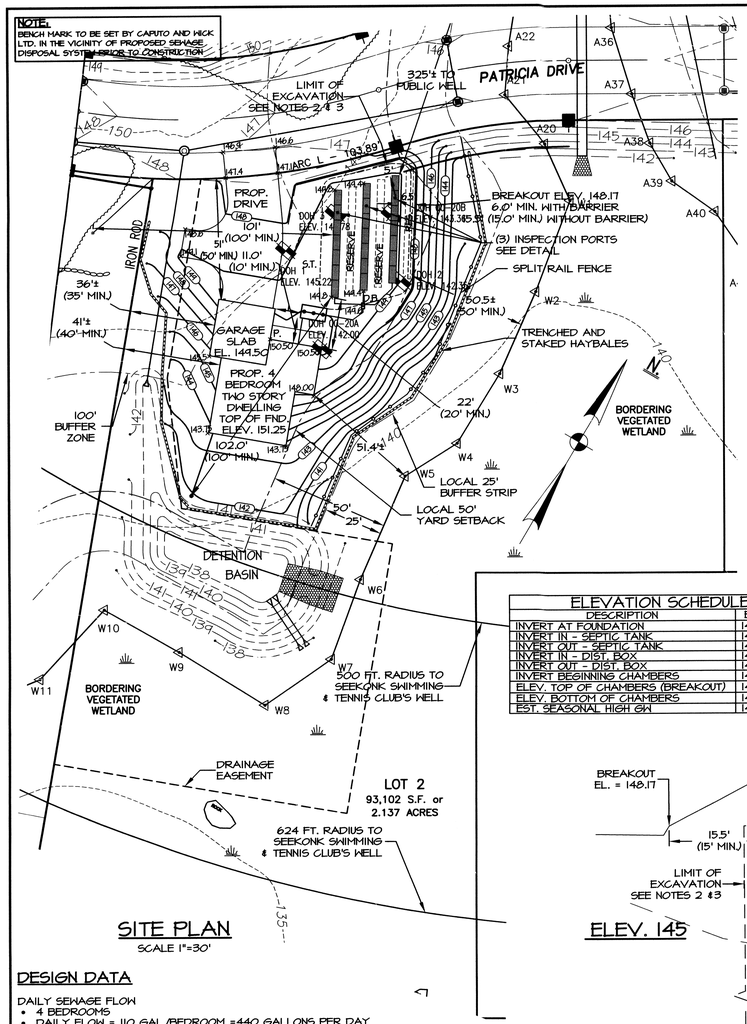
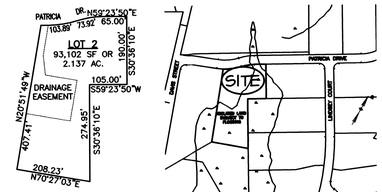


SITE PLAN

SCALE 1"=30'

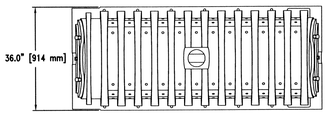


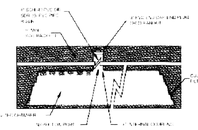
LOT 2 BOUNDARY PLAN

SCALE 1" = 200'

LOCATION MAP

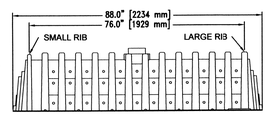
SCALE 1"=400'

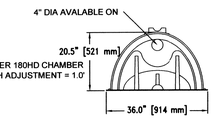




Typical Inspection Port Detail for Non-Traffic Application

INSPECTION PORT



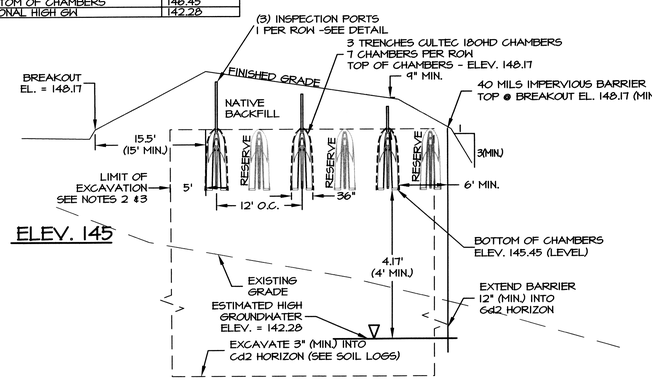


CULTEC RECHARGER 180HD CHAMBER INSTALLED LENGTH ADJUSTMENT = 1.0'

CULTEC 180HD DETAILS

NOT TO SCALE

ELEVATION SCHEDULE	
DESCRIPTION	ELEVATION
INVERT AT FOUNDATION	148.55
INVERT IN - SEPTIC TANK	148.30
INVERT OUT - SEPTIC TANK	148.05
INVERT IN - DIST. BOX	147.87
INVERT OUT - DIST. BOX	147.70
INVERT BEGINNING CHAMBERS	147.61
ELEV. TOP OF CHAMBERS (BREAKOUT)	148.17
ELEV. BOTTOM OF CHAMBERS	146.45
EST. SEASONAL HIGH GW	142.28



CULTEC MODEL 180HD CHAMBER TRENCH SECTION DETAIL

SCALES { HORIZONTAL 1"=10' ; VERTICAL 1"=2' }

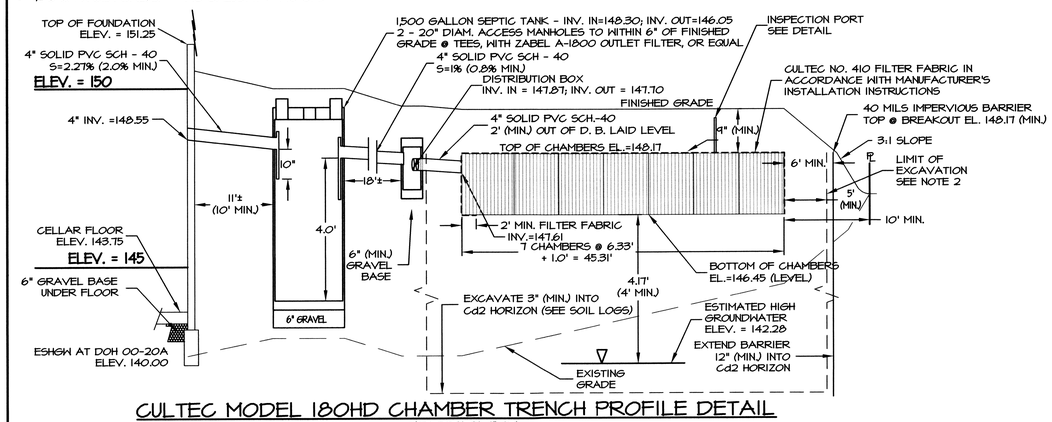
DESIGN DATA

DAILY SEWAGE FLOW
- 4 BEDROOMS
- DAILY FLOW = 110 GAL./BEDROOM =440 GALLONS PER DAY

SEPTIC TANK REQUIREMENTS
- VOLUME = 2 x DAILY FLOW = 880 GALLONS
- USE 1,500 GALLON SEPTIC TANK

LEACHING AREA REQUIREMENTS
- PERCOLATION RATE = 10 MINUTES PER INCH - SOIL TEXTURE CLASS III
- EFFLUENT LOADING RATE = 0.31 GALLONS PER SQUARE FOOT
- USE CULTEC RECHARGER 180 CHAMBERS
- IN TRENCH CONFIGURATION - EFFECTIVE LEACHING AREA = 8.9 SF/LF
- PROVIDE 3 ROWS OF CHAMBERS WITH 7 CHAMBERS PER ROW
- 18 UNITS @ 6.33' + 3 STARTER @ 7.33' = 135.9'

TOTAL LEACHING CAPACITY = 135.9 LF X 8.9 SF/LF = 1210 S.F.
- 1,210 SF. X 0.31 GAL./SF = 448 GAL./DAY > 440 GPD



CULTEC MODEL 180HD CHAMBER TRENCH PROFILE DETAIL

SCALES { HORIZONTAL 1"=10' ; VERTICAL 1"=2' }

LOT 2 - DEEP OBSERVATION HOLE 00-20A							
ORIGINAL GROUND ELEVATION - 142.00							
DEPTH	HORIZON	TEXTURE	COLOR	MOTTLING	STRUCTURE	CONSISTENCE	OTHER
+2 - 0	O	-	10 YR 2/2		-	-	-
0 - 6"	A	SANDY LOAM	10 YR 4/3		-	-	-
6" - 24"	B	SANDY LOAM	10 YR 5/6		-	-	-
24" - 36"	C1	SILT LOAM	2.5 Y 5/3		-	-	BASIL (SIC)
36" - 120"	C2	SILT LOAM	2.5 Y 6/2	@ 42" 10 YR 6/8, 2.5 Y 8/1	-	-	SANDY

OBSERVED STANDING GROUNDWATER - 90" OBSERVED WEEPING GROUNDWATER - 90" GROUNDWATER READING 3/23/2001 - 24" (ELEV. 140.00)
FRIMPTER ADJ. - 0.48' ESTIMATED S. H. GROUNDWATER - 24" (ELEV. = 140.00)
PERC. RATE = 10 MPI @ 65" DESIGN FOR CLASS III SOIL REMOVE TO C2 HORIZON

LOT 2 - DEEP OBSERVATION HOLE 00-20B							
ORIGINAL GROUND ELEVATION - 142.90							
DEPTH	HORIZON	TEXTURE	COLOR	MOTTLING	STRUCTURE	CONSISTENCE	OTHER
+2 - 0	O	-	10 YR 2/2		-	-	-
0 - 8"	A	SANDY LOAM	10 YR 4/3		-	-	-
8" - 20"	B	SANDY LOAM	10 YR 5/6		-	-	-
20" - 64"	C1	SILT LOAM	2.5 Y 5/3	@ 32" 10 YR 6/8, 2.5 Y 8/1	-	-	BASIL (SIC)
64" - 120"	C2	SILT LOAM	2.5 Y 5/3		-	-	SANDY

OBSERVED STANDING GROUNDWATER - 104" OBSERVED WEEPING GROUNDWATER - 100" GROUNDWATER READING 3/23/2001 - 23" (ELEV. 140.98)
FRIMPTER ADJ. - 0.48' ESTIMATED S. H. GROUNDWATER - 23" (ELEV. = 140.98)
PERC. RATE = 4 MPI @ 84" DESIGN FOR CLASS III SOIL REMOVE TO C2 HORIZON
WITNESS: HAROLD CHENEVERT, JR., SEEKONK BOARD OF HEALTH TESTING PERFORMED BY DEAN MONSEES FOR DOH 00-20A & 00-20B ON 8/24/2000

LOT 2 - DEEP OBSERVATION HOLE 1							
ORIGINAL ELEVATION - 145.22							
DEPTH	HORIZON	TEXTURE	COLOR	MOTTLING	STRUCTURE	CONSISTENCE	OTHER
0 - 4"	A	SANDY LOAM	10 YR 3/3		MASSIVE	FRIABLE	GRAVELLY
4" - 36"	Bw	SANDY LOAM	10 YR 5/6		MASSIVE	FRIABLE	GRAVELLY, COBBLY
36' - 46"	B/C	FINE SANDY LOAM	2.5 Y 5/4	@ 36" FEW, FAINT, COARSE	MASSIVE	FRIABLE	GRAVELLY
46" - 64"	Cd1	SANDY LOAM	2.5 Y 4/4		MASSIVE	FIRM	GRAVELLY, COBBLY, STONY
64" - 132"	Cd2	SANDY LOAM	2.5 Y 4/4		MASSIVE	FRIABLE	GRAVELLY, COBBLY, STONY

