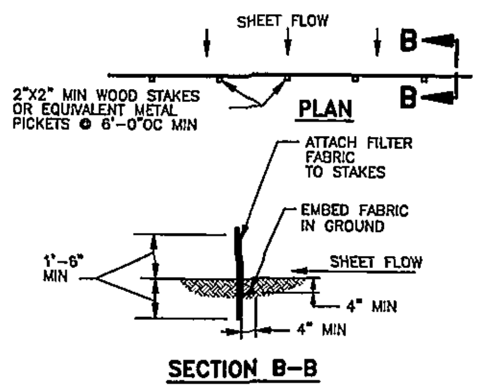
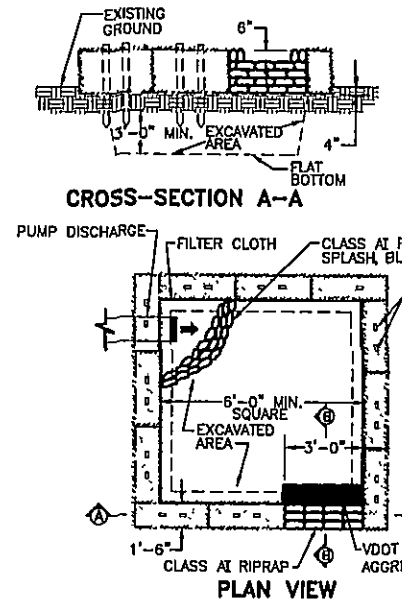


TEMPORARY SILT FENCE (SF)

NO SCALE

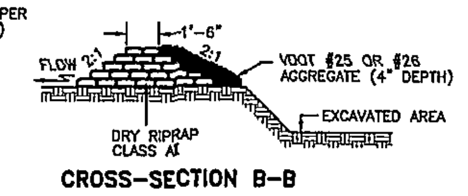


STRAW BALE/SILT FENCE PIT NOTE:
CONTRACTOR MUST USE THE FOLLOWING FORMULAS TO DERRIVE THE LENGTH (L), WIDTH (W), AND DEPTH (D) OF THE STRAW BALE/SILT FENCE PIT'S EXCAVATED AREA.

PUMP DISCHARGE (G.P.M.) X 16 = CUBIC FEET OF STORAGE REQUIRED

ONCE THE CUBIC FEET OF STORAGE REQUIRED FOR THE STRAW BALE/SILT FENCE PIT, THE CONTRACTOR SHALL DETERMINE THE DIMENSIONS OF THE PIT USING THE FORMULA BELOW.

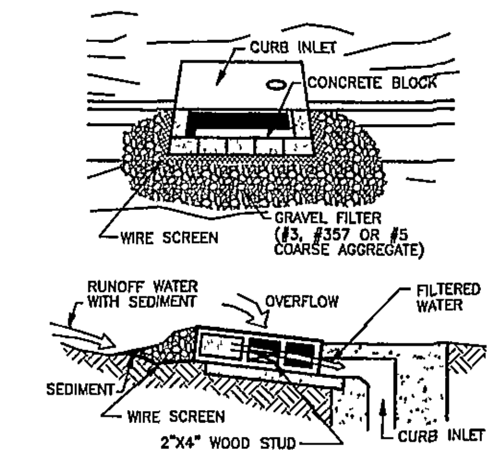
X'(LENGTH) x X'(WIDTH) x 5'(DEPTH) = CUBIC FEET OF STORAGE REQUIRED SOLVE FOR X..



NOTE: FILTER CLOTH COVERS ENTIRE INSIDE FACE OF STRAW BALE DIKES. INSTALL AS PER STD. & SPEC. 3.05, SILT FENCE.

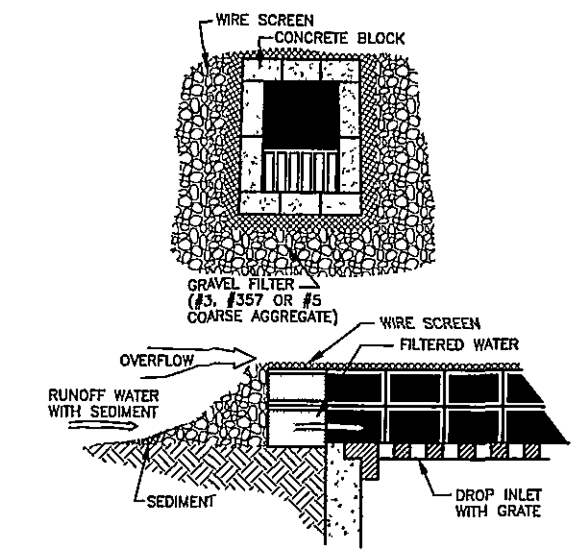
STRAW BALE/SILT FENCE DEWATERING PIT

NO SCALE



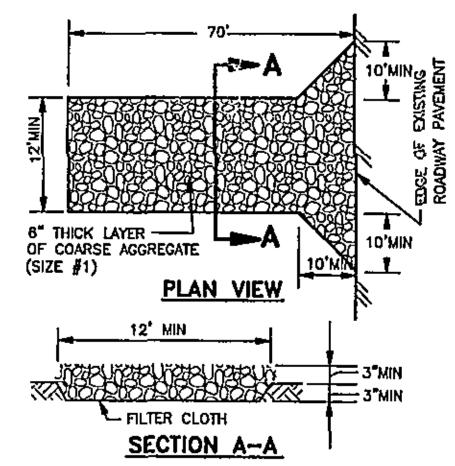
(CURB INLET)
INLET PROTECTION (IP)

NO SCALE



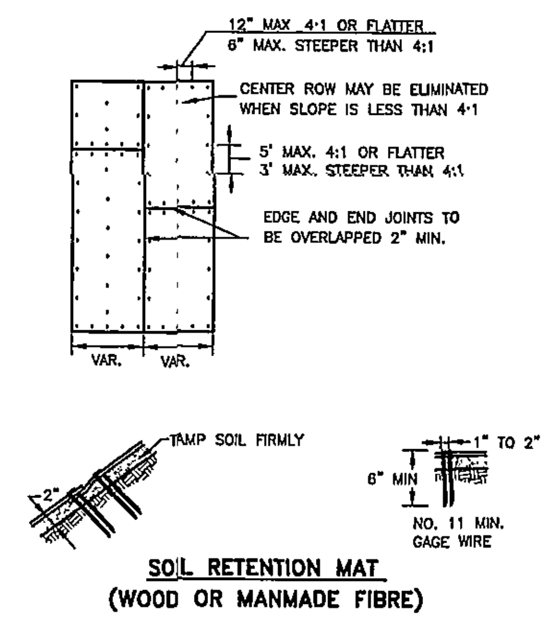
(GRATE INLET)
INLET PROTECTION (IP)

NO SCALE



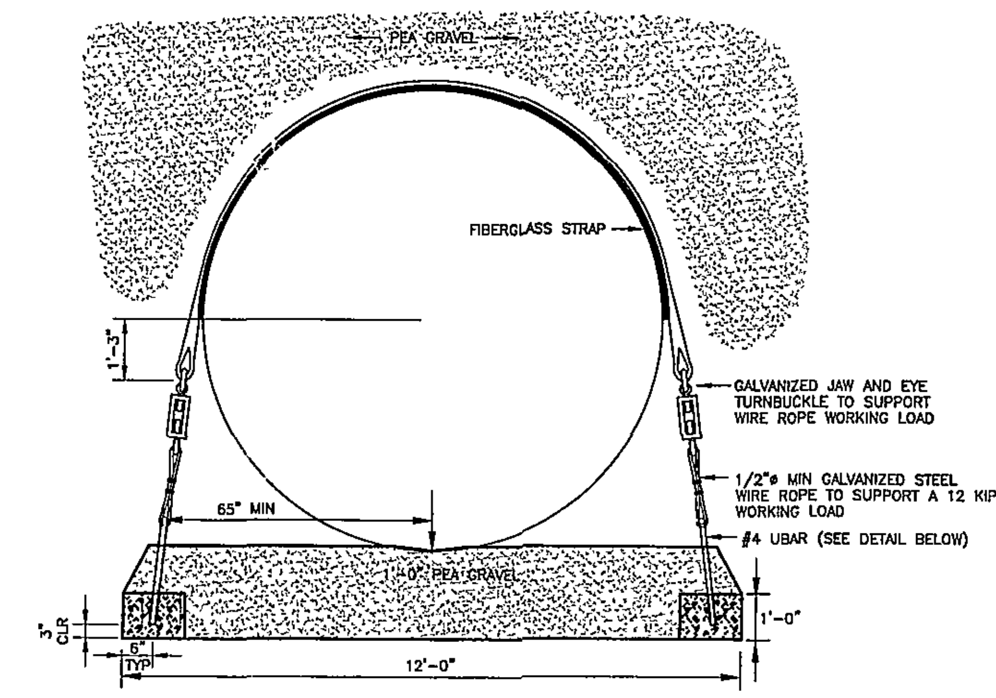
TEMPORARY CONSTRUCTION ENTRANCE (CE)

NO SCALE



SOIL STABILIZATION MAT-INSTALLATION

NO SCALE



NOTES:
1. REFER TO TANK MANUFACTURER'S SHOP DRAWINGS AND INSTALLATION INSTRUCTIONS TO CONFIRM ANCHOR/DEADMAN PLACEMENT.
2. GALVANIZED WIRE ROPE CLIPS AND GALVANIZED THIMBLES ARE TO BE USED AT EACH WIRE ROPE CONNECTION POINT, CONFIGURED TO SUPPORT THE WORKING LOAD OF THE WIRE ROPE.
3. AFTER TANK INSTALLATION, ADJUST TURN BUCKLES TO EQUALIZE TENSION ON BOTH SIDES.

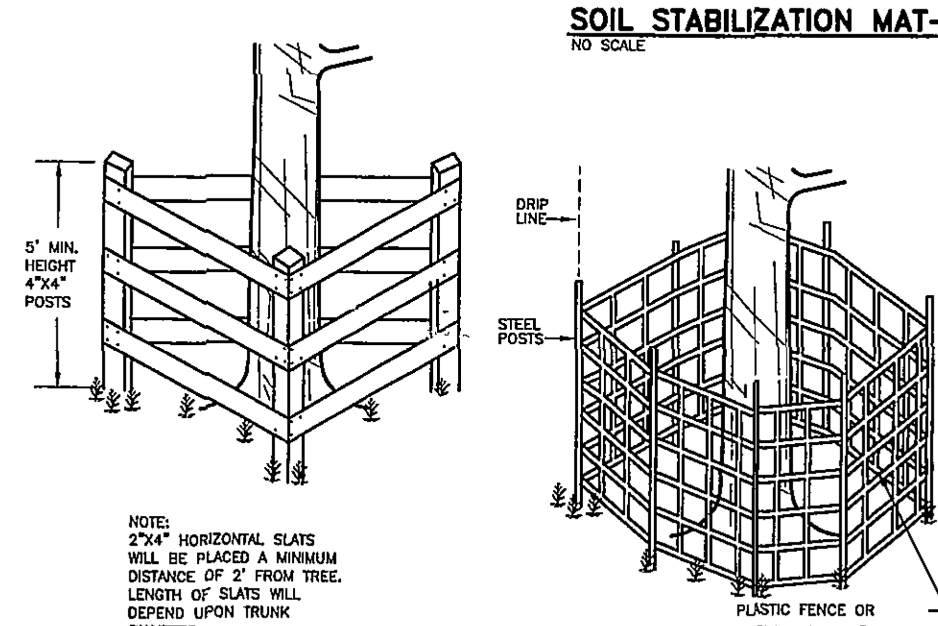
TANK ANCHOR DETAIL

NOT TO SCALE

NOTES:
1. REFER TO TANK MANUFACTURER'S SHOP DRAWING AND INSTALLATION INSTRUCTIONS FOR LOCATION OF MANWAYS FITTING, AND ANCHOR POSITIONING.
2. DO NOT INSTALL CONDUIT OVER TANK AREA EXCEPT FOR INSTALLATION OF TANK SENSORS
3. DETERMINE THE REQUIRED SLOPE OF EXCAVATION WALLS BASED ON SOIL CONDITIONS AND THE TANK MANUFACTURER'S RECOMMENDATIONS.
4. TANKS MUST BE INSTALLED WITHIN 1/2" OF LEVEL & PLUMB.
5. COVER ANY EXPOSED REINFORCING BAR, ANCHOR PLATES OR CONCRETE EDGES AND CORNERS DURING TANK INSTALLATION PROCESS WITH TIRE RUBBER OR STYROFOAM INSULATION.
6. PROVIDE MANHOLE COVER FOR MANWAY THAT HAS A DIAMETER GREATER THAN THE MANWAY CONTAINMENT SUMP AND THAT DOES NOTE BEAR ON SUMP.

STORM SEWER COST ESTIMATE				
ALL COST GIVEN ARE COMPLETE IN PLACE.				
QUANTITIES/COSTS ARE APPROXIMATE ONLY				
CONTRACTOR SHALL VERIFY QUANTITIES NEEDED FOR CONSTRUCTION				
DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
10" RCP	LF	115	13 27	1,526
12" RCP	LF	155	15.74	2,440
15" RCP	LF	1,230	22.73	27,958
18" RCP	LF	75	26 51	1,988
24" RCP	LF	555	42 57	23,626
30" RCP	LF	680	60 70	41,276
42" RCP	LF	25	100 25	2,506
48" RCP	LF	390	132 57	51,702
CURB INLET	EA	14	1193 00	16,702
VDOT DI-1	EA	4	438 00	1,752
48" MH 6' DEEP	EA	1	1472 00	1,472
48" MH 8' DEEP	EA	2	1908 00	3,816
48" MH 10' DEEP	EA	1	2414 00	2,414
48" MH 12' DEEP	EA	1	2920 00	2,920
60" MH 8' DEEP	EA	1	2142 00	2,142
60" MH 10' DEEP	EA	2	2698 00	5,396
72" MH 10' DEEP	EA	2	4148 00	8,296
72" MH 12' DEEP	EA	1	4998 00	4,998
SUB-TOTAL				202,931
10% CONTINGENCY				20,293
TOTAL PROJECT COST				223,224
EROSION CONTROL COST ESTIMATE				
SILT FENCE	LF	3,006	4 00	12,024
TEMPORARY SEEDING	AC	5	1800 00	9,000
PERMANENT SEEDING	AC	5	2400 00	12,000
CONSTRUCTION ENTRANCE	EA	3	1500 00	4,500
CRS	SY	7,340	3.00	22,020
SOIL STABILIZATION MATTING	SY	3,312	2 00	6,624
INLET PROTECTION	EA	24	100 00	2,400
SUB-TOTAL				68,568
10% CONTINGENCY				6,857
TOTAL PROJECT COST				75,425
			TOTAL COST=	$298,650

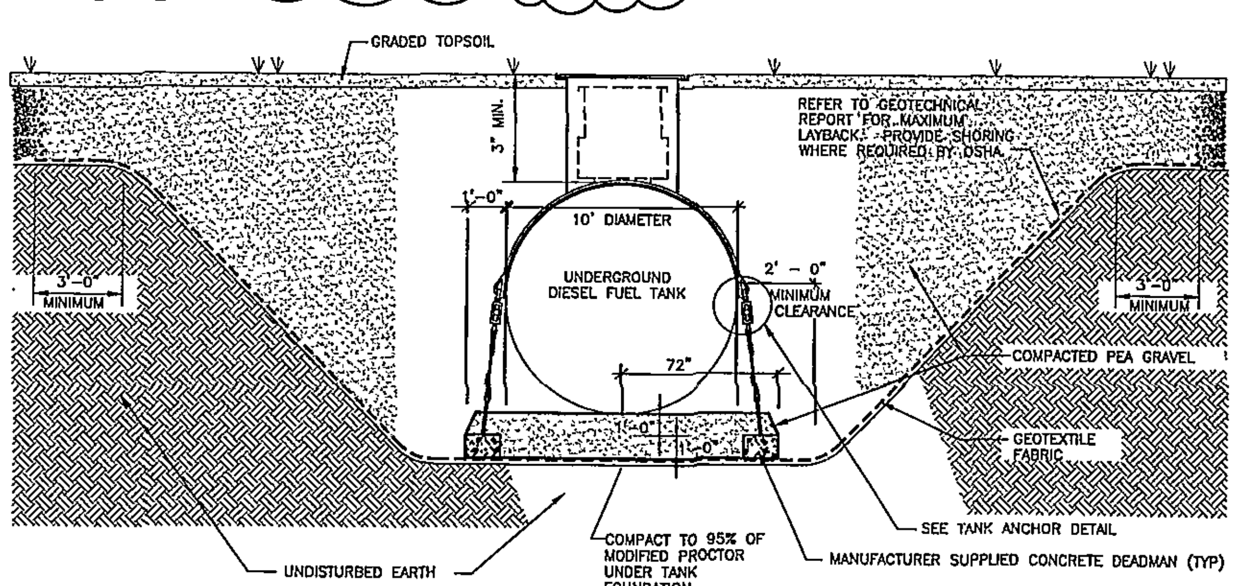
1



NOTE:
2"X4" HORIZONTAL SLATS WILL BE PLACED A MINIMUM DISTANCE OF 2' FROM TREE. LENGTH OF SLATS WILL DEPEND UPON TRUNK DIAMETER.

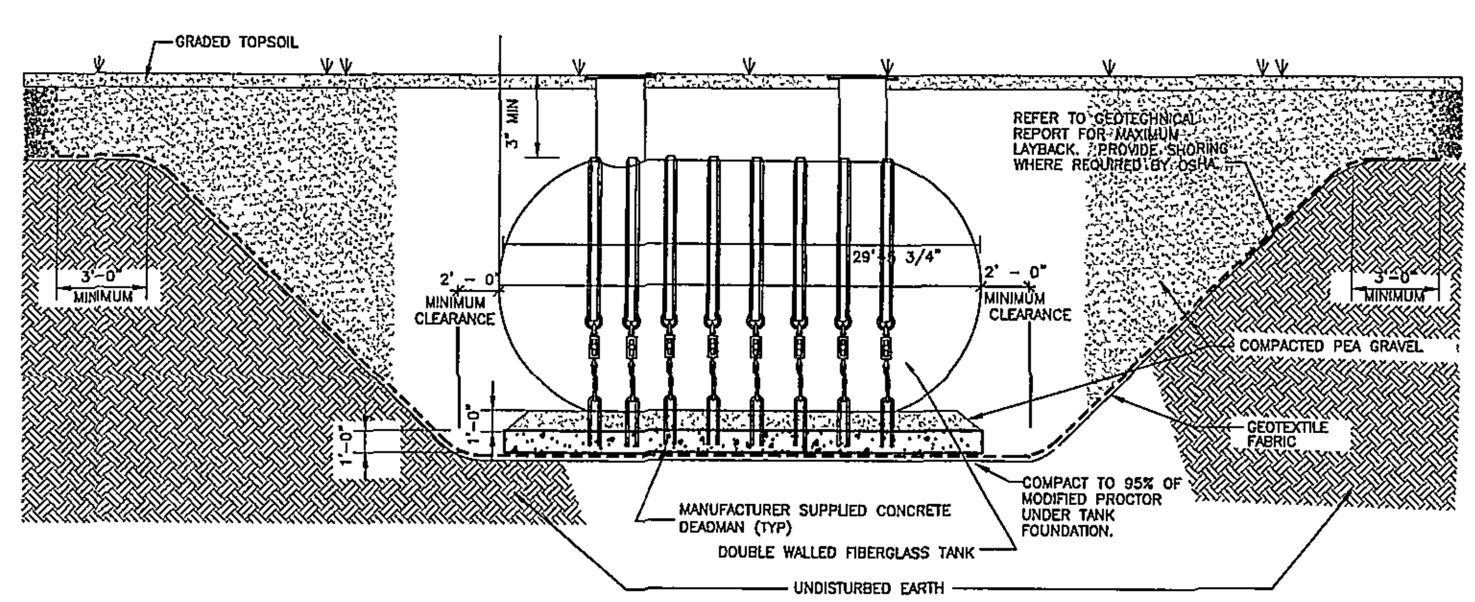
TREE PROTECTION (TP)

NO SCALE



15,000 GAL. DIESEL FUEL TANK DETAIL - END VIEW

NOT TO SCALE



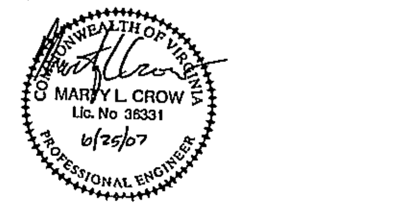
15,000 GAL. DIESEL FUEL TANK DETAIL - LATERAL VIEW

NOT TO SCALE

HSMM
ARCHITECTS ENGINEERS PLANNERS

HAYES, SEAY, MATTERN & MATTERN, INC.
1315 FRANKLIN ROAD
ROANOKE, VA 24016
(540) 857-3100 WWW.HSMM.COM

SEALS



CONSULTANT

CONSULTANT

CARILION CLINIC
&
RIVERSIDE CENTER PARKING DECK

ROANOKE, VIRGINIA

REV	DATE	DESCRIPTION	APP
1	6/25/2007	CITY COMMENTS	MLC

COMM NO: 40057
ISSUE DATE: JUNE 25, 2007
DESIGNED BY: SMS | DRAWN BY: SMS
CHECKED BY: DMH | SUBMITTED BY: BJF

CIVIL

SITE AND UTILITY DETAILS

C504