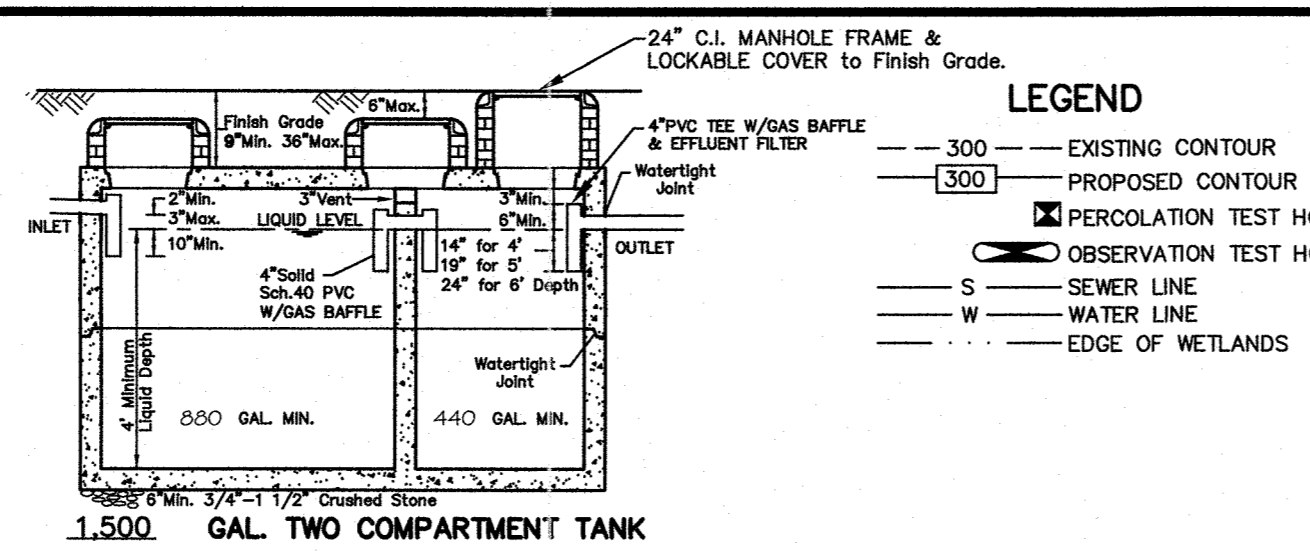


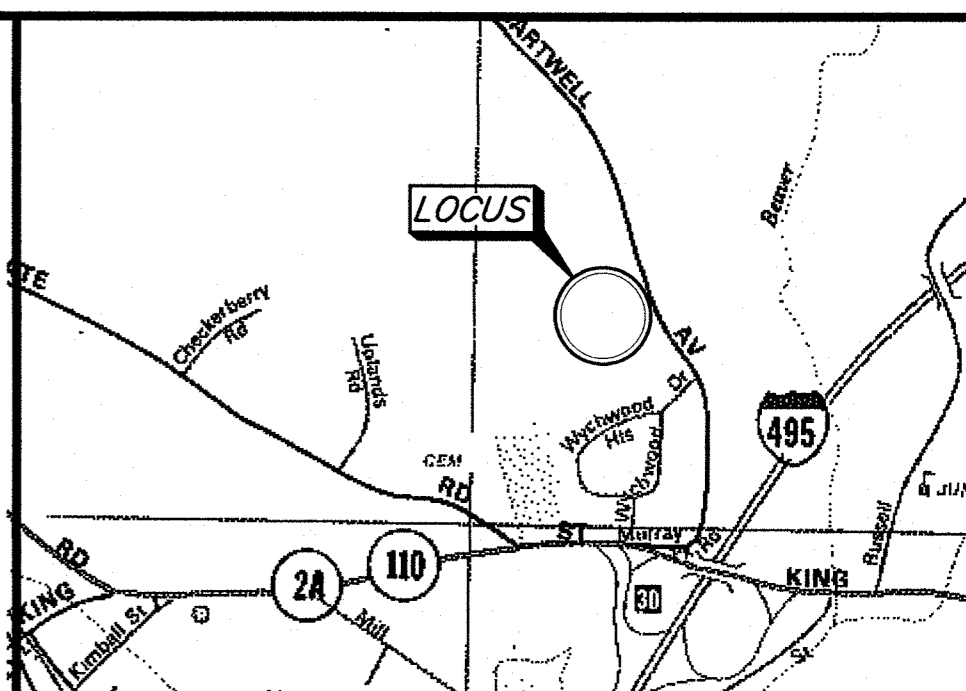
SILTATION BARRIER WATTLE DETAIL
NOT TO SCALE



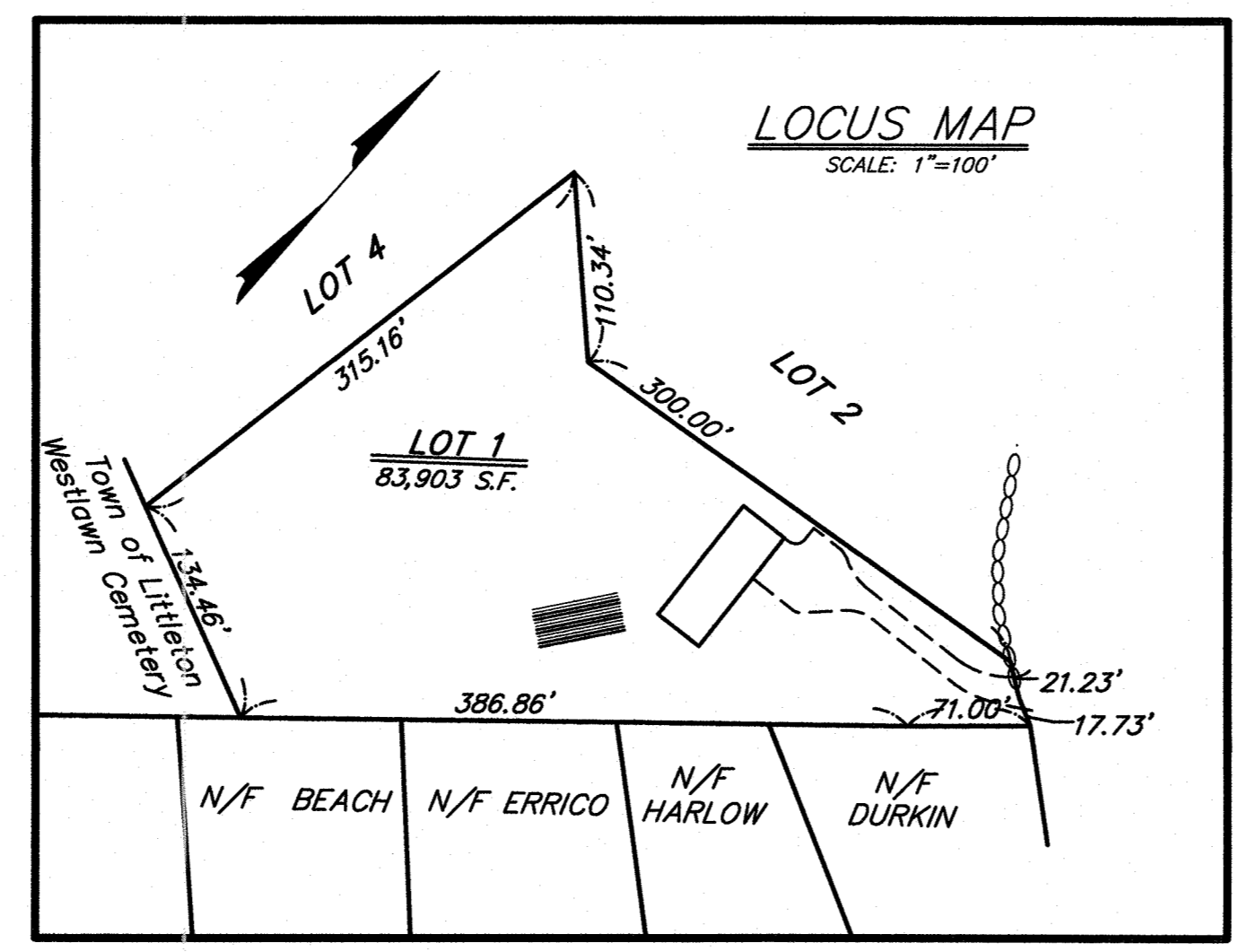
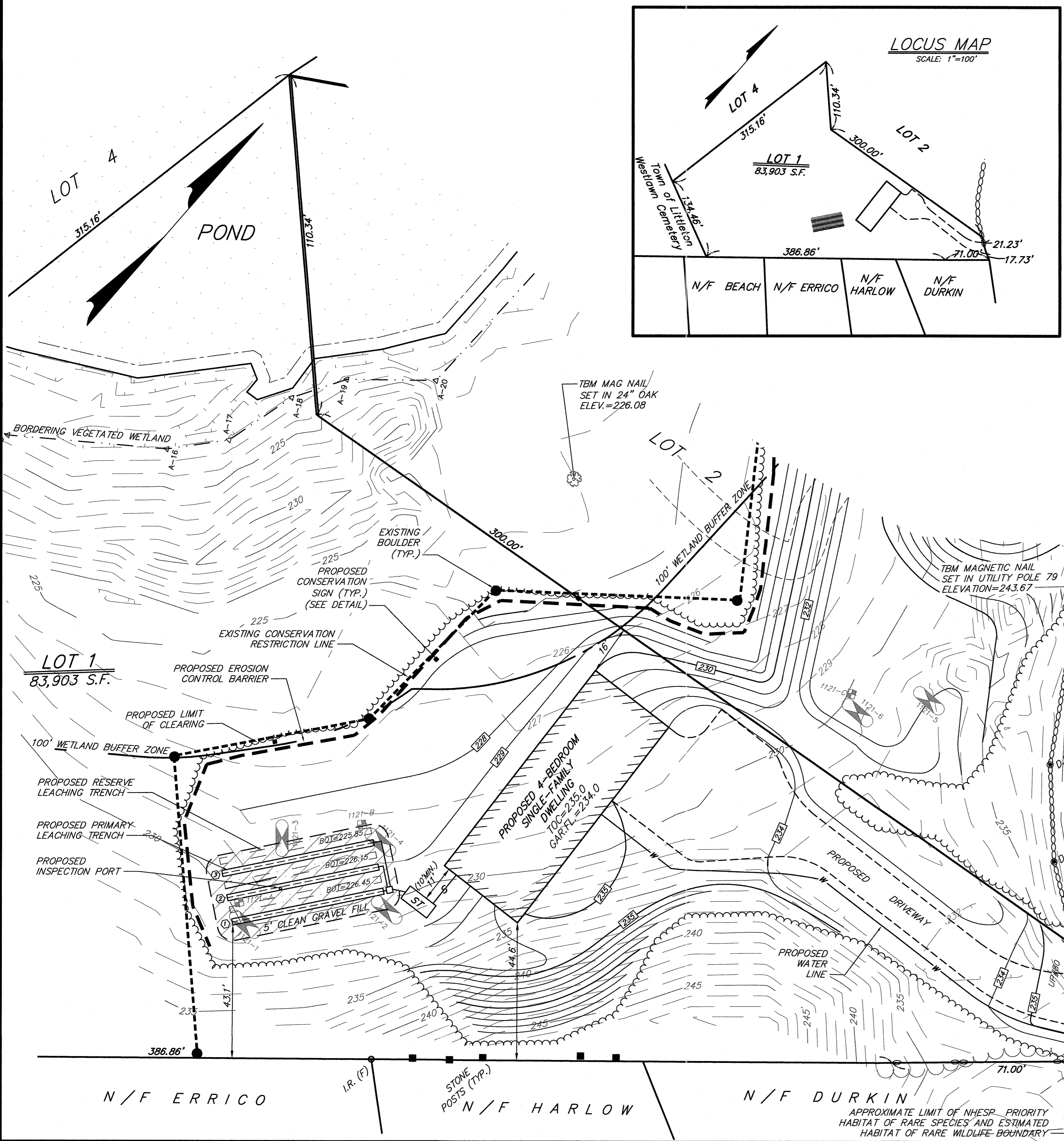
FOUNDATION

1,500 GALLON 2-COMPARTMENT SEPTIC TANK DISTRIBUTION BOX

LEACHING TRENCH



LOCUS MAP
NOT TO SCALE



LOCUS MAP
SCALE: 1"=100'

OBSERVATION TEST HOLE DATA
BY DANIEL B. WOLFE, D.E.R.A., INC.
WITNESSED BY JIM GARRETT, N.A.B.O.H.
11/24/21

1121-1: ELEV. = 230.0'
Ap 0' - 13" FINE SANDY LOAM
Bw 13" - 26" LOAMY SAND
C 26" - 132" MEDIUM SAND
NO MOTTLING
NO GROUNDWATER AT 120"
NO REFUSAL
E.S.H.W.T. AT 120" (220.0')

1121-2: ELEV. = 230.5'
Ap 0' - 12" FINE SANDY LOAM
Bw 12" - 24" LOAMY SAND
C 24" - 132" MEDIUM SAND
NO MOTTLING
NO GROUNDWATER OBSERVED
NO REFUSAL
E.S.H.W.T. AT >132" (219.5')

1121-3: ELEV. = 228.4'
Ap 0' - 10" FINE SANDY LOAM
Bw 10" - 24" LOAMY SAND
C 24" - 132" MEDIUM SAND
NO MOTTLING
NO GROUNDWATER AT 105"
NO REFUSAL
E.S.H.W.T. AT 105" (219.6')

1121-4: ELEV. = 226.5'
Ap 0' - 14" FINE SANDY LOAM
Bw 14" - 28" LOAMY SAND
C 28" - 132" MEDIUM SAND
NO MOTTLING
NO GROUNDWATER OBSERVED
NO REFUSAL
E.S.H.W.T. AT 132" (217.5')

SEPTIC TANK
SEPTIC TANK SHALL BE A PRECAST, REINFORCED CONCRETE TANK MADE WATERTIGHT. CONSTRUCTION MATERIALS AND DIMENSIONS SHALL CONFORM TO TITLE 5 AND AASHTO HS 10 REQUIREMENTS AND PLACED ON A STABLE MECHANICALLY COMPACTED LEVEL BASE.
TANK / SYSTEM TO BE VENTED THROUGH THE BUILDING PLUMBING SYSTEM AS REQUIRED BY BUILDING CODE.
TANK SHOULD BE INSPECTED, MAINTAINED AND BE PUMPED OUT WHEN SLUDGE DEPTH IN THE BOTTOM EXCEEDS ONE FOURTH OF THE TOTAL LIQUID DEPTH.
AT LEAST THREE 20" MANHOLES SHALL BE PROVIDED AND EQUIPPED WITH RISERS TO WITHIN 6" OF FINISH GRADE.
"D" BOX
"D" BOX TO BE MADE WATERTIGHT. CONSTRUCTION MATERIALS AND DIMENSIONS SHALL CONFORM TO TITLE 5 AND AASHTO HS 10 REQUIREMENTS AND PLACED ON A STABLE MECHANICALLY COMPACTED LEVEL BASE.
"D" BOX OUTLETS SHALL BE INSTALLED LEVEL ("BUILT UP" INVERTS, NOT PERMITTED).
FIRST 2' (MIN.) OF OUTLETS SHALL BE INSTALLED LEVEL TO EQUALIZE FLOW.
THE MINIMUM INSIDE DIMENSIONS OF THE "D" BOX TO BE 12" AND THE MINIMUM WALL THICKNESS TO BE 2".
WHEN INLET PIPE SLOPE EXCEEDS 8% PVC INLET TEE REQUIRED. CUT LOW END 1" ABOVE OUTLET INVERT.
"D" BOX COVER TO BE SEALED WITH BITUMEN. "D" BOXES BURIED GREATER THAN 9" BELOW GRADE SHALL BE EQUIPPED WITH A RISER TO WITHIN 6" OF FINISH GRADE.

SCHEDULE OF ELEVATIONS

	PROPOSED	AS-BUILT
TOP CONCRETE FOUNDATION	235.0	
INVERT AT FOUNDATION	228.60	
INVERT TANK INLET	228.30	
INVERT TANK OUTLET	228.05	
TOP SEPTIC TANK	229.4±	
INV. "D" BOX INLET	227.97	
INV. "D" BOX OUTLET	227.80	
GROUNDWATER OFFSET REQUIRED	5'	
GROUNDWATER OFFSET UTILIZED	5'	

TRENCH ELEVATIONS

TRENCH NUMBER	TOP STONE	HIGH INV. ELEV.	LOW INV. ELEV.	BOTTOM STONE
1	228.30	227.80	227.55	226.55
2	228.00	227.50	227.25	226.25
3	227.70	227.20	226.95	225.95

DESIGN CRITERIA
GARBAGE GRINDERS - NOT PERMITTED
PERC. TESTS: PERFORMED BY DANIEL WOLFE, D.E.R.A., INC.
WITNESSED BY JIM GARRETT, N.A.B.O.H.

PERC. #	RATE (M/D)	ELEVATION	DEPTH	DATE
1121-A	<2	229.8	55"	11/24/21
1121-B	<2	228.2	55"	11/24/21

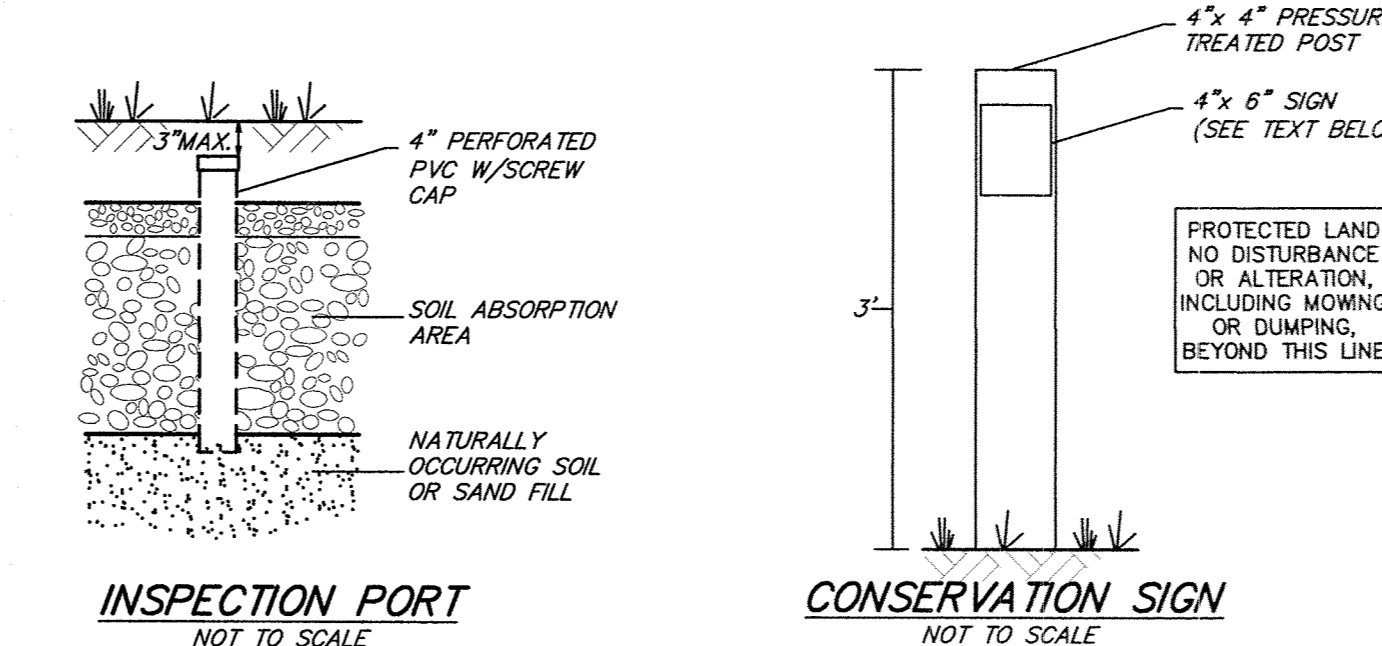
FLOWS: 4 BEDROOMS AT 110 GPD = 440 GPD (330 GPD MIN.)
SEPTIC TANK REQUIRED: (1,500 GAL. MIN.)
440 GPD X 2.0 = 880 GAL. TANK

LEACHING AREA PROVIDED:
A. BASIS 2 MIN./IN. PERCOLATION RATE
B. SIDEWALL AREA PROVIDED 300 S.F.
300 S.F. X 0.74 GPD/SF = 222 GPD
C. BOTTOM AREA PROVIDED = 300 S.F.
300 S.F. X 0.74 GPD/SF = 222 GPD
D. TOTAL G.P.D. PROVIDED 444
E. TOTAL SF. PROVIDED 600

