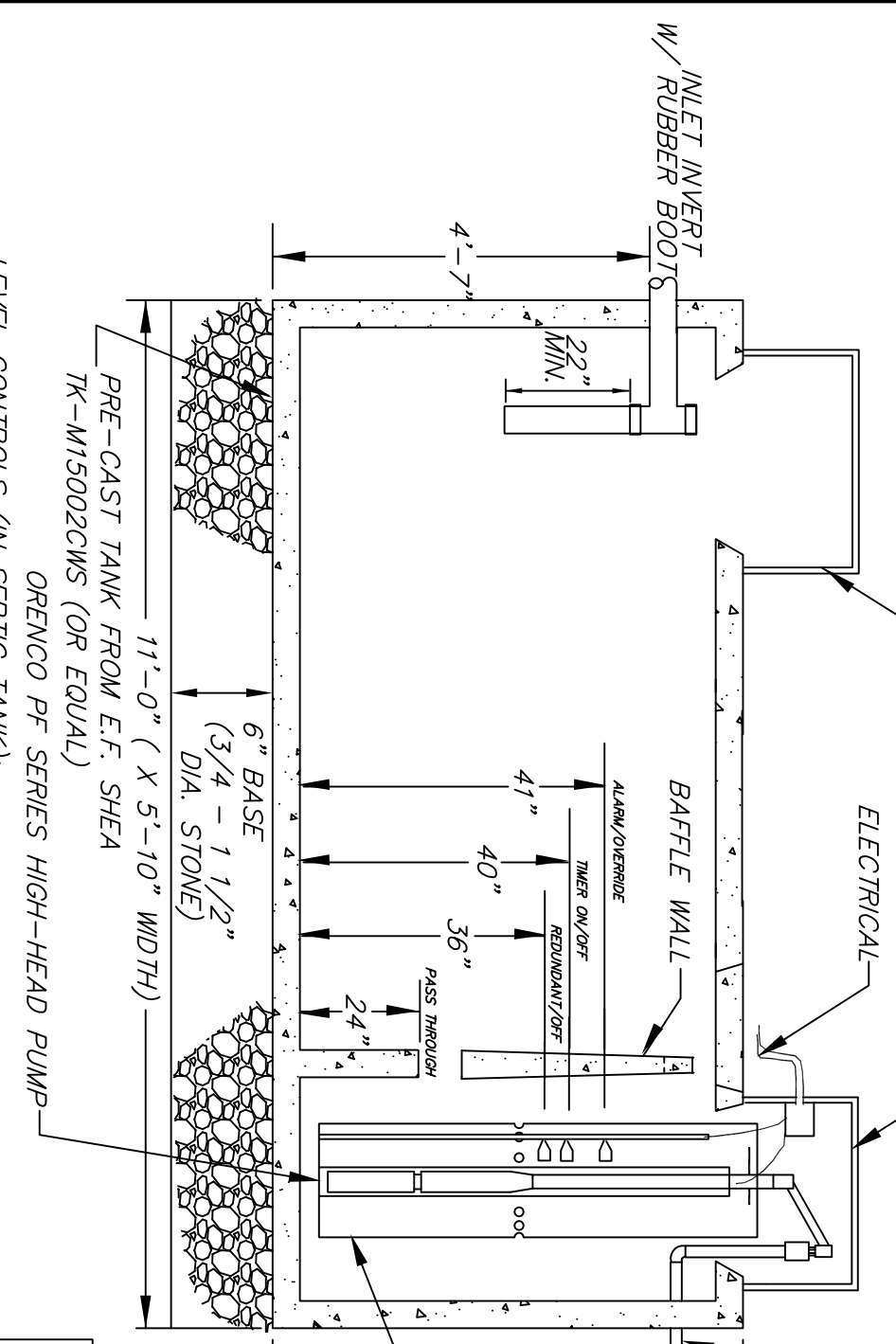
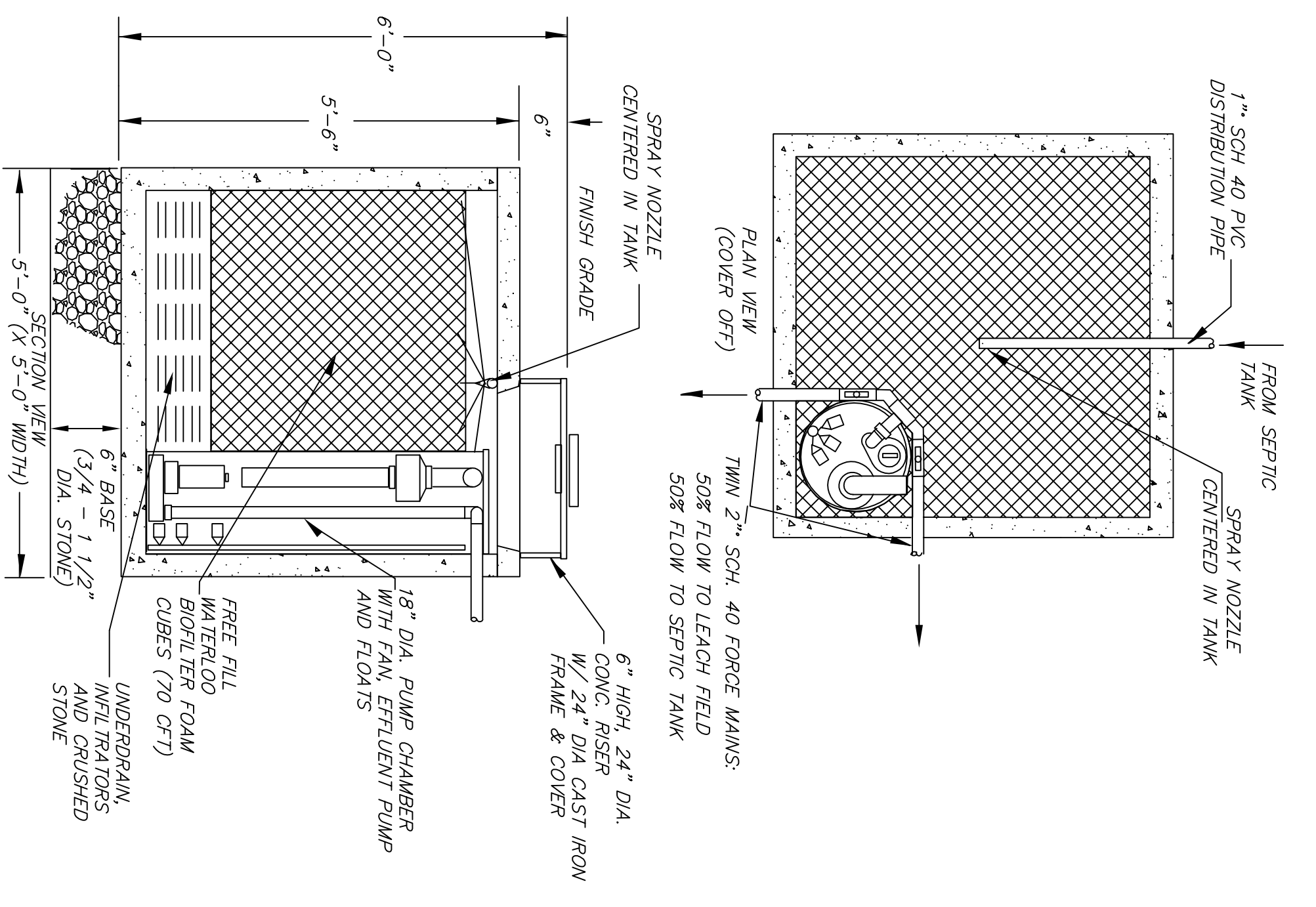


- SEPTIC TANK REQUIREMENTS:**
- 1) FIRST COMPARTMENT: 660 GALLONS
 - 2) SECOND COMPARTMENT: NOT REQUIRED
 - 3) PROVIDED: 1500 GALLON SEPTIC TANK WITH PUMP VAULT



1500 GALLON SEPTIC TANK WITH PUMP VAULT DETAIL

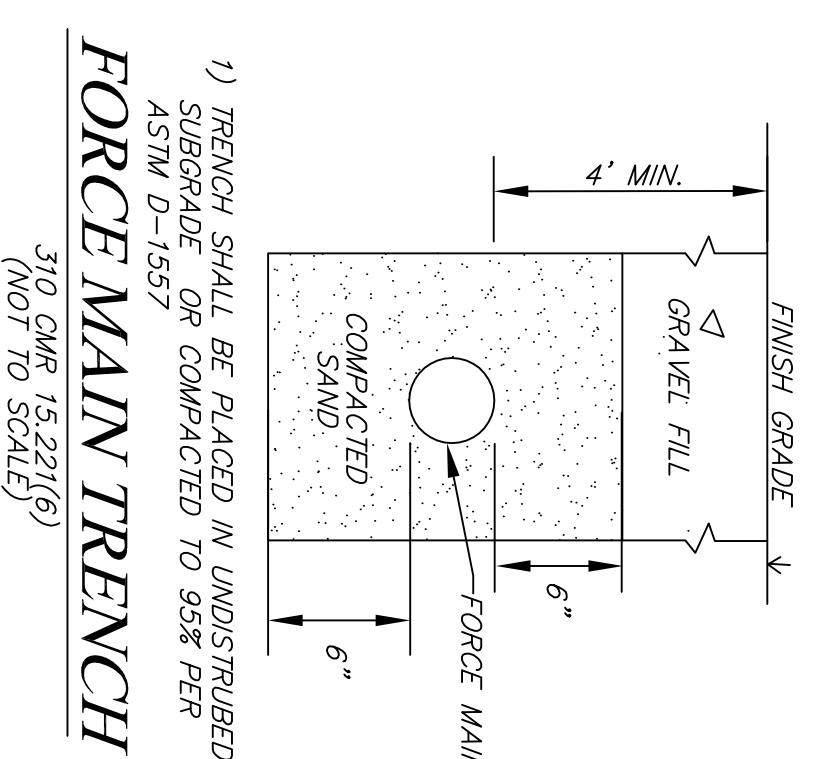
NOT TO SCALE



EQUIP ACCESSORIES:
 *PROVIDED FROM CLEARWATER INDUSTRIES

EQUIP ACCESSORIES:
 ALARM SHALL BE ON SEPARATE CIRCUIT FROM PUMPS
 ALL WATERLOO BIOPURIFIER COMPONENTS SHALL BE OBTAINED FROM CLEARWATER INDUSTRIES, IPSWICH, MA (978) 356-0778

WATERLOO BIOPURIFIER™
 UG-330 (Design Flow = 330 gpd)
 NOT TO SCALE



FORCE MAIN TRENCH

(NOT TO SCALE)

EQUIP ACCESSORIES:
 *PROVIDED FROM CLEARWATER INDUSTRIES
 ALARM SHALL BE ON SEPARATE CIRCUIT FROM PUMPS
 PUMP VAULT COMPONENTS SHALL BE OBTAINED FROM CLEARWATER INDUSTRIES, IPSWICH, MA (978) 356-0778.

EMERGENCY STORAGE
 INSIDE DIMENSIONS=10.33' X 5.17'
 STORAGE=10.33X5.17X1/2X2.48gpd/cft
 = 33gpd/ft
 ALARM @ 41\"/>

CALCULATE EQUIVALENT LENGTH:

QTY	DIA (IN)	LOSS/FITTING (FT)	FITTING	TOTAL
1	2.129	5.0	90° BEND	5.0 FT
0	2.129	2.5	45° BEND	0.0 FT
1	2.129	14.0	CHECK VALVE	14.0 FT
1	2.129	1.2	GATE VALVE	1.2 FT
TOTAL LOSS ⇨				20.2 FT

QTY	DIA (IN)	LOSS/FITTING (FT)	FITTING	TOTAL
1	2.129	5.0	90° BEND	5.0 FT
2	2.129	2.5	45° BEND	5.0 FT
0	2.129	2.0	22.5° BEND	0.0 FT
1	2.129	12.0	TEE (Side In/Out)	12.0 FT
TOTAL LOSS ⇨				18.0 FT

TOTAL EQUIV. LENGTH: ⇨ **220.0 FT**

OPERATING POINT: ⇨ **48** **gpm @ 17.8 TDH**

GENERAL PRESSURE DISTRIBUTION SYSTEM PARAMETERS:

GENERAL	Unit	Value	Comment
Dosing Frequency	doses/day	8	
Min. Volume per Dose	gallons	41	
No. of Laterals		3	

FORCE MAIN	feet	180
Length of Force Main	feet	241
Total Equivalent Length	feet	2.129
Nominal Inside Diameter	inches	2
Segment Equivalent Length	feet	10
Nominal Inside Diameter	inches	2

(1=include 2=exclude)

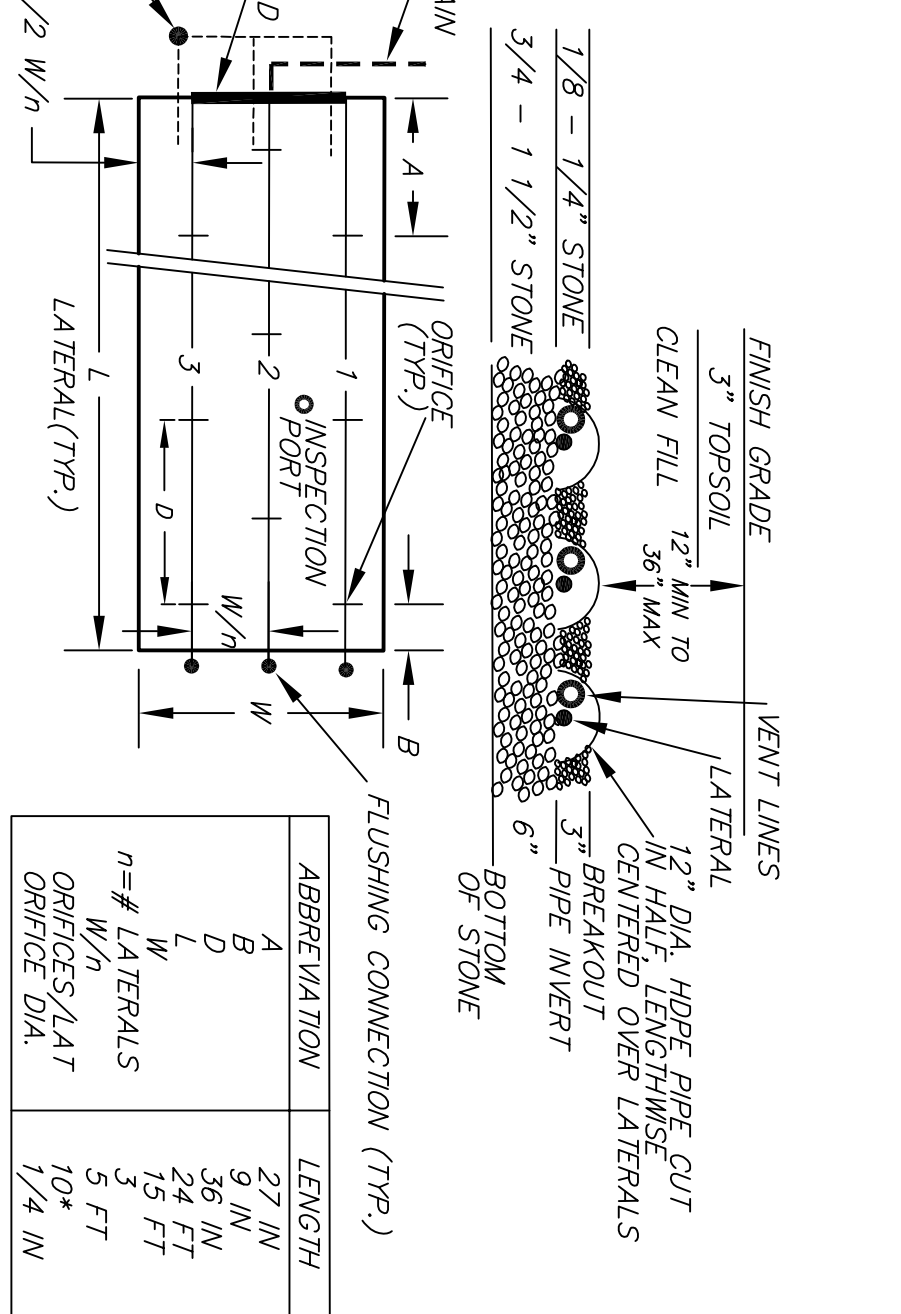
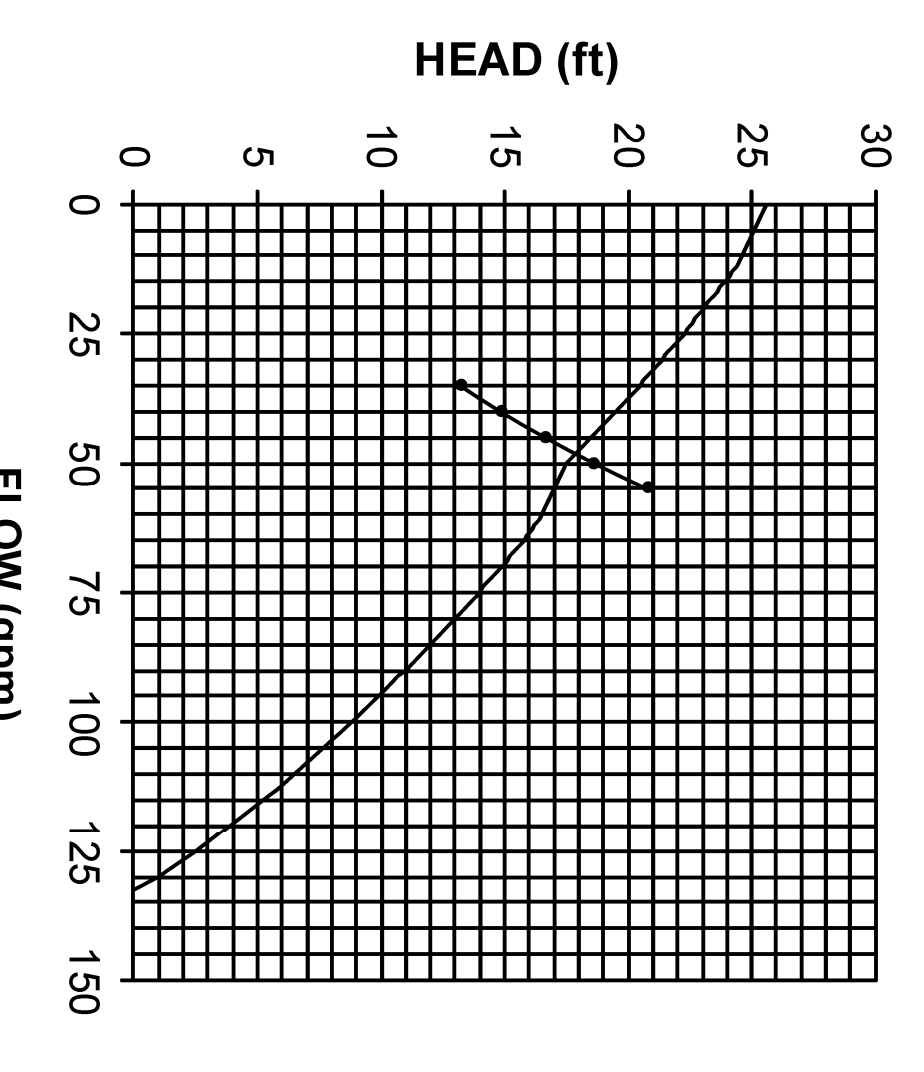
EACH LATERAL	feet	24
Length of Lateral	inches	1.25
Nominal Inside Diameter	feet	3.0
Min. Residual Pressure	inches	0.25

0.18=3/16.0.31=5/16.
0.44=7/16.0.56=9/16

Includes 2 Orifices in pipe invert
 maximum = 60 inches

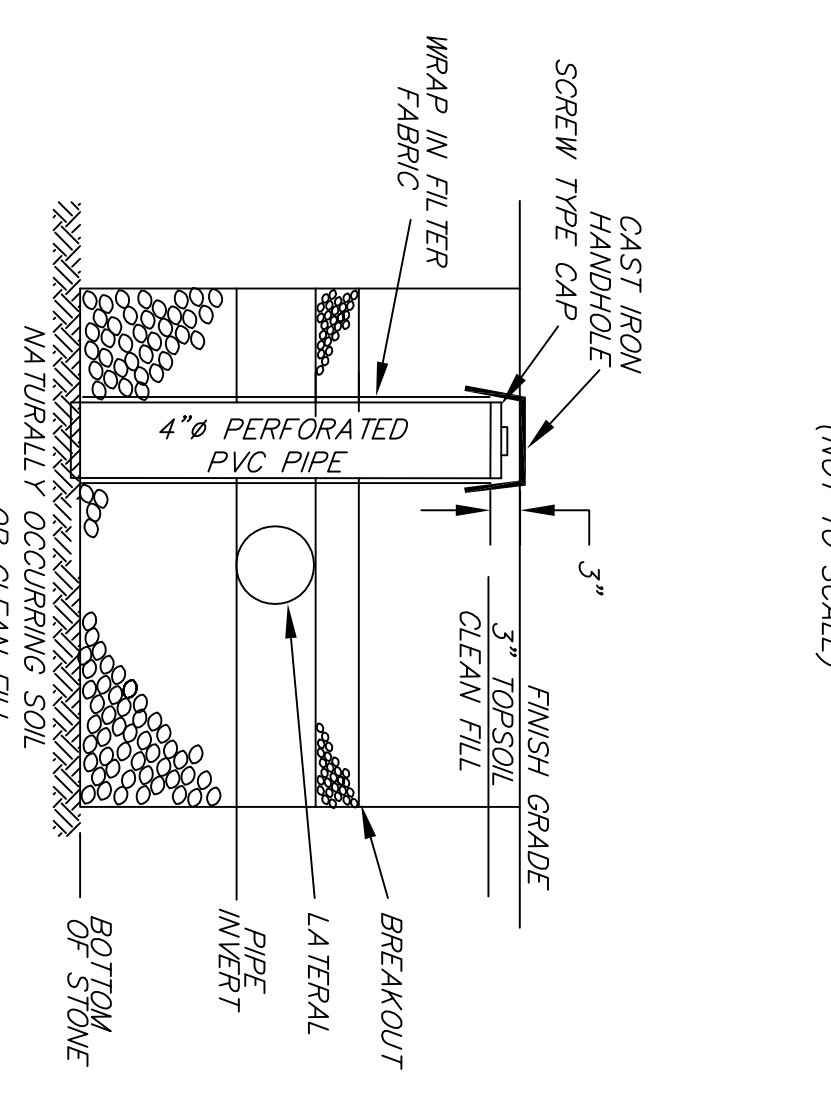
COMPOSITE SYSTEM CURVE

Flow (gpm)	Static Head (feet)	Residual Press. at Detail End (feet)	TDH (feet)
35	4.4	3.0	13.2
40	4.4	3.0	14.8
45	4.4	3.0	16.6
50	4.4	3.0	18.6
55	4.4	3.0	20.8



PRESSURE DOSED LEACH FIELD DETAIL.

(NOT TO SCALE)



INSPECTION PORT

(NOT TO SCALE)

- 1) BOTTOM OF FIELD SHALL BE LEVEL AND SCARIFIED PRIOR TO PLACING STONE.
- 2) STONE SHALL BE DOUBLE WASHED.
- 3) HAND-HOLDS SHALL BE PLACED FLUSHING CONNECTION DETAIL
- 4) FINISH GRADE USE FLUSHING CONNECTION DETAIL
- 5) HAND-APPLIED LEACH FIELD SHALL BE PERFORMED THROUGH THE INVERT TO ALLOW FOR PIPE DRAINAGE

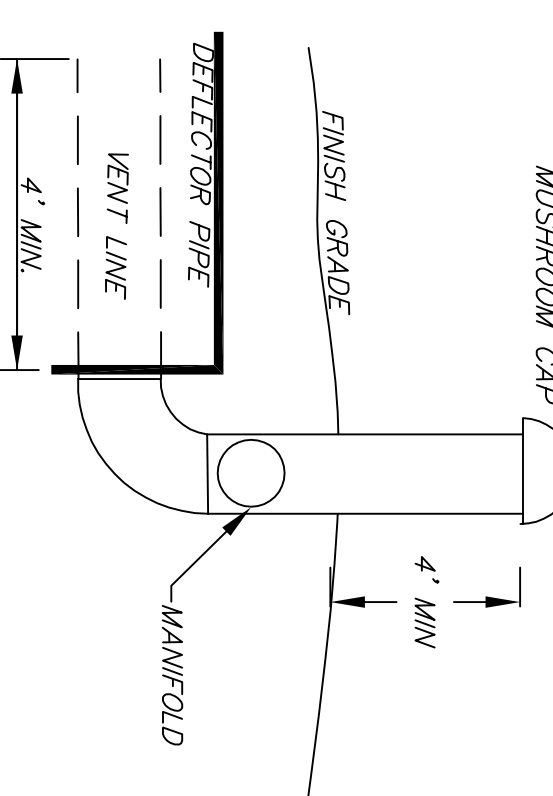
ABBREVIATION	LENGTH
A	27 IN
B	36 IN
C	15 FT
D	5 FT
E	3 FT
F	10' x 1/4 IN

n=# LATERALS
 W/h

NOTES:

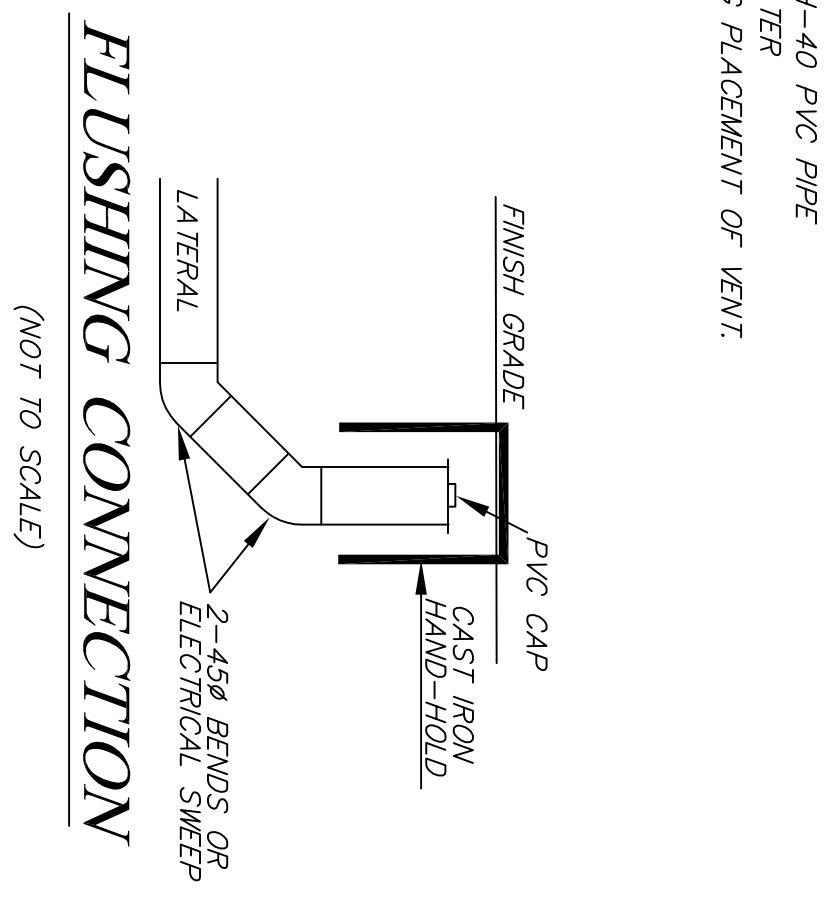
- 1) THIS PLAN IS INTENDED ONLY FOR THE CONSTRUCTION OF A SEPTIC SYSTEM TO SERVE THE SITE. NO OTHER UTILITIES SHALL BE LOCATED OR DEPTH SHALL BE SHOWN UNLESS OTHERWISE NOTED.
- 2) THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.
- 3) THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.
- 4) THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.

OPERATING POINT: 48 gpm @ 17.8 TDH
 TIME ON: 0.9 minutes



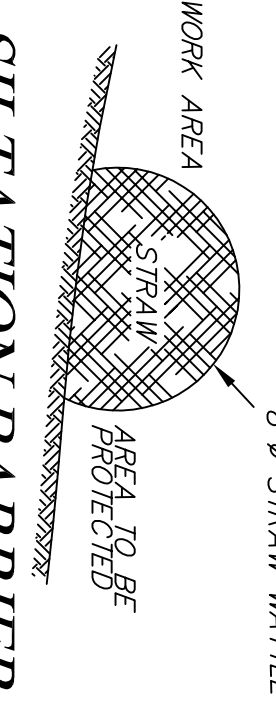
VENT

(NOT TO SCALE)



FLUSHING CONNECTION

(NOT TO SCALE)



SILTATION BARRIER

(NOT TO SCALE)

SUBSURFACE SEWAGE DISPOSAL SYSTEM UPGRADE

68 MIDDLETON ROAD
 BOXFORD, MA 01921

REGISTRY INFORMATION:
 DEED:
 BOOK NO.: 6964
 PAGE NO.: 7

ASSESSORS INFORMATION:
 MAP: 32
 BLOCK: 2
 LOT: 4

PREPARED FOR:
 KENNETH SEUS
 68 MIDDLETON ROAD
 BOXFORD, MA 01921

SCANLAN ENGINEERING LLC
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 FAX: (978) 891-3888
 EMAIL: info@scanlanengineering.com
 WEB: www.scanlanengineering.com

DATE:	JULY 2, 2019	
DESIGN BY:	JBS	
DRAWN BY:	JBS	
# BY DATE REVISIONS TO PLANS		
1	8/19/19	CONSERVATION ADDITIONS
2	9/10/19	CONSERVATION ADDITIONS

DETAILS & NOTES

SHEET 2 OF 2 SCALE: 1" = 20'
 PROJECT # 0964