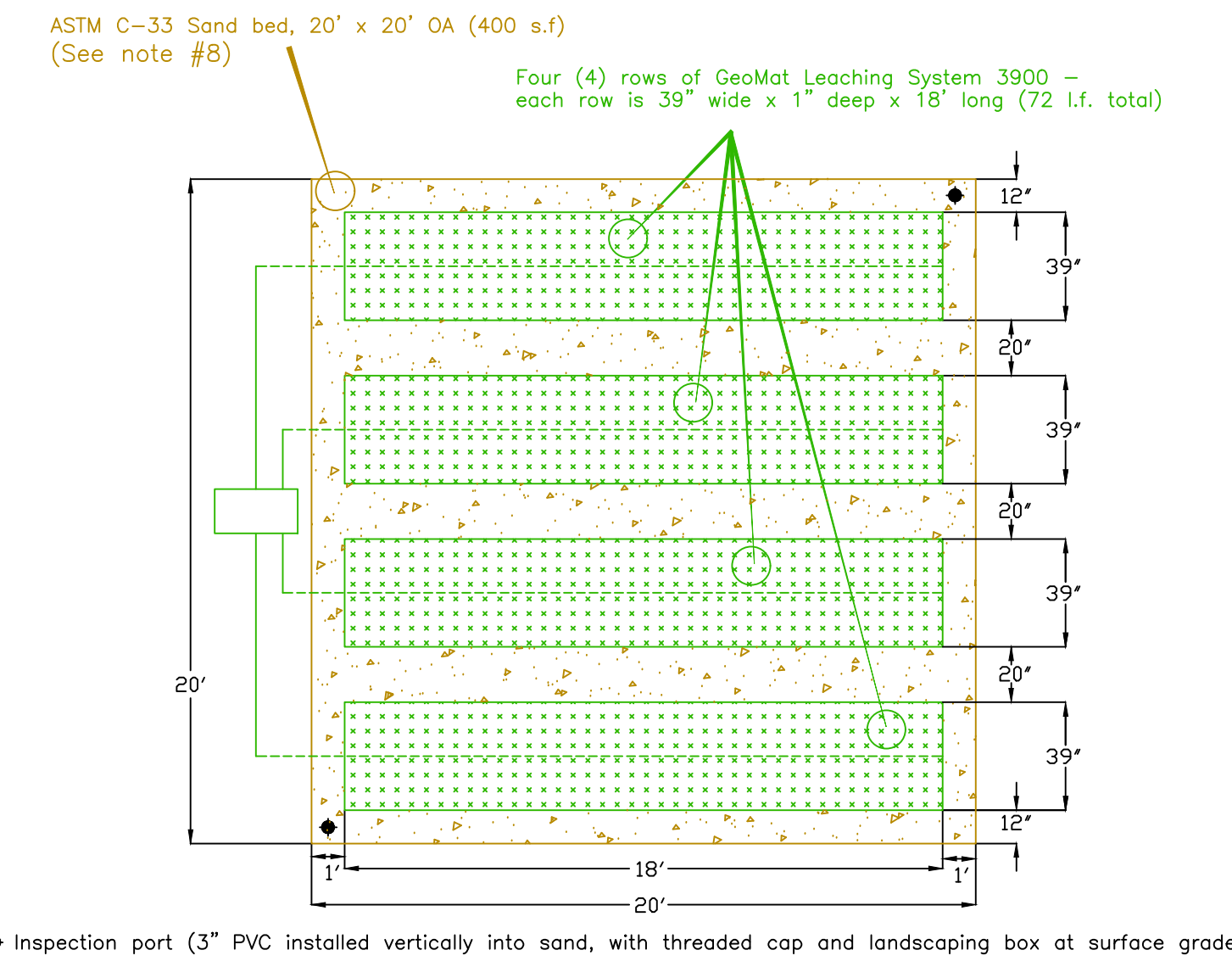


VARIANCES/DIVERGENCES REQUESTED: None



Soil Logs

Observation Hole #1						
Elevation (Feet)	Perk Rate = <2 m.p.i. @ 8"-26"	Depth (inches)	Soil Horizon	Soil Texture	Soil Color	Soil Mottling
120.0		0-8	A	Loamy Sand	10 YR 3/3	None
119.3		8-123	C	Medium Sand	2.5 Y 5/2	None

Observation Hole #2						
Elevation (Feet)	Perk Rate = <2 m.p.i. @ 8"-26"	Depth (inches)	Soil Horizon	Soil Texture	Soil Color	Soil Mottling
120.2		0-8	A	Loamy Sand	10 YR 3/3	None
119.5		8-123	C	Medium Sand	2.5 Y 5/2	None

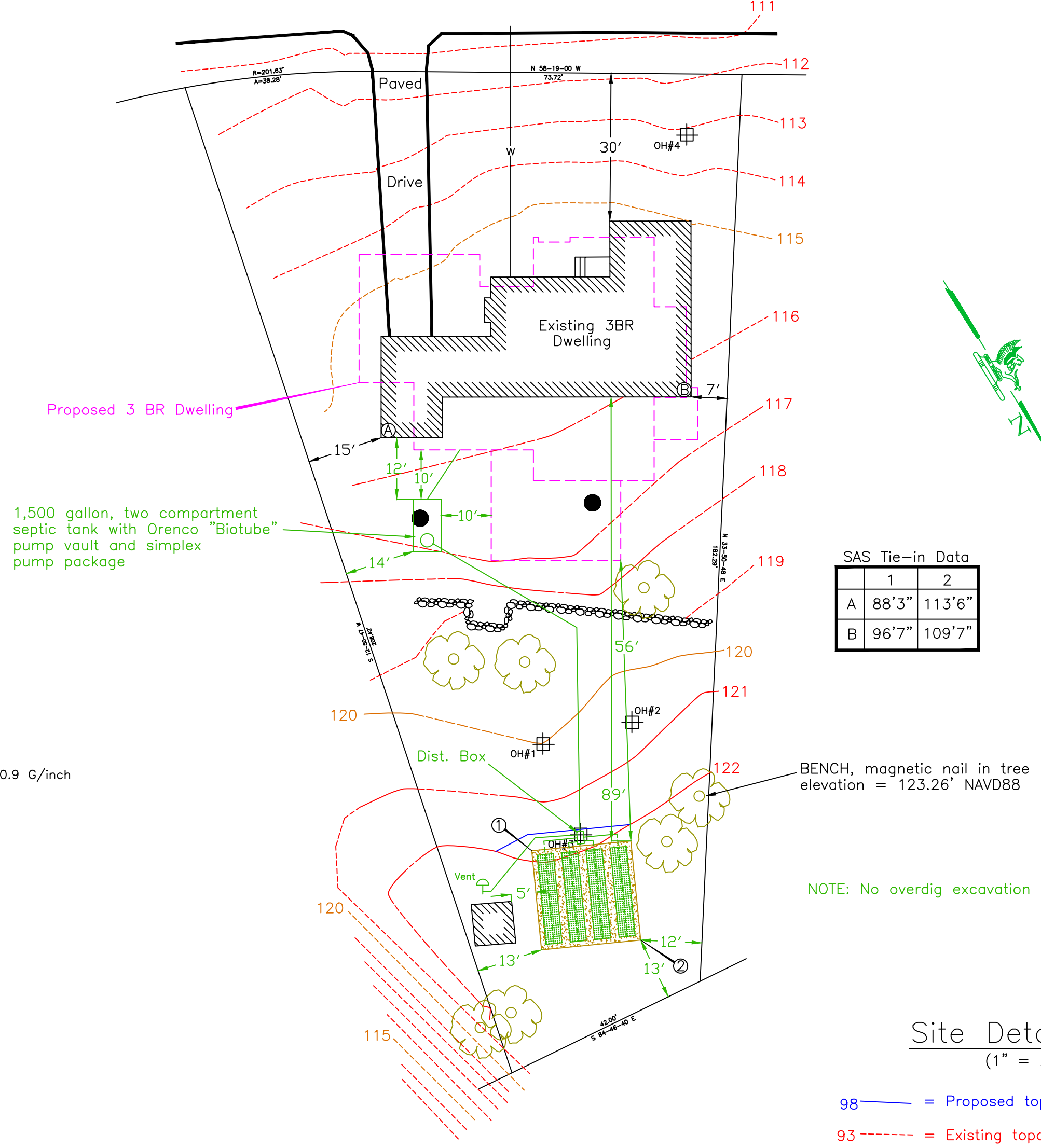
  

Observation Hole #3						
Elevation (Feet)	Perk Rate = <2 m.p.i. @ 8"-26"	Depth (inches)	Soil Horizon	Soil Texture	Soil Color	Soil Mottling
121.5		0-8	A	Loamy Sand	10 YR 3/3	None
120.8		8-123	C	Medium Sand	2.5 Y 5/2	None

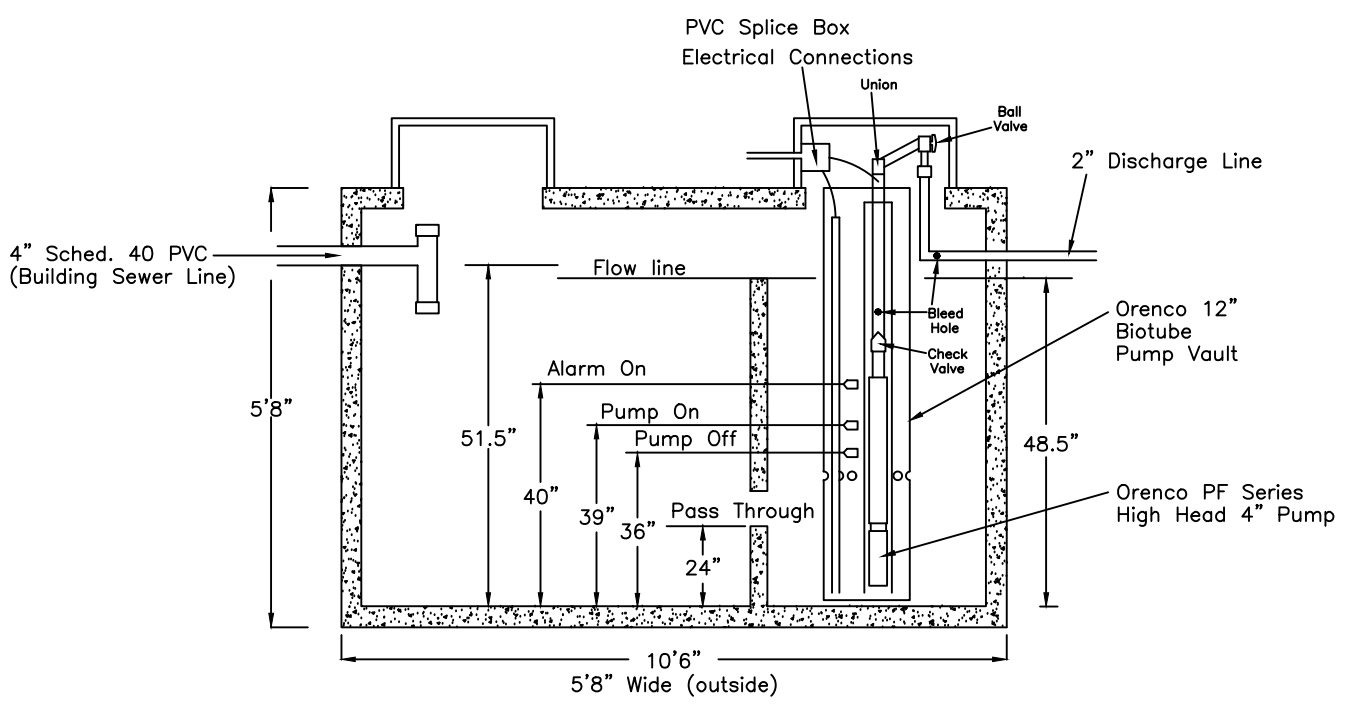
Observation Hole #4						
Elevation (Feet)	Perk Rate = <2 m.p.i. @ 8"-26"	Depth (inches)	Soil Horizon	Soil Texture	Soil Color	Soil Mottling
113.2		0-6	A	Loamy Sand	10 YR 3/3	None
112.7		6-12	B	Loamy Sand	10 YR 4/6	None
112.2		12-126	C	V. Grav. Sand	2.5 Y 5/2	None
102.7						

