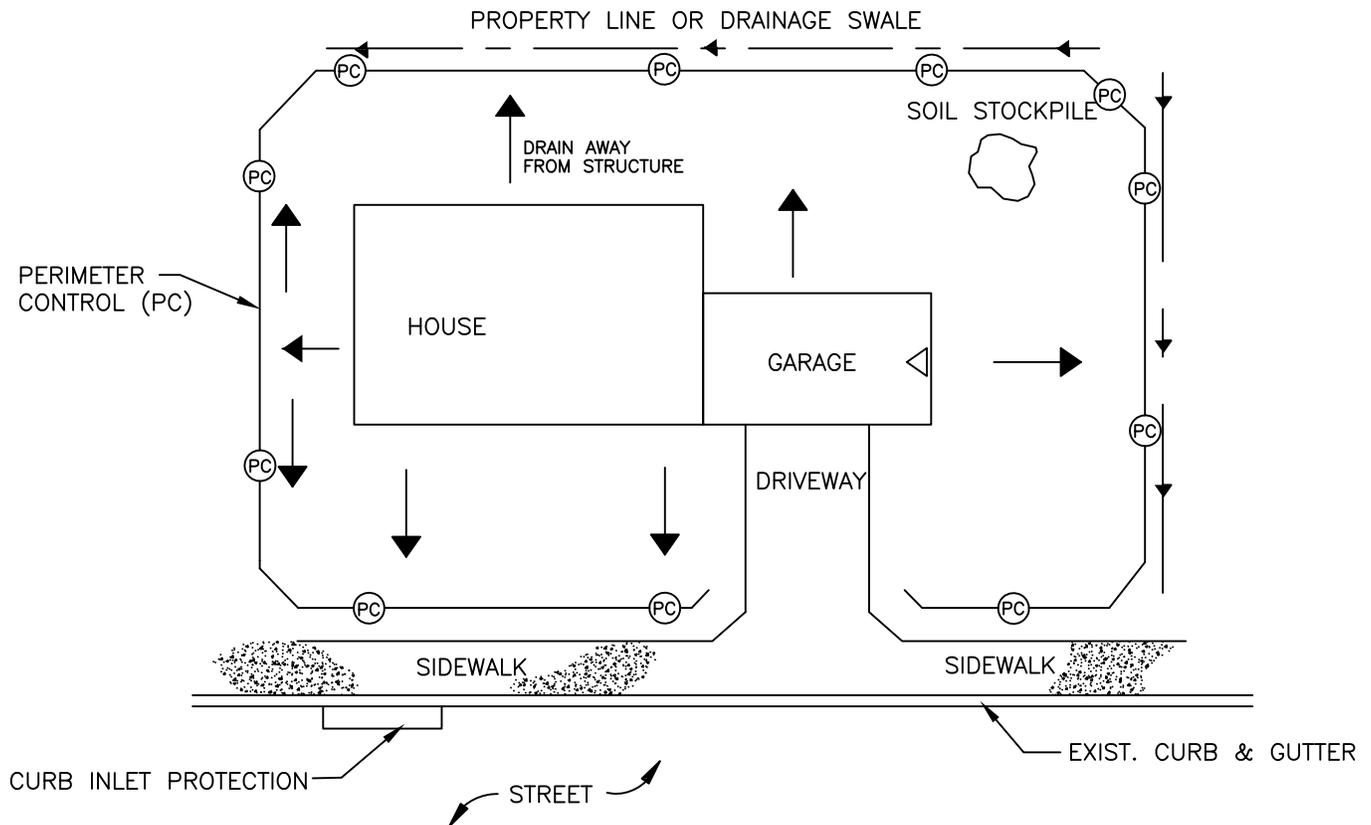


INDEX OF DRAWINGS
STORM SEWER

<u>DRAWING NO.</u>	<u>TITLE</u>
STM1	SINGLE LOT EROSION CONTROL
STM2	STORM SEWER OUTLET
STM3	CURB INLET GRAVEL FILTER
STM4	SILT FENCE EROSION BARRIER
STM5	STRAW BALE EROSION BARRIER
STM6	TRACKING CONTROL PAD
STM7	EROSION CONTROL SEQUENCE FOR SINGLE LOT
STM8A	STANDARD MANHOLE
STM8B	24" MANHOLE RING AND COVER
STM9	MANHOLE STEPS
STM10	INLET AND INLET COVER
STM11A	CONCRETE PIPE JOINTS – SHIPLAP (1 OF 2)
STM11B	CONCRETE PIPE JOINTS – TYPE "R" (2 OF 2)
STM12	STORM SEWER TRENCH DETAIL
STM13A	CONCRETE ENCASMENT/CLOSURE OF RIGID CONDUITS (1 OF 2)
STM13B	CONCRETE ENCASMENT/CLOSURE OF RIGID CONDUITS (2 OF 2)
STM14	FLARED END SECTION RIPRAP
STM15A	TRASH GUARD FOR CONDUIT (RCP) (1 OF 3)
STM15B	TRASH GUARD FOR CONDUIT (RCP) (2 OF 3)
STM15C	TRASH GUARD FOR CONDUIT (RCP) (3 OF 3)

NOTE:

1. FOR INLET AND MANHOLE DETAILS SEE THE CURRENT COLORADO DEPARTMENT OF TRANSPORTATION M & S STANDARDS
2. ALL INLETS SHALL HAVE THE WORDS "NO DUMPING--DRAINS TO RIVERS" AND "STORM SEWER"



EVERY BUILDING SITE IS UNIQUE AND POSES ITS OWN POTENTIAL EROSION HAZARDS. IN MANY INSTANCES, ADDITIONAL OR ALTERNATIVE CONTROL METHODS ARE NECESSARY IF THE LOT IS ADJACENT TO A CREEK, LAKE, OR WETLAND; SLOPES ARE GREATER THAN 6%; RECEIVES RUNOFF FROM ADJACENT AREAS; AND/OR MORE THAN ONE ACRE OF GROUND IS DISTURBED.

NOTES:

1. IT IS THE RESPONSIBILITY OF THE PROPERTY OWNER AND CONTRACTOR TO COMPLY WITH STATE LAWS AND LOCAL AND COUNTY ORDINANCES REGARDING CONSTRUCTION SITE EROSION AND SEDIMENT CONTROL. IT IS THEIR RESPONSIBILITY TO APPLY FOR ALL APPROPRIATE PERMITS.
2. THIS PLAN IS ONLY A SAMPLE PLAN AND IS NOT INTENDED TO BE ALL INCLUSIVE OR ADDRESS EVERY SITUATION, ADDITIONAL OR MODIFIED PRACTICES MAY BE REQUIRED ON SOME SITES.
3. EROSION OR SEDIMENT CONTROL MEASURES MUST BE FUNCTIONAL AND MAINTAINED THROUGHOUT CONSTRUCTION.
4. MAINTAIN POSITIVE DRAINAGE AWAY FROM THE STRUCTURE(S).

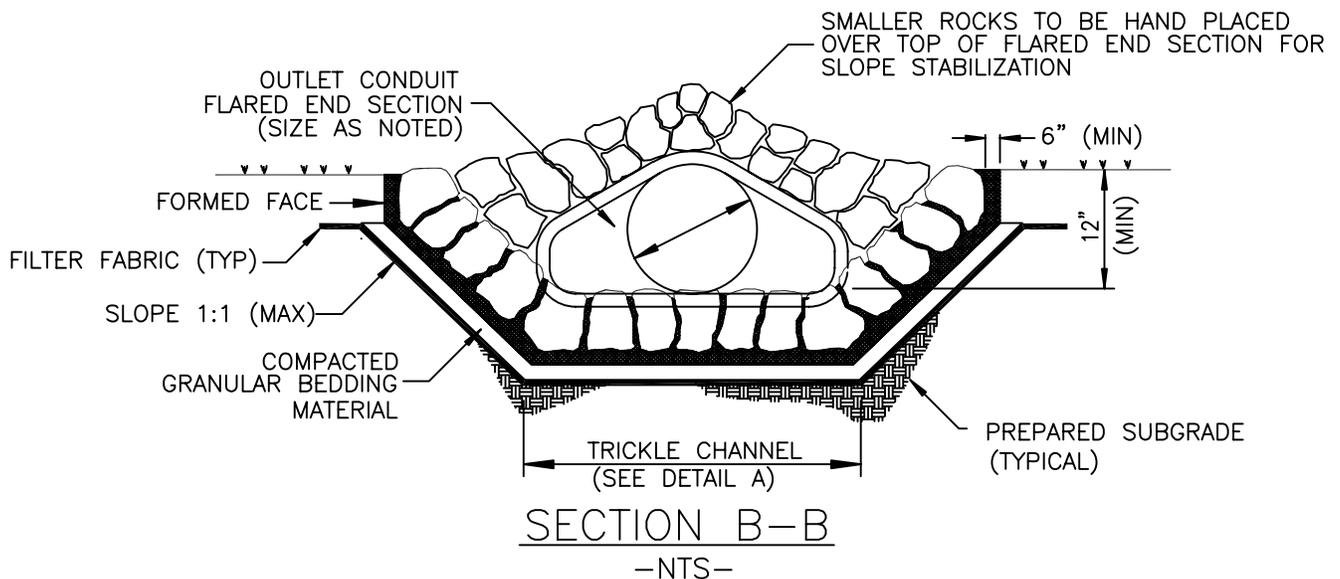
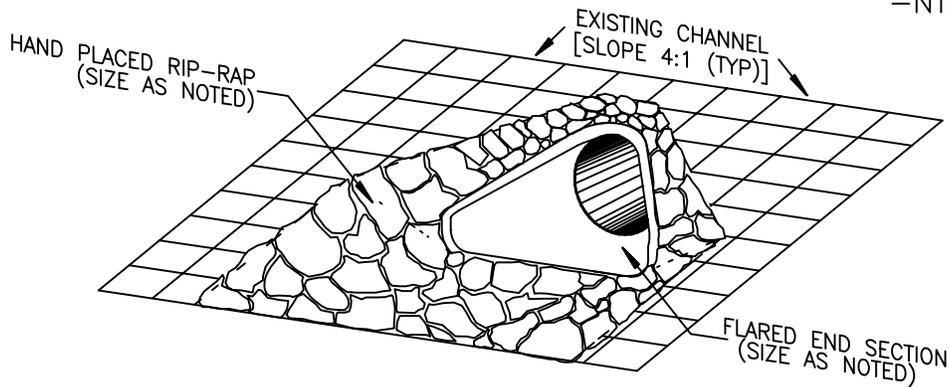
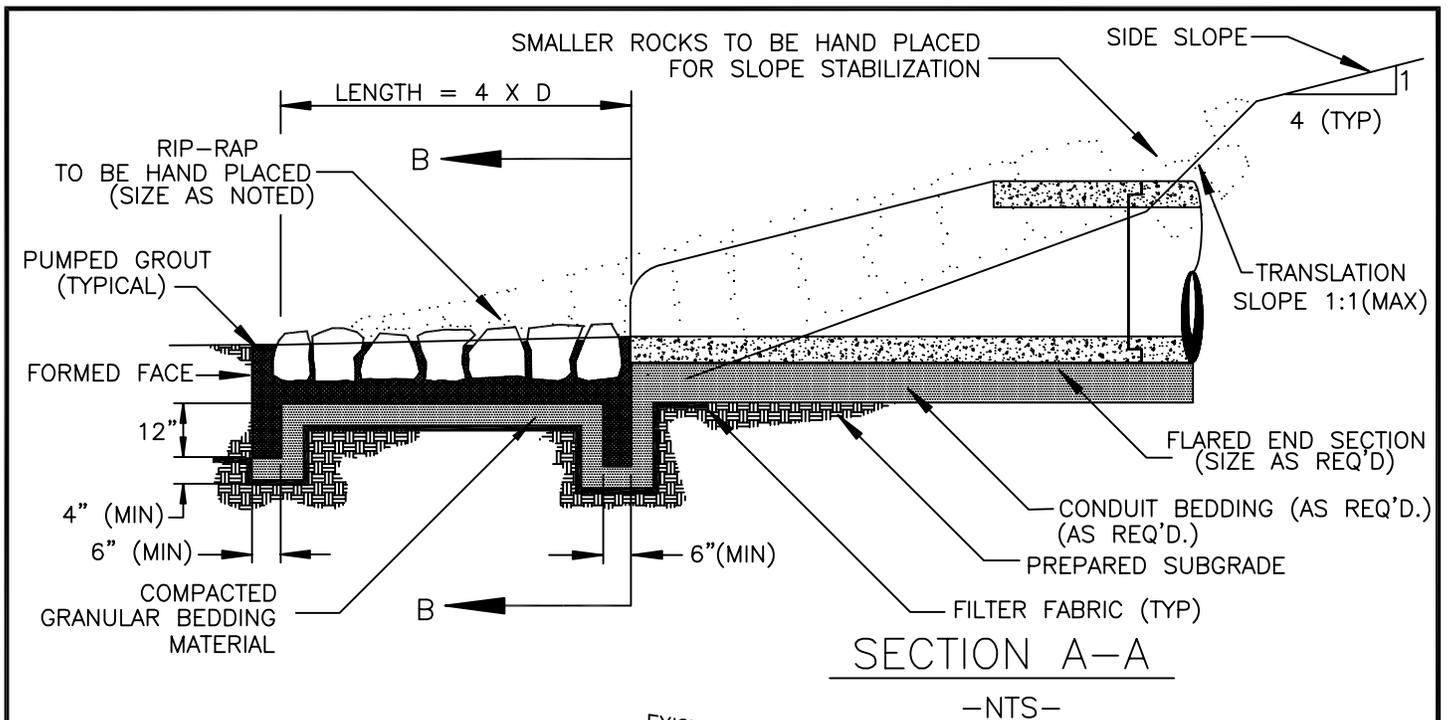
SILT FENCES

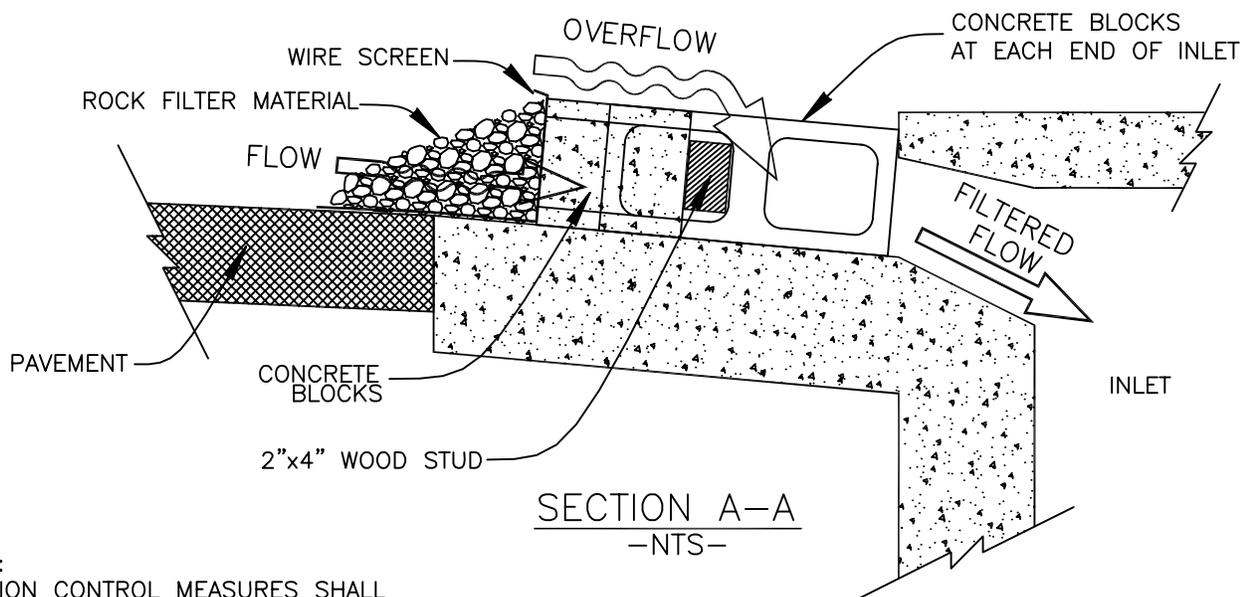
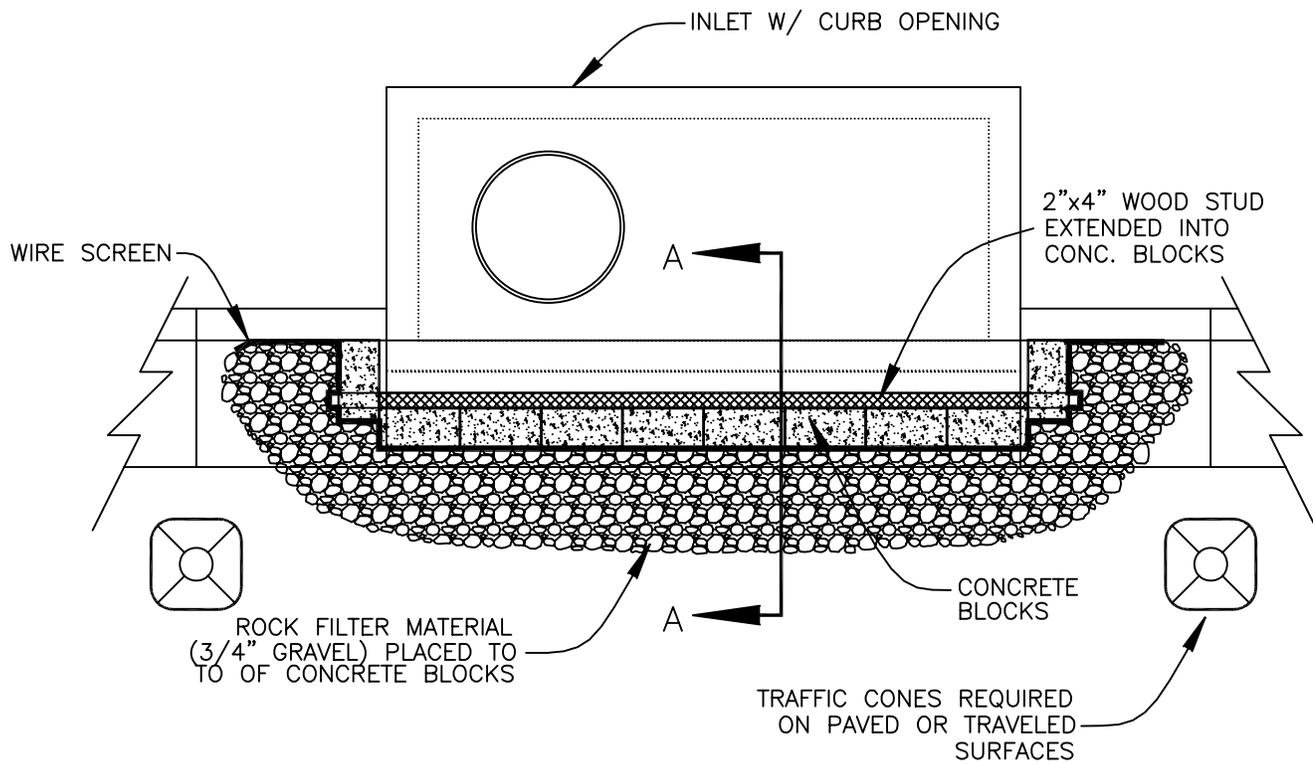
1. INSTALL SILT FENCE PARALLEL TO THE CONTOUR OF THE LAND.
2. EXTEND ENDS UPSLOPE TO ALLOW WATER TO POND BEHIND FENCE.
3. EXCAVATE A TRENCH 4 INCHES WIDE, 4 INCHES DEEP.
4. INSTALL FENCE WITH POSTS ON THE DOWN SLOPE SIDE.
5. PLACE 8 INCHES OF FABRIC IN THE TRENCH, EXTENDING THE BOTTOM 4 INCHES TOWARD THE UPSLOPE SIDE.
6. JOIN SILT FENCE SECTIONS BY USING A WRAP JOINT.
7. BACKFILL TRENCH WITH SOIL MATERIALS AND COMPACT.
8. INSPECT AT LEAST WEEKLY AND AFTER EACH STORM EVENT, REPAIRING AS NEEDED AND REMOVING SEDIMENT DEPOSITS WHEN THEY REACH ONE-HALF THE FENCE HEIGHT.

CONSTRUCTION TRAFFIC ENTRANCES

PROVIDE A SINGLE CONSTRUCTION TRAFFIC ENTRANCE THAT IS MAINTAINED IN A STABLE MANNER TO MINIMIZE SEDIMENT TRACKING TO TOWN STREETS.







NOTE:
 EROSION CONTROL MEASURES SHALL
 BE MAINTAINED AT ALL TIMES AS
 DIRECTED BY THE CITY ENGINEER

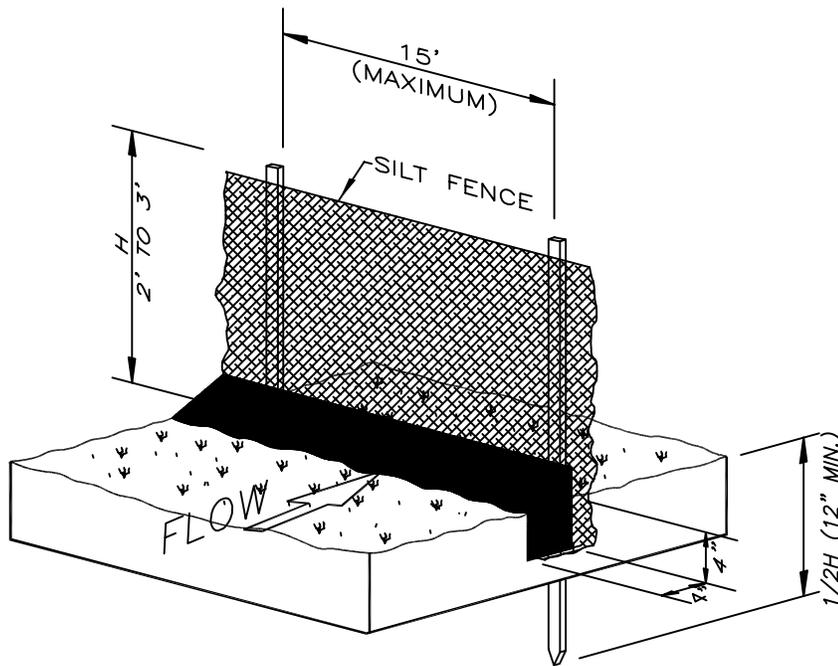
The Town of
ERIE
 COLORADO



DRAWING TITLE: CURB INLET GRAVEL FILTER

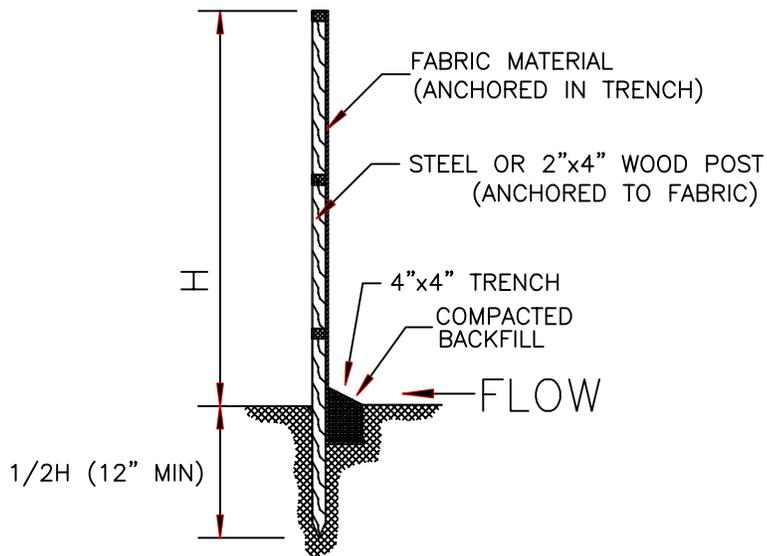
DRAWING NUMBER: STM3

DRAWN BY: D. JENKINS APPROVED BY: G. BEHLEN DATE: 06/2004



SILT FENCE INSTALLATION

-NTS-



SECTION

-NTS-

FOR SINGLE LOT EROSION CONTROL
SEE SHEET STM8

NOTES:

1. INSTALL SILT FENCE PARALLEL TO THE CONTOUR OF THE LAND.
2. EXTEND ENDS UPSLOPE TO ALLOW WATER TO POND BEHIND FENCE.
3. EXCAVATE A TRENCH 4 INCHES WIDE AND 4 INCHES DEEP.
4. INSTALL FENCE WITH POSTS ON THE DOWNSLOPE SIDE.
5. PLACE 8 INCHES OF FABRIC IN THE TRENCH, EXTENDING THE BOTTOM 4 INCHES TOWARD THE UPSLOPE SIDE.
6. JOIN SILT FENCE SECTIONS BY USING A WRAP JOINT.
7. BACKFILL TRENCH WITH SOIL MATERIALS AND COMPACT.
8. INSPECT AT LEAST WEEKLY AND AFTER EACH STORM EVENT, REPAIRING AS NEEDED AND REMOVING SEDIMENT DEPOSITS WHEN THEY REACH ONE-HALF THE FENCE HEIGHT.

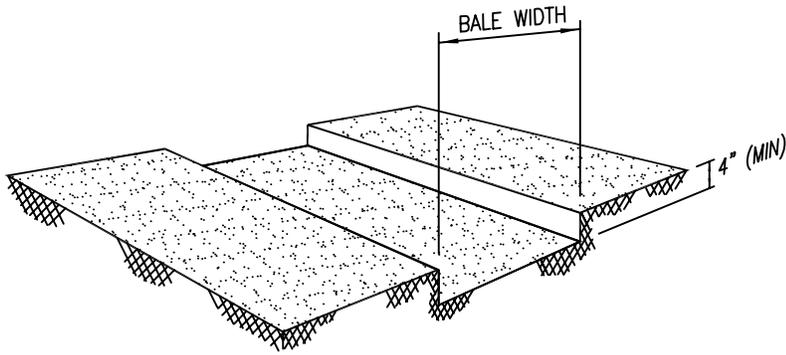
The Town of
ERIE
COLORADO



DRAWING TITLE: SILT FENCE EROSION BARRIER

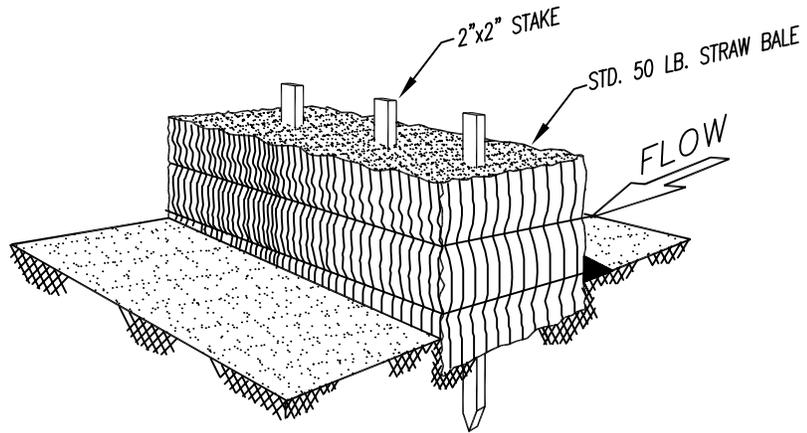
DRAWING NUMBER: STM4

DRAWN BY: D. JENKINS APPROVED BY: G. BEHLEN DATE: 06/2004



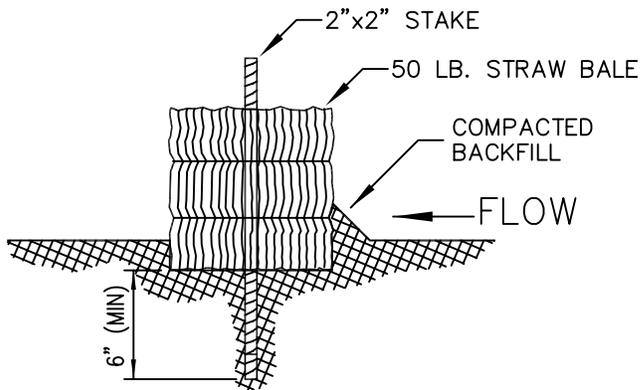
TRENCH EXCAVATION

-NTS-



STRAW BALE INSTALLATION

-NTS-

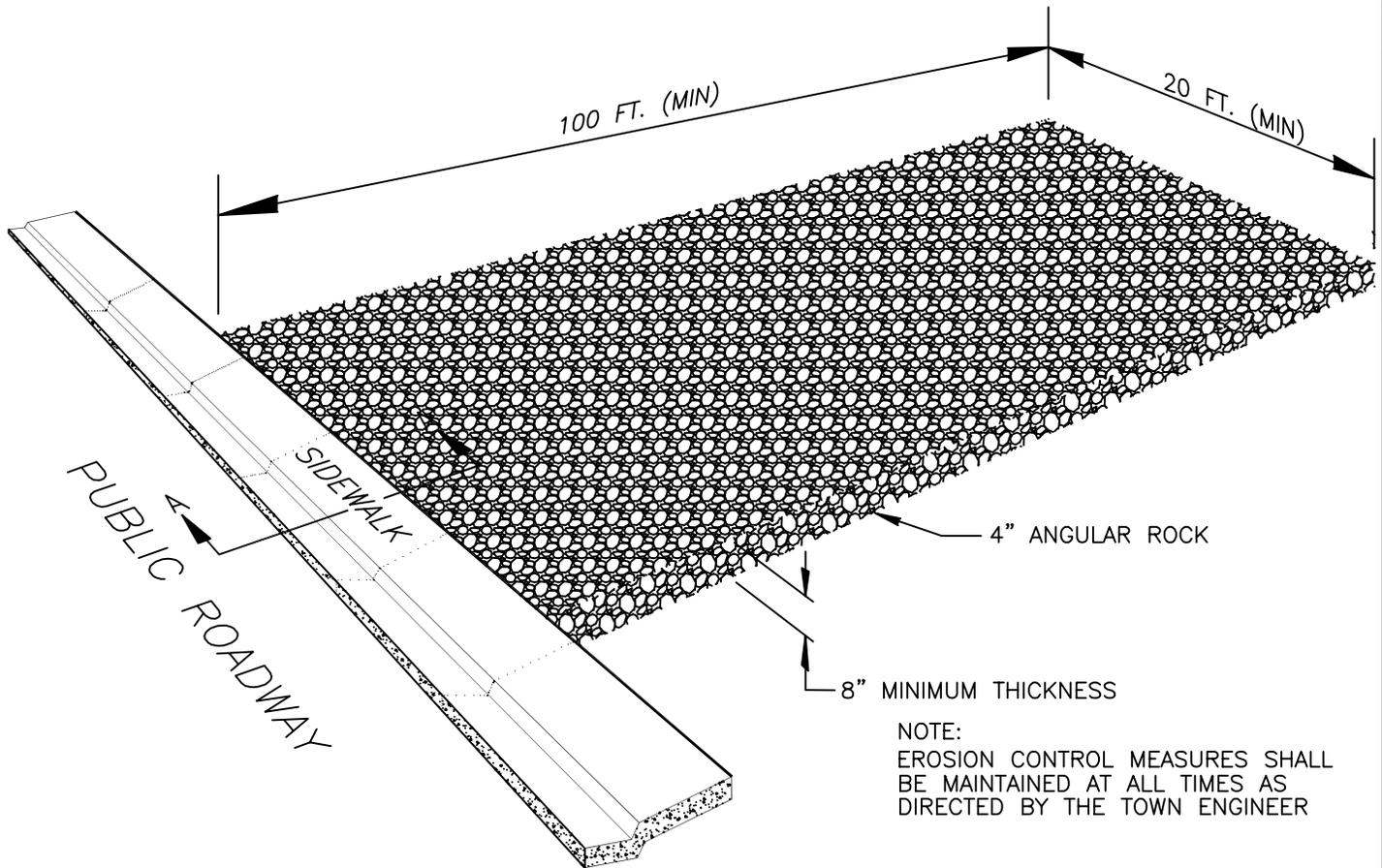


SECTION

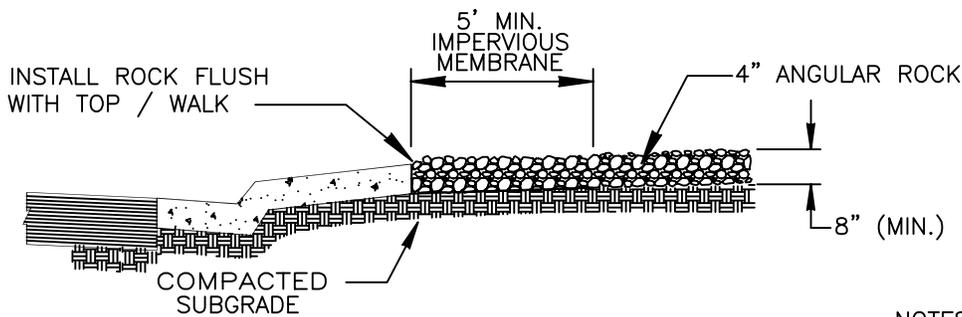
-NTS-

NOTE: EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL LANDSCAPING IS COMPLETED.





NOTE:
 EROSION CONTROL MEASURES SHALL
 BE MAINTAINED AT ALL TIMES AS
 DIRECTED BY THE TOWN ENGINEER



SECTION A-A
 -NTS-

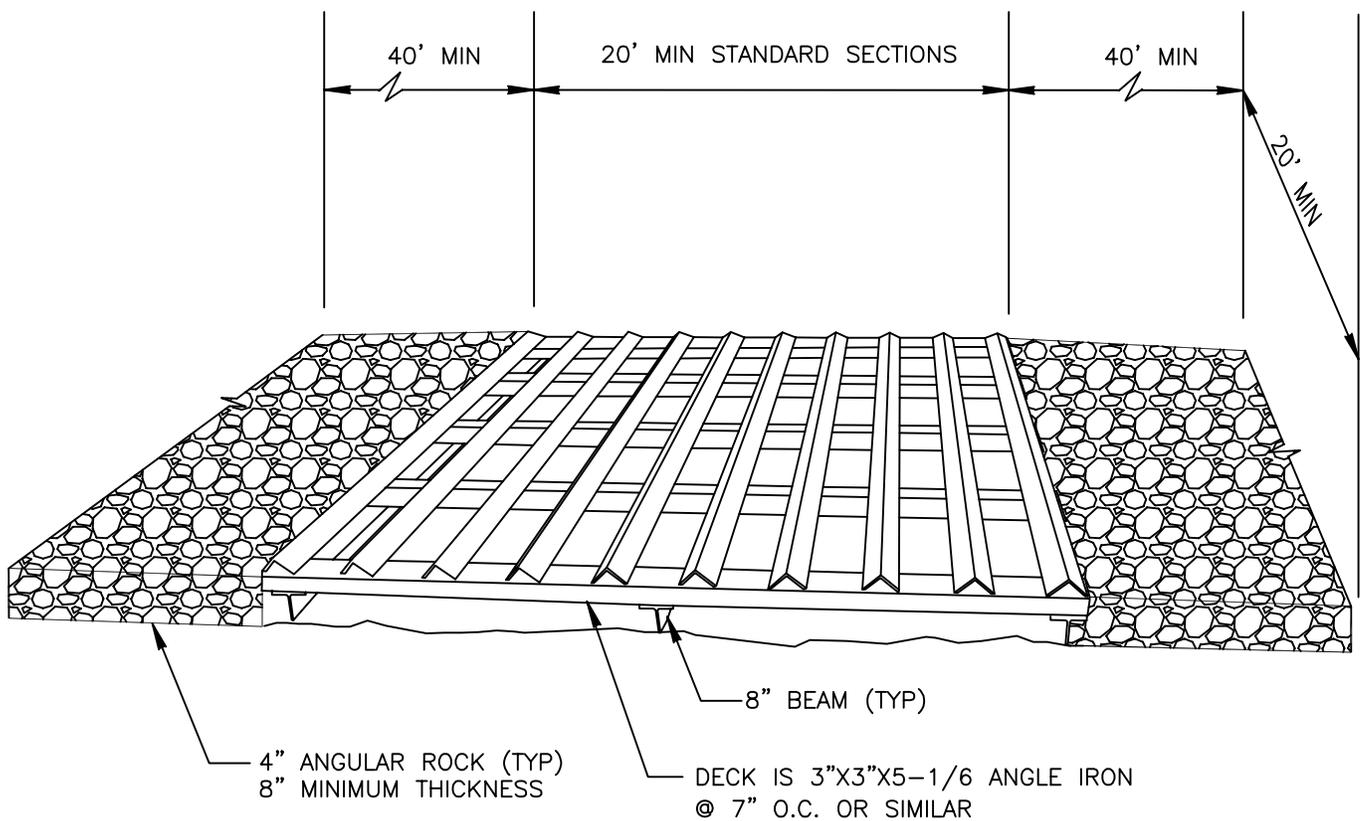
NOTES:

1. ALL ROCK TO BE REMOVED UPON COMPLETION OF CONSTRUCTION
2. PUBLIC ROADWAY TO BE KEPT CLEAN AND FREE OF MUD, DIRT AND DEBRIS AT ALL TIMES



NOTES:

1. ALL ROCK TO BE REMOVED UPON COMPLETION OF CONSTRUCTION
2. PUBLIC ROADWAY TO BE KEPT CLEAN AND FREE OF MUD, DIRT AND DEBRIS AT ALL TIMES



CONSTRUCTION SEQUENCE FOR EROSION & SEDIMENT CONTROL PRACTICES FOR SINGLE LOT

1. INSTALL PERIMETER EROSION AND SEDIMENT CONTROLS

IDENTIFY THE AREAS WHERE SEDIMENT LADEN RUNOFF COULD LEAVE THE CONSTRUCTION SITE, AND INSTALL PERIMETER CONTROLS TO MINIMIZE THE POTENTIAL FOR OFF-SITE SEDIMENTATION. IT'S IMPORTANT THAT PERIMETER CONTROLS ARE IN PLACE BEFORE ANY LOT EXCAVATION ACTIVITIES BEGIN.

PREFERRED METHODS

- PROTECT DOWN-SLOPE AREAS WITH VEGETATIVE FILTER STRIPS
- PROTECT DOWN-SLOPE AREAS WITH SILT FENCES AND OTHER APPROPRIATE PRACTICES
- INSTALL STABLE CONSTRUCTION TRAFFIC ENTRANCE

2. PREPARE THE SITE FOR CONSTRUCTION

PREPARE THE SITE FOR CONSTRUCTION AND FOR INSTALLATION OF UTILITIES. NOTIFY ALL CONTRACTORS (ESPECIALLY THE EXCAVATION CONTRACTOR) OF AREAS TO BE PROTECTED.

PREFERRED METHOD

- SALVAGE AND STOCKPILE TOPSOIL OR SUBSOIL

3. BUILD STRUCTURE(S) AND CONNECT UTILITIES

CONSTRUCT THE HOME AND CONNECT THE UTILITIES.

4. MAINTAIN CONTROL PRACTICES

MAINTAIN ALL EROSION AND SEDIMENT CONTROL PRACTICES UNTIL CONSTRUCTION IS COMPLETED AND THE LOT IS STABILIZED.

5. RE-VEGETATE BUILDING SITE

IMMEDIATELY AFTER ALL OUTSIDE CONSTRUCTION ACTIVITIES ARE COMPLETED, STABILIZE THE LOT WITH SOD, SEED AND/OR MULCH.

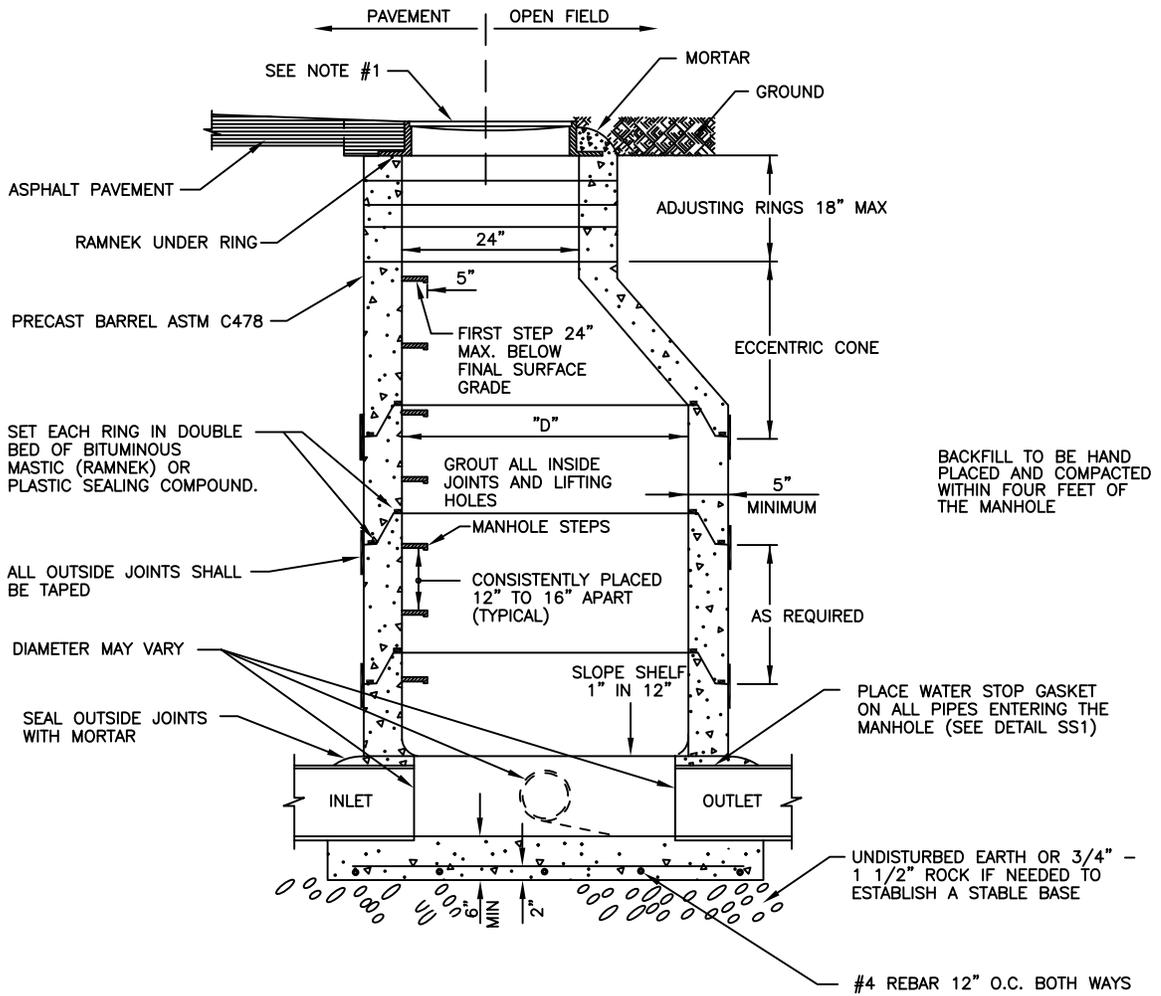
METHODS

- REDISTRIBUTE THE STOCKPILED SUBSOIL AND TOPSOIL
- SEED OR SOD BARE AREAS
- MULCH NEWLY SEEDED AREAS

6. REMOVE REMAINING TEMPORARY CONTROL MEASURES

ONCE THE SOD AND/OR VEGETATION IS WELL ESTABLISHED, REMOVE ANY REMAINING TEMPORARY EROSION AND SEDIMENT CONTROL PRACTICES.



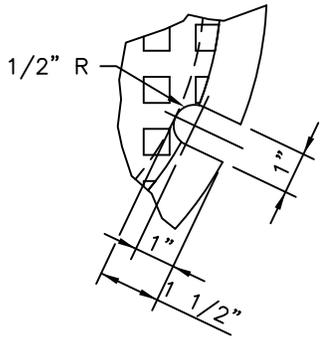
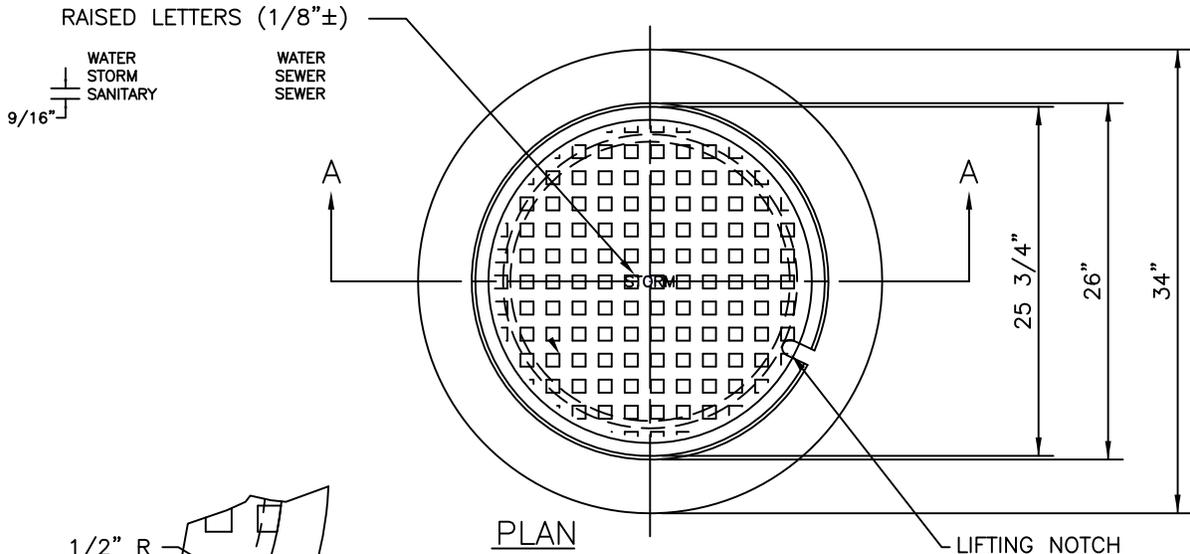


SECTION B-B

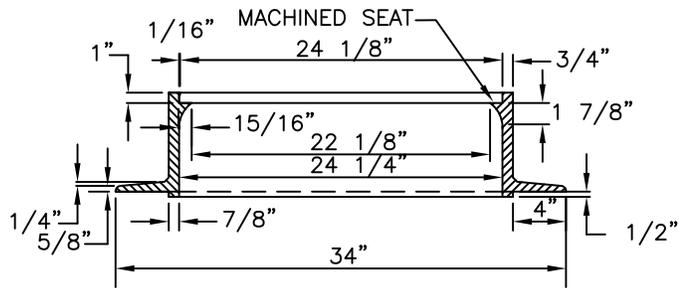
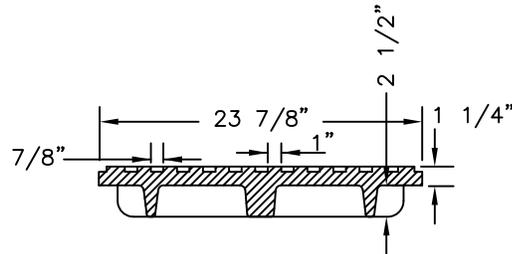
NOTES:

1. FINAL GRADE OF MANHOLE COVERS SHALL BE 1/4" LOWER THAN FINAL STREET.
2. STEPS SHOULD NOT BE PLACED OVER THE FLOW. NO STEPS ALLOWED IN THE ADJUSTING RING AREA.
3. PRECAST CONCRETE SECTIONS SHALL CONFORM TO ASTM C-478.
4. BLOCK-OUTS, WHEN APPROVED, SHALL EXTEND A MAX. OF 6" PAST MANHOLE O.D. AND BE SATISFACTORILY PLUGGED AND SEALED.
5. MANHOLES NOT IN ASPHALT OR CONCRETE SHALL BE RAISED 6" ABOVE FINAL GRADE AND A CONCRETE COLLAR INSTALLED WITH A GREEN CARSONITE POST





LIFTING NOTCH



SECTION A-A

1. CASTING SPECIFICATIONS: ASTM A-48 WITH A MINIMUM TENSILE STRENGTH OF 25 KSI (CLASS 25)
2. ALL CASTINGS TO BE DIPPED IN ASPHALT BASE PAINT (OR APPROVED EQUAL)
3. CASTINGS SHALL BE AS SPECIFIED BELOW OR APPROVED EQUAL:

MANUFACTURERS	CAT. #
NEENAH	R-1706
CASTINGS, INC.	MH-400-24 C.I.
HUTCHINSON FDRY. & STL. INC.	MH-400

4. ALL NEW MANHOLES MUST INCLUDE A PLASTIC OR VINYL TAG ATTACHED TO THE TOP STEP STATING THE FOLLOWING "CAUTION CONFINED SPACE; ENTRY PERMIT REQUIRED.

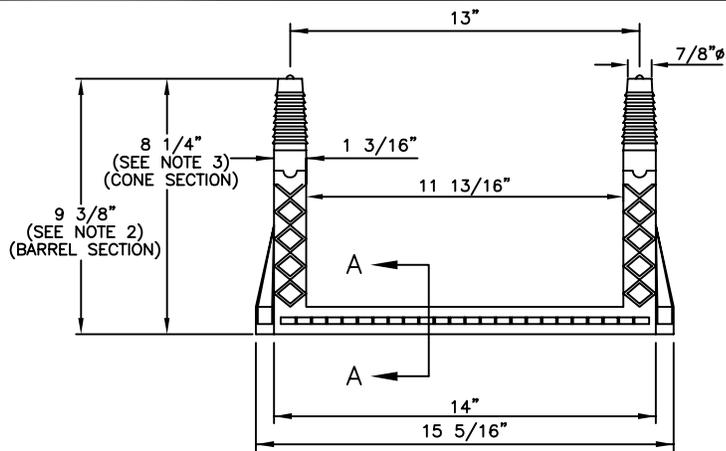
The Town of
ERIE
COLORADO



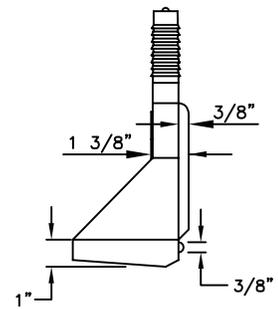
DRAWING TITLE: **24" MANHOLE RING AND COVER**

DRAWING NUMBER: **STM8B**

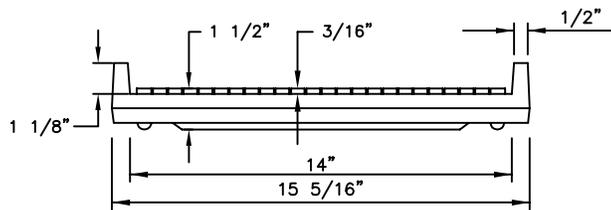
DRAWN BY: **D. JENKINS** APPROVED BY: **G. BEHLEN** DATE: **1/2015**



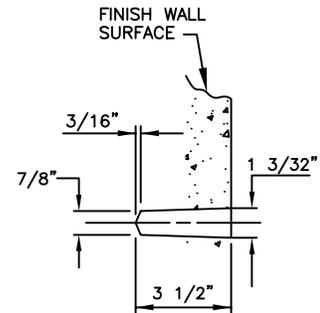
PLAN



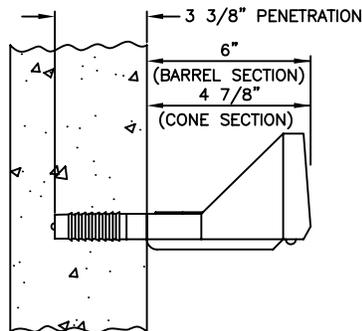
END VIEW



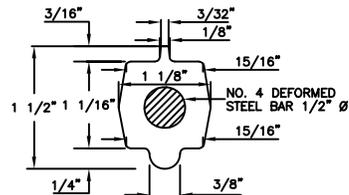
ELEVATION



DETAIL
PIN BLOCK OUT



DETAIL



SECTION A-A

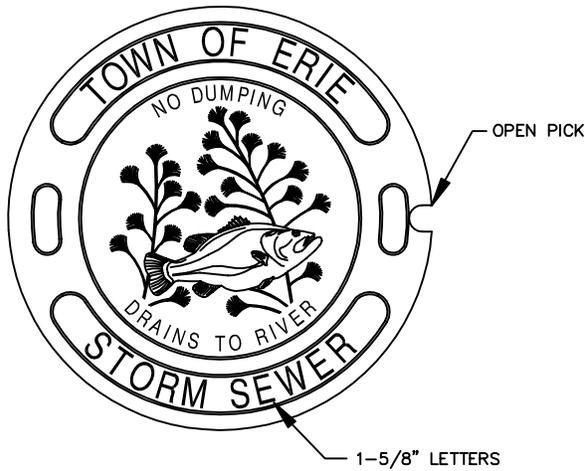
POLYPROPYLENE REINFORCED PLASTIC STEP

NOTES:

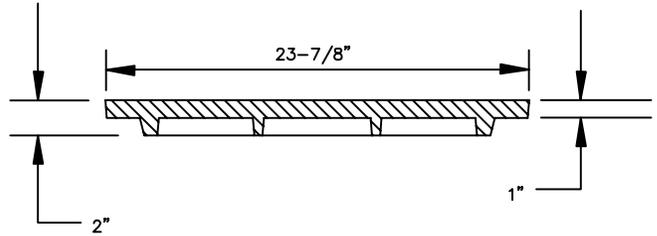
1. ASTM SPECIFICATIONS:
 - A. ASTM C-478
 - B. ASTM A-615 GRADE 60 (STEEL REBAR).
 - C. ASTM 2146-69, TYPE III, GRADE 16906 (POLYPROPYLENE).
2. STEPS INSTALLED IN MANHOLE BARREL SECTIONS OR VERTICAL WALLS OF STRUCTURES SHALL HAVE A 9 3/8 INCH LEG AND SHALL PROJECT FROM THE WALL 6 INCHES.
3. STEPS INSTALLED IN MANHOLE CONE SECTIONS SHALL HAVE AN 8 1/4 INCH LEG AND SHALL PROJECT FROM THE WALL 4 7/8 INCHES.
4. ALL STEPS SHALL HAVE A PENETRATION DEPTH INTO THE WALL OF 3 3/8 INCHES.
5. STEPS SHALL BE INSTALLED BY THE "PRESS-FIT" METHOD UTILIZING A SPECIALLY TAPERED PIN TO FORM THE INSERT HOLE AS SHOWN, FOLLOWING MANUFACTURER'S RECOMMENDED PROCEDURE AND SHALL NOT BE GROUTED IN PLACE.
6. INSTALLED STEPS SHALL BE CAPABLE OF WITHSTANDING A PULL OUT FORCE OF 2500 LB. PER LEG FOR A MINIMUM PERIOD OF TWO MINUTES.
7. PINS MUST BE SMOOTH AND CONTINUOUSLY TAPERED. DIMENSIONS OF THE PIN AND THE INSERTED PORTION OF THE MANHOLE STEP ARE TYPICAL ONLY. W.M.D. INSTALLATIONS REQUIRE A MATCHED COMBINATION OF A TAPERED INSERT PIN AND MANHOLE STEP, AS RECOMMENDED OR REQUIRED BY SPECIFIC MANUFACTURER OF THE STEP TO BE USED.
8. THIS STEP CAN ALSO BE USED IN TOE POCKET INSTALLATIONS PROVIDED 5" TOE CLEARANCE IS ALLOWED.



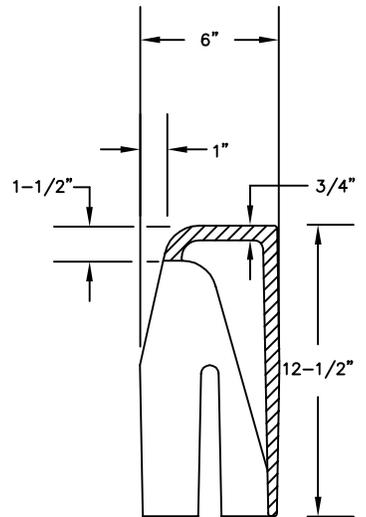
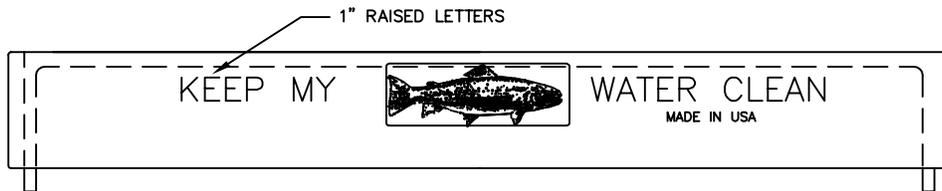
TYPE R INLET COVER



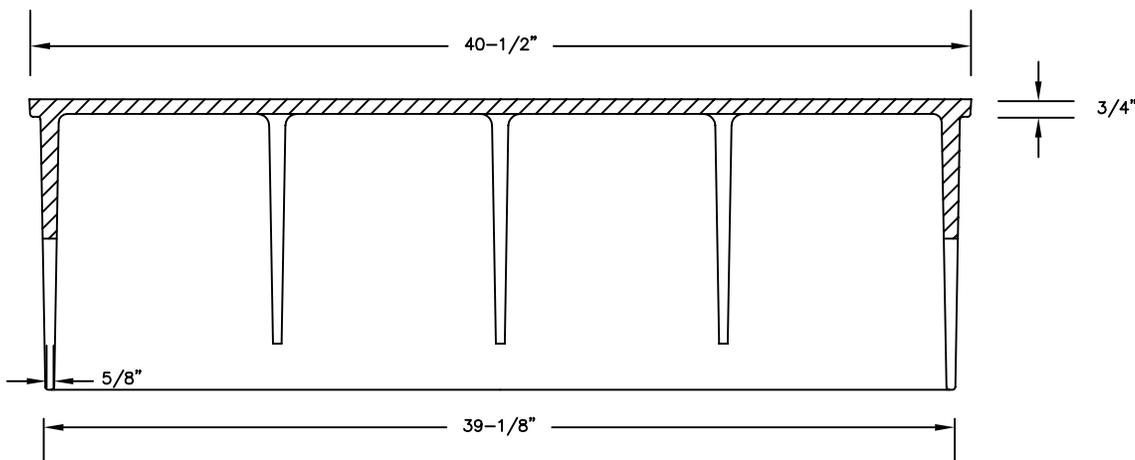
NOTE:
MATERIAL TO BE CAST GRAY IRON
ASTM A-48 CLASS 35B, NO PAINT



TYPE 13 INLET

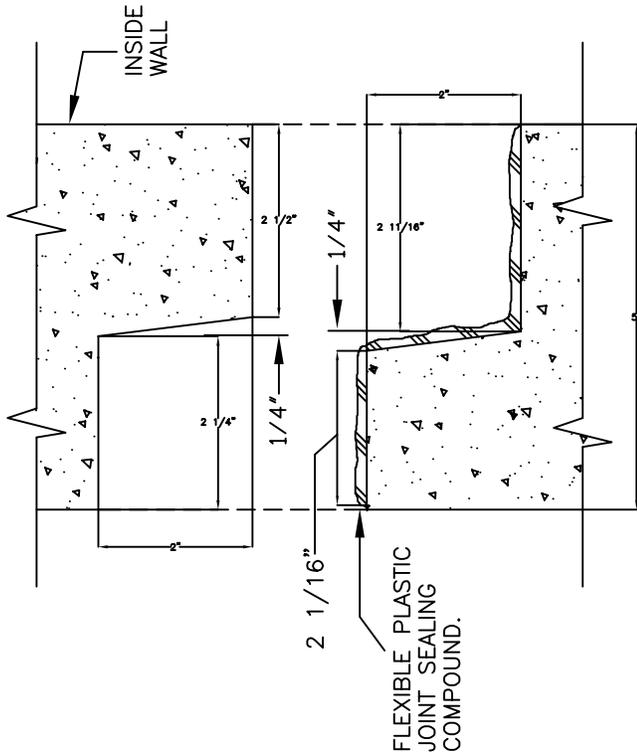


SECTION

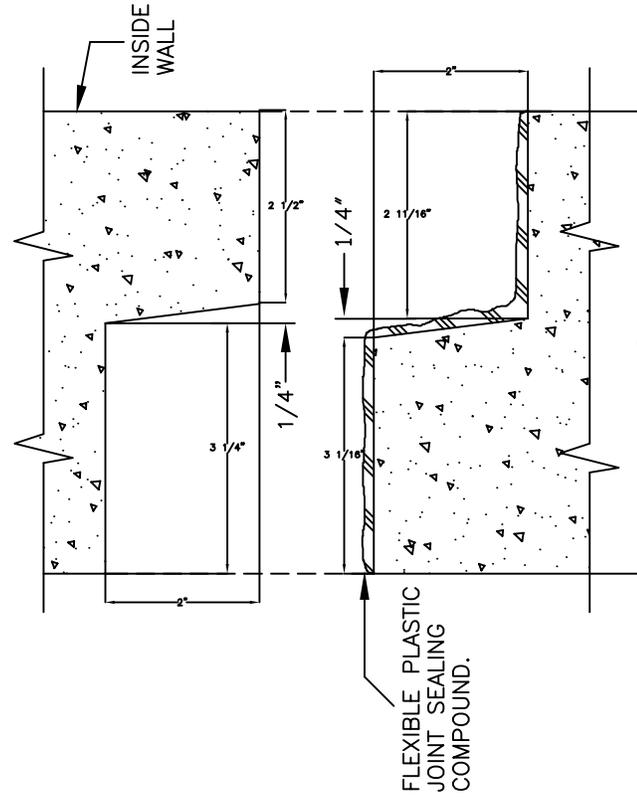


SECTION





5" WALL



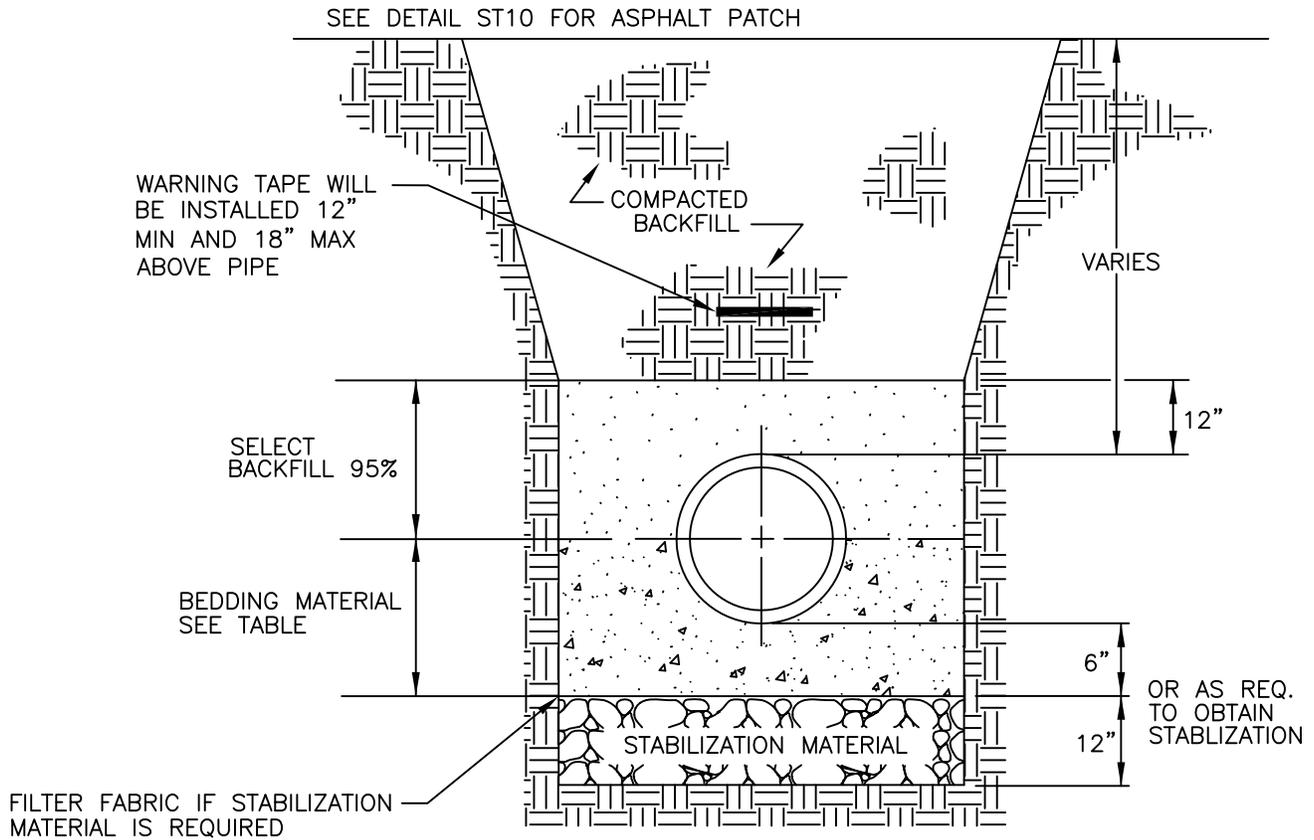
6" WALL

SHIPLAP JOINTS FOR
REINFORCED CONCRETE M.H. SECTIONS
NO SCALE

NOTES:

1. T= WALL THICKNESS OF PIPE FURNISHED.
2. THE CONTRACTOR SHALL SUBMIT ALL TOLERANCES AND DIMENSIONS, REQUIRED BY THE SPECIFIC PIPE JOINT DETAILS SHOWN, TO THE ENGINEER PRIOR TO FABRICATION.
3. ALL DIMENSIONS SHALL BE GIVEN IN INCHES, UNLESS OTHERWISE NOTED, AND ARE FOR BELL AND SPIGOT IN CONCENTRIC POSITION. DEFLECTED PIPE JOINT TOLERANCES & DIMENSIONS SHALL ALSO BE FURNISHED.
4. JOINT CLEARANCE DIMENSION K IS AT CLOSEST POINT WITHIN DISTANCE A.
5. THESE JOINT CONFIGURATIONS ARE IN ACCORDANCE WITH BUREAU OF RECLAMATION'S "TYPE R" JOINT DETAILS.
6. RUBBER "O" RING GASKET SHALL BE IN CONFORMANCE W/ASTM C-443 OR C-361.
7. APPLICABLE CONCRETE PIPE JOINT SPECIFICATIONS:
A. ASTM C-76
B. ASTM C-361
8. STEEL REINFORCEMENT SHALL BE IN ACCORDANCE WITH THE APPROPRIATE ASTM SPECIFICATION FOR THE PIPE SIZE AND STRENGTH CLASS AS SPECIFIED ON PLAN/PROFILE DRAWINGS.

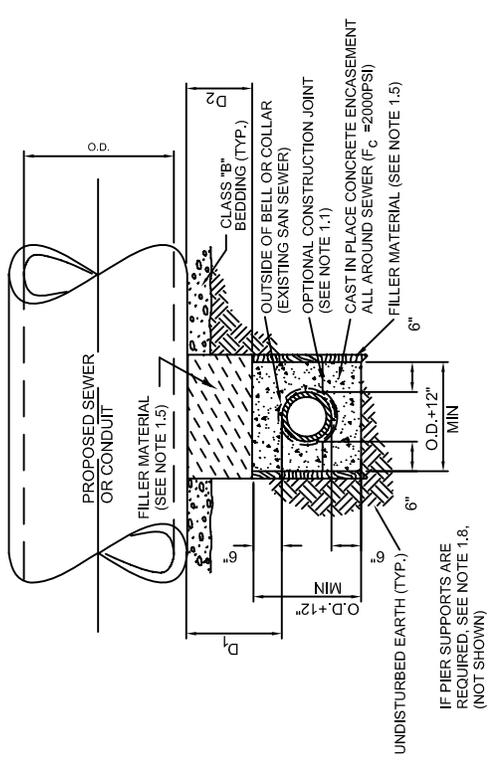




NOTES:

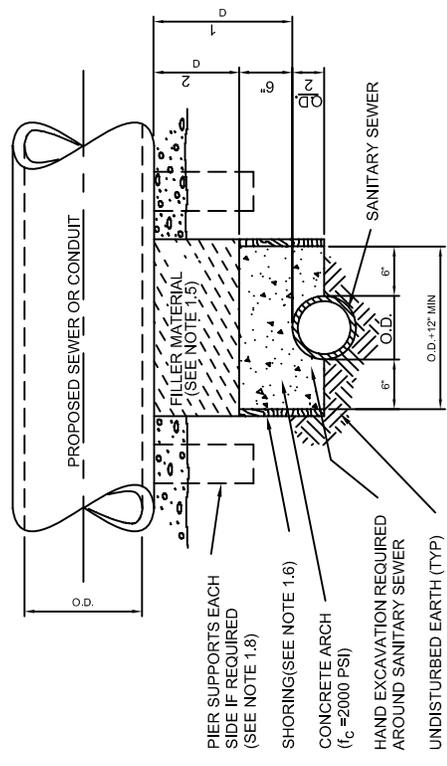
1. FULL TRENCH SECTION IN ROADWAY OR STREET R.O.W. LIMITS WILL REQUIRE 95% S.P.D. TRENCH ZONE ABOVE BEDDING MATERIALS, OUTSIDE OF STREET R.O.W. WILL REQUIRE 90% S.P.D.
2. FILTER FABRIC IS REQUIRED IF STABILIZATION MATERIAL IS USED. THE FABRIC SHALL BE INSTALLED AS SHOWN IN THE DETAIL.
3. TRENCH TO BE BRACED OR SHEETED AS NECESSARY FOR THE SAFETY OF THE WORKMEN AND PROTECTION OF OTHER UTILITIES IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL SAFETY REGULATIONS.
4. PIPE SHALL BE BEDDED FROM 6" BELOW THE BOTTOM OF THE PIPE TO THE HORIZONTAL CENTERLINE OF THE PIPE. SEE TABLE FOR BEDDING MATERIAL GRADATION.
5. TRENCH WIDTH SHALL NOT BE MORE THAN 24" NOR LESS THAN 12" WIDER THAN THE LARGEST OUTSIDE DIAMETER OF THE PIPE.
6. SHOULD THE TRENCH BE EXCAVATED WIDER THAN ALLOWED, A CONCRETE CRADLE SHALL BE PLACED WITH 2500 P.S.I. CONCRETE FROM TRENCH BOTTOM TO PIPE SPRINGLINE.
7. BEDDING MATERIAL SHALL MEET THE GRADATION OF CDOT "NO.67 COARSE AGGREGATE" AS SPECIFIED IN SECTION 703.02 IN THE LATEST EDITION OF THE CDOT "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION".



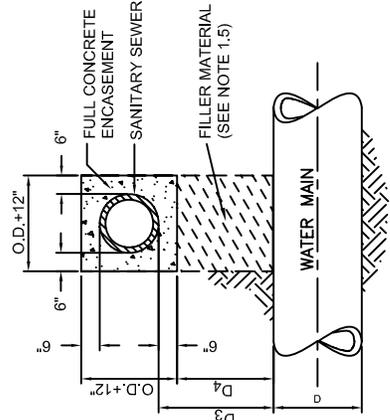


TYPE III
CONCRETE ENCASEMENT FOR SANITARY SEWERS
 (FULL ENCASEMENT) NO SCALE (RIGID CONDUITS ONLY)

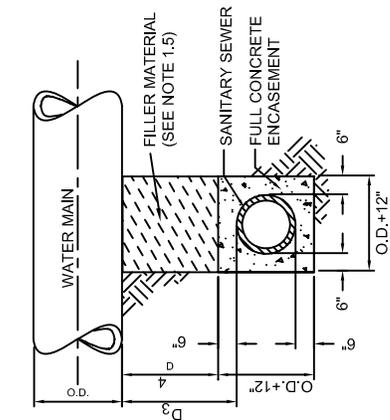
IF PIER SUPPORTS ARE REQUIRED, SEE NOTE 1.8. (NOT SHOWN)



TYPE I
CONCRETE ENCASEMENT FOR SANITARY SEWERS
 (CONCRETE ARCH) NO SCALE (RIGID CONDUITS ONLY)



TYPE II
SANITARY SEWER CROSSING OVER WATER MAIN
 FULL ENCASEMENT REQUIRED REGARDLESS OF DIMENSION D₃



TYPE IIIA
SANITARY SEWER CROSSING UNDER WATER MAIN
 IF D₃ > 2 FT, ENCASEMENT NOT REQUIRED

TYPE II
CONCRETE ENCASEMENT FOR SANITARY SEWERS CROSSING OVER OR UNDER WATER MAIN
 NO SCALE (RIGID CONDUITS ONLY)

GENERAL NOTES FOR TYPE I, II & III ENCASEMENT

- 1.1 CONCRETE TO BE CAST AGAINST UNDISTURBED SOIL OR SHORING. IF OPTIONAL CONSTRUCTION JOINT IS USED, BOTTOM HALF OF ENCASEMENT IS POURED SEPARATELY, A ONE INCH LAYER OF SAND OR MORTAR SHALL BE PLACED BETWEEN BOTTOM OF SANITARY SEWER AND TOP OF CONCRETE.
- 1.2 LENGTH OF ENCASEMENT FOR :
 (A) TYPE I & III ENCASEMENT SHALL EXTEND FULL TRENCH WIDTH EXCAVATED FOR PROPOSED SEWER OR CONDUIT.
 (B) TYPE II ENCASEMENT SHALL EXTEND AT LEAST 10 FEET EACH SIDE OF WATER MAIN.
- 1.3 UNLESS OTHERWISE NOTED ON PLAN/PROFILE DRAWINGS, TYPE I, II, & III ENCASEMENTS NEED NOT BE REINFORCED. IF REINFORCEMENT IS REQUIRED, TO BE SPECIFIED AND DETAILED SEPARATELY ON PLAN & PROFILE DRAWINGS.
- 1.4 TYPE I, II OR III ENCASEMENT REQUIRED UNDER FOLLOWING CONDITIONS :
 (A) TYPE I OR TYPE III IF D₁ ≤ 18" (D₂ ≤ 12") EXCEPT FOR SANITARY SEWERS CROSSING OVER OR UNDER WATER MAINS.
 (B) D₁ ≤ 24" (D₂ ≤ 18") REQUIRED FOR SANITARY SEWERS CROSSING UNDER WATER MAINS AND D₃ ≤ 24" (D₄ ≤ 18").
 (C) TYPE II REQUIRED FOR SANITARY SEWERS CROSSING OVER TOP OF WATER MAINS, REGARDLESS OF DIMENSION D₃.
 (D) EXCEPT FOR UNUSUAL CIRCUMSTANCES, WATER MAIN CROSSINGS, OR WHERE FLEXIBLE SOIL CONDITIONS ARE ENCOUNTERED, TYPE I ENCASEMENT WILL NORMALLY BE SATISFACTORY.
 (E) IF THE SANITARY SEWER IS REPLACED OR CONSTRUCTED OF CAST IRON PIPE (AWWA C-106 OR C-108) OR DUCTILE IRON PIPE (AWWA C-150 OR C-151), CONCRETE ENCASEMENT MAY NOT BE REQUIRED.
- 1.5 FILLER MATERIAL BETWEEN CONDUITS TO BE :
 (A) APPROVED COMPRESSIBLE MATERIAL SUCH AS STYROFOAM, ETC., IF D₂ & D₄ ≤ 6".
 (B) COMPACTED CLASS "B" BEDDING IF D₂ & D₄ > 6". (IF D₄ > 6" FOR TYPE II ENCASEMENT FOUR CONCRETE ON UNDISTURBED SOIL).
- 1.6 SHORING OR SHEETING, IF USED, TO BE CUT OFF AT TOP OF ENCASEMENT.
- 1.7 THESE ENCASEMENT DETAILS MAY ALSO BE APPLICABLE FOR CONDUITS OTHER THAN STORM OR SANITARY SEWER INSTALLATIONS.
- 1.8 IN CERTAIN SITUATIONS WHERE CONDUIT DIAMETER "D₃" IS EXTREMELY LARGE, PIER SUPPORTS EACH SIDE OF SANITARY SEWER MAY ALSO BE REQUIRED. IF REQUIRED, SUPPORTS TO BE SPECIFIED AND DETAILED SEPARATELY ON PLAN AND PROFILE DRAWINGS. NO PIPE JOINTS OVER TOP OF WATER MAIN.
- 1.9 DETAILS SHOWN CONSIDER RIGID CONDUITS ONLY. FLEXIBLE CONDUITS REQUIRE SPECIAL CONSIDERATION.





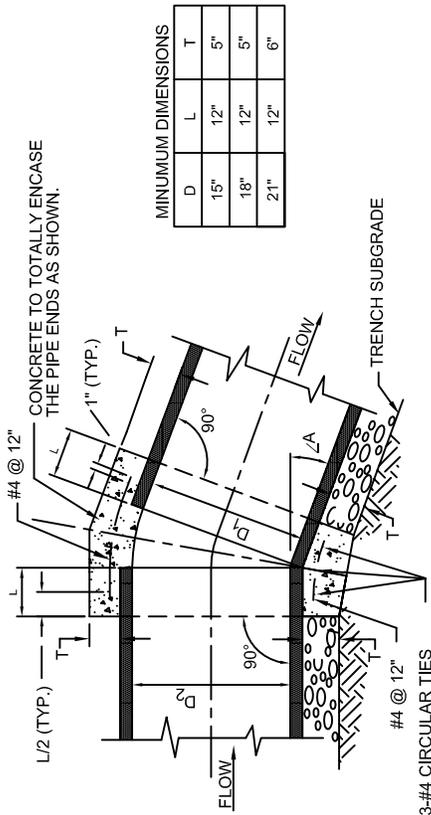
DRAWING TITLE: **CONCRETE CLOSURE OF RIGID CONDUITS**

DRAWING NUMBER: **STM13B (2 OF 2)**

DRAWN BY: **D. JENKINS** APPROVED BY: **G. BEHLEN** DATE: **06/2004**

STORM CONNECTOR PIPE CLOSURE DETAIL

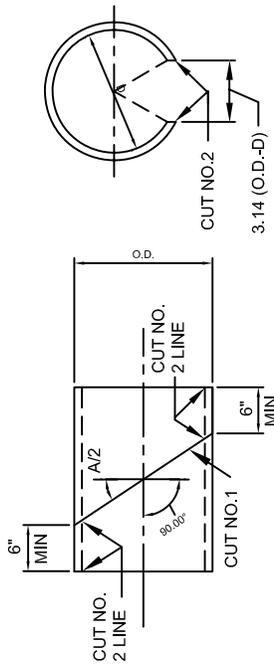
TO BE USED ONLY WHERE NECESSARY AND AS AUTHORIZED BY THE ENGINEER



MINIMUM DIMENSIONS

D	L	T
15"	12"	5"
18"	12"	5"
21"	12"	6"

VERTICAL SECTION



CUT NO. 1: SAW THE TUBE AT AN ANGLE OF A/2 WITH THE TRANSVERSE PLANE. REVERSE ONE SECTION AND TAPE BOTH SECTIONS TOGETHER FORMING THE DEFLECTION ANGLE A.
 CUT NO. 2: SAW THE TUBE LONGITUDINALLY REMOVING A STRIP 3/14 (D-D) INCHES WIDE ON THE SIDE OPPOSITE THE OPEN JOINT. BEND THE ENDS OF THE CUT TOGETHER AND INSERT THE TUBE IN THE PIPE.

NOTES: FOR STORM LINE CONNECTORS ONLY, NOT TO BE USED ON MAINLINE SEWERS.

AN INTERIOR FORM OF UNSEALED SONO-TUBE OR EQUAL SHALL BE USED TO PROVIDE A SMOOTH INTERIOR JOINT. (SEE DETAIL A)

DETAIL "A"
SONO-TUBE, OR EQUAL, INTERIOR FORM

GENERAL NOTES

1. A CONCRETE COLLAR IS REQUIRED WHERE THE CHANGE IN GRADE EXCEEDS 0.10 OF A FOOT PER FOOT.

2. GAP LIMITS

PIPE DIAMETER	COLUMN "A" (SEE A BELOW)	COLUMN "B" (SEE B BELOW)
21" OR LESS	1/2"	1"

A. IF THE "EXTREME OUTER ENDS" OF THE PIPE LEAVE A GAP THAT EXCEEDS VALUES IN COLUMN "A" OR COLUMN "B", A CONCRETE COLLAR IS REQUIRED.

B. IF THE GAP EXCEEDS 6 INCHES, A MANHOLE STRUCTURE IS REQUIRED. CONCRETE COLLAR SHALL NOT BE USED FOR A SIZE CHANGE ON THE MAIN LINE.

3. FOR PIPE SIZE NOT LISTED USE NEXT SIZE LARGER.

5. WHERE REINFORCING IS REQUIRED THE DIAMETER OF THE CIRCULAR TIES SHALL BE D+(2X WALL THICKNESS)+T.

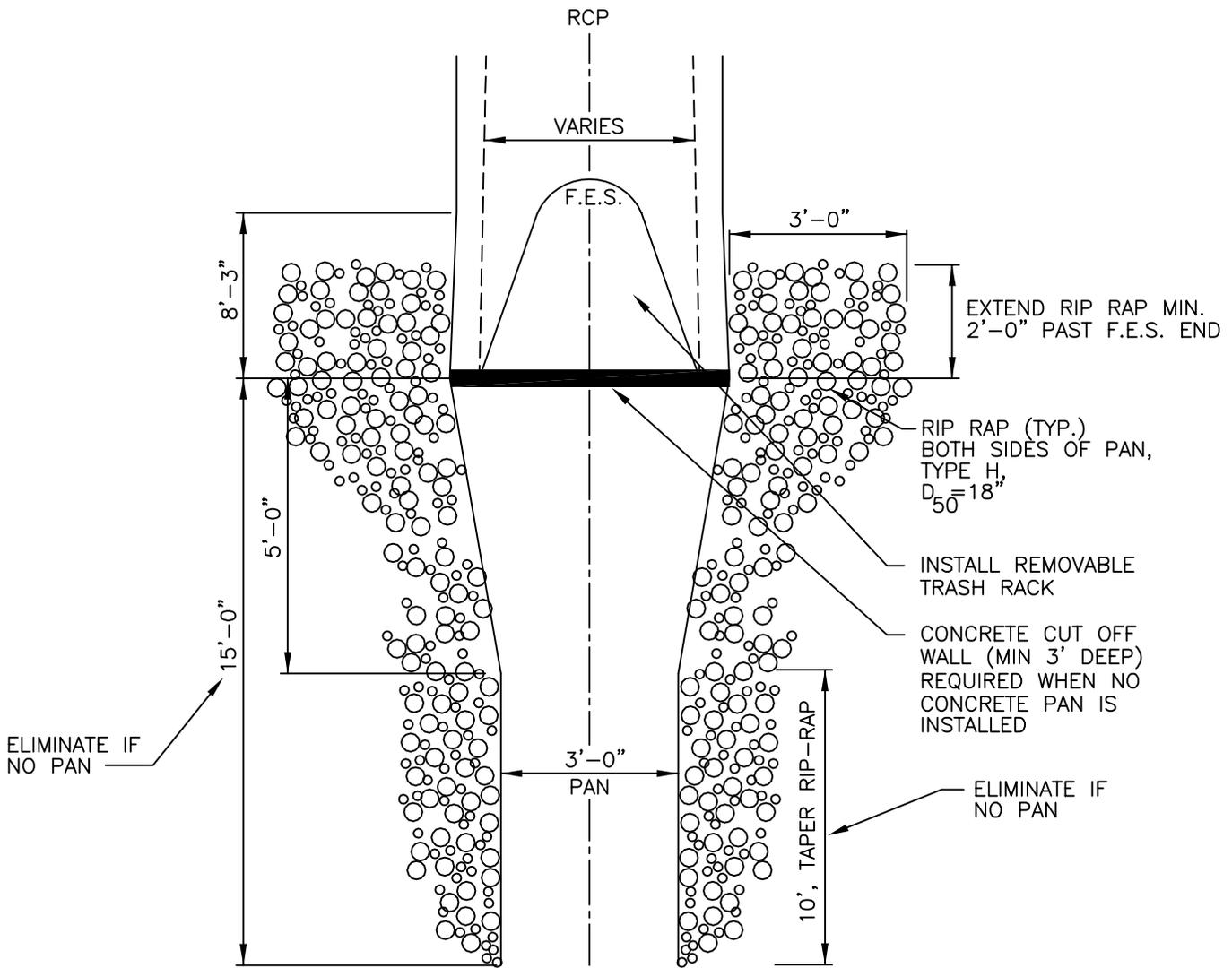
6. REINFORCING SHALL BE USED WHERE THE SPACES BETWEEN THE EXTREME OUTER ENDS IS 2 1/2" OR LARGER.

CIRCULAR TIES:	PIPE DIAMETER 21" OR LESS	SPACE BETWEEN EXTREME OUTER ENDS 2 1/2"	NO. OF CIRCULAR TIES 3
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WHERE THE SPACE BETWEEN PIPE LONGITUDINAL ENDS EXCEEDS 2 1/2", THE NUMBER OF CIRCULAR TIES SHALL BE INCREASED TO MAINTAIN AN APPROXIMATE SPACING OF 6" OC.

7. AN INTERIOR FORM OF UNSEALED SONO-TUBE OR EQUAL SHALL BE USED TO PROVIDE A SMOOTH INTERIOR JOINT. THE PAPER FORM MAY BE LEFT IN PLACE (SEE DETAIL A).

8. THIS DETAIL APPLIES "ONLY" TO PIPE 21" DIAMETER OR LESS.



TRASH GUARD INSTALLED

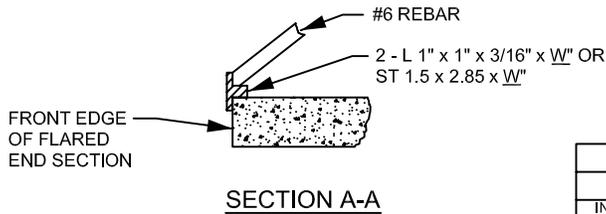
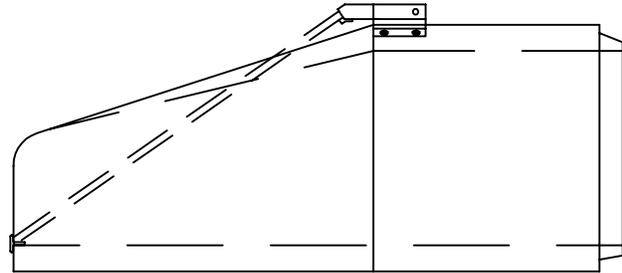
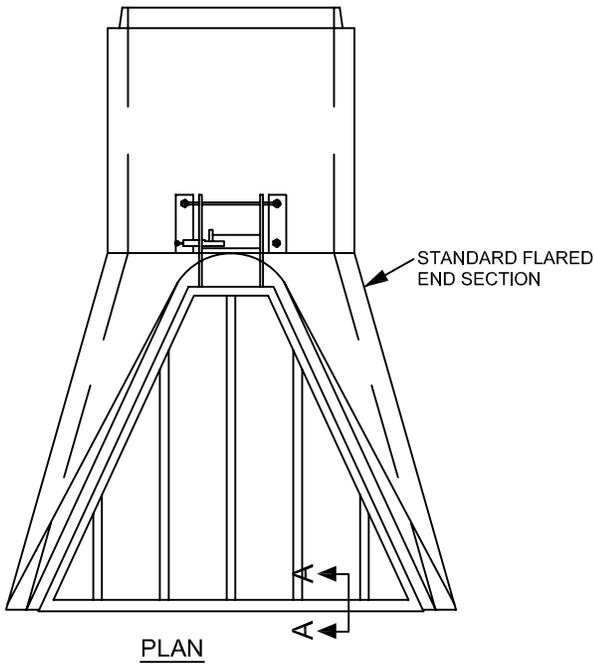
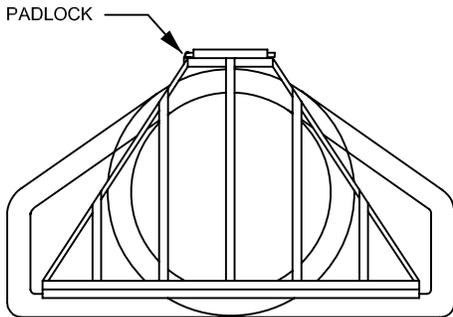


TABLE OF DIMENSIONS

INSIDE DIA	TRASH GUARD										MOUNTING		
	A	B	D	G	L	W	C	H	J	R	S	T	
	(INCHES)						(EA)	(DEGREE)	(INCHES)				
18	10	6-1/2	8	3	31	28	3	45	45	11-1/2	5	5	
24	12	9-1/2	8	3	47-1/2	40	5	35	55	15	6-1/2	5-1/2	
30	15	12-1/2	9	3	59-3/4	52	5	35	55	18-1/2	8	6	
36	15	15-1/2	8-1/2	4	71-1/4	58	7	35	55	22	9-1/2	6-1/2	
42	21	18-1/2	9	4	75	64	7	40	50	25-1/2	11	7	
48	24	21-1/2	8	4	82-3/4	70	9	40	50	29	12-3/4	7-1/2	

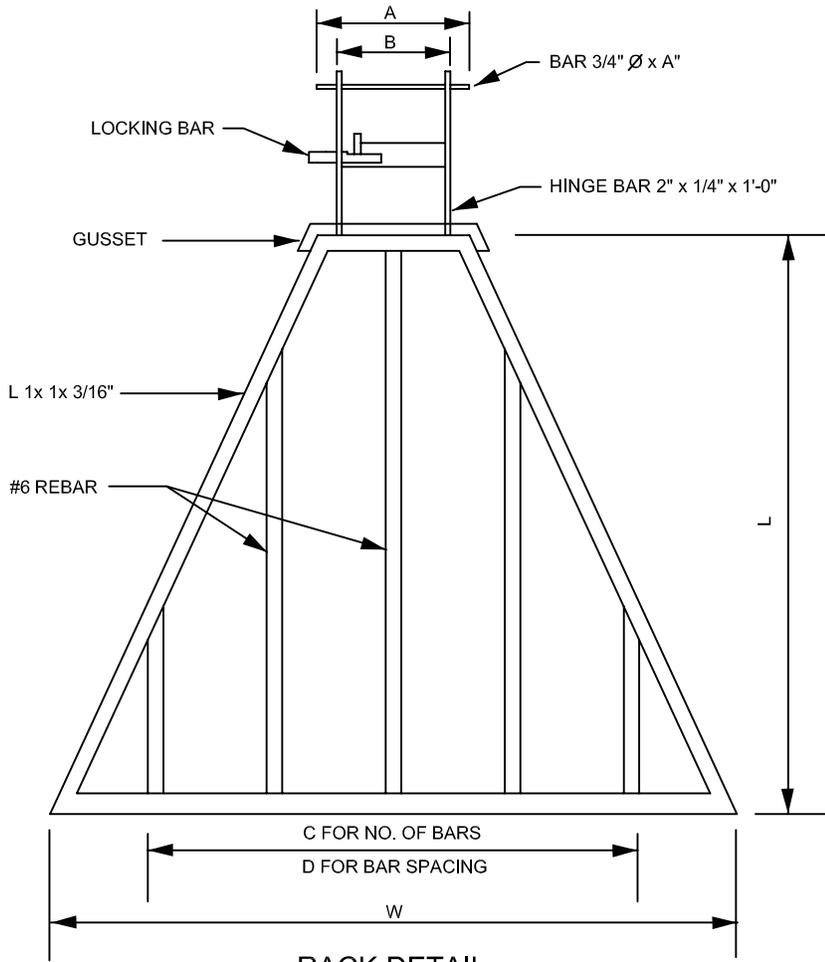
NOTE: AN INDEPENDENT DESIGN AND DETAIL WILL BE REQUIRED FOR PIPE DIAMETERS GREATER THAN 48"



GENERAL NOTES

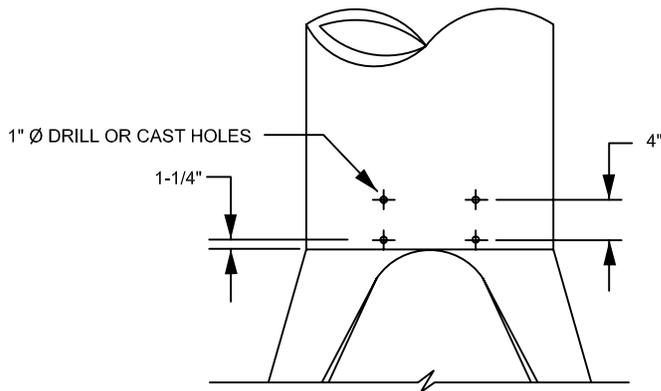
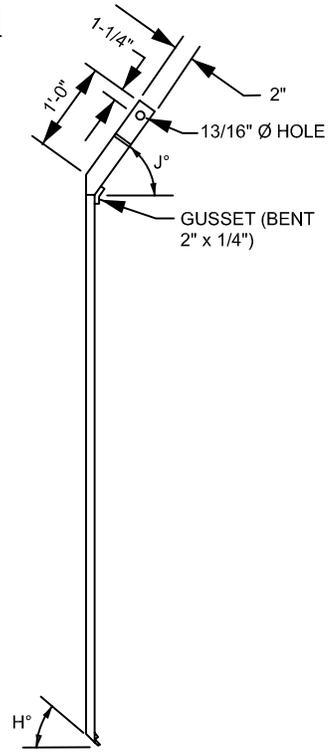
1. TRASH GUARDS SHALL BE INSTALLED AT LOCATIONS SHOWN IN THE PLANS OR SPECIFIED BY THE ENGINEER
2. PADLOCKS FOR LOCKING BAR WILL BE FURNISHED AND INSTALLED BY THE CONTRACTOR AND KEYS SUBMITTED TO THE PUBLIC WORKS DEPT.
3. THE TRASH GUARDS ARE NOT DESIGNED TO CARRY WHEEL LOADINGS AND SUCH ARE NOT TO BE USED AS SAFETY GRATES
4. IF THE FLARED END DIMENSIONS VARY FROM THOSE SHOWN IN THE STANDARD PLANS, NECESSARY ADJUSTMENTS SHALL BE MADE TO THE TRASH GUARD DIMENSIONS





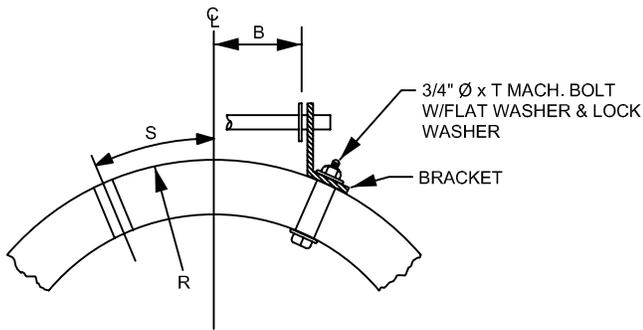
RACK DETAIL

PLAN

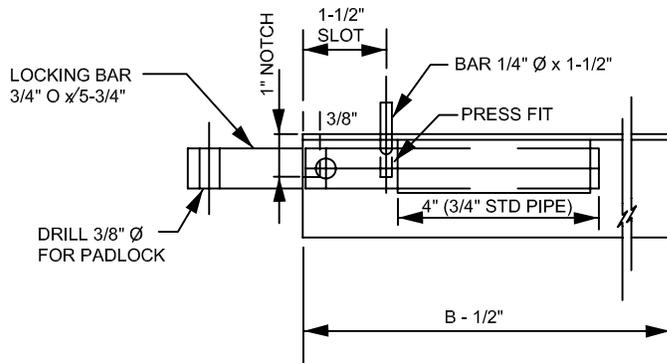
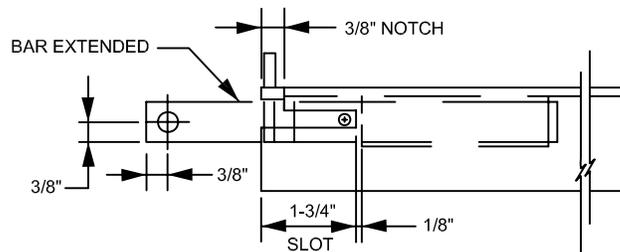
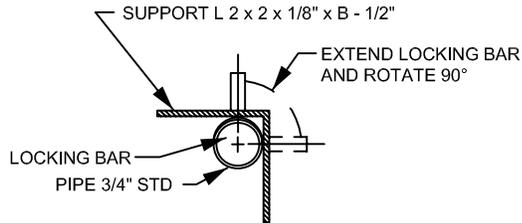
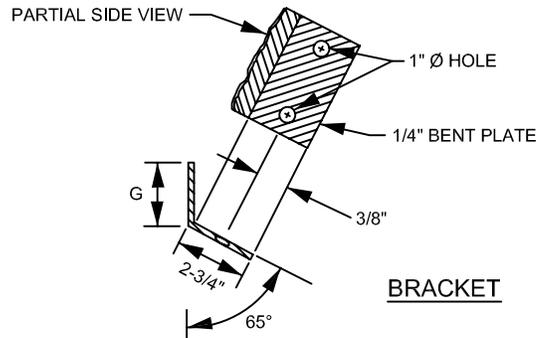
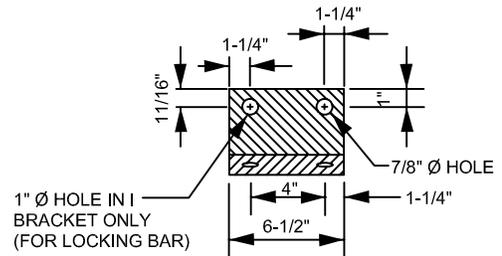


HOLES FOR BRACKETS





BRACKET & HINGE DETAIL



LOCKING BAR & SUPPORT

