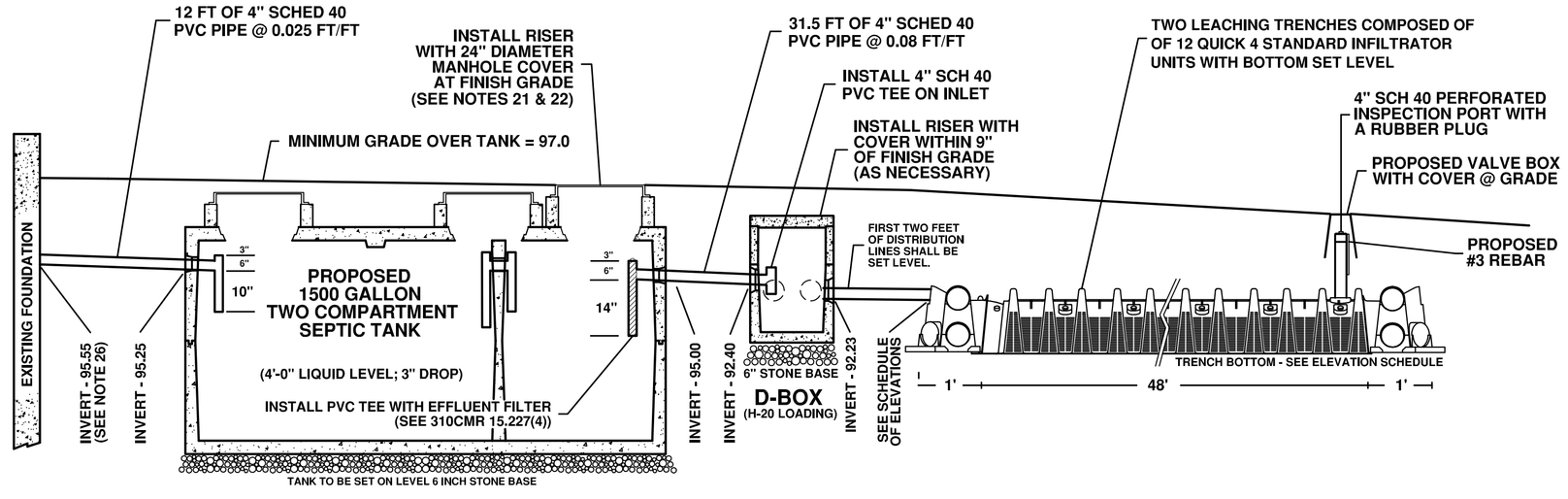
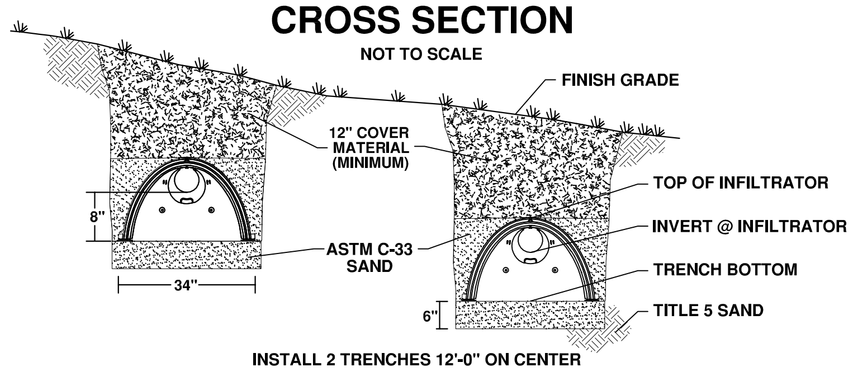
PROFILE AND DETAILS

NOT TO SCALE



CROSS SECTION

NOT TO SCALE



INSTALL 2 TRENCHES 12'-0" ON CENTER

SCHEDULE OF ELEVATIONS				
TOP OF FOUNDATION	100.00	INFILTRATOR TRENCH	1	2
EX. OUT OF FOUNDATION	95.55	FINISH GRADE	93.50	92.00
IN SEPTIC TANK	95.25	TOP OF INFILTRATOR	92.50	91.00
OUT SEPTIC TANK	95.00	INVERT @ INFILTRATOR	92.17	90.67
IN DISTRIBUTION BOX	92.40	TRENCH BOTTOM	91.50	90.00
OUT DISTRIBUTION BOX	92.23			

SOIL PROFILE DATA

TESTHOLE No. 3

DEPTH		ELEV.
0"		91.42
SANDY LOAM 10YR3/2	A	(to be removed)
10"		90.59
SANDY LOAM 10YR5/6	B	(to be removed)
24"		89.42
COARSE SAND 2.5Y7/2	C_1	
72"		85.42(ESHW)
84"		84.42
LOAMY SAND 2.5Y7/3	C_2	
120"		81.42

DATE: 8/08/2014
ENG: KEVIN RITCHIE, CSI
AGENT: S. BALL, ACTON BOH

TESTHOLE No. 4

DEPTH		ELEV.
0"		92.80
SANDY LOAM 10YR3/2	A	(to be removed)
8"		92.13
SANDY LOAM 10YR5/6	B	(to be removed)
24"		90.80
COARSE SAND 2.5Y7/2	C_1	
72"		86.80(ESHW)
84"		85.80
LOAMY SAND 2.5Y7/3	C_2	
108"		83.80

DATE: 8/08/2014
ENG: KEVIN RITCHIE, CSI
AGENT: S. BALL, ACTON BOH

THE SOIL EVALUATOR FOR THIS SITE IS KEVIN RITCHIE
HE PASSED THE MA SOIL EVALUATORS EXAM SPRING 1995.

