _____ Depth Weeping from Pit _____
5. Groundwater Observed: ☐ Yes ☐ No
_____ Depth Standing Water in Hole _____

Soil Log

[illegible]

Additional Notes:



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

D. Determination of High Groundwater Elevation

1. Method Used:

- ☒ Depth observed standing water in observation hole
☒ Depth weeping from side of observation hole
☒ Depth to soil redoximorphic features (mottles)
☐ Depth to adjusted seasonal high groundwater (S_h) (USGS methodology)

Obs. Hole # 24

NOT OBSERVED inches

NOT OBSERVED inches

42 inches

 inches

Obs. Hole #

 inches

 inches

 inches

 inches

Index Well Number Reading Date

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

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

2. Estimated Depth to High Groundwater: inches

E. Depth of Pervious Material

1. Depth of Naturally Occurring Pervious Material

- a. Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soil system? absorption

☐ Yes ☐ No

- b. If yes, at what depth was it observed (exclude A and O Horizons)?

Upper boundary: inches

Lower boundary: inches

- c. If no, at what depth was impervious material observed?

Upper boundary: inches

Lower boundary: inches



Commonwealth of Massachusetts
City/Town of Southborough

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

F. 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

JAMES K. TREVAUX SE 2421
Typed or Printed Name of Soil Evaluator / License #

12-10-2024
Date

JULY 2025
Expiration Date of License

Name of Approving Authority Witness

Approving Authority

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Field Diagrams: Use this area for field diagrams:

