

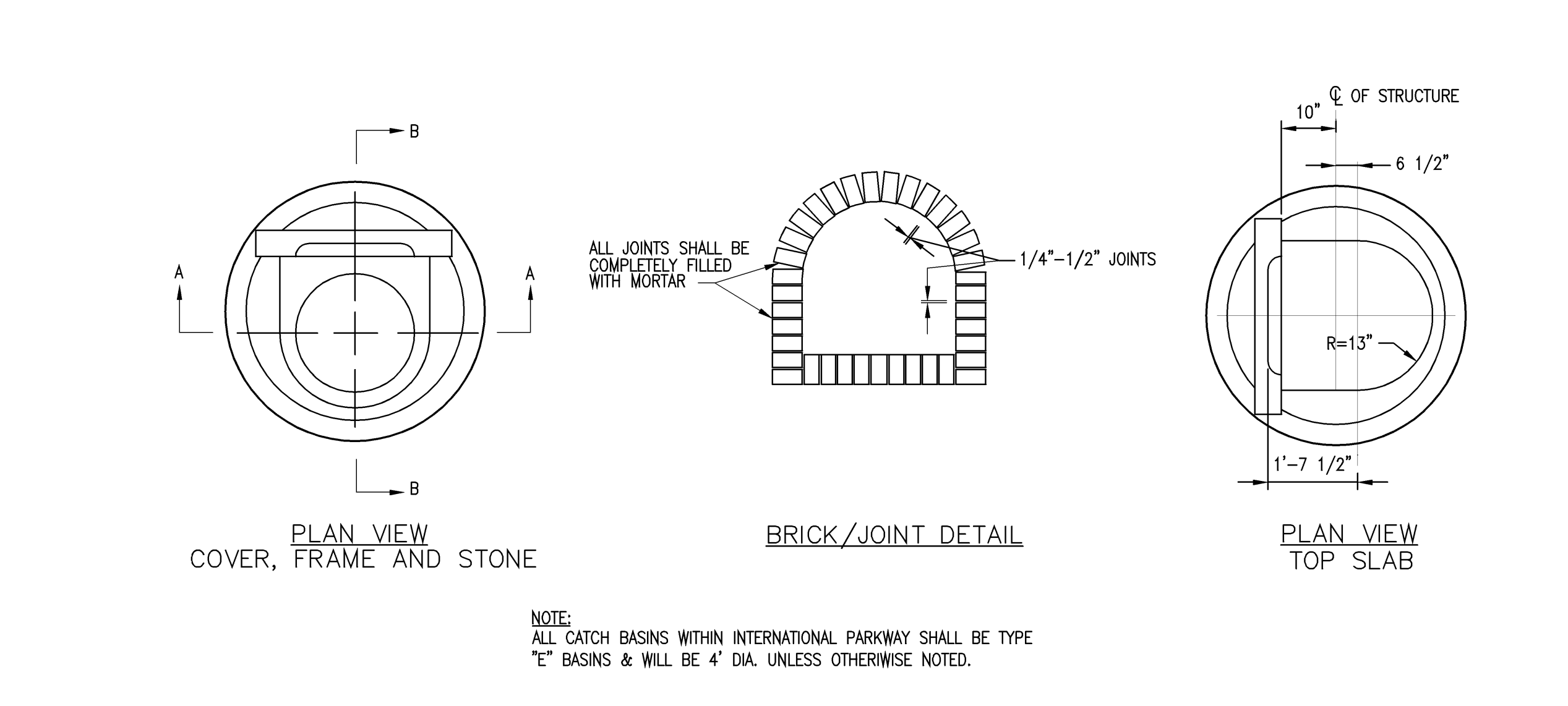
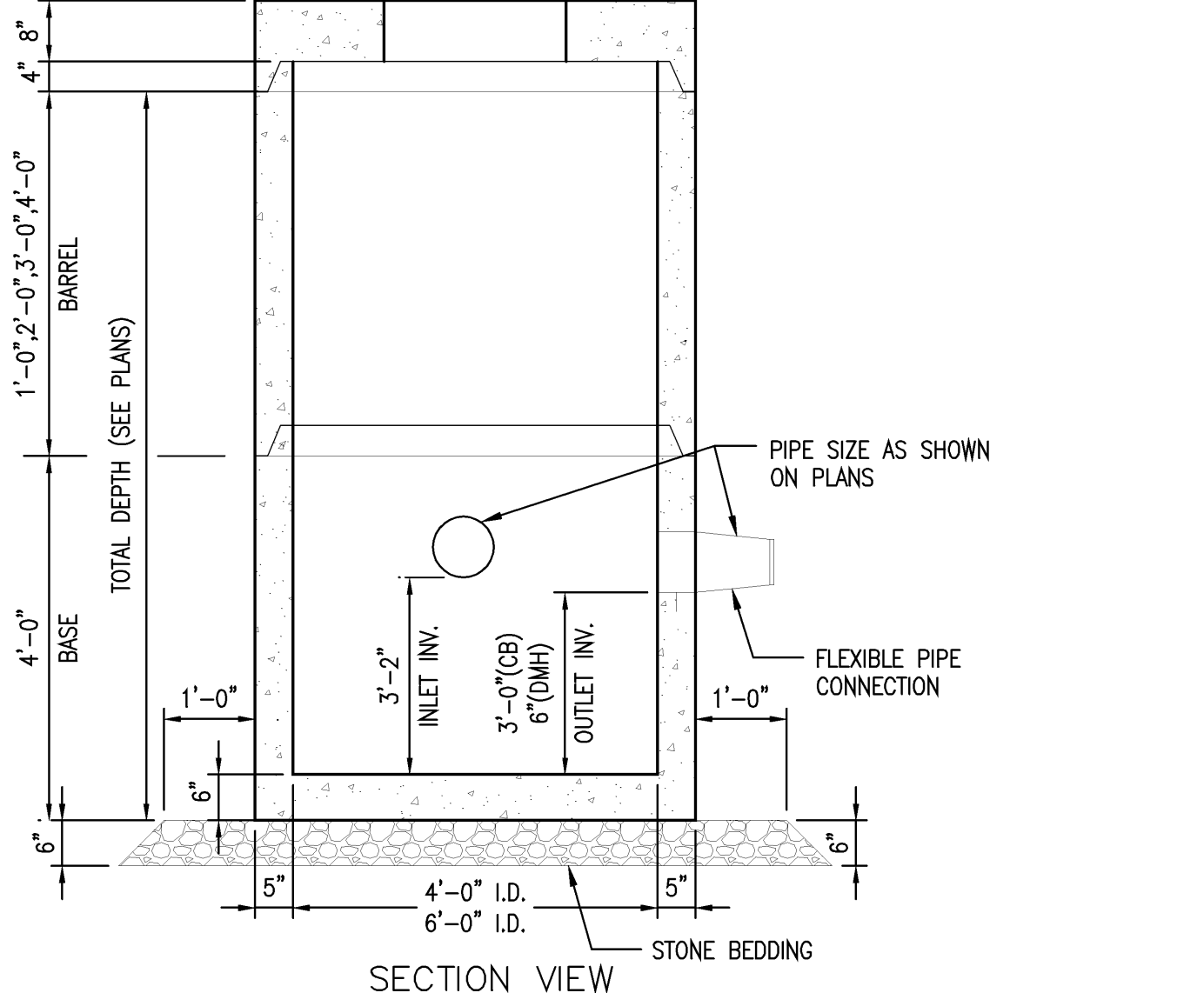
CATCH BASIN - TYPE F
SCALE: NOT TO SCALE

CATCH BASIN / DRAIN MANHOLE
SCALE: NOT TO SCALE

CATCH BASIN - TYPE 'E'
SCALE: NOT TO SCALE

PIPE INSTALLATION
SCALE: NOT TO SCALE

PIPE O.D. (A)	LENGTH (B)	BILL HEIGHT (C)	CURF LENGTH (D)
4"	10'	8"	1 1/2"
6"	16'	12"	2"
8"	18'	14"	2"
12"	27'	23"	4"
16"	36'	30"	5"
18"	36'	34"	6"
24"	48'	44"	8"
30"	67'	68"	10"
48"	68"	78"	10"



TRENCH DRAIN
SCALE: NOT TO SCALE

BACKFLOW PREVENTER
SCALE: NOT TO SCALE

CATCH BASIN - TYPE 'D' - FRAME & COVER
SCALE: NOT TO SCALE

TRENCH DRAIN
SCALE: NOT TO SCALE

BACKFLOW PREVENTER
SCALE: NOT TO SCALE

NOTES:
1. PIPE BACKFILL SHALL BE SUITABLE EXCAVATED MATERIAL.
2. ALL PIPES SHALL BE DUAL WALL, SMOOTH BORE HOPE CORRUGATED. ENDS OF UNDERDRAIN PIPING SHALL BE FITTED WITH PLUGS.
3. COMPACT EMBANKMENT MATERIAL TO 93% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D1557.
4. EMBANKMENT MATERIAL SHALL CONTAIN A MINIMUM 20% PASSING THE #200 SIEVE AND SHALL CONSIST OF NATIVE MATERIAL MEETING THE UNIFIED SOIL CLASSIFICATION SM, ML, SC, CL.
5. 6" OF CLAY SOIL - MINIMUM 50% PASSING #200 SIEVE & MAXIMUM PERMEABILITY OF 1x10-6 CM/SEC. CLAY SHALL BE PLACED ON FILTER SIDE SLOPE FROM TOP OF FILTER MEDIA.
6. FILTER BED & SIDE SLOPES SHALL BE SEEDING USING "NEW ENGLAND EROSION CONTROL/RESTORATION MAT" FROM NEW ENGLAND WETLAND PLANTS, INC. OF AMHERST, MA (PHONE 413-548-8000), OR APPROVED EQUAL. (APPLICATION RATE 35#/ACRE)
7. MDOT UNDERDRAIN GRAVEL, TYPE B SPECIFICATION:

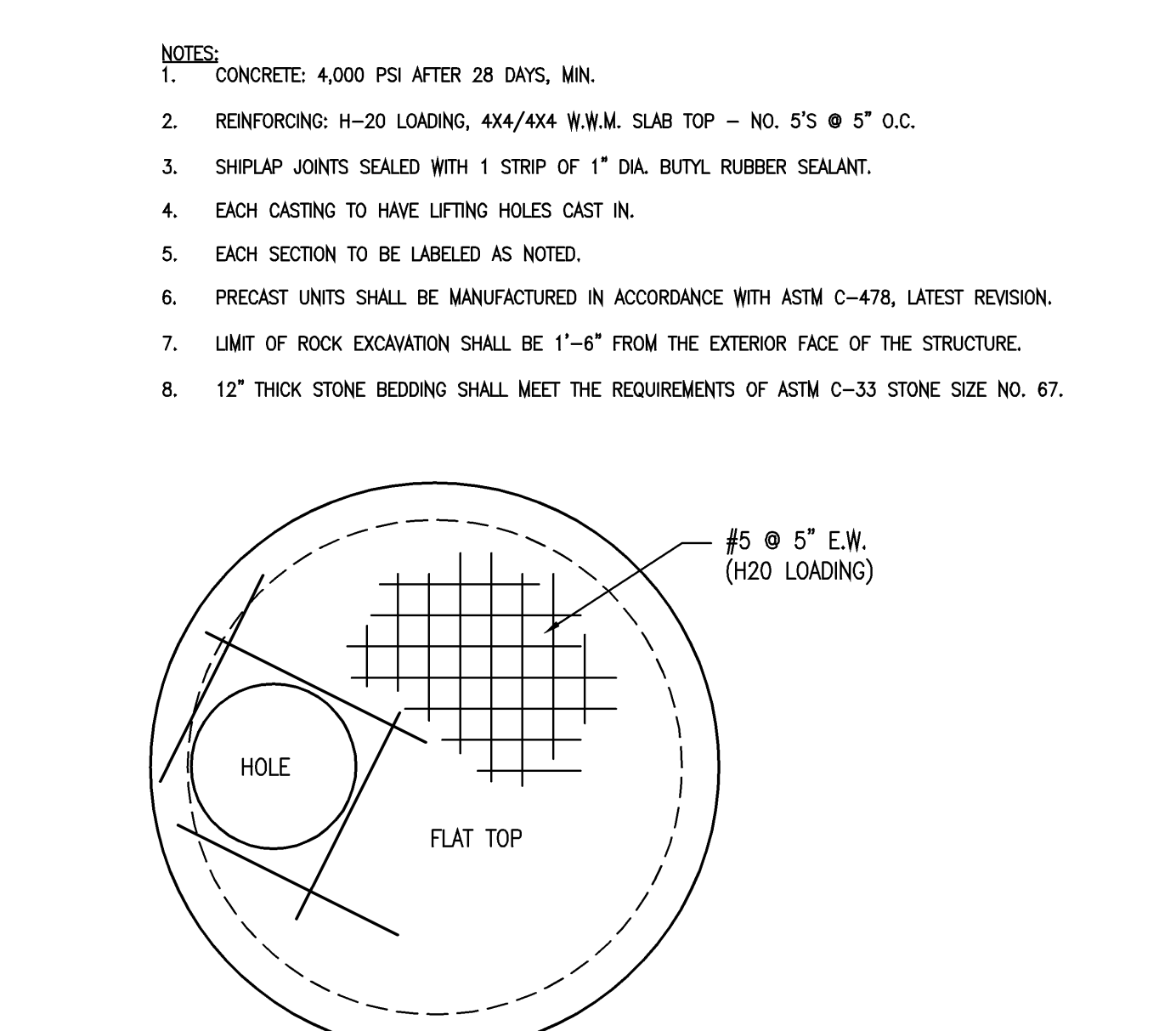
SIZE	% BY WEIGHT
1"	80-100
1/2"	75-100
#4	50-100
#20	15-80
#60	0-15
#200	0-5

8. FILTER MEDIA

THE SOIL FILTER MEDIA SHALL BE COMPOSED OF A THOROUGHLY BLENDED MIXTURE OF MATERIALS MEETING THE SPECIFICATIONS IN TABLE BELOW:

FILTER MEDIA	MIXTURE BY VOLUME	SPECIFICATION
SAND	50%-55%	MEDOT SPECIFICATION #703.01 FINE AGGREGATE FOR CONCRETE (SEE TABLE BELOW)
TOPSOIL	20%-30%	LOAMY SAND TOPSOIL WITH MINIMAL CLAY CONTENT AND BETWEEN 15-25% FINES PASSING THE #200 SIEVE.
MULCH	20%-30%	MODERATELY FINE, SHREDDED BARK OR WOOD FIBER MULCH WITH LESS THAN 5% PASSING #200 SIEVE.

ADJUST THE PROPORTION BASED ON THE ORGANIC CONTENT AND AMOUNT OF FINES OF EACH COMPONENT. IF THE SAND IS VERY CLEAN OR THE TOPSOIL IS RELATIVELY COARSE, USE MORE TOPSOIL AND LESS SAND WHILE STAYING WITHIN THE ESTABLISHED RANGES. IF THE SAND IS SILTY OR THE TOPSOIL LOAMY, USE MORE SAND AND LESS TOPSOIL.



CATCH BASIN - TYPE 'D' - FRAME & COVER
SCALE: NOT TO SCALE

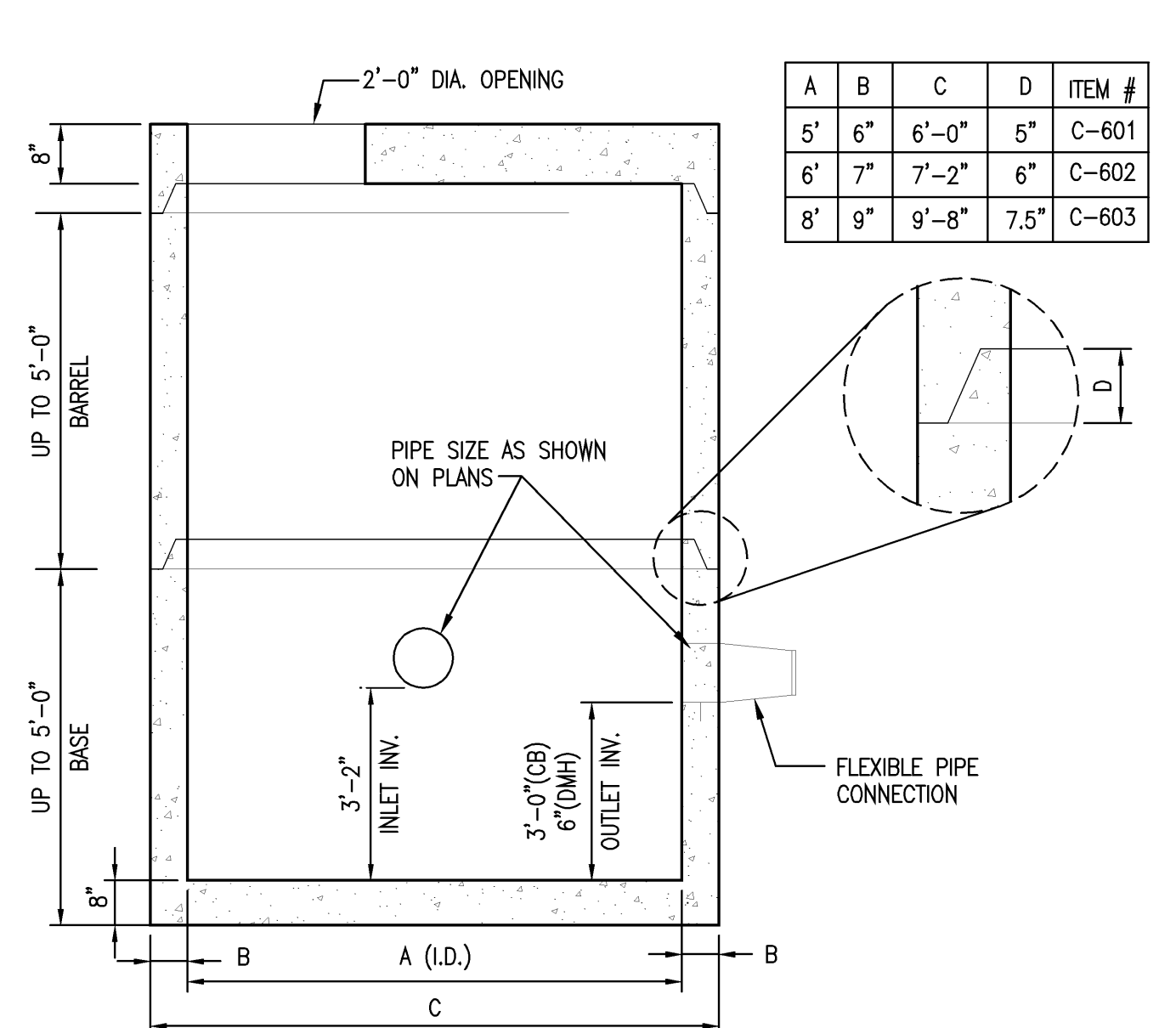
CURB UNDERDRAIN
SCALE: NOT TO SCALE

SOIL FILTER TREATMENT DETAIL
SCALE: NOT TO SCALE

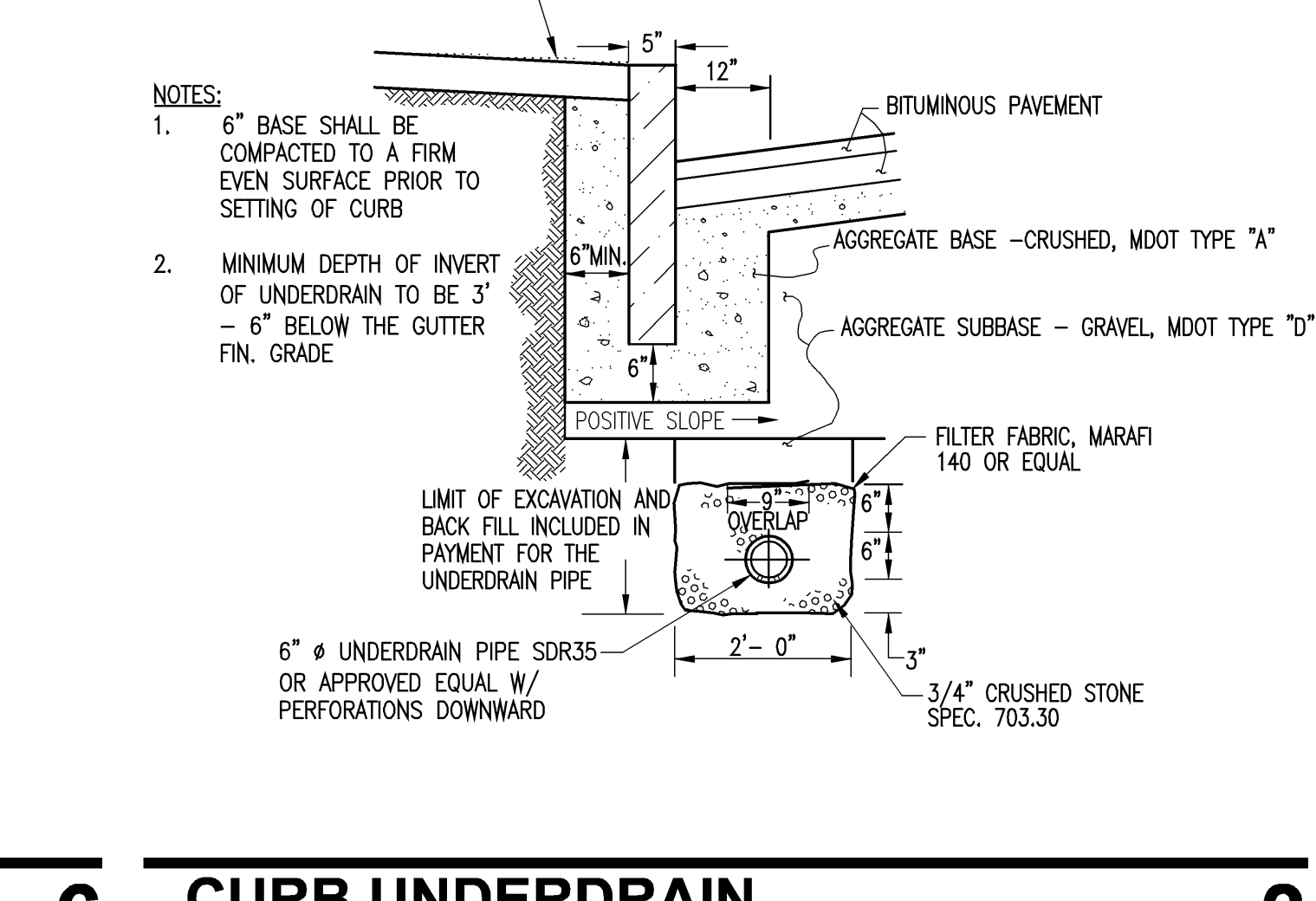
NOTES:
1. 25 YR. STORM POOL ELEVATION (F)
2. 10 YR. STORM POOL ELEVATION (E)
3. 2 YR. STORM POOL ELEVATION (D)
4. 6" CLAY LAYER (SEE NOTE 5)
5. 4" LOAM & SEED
6. TOP OF FILTER BED (A)
7. 4" DUAL WALL HOPE, PERFORATED PIPE W/ FILTER SOCK. SHALL BE PLACED 8" O.C. SEE FILTER BED PLAN FOR LAYOUT
8. BOTTOM OF FILTER BED
9. 6" UNDERDRAIN
10. BOTTOM OF UNDERDRAIN SYSTEM
11. 14" MDOT UNDERDRAIN GRAVEL, TYPE B (SEE NOTE 7)
12. SEE GRADING PLAN
13. TOP EMBANKMENT EL. (B)
14. EMERGENCY SPILLWAY (C)
15. EMBANKMENT MATERIAL (SEE NOTE 4)
16. IMPERMEABLE LINER SHALL BE PLACED ON THE SIDES AND BOTTOM OF FILTER BED (RUFICO 610B OR APPROVED EQUAL).
17. REMOVE ALL ORGANICS TO MINERAL SOIL - ENTIRE EMBANKMENT AREA.
18. FILTER TABLE

FILTER	TOP OF FILTER EL. (A)	TOP EMBANKMENT EL. (B)	EMERG. SPILLWAY EL. (C)	2 YR. STORM EL. (D)	10 YR. STORM EL. (E)	25 YR. STORM EL. (F)	RIM	INV.
1	75.0	78.25	76.0	76.08	76.33	76.43	-	-
2	65.0	67.25	66.5	65.95	66.15	66.21	65.90	62.97
3	-	78.00	77.00	75.58	75.82	75.93	75.50	72.57

* ALL ELEVATIONS ARE IN FEET.
NOTE: FILTER CROSS SECTION IS SHOWN FOR GRAPHICAL PURPOSES ONLY. NOT TRUE SCALE.



CATCH BASIN - TYPE 'D' - FRAME & COVER
SCALE: NOT TO SCALE



CURB UNDERDRAIN
SCALE: NOT TO SCALE

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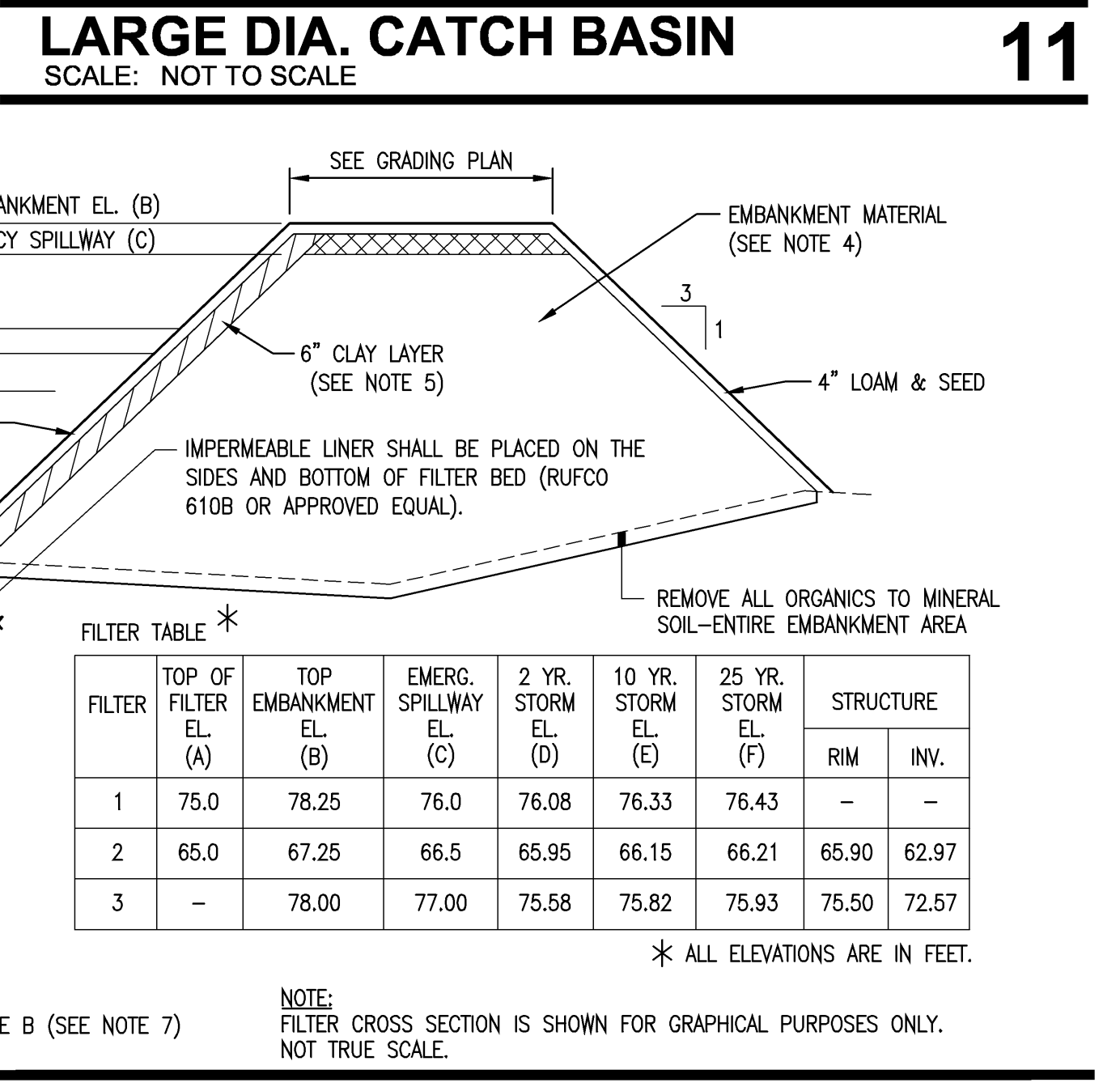
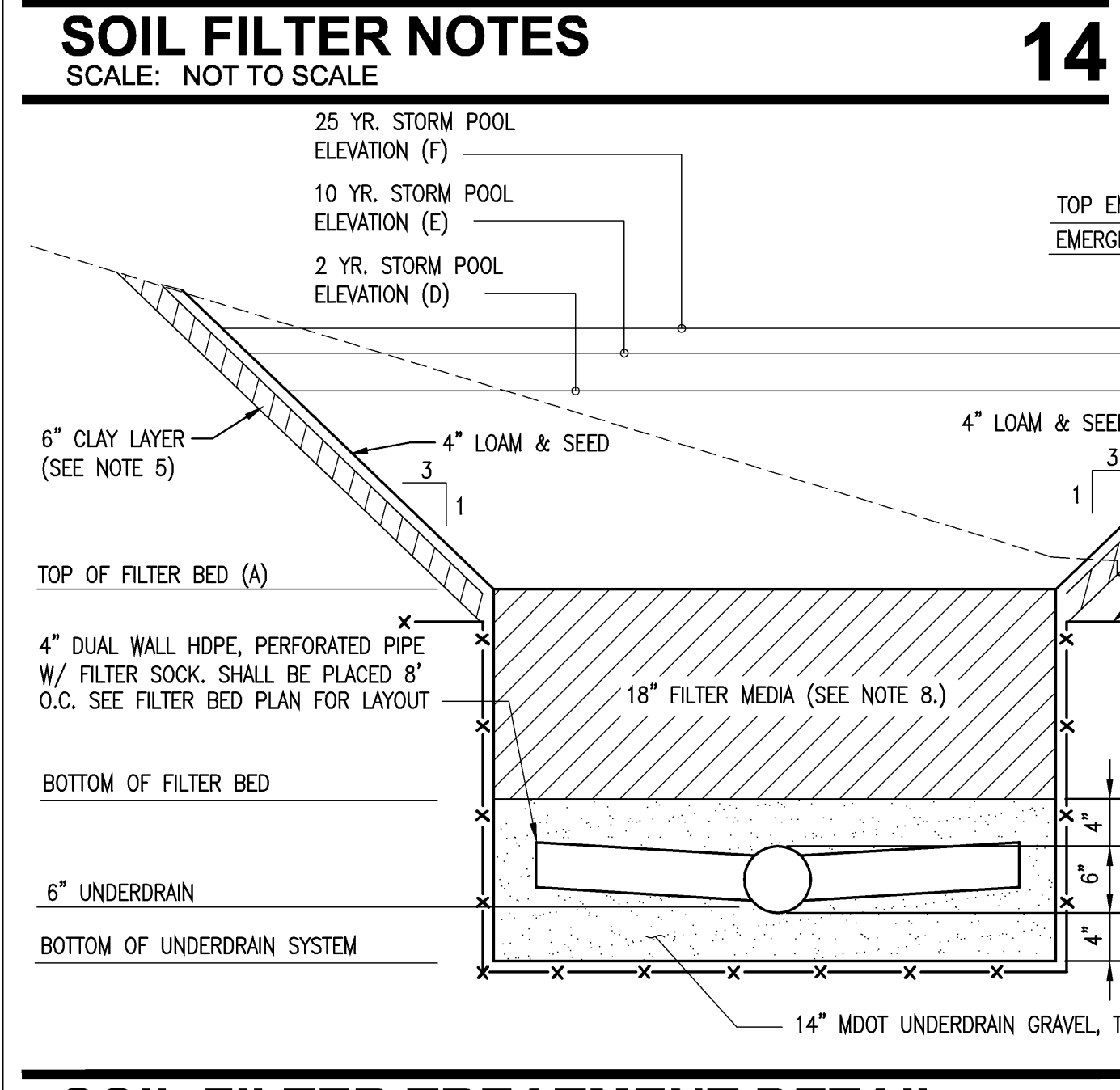
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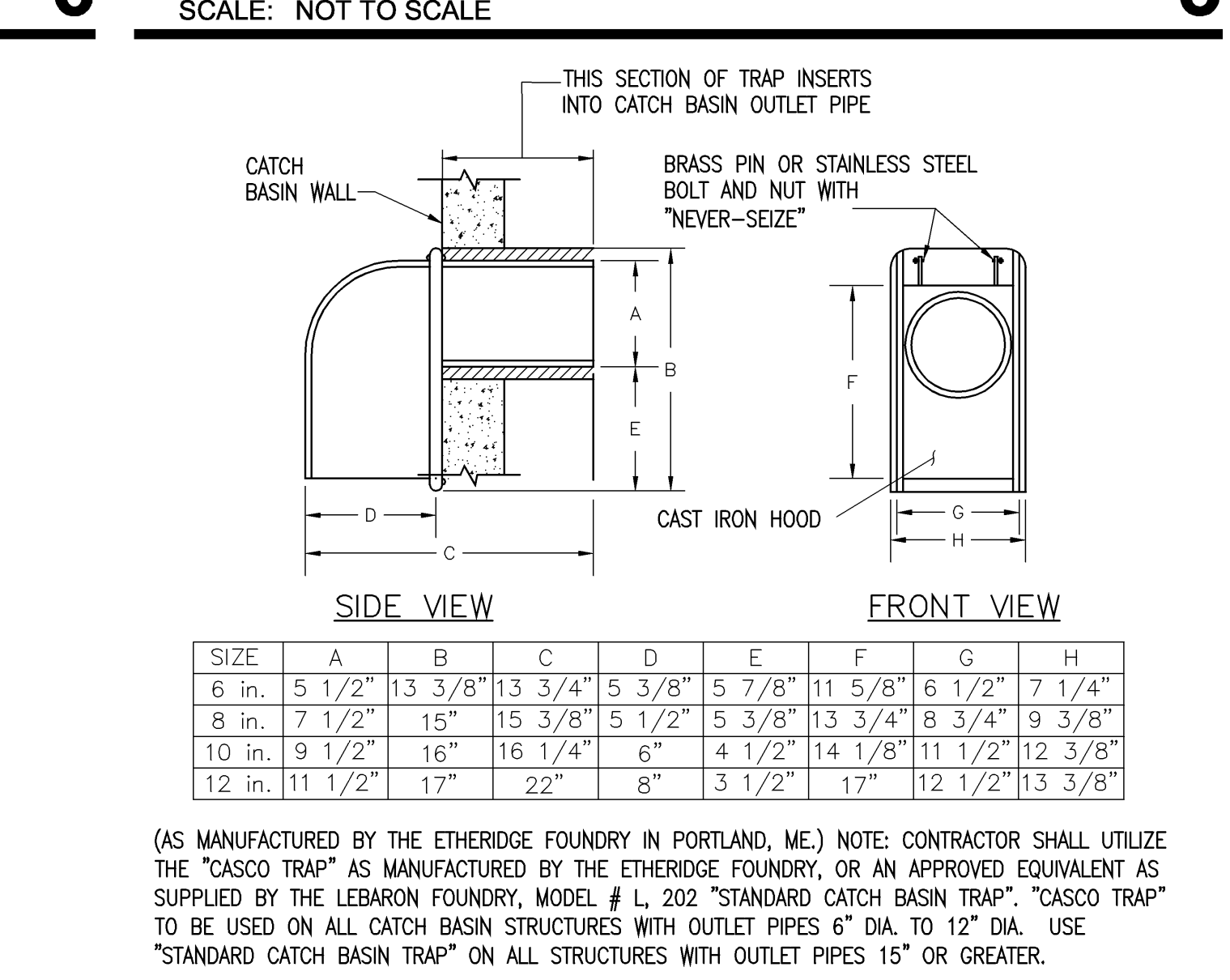
GENERAL NOTES

Issue	Date & Issue Description	By	Check
1	09/22/08	W/W	A/W
2	12/03/08	W/W	A/W
3	01/23/09	W/W	A/W
4	10/26/09	W/W	FEM

ISSUED FOR PERMIT



TYPE 'A' - MANHOLE FRAME & COVER
SCALE: NOT TO SCALE



CASCO TRAP
SCALE: NOT TO SCALE

SOIL FILTER TREATMENT DETAIL
SCALE: NOT TO SCALE

TYPE 'A' - MANHOLE FRAME & COVER
SCALE: NOT TO SCALE

TYPE 'A' - MANHOLE FRAME & COVER
SCALE: NOT TO SCALE

CASCO TRAP
SCALE: NOT TO SCALE

Project Name
P/W Terminal Enhancement

Project Number
08-0395-000
CAD File Name
D:\533010