

NOTE: All elevations referenced to 45.17' BENCH at corner of concrete apron, rear of dwelling (NAVD88)

Soil Logs

Elevation (Feet)	Observation Hole #1				
	Depth (inches)	Soil Horizon	Soil Texture	Soil Color	Soil Mottling
39.4	0-32	Fill			
36.7	32-40	A	Sandy Loam	10 YR 3/2	None
35.7	40-44	B	Sandy Loam	10 YR 4/6	None
31.0	44-101	C	Sandy Loam	2.5 Y 5/3	None

Elevation (Feet)	Observation Hole #1				
	Depth (inches)	Soil Horizon	Soil Texture	Soil Color	Soil Mottling
41.1	0-35	Fill			
37.4	35-45	A	Sandy Loam	10 YR 3/2	None
36.2	45-59	B	Sandy Loam	10 YR 4/6	None
31.9	59-110	C	Sandy Loam*	2.5 Y 5/3	None

* See attached sieve analysis results

Notes:

- On 6/4/2024 soil tests were made, as shown here, by Colin McSweeney, a Massachusetts Department of Environmental Protection (DEP) approved Soils Evaluator, with P. Brennan observing for the Board of Health. The logs of these tests are as follows, with location as #1 and #2 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:

- 5 bedrooms, no disposal
- Est. Day Flow (EDF) = # B.R. x 110 G/Day
EDF = 550 Gallons per day
- Perk rate = 30 min/inch, Class II soil (Sandy Loam in OH#2, C horizon)
GeoMat loading rate with 6" ASTM C33 sand under, Class II soil, 30 m.p.i. perk rate = 0.67 G/D/SF
- Septic Tank - 2 x EDF with 1,500 G minimum
550 x 2 = 1,100 Gallons - 1,500 Gallon (minimum allowable)
- Soil Absorption System (SAS)
GeoMat size required = EDF/Loading rate
(550 G)/(0.67 G/s.f.) = 821 s.f.
GeoMat Leaching System 3900 (1" x 39"W) = 3.42 s.f./l.f.
821 s.f./3.42 s.f./l.f. = 240 l.f. (required)
use 5 rows, each 1" d x 39" w x 48' (240 l.f. provided)
Minimum sand bed = 550 G/D, with perk rate of 30 m.p.i. Class II soils = 1,000 s.f. (required)
Use sand bed 20'3" w x 50' l (1,013 s.f. provided)

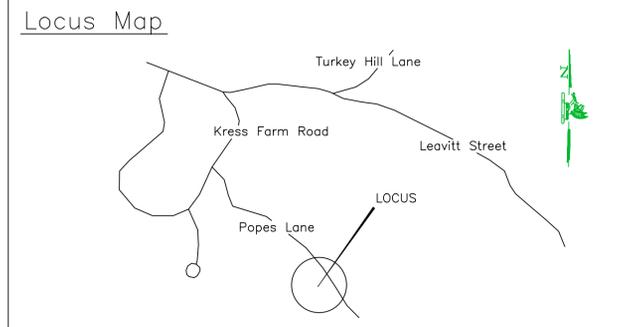
Proposed:

- Singular TNT-750 Treatment tank (monolythic)
- Distribution box
- 1,013 s.f. sand bed (ASTM C-33 sand) - 20'3" w x 50' l x 6" d
240 l.f. Geomat Leaching System 3900, five (5) rows, each 1" d x 39" w x 48' l

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.

Terence McSweeney Date Terence McSweeney, R.S.



Lot Data:
Deed: 49001/84 - 10/2/2017
Hingham Assessors Map 92/1 - 1.18 acres

The site is not located in a DEP approved Zone II, but is located within a Zone A as defined in 310 CMR 22.00.

Reference Plan:
S. M. Souther, Engr., 10/1942
B: 6 P: 468, Plymouth County RoD

The site is not located within the 100 year flood boundary

Revisions:

 McS Environmental Engineering	Proposed Septic System 75 Popes Lane Hingham, Massachusetts (Pae 1 of 2)	Job Reference: Popes 75
	745 Winter Street, Hanson, MA 02341 Thomas F. McSweeney 1894-1977 Brian McSweeney 1923-2015 Terence K. McSweeney 781-826-4571 Colin T. McSweeney 781-570-9361	Scale: As Noted Date: 6/25/2024 Drawn By: T McS Checked By: C McS

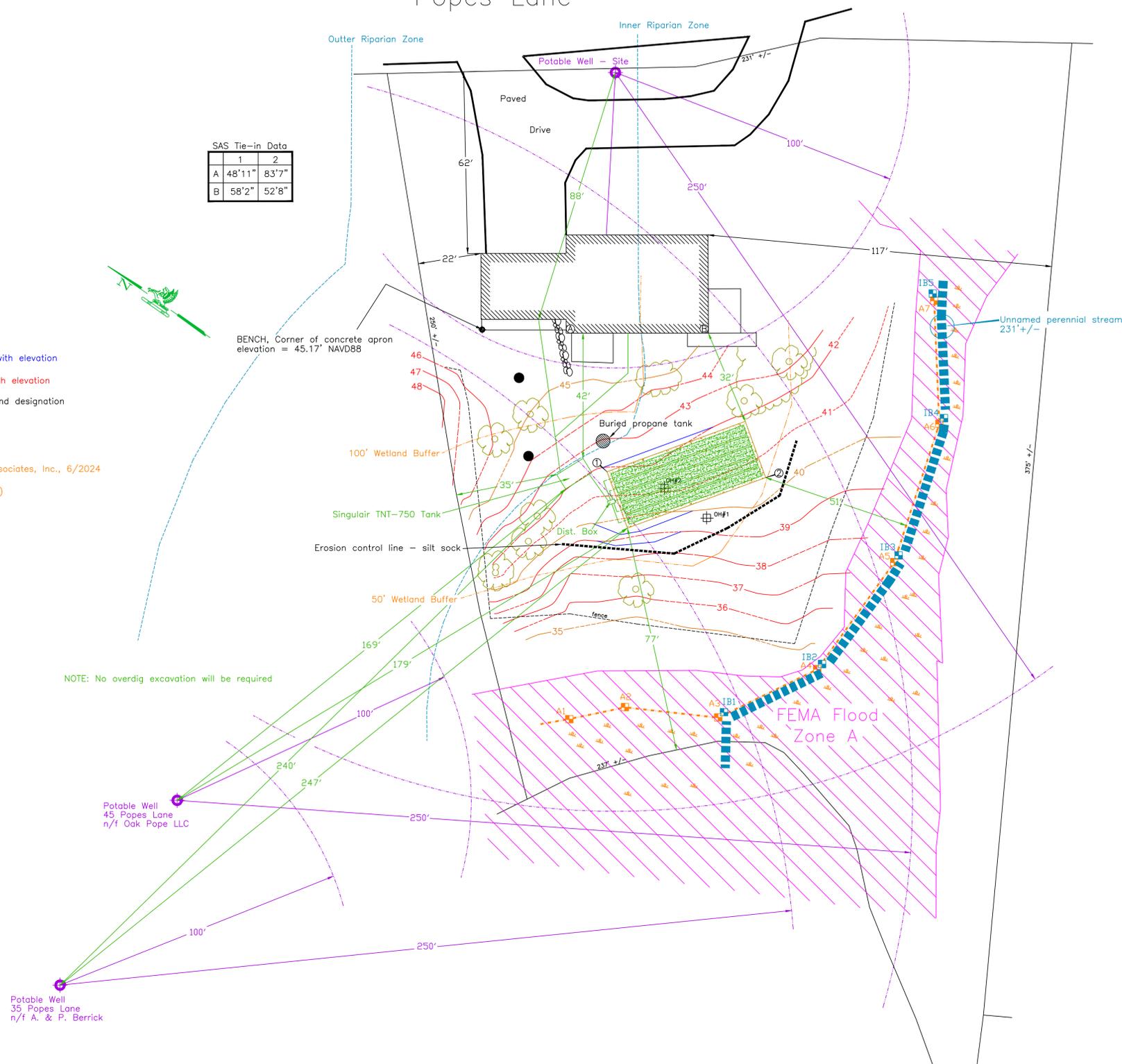
Popes Lane

SAS Tie-in Data		
	1	2
A	48'11"	83'7"
B	58'2"	52'8"

Site Detail Plan (1" = 20')

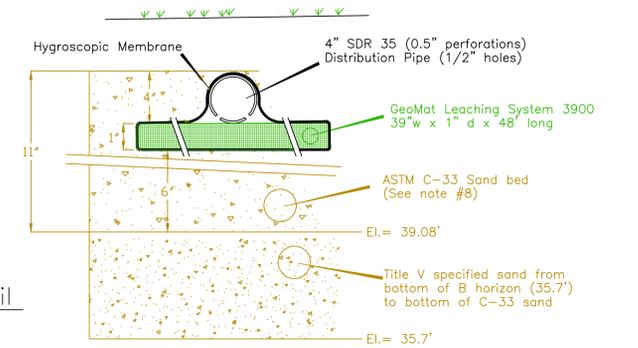
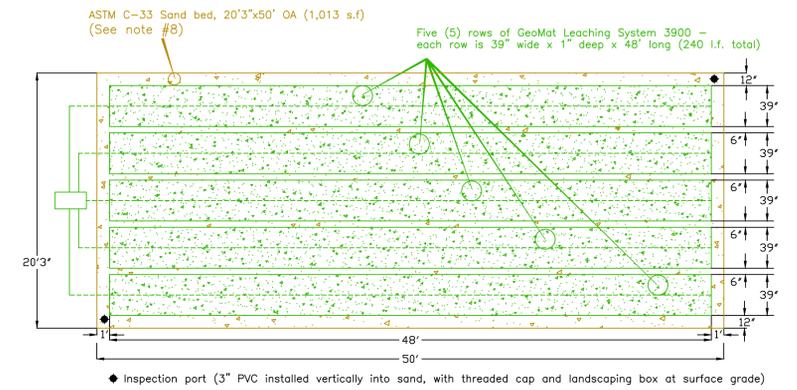
- 98 — = Proposed topographic line, with elevation
- 93 - - - - = Existing topographic line, with elevation
- OH #1 ⊕ = Observation hole, location and designation
- = Existing disposal system
- IB4 ⊕ = Inland Bank (M.A.H.W.L.)
- A2 ⊕ = Wetland flag, McSweeney Associates, Inc., 6/2024
- ⊕ = Wetland resource area (BVW)

NOTE: No overdig excavation will be required



VARIANCES/DIVERGENCES REQUESTED:

- Town of Hingham, Section VII.E., SDS to wetland setback
Proposed: 51' Required: 100'
- Town of Hingham, Section VII.F., SDS to private, potable well
Proposed: 88' Required: 250'
- Town of Hingham, Section VII.J., Thickness of naturally occurring soils under SAS
Proposed: 3.8' Required: 5.0'
- Town of Hingham, Section VII.M., Construction in fill thickness of naturally occurring, unsaturated, soils under SAS
Proposed: 3.8' Required: 5.0'
- 310 CMR 15.405(1)(i), Allow the use of a sieve analysis in place of perc test data



SAS Detail
(not to scale)

	Revisions:	
McSweeney Associates, Inc. 	Proposed Septic System 75 Popes Lane Hingham, Massachusetts (Pae 2 of 2)	Job Reference: Popes 75
	745 Winter Street, Hanson, MA 02341	Scale: As Noted
	Thomas F. McSweeney 1894-1977 Brian McSweeney 1923-2015 Terence K. McSweeney 781-826-4571 Colin T. McSweeney 781-570-9381	Date: 6/25/2024
		Drawn By: T McS Checked By: C McS