SYSTEM IN FILL: REQUIRED NOT REQUIRED
IF ANY PORTION OF THE PROPOSED LEACHING AREA IS LOCATED ABOVE EXISTING GRADE OR WITHIN TOPSOIL, PEAT OR OTHER UNSUITABLE OR IMPERVIOUS SOIL LAYER, THEN THE PLACEMENT OF FILL IS REQUIRED. PRIOR TO THE PLACEMENT OF FILL, ALL UNSUITABLE OR IMPERMEABLE SOILS SHALL BE EXCAVATED TO A MINIMUM OF FIVE FEET LATERALLY IN ALL DIRECTIONS BEYOND THE OUTER PERIMETER OF THE SOIL ABSORPTION SYSTEM TO THE DEPTH OF NATURALLY OCCURRING PERVIOUS MATERIAL. FILL MATERIAL SHALL BE SELECT, ON-SITE OR IMPORTED SOIL CONSISTING OF CLEAN GRANULAR SAND, FREE FROM ORGANIC MATTER AND OTHER DELETERIOUS SUBSTANCES. MIXTURES AND LAYERS OF DIFFERENT SOIL CLASSES SHALL NOT BE USED. THE FILL SHALL NOT CONTAIN ANY MATERIAL LARGER THAN 2 INCHES. A SIEVE ANALYSIS USING A #4 SIEVE, SHALL BE PERFORMED ON A REPRESENTATIVE SAMPLE OF THE FILL. UP TO 45% BY WEIGHT OF THE FILL SAMPLE MAY BE RETAINED IN THE #4 SIEVE. SIEVE ANALYSES SHALL ALSO BE PERFORMED ON THE FRACTION OF FILL SAMPLE PASSING THE #4 SIEVE. SUCH ANALYSES MUST DEMONSTRATE THAT THE MATERIAL MEETS EACH OF THE FOLLOWING SPECIFICATIONS:

SIEVE SIZE	EFFECTIVE PARTICLE SIZE	% THAT MUST PASS SIEVE
# 4	4.75 MM	100%
# 50	0.30 MM	100%-100%
#100	0.15 MM	0%-20%
#200	0.075 MM	0%-5%

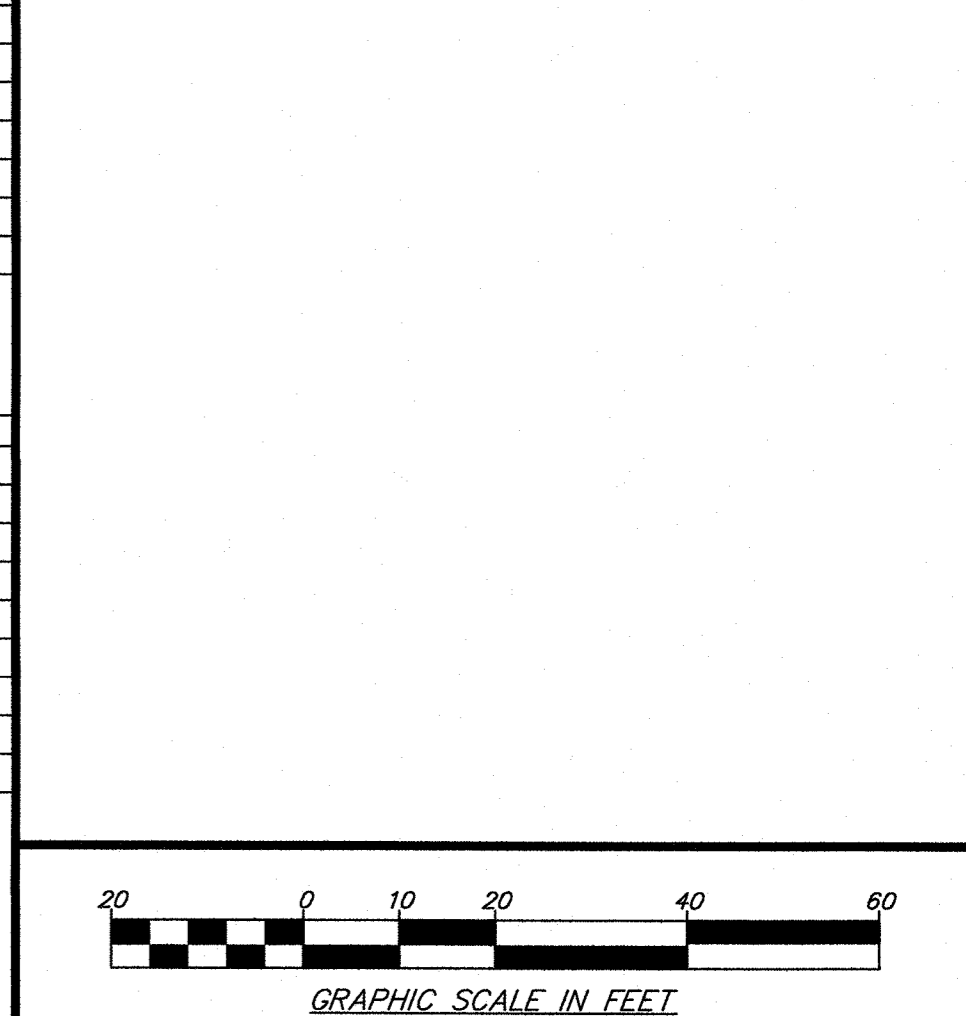
WETLAND PROTECTION ACT (C131 S40)
PRIOR TO INITIATING ANY ALTERATIONS (REMOVAL OF VEGETATION, EXCAVATIONS, GRADING, ETC.) WITHIN 100' OF WETLANDS (PONDS, BROOKS, SWAMPS, ETC.) OR WITHIN 200' OF AN AREA SUBJECT TO THE RIVER'S ACT (PERENNIALY FLOWING RIVER, BROOK OR STREAM), A REQUEST FOR DETERMINATION OF APPLICABILITY OR A NOTICE OF INTENT UNDER THE WETLANDS PROTECTION ACT (310 CMR 10.00) SHOULD BE FILED WITH THE TOWN'S CONSERVATION COMMISSION. LOCAL BYLAWS MAY ALSO APPLY.



