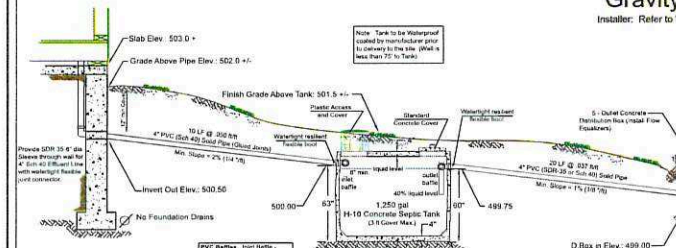
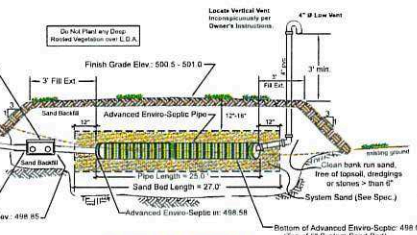
Gravity Level Bed Advanced Enviro-Septic (AES) Wastewater Treatment System

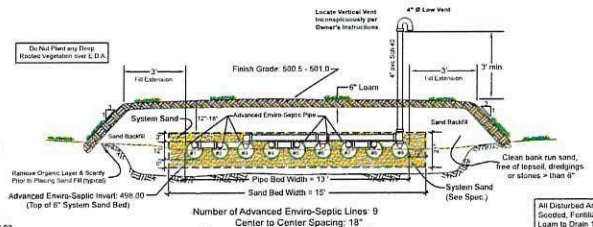
Installer: Refer to "The Presby Wastewater Treatment System" June 2019 edition of the New Hampshire Design and Installation Manual for Advanced Enviro-Septic Wastewater Treatment System





PROFILE SECTION

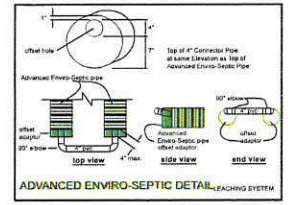
(NOT TO SCALE)



Number of Advanced Enviro-Septic Lines: 9
Center to Center Spacing: 18"
Advanced Enviro-Septic to be Laid Level

LEVEL BED CROSS SECTION

(NOT TO SCALE)



ADVANCED ENVIRO-SEPTIC DETAIL - LEACHING SYSTEM

All Disturbed Areas shall be Loamed, Seeded, Fertilized & Mulched. (Grade Loam to Drain 1% min. slope on top of Finished Leachfield

Design Criteria

Number of Bedrooms: 3
Sewage Loading: 450 gpd
Percolation Rate: 2 Min/Inch
Length of Advanced Enviro-Septic Required: 210 lf
Provided: 9 Lines X 25 lf Long = 225 lf
Original Ground Elevation at the High Contour: 498.0
Bottom of Advanced Enviro-Septic Pipe Elevation: 498.00

Design Intent

Bottom of Effluent Disposal Area (EDA) to be Constructed at Elev.: 498.00 - No Lower Than the Existing Grade at the High Contour to Maintain at Least 24 Inches Above the Estimated Seasonal High Water Table and Ledge or Impermeable Layer

General Notes

1. The Contractor in the prosecution of this work shall adhere strictly to these plans and the provisions set forth in the New Hampshire Department of Environmental Services Manual - "SUBDIVISION AND INDIVIDUAL SEWAGE DISPOSAL SYSTEM DESIGN RULES", Chapter Env-Wq 1000, Amended October 1, 2016. Any deviations from these plans shall require prior approval from the designer. N.H.D.E.S. amended plans may be required for construction phase modifications of system components or revised plans may be required for any modifications to the Effluent Disposal Area requiring a new application, plans, submittal to NHDES.

2. COVER OVER PROPOSED SYSTEM:
   A. 12" minimum cover shall be provided over the pipe from the house to the septic tank.
   B. If the finish grade over the septic tank is greater than 12" provide an appropriate riser within 6" - 12" of finish grade with cover. If set flush or above finish grade the cover must be locking, mechanically fastened or consist of cast-iron frame & cover.
   C. Effluent Disposal Area: Maximum cover over the system to be 18", minimum cover to be 6" with average cover being 12", unless otherwise specifically noted on the plans. The finish grade is to be sloped to drain off the top of system at minimum of 1%.

3. Should the Contractor determine that existing field conditions are other than shown on these plans, he shall NOT commence work but shall immediately notify the Designer (Rick Lepene 603-286-4644).

4. Any future replacement system, if needed, shall be constructed in the same location as this design unless conditions at the time of replacement dictate otherwise.