Independence Lane



SAS Tie-in Data

	1	2
A	88'3"	113'6"
B	96'7"	109'7"



- Pump Chamber Calculations:
- 1,500 gallon tank with 48.5 working area = 30.9 G/inch
  - Dose volume: Pump-on to pump-off elevation drop = 3" at 30.9 G/inch, 3" = 92.7 G
  - Alarm-on to tank-in invert elevation increase equals 11.5". At 30.9 G/inch 11.5" = 355 G (minimum of 330 G required)

Notes:

- On 11/2/2023 soil tests were made, as shown here, by Terence McSweeney, a Massachusetts Department of Environmental Protection (DEP) approved Soils Evaluator, with B. Nee observing for the Board of Health. The logs of these tests are as follows, with location as #1 - #4 on this plan.
- All stone to be washed free of iron, fines, and dust. All "structures" to be precast concrete. All pipes to be P.V.C. Schedule 40, laid true to line and grade. All "structures" under pavement to be H-20 loading with cast iron covers and frames, set to grade, on all manholes.
- The existing SAS is to be abandoned and disposed of to the satisfaction of the health authority.
- It is the responsibility of the home owner to advise the site engineer of the location of all house plumbing prior to construction of the system.
- No part of the proposed system shall be buried greater than 3' below the surface of the ground.
- All work to conform to these plans, Title 5 of the Environmental Code (310 CMR 15.00 et. seq.) and supplementary regulations of the Hingham Board of Health.
- House plumbing to be set to the grades specified on this plan, as necessary, with a pipe slope minimum of 0.01.
- GeoMat Leaching System to be placed on 6" bed of ASTM C-33 sand. These materials must meet the following sieve specifications:
 

3/8" sieve	100% passing
#4 sieve	95 - 100% passing
#8 sieve	85 - 100% passing
#16 sieve	50 - 85% passing
#30 sieve	25 - 60% passing
#50 sieve	10-30% passing
#100 sieve	2-10% passing
- Results of sieve analysis submitted to Board of Health for approval prior to installation.
- Property line information as depicted on this plan is to be used for Title V purposes only.

Calculations:

- 3 bedrooms, no disposal
- Est. Day Flow (EDF) = # B.R. x 110 G/Day  
EDF = 330 Gallons per day
- Perk rate = <2 min/inch, Class I soil (see soil logs)  
GeoMat loading rate with 6" ASTM C33 sand under, Class I soil, <2 m.p.i. perk rate = 1.50 G/D/SF  
330 G / (1.50 G/s.f.) = 220 s.f.
- Septic Tank - 2 X EDF with 1,500 G minimum  
330 X 2 = 660 Gallons - 1,500 Gallon (minimum allowable)
- Soil Absorption System (SAS)  
GeoMat size required = EDF/Loading rate  
(330 G)/(1.50 G/s.f.) = 220 s.f.  
GeoMat Leaching System 3900 (1"Dx39"W) = 3.42 s.f./l.f.  
220 s.f./3.42 s.f./l.f. = 65 l.f. (required)  
Use four rows, each 17' x 39' w x 18' (72 l.f. provided)  
Minimum sand bed - 330 G/D, with perk rate of <2 m.p.i. Class I soils = 400 s.f. (required)  
Use sand bed 20' w x 20' x 8' d. (400 s.f. provided)

