



PERCOLATION TEST RESULT - May 04, 2023
Killingly Engineering Associates
Normand Thibault, Jr., P.E.

PERC 1	
Depth = 24"	Rate = 10.0 min./in.
Time	Reading
9:30	3"
9:35	8"
9:40	10.5"
9:45	12"
9:50	13"
9:55	14"
10:00	14.5"
10:05	15"
10:10	15.5"

TEST HOLE DATA - April 17, 2019
Ledge Light Health District

TEST PIT	DEPTH	PROFILE
1	0"-48" 48"-52" 52"-66" 66"-85" Ledge GWT Restrictive	Fill Original topsoil Br Fine sandy loam Lt Br Fine sandy loam N/A 83" 35" (83"-48")
2	0"-56" 56"-60" 60"-84" Ledge GWT Restrictive	Fill Original topsoil Yellow Br silty loam w/some sand, damp N/A 70" 14" (70"-56")
3	0"-6" 6"-32" 32"-50" 50"-85" Ledge GWT Mottling Restrictive Roots to 20"	Topsoil Lt. Br. fine sandy loam Org grey fine sandy silt Gray-tan fine-med sand w/gravel, some cobbles N/A 83" 76" (faint) 76"
4	0"-8" 8"-28" 28"-42" 42"-60" Ledge GWT Mottling Restrictive Roots to 23"	Topsoil Lt. Br. fine sandy loam Org grey fine sandy silt Gray fine-med sand w/gravel N/A 48" 32" 32"

TEST HOLE DATA - January 13, 2020
Ledge Light Health District

TEST PIT	DEPTH	PROFILE
1	0"-34" 34"-40" 40"-88" Ledge GWT Restrictive	Fill - loam, metal, bricks, stone blocks Lt Br Fine sandy loam, some silt Tan-gray fine-med sand w/gravel & cobbles N/A N/A N/A
2	0"-14" 14"-18" 18"-36" Mottling Ledge GWT Restrictive	Fill Buried topsoil Lt Br fine sandy loam w/silt 45" in silt N/A 70" 14" (70"-56")
3	0"-36" 36"-43" 43"-66" 66"-100" Mottling Ledge GWT	Fill - rocks, loam Buried topsoil Tan-gray very fine sand w/silt Tan-gray fine to med sand w/gravel & cobbles 55" in silt N/A N/A
4	0"-18" 18"-24" 24"-50" 50"-103" Ledge GWT Mottling Roots to 39"	Fill Buried topsoil Lt. Brown fine sandy loam w/silt Tan-gray fine-med sand w/gravel N/A 48" 58"
5	0"-12" 12"-16" 16"-34" 34"-107" Ledge GWT Mottles Roots to 17"	topsoil and sandy fill Buried topsoil Lt. brown fine sandy loam w/silt Tan-gray fine-med sand w/gravel & cobbles N/A N/A 48" Inconsistent around hole
19	0"-14" 14"-24" 24"-35" 35"-69" 69"-100" Ledge GWT Mottles Roots to 21"	Fill - loam & sand Buried topsoil Lt. brown fine sandy loam Gray compact silt-loam Gray fine-med sand w/gravel, cobbles N/A 79" 36" in compact silt
20	0"-46" 46"-58" 58"-72" 72"-98" Ledge GWT Mottles Roots to 39"	Fill - Brown lam, sand & disturbed soil Buried topsoil Org. brown silt loam Gray very fine sand w/silt N/A 90" 72"
21	0"-62" 62"-70" 70"-95" Ledge GWT Mottling	Fill - Large rocks, disturbed soil Org. br. fine sandy loam w/silt Lt. gray very fine sand w/silt N/A 83" 78"

SEPTIC SYSTEM DESIGN PARAMETERS:

If the increase in design flow of the building is greater than 50%, the director of health will require an increase in the septic system capacity. For increases of less than 50%, demonstration of a code complying area is required. If additional buildings are proposed, a code complying septic system will be required for each building along with a full reserve area. Any proposed septic system designed for 2,000 gallons per day or more must be reviewed by the State Department of Health as well as the local health department. If design flow for the PROPERTY is proposed to exceed 7,500 gallons per day, review and permitting by the Connecticut DEEP is required.

