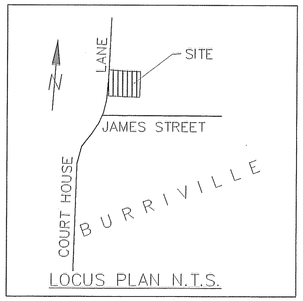

LOCUS PLAN N.T.S.

MAGNETIC

100 YEAR FLOOD PLAIN LIMIT

AREA OF WETLAND IMPACT: 0 S.F.
AREA OF PERIMETER WETLAND AND RIVERBANK WETLAND IMPACT : 4900 S.F.
550 SF IS TEMPORARY

PROPOSED WHITE PINE, 6' C-C, 4" HGT. DXB

CENTERLINE RIVER LESS THAN 10' WIDE WETLAND FLAGGING

SILT FENCE

RIVERBANK WETLAND

SWAMP

LIMIT OF WORK

BLD. SETBACK LINE (TYP.)

PROPOSED WELL

PLAT 208, LOT 27
LOT AREA
20,020 Sq. Ft.
0.46 ACRES

PROPOSED 2 BEDROOM DWELLING

4" DIA SAN
PVC SCHED 40

VEGETATIVE WETLANDS EDGE.

PERIMETER 50' WETLAND

182'

110'

90°

TH #1

TH #2

118' (AP. 208, LOT 1)

IP FND.

EP

400 FT RD JAMES STREET
S13.31' (THE CAROL PLAT)

9' 1-1/4" IFM
ORENCO PUMP CHAMBER

PROPOSED ADVANTEX UNIT
MODEL RX 30

AREA DISTURBED FOR WELL INSTALLATION IS TEMPOARY AND WILL REVERT TO ITS NATURAL STATE

COURT HOUSE LANE

PROPOSED BIT CONC DRIVE

BENCH MARK: RR SPK IN POLE #12. ELEV= 100.00

⊗ = Permanent buffer zone markers Per RI DEM
Refer to Conditions 11 and 12 of Permit

ZONED: R-20
BLD. SETBACKS
F = 30'
S = 10'
R = 30'

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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GENERAL CONSERVATION NOTES:

1. ALL EROSION/SEDIMENTATION CONTROLS TO BE IN PLACE PRIOR TO CONSTRUCTION AND MAINTAINED THROUGHOUT THE PROJECT DURATION.
2. EROSION CONTROLS WILL BE MAINTAINED UNTIL ALL DISTURBED AREAS STABILE
3. ALL DISTURBED AREAS ARE TO BE COVERED WITH TOPSOIL, REGRADED AND SEEDED WITH CONSERVATION MIX.
4. EROSION/SEDIMENTATION CONTROLS SHALL BE ESTABLISHED WHERE REQUIRED BY THE BURRILLVILLE BUILDING OFFICIAL OR THE ENGINEER.
5. WHILE CONSTRUCTION ON THE ROAD IS BEING PERFORMED, DUST WILL BE KEPT TO A MINIMUM BY WATERING THE ROAD-WAY AS CONDITIONS REQUIRE.
6. THERE SHALL BE NO WORK DONE WITHIN WETLANDS OR 50 FOOT BUFFER ZONE PRIOR TO THE APPROVAL FROM THE RIDEM.
7. WETLAND FLAGGING WAS DONE IN ACCORDANCE WITH THE R.I.DEM WETLAND PROTECTION RULES AND REG'S AND REGULATIONS AND THE FEDERAL CLEAN WATER ACT (SECTION 404).
8. HAYBALES SHALL BE PLACE AROUND ALL STOCKPILES. AND PRIOR TO ANY EXCAVATION.