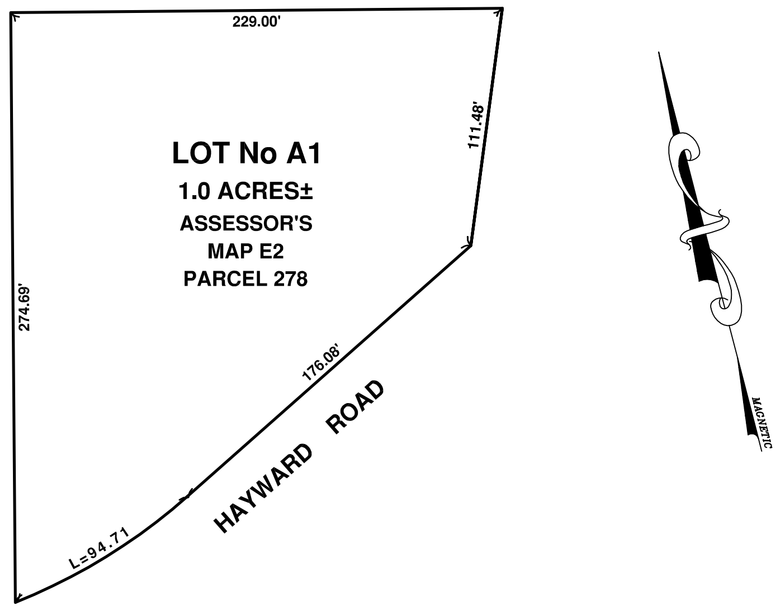
PERCOLATION TEST DATA

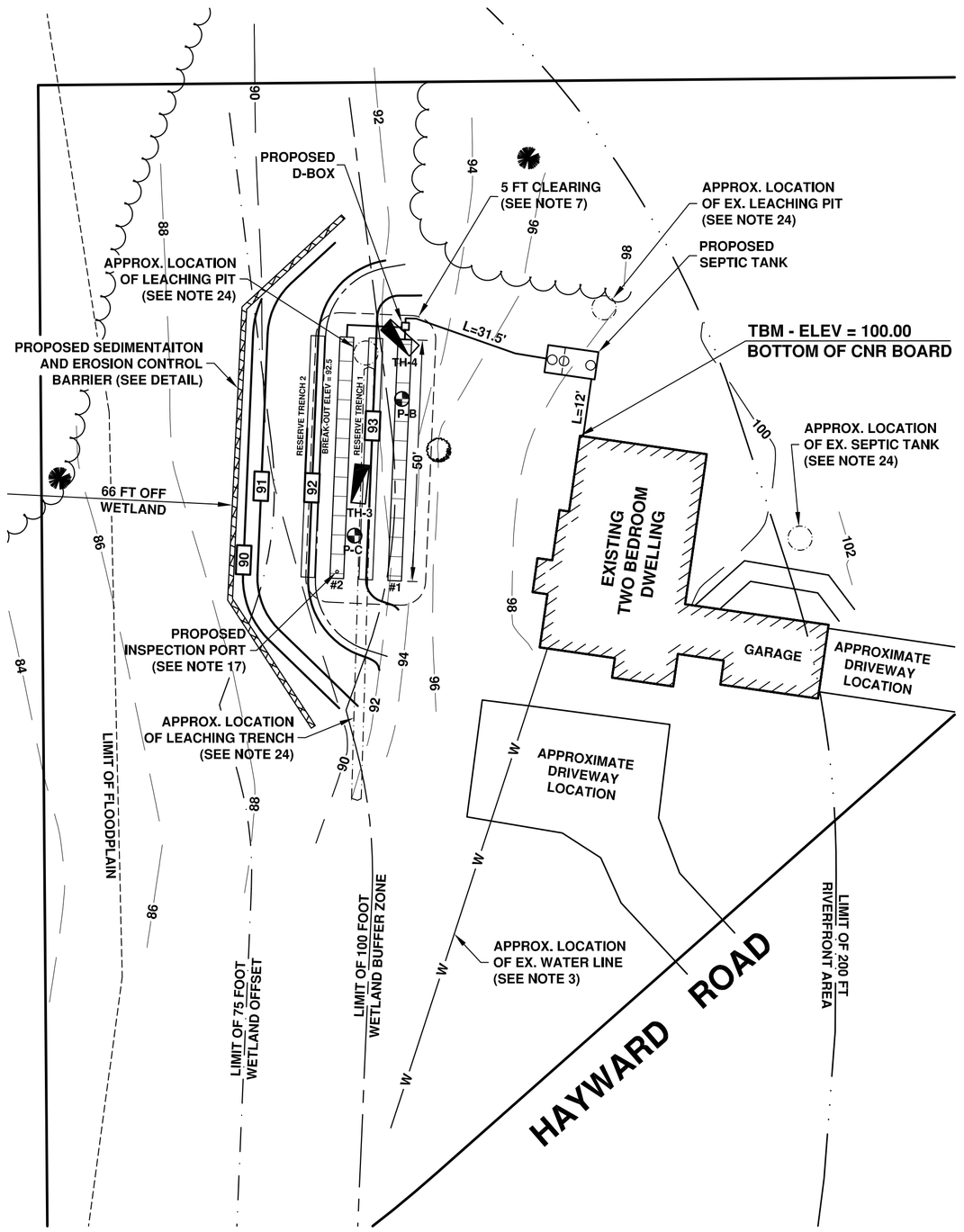
PERC No.	DATE	DEPTH	RATE
P-B	8/08/2014	60 INCHES	2 MPI
P-C	8/08/2014	60 INCHES	2 MPI

PERCOLATION TEST(S) PERFORMED BY: KEVIN RITCHIE, CSI
WITNESSED BY: SHERYL BALL, ACTON BOH

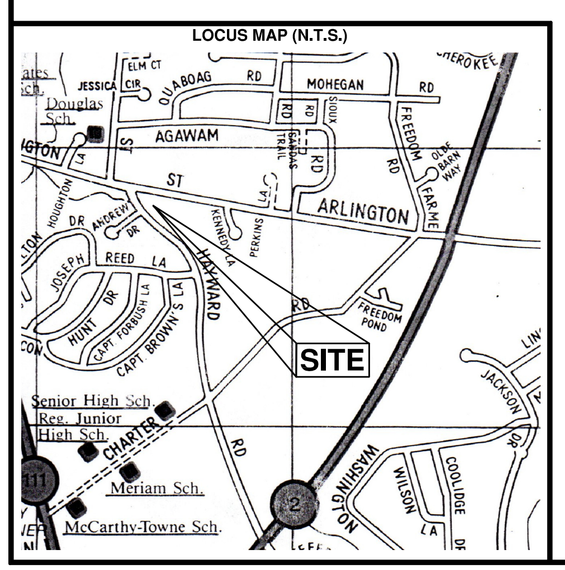
PLOT PLAN

1" = 50'





SCALE: 1" = 20'
0 20 40 60



LEGEND

- EXISTING TREE
- UTILITY POLE
- 80x0 — EXISTING SPOT GRADE
- 80.00 — PROPOSED SPOT GRADE
- SOIL PROFILE TEST
- PERCOLATION TEST
- 80 — EXISTING CONTOUR
- 80 — PROPOSED CONTOUR
- W — WATER LINE
- G — GAS LINE
- BRUSHLINE/TREELINE
- 75 FT WETLAND OFFSET
- LIMIT OF 100 FT BUFFER ZONE
- LIMIT OF RIVERFRONT AREA
- LIMIT OF FLOODPLAIN

CONVENTIONAL SYSTEM SIZING

TITLE 5 DESIGN CAPACITY PROVIDED:
3 BEDROOMS X 110 GAL/BEDROOM = 330 GAL/DAY

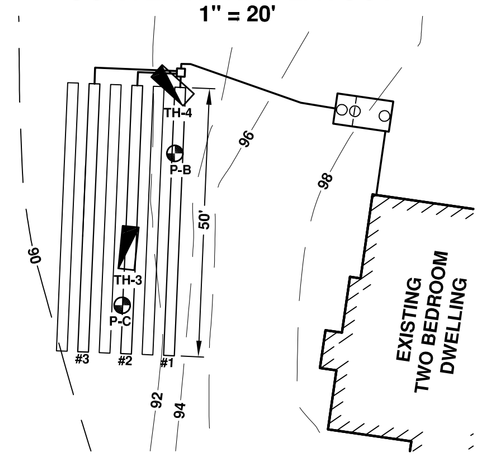
MINIMUM LEACHING ARA REQUIRED BY ACTON BOARD OF HEALTH:
600 SQUARE FEET

PROVIDED:
PERCOLATION RATE: 2 MINUTES/INCH
APPLICATION RATE: 0.74 GAL/SF

TOTAL LEACHING AREA: 3 TRENCHES X 50 FT X 2 FT (W) X 1 FT (D) = 600 SF
TOTAL VOL APPLIED/DAY: 600 SF X 0.74 GAL/SF = 440 GAL

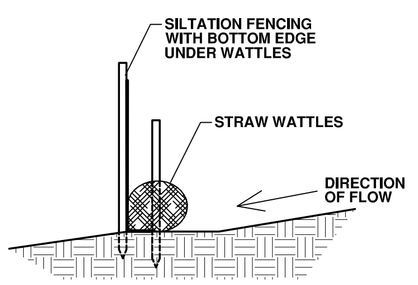
CONVENTIONAL LAYOUT

1" = 20'



SEDIMENT AND EROSION CONTROL DETAIL

NOT TO SCALE



SYSTEM CALCULATIONS

TITLE 5 DESIGN CAPACITY PROVIDED:
3 BEDROOMS X 110 GAL/BEDROOM = 330 GAL/DAY

MINIMUM LEACHING ARA REQUIRED BY ACTON BOARD OF HEALTH:
600 SQUARE FEET

PROVIDED:
PERCOLATION RATE: 2 MINUTES/INCH
APPLICATION RATE: 0.74 GAL/SF

TOTAL LEACHING AREA: 2 TRENCHES X 50 FT X 4.17 SF/FT= 417 SF
EFFECTIVE LEACHING AREA = 417 X 1.67 = 696 SF

TOTAL VOL APPLIED/DAY: 696 SF X 0.74 GAL/SF = 515 GAL

APPROVED CAPACITY: 3 BEDROOM

SEPTIC TANK(S) SIZING:
200% X 330 GPD = 660 GALLONS
USE A 1500 GALLON TWO COMPARTMENT SEPTIC TANK

NOTES AND SPECIFICATIONS

1. BOUNDARY LINE INFORMATION TAKEN FROM A "SUBDIVISION PLAN OF LAND IN ACTON" BY HORACE F. TUTTLE, SURVEYOR, DATED MARCH 16, 1955, RECORDED IN THE M.S.D.R.D. LAND REGISTRATION OFFICE AS PLAN No. 200950.
2. TOPOGRAPHICAL INFORMATION TAKEN FROM A FIELD SURVEY PERFORMED BY THIS OFFICE.
3. CONTRACTOR SHALL NOTIFY DIGSAFE (888) 344-7233 AT LEAST 72 HOURS PRIOR TO INITIATING WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ANY UTILITIES NOT DELINEATED BY DIGSAFE.
4. CONTRACTOR SHALL NOTIFY THIS OFFICE 24 TO 48 HOURS PRIOR TO REQUIRED CONSTRUCTION INSPECTIONS.
5. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL EXISTING SITE CONDITIONS AND ELEVATIONS PRIOR TO INITIATING CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER OF RECORD PRIOR TO THE ONSET OF CONSTRUCTION.
6. CONTAMINATED SOIL WITHIN THE VICINITY OF THE PROPOSED LEACHING AREA SHOULD BE REMOVED BY THE CONTRACTOR. LOCATION OF EXISTING LEACHING AREA SHOWN HEREON IS APPROXIMATE.
7. WHERE FILL IS REQUIRED TO REPLACE UNSUITABLE OR IMPERVIOUS MATERIAL, THE EXCAVATION OF THE UNSUITABLE MATERIAL SHALL EXTEND A MINIMUM OF 5 FEET LATERALLY IN ALL DIRECTIONS BEYOND THE OUTER PERIMETER OF THE SOIL ABSORPTION SYSTEM TO A DEPTH OF NATURALLY OCCURRING PERVIOUS MATERIAL.
8. FILL MATERIAL SHALL MEET THE SPECIFICATIONS ESTABLISHED IN 310 CMR 15.255.
9. EXISTING DWELLING IS SERVICED BY A MUNICIPAL WATER SUPPLY.
10. THIS SYSTEM IS NOT DESIGNED TO ACCOMMODATE GARBAGE DISPOSAL UNITS.
11. RETURN WATER FROM HOME WATER FILTRATION SYSTEM SHALL NOT BE PIPED INTO THE SEPTIC SYSTEM.
12. TANKS AND DISTRIBUTION BOX SHOWN HEREON ARE GRAPHICAL REPRESENTATIONS OF THE CONCRETE STRUCTURES REQUIRED, AND SHOULD NOT BE CONSIDERED CONSTRUCTION DRAWINGS. MANUFACTURER OF TANKS AND BOXES SHALL BE APPROVED BY THE ENGINEER OF RECORD AND THE BOARD OF HEALTH.
13. ANY ALTERATION OF WETLANDS OR DISTURBANCE WITHIN THE 100 FOOT BUFFER ZONE SHALL REQUIRE A FILING WITH THE LOCAL CONSERVATION COMMISSION AND THE DEPARTMENT OF ENVIRONMENTAL PROTECTION. THIS DESIGN REQUIRES SUCH A FILING.
14. THIS PLAN MAY ONLY BE REVISED WITH THE CONSENT OF THE LOCAL BOARD OF HEALTH AND THE ENGINEER OF RECORD.
15. BASED ON AVAILABLE RECORD INFORMATION AND A VISUAL SITE INSPECTION, ALL WELLS WITHIN 150 FEET OF THE PROPOSED LEACHING SYSTEM ARE SHOWN HEREON.
16. THIS PLAN WAS CREATED FOR THE PURPOSES OF SHOWING A PROPOSED SEWAGE DISPOSAL SYSTEM AND IS NOT INTENDED TO BE USED FOR THE REPRODUCTION OF PROPERTY LINES.
17. A FOUR INCH SCHEDULE 40 SOLID PVC PIPE INSPECTION PORT IS TO BE INSTALLED IN THE LEACHING FIELD. PIPE SHALL EXTEND INTO THE TOP OF ONE OF THE INFILTRATORS AND BE FITTED WITH A RUBBER PLUG ON TOP. INSPECTION PORT SHALL BE LOCATED WITHIN A VALVE BOX WITH THE COVER SET AT FINISH GRADE. IT IS RECOMMENDED THAT A PIECE OF #3 REBAR IS TO BE TAPED TO THE SIDE OF THE INSPECTION PORT AND SET FLUSH WITH THE TOP OF THE RUBBER PLUG IN ORDER TO LOCATE IT ONCE BURIED.
18. ALL SYSTEM COMPONENTS SHALL BE MARKED WITH MAGNETIC MARKING TAPE OR A COMPARABLE MEANS IN ORDER TO LOCATE THEM ONCE BURIED.
19. THE OUTLET TEE OF THE SEPTIC TANK SHALL BE EQUIPPED WITH A CLARUS ENVIRONMENTAL EFFLUENT FILTER, MODEL #170-0079, AVAILABLE FROM ZOELLER 1-800-928-7867 OR EQUIVALENT.
20. THE DEPARTMENT OF ENVIRONMENTAL PROTECTION REQUIRES THAT THE EFFLUENT FILTER IN THE OUTLET TEE OF THE SEPTIC TANK BE SERVICED AT LEAST ONCE PER YEAR.
21. COVERS OVER THE INLET AND OUTLET OF THE SEPTIC TANK SHALL BE MARKED TO INDICATE THAT AN EFFLUENT FILTER HAS BEEN INSTALLED IN THE OUTLET TEE.
22. THIS OFFICE REQUIRES THE USE OF CAST IRON MANHOLE COVERS ON THE SEPTIC TANK. THE USE OF PLASTIC COVERS IS NOT ALLOWED.
23. THE SUBJECT PROPERTY IS NOT LOCATED IN A NITROGEN SENSITIVE AREA AS SHOWN ON THE MASS GIS WEBSITE "DEP TITLE 5 SETBACK AREA," TOWN OF ACTON.
24. EXISTING SYSTEM SHALL BE ABANDONED IN ACCORDANCE WITH 310 CMR 15.354 OR REMOVED AS NECESSARY.
25. A MINIMUM SIX INCH LAYER OF ASTM-C33 SAND IS TO BE PLACED UNDER THE TRENCHES OF INFILTRATORS. IN ADDITION, INFILTRATORS SHALL BE BACKFILLED TO THEIR TOPS WITH ASTM C-33 SAND.
26. THIS DESIGN PROPOSES ALTERATIONS TO THE INTERIOR PLUMBING. IT SHALL BE THE RESPONSIBILITY OF THE OWNER/CONTRACTOR TO CONSULT A LICENSED PLUMBER FOR PRICING AND FEASIBILITY OF THE CHANGES REQUIRED.
27. EDGE OF WETLAND, BUFFER ZONES, FLOODPLAIN, AND RIVERFRONT AREA SHOWN HEREON ARE TAKEN FROM A "CONCEPTUAL ANR PLAN 'A' IN ACTON MA" BY STAMSKI AND MCNARY, INC. DATED JANUARY 16, 2004.
28. SUBJECT PROPERTY IS LOCATED IN A ZONE 4 AS DEPICTED ON THE "GROUNDWATER PROTECTION DISTRICT MAP OF THE TOWN OF ACTON, JANUARY 1989."
29. SEPTIC TANK SHALL HAVE ITS CONTENTS PUMPED OUT A MINIMUM OF ONCE EVERY TWO YEARS BY A SEPTAGE HAULER LICENSED BY THE TOWN OF ACTON.
30. CIVIL SOLUTIONS SHALL NOT BE HELD RESPONSIBLE FOR THE LOCATIONS OF ANY SUBSURFACE UTILITIES. LOCATIONS OF SUBSURFACE UTILITIES SHOWN HEREON WERE PROVIDED BY OTHERS. SUBJECT PROPERTY MAY CONTAIN OTHER SUBSURFACE UTILITIESNOT SHOWN HEREON. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL UTILITIES PRIOR TO THE ONSET OF CONSTRUCTION.

VARIANCES

1. THERE ARE NO KNOWN VARIANCES REQUIRED.

SEWAGE DISPOSAL SYSTEM PLAN

143 HAYWARD ROAD
ACTON, MASSACHUSETTS

SEPTEMBER 4, 2014

ASSESSOR'S MAP E2, PARCEL 278

CIVIL SOLUTIONS, INC.
P.O. BOX 107, 285 LITTLETON ROAD, UNIT 2, WESTFORD, MA
PHONE: (978) 692-5000 FAX: (978) 692-0386
E-MAIL: civilsolutions@verizon.net
WEBSITE: www.civil-solutions.net

DESIGN: KCF
DRAWN: KCF
CHECK: KJR

SHEET	SCALE	JOB NO.	DWG. NO.
1 OF 1	1"=20'	14-063	14-063ID

OWNER OF RECORD:
E.M.B. REALTY TRUST
135 HAYWARD ROAD
ACTON, MA 01720

PLAN PREPARED FOR:
EDWARD & SUSAN BENNETT
135 HAYWARD ROAD
ACTON, MA 01720

#	DATE	REVISION	BY