



# ROADWAY DESIGN STANDARD DRAWINGS

APPROVED:



ROADWAY DESIGN DIVISION ENGINEER

8/1/17  
DATE



DEP. EXEC. DIRECTOR, CHIEF ENGINEER

8/1/17  
DATE



FEDERAL HIGHWAY ADMINISTRATION

8-14-2017  
DATE

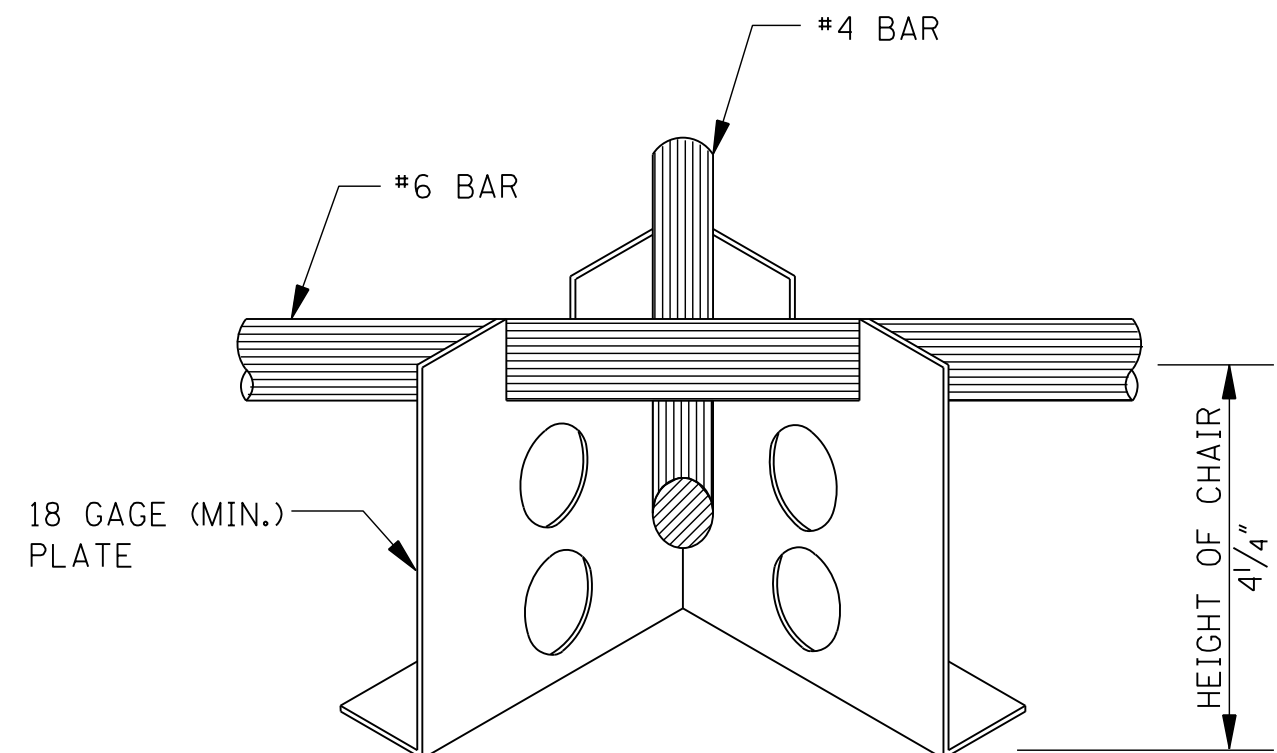
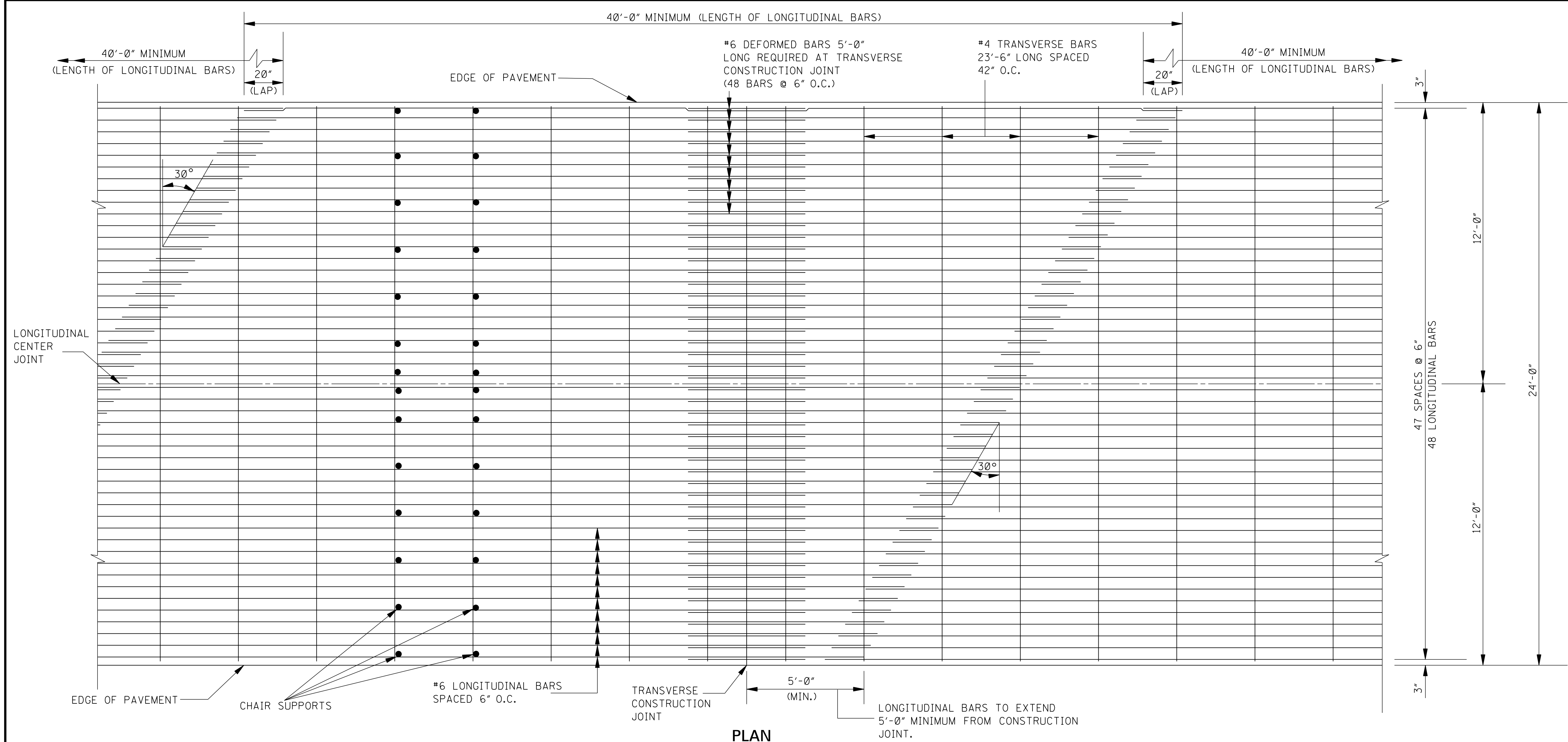
ISSUE DATE: AUGUST 01, 2017



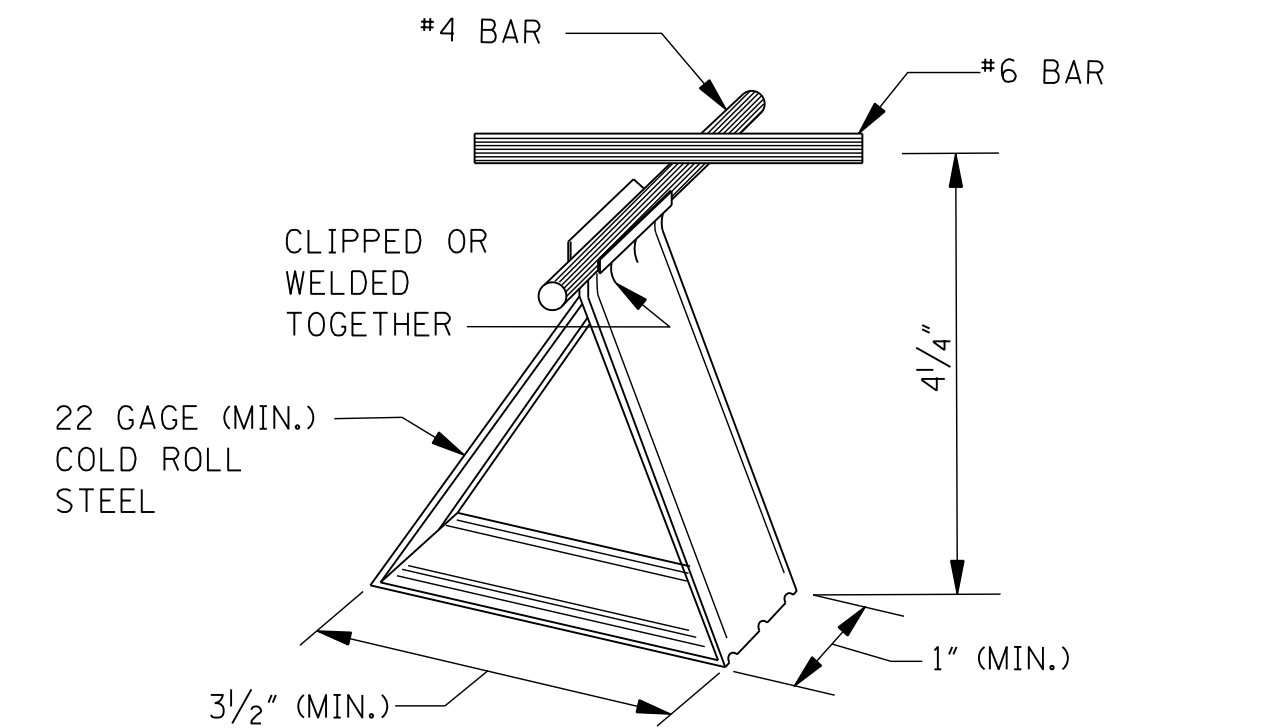




WORKING NUMBER	TITLE	REVISION DATE	SHEET NUMBER	WORKING NUMBER	TITLE	REVISION DATE	SHEET NUMBER	WORKING NUMBER	TITLE	REVISION DATE	SHEET NUMBER
MISCELLANEOUS ROADWAY DETAILS				DRAINAGE (CONT'D)							
RW-1	RIGHT-OF-WAY MARKER		6401	UD-2	NORMAL UNDERDRAIN TYPE II		6534				
RW-1L	RIGHT-OF-WAY MARKER FOR USE ON LPA PROJECTS		6402	PCU-1	PRECAST UNITS (JUNCTION BOX, SS-3 INLET, & DROP INLET) (30" CONC. ROUND PIPE & UNDER) (36"x23" CONC. ARCH PIPE & UNDER)		6535				
RD-1	RURAL DRIVEWAYS		6403	PCU-2	PRECAST UNITS (SS-2 INLET) (30" CONC. ROUND PIPE & UNDER) (36"x23" CONC. ARCH PIPE & UNDER)		6536				
GT-1	TYPICAL GRADING TRANSITION BETWEEN CUTS & FILLS		6404	DSP-1	INSTALLATION OF MEDIAN DRAINS WITH DOWNSPOUTS		6537				
SF-1	SIGHT FLARE		6405	PBC-1	PRECAST CONCRETE BOX CULVERT		6538				
ED-1	GUIDE BANK (SPUR DIKE): EARTH		6406	PBC-2	PRECAST CONCRETE BOX CULVERT END SECTION		6539				
SE-1	SUPERELEVATION TRANSITION FOR LOCAL FACILITIES (V ≤ 45 mph)		6407								
SE-2A	SUPERELEVATION - CASE I (ROTATION ABOUT CENTERLINE)		6408								
SE-2B	SUPERELEVATION - CASE II (ROTATION ABOUT EDGE OF TRAVELED WAY)		6409								
SE-2C	SUPERELEVATION TRANSITION - CASE I (ROTATION ABOUT CENTERLINE) (URBAN FACILITY, V = 50 MPH)		6410								
SE-2D	SUPERELEVATION TRANSITION - CASE II (ROTATION ABOUT EDGE OF TRAVELED WAY) (URBAN FACILITY, V = 50 MPH)		6411								
SE-2E	SUPERELEVATION TRANSITION - ROTATION ABOUT CENTERLINE (URBAN FACILITY, V ≤ 45 MPH)		6412								
SE-3A	SUPERELEVATION RUNOFF - CASE I (ROTATION ABOUT THE CENTERLINE)		6413								
SE-3B	SUPERELEVATION RUNOFF - CASE II (ROTATION ABOUT THE EDGE OF TRAVELED WAY)		6414								
IR-1	INTERCHANGE DESIGN FOR HIGH-SPEED TAPERED EXIT RAMP		6415								
IR-1A	INTERCHANGE DESIGN FOR HIGH-SPEED PARALLEL EXIT RAMP		6416								
IR-2	INTERCHANGE DESIGN FOR LOOP ENTRANCE RAMP		6417								
IR-2A	INTERCHANGE DESIGN FOR HIGH-SPEED PARALLEL ENTRANCE RAMP		6418								
SD-1	DRIVEWAYS, CURB & GUTTER, & SIDEWALK		6419								
SD-2	DRIVEWAYS, INTEGRAL CURB, & SIDEWALK		6420								
CR-1	CURB RAMPS; RAMP DESIGN ELEMENTS		6421								
CR-2	CURB RAMPS; PLACEMENT DETAILS		6422								
CR-3	CURB RAMPS; PLACEMENT DETAILS		6423								
CR-4	CURB RAMPS; DETECTABLE WARNING DETAILS		6424								
MDS-1	MISCELLANEOUS DETAIL SHEET 1. STACKED PIPE JOINTS 2. EXCAVATION AT GRADE POINTS		6425								
PF-1	DETAILS OF PAVED FLUMES		6426								
EXO-1	EMERGENCY/OFFICIAL USE MEDIAN CROSSEOVERS		6427								
PD-1	TYPICAL PLANTING DETAILS FOR TREES & SHRUBS		6428								
DRAINAGE				HEADWALLS							
PI-1	PIPE CULVERT INSTALLATION		6501	HW-2100	HEADWALLS FOR CONCRETE PIPE, 2:1 SLOPE, 0°-15° SKEW		6571				
PI-2	FLEXIBLE PIPE CULVERT INSTALLATION		6502	HW-2130	HEADWALLS FOR CONCRETE PIPE, 2:1 SLOPE, 30° SKEW		6572				
PC-1	CONCRETE PIPE COLLAR		6503	HW-2145	HEADWALLS FOR CONCRETE PIPE, 2:1 SLOPE, 45° SKEW		6573				
JB-1	JUNCTION BOX FOR PIPE CULVERTS		6504	HW-3100	HEADWALLS FOR CONCRETE PIPE, 3:1 SLOPE, 0°-15° SKEW		6574				
JB-1A	JUNCTION BOX FOR BOX CULVERT TO CONCRETE ARCH PIPE		6505	HW-3130	HEADWALLS FOR CONCRETE PIPE, 3:1 SLOPE, 30° SKEW		6575				
JB-2	JUNCTION BOX TYPE 2 FOR TRAFFIC LOAD (MAXIMUM "W" = 9.3 FT.)		6506	HW-3145	HEADWALLS FOR CONCRETE PIPE, 3:1 SLOPE, 45° SKEW		6576				
BC-1	BRANCH CONNECTIONS		6507	HW-4100	HEADWALLS FOR CONCRETE PIPE, 4:1 SLOPE, 0°-15° SKEW		6577				
MI-1	TYPE I MEDIAN INLET (24" PIPE AND UNDER)		6508	HW-4130	HEADWALLS FOR CONCRETE PIPE, 4:1 SLOPE, 30° SKEW		6578				
MI-1A	TYPE I MEDIAN INLET (29" TO 51" PIPE)		6509	HW-4145	HEADWALLS FOR CONCRETE PIPE, 4:1 SLOPE, 45° SKEW		6579				
MI-1B	TYPE I MEDIAN INLET (OVER 51" PIPE)		6510	HWA-2100	HEADWALLS FOR CONCRETE ARCH PIPE, 2:1 SLOPE, 0°-15° SKEW		6580				
MI-2	TYPE II MEDIAN INLET (51" PIPE AND UNDER)		6511	HWA-2130	HEADWALLS FOR CONCRETE ARCH PIPE, 2:1 SLOPE, 30° SKEW		6581				
MI-2A	TYPE II MEDIAN INLET (OVER 51" PIPE)		6512	HWA-4100	HEADWALLS FOR CONCRETE ARCH PIPE, 4:1 SLOPE, 0°-15° SKEW		6582				
MI-3	MEDIAN INLET FOR BOX CULVERTS (TYPE I & II)		6513	HWA-4130	HEADWALLS FOR CONCRETE ARCH PIPE, 4:1 SLOPE, 30° SKEW		6583				
MI-4	MEDIAN INLET (FLUSH WITH FORESLOPE)		6514								
MI-4A	MEDIAN INLET (FLUSH WITH DITCH PLUG)		6515								
IG-1	DETAILS OF GRATES FOR MEDIAN INLETS		6516								
IG-2	DETAILS OF GRATES FOR GUTTER INLETS		6517								
GI-1	GUTTER INLET FOR TYPE 2 CURB (OUTLET 90° TO ROADWAY)		6518								
GI-1A	GUTTER INLET FOR TYPE 2 CURB (STORM SEWER ALONG ROADWAY)		6519								
PA-1	PAVED INLET APRON AND MEDIAN DITCH PLUG		6520								
SS-1	STORM SEWER INLET - TYPE SS-1		6521								
SS-1A	STORM SEWER INLET - TYPE SS-1A (ADJACENT TO SIDEWALK)		6522								
SS-1B	STORM SEWER INLET - TYPE SS-1B (LONGITUDINAL DRAINAGE)		6523								
SS-2	STORM SEWER INLET - TYPE SS-2		6524								
SS-3	STORM SEWER INLET - TYPE SS-3		6525								
SS-4	STORM SEWER INLET - TYPE SS-4 (HEADER CURB)		6526								
B-9	DROP INLET AND GRATE DETAILS FOR PIPE AND BOX CULVERTS		6527								
MH-1	STORM SEWER STRUCTURE - PRECAST MANHOLE		6528								
SAG-1	SMALL ANIMAL GUARD AND UNDERDRAIN MARKER		6529								
FE-1	FLARED END SECTION FOR CONCRETE PIPE		6530								
FE-1A	FLARED END SECTION FOR CONCRETE ARCH PIPE		6531								
FE-1B	FLARED END SECTION FOR METAL PIPE & ARCH PIPE		6532								
UD-1	DETAILS OF NORMAL UNDERDRAIN AND STORM DRAIN USED AS UNDERDRAIN		6533								

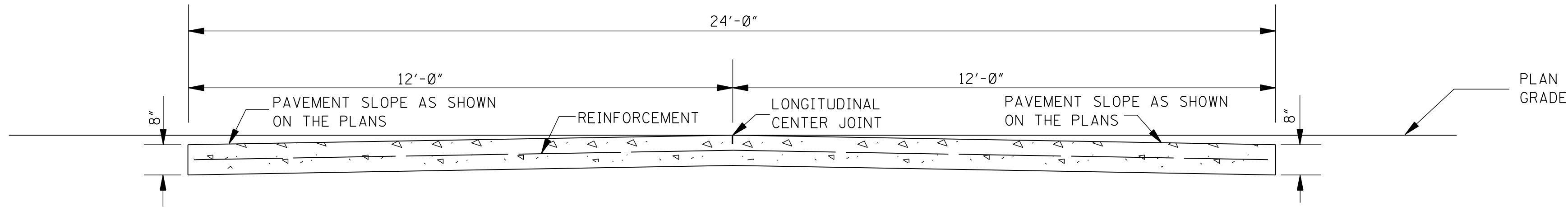


DETAILS OF CHAIR SUPPORT  
(OPTION I)

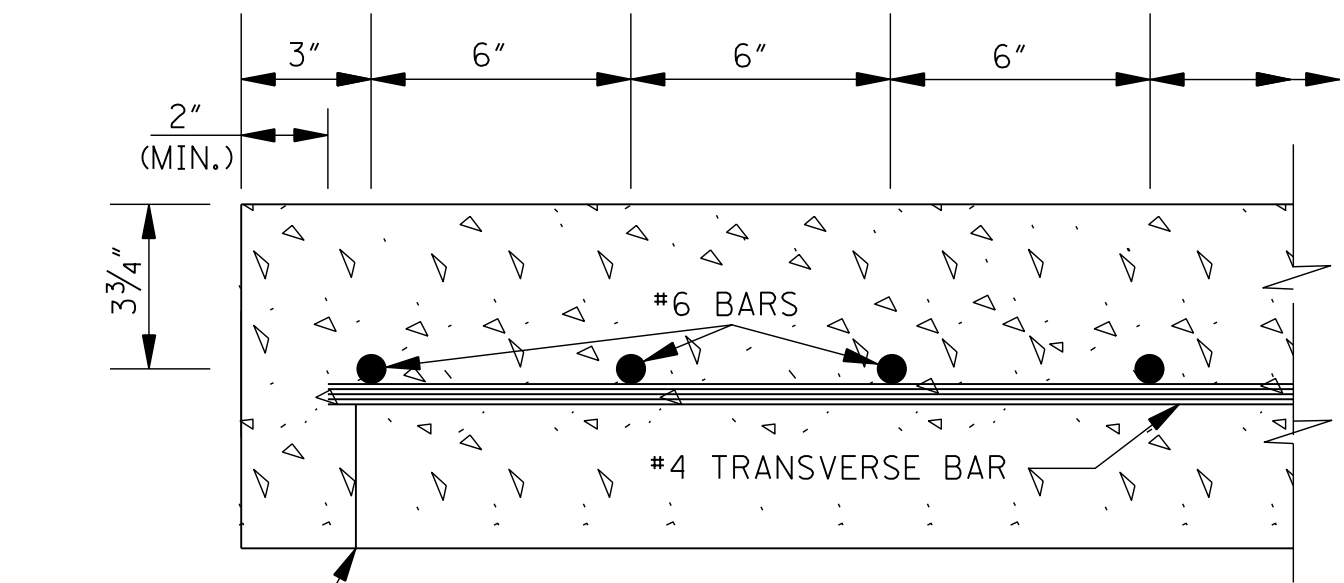


DETAIL OF CHAIR SUPPORT  
(OPTION II)

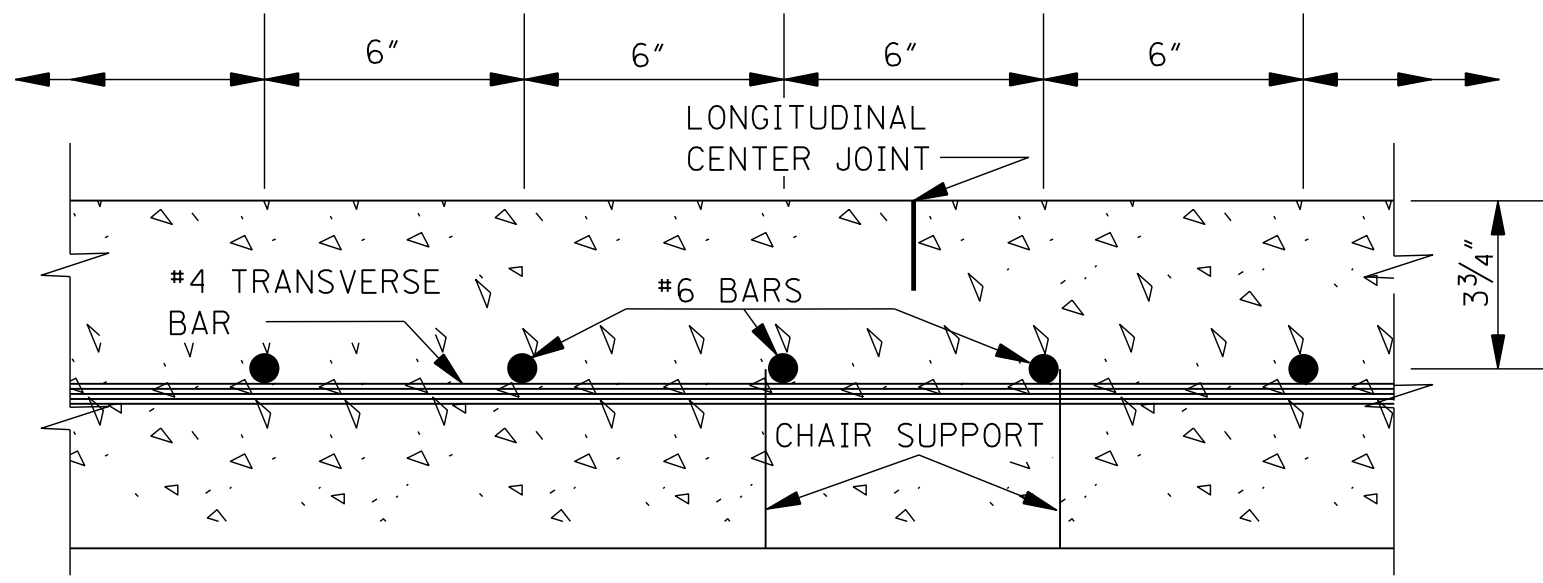
NOTE: FOR USE OF OTHER CHAIR SUPPORTS, SUBMIT DRAWINGS TO THE CONSTRUCTION ENGINEER FOR APPROVAL.



SECTION ACROSS 24'-0" WIDTH PAVEMENT  
(8" UNIFORM THICKNESS)



SECTION AT EDGE OF PAVEMENT




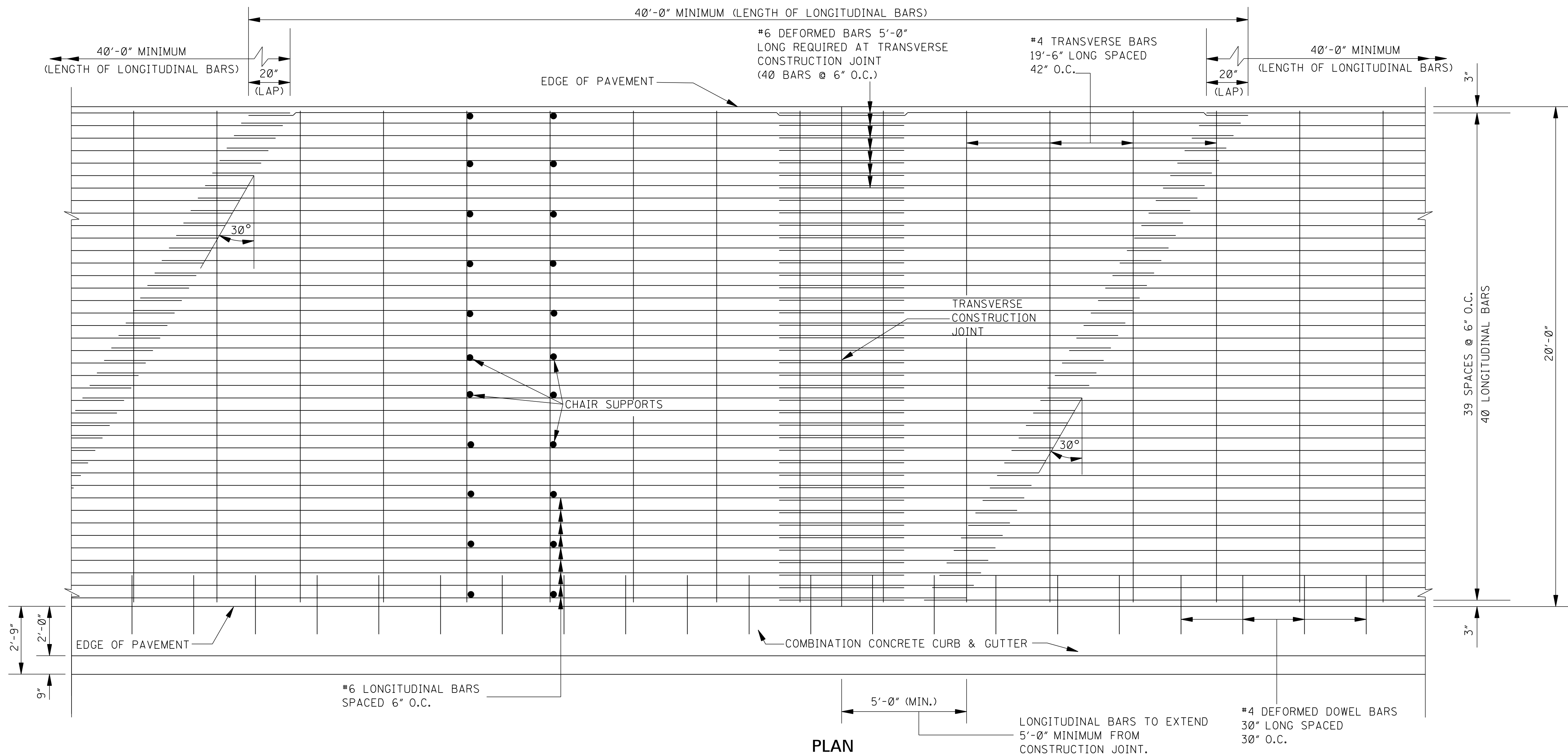
SECTION AT C OF PAVEMENT

NOTE: LONGITUDINAL AND TRANSVERSE BARS SHALL BE SECURELY FASTENED TOGETHER BY ANY SATISFACTORY METHOD AT ALL EXTERIOR INTERSECTIONS AND AT NOT LESS THAN ALTERNATE INTERIOR INTERSECTIONS. WHERE LONGITUDINAL BARS ARE LAPPED, THE BARS SHALL BE DOUBLE FASTENED. THE 5'-0" LONG #6 BARS AT CONSTRUCTION JOINTS SHALL BE DOUBLE FASTENED TO ADJACENT BARS. ANY SATISFACTORY METHOD OR DEVICE FOR HOLDING THE BARS FIRMLY IN POSITION DURING THE PLACEMENT OF THE CONCRETE WILL BE ACCEPTABLE.

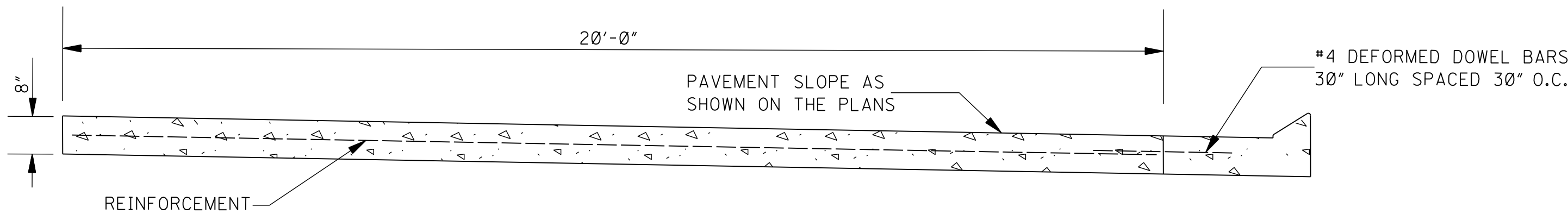
GENERAL NOTES:

1. THE LOT SIZE FOR CONFORMANCE DETERMINATION SHALL BE 1000' OF PAVEMENT IN EACH TRAFFIC LANE. CHAIR SPACINGS SHALL NOT BE GREATER THAN 42" CENTER TO CENTER (LONGITUDINAL) AND 24" (TRANSVERSE). ADDITIONAL CHAIRS SHALL BE USED IF NECESSARY TO MEET THE STEEL PLACEMENT REQUIREMENTS.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>CONTINUOUSLY REINFORCED CONCRETE PAVEMENT 24'-0" WIDE</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					 WORKING NUMBER CRP-1 SHEET NUMBER 6001

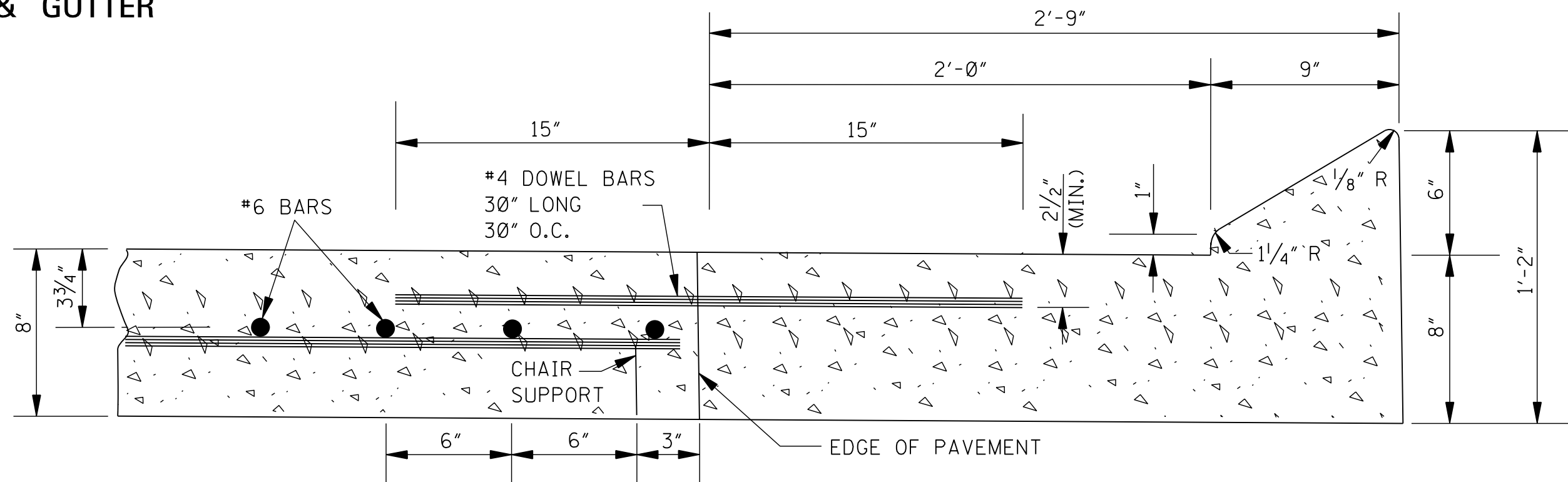


PLAN

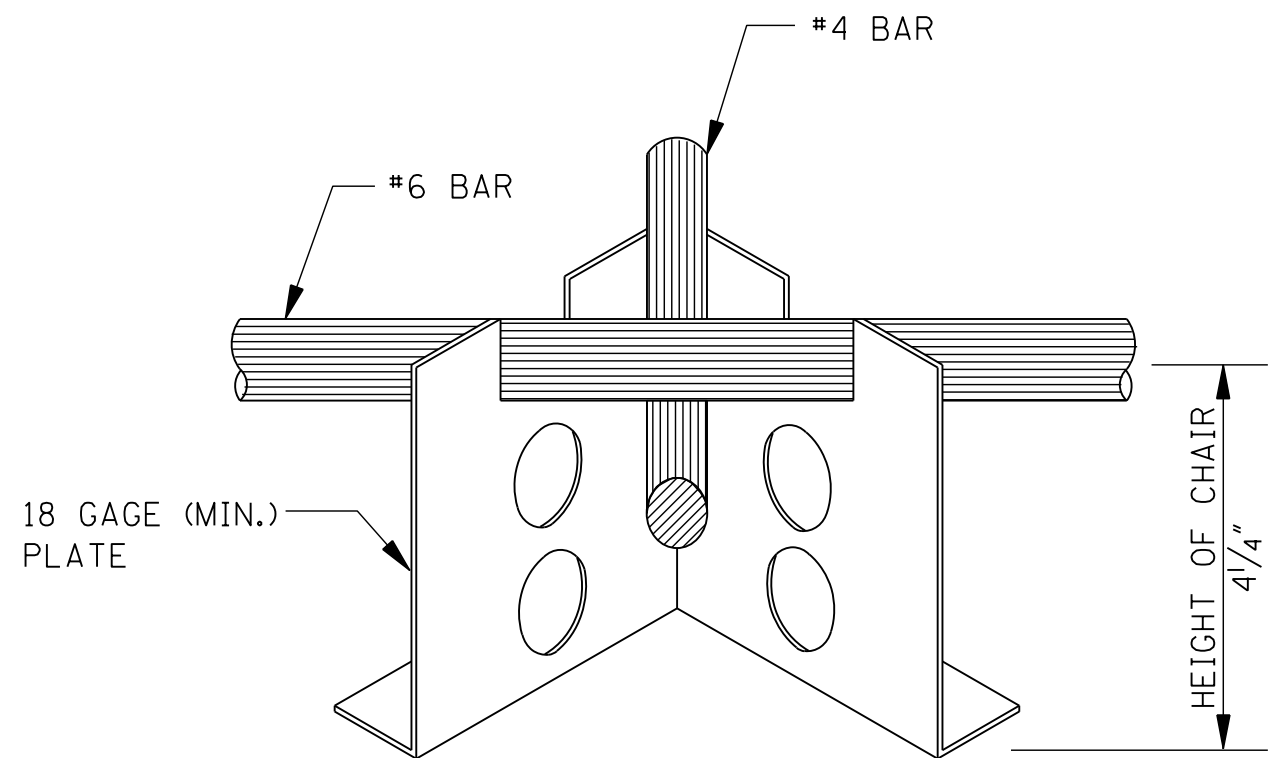


20'-0" PAVEMENT SECTION WITH COMB. CURB & GUTTER  
(8" UNIFORM THICKNESS)

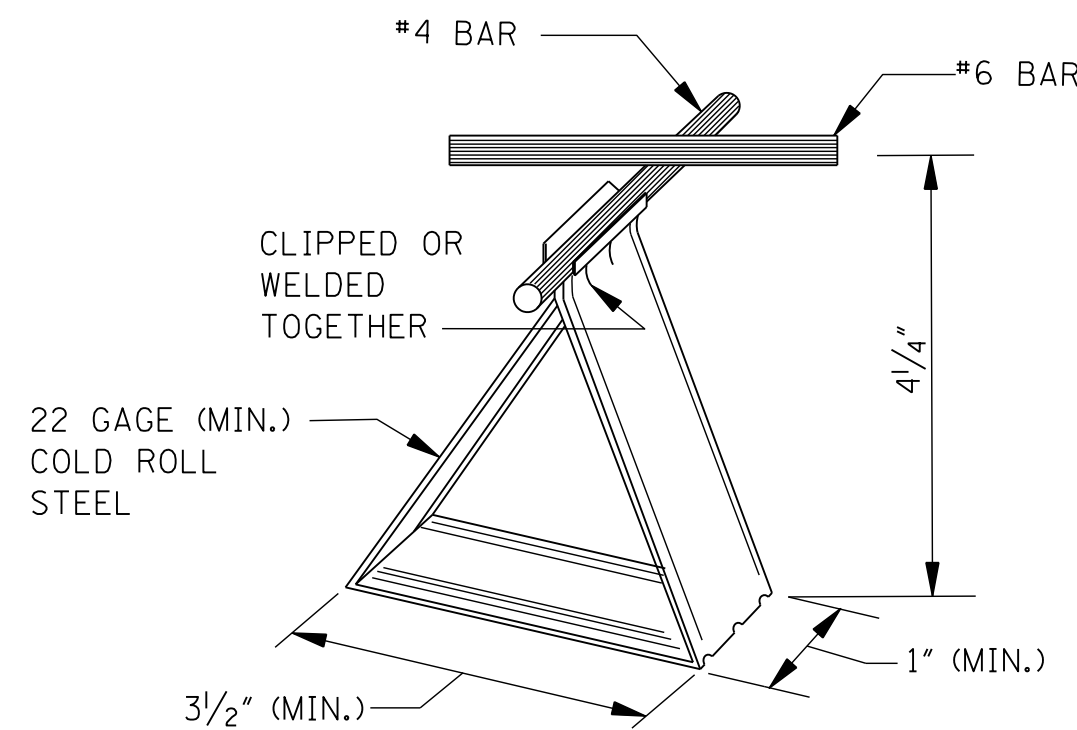
NOTE: LONGITUDINAL AND TRANSVERSE BARS SHALL BE SECURELY FASTENED TOGETHER BY ANY SATISFACTORY METHOD AT ALL EXTERIOR INTERSECTIONS AND AT NOT LESS THAN ALTERNATE INTERIOR INTERSECTIONS. WHERE LONGITUDINAL BARS ARE LAPPED, THE BARS SHALL BE DOUBLE FASTENED. THE 5'-0" LONG #6 BARS AT CONSTRUCTION JOINTS SHALL BE DOUBLE FASTENED TO ADJACENT BARS. ANY SATISFACTORY METHOD OR DEVICE FOR HOLDING THE BARS FIRMLY IN POSITION DURING THE PLACEMENT OF THE CONCRETE WILL BE ACCEPTABLE.



SECTION AT EDGE OF PAVEMENT



DETAILS OF CHAIR SUPPORT  
(OPTION I)



DETAIL OF CHAIR SUPPORT  
(OPTION II)

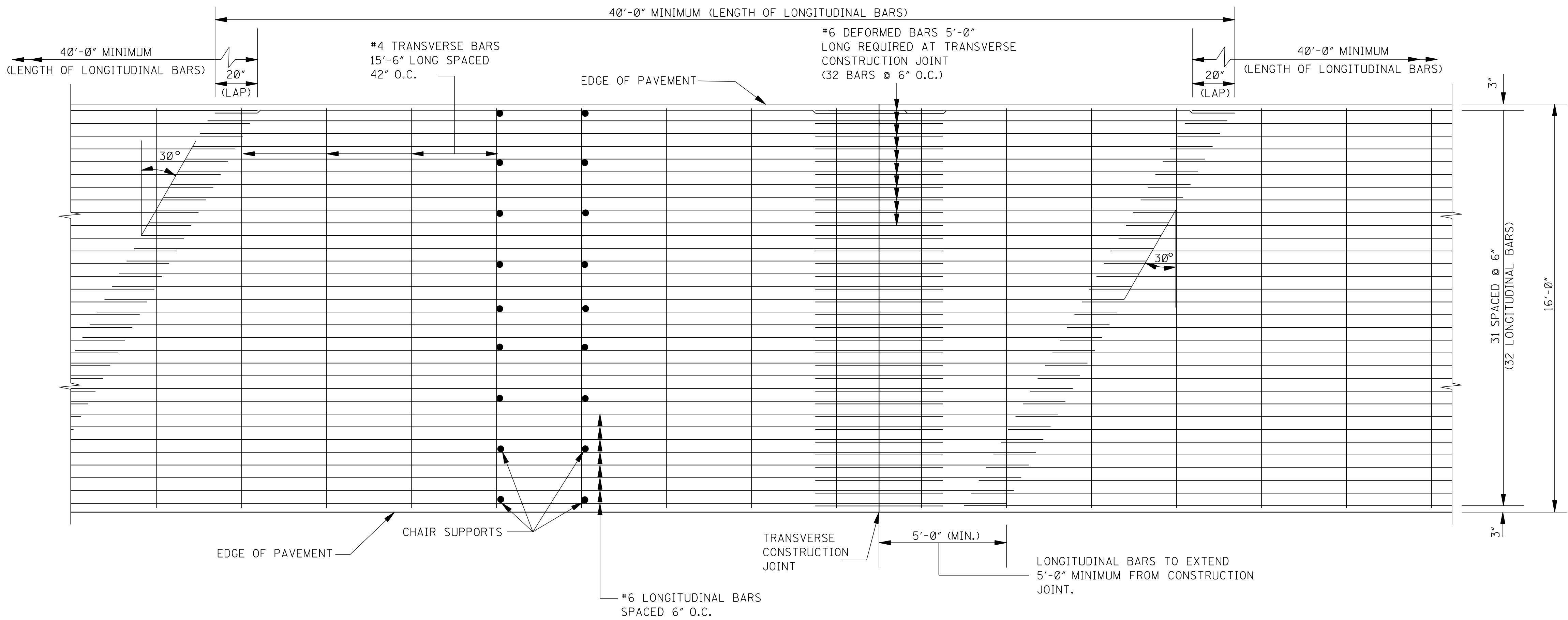
NOTE: FOR USE OF OTHER CHAIR SUPPORTS, SUBMIT DRAWINGS TO THE CONSTRUCTION ENGINEER FOR APPROVAL.

GENERAL NOTES:

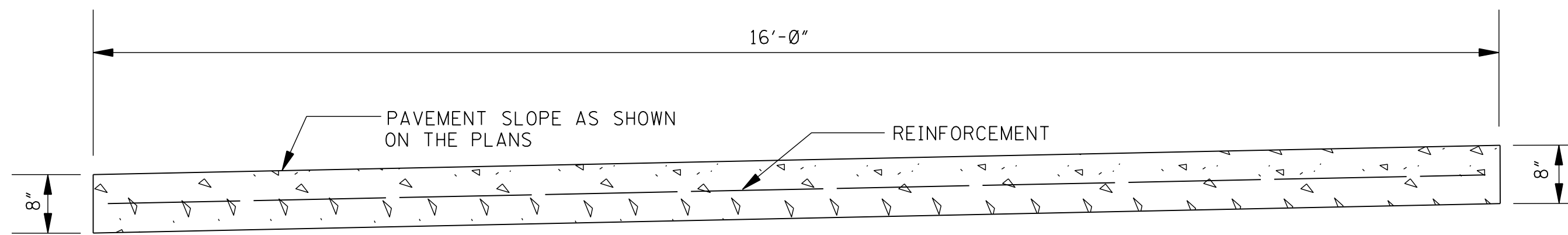
1. THE LOT SIZE FOR CONFORMANCE DETERMINATION SHALL BE 1000' OF PAVEMENT IN EACH TRAFFIC LANE. CHAIR SPACINGS SHALL NOT BE GREATER THAN 42" CENTER TO CENTER (LONGITUDINAL) AND 24" (TRANSVERSE). ADDITIONAL CHAIRS SHALL BE USED IF NECESSARY TO MEET THE STEEL PLACEMENT REQUIREMENTS.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>CONTINUOUSLY REINFORCED CONCRETE PAVEMENT 20'-0" WIDE</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					WORKING NUMBER CRP-1A SHEET NUMBER 6002

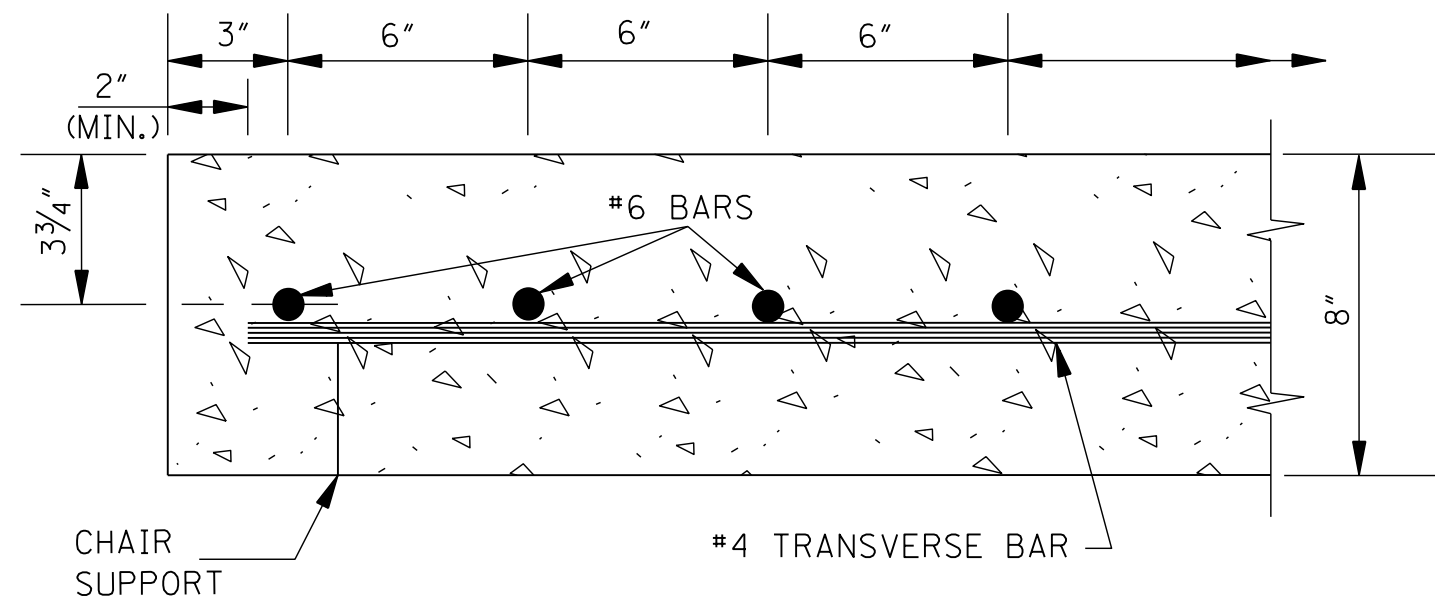




PLAN

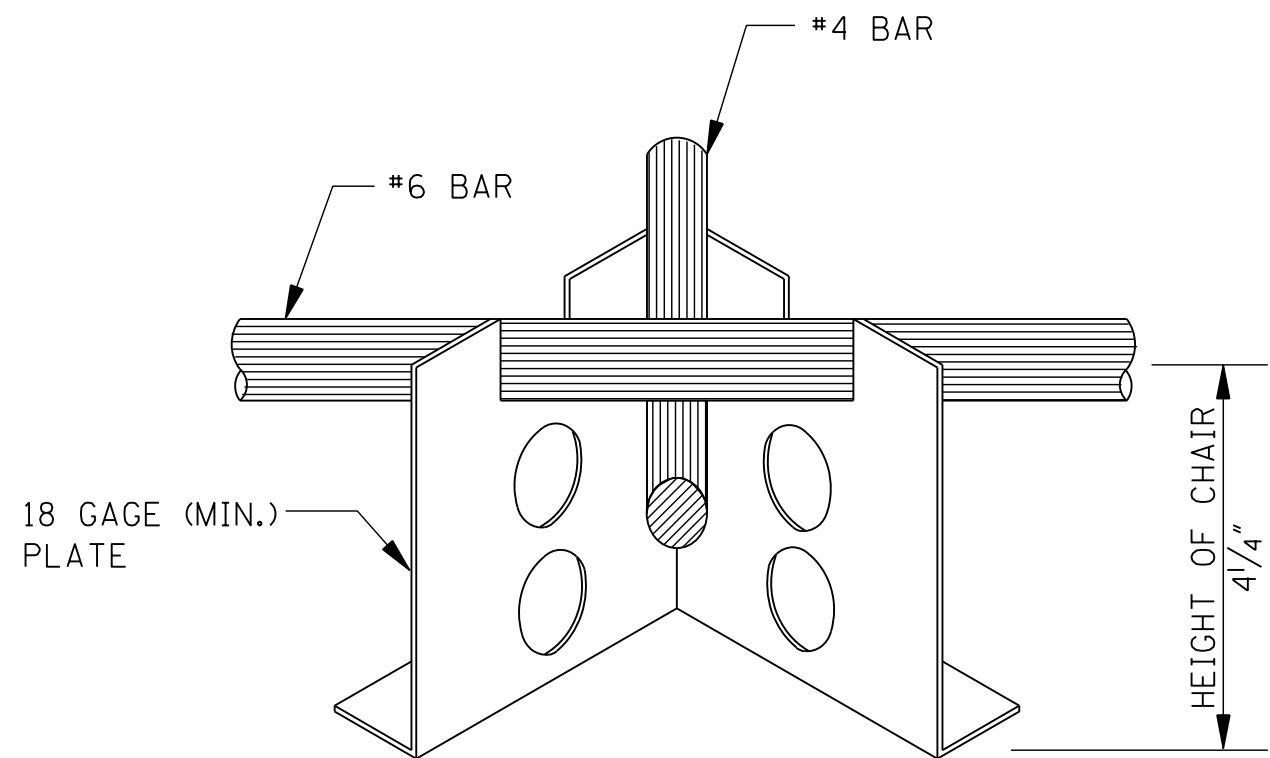


SECTION OF CONTINUOUSLY REINFORCED CONCRETE PAVEMENT  
(8" UNIFORM THICKNESS)

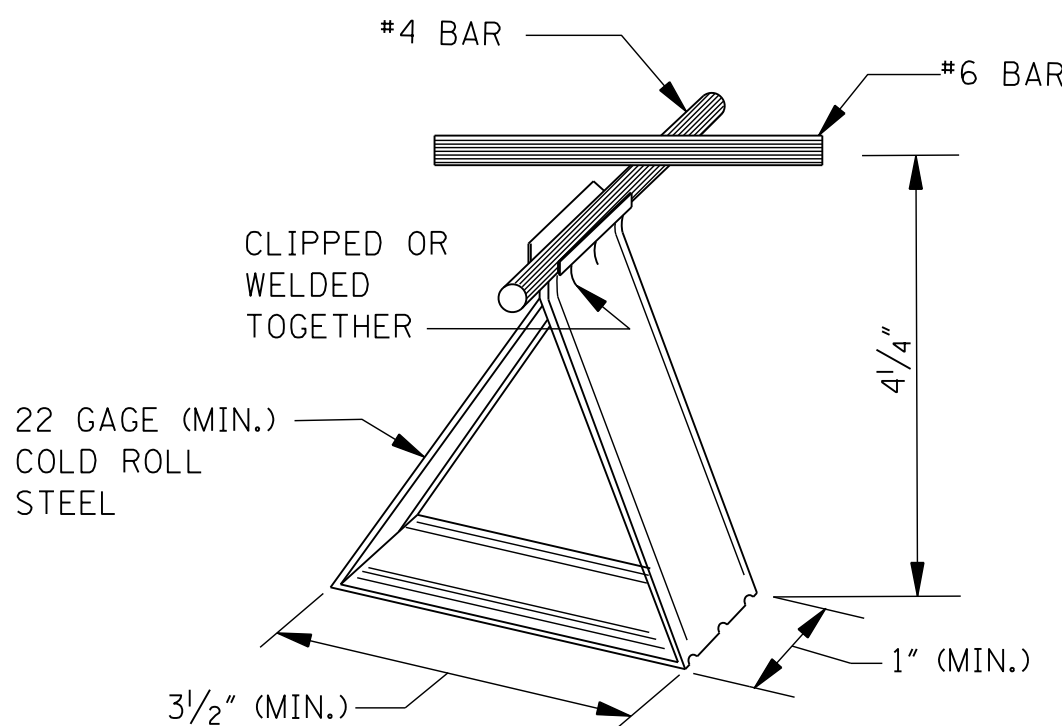


SECTION AT EDGE OF PAVEMENT

NOTE: LONGITUDINAL AND TRANSVERSE BARS SHALL BE SECURELY FASTENED TOGETHER BY ANY SATISFACTORY METHOD AT ALL EXTERIOR INTERSECTIONS AND AT NOT LESS THAN ALTERNATE INTERIOR INTERSECTIONS. WHERE LONGITUDINAL BARS ARE LAPPED, THE BARS SHALL BE DOUBLE FASTENED. THE 5'-0" LONG #6 BARS AT CONSTRUCTION JOINTS SHALL BE DOUBLE FASTENED TO ADJACENT BARS. ANY SATISFACTORY METHOD OR DEVICE FOR HOLDING THE BARS FIRMLY IN POSITION DURING THE PLACEMENT OF THE CONCRETE WILL BE ACCEPTABLE.



DETAILS OF CHAIR SUPPORT  
(OPTION I)




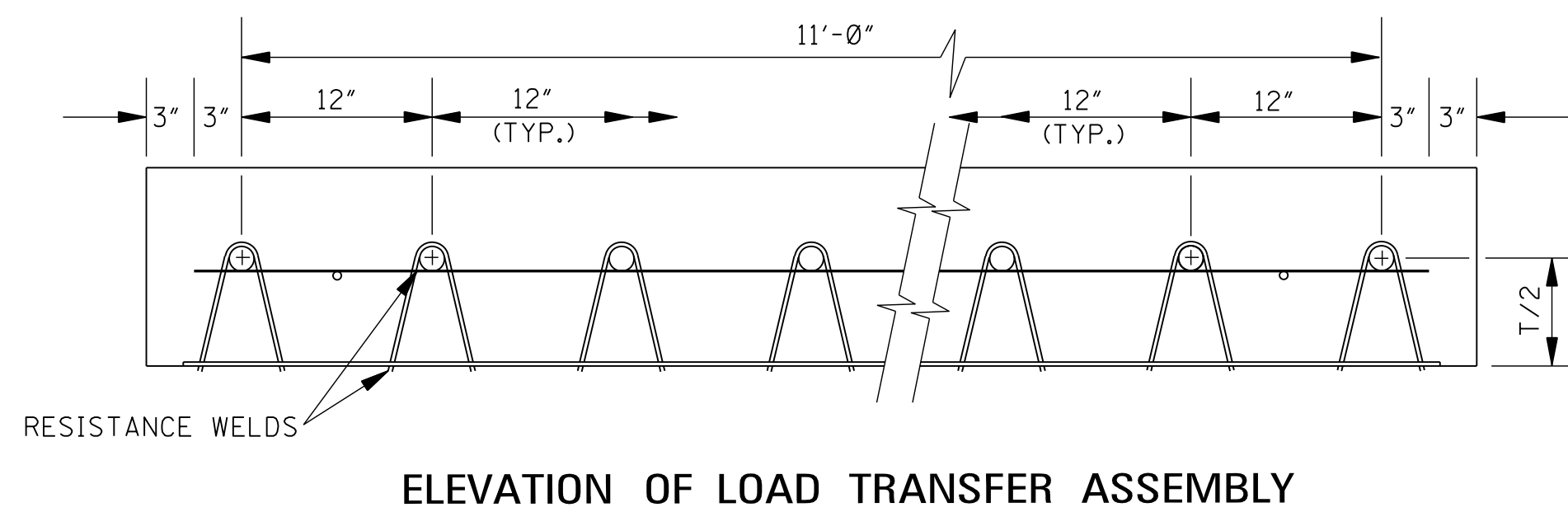
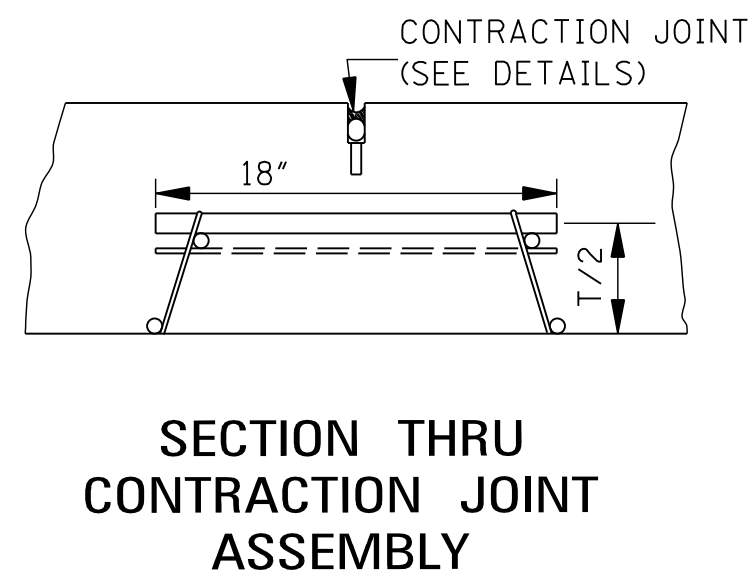
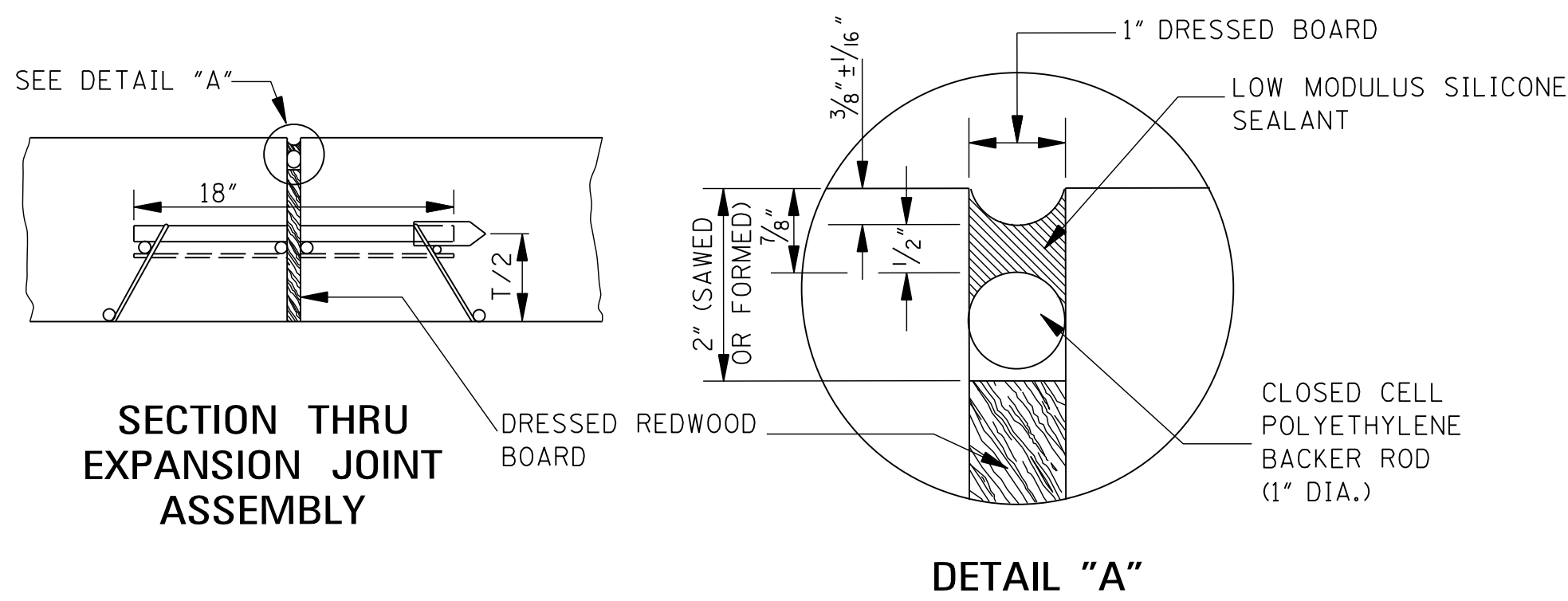
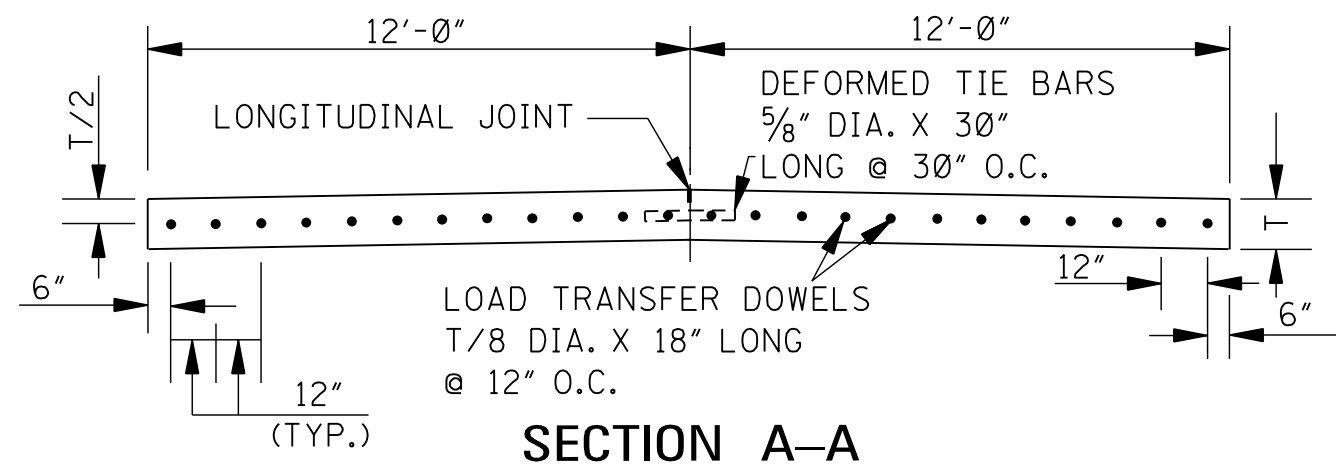
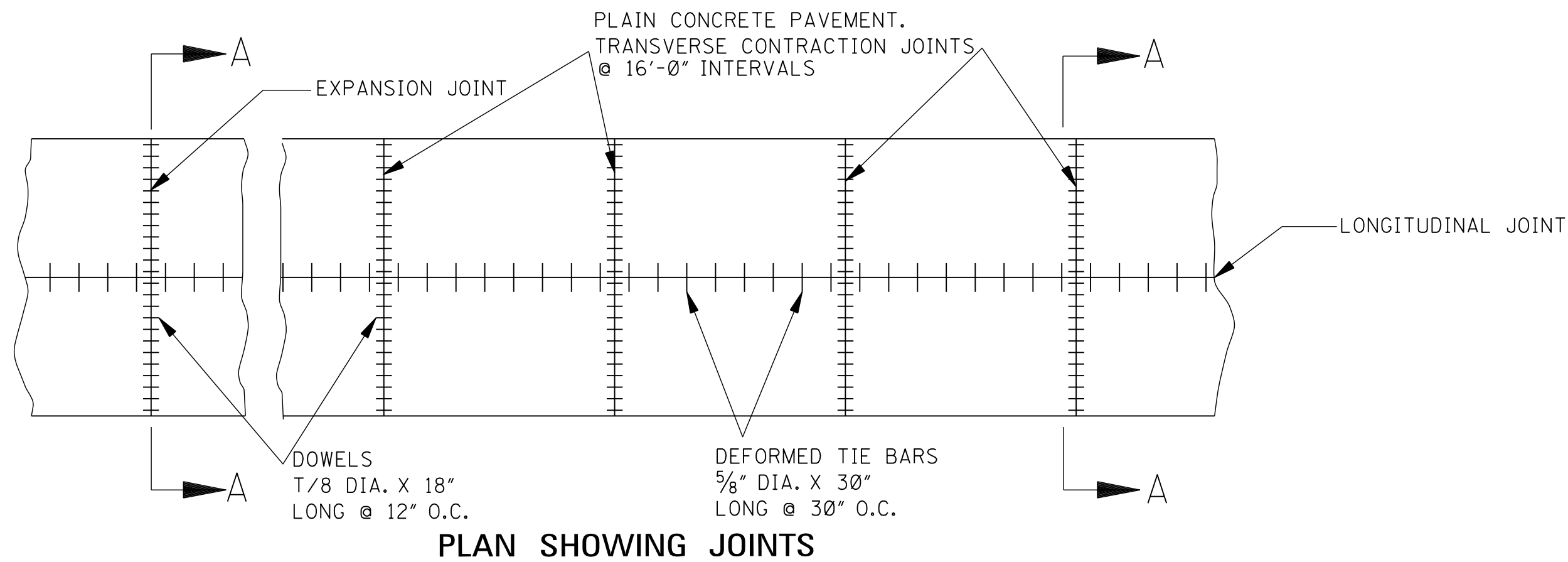
DETAIL OF CHAIR SUPPORT  
(OPTION II)

NOTE: FOR USE OF OTHER CHAIR SUPPORTS, SUBMIT DRAWINGS TO THE CONSTRUCTION ENGINEER FOR APPROVAL.

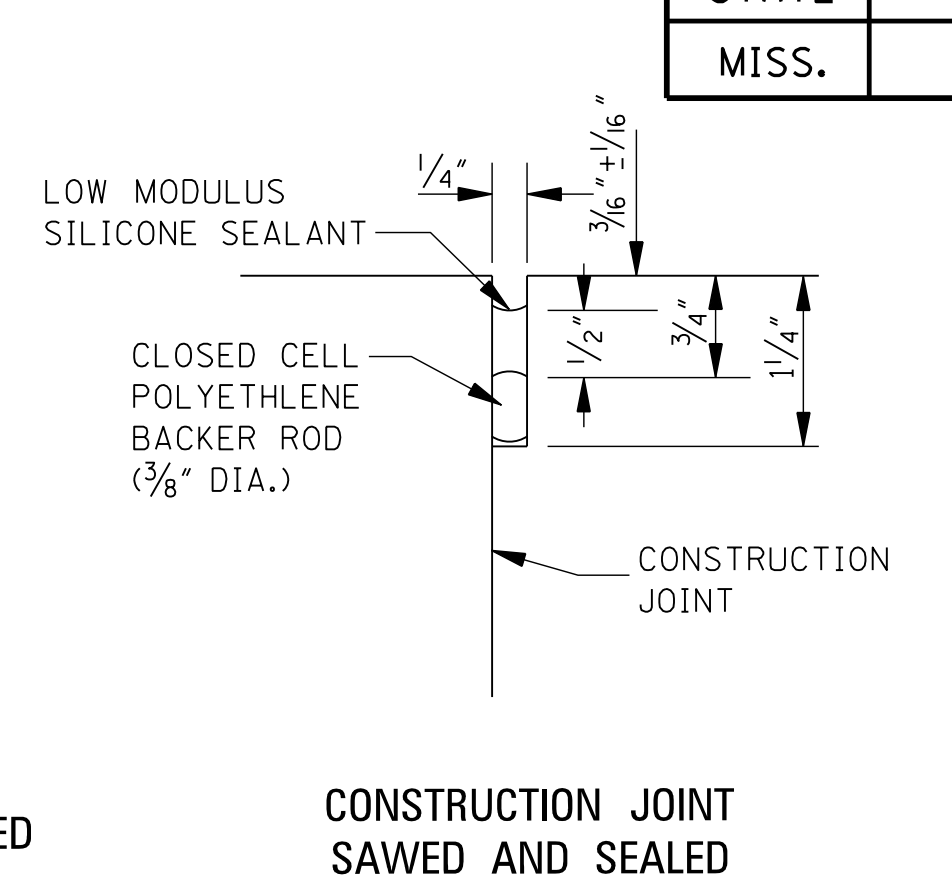
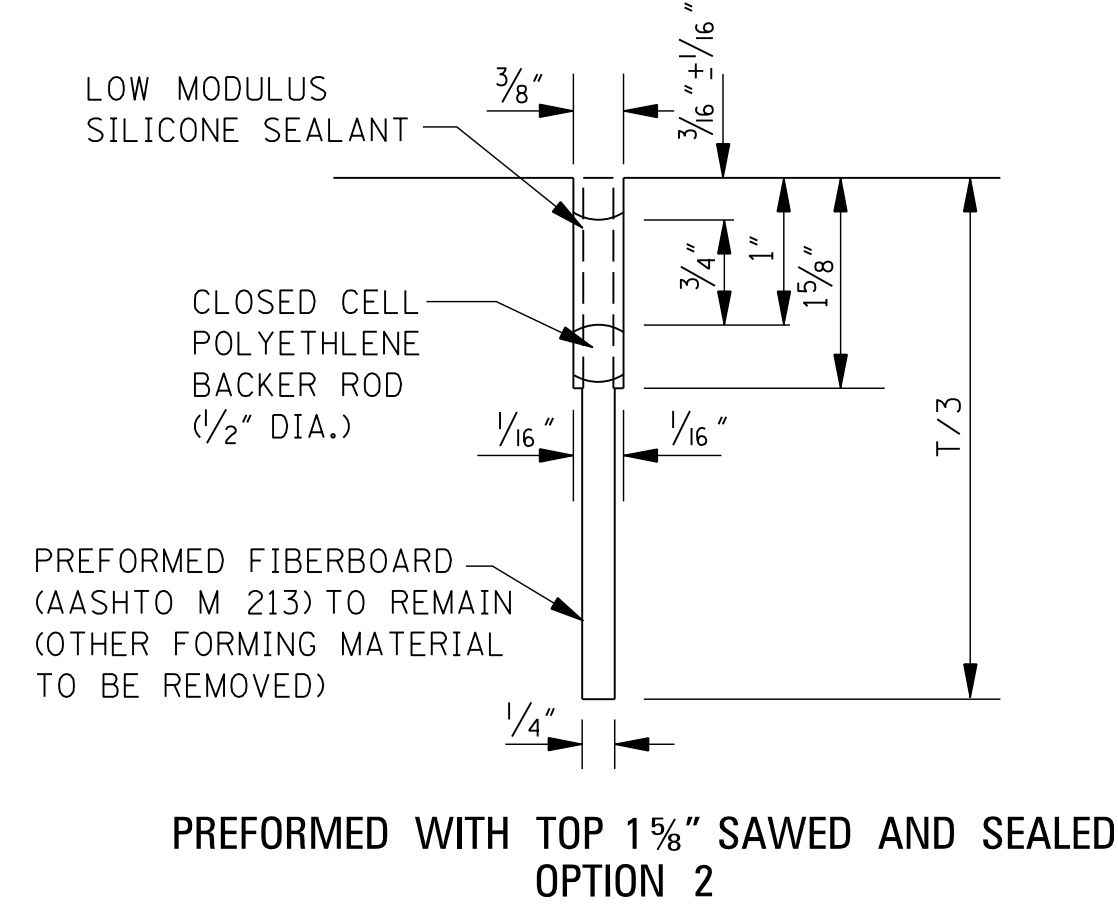
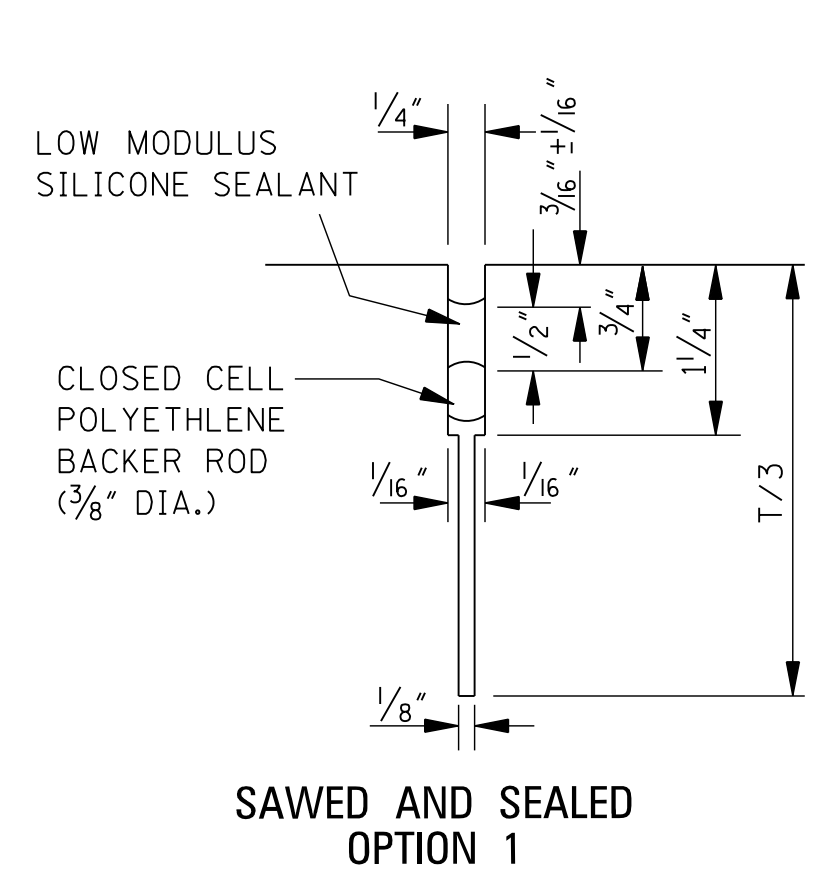
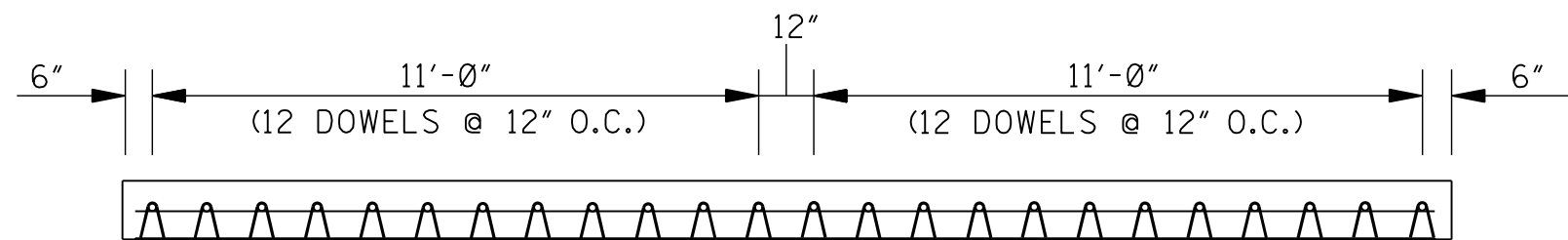
GENERAL NOTES:

1. THE LOT SIZE FOR CONFORMANCE DETERMINATION SHALL BE 1000' OF PAVEMENT IN EACH TRAFFIC LANE. CHAIR SPACINGS SHALL NOT BE GREATER THAN 42" CENTER TO CENTER (LONGITUDINAL) AND 24" (TRANSVERSE). ADDITIONAL CHAIRS SHALL BE USED IF NECESSARY TO MEET THE STEEL PLACEMENT REQUIREMENTS.

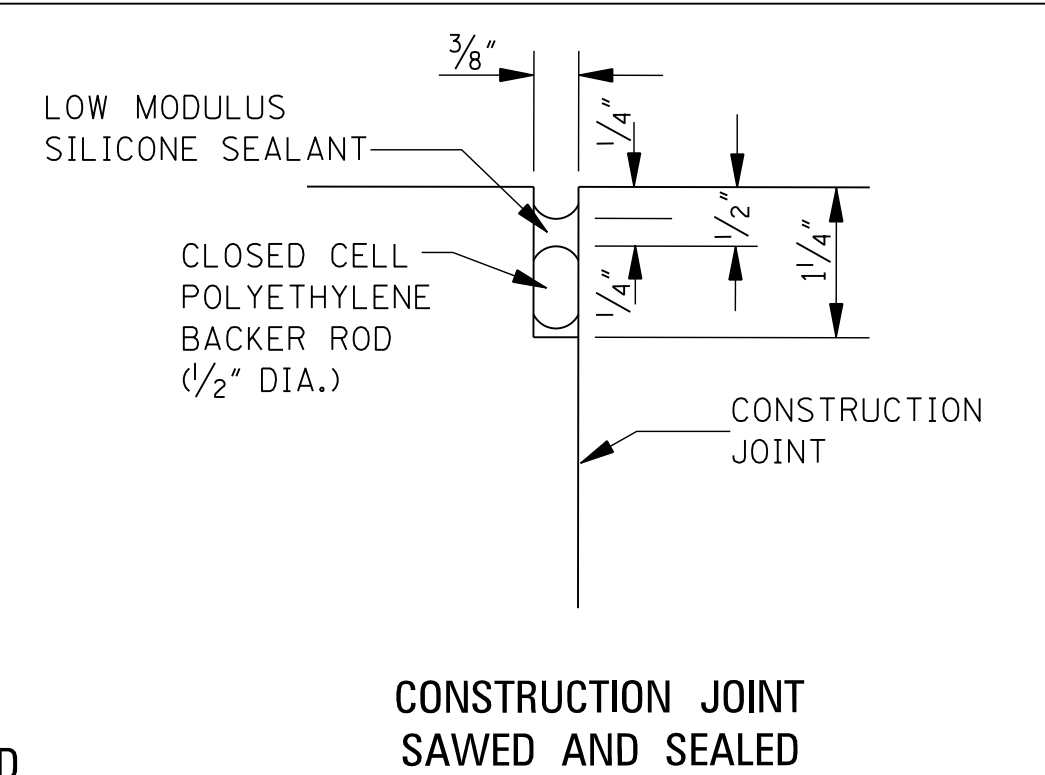
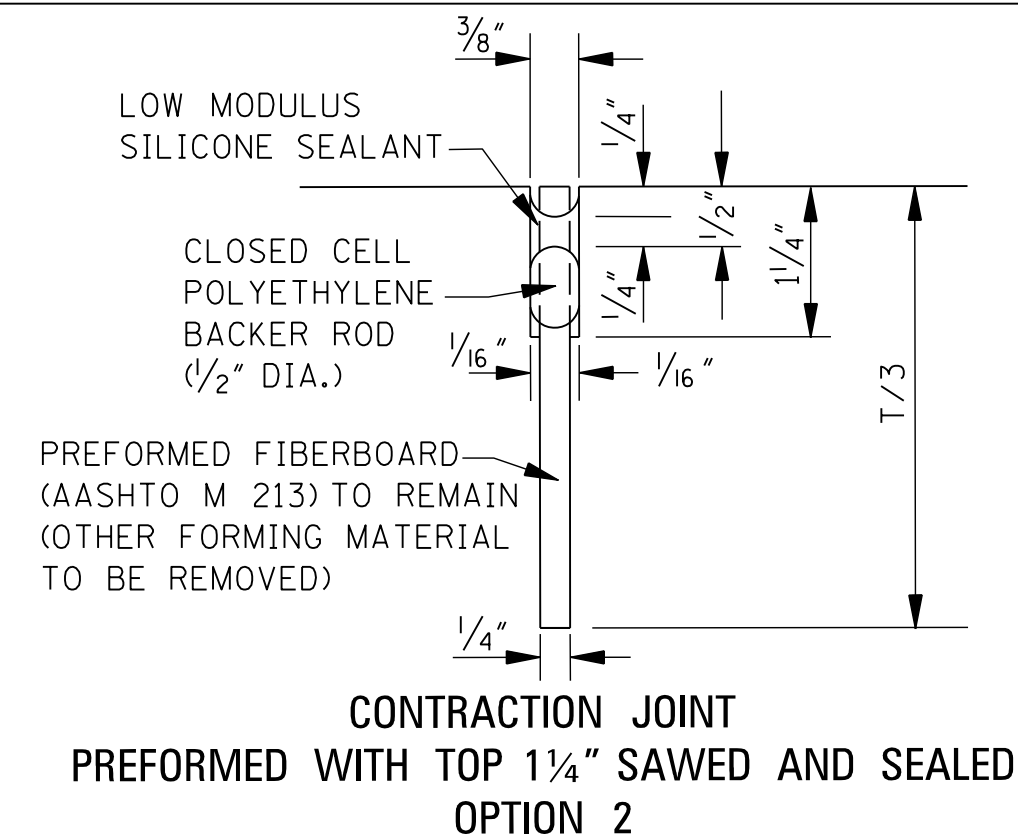
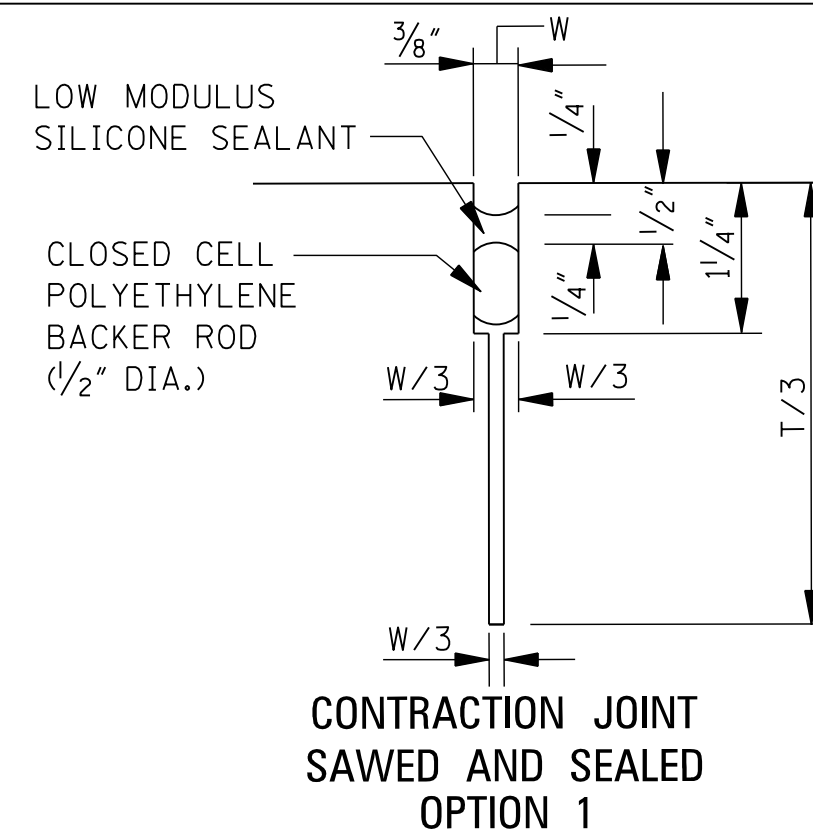
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>CONTINUOUSLY REINFORCED CONCRETE PAVEMENT 16'-0" WIDE</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					 WORKING NUMBER CRP-1B SHEET NUMBER 6003



PLACEMENT OF ASSEMBLIES IN 24'-0" WIDTH PAVEMENT



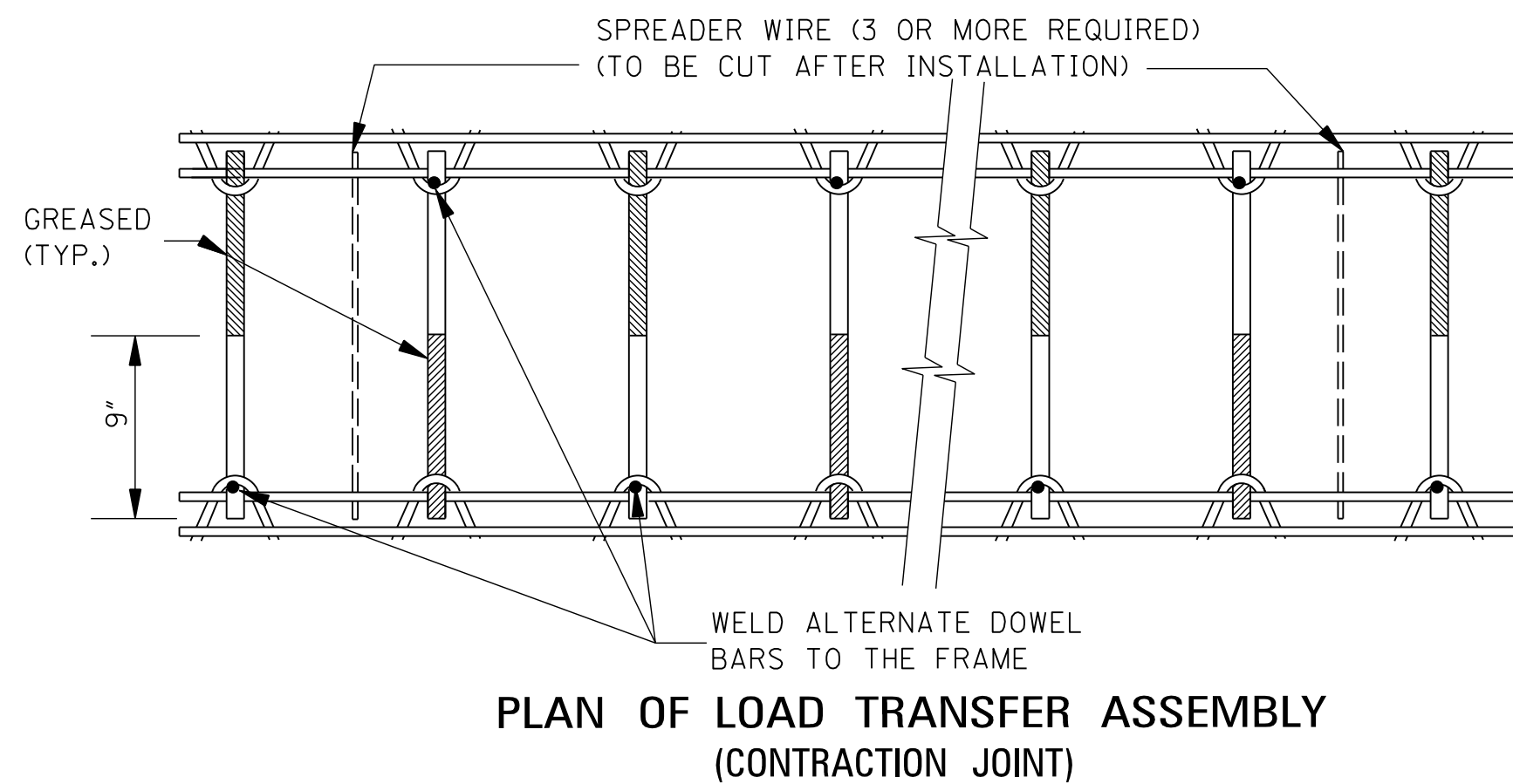
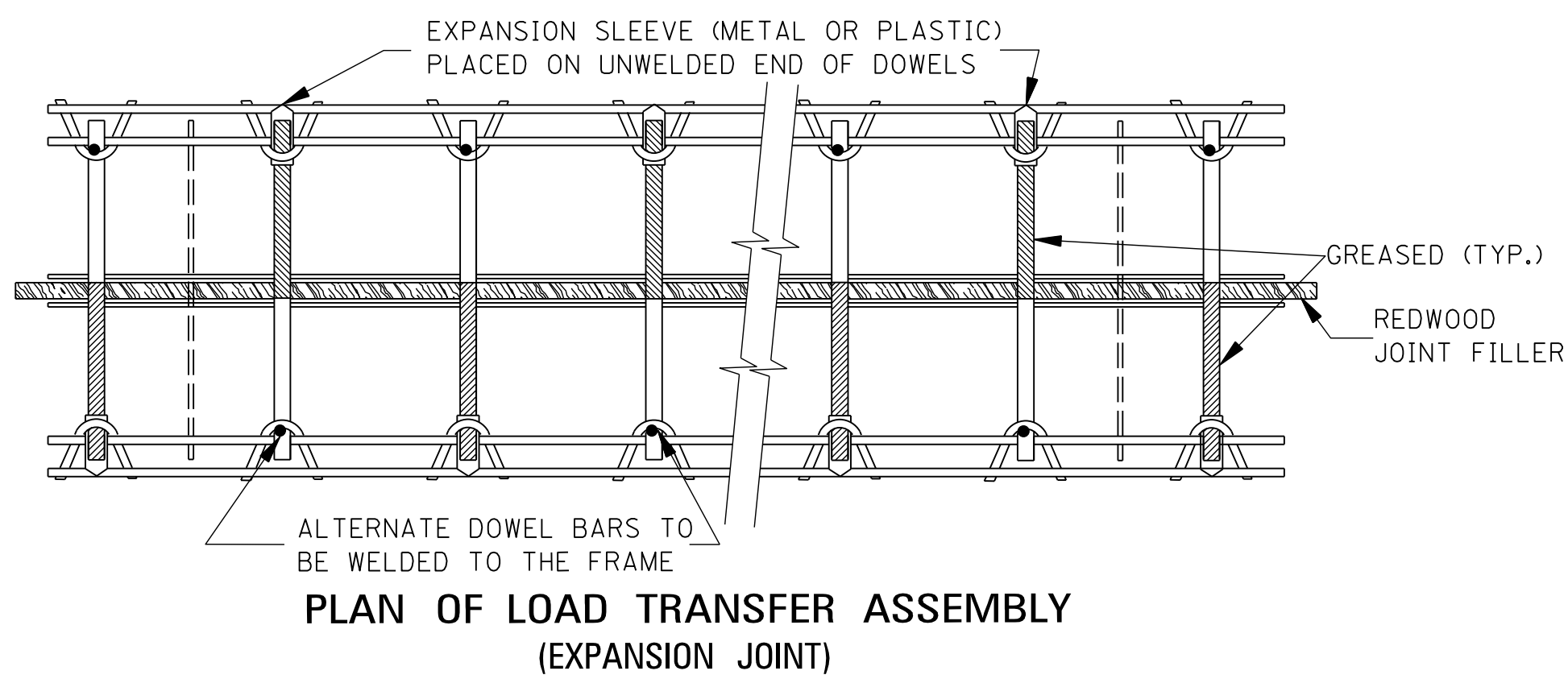
LONGITUDINAL JOINTS



TRANSVERSE JOINTS

GENERAL NOTES:

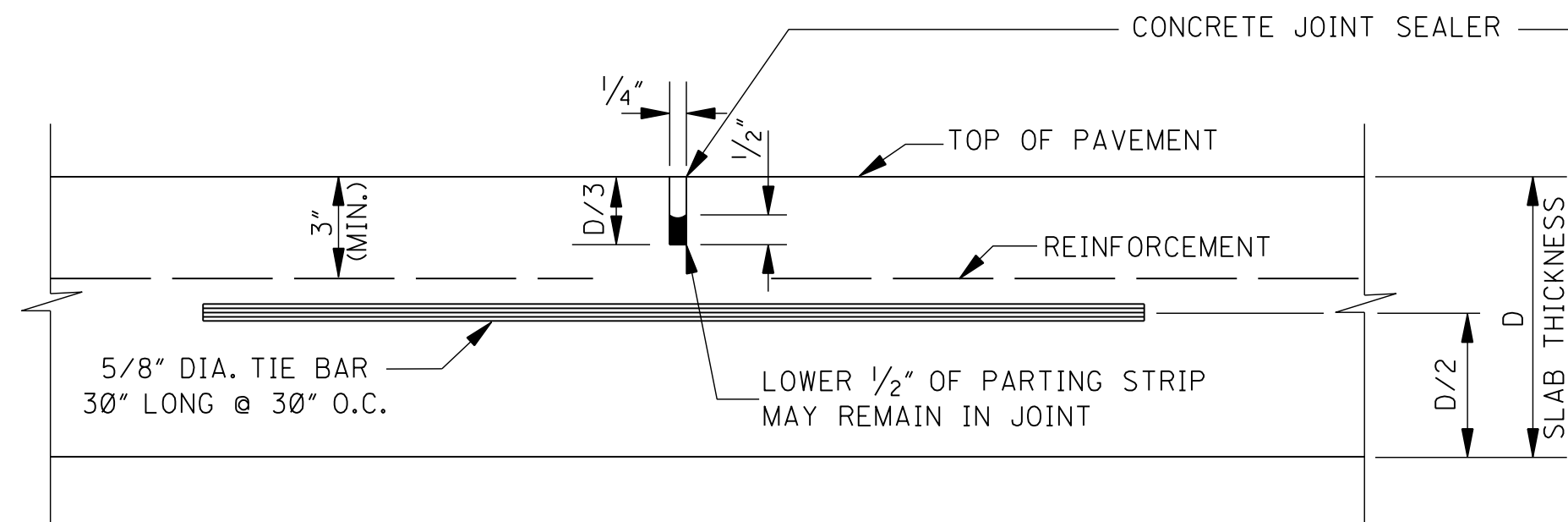
- DOWEL BAR SPECIFICATIONS: AASHTO M 31 GRADE 60.  
TOLERANCES: THE PERMISSIBLE VARIATION IN STRAIGHTNESS SHALL BE A MAXIMUM OF 0.075' IN THE LENGTH OF THE DOWEL. THE TOLERANCES IN THE LENGHT SHALL BE +/- 0.25".  
THE MAXIMUM PERMISSIBLE ALIGNMENT VARIATION SHALL BE 0.25" IN THE LENGTH OF THE DOWEL IN EACH PLANE, BOTH HORIZONTALLY AND VERTICALLY.  
COATING: DOWELS SHALL BE SHOP PAINTED FULL LENGTH WITH ONE OF THE FOLLOWING PAINTS AS PER SPECIFICATION: (1) FEDERAL SPECIFICATION TT-P-645, (2) FEDERAL SPECIFICATION TT-P-31D, OR (3) STEEL STRUCTURES PAINTING COUNCIL SPECIFICATION SSPC-PAIN II.
- ASSEMBLY FRAME SPECIFICATIONS: AASHTO M 32.  
FRAME WIRE SIZES: ALL FRAME WIRES SHALL BE W5.5 OR GREATER EXCEPT THE SPREADER WIRES WHICH SHALL BE W3 OR GREATER.
- ANCHOR PINS: THE ASSEMBLY SHALL BE SECURED TO CEMENT TREATED OR ASPHALT BASE WITH RASET, HILT, POWERS, OR EQUIVALENT TIES (MINIMUM OR 8 PER 12 FT. SECTION. -- 3 ON EACH) OR OTHER APPROVED METHODS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING THE ENTIRE ASSEMBLY IN SUCH A MANNER AS TO PREVENT DISPLACEMENT.
- FOR CONSIDERATION OF USE OF OTHER LOAD TRANSFER ASSEMBLIES, THE CONTRACTOR SHALL PROVIDE DRAWINGS TO THE ENGINEER FOR APPROVAL.
- PREFORMED FILLER IS NOT AN ALTERNATIVE FOR REDWOOD FILLER AT EXPANSION JOINTS UNLESS SPECIFICALLY REQUIRED ON THE PLANS.



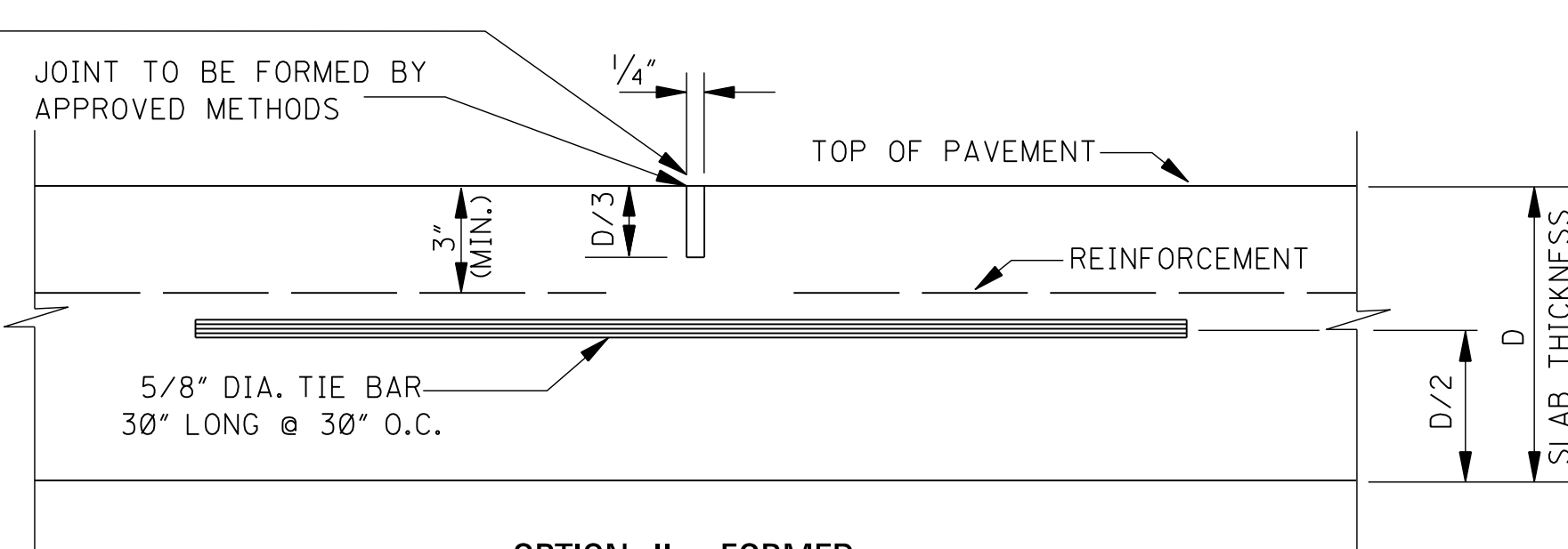
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	ISSUE DATE: AUGUST 01, 2017

**CONCRETE PAVEMENT JOINTS**

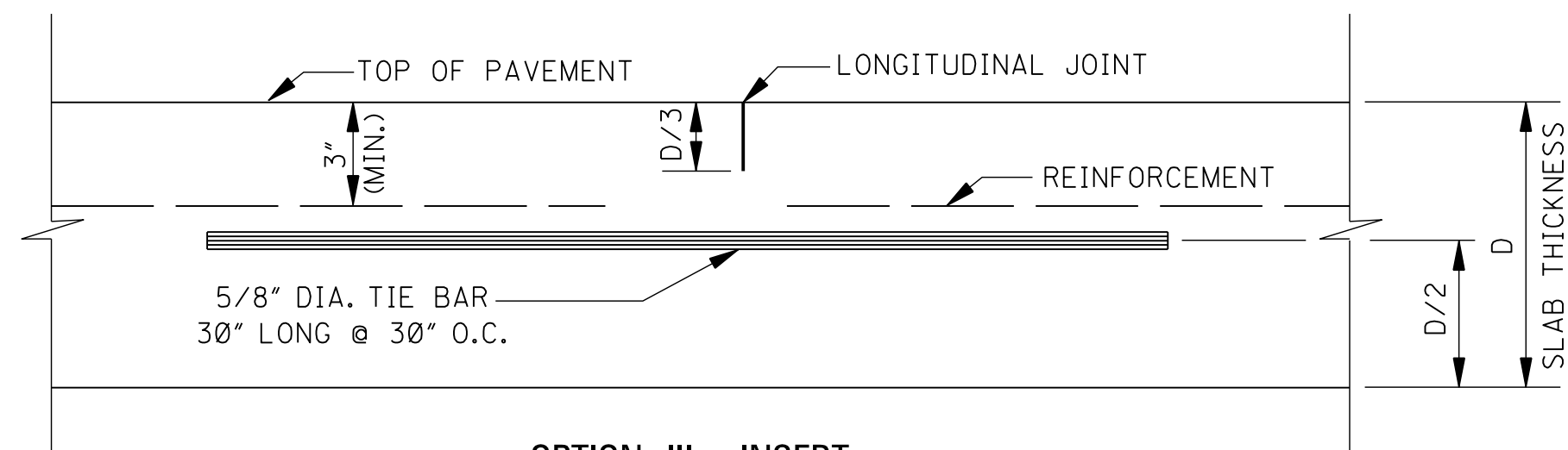
WORKING NUMBER  
PJ-1  
SHEET NUMBER  
6004



OPTION I – SAWED



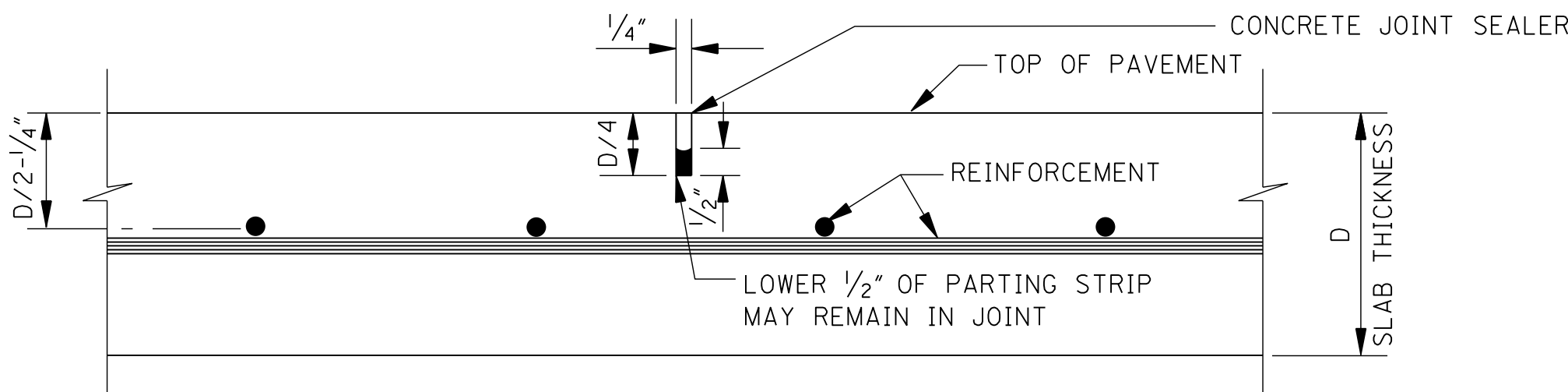
OPTION II – FORMED



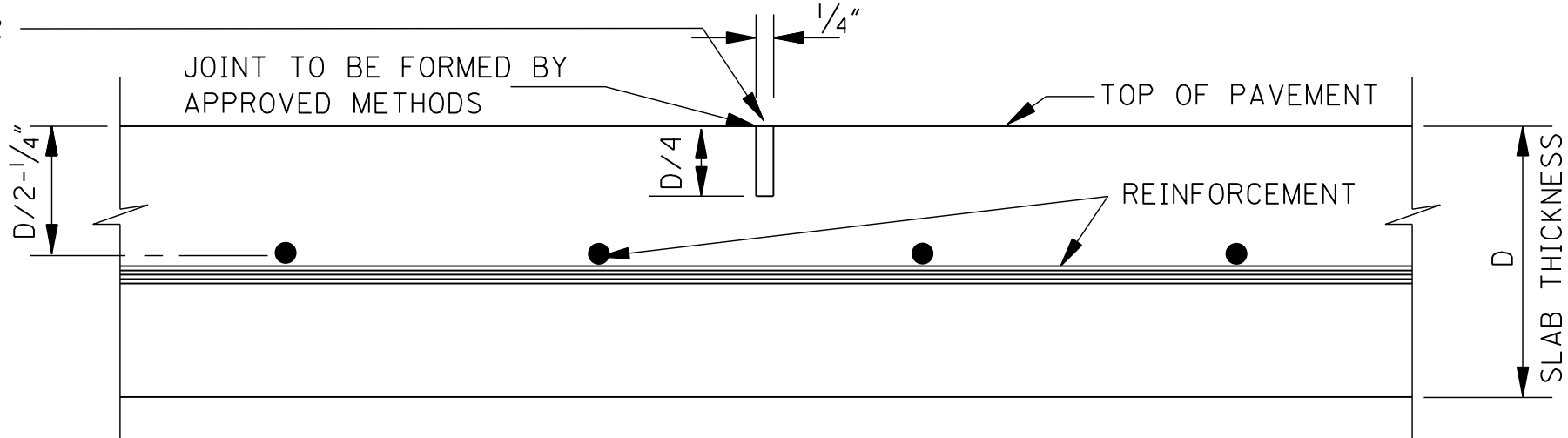
OPTION III – INSERT

DETAILS OF LONGITUDINAL JOINTS FOR  
CONVENTIONALLY REINFORCED CONCRETE PAVEMENT

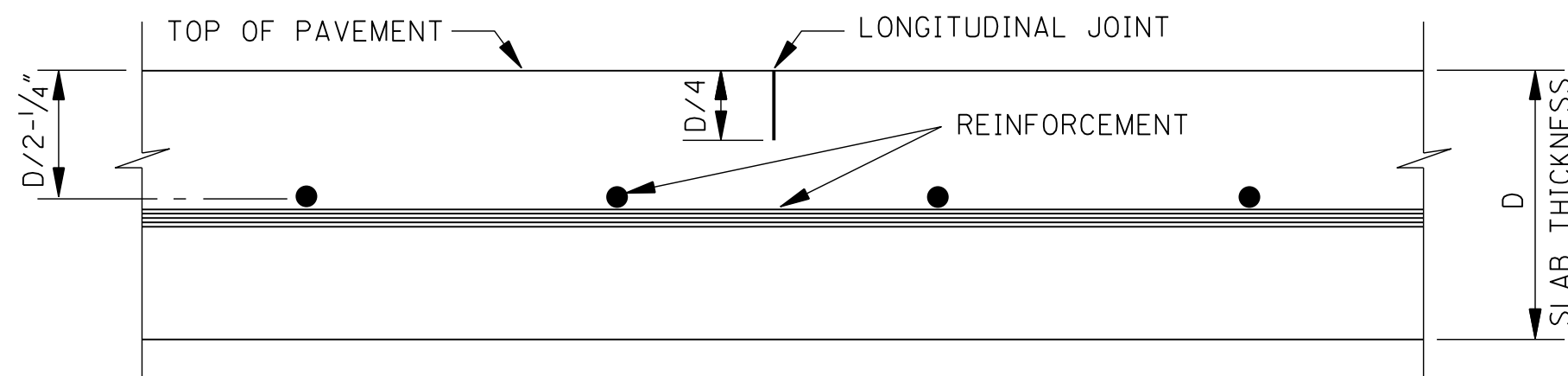
NOTE: A LONGITUDINAL WEAKENED PLANE JOINT MAY BE FORMED BY PLACEMENT OF A CONTINUOUS STRIP OF POLYETHYLENE OR OTHER APPROVED MATERIAL. WITH THIS TYPE OF INSERT IT IS NOT REQUIRED TO SAW OR SEAL THE LONGITUDINAL JOINT.



OPTION I – SAWED



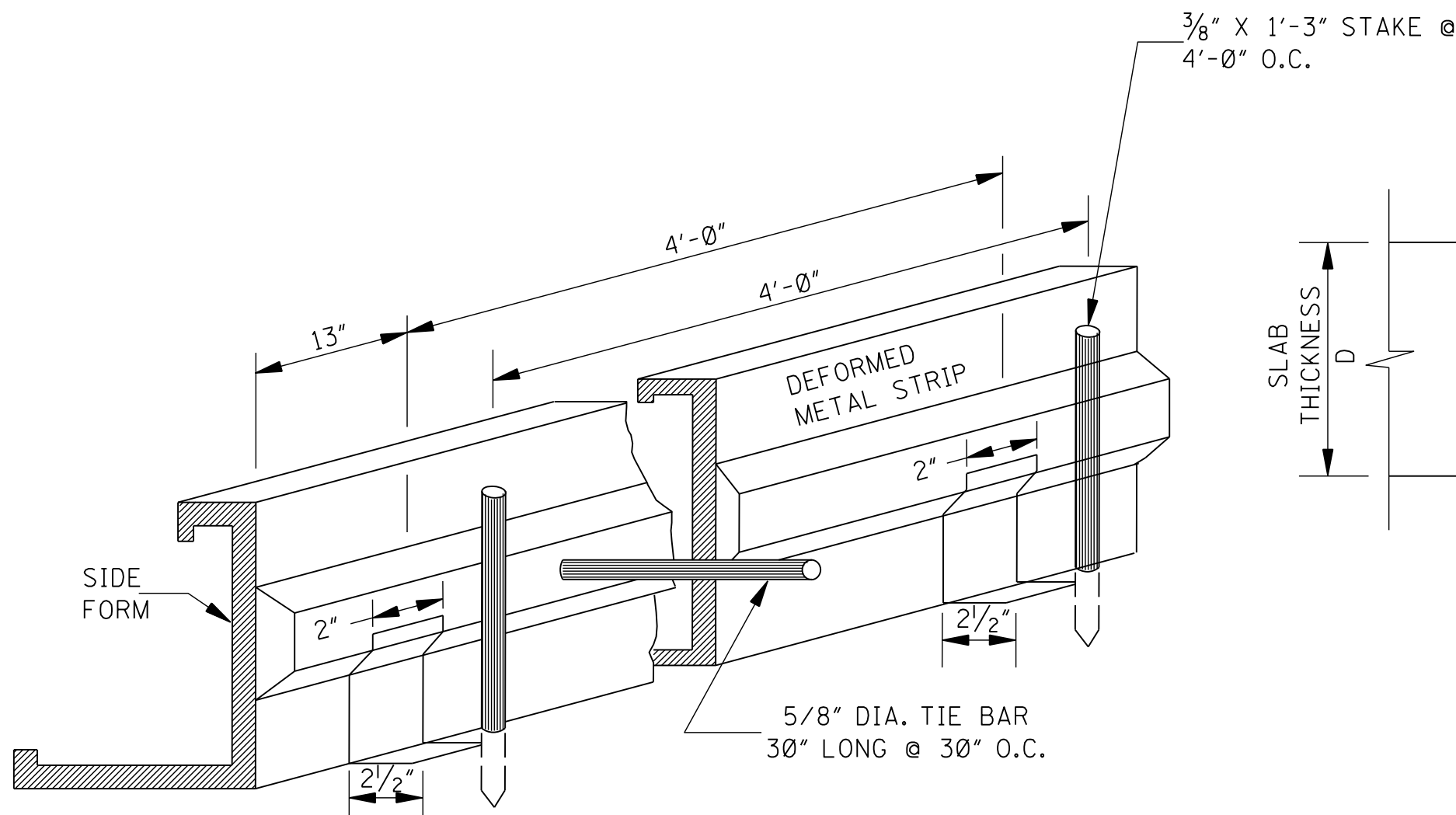
OPTION II – FORMED



OPTION III – INSERT

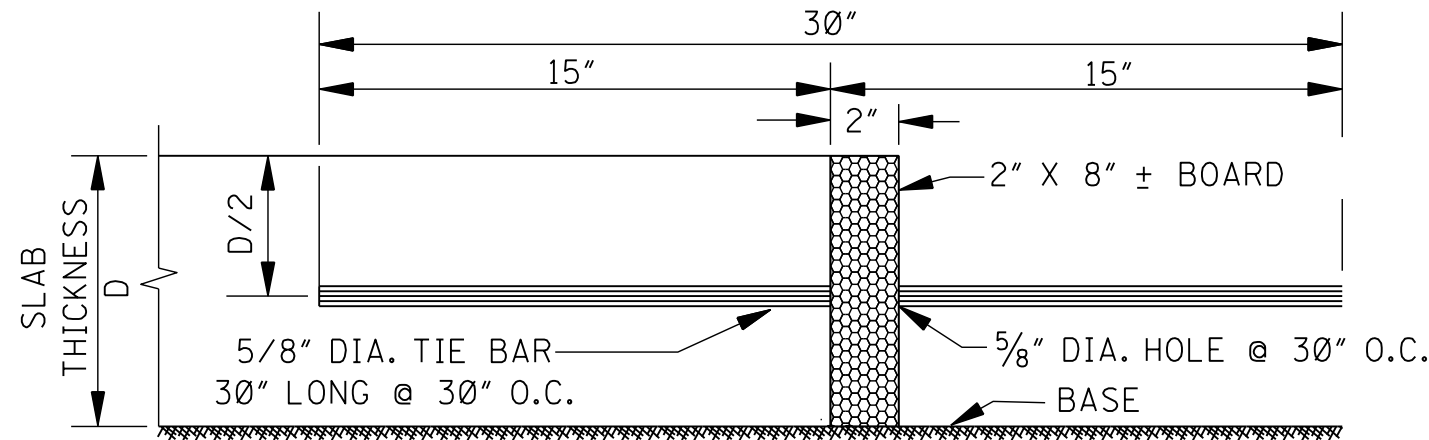
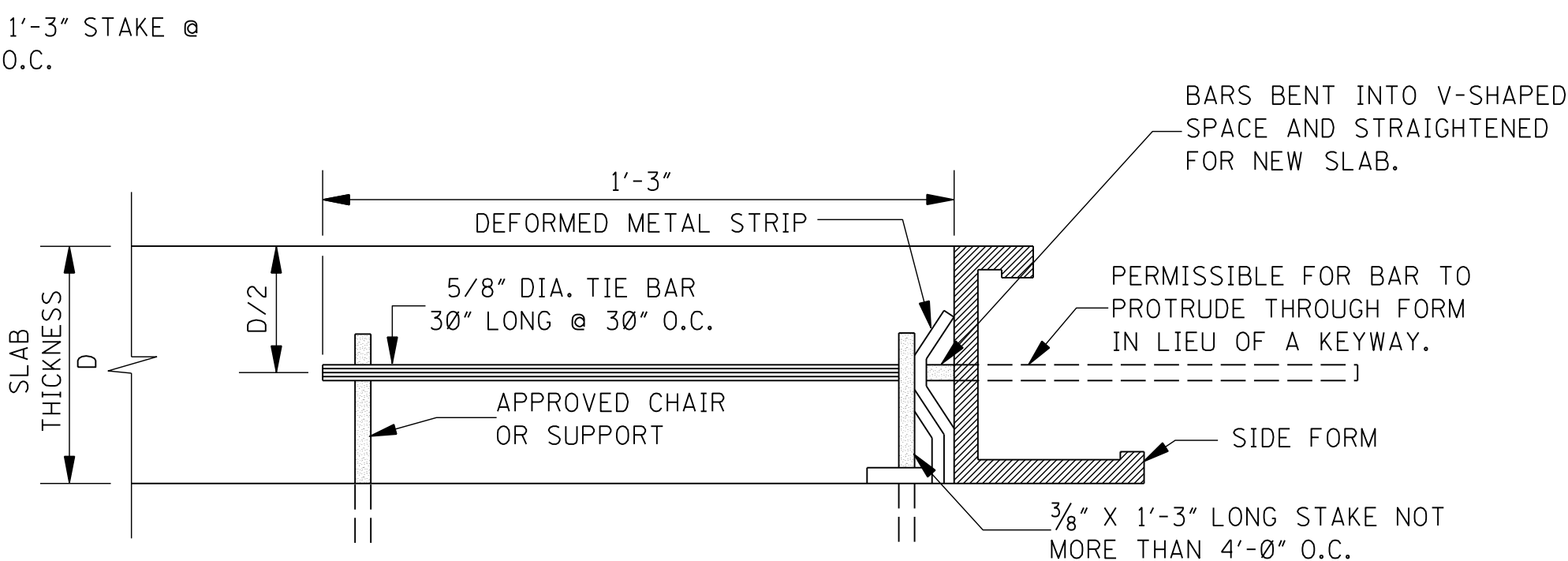
DETAILS OF LONGITUDINAL JOINTS FOR  
CONTINUOUSLY REINFORCED CONCRETE PAVEMENT

NOTE: A LONGITUDINAL WEAKENED PLANE JOINT MAY BE FORMED BY PLACEMENT OF A CONTINUOUS STRIP OF POLYETHYLENE OR OTHER APPROVED MATERIAL. WITH THIS TYPE OF INSERT IT IS NOT REQUIRED TO SAW OR SEAL THE LONGITUDINAL JOINT.

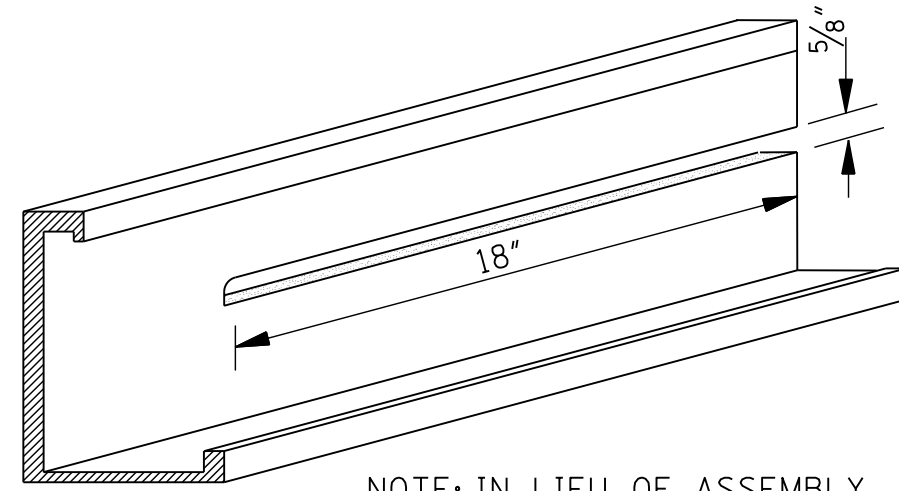


LONGITUDINAL CONSTRUCTION JOINT

NOTE: FOR CONSIDERATION OF OTHER TYPES OF FORMS, THE CONTRACTOR SHALL SUBMIT DRAWINGS TO THE ENGINEER FOR APPROVAL.

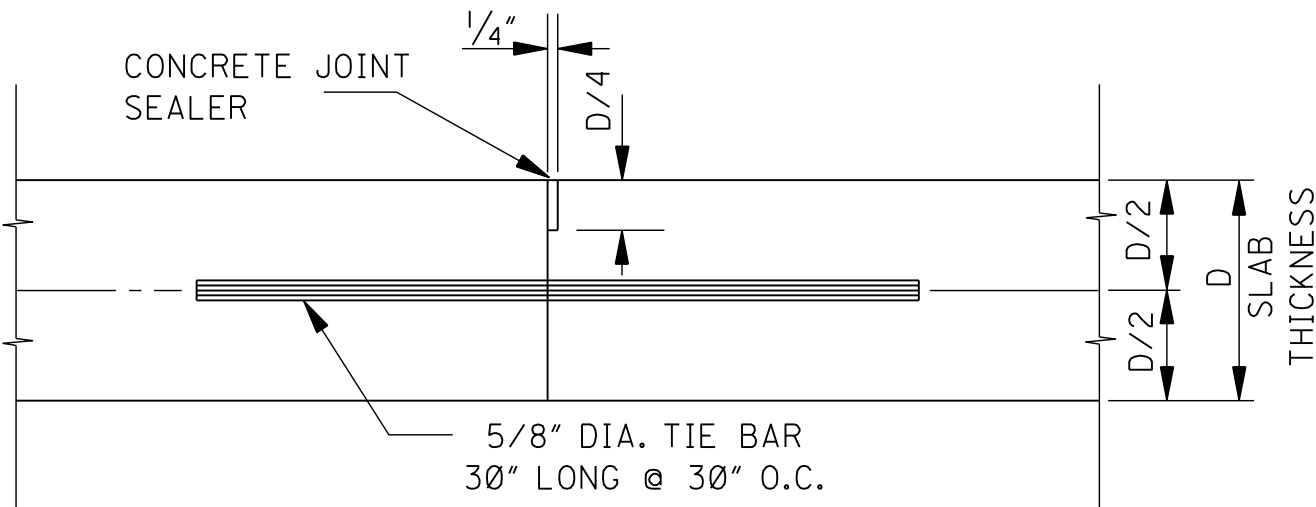


NOTE: PLACE FORM BOARD, INSERT AND VIBRATE TIE BARS IMMEDIATELY FOLLOWING THE TRAILING FORM OF A SLIP-FORM PAVER. REMOVE BOARD AFTER PLACEMENT OF TIE BARS.



NOTE: IN LIEU OF ASSEMBLY SHOWN AT LEFT, THE LAST 18" OF TRAILING FORMS MAY BE SLOTTED AS SHOWN.

LONGITUDINAL CONSTRUCTION JOINT  
FOR SLIP FORM PAVEMENT



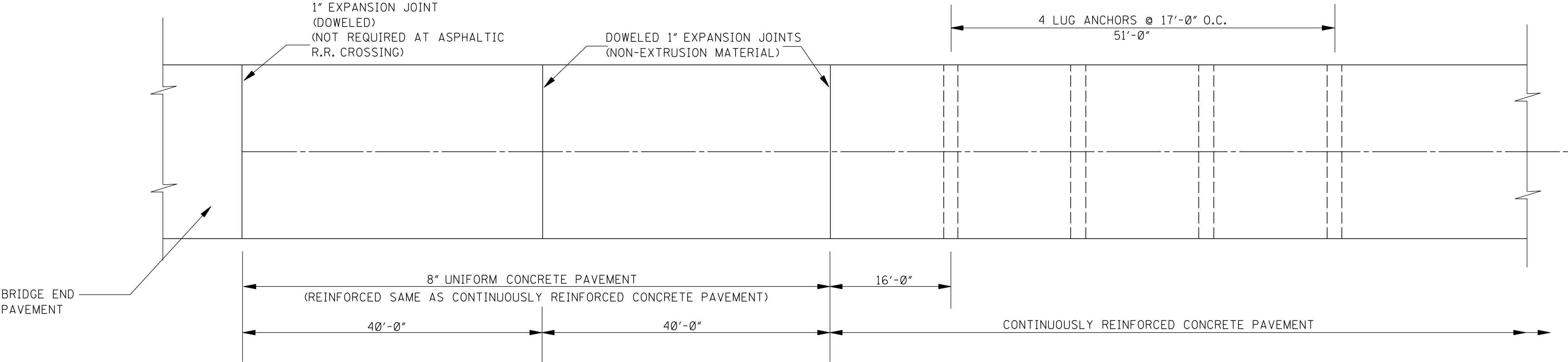
LONGITUDINAL CONSTRUCTION JOINT

JOINT MAY BE FORMED OR TOOLED BY AN APPROVED METHOD; OR FORMED WITH A PARTING STRIP AND SAWED TO A DEPTH OF (D/4 - 1/2"); OR SAWED TO A DEPTH OF 1/2" WITHOUT THE INSERTION OF PARTING STRIP.

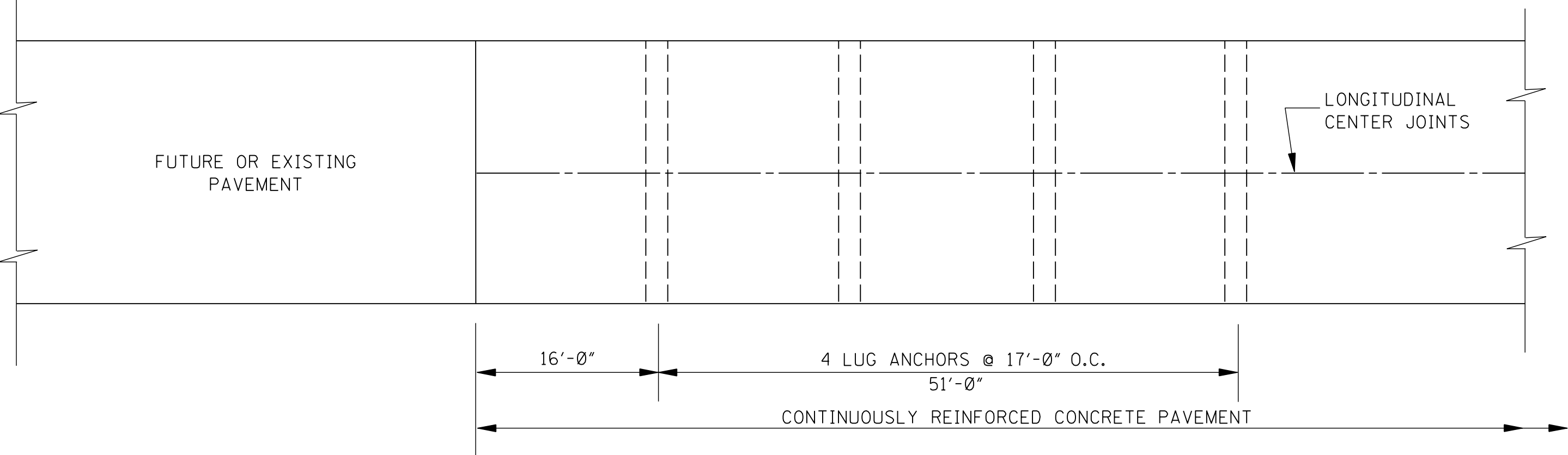
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>CONCRETE PAVEMENT JOINTS (LONGITUDINAL)</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					WORKING NUMBER PJ-2 SHEET NUMBER 6005



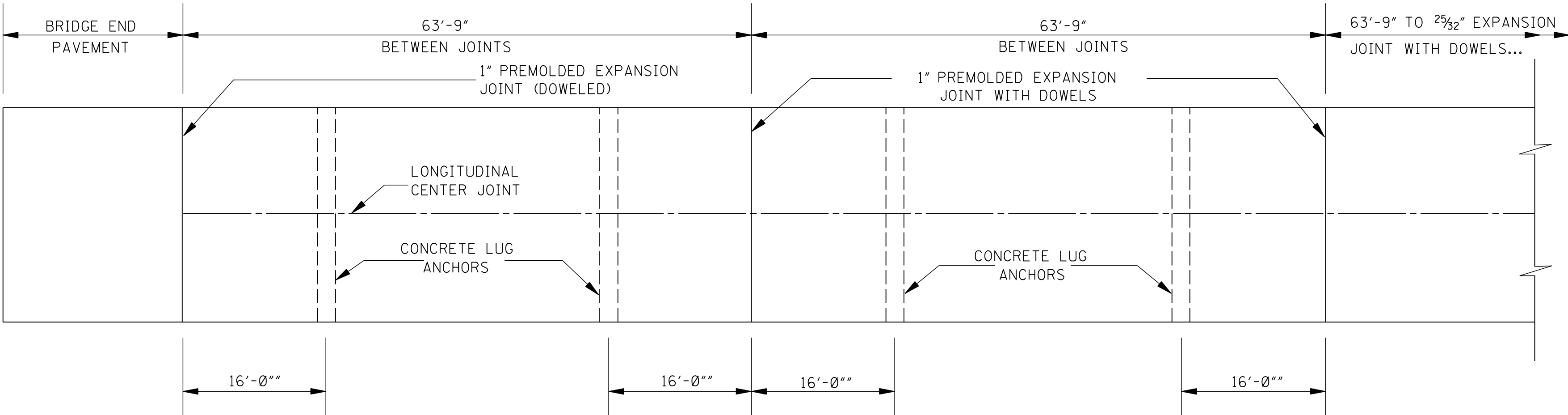




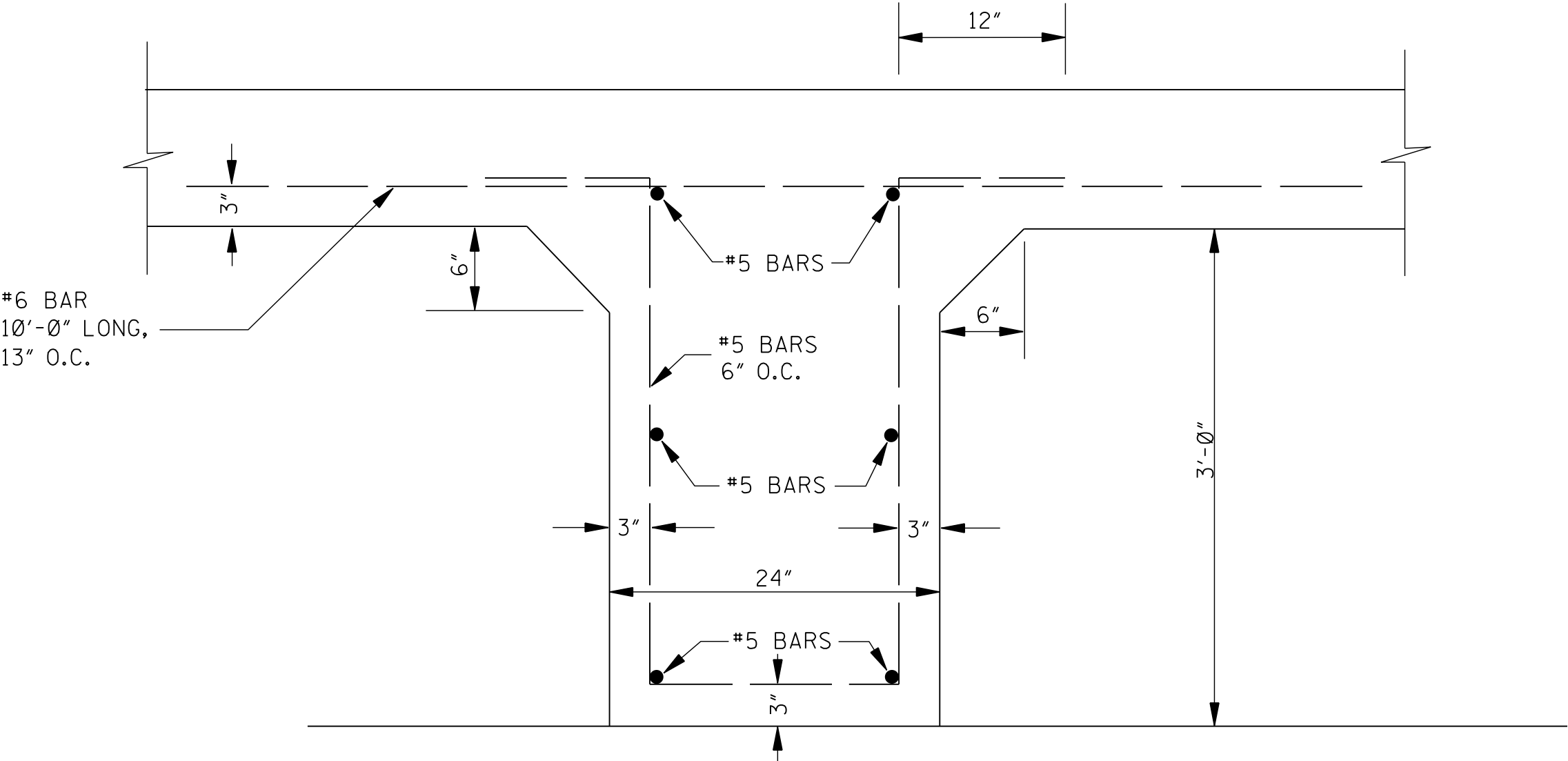
PLAN OF EXPANSION JOINTS AND CONCRETE LUG ANCHORS ADJACENT TO BRIDGE END PAVEMENT



PLAN OF CONCRETE LUG ANCHORS AT ENDS OF PAVEMENT




PLAN OF EXPANSION JOINTS AND CONCRETE LUG ANCHORS ADJACENT TO BRIDGE END PAVEMENT FOR CONVENTIONALLY REINFORCED CONCRETE PAVEMENT

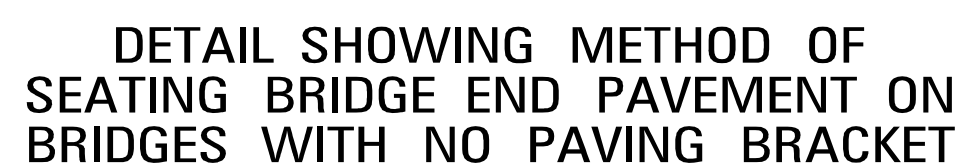


DETAIL OF LUG

GENERAL NOTE:

1. LUG ANCHORS TO BE MONOLITHIC WITH PAVEMENT. IN SPECIAL CASES, THE LUG ANCHORS MAY BE OMITTED. SEE PLAN-PROFILE SHEETS FOR LUG ANCHOR LOCATIONS.

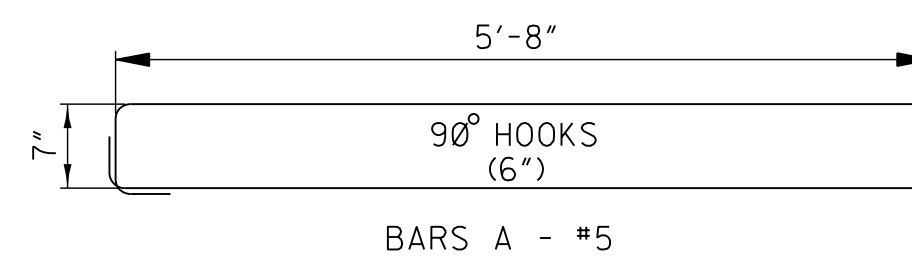
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>CONCRETE LUG ANCHORS</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					 WORKING NUMBER LA-1 SHEET NUMBER 6006



\* NOTE:  
ADJUST AS NECESSARY TO ENSURE  
PROPER DRAINAGE.



The diagram shows a rectangular stone with a circular hole in the center. The stone is placed on a dashed line representing the ground. Above the stone, there are dimension lines indicating the width of the stone and the distance from the hole to the edges. The total width of the stone is labeled as 3'-0". The distance from the hole to the left edge is labeled as 1'-6", and the distance from the hole to the right edge is also labeled as 1'-6". The stone is shown in a cross-section view, with a pattern of small circles representing the stone's texture. The hole is a solid black circle. The stone is positioned on a dashed line, and there are small vertical lines on either side of the stone, possibly representing the ground surface or a wall.



## BAR BENDING DETAILS

DIMENSIONS ARE OUT TO OUT



STATE PRO.

MISS.

NORMAL SHOULDER LINE

10'-0" (MIN.)

A

\*\* JOINT

ROADWAY PAVEMENT

BRIDGE END PAVEMENT

CROWN LINE

20'-0" (MIN.)

B

C

SLEEPER SLAB

NORMAL SHOULDER LINE

10'-0" (TYP.)

B

"A"

SKUEW ANGLE "Z"

BRIDGE DECK

CL BRIDGE

NOTE:  
LONG BARS NOT SHOWN  
FOR CLARITY

3 #7 BARS IN BOTTOM

#5 BARS TOP AND BOTTOM  
PERPENDICULAR TO ROADWAY

BRIDGE END PAVEMENT RAIL  
FOR DETAILS SEE BER-1 OR  
BER-2. (TYP. EACH SIDE.)

W<sub>2</sub>

W<sub>B</sub> (BRIDGE WIDTH)

W<sub>1</sub>

W = W<sub>B</sub> + 2'-10" FOR 33.5" RAIL  
W = W<sub>B</sub> + 3'-0" FOR 43.5" RAIL


### PLAN AT BRIDGE END

GENERAL NOTES:

1. IF BRIDGE END PAVEMENT IS CONSTRUCTED IN MORE THAN ONE SECTION, LONGITUDINAL CONSTRUCTION JOINTS WITH TIE BARS SHALL BE USED. TIE BARS SHALL BE #5 BARS, 2'-6" LONG AND SPACED 2'-6" O.C.. SUCH CONSTRUCTION SHALL BE USED WHERE INDICATED ON PLANS.
2. DIMENSIONS "A" AND "B" ARE BASED ON A MID-LENGTH OF 20'-0", EXCEPT IN NO CASE SHALL "A" BE LESS THAN 10'-0".
3. SEE QUANTITY SECTION OF PLANS FOR DIMENSIONS "W", "W1", "W2", "A", "B", SKEW ANGLE "Z", AND QUANTITIES.
4. REINFORCEMENT (DEFORMED) MAY BE FURNISHED FULL LENGTH OR MAY BE SPLICED. IF BARS ARE SPLICED, THEY SHALL BE SPLICED NOT LESS THAN 30 DIAMETERS.
5. IF TOP LIFT OF ASPHALT IS GREATER THAN 1.5", THE LIFT SHALL BE TRANSITIONED TO 1.5" ACROSS THE LENGTH OF THE BRIDGE END PAVEMENT.
6. THE BRIDGE END PAVEMENT PAY ITEM INCLUDES BRIDGE END PAVEMENT, SLEEPER SLAB, AND METAL FLASHING. ALL OTHER ITEMS SHOWN ON THIS SHEET WILL BE PAID AS INDICATED ELSEWHERE IN THE PLANS.
7. CLASS "B" CONCRETE REQUIRED FOR SLEEPER SLAB AND BRIDGE END PAVEMENT. CLASS "AA" CONCRETE MAY BE USED WITH APPROVAL OF THE ENGINEER (NO COST ADJUSTMENT WILL BE MADE).

NOTES:

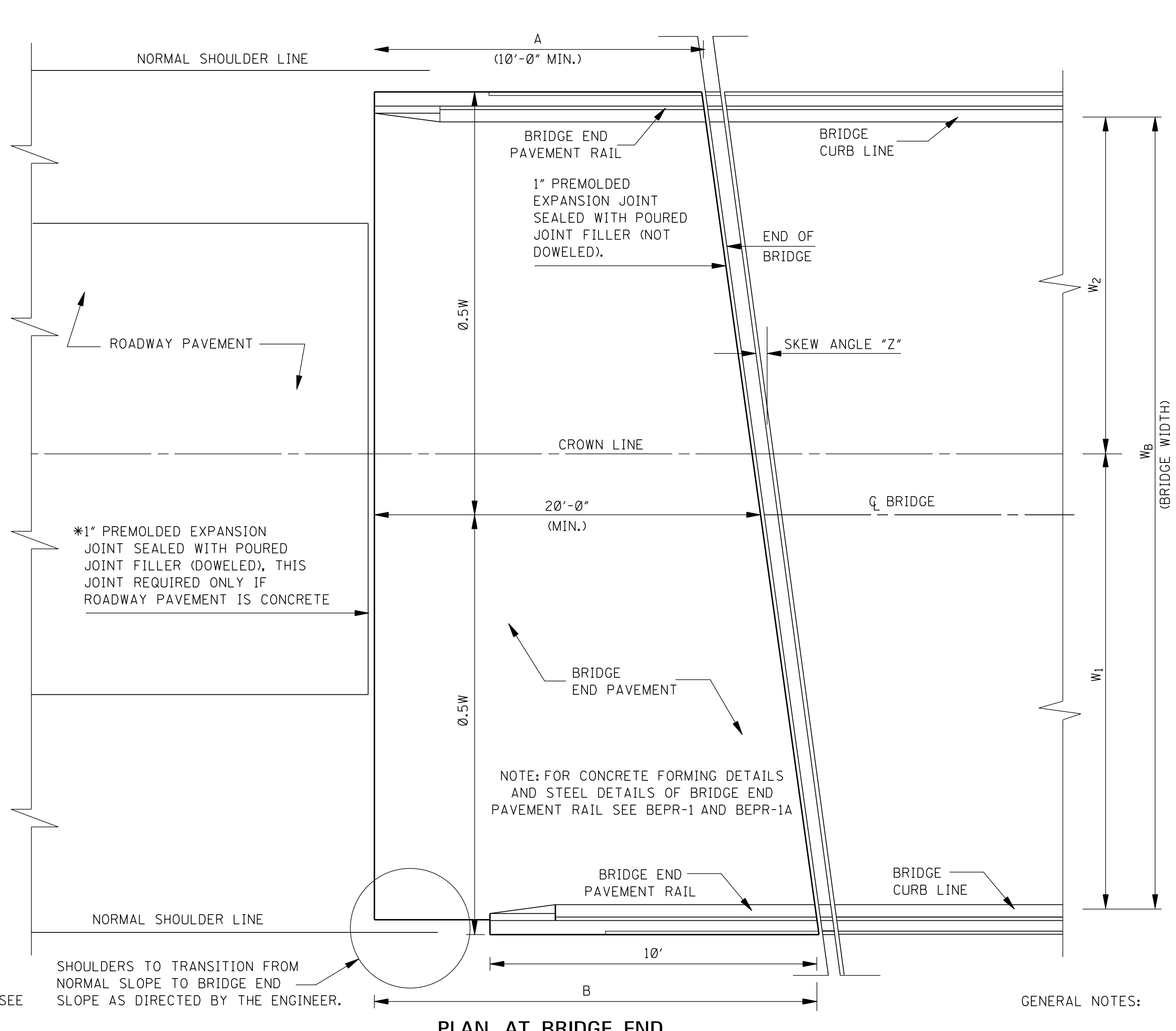
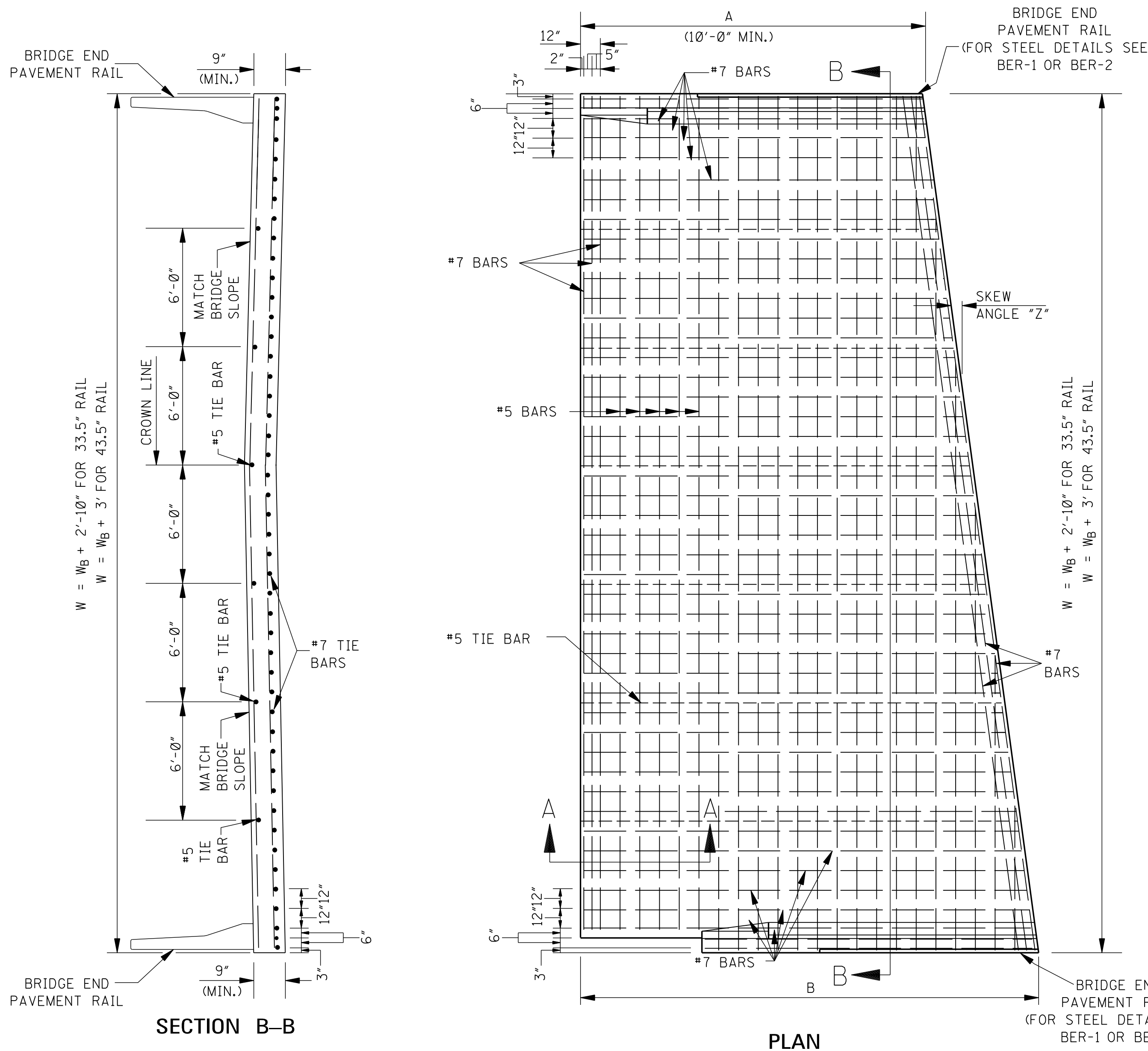
1. 0.363 C.Y. CLASS "C" CONCRETE REQUIRED FOR APRON.
2. SMALL ANIMAL GUARDS SHALL BE REQUIRED ON ALL EXPOSED PIPE OPENINGS BY THE END OF THE WORK DAY INSTALLED.
3. 4" PERFORATED DRAIN PIPE TO BE INSTALLED UNDER THE ROADWAY AND 2' OUTSIDE OF THE SHOULDER. 4" NON-PERFORATED DRAIN PIPE TO BE INSTALLED FOR THE REMAINDER TO THE OUTLET APRON.
4. UNDERDRAIN OUTLETS SHALL BE REQUIRED ON BOTH SIDES OF THE ROADWAY IN NORMAL CROWN SECTIONS AND ONLY ON THE LOW SIDE OF SUPERELEVATED SECTIONS.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION  STANDARD PLAN
				REVISION	<b>BRIDGE END PAVEMENT WITH RAIL, OVERLAY, AND SLEEPER SLAB (NEW CONSTRUCTION)</b>
				DATE	<div style="text-align: right;">         WORKING NUMBER BE-1  <hr/>       SHEET NUMBER 6007     </div>
				ISSUE DATE:	AUGUST 01, 2017



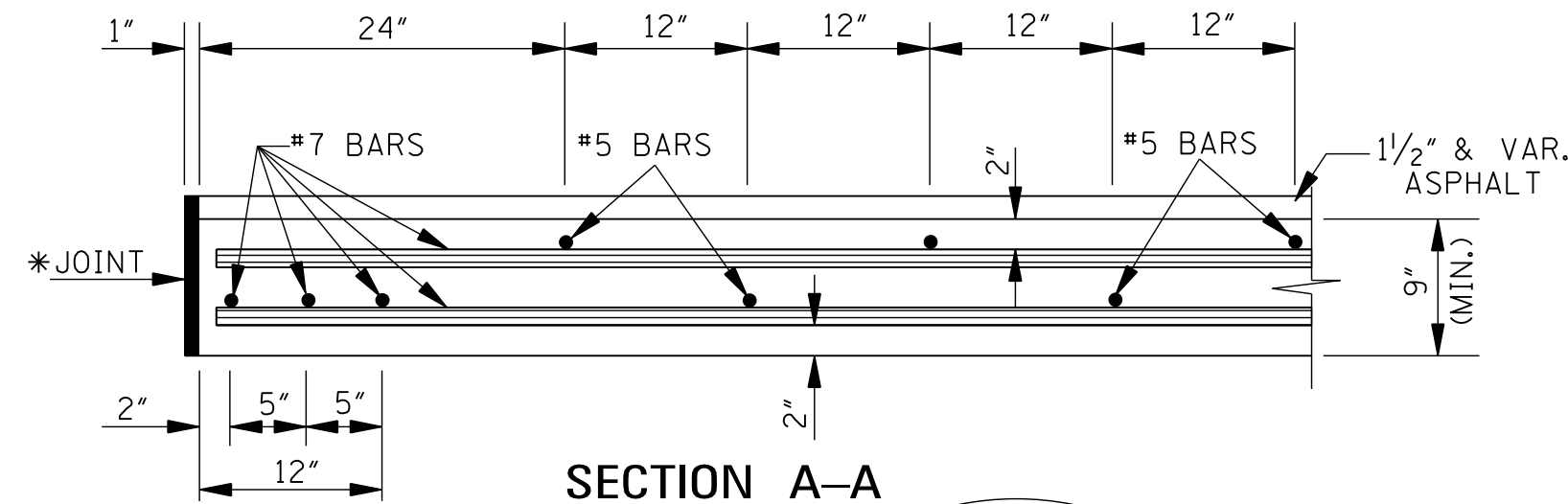
WORKING NUMBER  
BE-1

	SHEET NUMBER
	6007

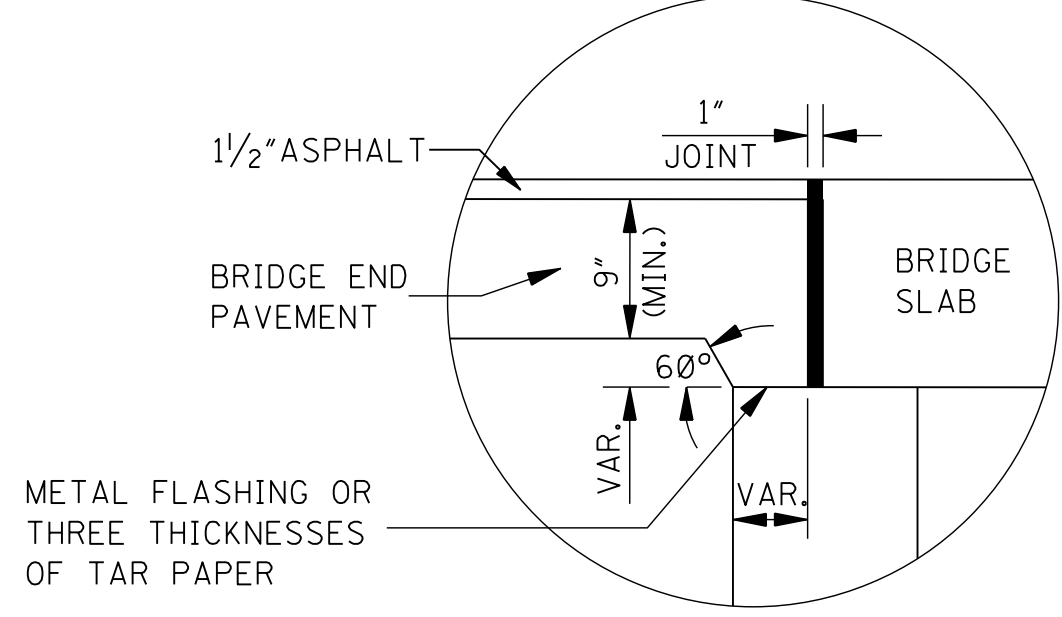


GENERAL NOTES:

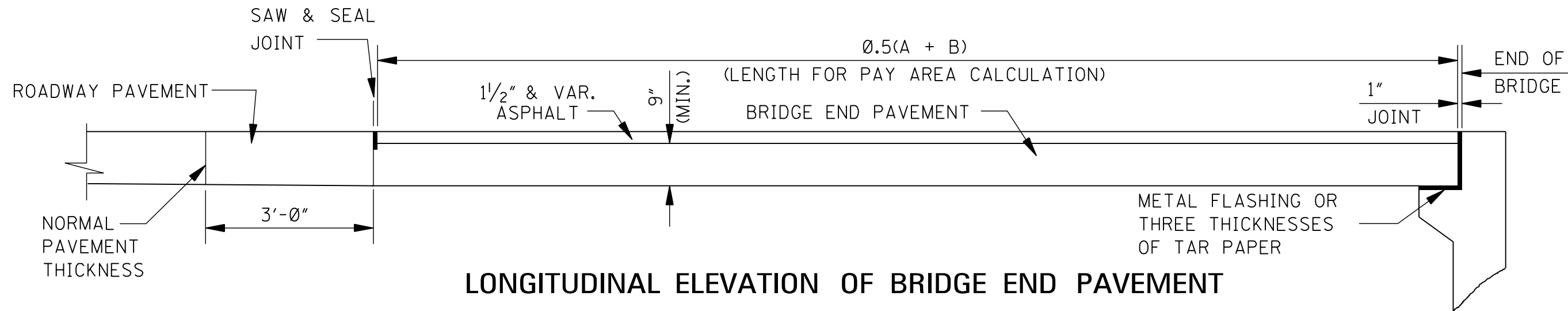
1. IF BRIDGE END PAVEMENT IS CONSTRUCTED IN MORE THAN ONE SECTION, LONGITUDINAL CONSTRUCTION JOINTS WITH TIE BARS SHALL BE USED. TIE BARS SHALL BE #5 BARS, 2'-6" LONG AND SPACED 2'-6" O.C.. SUCH CONSTRUCTION SHALL BE USED WHERE INDICATED ON PLANS.
2. DIMENSIONS "A" AND "B" ARE BASED ON A MID-LENGTH OF 20'-0", EXCEPT IN NO CASE SHALL "A" BE LESS THAN 10'-0".
3. SEE QUANTITY SECTION OF PLANS FOR DIMENSIONS "W", "W<sub>1</sub>", "W<sub>2</sub>", "A", "B", SKEW ANGLE "Z", AND QUANTITIES.
4. SPACING OF OUTER LONGITUDINAL EDGE BARS AND TIE BARS MAY BE ADJUSTED TO MEET VARIOUS WIDTHS ("W") OF BRIDGE END PAVEMENT. SPACINGS SHOWN ARE FOR A BRIDGE WIDTH OF 40'-0".
5. REINFORCEMENT (DEFORMED) MAY BE FURNISHED FULL LENGTH OR MAY BE SPLICED. IF BARS ARE SPLICED, THEY SHALL BE SPLICED NOT LESS THAN 3Ø DIAMETERS.
6. IF TOP LIFT OF ASPHALT IS GREATER THAN 1.5", THE LIFT SHALL BE TRANSITIONED TO 1.5" ACROSS THE LENGTH OF THE BRIDGE END PAVEMENT.



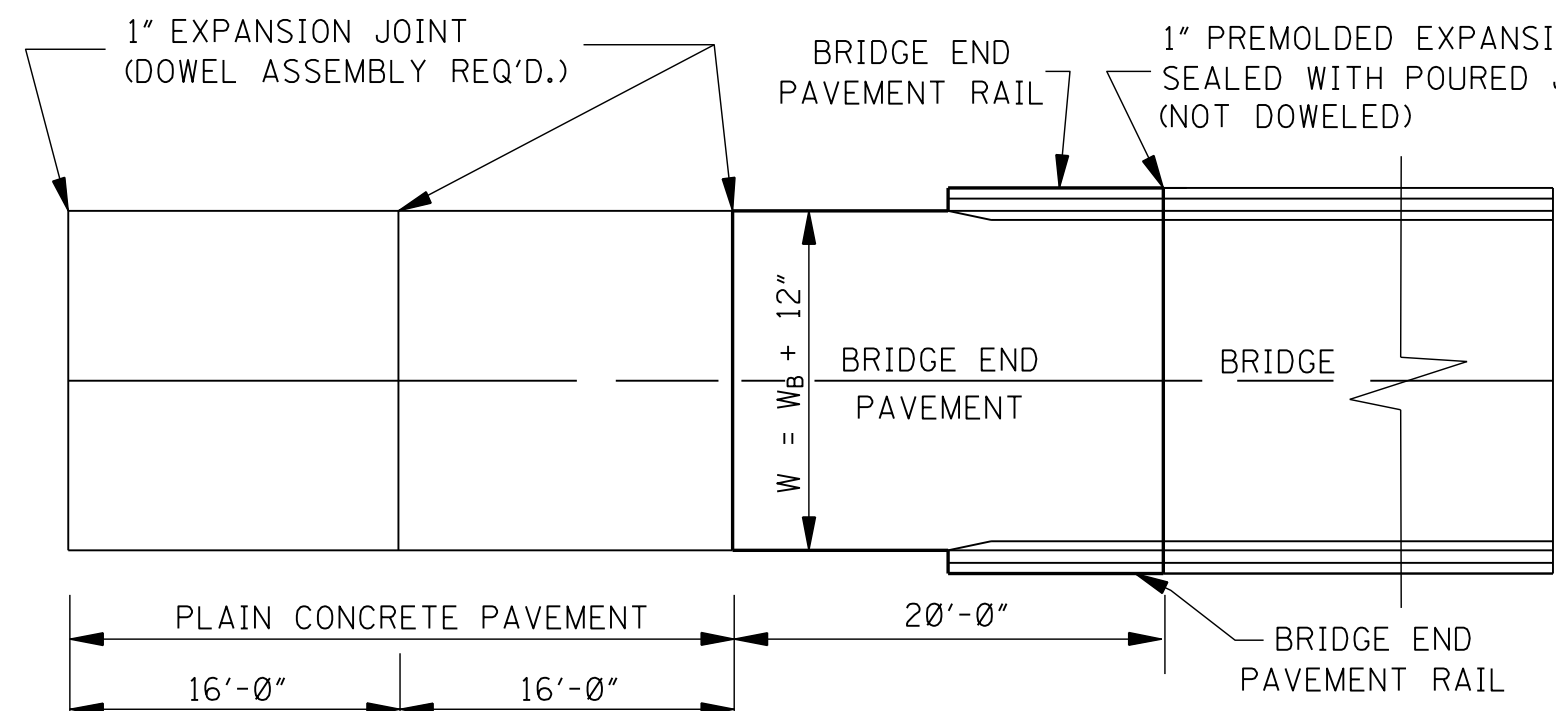
SECTION A-A



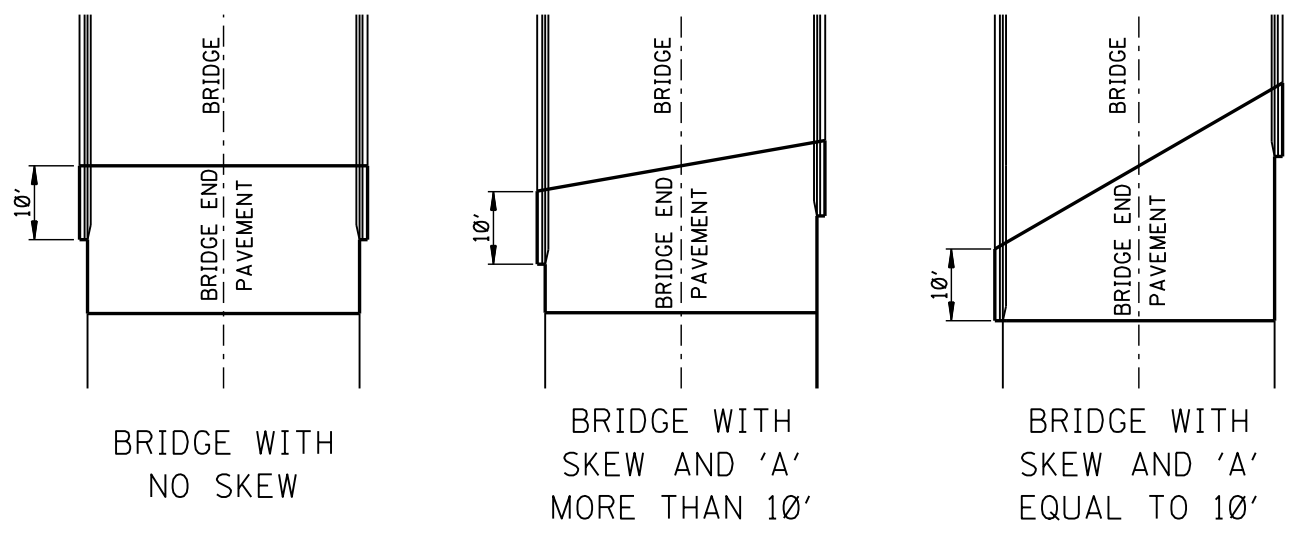
DETAIL SHOWING METHOD OF SEATING BRIDGE END PAVEMENT ON BRIDGES WITH NO PAVING BRACKET



LONGITUDINAL ELEVATION OF BRIDGE END PAVEMENT

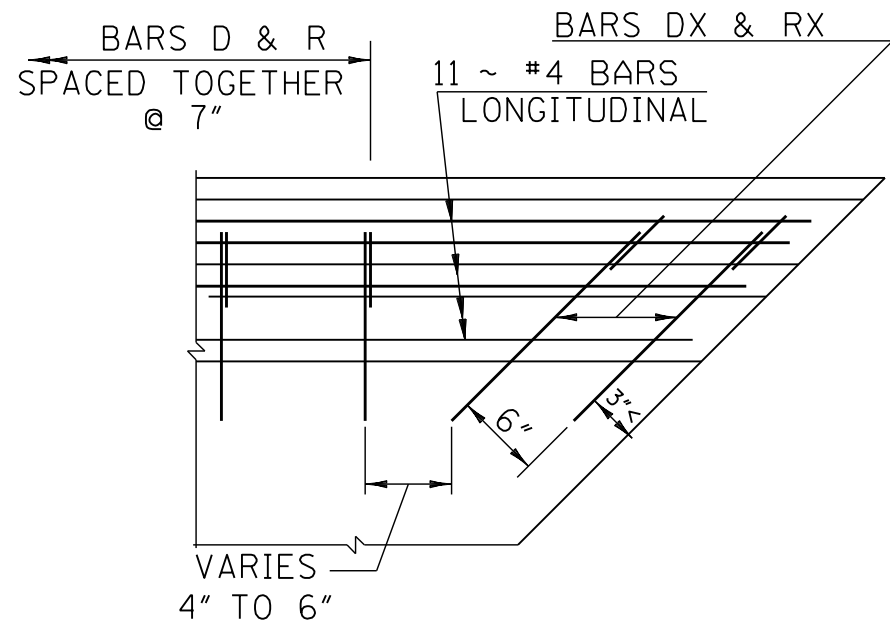
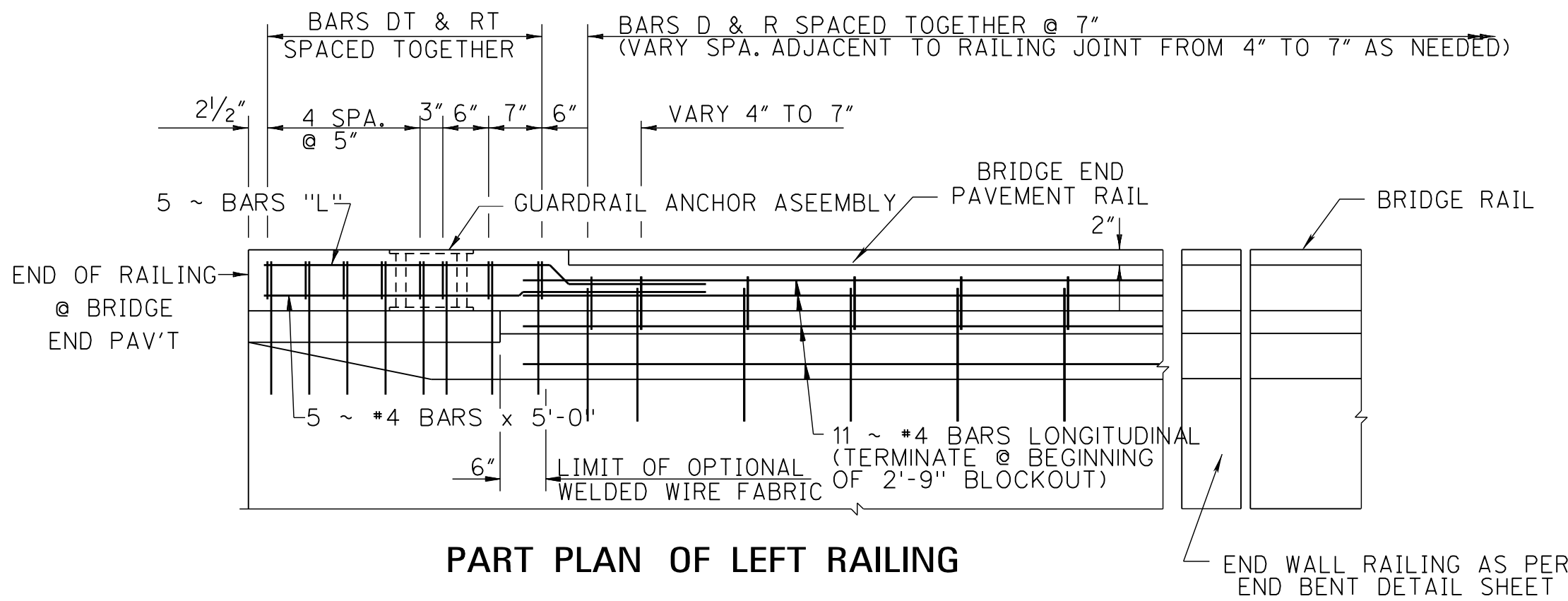


PLAN OF EXPANSION JOINTS AND BRIDGE END PAVEMENT



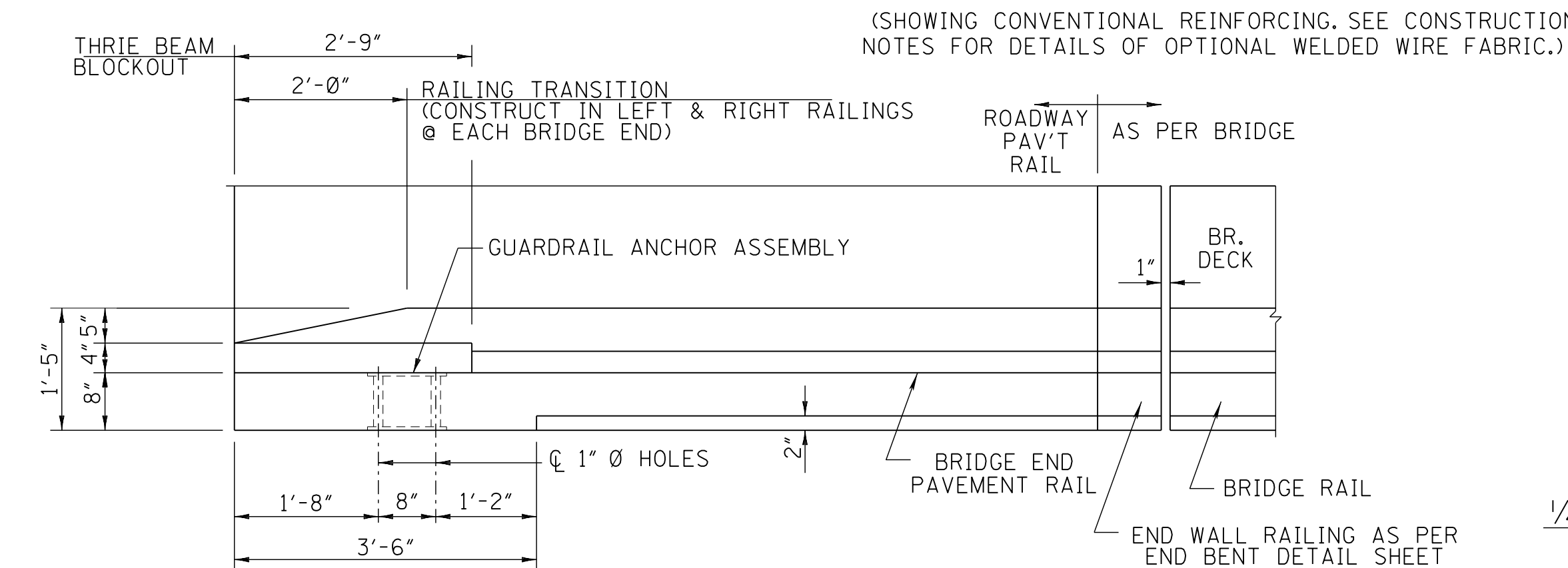
BY		MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN	
REVISION		<b>BRIDGE END PAVEMENT WITH RAIL AND OVERLAY</b>	
DATE		ISSUE DATE: AUGUST 01, 2017	
		WORKING NUMBER BE-2	
		SHEET NUMBER 6008	



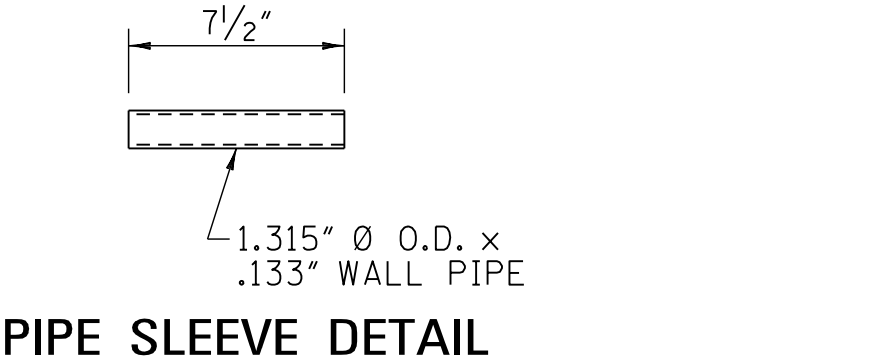
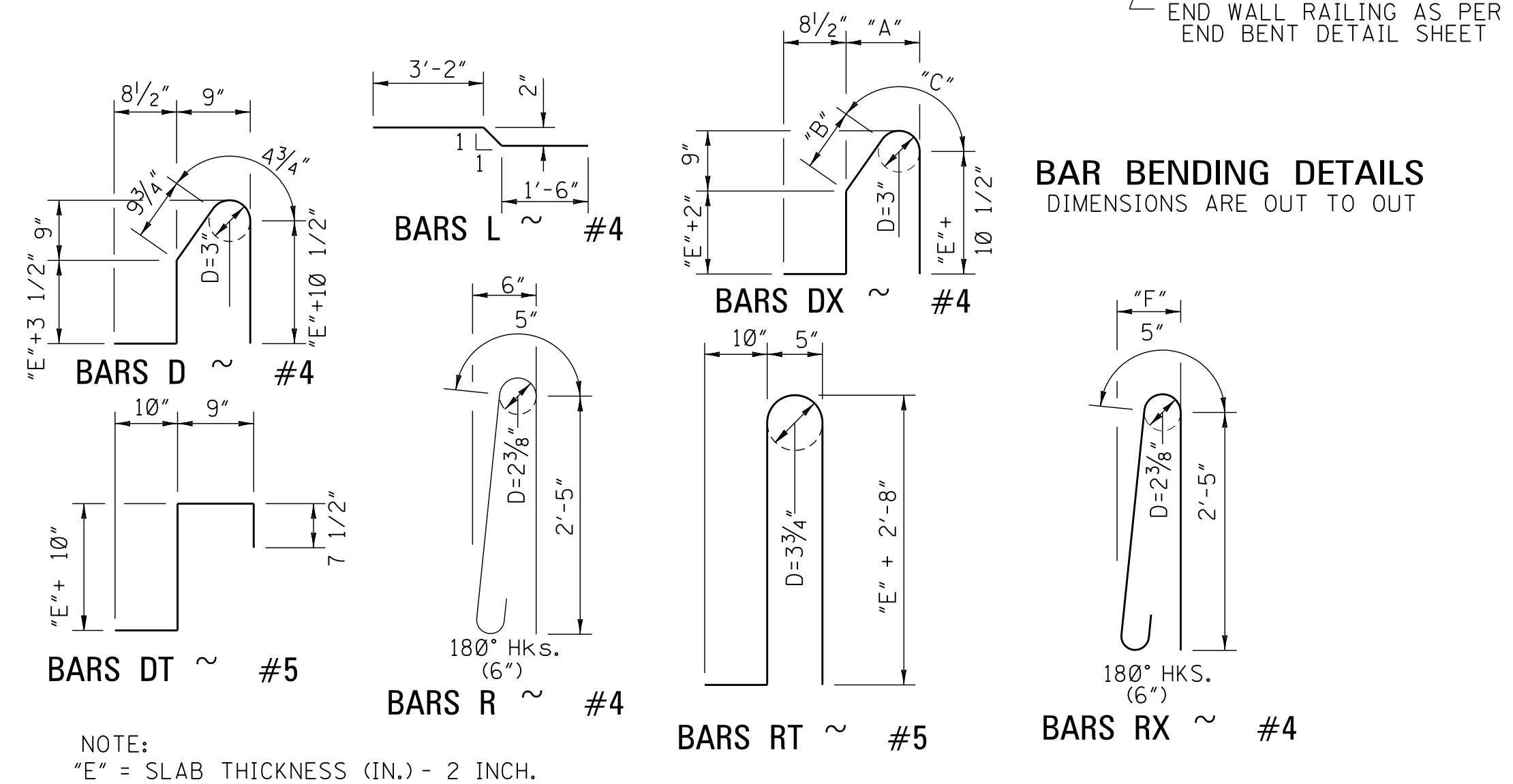
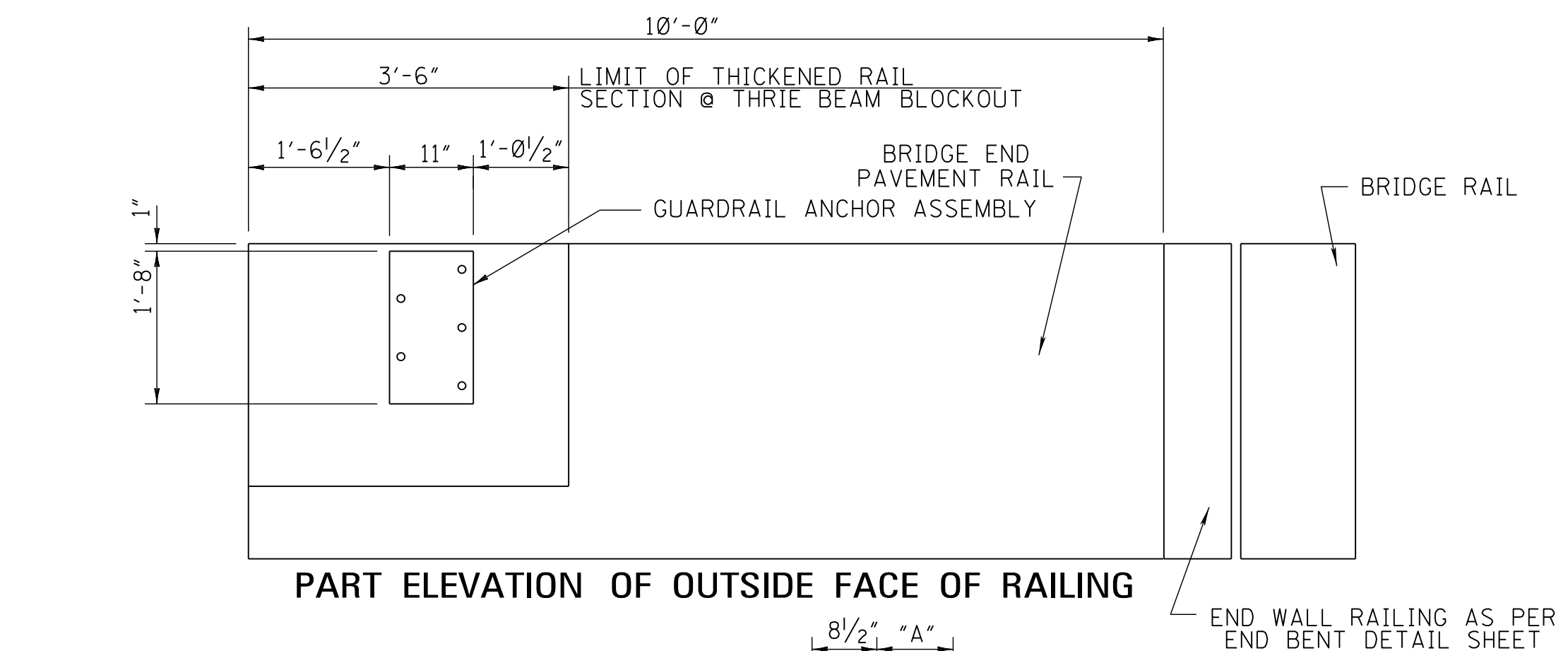


SKEWED PART PLAN OF LEFT RAILING AT BRIDGE END WALL

(SHOWING CONVENTIONAL REINFORCING. SEE CONSTRUCTION NOTES FOR DETAILS OF OPTIONAL WELDED WIRE FABRIC.)



PART PLAN OF RIGHT RAILING (SHOWING CONCRETE DIMENSIONS)



PIPE SLEEVE DETAIL

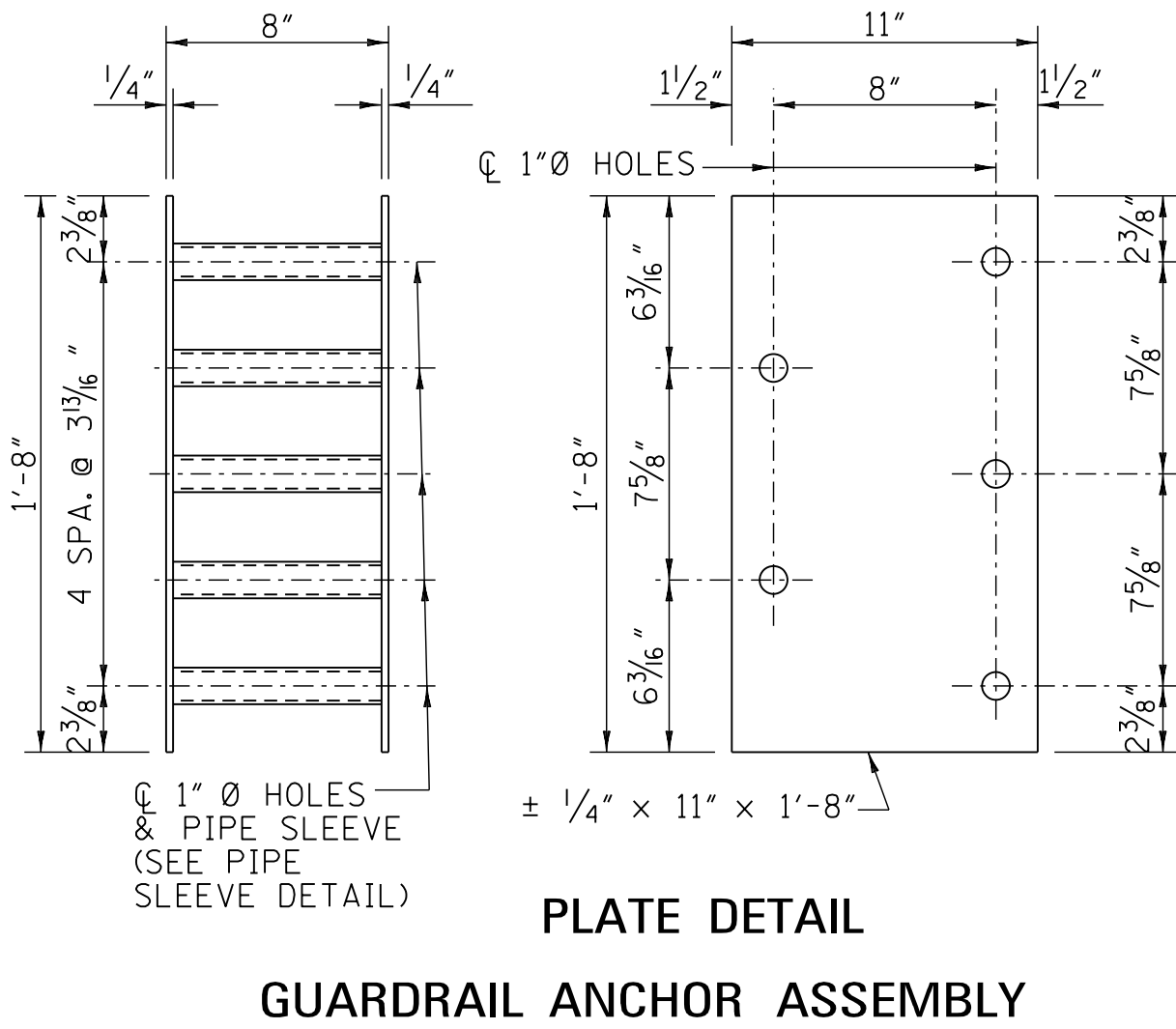
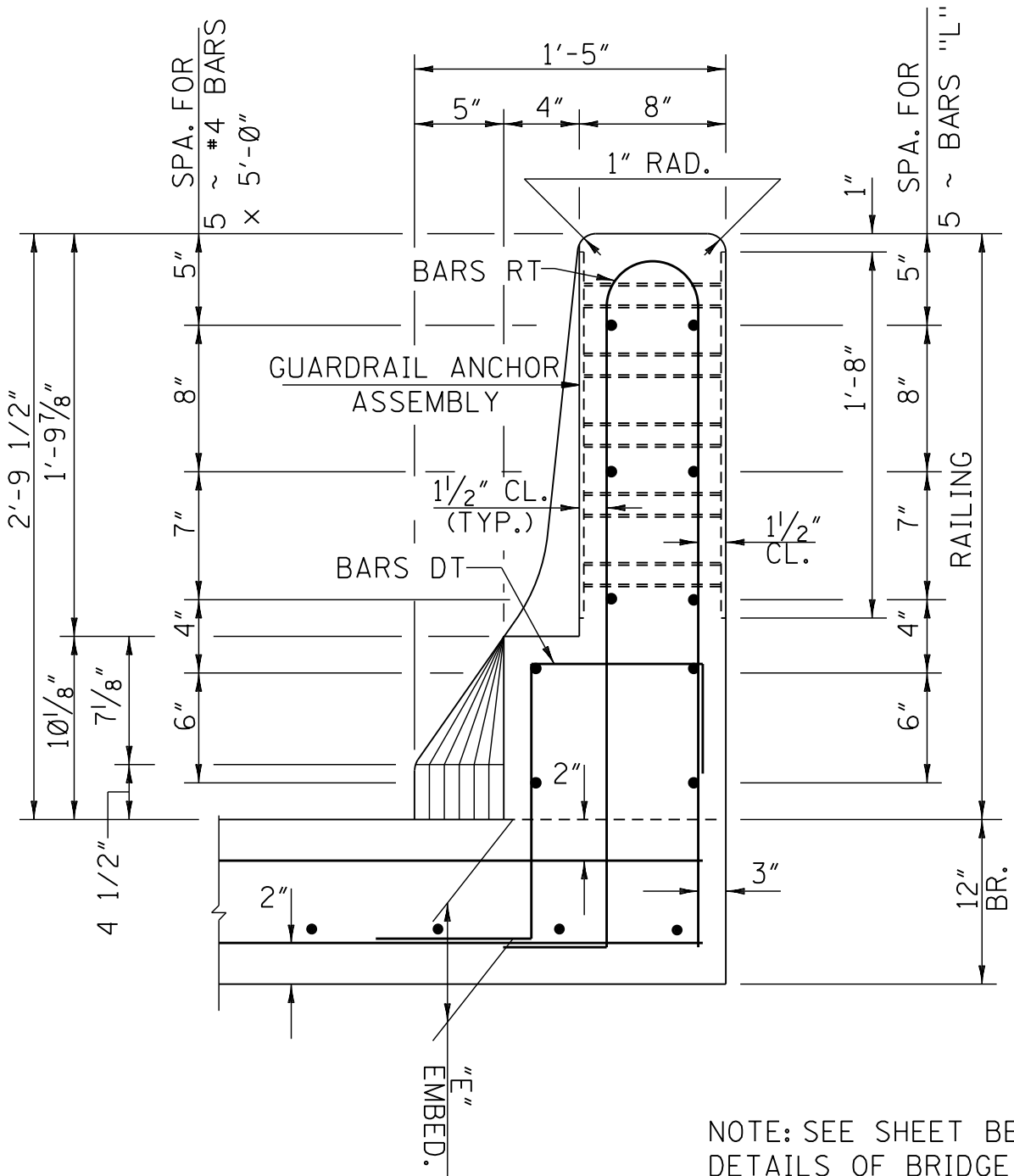
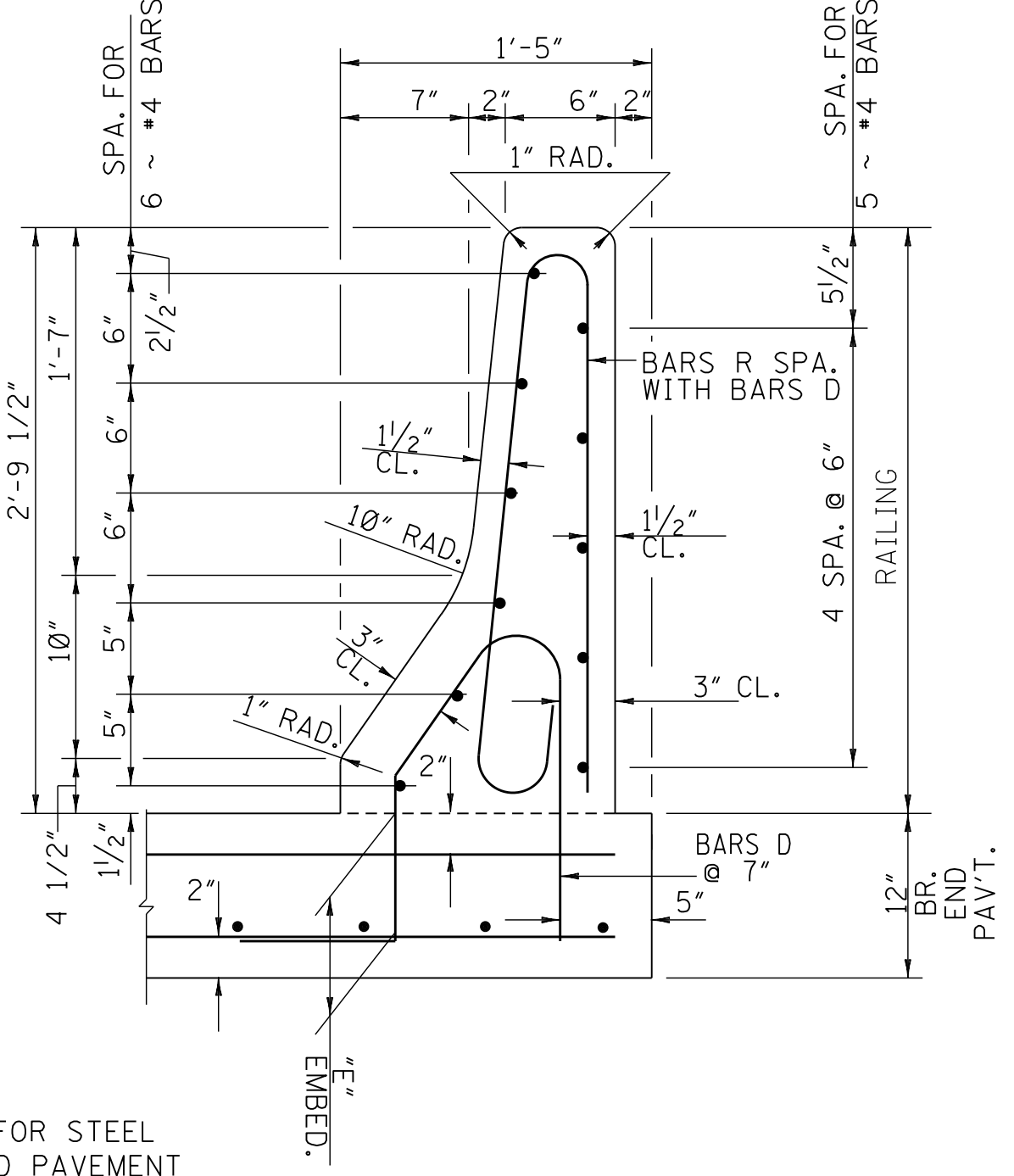


PLATE DETAIL  
GUARDRAIL ANCHOR ASSEMBLY

SKEW (DEG)	BARS DX ~ #4			BARS RX ~ #4
	"A"	"B"	"C"	"F"
0	9"	9 3/4"	5"	6"
5	9"	9 3/4"	5"	6"
10	9"	9 3/4"	5"	6"
15	9 1/4"	10"	5"	6 1/4"
20	9 1/2"	10"	5"	6 1/4"
25	10"	10 1/2"	5"	6 1/2"
30	10 1/4"	10 1/2"	5"	7"
35	11"	11 1/4"	4 3/4"	7 1/4"
40	11 3/4"	11 3/4"	4 3/4"	7 3/4"
45	1' - 0 1/4"	1' - 0 3/4"	4 1/2"	8 1/2"
50	1' - 2"	1' - 1 3/4"	4 1/2"	9 1/4"
55	1' - 3 3/4"	1' - 2 1/2"	4 1/2"	10 1/2"



END ELEVATION OF RAILING



TYPICAL SECTION OF RAILING

NOTE: "E" = SLAB THICKNESS (IN.) - 2 INCH.

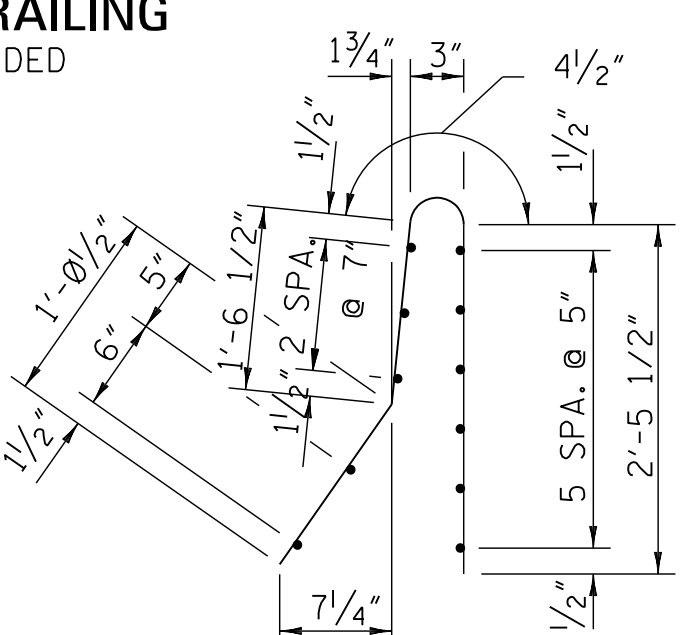
CONSTRUCTION NOTES:

- FABRICATE GUARDRAIL ANCHOR ASSEMBLY BY TACK WELDING EACH END OF PIPE SLEEVES TO PLATES. PLATES SHALL BE ASTM A 36 STEEL. PIPES SHALL BE ASTM 120. GALVANIZE COMPLETE ASSEMBLIES AFTER FABRICATION PER ASTM A 153.
- ATTACH ASSEMBLIES SECURELY TO THE FORMS PRIOR TO POURING RAILING CONCRETE TO ASSURE THAT EXPOSED SURFACES OF THE ASSEMBLIES WILL BE FLUSH WITH THE CONCRETE SURFACES.
- GUARDRAIL ANCHOR ASSEMBLIES SHALL BE INSTALLED IN BOTH LEFT AND RIGHT RAILINGS AT EACH END OF ALL BRIDGES.
- WELDED WIRE FABRIC MEETING THE REQUIREMENTS OF ASTM A 497 AND DETAILS SHOWN ON THIS SHEET MAY BE USED AS AN OPTION TO CONVENTIONAL RAILING REINFORCING. LONGITUDINAL WIRES SHALL BE SPACED AS SHOWN IN THE BAR BENDING DETAILS AND VERTICAL WIRES SHALL BE D8 SPACED AT 4".
- WELDED WIRE FABRIC SHALL NOT BE USED IN THE 2'-9" THRIE BEAM BLOCKOUT. REINFORCEMENT FOR THE 2'-9" THRIE BEAM BLOCKOUT SHALL CONSIST OF CONVENTIONAL RAILING REINFORCING AS SHOWN IN DETAILS ON THIS SHEET. THE LONGITUDINAL BARS OF THE CONVENTIONAL REINFORCING SHALL EXTEND BEYOND THE 2'-9" THRIE BEAM BLOCKOUT INTO THE WELDED WIRE FABRIC A MINIMUM DISTANCE OF 1'-6".
- BRIDGE END PAVEMENT RAIL SHALL BE CONSTRUCTED AND PAID FOR IN ACCORDANCE WITH SECTION 813 OF THE STANDARD SPECIFICATIONS.
- 4" DIAMETER WEEP HOLES TO BE PLACED IN THE BRIDGE END PAVEMENT RAIL WHERE REQUIRED TO REDUCE PONDING.
- IF TOP LIFT OF ASPHALT IS ANYTHING OTHER THAN 1.5", THE LIFT SHALL BE TRANSITIONED TO 1.5" ACROSS THE LENGTH OF THE BRIDGE END PAVEMENT.

DESIGN DATA

SPECIFICATIONS.....A.A.S.H.T.O. LRFD 2007 WITH 2009 INTERIMS.  
CONCRETE.....CLASS "AA"(4,000 PSI)  
REINFORCING.....ASTM A 615 GRADE 60 (Fy = 60 KSI)

TYPICAL SECTION OF RAILING  
SHOWING OPTIONAL WELDED WIRE FABRIC



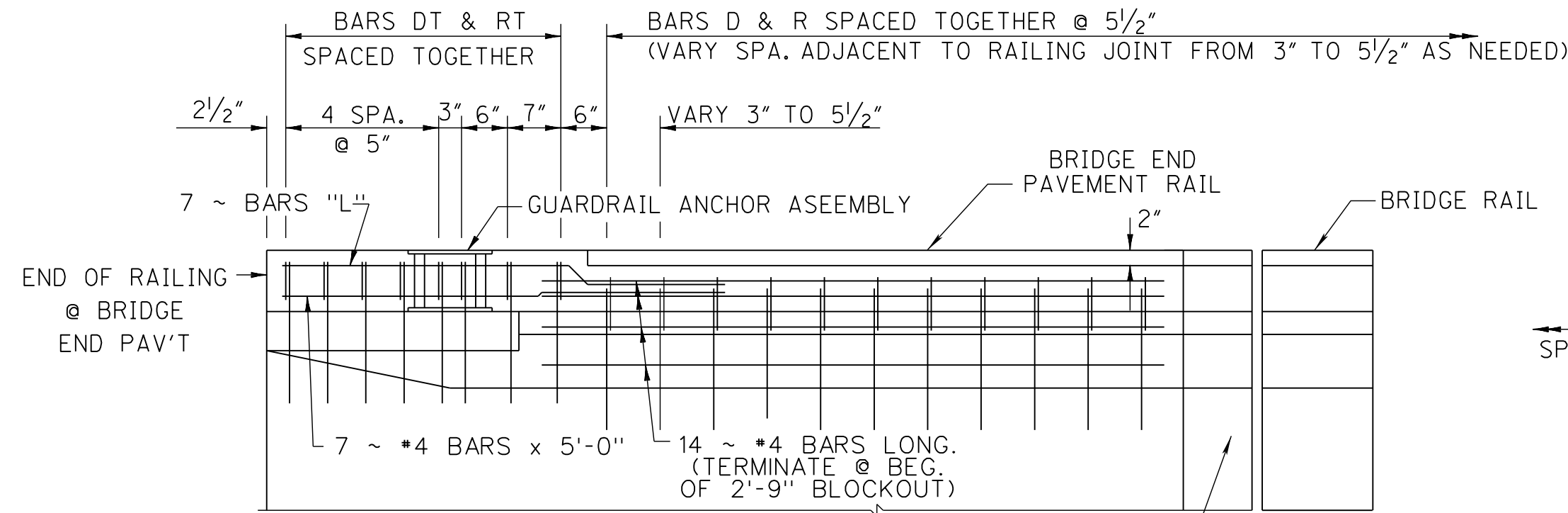
WELDED WIRE FABRIC  
(OPTIONAL - SEE CONSTRUCTION NOTES)

MISSISSIPPI DEPARTMENT OF TRANSPORTATION  
ROADWAY DESIGN DIVISION  
STANDARD PLAN

33.5" BRIDGE END PAVEMENT RAIL

MDOT  
WORKING NUMBER  
BER-1  
SHEET NUMBER  
6009

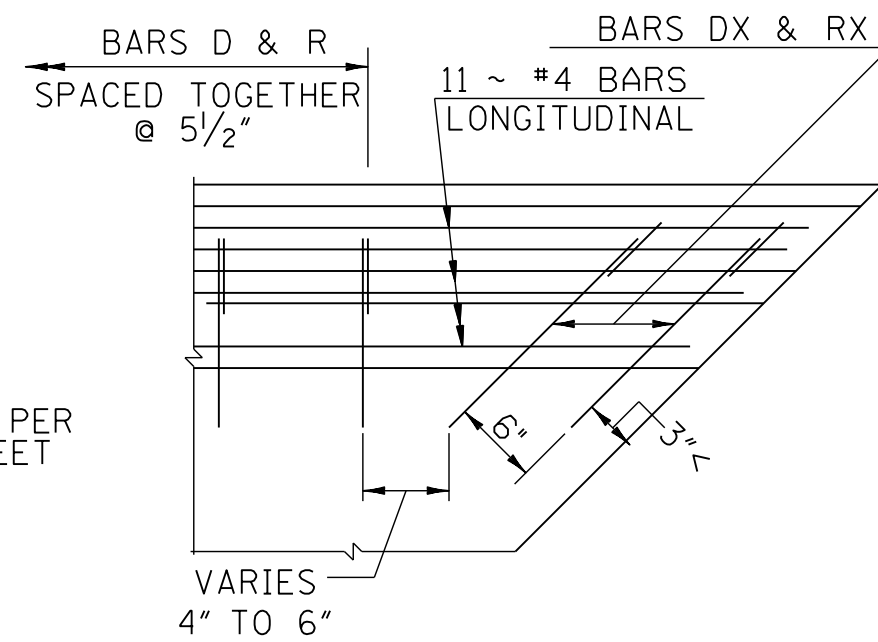
DATE	ISSUE DATE: AUGUST 01, 2017
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PART PLAN OF LEFT RAILING

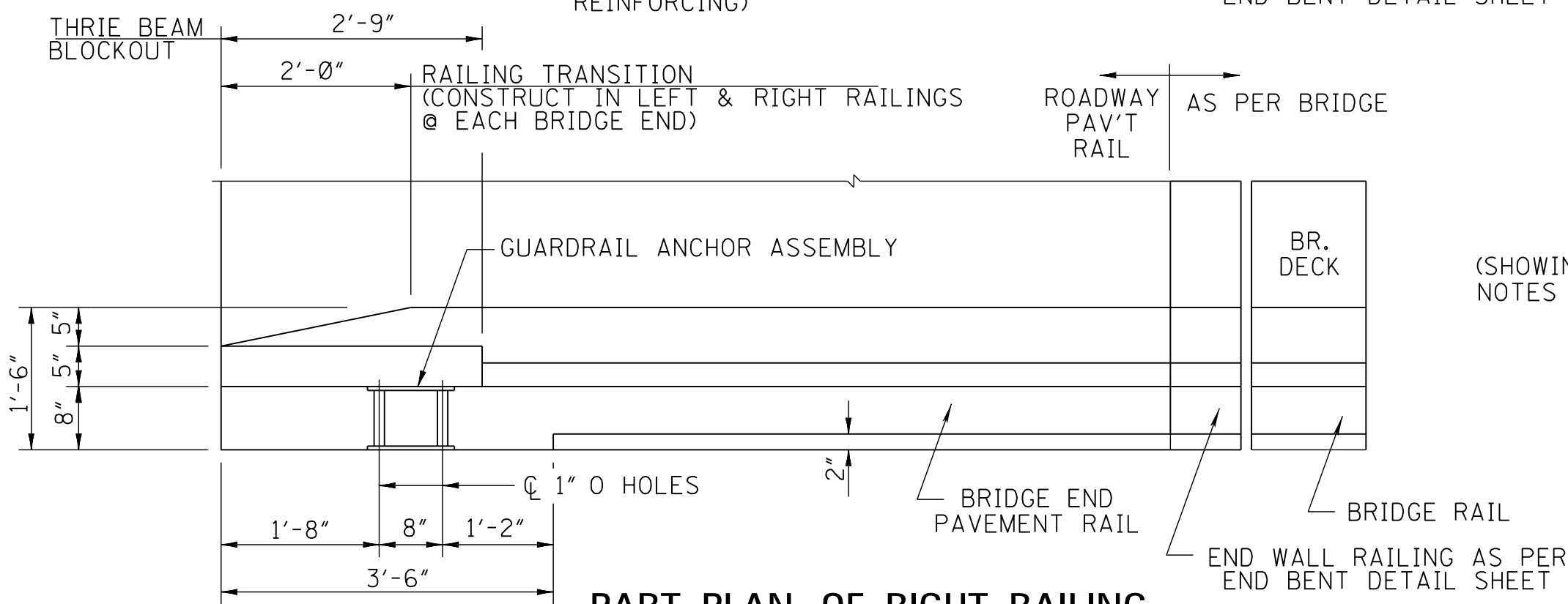
(SHOWING CONVENTIONAL REINFORCING)

END WALL RAILING AS PER END BENT DETAIL SHEET



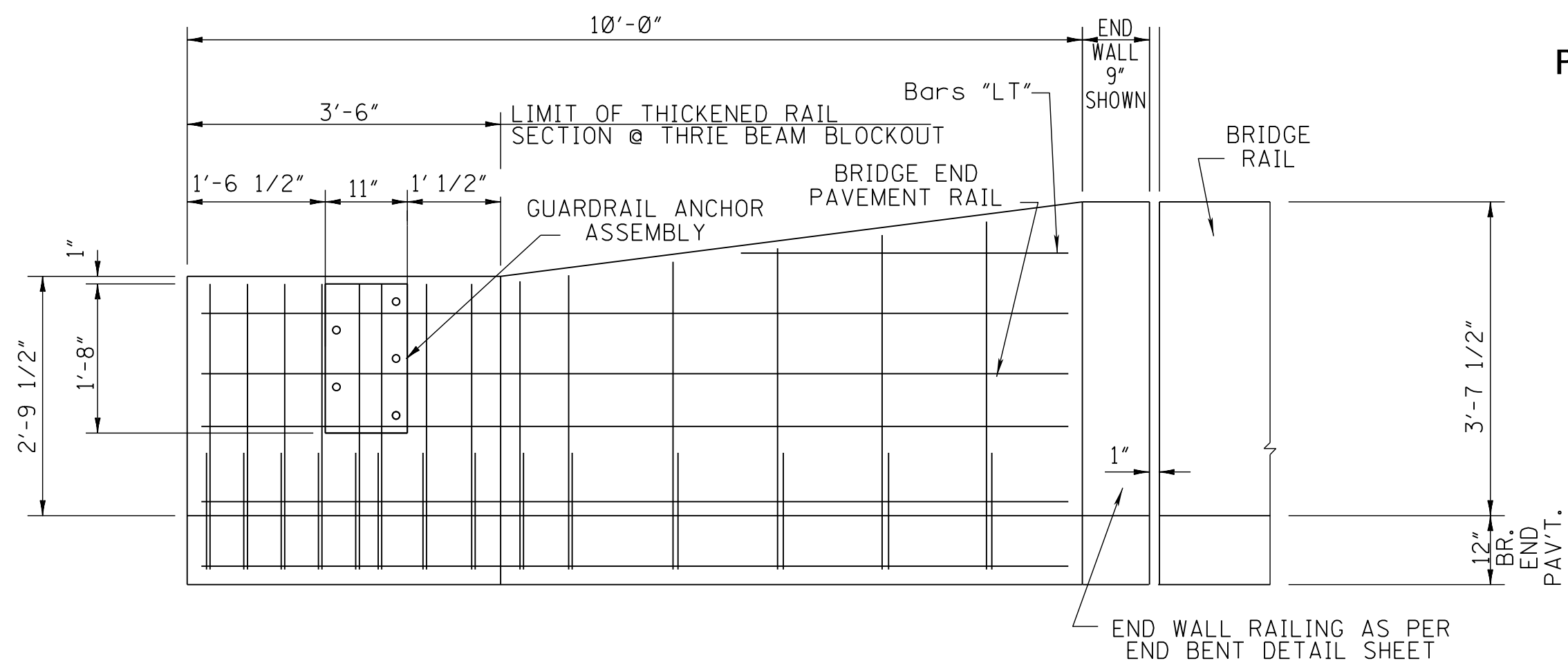
SKEWED PART PLAN OF LEFT RAILING AT BRIDGE END WALL

(SHOWING CONVENTIONAL REINFORCING. SEE CONSTRUCTION NOTES FOR DETAILS OF OPTIONAL WELDED WIRE FABRIC.)



PART PLAN OF RIGHT RAILING

(SHOWING CONCRETE DIMENSIONS)



PART ELEVATION OF OUTSIDE FACE OF RAILING

PIPE SLEEVE DETAIL

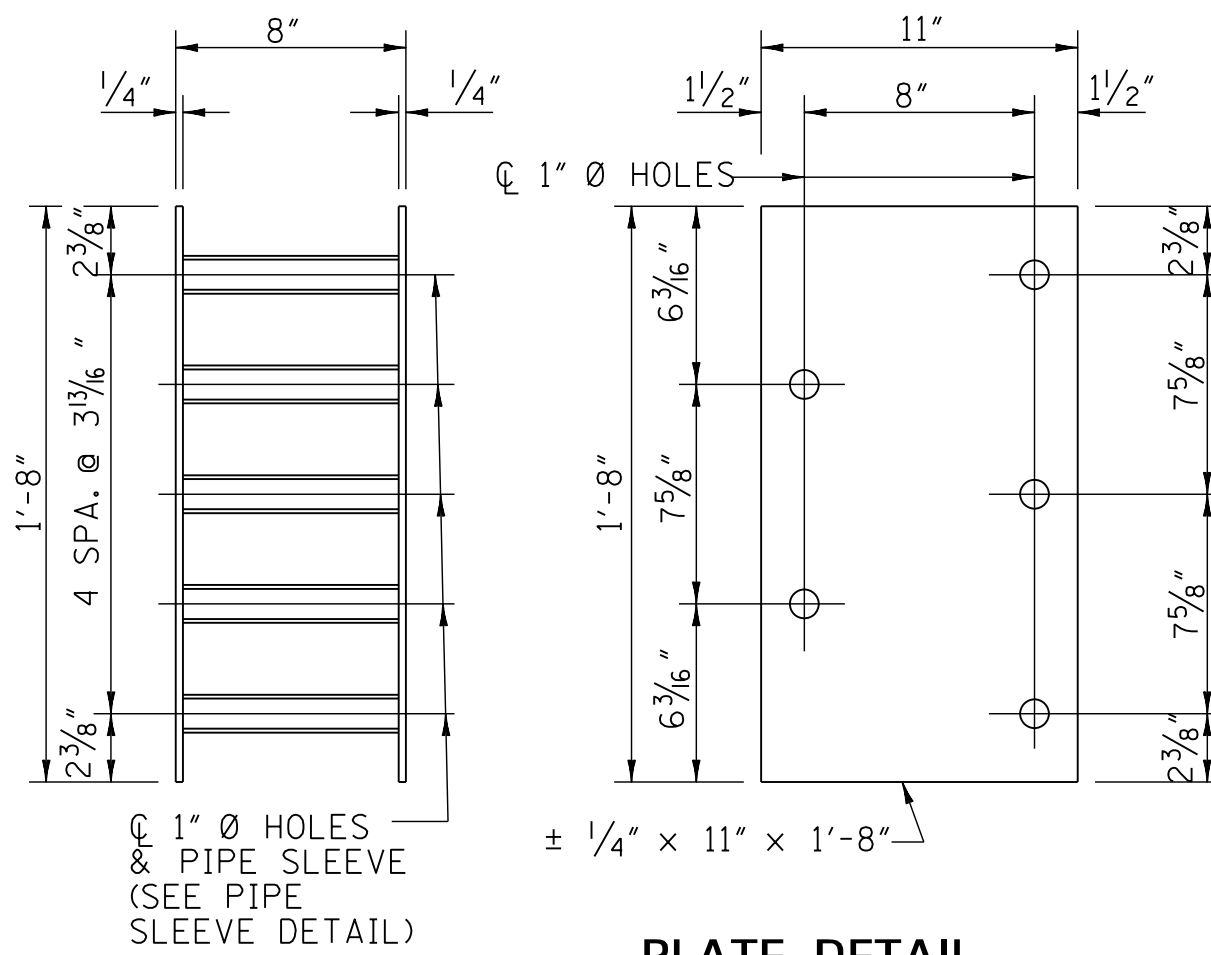
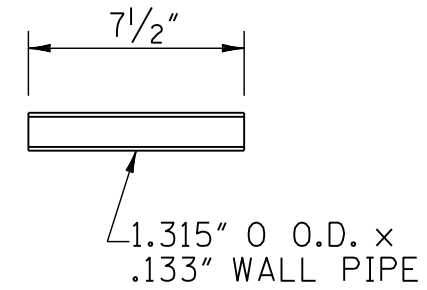
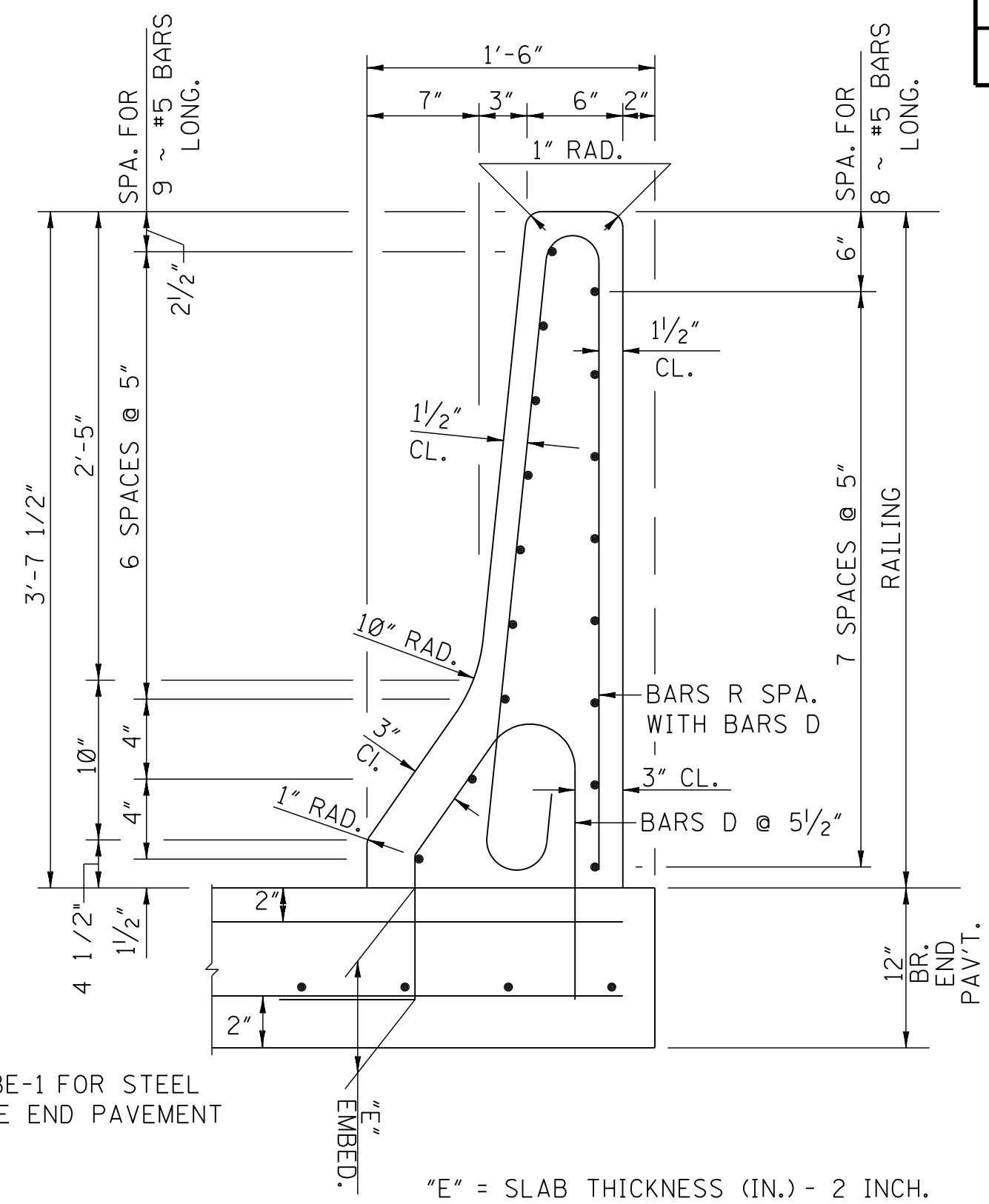


PLATE DETAIL  
GUARDRAIL ANCHOR ASSEMBLY

SKEW (DEG)	BARS DX ~ #5			BARS RX ~ #5
	"A"	"B"	"C"	"F"
0	10"	10 1/2"	5 3/8"	7"
5	10"	10 1/2"	5 3/8"	7"
10	10"	10 1/2"	5 3/8"	7"
15	10 1/4"	10 1/2"	5 1/4"	7 1/4"
20	10 1/2"	10 3/4"	5 1/4"	7 1/2"
25	11"	11 1/4"	5 3/16"	7 3/4"
30	11 1/2"	11 1/2"	5 1/16"	8"
35	1'-0 1/4"	1'-0 1/4"	5"	8 1/2"
40	1'-1"	1'-0 3/4"	4 7/8"	9"
45	1'-2"	1'-1 3/4"	4 13/16"	9 3/4"
50	1'-3 1/2"	1'-3"	4 5/8"	10 3/4"
55	1'-5 1/2"	1'-4 3/4"	4 1/2"	1'-0 1/4"



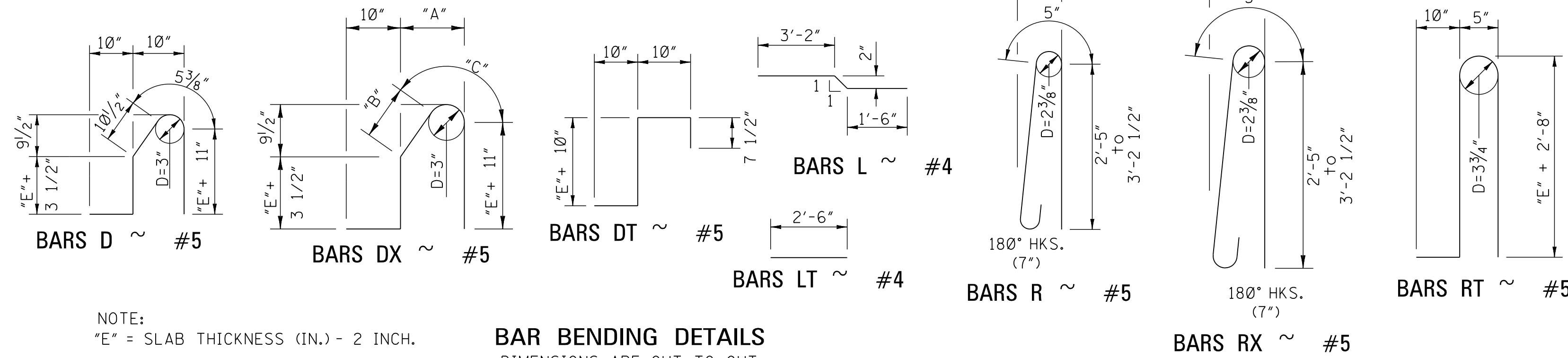
TYPICAL SECTION OF RAILING

CONSTRUCTION NOTES:

- FABRICATE GUARDRAIL ANCHOR ASSEMBLY BY TACK WELDING EACH END OF PIPE SLEEVES TO PLATES. PLATES SHALL BE ASTM A 36 STEEL. PIPES SHALL BE ASTM A 120. GALVANIZE COMPLETE ASSEMBLIES AFTER FABRICATION PER ASTM A 153.
- ATTACH ASSEMBLIES SECURELY TO THE FORMS PRIOR TO POURING RAILING CONCRETE TO ASSURE THAT EXPOSED SURFACES OF THE ASSEMBLIES WILL BE FLUSH WITH THE CONCRETE SURFACES.
- GUARDRAIL ANCHOR ASSEMBLIES SHALL BE INSTALLED IN BOTH LEFT AND RIGHT RAILINGS AT EACH END OF ALL BRIDGES.
- BRIDGE END PAVEMENT RAIL SHALL BE CONSTRUCTED AND PAID FOR IN ACCORDANCE WITH SECTION 813 OF THE STANDARDS SPECIFICATIONS.
- 4" DIAMETER WEEP HOLES TO BE PLACED IN BRIDGE END PAVEMENT RAIL WHERE REQUIRED TO REDUCE PONDING.
- IF TOP LIFT OF ASPHALT IS ANTHING OTHER THAN 1.5", THE LIFT SHALL BE TRANSITIONED TO 1.5" ACROSS THE LENGTH OF THE BRIDGE END PAVEMENT.

DESIGN DATA

SPECIFICATIONS.....A.A.S.H.T.O. LRFD 2007, WITH 2009 INTERIM.  
CONCRETE.....CLASS "AA"(4,000 PSI)  
REINFORCING.....ASTM A 615 GRADE 60 (Fy = 60 KSI)

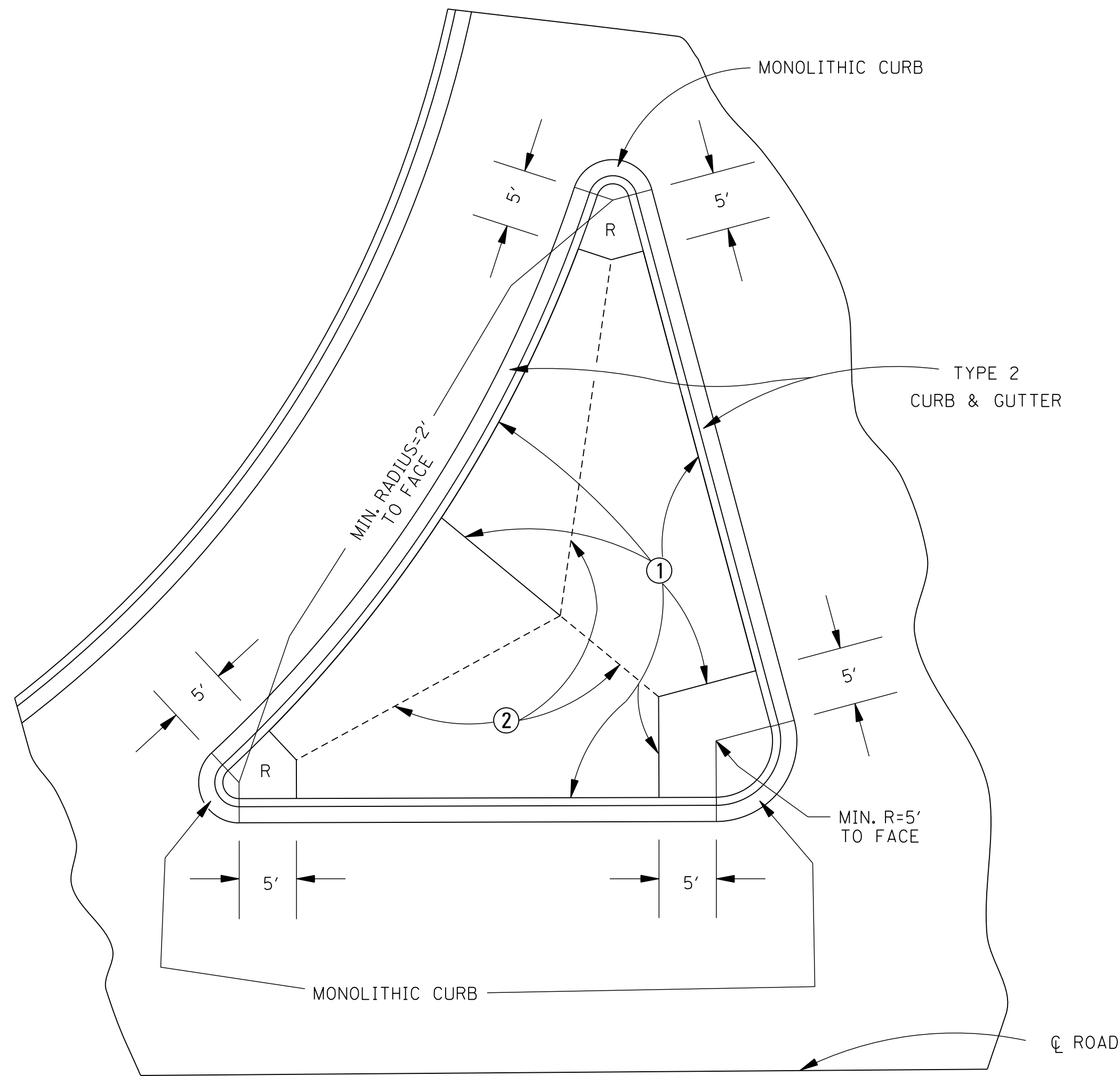


BAR BENDING DETAILS  
DIMENSIONS ARE OUT TO OUT

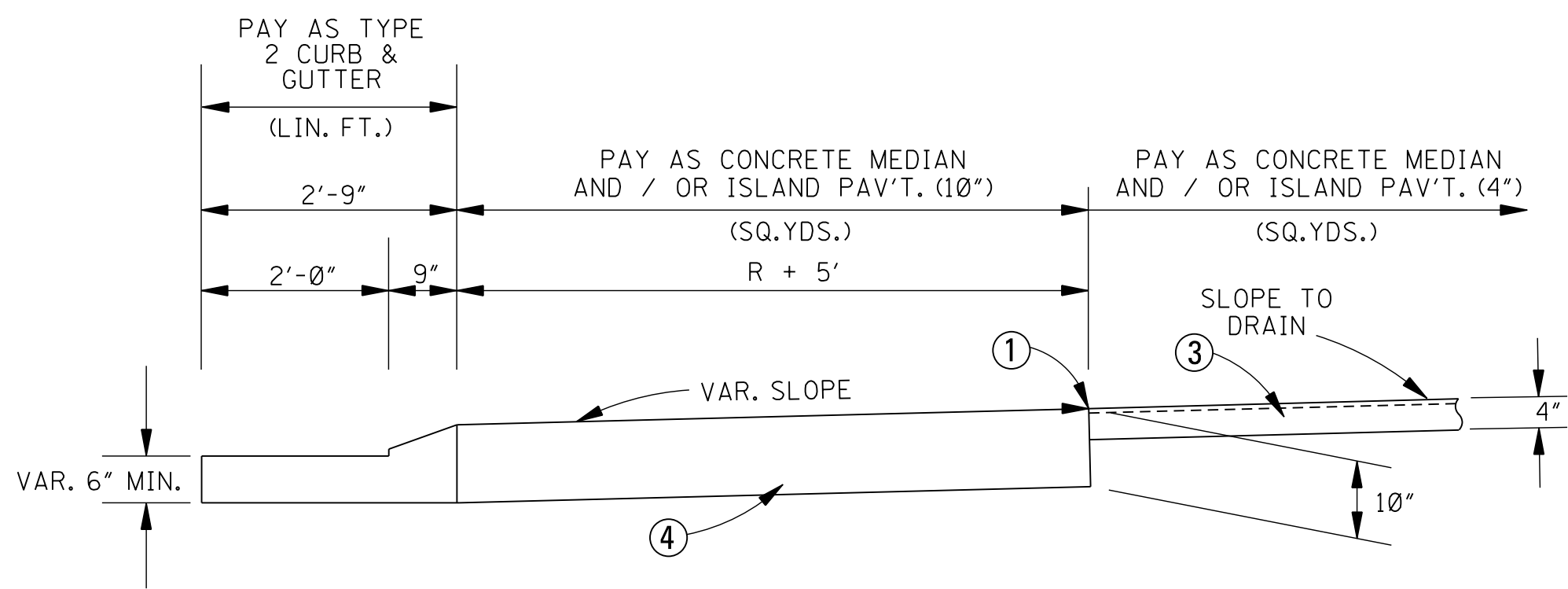
MISSISSIPPI DEPARTMENT OF TRANSPORTATION  
ROADWAY DESIGN DIVISION  
STANDARD PLAN

43.5" BRIDGE END  
PAVEMENT RAIL

ISSUE DATE: AUGUST 01, 2017



PLAN VIEW OF MONOLITHIC CURB & GUTTER AT ISLAND




TYPICAL DETAIL OF MONOLITHIC CURB & GUTTER AT ISLAND

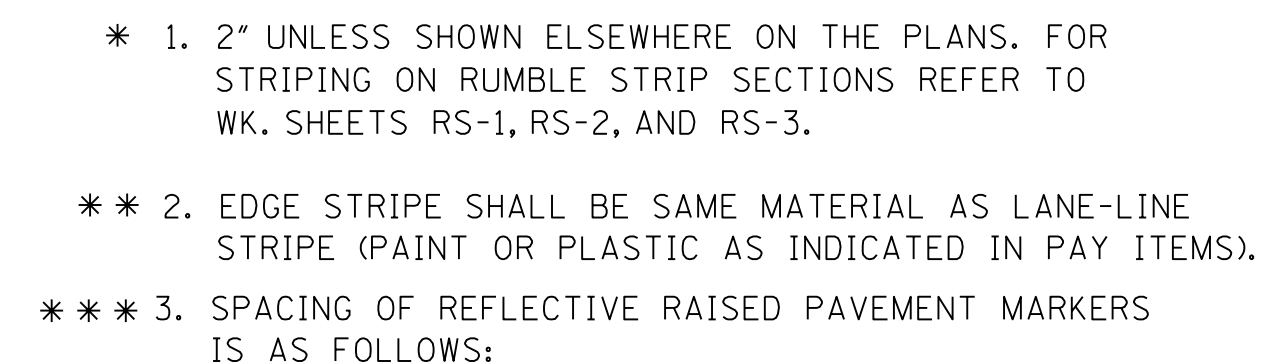
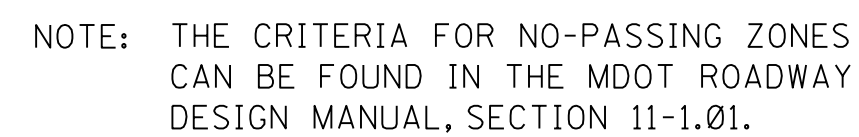
- ① 1/2" PREMOLDED EXPANSION JOINT (NOT A PAY ITEM) (SPACED AS PER SHEETS SD-1 OR SD-2)
- ② 1/2" TOOLED CONTRACTION JOINT OR 1/2" PREMOLDED EXPANSION JOINT (NOT A PAY ITEM) (SPACED AS PER SHEETS SD-1 OR SD-2) AS DIRECTED BY THE ENGINEER.
- ③ 4" CONCRETE MEDIAN AND/OR ISLAND PAVEMENT
- ④ 10" CONCRETE MEDIAN AND/OR ISLAND PAVEMENT

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	ISSUE DATE: AUGUST 01, 2017

**CONCRETE ISLAND PAVEMENT DETAILS**

  
WORKING NUMBER CIP-1  
SHEET NUMBER 6011



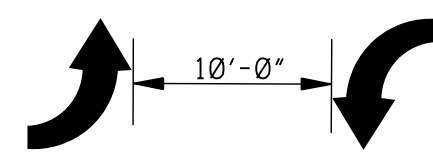
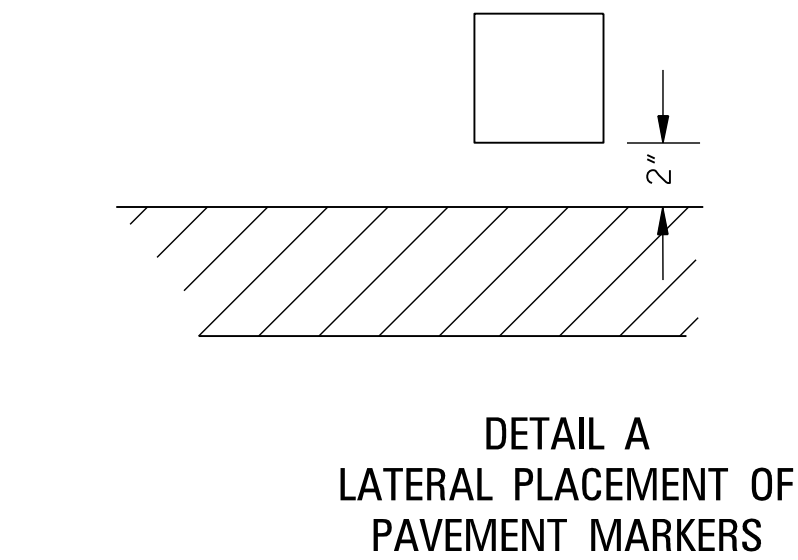
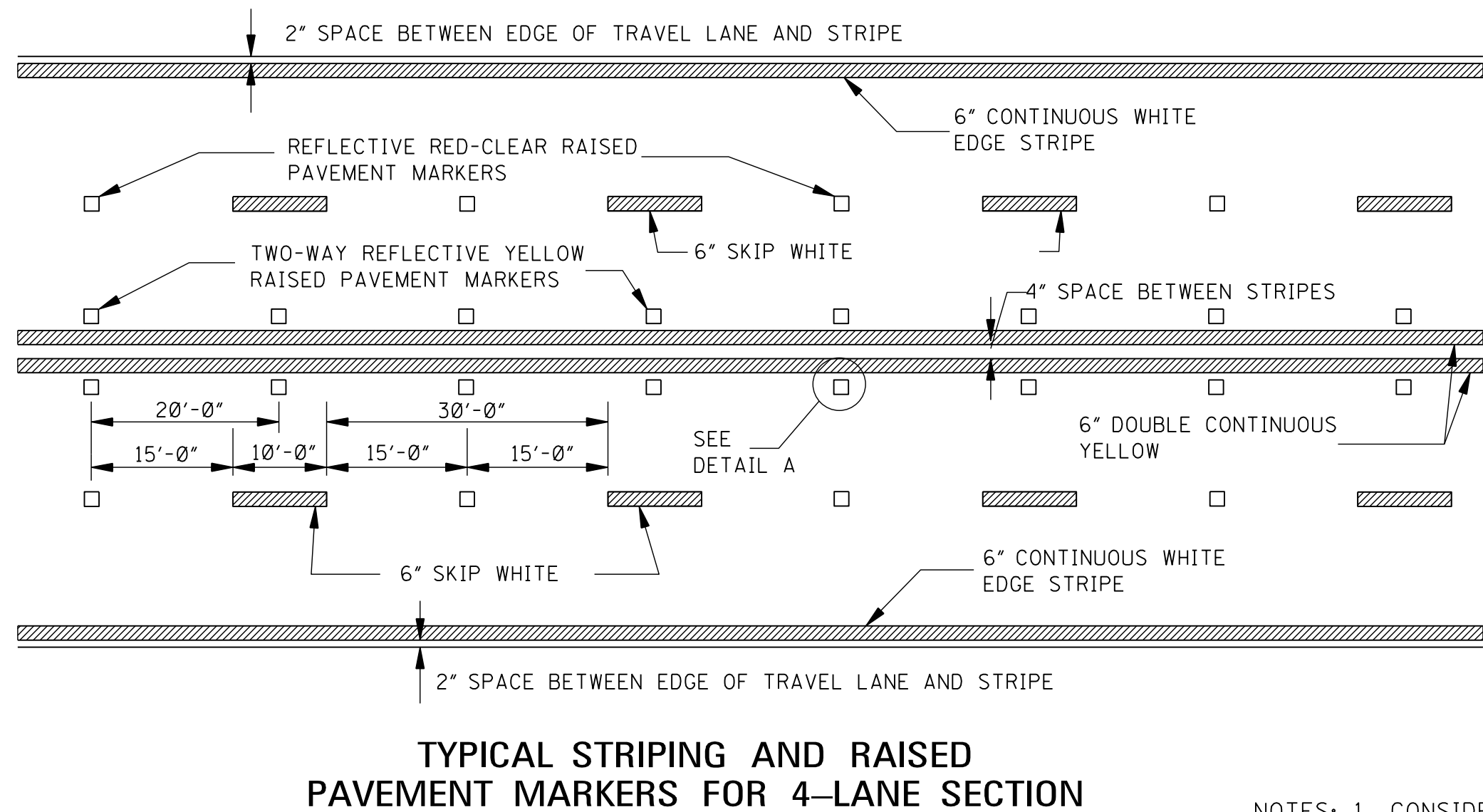
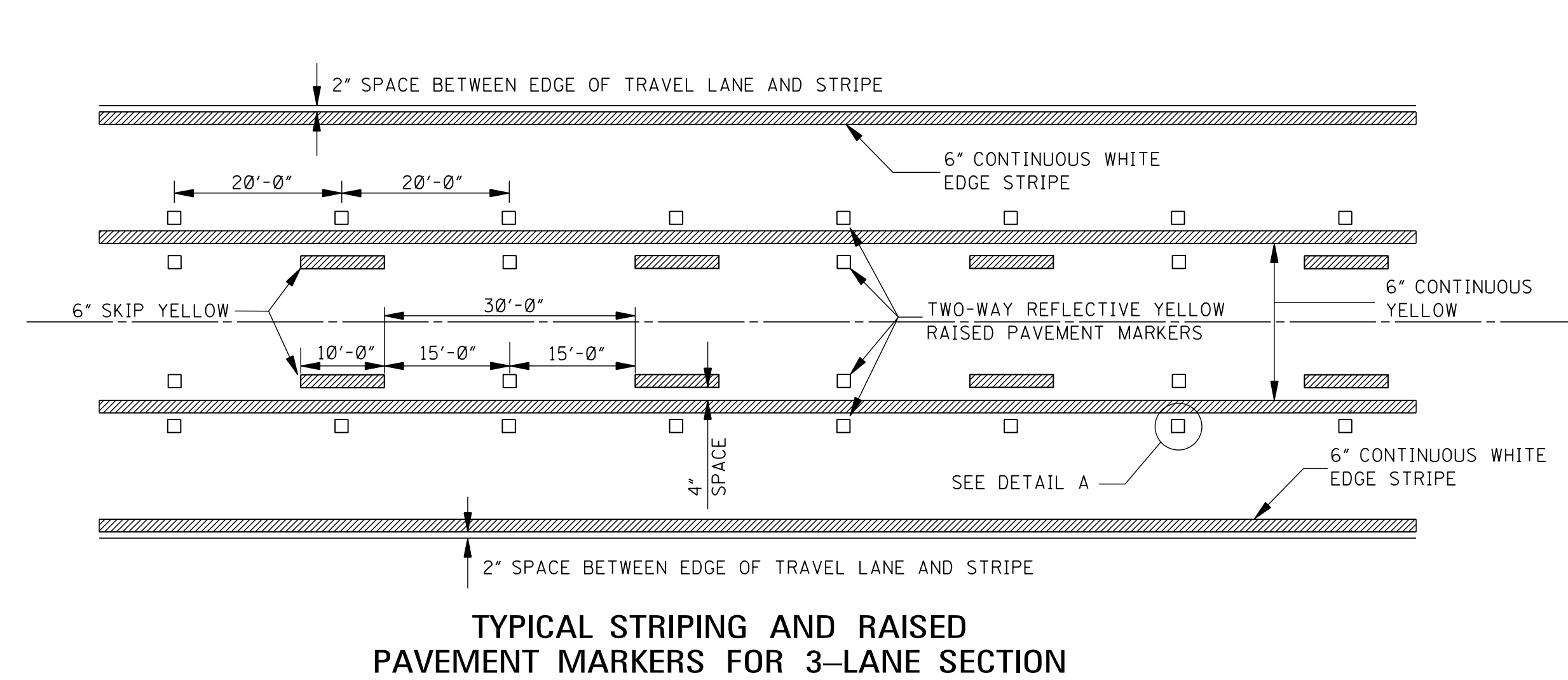


	URBAN AREA (ft-in)	RURAL AREA (ft-in)
TANGENT SECTIONS	40'-0"	80'-0"
HORIZONTAL CURVES	40'-0"	40'-0"
INTERCHANGE LIMITS	40'-0"	+ 40'-0"

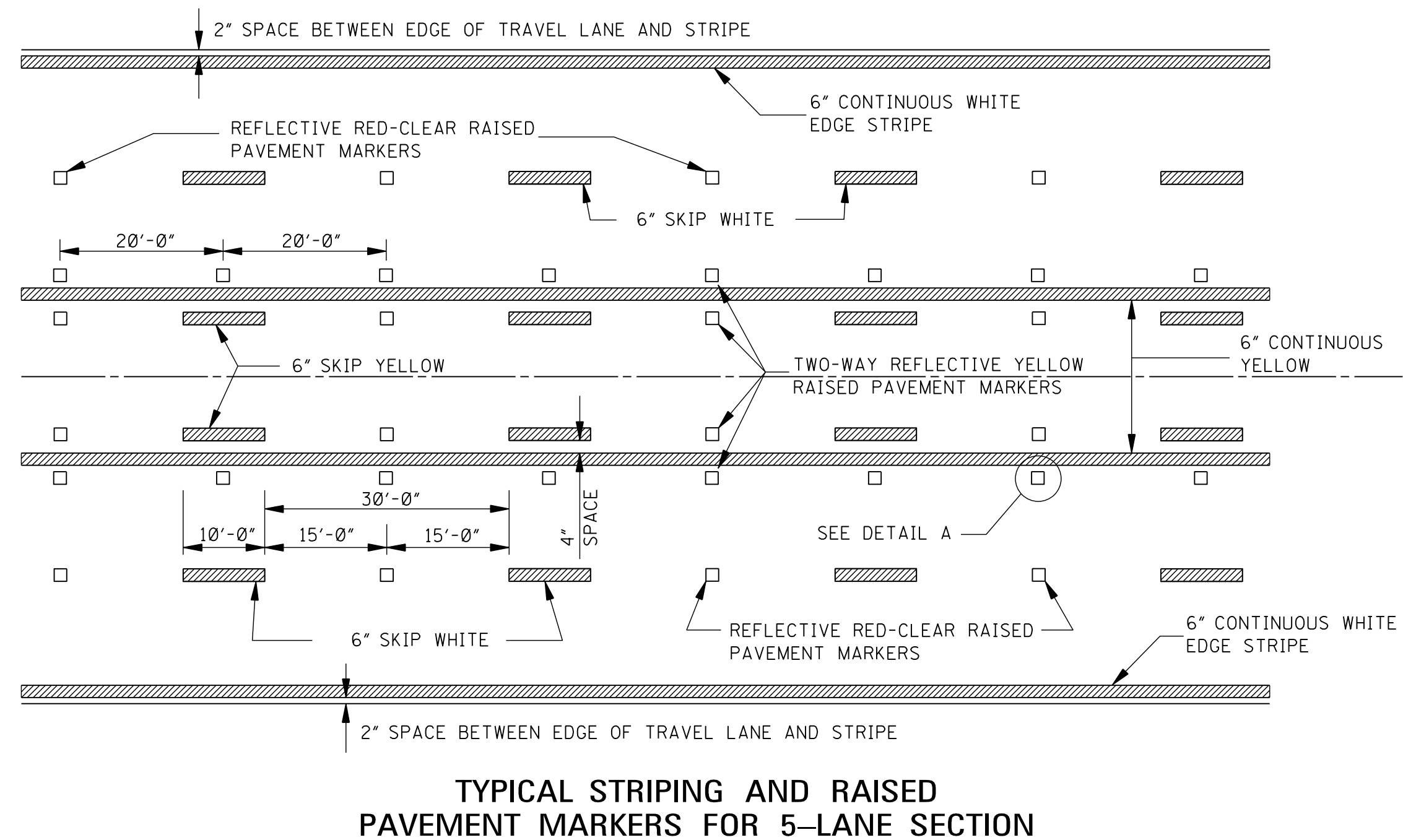
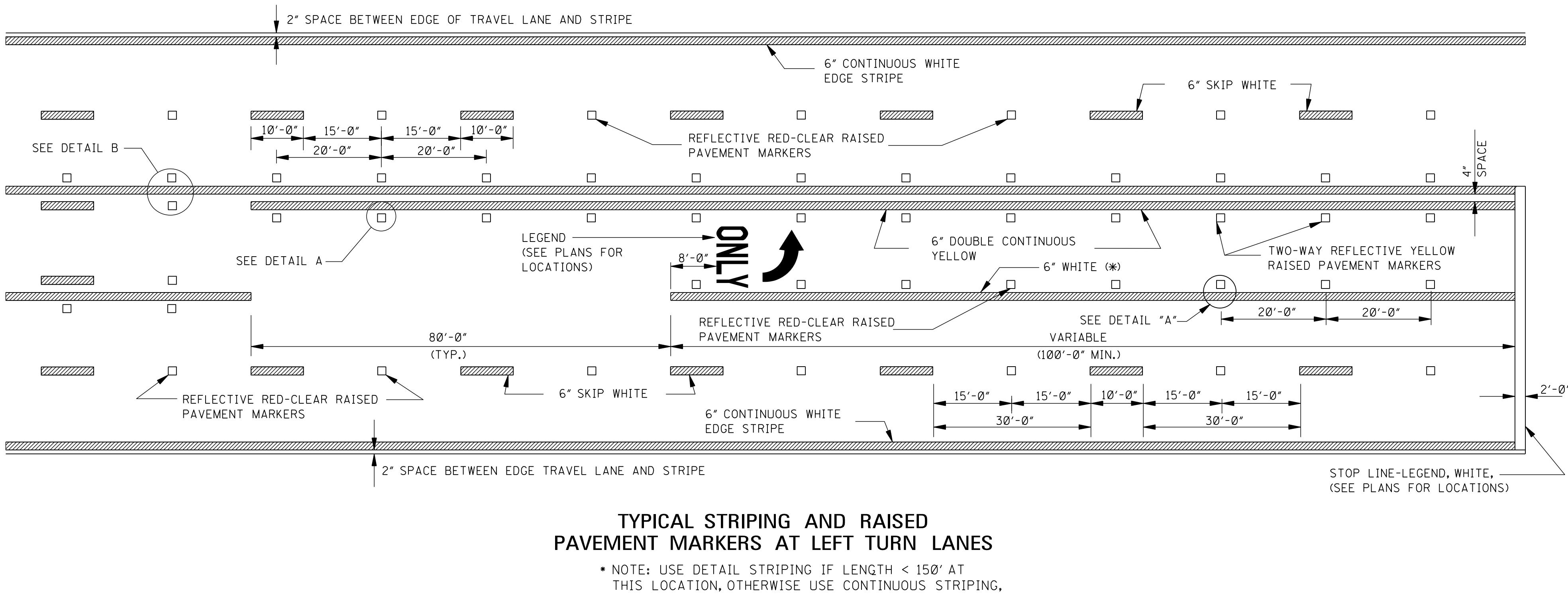
4. PAVEMENT MARKERS SHALL BE HIGH PERFORMANCE REFLECTIVE RAISED PAVEMENT MARKERS AS LISTED IN THE MDOT "APPROVED SOURCES OF MATERIALS."



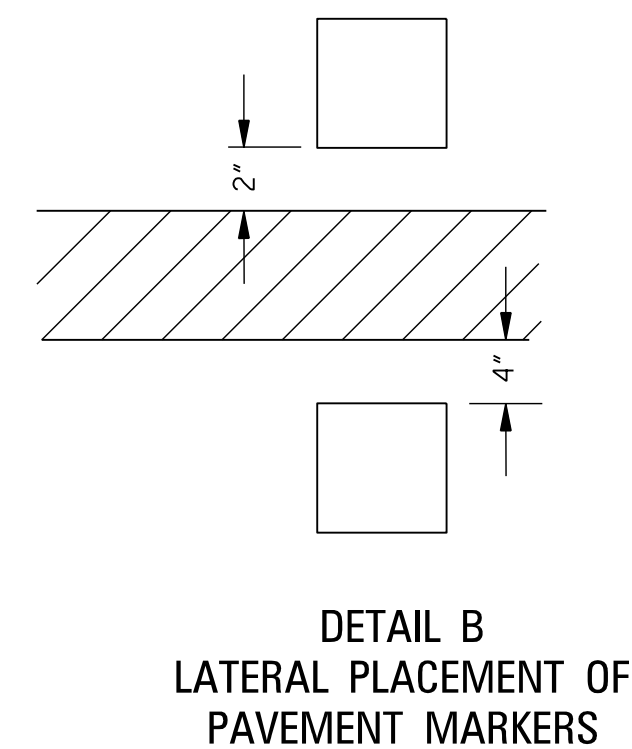
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>PAVEMENT MARKING DETAILS FOR 2-LANE AND 4-LANE DIVIDED ROADWAYS</b>
				DATE	 WORKING NUMBER PM-1 SHEET NUMBER 6051 ISSUE DATE: AUGUST 01, 2017



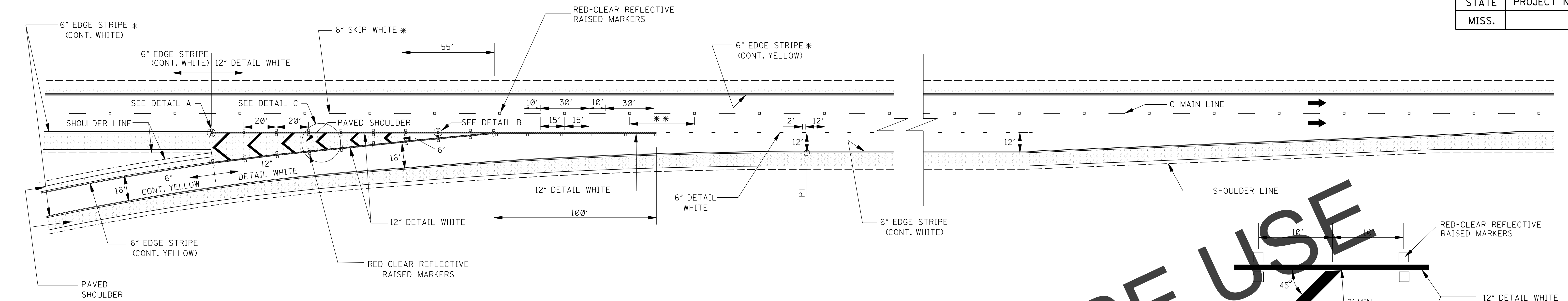
- NOTES: 1. CONSIDER EACH SEGMENT OF CONTINUOUS TWO-WAY LEFT TURN LANE SEPARATELY.  
2. IF SEGMENT IS LESS THAN 350', PLACE ONE SET OF ARROWS IN CENTER OF SEGMENT.  
3. IF SEGMENT IS GREATER THAN 350', PLACE FIRST SET OF ARROWS 50' TO 100' FROM BEGINNING AND/OR END OF SEGMENT AND SPACE ADDITIONAL SETS OF ARROWS (250' O.C.).



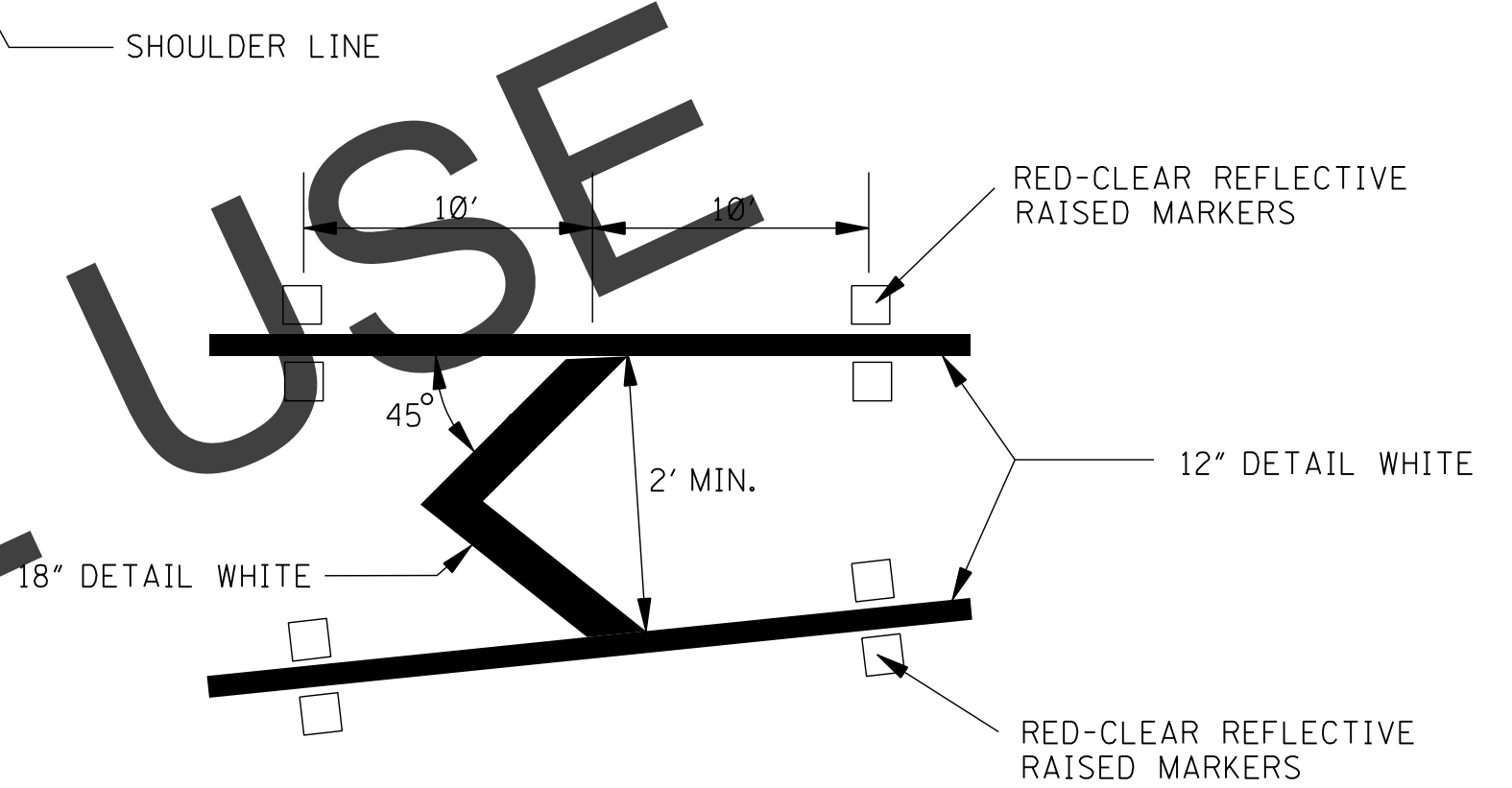
- GENERAL NOTE:
- PAVEMENT MARKERS SHALL BE HIGH PERFORMANCE RAISED PAVEMENT MARKERS AS LISTED IN THE MDT "APPROVED SOURCES OF MATERIALS".



				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN			
				REVISION	<b>PAVEMENT MARKING DETAILS FOR 3-LANE 4-LANE AND 5-LANE UNDIVIDED ROADWAYS</b>			
				DATE	ISSUE DATE: AUGUST 01, 2017			
					WORKING NUMBER PM-2			
					SHEET NUMBER 6052			



PARALLEL ENTRANCE RAMP



DETAIL C

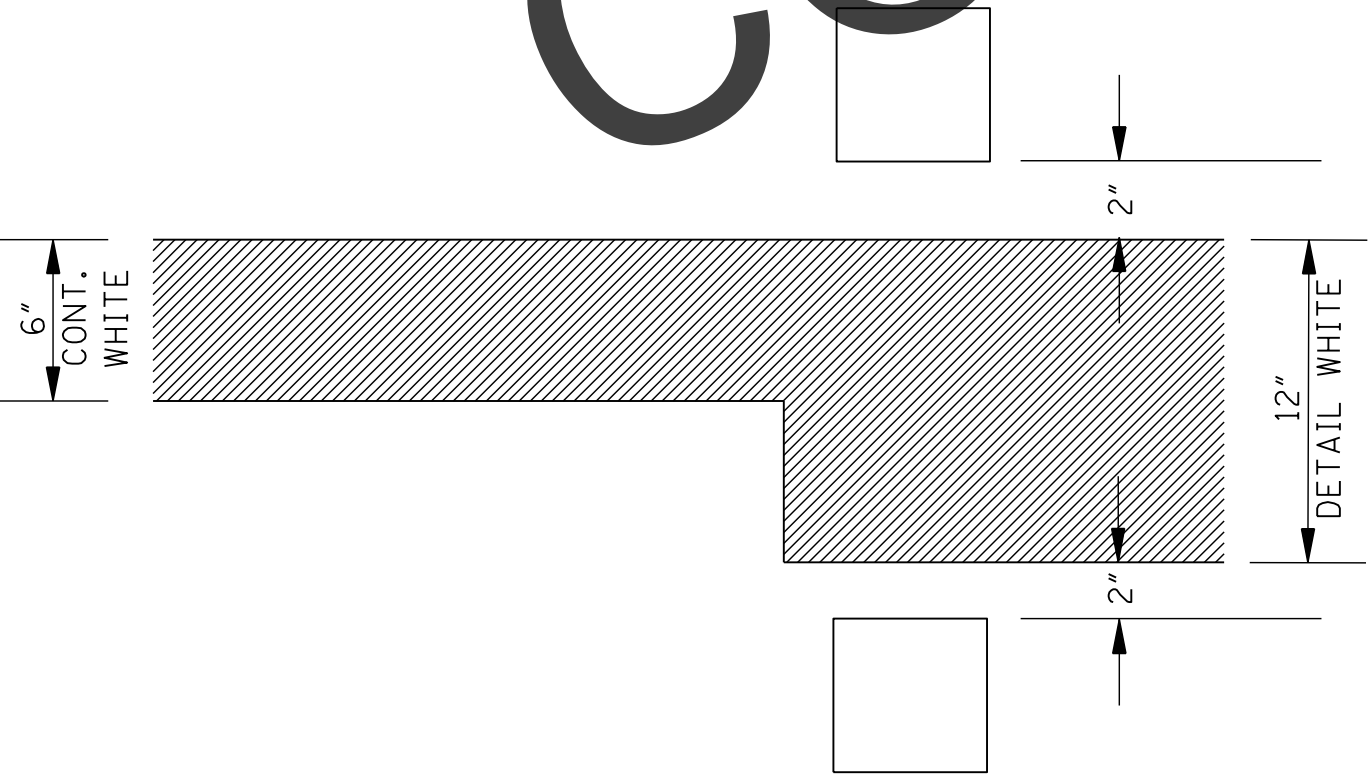


TAPER ENTRANCE RAMP

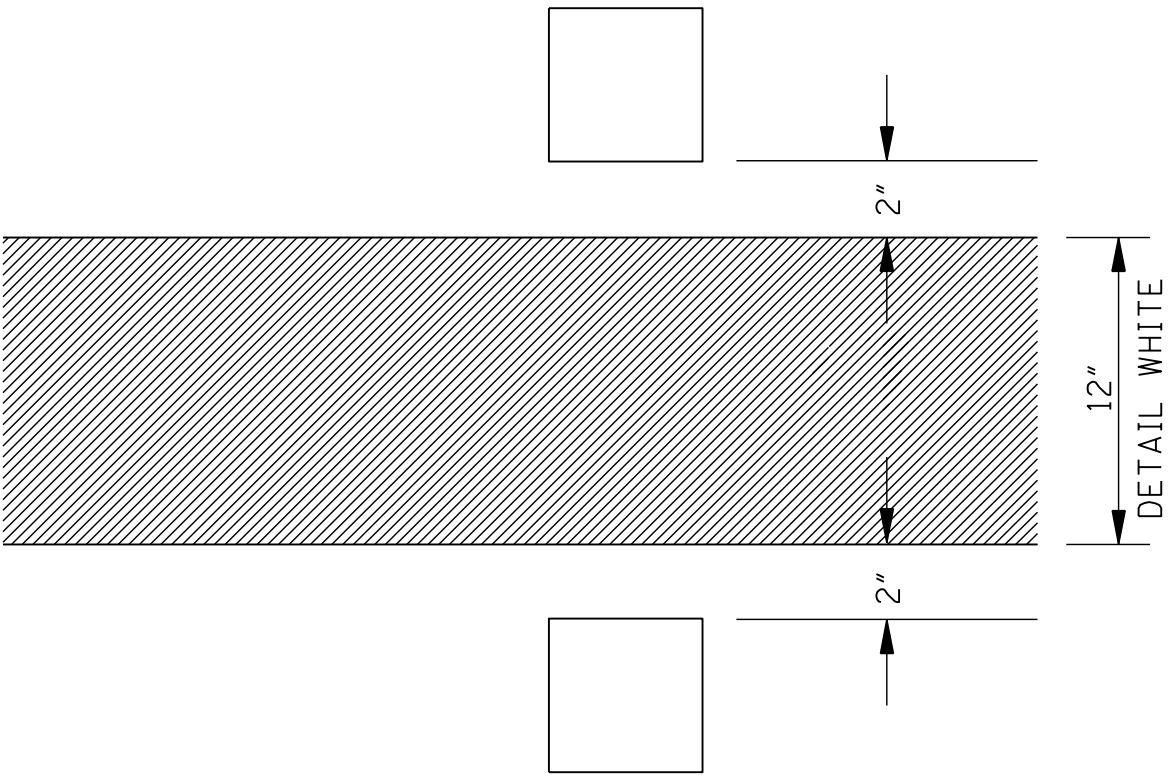
NOTE: 2'-12' SKIP WHITE EXTENDS TO THE TERMINATION POINT OF THE ACCELERATION LANE.

GENERAL NOTES:

- \* 1. SEE SHEET PM-1 FOR THE PLACEMENT OF LANE-LINE STRIPE WITH RESPECT TO THE PAVEMENT JOINT AND FOR THE PLACEMENT OF THE EDGE LINE WITH RESPECT TO THE OUTSIDE EDGE OF THE TRAVELED WAY.
- \*\* 2. ON THE MAIN FACILITY, REFLECTIVE RED-CLEAR RAISED PAVEMENT MARKERS ON A 40'-0" SPACING WILL BE REQUIRED ON LANE-LINE(S) THROUGH ALL INTERCHANGE AREAS BEGINNING 1000' IN ADVANCE (IN DIRECTION OF TRAFFIC) OF THE EXIT RAMP TAPER AND CONTINUING THROUGH THE INTERCHANGE TO THE END OF THE ENTRANCE RAMP TAPER.
- 3. PAVEMENT MARKERS SHALL BE HIGH PERFORMANCE REFLECTIVE RAISED PAVEMENT MARKERS AS LISTED IN THE MDOT "APPROVED SOURCES OF MATERIALS."

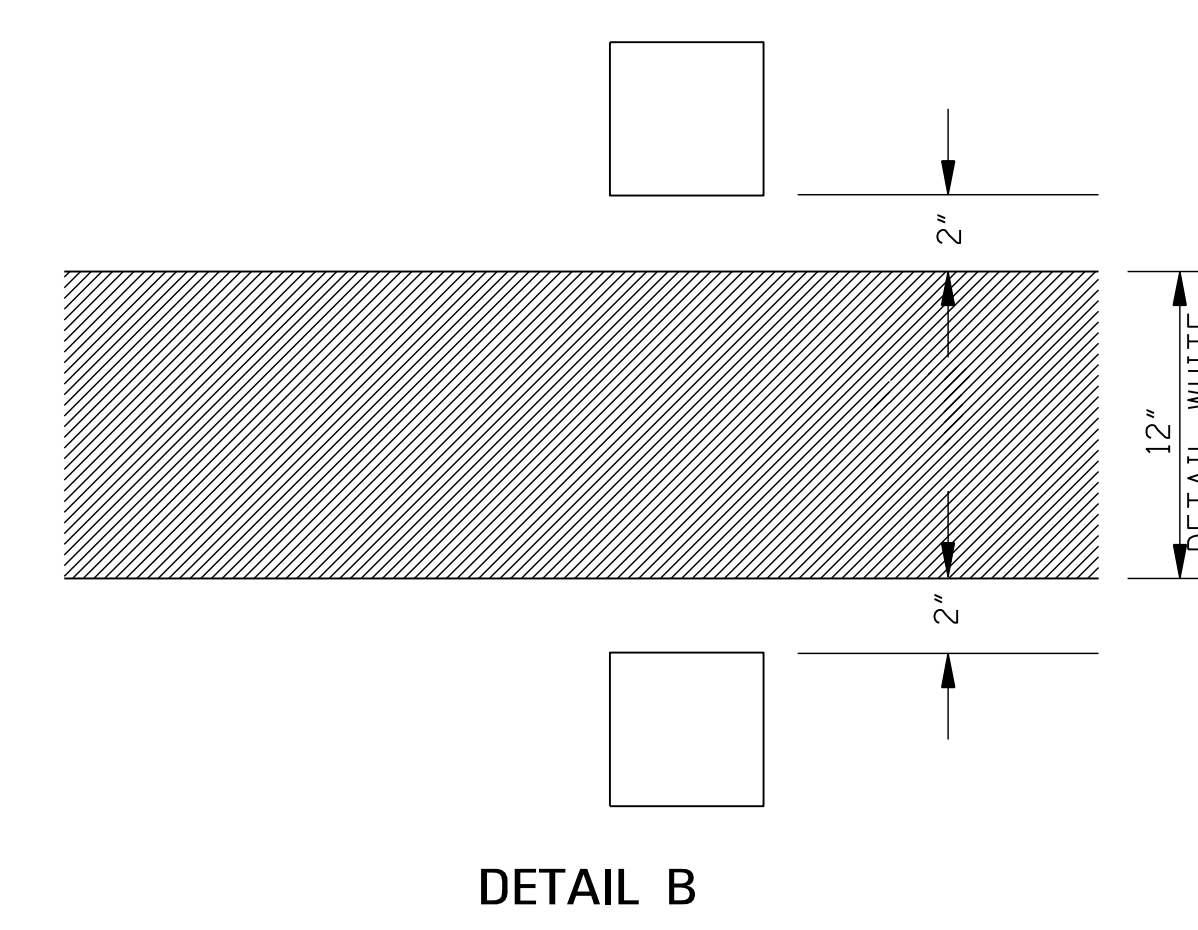
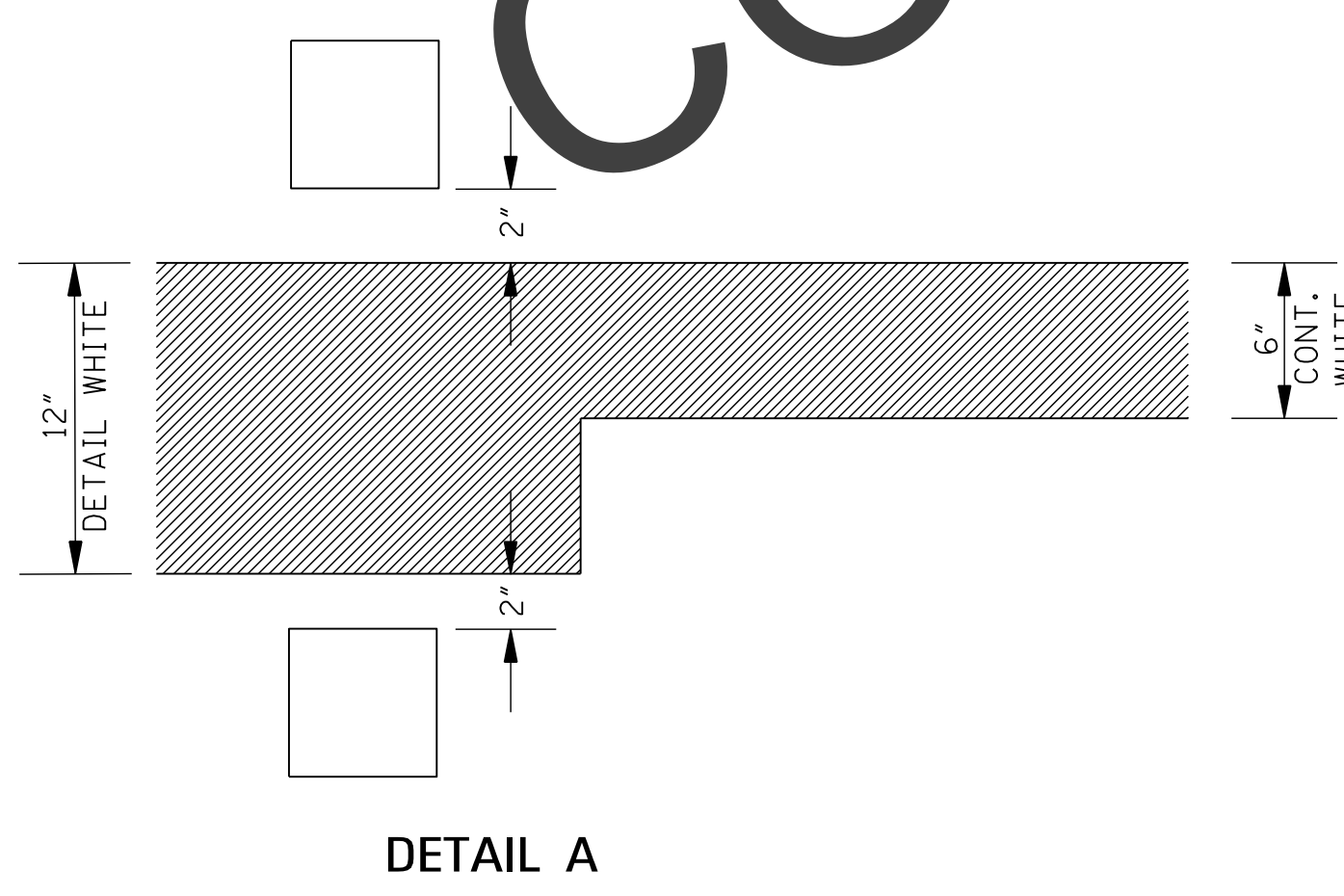
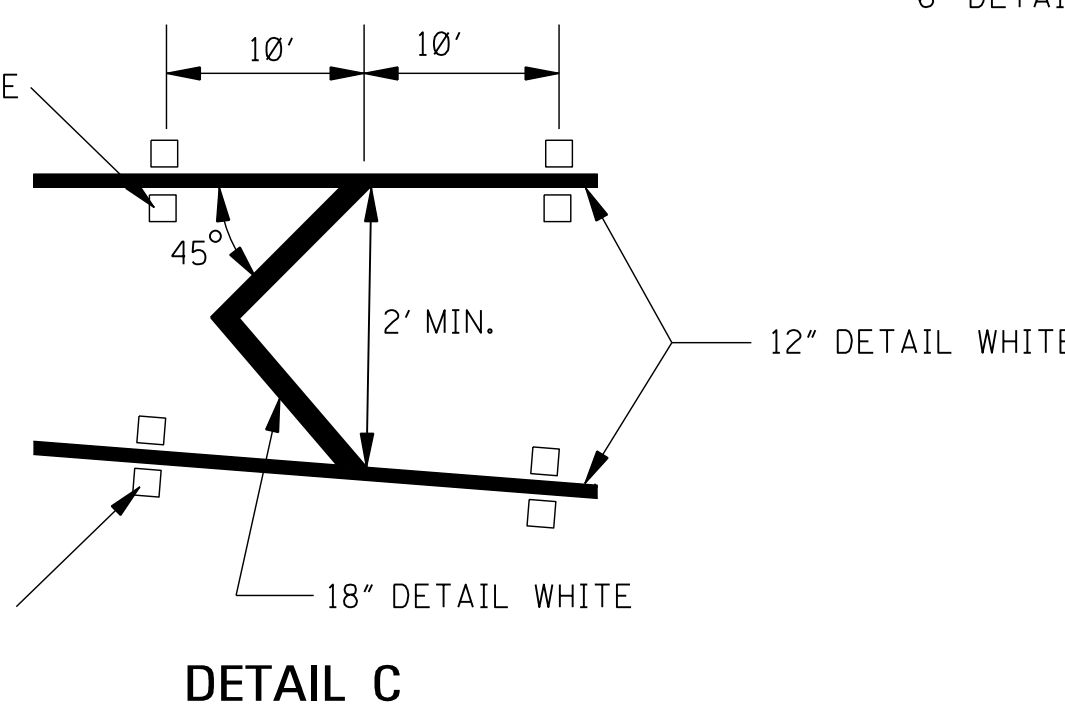
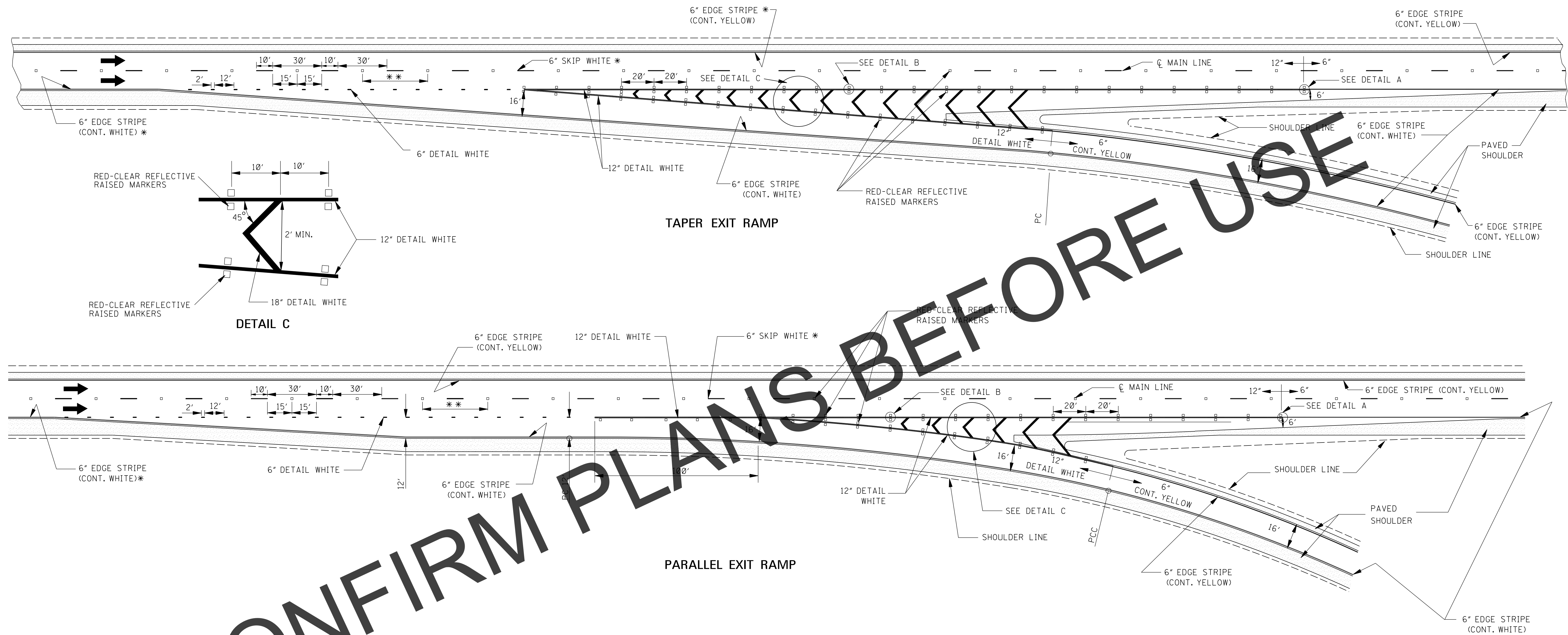


DETAIL A



DETAIL B

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>PAVEMENT MARKING DETAILS FOR INTERCHANGE ENTRANCE RAMPS (PARALLEL AND TAPER)</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					MDOT WORKING NUMBER PM-3 SHEET NUMBER 6053



GENERAL NOTES:

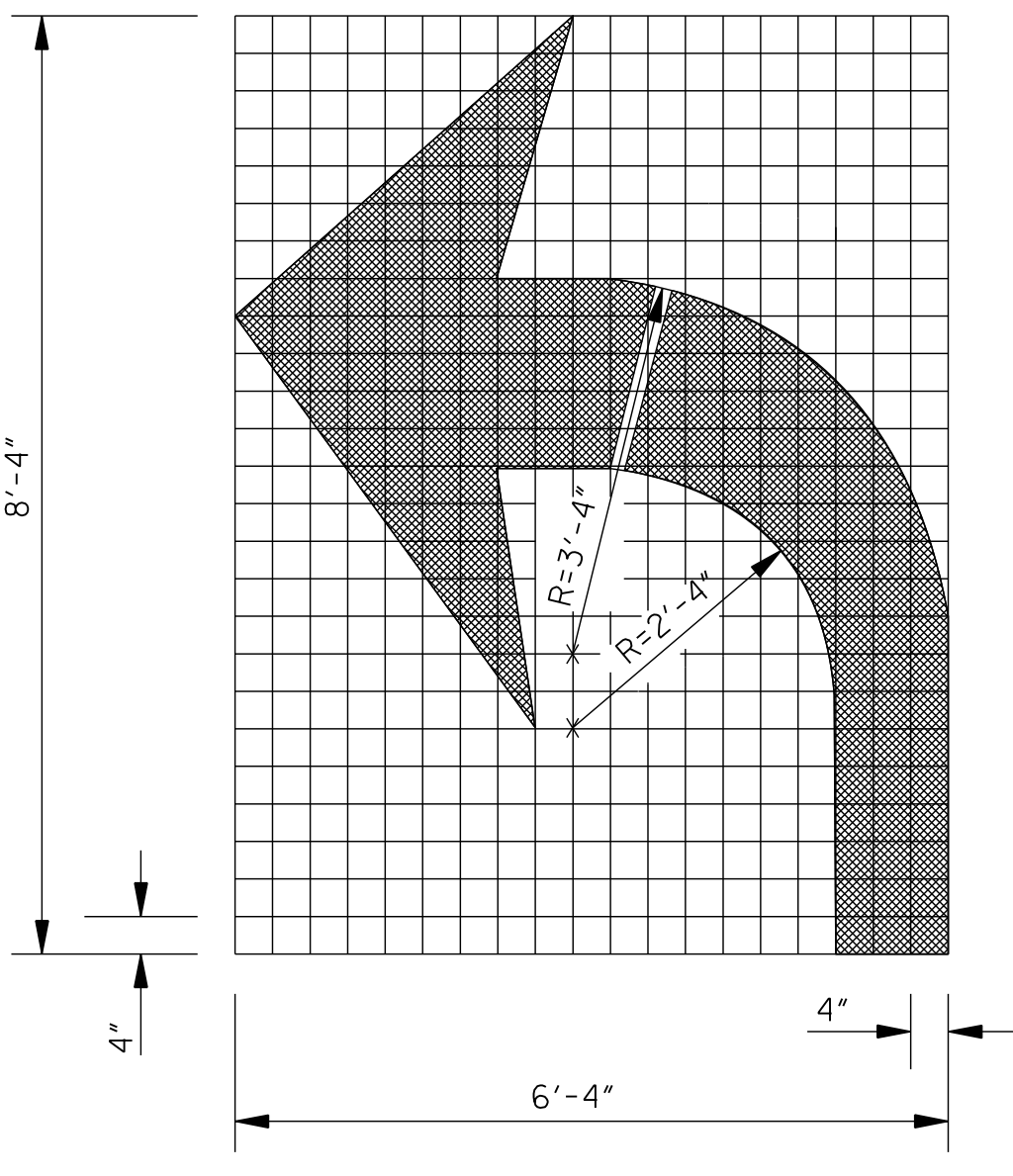
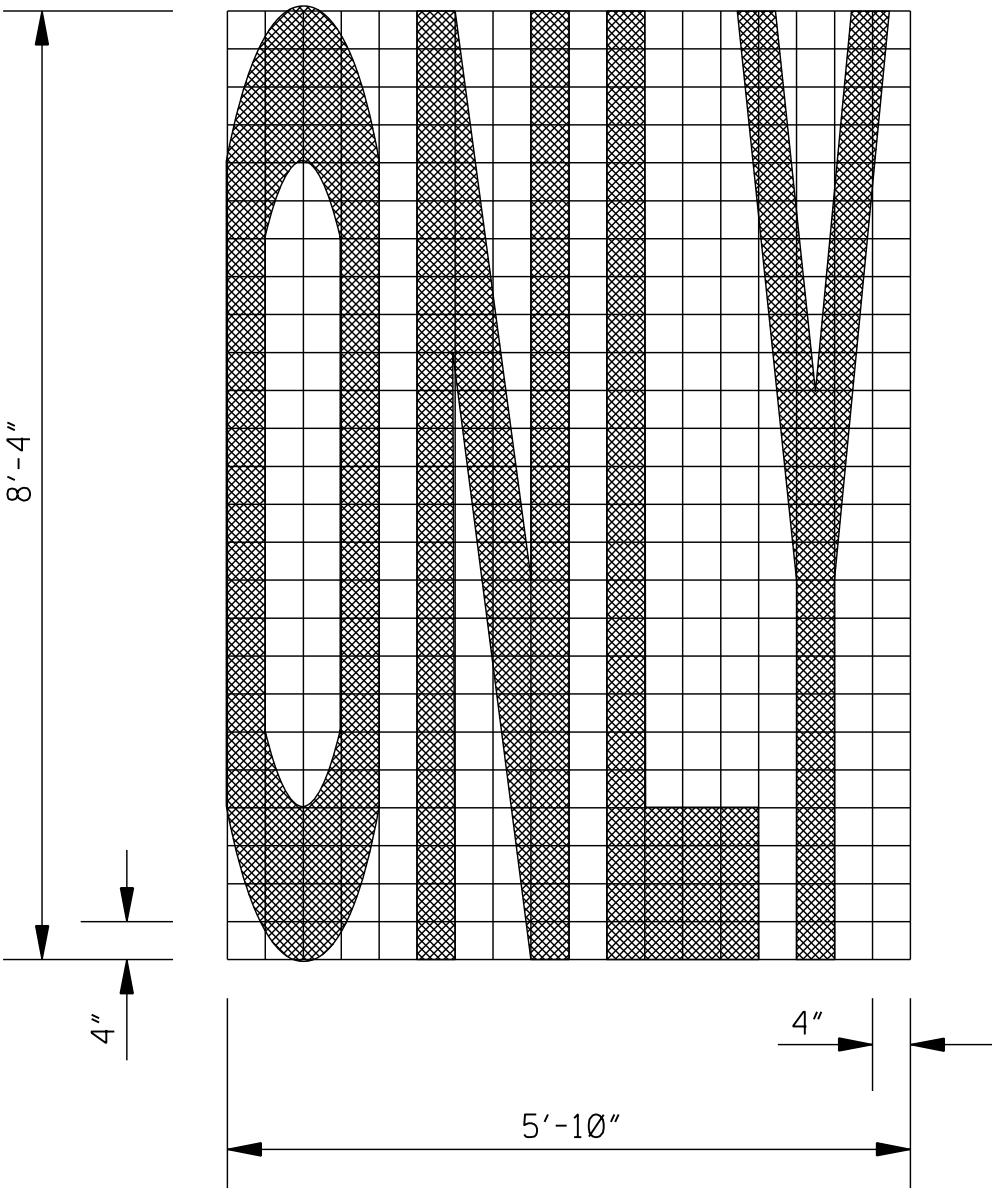
- \* 1. SEE SHEET PM-1 FOR THE PLACEMENT OF LANE-LINE STRIPE WITH RESPECT TO THE PAVEMENT JOINT AND FOR THE PLACEMENT OF THE EDGE LINE WITH RESPECT TO THE OUTSIDE EDGE OF THE TRAVELED WAY.
- \*\* 2. ON THE MAIN FACILITY, REFLECTIVE RED-CLEAR RAISED PAVEMENT MARKERS ON A 40'-0" SPACING WILL BE REQUIRED ON LANE-LINE(S) THROUGH ALL INTERCHANGE AREAS BEGINNING 1000' IN ADVANCE (IN DIRECTION OF TRAFFIC) OF THE EXIT RAMP TAPER AND CONTINUING THROUGH THE INTERCHANGE TO THE END OF THE ENTRANCE RAMP TAPER.
3. PAVEMENT MARKERS SHALL BE HIGH PERFORMANCE REFLECTIVE RAISED PAVEMENT MARKERS AS LISTED IN THE MDOT "APPROVED SOURCES OF MATERIALS."

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>PAVEMENT MARKING DETAILS FOR EXIT RAMP (PARALLEL AND TAPER)</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					WORKING NUMBER PM-4 SHEET NUMBER 6054

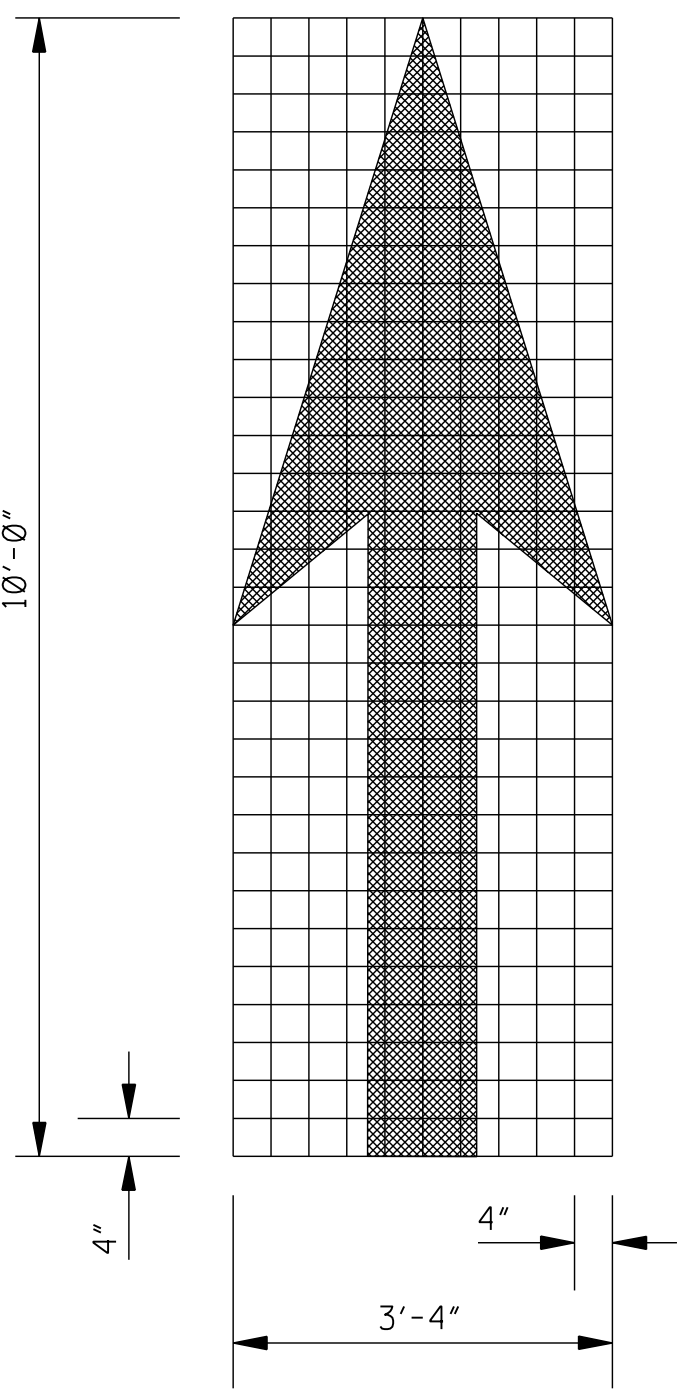




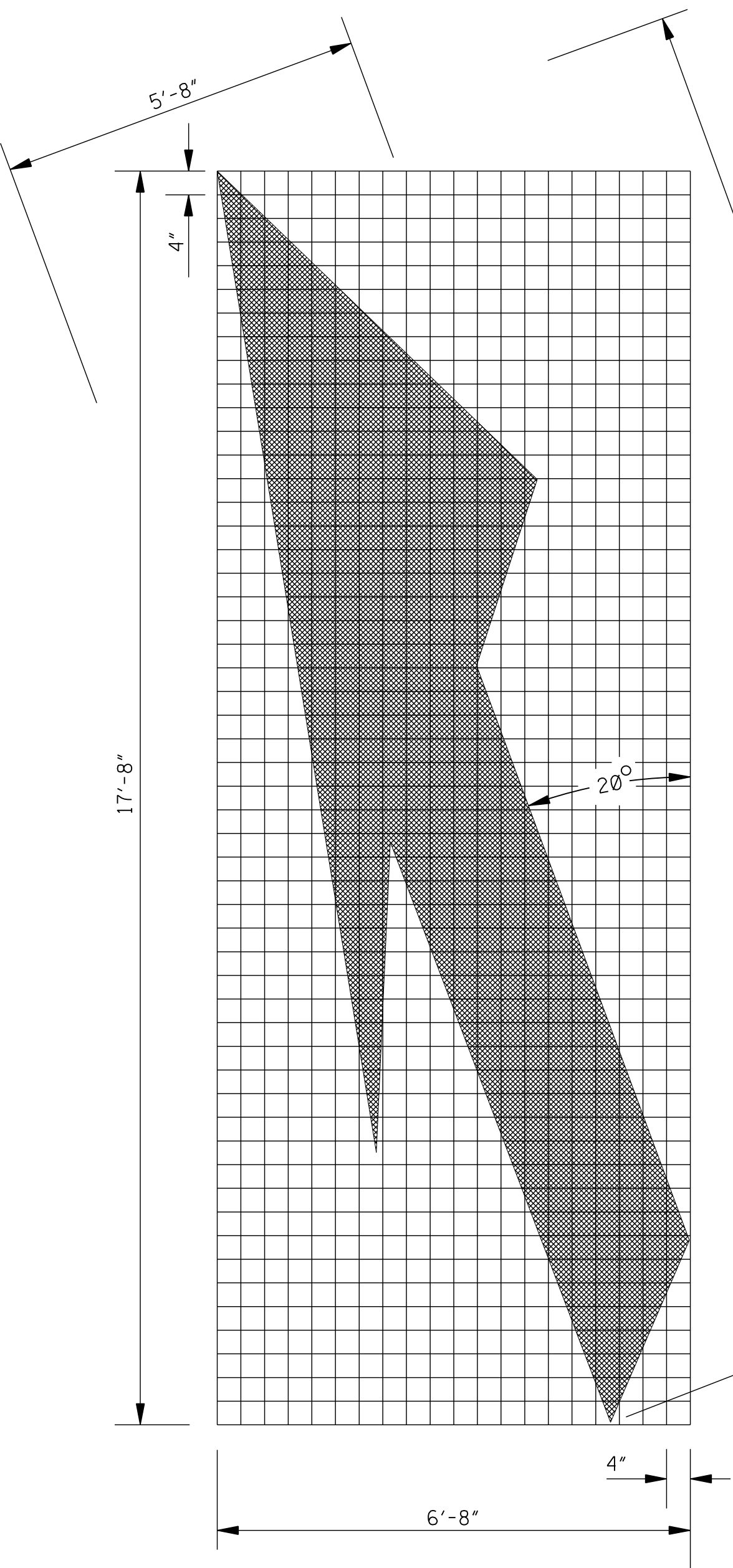




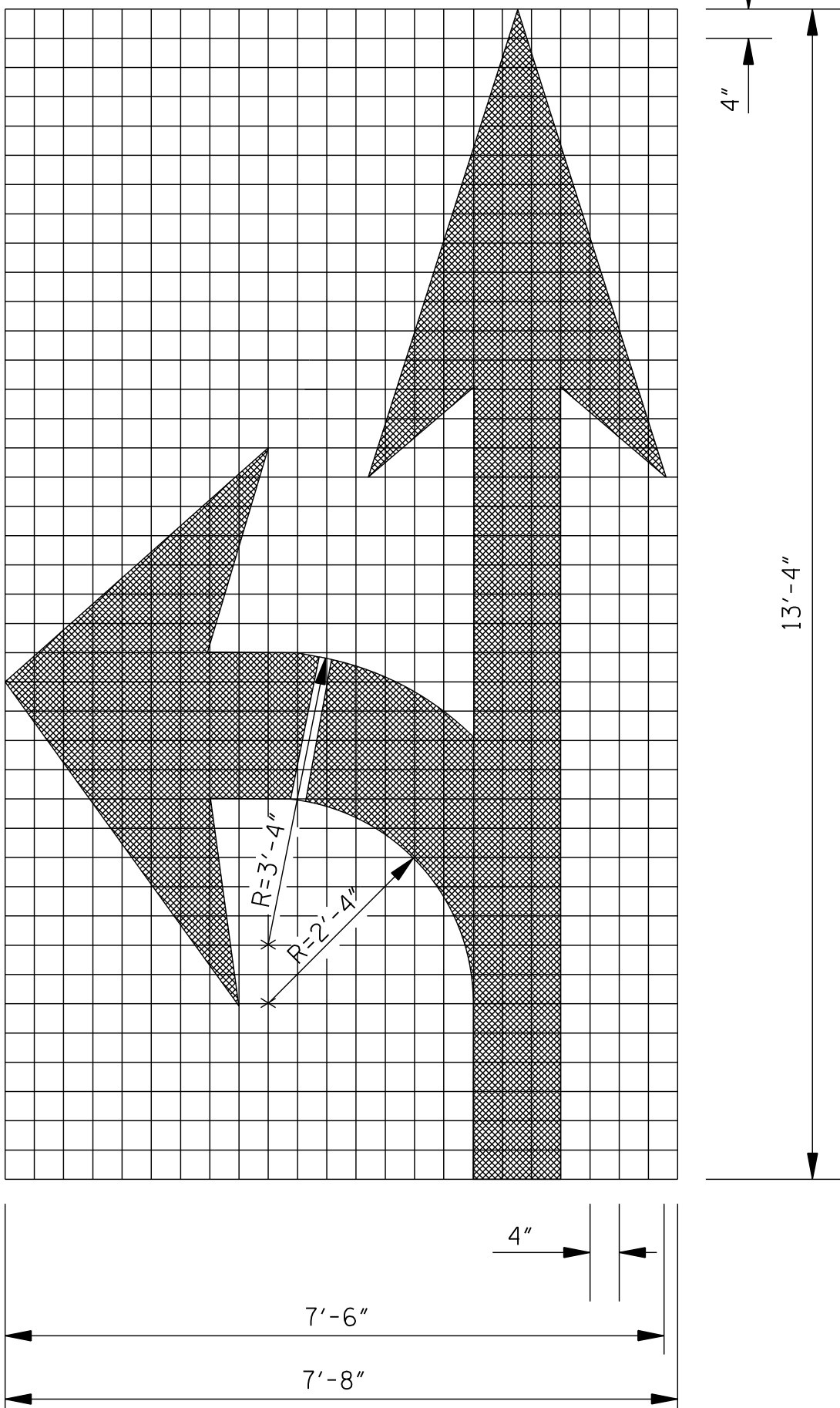
TURN ARROW



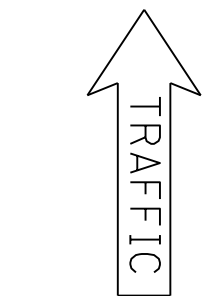
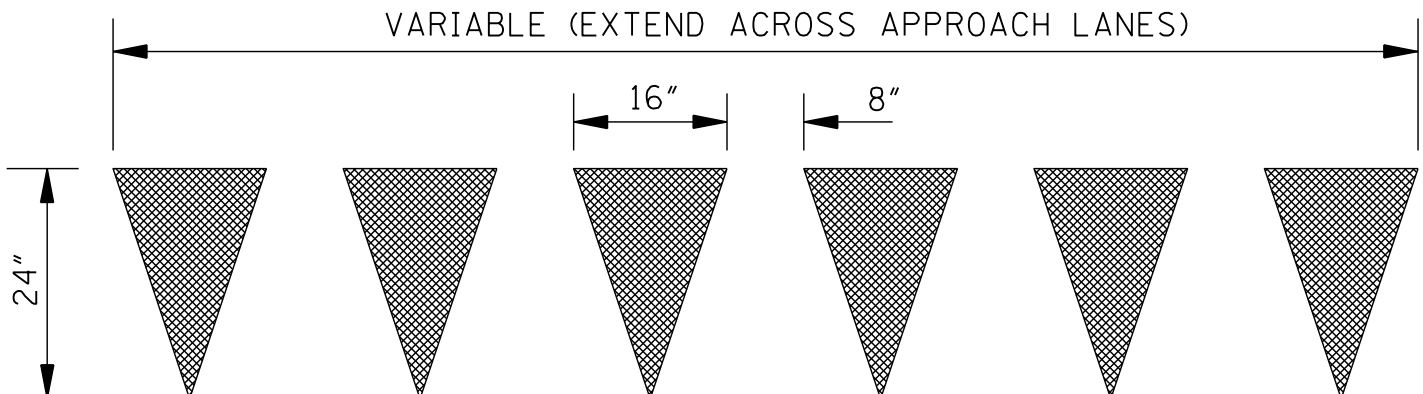
THRU ARROW



LANE-REDUCTION ARROW



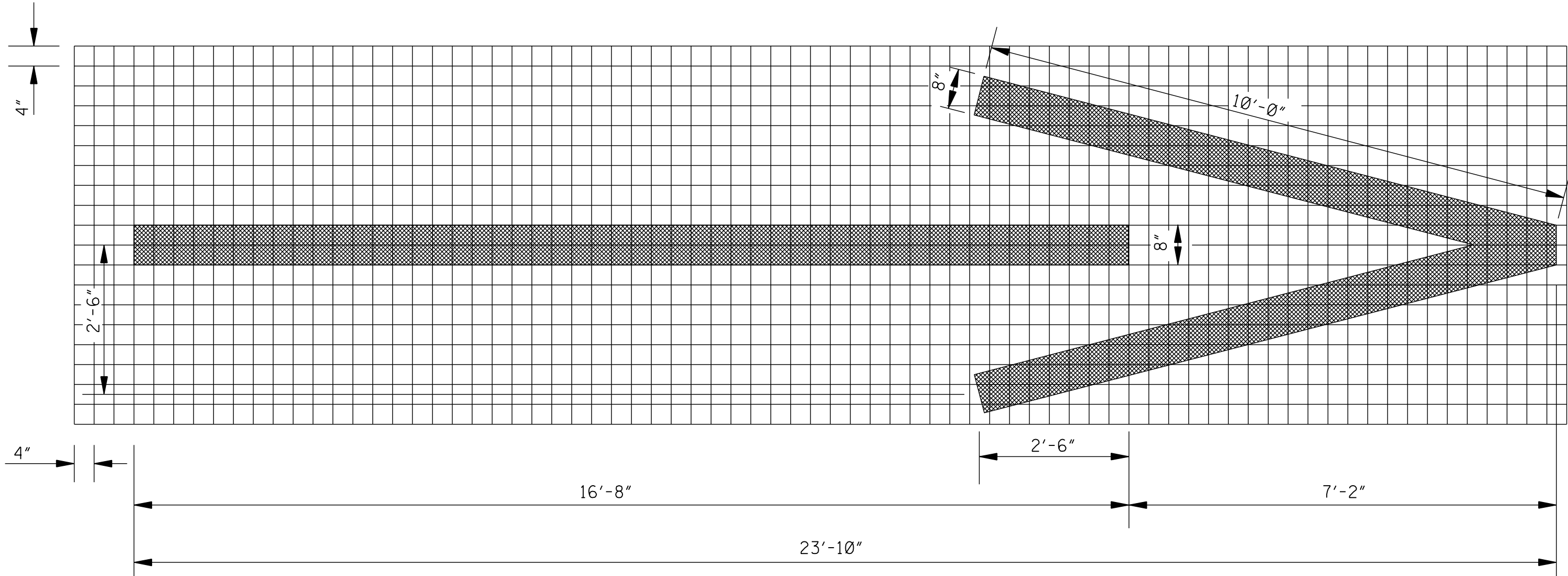
COMBINATION ARROW



YIELD LINE

- GENERAL NOTES:
- TWO HORIZONTAL GAPS (CAUSED BY TEMPLATE CONNECTORS) OF 1/2" OR LESS AND EXTENDING THE FULL WIDTH ARE PERMITTED IN EACH LETTER.
  - FOR OTHER DETAILS, SEE THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
  - DIMENSIONS OF THE YIELD LINE MAY VARY WITH APPROVAL OF THE ENGINEER. SEE MUTCD, LATEST EDITION, FOR ALLOWABLE DIMENSIONS.
  - PAY QUANTITIES FOR PAVEMENT MARKING LEGENDS ARE AS FOLLOWS:

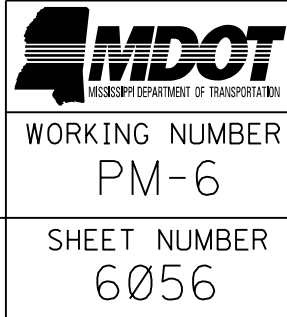
PAY QUANTITIES	
LEGEND/SYMBOL	AREA (ft <sup>2</sup> )
ONLY	22.0
TURN ARROW	16.4
THRU ARROW	12.3
COMB. ARROW	27.5
1-WAY ARROW	24.3
LANE REDUCTION ARROW	40.0



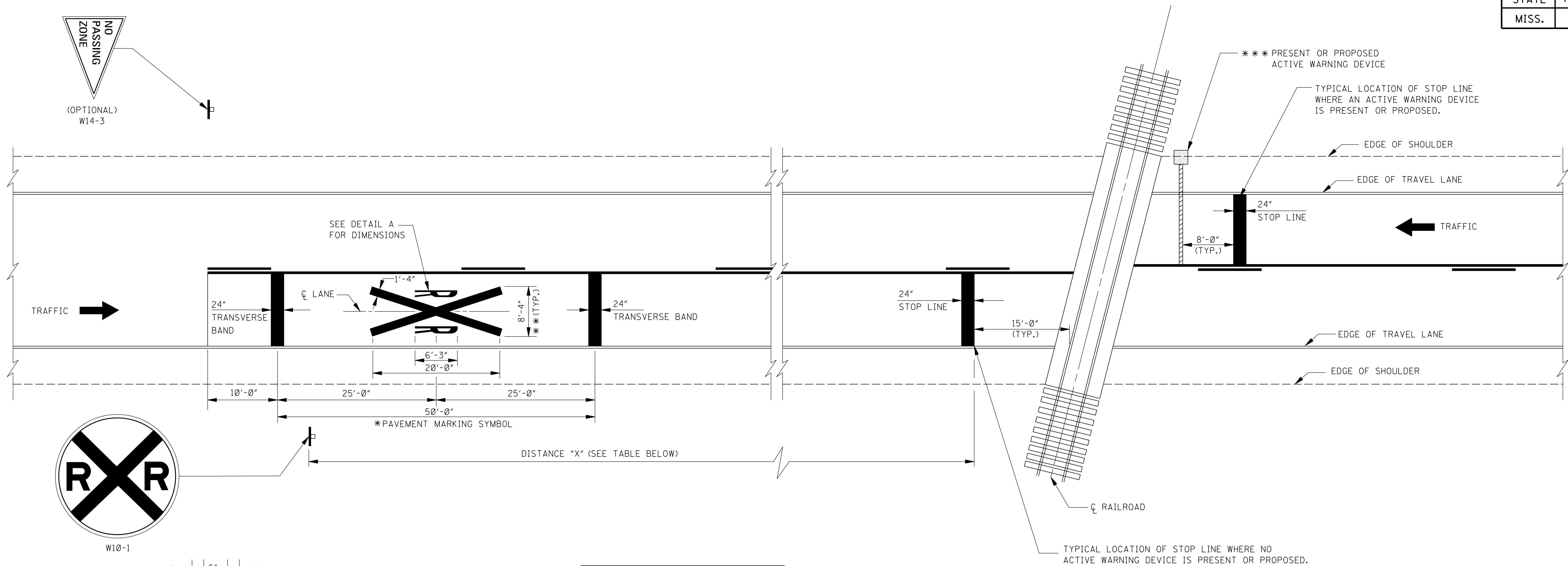
1-WAY ARROW

MISSISSIPPI DEPARTMENT OF TRANSPORTATION  
ROADWAY DESIGN DIVISION  
STANDARD PLAN

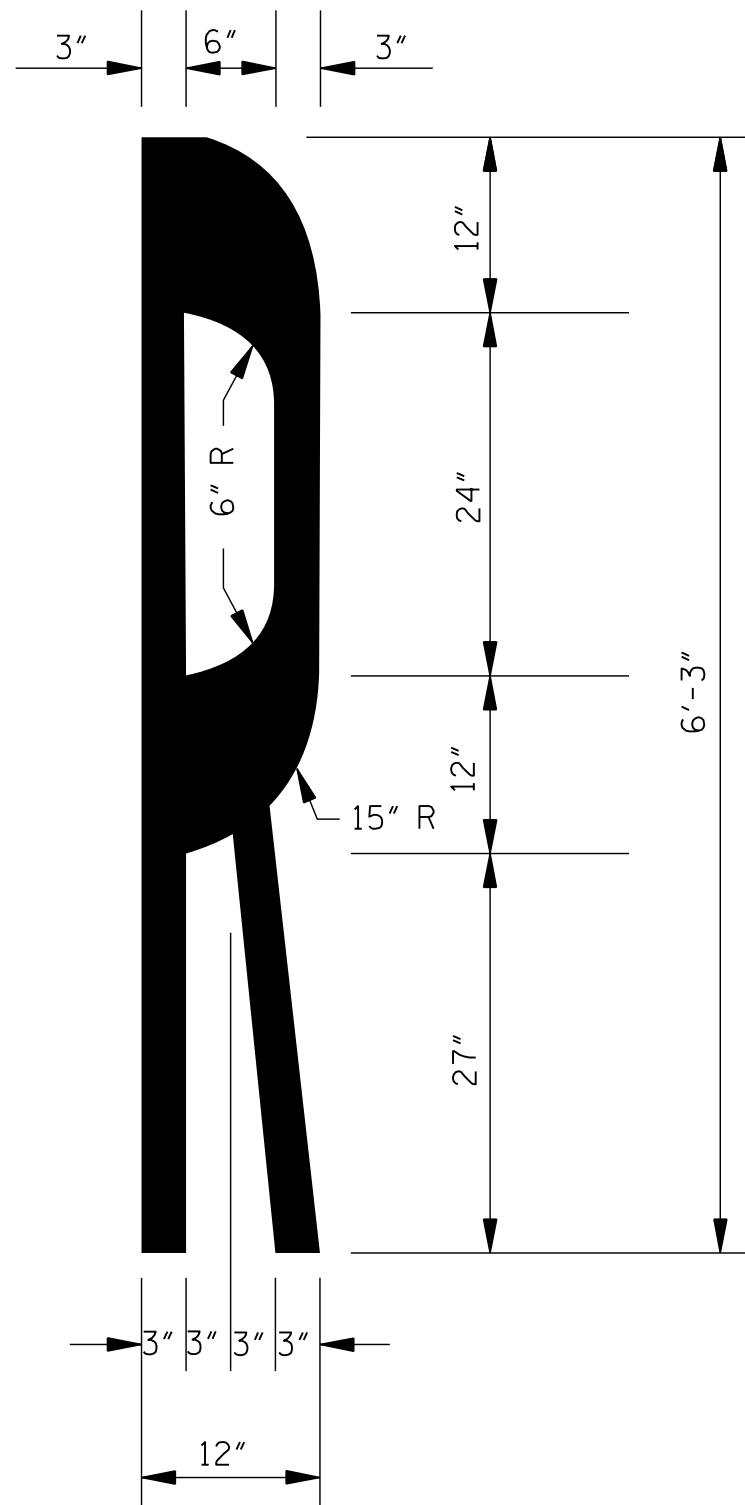
**PAVEMENT MARKING  
LEGEND DETAILS**



ISSUE DATE: AUGUST 01, 2017



W10-1




DETAIL A  
STANDARD "R" PAVEMENT MARKING  
FOR R X R SYMBOL

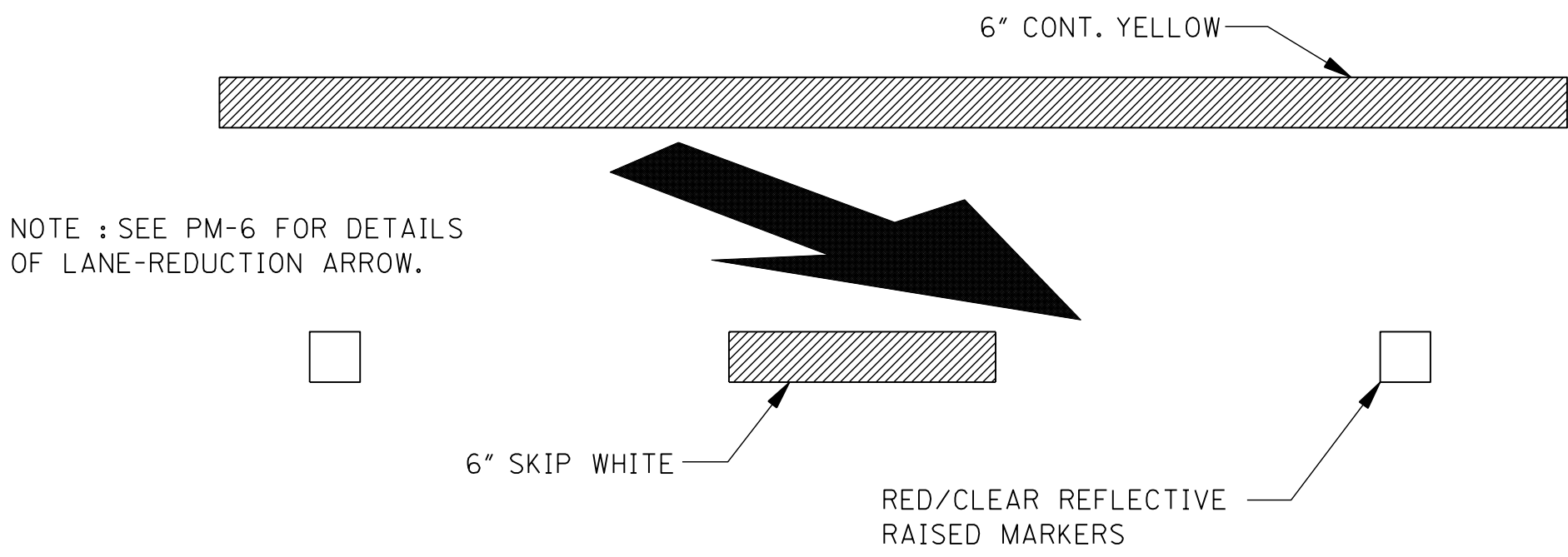
ADVANCE WARNING SIGN PLACEMENT DISTANCE	
POSTED SPEED (mph)	① DISTANCE "X" (ft)
20	100
25	100
30	100
35	100
40	125
45	175
50	250
55	325
60	400
65	475

NOTE:  
① DISTANCE "X" MAY BE ADJUSTED IF  
PROHIBITIVE PHYSICAL CONDITIONS EXIST  
AT THE DESIGNATED DISTANCE.

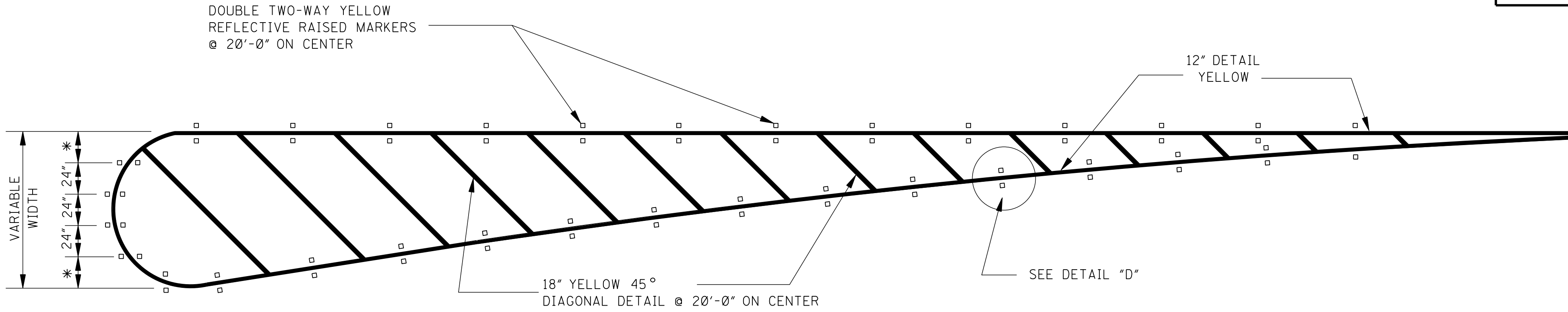
GENERAL NOTES:

- \* 1. A PORTION OF THE PAVEMENT MARKING SYMBOL SHOULD BE DIRECTLY OPPOSITE THE ADVANCE WARNING SIGN (W10-1).
- \* \* 2. WIDTH OF R X R SYMBOL MAY VARY ACCORDING TO LANE WIDTH. HOWEVER, ON MULTI-LANE ROADS, THE TRANSVERSE BANDS AND STOP LINE SHOULD EXTEND ACROSS ALL APPROACH LANES, AND INDIVIDUAL R X R SYMBOLS SHOULD BE USED IN EACH APPROACH LANE.
- 3. R X R SYMBOL (63.0 ft<sup>2</sup>), TRANSVERSE BANDS AND STOP LINE SHALL BE PAID FOR AS LEGEND, WHITE.
- \* \* \* 4. REFER TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" FOR LOCATION OF PROPOSED WARNING DEVICES AT RAILROAD-HIGHWAY GRADE CROSSINGS.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN	
				REVISION	<b>TYPICAL PLACEMENT OF WARNING SIGNS AND PAVEMENT MARKINGS AT RAILROAD HIGHWAY GRADE CROSSINGS</b>	
				DATE	ISSUE DATE: AUGUST 01, 2017	
					 WORKING NUMBER PM-7 SHEET NUMBER 6057	

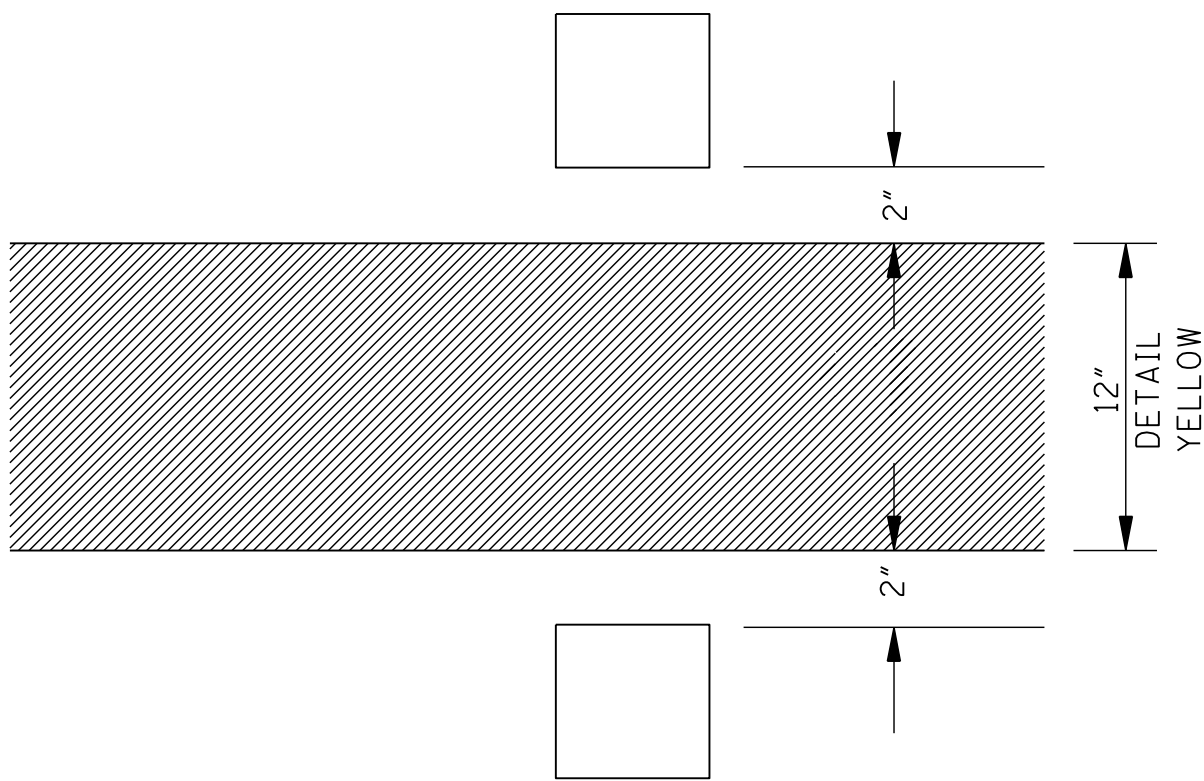


DETAIL F

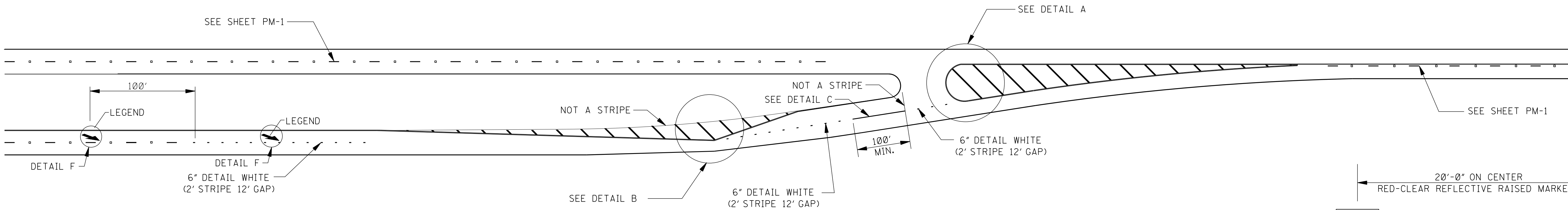


DETAIL A

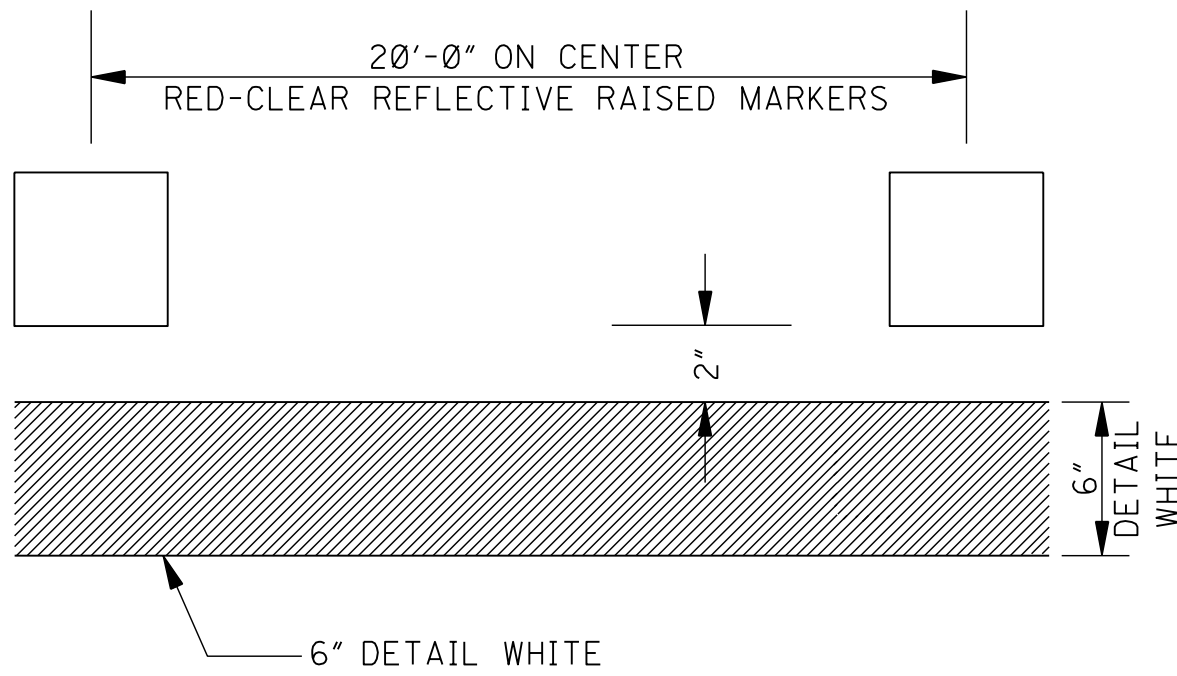
\* NOTE: VARIABLE (24" MAXIMUM)



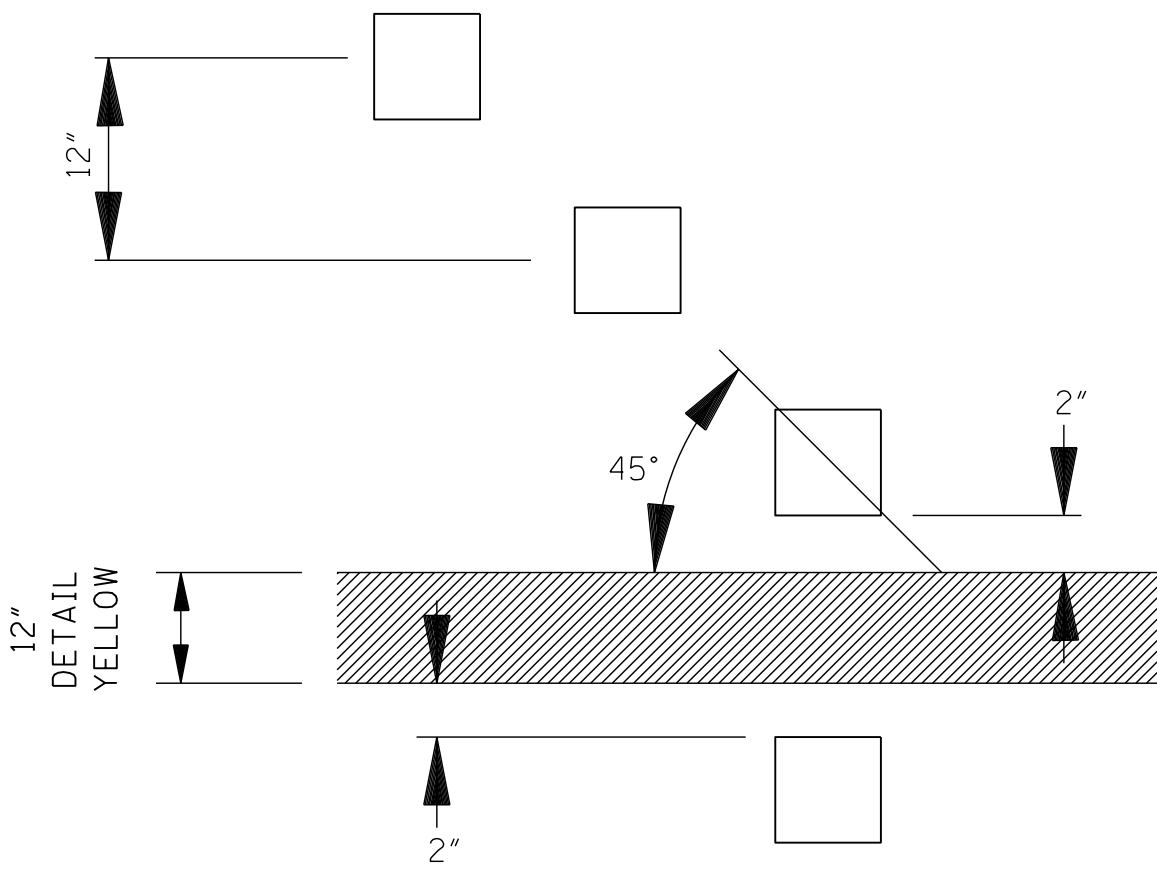
DETAIL D



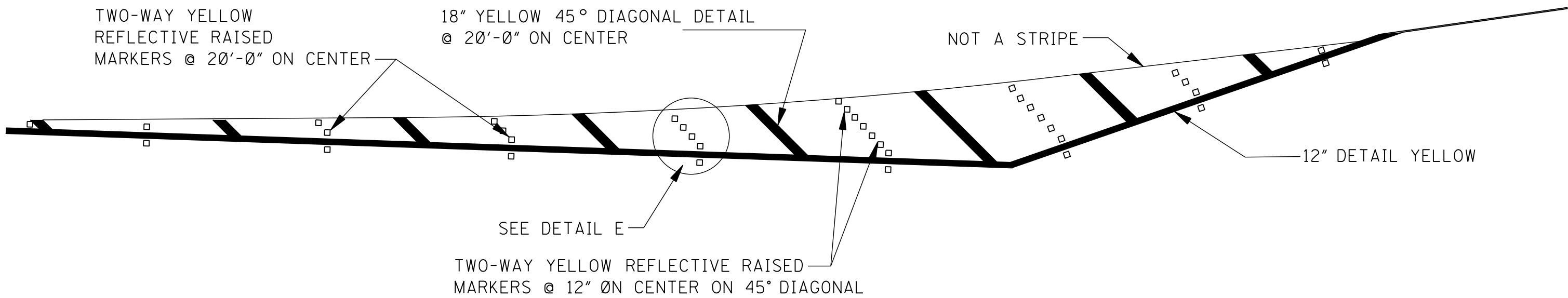
PLAN




DETAIL C



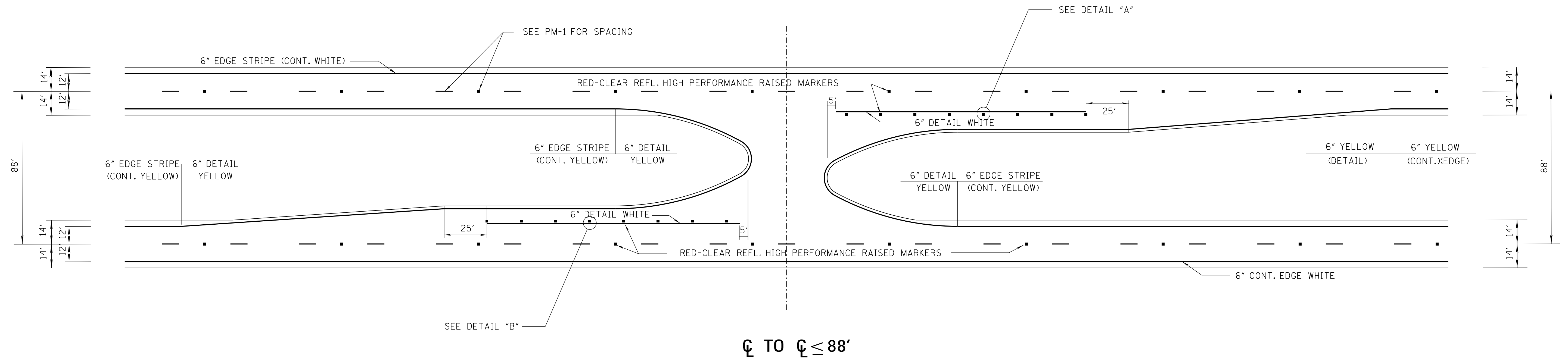
DETAIL E



DETAIL B

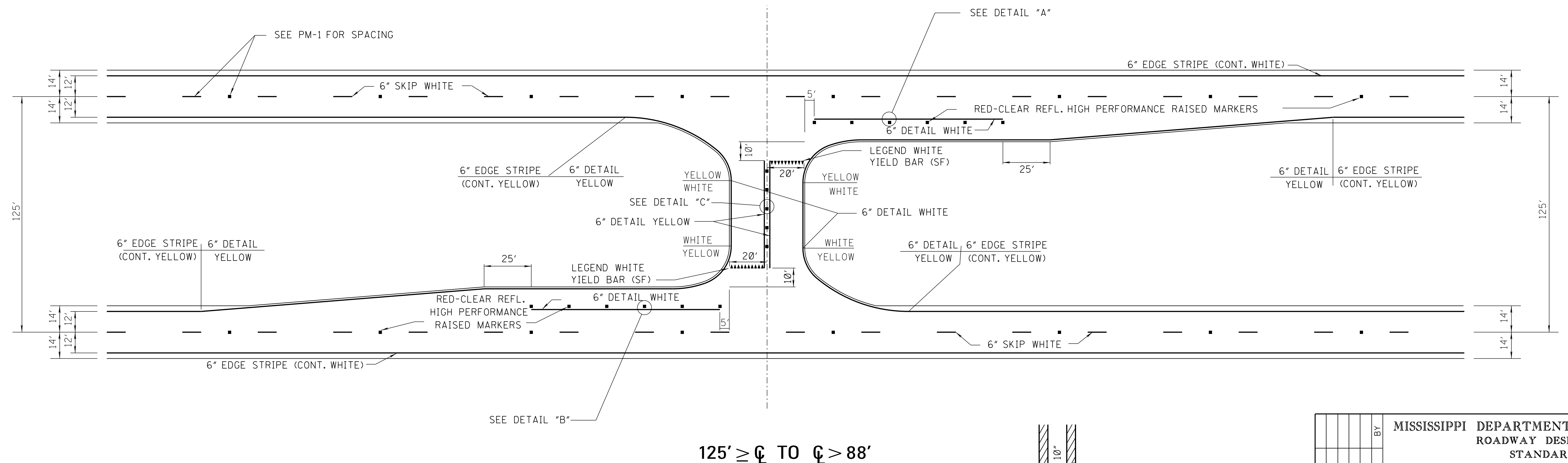
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>4-LANE TO 2-LANE TRANSITION AT INTERCHANGE</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					 WORKING NUMBER PM-8 SHEET NUMBER 6058



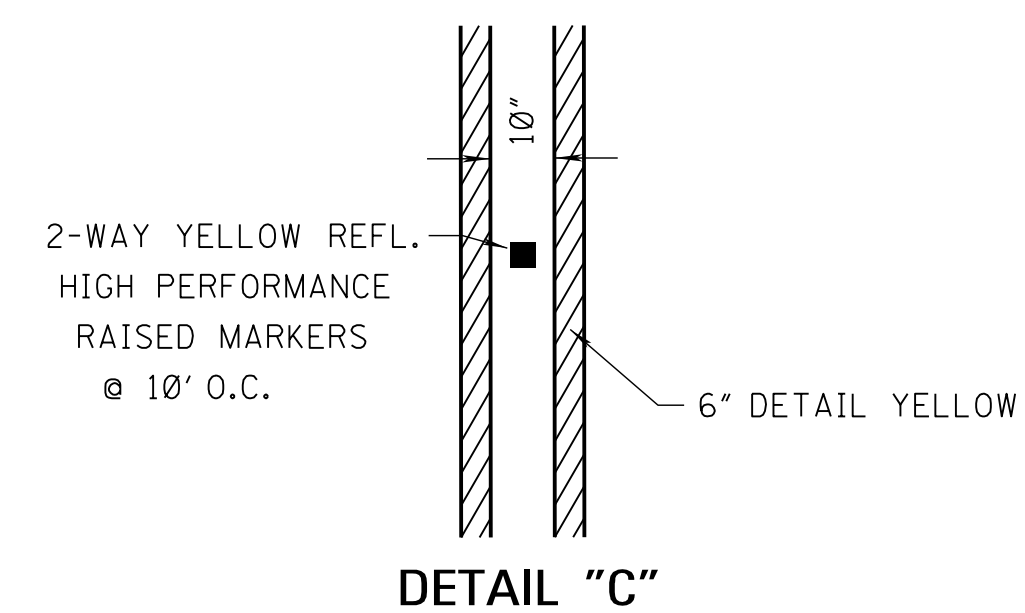
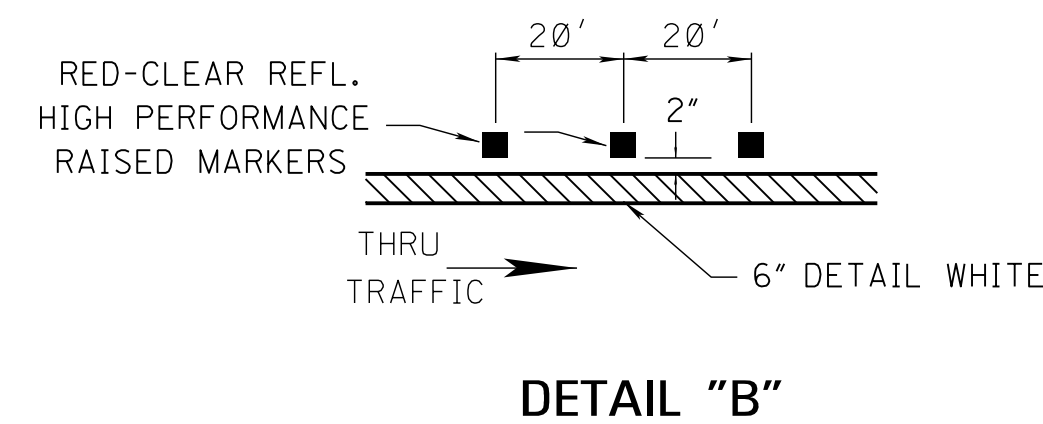
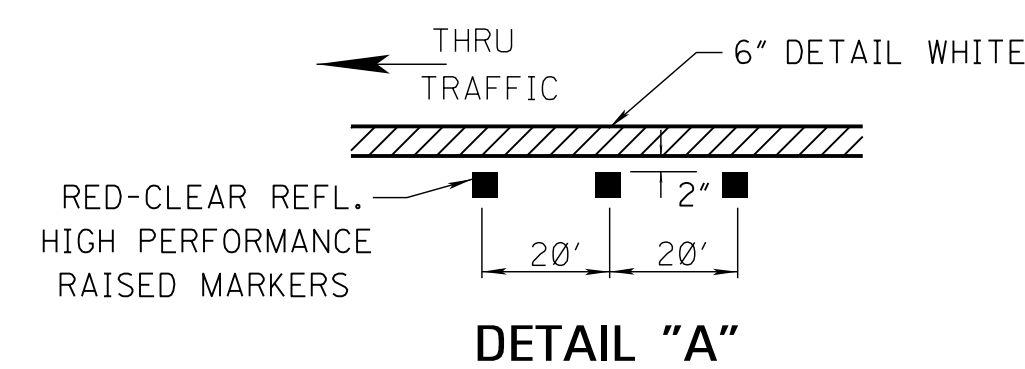


NOTE: FOR WIDER C TO C SPACINGS,  
REFER TO OTHER SHEETS IN PLANS

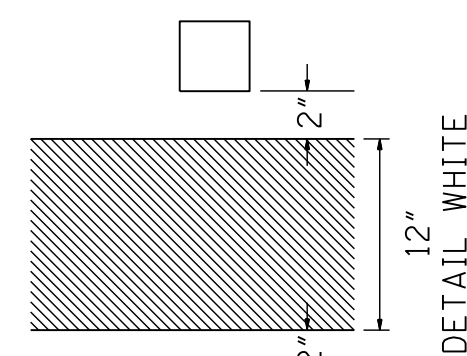
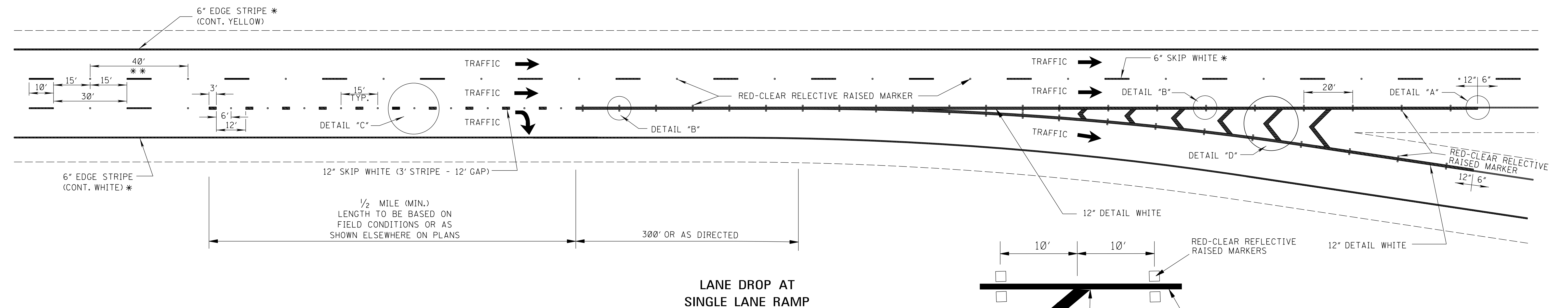
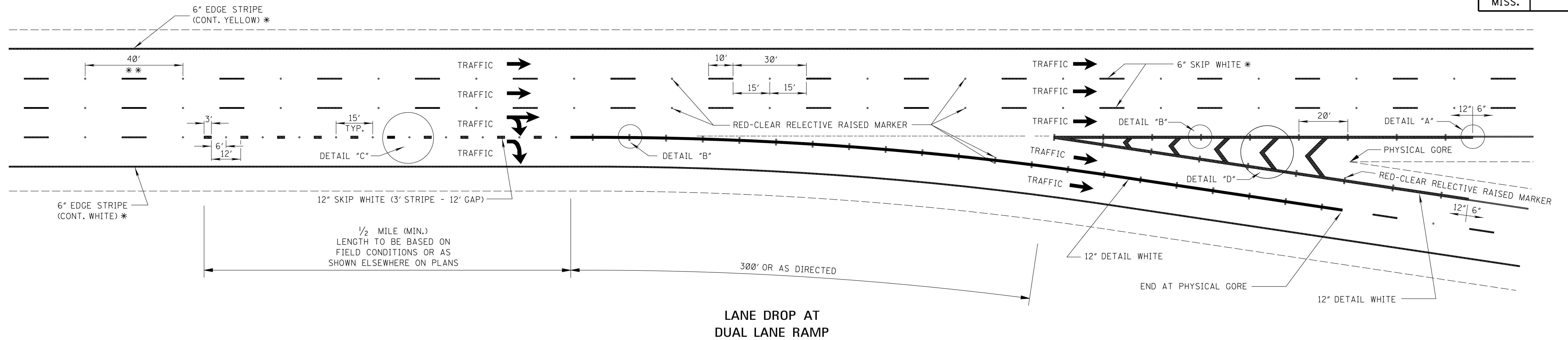
NOTE: SEE PM-6 FOR  
YIELD BAR DETAILS



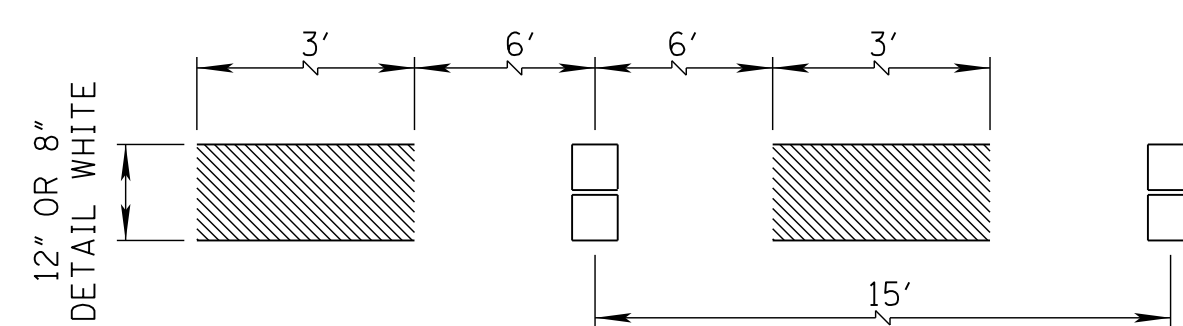
125' ≥ C TO C > 88'



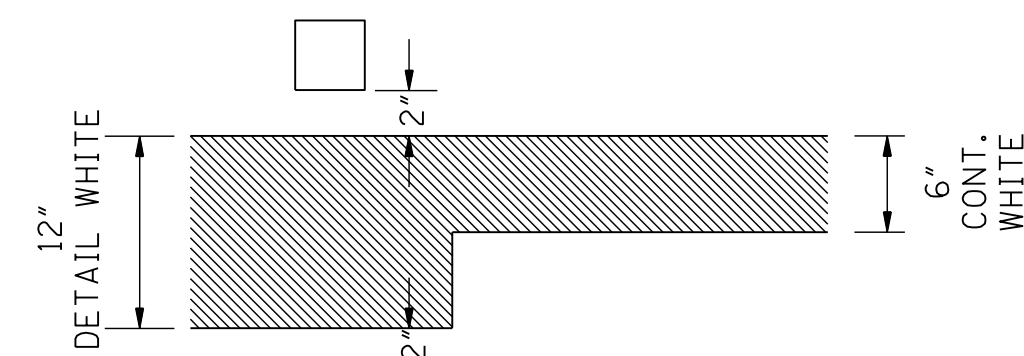
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>TYPICAL PAVEMENT MARKING DETAIL FOR MEDIAN CROSSOVERS</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					<b>MDOT</b> WORKING NUMBER PM-9 SHEET NUMBER 6059



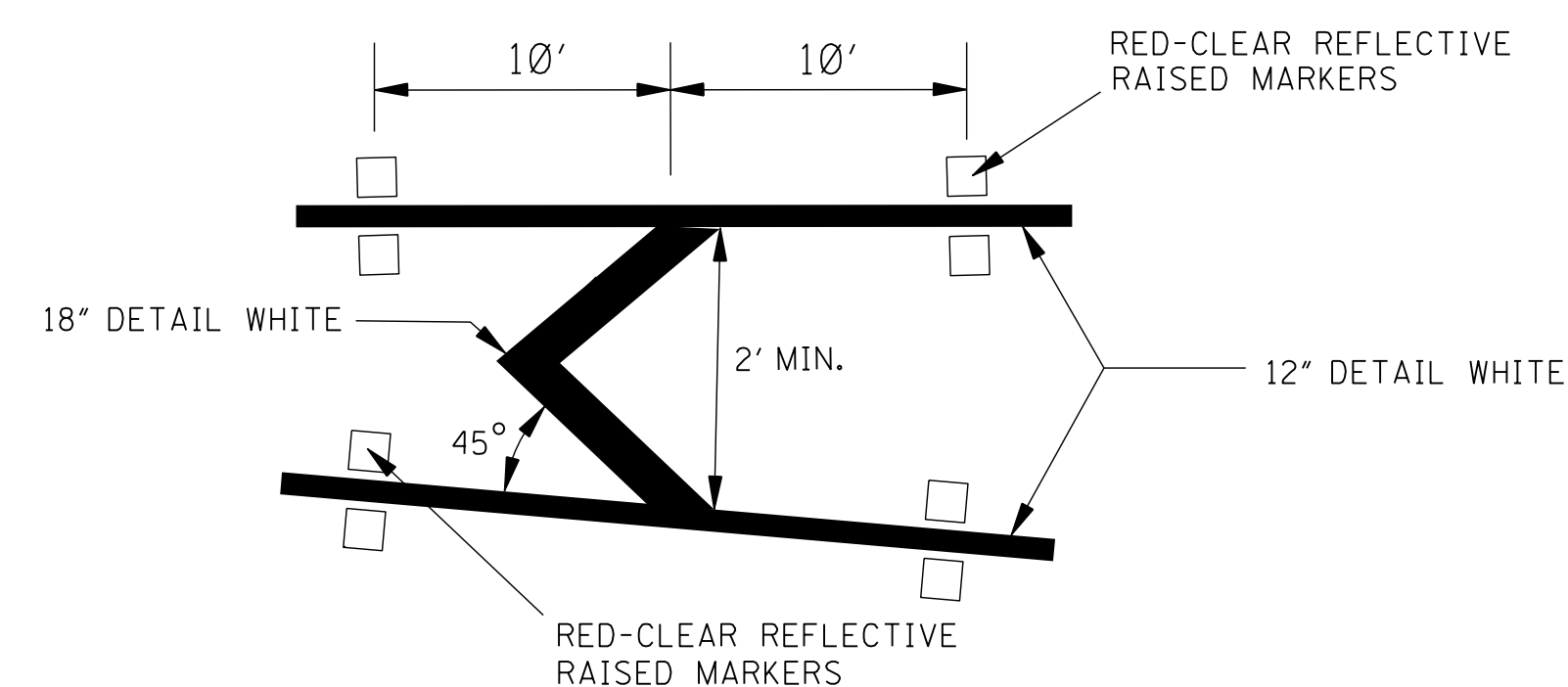
DETAIL B



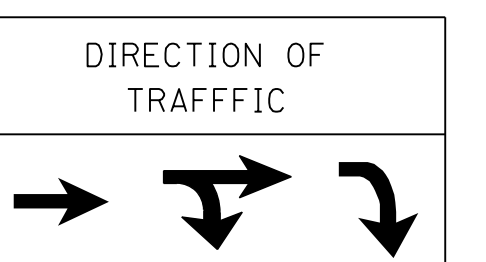
DETAIL C



DETAIL A



DETAIL D

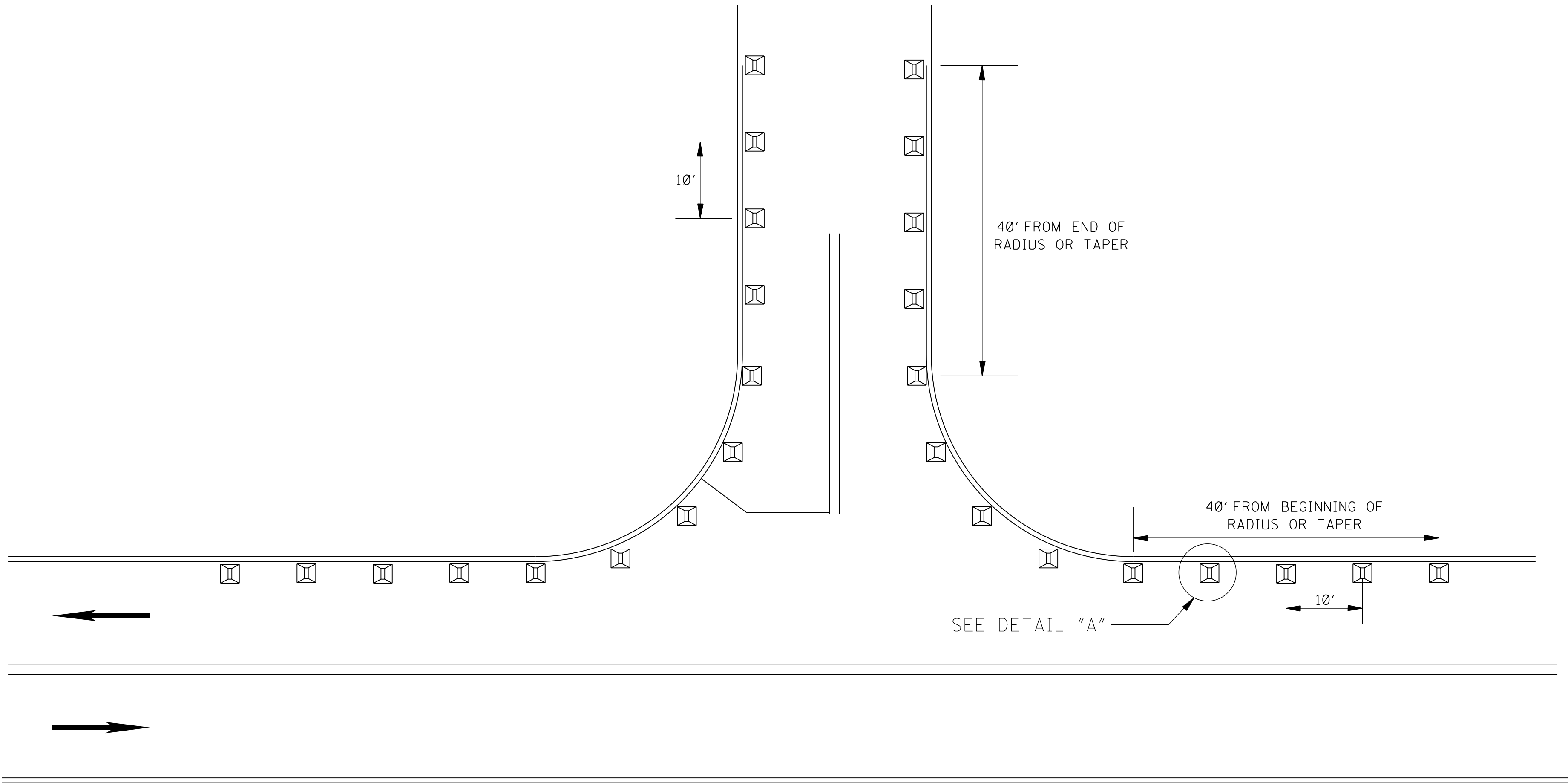


GENERAL NOTES:

- \* 1. SEE SHEET PM-1 FOR THE PLACEMENT OF LANE-LINE STRIPE WITH RESPECT TO THE PAVEMENT JOINT AND FOR THE PLACEMENT OF THE EDGE LINE WITH RESPECT TO THE OUTSIDE EDGE OF THE TRAVELED WAY.
- \*\* 2. ON THE MAIN FACILITY, REFLECTIVE RED-CLEAR RAISED PAVEMENT MARKERS ON A 40'-0" SPACING WILL BE REQUIRED ON LANE-LINE(S) THROUGH ALL INTERCHANGE AREAS BEGINNING 1000' IN ADVANCE (IN DIRECTION OF TRAFFIC) OF THE EXIT RAMP TAPER AND CONTINUING THROUGH THE INTERCHANGE TO THE END OF THE ENTRANCE RAMP TAPER.
- 3. PAVEMENT MARKERS SHALL BE HIGH PERFORMANCE REFLECTIVE RAISED PAVEMENT MARKERS AS LISTED IN THE MDOT "APPROVED SOURCES OF MATERIALS".

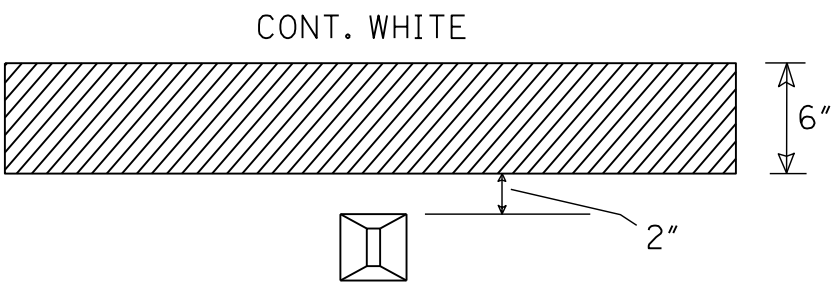
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>PAVEMENT MARKING DETAILS FOR INTERCHANGE WITH LANE DROPS</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					WORKING NUMBER PM-10 SHEET NUMBER 6060

TYPICAL PLACEMENT OF RAISED PAVEMENT  
MARKERS ON SIDE ROAD RADIUS  
2-LANE, TWO WAY TRAFFIC



GENERAL NOTES:

1. MARKERS SHALL BE VISIBLE FROM THE TRAVELING MOTORIST ON STATE DESIGNATED HIGHWAYS.
2. MARKERS SHALL BE HIGH PERFORMANCE TWO-WAY CLEAR.
3. MARKERS SHALL NOT BE ROTATED WHEN BEING PLACED ALONG RADIUS AND TANGENT SECTION OF LOCAL ROAD.
4. MARKERS SHALL BE INSTALLED AT SIMPLE AND CHANNELIZED INTERSECTIONS TO THE LIMITS SHOWN ABOVE.



DETAIL A

→ DIRECTION OF TRAFFIC

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	
				ISSUE DATE:	AUGUST 01, 2017

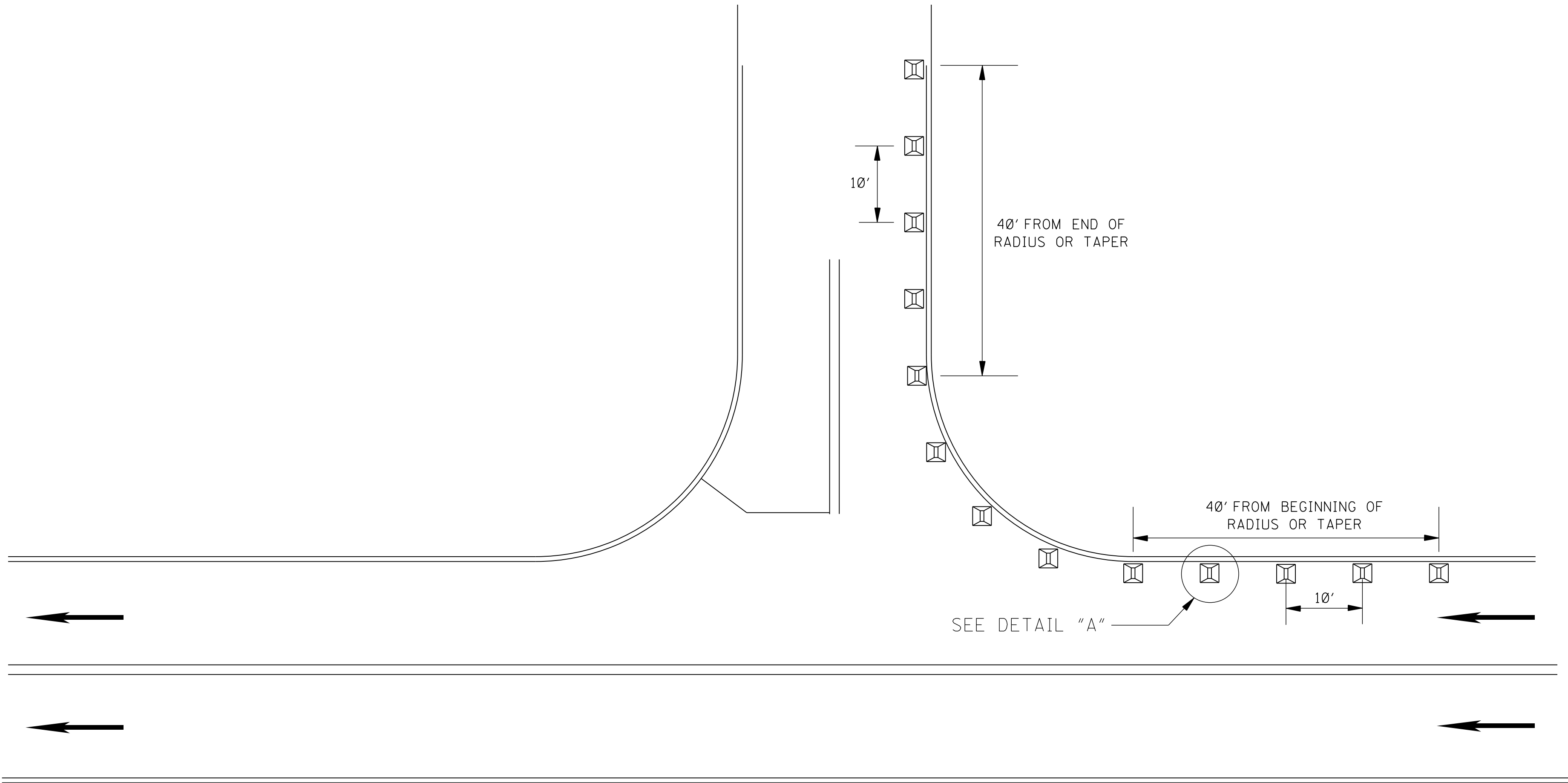
**2-WAY RAISED  
PAVEMENT MARKERS  
AT INTERSECTING  
ROADS (2-LANE)**

**MDOT**  
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

WORKING NUMBER  
PM-11

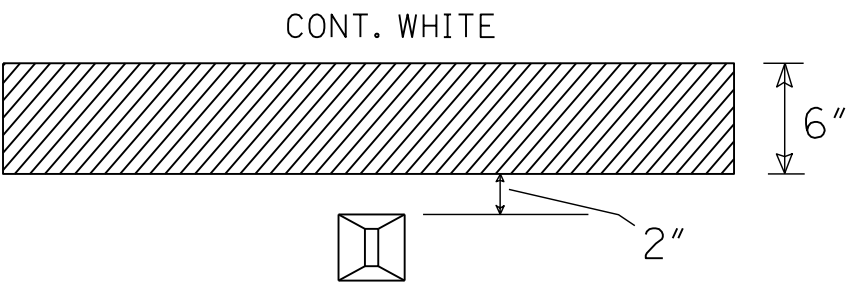
SHEET NUMBER  
6061

TYPICAL PLACEMENT OF RAISED PAVEMENT  
MARKERS ON SIDE ROAD RADIUS  
4-LANE, TWO WAY TRAFFIC



GENERAL NOTES:

1. MARKERS SHALL BE VISIBLE FROM THE TRAVELING MOTORIST ON STATE DESIGNATED HIGHWAYS.
2. MARKERS SHALL BE HIGH PERFORMANCE TWO-WAY CLEAR.
3. MARKERS SHALL NOT BE ROTATED WHEN BEING PLACED ALONG RADIUS AND TANGENT SECTIONS OF LOCAL ROAD.
4. MARKERS SHALL BE INSTALLED AT SIMPLE AND CHANNELIZED INTERSECTIONS TO THE LIMITS SHOWN ABOVE.




DETAIL A

→ DIRECTION OF TRAFFIC

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	
				ISSUE DATE:	AUGUST 01, 2017

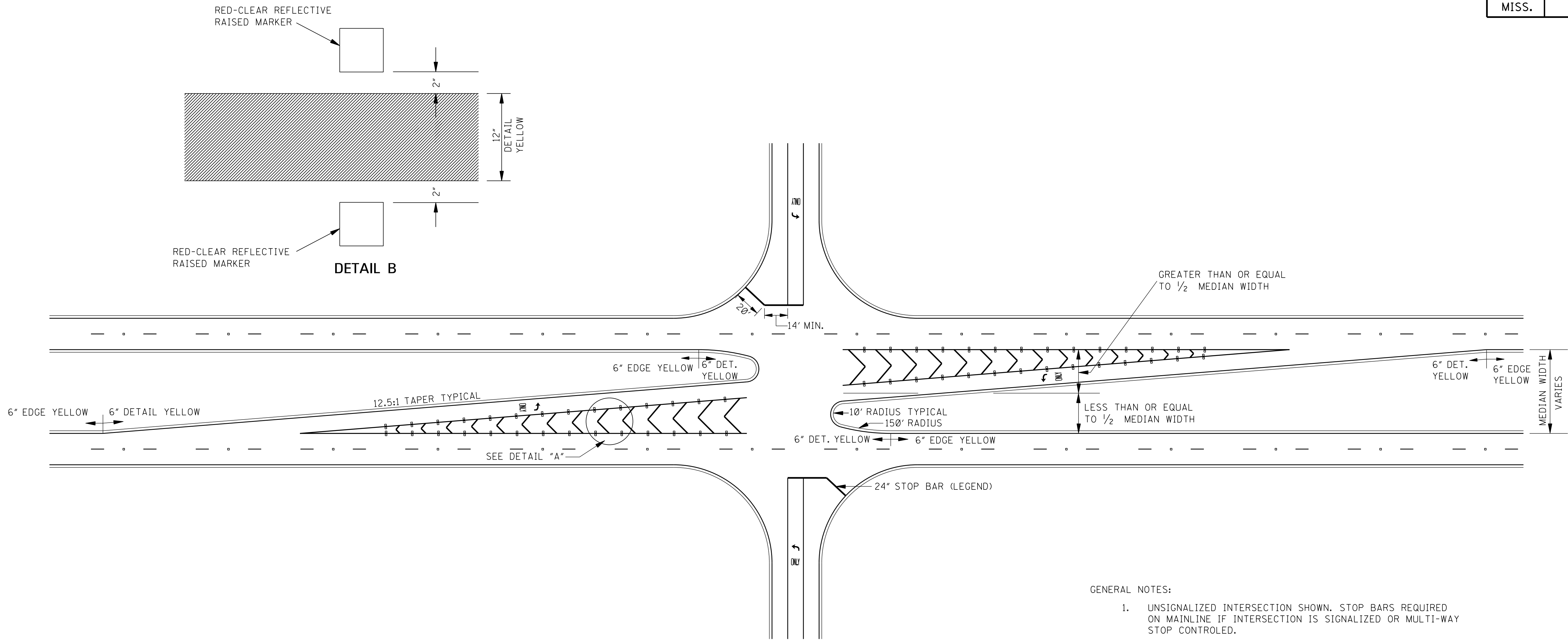
**2-WAY RAISED  
PAVEMENT MARKERS  
AT INTERSECTING  
ROADS (4-LANE)**



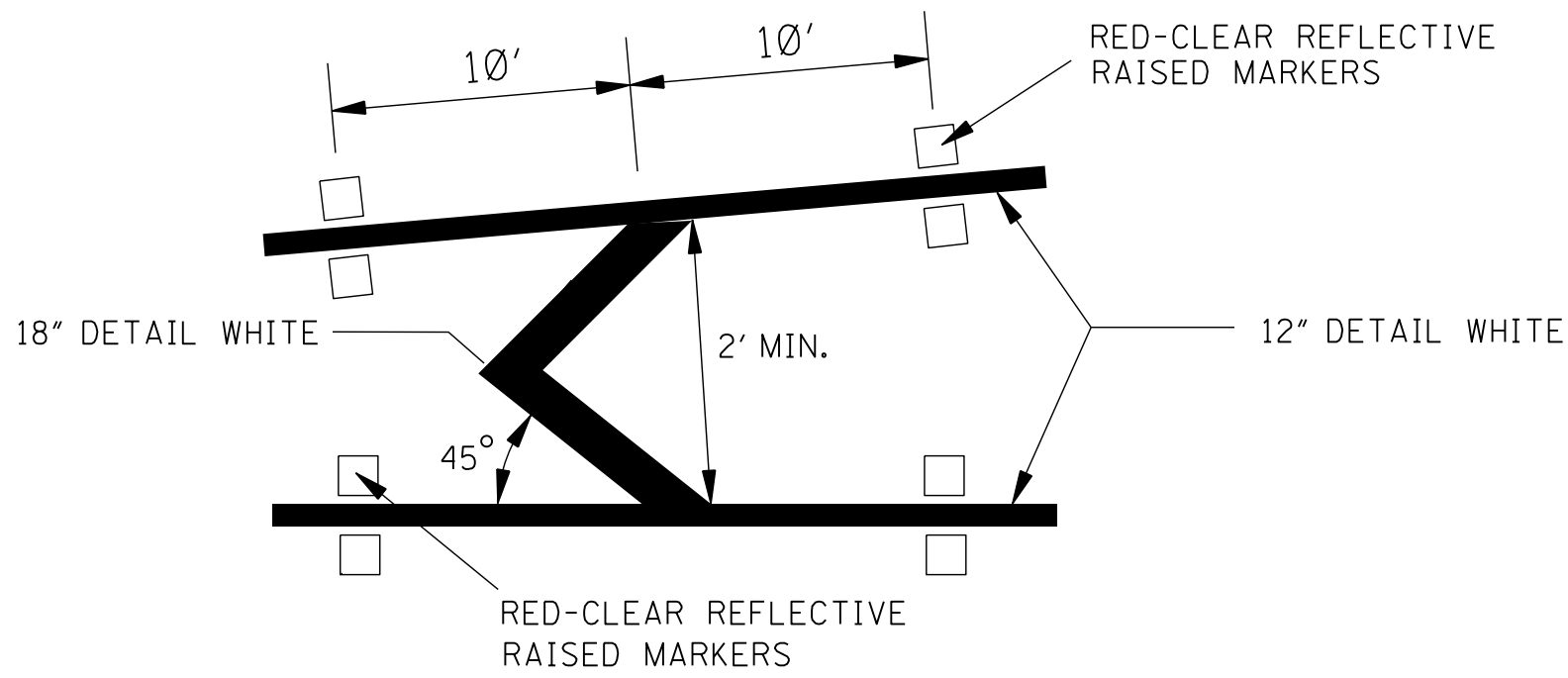
WORKING NUMBER  
PM-12

SHEET NUMBER  
6062

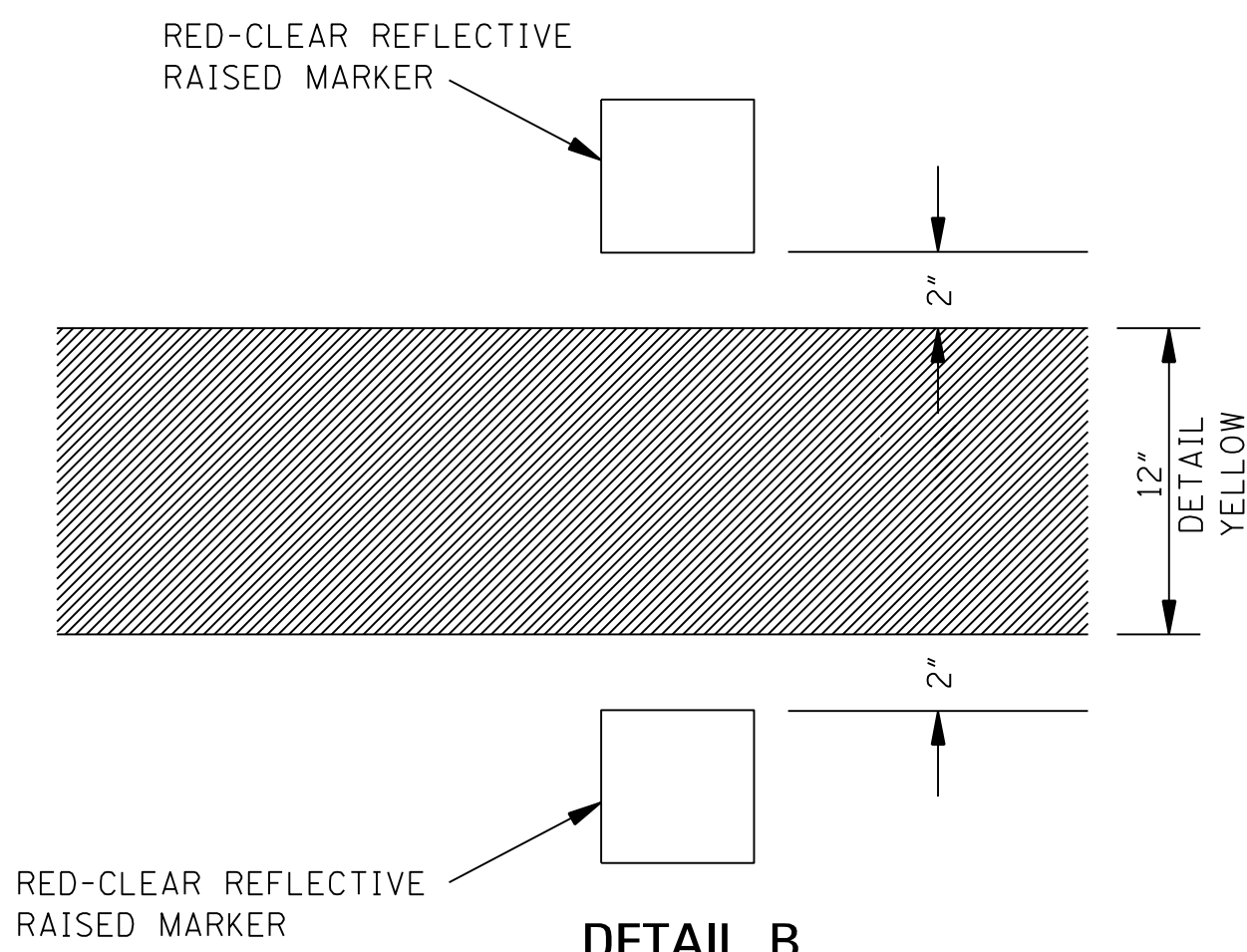




- GENERAL NOTES:
1. UNSIGNALIZED INTERSECTION SHOWN. STOP BARS REQUIRED ON MAINLINE IF INTERSECTION IS SIGNALIZED OR MULTI-WAY STOP CONTROLLED.
  2. SEE WK. NOS. PM-1, PM-3 and PM-6 FOR OTHER DETAILS.
  3. TAPER LENGTH VARIES WITH MEDAIN WIDTH.
  4. TAPERED OFFSET LEFT TURN LANE SHOWN. PARALLEL OFFSET LEFT TURN LANE PAVEMENT MARKINGS ARE SIMILAR.
  5. 3-LANE SIDE ROAD SHOWN. SEE PERMANENT PAVEMENT MARKING DETAIL SHEETS FOR SIDE ROAD PAVEMENT MARKING DETAILS.
  6. SEE PM-12 FOR INTERSECTING ROAD RAISED PAVEMENT MARKER PLACEMENT.




DETAIL A



DETAIL B

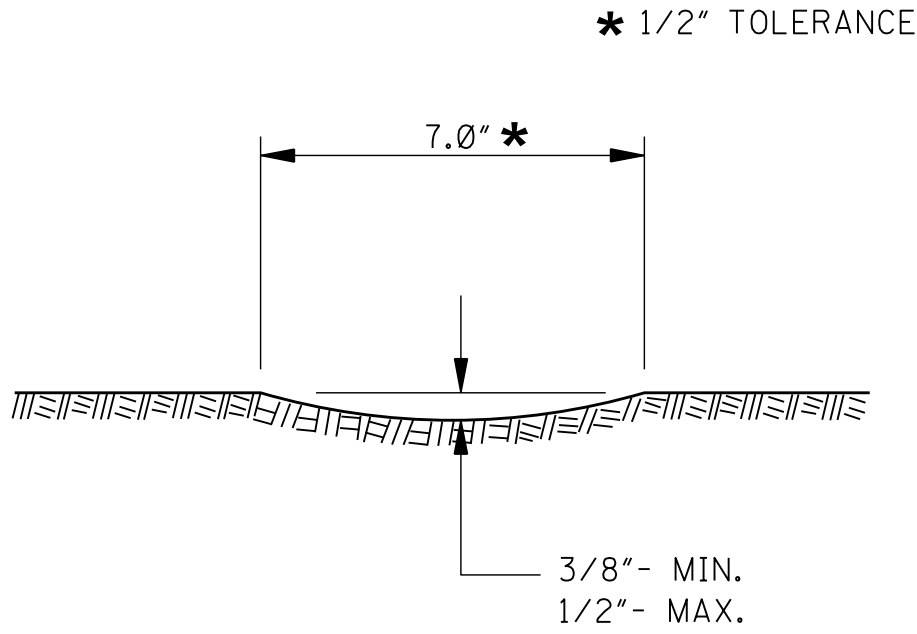
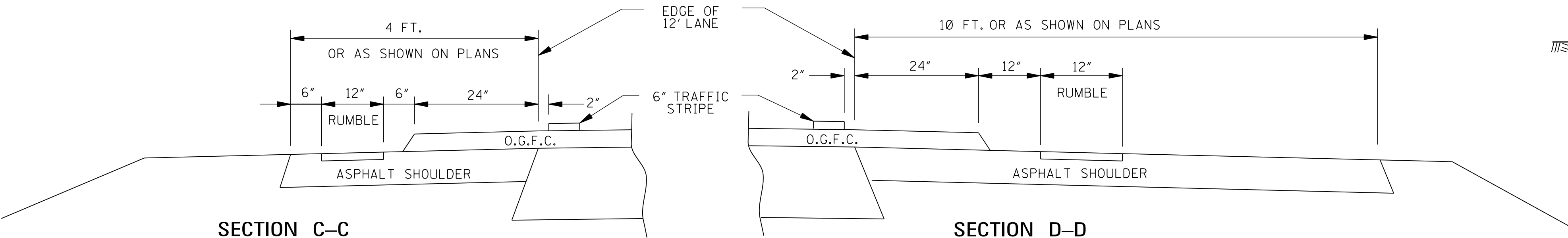
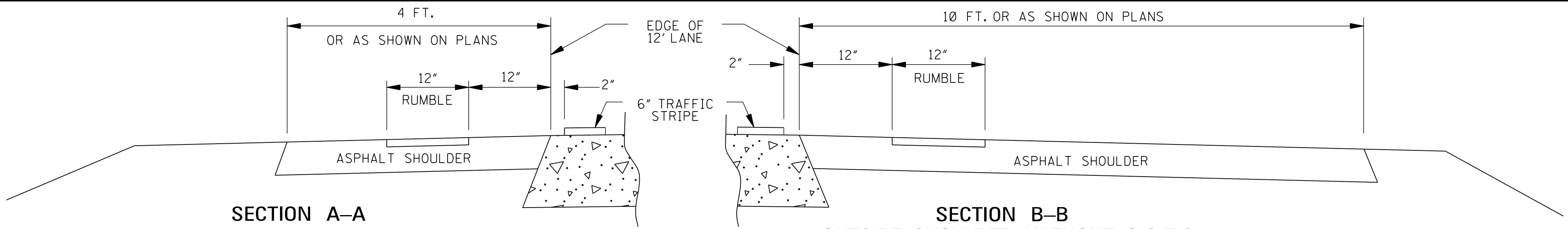
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	ISSUE DATE: AUGUST 01, 2017

**OFFSET LEFT  
TURN LANES**

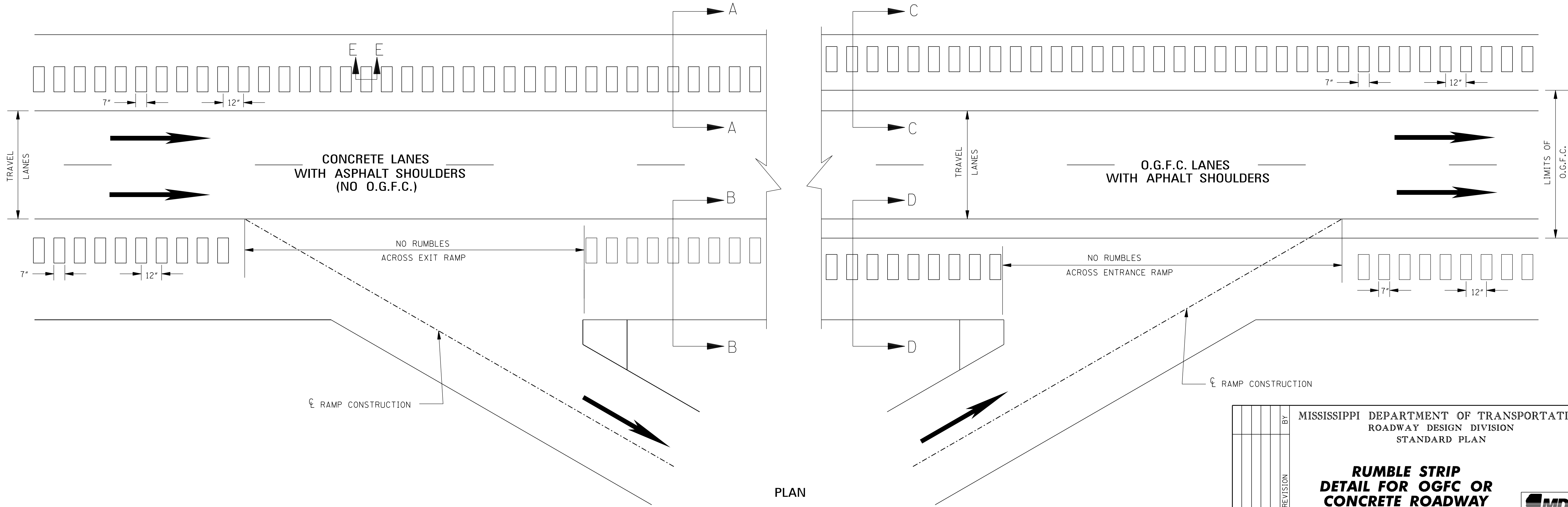
  
WORKING NUMBER  
PM-13  
SHEET NUMBER  
6063







- GENERAL NOTES
- GROUND-IN RUMBLE STRIPS SHALL BE APPLIED ON LEFT AND RIGHT SHOULDERS OF ALL PAVED SHOULDERS ON THIS PROJECT
  - GROUND-IN RUMBLE STRIPS SHALL BE OMITTED ACROSS PUBLIC INTERSECTING ROADWAYS OR OTHER INTERRUPTIONS IN NORMAL SHOULDER WIDTH AS DIRECTED BY THE ENGINEER
  - COST TO BE PAID FOR USING APPROPRIATE PAY ITEMS
  - GROUND-IN RUMBLE STRIPS SHALL BE APPLIED TO:
    - MAINLINE
    - INTERSECTING ROADWAY IF OVERLAID OR RECONSTRUCTED BEYOND NORMAL MAINLINE R.O.W.
    - ANY ROADWAY WITH EXISTING RUMBLE STRIPS PRIOR TO CONSTRUCTION.



PLAN

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	ISSUE DATE: AUGUST 01, 2017

**RUMBLE STRIP  
DETAIL FOR OGFC OR  
CONCRETE ROADWAY  
WITH ASPHALT SHOULDERS**

**MDOT**  
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

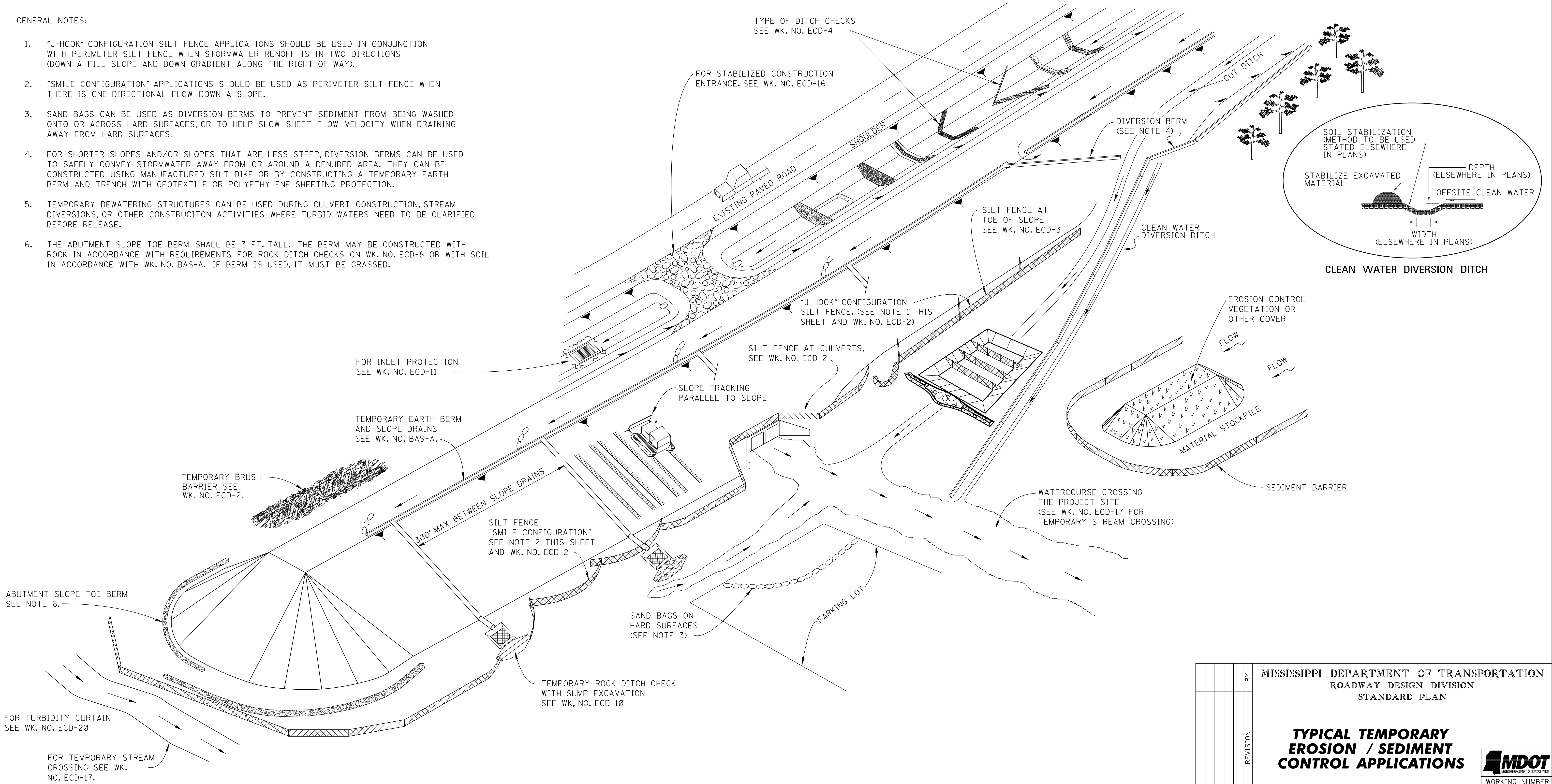
WORKING NUMBER  
RS-3


SHEET NUMBER  
6066

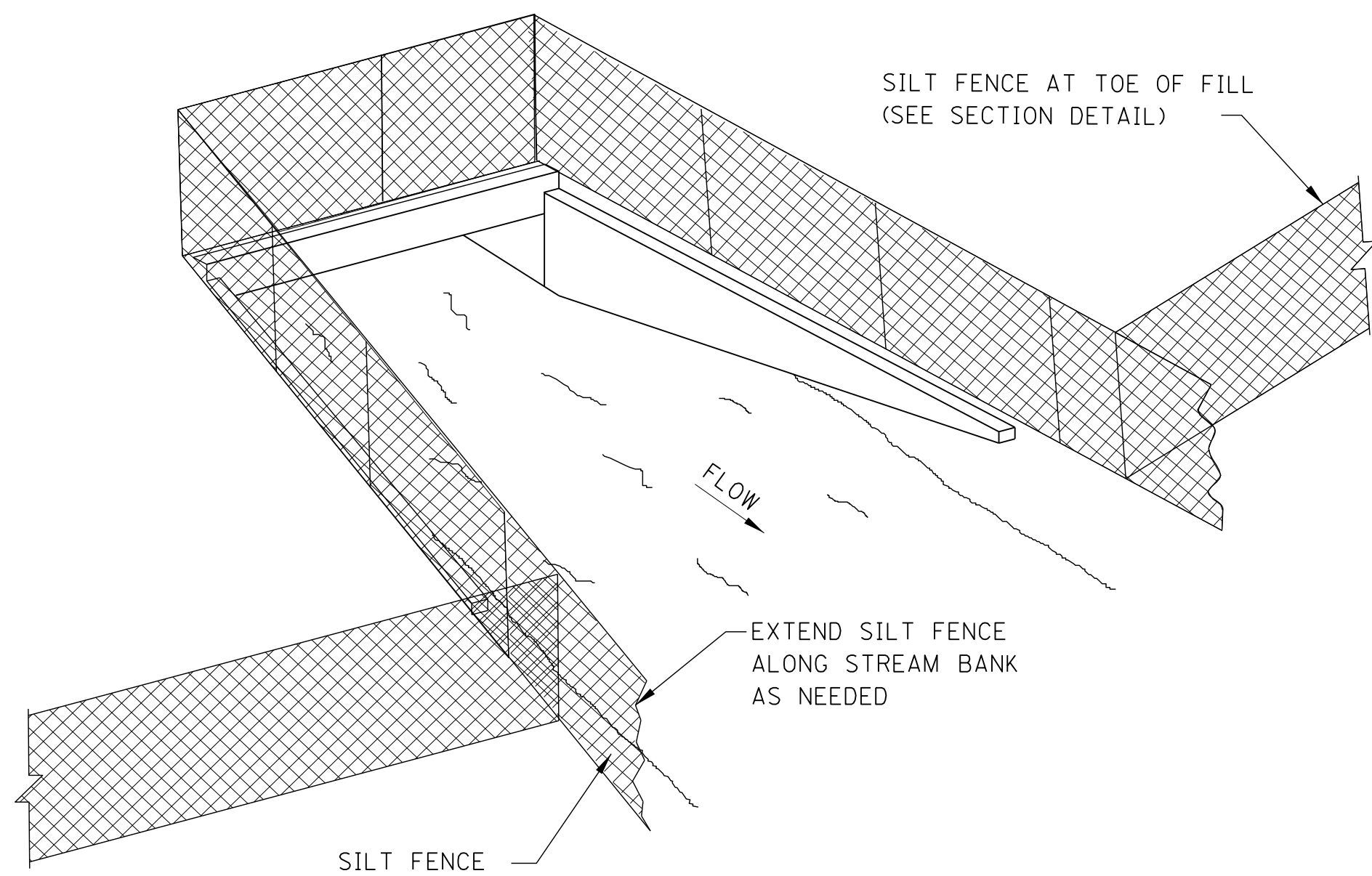


GENERAL NOTES:

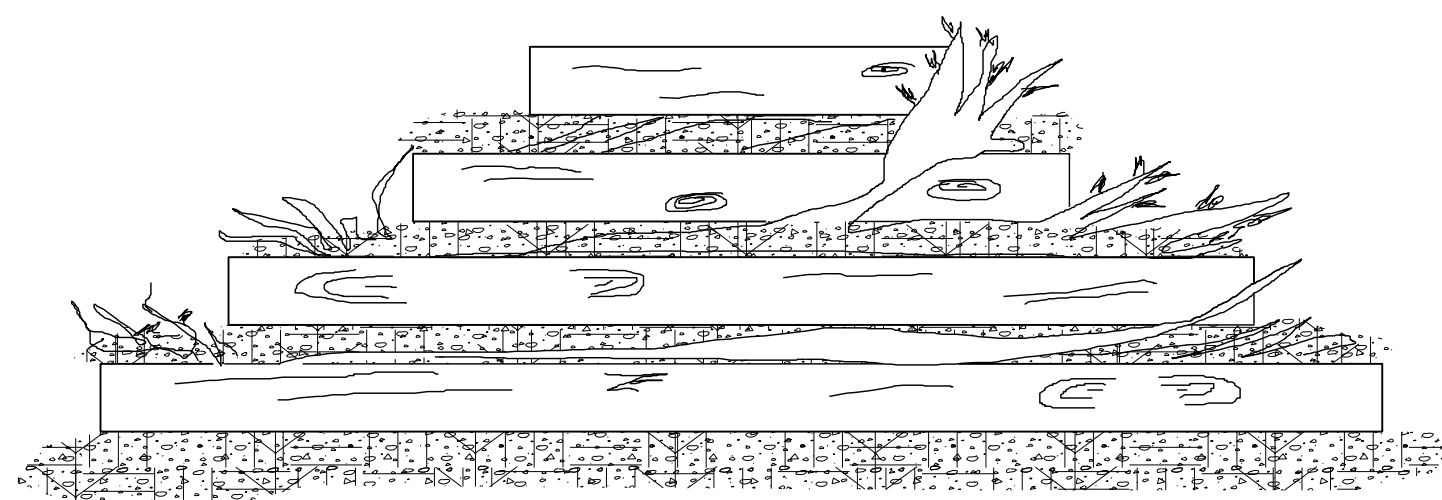
1. "J-HOOK" CONFIGURATION SILT FENCE APPLICATIONS SHOULD BE USED IN CONJUNCTION WITH PERIMETER SILT FENCE WHEN STORMWATER RUNOFF IS IN TWO DIRECTIONS (DOWN A FILL SLOPE AND DOWN GRADIENT ALONG THE RIGHT-OF-WAY).
2. "SMILE CONFIGURATION" APPLICATIONS SHOULD BE USED AS PERIMETER SILT FENCE WHEN THERE IS ONE-DIRECTIONAL FLOW DOWN A SLOPE.
3. SAND BAGS CAN BE USED AS DIVERSION BERM TO PREVENT SEDIMENT FROM BEING WASHED ONTO OR ACROSS HARD SURFACES, OR TO HELP SLOW SHEET FLOW VELOCITY WHEN DRAINING AWAY FROM HARD SURFACES.
4. FOR SHORTER SLOPES AND/OR SLOPES THAT ARE LESS STEEP, DIVERSION BERMS CAN BE USED TO SAFELY CONVEY STORMWATER AWAY FROM OR AROUND A DENUDED AREA. THEY CAN BE CONSTRUCTED USING MANUFACTURED SILT DIKE OR BY CONSTRUCTING A TEMPORARY EARTH BERM AND TRENCH WITH GEOTEXTILE OR POLYETHYLENE SHEETING PROTECTION.
5. TEMPORARY DEWATERING STRUCTURES CAN BE USED DURING CULVERT CONSTRUCTION, STREAM DIVERSIONS, OR OTHER CONSTRUCTION ACTIVITIES WHERE TURBID WATERS NEED TO BE CLARIFIED BEFORE RELEASE.
6. THE ABUTMENT SLOPE TOE BERM SHALL BE 3 FT. TALL. THE BERM MAY BE CONSTRUCTED WITH ROCK IN ACCORDANCE WITH REQUIREMENTS FOR ROCK DITCH CHECKS ON WK. NO. ECD-8 OR WITH SOIL IN ACCORDANCE WITH WK. NO. BAS-A. IF BERM IS USED, IT MUST BE GRASSED.



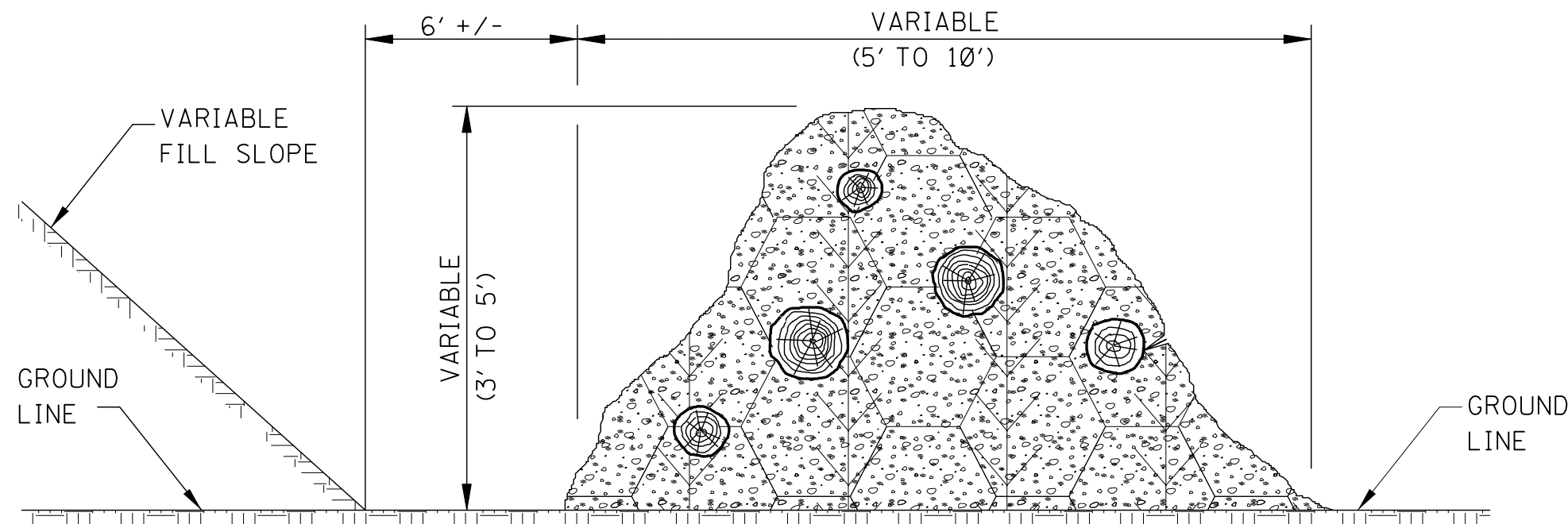
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION
					ROADWAY DESIGN DIVISION
					STANDARD PLAN
				REVISION	<b>TYPICAL TEMPORARY EROSION / SEDIMENT CONTROL APPLICATIONS</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					 WORKING NUMBER ECD-1 SHEET NUMBER 6101



SEDIMENT BARRIER AT CROSS DRAIN



FRONT ELEVATION

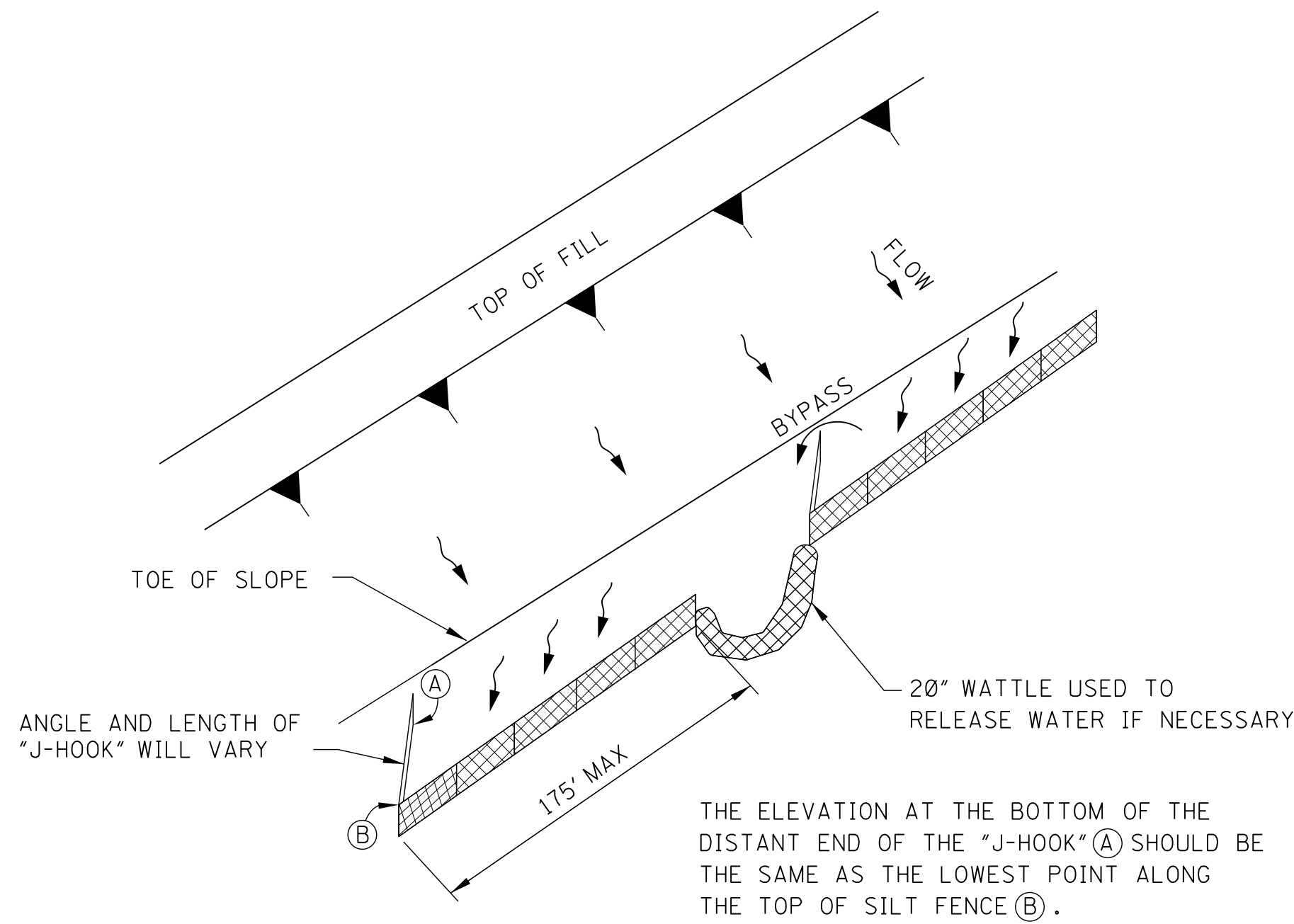


SIDE ELEVATION

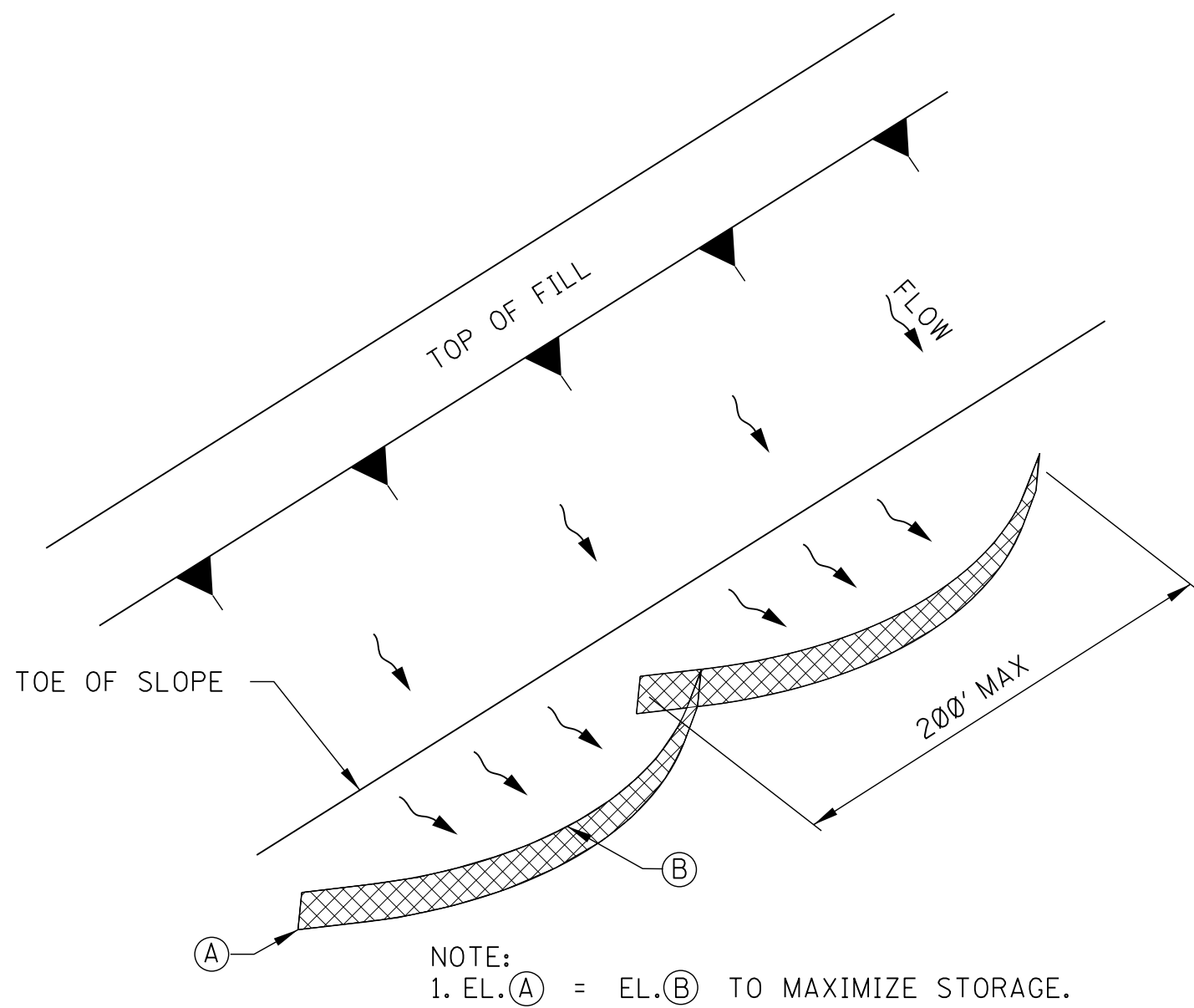
TEMPORARY BRUSH BARRIER

- NOTES:
- BRUSH BARRIER MAY BE USED WHERE NATURAL GROUND IS LEVEL OR SLOPING AWAY FROM PROJECT.
  - PLACE BRUSH, LOG AND TREE LAPS APPROXIMATELY PARALLEL TO TOE OF FILL SLOPE WITH SOME OF THE HEAVIER MATERIALS BEING PLACED ON TO TO PROPERLY SECURE THE BARRIER AS DETAILED AT LOCATIONS SHOWN ON PLANS OR AS DIRECTED OR PERMITTED BY THE ENGINEER.
  - TO ALLOW WATER TO SEEP THROUGH BRUSH BARRIER, INTERMINGLE THE BRUSH, LOG AND TREE LAPS SO AS NOT TO FORM A SOLID DAM.
  - THE BRUSH BARRIER MAY BE CHOKED WITH FILTER FABRIC. THE COST OF FABRIC TO BE INCLUDED IN OTHER ITEMS BID.
  - TEMPORARY BRUSH BARRIER WILL NOT BE MEASURED FOR SEPARATE PAYMENT.

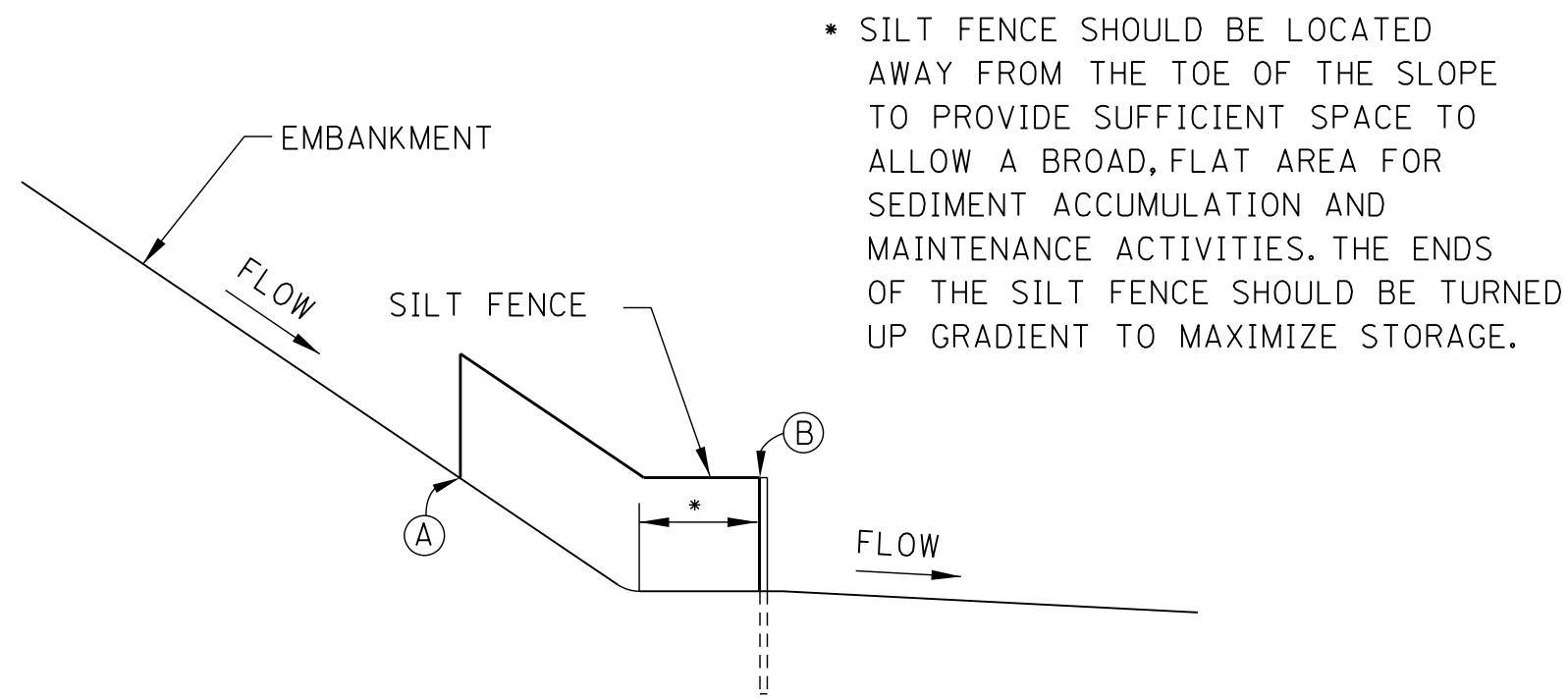
NOTE: ANCHOR AND INSTALL SILT FENCE PER DETAILS SHOWN ON WK. NO. ECD-3



"J-HOOK" SILT FENCE APPLICATION

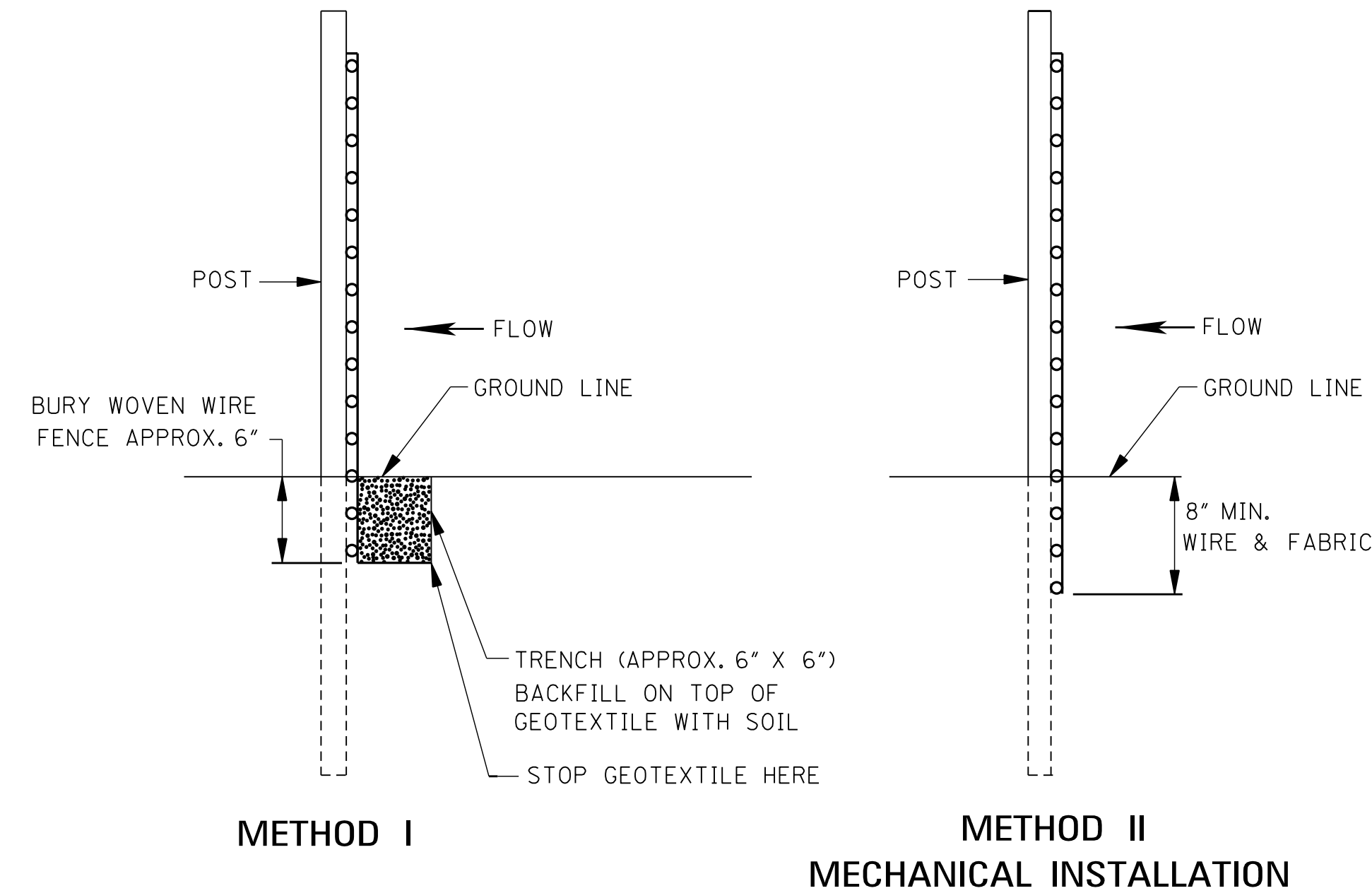
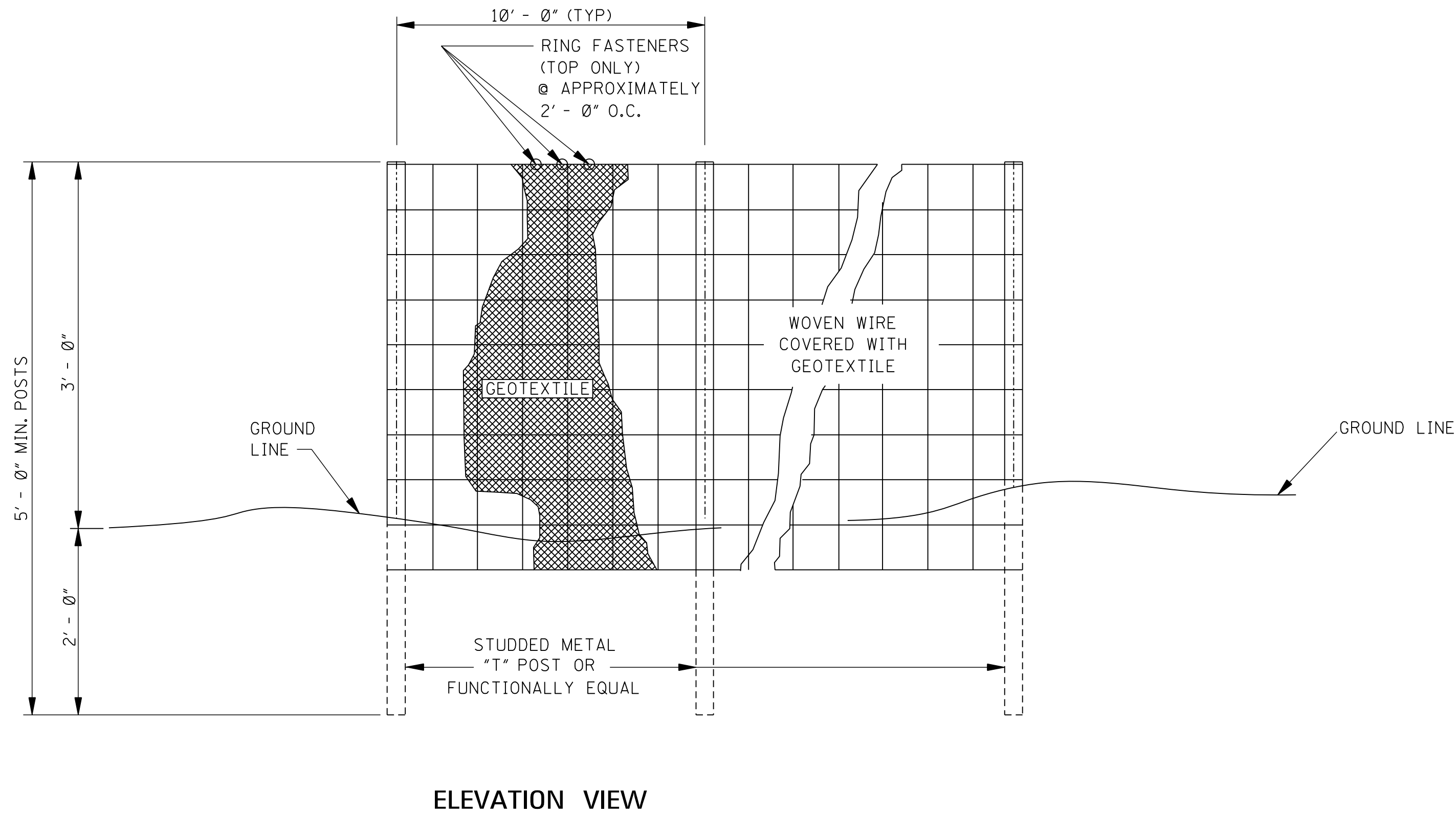


"SMILE-CONFIGURATION" SILT FENCE APPLICATION

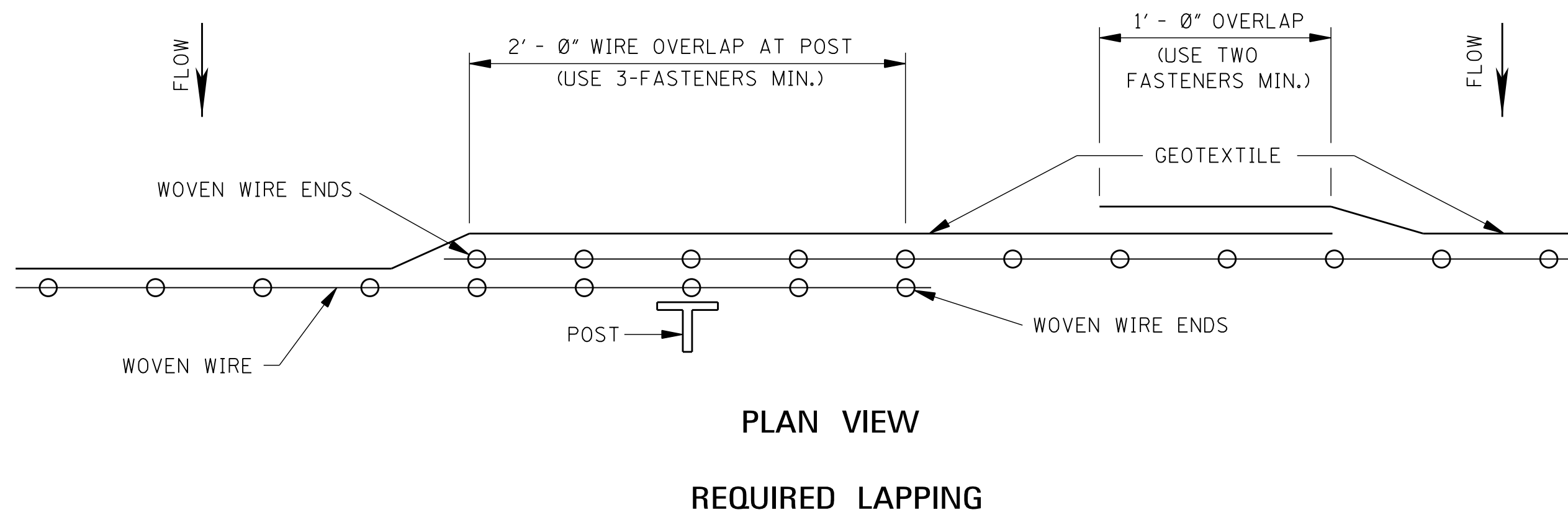


SILT FENCE SECTION AT TOE OF FILL

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>DETAILS OF SEDIMENT BARRIER APPLICATIONS</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					WORKING NUMBER ECD-2 SHEET NUMBER 6102



SIDE VIEW



GENERAL NOTES:

1. SILT FENCES SHOULD BE USED IN AREAS WHERE FLOW IS NOT SEVERE.
2. SILT FENCES ARE TEMPORARY SEDIMENT CONTROL ITEMS THAT SHOULD BE ERECTED OPPOSITE ERODIBLE AREAS SUCH AS NEWLY GRADED FILL SLOPES AND ADJACENT TO STEAMS AND CHANNELS.
3. SILT FENCE SHOULD BE PLACED WELL INSIDE RIGHT-OF-WAY AND ALONG EDGE OF CLEARING LIMITS. THIS WILL ALLOW ROOM FOR BACK-UP FENCE IF FIRST FENCE BECOMES FULL.
4. WHENEVER POSSIBLE SILT FENCE SHOULD BE CONSTRUCTED ACROSS A LEVEL AREA IN THE SHAPE OF A SMILE. THIS AIDS IN PONDING OF RUNOFF AN FACILITATES SEDIMENTATION.
5. THE CONTRACTOR MAY ELECT TO USE EITHER METHOD I OR METHOD II. COST TO BE LINEAR FEET OF SILT FENCE.
6. METHOD II INSTALLATION SHALL BE ACCOMPLISHED USING AN IMPLEMENT THAT IS MANUFACTURED FOR THE APPLICATION AND PROVIDES A CONFIGURATION MEETING THE REQUIREMENTS OF DETAIL.
7. WIRE SHALL BE A MINIMUM OF 32" IN WIDTH AND SHALL HAVE A MINIMUM OF 6 LINE WIRES WITH 12" STAY SPACING.
8. GEOTEXTILE FABRIC MEETING THE TYPE II MATERIAL REQUIREMENTS AND INSTALLED ACCORDING TO SPECIFICATION MAY BE USED WITHOUT WIRE FENCE.

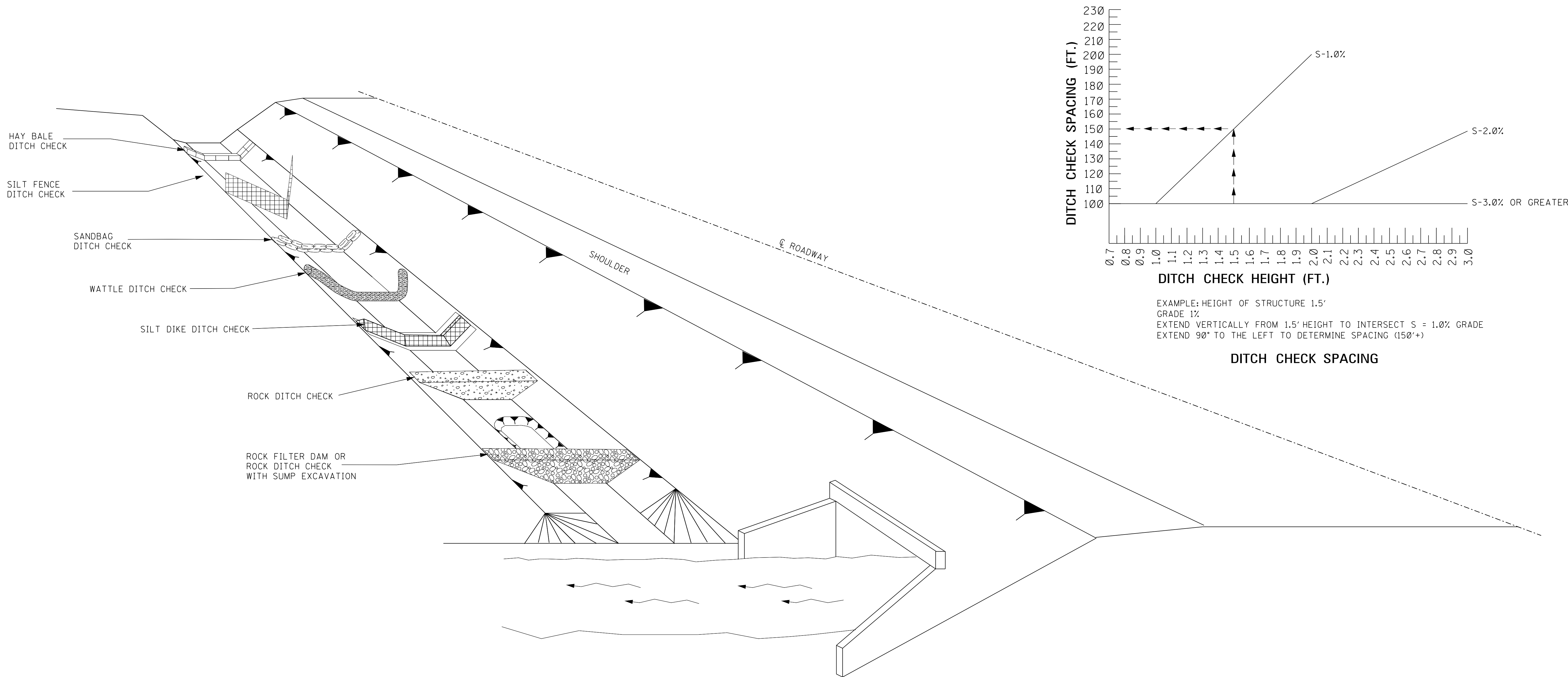
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	
				DATE	ISSUE DATE: AUGUST 01, 2017

**DETAILS OF SILT FENCE INSTALLATION**

**MDOT**  
MISSISSIPPI DEPARTMENT OF TRANSPORTATION


WORKING NUMBER  
ECD-3

SHEET NUMBER  
6103

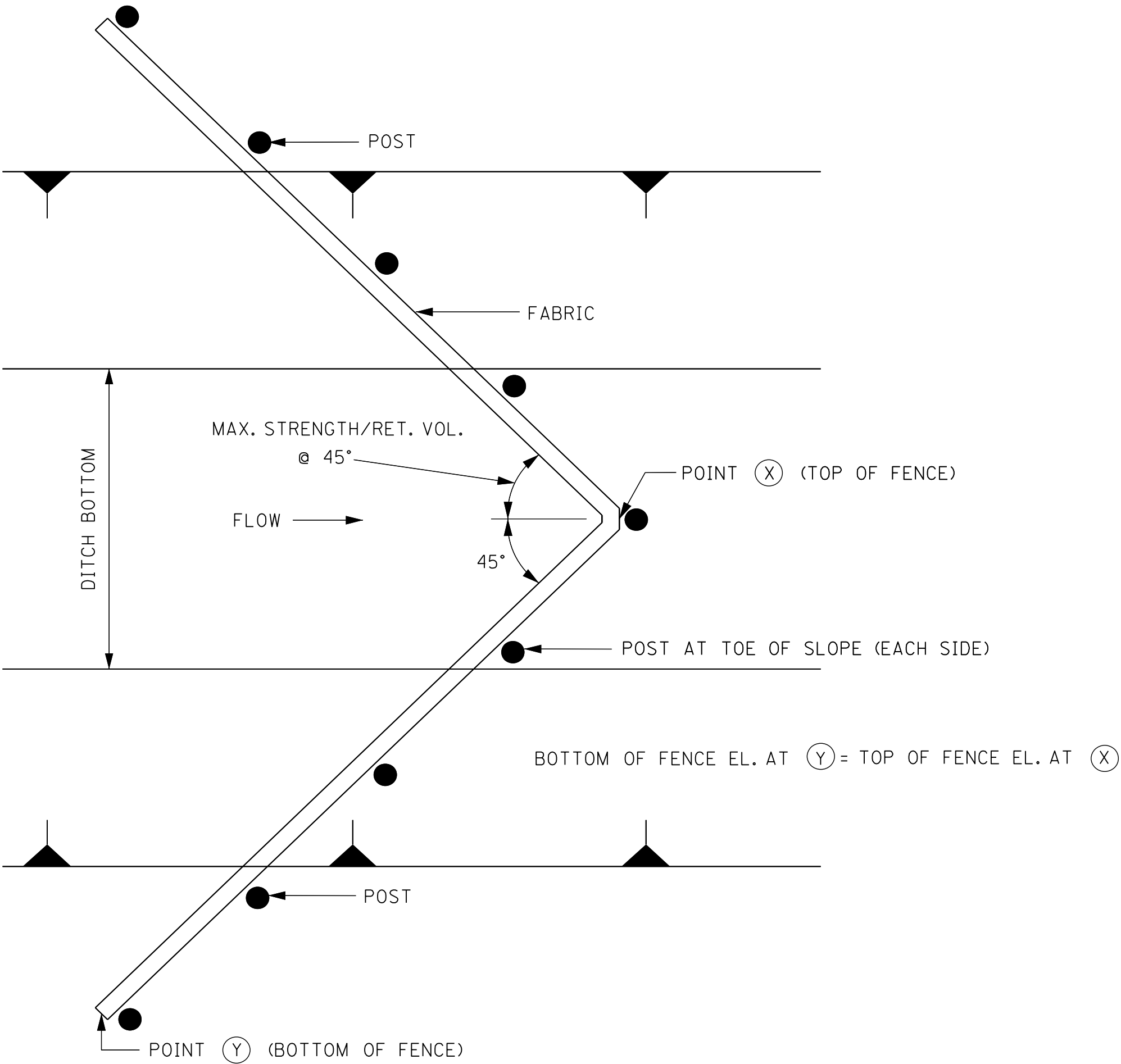


GENERAL NOTES:

1. THE DITCH CHECK PERSPECTIVE ILLUSTRATES A TOOL BOX OF TEMPORARY PRACTICES THAT MAY BE USED. DITCH CHECKS ARE INSTALLED TO CONTROL RUNOFF VELOCITY AND THUS REDUCE EROSION AND PROVIDE FOR TRAPPING OF SEDIMENTS.
2. SELECTION OF THE APPROPRIATE DITCH CHECK SHOULD BE A FUNCTION OF CONSTRUCTION PHASE, DRAINAGE AREA, DITCH GRADIENT, SOIL TYPE, ECONOMY AND SAFETY.
3. DITCH CHECKS CAN BE REMOVED FOR MAINTENANCE AND/OR REPLACEMENT BUT MUST REMAIN IN PLACE UNTIL UPSLOPE AREAS HAVE BEEN PERMANENTLY STABILIZED. MAINTENANCE INCLUDES REMOVAL OF SEDIMENT BEGINNING WHEN SEDIMENT ACCUMULATION REACHES  $\frac{1}{3}$  THE CAPACITY OR HEIGHT OF THE STRUCTURE AND NEVER ALLOWING FOR SEDIMENT TO ACCUMULATE MORE THAN  $\frac{1}{2}$  THE VOLUME OR HEIGHT OF THE DITCH CHECK STRUCTURE.
4. HAY BALES SHOULD BE USED TO INTERCEPT LOW VOLUME FLOWS IN LOW TO MODERATE GRADIENT DITCHES.
5. SILT FENCE DITCH CHECKS SHOULD BE USED WHERE IT HAS BEEN DETERMINED THAT HAY BALE CHECKS ARE INADEQUATE. SILT FENCE DITCH CHECKS SHOULD BE USED TO INTERCEPT LOW VOLUME FLOWS IN LOW TO MODERATE GRADIENT DITCHES.
6. SANDBAG DITCH CHECKS SHOULD BE USED FOR VELOCITY REDUCTION AND MINIMAL SEDIMENT TRAPPING IN CONCRETE PAVED DITCHES OR IN DITCHES THAT HAVE ROCK BOTTOMS.
7. WATTLE DITCH CHECKS CAN BE USED FOR VELOCITY REDUCTION AND CONTROL OF SEDIMENT TRANSPORT UNDER LOW TO MEDIUM FLOW CONDITIONS.
8. SILT DIKES CAN BE USED IN DITCHES WITH CONCENTRATED FLOWS WITHIN THE CLEAR ZONE WHERE RIPRAP CAN NOT BE USED, AS CONSTRUCTION PROGRESSES.
9. ROCK DITCH CHECKS WITH SUMP EXCAVATION CAN BE PLACED IN DITCHES TO ASSURE ON-SITE SEDIMENT TRAPPING REQUIREMENTS ARE MET. DITCH CHECK WITH SUMP EXCAVATION IS USED WHEN DITCHES RECEIVE DRAINAGE FROM CUT OR FILL SLOPES OR OTHER CRITICAL AREAS WHERE SOIL EROSION IS EXPECTED. DRAINAGE AREA FOR A TEMPORARY SEDIMENT TRAP SHOULD BE LIMITED TO 3 ACRES. THEY CAN BE USED IN SERIES TO INCREASE ON-SITE SEDIMENT TRAPPING EFFICIENCY.
10. DITCH CHECKS, IN NO CASE, SHALL BE PLACED IN LIVE STREAMS.
11. CONFIGURATION AND SPACING MAY BE ADJUSTED IF APPROVED BY THE ENGINEER TO ACCOMMODATE TRAVELWAY SAFETY, WATER FLOW, OR SOIL AND INSTALLATION CHALLENGES.

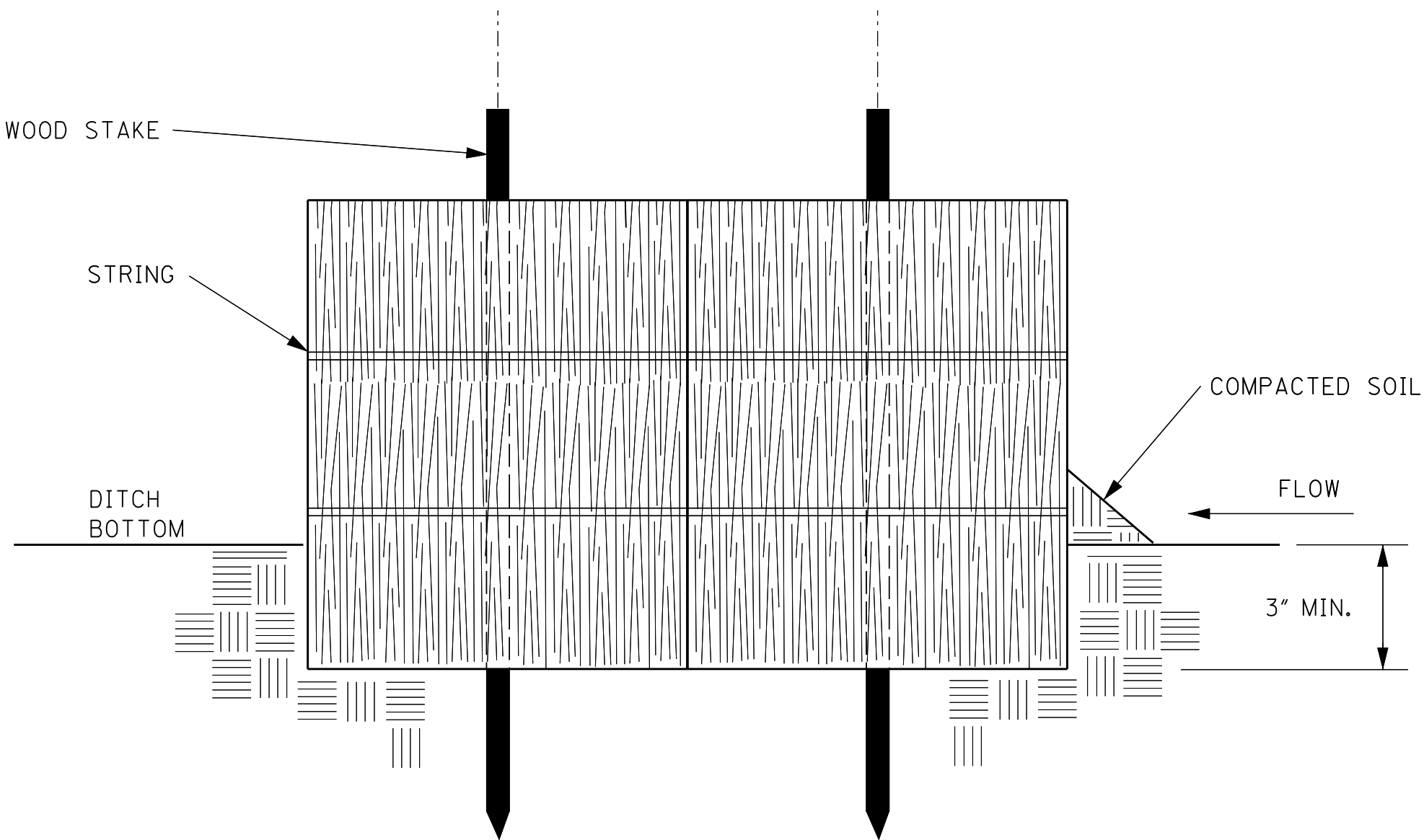
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN	
				REVISION		
				DATE	ISSUE DATE: AUGUST 01, 2017	
					<b>DITCH CHECK STRUCTURES, TYPICAL APPLICATIONS AND DETAILS</b>	
					 WORKING NUMBER ECD-4 SHEET NUMBER 6104	



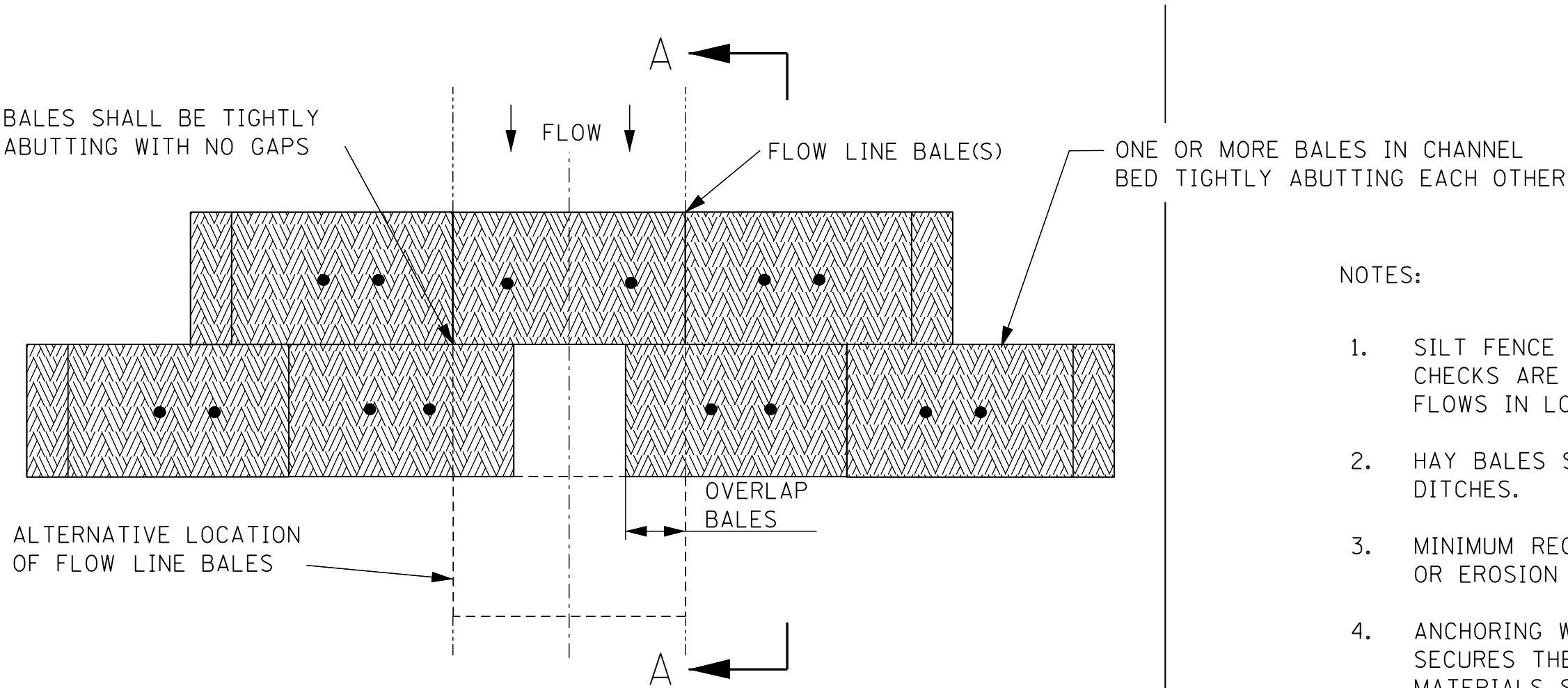


PLAN VIEW

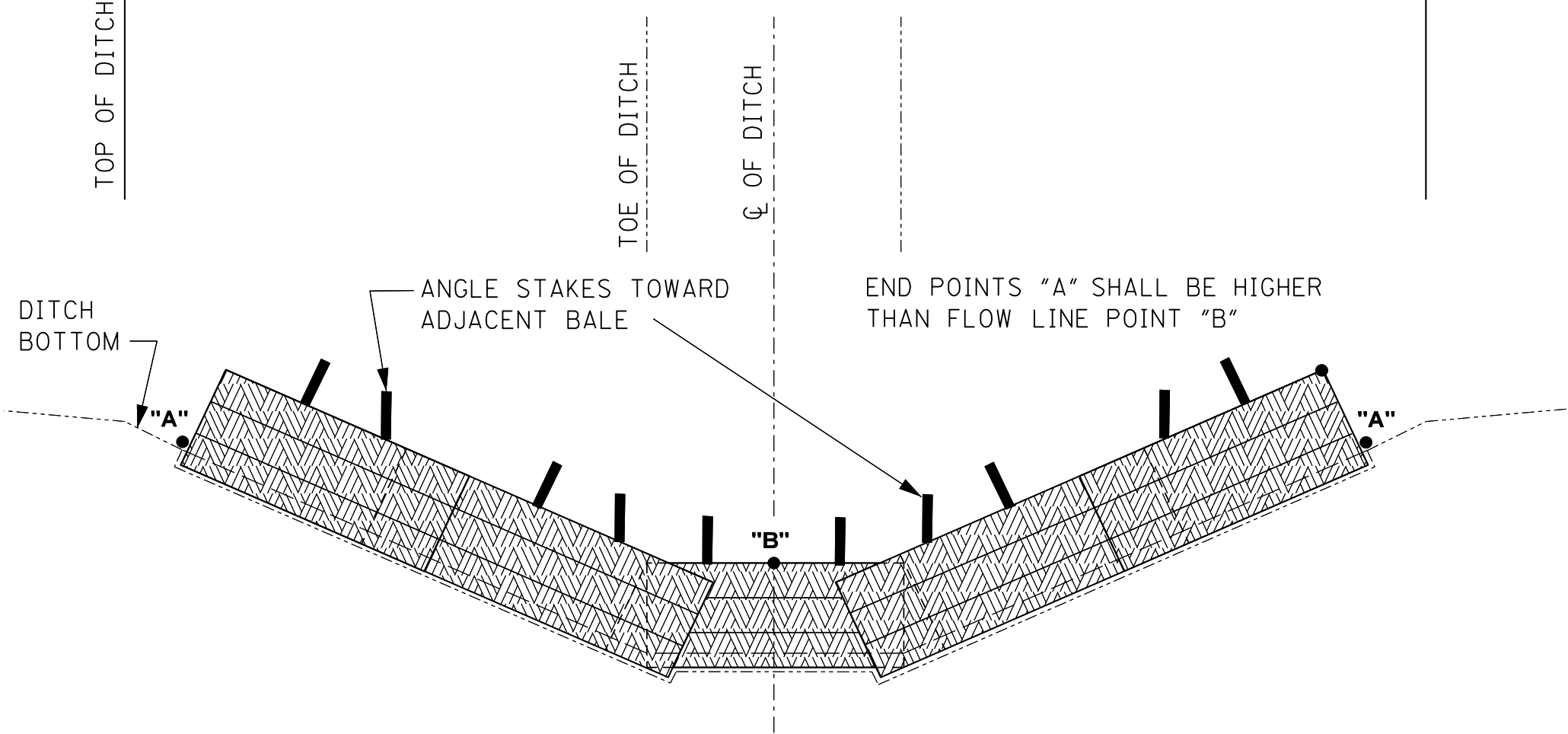
- NOTES:
1. ANCHOR AND INSTALL PER DETAILS FOR SILT FENCE SPACING GUIDELINES ON WK. NO. ECD-4.
  2. A "W" SHAPE MAY BE USED FOR WIDER DITCHES.



SECTION A-A




PLAN VIEW  
TRAPEZOIDAL DITCH

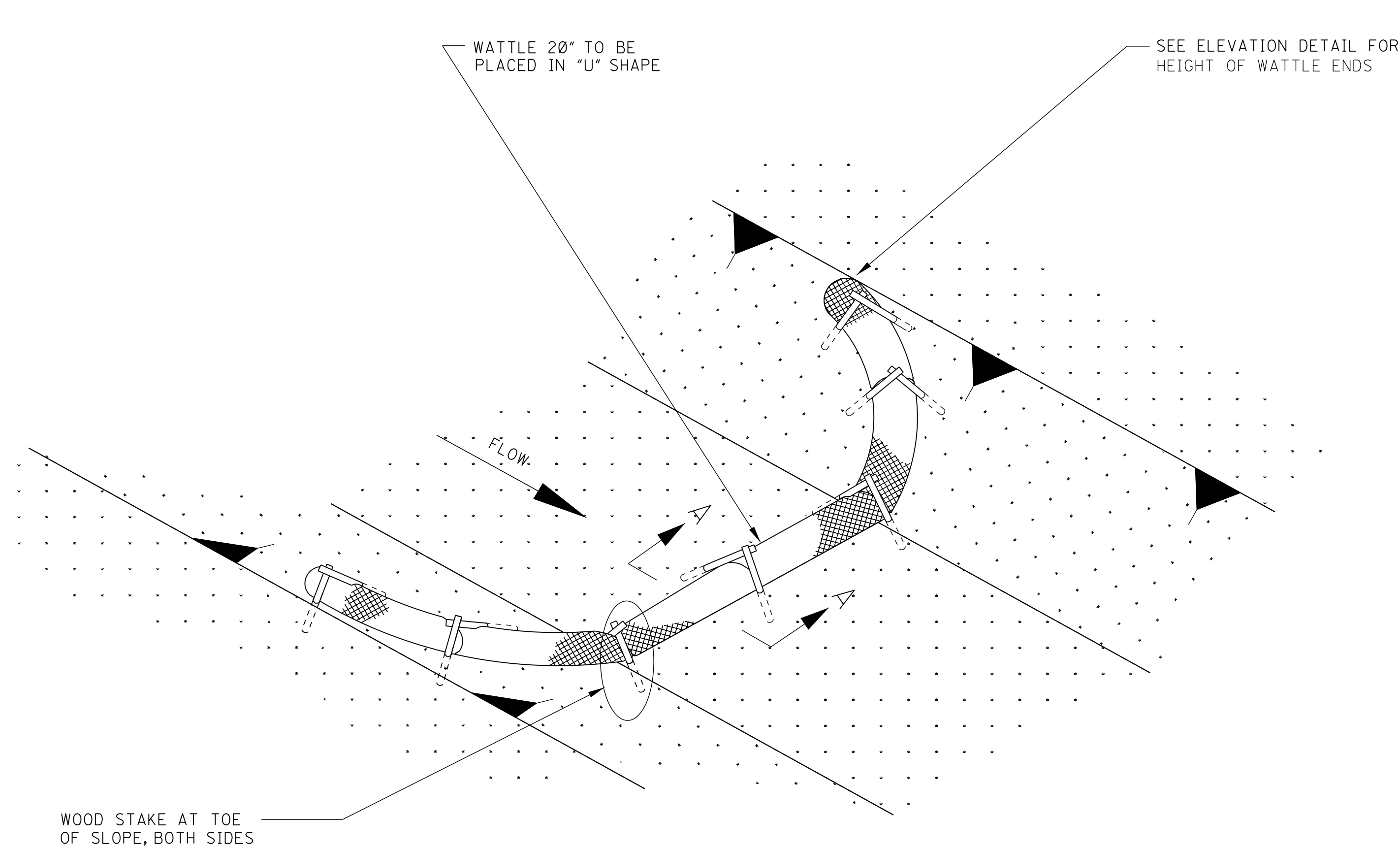


PROFILE VIEW  
TRAPEZOIDAL DITCH

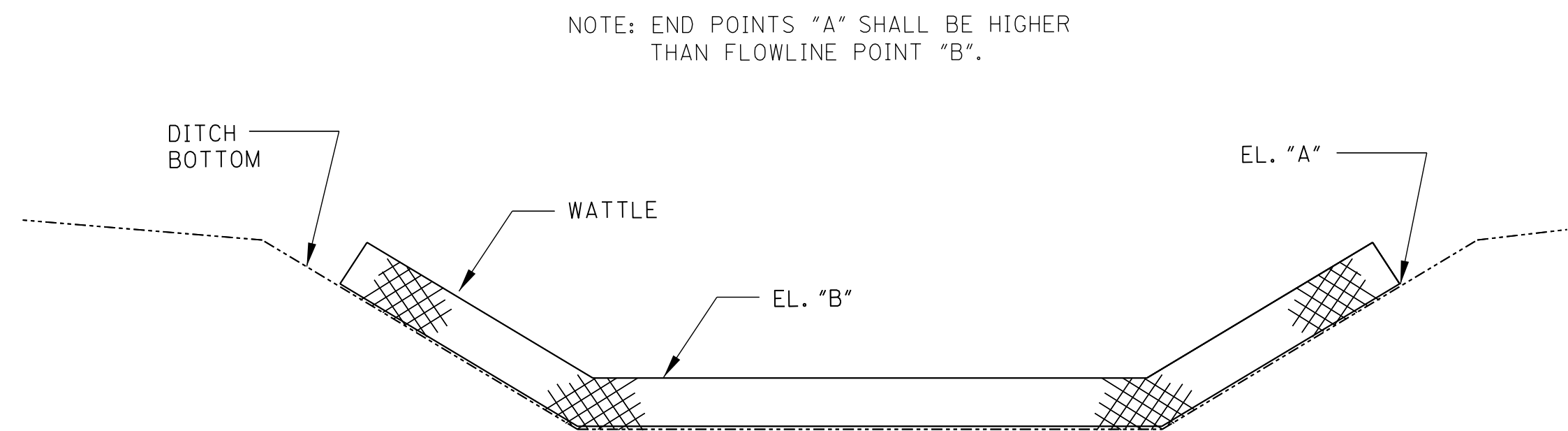
- NOTES:
1. SILT FENCE DITCH CHECKS SHOULD BE USED WHERE IT HAS BEEN DETERMINED THAT HAY BALE CHECKS ARE INADEQUATE. SILT FENCE DITCH CHECKS SHOULD BE USED TO INTERCEPT LOW VOLUME FLOWS IN LOW TO MODERATE GRADIENT DITCHES.
  2. HAY BALES SHOULD BE USED TO INTERCEPT LOW VOLUME FLOWS IN LOW TO MODERATE GRADIENT DITCHES.
  3. MINIMUM RECOMMENDED CHECK SPACING IS 100 FEET UNLESS SHOWN OTHERWISE ON THE PLANS OR EROSION CONTROL PLAN APPROVED BY THE ENGINEER. SEE SPACING GUIDANCE ON WK. NO. ECD-4.
  4. ANCHORING WOOD STAKES SHALL BE SIZED, SPACED, AND BE OF A MATERIAL THAT EFFECTIVELY SECURES THE CHECK. A MINIMUM OF TWO STAKES PER BALE IS REQUIRED. ALL NON-DEGRADABLE MATERIALS SHALL BE REMOVED WHEN NO LONGER NEEDED.
  5. BALES SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 3 INCHES.
  6. BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES. THE BALES SHALL BE PLACED WITH BINDINGS PARALLEL TO THE GROUND.
  7. SOIL IS COMPACTED ALONG THE BASE OF THE UPSTREAM FACE TO PREVENT PIPING.
  8. MULTIPLE ADJACENT ROWS OF BALES ARE REQUIRED AS SHOWN.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>TEMPORARY EROSION, SEDIMENT, AND WATER POLLUTION CONTROL MEASURES</b> (SILT FENCE AND HAY BALE DITCH CHECKS)
				DATE	ISSUE DATE: AUGUST 01, 2017
					 WORKING NUMBER ECD-5 SHEET NUMBER 6105

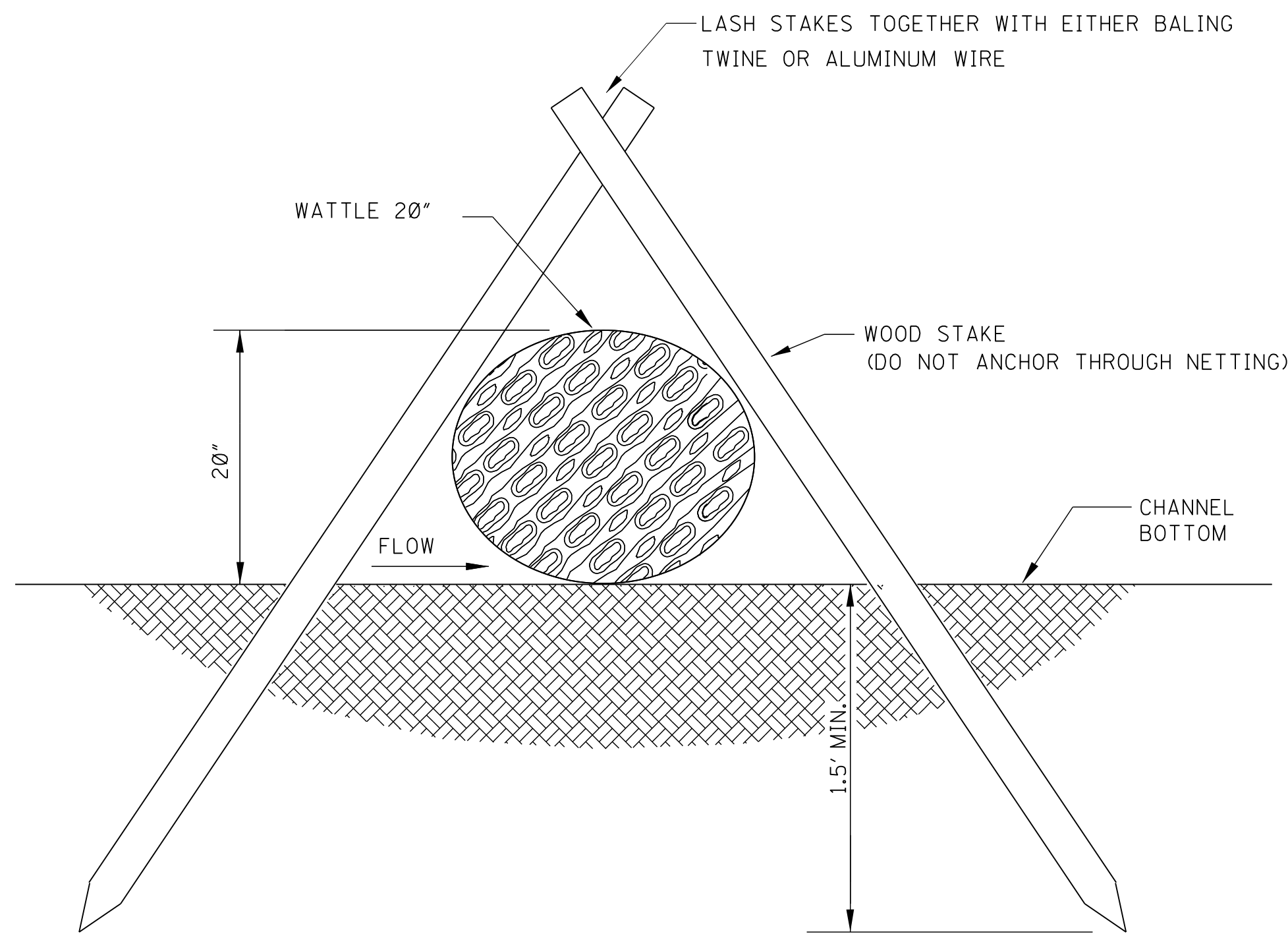




DETAIL (DITCH CHECK)



ELEVATION DETAIL



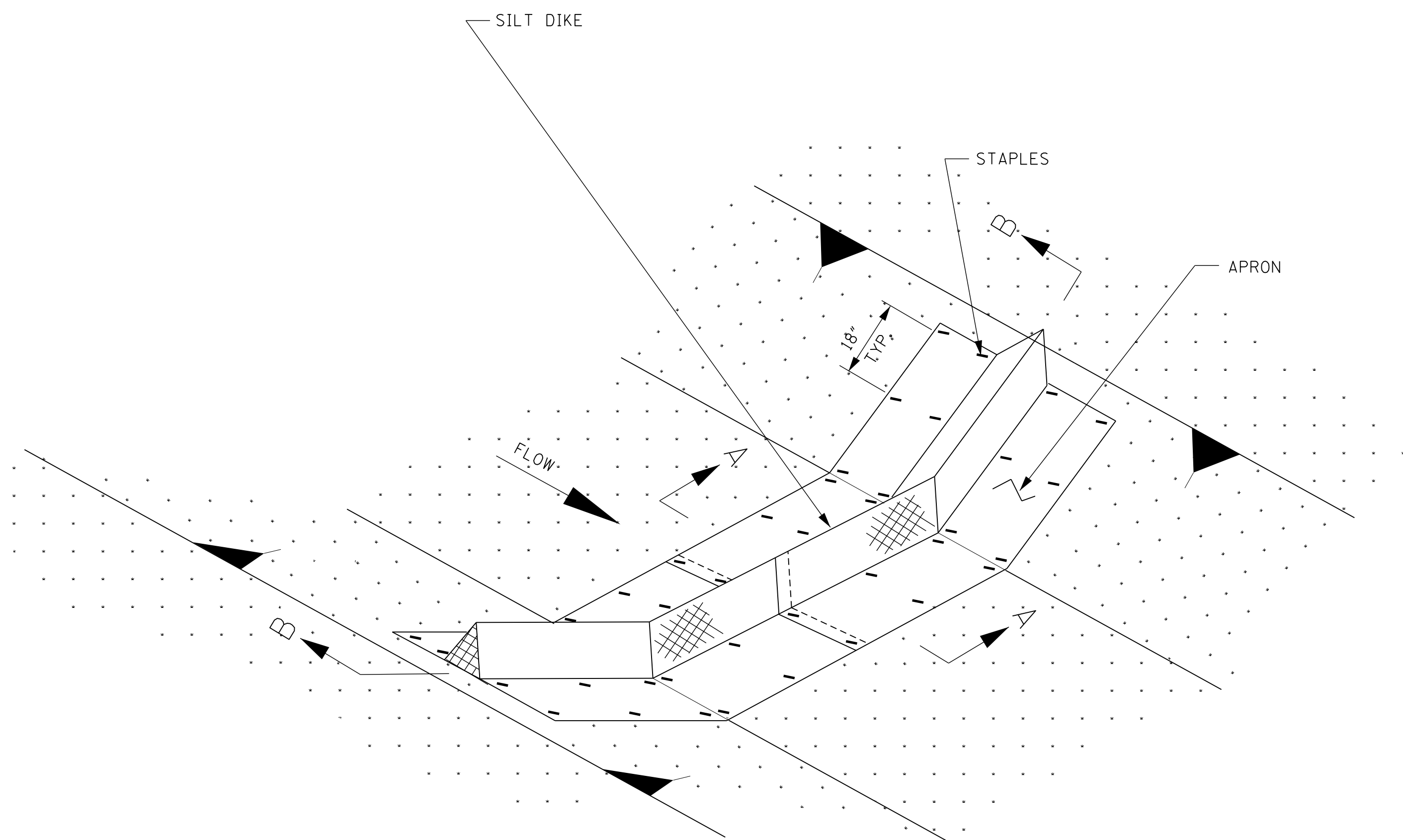
SECTION A-A

- NOTES:
1. WATTLE DITCH CHECKS CAN BE USED FOR VELOCITY REDUCTION AND CONTROL OF SEDIMENT TRANSPORT UNDER LOW TO MEDIUM FLOW CONDITIONS.
  2. THE PLACEMENT INTERVAL BETWEEN WATTLE DITCH CHECK SHALL BE 100' UNLESS SHOWN OTHERWISE ON THE PLANS OR EROSION CONTROL PLAN APPROVED BY THE ENGINEER. SEE SPACING GUIDANCE ON WK. NO. ECD-4.
  3. ANCHORING WOOD STAKES SHALL BE SIZED, SPACED, DRIVEN, AND BE OF A MATERIAL THAT EFFECTIVELY SECURES THE CHECK. STAKE SPACING SHALL BE A MAXIMUM OF THREE FEET. ALL NON-DEGRADABLE MATERIALS SHALL BE REMOVED WHEN NO LONGER NEEDED.
  4. TRENCHING OF WATTLES MAY BE NECESSARY IF PIPING BECOMES EVIDENT.
  5. WATTLES SHOULD NOT BE USED IN HARD BOTTOM CHANNELS.
  6. IN THE EVENT WATTLES CANNOT BE SECURED IN PLACE USING WOOD STAKES, SAND BAGS MAY BE USED IN LIEU OF WOOD STAKES IN ORDER TO SECURE THE WATTLES IN PLACE. IF SANDS BAGS ARE USED IN THIS APPLICATION THEY WILL NOT BE A SEPARATE PAY ITEM.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	<b>DETAILS OF EROSION CONTROL WATTLE DITCH CHECK</b>
				ISSUE DATE: AUGUST 01, 2017	

WORKING NUMBER  
ECD-6

SHEET NUMBER  
6106

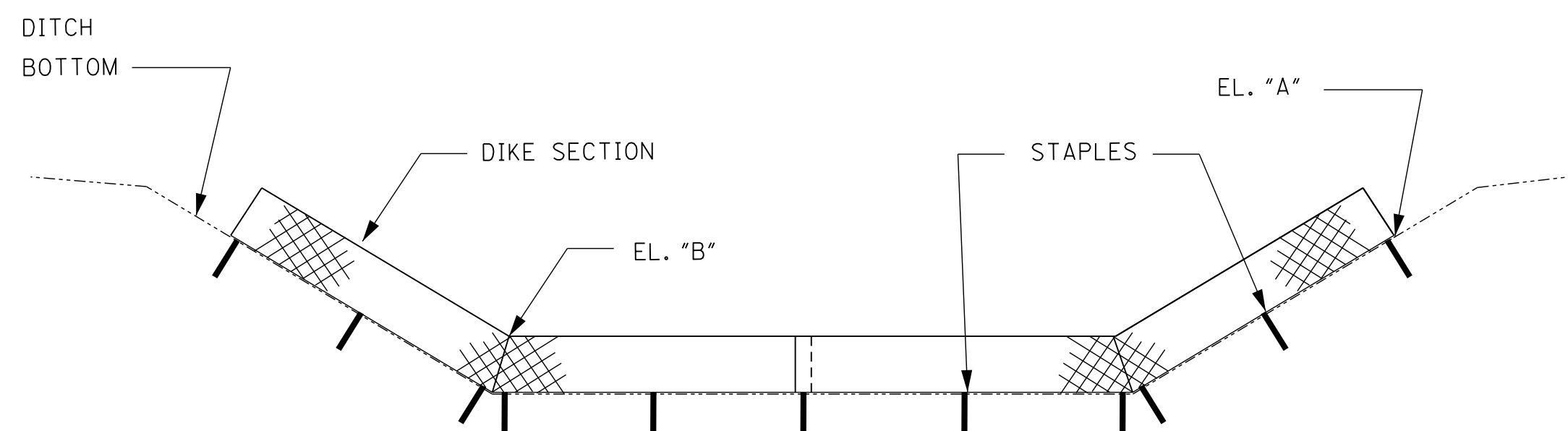


NOTES:

NOTES:

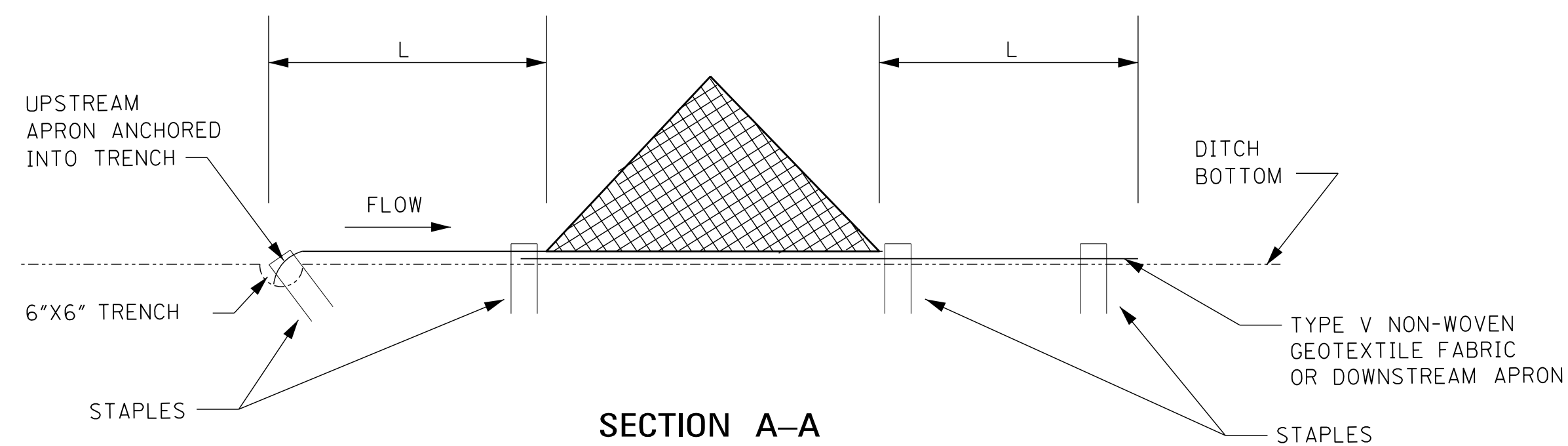
- SILT DIKES CAN BE USED IN DITCHES WITH CONCENTRATED FLOWS WITHIN THE CLEAR ZONE WHERE RIPRAP CANNOT BE USED.
- SILT DIKES MAY ALSO BE USED:
  - IN AREAS WHERE CONSTRUCTION TRAFFIC TRAVELS (AS SHOWN ON WK. NO. ECD-16), PROVIDED THE SILT DIKE REBOUNDS TO ITS ORIGINAL SHAPE. SILT DIKES WHICH DO NOT REBOUND TO THEIR ORIGINAL SHAPE SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT.
  - AT THE ENDS OF AND ALONG THE EDGES OF CONSTRUCTION ROADS THAT CROSS THE WATERS OF THE U.S. (AS SHOWN ON WK. NO. ECD-17).
- THE PLACEMENT INTERVAL BETWEEN SILT DIKE DITCH CHECK SHALL BE 100' UNLESS SHOWN OTHERWISE ON THE PLANS OR EROSION CONTROL PLAN APPROVED BY THE ENGINEER. SEE SPACING GUIDANCE ON WK. NO. ECD-4.
- INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- THE TRIANGULAR SILT DIKE SHAPE IS ONLY SHOWN FOR DEPICTION PURPOSES. OTHER SHAPED SILT DIKES MAY BE USED.
- WHEN THE SILT DIKE, USED AS A DITCH CHECK, IS MANUFACTURED WITH AN APRON ON ONE SIDE ONLY, THE SILT DIKE SHALL BE INSTALLED AS SHOWN IN SECTION A-A. THE APRON SHALL BE INSTALLED ON THE UPSTREAM SIDE AND TYPE V NON-WOVEN GEOTEXTILE FABRIC INSTALLED ON THE DOWNSTREAM SIDE.
- THE COST OF THE FABRIC SHALL BE INCLUDED IN OTHER ITEMS BID.

PLAN VIEW



POINT "A" SHALL BE HIGHER THAN POINT "B" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS

SECTION B-B

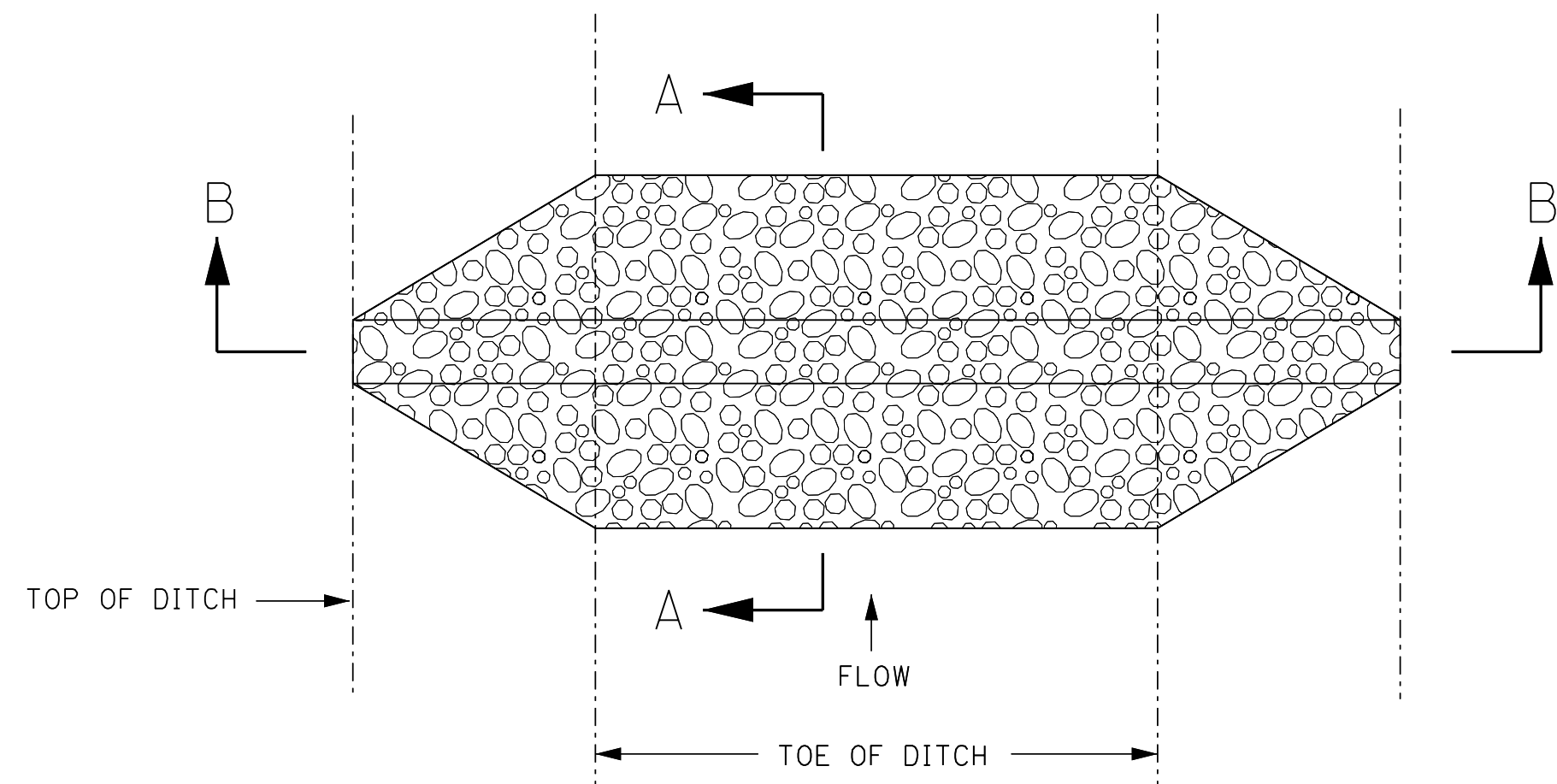


NOTE: STAPLES SHALL BE PLACED WHERE THE UNITS OVERLAP AND IN THE CENTER OF THE UNIT

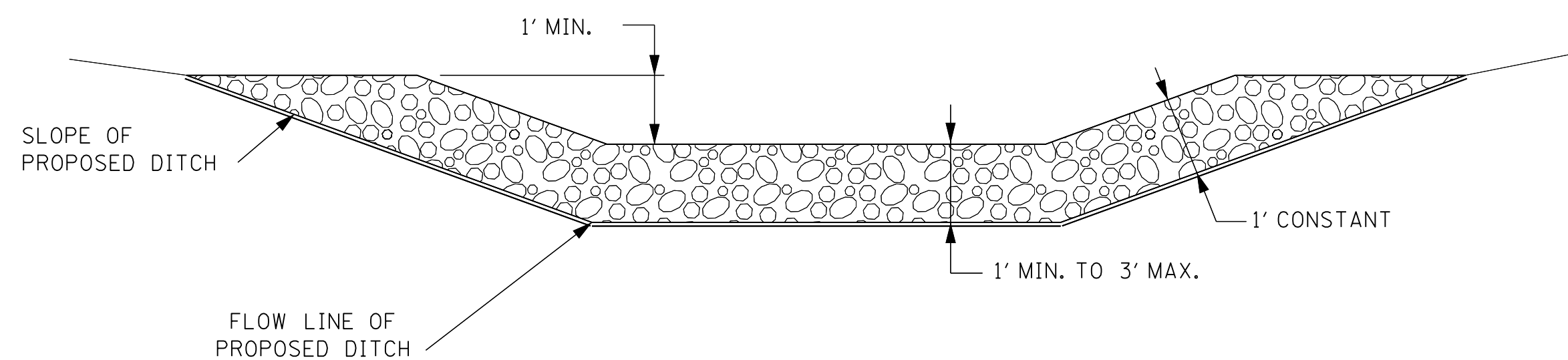
SECTION A-A

SILT DIKE INSTALLATION FOR ROADWAY DITCHES

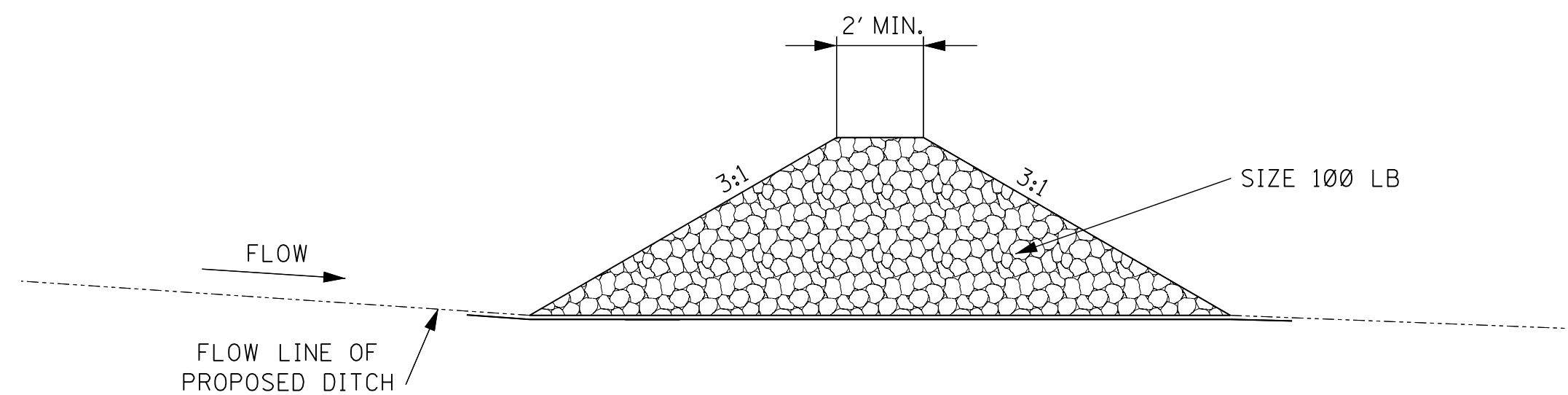
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	<b><i>DETAILS OF EROSION CONTROL SILT DIKE DITCH CHECK</i></b>
				ISSUE DATE: _____	 WORKING NUMBER ECD-7 SHEET NUMBER 6107



PLAN VIEW  
DETAIL FOR TRAPEZOIDAL DITCH

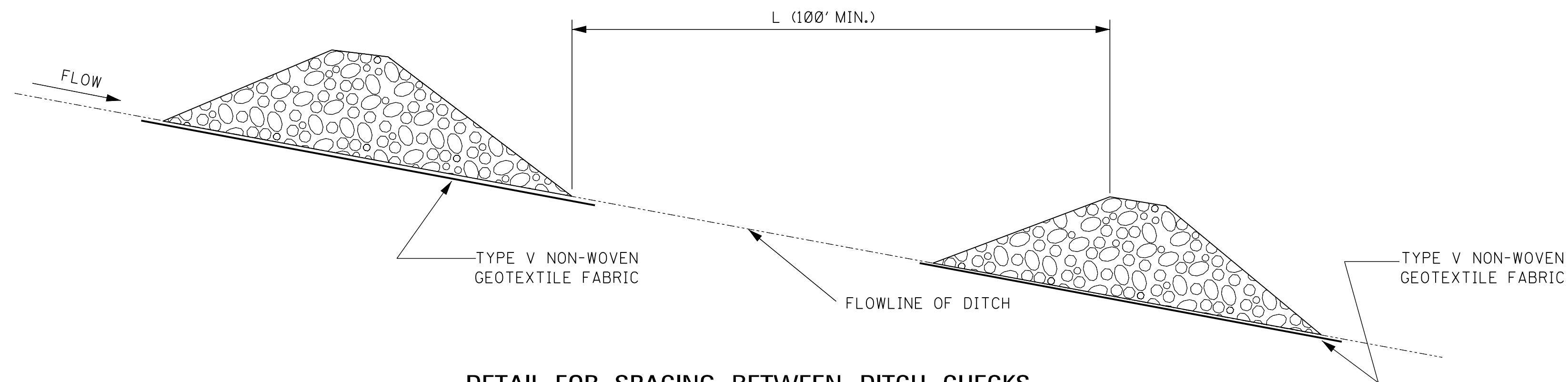


SECTION B-B



SECTION A-A

TEMPORARY ROCK DITCH CHECKS IN ROADSIDE DITCHES



DETAIL FOR SPACING BETWEEN DITCH CHECKS

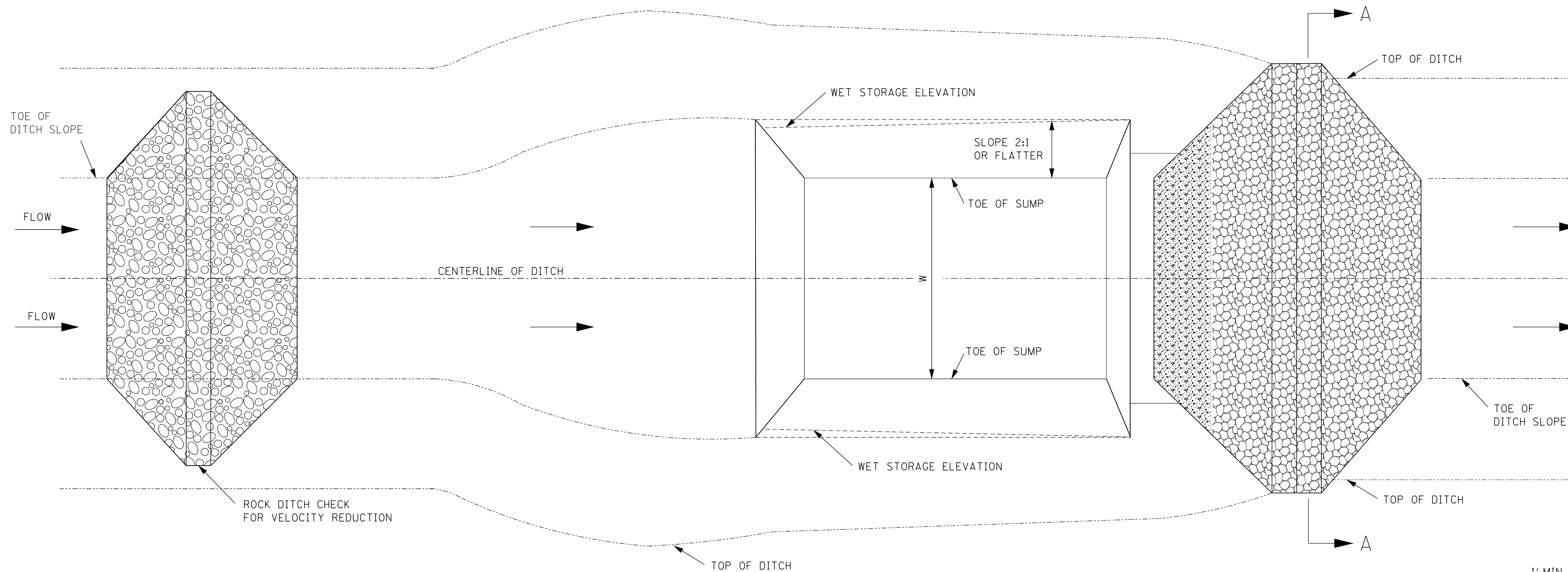
NOTES:

1. ROCK DITCH CHECKS SHOULD ONLY BE USED FOR REDUCING THE VELOCITY OF FLOWING WATER.
2. MINIMUM SPACING FOR ROCK DITCH CHECKS IS 100 FEET UNLESS OTHERWISE SHOWN ON THE PLANS OR EROSION CONTROL PLAN APPROVED BY THE ENGINEER. SEE SPACING GUIDANCE ON WK. NO. ECD-4.
3. ROCK DITCH CHECKS SHOULD ONLY BE USED UP-GRADIENT OF AND ALONG WITH ADDITIONAL DOWN-GRADIENT SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMP'S).
4. THE COST OF FABRIC SHALL BE INCLUDED IN OTHER ITEMS BID.

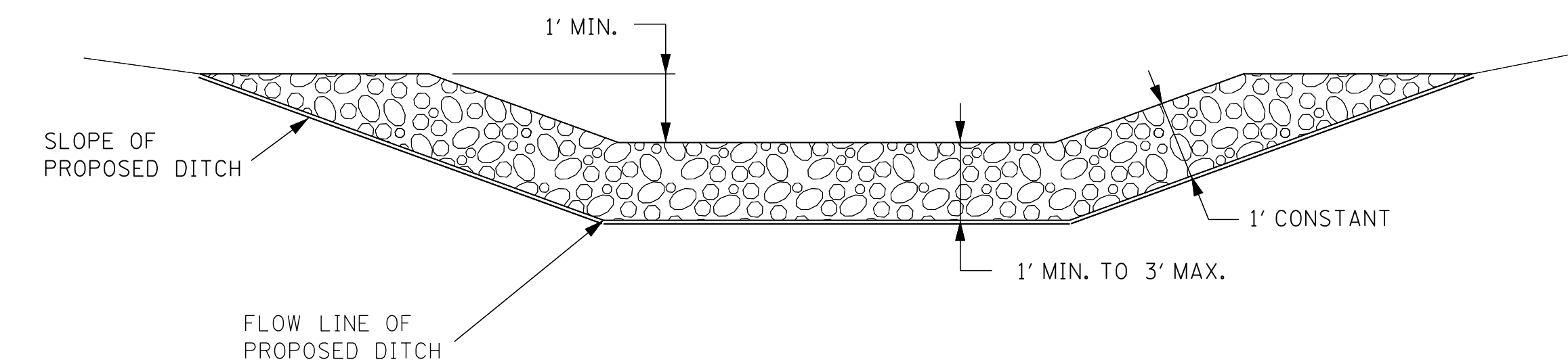
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>ROCK DITCH CHECK</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					 WORKING NUMBER ECD-8 SHEET NUMBER 6108



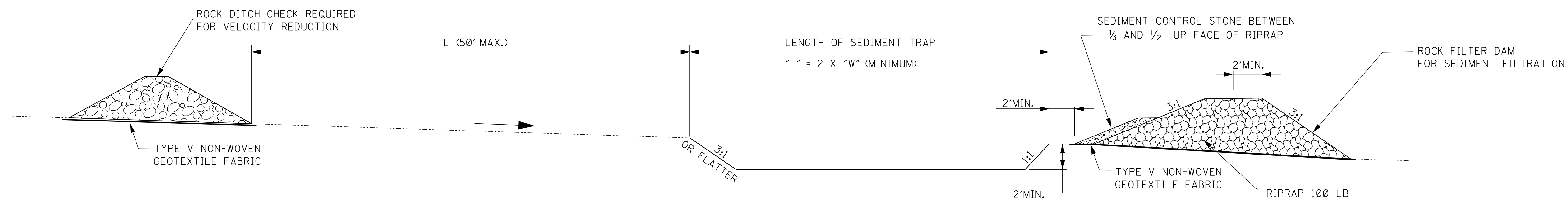
STATE	PROJECT NO.
MISS.	



PLAN VIEW



SECTION A-A



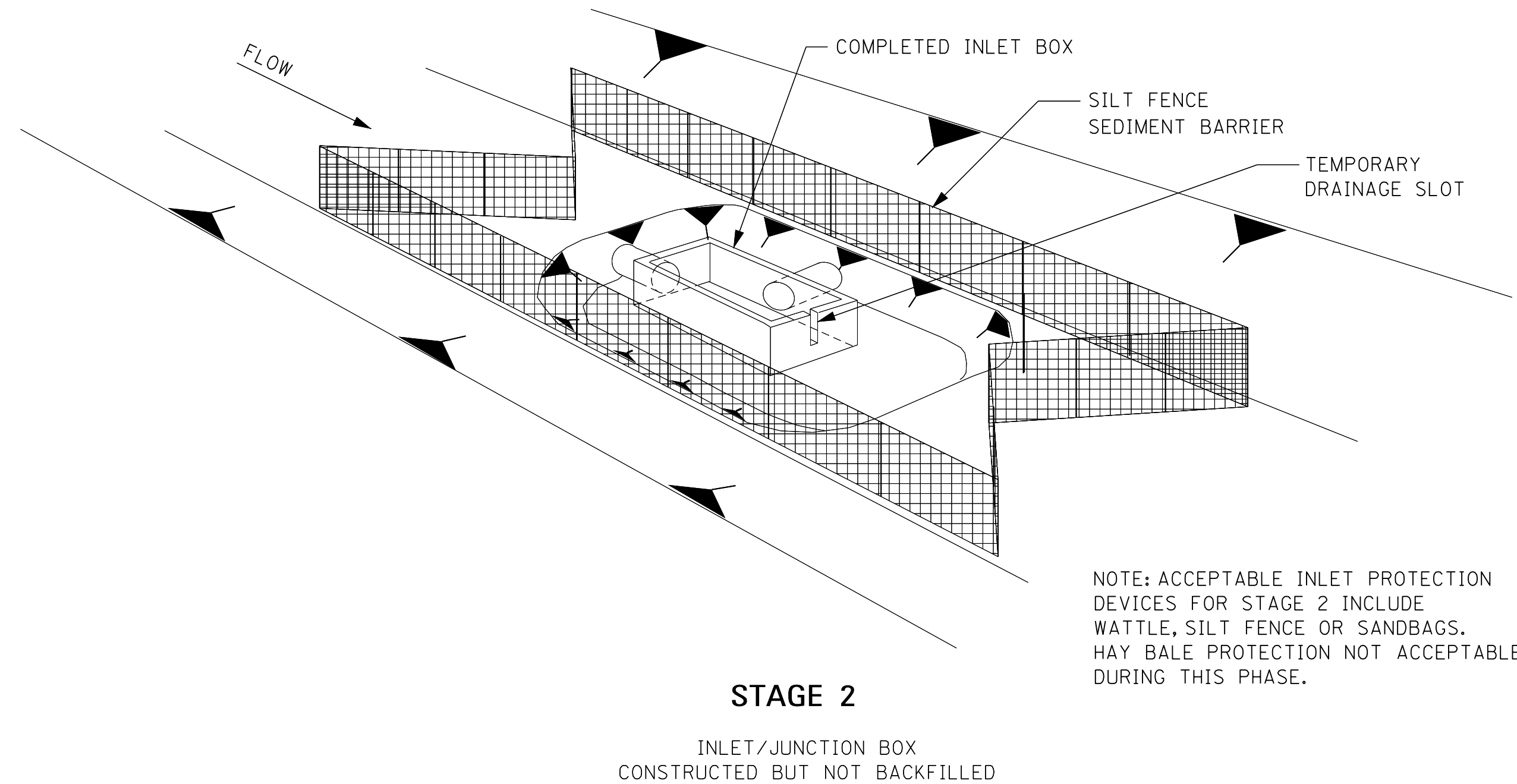
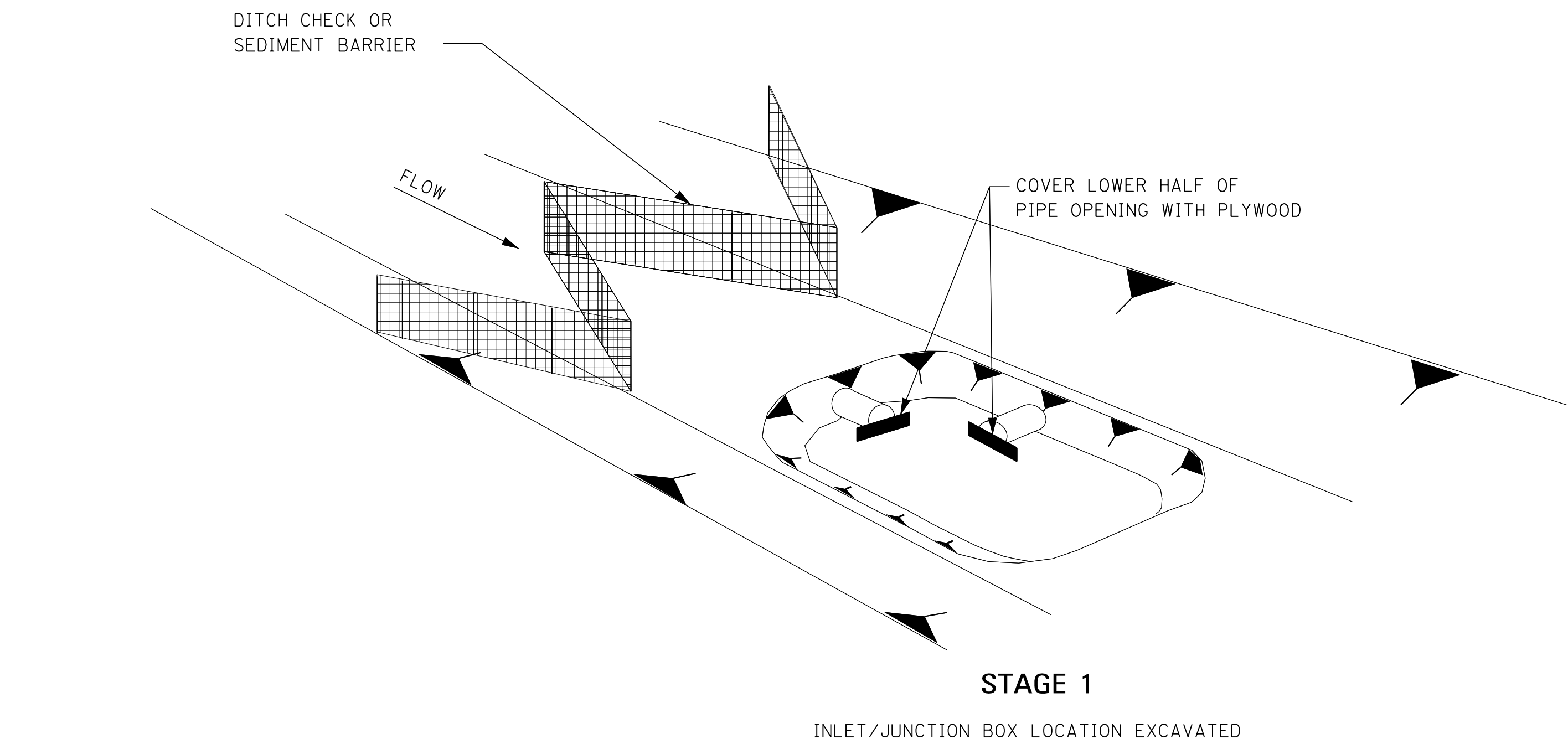
### PROFILE VIEW

NOTES:

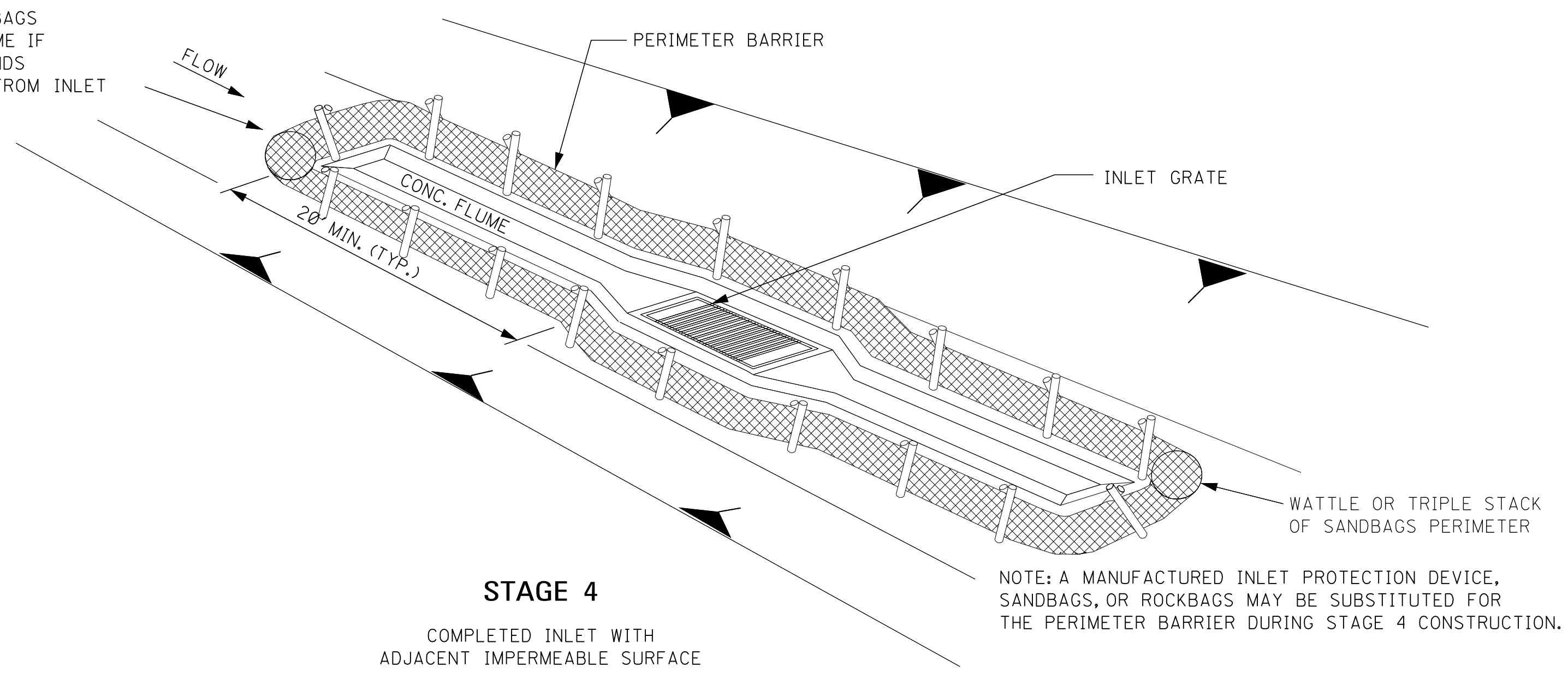
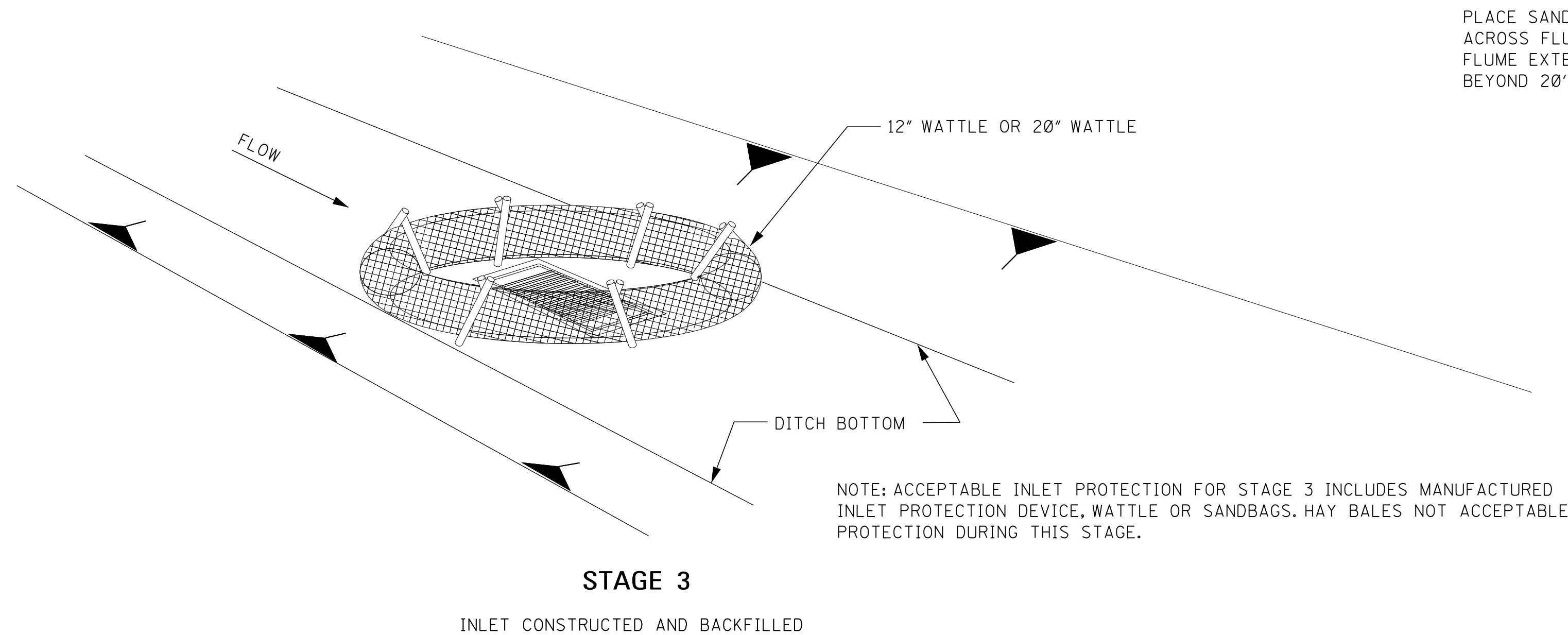
1. ROCK DITCH CHECKS WITH SUMP EXCAVATION CAN BE PLACED IN DITCHES TO ASSURE ON-SITE SEDIMENT TRAPPING REQUIREMENTS ARE MET. DITCH CHECK WITH SUMP EXCAVATION IS USED WHEN DITCHES RECEIVE DRAINAGE FROM CUT OR FILL SLOPES OR OTHER CRITICAL AREAS WHERE SOIL EROSION IS EXPECTED. DRAINAGE AREA FOR A TEMPORARY SEDIMENT TRAP SHOULD BE LIMITED TO 3 ACRES. THEY CAN BE USED IN SERIES TO INCREASE ON-SITE SEDIMENT TRAPPING EFFICIENCY.
2. THE COST OF THE FABRIC SHALL BE INCLUDED IN OTHER ITEMS BID.

					BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
					REVISION	<b>ROCK DITCH CHECK WITH SUMP EXCAVATION AND ROCK FILTER DAM</b>
					DATE	 WORKING NUMBER ECD-10 SHEET NUMBER 6110 ISSUE DATE: AUGUST 01, 2017





NOTE: ACCEPTABLE INLET PROTECTION DEVICES FOR STAGE 2 INCLUDE WATTLE, SILT FENCE OR SANDBAGS. HAY BALE PROTECTION NOT ACCEPTABLE DURING THIS PHASE.



NOTE: A MANUFACTURED INLET PROTECTION DEVICE, SANDBAGS, OR ROCKBAGS MAY BE SUBSTITUTED FOR THE PERIMETER BARRIER DURING STAGE 4 CONSTRUCTION.

### DITCH INLET CONSTRUCTION STAGES

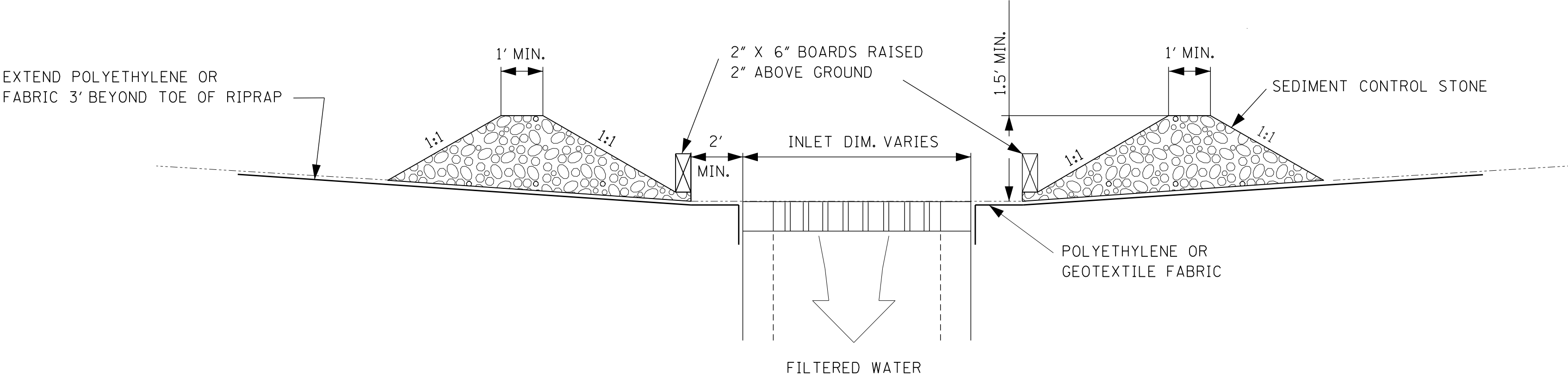
#### NOTES:

1. DRAINAGE STRUCTURE BACKFILL SHOULD BE PLACED IN STAGE 1 IMMEDIATELY AFTER PIPE INSTALLATION. INLET CONSTRUCTION SHOULD COMMENCE AS SOON AS POSSIBLE AND BE CONTINUOUS THROUGH COMPLETION.
2. CONFIGURATIONS MAY BE ADJUSTED WITH APPROVAL OF THE ENGINEER FOR TRAVELWAY SAFETY, WATER FLOW, OR SOIL AND INSTALLATION CHALLENGES.
3. DURING STAGE 1 AND STAGE 2, SILT FENCE MAY BE REQUIRED UPSLOPE OF THE INLET EXCAVATION AS DIRECTED BY THE ENGINEER.
4. IF SILT FENCE IS INSTALLED AROUND THE INLET INSTALLATION IT SHOULD BE IN A CONFIGURATION THAT WILL ALLOW INLET CONSTRUCTION.
5. FOR INLET PROTECTION TO BE USED IN STAGES 1 AND 2 OF CONSTRUCTION, SEE WK. NO. ECD-12.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN	
				REVISION		
				DATE	ISSUE DATE: AUGUST 01, 2017	

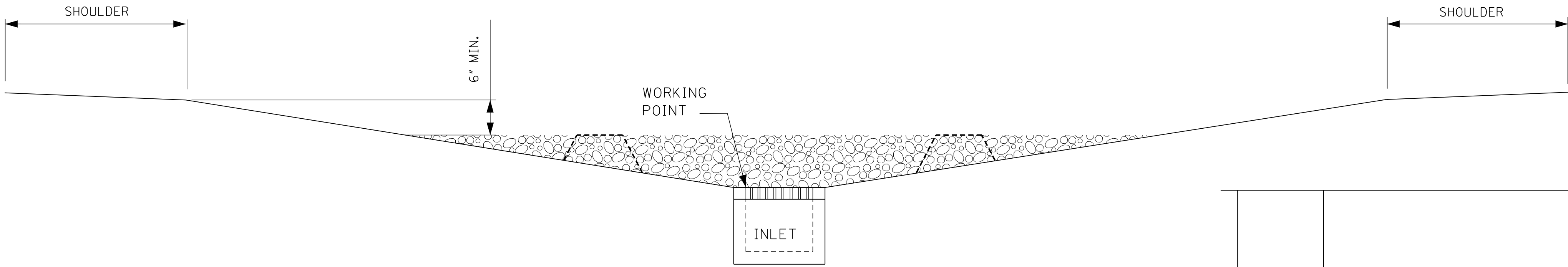
**TYPICAL APPLICATIONS  
AND DETAILS FOR  
INLET CONSTRUCTION**

  
WORKING NUMBER  
ECD-11  
SHEET NUMBER  
6111

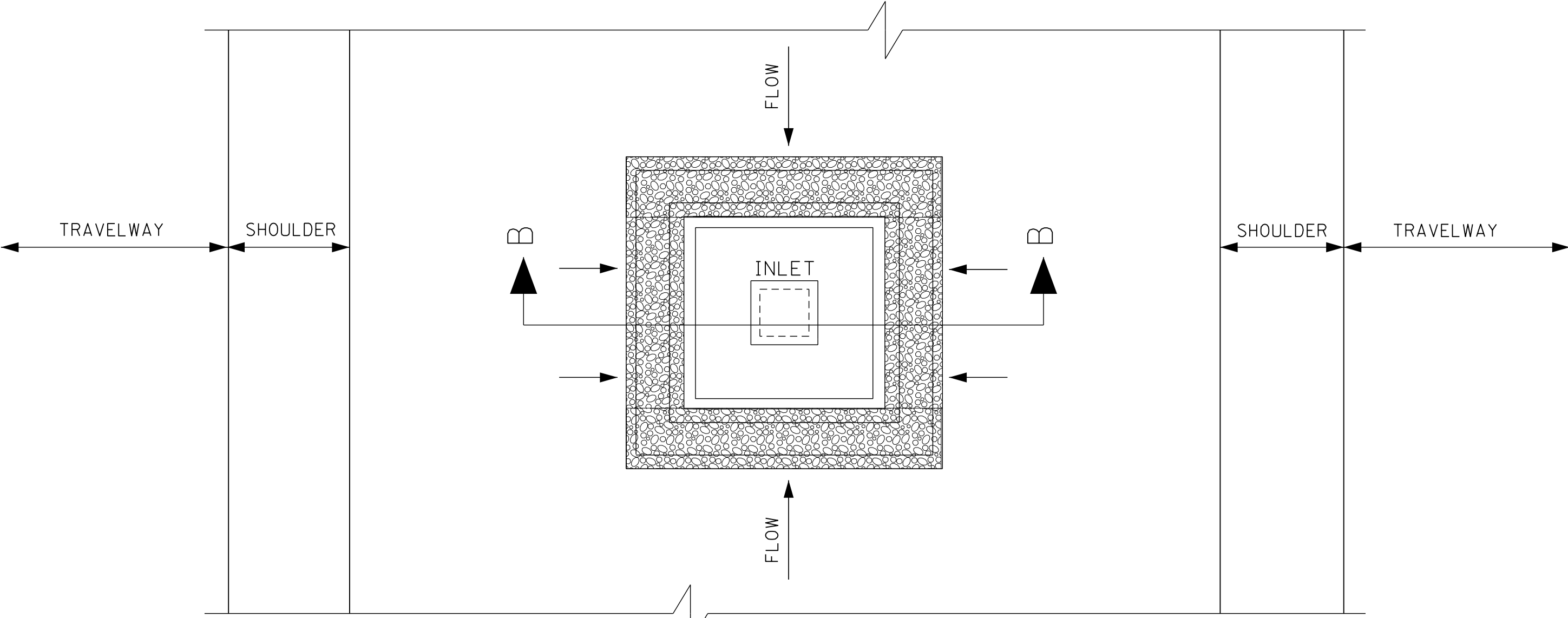


SECTION B-B

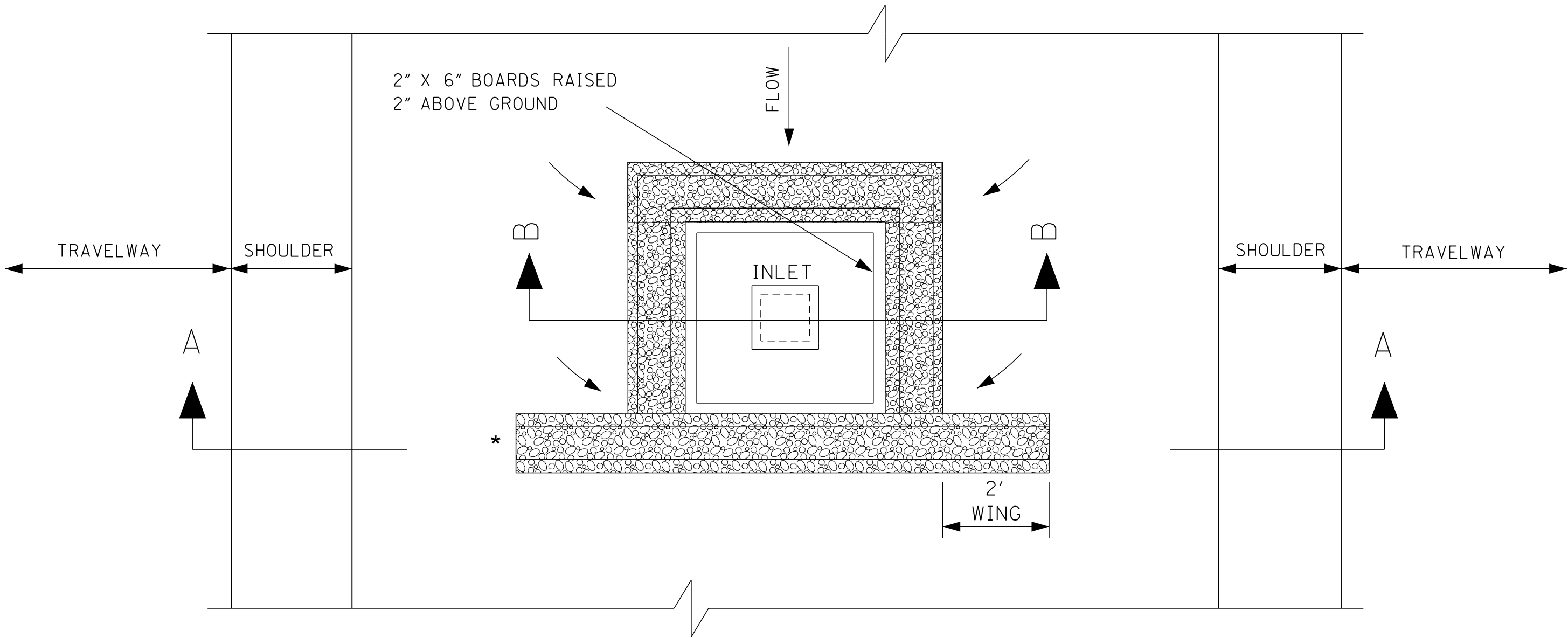
- NOTES:
1. THE ELEVATION OF THE TOP OF THE REQUIRED SEDIMENT CONTROL STONE BERM SHOULD BE 1.5' ABOVE THE ELEVATION OF THE INLET WORKING POINT AND SHALL BE A MINIMUM OF 6" BELOW THE ELEVATION OF THE OUTSIDE EDGE OF THE INSIDE SHOULDER.
  2. THIS SEDIMENT CONTROL STONE INLET PROTECTION SHALL BE UTILIZED DURING STAGE 1 AND STAGE 2 INLET CONSTRUCTION. SEE WK. NO. ECD-11.
  3. 2" X 6" BOARDS MAY BE REPLACED WITH WIRE MESH WITH OPENINGS LESS THAN 1" X 1". COST OF WHICH SHALL BE INCLUDED IN OTHER ITEMS BID.
  4. THE COST OF POLYETHYLENE AND/OR FABRIC SHALL BE INCLUDED IN OTHER ITEMS BID.



SECTION A-A




PLAN - IN SAG

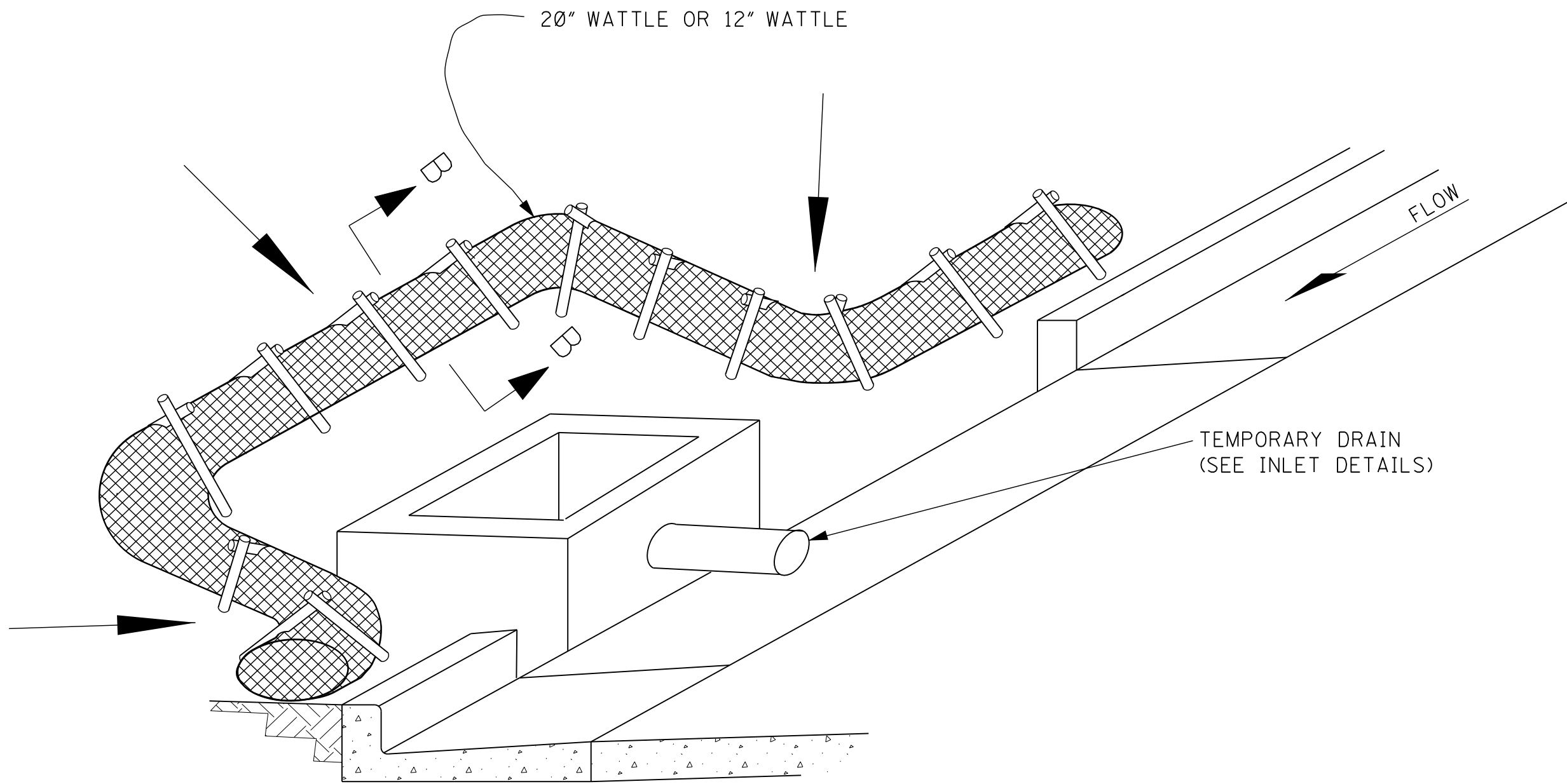


PLAN - ON GRADE

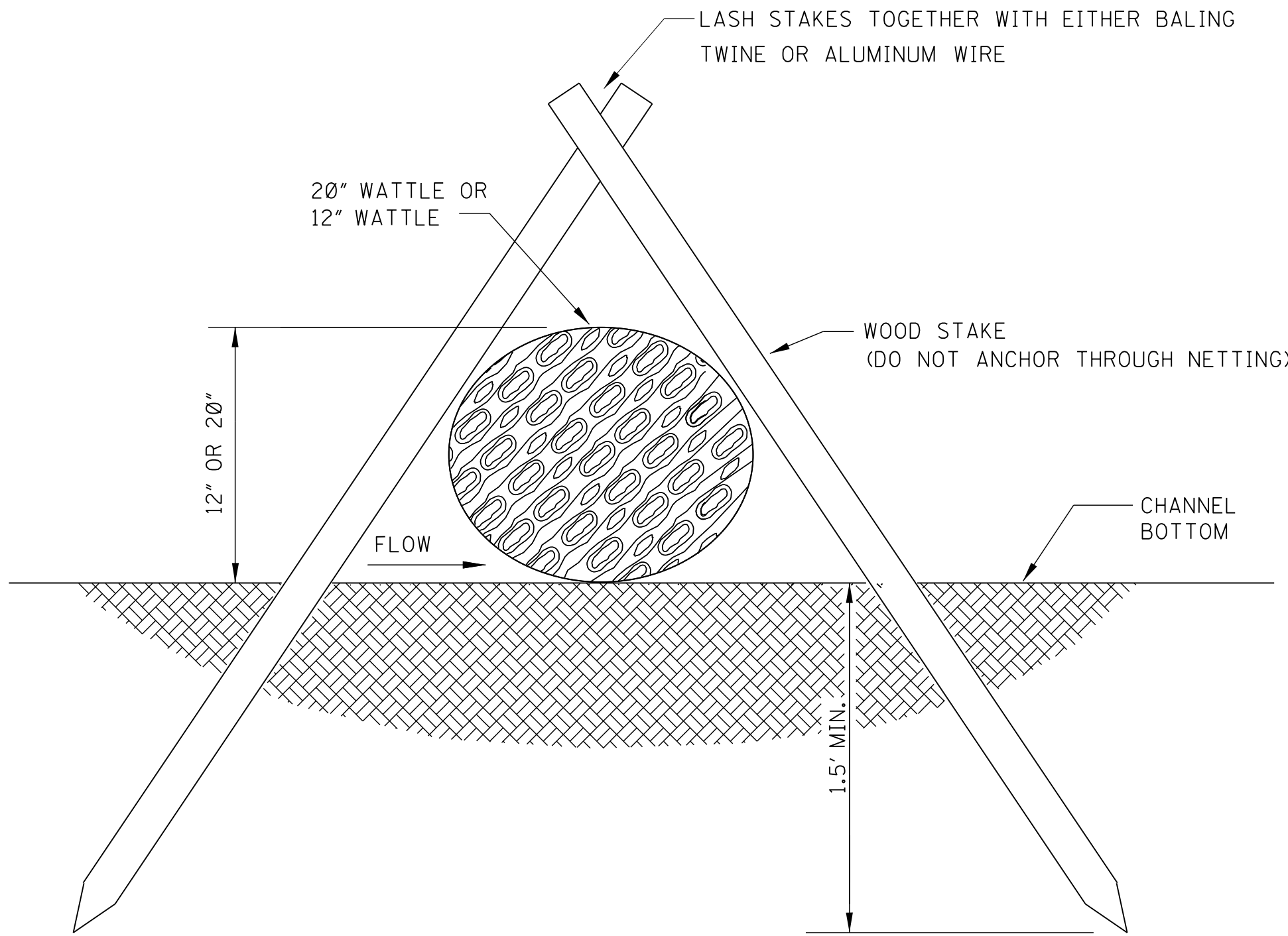
\* CONSTRUCT WINGS TO PREVENT BYPASS

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>INLET PROTECTION DETAILS FOR SEDIMENT CONTROL STONE ON GRADES AND SAGS</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					 WORKING NUMBER ECD-12 SHEET NUMBER 6112

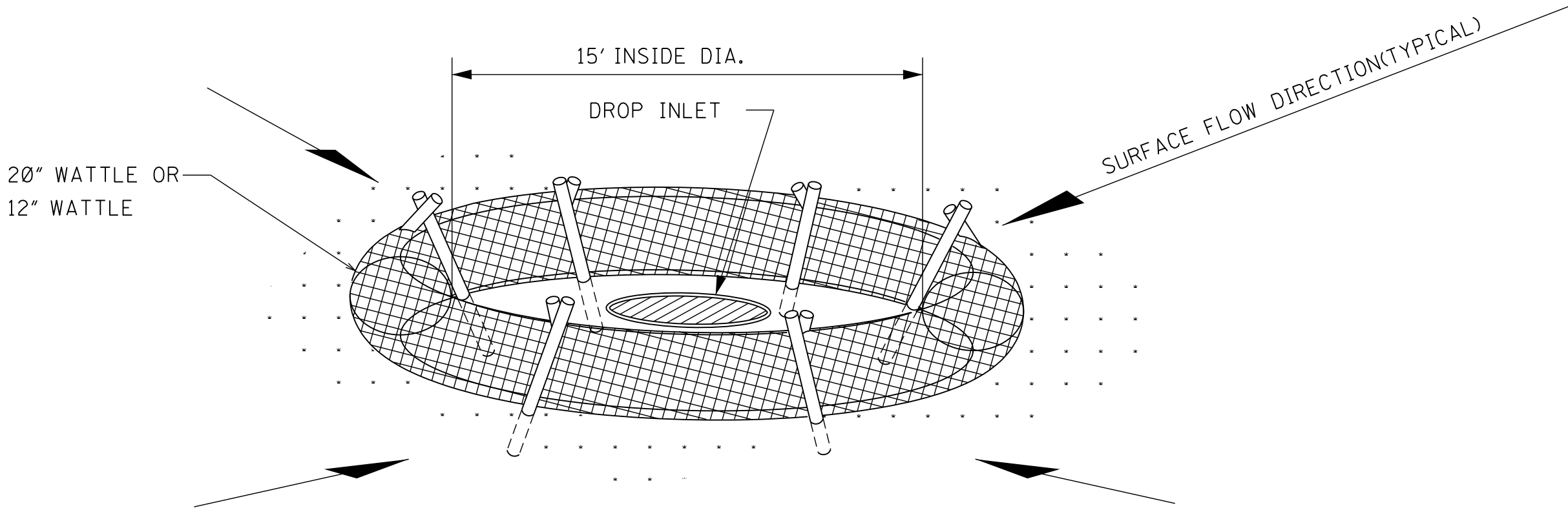
NOTE: SILT FENCE OR SANDBAGS MAY ALSO BE USED FOR THIS APPLICATION.  
HAY BALES NOT ACCEPTABLE DURING THIS STAGE.



CURB INLET PROTECTION (STAGE 2)  
SINGLE OR DOUBLE WING INLET



SECTION B-B




DROP INLET PROTECTION

NOTES:

- ANCHORING STAKES SHALL BE SIZED, SPACED, AND BE OF A MATERIAL THAT EFFECTIVELY SECURES THE WATTLE. STAKE SPACING SHALL BE A MAXIMUM OF THREE FEET.
- OVERLAP ENDS OF WATTLES PER MANUFACTURER'S RECOMMENDATIONS (1' MIN., 3' MAX.)
- TRENCHING OF WATTLES MAY BE NECESSARY IF PIPING BECOMES EVIDENT.
- IN THE EVENT WATTLES CANNOT BE SECURED IN PLACE USING WOOD STAKES, SANDBAGS MAY BE USED IN LIEU OF WOOD STAKES IN ORDER TO SECURE WATTLES IN PLACE. COST OF SANDBAGS USED IN THIS APPLICATION SHALL BE INCLUDED IN OTHER ITEMS BID.

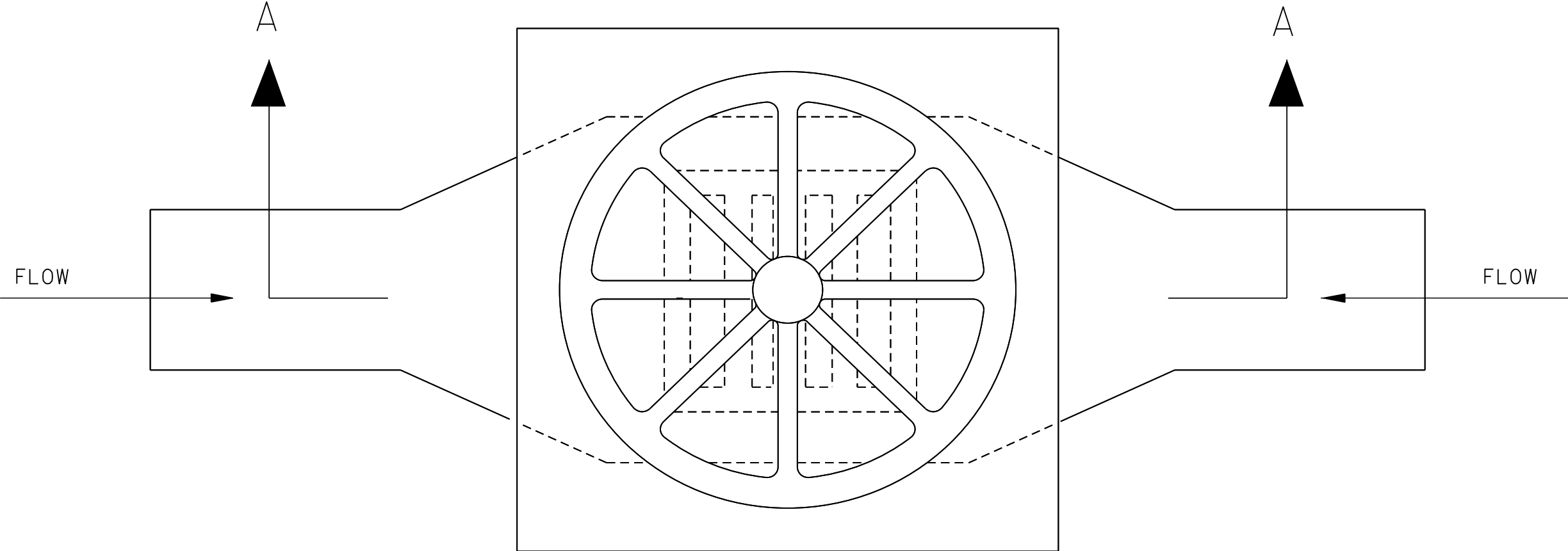
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN	
				REVISION		
				DATE	ISSUE DATE: AUGUST 01, 2017	



WORKING NUMBER  
ECD-13

SHEET NUMBER  
6113

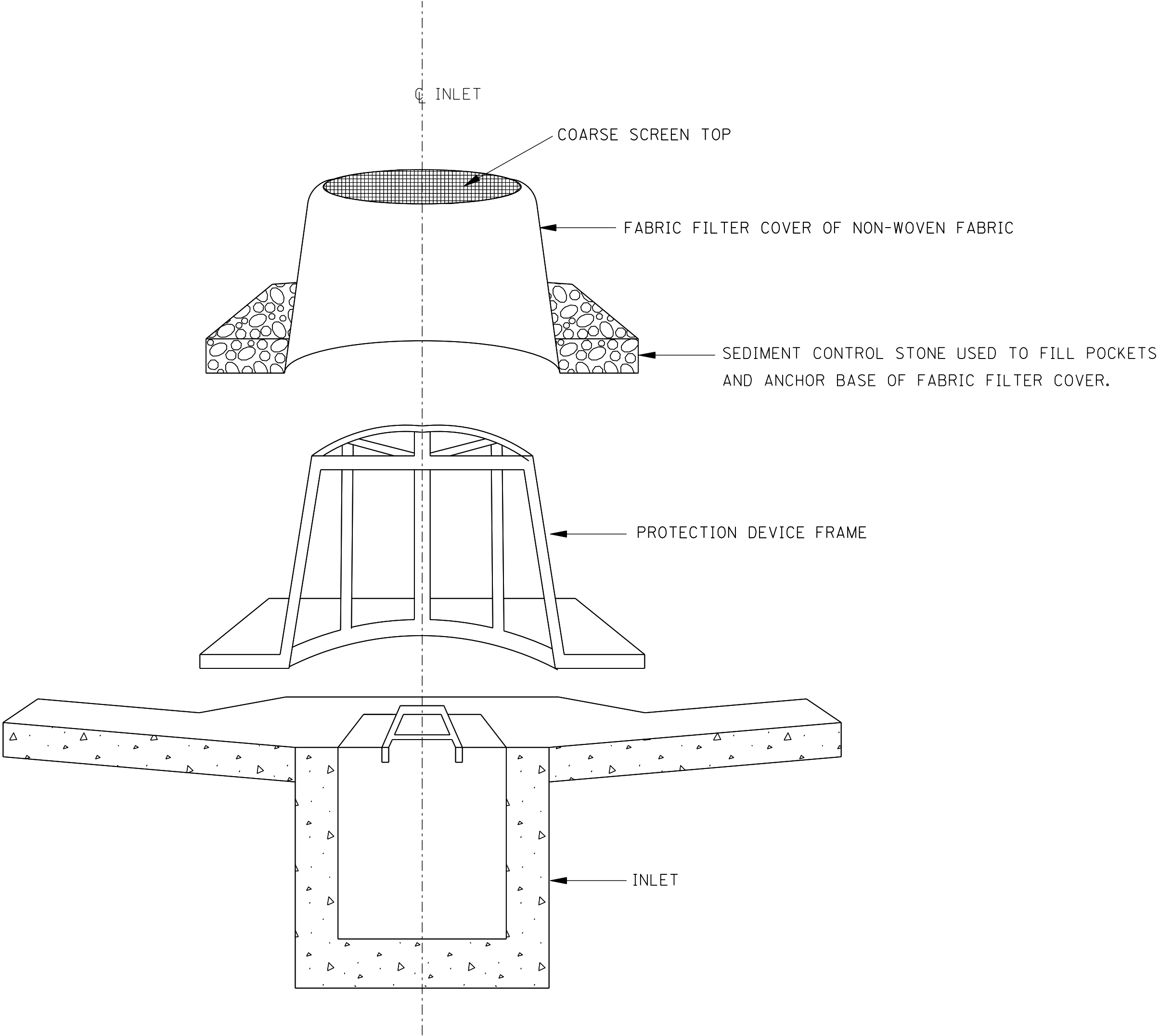
**INLET PROTECTION  
DETAILS OF WATTLES**



PLAN

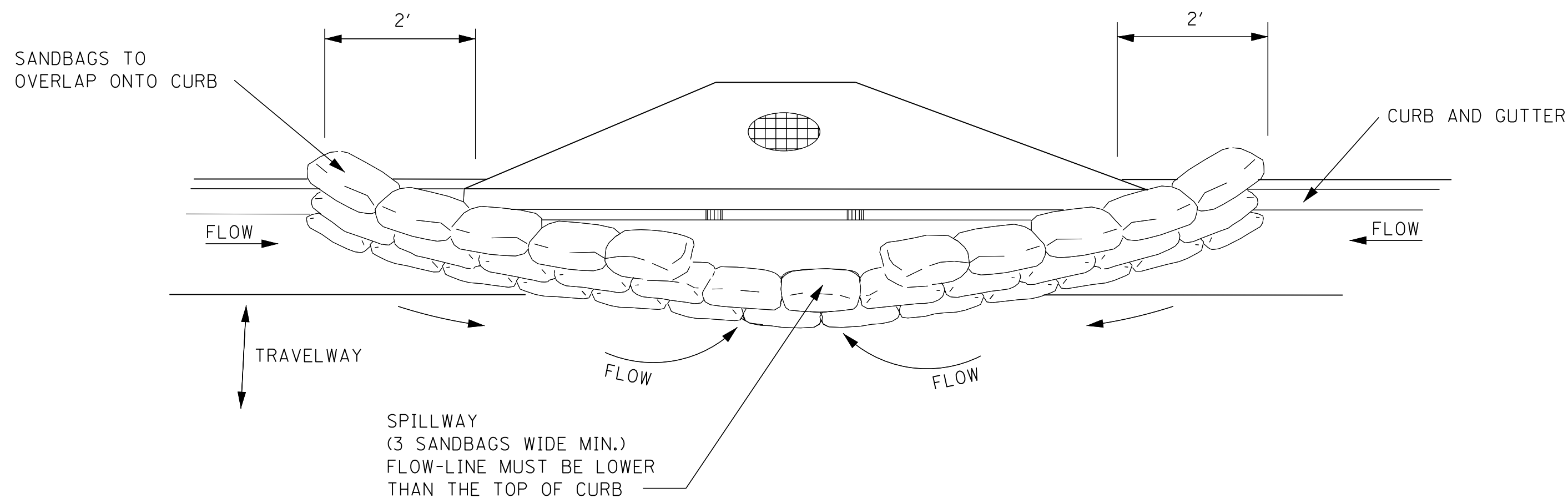
NOTES:

1. FRAMES WITH EITHER SQUARE OR CIRCULAR BASES MAY BE USED. SELECTED FRAME BASE SHOULD PROVIDE BEST SEAL AROUND THE INLET AS DIRECTED BY THE ENGINEER.
2. FILL POCKETS AROUND BASE OF FILTER COVER WITH SEDIMENT CONTROL STONE. THE COST OF SEDIMENT CONTROL STONE USED IN THIS APPLICATION SHALL BE INCLUDED IN OTHER ITEMS BID.
3. USE ONLY DURING STAGE 3 OR STAGE 4 INLET CONSTRUCTION. SEE WK. NO. ECD-11.
4. FOR MEDIAN INLET PROTECTION, THE ELEVATION OF THE COARSE SCREEN TOP SHALL BE A MINIMUM OF 6" BELOW THE ELEVATION OF THE OUTSIDE EDGE OF THE INSIDE SHOULDER.

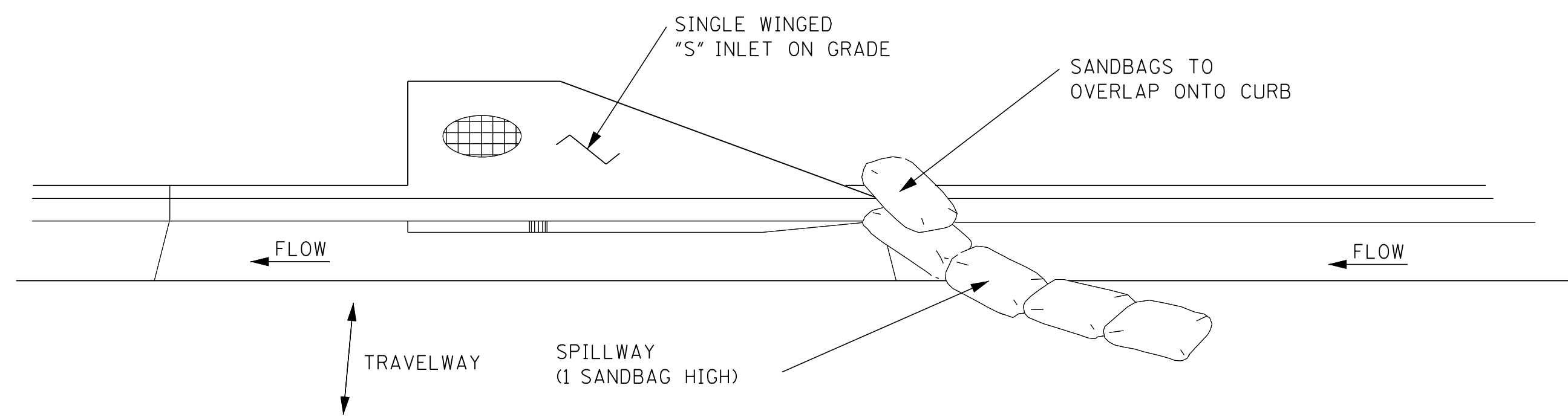


SECTION "A-A"

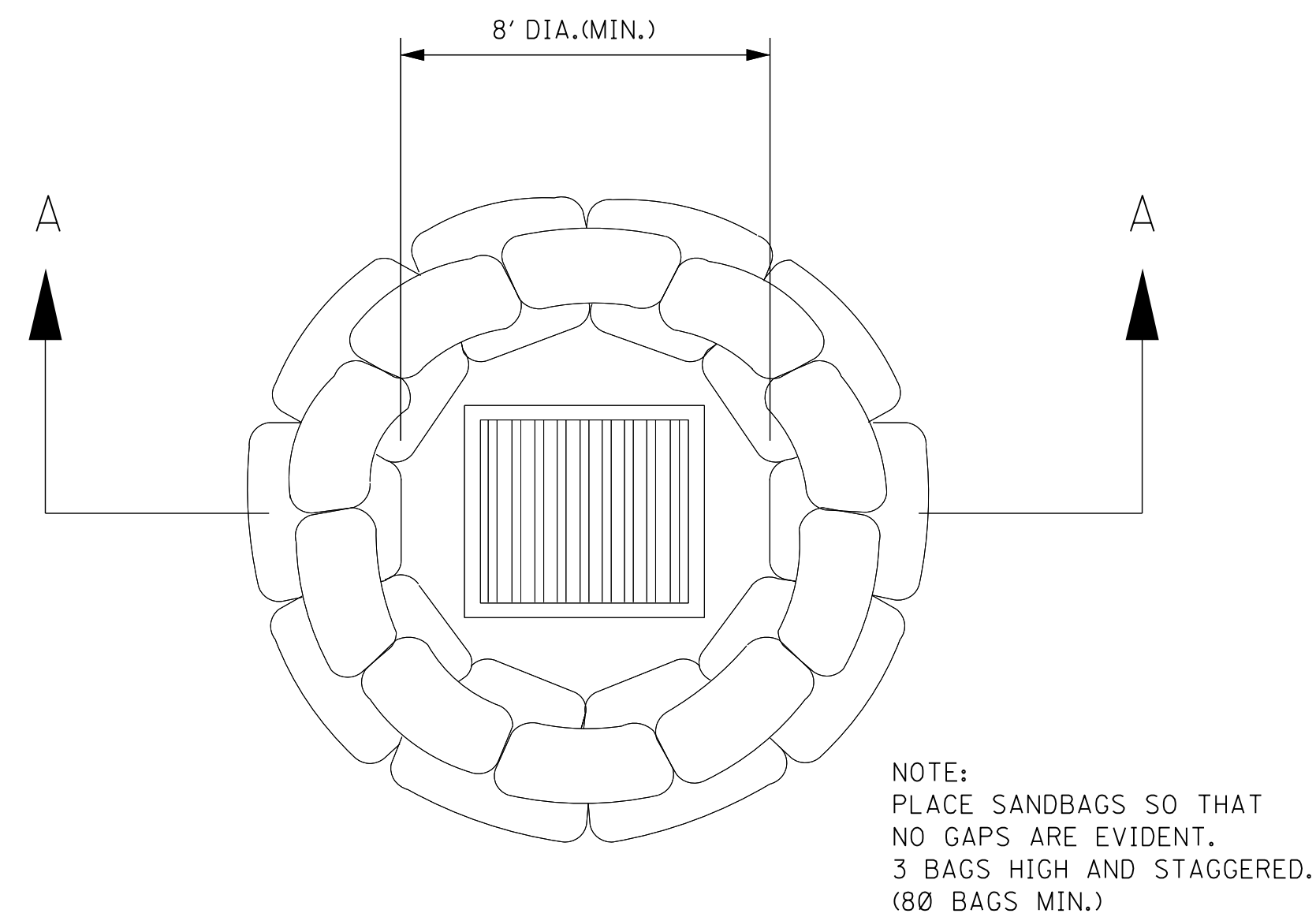
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>INLET PROTECTION DETAILS OF MANUFACTURED INLET PROTECTION DEVICE</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					 WORKING NUMBER ECD-14 SHEET NUMBER 6114



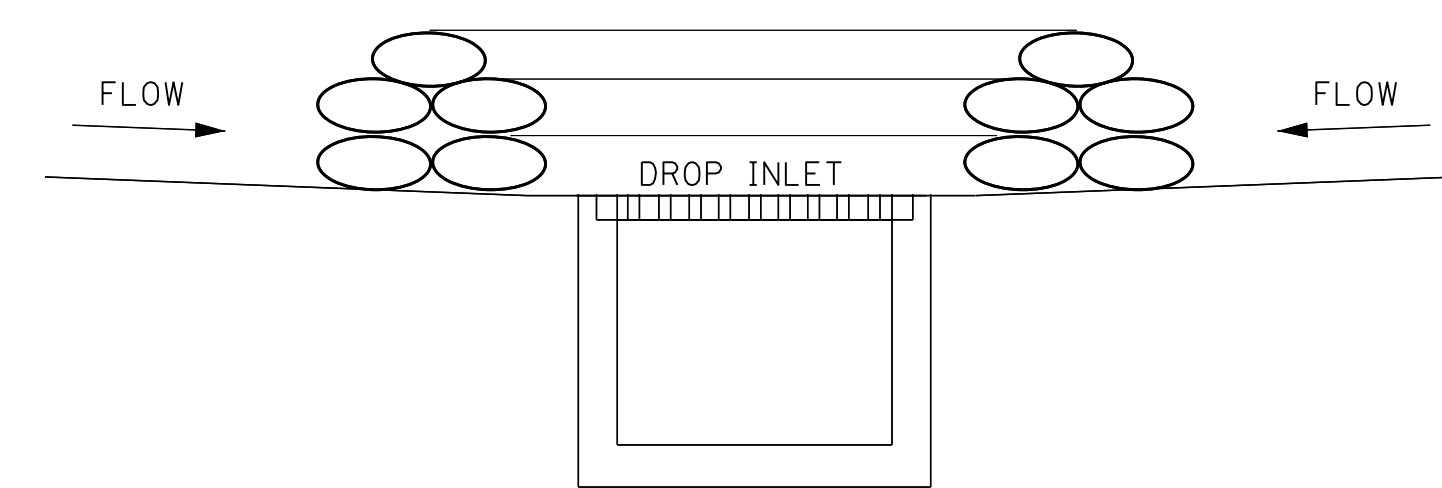
TYPICAL (SANDBAG) PROTECTION FOR INLET IN SAG



TYPICAL (SANDBAG) PROTECTION FOR INLET ON GRADE



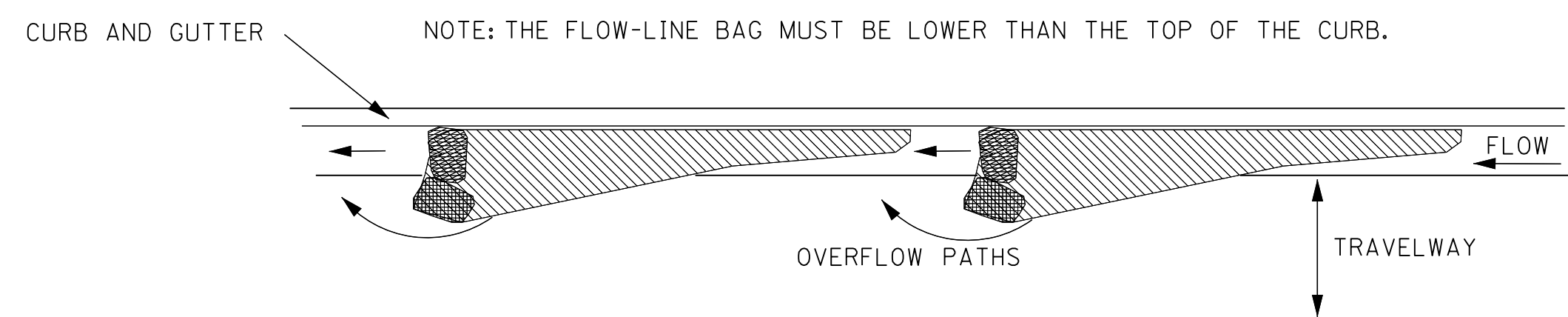
DROP INLET  
PLAN VIEW



SECTION A-A  
SANDBAG BARRIER

CURB INLET PROTECTION NOTES:

1. THIS CURB INLET PROTECTION METHOD CAN BE USED DURING ANY STAGE OF BASE AND PAVEMENT CONSTRUCTION.
2. BAG HEIGHT AND NUMBER OF BAGS SHOULD BE BASED ON CURB HEIGHT AND USE OF TRAVELWAY.
3. SEDIMENT SHOULD BE CONTROLLED PRIOR TO ENTERING GUTTER. GUTTER CHECKS AND INLET PROTECTION ARE FOR SECONDARY CONTROL.
4. REMOVE ACCUMULATED SEDIMENT AFTER EVERY RAINFALL. SWEEP SEDIMENT FROM HARD SURFACES AND DISPOSE OF APPROPRIATELY AWAY FROM INLETS AND/OR WATER BODIES.
5. IF DENUDED AREAS EXIST BEHIND THE INLET, A SEDIMENT BARRIER SHOULD BE INSTALLED AROUND ITS PERIMETER TO CONTROL SEDIMENT.



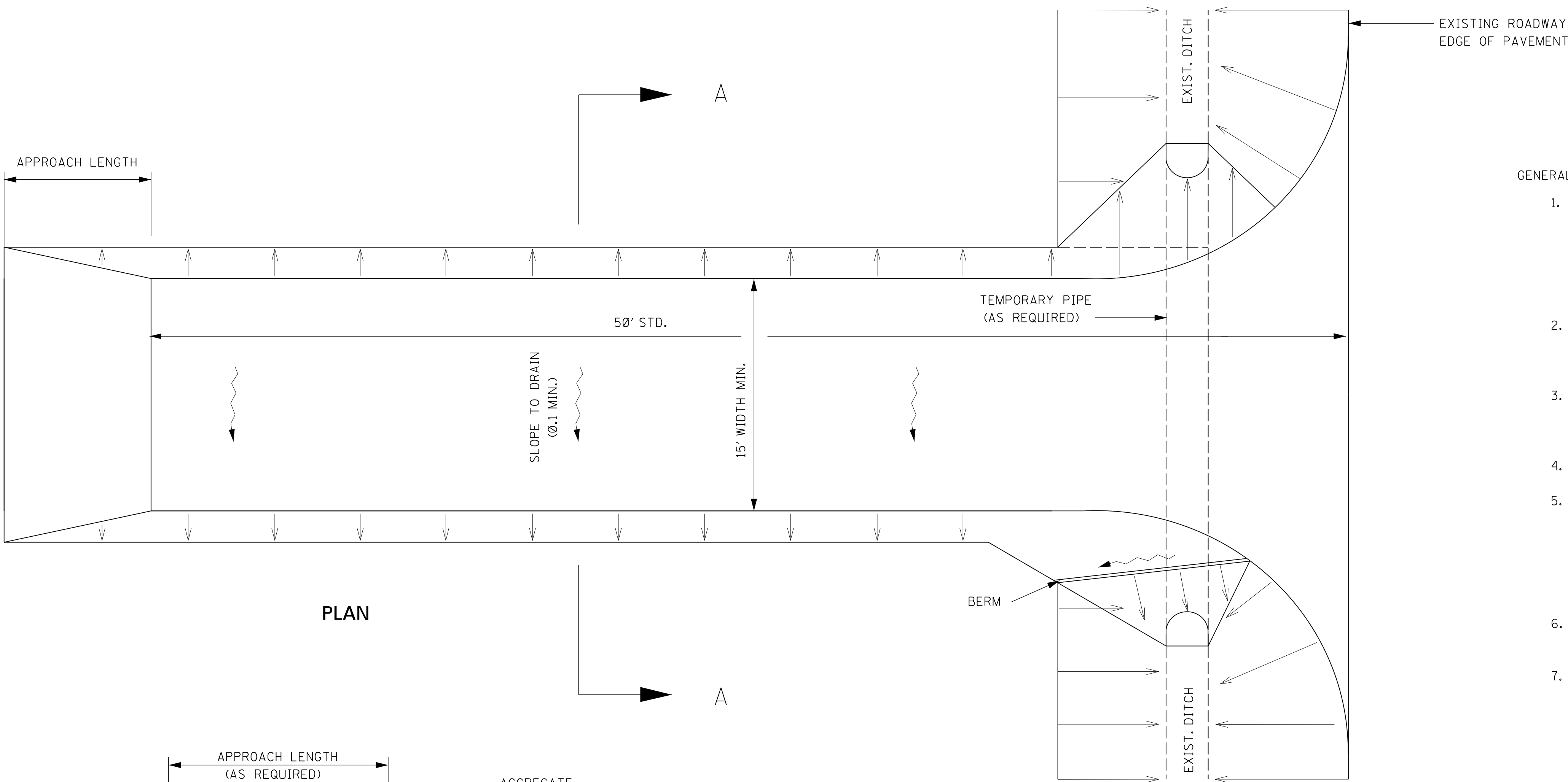
CURB AND GUTTER SEDIMENT  
CONTAINMENT SYSTEM

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	ISSUE DATE: AUGUST 01, 2017

**INLET PROTECTION  
DETAILS OF SANDBAGS**

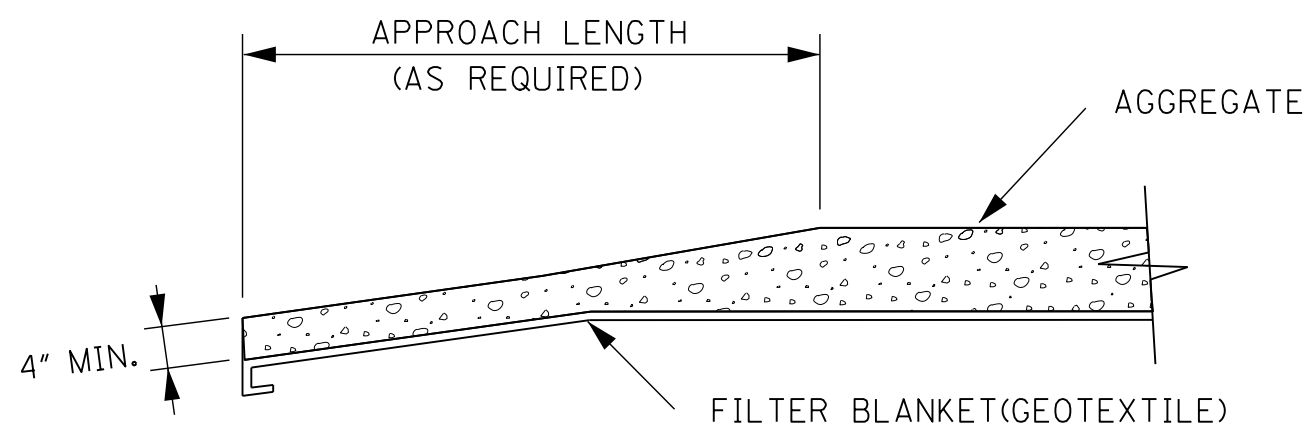
  
WORKING NUMBER  
ECD-15  
SHEET NUMBER  
6115



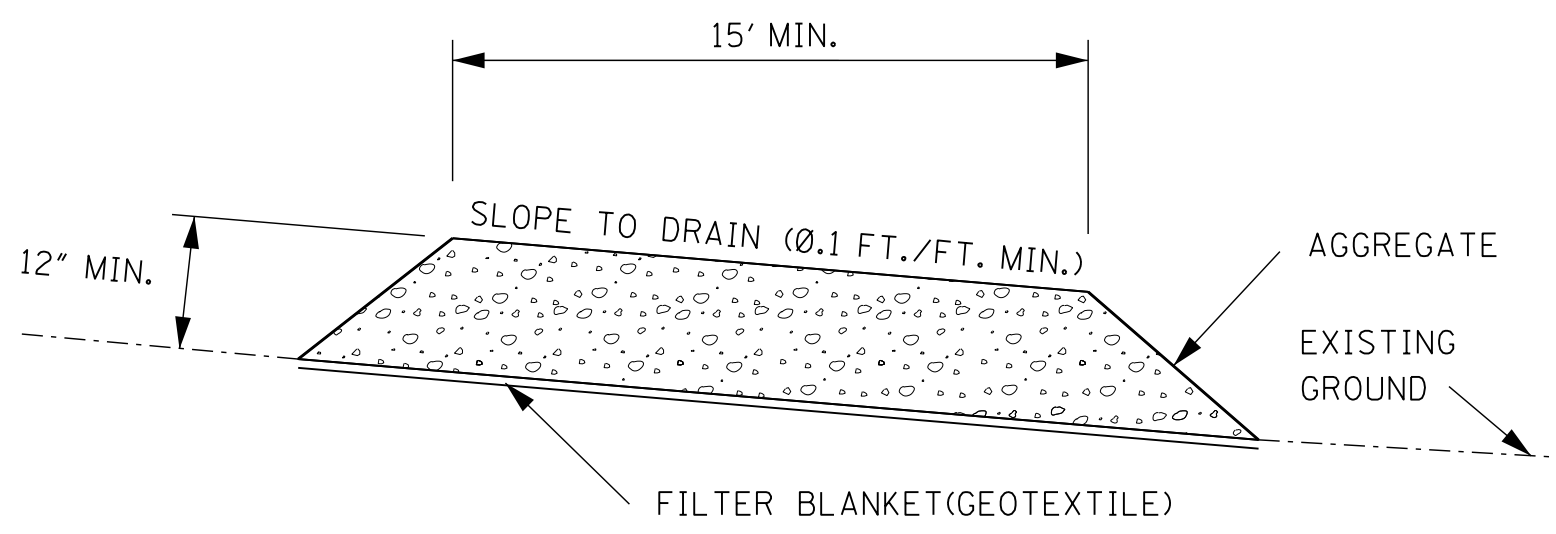


PLAN

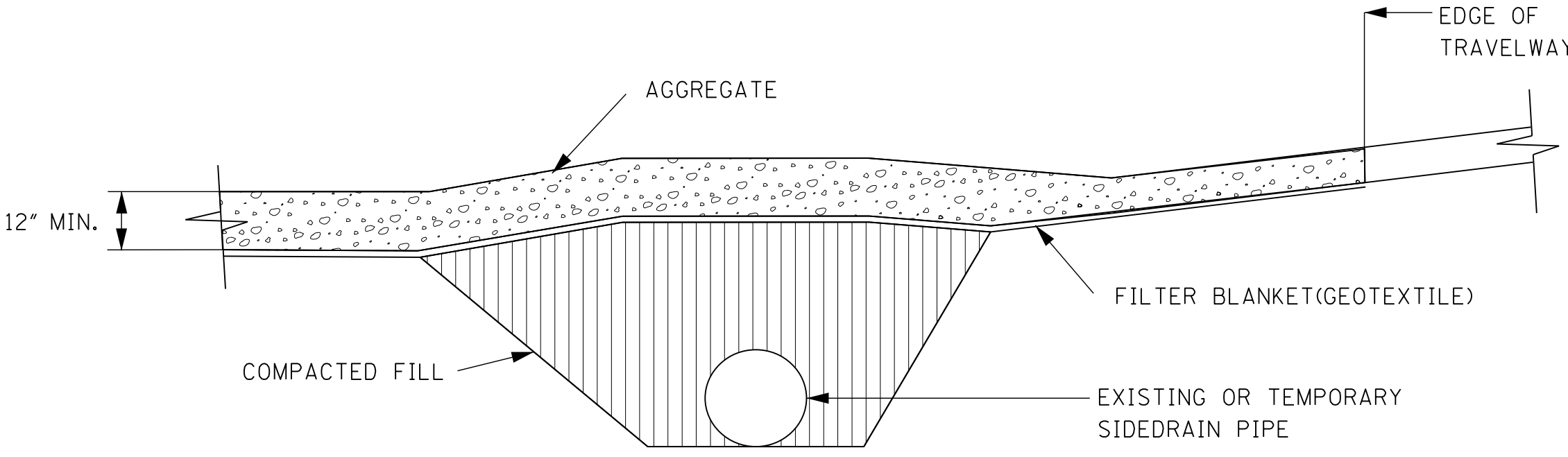
- GENERAL NOTES:
1. A STABILIZED CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AT POINTS OF EGRESS FROM UNSTABILIZED AREAS OF THE PROJECT TO PUBLIC ROADS WHERE OFFSITE TRACKING OF MUD COULD OCCUR. TRAFFIC FROM UNSTABILIZED AREAS OF THE PROJECT SHALL BE DIRECTED THRU THE STABILIZED ENTRANCE. BARRIERS, FLAGGING, OR OTHER POSITIVE MEANS SHALL BE USED AS REQUIRED TO LIMIT AND DIRECT VEHICULAR EGRESS ACROSS THE STABILIZED ENTRANCE.
  2. THE CONTRACTOR MAY PROPOSE AN ALTERNATIVE TECHNIQUE TO MINIMIZE OFFSITE TRACKING OF SEDIMENT. THE ALTERNATIVE MUST BE REVIEWED AND APPROVED BY THE ENGINEER PRIOR TO ITS USE.
  3. ALL MATERIALS SPILLED, DROPPED, OR TRACKED ONTO PUBLIC ROADS (INCLUDING THE STABILIZED CONSTRUCTION ENTRANCE AGGREGATE AND CONSTRUCTION MUD) SHOULD BE REMOVED DAILY, OR MORE FREQUENTLY IF SO DIRECTED BY THE ENGINEER.
  4. SIZE III STABILIZER AGGREGATE OR LARGER SHALL BE USED.
  5. THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL ALLOW IT TO PERFORM ITS FUNCTION TO PREVENT OFFSITE TRACKING. THE STABILIZED CONSTRUCTION ENTRANCE SHOULD BE RINSED WHEN NECESSARY TO MOVE ACCUMULATED MUD DOWNWARD THRU THE STONE. ADDITIONAL STABILIZATION OF THE VEHICULAR ROUTE LEADING TO THE STABILIZED ENTRANCE MAY BE REQUIRED TO LIMIT THE MUD TRACKED.
  6. THE NOMINAL SIZE OF A STANDARD STABILIZED CONSTRUCTION ENTRANCE IS 15' X 50' UNLESS OTHERWISE SHOWN IN THE EROSION CONTROL PLAN.
  7. COSTS OF ALL ITEMS ON THIS SHEET SHALL BE INCLUDED IN OTHER ITEMS BID.



TRANSITION DETAIL

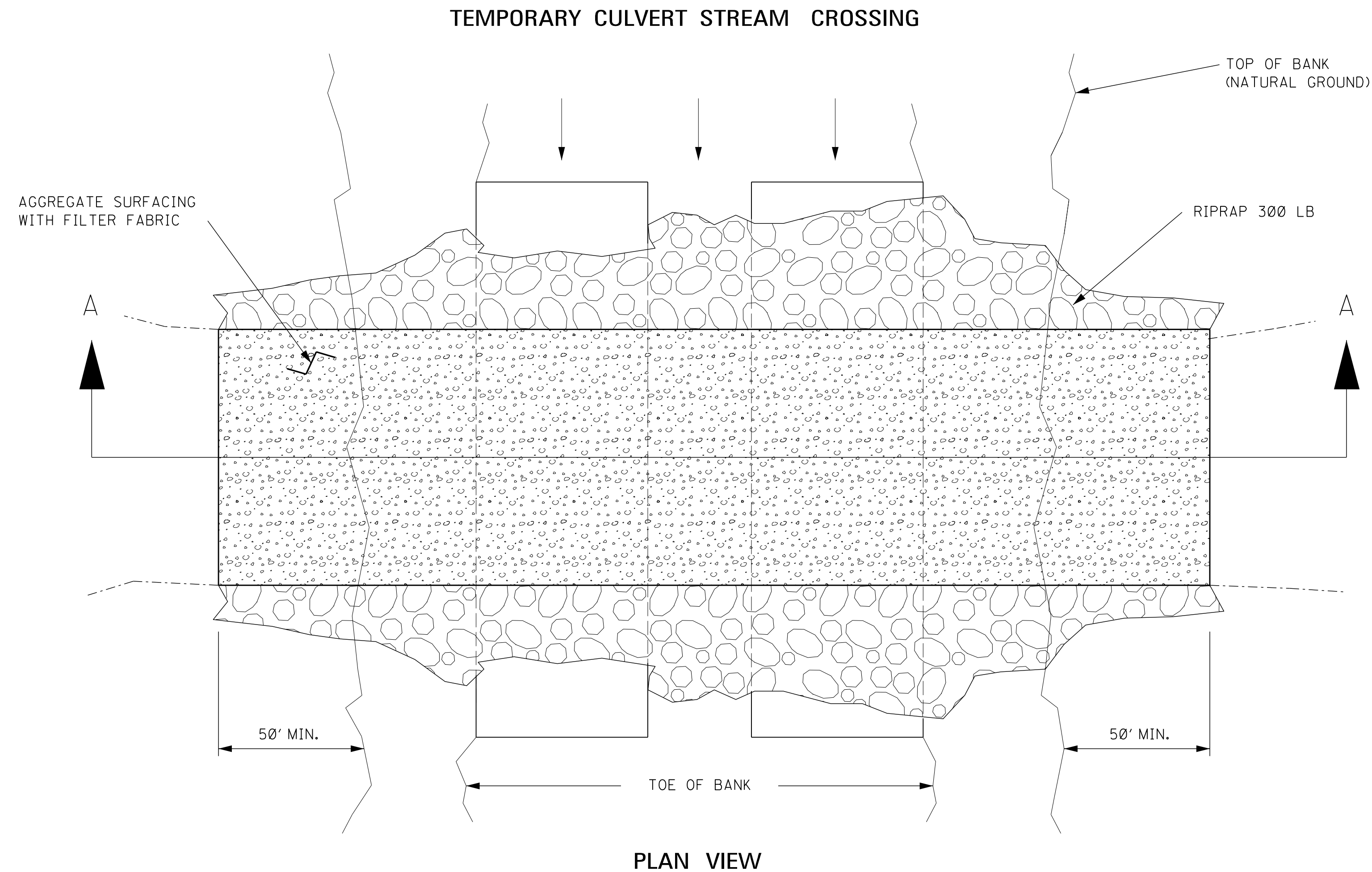


SECTION A-A



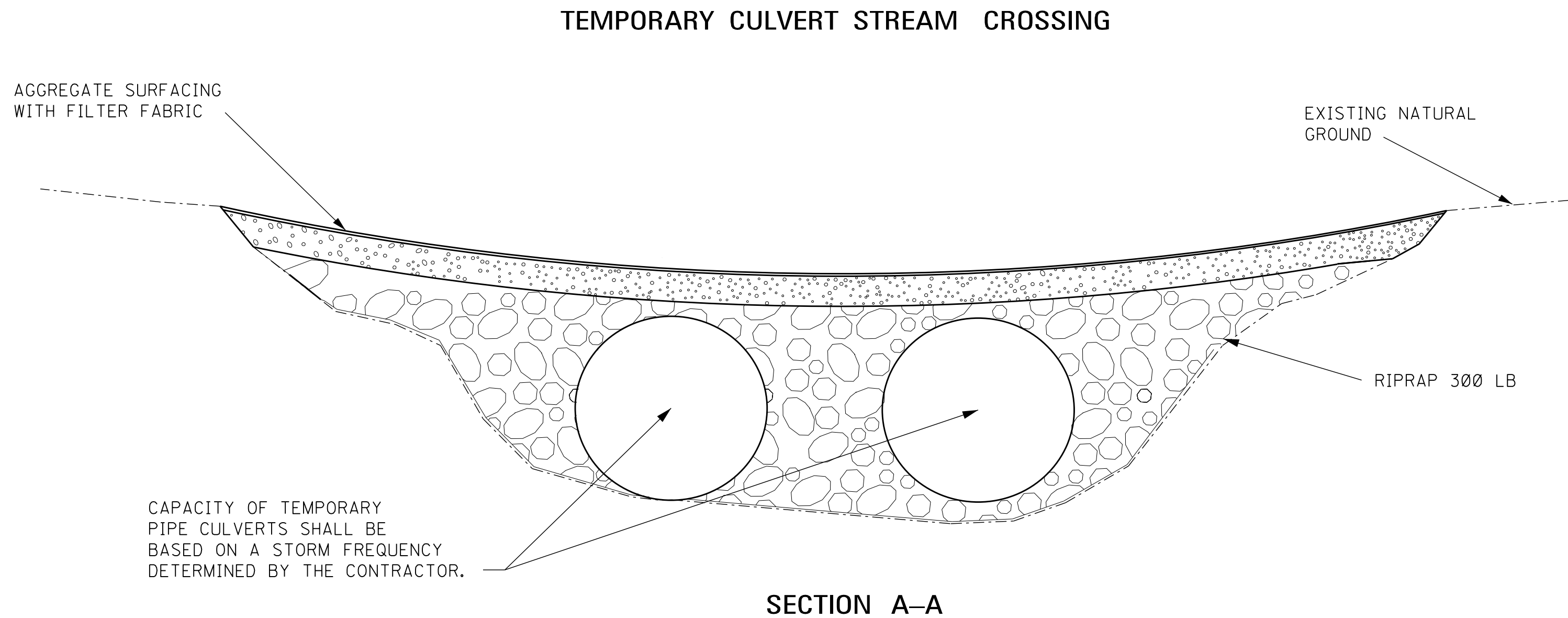
RURAL CONNECTION DETAIL


				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION
				REVISION	ROADWAY DESIGN DIVISION
				DATE	STANDARD PLAN
					<b>STABILIZED CONSTRUCTION ENTRANCE</b>
					ISSUE DATE: AUGUST 01, 2017
					WORKING NUMBER ECD-16
					SHEET NUMBER 6116

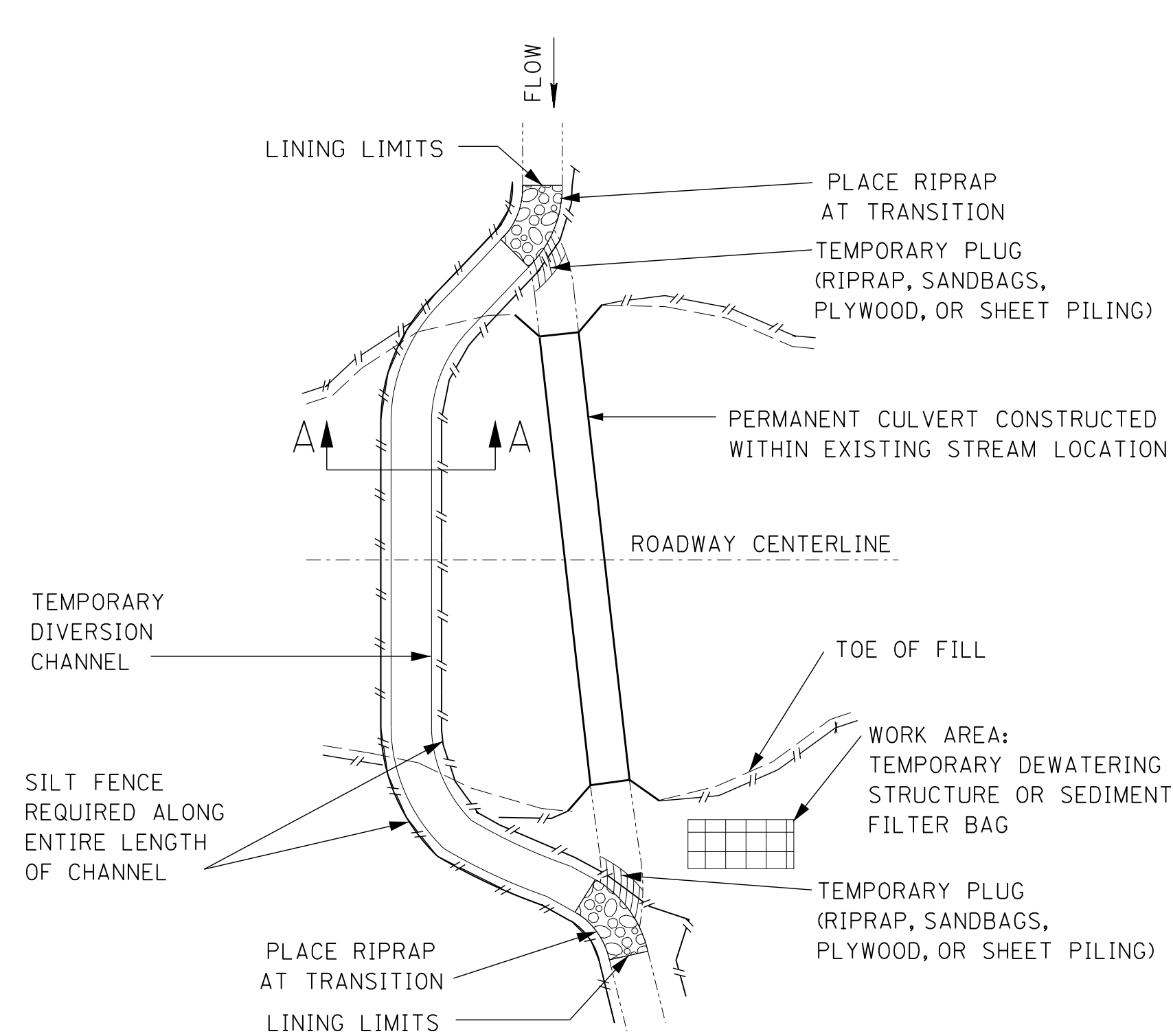


GENERAL NOTES:

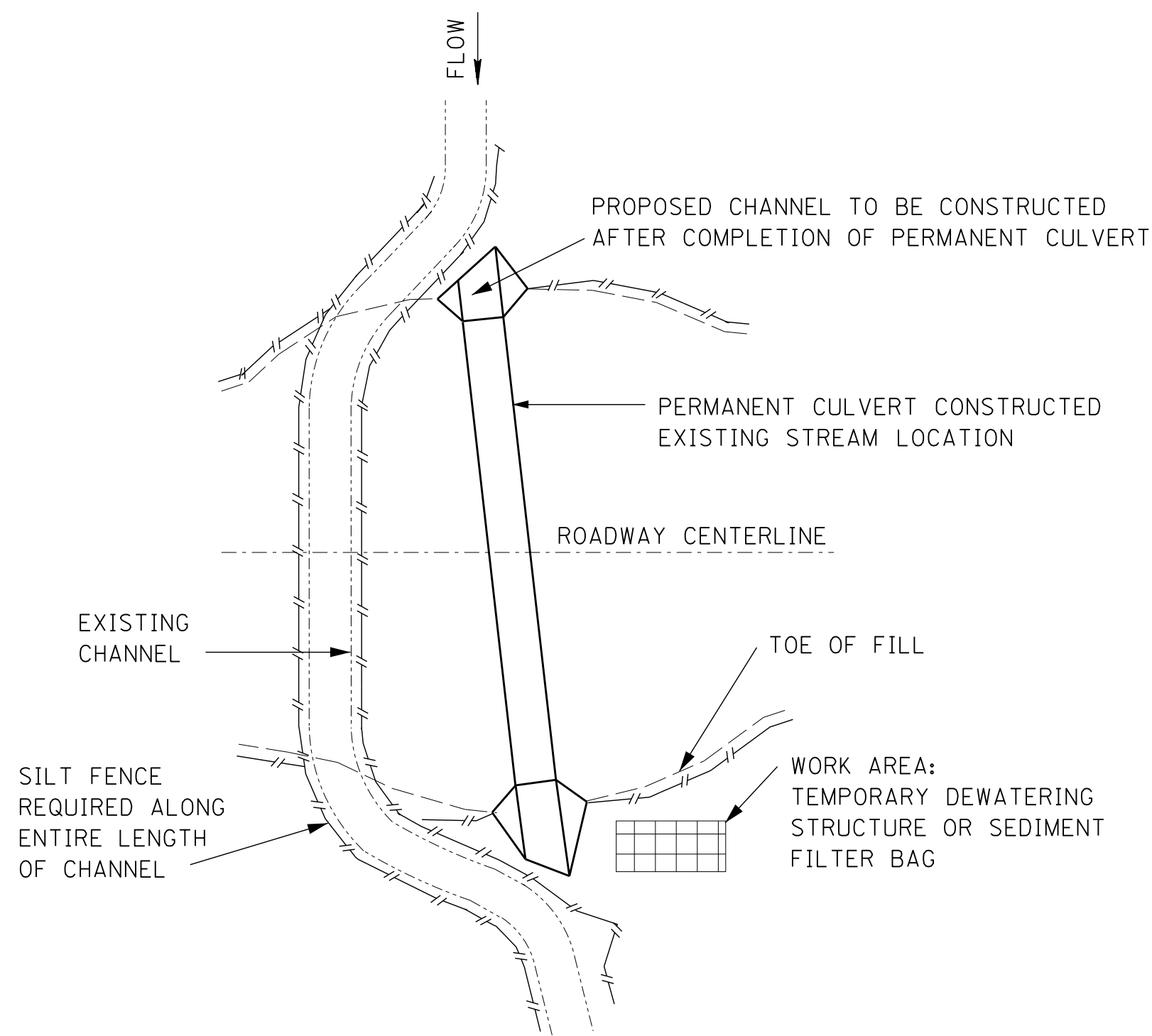
1. TEMPORARY CULVERT STREAM CROSSINGS PROVIDE A MEANS FOR VEHICLES AND EQUIPMENT TO SAFELY CROSS A WATERCOURSE WHILE MINIMIZING DAMAGE TO THE CHANNEL AND/OR BANKS.
2. TEMPORARY CULVERT STREAM CROSSINGS, WHEN PERMITTED BY THE ENGINEER, SHALL BE CONSTRUCTED TO SAFELY PASS EXPECTED MEAN WATER FLOW OF THE STREAM FOR THE TIME OF YEAR AND LENGTH OF TIME THAT THEY ARE INSTALLED.
3. TEMPORARY STREAM CROSSINGS SHALL BE DESIGNED TO ENSURE STRUCTURAL INTEGRITY AND STABILITY, AND MAINTAIN NORMAL DOWNSTREAM FLOWS. THE USE OF INSTREAM CROSSINGS AND INSTREAM AGGREGATE FILL SHOULD BE MINIMIZED TO THE EXTENT PRACTICABLE.
4. A CONTINUOUS PROGRAM OF EFFECTIVE EROSION AND SEDIMENT CONTROL MEASURES SHOULD BE IMPLEMENTED PRIOR TO AND CONCURRENT WITH ANY TYPE OF CONSTRUCTION ACTIVITY WITHIN THE BANKS OF A STREAM. WHEN A CROSSING IS NO LONGER NEEDED, THE STREAMBED AND STREAM BANKS SHALL BE RESTORED TO PRE-DISTURBANCE CONDITIONS, OR SUCH A CONDITION THAT PROVIDES SUBSTANTIALLY EQUIVALENT PROTECTION OF WATER QUALITY.
5. LOCATIONS OR TYPES OF TEMPORARY CULVERT STREAM CROSSINGS WILL NOT BE SHOWN ON THE PLANS AS REQUIRED ITEMS.
6. THE CONTRACTOR MAY PROPOSE OTHER OPTIONS FOR TEMPORARY CROSSINGS SUCH AS STEEL/TIMBER BRIDGE OR MATS.
7. THE DETAILS PROVIDED DEPICT A TYPICAL TEMPORARY CULVERT STREAM CROSSING.
8. ALL COSTS FOR MATERIALS, LABOR, EQUIPEMENT, CONSTRUCTION, REMOVAL, AND MAINTENANCE SHALL BE INCLUDED IN OTHER ITEMS BID.



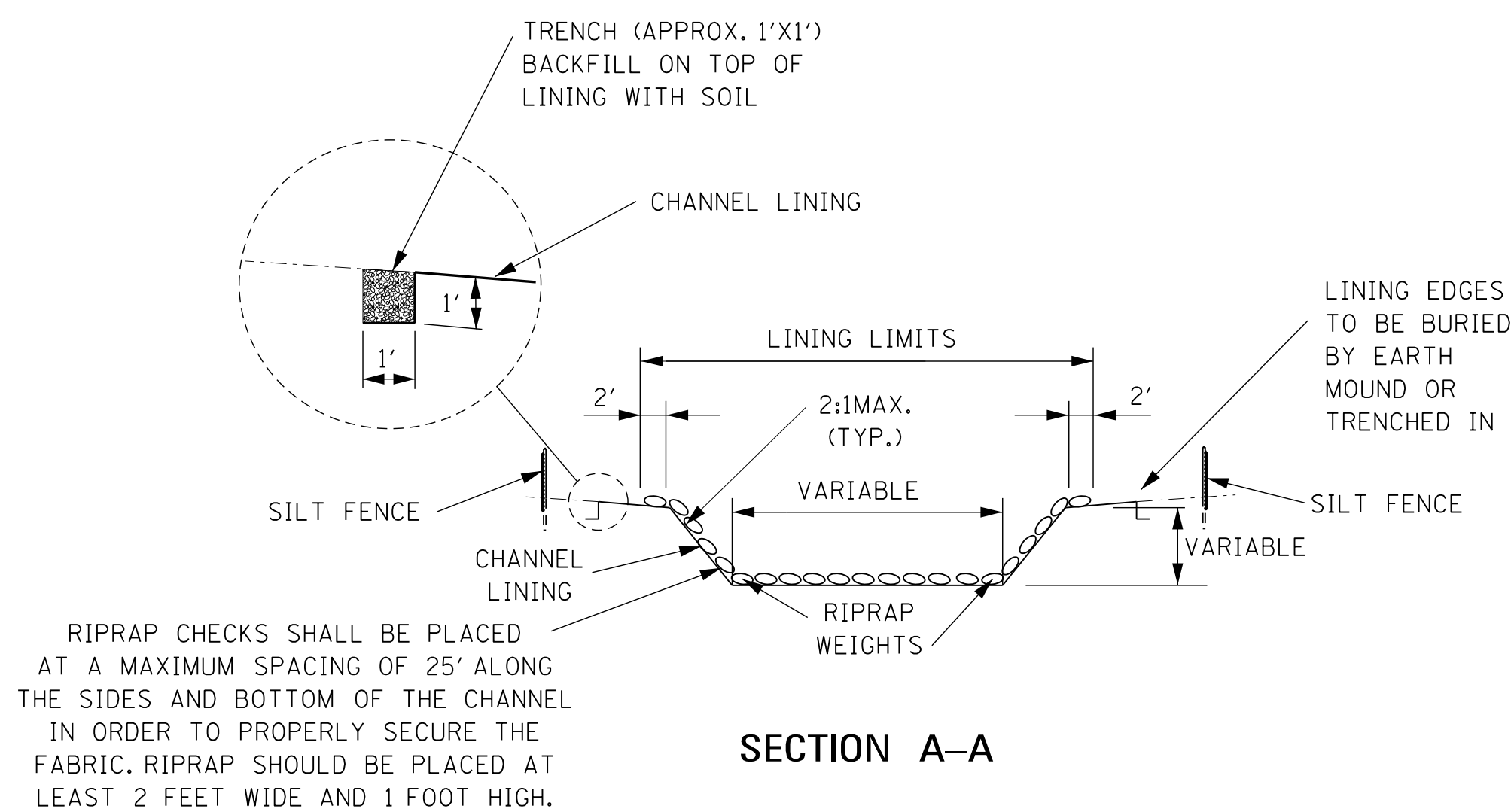
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>TEMPORARY CULVERT STREAM CROSSING</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					 WORKING NUMBER ECD-17 SHEET NUMBER 6117



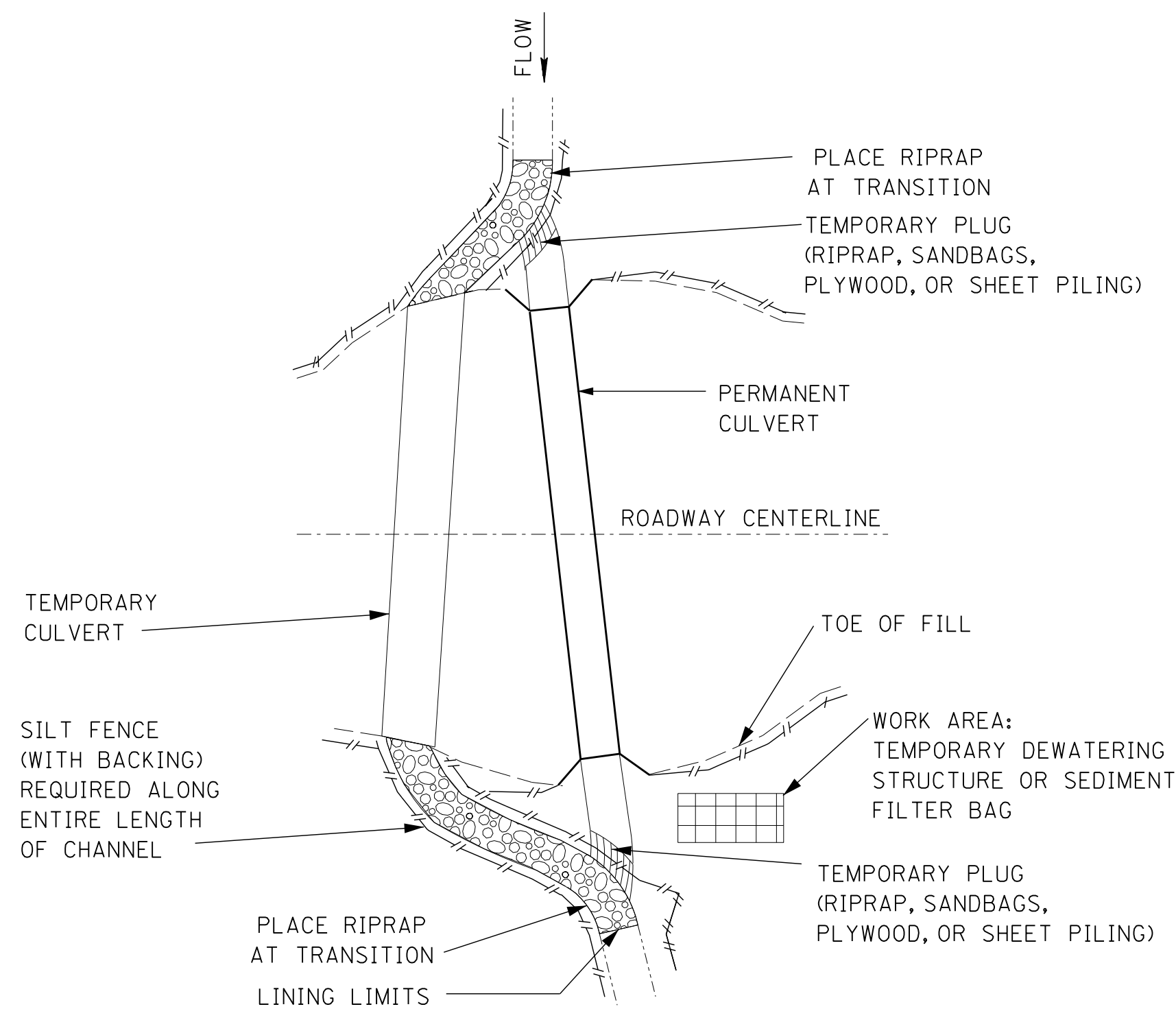
CULVERT CONSTRUCTED  
WITHIN EXISTING STREAM



CULVERT CONSTRUCTED  
OUTSIDE EXISTING STREAM



TEMPORARY DIVERSION CHANNEL  
WITH GEOTEXTILE FABRIC



TEMPORARY CULVERT  
USED DURING CONSTRUCTION

GENERAL NOTES:

1. TEMPORARY DIVERSION CHANNELS MAY BE USED TO DIVERT NORMAL STREAM PATH FLOW FROM AN ERODIBLE AREA UNTIL SUCH AREAS CAN BE STABILIZED.
2. TYPE III FILTER FABRIC OR PRE-FAB DITCH LINER MAY BE USED FOR CHANNEL LINING.
3. RIPRAP WITH FILTER FABRIC MAY BE USED FOR CHANNEL FLOW VELOCITIES OF 3 FPS TO 9 FPS. THE RIPRAP SHALL BE SIZE 300 LB.
4. LOCATIONS OR TYPES OF TEMPORARY DIVERSIONS WILL NOT BE SHOWN ON THE PLANS.
5. DIVERSION CHANNEL SHALL BE STABILIZED AND INSPECTED BY THE ENGINEER BEFORE FLOW IS DIVERTED.
6. DURING CONSTRUCTION OF DIVERSION CHANNEL, DAMAGE TO THE EXISTING STREAM, CANOPY REMOVAL, AND DEPTH OF THE CHANNEL CONSTRUCTION SHOULD BE MINIMIZED.
7. CONSTRUCTION OF THE CHANNEL RELOCATIONS AND CULVERTS SHALL PROCEED AS FOLLOWS:
  - 7.1 CONSTRUCT A MEANDERING TEMPORARY CHANNEL CHANGE ADJACENT TO THE PROPOSED CULVERT TO DIVERT WATER TEMPORARILY DURING THE CULVERT CONSTRUCTION. TEMPORARY EROSION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
  - 7.2 RELOCATE CHANNEL AND CONSTRUCT CULVERT SIMULTANEOUSLY.
  - 7.3 SOD AND/OR RIPRAP RECONSTRUCTED BANKS AT TRANSITIONS. THE UPPER CHANNEL PLUG IS TO REMAIN IN PLACE UNTIL SUBNOTE 7.1 THROUGH 7.4 UNDER THIS HEADING ARE COMPLETED TO INSURE THAT ALL CONSTRUCTION IS IN THE DRY.
  - 7.4 IF AN EARTH PLUG IS NECESSARY AT THE DOWNSTREAM END OF THE CHANNEL IT SHOULD BE REMOVED FIRST, THEN REMOVE THE UPPER PLUG TO RELEASE WATER INTO THE RECONSTRUCTED CHANNEL.
  - 7.5 PLUGS SHOULD REMAIN IN PLACE UNTIL PERMANENT STABILIZATION OF THE NEW WATER COURSE IS COMPLETED. REMOVAL OF PLUGS SHOULD ONLY BE PERFORMED FOLLOWING ACCEPTANCE OF ALL STABILIZATION WORK BY THE ENGINEER.
8. THE DETAILS PROVIDED DEPICT TYPICAL TEMPORARY DIVERSION CHANNELS.
9. THE CONTRACTOR MAY PROPOSE THE USE OF OTHER DIVERSION OPTIONS SUCH AS PIPING, PUMPING OR STAGED CONSTRUCTION.
10. THE EFFECTIVE AREA OF FLOW IN THE TEMPORARY CHANNEL OR CULVERT SHALL BE A MINIMUM OF ONE-HALF THAT OF THE EXISTING STRUCTURE.
11. INSTALLATION OF FILTER FABRIC SHALL BEGIN AT THE DOWNSTREAM END AND PROGRESS UPSTREAM. EDGES OF ADJACENT FILTER FABRIC SHALL OVERLAP AT LEAST 1 FOOT. THE ENDS OF THE FILTER FABRIC SHALL BE SECURELY HELD IN PLACE WITH RIPRAP.
12. THE COST OF THE TEMPORARY DEWATERING STRUCTURE OR SEDIMENT FILTER BAG SHALL BE INCLUDED IN OTHER ITEMS BID.

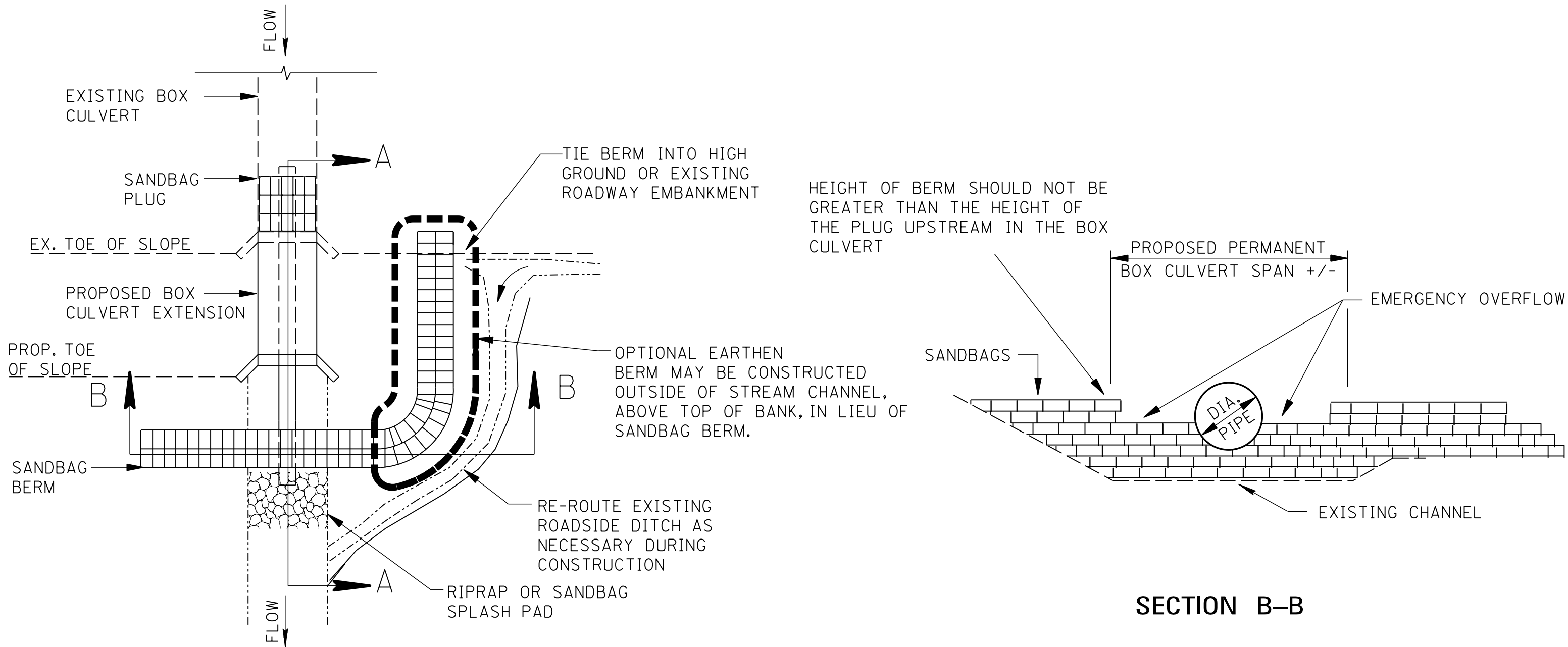
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	ISSUE DATE: AUGUST 01, 2017

**TEMPORARY STREAM  
DIVERSION**

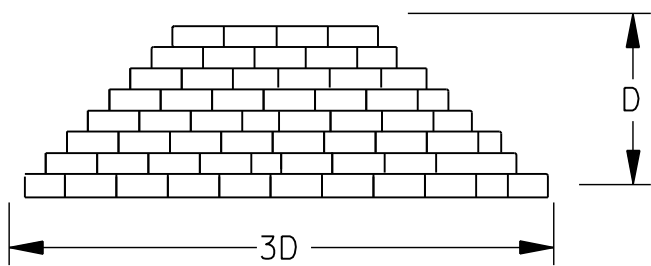
  
WORKING NUMBER  
ECD-18  
SHEET NUMBER  
6118

MAXIMUM SPAN FOR PIPE SUPPORTS, FEET					
DIAMETER OF PIPE (IN.)	STEEL THICKNESS (IN.)				
	0.064	0.079	0.109	0.138	0.168
	2" x 1/2" CORRUGATION				
24	13	15	20		
36	12	15	20	25	
48	11	14	19	25	30
60		14	19	24	29
72			18	24	29
	5" X 1" OR 3" X 1" CORRUGATION				
	36	9	11		
	48	9	11		
	60	8	10	14	
	72	8	10	14	18
					22

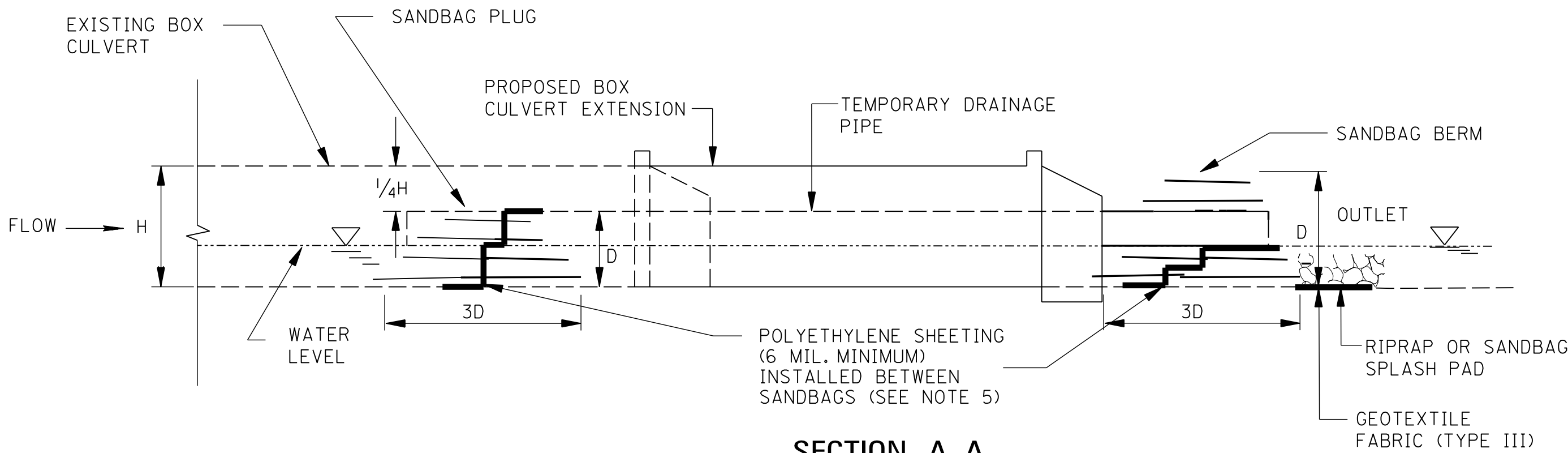
FOR PIPE SIZES NOT SHOWN REFER TO NEXT LARGER SIZE



PLAN VIEW



SANDBAG PLUG & BERM CROSS SECTION  
(SEE NOTE 4)



SECTION A-A

GENERAL NOTES:

- SUSPENDED PIPE DIVERSIONS MAY BE USED TO ALLOW BOX CULVERT EXTENSIONS TO BE CONSTRUCTED, WHILE SEPARATED FROM FLOWING WATER, THUS REDUCING SEDIMENTATION. OPTIONAL FLEXIBLE PIPE DIVERSION MAY BE UTILIZED ON STREAMS WITH INTERMITTENT FLOW WHERE THE DURATION OF CONSTRUCTION IS EXPECTED TO BE BRIEF.
- EXCAVATION SLOPES FOR BOX CULVERT EXTENSIONS SHALL BE PROTECTED WITH TYPE III FILTER FABRIC PRIOR TO CONSTRUCTION OF THE BOX.
- SUSPENDED PIPE DIVERSIONS MAY BE USED WHERE ADVERSE IMPACTS WILL NOT BE CAUSED BY WATER PONDED UPSTREAM OF THE PIPE.
- THE SANDBAG PLUG AT THE UPSTREAM END OF THE SUSPENDED PIPE DIVERSION SHOULD BE CONSTRUCTED TO A HEIGHT EQUAL TO THREE QUARTERS OF THE RISE OF THE BOX CULVERT.
- POLYETHYLENE SHEETING (6 MIL. MINIMUM) SHALL BE PLACED INSIDE THE SANDBAG PLUG IN THE BOX CULVERT AND IN THE SANDBAG BERM WITHIN THE CHANNEL IN ORDER TO PROVIDE THE BEST POSSIBLE SEAL. SANDBAGS ON THE DOWNSTREAM SIDE OF THE SHEETING SHOULD BE PLACED FIRST, AND THEN SHEETING PLACED ON THESE BAGS. AS MUCH AS POSSIBLE, THE SHEETING SHOULD BE FITTED AROUND THE PIPE. SANDBAGS SHOULD THEN BE PLACED ON THE SHEETING. WHERE MULTIPLE SHEETS ARE USED, THEY SHOULD OVERLAP A MINIMUM OF 18 INCHES.
- THE PROPOSED CULVERT CONSTRUCTION SHALL BE SEALED FROM THE EXISTING STREAM BY MEANS OF A SANDBAG BERM WHICH SHOULD BE AT THE SAME HEIGHT AS THE PLUG INSIDE THE BOX CULVERT. THIS BERM SHOULD BE TIED INTO EITHER HIGH GROUND ADJACENT TO THE CHANNEL OR THE EXISTING ROADWAY EMBANKMENT. IT SHALL BE PROVIDED WITH A SPILLWAY EQUAL IN WIDTH TO THE BOX CULVERT AND AT A HEIGHT LOWER THAN THE REST OF THE BERM.
- THE TEMPORARY DRAINAGE PIPE SHALL BE SUPPORTED AT ALL JOINTS AND AT INTERVALS NOT TO EXCEED MAXIMUM VALUES SPECIFIED IN THE TABLE "MAXIMUM SPAN FOR PIPE SUPPORTS". SUPPORTS MAY CONSIST OF SANDBAGS, CONCRETE BLOCKS, WOODEN FRAMES, OR ANY OTHER MATERIAL SUFFICIENT TO SUPPORT THE WEIGHT OF THE PIPE WHEN IT IS FLOWING FULL. SUPPORTS AT JOINTS SHALL BE A MINIMUM OF 18 INCHES IN LENGTH, ALONG THE TEMPORARY DRAINAGE PIPE AND CENTERED ON THE JOINT. SUPPORTS SHOULD "CRADLE" THE TEMPORARY DRAINAGE PIPE TO ENSURE THAT IT WILL NOT ROLL DURING CONSTRUCTION OF THE BOX CULVERT.
- ALL PIPE JOINTS SHALL BE PROPERLY Banded OR OTHERWISE PROVIDED WITH A REASONABLE SEAL AGAINST LEAKAGE.
- THE OPTIONAL FLEXIBLE PIPE DIVERSION USING PUMPS MAY BE USED AS AN ALTERNATE FOR SUSPENDED PIPE DIVERSIONS (UPSTREAM AND DOWNSTREAM).
- CONSTRUCTION SHALL PROCEED AS FOLLOWS:
  - INSTALL TEMPORARY DRAINAGE PIPE ON ITS SUPPORTS INSIDE THE CULVERT TO BE EXTENDED.
  - CONSTRUCT THE SANDBAG PLUG AT THE UPSTREAM END OF THE SUSPENDED PIPE DIVERSION.
  - CONSTRUCT THE SANDBAG BERM AT THE DOWNSTREAM END OF THE SUSPENDED PIPE DIVERSION.
  - ONCE THE BOX CULVERT EXTENSION HAS BEEN COMPLETED, REMOVE THE DOWNSTREAM SANDBAG STRUCTURE, EXCEPT FOR THOSE BAGS NEEDED TO SUPPORT THE END OF THE PIPE. THE UPSTREAM SANDBAG STRUCTURE SHOULD THEN BE REMOVED GRADUALLY, IN ORDER TO ALLOW THE UPSTREAM WATER LEVEL TO DRAW DOWN AT A SAFE RATE.
  - REMOVE THE TEMPORARY DRAINAGE PIPE, SUPPORTS AND ANY REMAINING SANDBAGS.
- TEMPORARY DRAINAGE PIPE, SANDBAG PLUGS, BERMS, AND SUPPORTS SHOULD BE INSPECTED WEEKLY OR AFTER EVERY RAIN EVENT. ANY NEEDED REPAIRS SHALL BE DONE IMMEDIATELY. ANY DEBRIS WHICH HAS ACCUMULATED AT THE INLET OF THE SUSPENDED PIPE DIVERSION SHALL BE IMMEDIATELY REMOVED.
- RIPRAP MAY BE SUBSTITUTED FOR SANDBAGS.

BY

REVISION

DATE

MISSISSIPPI DEPARTMENT OF TRANSPORTATION  
ROADWAY DESIGN DIVISION  
STANDARD PLAN

TEMPORARY STREAM  
DIVERSION (BOX  
EXTENSIONS)

ISSUE DATE: AUGUST 01, 2017

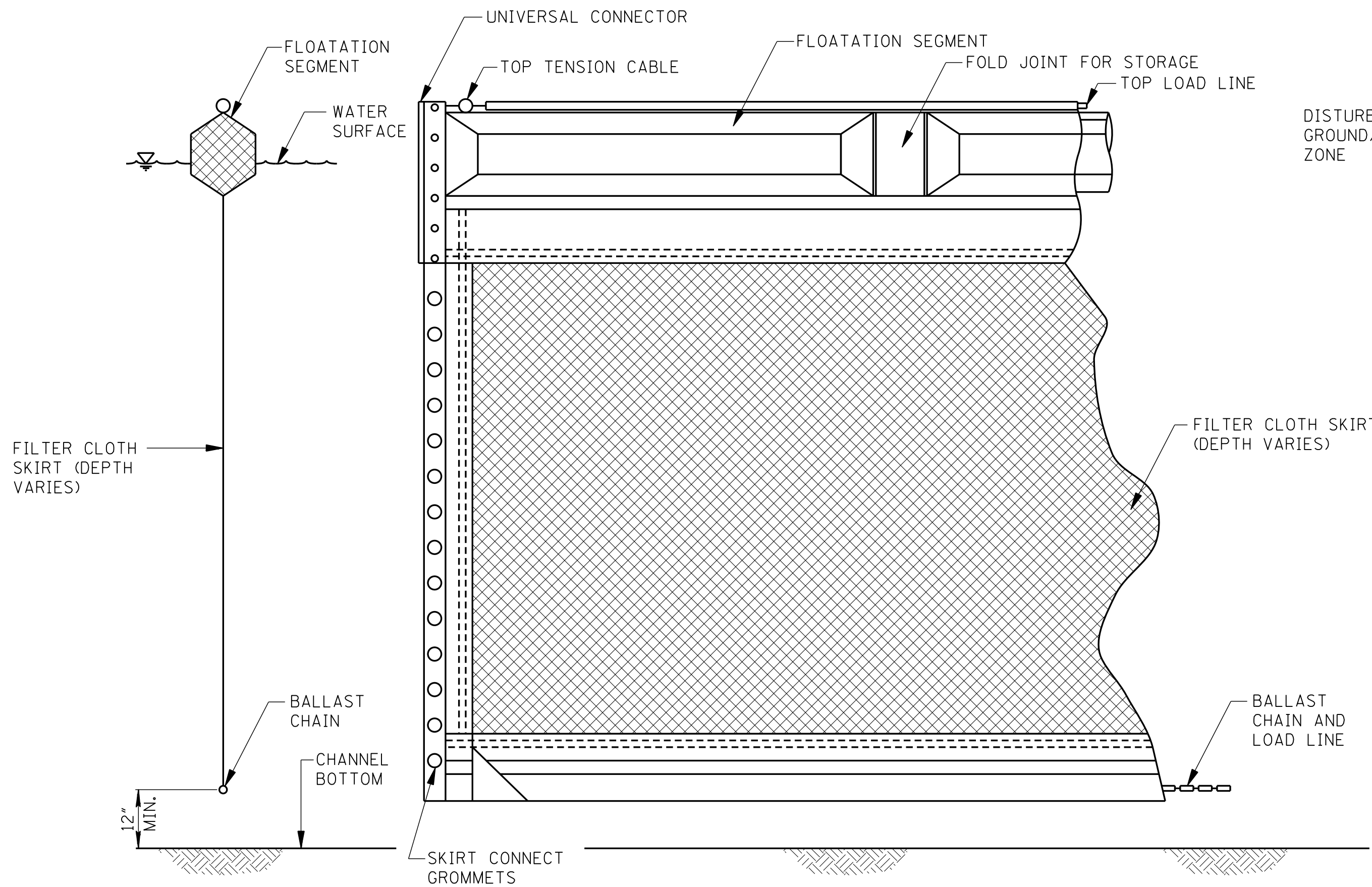
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MISSISSIPPI DEPARTMENT OF TRANSPORTATION

WORKING NUMBER  
ECD-19

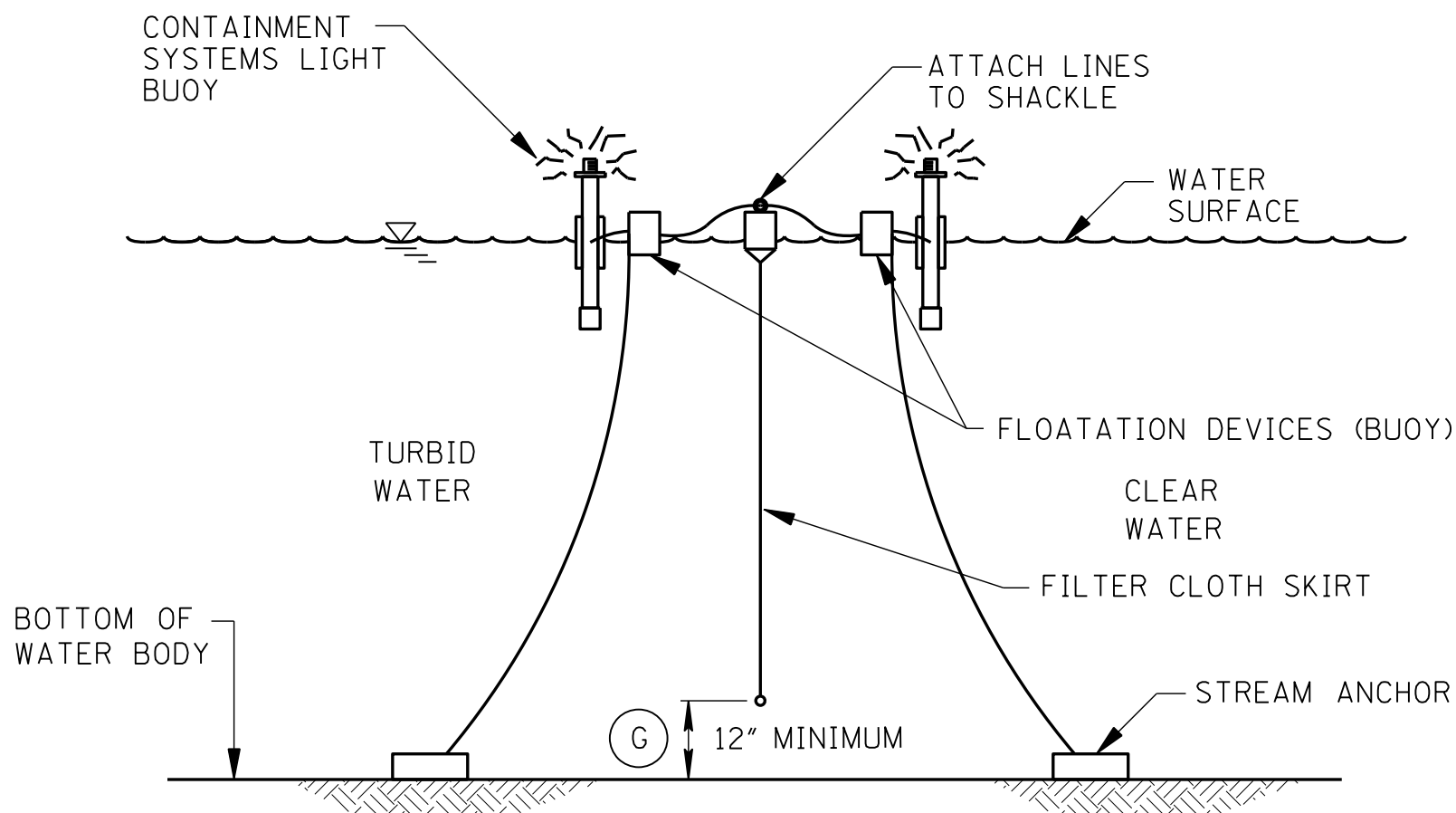
SHEET NUMBER  
6119



FLOATING TURBIDITY CURTAIN



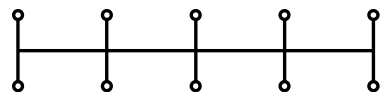
TYPICAL ANCHORING SECTION



SECTION A-A

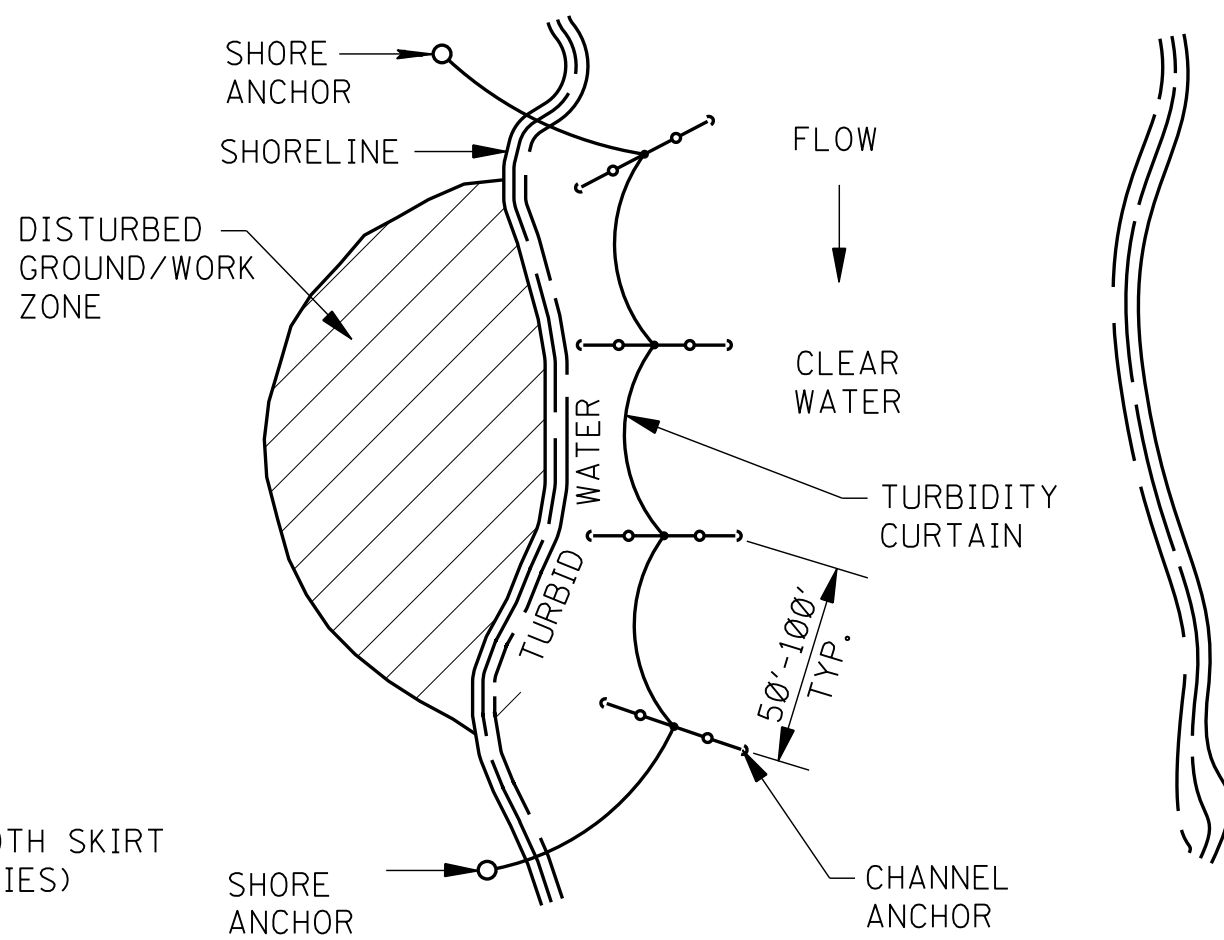
AUTOMATIC FLASHING LIGHT BUOY  
(ON AT DUSK-OFF AT DAWN) 100'  
ON CENTER SHALL BE USED IN  
NAVIGABLE CHANNELS ONLY

EROSION CONTROL PLAN LEGEND:



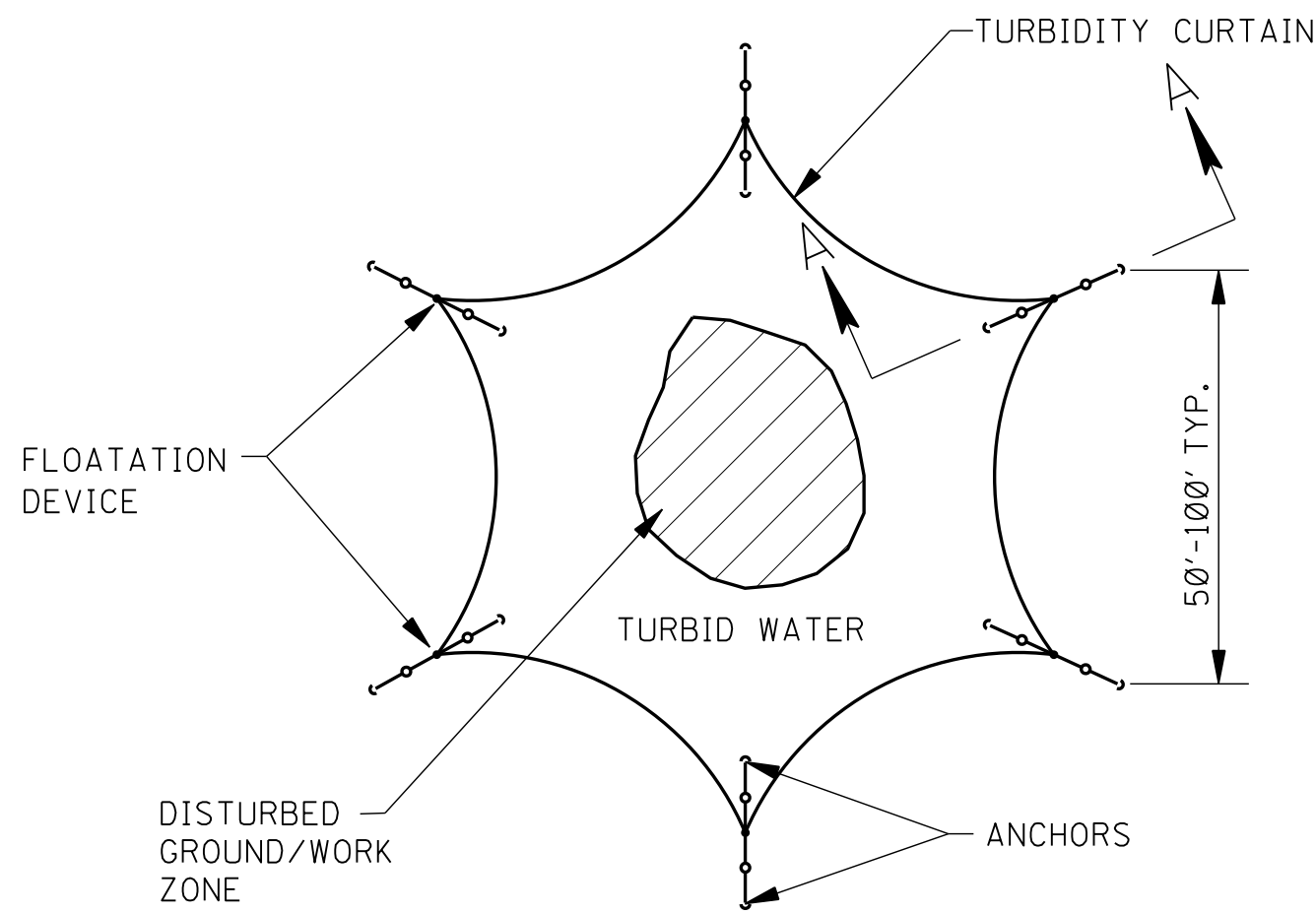
FLOATING TURBIDITY CURTAIN

TYPICAL ANCHORING PLAN FOR  
SHORELINE/RIVER EDGE WORK



PLAN VIEW

TYPICAL ANCHORING PLAN FOR  
MID CHANNEL WORK  
(BRIDGE PIER, CAISSON, ETC.)



PLAN VIEW

GENERAL NOTES:

1. FLOATING TURBIDITY CURTAINS (ALSO KNOWN AS TURBIDITY BARRIERS OR SILT CURTAINS) CREATE A BARRIER TO PREVENT TURBID WATER FROM ENTERING CLEAR WATER. FLOATING TURBIDITY CURTAINS SHOULD BE USED TO ISOLATE ACTIVE CONSTRUCTION AREAS WITHIN OR ADJACENT TO A BODY OF WATER TO MINIMIZE THE MIGRATION OF SILT LADEN WATER OUT OF THE CONSTRUCTION ZONE.
2. TURBIDITY CURTAINS SHALL NOT BE INSTALLED PERPENDICULAR ACROSS THE MAIN FLOW OF A SIGNIFICANT BODY OF MOVING WATER.
3. FLOATING TURBIDITY CURTAINS SHOULD NOT BE USED WHERE THE ANTICIPATED FLOW VELOCITIES WILL EXCEED 5 FT/SEC.
4. TURBIDITY CURTAINS SHALL BE ANCHORED TO PREVENT DRIFT SHOREWARD OR DOWNSTREAM. ANCHORAGE SHALL BE INSTALLED ON BOTH SHORE AND STREAM SIDE. CURTAINS SHOULD BE INSTALLED AS CLOSE TO PROJECT SITE AS POSSIBLE. BARRIERS SHOULD BE A BRIGHT COLOR (YELLOW OR "INTERNATIONAL" ORANGE ARE RECOMMENDED) THAT WILL ATTRACT THE ATTENTION OF NEARBY BOATERS.
5. SHORE ANCHORS SHALL CONSIST OF A POST WITH DEADMAN OR APPROVED EQUAL. STREAM ANCHORS SHALL BE OF SUFFICIENT SIZE TO STABILIZE THE BARRIER WITH NUMBER AND SPACING DEPENDENT ON WATERWAY VELOCITIES AND MANUFACTURER'S RECOMMENDATIONS.
6. IN SHALLOW WATER (2 FEET OF DEPTH OR LESS) A TURBIDITY CURTAIN MAY BE INSTALLED ON STAKES DRIVEN INTO THE BED OF THE WATER BODY.
7. FABRIC SECTIONS SHALL BE CONNECTED END TO END WITH MINIMUM 5/8" DIAMETER POLYPROPYLENE ROPE. FABRIC SHALL BE SEAMED TOGETHER IN A MANNER THAT RETAINS THE OVERALL TENSILE STRENGTH.
8. DESIGN OF CURTAIN AND ANCHORAGE SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. FILTER CLOTH SKIRT SHOULD BE ABLE TO WITHSTAND THE FORCES IMPARTED ON IT DUE TO THE EXPECTED WIND VELOCITY OR STREAM VELOCITY. FABRIC SHALL BE MADE OF A NON-DETERIORATING MATERIAL, SUCH AS PLASTIC OR NYLON, WHICH WILL ALLOW WATER TO PASS THROUGH WHILE STILL RETAINING SEDIMENT.
9. THE TURBIDITY CURTAIN AND ADJACENT WORK AREAS SHALL NOT BE DISTURBED 12 HOURS PRIOR TO REMOVAL FROM THE WATER BODY. MAINTENANCE SHALL BE PERFORMED AS NEEDED. CONTRACTOR SHALL REMOVE THE CURTAIN AT COMPLETION OF WORK IN A MANNER THAT WILL PREVENT SILTATION OF THE WATERWAY. DURING REMOVAL, EXTREME CARE SHOULD BE TAKEN NOT TO DISTURB ANY SEDIMENT DEPOSITS.
10. MAINTAIN 12" MINIMUM GAP BETWEEN SKIRT BOTTOM AND CHANNEL BOTTOM TO PREVENT ACCUMULATED SEDIMENT FROM PULLING TOP OF CURTAIN BELOW WATER SURFACE.
11. IN WIND OR WAVE ACTION SITUATIONS, THE MAXIMUM DEPTH OF THE CURTAIN SHALL BE 12 FEET.
12. CONCENTRATED FLOWS SHALL NOT DISCHARGE BEYOND FLOATING TURBIDITY CURTAIN. CURTAINS ARE NOT TO BE INSTALLED ACROSS FLOWING BODY OF WATER.
13. WHEN INSTALLED IN A NAVIGABLE WATERWAY, BUOYS SHOULD BE LIT ACCORDING TO REGULATORY AGENCY STANDARDS.
14. WHEN ESTIMATING THE LENGTH OF THE TURBIDITY CURTAIN, ALLOW 10 TO 20 PERCENT VARIANCE IN STRAIGHT LINE MEASUREMENT.
15. PAYMENT FOR FLOATING TURBIDITY CURTAIN SHALL INCLUDE ALL MATERIAL AND ALL LABOR NECESSARY FOR CONSTRUCTION, MAINTENANCE, AND REMOVAL OF TURBIDITY CURTAIN.
16. ONLY FLOATING TURBIDITY CURTAINS LISTED ON THE APPROVED PRODUCTS LIST MAY BE USED.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION  
ROADWAY DESIGN DIVISION  
STANDARD PLAN

FLOATING TURBIDITY  
CURTAIN

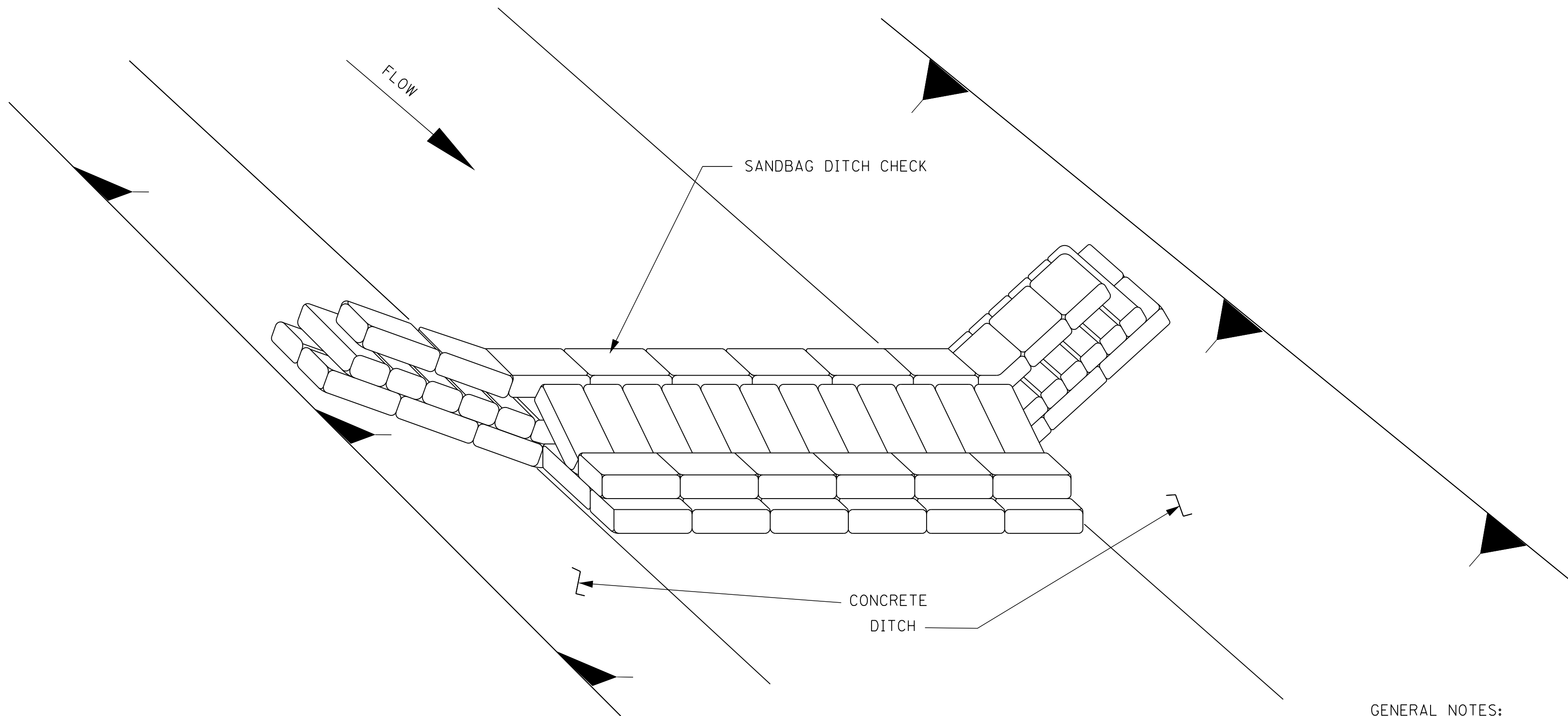


WORKING NUMBER  
ECD-20

SHEET NUMBER  
6120

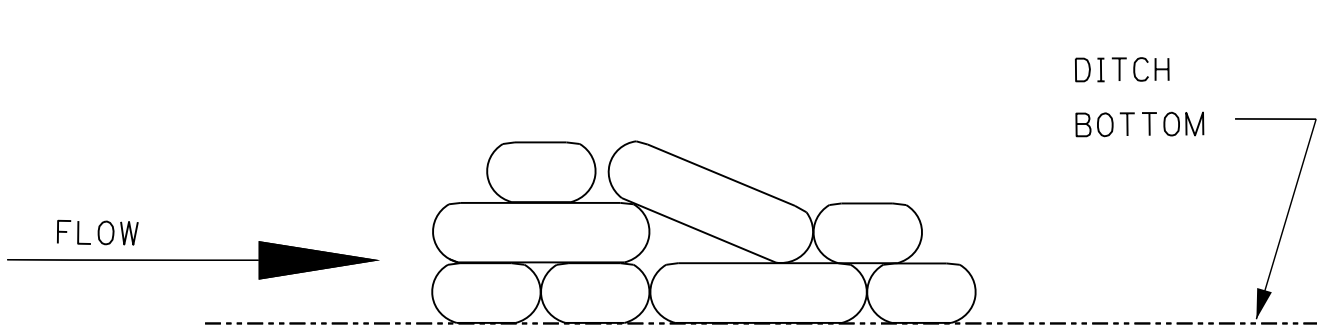
ISSUE DATE: AUGUST 01, 2017



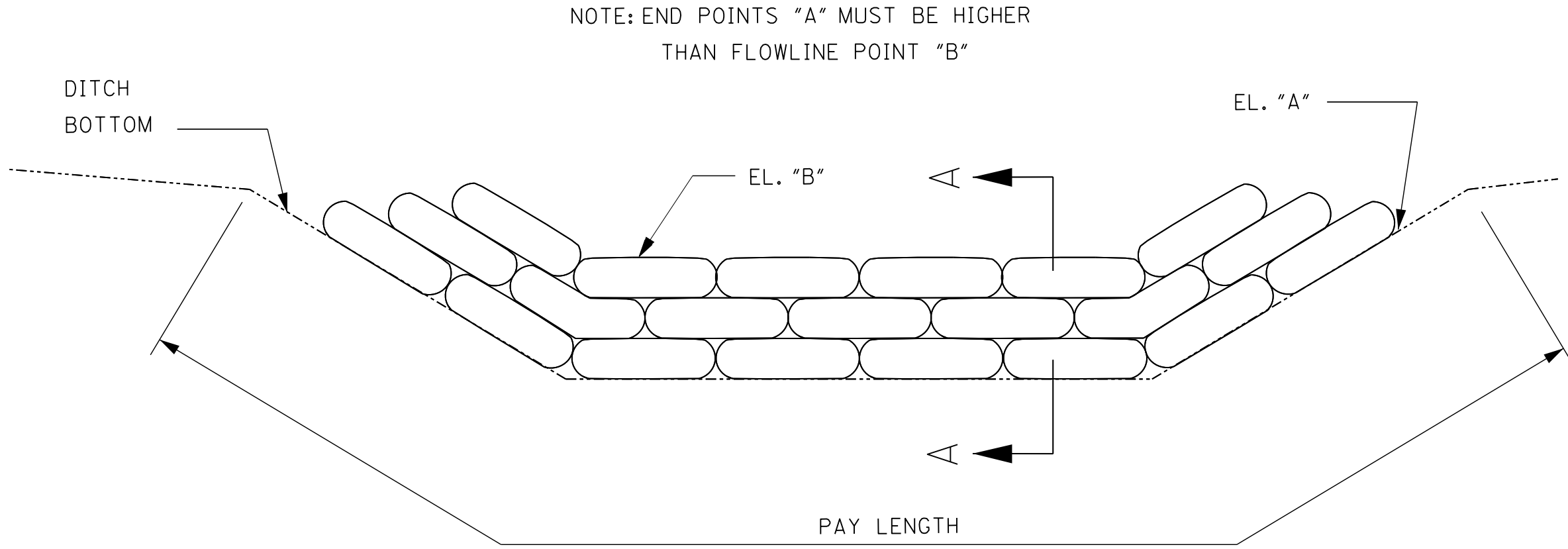


DETAIL (DITCH CHECK)


- GENERAL NOTES:
- 1. SANDBAG DITCH CHECKS ARE USED FOR VELOCITY REDUCTION AND MINIMAL SEDIMENT TRAPPING IN CONCRETE PAVED DITCHES OR IN DITCHES WITH ROCKY BOTTOMS.
  - 2. MINIMUM RECOMMENDED PLACEMENT INTERVAL BETWEEN SANDBAG DITCH CHECK IS 100' UNLESS SHOWN OTHERWISE ON THE PLANS OR APPROVED BY THE ENGINEER. SEE SPACING GUIDANCE ON WK. NO. ECD-4.
  - 3. PREVENTING SEDIMENT FROM ENTERING A PAVED DITCH IS PREFERABLE TO CAPTURING SEDIMENT WITHIN PAVED DITCH.
  - 4. ROCKBAGS MAY BE USED IN LIEU OF SANDBAGS, ONLY WHEN PAY ITEM FOR ROCKBAGS IS INCLUDED IN THE CONTRACT.

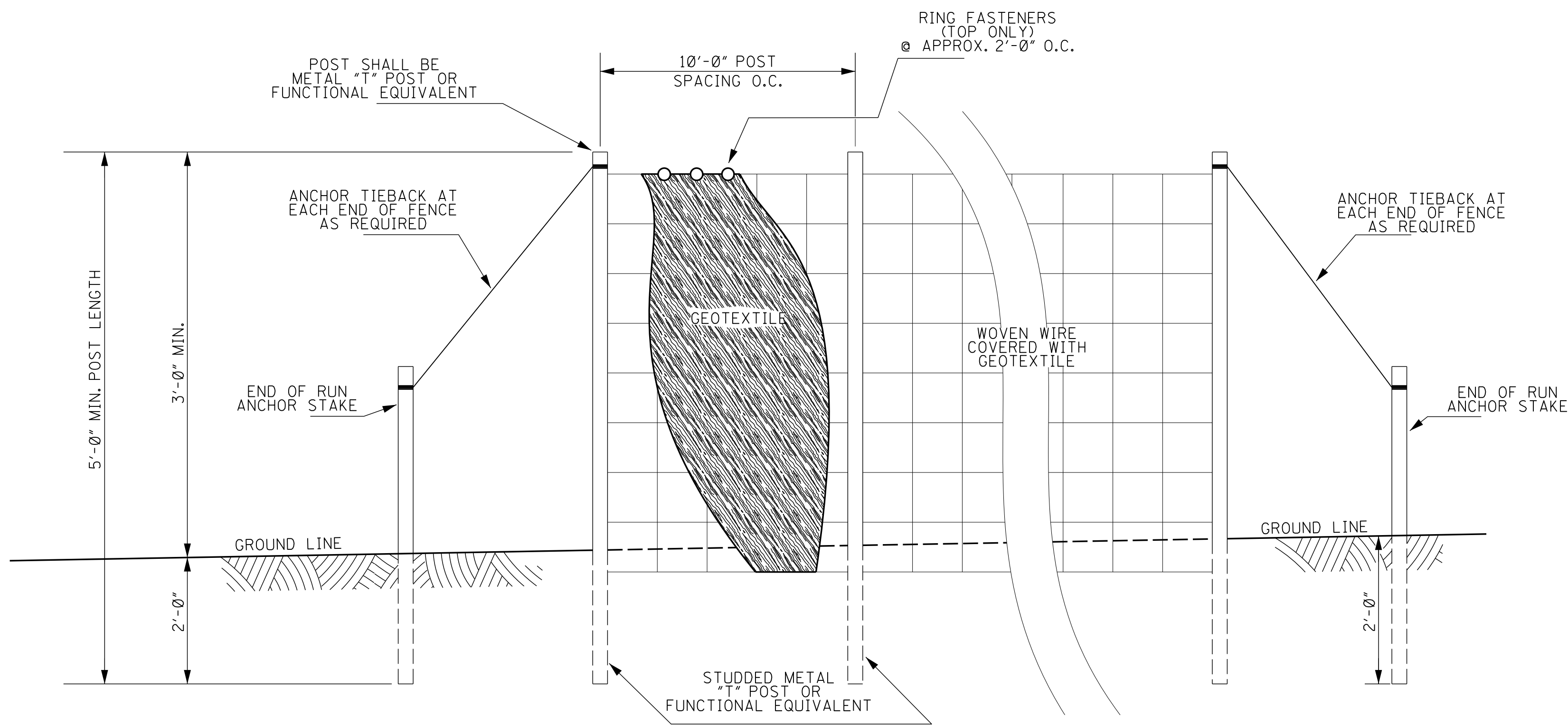


SECTION A-A  
(IN DITCH BOTTOM)

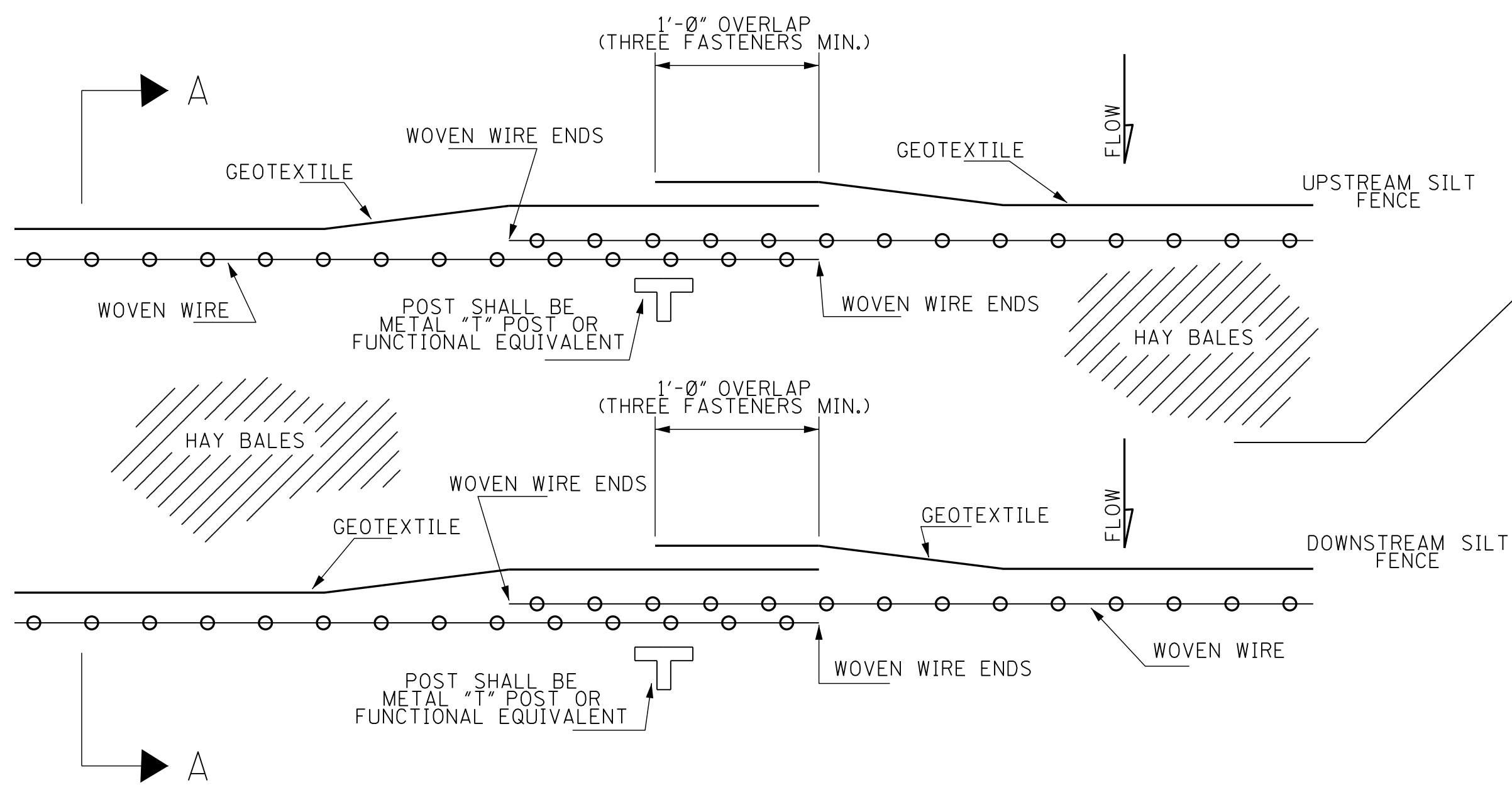


ELEVATION DETAIL

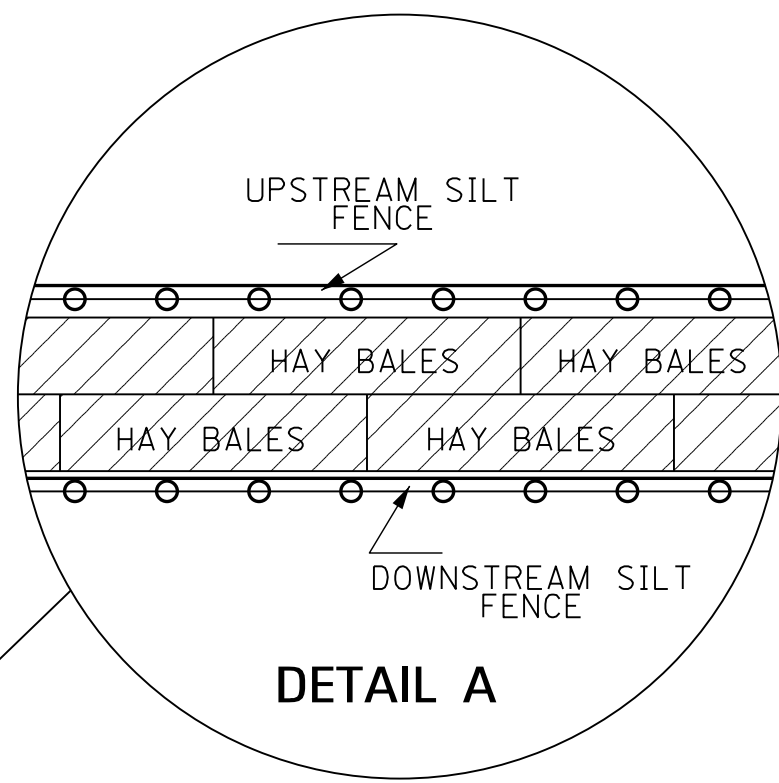
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	<b>DETAILS OF EROSION CONTROL SANDBAG DITCH CHECK</b>
				ISSUE DATE: AUGUST 01, 2017	
					 WORKING NUMBER ECD-21 SHEET NUMBER 6121



ELEVATION VIEW

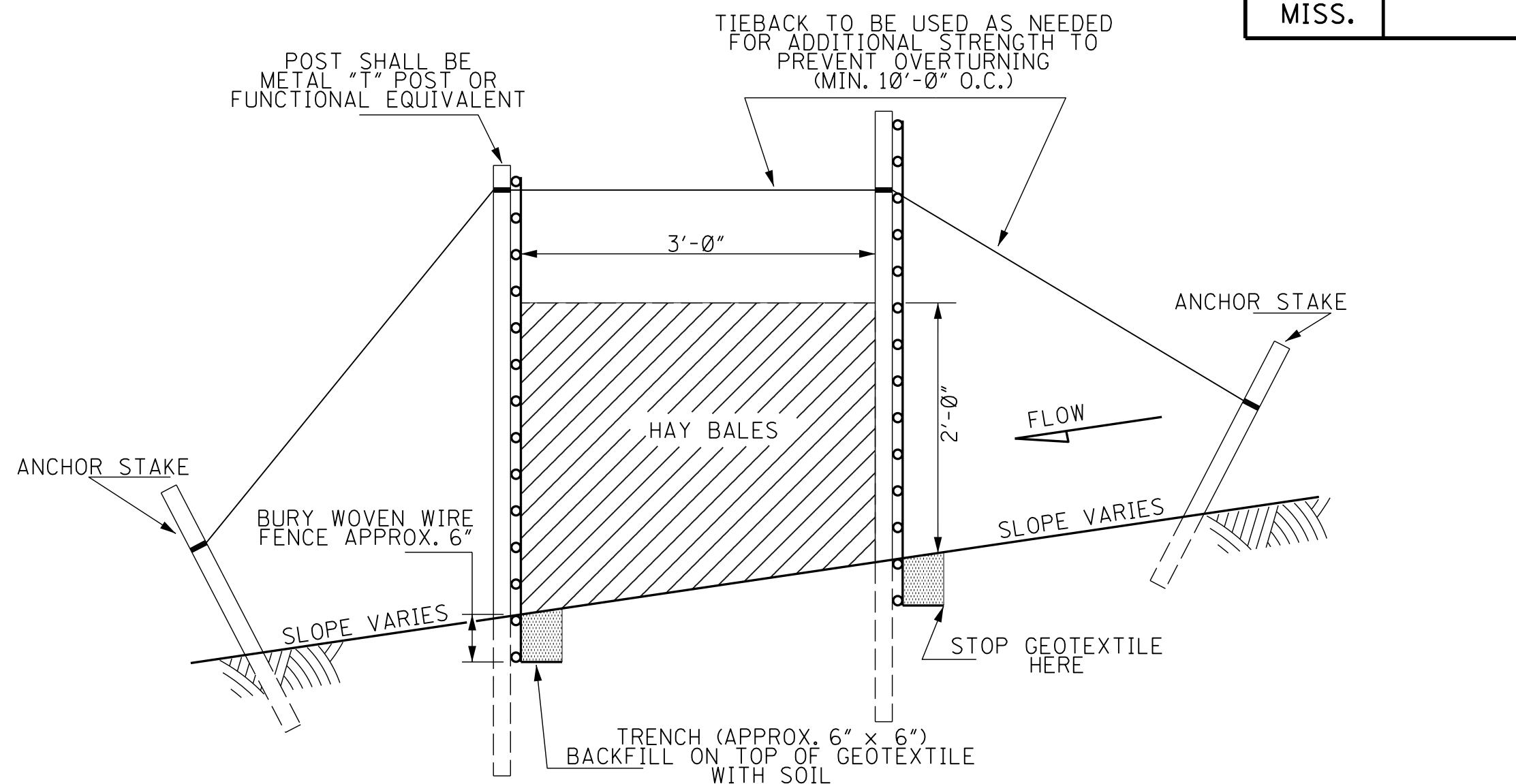


PLAN VIEW  
REQUIRED LAPPING

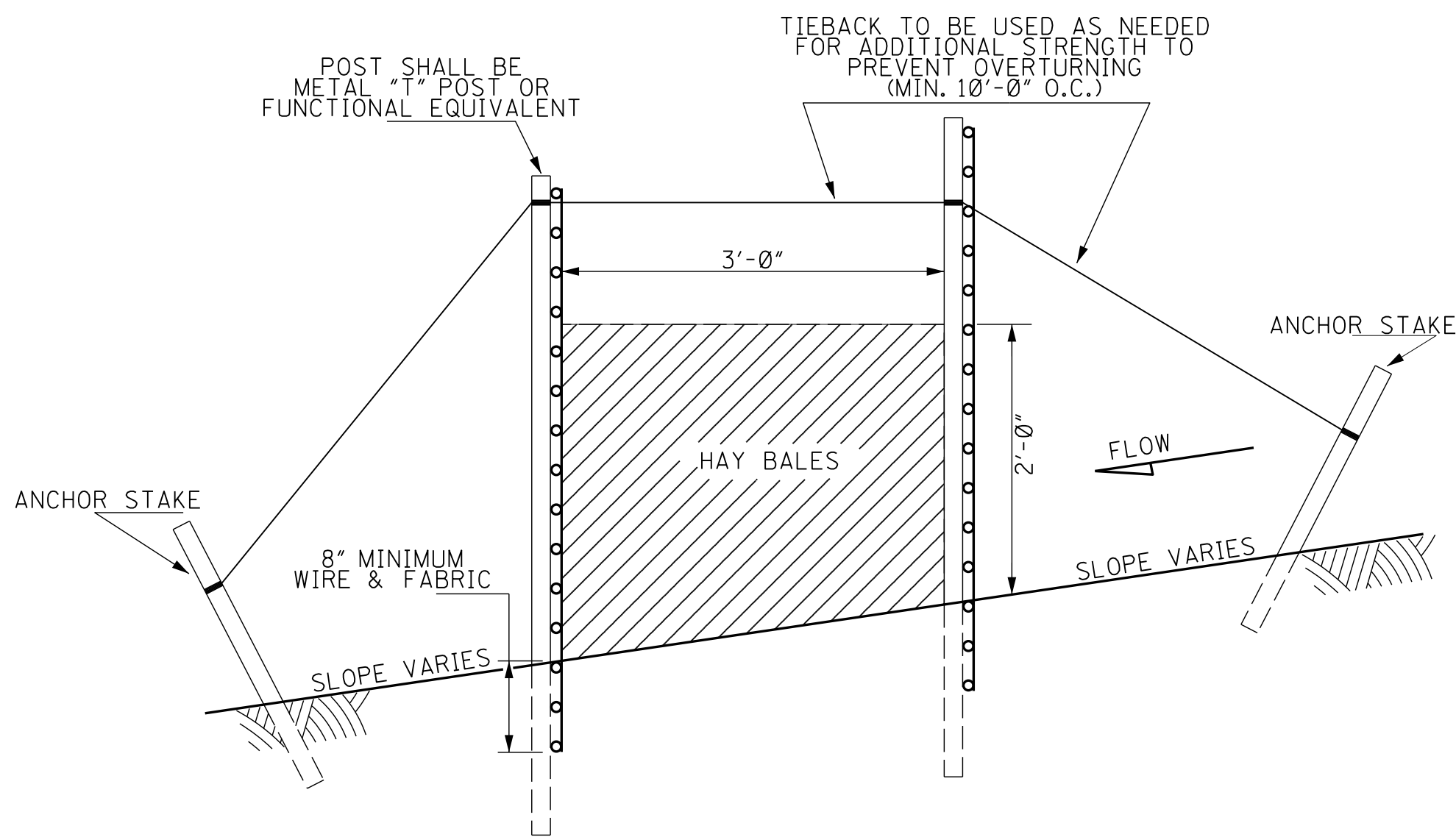


GENERAL NOTES:

- RETENTION BARRIERS SHOULD BE USED IN AREAS WHERE FLOW IS NOT SEVERE.
- RETENTION BARRIERS ARE TEMPORARY SEDIMENT CONTROL ITEMS THAT SHOULD BE ERECTED OPPOSITE ERODIBLE AREAS SUCH AS NEWLY GRADED FILL SLOPES AND ADJACENT TO STREAMS AND CHANNELS.
- RETENTION BARRIERS SHOULD BE PLACED WELL INSIDE RIGHT-OF-WAY AND ALONG EDGE OF CLEARING LIMITS. THIS WILL ALLOW ROOM FOR A BACK-UP FENCE IF FIRST FENCE BECOMES FULL.
- THE CONTRACTOR MAY ELECT TO USE EITHER METHOD I OR METHOD II. COST TO BE LINEAR FEET OF SEDIMENT RETENTION BARRIER.
- METHOD II INSTALLATION SHALL BE ACCOMPLISHED USING AN IMPLEMENT THAT IS MANUFACTURED FOR THE APPLICATION AND PROVIDES CONFIGURATION MEETING THE REQUIREMENTS OF THE DETAIL.
- WIRE SHALL BE MINIMUM OF 32" IN WIDTH AND SHALL HAVE A MINIMUM OF 6 LINE WIRES WITH 12" STAY SPACING.
- GEOTEXTILE FABRIC MEETING THE TYPE II MATERIAL REQUIREMENTS AND INSTALLED ACCORDING TO SPECIFICATION MAY BE USED WITHOUT WIRE FENCE.



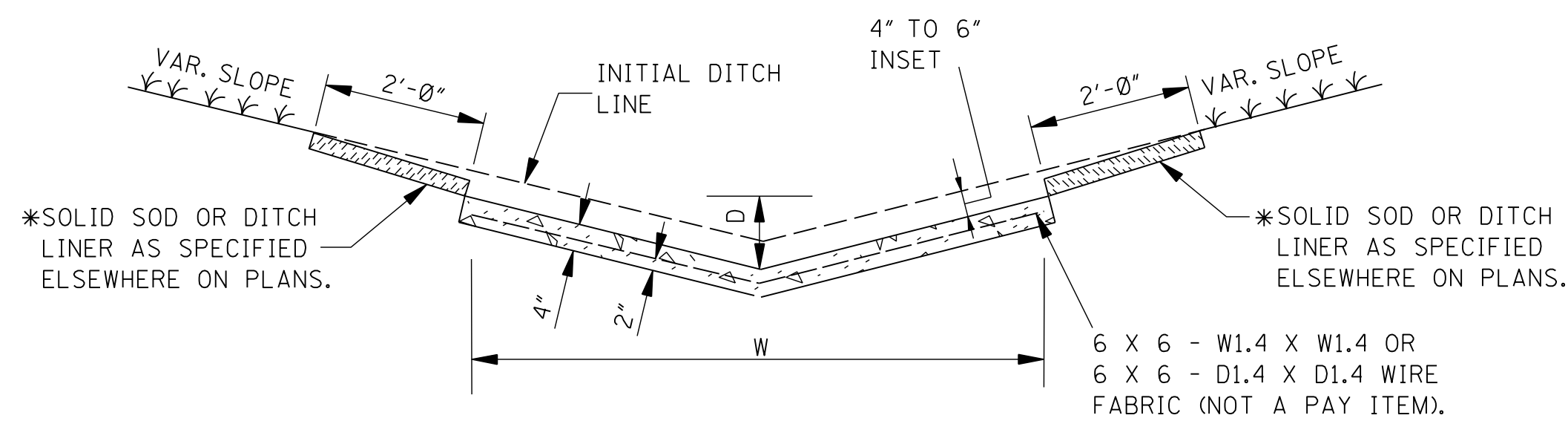
SIDE VIEW  
SECTION A-A  
METHOD I



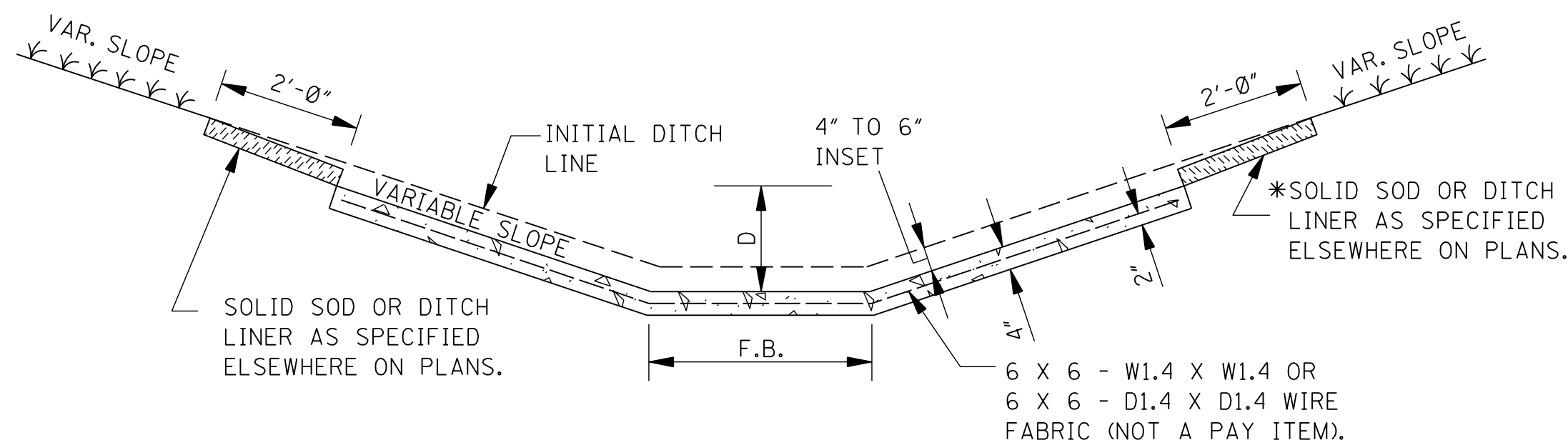
SIDE VIEW  
SECTION A-A  
METHOD II  
MECHANICAL INSTALLATION

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>SEDIMENT RETENTION BARRIER</b>
				DATE	ISSUE DATE: AUGUST 01, 2017

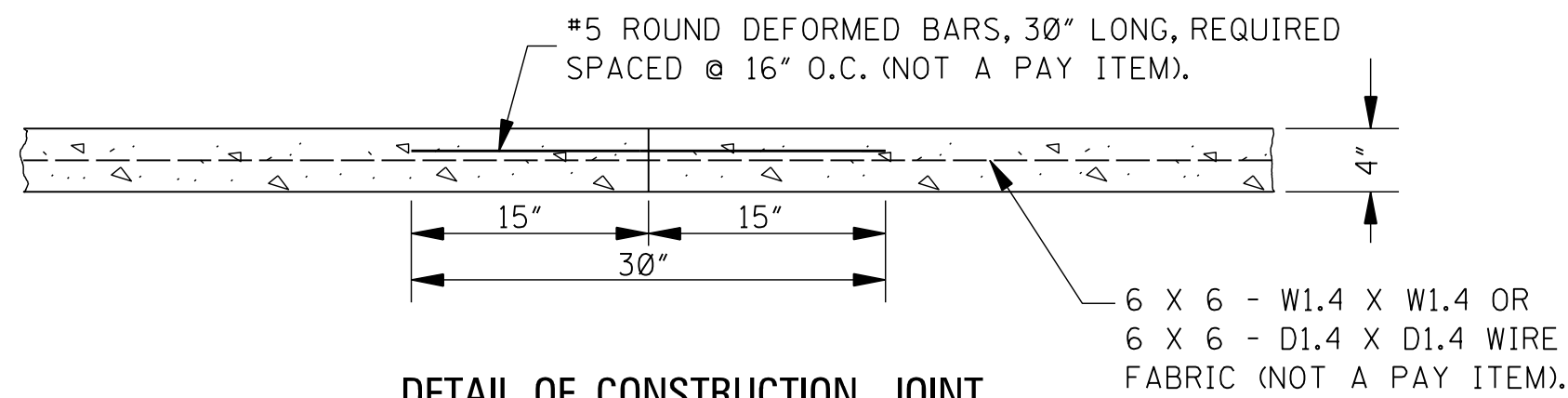
WORKING NUMBER ECD-22
SHEET NUMBER 6122



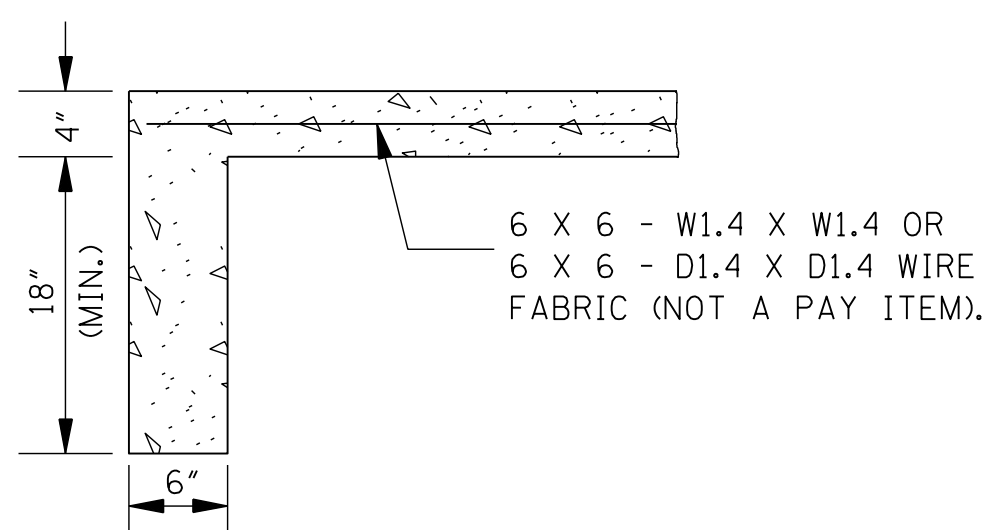
"V" TYPE SECTION



FLAT BOTTOM SECTION



DETAIL OF CONSTRUCTION JOINT



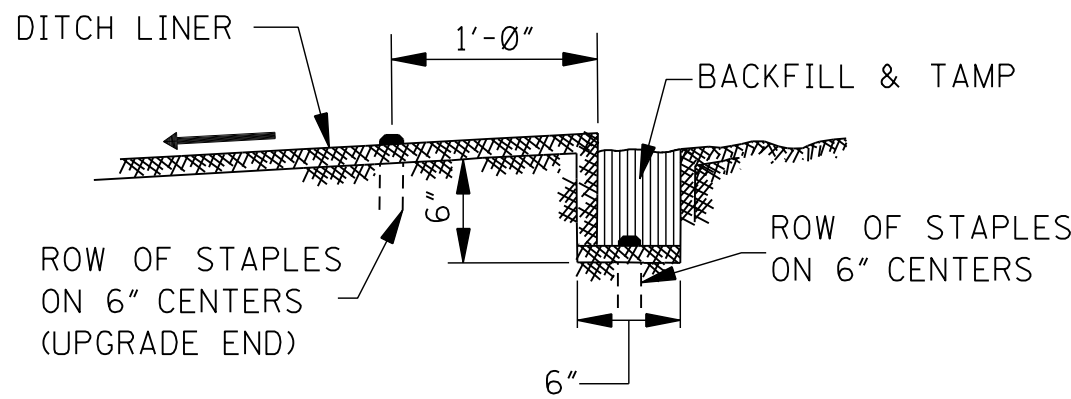
DETAIL OF TOE WALL

NOTE: TOE WALL REQUIRED  
UPSTREAM AND DOWNSTREAM.

### CONCRETE PAVED DITCH

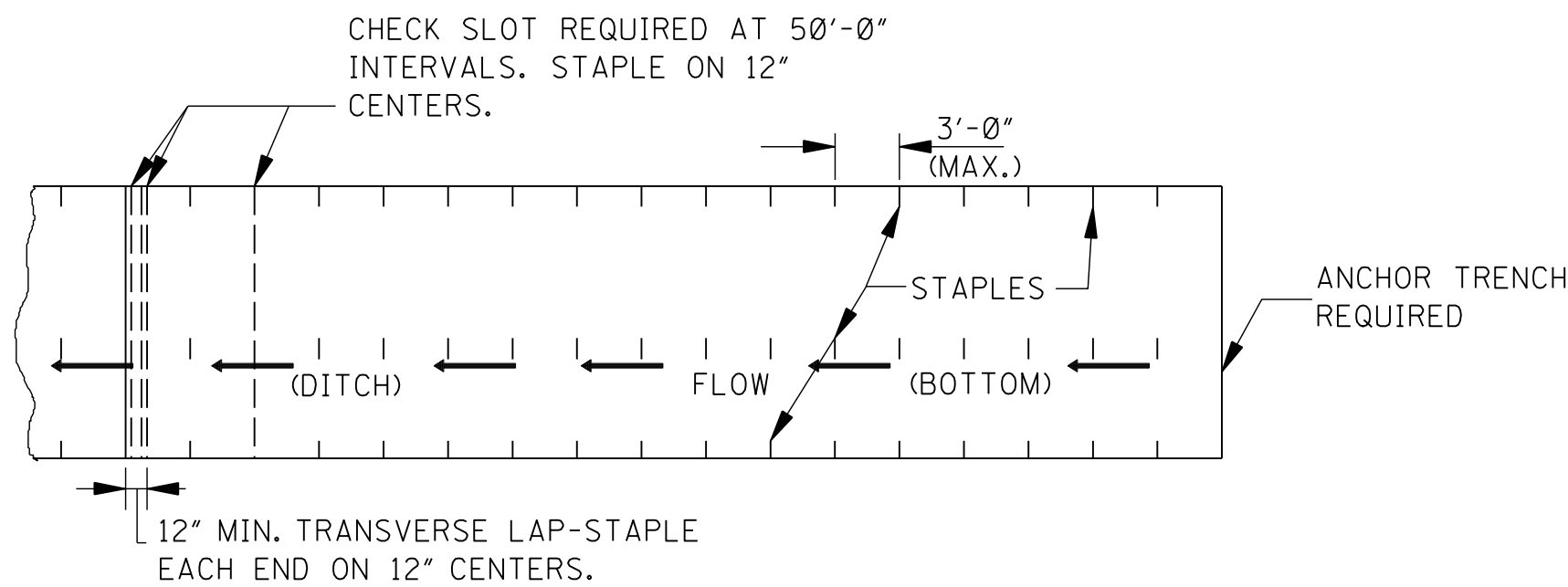
NOTES:

- CONCRETE PAVED DITCHES SHALL BE GROOVED AT 20'-0" INTERVALS. THE GROOVES SHALL BE CUT TO A DEPTH OF NOT LESS THAN 1".
- DIMENSIONS D & W ARE AS FOLLOWS:  
D(MINIMUM) = 6"  
D(NOMINAL) = 9"  
W(MINIMUM) = 24"
- CHAIR SUPPORTS FOR THE WIRE MESH WILL NOT BE REQUIRED. HOWEVER, THE CONTRACTOR SHALL PLACE THE WIRE MESH IN A SATISFACTORY AND WORKMANLIKE MANNER TO ENSURE THAT THE FINAL POSITION IS REASONABLY NEAR THE POSITION INDICATED.
- \* CENTER ROW OF STAPLES MAY BE OMITTED ON DITCH LINER.

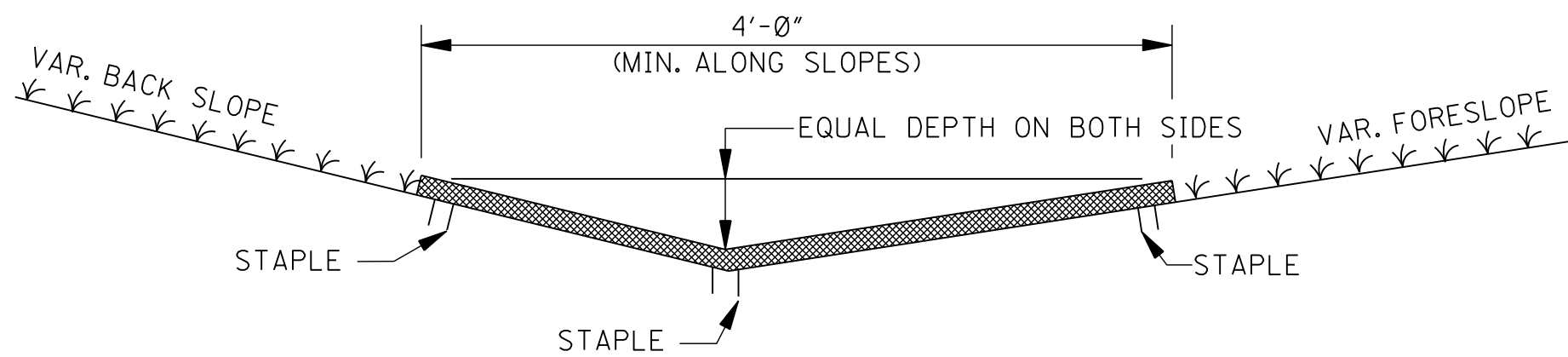


ANCHOR TRENCH DETAIL

NOTE: ANCHOR TRENCH REQUIRED AT THE BEGINNING  
AND ENDING OF EACH AREA TO BE COVERED, EXCEPT  
DOWNSTREAM END ADJOINING A STRUCTURE.



PLAN

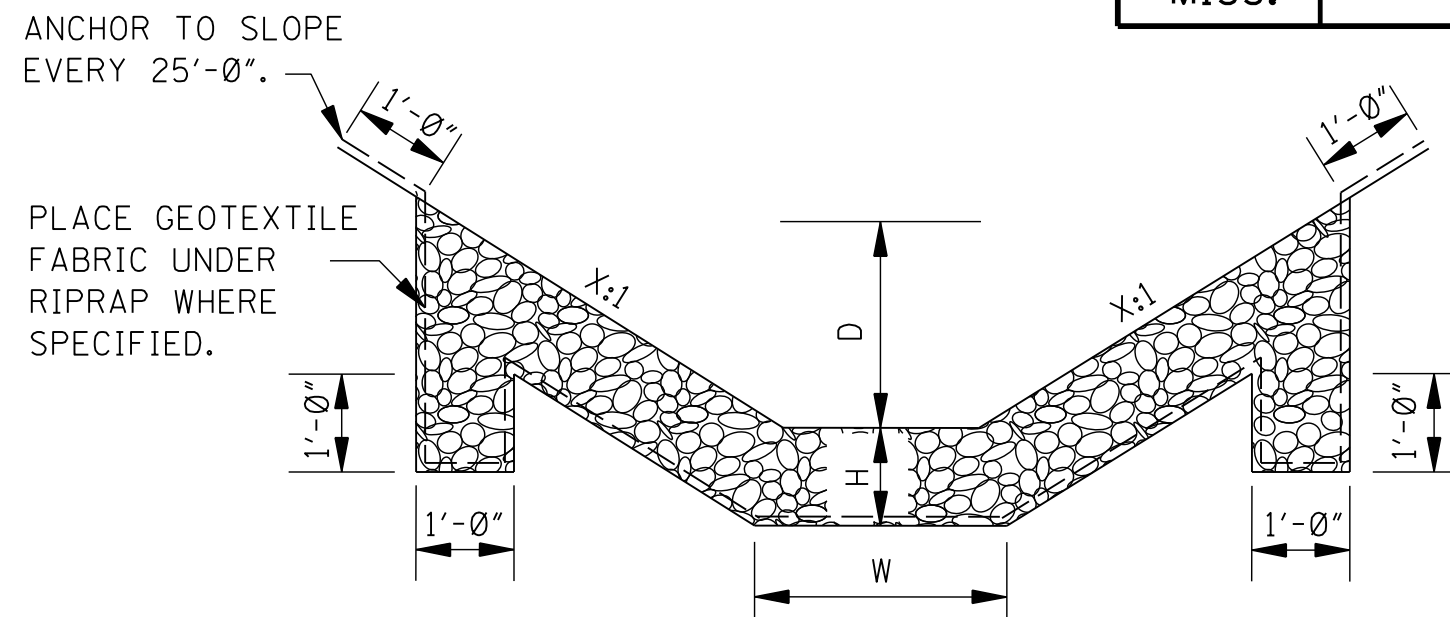


SECTION

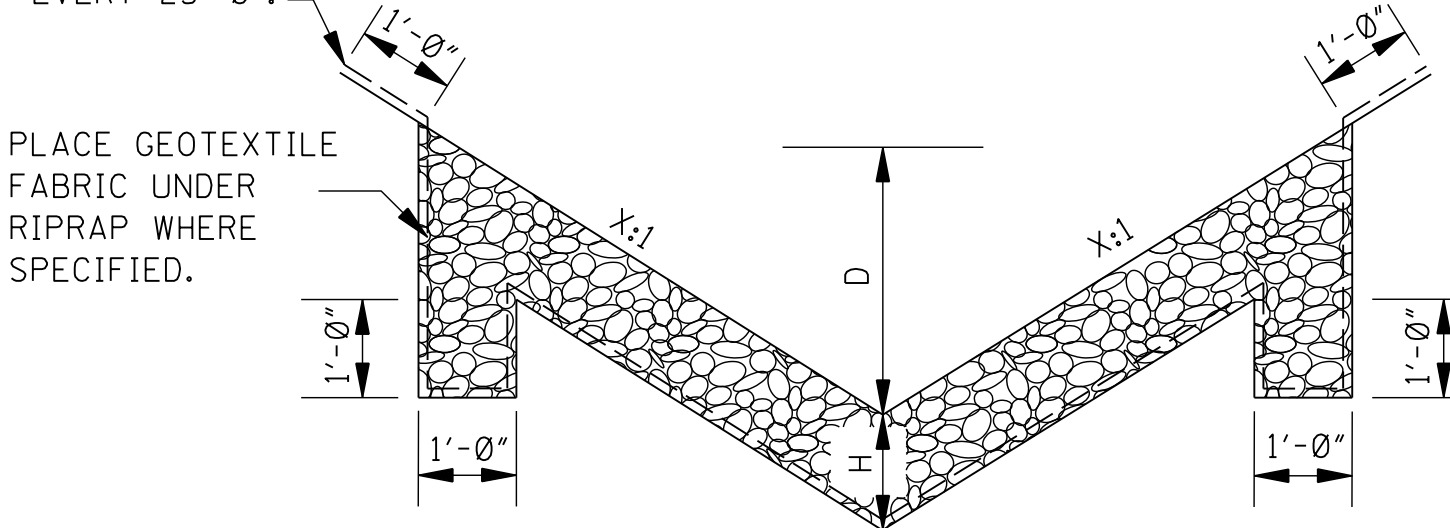
### DITCH LINER TREATMENT

(EXCELSIOR BLANKET, JUTE MESH OR EROSION CONTROL FABRIC)

NOTE: DITCHES TREATED WITH DITCH LINER  
WILL BE VEGETATED PRIOR TO TREATMENT,  
UNLESS OTHERWISE INDICATED.



FLAT BOTTOM SECTION

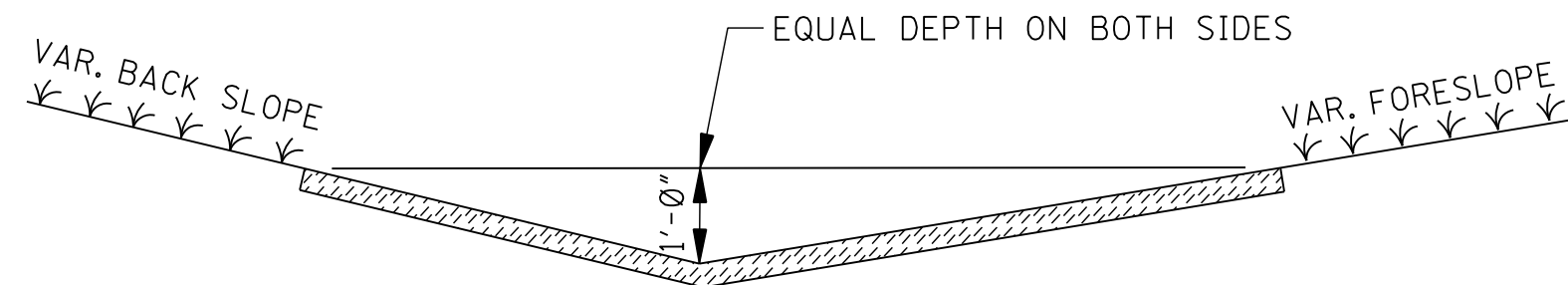


"V" TYPE SECTION  
RIPRAP TREATMENT

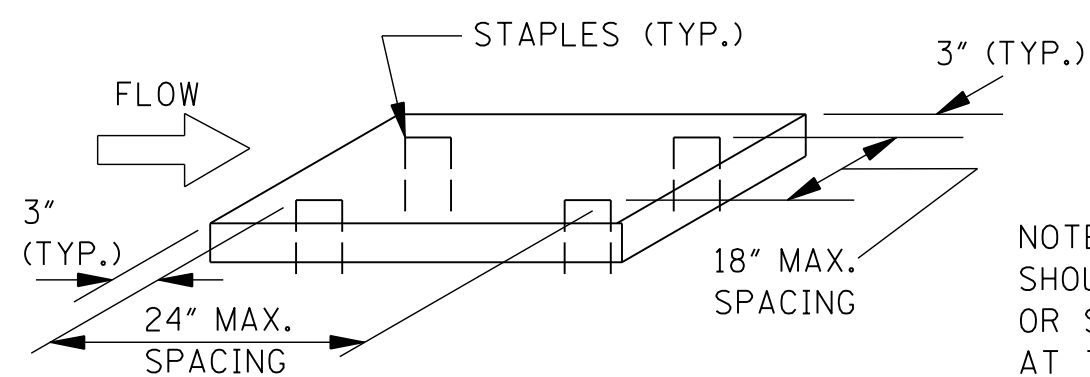
NOTES:

- DIMENSIONS D, W AND X ARE VARIABLE AND ARE SHOWN ELSEWHERE ON THE PLANS.
- THE RIPRAP SIZE AND MINIMUM DEPTH "H" FOR RIPRAP TREATMENT ARE AS FOLLOWS.

RIPRAP SIZE & MINIMUM DEPTH "H"	
H	RIPRAP SIZE
(in)	(lbs)
12"	100
18"	300



SOLID SOD TREATMENT



NOTE: SOLID SOD (STRIPS OR BLOCKS)  
SHOULD BE STAPLED, PINNED, PEGGED  
OR STAKED AT THE FOUR CORNERS OR  
AT THE MAXIMUM SPECIFIED SPACING.

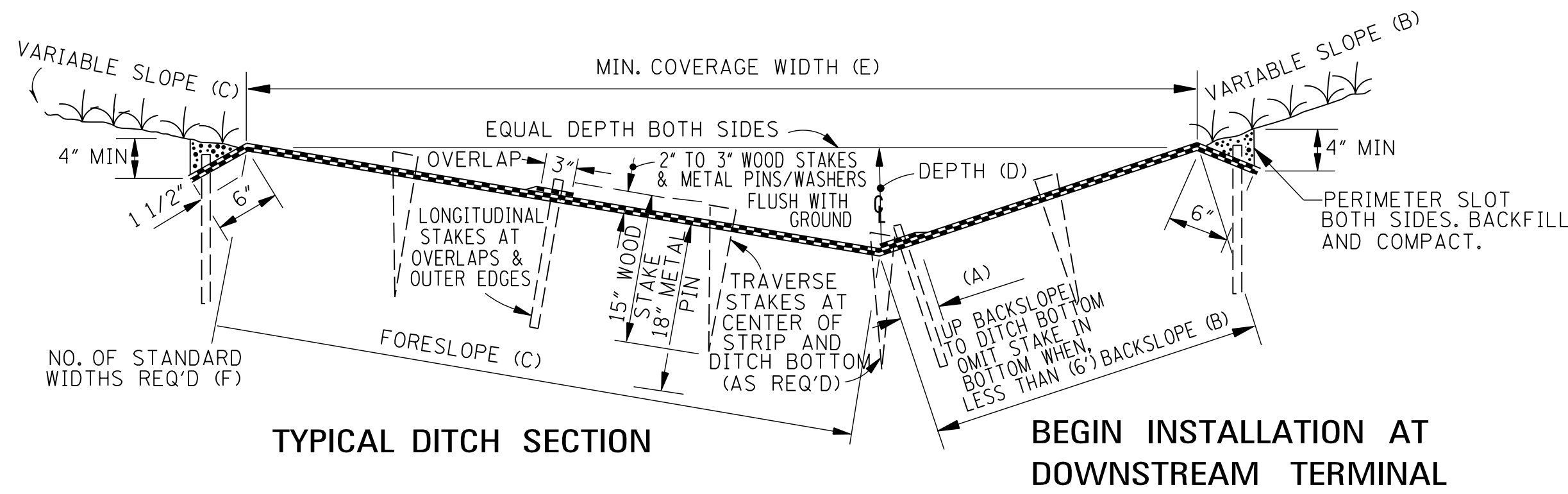
GENERAL NOTE:

- FOR LOCATION OF APPROPRIATE DITCH TREATMENTS, SEE PLAN SHEETS AS DENOTED BY THE FOLLOWING LEGEND OR AS DIRECTED BY THE ENGINEER:

	DITCH LINER
	SOLID SOD
	CONCRETE PAVED DITCH
	RIPRAP

BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION
REVISION	ROADWAY DESIGN DIVISION
DATE	STANDARD PLAN
ISSUE DATE:	AUGUST 01, 2017
WORKING NUMBER	DT-1
SHEET NUMBER	6123

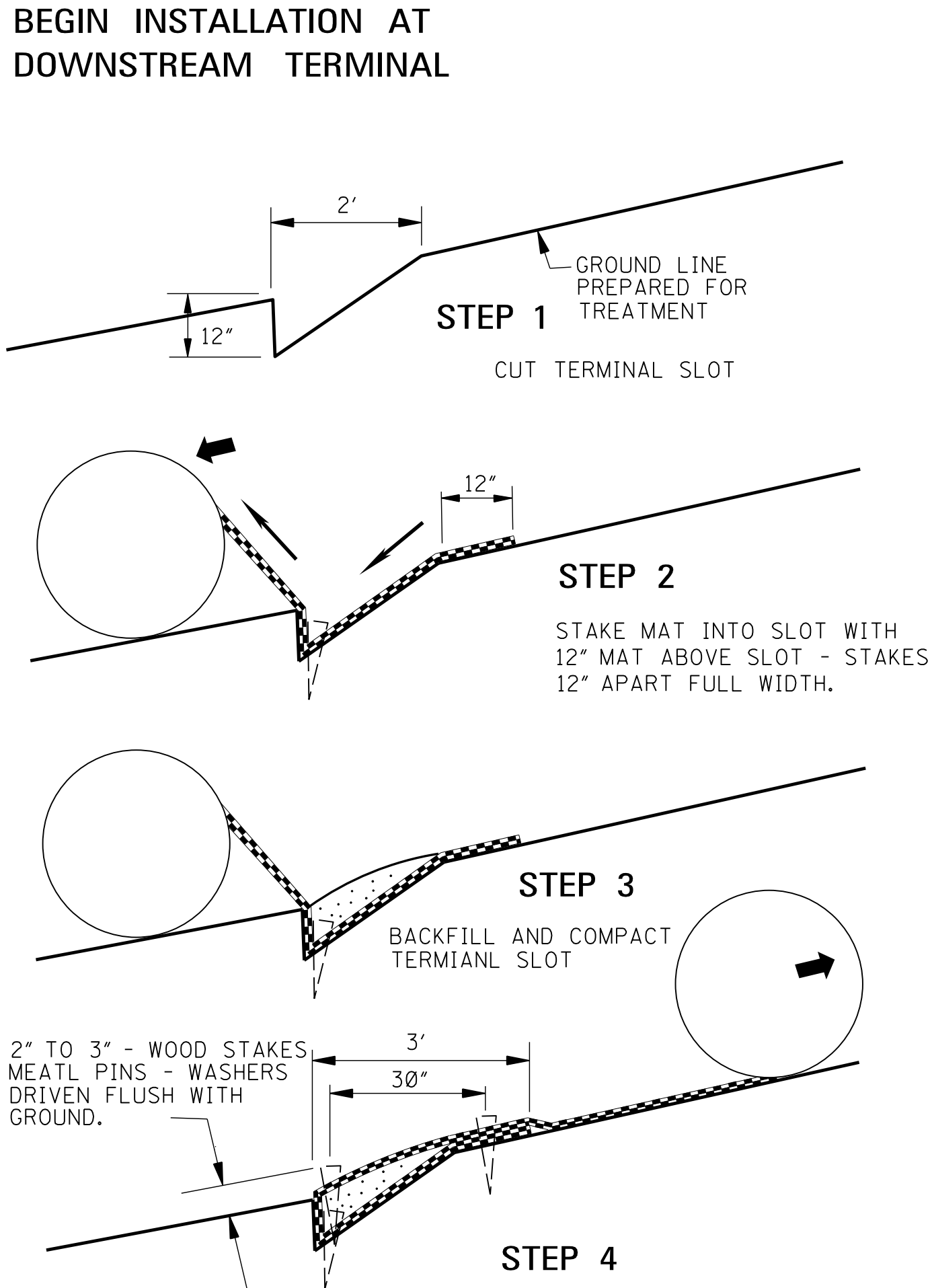
### DETAILS OF TYPICAL DITCH TREATMENTS



MAT PLACEMENT TABLE

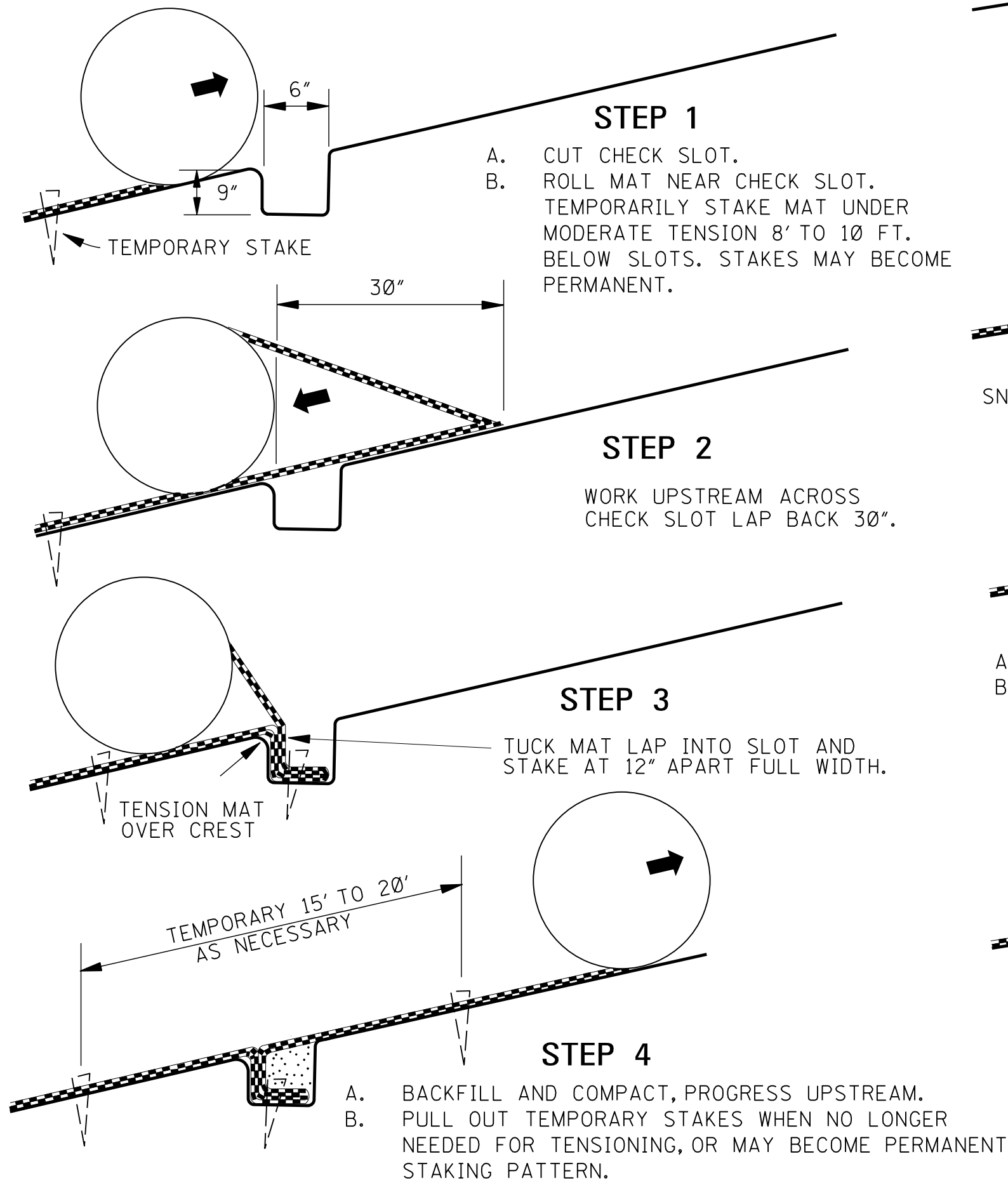
DIMENSIONS OF MAT PLACEMENT IN DITCH (INDIVIDUAL 38" WIDTH ROLLS)					
ELEMENTS OF MAT PLACEMENT	3:1 & 3:1	4:1 & 3:1	6:1 & 3:1	6:1 & 4:1	6:1 & 6:1
(A) UP BACKSLOPE TO DITCH BOTTOM	1' - 7"	1' - 1"	0' - 4"	0' - 10"	0' - 1 1/2"
(B) BACKSLOPE	4' - 0"	3' - 6"	2' - 9"	3' - 3"	3' - 5 1/2"
(C) FORESLOPE	4' - 0"	4' - 6"	5' - 3"	4' - 9"	5' - 5 1/2"
(D) DEPTH OF COVERAGE	1' - 3"	1' - 1"	0' - 10"	0' - 9"	0' - 11"
(E) WIDTH OF COVERAGE	7' - 7"	7' - 8"	7' - 9"	7' - 10"	10' - 9"
(F) MINIMUM NUMBER OF STAND WIDTH STRIPES	3	3	3	3	4
(B)+(C) TOTAL COVERAGE ON SLOPES	8' - 0"	8' - 0"	8' - 0"	8' - 0"	10' - 11"
SQ. YDS./LIN. FT.	0.89	0.89	0.89	0.89	1.22
MULTI-WIDTH WELDED SEAM MAT (WELDED 38" WIDTH STRIPS)					
(B)+(C) TOTAL COVERAGE MULTI-WIDTH ROLLS	8' - 3"	8' - 3"	8' - 3"	8' - 3"	11' - 3 1/2"
SQ. YDS./LIN. FT.	0.92	0.92	0.92	0.92	1.25

- GENERAL INSTRUCTIONS:
- BEGIN INSTALLATION AT DOWNSTREAM TERMINAL AND PROGRESS UPSTREAM.
  - FIRST ROLL IS ALIGNED FROM DITCH BOTTOM UP BACKSLOPE (SEE MAT PLACEMENT TABLE) AND UNDER MODERATE TENSION TEMPORARILY STAKED TO MAINTAIN PROPER DESIGN COVERAGE ALIGNMENT.
  - WORKING OUTWARD FROM DITCH BOTTOM TO EDGES, SUBSEQUENT ADJACENT ROLLS FOLLOW IN STAGGERED SEQUENCE UNDER MODERATE TENSION.
  - OVERLAP MAT SEAMS 3 INCHES AND STAKE AT 3-FT. INTERVALS WITH STAKES ALIGNED LONGITUDINALLY TO DITCH AND DIAGONAL EDGE OF STAKE TO THE UPSTREAM. OUTER EDGES (PERIMETER) OF MAT ARE STAKED SIMILARLY.
  - STAKE THE CENTER OF EACH MAT STRIP AND WHEN REQUIRED ALONG THE DITCH BOTTOM AT 6-FT. INTERVALS STAGGERED BETWEEN THE 3-FT. SPACING OF OVERLAP AND OUTER EDGE STAKES WITH THE BROADSIDE TO THE FLOW DIRECTION AND DIAGONAL EDGE TOWARD THE SLOPE.
  - USE 3-FT. OVERLAP AT END OF MAT ROLL SPLICES WITH UPGRADE STRIP ON TOP, STAKED IN TWO ROWS 30 INCHES APART, AND STAKES 18 INCHES APART ACROSS FULL WIDTH.
  - TRANSVERSE CHECK SLOTS 6 INCHES WIDE BY 9 INCHES DEEP ARE EXCAVATED AT 25-FT. INTERVALS WITH STAKES 12 INCHES APART FULL WIDTH OF TREATMENT. WELDED SEAM MULTI-WIDTH MAT WILL HAVE SIMILAR TRANSVERSE CHECKS OMITTING EXCAVATED SLOTS ONLY.
  - END INSTALLATION AT UPSTREAM TERMINAL. TEMPORARY STAKING MAY BE PLACED TO BECOME PART OF PERMANENT STAKING PATTERN.



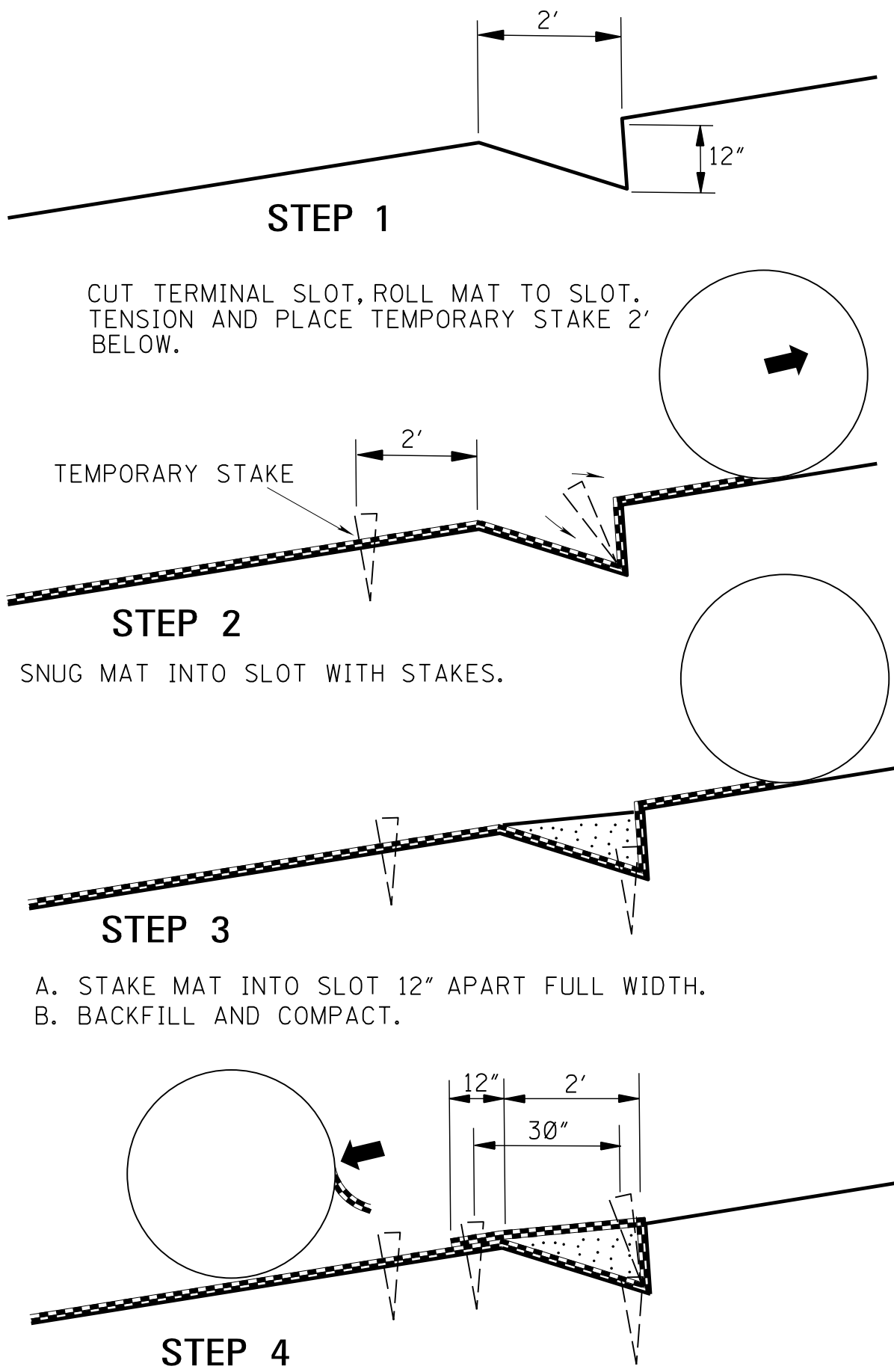
- A. ROLL MAT UPSTREAM OVER BACKFILLED TERMINAL.  
B. STAKE MAT DOWN TO ANCHOR TERMINAL, 18" APART ACROSS IN TWO ROWS.  
C. PROGRESS UPSTREAM WITH ROLL.

25 - FOOT INTERVAL TRANSVERSE CHECK SLOT (FOR INDIVIDUAL ROLLS\*)

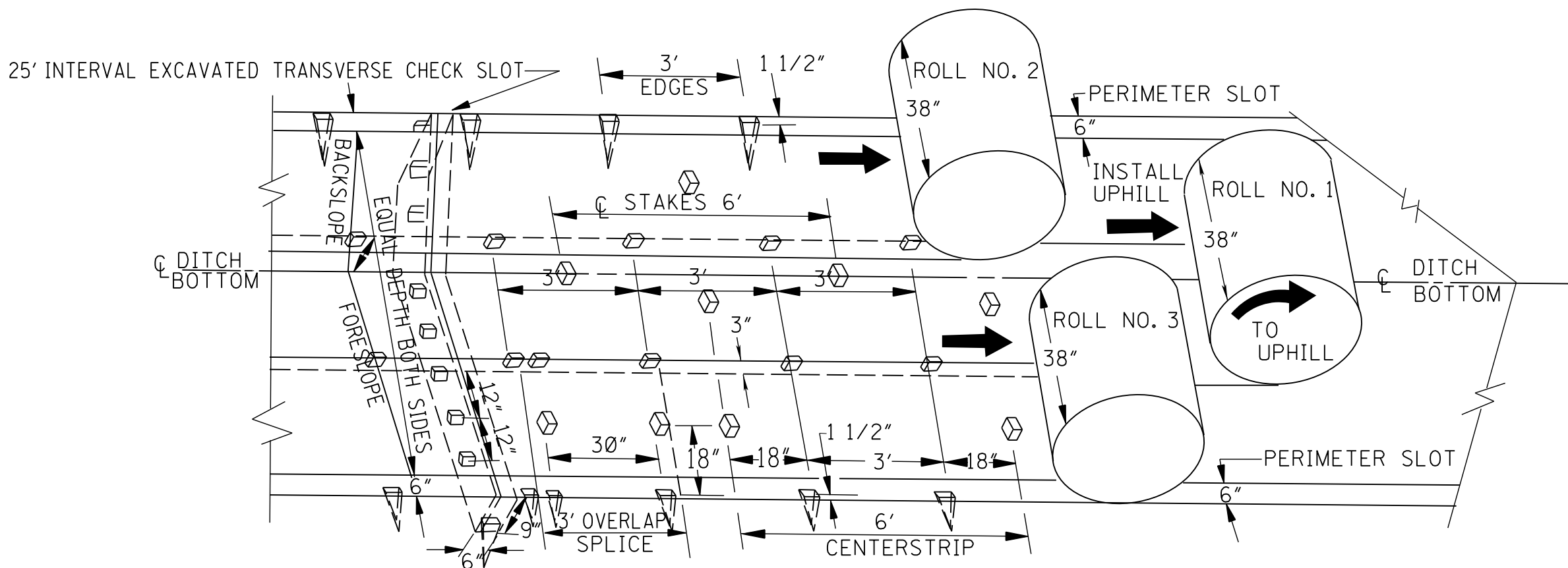


- \* WHEN MULTI-WIDTH (WELDED SEAM) ROLLS ARE USED, OMIT EXCAVATED CHECK SLOT AND REPLACE WITH A ROW OF STAKES ONE FOOT APART AT 25-FT. INTERVALS (SEE DETAILS). TEMPORARY STAKES NOT REQUIRED.

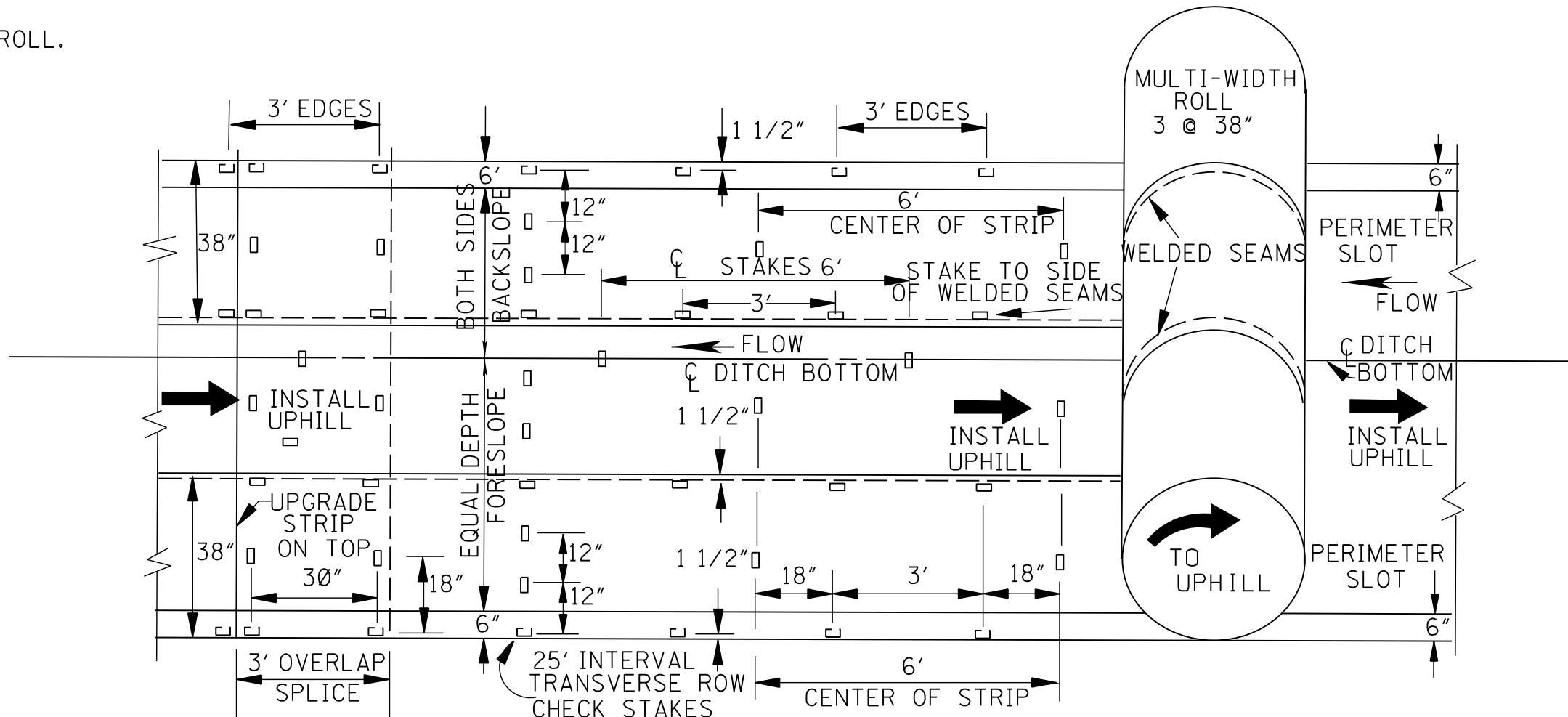
END INSTALLATION AT UPSTREAM TERMINAL



- GENERAL NOTES:
- WHEN METAL PINS WITH WASHERS ARE PERMITTED IN PLACE OF WOOD STAKES, THE METAL PINS ARE DRIVEN TO ASSURE THAT THE WASHERS WITH MAT UNDERNEATH ARE FLUSH WITH THE GROUND LEAVING NO PROJECTION OF THE PINS ABOVE THE GROUND LINE.
  - SOIL REINFORCING MAT SHALL BE USED WHERE SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.



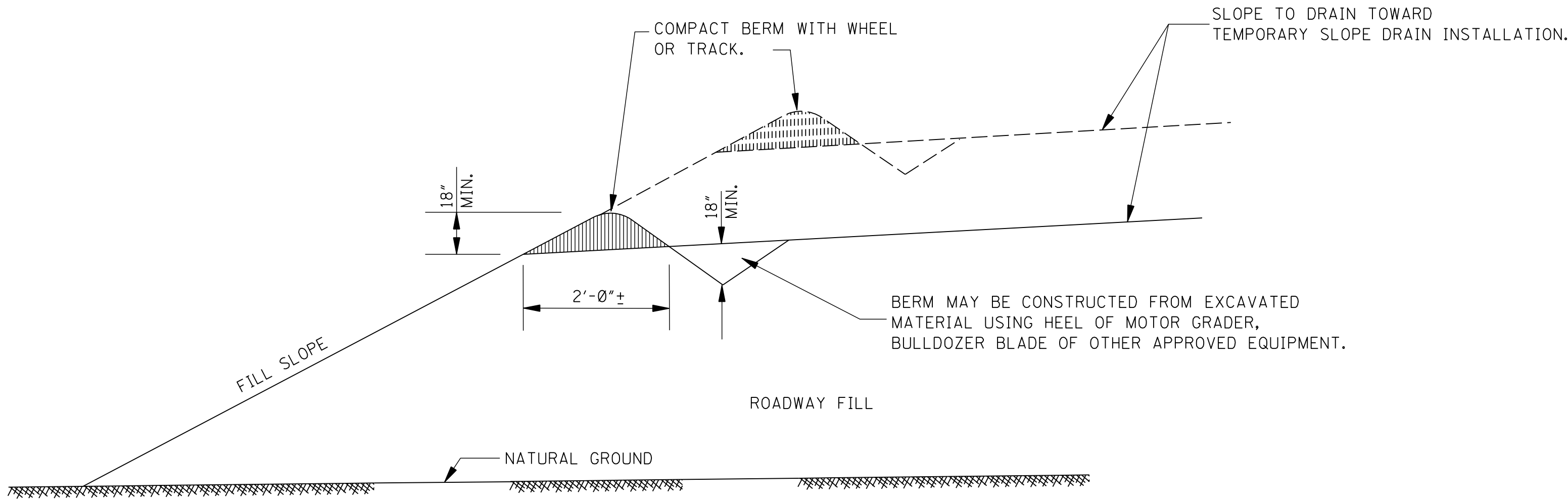
SEQUENTIAL ROLL RUN OUT IN DITCH WITH STAKING DETAIL



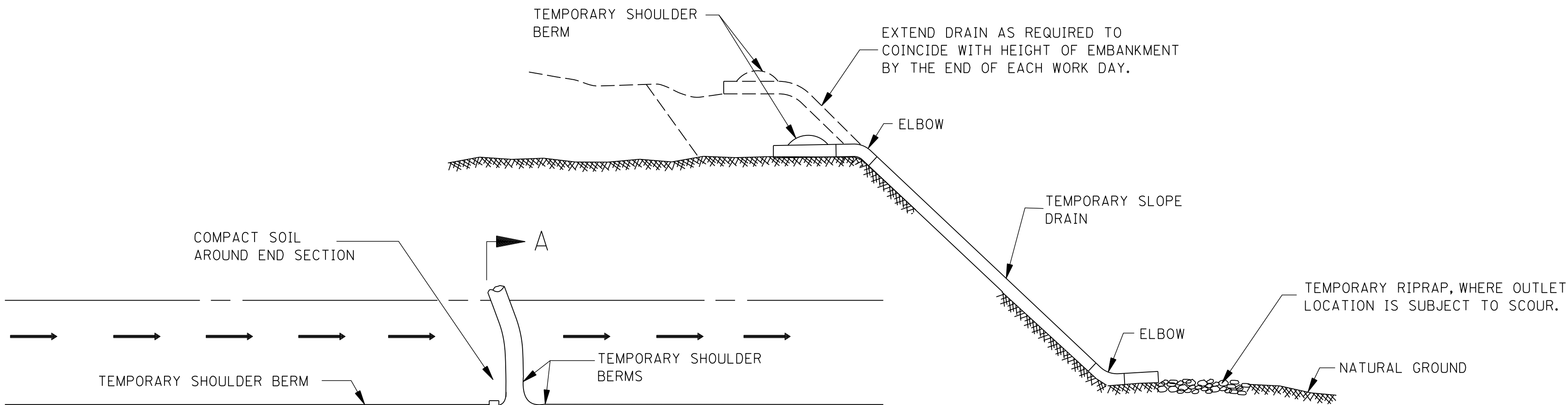
MULTI-WIDTH WELDED SEAM MAT RUN OUT IN DITCH WITH STAKING DETAIL

		BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN	
		REVISION	<b>DITCH TREATMENT INSTALLATION DETAIL FOR SOIL REINFORCING MAT</b>	
		DATE	ISSUE DATE: AUGUST 01, 2017	
			MDOT WORKING NUMBER DT-1A SHEET NUMBER 6124	

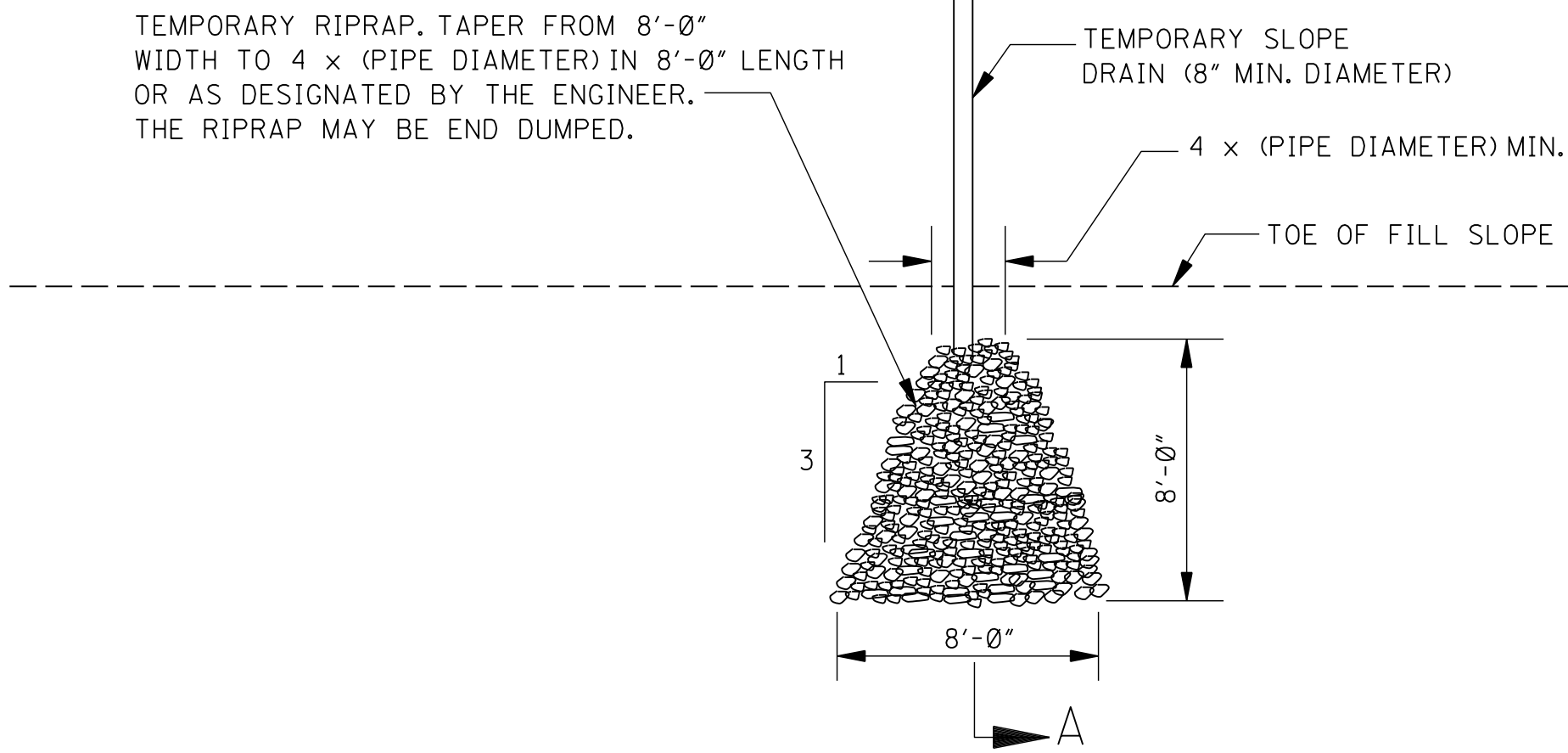




TEMPORARY SHOULDER BERM



SECTION A-A

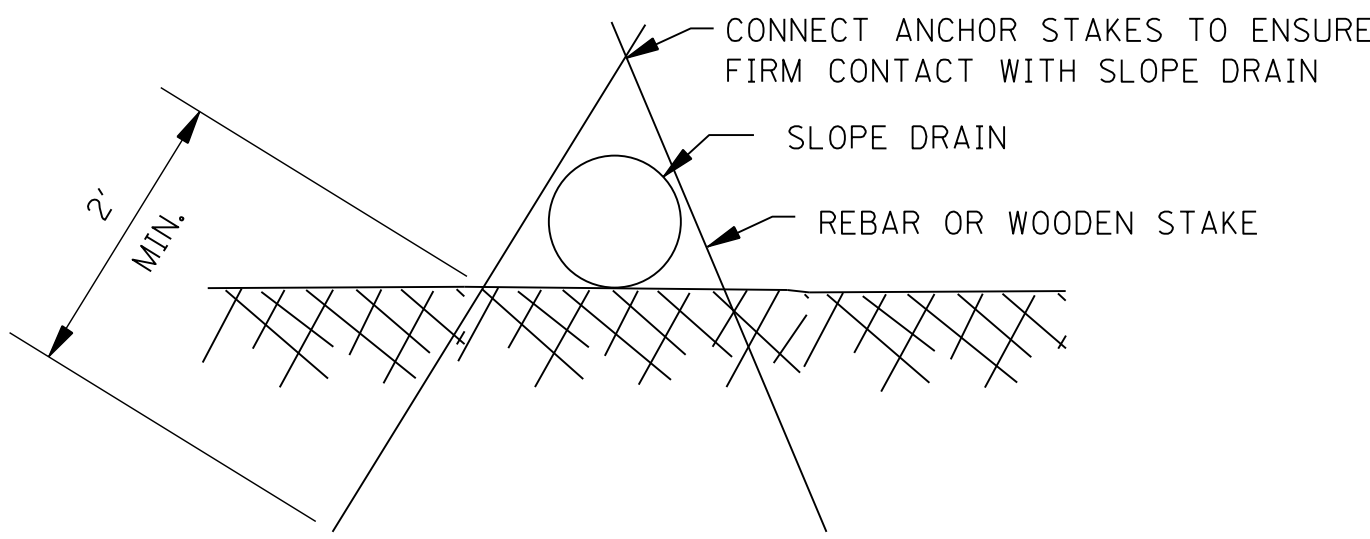


PLAN

TEMPORARY SLOPE DRAIN

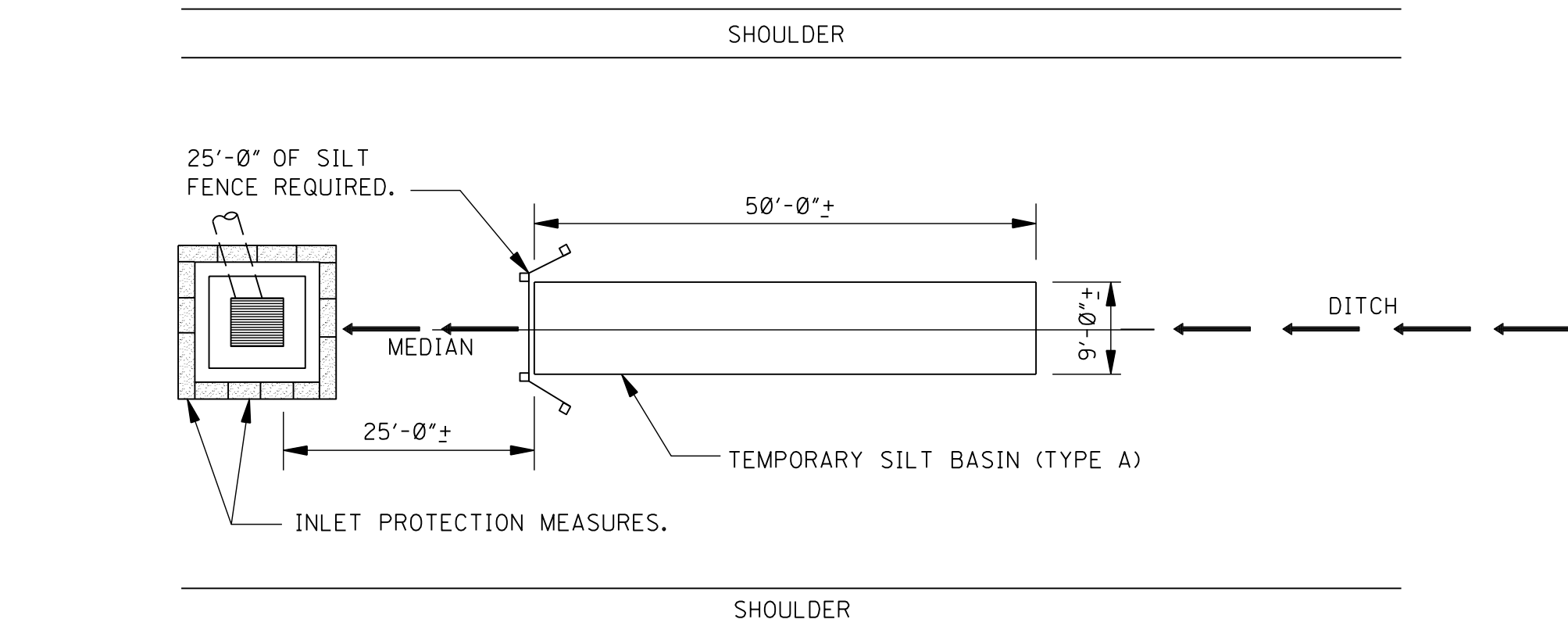
NOTE: TEMPORARY SLOPE DRAINS TO BE PLACED AT LOW POINT OF ALL SAG VERTICAL CURVES. INTERMEDIATE LOCATIONS TO BE PLACED AS DESIGNATED OR DEEMED APPROPRIATE BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.

THE COST OF SHOULDER BERM, STAKING, AND OUTFLOW PROTECTION SHALL BE INCLUDED IN OTHER ITEMS BID.

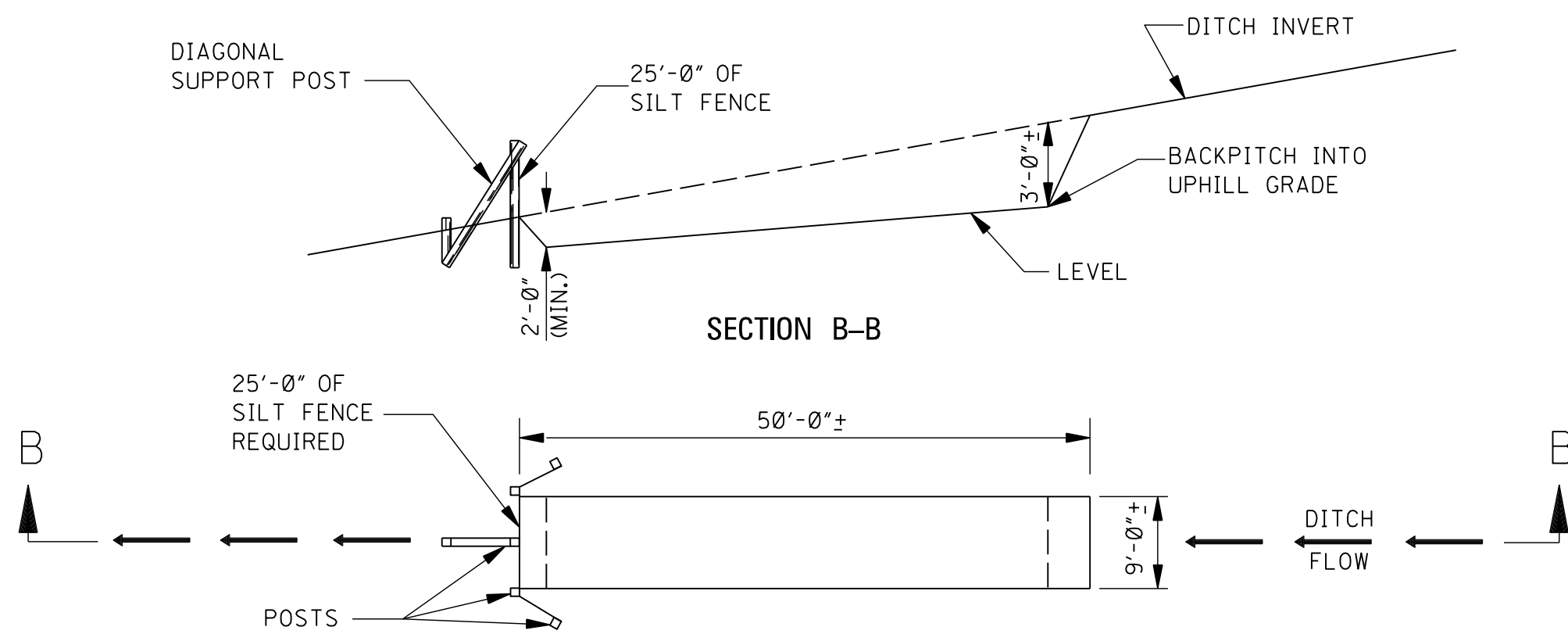


RECOMMENDED ANCHOR DETAIL

NOTE: CONTRACTOR MAY PROPOSE ALTERNATE ANCHORING DETAIL. ENGINEER'S APPROVAL WILL BE BASED ON PERFORMANCE



TEMPORARY MEDIAN SILT BASIN (TYPE A)




SECTION B-B

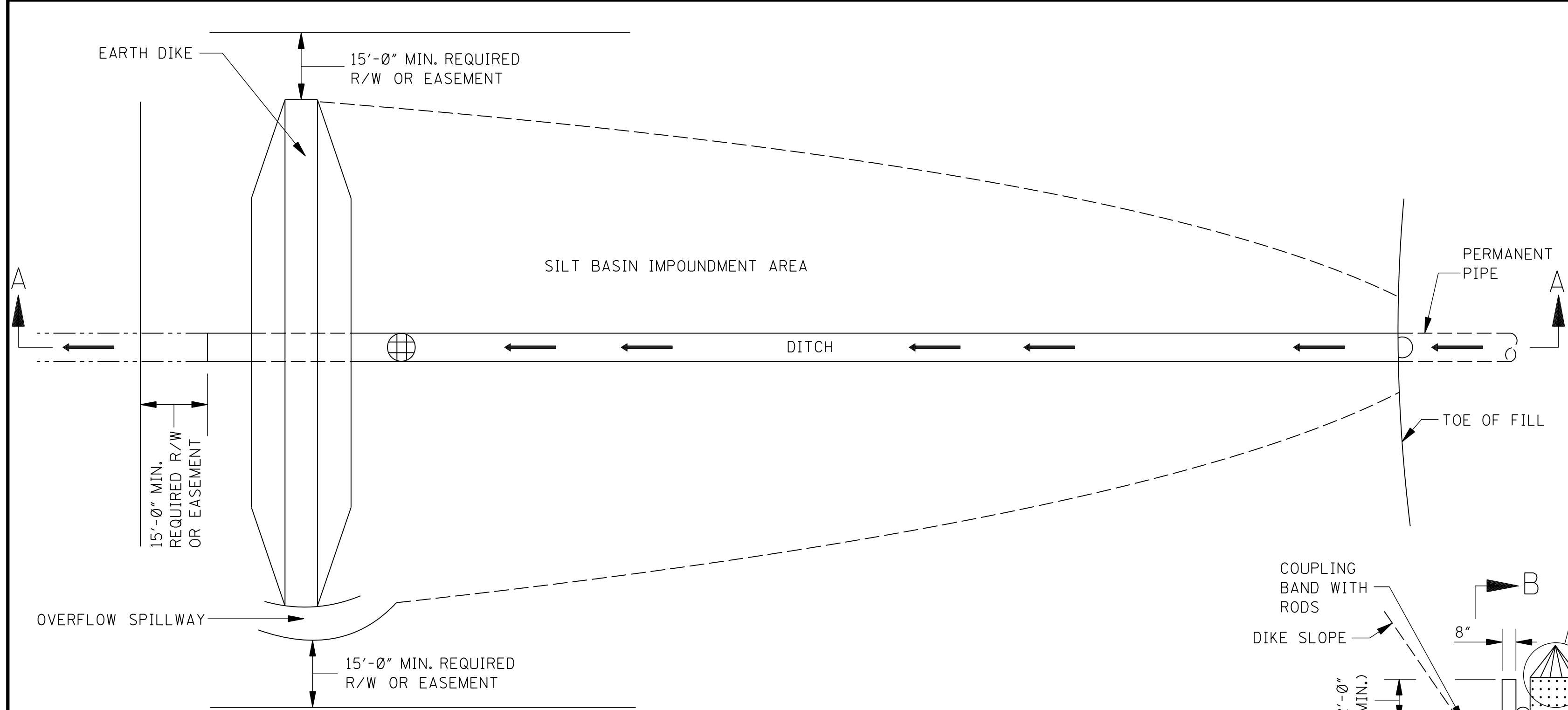
PLAN

TEMPORARY SILT BASIN (TYPE A)

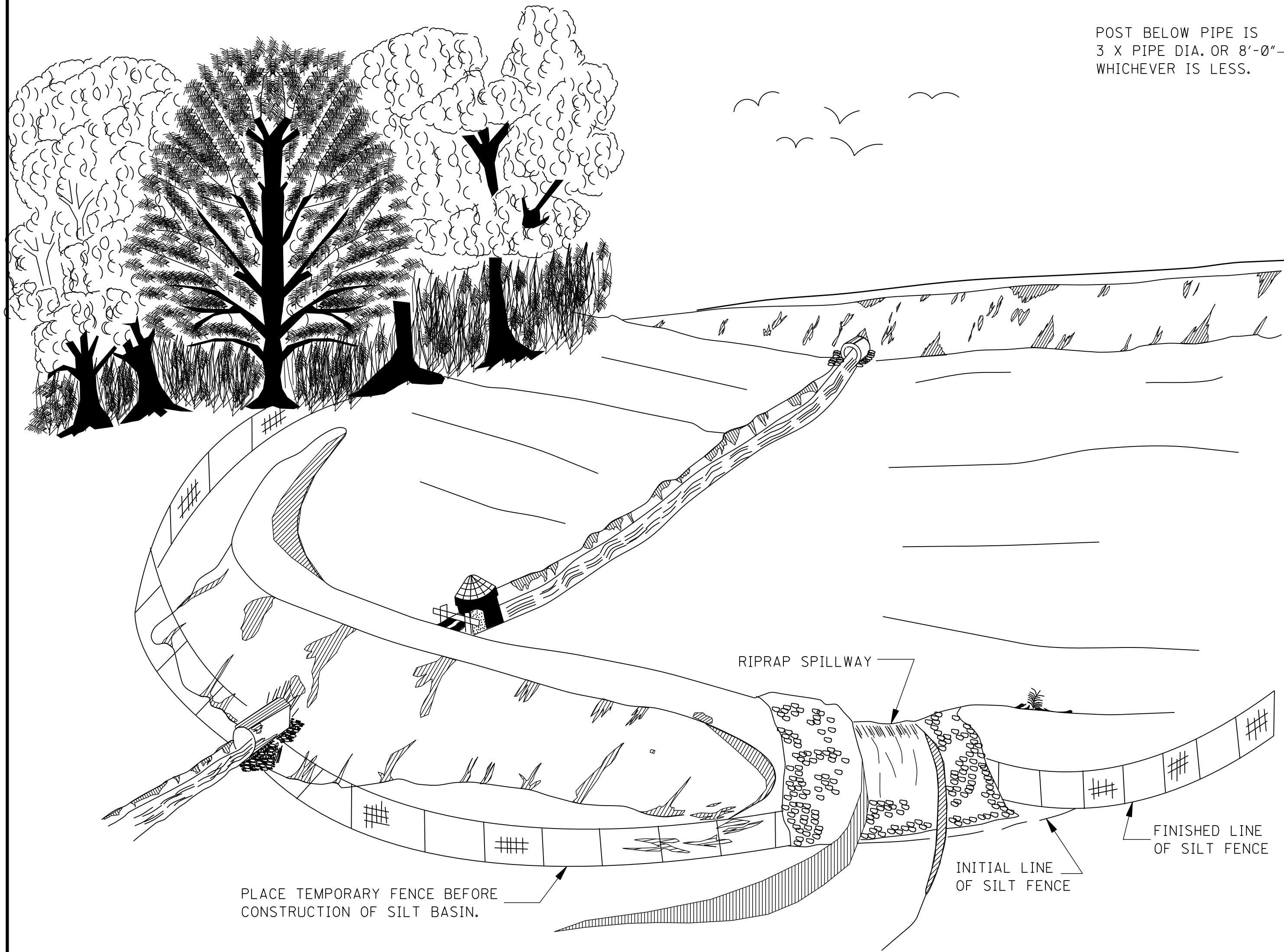
NOTE: TEMPORARY SILT BASIN (TYPE A) CAN BE USED IN SURFACE DRAIN DITCHES AND SIDE DITCHES AT THE END OF CUT SECTIONS, IMMEDIATELY PRECEEDING DITCH INLETS AND JUST BEFORE THE WATER (RUNOFF) LEAVES THE RIGHT-OF-WAY OR ENTERS A WATER COURSE. TYPE A SILT BASINS WILL NOT BE MEASURED FOR SEPARATE PAYMENT.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>TYPICAL TEMPORARY EROSION CONTROL MEASURES</b> <b>(SLOPE DRAIN AND TYPE A SILT BASIN)</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					 WORKING NUMBER BAS-A SHEET NUMBER 6125

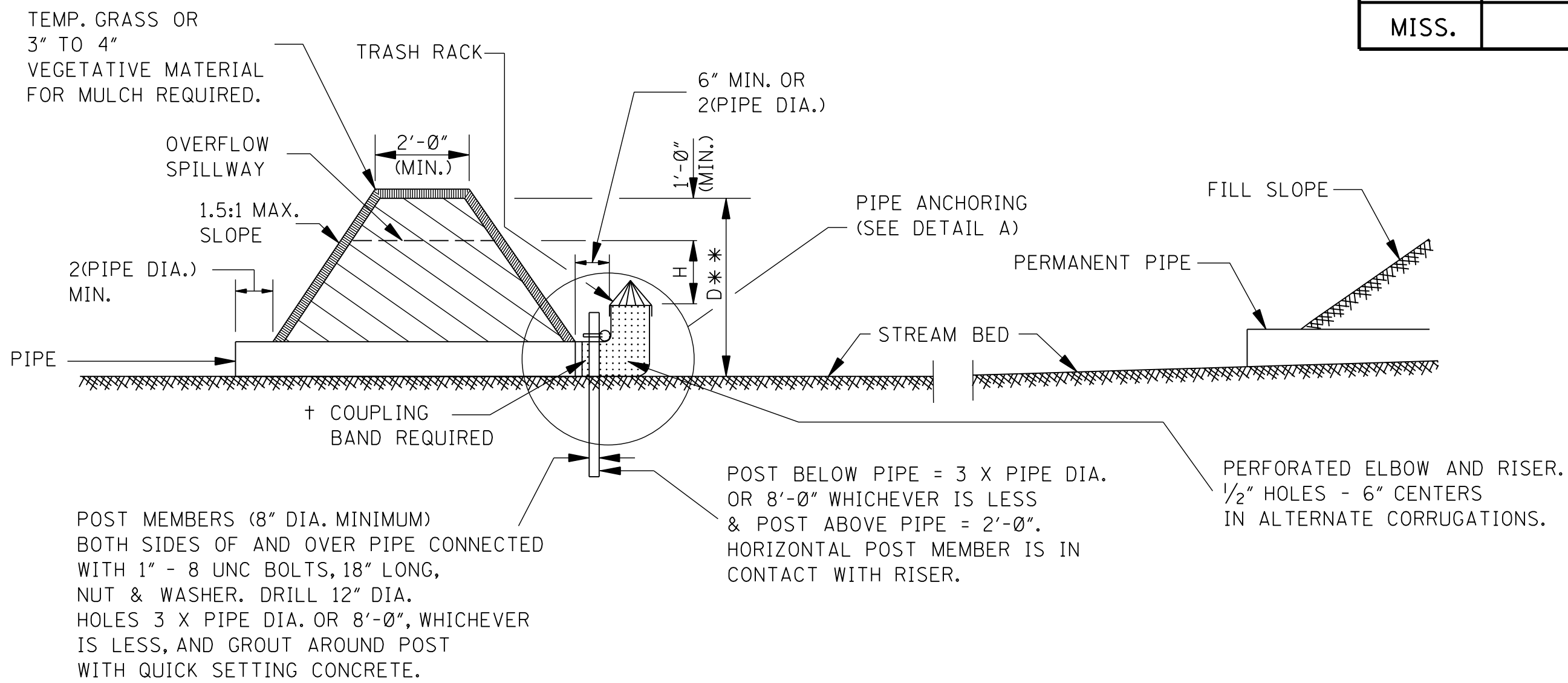




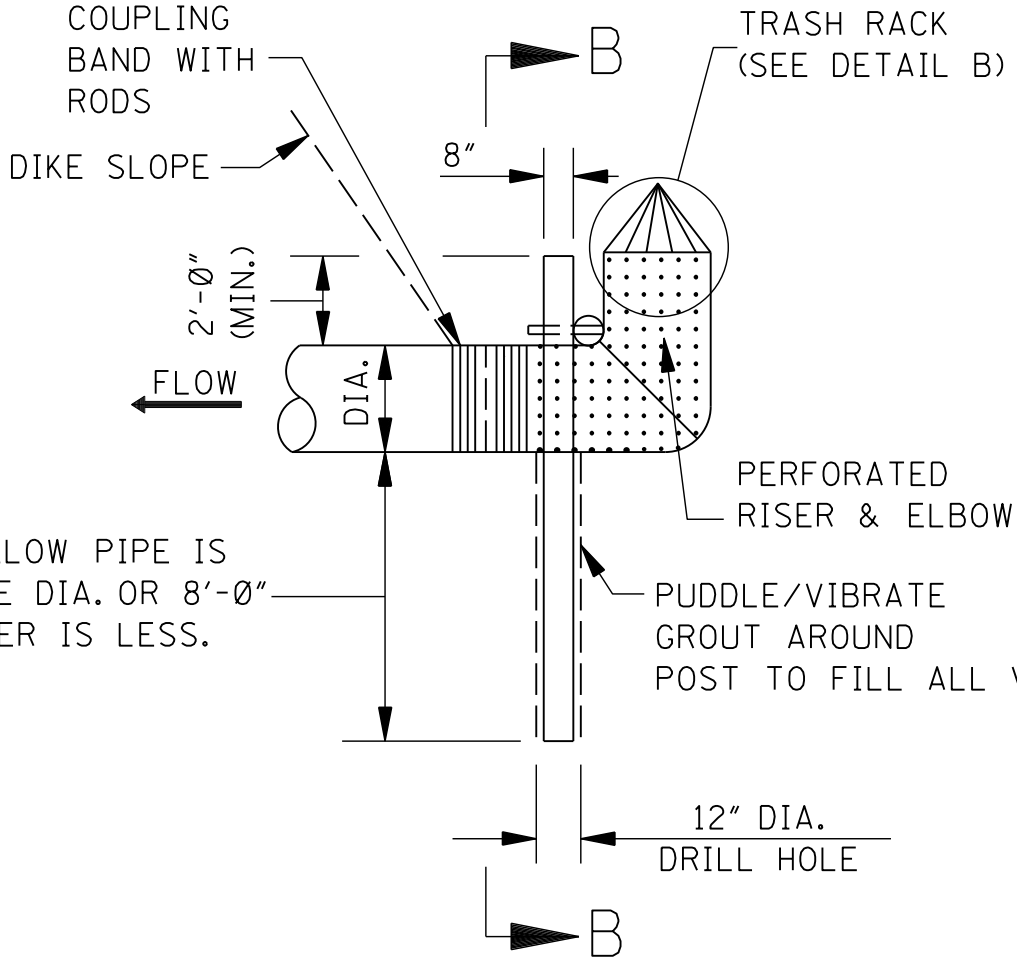
PLAN



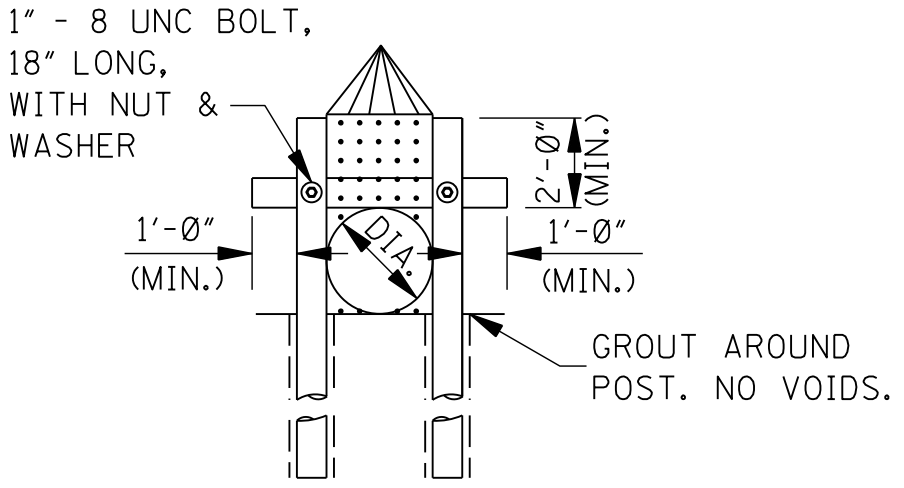
TEMPORARY SILT BASIN (TYPE B)



SECTION A-A

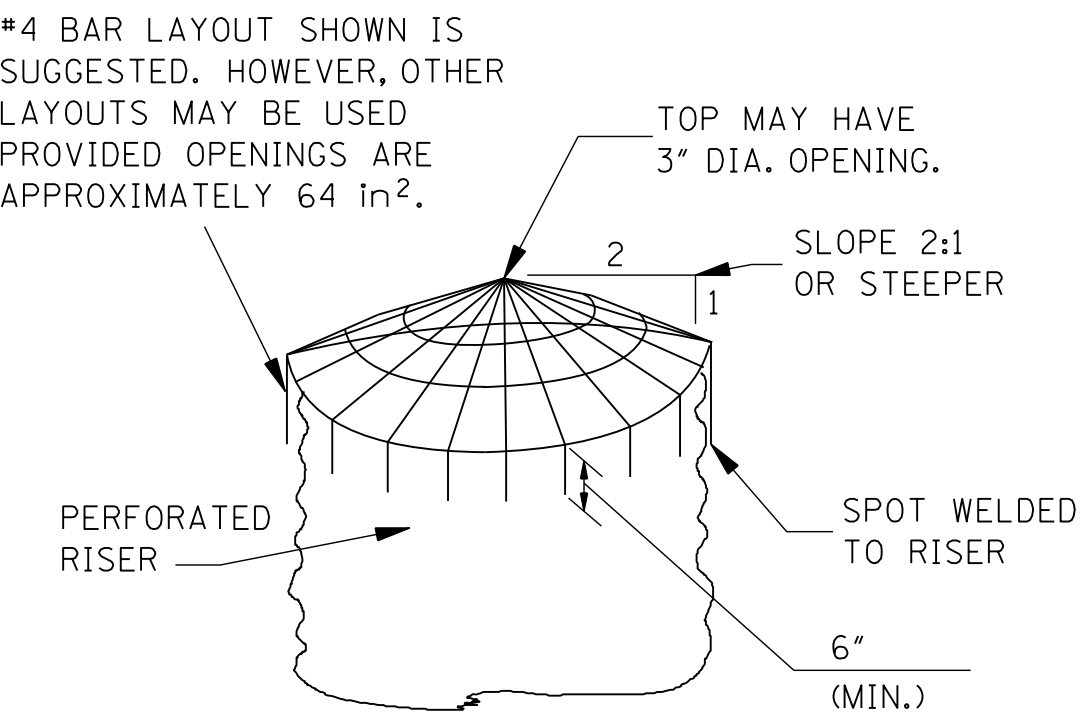


DETAIL A



SECTION B-B

PIPE ANCHORAGE



DETAIL B  
TRASH RACK INSTALLATION

GENERAL NOTES:

1. PROVIDE OVERFLOW SPILLWAY IN NATURAL GROUND AT A MINIMUM OF 1'-0" BELOW TOP OF DIKE. CROSS-SECTIONAL AREA OF SPILLWAY IS EQUAL TO 1.5 TIMES THE AREA OF THE OUTLET PIPE MINIMUM. RIPRAP SHALL BE REQUIRED AT THE SPILLWAY. AFTER THE PURPOSE OF THE SILT BASIN HAS BEEN SERVED, THE DIKE AND RIPRAP MAY REMAIN IN PLACE AT THE DISCRETION OF THE ENGINEER, BUT THE DRAIN PIPE WITH RISER SHALL BE REMOVED AND THE NEWLY DISTURBED ARE REVEGETATED.
2. BASIN AND DIKE DIMENSIONS DO NOT REQUIRE CONSTRUCTION TO NEAT LINES.
3. THE SILT BASIN MAY BE CONSTRUCTED IN ANY SHAPE WITH THE DIKE EXTENDING ALONG ONE OR MORE SIDES AS LONG AS THE LENGTH MEASURED IN THE DIRECTION OF FLOW IS APPROXIMATELY TWICE THE WIDTH AND THE IMPOUNDMENT AREA AND DEPTH AT LEAST AS LARGE AS INDICATED.
4. MINIMUM DIMNESTIONS FOR SILT BASIN (TYPE B) ARE AS FOLLOWS:

MIN. DIMENSIONS OF SILT BASIN (TYPE B)				+ COUPLING BAND	
PIPE	* * D (ft+in)	H (ft+in)	* AREA (ft <sup>2</sup> )	LENGTH (in)	COUPLING RODS/SIDE
15"	4'-0"	1'-0"	310	12"	2 & 2
18"	5'-0"	1'-0"	550	12"	2 & 2
24"	5'-0"	1'-0"	1100	12"	2 & 2
30"	6'-0"	1'-6"	1850	24"	3 & 3
36"	6'-0"	1'-6"	2800	24"	3 & 3
42"	7'-0"	2'-0"	4200	24"	3 & 3
48"	8'-0"	2'-0"	6200	24"	3 & 3

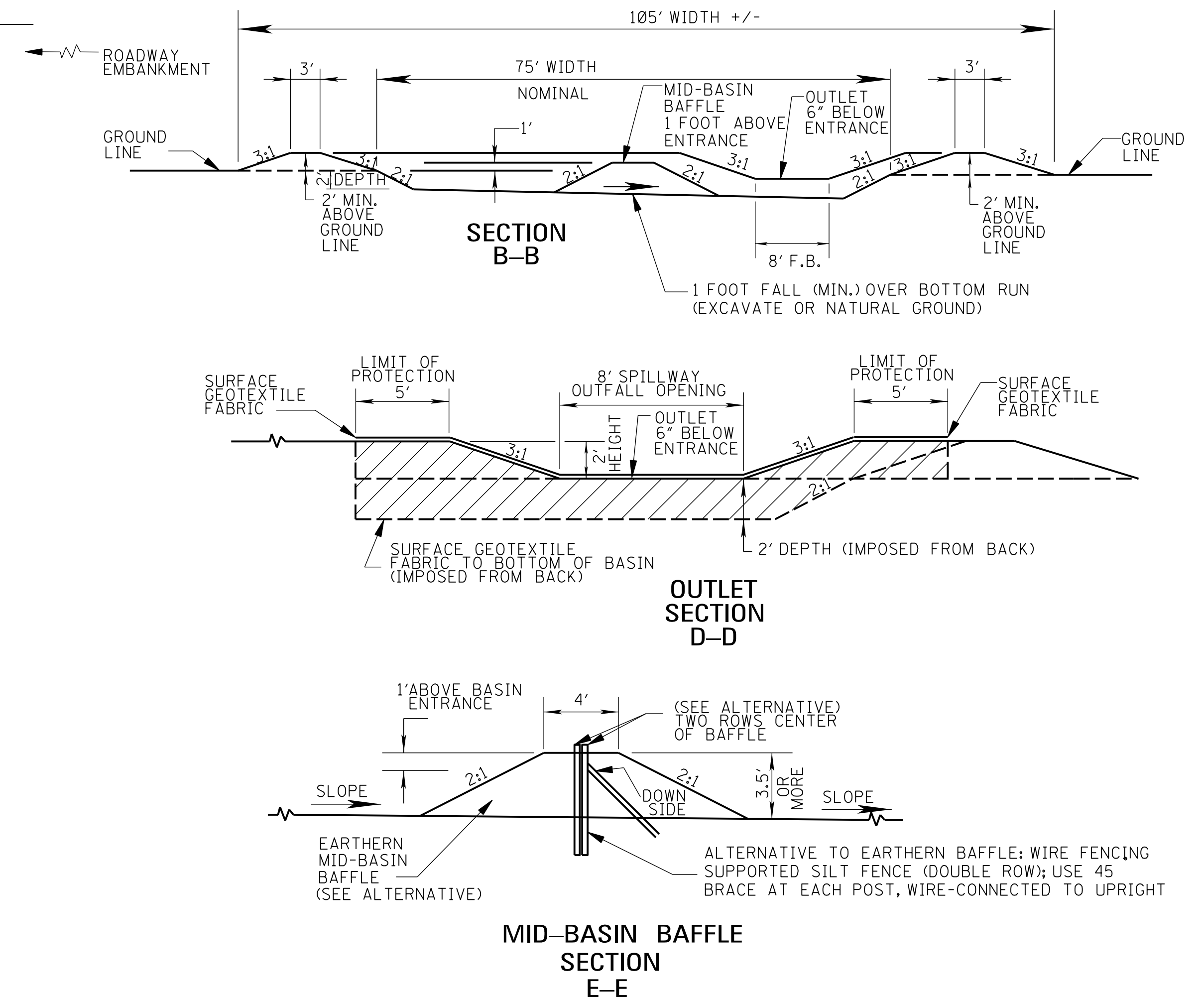
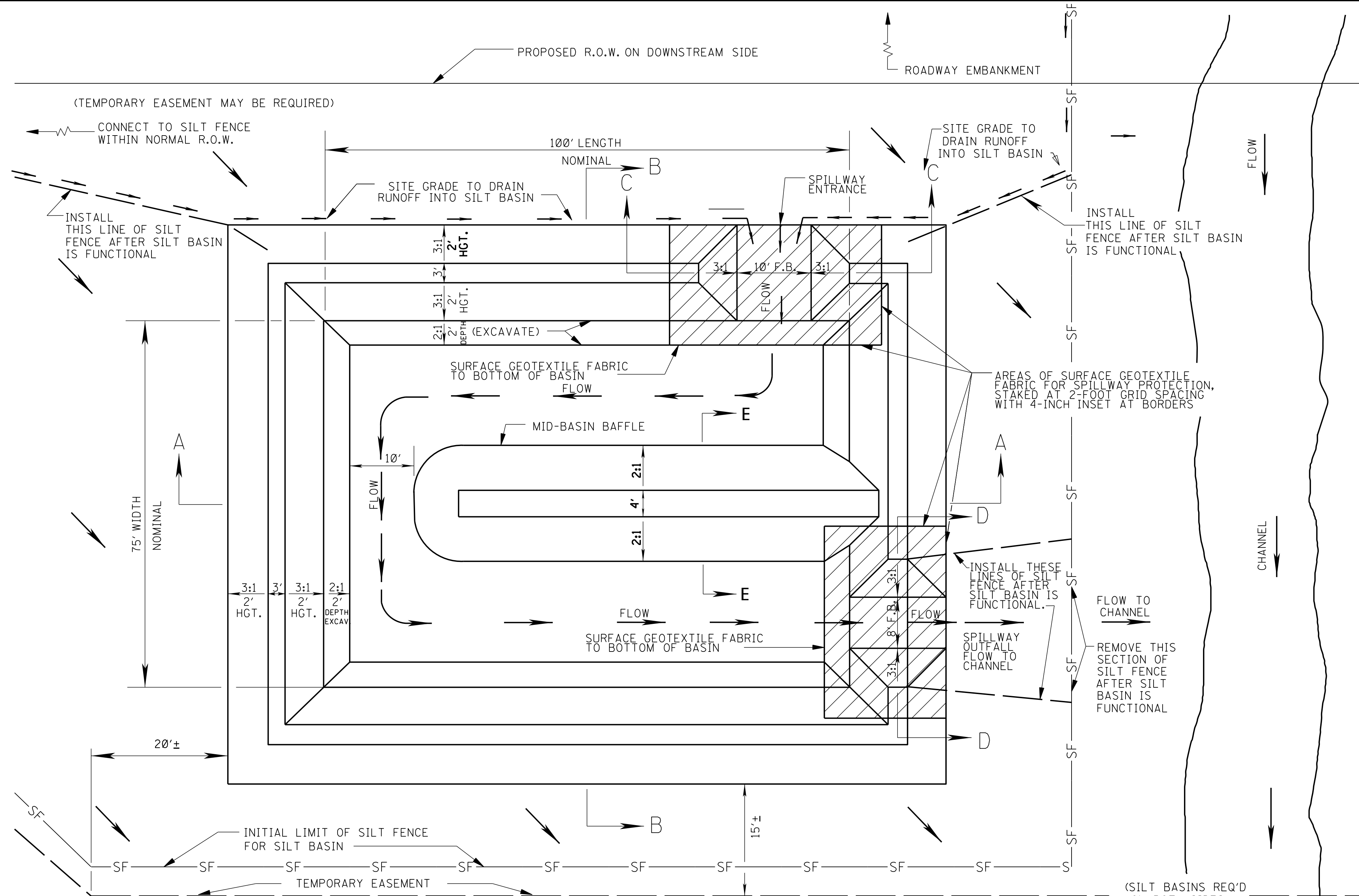
- NOTES:
- \* 1. IMPOUNDMENT SURFACE AREAS ARE MEASURED AT ELEVATION OF TOP OF ELBOW RISER.
  - \* \* 2. RISER REQUIRED WHERE MINIMUM "D" DIMENSION IS EXCEEDED. LENGTH OF RISER IS EQUAL TO THE AMOUNT THAT MINIMUM "D" DIMENSION IS EXCEEDED.
  - + 3. COUPLING RODS TO BE 1/2" DIAMETER MINIMUM WITH LUGS.

5. IN SELECTING BASIN SIZE, CONSIDERATION MUST BE GIVEN TO THE AREA DISCHARGING INTO THE BASIN OTHER THAN THAT WHICH COMES THROUGH THE PIPE UNDER THE ROADWAY. THIS WILL AT TIMES NECESSITATE A LARGER BASIN AND OUTLET PIPE SECTION.
6. THE DIKE SHALL BE CONSTRUCTED OF A MATERIAL SUITABLE FOR ROADWAY EMBANKMENT.
7. SILT BASIN (TYPE B) REQUIRED AT LOCATION(S) INDICATED ON PLANS.
8. THE CONTRACTOR SHALL BE REQUIRED TO FURNISH ALL MATERIALS AND PERFORM ALL WORK FOR THE PROPER INSTALLATION, MAINTENANCE AND REMOVAL OF TEMPORARY EROSION CONTROL MEASURES NECESSARY TO CONTROL SILTATION.
9. THE USE OF THE TEMPORARY EROSION CONTROL MEASURE SHOWN ON THIS SHEET WILL ONLY BE REQUIRED AND MEASURED FOR SEPARATE PAYMENT WHEN AN APPROPRIATE PAY ITEM IS INCLUDED IN THE BID SCHEDULE OF THE PROPOSAL.
10. RIPRAP AND TEMPORARY SILT FENCE, USED IN CONJUNCTION WITH TYPE B SILT BASINS AS SHOWN BY THE DETAILS ON THIS SHEET, WILL NOT BE MEASURED FOR SEPARATE PAYMENT. THE COST SHALL BE INCLUDED IN THE PRICE BID FOR TYPE B SILT BASIN.

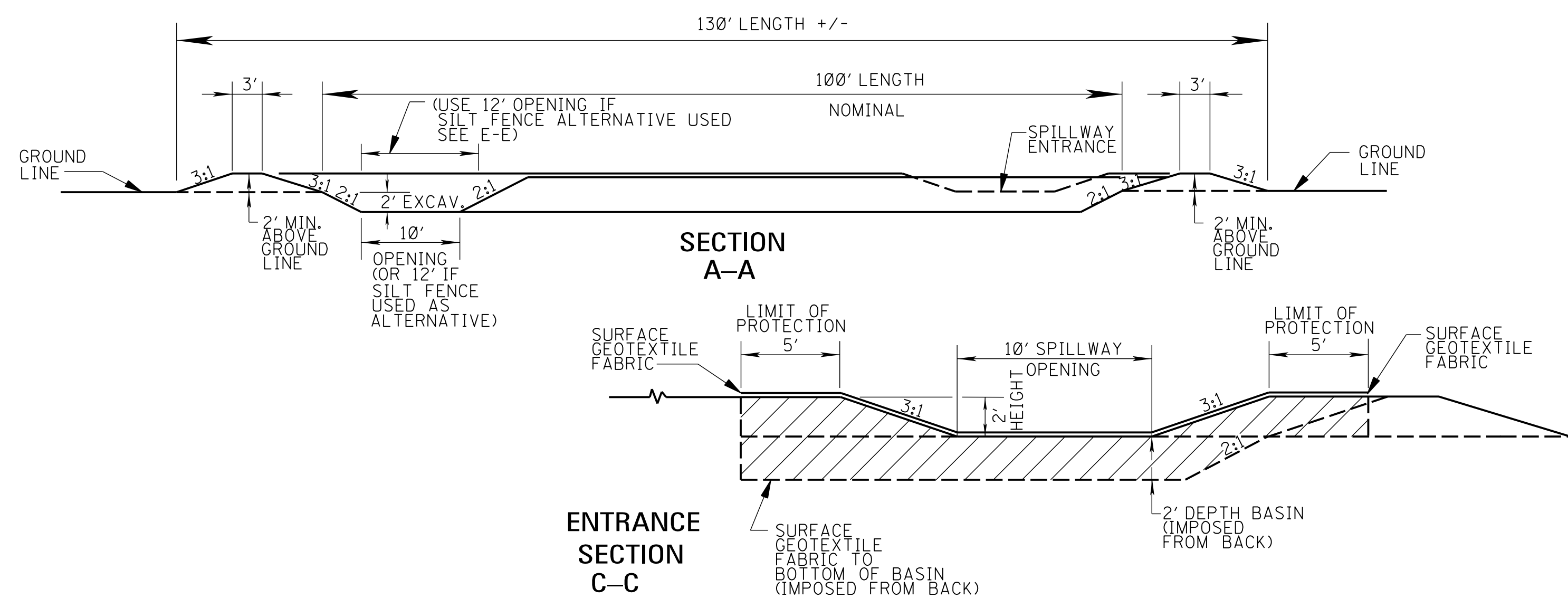
BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
REVISION	<b>TYPICAL TEMPORARY EROSION CONTROL MEASURES (TYPE B SILT BASIN)</b>
DATE	ISSUE DATE: AUGUST 01, 2017

WORKING NUMBER BAS-B
SHEET NUMBER 6126





- GENERAL NOTES:
1. FOR DOWNSTREAM SIDE OF BRIDGE, BOX CULVERT, AND LARGER PIPE CULVERT CONSTRUCTION SITES OR AS REQUIRED (MAY BE DOWNSTREAM).
  2. TYPE "C2" SILT BASIN SUBSTITUTED FOR TYPE "C1" SILT BASIN AS DIRECTED BY ENGINEER OR AS PER PLANS.
  3. SEE TYPE "C1" SILT BASIN FOR UPSTREAM APPLICATION (WK. NO. BAS-C1) OR AS REQUIRED.
  4. SURFACE GEOTEXTILE FABRIC FOR SPILLWAY PROTECTION SHALL BE THE SAME TYPE AS SILT FENCE.
  5. THE SILT BASIN CAPACITY IS TO PROVIDE 67 CU.YD. PER ACRE OF DRAINAGE AREA RECEIVED, AND THIS VOLUME SHALL BE MAINTAINED BELOW THE ENTRANCE ELEVATION INTO THE SILT BASIN.
  6. THE TEMPORARY EROSION CONTROL MEASURES SHOWN ON THIS SHEET WILL ONLY BE MEASURED FOR SEPARATE PAYMENT WHEN APPROPRIATE PAY ITEMS ARE INCLUDED IN THE BID SCHEDULE OF THE PROPOSAL.
  7. THE ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES  $\frac{1}{3}$  TO  $\frac{1}{2}$  THE CAPACITY OF THE SILT BASIN. SILT SHALL BE DISPOSED OF PROPERLY AND SHALL NOT BE DISPOSED OF IN THE VICINITY OF THE EROSION CONTROL DEVICES.



				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	ISSUE DATE: AUGUST 01, 2017

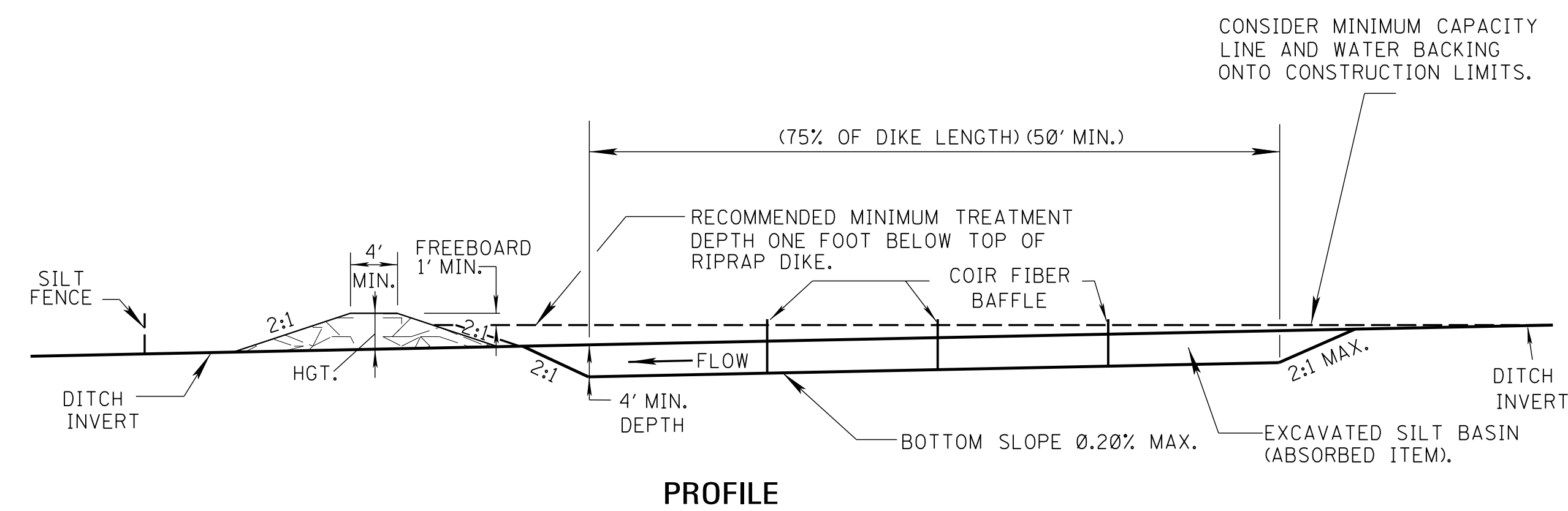
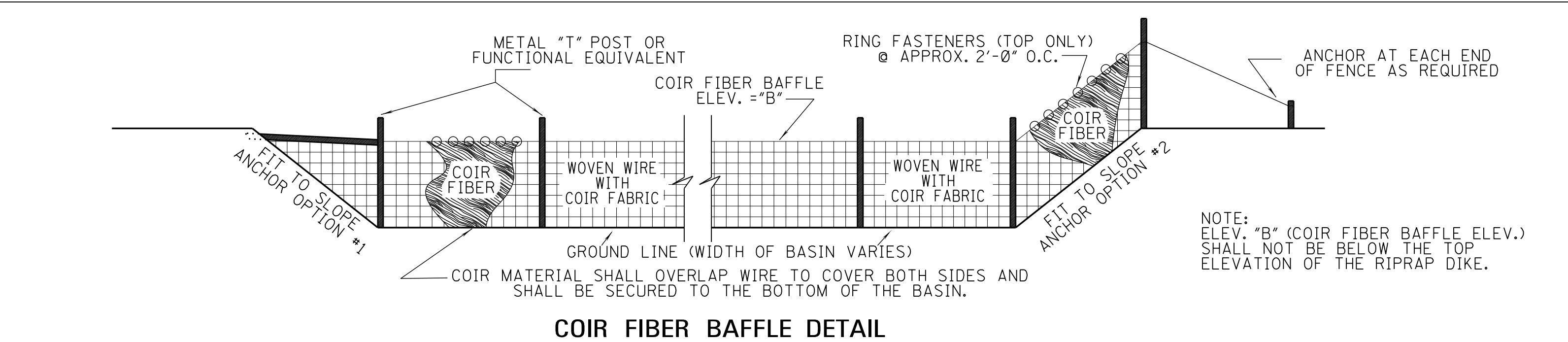
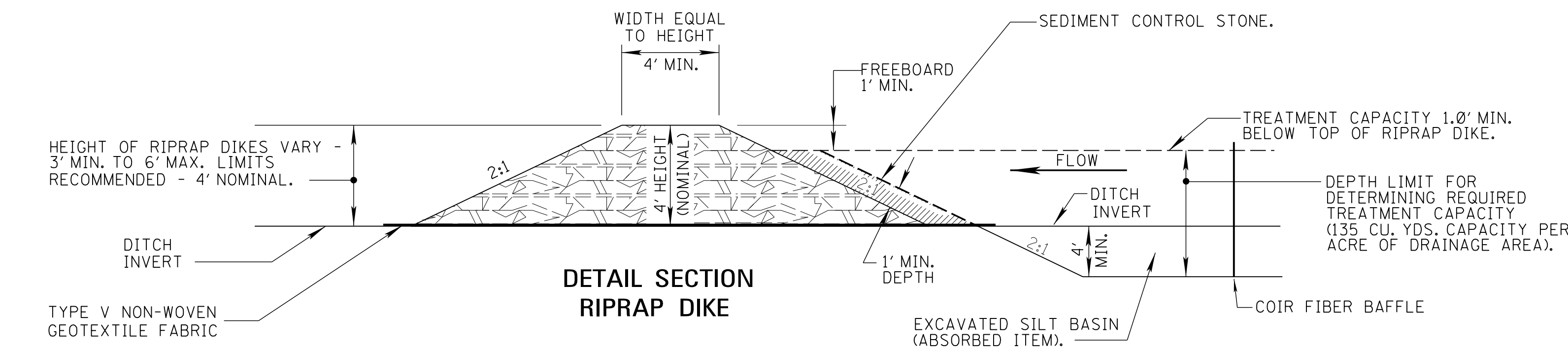
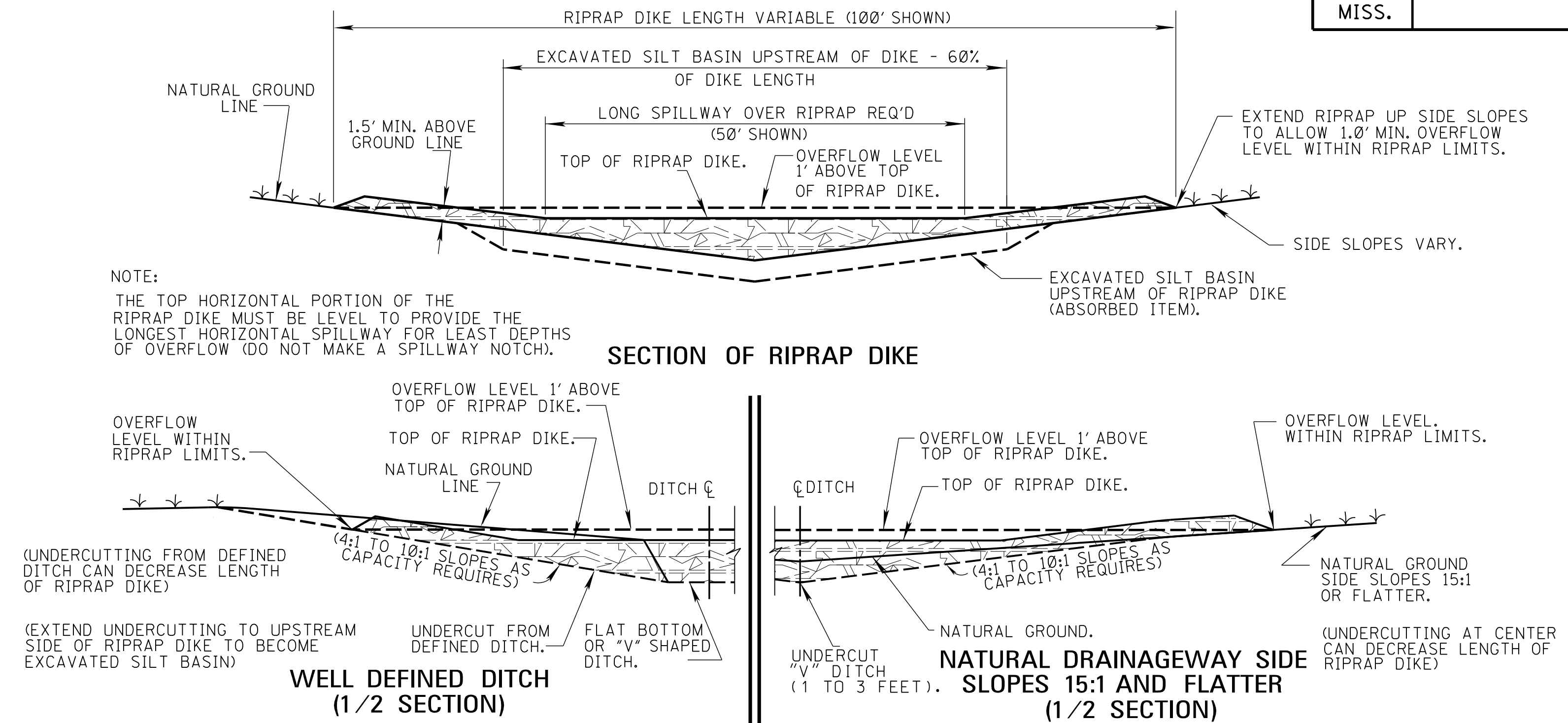
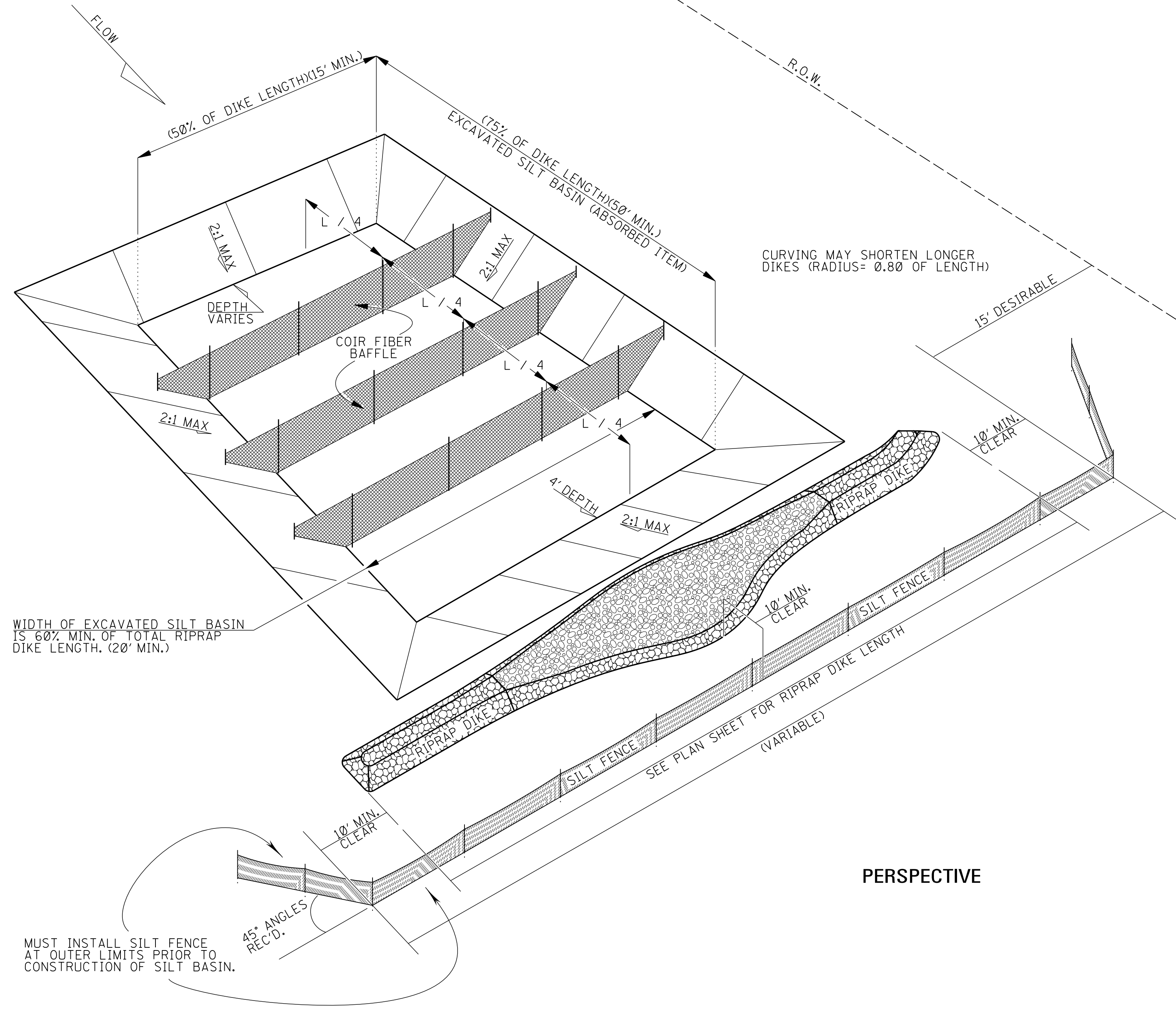


WORKING NUMBER  
**BAS-C2**


SHEET NUMBER  
**6128**

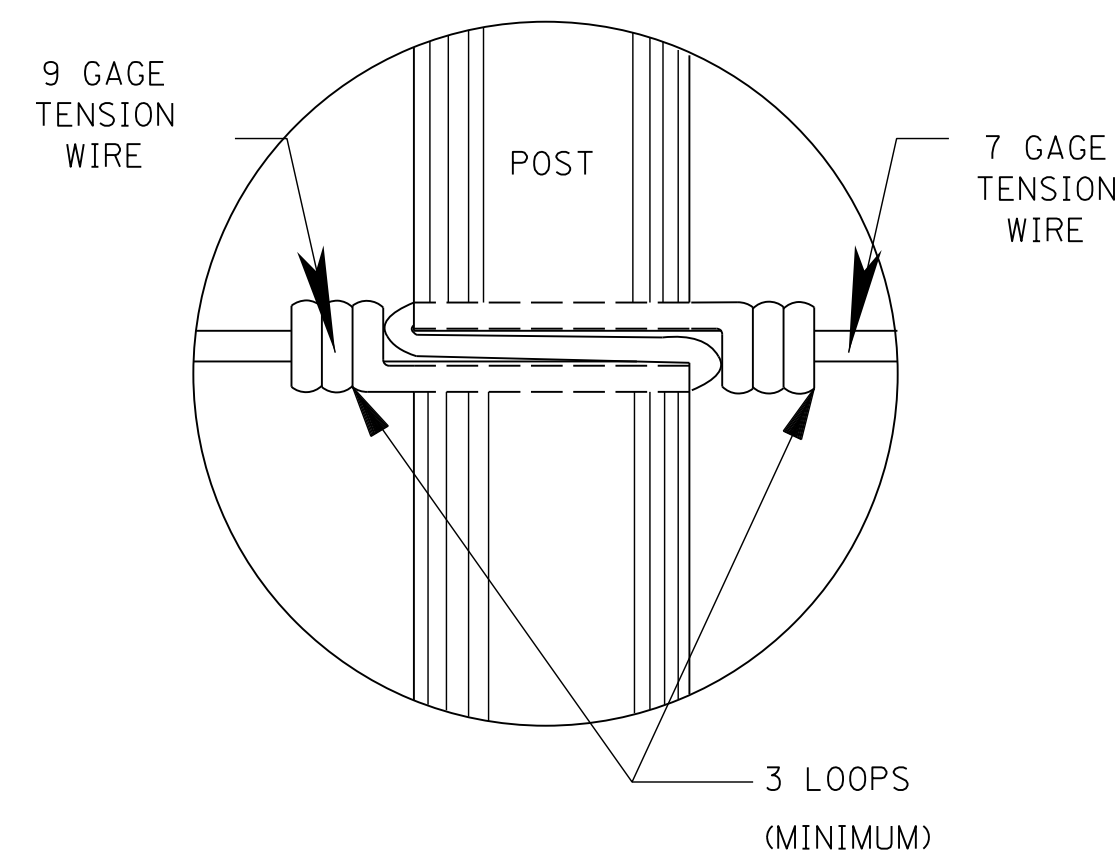
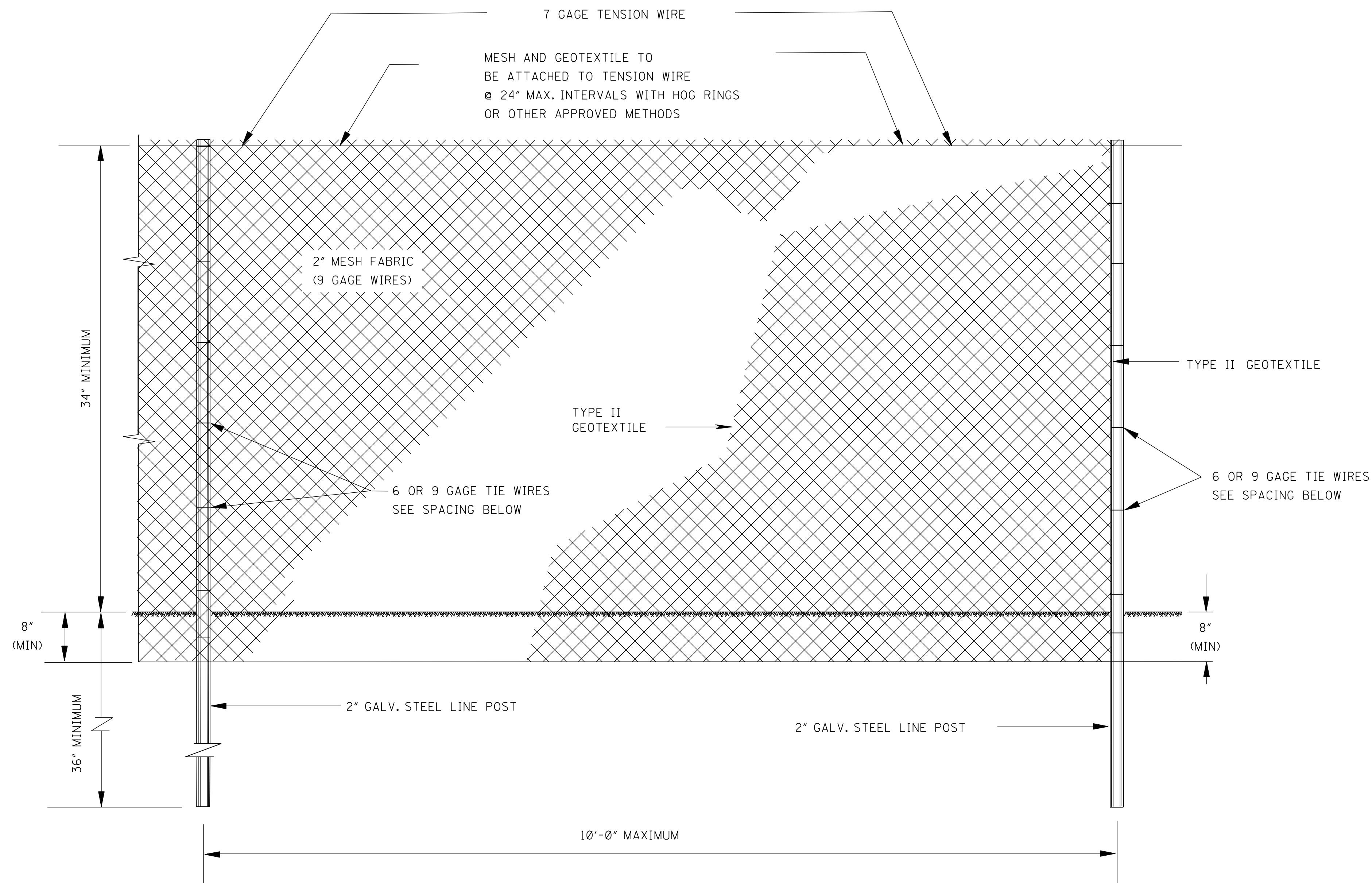


STATE	PROJECT NO.
MISS.	



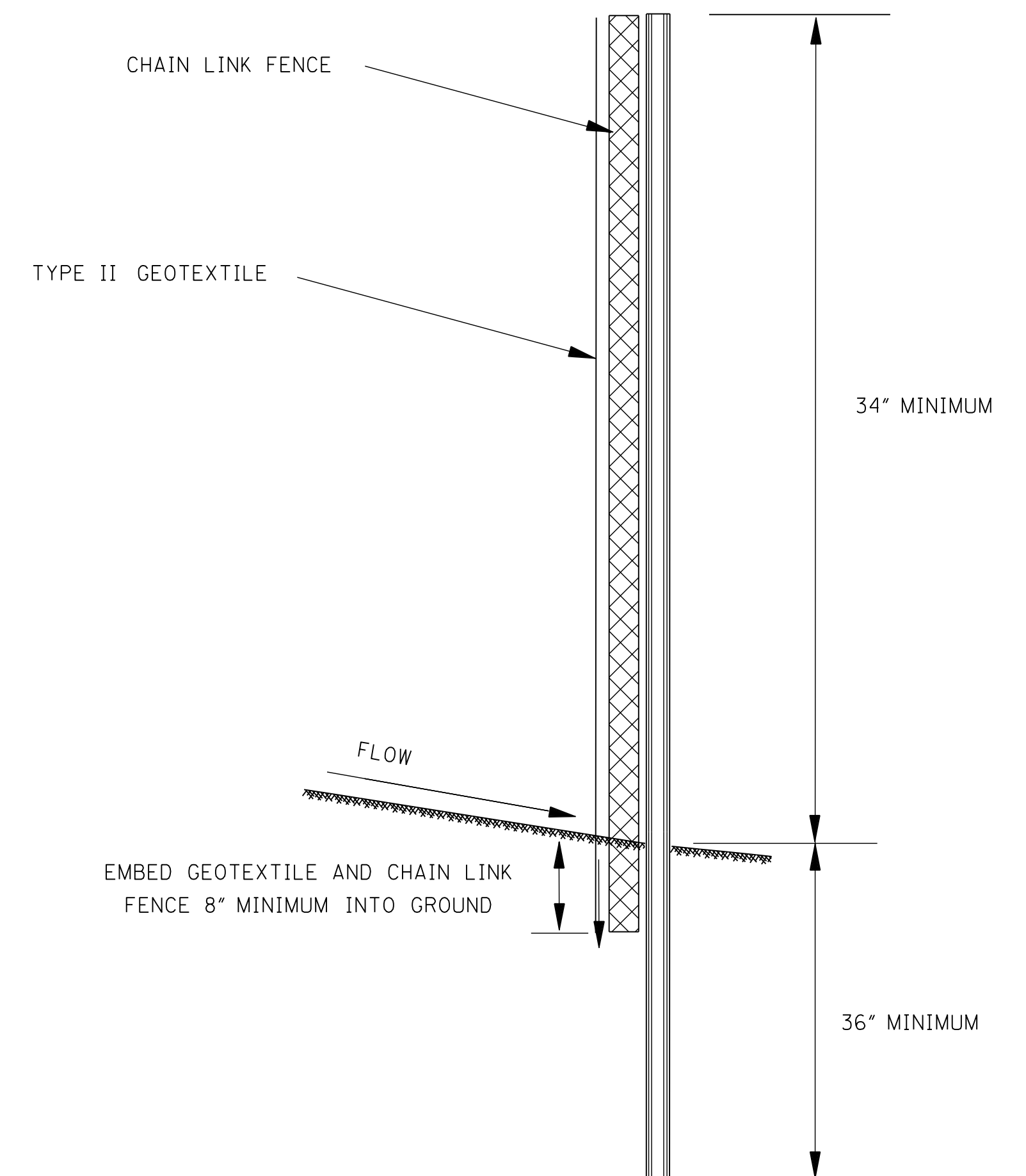
- | GENERAL NOTES: |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.             | THE REQUIRED SIZE / CAPACITY OF THE RIPRAP DIKE SILT BASIN IS AT LEAST 135 CUBIC YARDS OF VOLUME / CAPACITY PER ACRE OF DRAINAGE AREA RECEIVED. THE RIPRAP DIKE SILT BASIN MUST BE MAINTAINED AT ALL TIMES TO ASSURE THE INTENDED FUNCTION, REMOVING THE ACCUMULATED SILT ROUTINELY AND / OR WHEN APPROACHING A 50% MAXIMUM DECREASE FROM THE EFFECTIVE DESIGN CAPACITY, AND RESTORING THE BASIN TO ITS ORIGINAL EFFECTIVE DESIGN CAPACITY. |
| 2.             | THE CONTRACTOR SHALL BE REQUIRED TO FURNISH ALL MATERIALS, PERFORM ALL WORK FOR THE PROPER INSTALLATION, MAINTENANCE, AND REMOVAL OF TEMPORARY EROSION CONTROL MEASURES NECESSARY TO CONTROL SILTATION.                                                                                                                                                                                                                                     |
| 3.             | AFTER THE PURPOSE FOR THE SILT BASIN HAS BEEN SERVED, THE POSTS AND SILT FENCE SHALL BE REMOVED. THE RIPRAP AND SEDIMENT CONTROL STONE SHALL BE REMOVED AND PLACED AT A PIPE OUTLET. THE DISTURBED AREA SHALL BE SITE GRADED AND REVEGETATED AS DEEMED NECESSARY BY THE ENGINEER. ALL COSTS OF REMOVAL AND REPLACEMENT SHALL BE INCLUDED IN OTHER ITEMS BID.                                                                                |
| 4.             | RIPRAP FOR THE TYPE D SILT BASIN SHALL BE MIN. 100 LB RIPRAP AND SHALL BE PAID FOR - PER TON.                                                                                                                                                                                                                                                                                                                                               |
| 5.             | SEDIMENT CONTROL STONE SHALL BE PAID FOR - PER TON.                                                                                                                                                                                                                                                                                                                                                                                         |
| 6.             | THE TEMPORARY EROSION CONTROL MEASURES SHOWN ON THIS SHEET WILL ONLY BE MEASURED FOR SEPARATE PAYMENT WHEN APPROPRIATE PAY ITEMS ARE INCLUDED IN THE BID SCHEDULE OF THE PROPOSAL.                                                                                                                                                                                                                                                          |
| 7.             | THE ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES 1/3 TO 1/2 THE HEIGHT OF THE CONTROL FEATURE. SILT SHALL BE DISPOSED OF PROPERLY AND SHALL NOT BE DISPOSED OF IN THE VICINITY OF THE EROSION CONTROL DEVICES.                                                                                                                                                                                                                         |
| 8.             | THE COIR FIBER BAFFLES SHALL BE CONSTRUCTED OF 100% COCONUT (COIR) FIBER MATERIAL SUPPORTED BETWEEN POSTS WITH A WIRE MESH BACKING AS SHOWN ABOVE. ROWS SHALL BE EVENLY SPACED THROUGH THE BASIN.                                                                                                                                                                                                                                           |
| 9.             | THE COIR FIBER BAFFLES SHALL BE PAID FOR - PER LINEAR FEET. (INCLUDES ALL ITEMS SHOWN IN DETAIL NEEDED FOR INSTALLATION).                                                                                                                                                                                                                                                                                                                   |
| 10.            | COST OF FABRIC SHALL BE INCLUDED IN OTHER ITEMS BID.                                                                                                                                                                                                                                                                                                                                                                                        |

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN  <b>TYPICAL TEMPORARY EROSION CONTROL MEASURES</b>  (TYPE D SILT BASIN)  (135 CU. YDS. CAPACITY PER ACRE OF DRAINAGE)	 WORKING NUMBER BAS-D
				REVISION		
				DATE		



TENSION WIRE TIE DETAILS

6 OR 9 GAGE TIE WIRE SPACING	
TOTAL TEST LOAD (lbs)	TIE WIRE SPACING (C-C)
518	12"
475-517	11"
430-474	10"
387-429	9"
344-386	8"
301-343	7"
258-300	6"



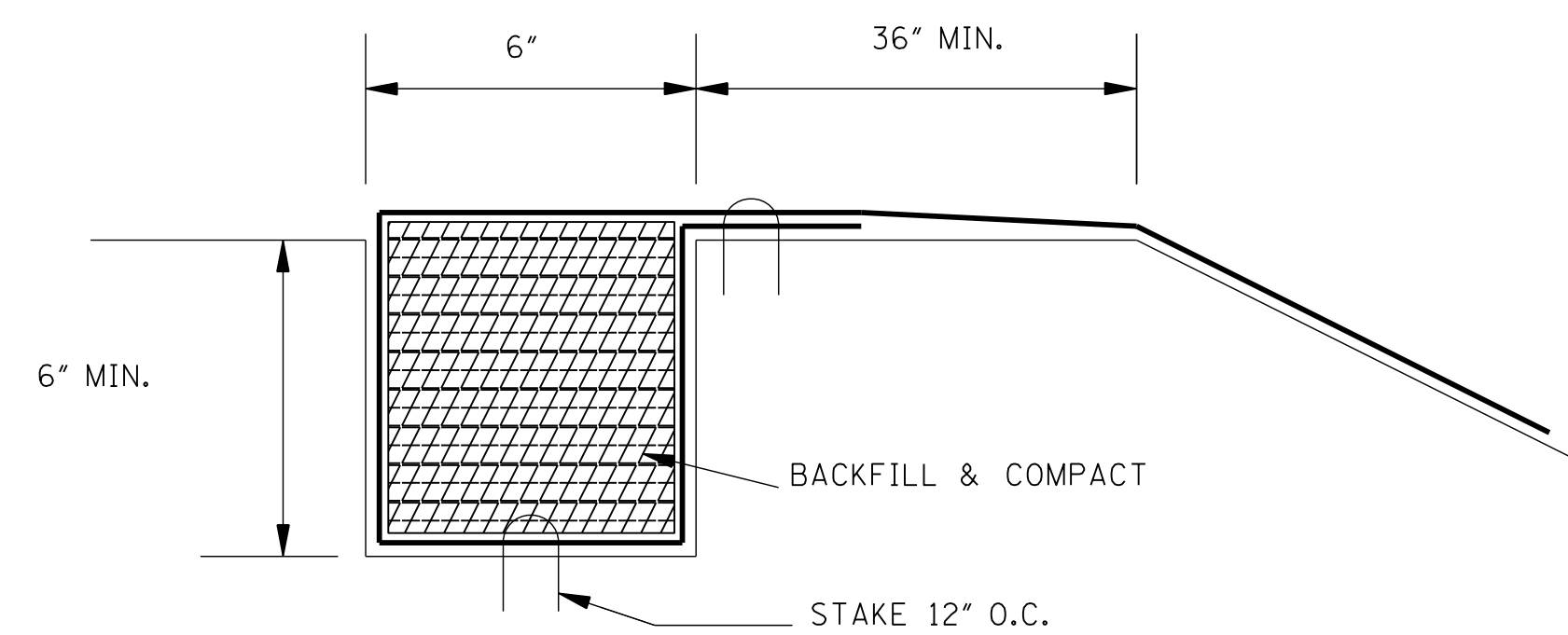
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	
					ISSUE DATE: AUGUST 01, 2017

**SUPER SILT FENCE**

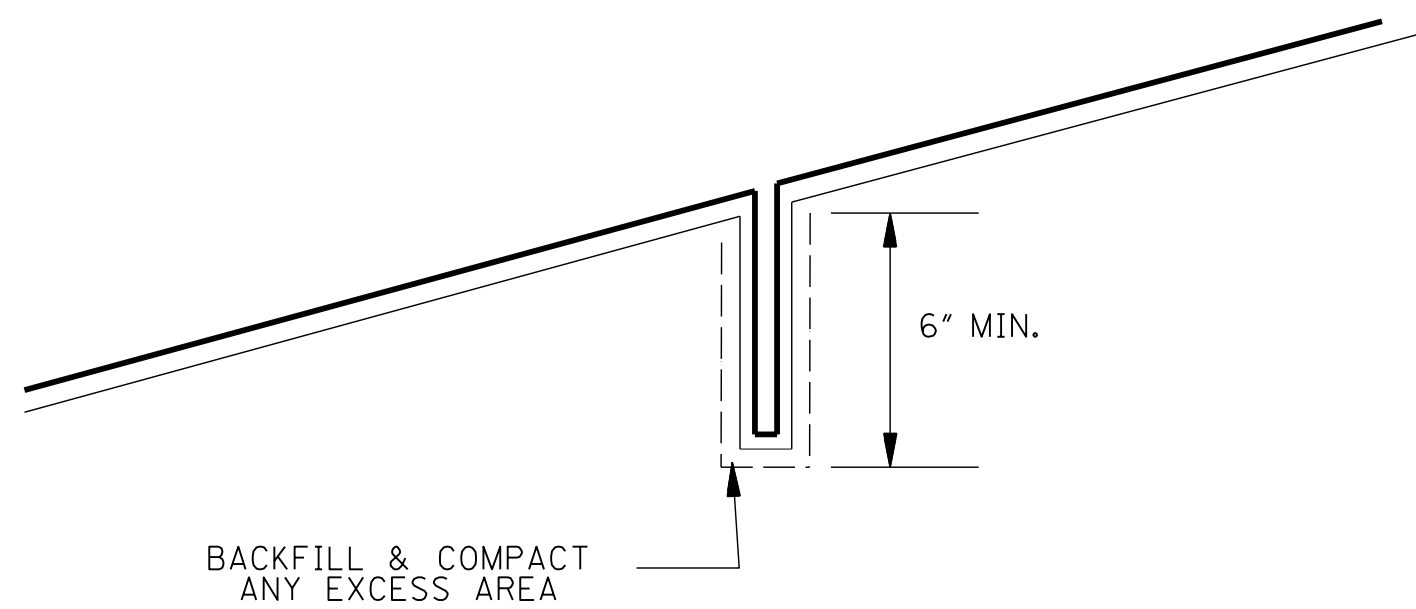
WORKING NUMBER  
SSF-1

SHEET NUMBER  
6130

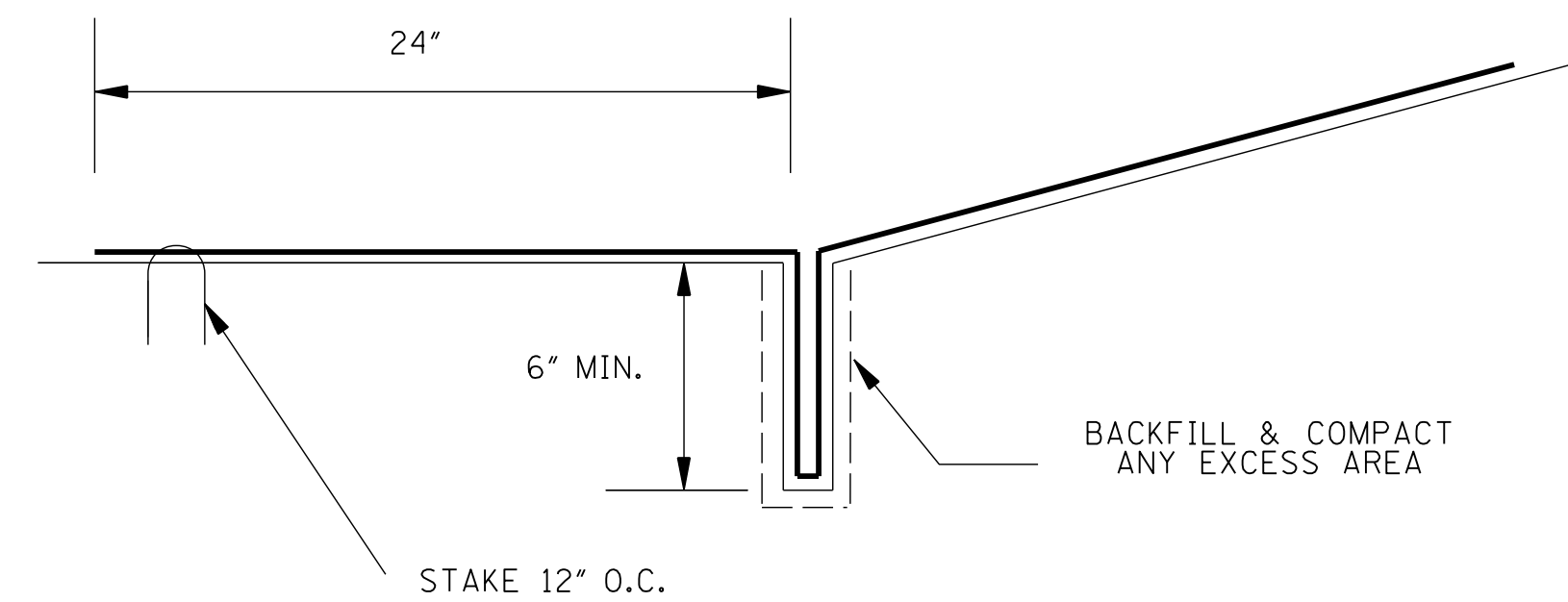




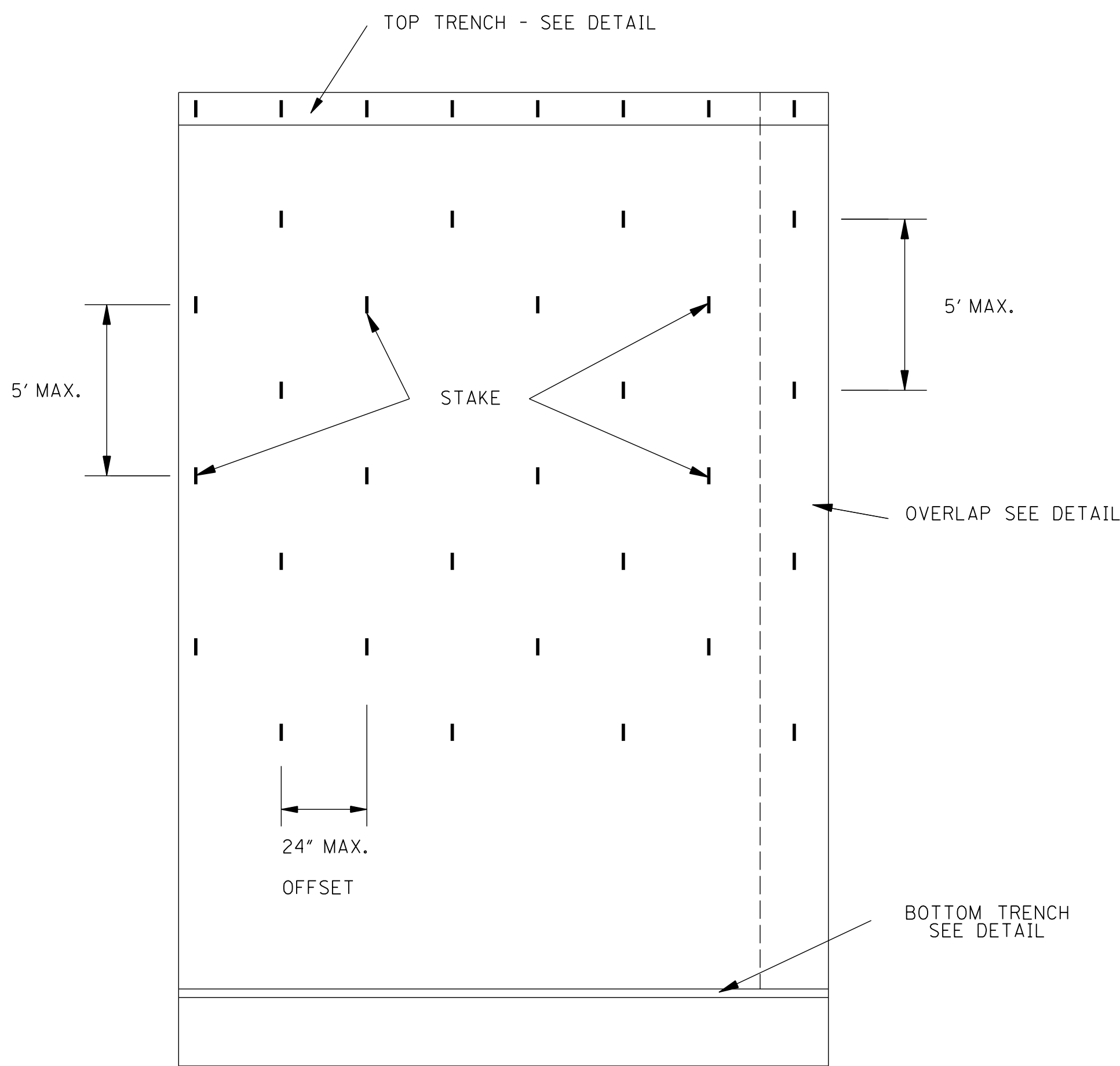
DETAIL OF TOP TRENCH



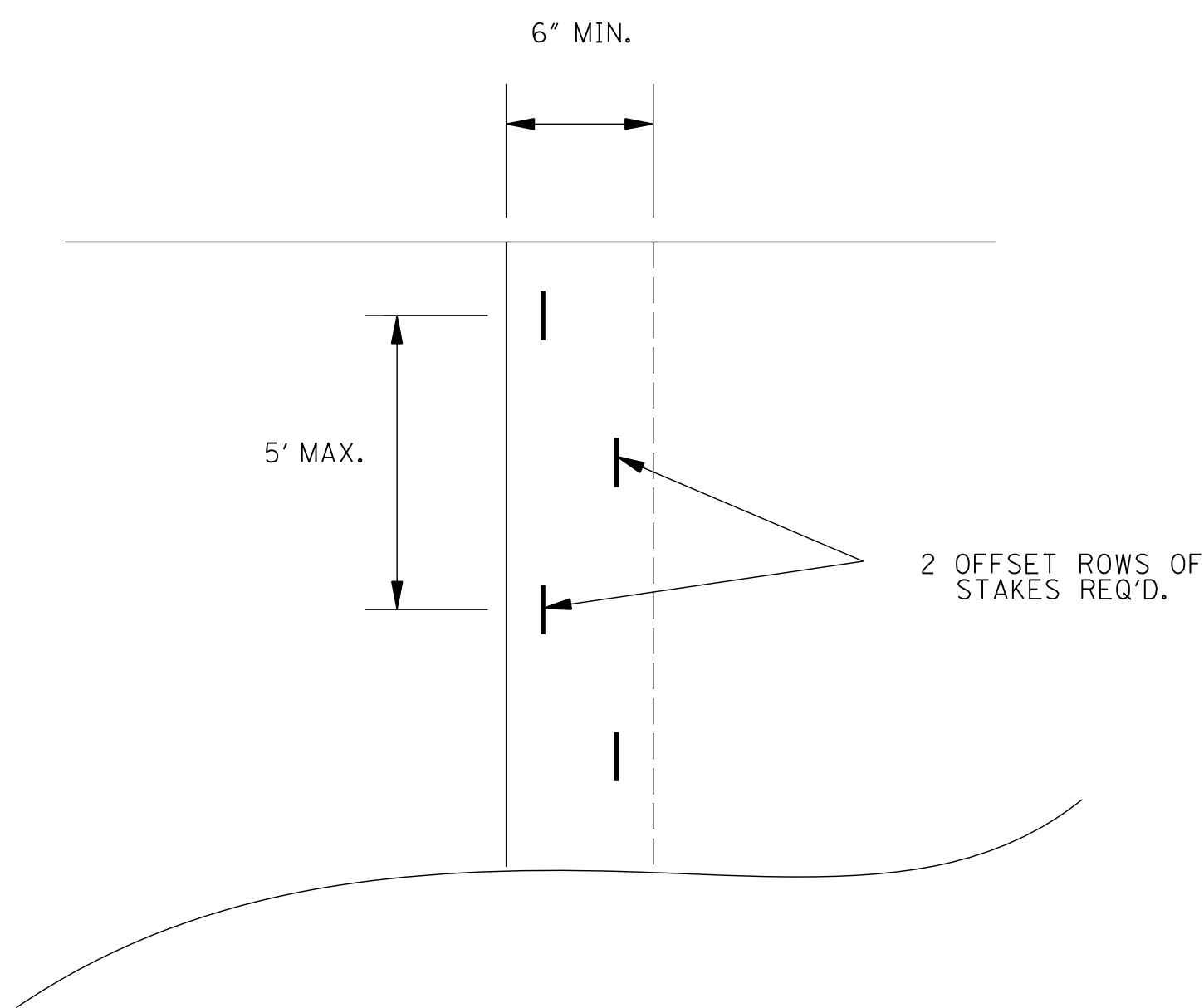
DETAIL OF INTERMEDIATE TRENCH



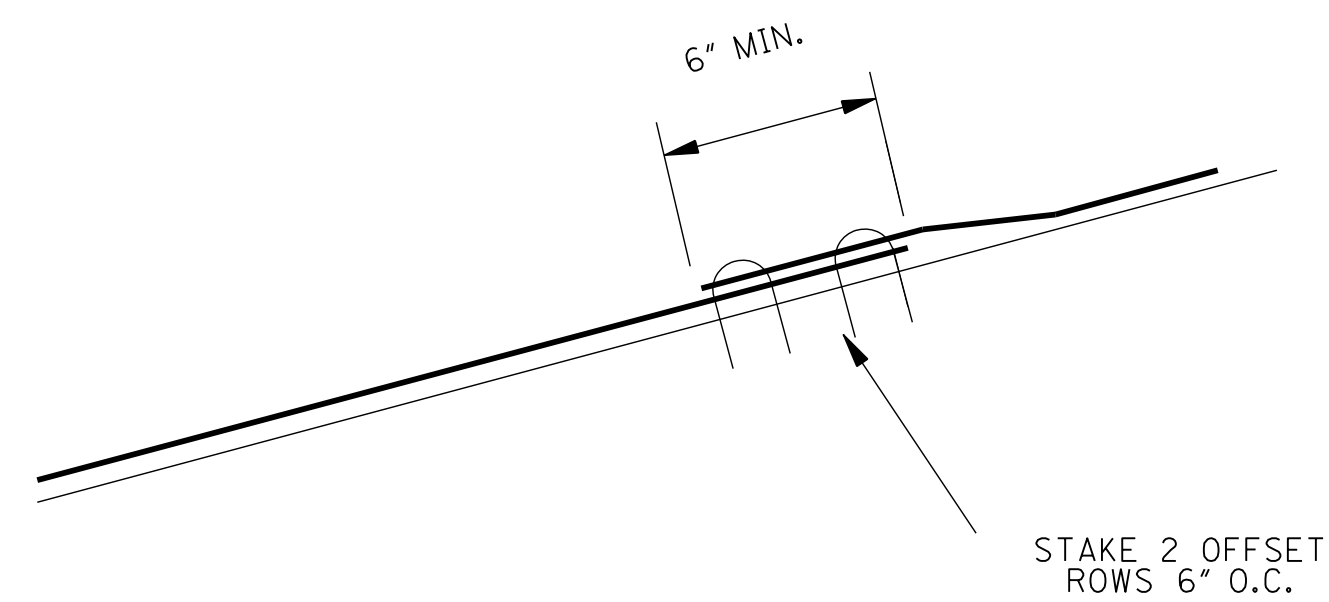
DETAIL OF BOTTOM TRENCH



DETAIL OF EROSION CONTROL BLANKET



DETAIL OF LONGITUDINAL OVERLAP



DETAIL OF TRANSVERSE OVERLAP

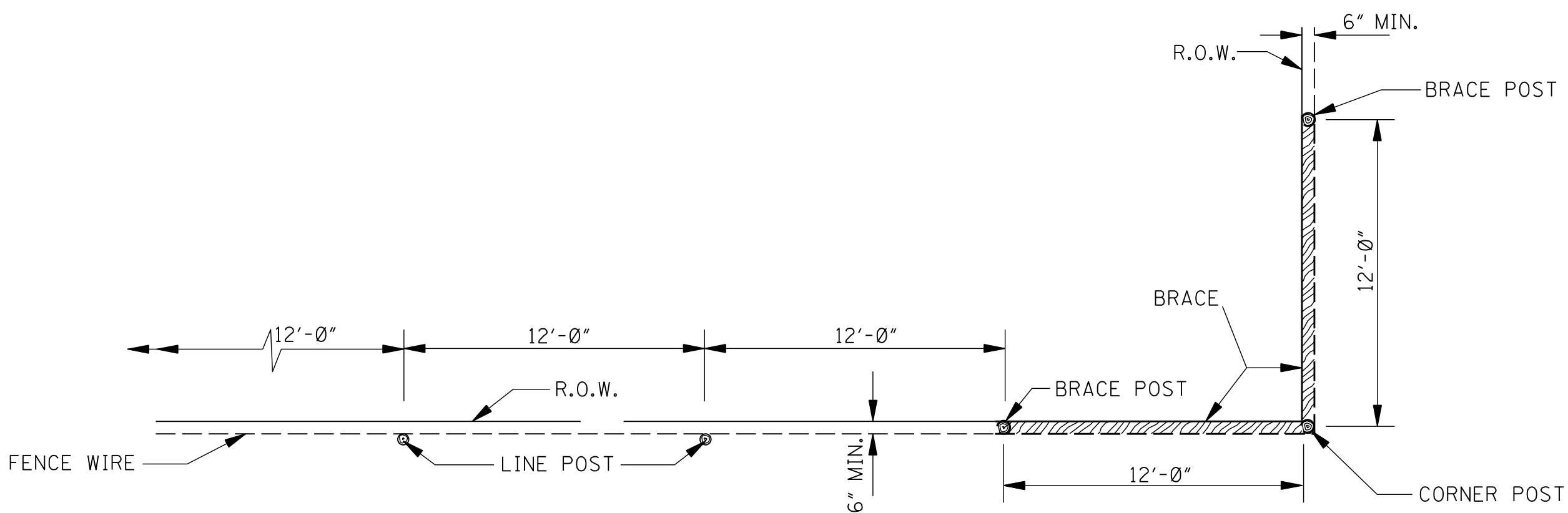
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	ISSUE DATE: AUGUST 01, 2017

**EROSION CONTROL  
BLANKET**

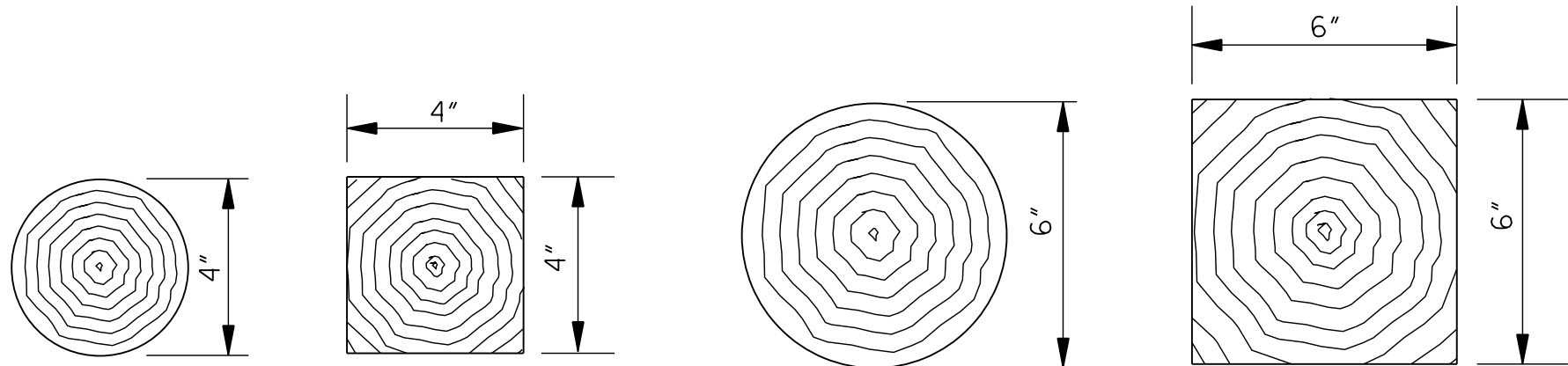
**MDOT**  
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

WORKING NUMBER  
ECB-1

SHEET NUMBER  
6131

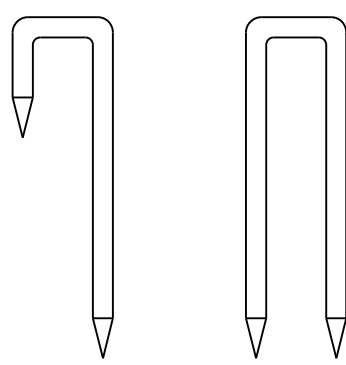


PLAN SHOWING PLACEMENT OF FENCE ALONG RIGHT OF WAY

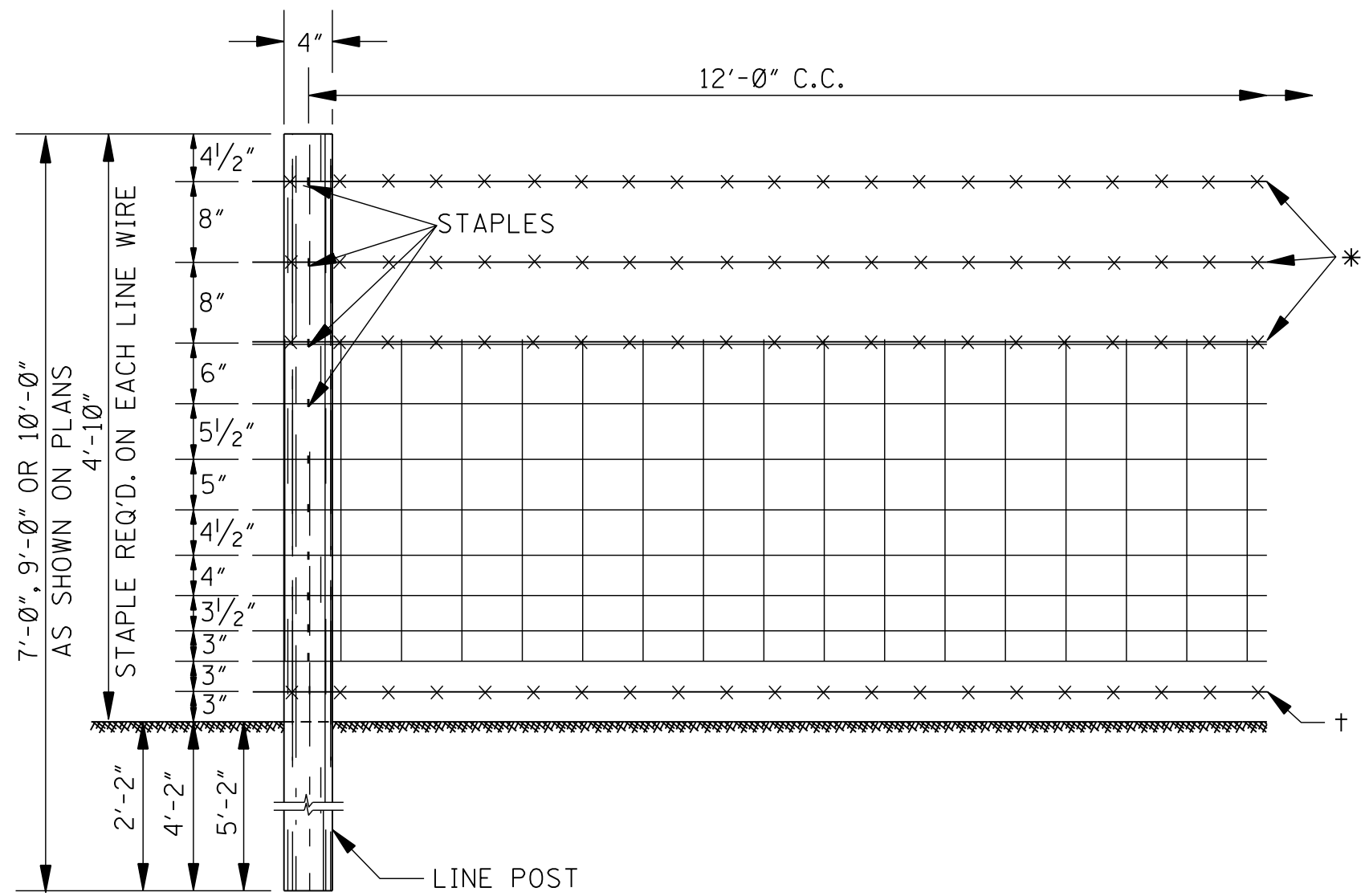


ALTERNATE LINE POSTS      ALTERNATE CORNER & BRACE POSTS

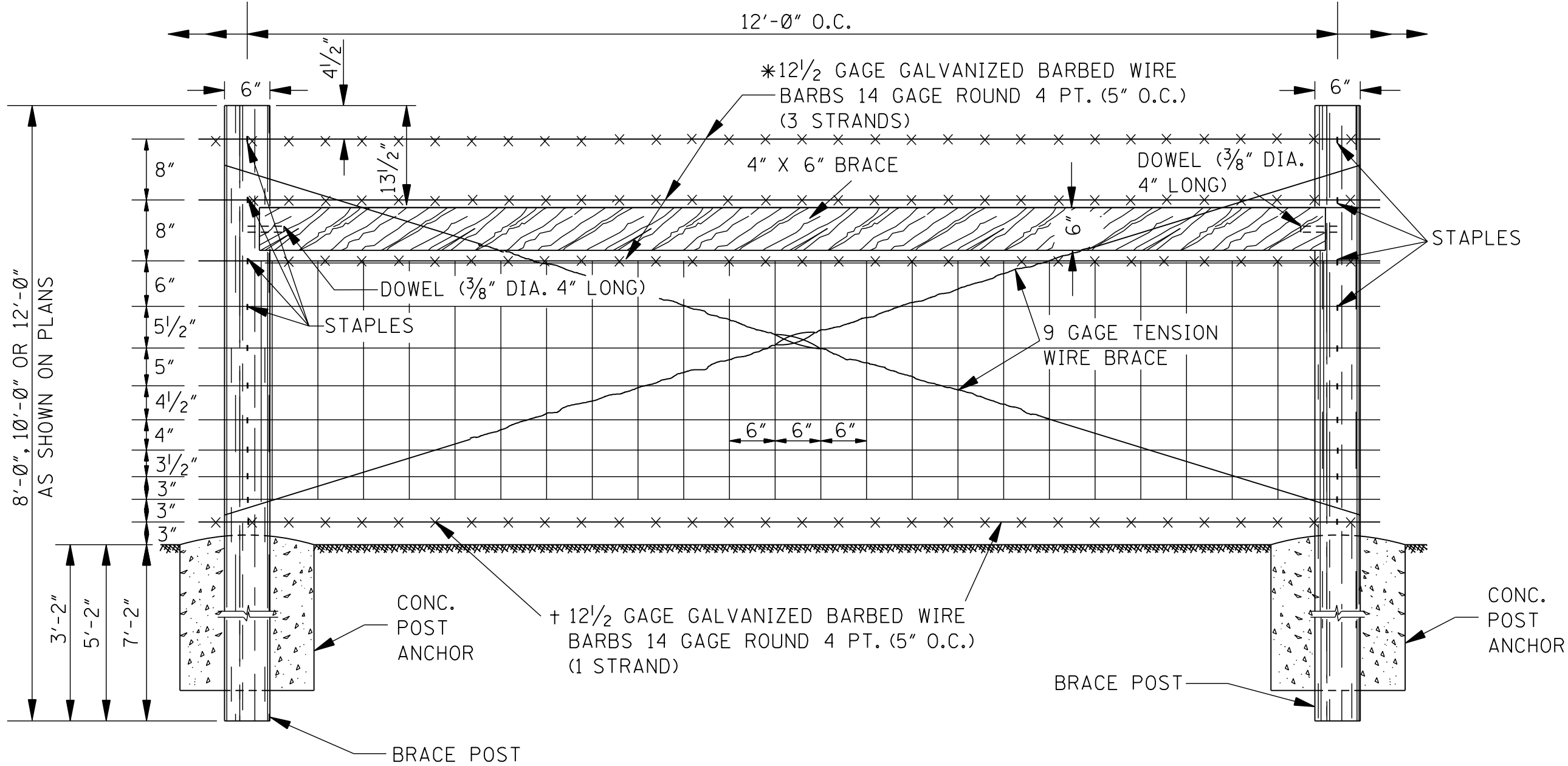
SECTIONS OF TIMBER POSTS



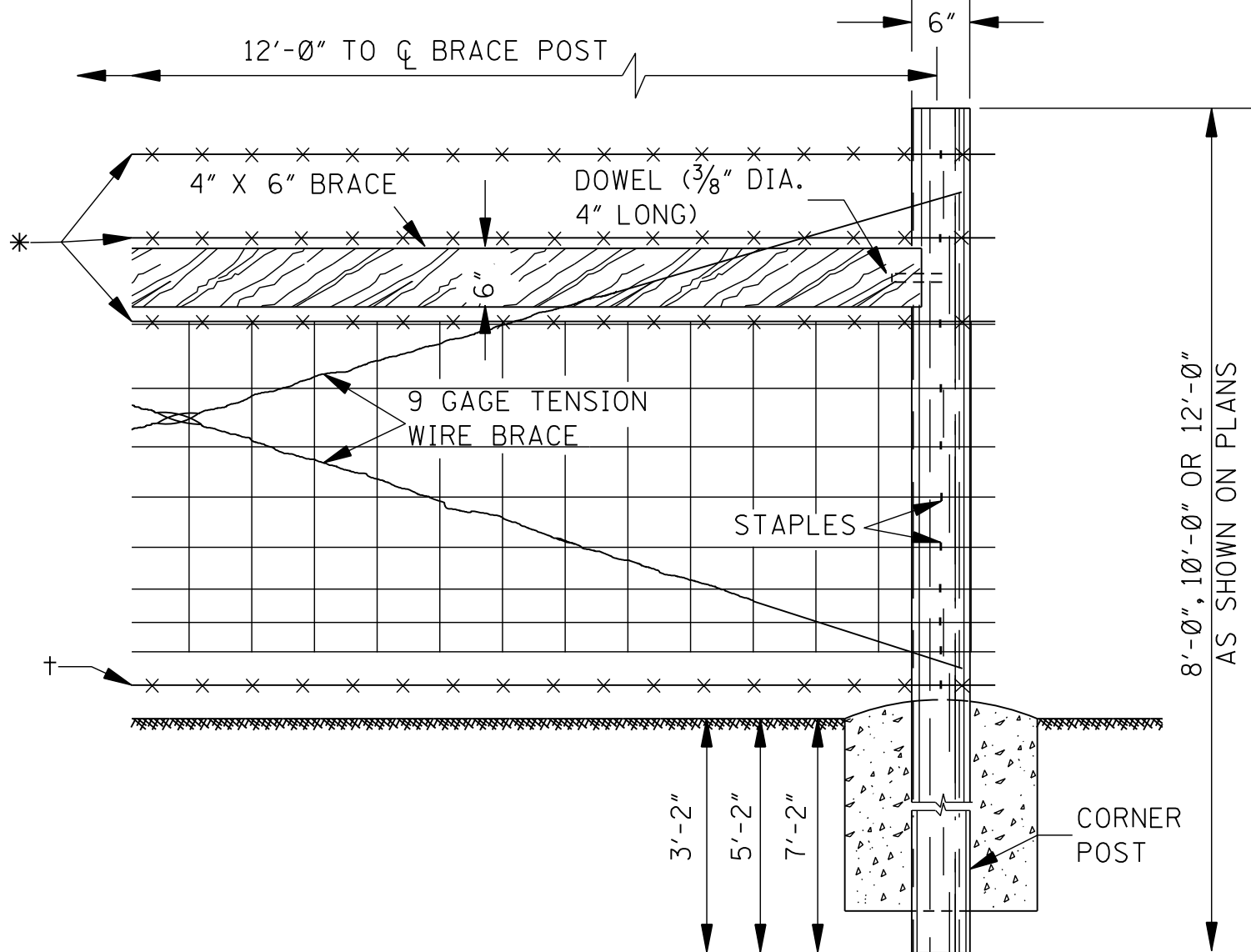
ALTERNATE TYPES OF STAPLES  
NOTE: MIN. LENGTH - 1 1/2".