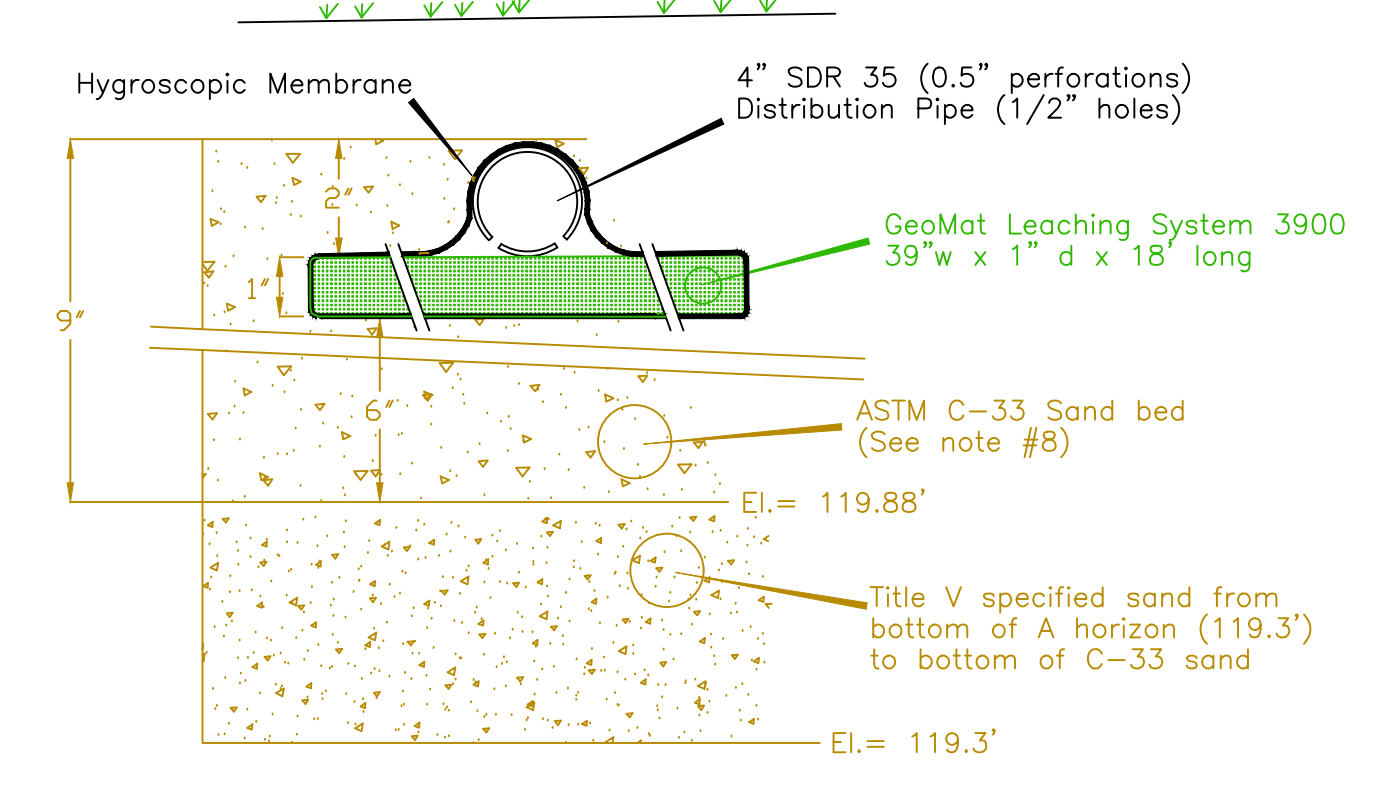
Proposed:

- 1,500 gallon, two compartment tank (monolithic)
- Orenco Biotube pump vault system (including Biotube filter) and simplex effluent pump package
- Distribution box
- 400 s.f. sand bed (ASTM C-33 sand) - 20' w x 20' x 6' d  
72 l.f. GeoMat Leaching System 3900, four (4) rows, each 39' w x 1' d x 18'

Site Detail Plan  
(1" = 20')