INSPECTION PORT
NOT TO SCALE

CONSERVATION SIGN
NOT TO SCALE

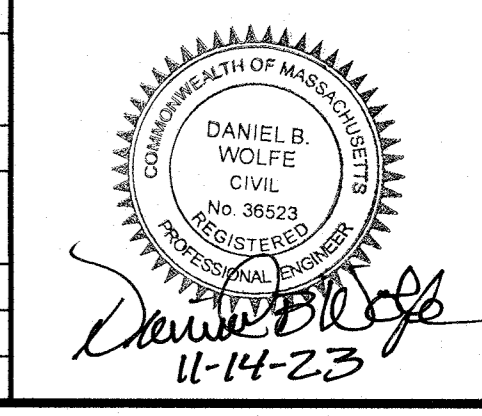
NOTES:
AN EFFLUENT FILTER IS TO BE INSTALLED IN THE SEPTIC TANK OUTLET TEE. THE FILTER SHOULD BE MAINTAINED, AT A MINIMUM, ON AN ANNUAL BASIS OR ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
THERE SHALL BE WRITTEN NOTICE PROVIDED IN A CONSPICUOUS PLACE NEAR THE BUILDING SEWER OR SOME OTHER METHOD TO SHOW THAT AN OUTLET TEE FILTER IS INSTALLED TO ENSURE THAT THE OUTLET TEE FILTER IS CLEANED WHEN THE SEPTIC SYSTEM TANK IS SERVICED.
PROPERTY LINES TAKEN FROM A PLAN ENTITLED, "PLAN OF LAND IN LITTLETON, MASS PREPARED FOR HARTWELL HILL HOMES, LLC DATED APRIL 2023 BY DAVID E. ROSS ASSOCIATES, INC. (ROBERT T. CONWAY, FL#56614)
NO PLASTIC RISERS, FRAMES, OR COVERS ARE ALLOWED ON PROPOSED SEPTIC TANKS OR DISTRIBUTION BOXES.



SURV.	CALC.	DRAFT:
GSN/JPS	SPM	PJT
NR:	DEED:	CHECK:
833-63.67	79438-166	DBW

REVISIONS

5/2/22	Original endorsement
7/25/22	Added Effluent Filter and access
3/28/23	Revised plan note
11/14/23	Added Conservation Restriction line & signs



SHEET TITLE:
SEWAGE DISPOSAL SYSTEM

DESIGNED FOR:
DUTCHCO BUILDERS, LLC

ADDRESS:
HARTWELL AVENUE
LITTLETON, MA

LOT NO.:	ASSESSOR MAP:	ASSESSOR PARCEL:
1	R17	Portion of Parcel 3

DAVID E. ROSS ASSOCIATES, INC.
CIVIL ENGINEERS - LAND SURVEYORS
ENVIRONMENTAL CONSULTANTS

6 Lancaster County Road
P.O. Box 795
Harvard, MA 01451-0795

978-772-6232
FAX 978-772-6258
www.davidross.com

SCALE: 1"=20'
DATE: MAY, 2022
REF.: L-14520, L-14517
PLAN NO.: L-14542
JOB NO.: 33895
SHEET NO.: 1 of 1