OBSERVED STANDING GROUNDWATER - NONE OBSERVED WEEPING GROUNDWATER - NONE ESTIMATED SEASONAL HIGH GW - 36" (ELEV. 142.22)
PERC. @ 74" + 18" = 9 MPI REMOVE TO INTO Cd2 HORIZON DESIGN FOR CLASS II SOIL

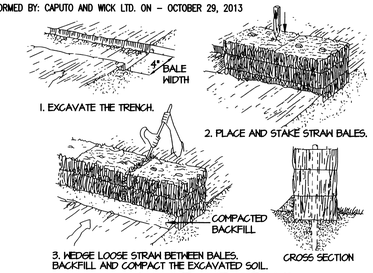
LOT 2 - DEEP OBSERVATION HOLE 2							
ORIGINAL ELEVATION - 142.35							
DEPTH	HORIZON	TEXTURE	COLOR	MOTTLING	STRUCTURE	CONSISTENCE	OTHER
0 - 6"	A	SANDY LOAM	10 YR 3/3		MASSIVE	FRIABLE	GRAVELLY
6" - 32"	Bw	SANDY LOAM	10 YR 5/6	@ 28" FEW, FAINT, COARSE	MASSIVE	FRIABLE	GRAVELLY, COBBLY
32" - 84"	Cd1	SANDY LOAM	2.5 Y 4/4		MASSIVE	FIRM	GRAVELLY, COBBLY, STONY
84" - 144"	Cd2	SANDY LOAM	2.5 Y 4/4		MASSIVE	FRIABLE	GRAVELLY, COBBLY, VERY STONY

OBSERVED STANDING GROUNDWATER - 127" OBSERVED WEEPING GROUNDWATER - 118" ESTIMATED SEASONAL HIGH GW - 28" (ELEV. 140.02)
REMOVE TO INTO Cd2 HORIZON DESIGN FOR CLASS II SOIL

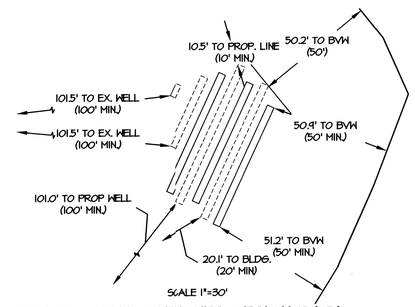
LOT 2 - DEEP OBSERVATION HOLE 3							
ORIGINAL ELEVATION - 144.78							
DEPTH	HORIZON	TEXTURE	COLOR	MOTTLING	STRUCTURE	CONSISTENCE	OTHER
0 - 4"	A	SANDY LOAM	10 YR 3/3		MASSIVE	FRIABLE	GRAVELLY
4" - 30"	Bw	SANDY LOAM	10 YR 5/6		MASSIVE	FRIABLE	GRAVELLY, COBBLY
30" - 44"	B/C	FINE SANDY LOAM	2.5 Y 5/4	@ 30" FEW, FAINT, COARSE	MASSIVE	FRIABLE	GRAVELLY
44" - 70"	Cd1	SANDY LOAM	2.5 Y 4/4		MASSIVE	FIRM	GRAVELLY, COBBLY, STONY
70" - 138"	Cd2	SANDY LOAM	2.5 Y 4/4		MASSIVE	FRIABLE	GRAVELLY, COBBLY, STONY

OBSERVED STANDING GROUNDWATER - NONE OBSERVED WEEPING GROUNDWATER - NONE ESTIMATED SEASONAL HIGH GW - 30" (ELEV. 142.28)
REMOVE TO INTO Cd2 HORIZON DESIGN FOR CLASS II SOIL

WITNESS: BETH HALLAL, SEEKONK BOARD OF HEALTH TESTING PERFORMED BY: CAPUTO AND WICK LTD. ON - OCTOBER 29, 2013



HAY BALE DETAIL



CONVENTIONAL TRENCHES DESIGN DATA

DAILY SEWAGE FLOW
- 4 BEDROOMS
- DAILY FLOW = 110 GAL./BEDROOM =440 GALLONS PER DAY

LEACHING AREA REQUIREMENTS
- PERCOLATION RATE = 10 MINUTES PER INCH - SOIL TEXTURE CLASS III
- EFFLUENT LOADING RATE = 0.31 GALLONS PER SQUARE FOOT
- PRIMARY SYSTEM - 3 TRENCHES, 3 WIDE, 2' DEEP, 55' LONG
- PRIMARY LEACHING AREA=((3' + 2'X2) X 55' X 3) + 2'X3'X6 = 1,141 S.F.
- RESERVE SYSTEM - 4 TRENCHES, 3 WIDE, 2' DEEP, TOTAL LENGTH 164'
- RESERVE AREA=((3' + 2'X2) X 164') + 2'X3'X8 = 1,146 S.F.

TOTAL LEACHING CAPACITY = 1,146 LF X 0.31 GAL/SF = 443 GAL./DAY > 440 GPD

EROSION AND SEDIMENTATION CONTROL NOTES:

1. ALL PERIMETER EROSION AND SEDIMENTATION CONTROLS MUST BE INSTALLED PRIOR TO THE COMMENCEMENT OF EARTHWORK.
2. ACCESSIBLE RESERVES OF HAY BALES AND STAKES ARE TO BE MAINTAINED ON SITE FOR ROUTINE MAINTENANCE AND IN THE EVENT OF UNANTICIPATED PROBLEMS REQUIRING EMERGENCY RESPONSE.
3. HAY BALES SHOULD BE INSTALLED IN ACCORDANCE WITH THE DETAILS PROVIDED.
4. NO WORK IS TO OCCUR ON THE WETLAND SIDE OF THE PERIMETER EROSION AND SEDIMENTATION CONTROLS. ALL PERIMETER CONTROLS SERVE AS THE PROJECT LIMIT OF DISTURBANCE.
5. NO STONES, BRUSH, CONSTRUCTION DEBRIS, LITTER, OR OTHER MATERIALS ARE TO BE DEPOSITED ON THE WETLAND SIDE OF THE EROSION AND SEDIMENTATION CONTROLS.
6. ALL DISTURBED SOILS NOT DESIGNATED FOR OTHER SURFACE TREATMENT ARE TO BE LOAMED & SEEDED IMMEDIATELY FOLLOWING FINAL GRADING.
7. APPROPRIATE PRECAUTIONS SHOULD BE TAKEN TO PREVENT THE TRANSPORT OF SOIL OFFSITE FROM CONSTRUCTION EQUIPMENT.
8. ALL PERIMETER EROSION AND SEDIMENTATION CONTROLS MUST BE PROPERLY MAINTAINED AND MUST REMAIN IN PLACE UNTIL THE SOILS HAVE BEEN STABILIZED TO THE SATISFACTION OF THE ENGINEER AND THE SEEKONK CONSERVATION COMMISSION.
9. THE SPLIT RAIL FENCE SERVES AS THE LIMIT OF LAWN AND FUTURE YARD ACTIVITIES AND SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION.
10. NO STRUCTURES ARE TO BE PLACED WITHIN 50' OF WETLAND.

I CERTIFY THAT I HAVE CONTACTED THE SEEKONK WATER DISTRICT FOR THE LOCATION OF THE EXISTING WATER SERVICE CURB STOP FOR PLAT 26, LOT 158 AND WAS INFORMED THAT THERE IS NO CURB STOP CURRENTLY FOR THIS LOT. THE PROPOSED DWELLING WILL BE SERVED BY A PRIVATE WELL TO BE INSTALLED IN CONFORMANCE WITH THE SEEKONK BOARD OF HEALTH REGULATIONS.

NOTES:

1. ALL WORK SHALL CONFORM TO THE 310 CMR 15.00 STATE ENVIRONMENTAL CODE - TITLE 5 AND THE RULES AND REGULATIONS OF THE SEEKONK BOARD OF HEALTH
2. STRIP ALL TOPSOIL, SUBSOIL AND UNSUITABLE MATERIAL, TREE ROOTS AND STUMPS AND ANY OTHER IMPERVIOUS OR SPECIFIED SOIL IN THE AREA OF THE SYSTEM AND 5 FEET HORIZONTALLY BEYOND THE EDGE OF THE SYSTEM STONE IN ALL DIRECTIONS, WHERE POSSIBLE. STRIP MATERIAL VERTICALLY 3" MINIMUM INTO THE NATURALLY OCCURRING PERVIOUS MATERIAL. REPLACE WITH GRANULAR FILL MEETING THE LATEST SPECIFICATIONS OF 310 CMR 15.255(3). ACTUAL FILL MATERIAL IS SUBJECT TO APPROVAL BY THE DESIGN ENGINEER AND/OR SEEKONK HEALTH AGENT. THE DESIGN ENGINEER AND/OR THE SEEKONK HEALTH AGENT MAY ALSO REQUIRE A SIEVE ANALYSIS OF THE FILL MATERIAL.
3. THE CONTRACTOR IS TO REMOVE ALL UNSUITABLE MATERIAL BELOW THE PROPOSED SOIL ABSORPTION SYSTEM PRIOR TO INSTALLATION. SEE DEEP OBSERVATION HOLES SOIL DATA FOR FURTHER INFORMATION.
4. UNSUITABLE MATERIAL USED TO BACKFILL THE TEST HOLES SHALL BE REMOVED AND REPLACED WITH GRANULAR FILL MEETING THE LATEST SPECIFICATIONS OF 310 CMR 15.255(3).
5. ALL PIPE TO BE 4" P. V. C. SCHEDULE 40 UNLESS OTHERWISE NOTED.
6. PLACE 6" MINIMUM COMPACTED CRUSHED STONE UNDER SEPTIC TANK, AND DISTRIBUTION BOX.
7. SOIL TESTING FOR THIS PROJECT WAS PERFORMED BY DEAN MONSEES AND WITNESSED BY THE SEEKONK BOARD OF HEALTH AGENT, HAROLD CHENEVERT, JR. ADDITIONAL TESTING HAS PERFORMED BY CAPUTO AND WICK, LTD. AND WITNESSED BY BETH HALLAL, SEEKONK BOARD OF HEALTH AGENT. IF CONDITIONS ENCOUNTERED DURING CONSTRUCTION VARY SUBSTANTIALLY FROM THOSE SHOWN ON THIS PLAN, NOTIFY CAPUTO AND WICK, LTD. BEFORE PROCEEDING WITH CONSTRUCTION. **IF IN DOUBT, ASK.**
8. GARBAGE GRINDER IS **NOT** ALLOWED WITH THIS DESIGN.
9. INLET AND OUTLET TEES FOR SEPTIC TANK ARE TO BE LOCATED DIRECTLY BELOW ACCESS COVERS.
10. SEPTIC TANK AND DISTRIBUTION BOX SHALL BE DESIGNED FOR HS-10, AND SHALL BE PROTECTED FROM VEHICULAR TRAFFIC BOTH DURING AND AFTER INSTALLATION.
11. IT IS RECOMMENDED THAT THE SEPTIC TANK BE INSPECTED TWICE A YEAR, AND BE CLEANED WHEN THE SOLIDS EQUAL ONE THIRD THE LIQUID DEPTH. EFFLUENT FILTER MUST BE CLEANED ANNUALLY, AT A MINIMUM.
12. BREAKOUT ELEVATION = 148.17. NO FINISHED GRADE BELOW 148.17 FOR 15 FEET (MINIMUM) FROM THE EDGE OF THE LEACHING AREA, EXCEPT WHERE IMPERVIOUS BARRIER IS PROVIDED. THE MINIMUM DISTANCE FROM THE CHAMBER EXTREMITY TO THE BARRIER IS 5 FEET.
13. CONTRACTOR SHALL CONTACT "DIG-SAFE" PRIOR TO CONSTRUCTION. LOCATION OF UTILITIES ON THIS PLAN ARE FROM BEST AVAILABLE EXISTING INFORMATION, BUT ARE ONLY TO BE CONSIDERED APPROXIMATE.
14. EXISTING AND PROPOSED WATER WELLS FOUND WITHIN 200' OF PROPOSED SEWAGE DISPOSAL SYSTEM ARE SHOWN. EXISTING AND PROPOSED SEWAGE DISPOSAL SYSTEMS FOUND WITHIN 200' OF PROPOSED WATER WELL ARE SHOWN.
15. MATERIAL AND EQUIPMENT FROM ALTERNATE MANUFACTURERS MAY BE USED IF EQUAL. APPROVAL FOR ALTERNATE MATERIAL AND/OR EQUIPMENT REQUIRED FROM ENGINEER AND THE BOARD OF HEALTH PRIOR TO CONSTRUCTION. FULL SPECIFICATIONS FOR ALTERNATE EQUIPMENT MUST BE PROVIDED BY CONTRACTOR.
16. THE DESIGNER EXPRESSLY DISCLAIMS ANY RESPONSIBILITY FOR MONITORING, INSPECTING OR SUPERVISING THE ACTUAL CONSTRUCTION WORK. AFTER EXCAVATING AND PRIOR TO INSTALLING ANY IMPORTED MATERIAL, CONTACT THE BOARD OF HEALTH AGENT FOR A BOTTOM OF EXCAVATION INSPECTION. AFTER SYSTEM COMPONENTS ARE IN PLACE AND PRIOR TO BACKFILLING, CONTACT THE DESIGNER TO VERIFY THE LOCATION AND ELEVATION OF SYSTEM COMPONENTS AND PREPARE A RECORD DRAWING AS REQUIRED BY THE BOARD OF HEALTH.
17. THE DESIGNER EXPRESSLY DISCLAIMS ANY RESPONSIBILITY, FOR THE INSTALLATION AND MAINTENANCE OF THE SYSTEM. IT SHALL BE THE RESPONSIBILITY OF THE INSTALLER TO CONSTRUCT THE SYSTEM IN ACCORDANCE WITH 310 CMR 15.00 AND LOCAL BOARD OF HEALTH REGULATIONS AND THE RESPONSIBILITY OF THE OWNER FOR PROPERLY MAINTAINING THE SYSTEM IN ACCORDANCE WITH 310 CMR 15.00 AND THE LOCAL BOARD OF HEALTH REGULATIONS.
18. REFER TO 310 CMR 15.00 AND THE LOCAL BOARD OF HEALTH REGULATIONS FOR ADDITIONAL INFORMATION CONCERNING THE CONSTRUCTION AND OPERATION OF THE SYSTEM. THE INSTALLER AND OWNER SHOULD REVIEW AND APPLY 310 CMR 15.00 AND THE LOCAL BOARD OF HEALTH REGULATIONS SYSTEM TO BE CONSTRUCTED BY A INSTALLER LICENSED BY THE SEEKONK BOARD OF HEALTH.
19. FILL MEETING THE REQUIREMENTS OF 310 CMR 15.255(3) MUST BE PLACED ON SCARIFIED, RELATIVELY DRY NATURAL SOIL. THE CONTRACTOR SHALL PROVIDE FOR DEWATERING AS REQUIRED AND ALL WORK SHALL BE PERFORMED UNDER DRY CONDITIONS PER 310 CMR 15.255(6).
20. THE CELLAR FLOOR ELEVATION SHOWN HAS BEEN SUGGESTED AS A MINIMUM BASED ON OBSERVED GROUNDWATER CONDITIONS. SINCE THE GROUNDWATER LEVELS FLUCTUATE ANNUALLY, NO WARRANTY OF A DRY CELLAR IS EXPRESSED OR IMPLIED.
21. INSTALL MAGNETIC TAPE OVER ALL PIPE AND SYSTEM COMPONENTS.
21. ALL DISTURBED AREAS NOT DEPICTED TO HAVE OTHER FINAL SURFACE TREATMENT SHALL RECEIVE 4" LOAM AND SEED.
22. PLAN EXISTING GRADES MAY VARY FROM ORIGINAL GRADES DUE TO SUBDIVISION CONSTRUCTION ACTIVITY.
23. THE INTERIM WELLHEAD PROTECTION AREA (IWPA) RADIUS SHOW ON THE SITE PLAN IS CENTERED AT THE LOCATION OF THE PUBLIC WELL FOR THE SEEKONK SWIMMING AND TENNIS CLUB. THE RADIUS WAS OBTAINED FROM MR. DAN DISALVIO OF THE MASS. DEP BUREAU OF RESOURCE PROTECTION, DRINKING WATER PROGRAM. THE RADIUS FOR THE IWPA IS 633 FT. FROM WELL. THE APPROVED PUMPING RATE FOR THIS WELL IS 10,471 GALLONS PER DAY, OR 7.28 GALLONS PER MINUTE. ACCORDINGS TO MR. DISALVIO AND THE MA. DEP 2012 DRINKING WATER QUALITY REPORT, THE WELL SERVING THE SEEKONK SWIMMING AND TENNIS CLUB IS CLASSIFIED AS A TRANSIENT NON-COMMUNITY (TNC) PUBLIC WELL.
24. PORTIONS OF THIS LOT FALL WITHIN THE IWPA OF THE SEEKONK SWIMMING AND TENNIS CLUB. THE NITROGEN LOADING RATE IS LESS THAN OF 440 GALLONS PER DAY PER ACRE, THE MAXIMUM LIMIT FOR SYSTEMS WITHIN A NITROGEN SENSITIVE AREA.
25. CONTRACTOR MUST BE FAMILIAR WITH CHAMBER PRODUCTS PROPOSED FOR THIS SITE. SEE CULTEC INSTALLATION MANUAL FOR ADDITIONAL DETAILS OF CHAMBER INSTALLATION.

JUL 29 2014

LEGEND

---100----	EXISTING CONTOUR
—(100)—	PROPOSED CONTOUR
MA. STD.	MASSACHUSETTS STANDARD
INV.	INVERT OF PIPE
P. V. C.	POLYVINYL CHLORIDE PIPE
S. D. R.	STANDARD DIMENSION RATIO
R. C. P.	REINFORCED CONCRETE PIPE
CONC.	CONCRETE (BIT. OR P. C)
BIT.	BITUMINOUS
P. C.	PORTLAND CEMENT
TYP.	TYPICAL
F.G. 100x00	FINISHED SPOT GRADE
100x00	EXISTING SPOT GRADE
T. C.	TOP OF CURB
B. C.	BOTTOM OF CURB
	PROPERTY LINE
-x-CLF-x-	CHAIN LINK FENCE
ST	SEPTIC TANK
DB	DISTRIBUTION BOX
	DEEP OBSERVATION HOLE
	PERCOLATION TEST HOLE

LOT INFORMATION

3 PATRICIA DRIVE
ASSESSORS PLAT NO. 26, LOT 158
HOLLAND WOODS SUBDIVISION LOT 2
ZONE - R-4
AREA = 93,102 S.F.
OWNER: H. CHARLES TAPALIAN

COMMONWEALTH OF MASSACHUSETTS
ALLAN L. SHEAR
CIVIL
No. 35256
REGISTERED PROFESSIONAL ENGINEER

SEWAGE DISPOSAL SYSTEM
3 PATRICIA DRIVE
ASSESSORS PLAT 26 - LOT 158
SEEKONK, MASSACHUSETTS

CAPUTO AND WICK LTD.
Land Surveying, Civil Engineering, Environmental Services, Traffic Engineering and Architectural Engineering
1150 PARTICKET AVE.
RUMFORD, R.I. 02916-1897
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Fax: 401-434-3615
mail@cwltd.net
www.cwltd.net

DATE: JULY 2014

SHEET: 1