5. Basal Area: The Contractor shall take extra precautions in preparing the basal area for fill placement. The exposed original ground shall be scarified prior to the placement of the sand to interrupt any smearing of the soil/sand interface area caused by construction equipment. No rubber tee equipment to be allowed on the prepared surface prior to placing at least 6" of sand.

6. The Distribution Box shall have Flow Equalizers installed in each outlet port utilized.

7. This system has not been designed to accomodate the following: garbage grinder unit, jacuzzi, water conditioning or purification system discharge, hot tub or other high volume use fixtures. Should these units be added at a later date this Designer Accepts No Responsibility for the future function or operation of this system. Modifications to the system such as an increase in septic tank capacity and EDA enlargement may be necessary as well as other design consideration per NHDES rules and regulations. A new application to NHDES may be required.

8. The septic tank pumping schedule should be Per NH ENV-Wq 1023.01 or more frequently.

9. This system has NOT been designed for vehicular traffic. Therefore, the system should be protected from any wheel vehicles.

10. The Proposed ISDS is located within 250 feet of the shoreline of a Great Pond. A NH Shoreland Permit is Required.

SOILS TEST PIT

v. dk brown	10YR 3/3	- 8"	Loam/ Root Material
dark brown	10YR 4/6	- 16"	Fine Loamy Sand
dark yellowish-brown	10YR 4/6	- 26"	Loose Single Grain Coarse Sand
brownish-yellow	10YR 6/8	- 63"	Coarse Sand/gravel strata

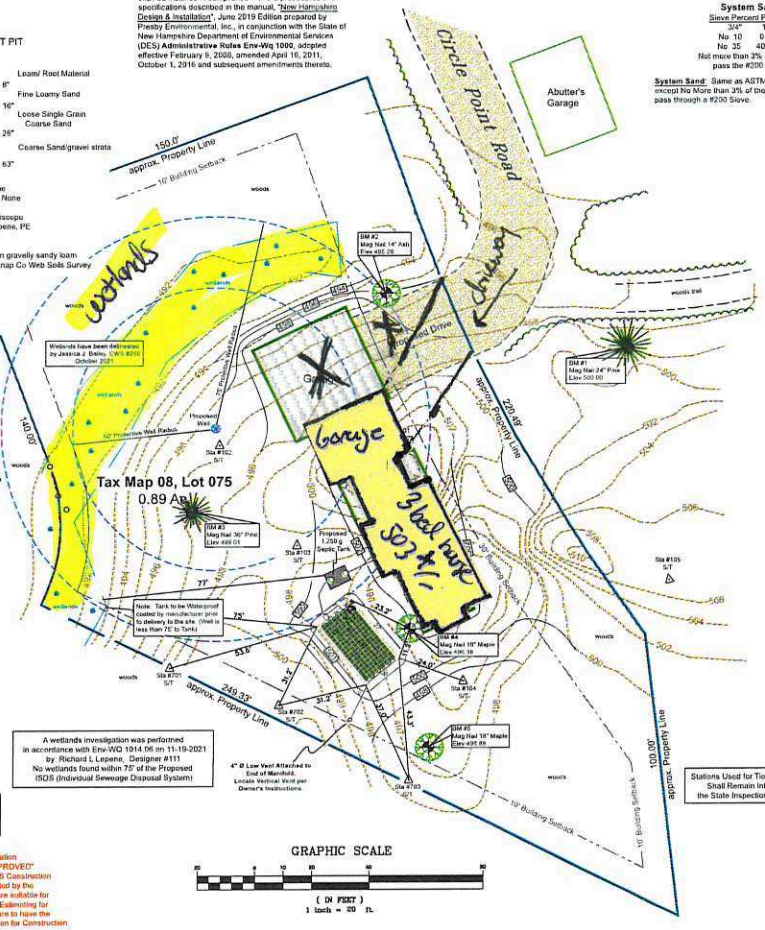
E.S.H.W.T.: 26"
WATER OBSERVED: None
LEDGE ENCOUNTERED: None

EXCAVATED BY: Justin Pissepo
INSPECTED BY: Rick Lepene, PE
DATE: 11/19/2021

SOILS TYPE: 22B - Colton gravelly sandy loam
REFERENCE: NRCS Belknap Co Web Soils Survey

PERCOLATION TEST
DEPTH: 24"
RATE: 2 min./ inch

This proposed Individual Effluent Disposal System (EDS) shall be installed in compliance with the procedures and specifications described in the manual, "New Hampshire Design & Installation", June 2019 Edition prepared by Presby Environmental, Inc., in conjunction with the State of New Hampshire Department of Environmental Services (DES) Administrative Rules Env-Wq 1000, adopted effective February 9, 2008, amended April 16, 2011, October 1, 2016 and subsequent amendments thereto.



GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.

System Sand

Sieve	Percent Passing
3/4"	100%
No. 10	0 - 35%
No. 35	40 - 90%

Not more than 3% allowed to pass the #200 Sieve

System Sand: Same as ASTM C-33 (concrete sand) except No More than 3% of the Total Sand may pass through a #200 Sieve.

Project Notes

1. **Purpose of this Design**: Install a New Individual Sewage Disposal System (ISDS) for a Proposed 3 Bedroom Single Family Residence.
   Proposed ISDS to Consist of a 1,250 gal. Concrete Septic Tank and 225 lf of Advanced Enviro-Septic Pipe.
   Tank to be Waterproof Coated by Manufacturer prior to Delivery to Site.
   EDA greater than 250' to Shoreline of Hermit Lake.

2. **Water Supply**: Proposed On-site Well.
   Protective Well Radii **Does** lie within Lot Lines or otherwise undevelopeable land (roadway rights-of-way). (Recorded Well Release is Not Required)
   Proposed EDA is more than 75' to Well.

3. **Lot Description**: Tax Map 08, Lot 075. Area = 0.89 Ac.
   Lot (combination of Lots 20A & 21A) was Created by Subdivision - "Plummer Shores", dated Oct 1962, last revised Sept 1965 and Recorded in Plan Book 21, Page 1584 at Belknap County Registry of Deeds.

4. **Waivers Requested**
   None

Lot Loading Calculations

Total Area of Lot: 0.89 Acres

Unusable soils:
Area of Well Radius: 0.41 Ac.
Area of Wetlands: 0.06 Ac.
Area of steep slopes: 0.03 Ac.

Useable Soils:
22B Colton Gravelly Sandy Loam, Group 1 (apply Group 3 Factor due to Site conditions) Group 3, 0-8% slopes, Factor: 1.60

A = Q/2000 x factor
Q = A(useable) X 2000 / factor

Q = 0.39 Ac X 2000 / 1.69 = 487 gpd
Q (allowed) = 487 gpd
487 gpd > 450 gpd
Q (allowed) > Q (actual)

Tax Map Sketch

LOCATION MAP

LEGEND

- Benchmark (Elev. Assumed)
- Soils Test Pit
- Well, Proposed or Existing as noted
- STA 100 Layout Control Stakes (Swing ties)
- Dry Stone Wall
- Utility Pole
- 500 Existing Contours - 1 ft intervals
- 500 Finish Grade Contours - 1 ft intervals
- Wetlands as Delineated by Jessica J Bailey, CWS #260

NOTE:
A Boundary Survey was not conducted in conjunction with this Individual Sewage Disposal System (ISDS) design. Property lines shown are based on Owner's Description, recorded information and/or field evidence encountered. Property Lines shown are for determining system setbacks and lot loading calculations and are subject to confirmation by a Survey performed by a NH Licensed Surveyor.

Note:
There are no known burial sites or cemetery on the lot within 100 feet of any components of the ISDS.

This Plan is NOT to be used for Installation Without a NHDES "REVIEW AND APPROVED" Stamp on the plans including a NHDES Construction Approval Number AND signed and dated by the NHDES Reviewer. Otherwise, plans are suitable for Planning, Scheduling and Preliminary Estimating for Construction Bidding Purposes. Be sure to have the FINAL APPROVED PLANS in possesion for Construction.

REVIEWED AND APPROVED
IN ACCORDANCE WITH THE REQUIREMENTS OF THE NH DEPT OF ENVIRONMENTAL SERVICES
WATER DIVISION
Date: 2/2/2022
#eCA2022020204

Effluent Disposal System
Tax Map 08, Lot 75

Jeremy Banks
Circle Point Road
Sanbornton, NH

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Granite State Septic Designs, LLC
130 West Main Street
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Lepene@metrocast.net

NHDES SUBDIVISION
Approval No: N/A pre 67
COUNTY: Belknap
DELD: 3092 / 1458
DATE: 01-19-2022
Revisions:
PROJECT No: 20055

NEW HAMPSHIRE Designer of Subsurface Disposal Systems
Richard L. Lepene
No. 111
Department of Environmental Services

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GSSD PROJECT NO.: 20055