Current uses per LIHD records and building owner:

"Coffee shop" - breakfast & lunch served FSE (27 seats)	= 810 gpd
Package Store - 3,000 s.f. x 0.1 gpd/s.f.	= 300 gpd
Barbershop - 1,000 s.f. x 2 chairs x 50 gpd per chair	= 100 gpd
Convenience store - 2,000 s.f. x 0.1 gpd/s.f. (no food service)	= 200 gpd
Pottery Studio w/classes	= 600 gpd
Photographer - 1,000 s.f. x 0.1 gpd/s.f.	= 100 gpd
Daycare - licensed for 72 children @ 10 gpd per child	= 720 gpd
Distance learning (15 students @ 9 gpd per student)	= 135 gpd
Church - 50 seats	= 50 gpd
Electrical Contractor - 1,000 s.f. x 0.1 gpd per s.f.	= 100 gpd
Native American Jewelry Store - 1,400 s.f. @ 0.1 gpd per s.f.	= 140 gpd
Town space (storage)	
Total Current	= 3,255 gpd

Proposed additional use - Residential Apartments consisting 9 one-bedroom units and 3 two-bedroom units for a total of 15 bedrooms.

Per CT Public Health Code 15 bedrooms x 150 gpd per bedroom = 2,250 gpd

Total proposed flow = 3,255 + 2,250 = 5,505 gpd

Design flow of existing system = 3,720 gpd

% increase = 48%

MLSS COMPUTATION

HF = 28 - Mottles @32", gradient 4.5%
FF = GPD/300 = 5,505/300 = 18.35
PF = 1.0

MLSS = 28 x 18.35 x 1.0 = 513.80

SYSTEM REQUIREMENTS PER TABLE 8

5,505 gpd / 0.8 gpd per s.f. of ELA = 6,881 s.f. of ELA required

6,881 s.f. / MLSS = 6,881 / 513.8 = 13.39 s.f. per l.f. minimum

Utilize Geomatrix GST 6218 @14 s.f. per l.f.

Total ELA = 520 x 14 = 7,280 s.f.

Provide one 2,500 gallon septic tank and one 3,000 gallon septic tank

w/Zabel A600-8 outlet filters each tank

TEST PIT	DEPTH	PROFILE
22 (behind school)	0"-45" 45"-55" 55"-91" 91"-107" Ledge GWT Mottling	Fill - Br. loam & sand Buried topsoil Org br. fine sandy loam Gray fine-med sand w/gravel N/A 97" 93"
25	0"-28" 28"-34" 34"-50" 50"-69" 69"-97" Ledge GWT Mottling Roots to 41"	Fill - Br. loam, gravel & sand Buried topsoil Brown fine sandy loam Gray-brown silt loam, compact Gray fine-med sand & gravel N/A 63" 57"

DATE	DESCRIPTION
05/02/2024	MODIFIED ELA
04/25/2024	PER ADDL. HEALTH DEPARTMENT REVIEW
12/01/2023	PER HEALTH DEPARTMENT REVIEW
DATE	REVISIONS

SEPTIC SYSTEM ANALYSIS PLAN

PREPARED FOR

ACRONOM MASONRY, INC.

COLONEL LEDYARD HIGHWAY
LEDYARD, CT

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DATE: 05/09/2023	DRAWN: RGS
SCALE: 1"=40'	DESIGN: NET
SHEET: 1 OF 1	CHK BY: -
DWG. No: -	JOB No: 23038

30' WIDE ACCESS EASEMENT IN FAVOR OF 728 COLONEL LEDYARD HIGHWAY
VOLUME 580, PAGE 612
(SEE REFERENCE NOTE 5)

NORMAND E. THIBAUT, JR., P.E.
LIC #PEN 0022834

DATE 5/02/2025