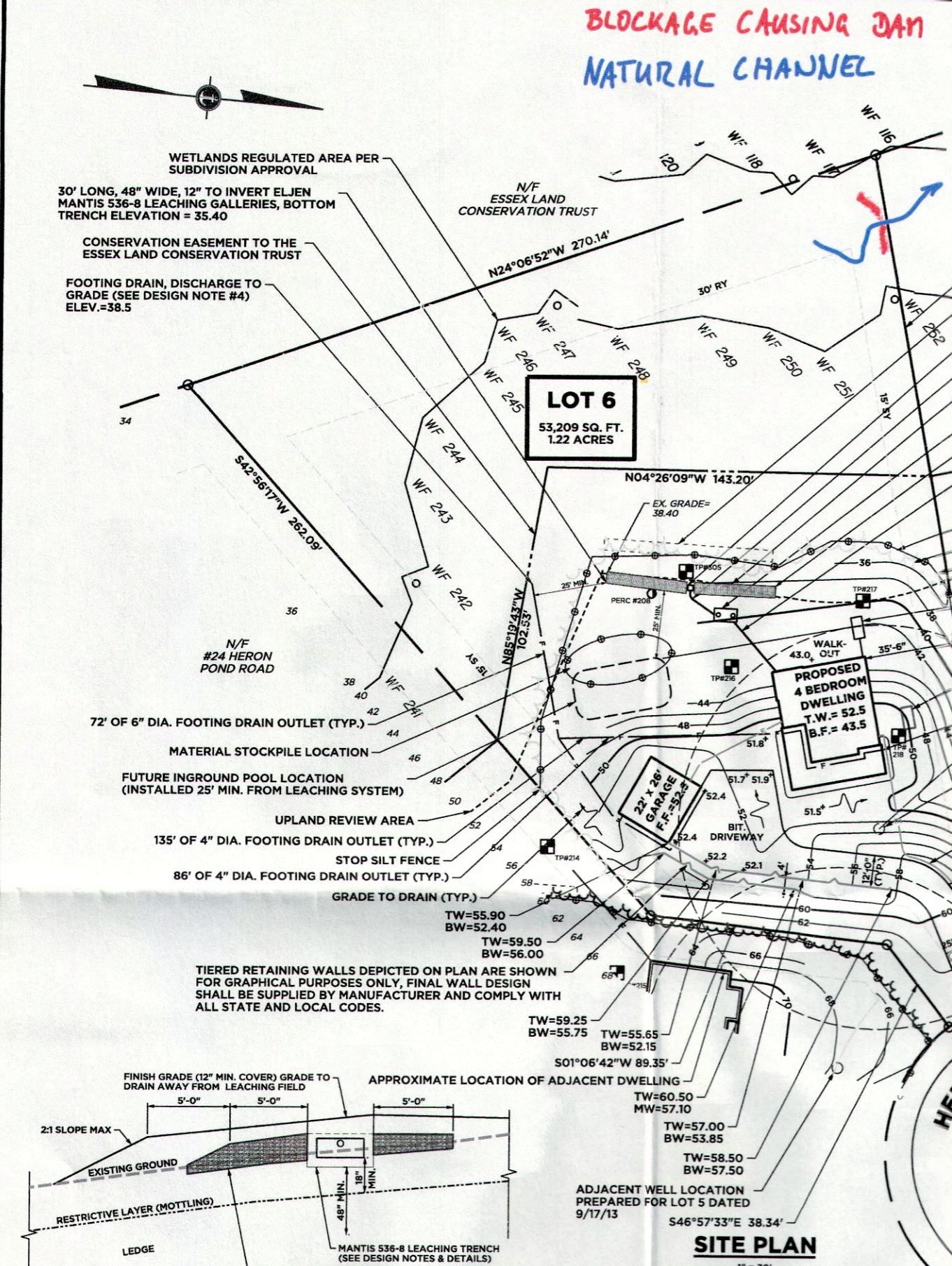
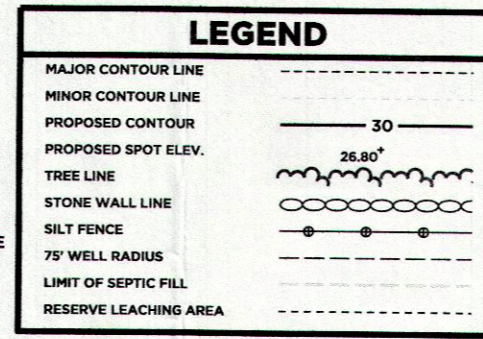


BLOCKAGE CAUSING DAM
NATURAL CHANNEL



LOT COMPLIANCE	
OPEN SPACE PRESERVATION SUBDIVISION	RU
ZONE	33,209 SF (1.22 AC.)
LOT AREA	3.9% (1,068 SF)
BUILDING COVERAGE	8.9% (4,760 SF)
PROPOSED AREA	
AREA OF DISTURBANCE	2,780 SF



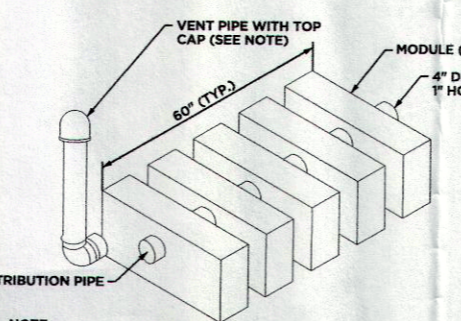
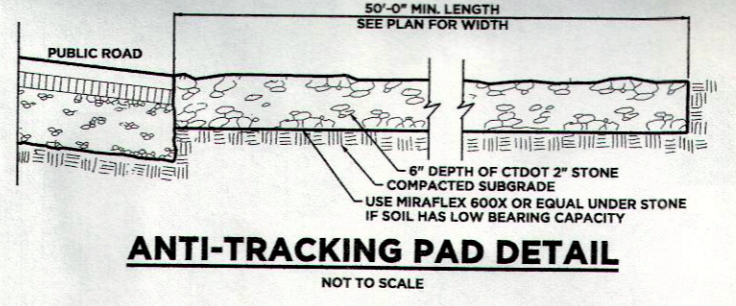
DESIGN DATA SUMMARY	
NUMBER OF BEDROOMS:	4
PERC RATE:	1.0 TO 5.0 MIN./IN.
LEACHING AREA REQUIRED:	660 SF
SEPTIC TANK SIZE:	660 SF, 1,250 GAL.
MINIMUM LEACHING SYSTEM SPREAD (MLSS)	
DEPTH TO RESTRICTIVE LAYER EXCEEDS 60" MINIMUM LEACHING SYSTEM SPREAD NEED NOT BE CONSIDERED PER CT PUBLIC HEALTH CODE APPENDIX A, AS REVISED JANUARY 2015.	

- DESIGN NOTES:**
- LEACHING SYSTEM BASED ON A PERCOLATION RATE OF 1.0 - 10.0 IN./IN. AND NO RESTRICTIVE LAYER PRESENT IN SOIL TESTING.
 - SYSTEM SIZE BASED ON NO TUB LARGER THAN 100 GALLONS & NO GARBAGE DISPOSAL.
 - SEPTIC TANK ACCESS PORTS LOCATED MORE THAN 12" BELOW GROUND REQUIRE RISERS.
 - FOOTING DRAIN SHALL BE TIGHT PIPE WHEN CONSTRUCTED WITH 25' UPGRADIENT OR 50' DOWN GRADIENT OF THE LEACHING SYSTEM.
 - EXISTING ELEVATIONS USED FOR DESIGN PURPOSES BASED UPON TOPOGRAPHIC SURVEY MAPPING. ALL ELEVATIONS SHALL BE CONFIRMED IN THE FIELD DURING CONSTRUCTION STAKEOUT AND ADJUSTED AS REQUIRED. A RED LINE PLAN SHOWING CHANGES SHALL BE SUBMITTED TO THE HEALTH DEPARTMENT FOR REVIEW AND APPROVAL.
 - PRIOR TO THE START OF CONSTRUCTION, THE SYSTEM AND FILL AREA ARE TO BE STAKED BY A LICENSED SURVEYOR AND A BENCHMARK MUST BE SET WITHIN 40' OF THE SEPTIC AREA.
 - MAXIMUM TRENCH DEPTH INTO GRADE = 36" MAXIMUM TRENCH DEPTH INTO GRADE AT CENTERLINE = 39"
 - SELECT SEPTIC FILL SHALL CONFORM TO CONNECTICUT DEPARTMENT OF PUBLIC HEALTH STANDARDS AND MANUFACTURER'S SPECIFICATION. ALL MANTIS LEACHING SYSTEM INSTALLATIONS UTILIZE ASTM C-33 SPECIFIED MEDIUM COURSE WASHED CONCRETE SAND WITH LESS THAN 10% PASSING THE #100 SIEVE AND LESS THAN 5% PASSING THE #200 SIEVE.
 - A FINAL SEPTIC SYSTEM AS-BUILT PREPARED BY A LICENSED SURVEYOR OR PROFESSIONAL ENGINEER SHALL BE SUBMITTED TO THE ESSEX DEPARTMENT OF HEALTH PRIOR TO ISSUANCE OF A PERMIT TO DISCHARGE OR CERTIFICATE OF OCCUPANCY CAN BE ISSUED. THE AS-BUILT SHALL CLEARLY INDICATE ALL ELEVATIONS, SEPARATION DISTANCES TO THE BUILDING SERVED, TYPE OF SEPTIC TANK AND LEACHING STRUCTURES, AND LENGTH OF LEACHING STRUCTURES.

GENERAL NOTES

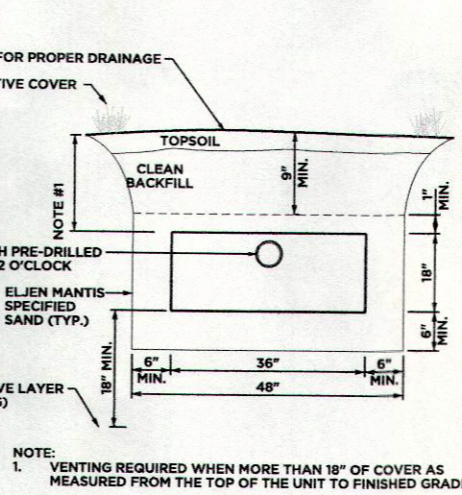
- BOUNDARY REFERENCE**
"BOUNDARY SURVEY PLAN" PREPARED FOR ESSEX HIGHLANDS, LLC, ESSEX, CT, SCALE 1"=100', DATED FEBRUARY 6, 2006, AS REVISED FEBRUARY 7, 2007, SHEET 3 OF 9 BY ANCHOR ENGINEERING SERVICES INC., GLASTONBURY, CT
- DATUM**
ELEVATIONS ARE IN FEET AND ARE BASED UPON PROJECT DATUM. PREPARED FOR TRUEBE ASSOCIATES, LTD, ESSEX, CT (SEE NOTE 1), ONE BENCH MARK IS TO BE SET IN THE FIELD PRIOR TO CONSTRUCTION.
- DESIGN BASIS**
THE SANITARY DESIGN IS BASED UPON A PROPOSED FOUR BEDROOM HOUSE WITH A DESIGN SOIL PERCOLATION RATE CATEGORY OF 1.0-10.0 MINUTES TO DROP ONE INCH. THE CONSTRUCTION OF THE SANITARY DISPOSAL SYSTEM AND ITS COMPONENTS SHALL COMPLY IN ALL RESPECTS WITH THE LATEST REVISIONS OF THE DEPARTMENT OF HEALTH SERVICES' REGULATIONS AND TECHNICAL STANDARDS FOR SUBSURFACE SEWAGE DISPOSAL SYSTEMS, AND THE REQUIREMENTS OF THE TOWN OF ESSEX HEALTH DEPARTMENT.
- SOIL TESTING**
PERCOLATION RATE TESTINGS PERFORMED BY ANCHOR ENGINEERING ON 12/22/05 & 3/22/06. DEEP HOLE OBSERVATION TEST PITS WERE PERFORMED BY ANCHOR ENGINEERING & WITNESSED BY THE TOWN OF ESSEX HEALTH DEPARTMENT ON 04/18/05, 12/21/05, 12/22/05 AND 12/23/05.
- GRADING**
EXISTING CONTOURS HAVE BEEN FIELD LOCATED BY ANCHOR ENGINEERING SERVICES, INC. PROPOSED CONTOURS ARE SHOWN IN AREAS OF PROPOSED CONSTRUCTION. FINISH GRADING SHALL BE ACCOMPLISHED AS INDICATED BY THE PROPOSED CONTOURS. DRAINAGE SWALES SHALL BE CONSTRUCTED AS INDICATED TO DIVERT SURFACE WATER RUNOFF AWAY FROM THE HOUSE AND THE LEACHING SYSTEM.
- SEWER PIPE**
SEWER PIPE FROM THE HOUSE TO THE SEPTIC TANK SHALL BE PVC SCH. 40 OR OTHER APPROVED TIGHT PIPING. PIPING FROM THE SEPTIC TANK TO THE LEACHING SYSTEM SHALL BE SDR 35 OR APPROVED EQUAL. ALL OTHER PIPING SHALL BE A MINIMUM OF FOUR INCHES IN DIAMETER AND SHALL BE INSTALLED AT A MINIMUM PITCH OF 1/8" PER FOOT, OR AS NOTED ON THE PLAN. ALL CHANGES OF PIPE DIRECTION SHALL BE MADE WITH PROPER FITTINGS. PIPE LEADING INTO AND OUT OF THE SEPTIC TANK AND DISTRIBUTION BOX SHALL BE PROPERLY SECURED INTO PLACE AFTER THE PIPE INSTALLATION IS COMPLETE. INSTALLED PIPING SHALL BE PROTECTED DURING CONSTRUCTION AND FINAL GRADING TO AVOID CRUSHING OR DISPLACING.
- SEPTIC TANK AND DISTRIBUTION BOXES**
THE SEPTIC TANK AND DISTRIBUTION BOXES SHALL BE PRECAST CONCRETE WITH OUTLETS AS SHOWN AND SHALL BE STANDARD PRODUCTS OF A SUPPLIER REGULARLY ENGAGED IN THE MANUFACTURE OF SUCH UNITS. THE SEPTIC TANK SHALL BE OF 1,250-GALLON MINIMUM CAPACITY, AND SHALL BE SET LEVEL ON A FIRM BED OF NATIVE SOIL OR SAND. THE DISTRIBUTION BOXES SHALL BE SET LEVEL IN A FULLY EXCAVATED TRENCH AFTER BACK FILLING WITH STONE.
- LEACHING SYSTEM**
THE LEACHING SYSTEM SHALL CONSIST OF A MINIMUM 60 LINEAR FEET OF 12" TO INVERT, 48" WIDE ELJEN MANTIS LEACHING UNITS (MODEL 536-8 OR APPROVED EQUAL) LAID OUT AND CONSTRUCTED TO THE DETAILS AS SHOWN ON THE DRAWING. THE PROPOSED LEACHING SYSTEM WILL PROVIDE AN "EFFECTIVE AREA" OF 660 SQUARE FEET. THE TRENCHES SHALL BE EXCAVATED TO THE ELEVATION SHOWN ON THE PLAN AND SHALL BE LEVEL.
- LEACHING SYSTEM INSTALLATIONS**
THE AREA WHERE THE PROPOSED LEACHING SYSTEM IS TO BE INSTALLED SHALL BE PROPERLY PREPARED ACCORDING TO THE FOLLOWING REQUIREMENTS PRIOR TO PERFORMING ANY ACTUAL INSTALLATION OF THE LEACHING TRENCHES. THE AREA FOR THE PROPOSED LEACHING SYSTEM SHALL MEAN THE ENTIRE AREA WITHIN THE PERIMETER IS FILL. THE ENDS AND SIDES OF THE PRIMARY LEACHING TRENCHES AS INDICATED.
 - WHERE THE PLAN INDICATES THAT THE FILLING SHALL OCCUR, ALL VEGETATION SHALL BE REMOVED AND THE TOPSOIL CAREFULLY STRIPPED AND STORED FOR LATER REPLACEMENT OVER THE FILLED AREA.
 - THE AREA TO BE FILLED SHALL BE ROUGHENED BY HAND OR MACHINE, IN A DIRECTION PARALLEL TO THE PROPOSED LEACHING TRENCHES, TO ALLOW PROPER UNITING WITH THE PROPOSED FILL AFTER PREPARATION. THIS AREA SHALL BE PROTECTED FROM TRAFFIC.
 - THE FILL MATERIAL SHALL CONFORM TO THE FILL SPECIFICATIONS OUTLINED IN THE SECTION VIII.A OF THE LATEST REVISION TO THE CONNECTICUT PUBLIC HEALTH CODE REGULATIONS, CONFORMING TO HORIZONTAL ACCURACY STANDARDS FOR SUBURBAN SEWAGE DISPOSAL SYSTEMS. ALL FILL SHALL BE ACCEPTABLE TO THE TOWN OF ESSEX HEALTH DEPARTMENT.
 - THE FILL MATERIAL SHALL BE DUMPED ON THE UPHILL SIDE OF THE PROPOSED LEACHING AREA AND SPREAD TOWARD THE DOWNHILL SIDE WITH A BULLDOZER, TAKING CARE THAT MACHINERY RIDES ONLY ON NEW FILL.
 - THE FILL SHALL BE SPREAD OVER THE ENTIRE AREA IN 12" LIFTS AND THEN COMPACTED BY HEAVY MACHINERY TO A POINT WHERE IT IS FIRM UPON COMPLETION OF SPREADING AND COMPACTING. THE ENTIRE FILLED AREA SHALL BE BACKSLADED FROM THE UPHILL SIDE TO THE SIDE. SPECIAL SHALL BE TAKEN TO ENSURE THAT THE ENTIRE FILL AREA, AND THE TOE OF THE SLOPE, IS EVENLY AND ADEQUATELY COMPACTED.
 - AFTER THE AREA FOR THE PROPOSED LEACHING SYSTEM HAS BEEN PROPERLY FILLED, THE LEACHING TRENCHES SHALL BE INSTALLED AS FOLLOWS:
 - EXCAVATE FOR ELJEN MANTIS LEACHING UNITS.
 - HAND RAKE THE BOTTOM AND SIDES OF ALL TRENCHES TO ELIMINATE ANY SOIL SMEARS AND FOOTPRINTS BEFORE PLACING ELJEN MANTIS LEACHING UNITS.
 - INSTALL ELJEN MANTIS LEACHING UNITS. BACKFILL WITH SPECIFIED SAND MATERIAL AND COVER AREA WITH A MIN. 3" LAYER OF SOIL, OF WHICH A MINIMUM OF 4" IS TOPSOIL.
 - FINE GRADE AREA TO THE PROPOSED GRADES AS SHOWN ON THE PLAN.
- WATER SUPPLY**
A MINIMUM SEPARATING DISTANCE TO THE POTABLE WATER SUPPLY WELL OF 75 FEET FROM ANY PART OF THE SUBSURFACE SEWAGE DISPOSAL SYSTEM SHALL BE MAINTAINED AND COMPLY WITH THE LATEST REVISIONS OF THE CONNECTICUT PUBLIC HEALTH CODE.
- FOOTING PERIMETER DRAIN**
A FOOTING PERIMETER DRAIN IS PROPOSED AND SHALL DISCHARGE AS SHOWN.
- SPECIAL RECOMMENDATIONS**
LOW FLOW SANITARY FIXTURES AND FLOW RESTRICTIVE SHOWER HEADS ARE RECOMMENDED FOR INSTALLATION IN PROPOSED HOUSE.

