



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

A. Facility Information

Meridian Lexington Owner, LLC c/o John Cappellano, Senior Vice President, Lincoln Property Company

Owner Name

91 Hartwell Avenue

Street Address

Lexington

City

MA

State

80// 10C//

Map/Lot #

02421

Zip Code

B. Site Information

1. (Check one) New Construction Upgrade Repair

2. Soil Survey Available? Yes No If yes:

NRCS
Source

603
Soil Map Unit

Urban Land, wet substratum

Soil Name

Soil Limitations

Fill

Soil Parent material

Landform

3. Surficial Geological Report Available? Yes No

If yes: 1958/USGS

Year Published/Source

Fine Deposits

Map Unit

Fine deposits include very fine sand, silt, and clay occurring as well-sorted, thin layers of alternating silt and clay (varves), or as thicker layers of very fine sand and silt

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):

April 15, 2020
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: TP-1 April 16, 2020 7:15am Light Snow, 35°
Hole # Date Time Weather Latitude Longitude:
 1. Land Use Lawn Grass None
(e.g., woodland, agricultural field, vacant lot, etc.) Vegetation Surface Stones (e.g., cobbles, stones, boulders, etc.) Slope (%)
 Longitude: 1%

Description of Location: _____

2. Soil Parent Material: Fill over alluvium SU
Landform Position on Landscape (SU, SH, BS, FS, TS)

3. Distances from: Open Water Body _____ feet Drainage Way _____ feet Wetlands 51 feet
 Property Line 64 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: 54 Depth Weeping from Pit 60 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			
0-52	A(Fill)	Loam	10R 2.5/1	---	---	---	5	10	Massive	Friable	Fill layer from original site construction
52-76	C	Silt Loam	Gley 2 6/5BG	56	5YR 5/6	60	2	5	Platy	Friable	Appears to be wetland soil

Additional Notes:

Sloughing and groundwater weeping at 54 inches, pit had filled to 60 inches before backfilling. Estimate SHGW at 54. ~ elevation 113.



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: TP-2 April 16, 2020 7:35am Light Snow, 35°
 Hole # Time Weather Latitude Longitude:

1. Land Use: Lawn Grass None 5%
 (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: Fill over alluvium Landform SU
 Position on Landscape (SU, SH, BS, FS, TS)

3. Distances from: Open Water Body _____ feet Drainage Way _____ feet Wetlands 127 feet
 Property Line 218 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 26" 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			
0-24	A (Fill)	Loam	10R 2.5/1	---	---	---	5	10	Massive	Friable	Fill layer from original site construction
24-26	B	Silt Loam	10YR 5/6	---	---	---	20	--	Massive	Friable	

Additional Notes:

B Layer on the edge of Loam/Silt Loam. Unable to dig deeper due to groundwater conditions. SHGW estimated at 26" ~ elevation 115.6.



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: TP-3 April 16, 2020 8:05am Light Snow, 35°
Hole # Date Time Weather Latitude Longitude:
 1. Land Use Lawn Grass None
(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: Fill over alluvium SU
Landform Position on Landscape (SU, SH, BS, FS, TS)

3. Distances from: Open Water Body _____ feet Drainage Way _____ feet Wetlands 35 feet
 Property Line 163 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 24" 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			
0~36	A(Fill)	Loam	10R 2.5/1	---	---	---	5	10	Massive	Friable	Fill layer from original site construction
~36-39	B	Silt Loam	10YR5/6	---	---	---	20	0	Massive	Friable	Similar to material found in TP-2 B Layer

Additional Notes:
Estimated bottom of A layer from material in bucket. Unable to observe B layer in-situ as water was above it. Estimate SHGW at 24" ~elevation 116.7



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: TP-4 April 16, 8:35am Overcast, 35°
 Hole # 2020 Time Weather Latitude Longitude:
 1. Land Use: Lawn Grass None 1%
 (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: Fill over alluvium Landform SU
 Position on Landscape (SU, SH, BS, FS, TS)

3. Distances from: Open Water Body _____ feet Drainage Way _____ feet Wetlands 48 feet
 Property Line 92 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: 48" Depth Weeping from Pit 50" 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			
0-48	A (Fill)	Loam	10R 2.5/1	---	---	---	5	10	Massive	Friable	Fill layer from original site construction
48-66	B	Silt Loam	10YR 5/3	54	5YR4/6	50	2	5	Platy	Friable	

Additional Notes:
Unable to dig deeper due to groundwater conditions. SHGW estimated at 48" ~ elevation 115.1.



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

D. Determination of High Groundwater Elevation

- | | | |
|---|-------------------------|-------------------------|
| 1. Method Used: | Obs. Hole # <u>TP-1</u> | Obs. Hole # <u>TP-2</u> |
| <input type="checkbox"/> Depth observed standing water in observation hole | <u>60</u> inches | <u>24</u> inches |
| <input type="checkbox"/> Depth weeping from side of observation hole | <u>54</u> inches | <u>24</u> inches |
| <input type="checkbox"/> Depth to soil redoximorphic features (mottles) | <u>56</u> 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 _____

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 absorption system?

- 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



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

D. Determination of High Groundwater Elevation

- | | | |
|---|-------------------------|-------------------------|
| 1. Method Used: | Obs. Hole # <u>TP-3</u> | Obs. Hole # <u>TP-4</u> |
| <input type="checkbox"/> Depth observed standing water in observation hole | <u>24</u> inches | <u>50</u> inches |
| <input type="checkbox"/> Depth weeping from side of observation hole | -- inches | <u>48</u> inches |
| <input type="checkbox"/> Depth to soil redoximorphic features (mottles) | -- 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 _____

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 absorption system?

- 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



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

Chris Hodney, PE, 13687

Typed or Printed Name of Soil Evaluator / License #

Name of Approving Authority Witness

April 16, 2020

Date

6/30/2022

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: