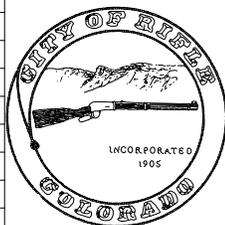


TYPICAL TRENCH

\* FOR HDPE PIPE, MINIMUM TRENCH WIDTH TO BE O.D. + 36".

No.	Dwn.	Date.	Revision

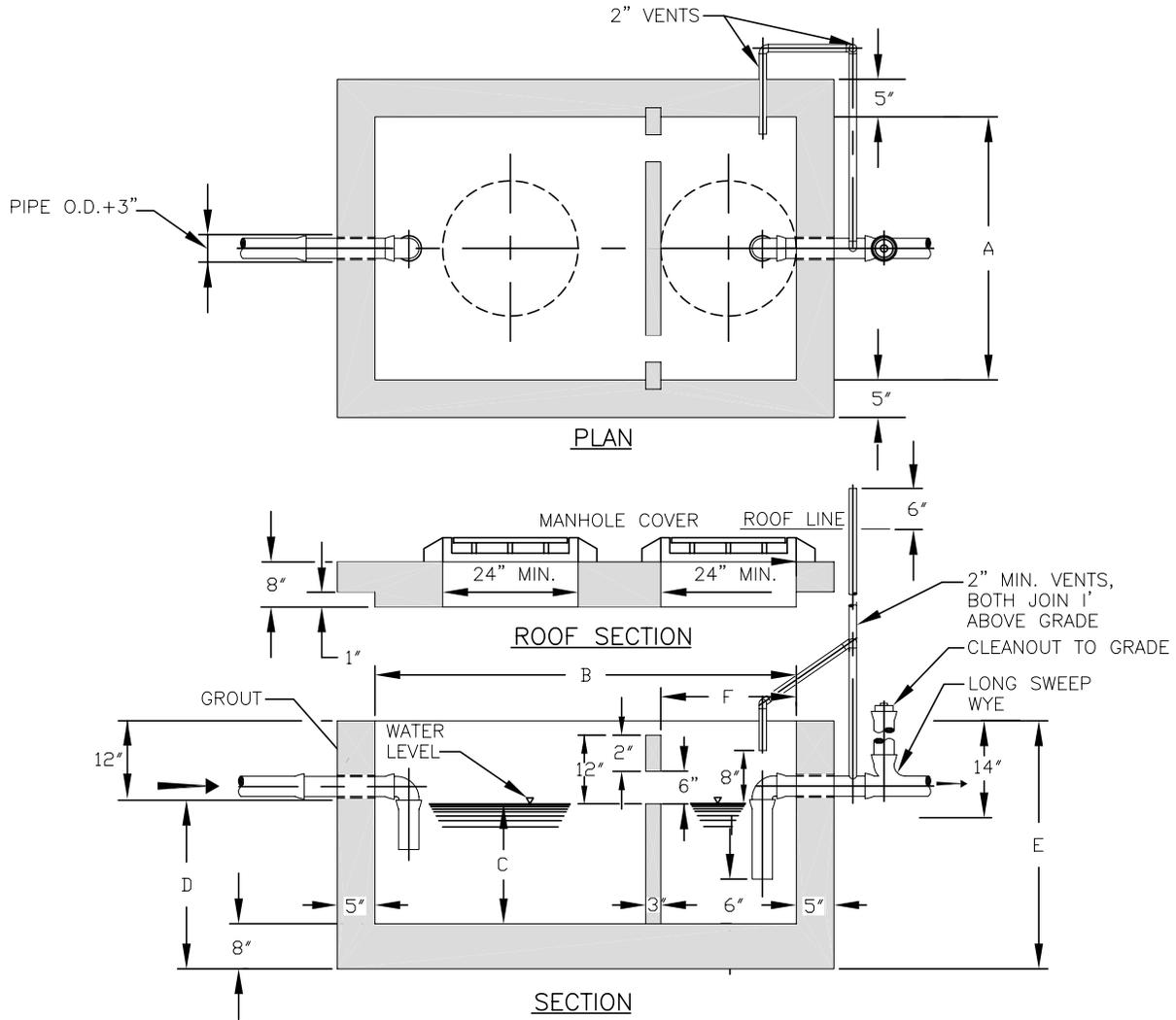


PIPE BEDDING AND BACKFILL LIMITS SEWER MAINS

approved: WMS  
 date: 11/6/02 | scale: NTS | dwn: | dwg #: SS-1  
 ENGINEERING DIVISION OF PUBLIC WORKS DEPT.

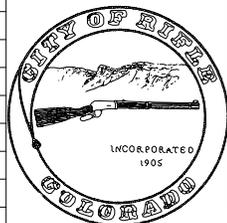


SAND AND OIL INTERCEPTOR TYPE "A" COMMERCIAL



- 1). ALL PIPE AND FITTINGS TO BE CAST IRON. MINIMUM 3" DIAMETER
- 2). SMALL COMPARTMENT HAS 1/3 OF TOTAL CAPACITY
- 3). WALLS AND BOTTOM REINFORCED THROUGHOUT WITH 2x16 6/10 REMESH.
- 4). COVERS TO BE REINFORCED LONGITUDINALLY WITH NO. 6 REBAR ON 6" CENTERS NO. 4 REBAR ON 6" CENTERS WIDTHWISE, AND NO. 8 REBAR DIAGONALLY AROUND THE ACCESS HOLES.
- 5). CLEAN OUT SHALL BE IRON BODY FERRULE.
- 6). VENT PIPE SHALL BE CAST IRON TO A POINT 6" ABOVE GROUND.
- 7). MANHOLE RING AND COVER SHALL BE J-MARK NO. 1161 OR EQUAL.
- 8). CHECK WITH SUPPLIER FOR EXACT DIMENSIONS.
- 9). NO BOLT DOWN COVERS ALLOWED WITHOUT PERMISSION FROM RIFLE WASTEWATER DEPARTMENT.

WATER CAPACITY APPROXIMATE GALLONS	DIMENSIONS					
	TWO COMPARTMENT TANK INCHES					
	A	B	C	D	E	F
320	48	72	22	30	44	24
500	48	72	36	46	44	58
780	48	96	40	48	62	20
1060	72	102	34	42	56	30

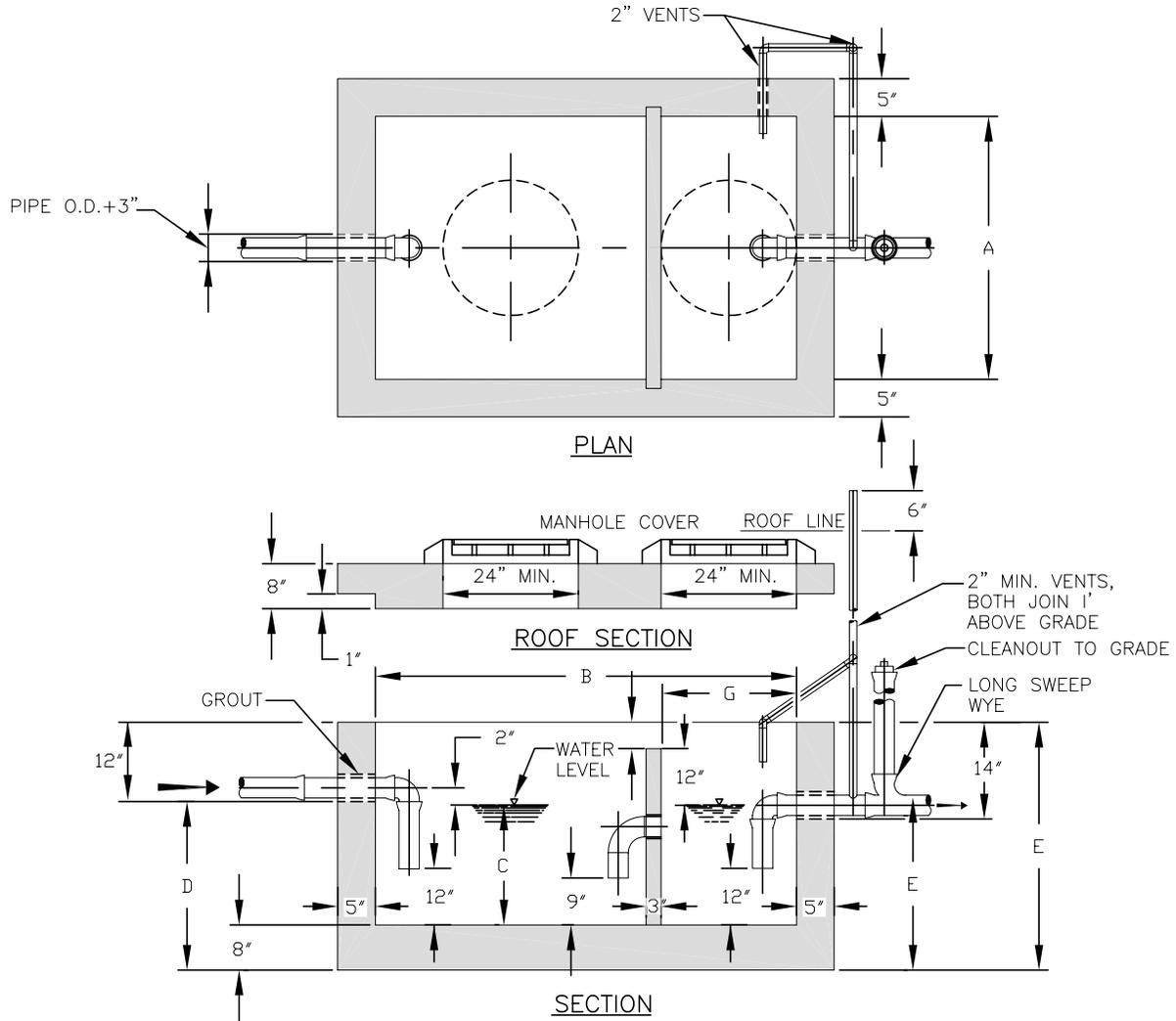


SAND AND OIL INTERCEPTOR TYPE "A" COMMERCIAL

approved: WMS  
 date: 11/6/02 | scale: NTS | dwn: | dwg #: SS-11  
 ENGINEERING DIVISION OF PUBLIC WORKS DEPT.

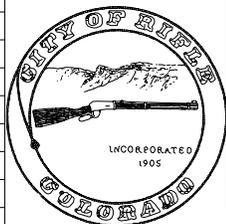
No. Dwn. Date. Revision

GREASE INTERCEPTOR TYPE "A" COMMERCIAL



- 1). SECONDARY COMPARTMENT HAS VOLUMN EQUAL TO 1/3 OF TOTAL CAPACITY
- 2). ALL PIPE AND FITTINGS TO BE CAST IRON. MINIMUM 3" DIAMETER.
- 3). WALLS AND BOTTOM REINFORCED THROUGHOUT WITH 2x16 6/10 REMESH.
- 4). COVERS TO BE REINFORCED LONGITUDINALLY WITH NO. 6 REBAR ON 6" CENTERS NO. 4 REBAR ON 6" CENTERS WIDTHWISE, AND NO. 8 REBAR DIAGONALLY AROUND THE ACCESS HOLES.
- 5). CLEAN OUT SHALL BE IRON BODY FERRULE WITH BRASS SCREW PLUG.
- 6). VENT PIPE SHALL BE CAST IRON TO A POINT 6" ABOVE GROUND.
- 7). MANHOLE RING AND COVER SHALL BE J-MARK NO. 1161 OR EQUAL.
- 8). CHECK WITH SUPPLIER FOR EXACT DIMENSIONS.
- 9). NO BOLT DOWN COVERS ALLOWED WITHOUT PERMISSION FROM RIFLE WASTEWATER DEPARTMENT.

WATER CAPACITY APPROXIMATE GALLONS	GREASE CAPACITY APPROXIMATE CUBIC FT.	DIMENSIONS						
		TWO COMPARTMENT TANK INCHES						
		A	B	C	D	E	F	G
320	17	48	72	22	32	30	44	24
500	32	48	72	36	46	44	58	24
780	47	48	96	40	50	48	62	20
1060	74	72	102	34	44	42	56	30
1250	87	80	112	35	43	41	57	36



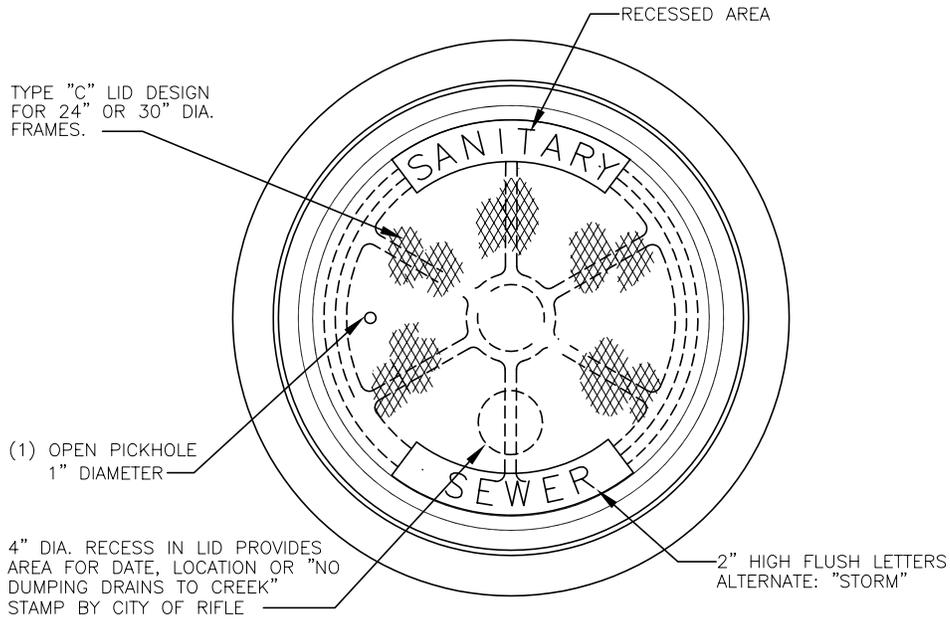
GREASE INTERCEPTOR TYPE "A" COMMERCIAL

approved: WMS

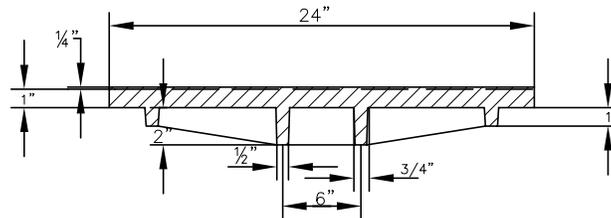
date: 11/6/02 | scale: NTS | dwn: | dwg #: SS-12

ENGINEERING DIVISION OF PUBLIC WORKS DEPT.

No. Dwn. Date. Revision

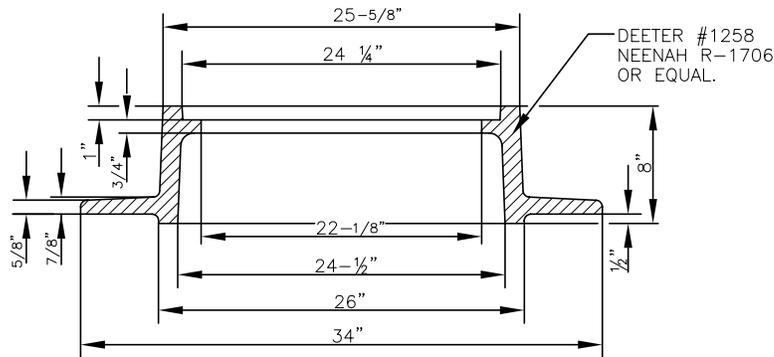


PLAN VIEW FRAME AND LID



LID SECTION

NOTE:  
4" AND 6" SET RINGS  
ALL THE SAME DIMENSION  
EXCEPT HEIGHT.



8" SET RING

NOTE:  
30" DIAMETER FRAME  
(NOT SHOWN) SHALL  
BE DEETER #1197  
OR NEENAH R-1798  
OR EQUAL.

No.	Dwn.	Date.	Revision



SANITARY AND STORM MANHOLE  
FRAME AND LID DETAIL

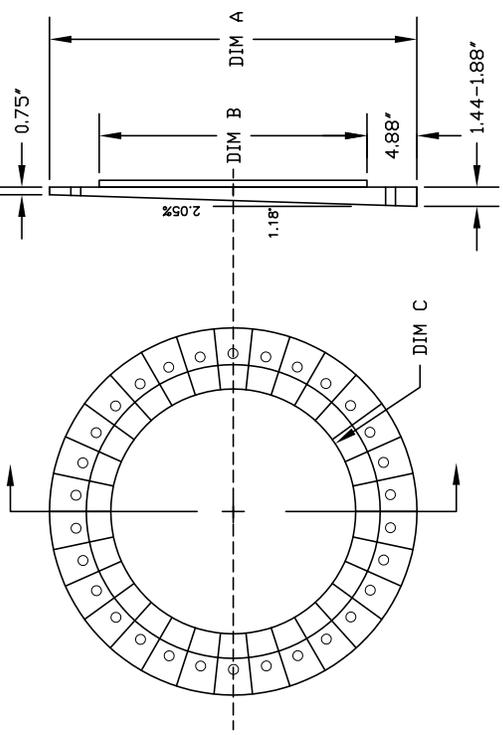
approved: WMS  
date: 11/6/02 | scale: NTS | dwn: | dwg #: SS-13  
ENGINEERING DIVISION OF PUBLIC WORKS DEPT.

No.	Dwn.	Date.	Revision



# POLYETHYLENE MANHOLE ADJUSTMENT RING

approved: WMS  
 date: 11/6/02 | scale: NTS | dwn: | dwg #: SS-14  
 ENGINEERING DIVISION OF PUBLIC WORKS DEPT.



WEDGE DESIGN

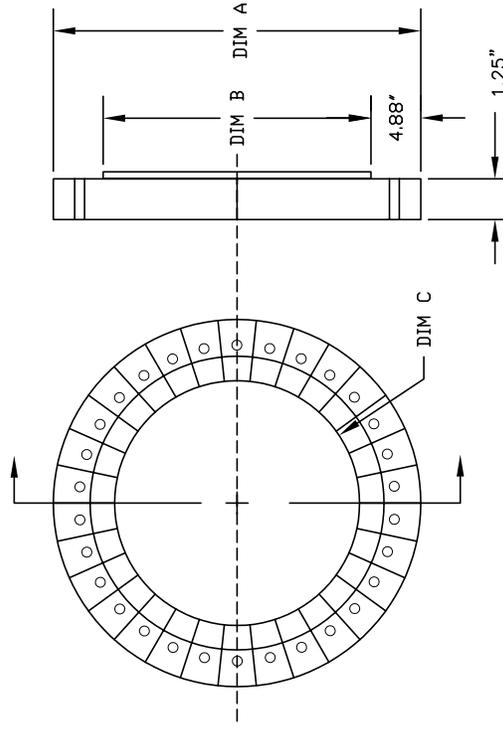
DIMENSION SCHEDULE			
CONE SIZE	DIM A	DIM B	DIM C
24"	23.75"	33.50"	23.25"
27"	26.75"	36.50"	26.25"

DIMENSION SCHEDULE			
CONE SIZE	DIM A	DIM B	DIM C
610mm	603.3	850.9	590.6
686mm	679.5	927.1	666.8

DESCRIPTION:

PLASTIC INJECTION MOLDED ADJUSTING RING  
 MOLDED FROM HIGH DENSITY POLYETHYLENE AS  
 DEFINED IN ASTM SPECIFICATION D1248-84  
 ACTUAL RESIN PROPERTIES WILL VARY ALLOWING  
 FOR THE UTILIZATION OF 100% REGRIND MATERIAL  
 THE PERCENT OF POST CONSUMER WASTE TO  
 INDUSTRIAL WASTE WILL VARY WITH AVAILABILITY AND  
 PROPERTY RETENTION NEEDS  
 COLOR, SHADE, AND UNIFORMITY WILL VARY WITH  
 THE MIX OF THE POST CONSUMER AND INDUSTRIAL  
 WASTE MATERIALS  
 DIMENSIONS SHOWN ARE NOMINAL - ACTUAL SIZE  
 WILL VARY WITHIN ALLOWABLE TOLERANCE AND  
 REQUIRED FIT



FLAT DESIGN

DIMENSION SCHEDULE			
CONE SIZE	DIM A	DIM B	DIM C
24"	23.75"	33.50"	23.25"
27"	26.75"	36.50"	26.25"

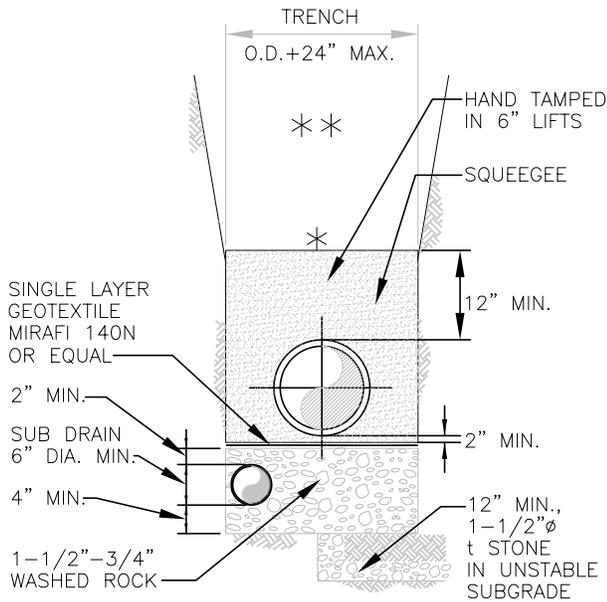
  

DIMENSION SCHEDULE			
CONE SIZE	DIM A	DIM B	DIM C
610mm	603.3	850.9	590.6
686mm	679.5	927.1	666.8

DESCRIPTION:

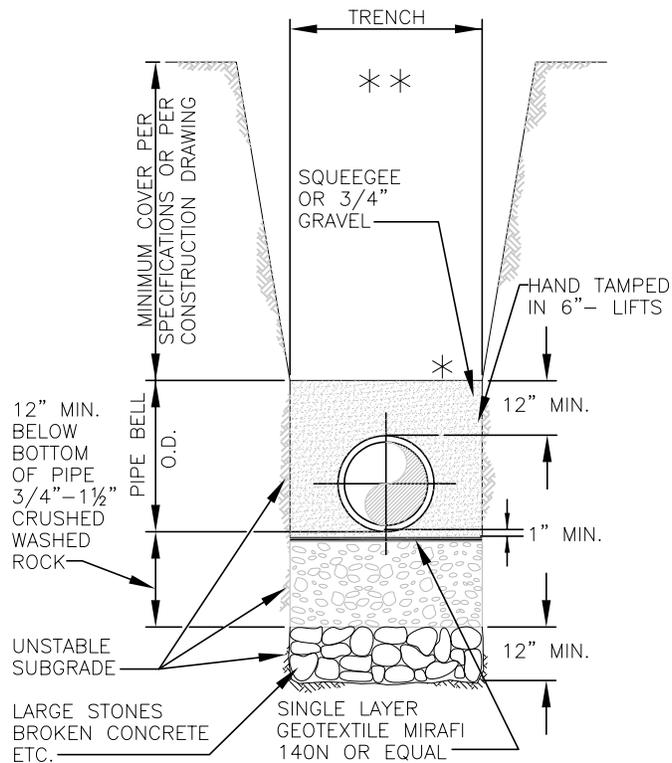
PLASTIC INJECTION MOLDED ADJUSTING RING  
 MOLDED FROM HIGH DENSITY POLYETHYLENE  
 AS DEFINED IN ASTM SPECIFICATION  
 D1248-84  
 ACTUAL RESIN PROPERTIES WILL VARY  
 ALLOWING FOR THE UTILIZATION OF 100%  
 REGRIND MATERIAL  
 THE PERCENT OF POST CONSUMER WASTE TO  
 INDUSTRIAL WASTE WILL VARY WITH  
 AVAILABILITY AND PROPERTY RETENTION NEEDS  
 COLOR, SHADE, AND UNIFORMITY WILL VARY  
 WITH THE MIX OF THE POST CONSUMER AND  
 INDUSTRIAL WASTE MATERIALS  
 DIMENSIONS SHOWN ARE NOMINAL - ACTUAL  
 SIZE WILL VARY WITHIN ALLOWABLE  
 TOLERANCE AND REQUIRED FIT



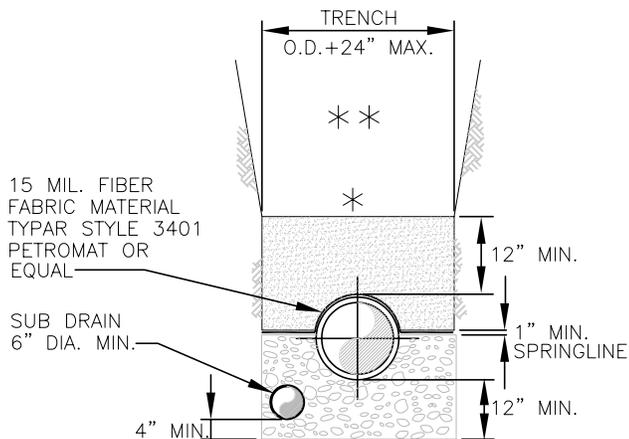


**PIPED UNDERDRAIN**

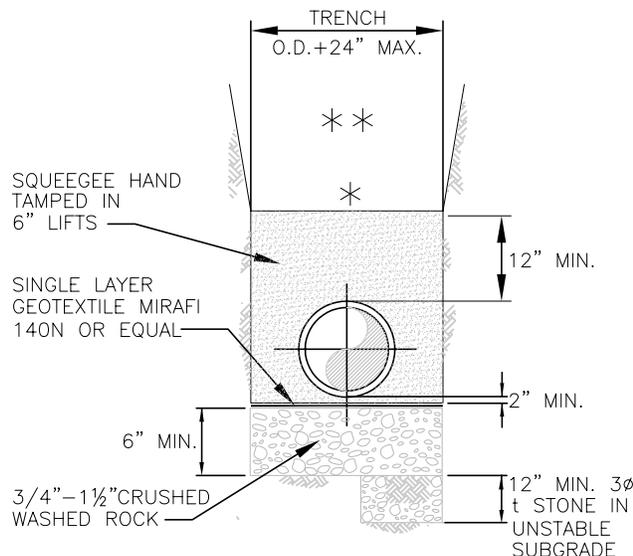
NOTE:  
IF A GEOTEXTILE SOCK IS USED  
ON THE UNDERDRAIN PIPE, SQUEEGEE  
MAY BE USED TO BED THE UNDERDRAIN  
AND MIRAFI WILL NOT BE REQUIRED.



**UNSTABLE SUBGRADE**

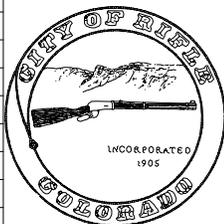


**PIPED UNDERDRAIN**



**GRAVEL UNDERDRAIN**

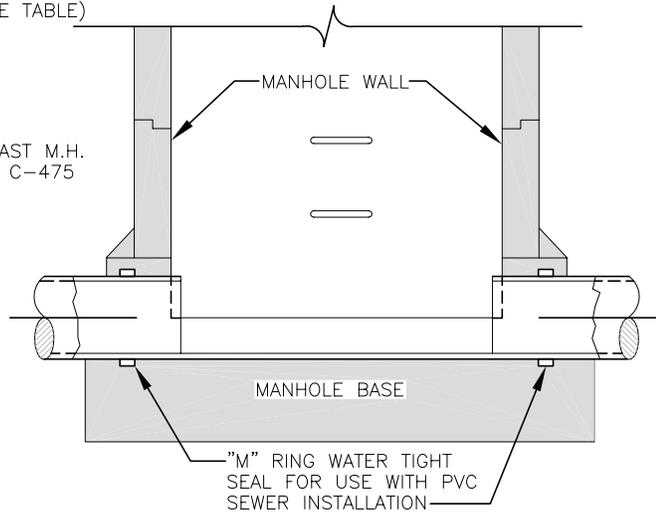
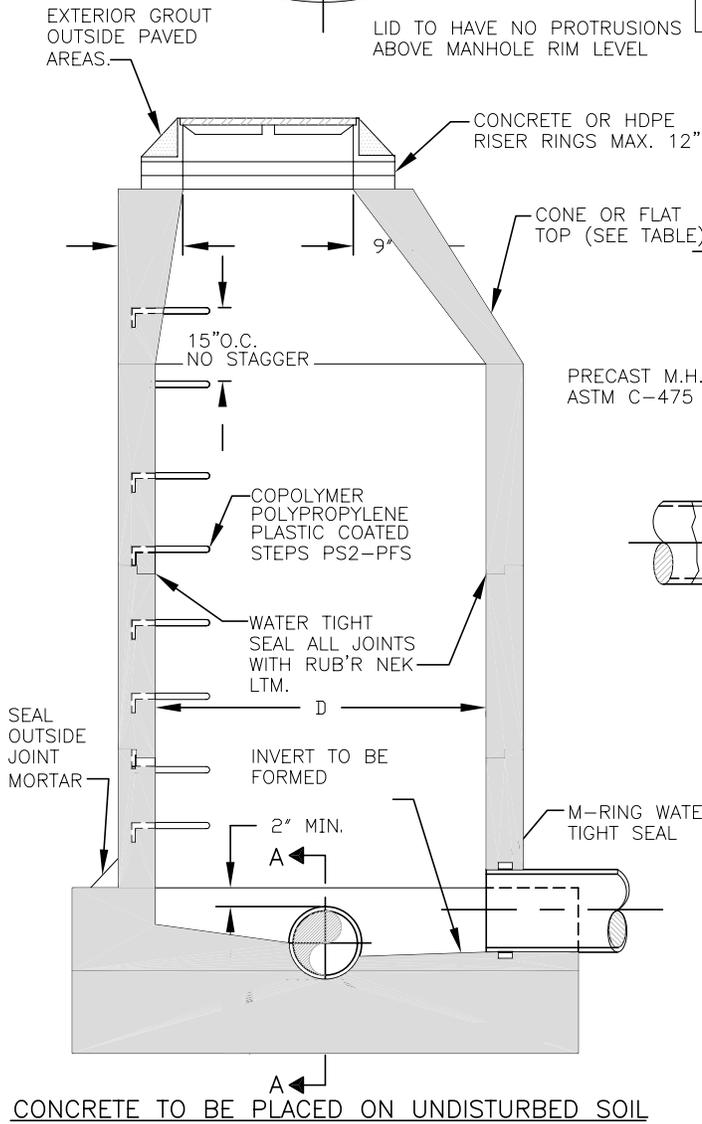
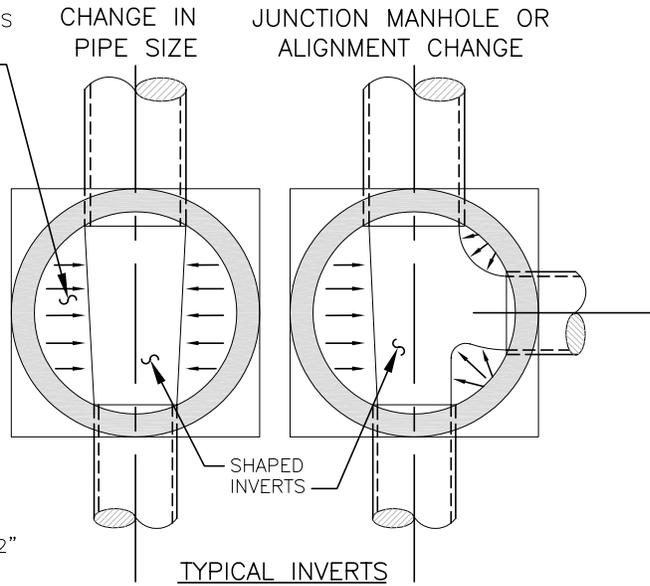
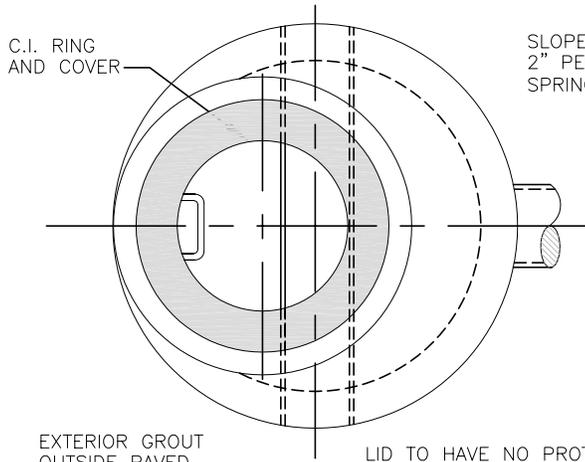
\* UNDISTURBED GROUND  
LIMIT OF SLOPING OR BENCHING OF TRENCH WALLS.  
\*\* MACHINE COMPACTED TRENCH BACKFILL



**UNSTABLE SUBGRADE AND UNDERDRAIN BEDDING**

approved: WMS  
date: 11/6/02 | scale: NTS | dwn: | dwg #: SS-2  
ENGINEERING DIVISION OF PUBLIC WORKS DEPT.

No. Dwn. Date. Revision



**SECTION A-A**

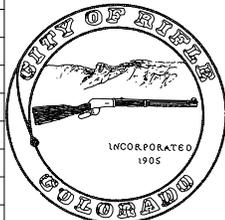
**NOTES:**

- 1) MANHOLE DIAMETER SHALL BE DETERMINED BY THE SIZE OF THE LARGEST PIPE SERVICED BY THE MANHOLE OR BY DEPTH OF THE MANHOLE. FOR MULTIPLE CONNECTIONS OR CHANGES IN DIRECTIONS, THE MANHOLE DIAMETER SHALL BE SUFFICIENT TO ACCOMMODATE ALL PIPES AND ALLOW A 6" BENCH AT THE BASE WITH PROPER SHAPING OF THE INVERT.
- 2) FOR MANHOLE DEPTH OF LESS THAN 6" FROM TOP OF BENCH TO RIM ELEVATION, PRECAST FLAT TOP SECTION SHALL BE INSTALLED. FOR MANHOLE DEPTH GREATER THAN 15' USE 5'-0" DIAMETER MANHOLE.
- 3) 6'-0" MANHOLE BARRELS NEED ONLY BE 6' I.D. TO A POINT APPROXIMATELY 6'-6" ABOVE THE MANHOLE BENCH AND THEN SHALL REDUCE TO 5' I.D. FOR THE REMAINING DISTANCE.
- 4) SPECIAL OR NON-STANDARD MANHOLE DESIGNS SHALL BE SUBMITTED TO THE CITY ENGINEER FOR APPROVAL.
- 5) ALL METAL BEARING SURFACES BETWEEN FRAME AND COVER WHERE SUBJECT TO TRAFFIC SHALL BE FABRICATED TO INSURE GOOD SEATING.

PIPE SIZE	"D" TABLE	NORMAL TOP OF SECTION
18" & SMALLER	4'-0" *	ECCENTRIC CONE
21" TO 48"	5'-0"	ECCENTRIC CONE
54"	6'-0"	FLAT TOP
60" AND LARGER	SPECIAL DETAILED DESIGN	FLAT TOP

\* LESS THAN 15' DEEP, 5'-0" OVER 15' DEEP

No.	Dwn.	Date	Revision

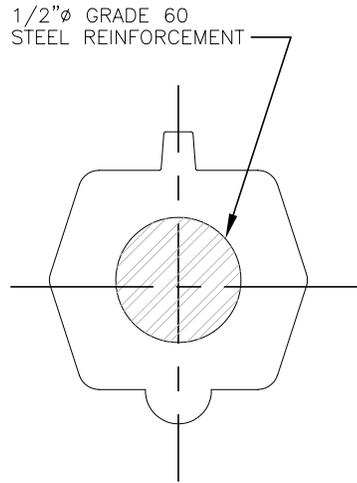
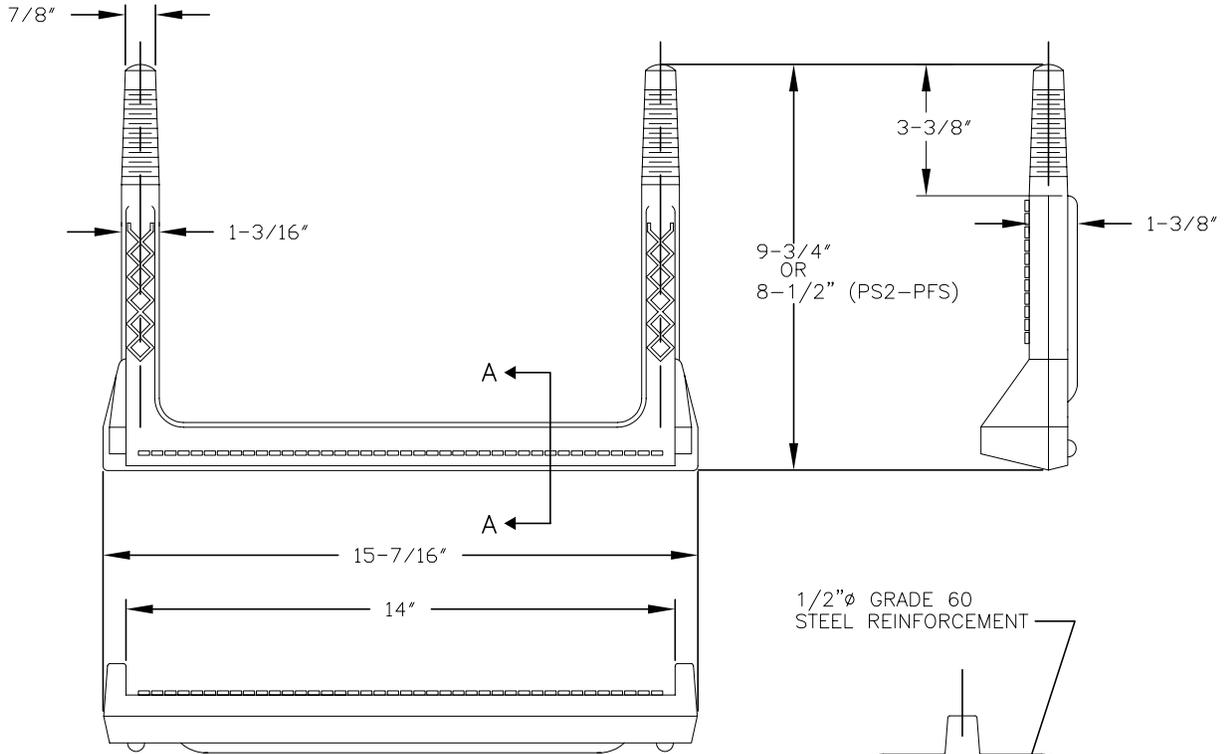


**TYPICAL MANHOLE**

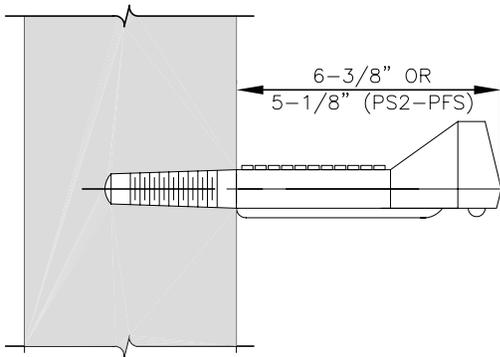
approved: WMS

date: 11/6/02 | scale: NTS | dwn: | dwg #: SS-3

ENGINEERING DIVISION OF PUBLIC WORKS DEPT.



SECTION A-A



NOTES:

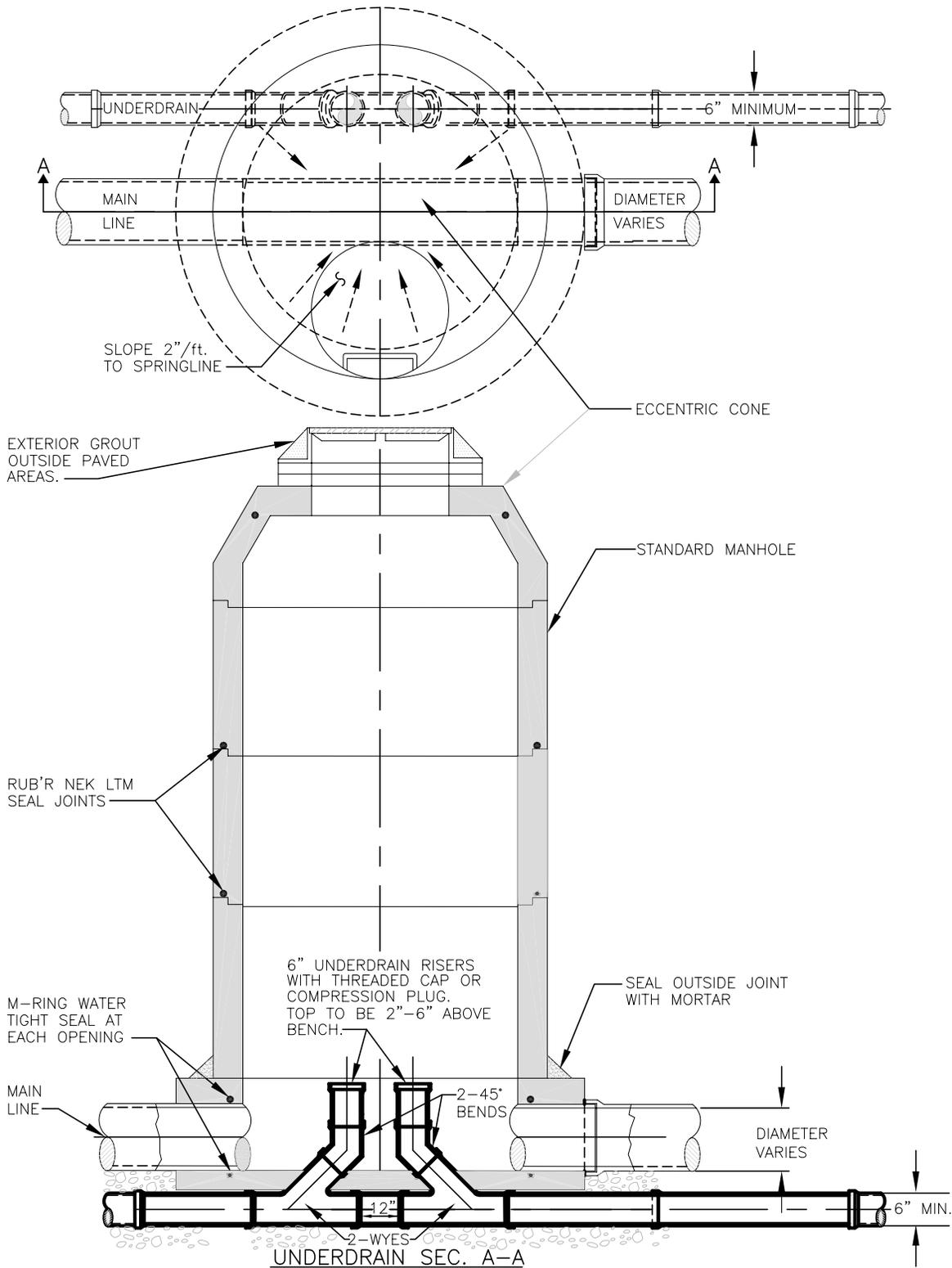
- 1). AS MANUFACTURED BY M.A. INDUSTRIES. PART NO. PS2-PF OR PS2-PFS.
- 2). CAPACITY 2,500 LBS. WITH STEP EXTENDED 6-3/8" FROM WALL.
- 3). MATERIAL COPOLYMER POLYPROPYLENE PLASTIC, WITH 1/2"Ø GRADE 60 STEEL REINFORCEMENT.

No.	Dwn.	Date.	Revision

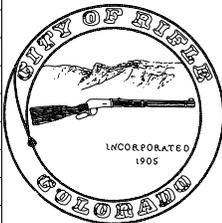


MANHOLE STEP

approved: WMS  
 date: 11/6/02 | scale: NTS | dwn: | dwg #: SS-4  
 ENGINEERING DIVISION OF PUBLIC WORKS DEPT.



No.	Dwn.	Date	Revision



## UNDERDRAIN CLEANOUT

approved: WMS

date: 11/6/02 | scale: NTS | dwn: | dwg #: SS-5

ENGINEERING DIVISION OF PUBLIC WORKS DEPT.

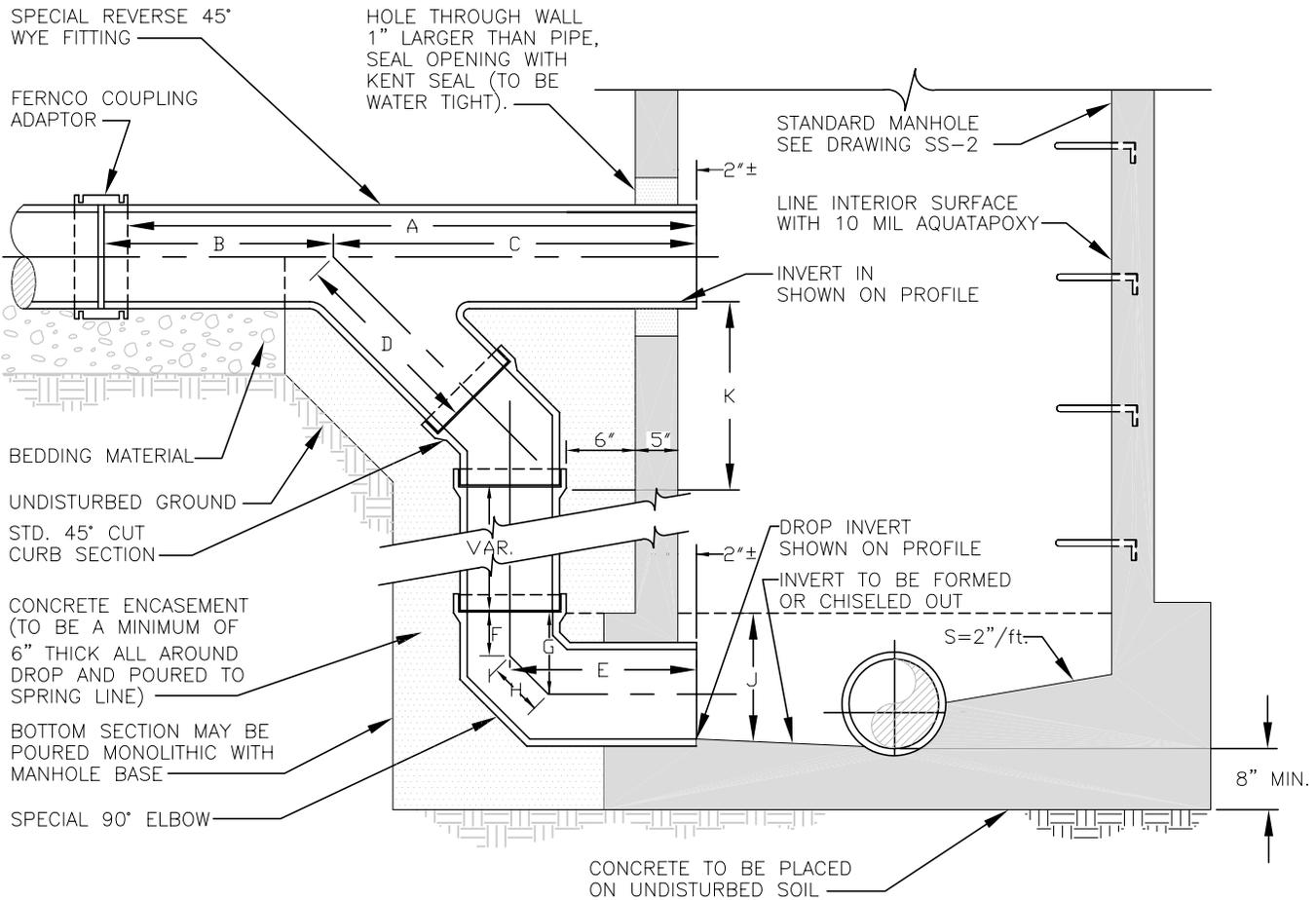


PIPE I.D.	A	B	C	D	E	F	G	H	J	K	J&K
8"	8"	60"	34"	18"	21"	4-1/2"	8"	4-5/8"	12"	15-7/8"	27-7/8"
10"	10"	60"	40"	21"	21"	5-7/8"	9"	5-1/2"	14"	18-1/2"	32-1/2"
12"	12"	60"	42"	24"	21"	5-7/8"	10-3/4"	5-7/8"	16-2/3"	21"	35-7/32"
15"	15"	78"	50"	30"	24"	7"	12-1/2"	7-3/4"	20"	25-7/8"	45-7/8"

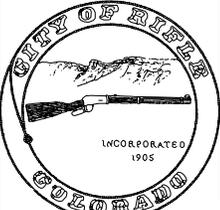
APPROXIMATE DIMENSIONS ONLY. (MAY VARY FROM MFG. TO MFG.)

**NOTES:**

- 1). P.V.C. PIPE AND FITTINGS (ASTM D-3034 SDR 35).
- 2). FOR PAYMENT PURPOSES: ALL FITTINGS, PIPE, CONCRETE ENCASEMENT, EXCEPT SPECIAL WYE FITTING, SHALL BE INCLUDED IN THE COST OF THE OUTSIDE DROP. THE COST OF THE SPECIAL WYE FITTING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR LINE PIPE.
- 3). DIAMETER OF DROP SHALL NOT BE LESS THAN THE LINE PIPE DIAMETER.
- 4). FOR 18" DIAMETER PIPE AND LARGER, OUTSIDE DROP DETAIL SHALL BE A SPECIAL DESIGN.

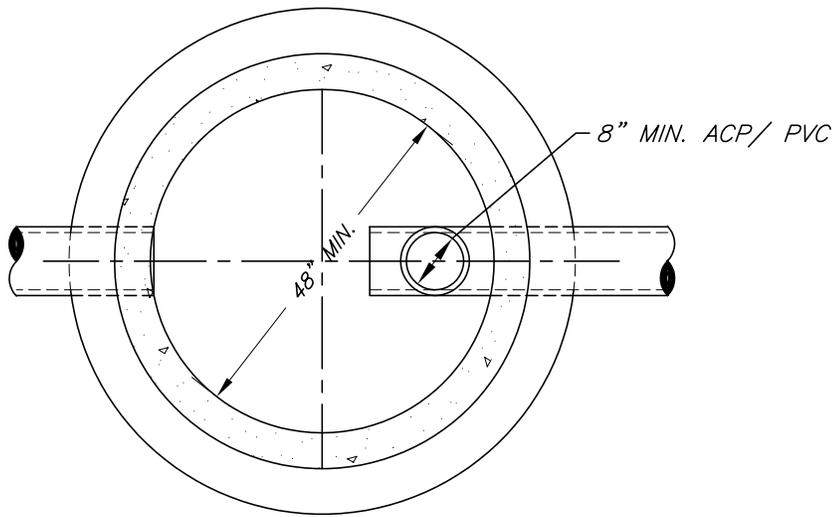


No.	Dwn.	Date	Revision

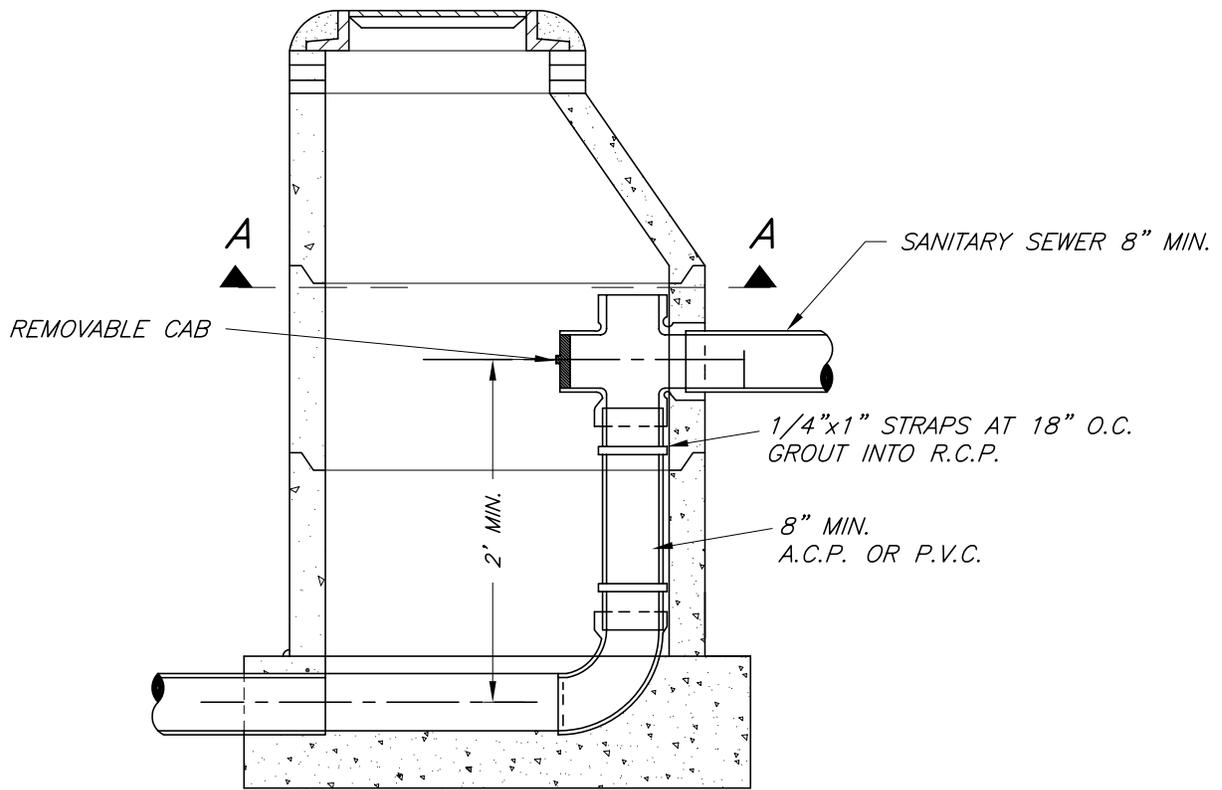


**MANHOLE EXTERIOR DROP TYPE**

approved: WMS  
 date: 11/6/02 scale: NTS dwn: dwg #: SS-7  
 ENGINEERING DIVISION OF PUBLIC WORKS DEPT.



SECTION A - A



No.	Dwn.	Date.	Revision



MANHOLE INTERIOR  
DROP TYPE

approved \_\_\_\_\_  
 date: \_\_\_\_\_ scale: NTS | dwn: \_\_\_\_\_ | dwg #: SS-7A  
 ENGINEERING DIVISION OF PUBLIC WORKS DEPT.



FLUME DESIGN CRITERIA

FLUME										MANHOLE SIZE	SLOPE UPSTREAM (%)
MAXIMUM DISCHARGE			HEAD INCHES	MODEL *	DIMENSIONS (INCHES)						
G.P.M.	M.G.D.	C.F.S.			D	D/2	R	H	Z	MINIMUM	MAXIMUM
52	0.075	0.116	2.90	PBF-4	4	2	0.67	6	17	6' DIA.	2.4
165	0.238	0.368	4.70	PBF-6	6	2	1.0	8	25	6' DIA.	2.2
343	0.494	0.764	6.30	PBF-8	8	3	1.33	10	33	6' DIA.	2.0
603	0.868	1.344	7.90	PBF-10	10	4	1.67	12	41	6' DIA.	1.8
936	1.348	2.085	9.40	PBF-12	12	6	2.0	14	49	6' DIA.	1.6
1648	2.373	3.672	11.80	PBF-15	15	7.5	2.5	17	61	7.5' DIA	1.5
2614	3.764	5.824	14.20	PBF-18	18	9	3.0	20	73	7.5' DIA	1.4

SEE FLUME NOTES ON SHEET 3 OF 3

No.	Dwn.	Date.	Revision



CONTROL MANHOLE WASTEWATER  
METERING AND SAMPLING FLUME  
DESIGN CRITERIA

approved: WMS  
 date: 11/6/02 | scale: NTS | dwn: | dwg #: SS-9  
 ENGINEERING DIVISION OF PUBLIC WORKS DEPT.