SCHEDULE OF INVERTS	
INV. AT HOUSE	40.50
INV. INTO TANK	38.35
INV. OUT OF TANK	38.10
INV. IN D-BOX #1	36.50
INV. OUT D-BOX #1	36.40
BOTTOM OF TRENCH	35.40



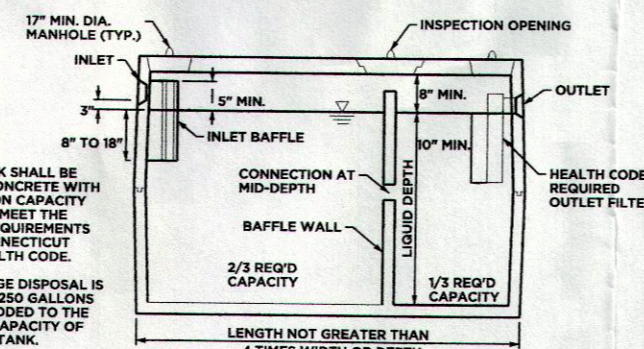
12" INVERT MANTIS 536-8 DISTRIBUTION PIPE CONNECTION

NOTE:
1. VENTING REQUIRED WHEN MORE THAN 18" OF COVER AS MEASURED FROM THE TOP OF THE UNIT TO FINISHED GRADE.
2. 12" TO INVERT UNIT = 11 SF/LF EFFECTIVE LEACHING AREA.



12" INVERT MANTIS 536-8 SAND FILL CROSS SECTION

NOTE:
1. VENTING REQUIRED WHEN MORE THAN 18" OF COVER AS MEASURED FROM THE TOP OF THE UNIT TO FINISHED GRADE.