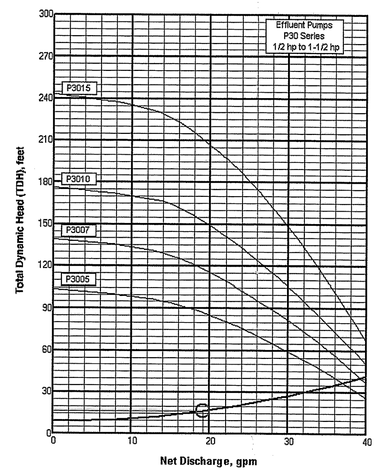
Pump Selection for a Pressurized System

Input Parameters

Orifice Size	1/8	inches
Residual Head at Last Orifice	5.0	feet
Orifice Spacing	1.3	feet
Number of Laterals per Cell	4	
Lateral Length	14.0	feet
Lateral Line Size	0.75	inches
Lateral Pipe Class/Schedule	40	
Distributing Valve Model	None	
Manifold Length	4.5	feet
Manifold Line Size	1.25	inches
Manifold Pipe Class/Schedule	40	
Lift to Manifold	9.0	feet
Transport Length	9.0	feet
Transport Line Size	1.25	inches
Transport Pipe Class/Schedule	40	
Discharge Assembly Size	1.25	inches
Flow Meter	None	inches
'Add-on' Friction Losses	0.0	feet

Calculations

Minimum Flow Rate per Orifice	0.43	gpm
Number of Orifices per Zone	44	
Total Actual Flow Rate	19.1	gpm
Number of Lines per Zone	4	
% Flow Differential 1st and Last Orifice	2.0	%
Lift to Manifold	9.0	feet
Residual Head at Last Orifice	5.0	feet
Head Loss in Laterals	0.3	feet
Head Loss Through Distributing Valve	0.0	feet
Head Loss in Manifold	0.1	feet
Head Loss in Transport Pipe	0.4	feet
Head Loss Through Discharge	1.8	feet
Head Loss Through Flow Meter	0.0	feet
'Add-on' Friction Losses	0.0	feet
Total Flow Rate	**19.1**	**gpm**
TDH	**16.6**	**feet**



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WILLIAM P. DREXEL
No. 6271
REGISTERED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY

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BURRILLVILLE R.I.
ASSESSORS PLAT 208, LOT 27
NOVEMBER, 2004

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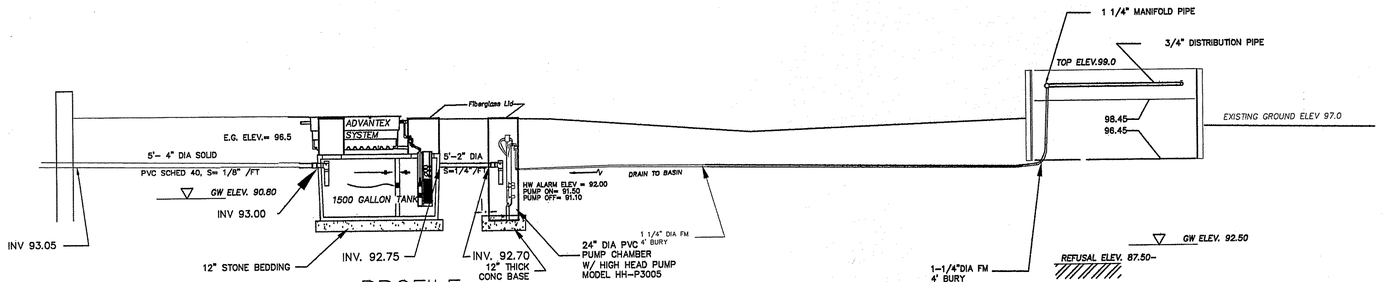
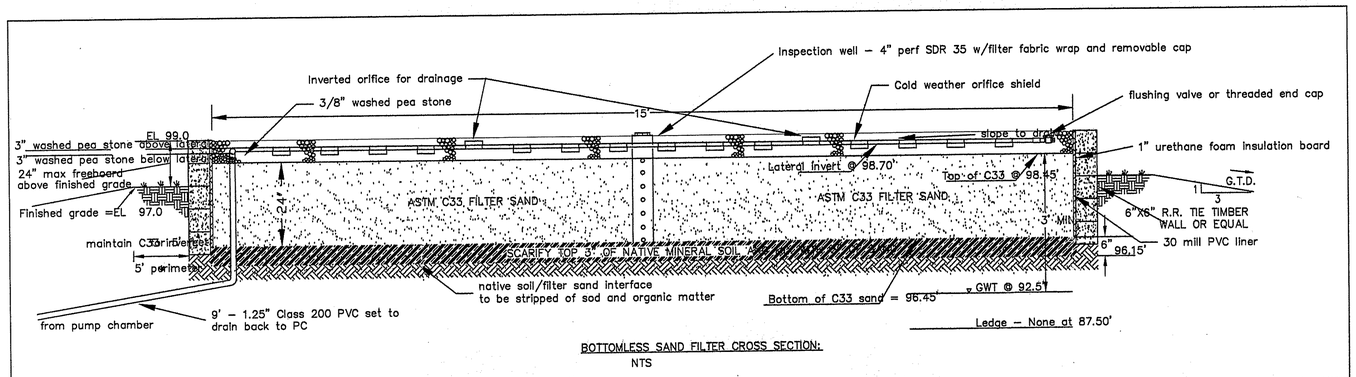
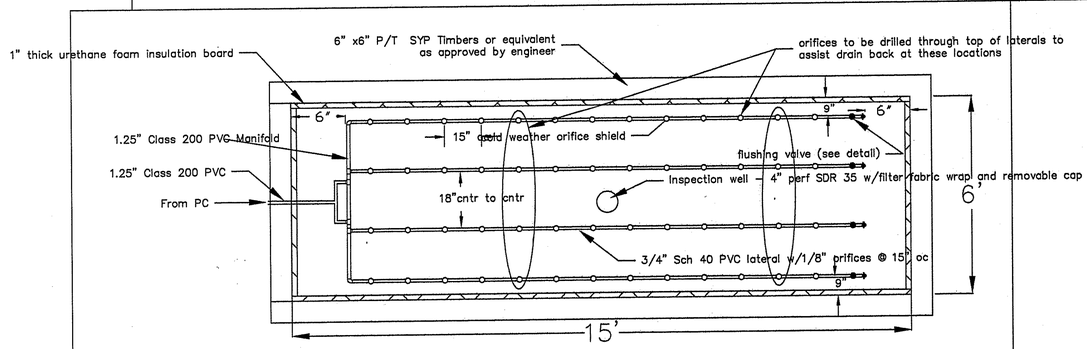


PROFILE
N.T.S.

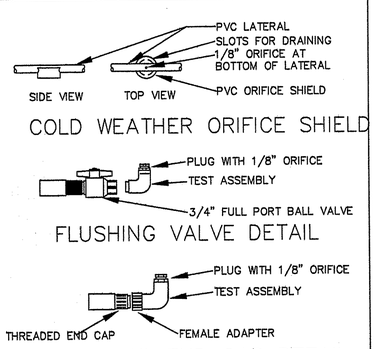
PROFILE
N.T.S.



BOTTOMLESS SAND FILTER CROSS SECTION:
NTS



6' X 15' ID Bottomless Sand Filter
Plan View
NTS



BOTTOMLESS SAND FILTER LATERAL DETAILS:
NOT TO SCALE

MAINTENANCE NOTES:

1. THE SEPTIC TANK, FILTER, PUMP SYSTEM AND BOTTOMLESS SAND FILTER SHALL BE MAINTAINED ANNUALLY.
2. MAINTENANCE SHALL BE PERFORMED IN CONFORMANCE WITH THE PROCEDURES SPECIFIED IN THE COMPONENT'S OPERATION AND MAINTENANCE MANUAL AND IN ACCORDANCE WITH THE R.I.D.E.M. GUIDELINES FOR THE DESIGN AND USE OF BOTTOMLESS SAND FILTERS, NOVEMBER 2001. AS AMENDED.
3. PUMP, FLOAT ASSEMBLY AND CONTROL PANEL SHALL BE CHECKED FOR PROPER OPERATION AND CYCLE TIMING.
4. SCUM AND SLUDGE DEPTHS IN THE SEPTIC TANKS SHALL BE MEASURED AND LOGGED ANNUALLY. THE TANKS SHALL BE PUMPED IF THE SCUM DEPTH EXCEEDS 5", THE SLUDGE DEPTH EXCEEDS 13" OR THE DEPTH OF THE COMBINED SOLIDS (SCUM AND SLUDGE) EXCEEDS 16".

GENERAL CONSTRUCTION NOTES

1. ALL DESIGN, CONSTRUCTION, AND MAINTENANCE REQUIREMENTS SHALL BE IN CONFORMANCE WITH THE "RULES AND REGULATIONS ESTABLISHING MINIMUM STANDARDS RELATING TO LOCATION, DESIGN, CONSTRUCTION AND MAINTENANCE OF INDIVIDUAL SEWAGE DISPOSAL SYSTEMS, STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS, DEPARTMENT OF ENVIRONMENTAL MANAGEMENT", AS AMENDED.
2. THE TOP OF FOUNDATION ELEVATION SHOWN HAS BEEN DESIGNED FOR ISDS PURPOSES ONLY. THE OWNER OR CONTRACTOR IS ADVISED TO DETERMINE WHETHER THE BASEMENT FLOOR OF THE PROPOSED DWELLING IS AT OR BELOW THE GROUND WATER TABLE AND, IF SO, RAISE THE FOUNDATION ACCORDINGLY.
3. CLEAR ALL TREES AND STUMPS WITHIN 10' OF SYSTEM.
4. NO PUBLIC WELL (EXISTING OR PROPOSED) IS WITHIN 500 FEET OF PROPOSED OR ALTERNATE AREA (UNLESS SHOWN).
5. MAINTAIN B. O. SAND INVERT ELEVATION 98.45 FOR 5' AROUND THE BSF.
6. ALL PIPING TO BE SDR 35 OR EQUIVALENT, 4" DIA. UNLESS OTHERWISE SPECIFIED.
7. ALL PIPING INSTALLED UNDER DRIVEWAYS TO BE SCH. 40 OR EQUAL
8. NO PUBLIC SEWER LINE WITHIN 200 FEET OF PROPERTY LINES (UNLESS SHOWN). NO WELL OR DRAIN (EXISTING OR PROPOSED) IS WITHIN 200 FEET OF PROPOSED OR ALTERNATE AREA (UNLESS SHOWN).
   LINE IS WITHIN 25' FEET OF PROPOSED LEACHING SYSTEM.
   NO EXISTING SEWER DISPOSAL SYSTEM IS WITHIN 100 FEET OF PROPOSED WELL (UNLESS SHOWN).
9. THERE SHALL BE NO FOUNDATION, SUBSURFACE OR STORM DRAIN WITHIN 25' OF THE PROPOSED SYSTEM.
10. BRING ALL MANHOLES TO GRADE AND SET TO DIVERT RUNOFF.
11. ALL WELLS, EXISTING AND PROPOSED, WITHIN 200' ARE SHOWN.
12. ALL PUBLIC WELLS, EXISTING AND PROPOSED, WITHIN 500' ARE SHOWN.
13. ALL SEPTIC SYSTEMS, EXISTING AND PROPOSED, WITHIN 100' OF THE WELL ARE SHOWN.
14. SANITARY TEES TO BE INSTALLED IN SEPTIC TANK
15. NO GARBAGE DISPOSAL ALLOWED
16. NO CHECK VALVES ALLOWED. PITCH PIPE TO DRAIN THE PUMP TANK.
17. ALL BSF AND ADVANTEX SYSTEM COMPONENTS TO BE SUPPLIED BY:
    ATLANTIC SOLUTIONS, 2417 E. MAIN RD, PORTSMOUTH, R.I.
    TELE (401) 293-0178
18. PARKING ON DRAINFIELDS OR COMPONENTS PROHIBITED.
19. ALL DISTURBED AREAS NOT DESIGNATED TO BE PAVED SHALL BE LOAMED & SEEDED.
20. INSTALL ALARM BOX WITH AUDIBLE ALARM AND PILOT LIGHT (FLASHING) IN FIRST FLOOR BATHROOM.
21. INSTALLATION OF SYSTEM TO BE SUPERVISED BY THE DESIGNER. NO CHANGES TO THE SYSTEM HORIZONTAL OR VERTICAL WITHOUT THE PERMISSION OF THE DESIGNER.

TEST PIT 1

Ap 0"–9" vfsl, Oe 0–2"
Bs 9"–12" vfsl
Bw1 12"–20" vfsl
Bw2 20"–32" fsl
2C1 32"– 60" cobbly cos/lcos
2Cg 60"– 120" grls/grlfs

DEPTH TO WATER TABLE 55"
TEST HOLE DUG ON: 3/05/04

TEST PIT 2

A1/A2 0–6" sl
Bw 6"–20" grsl
C1 20"–56" vgr,cos
C2 56"–68" fs, sand
2Cg 68"–96" vfs
3Cg 96"–120" ablation till

DEPTH TO WATER TABLE 72"
TEST HOLE DUG ON: 3/05/04

CATEGORY 2 SOIL, RATE OF APPLICATION= 3.5 GAL/SF/DAY

DAILY FLOW = 300 GALS/DAY
REQUIRED AREA = 85 SF

LOT AREA= 20,020+- SF
ASSESSORS PLAT 208, LOT 27
SUBDIVISION NAME : N/A
SUBDIVISION LOT NO.
BENCH MARK LOCATION AND ELEVATION:
SPIKE SET POLE 12
ELEVATION 100.00 (ASSUMED)

DESIGN DATA

PERC. RATE: N/A MIN./INCH
DESIGN RATE: 3.5 GAL/SF/DAY
BSF AREA SIZE: 30 S.F.
4 LINE(S); 6' WIDE; 15' LONG

TOP OF SAND	98.45
BOTTOM OF SAND	96.45
INV. END OF PIPE	98.70
INV. START OF PIPE	98.70
INV. OUT OF PUMP TK	92.5
INV. IN PUMP TK	92.70
INV. OUT SEPTIC TANK	92.75
INV. IN SEPTIC TANK	93.00
INV. OUT OF BUILDING	93.05

LEDGE ELEVATION G.T. 87.50 TO IMPERVIOUS
WATER TABLE ELEVATION 92.50

DESIGN DATA

SYSTEM SHALL BE DOSED BY A PROGRAMMABLE TIMER, DOSE ADVANTEX. AND BSF.

PROGRAM 1 DOSE PER HOUR MAX.

BSF TO BE 4 ROWS @ 18 FEET, SOIL CATEGORY 2
APPLICATION RATE OF 3.5 G/SF/DAY

2 BEDROOMS @ 150 GALLONS PER DAY = 300 GALLONS PER DAY
APPLICATION RATE= 3.5 GALLONS /SF/DAY
SIZE OF BSF= 300/3.5 = 85 SF
1 DOSE PER HOUR: 300 GPD/24 HR/DAY= 12.5 GALLONS PER DOSE
12.5 GALLONS/ .25 GALLONS PER ORIFICE=50 ORIFICES
PUMP RUN TIME= 12.5/19.1 GPM = .65 MIN OR 39 SEC'S

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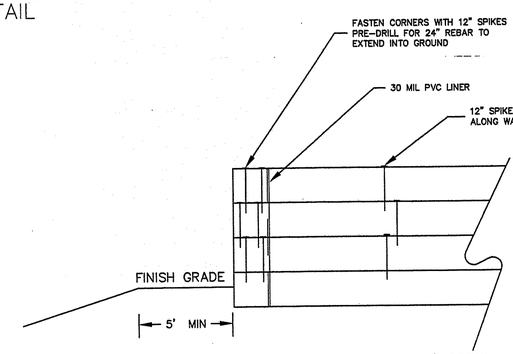


RETAINING WALL TYPICAL DETAIL
N. T. S.

NOTES:
1. THE WALLS MUST BE LINED WITH A 30 MIL PVC LINER WITH ALL BOOTS, PATCHES, REPAIRS AND SEAMS HAVING THE SAME PHYSICAL PROPERTIES AS THE LINER.
2. ANY PENETRATION THROUGH THE LINER SHALL BE DONE WITH A PVC BOOT ATTACHMENT GLUED TO THE LINER WITH THE APPROPRIATE RESILIENT SEALER.
3. SUPPORT WALLS ARE NEEDED TO PREVENT CAVING OF FILTER WALLS DURING CONSTRUCTION. THESE WALLS SHALL BE RIGID AND MADE OF PLYWOOD (OR EQUIVLANT) AND 2"X4" SUPPORTS.
4. A PERMANENT TOP FRAME STRUCTURE MUST BE PROVIDED ON ANY PORTION OF THE BSF THAT IS INSTALLED ABOVE GRADE (MAX 24" ABOVE GRADE). THE PERIMETER OF THE BSF, BELOW THE REQUIRED TIMBERS, MAY BE BERMED WITH NATIVE SOIL OR OTHER MATERIAL SUCH AS LANDSCAPE STONE OR OTHER NON-DEGRADING MATERIAL BELOW GRADE USE OF TIMBERS IS PROHIBITED.

NORTHWEST
ENGINEERING SERVICES, LLC
14 WEST STREET
E. DOUGLAS, MA 01516
(508) 476-1137

WILLIAM P. DREXEL
No. 8271
REGISTERED PROFESSIONAL ENGINEER

REV NO.	DATE	REVISION	MADE BY	CHKD BY	APPD. BY

PROPOSED ISDS DESIGN
LOT 12, COURT HOUSE LANE
BURRILLVILLE R.I.
ASSESSORS PLAT 208, LOT 27
NOVEMBER, 2004

RECEIVED
JUL 31 2006
ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES

JOB #
DWG #

BOUYANCY CALCU_ATIONS

24" DIAMETER PUMP CHAMBER

3.142.02X62.4 LBS/CF=396 LBS BOUYANCY FORCE

WEIGHT OF CONCRETE COLLAR
3'X3'X1'X150 LBS/CF= 1350 LBS

WEIGHT OF PUMP CHAMBER GREATER THAN BOUYANCY

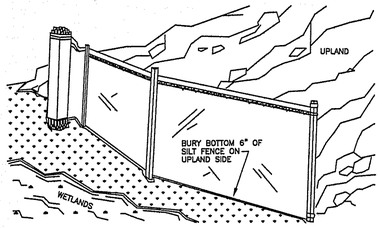
1500 GALLON CHAMBER

10.5'L X6'W X5' D X62.4 LBS/CF =19,700 LBS BOUYANCY

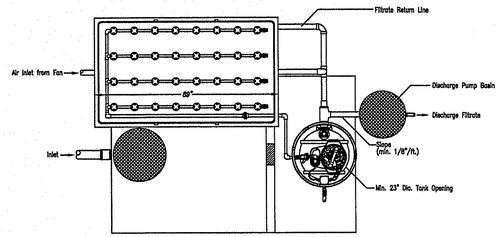
WEIGHT OF TANK = 12000 LBS
WEIGHT OF SOIL = 1.5'X6'X10.5'X110 LBS/CF= 10400 LBS

WEIGHT OF PUMP CHAMBER GREATER THAN BOUYANCY

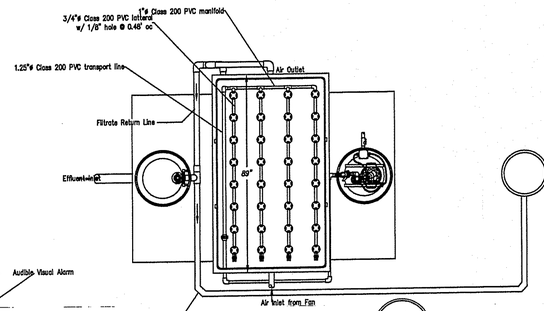
NOTES:
1. *Advantex filter unit to be insulated for cold weather application.*
2. *All piping to be solvent welded*
3. *All tanks and connections to be water tight*
4. *Leach field laterals to be 3/4" dia, Class 200 pipe.*
5. *Building sewer will require reconfiguration to conform to prosposed plan.*
6. *C33 (Holiston Zero Damp product) sand to be used where natural grade must be raised less than 10" otherwise remove only grass and do not disturb soil horizons.*
7. *Bed AdvanTex filter pod in 5" of pea stone sides and bottom.*
8. *Filter system requires ventilation fan (vault not shown) Review complete installation manual before beginning installation.*
9. *Control panel / alarm designed for AdvanTex filter, pump station and ventilation fan.*
10. *Provide inlet tee – (not shown for simplicity)*
11. *Drill first and last distrubution line orifices through bottom of dist pipe for drainage.*



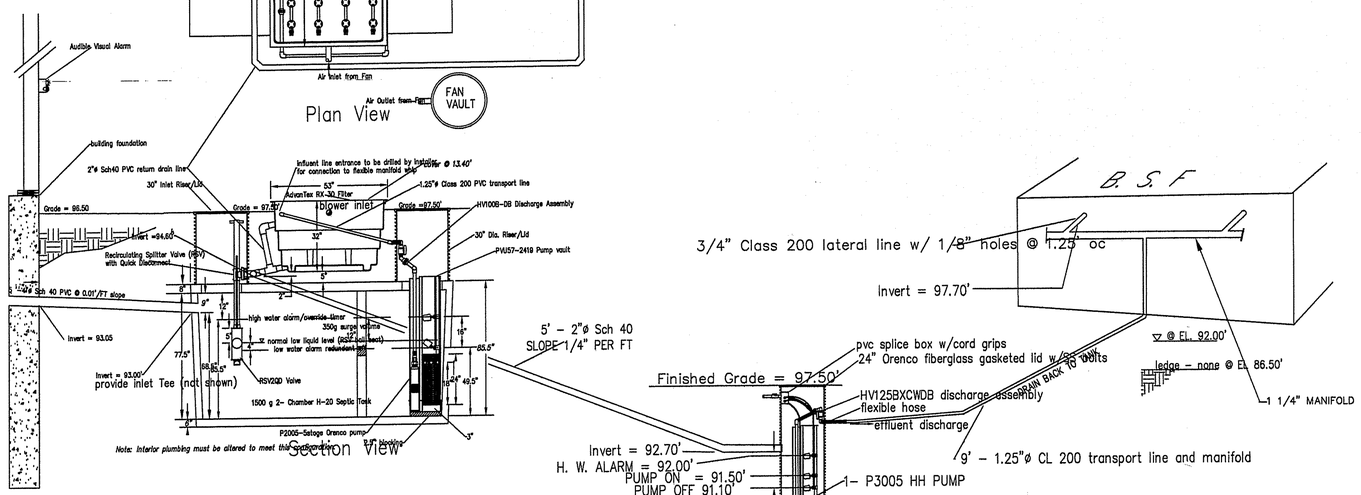
TYPICAL SILTATION BARRIER DETAIL
(NOT TO SCALE)



Top View



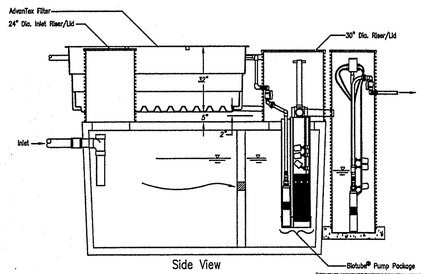
Plan View



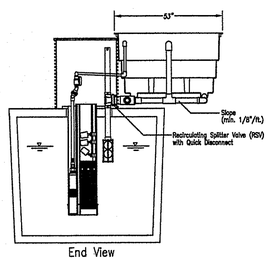
ADVANTEX RX30 FILTER
H–20 TANK

INVERT PROFILE
NTS

24" INSIDE DIAMETER PVC
PUMP CHAMBER
N. T. S.



Side View



End View

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