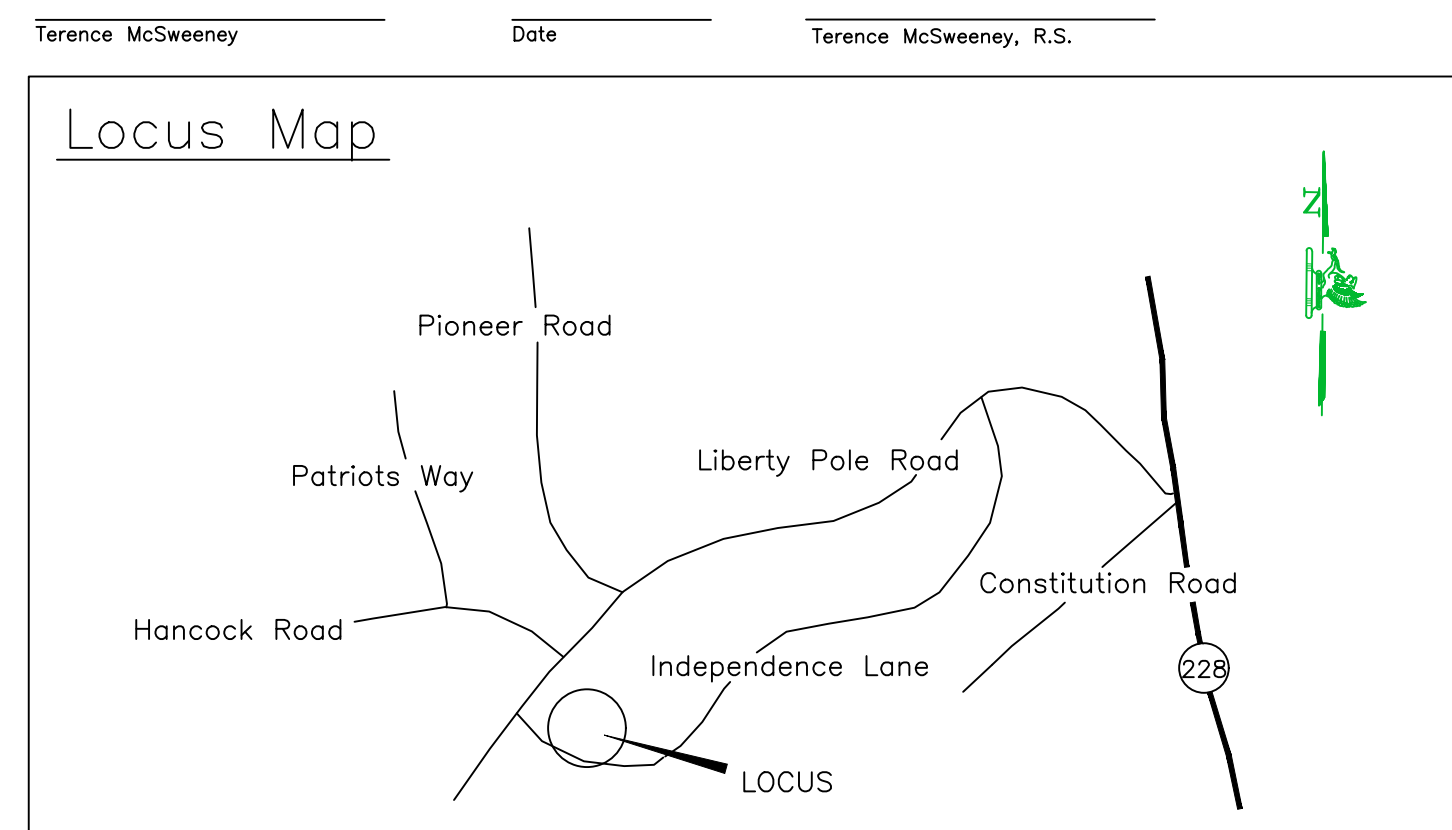
- 98 — Proposed topographic line, with elevation
- 93 - - - Existing topographic line, with elevation
- OH #1 ⊕ = Observation hole, location and designation
- = Existing disposal system

SAS Detail  
(not to scale)



I certify that in the fall of 1997 I was approved by the Mass. Department of Environmental Protection as a Soils Evaluator and that the soils analysis contained herein was performed by me consistent with the training, expertise, and experience described in 310 CMR 15.018(2).

I certify that there are no wells known to me, or reported to be within 500 feet of this proposed SAS, other than those shown on this plan. Public water supply wells in the area, location and distance from locus, are shown herein.



Lot Data:  
Deed: 13,585/83 - 5/19/1995  
Hingham Assessors Map 157/97 - 14,662 s.f. +/-  
Reference Plan:  
Grady Consulting, LLC, 10/14/2023

McSweeney Associates, Inc. 	Revisions: _____ _____ _____ _____	Job Reference: <b>Independence 33</b> Scale: As Noted Date: 11/20/2023 Drawn By: T McS Checked By: C McS
	Proposed Septic System 33 Independence Lane Hingham, Massachusetts 745 Winter Street, Hanson, MA 02341 Thomas F. McSweeney 1894-1977 Brian McSweeney 1923-2015 Terence K. McSweeney 781-826-4571 Colin T. McSweeney 781-570-9381	