SEPTIC TANK CROSS SECTION

NOTES:
1. SEPTIC TANK SHALL BE PRECAST CONCRETE WITH 1,250 GALLON CAPACITY AND SHALL MEET THE MINIMUM REQUIREMENTS OF THE CONNECTICUT PUBLIC HEALTH CODE.
2. IF A GARBAGE DISPOSAL IS PROPOSED, 250 GALLONS SHALL BE ADDED TO THE REQUIRED CAPACITY OF THE SEPTIC TANK.

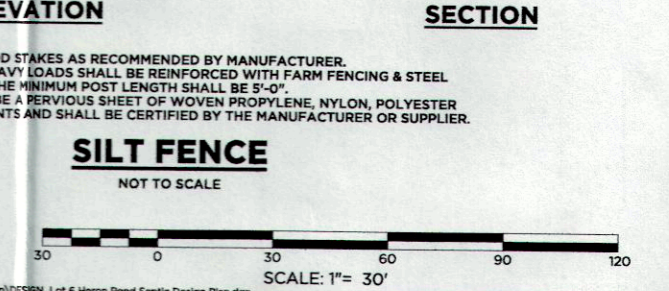


12" INVERT MANTIS 536-8 LEACHING TRENCH SECTION

NOT TO SCALE

SOIL TEST RESULTS	
SOIL & PERC. TESTING PERFORMED BY CAROL SPEER R.S. OF THE ESSEX HEALTH DEPARTMENT AND ANCHOR ENGINEERING SERVICES ON 04/18/05, 12/21/05, 12/22/05 & 12/23/05	
TEST PIT #1: TP 216 DEPTH OF TEST PIT: 80" WATER OBSERVED AT: NO SEEPS OBSERVED AT: NO MOTTLING OBSERVED AT: 53" REFUSAL OBSERVED AT: N/A ROOTS OBSERVED AT: N/A SOIL DESCRIPTION 0' - 3" TOPSOIL 3" - 53" RD/BR FINE SANDY LOAM 53" - 80" TAN FINE SAND, CLEAN	TEST PIT #2: TP 217 DEPTH OF TEST PIT: 80" WATER OBSERVED AT: NO SEEPS OBSERVED AT: NO MOTTLING OBSERVED AT: NO REFUSAL OBSERVED AT: NO ROOTS OBSERVED AT: N/A SOIL DESCRIPTION 0' - 4" TOPSOIL 4" - 28" RD/BR FINE SANDY LOAM 28" - 78" TAN FINE SAND, CLEAN
TEST PIT #3: TP 218 DEPTH OF TEST PIT: 76" WATER OBSERVED AT: NO SEEPS OBSERVED AT: NO MOTTLING OBSERVED AT: NO REFUSAL OBSERVED AT: NO ROOTS OBSERVED AT: 43" SOIL DESCRIPTION 0' - 2" TOPSOIL 2" - 39" BR FINE SILTY LOAM 39" - 58" GR/BR F SANDY LOAM 58" - 76" GR/BR F-M SAND TRACE SILT	TEST PIT #4: TP 305 DEPTH OF TEST PIT: 85" WATER OBSERVED AT: NO SEEPS OBSERVED AT: NO MOTTLING OBSERVED AT: NO REFUSAL OBSERVED AT: NO ROOTS OBSERVED AT: N/A SOIL DESCRIPTION 0' - 4" TOPSOIL 4" - 28" BR FINE SANDY LOAM, SOME SILT 28" - 80" FINE GRAY/TAN SAND

PERCOLATION TESTING		
PERC TEST 208 DATE OF PRESOAK: 3/22/06 TIME OF PRESOAK: 10:35 A.M. PREPARED: 1/22/06 DEPTH = 28"		
TIME	READING	RATE
1:18	19.0	--
1:23	23.75	1.1
1:28	26.5	1.8
1:43	17.0	0
1:48	21.0	1.3
1:53	23.75	1.8
1:58	DRY	
RATE = 1.0 - 10.0 MIN/IN		



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www.anchorengr.com

PROJ. ENGINEER	KRG
PROJ. MANAGER	KRG
OFFICE REVIEW	MLK
REVISIONS	
4/01/16	
SEPTIC DESIGN PLAN	
PREPARED FOR	
LOT MAP 74, LOT 6	
MR. JENS HUPKAU	
HERON POND ROAD ESSEX, CT	
PROJECT	DATE
885-41	10/03/13
SHEET NO. 1 OF 1	