DETAILS OF LINE FENCE AND LINE POSTS

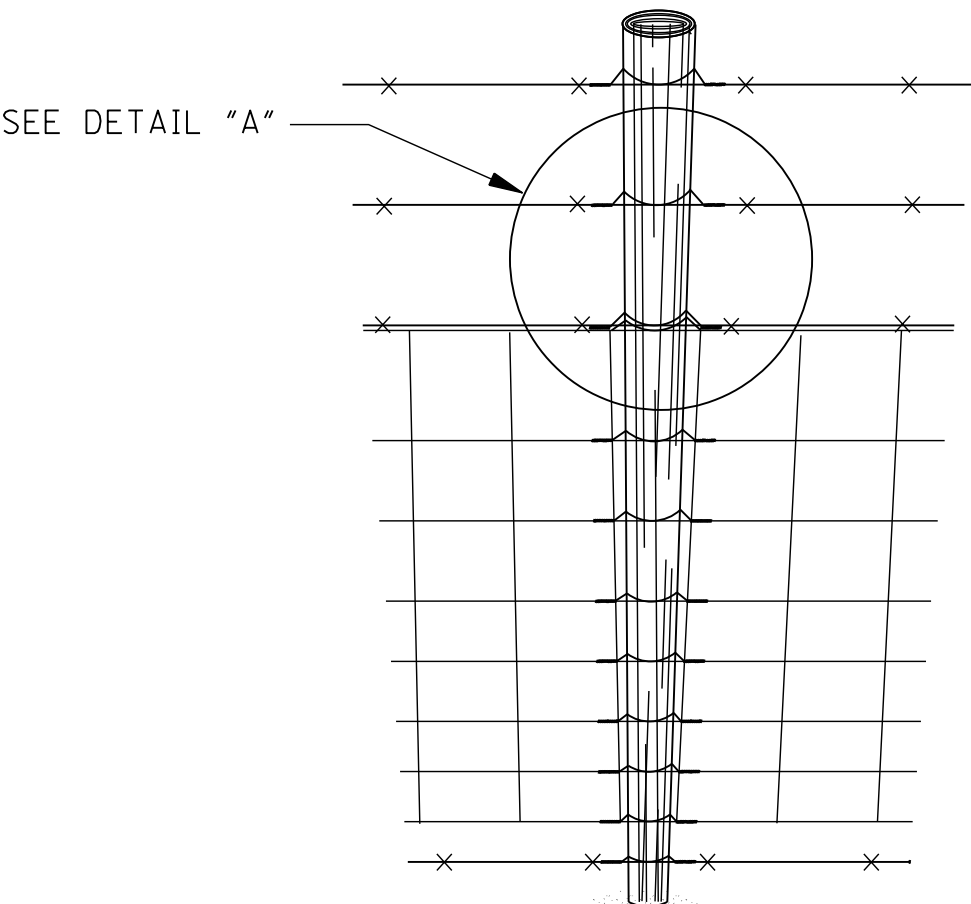


DETAIL OF BRACE BAY

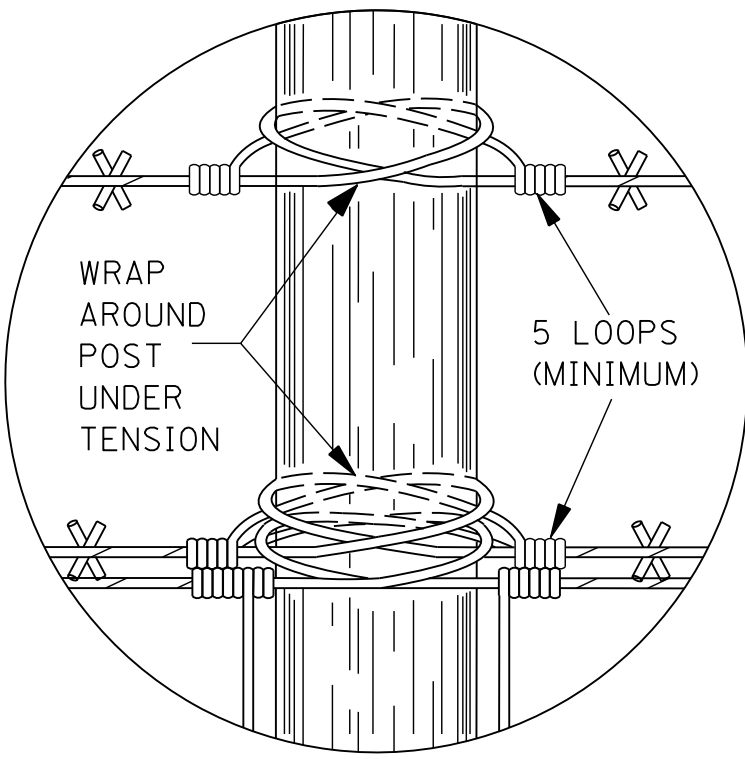


DETAIL OF CORNER BRACE

- GENERAL NOTES:
1. LINE POST & BRACE POST DIMENSIONS ARE NOMINAL.
  2. AT EACH END, CORNER OR GATE POST, EACH STRAND OF LINE WIRE SHALL BE WRAPPED AROUND THE POST AND SECURELY FASTENED BY WINDING THE END AROUND THE WIRE NEAR THE POST.
  3. BRACE BAYS TO BE SPACED 500' APART ON TANGENTS AND 250' APART ON CURVES OR AS DIRECTED BY THE ENGINEER.
  4. TENSION WIRES TO BE DOUBLED AND LOOPED, TIGHTENED TO DESIRED TENSION.
  5. TENSION WIRES ARE NOT A PAY ITEM. COST TO BE ABSORBED IN OTHER ITEMS BID. FENCE WIRE AND TENSION WIRE TO BE STAPLED AT POINTS SHOWN.
  6. WOVEN WIRE TO BE DESIGN NUMBER 832-6-11 (ASTM A 116).
  7. DOWELS CAN BE ELIMINATED IF TOE NAILS ARE USED (TWO EACH, TOP AND BOTTOM OF HORIZONTAL BRACE). USE 16 PENNY OR GREATER, ABSORBED.
  8. SAW CUTS OR HOLES IN TREATED POSTS OR BRACES SHALL BE TREATED IN THE FIELD IN ACCORDANCE WITH AWPA SPECIFICATIONS FOR CONSTRUCTION.

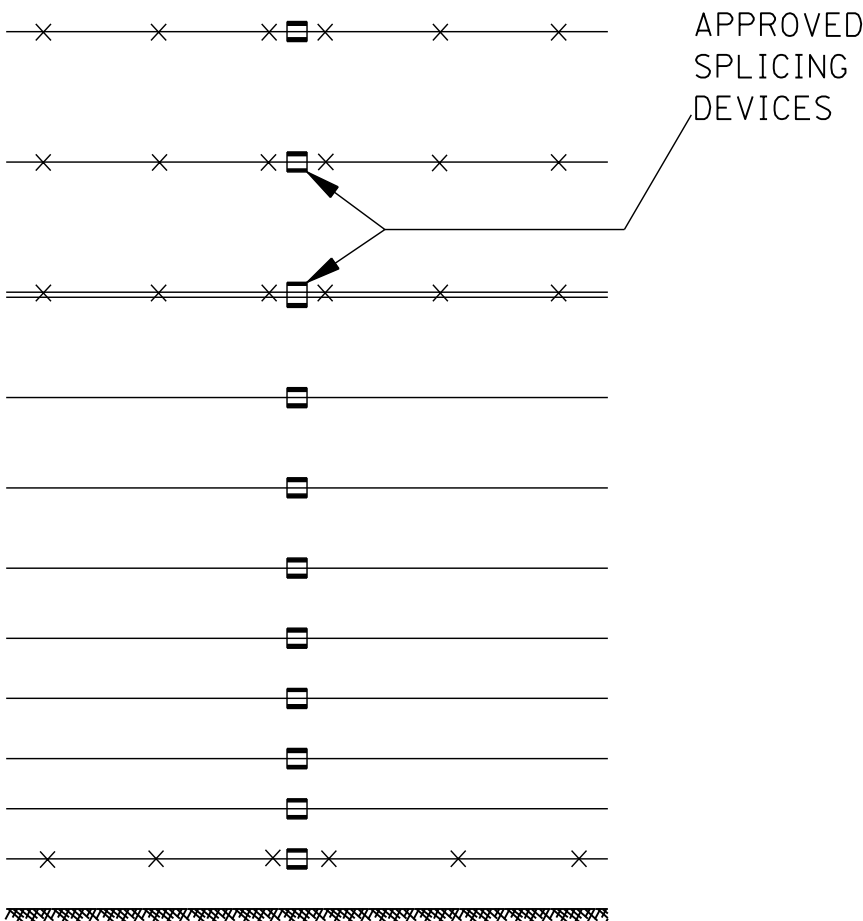


BIRDS-EYE VIEW



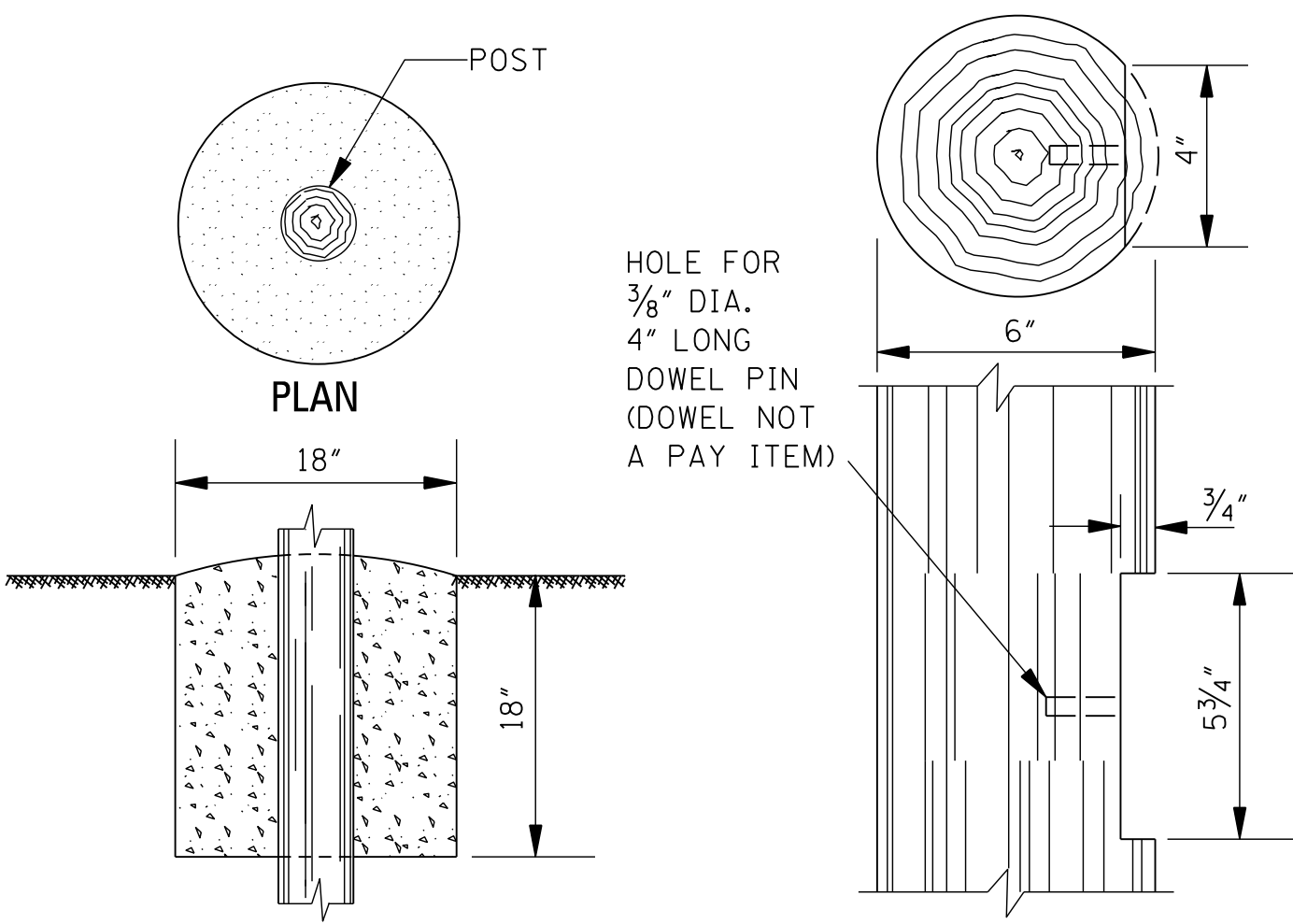
DETAIL "A"

SPLICING DETAILS AT POSTS



SPLICING DETAILS BETWEEN POSTS

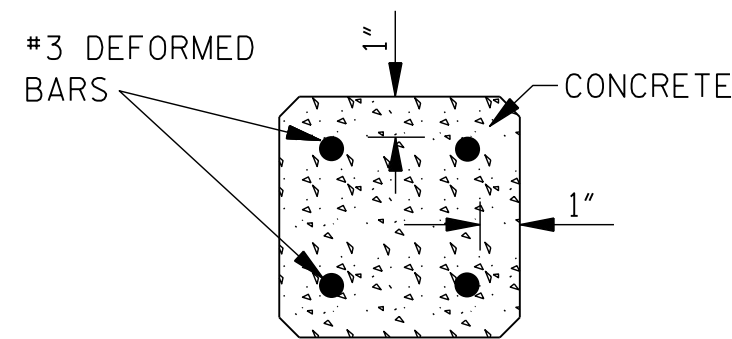
NOTE: APPROVED SPLICING DEVICES FOR BARBED WIRE MAY IN ADDITION, BE PERMITTED AT OTHER LOCATIONS.



CONCRETE POST ANCHOR DETAILS

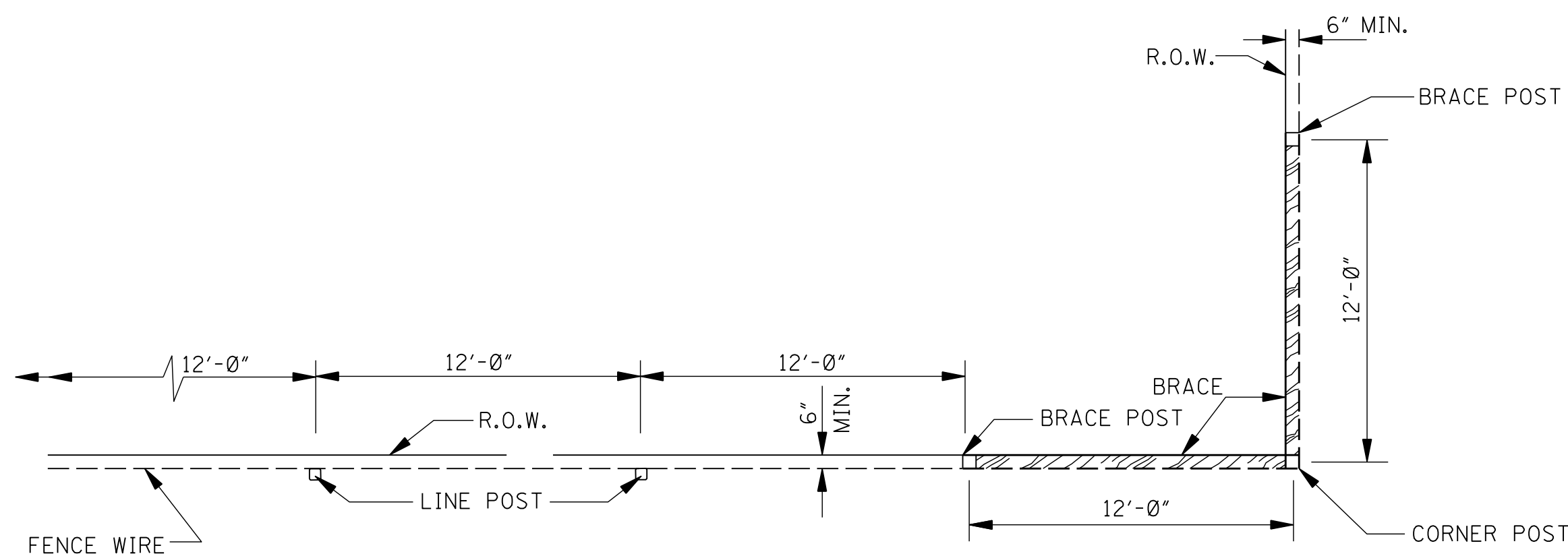
NOTE: TO BE USED AT BRACE AND CORNER POSTS AND ELSEWHERE OR AS DIRECTED BY THE ENGINEER.

		BY		MISSISSIPPI DEPARTMENT OF TRANSPORTATION	
		REVISION		ROADWAY DESIGN DIVISION	
		DATE		STANDARD PLAN	
				<b>FENCE: WOVEN WIRE TIMBER POSTS</b>	
				ISSUE DATE: AUGUST 01, 2017	
				WORKING NUMBER WW-1	
				SHEET NUMBER 6181	

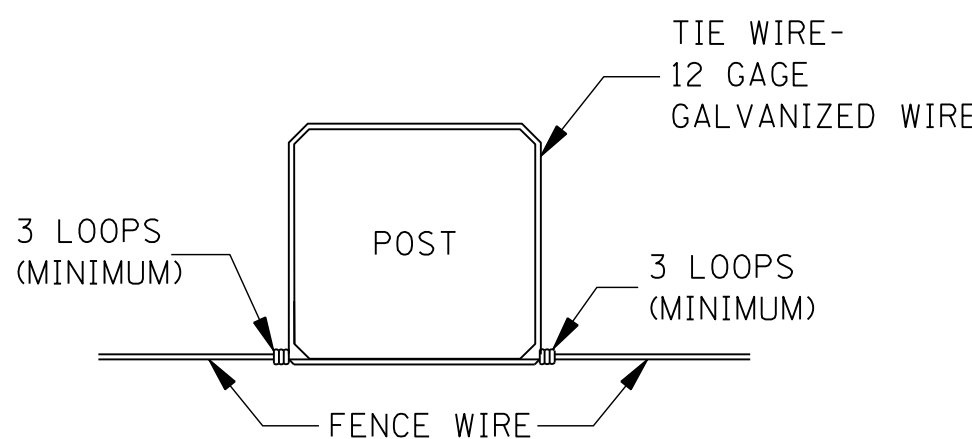


CROSS SECTION OF POSTS

NOTE: LINE POSTS TO BE 4" SQUARE; BRACE AND CORNER POSTS TO BE 6" SQUARE. LINE POSTS REINFORCED WITH 4- #3 DEFORMED BARS 6'-8", 8'-8" OR 9'-8" LONG. BRACE & CORNER POSTS REINFORCED WITH #3 DEFORMED BARS 7'-8", 9'-8" OR 11'-8" LONG. ALL POSTS TO BE CHAMFERED 1/2".

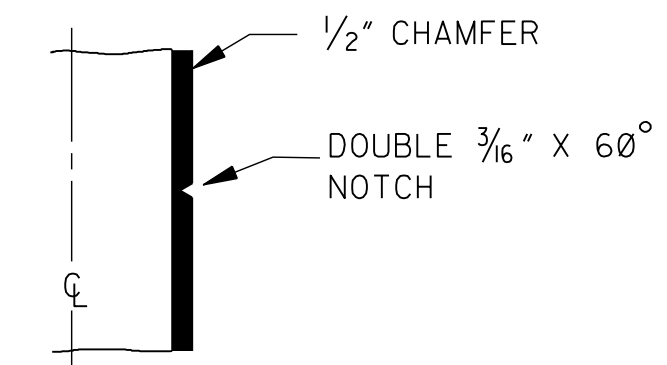


PLAN SHOWING PLACEMENT OF FENCE ALONG RIGHT OF WAY

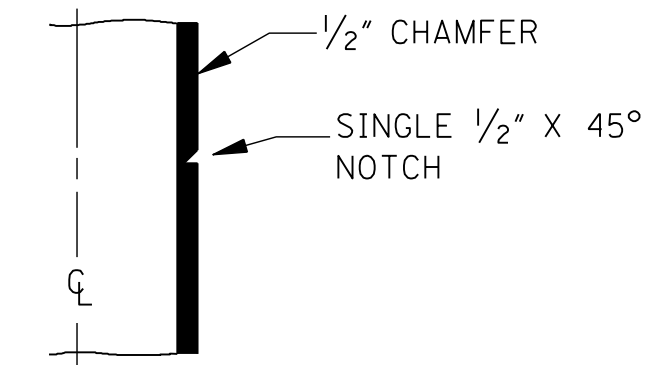


METHOD OF TYING FENCE WIRE TO POSTS

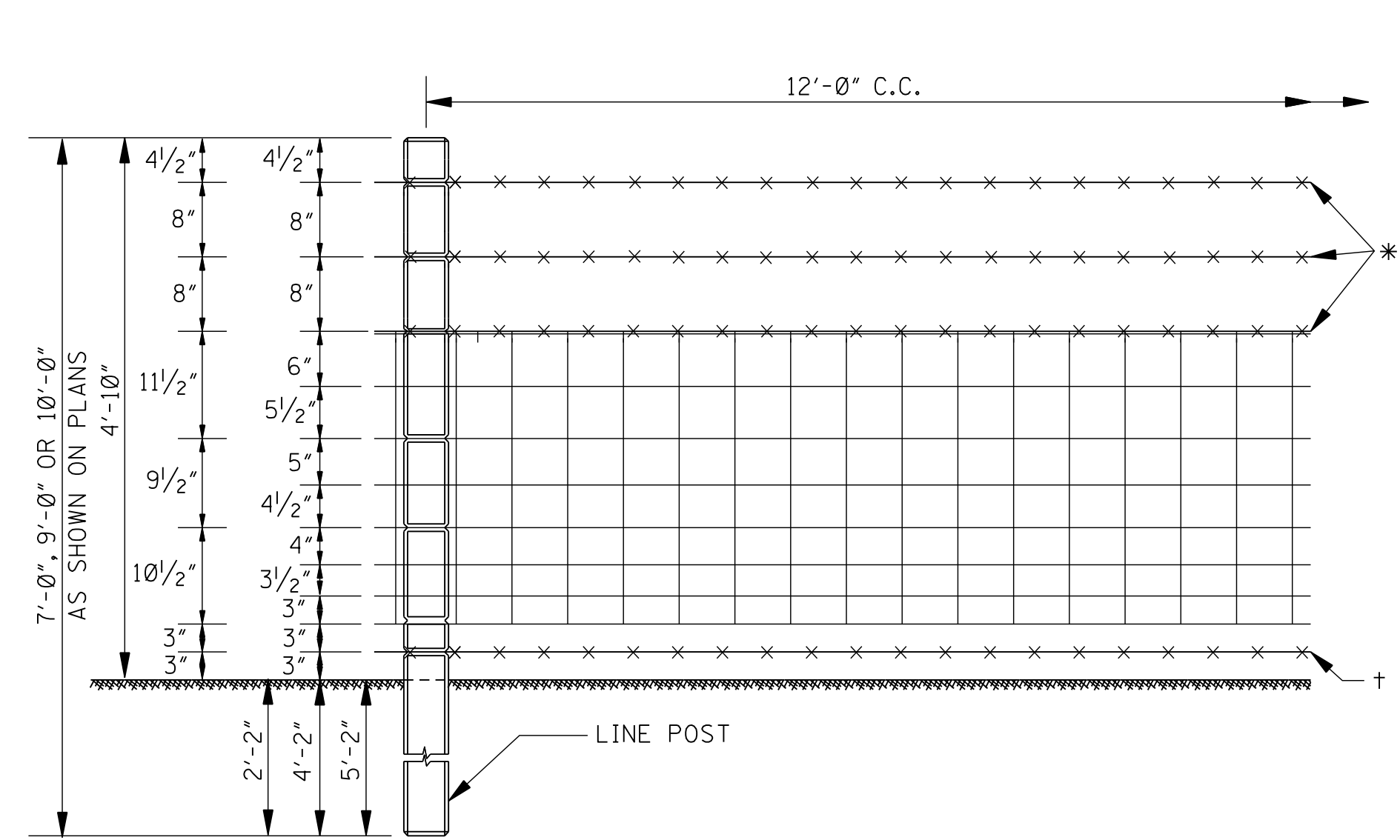
NOTE: TIE WIRE IS NOT A PAY ITEM. COST TO BE ABSORBED IN OTHER ITEMS BID. FENCE WIRE TO BE TIED AT ALL TIE NOTCHES.



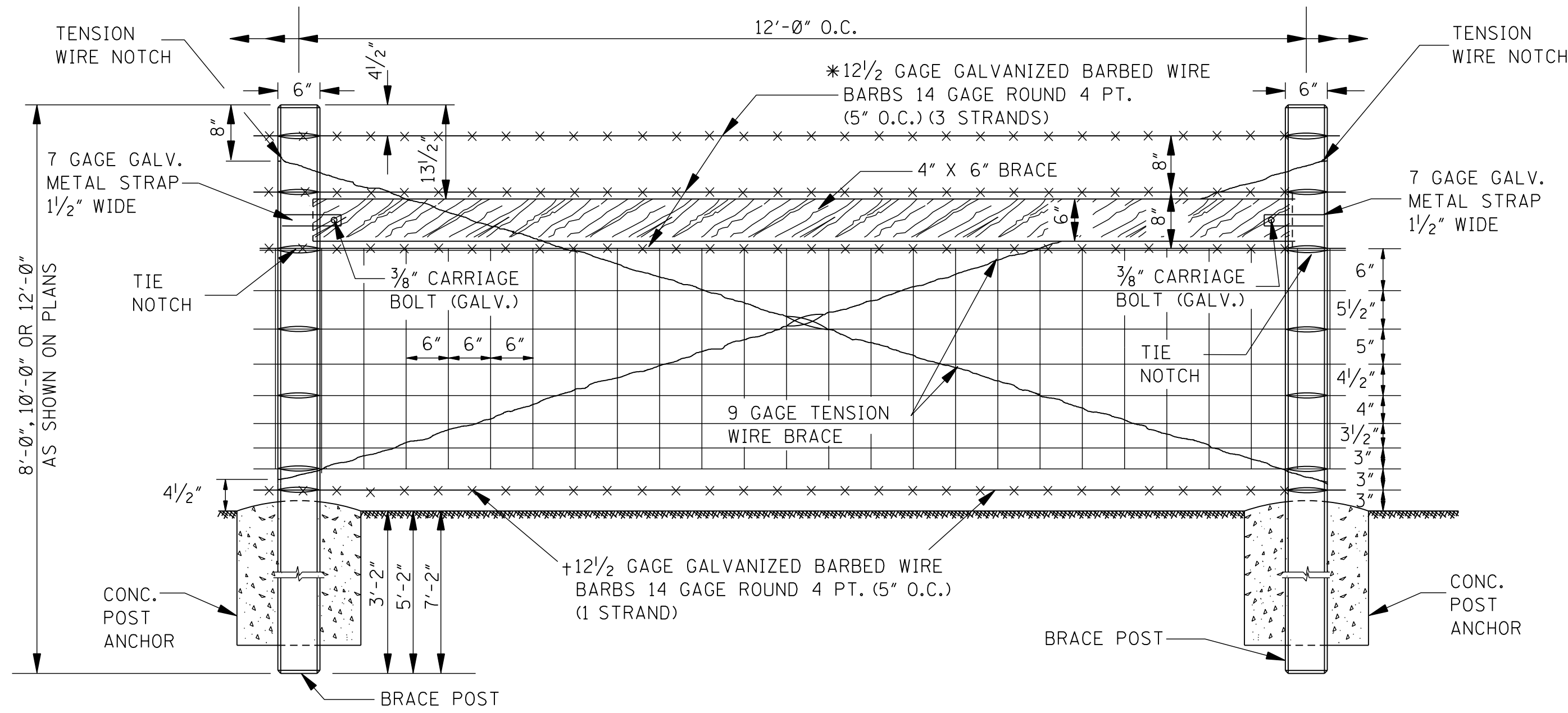
DETAIL OF TIE NOTCH (LINE POSTS)



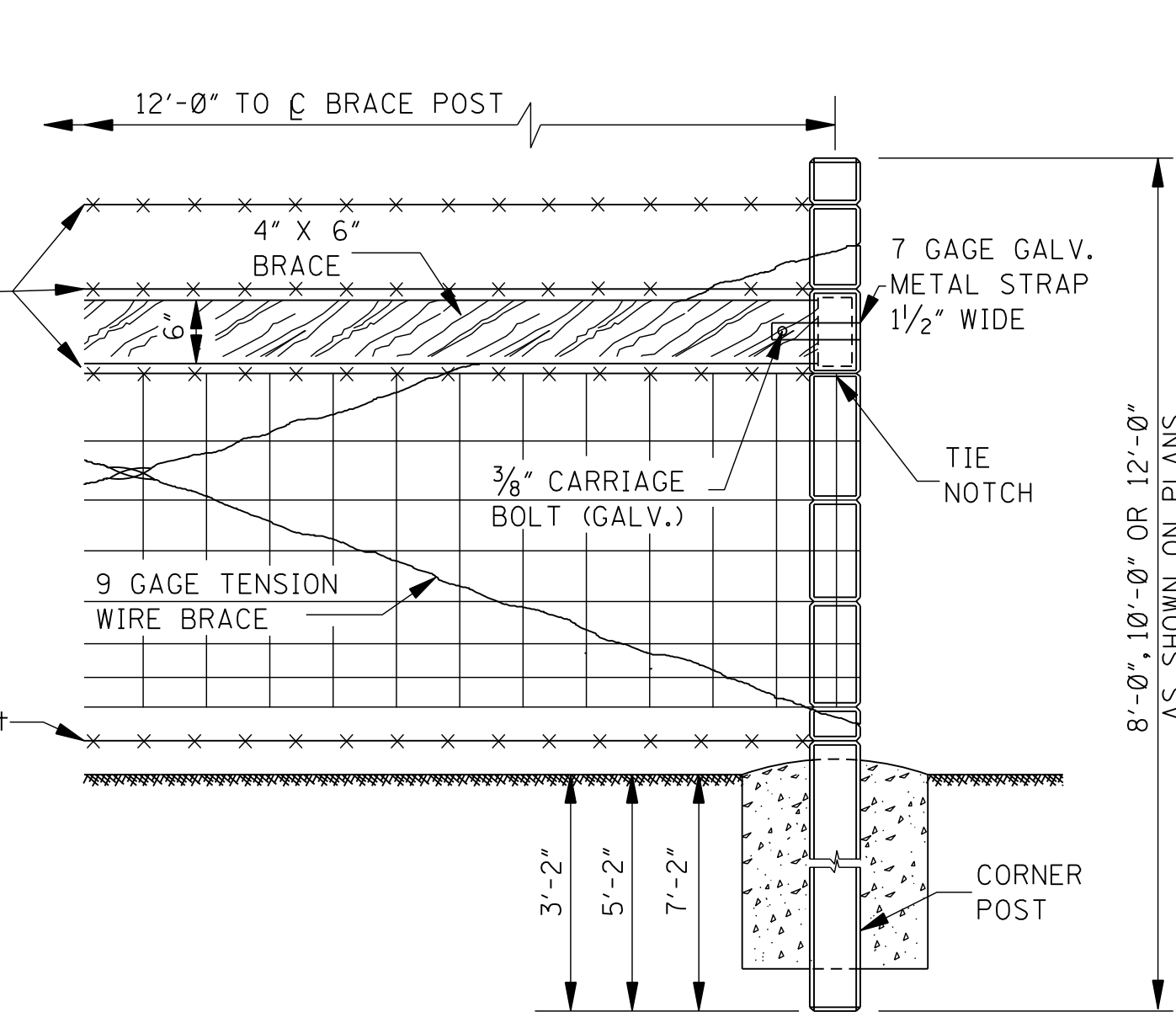
DETAIL OF TENSION WIRE NOTCH (BRACE POSTS AND CORNER POSTS ONLY)



DETAILS OF LINE FENCE AND LINE POSTS

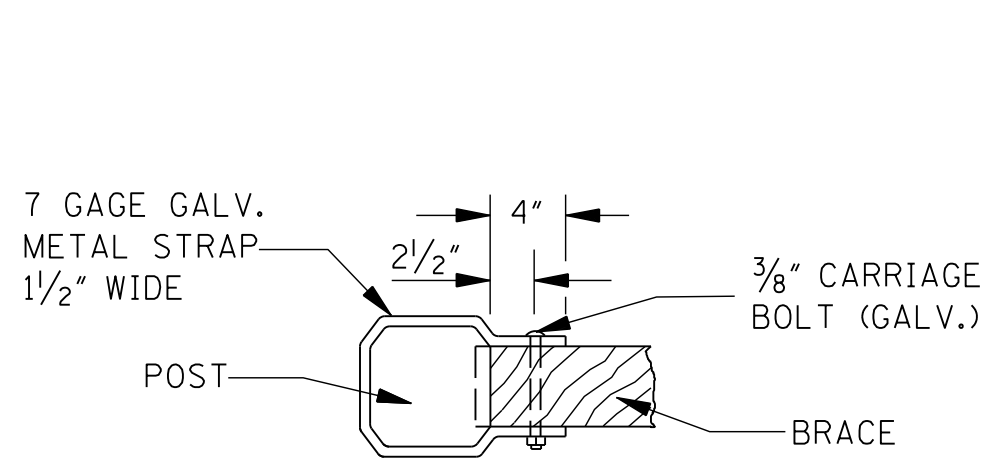


DETAIL OF BRACE BAY

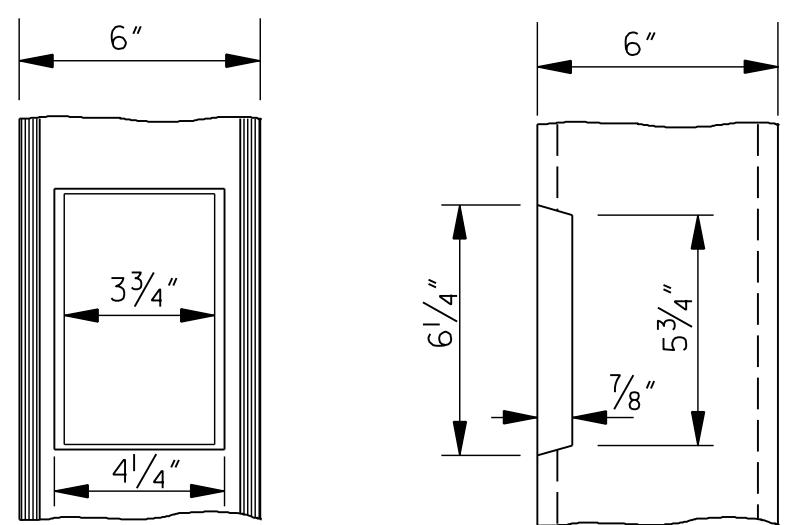


DETAIL OF CORNER BRACE

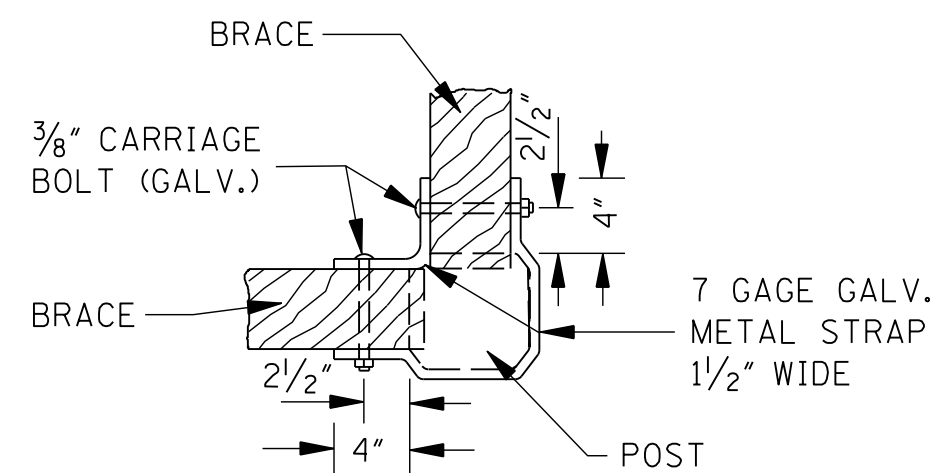
- GENERAL NOTES:
- THE NOTCHES ON CORNER POSTS TO BE ON ALL FOUR SIDES.
  - BRACE BAYS TO BE SPACED 500' APART ON TANGENTS AND 250' APART ON CURVES OR AS DIRECTED BY THE ENGINEER.
  - TENSION WIRES TO BE DOUBLED AND LOOPED, TIGHTENED TO DESIRED TENSION. TIE NOTCHES ON BRACE POSTS TO BE ON FRONT AND BACK. TENSION WIRE NOTCHES TO BE ON ONE SIDE. TENSION WIRES ARE NOT A PAY ITEM. COST TO BE ABSORBED IN OTHER ITEMS BID.
  - WOVEN WIRE TO BE DESIGN NUMBER 832-6-11 (ASTM A 116).
  - BRACE TIMBER DIMENSIONS ARE NOMINAL.



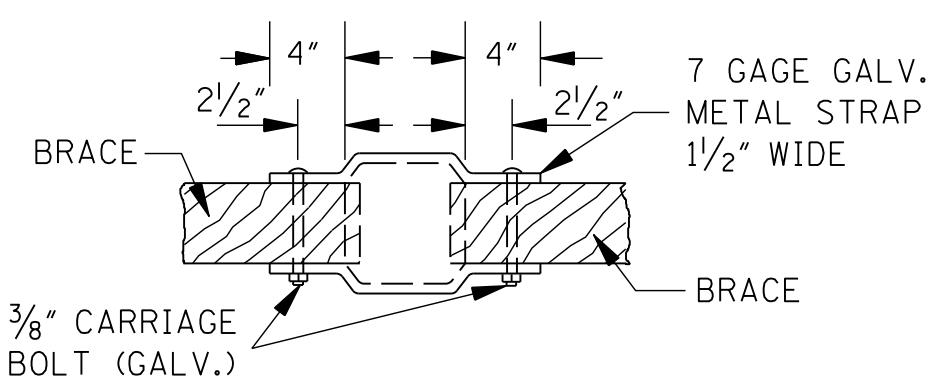
DETAIL OF FASTENER BRACE & END POST



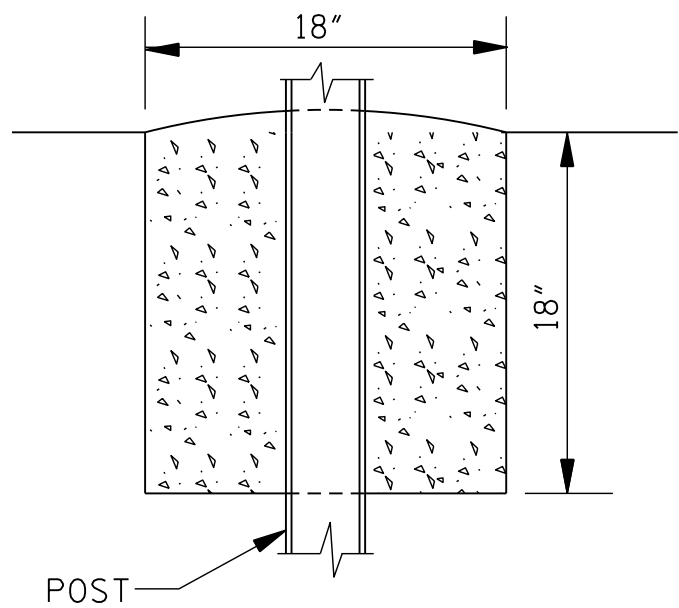
DETAIL OF BRACE JOINT



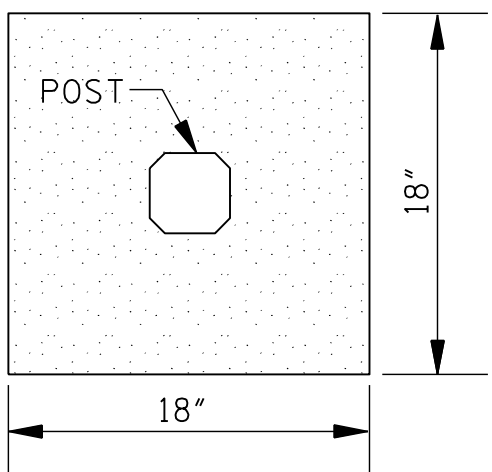
DETAIL OF FASTENER BRACE TO BRACE AT CORNER



DETAIL OF FASTENER BRACE TO BRACE ON LINE

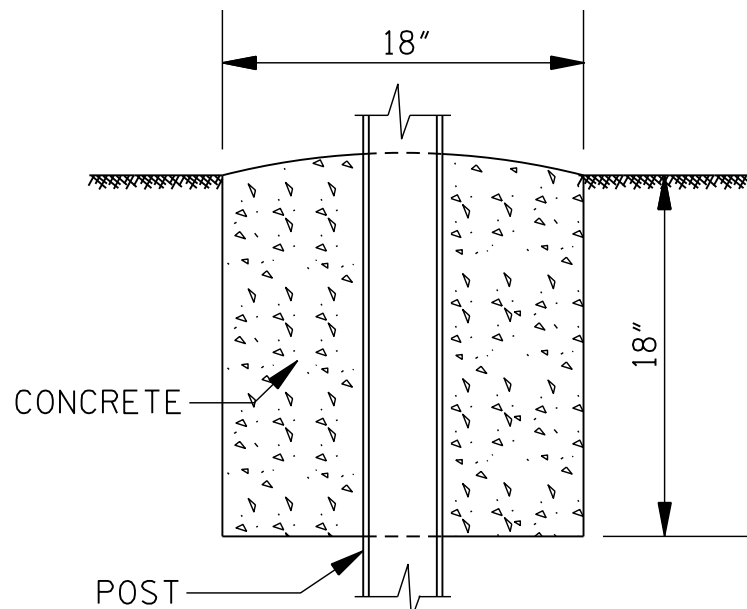


SECTION

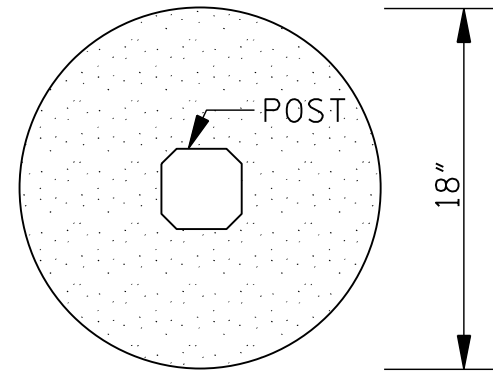


PLAN

ALTERNATE I



SECTION



PLAN

ALTERNATE II

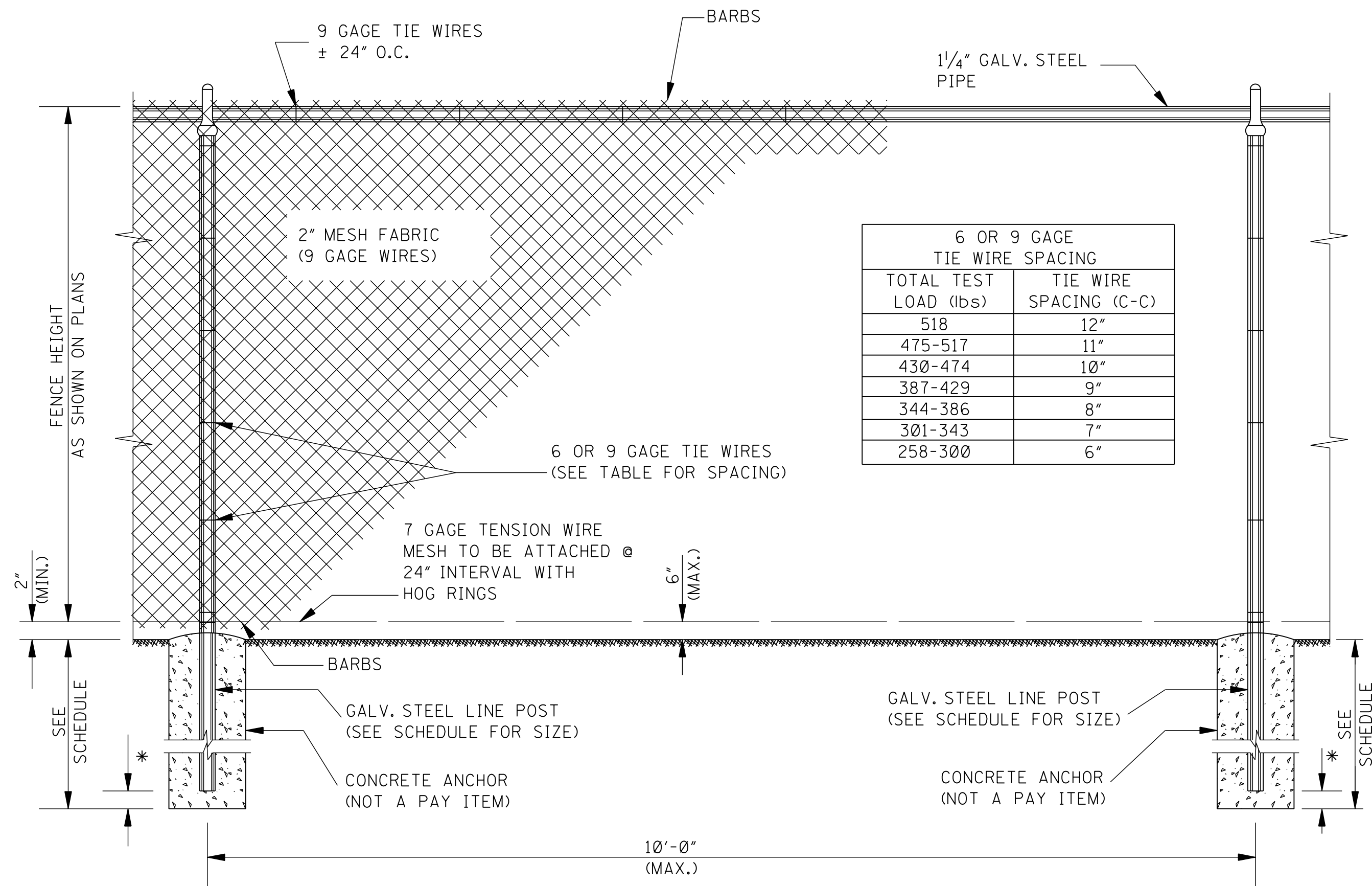
DETAIL OF CONCRETE POST ANCHOR

NOTE: TO BE USED AT BRACE AND CORNER POSTS AND ELSEWHERE OR AS DIRECTED BY THE ENGINEER.

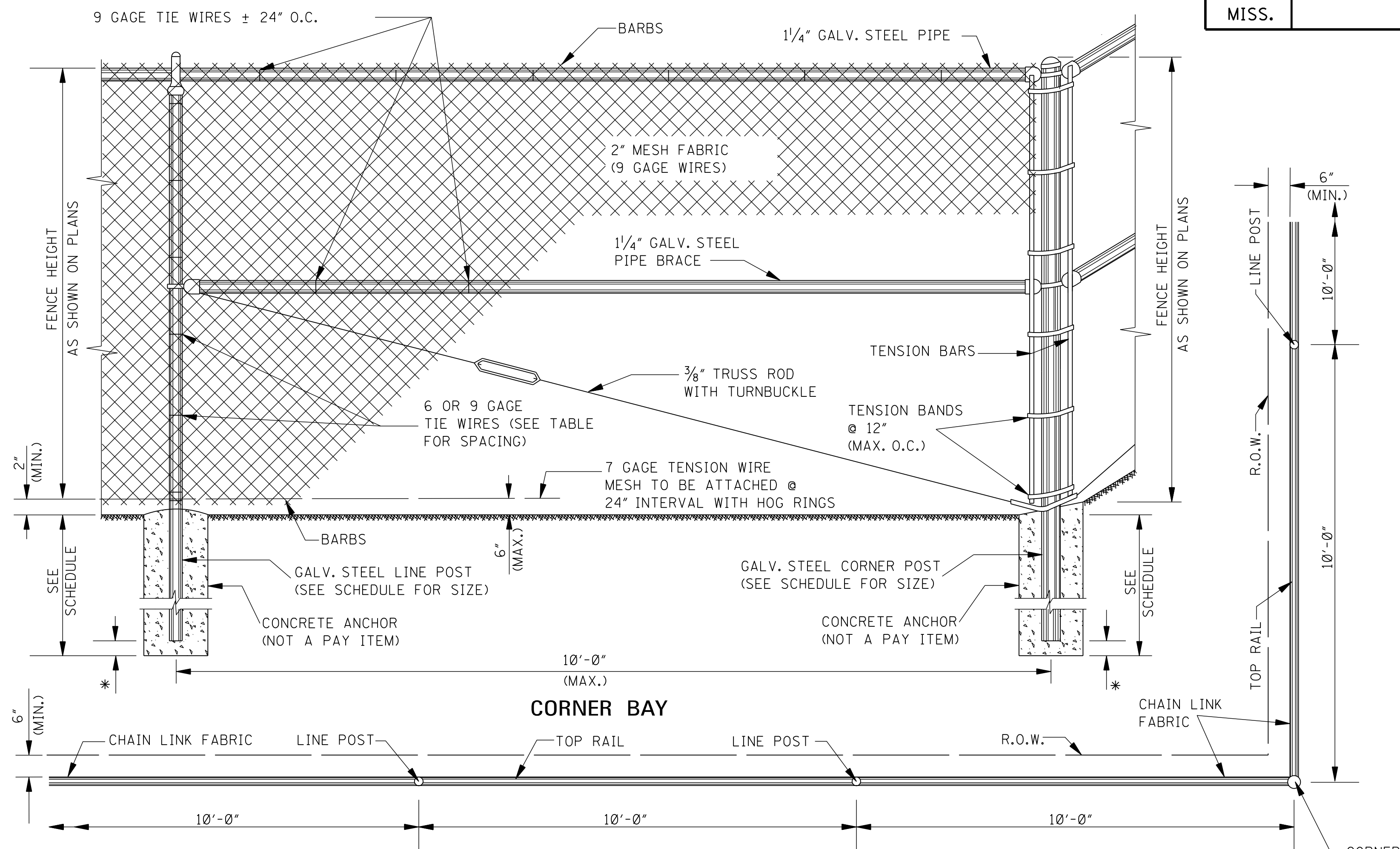
BY		MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN	
REVISION		<b>FENCE: WOVEN WIRE CONCRETE POSTS</b>	
DATE		ISSUE DATE: AUGUST 01, 2017	
		MDOT WORKING NUMBER WW-2 SHEET NUMBER 6182	







LINE BAY



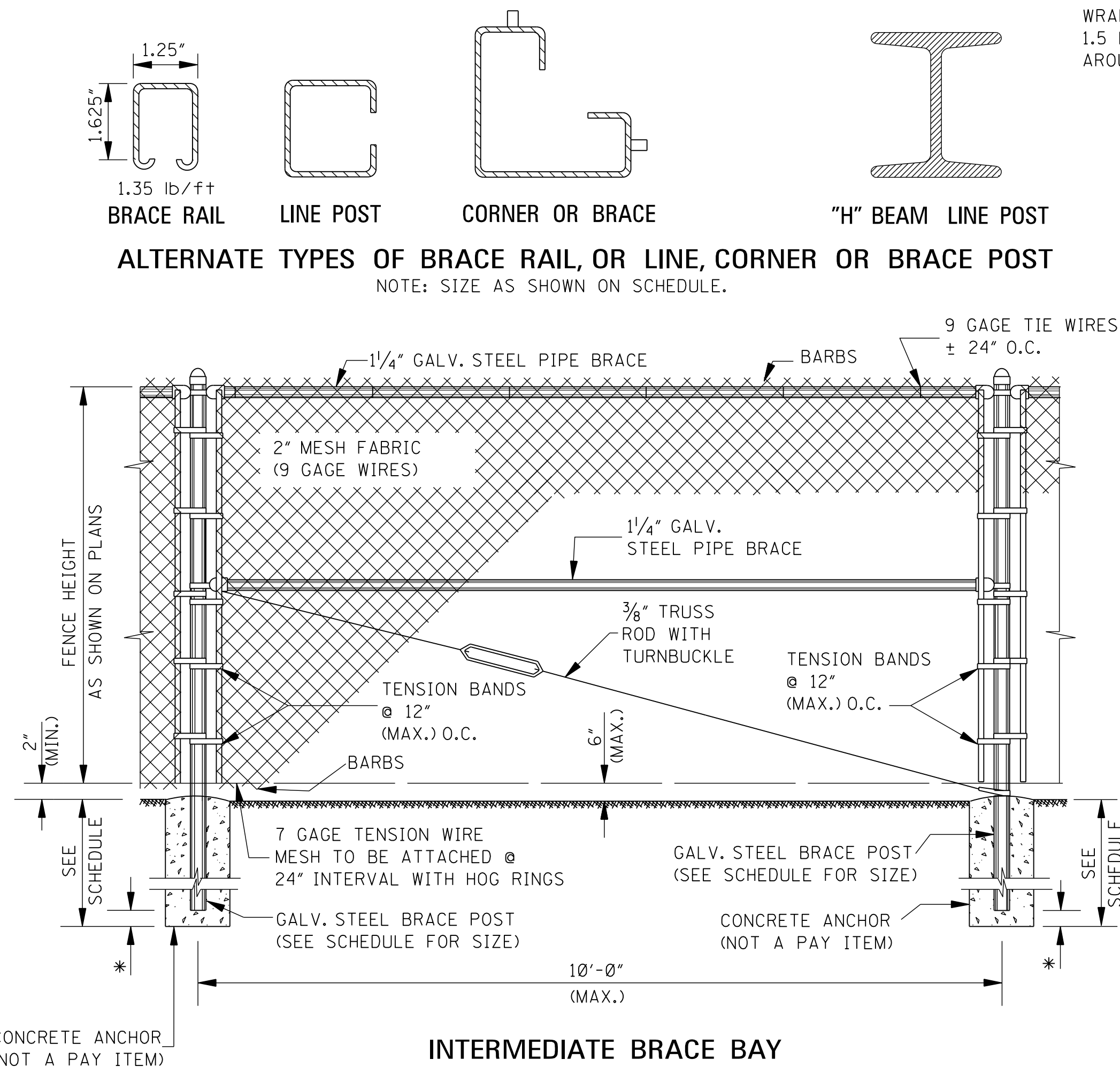
CORNER BAY

PLAN SHOWING PLACEMENT OF FENCE ALONG R.O.W.

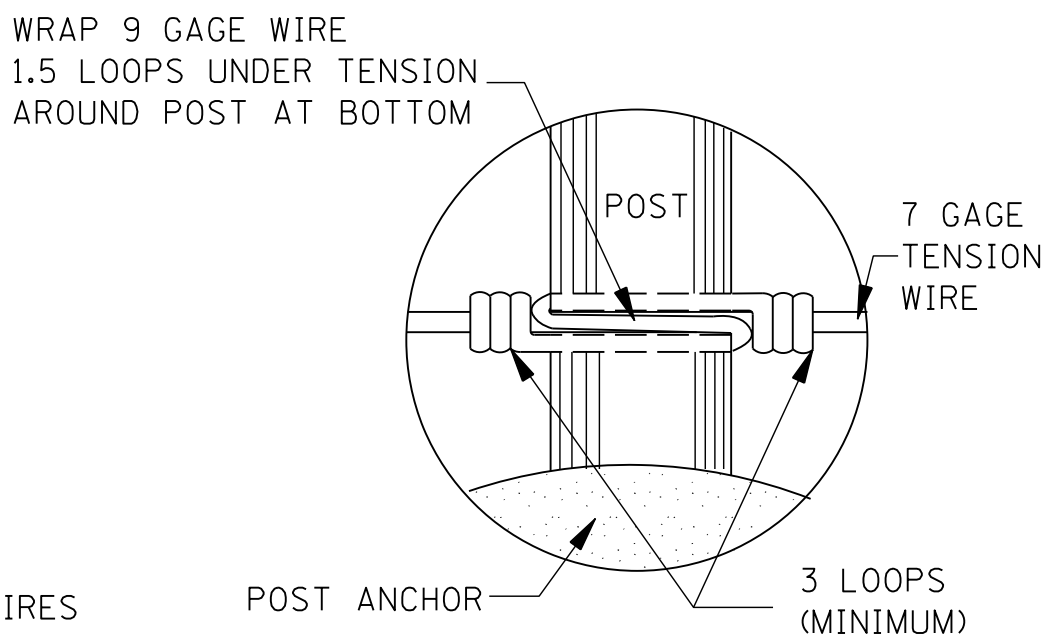
\* = HOLE DEPTH - POST DEPTH

FENCE HEIGHT	POST TYPES	MINIMUM POST SIZE			MIN. ANCHOR SIZE		
		ROUND	"H" BEAM	"C" BEAM	HOLE DIA.	HOLE DEPTH	POST DEPTH
		NPS (I.D.)	SIZE	SIZE			
LESS THAN 6'	LINE	1 1/2"	2.250" X 1.625"	1.875" X 1.625"	7"	28"	22"
LESS THAN 6'	END, CORNER & BRACE	2"	-----	3.500" X 3.500"	10"	32"	28"
6' THRU 12'	LINE	2"	2.250" X 1.625"	2.250" X 1.700"	8"	38"	34"
6' THRU 12'	END, CORNER & BRACE	2 1/2"	-----	3.500" X 3.500"	12"	44"	40"

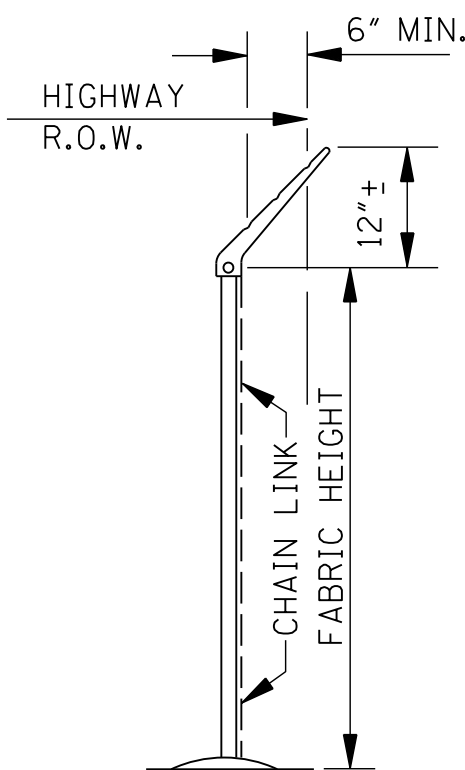
- GENERAL NOTES:
- PIPE SIZES SHOWN FOR POSTS, BRACES AND RAILS ARE NOMINAL INSIDE DIAMETERS. ALL POSTS, BRACES AND RAILS SHALL CONFORM TO THE MISSISSIPPI DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.
  - 3/8" TRUSS RODS ARE NOT REQUIRED WHEN CONNECTING LESS THAN FOUR (4) PANEL LENGTHS TO STRUCTURES.
  - THE FENCE SHALL BE GROUNDED IN ACCORDANCE WITH THE MISSISSIPPI DEPARTMENT OF TRANSPORTATION SPECIFICATIONS. COST TO BE ABSORBED IN OTHER ITEMS BID.
  - CLASS I CHAIN LINK FENCE ONLY TO BE USED TO FENCE AREAS OFF THE RIGHT-OF-WAY (e.g., SEWAGE TREATMENT SYSTEMS, MAINTENANCE AREAS).



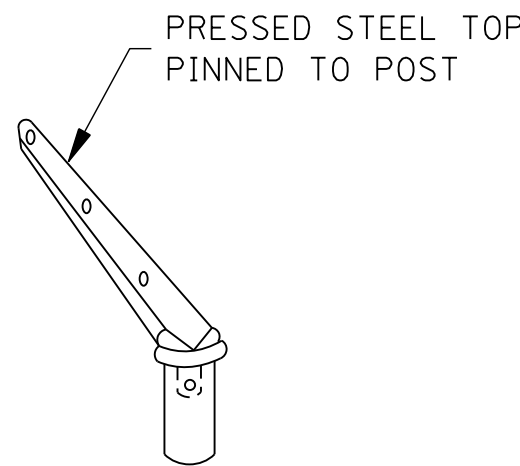
INTERMEDIATE BRACE BAY



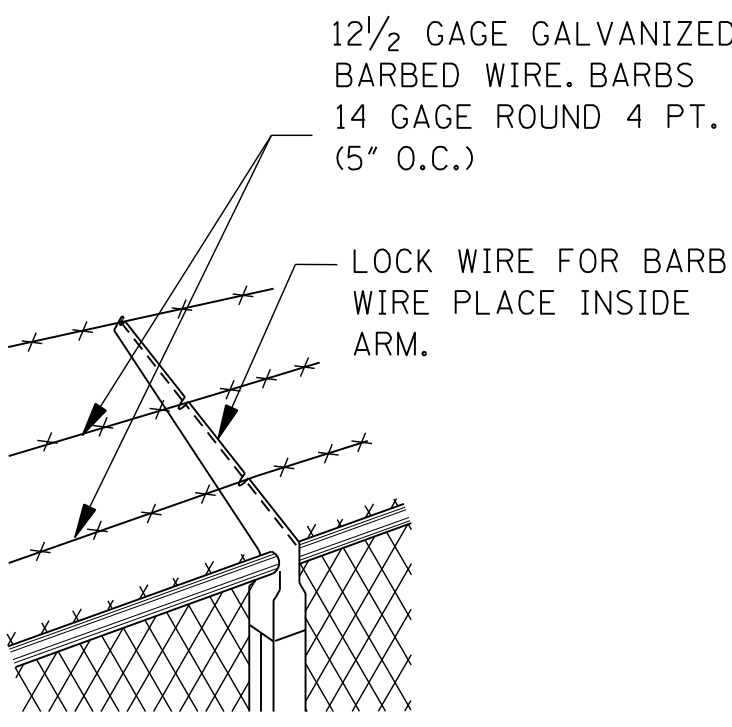
TENSION WIRE TIE DETAILS



END ELEVATION



END & CORNER POST TOP

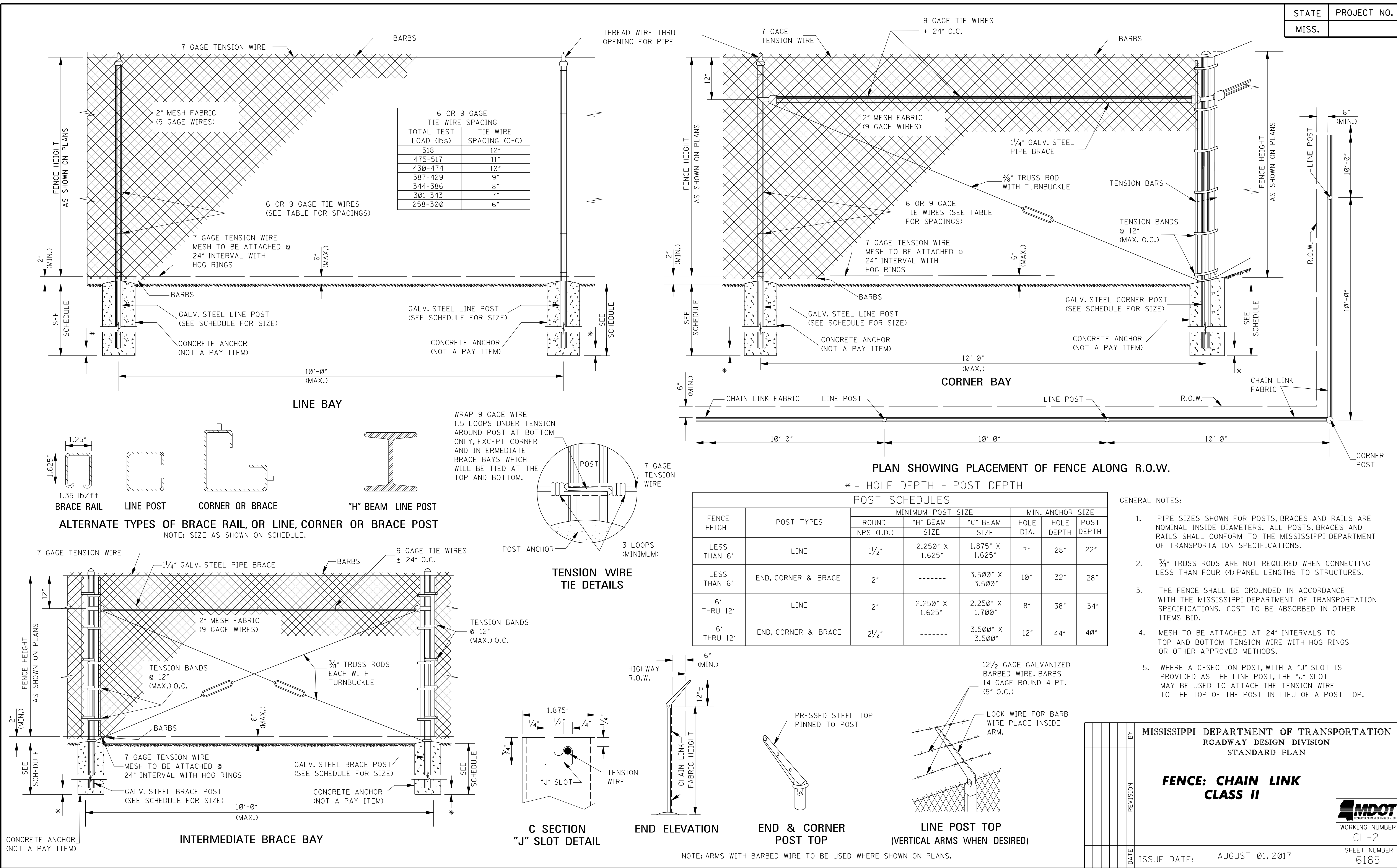


LINE POST TOP (VERTICAL ARMS WHEN DESIRED)

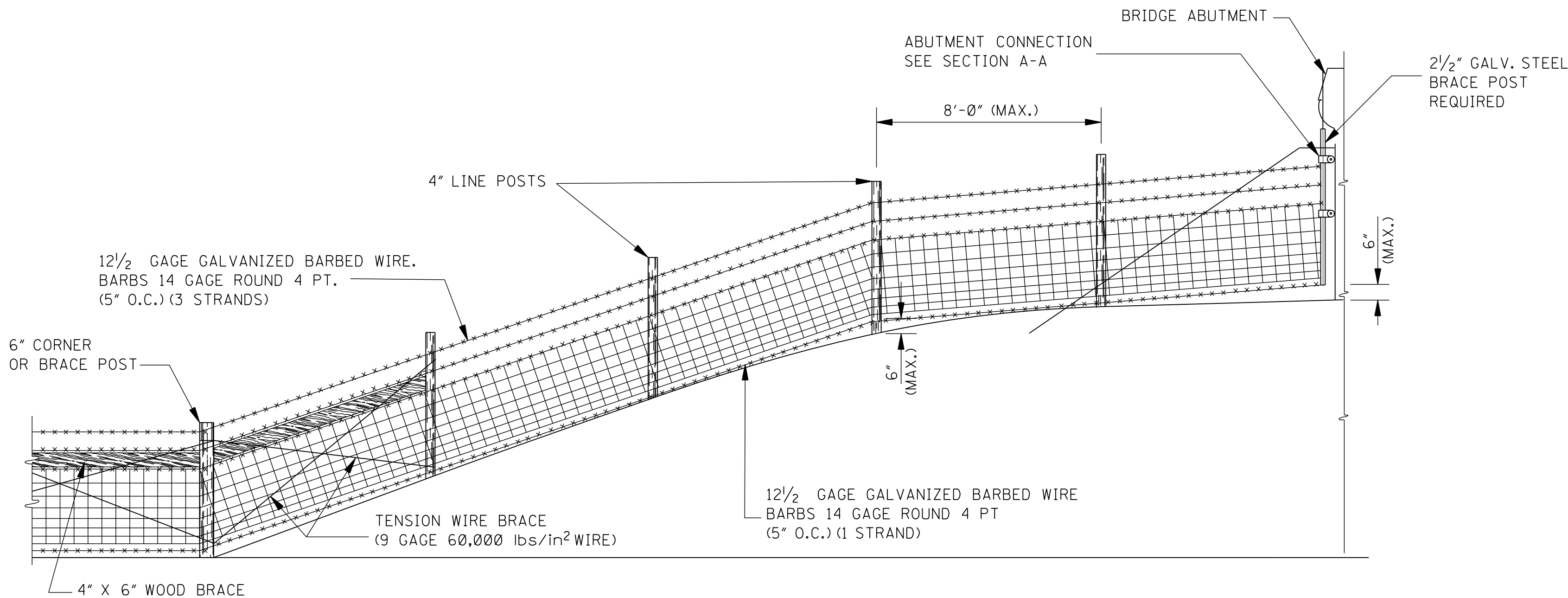
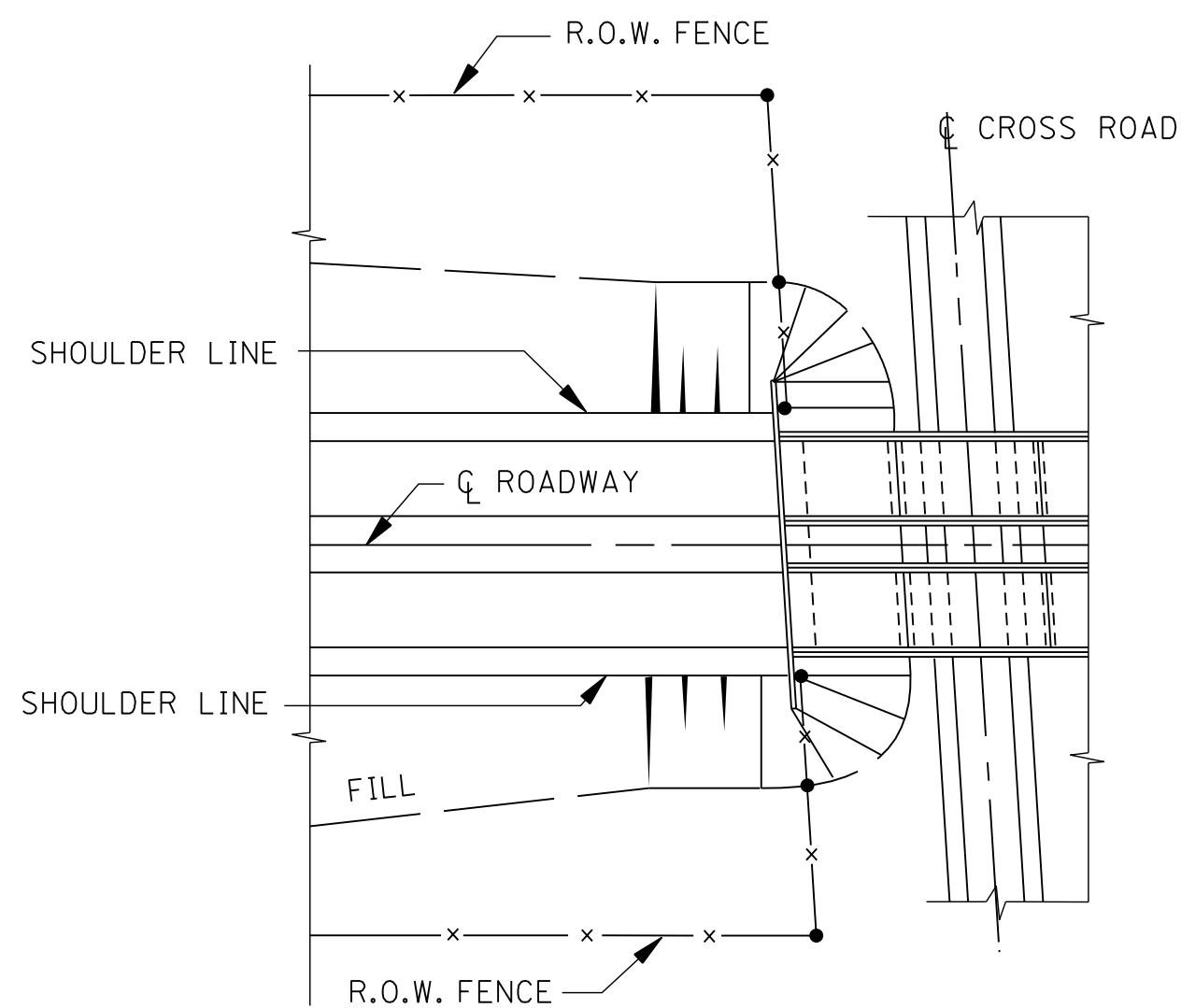
NOTE: ARMS WITH BARBED WIRE TO BE USED WHERE SHOWN ON PLANS.

BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION
REVISION	ROADWAY DESIGN DIVISION
DATE	STANDARD PLAN
<b>FENCE: CHAIN LINK CLASS I</b>	
ISSUE DATE: AUGUST 01, 2017	
WORKING NUMBER CL-1	
SHEET NUMBER 6184	

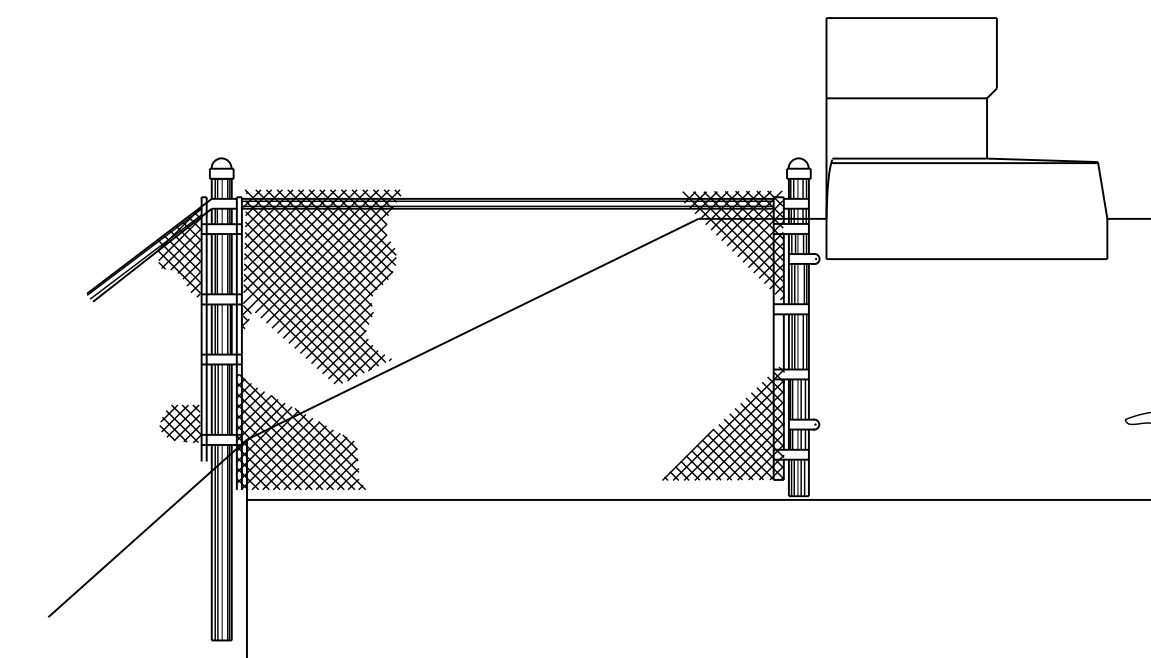








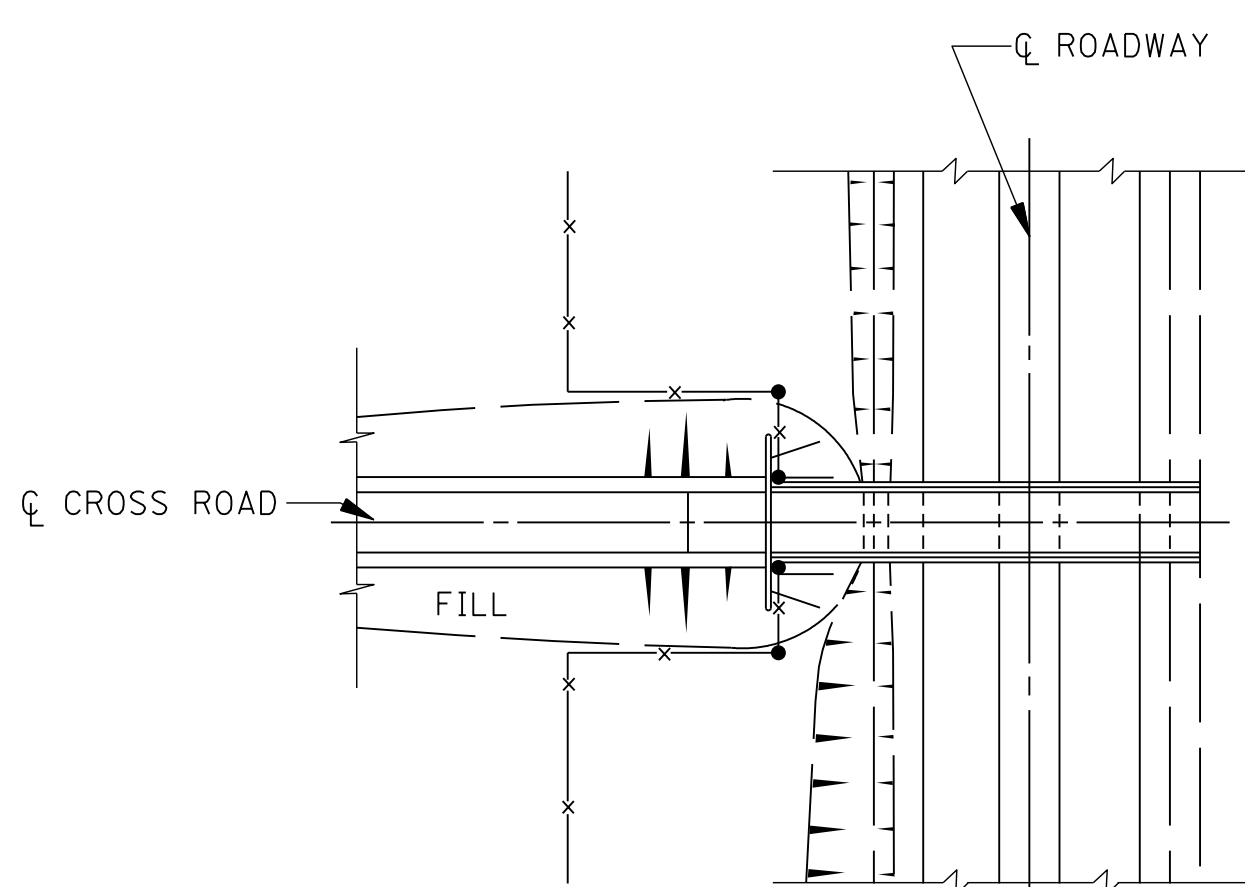
ELEVATION OF WOVEN WIRE TIMBER POSTS



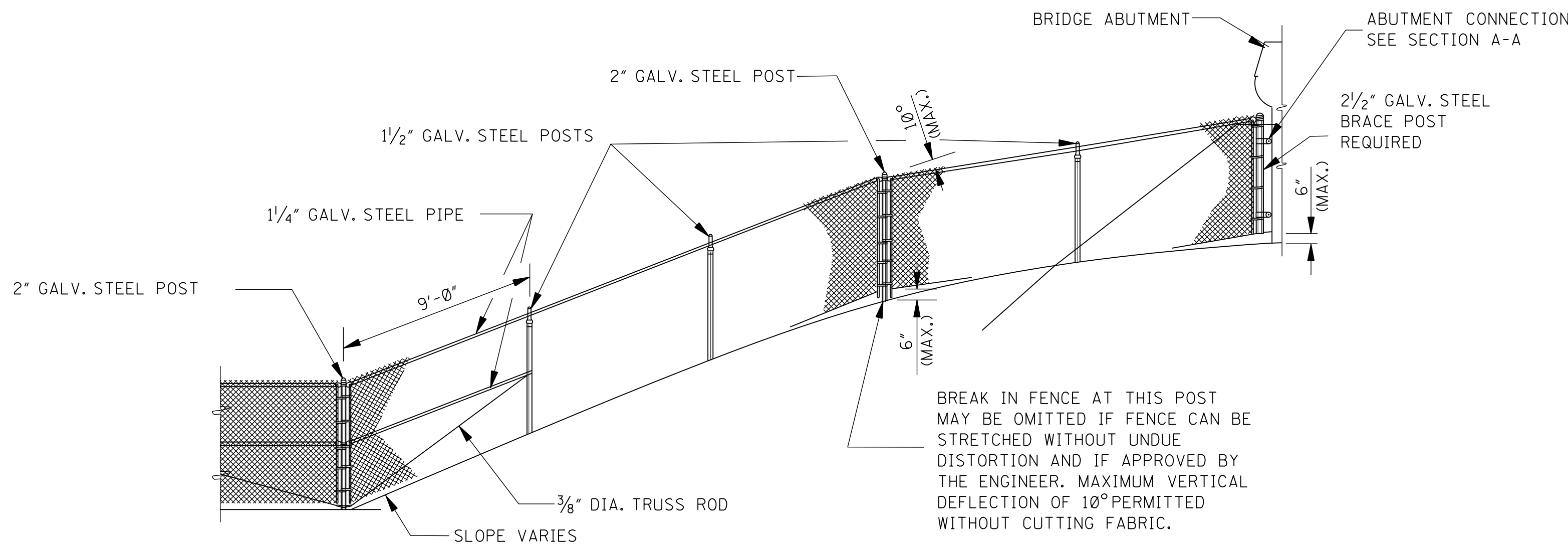
ELEVATION OF BRIDGE CONNECTION

GENERAL NOTES:

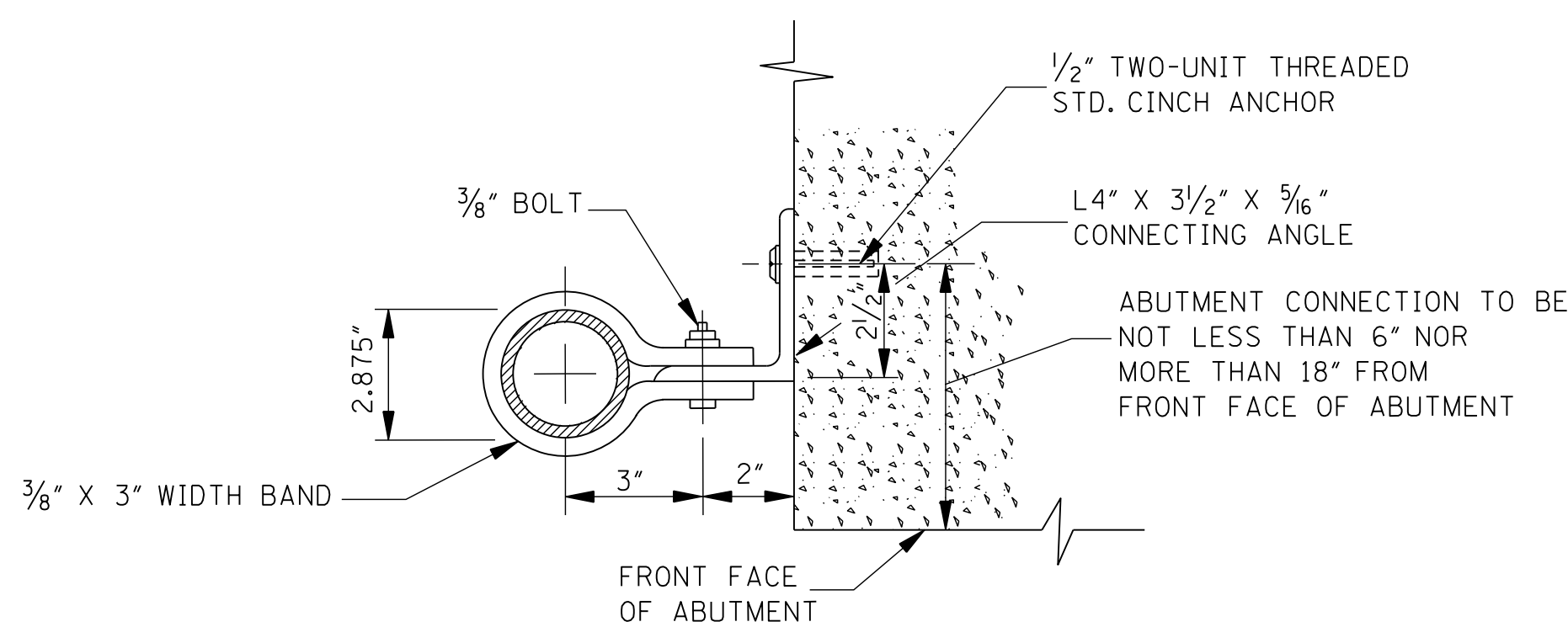
1. THESE INSTALLATION CONDITIONS ARE TYPICAL AND ARE NOT TO BE CONSTRUED AS REPRESENTATIVE OF ALL CONDITIONS WHICH WILL BE ENCOUNTERED. CONSTRUCTION WILL BE VARIED AS REQUIRED OR DIRECTED TO MEET FIELD CONDITIONS.
2. 2 1/2" GALV. STEEL POST AND INCIDENTAL HARDWARE REQUIRED FOR CONNECTING FENCE TO BRIDGE ABUTMENT TO BE PAID FOR AS ONE 5'-0" STEEL BRACE POST.
3. FOR CONCRETE ANCHORS, REFER TO OTHER SHEETS.



PLAN OF ROADWAY UNDER



ELEVATION OF CHAIN LINK CLASS I

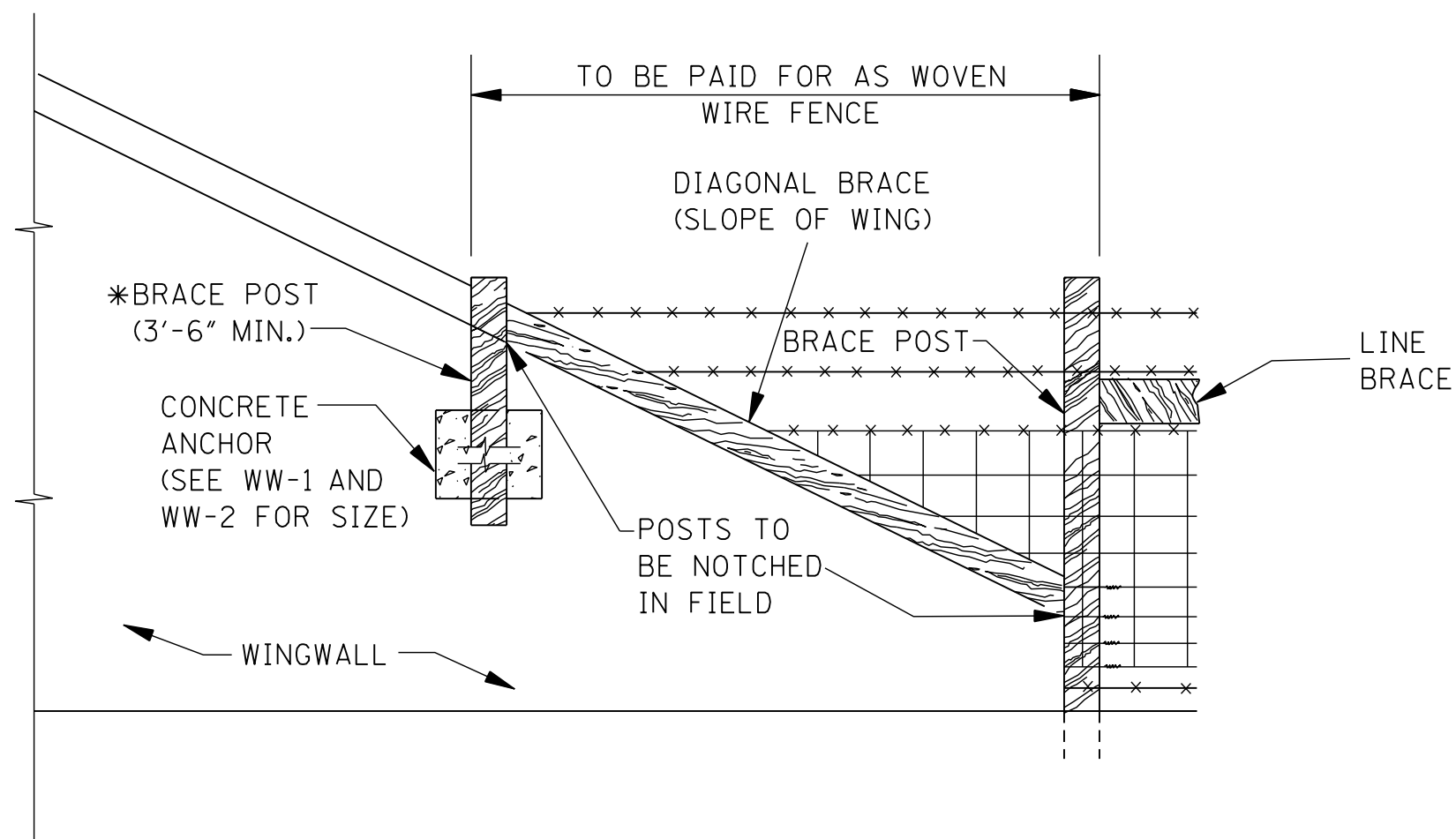


SECTION A-A ABUTMENT CONNECTION

NOTE: ALL MATERIAL FOR ABUTMENT CONNECTION TO BE GALVANIZED.

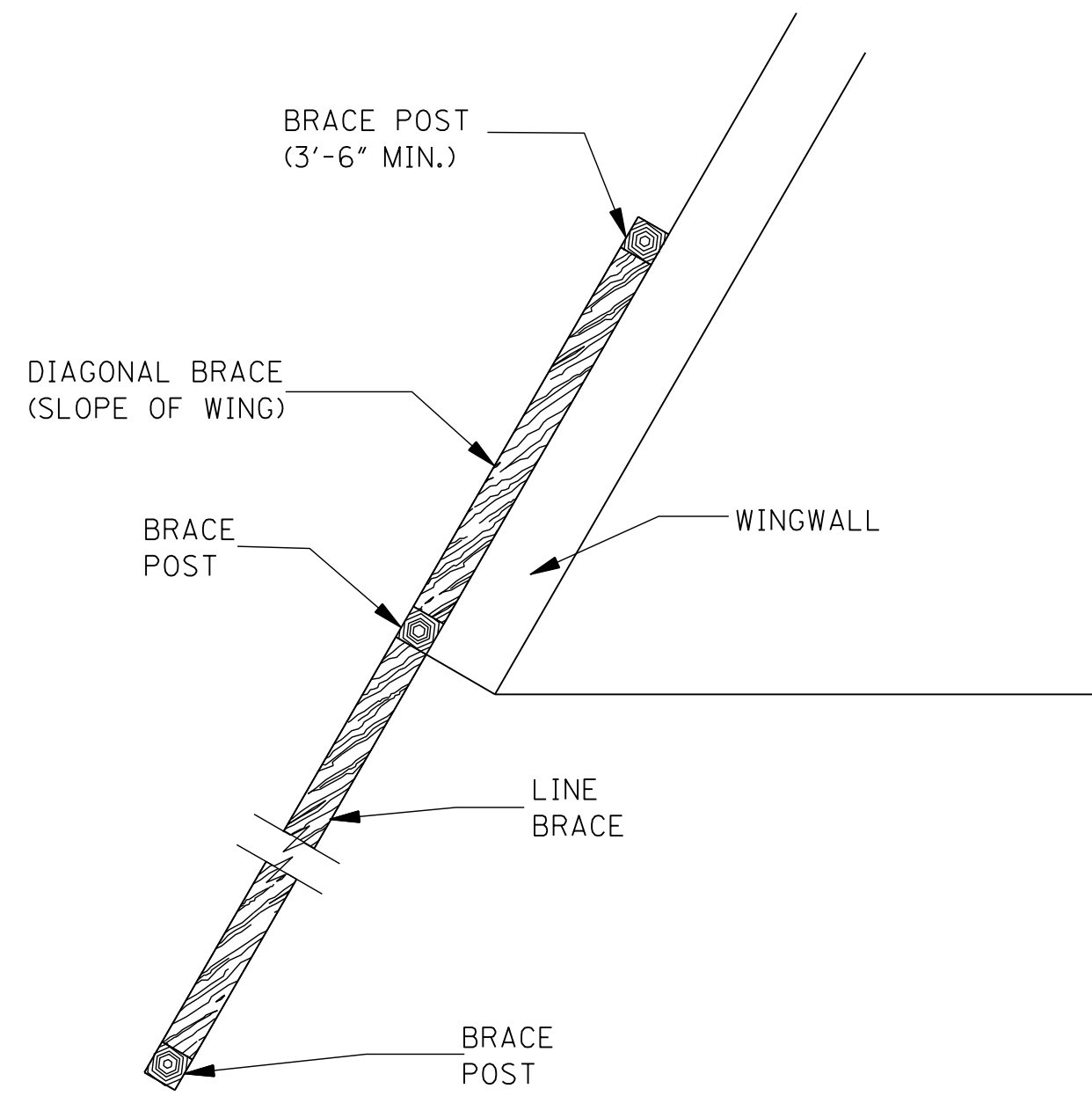
			BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
			REVISION	<b>FENCE: TYPICAL INSTALLATION AT BRIDGES (WITHOUT GATE)</b>
			DATE	ISSUE DATE: AUGUST 01, 2017
				WORKING NUMBER FI-1A SHEET NUMBER 6187



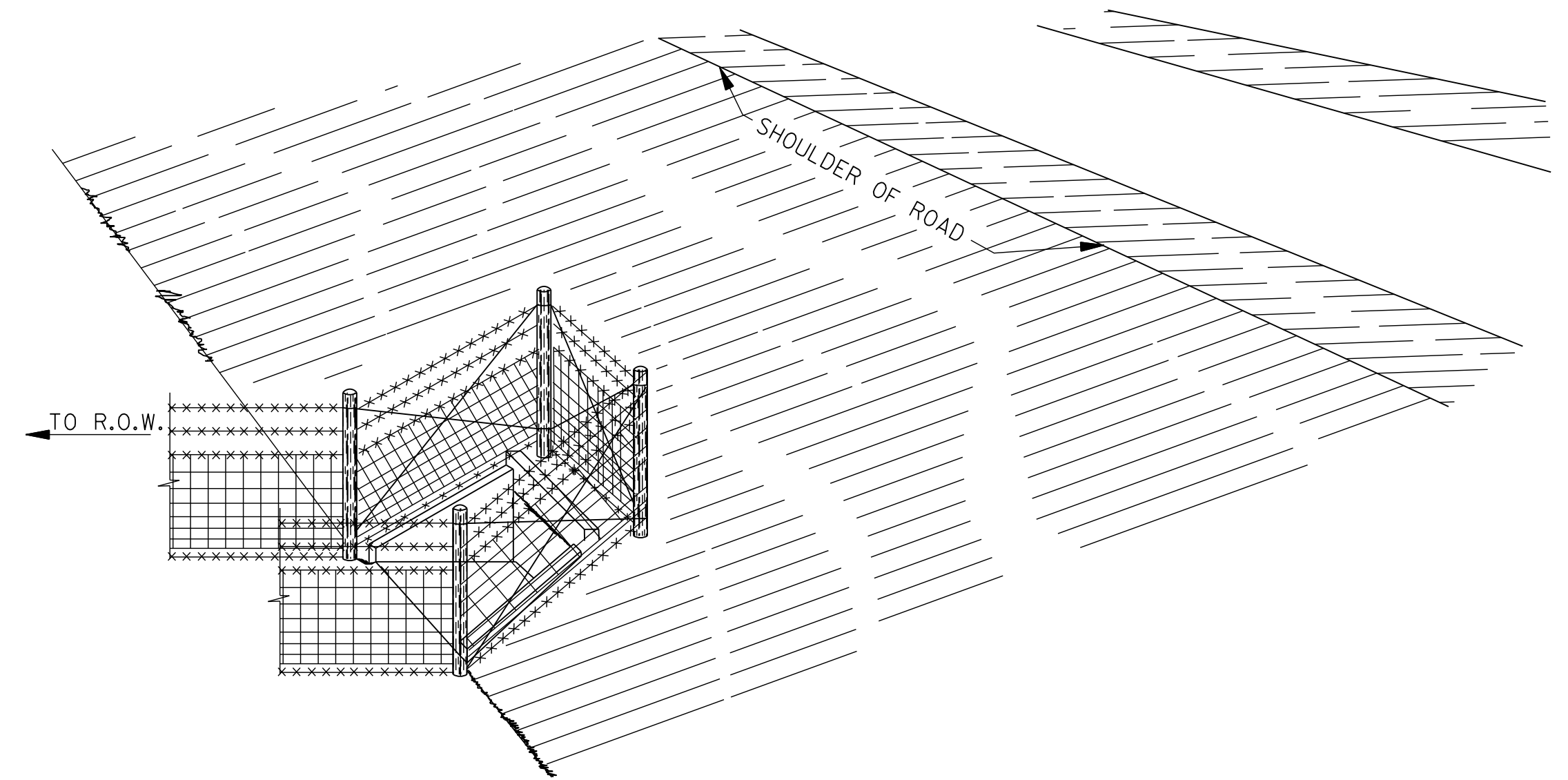


ELEVATION

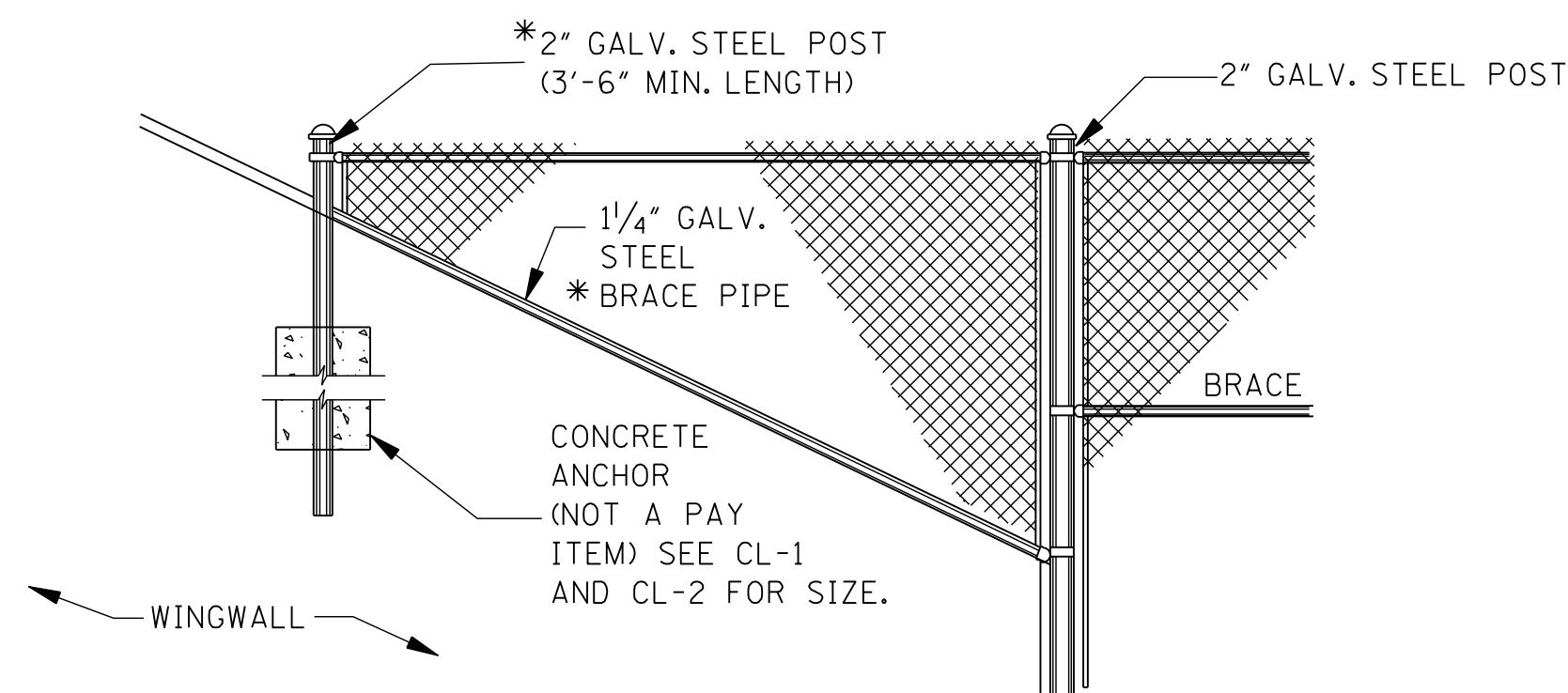
\* NOTE: TO BE PAID FOR AS ONE (1) 8'-0" LENGTH BRACE POST AND ONE (1) CONCRETE ANCHOR.



PLAN

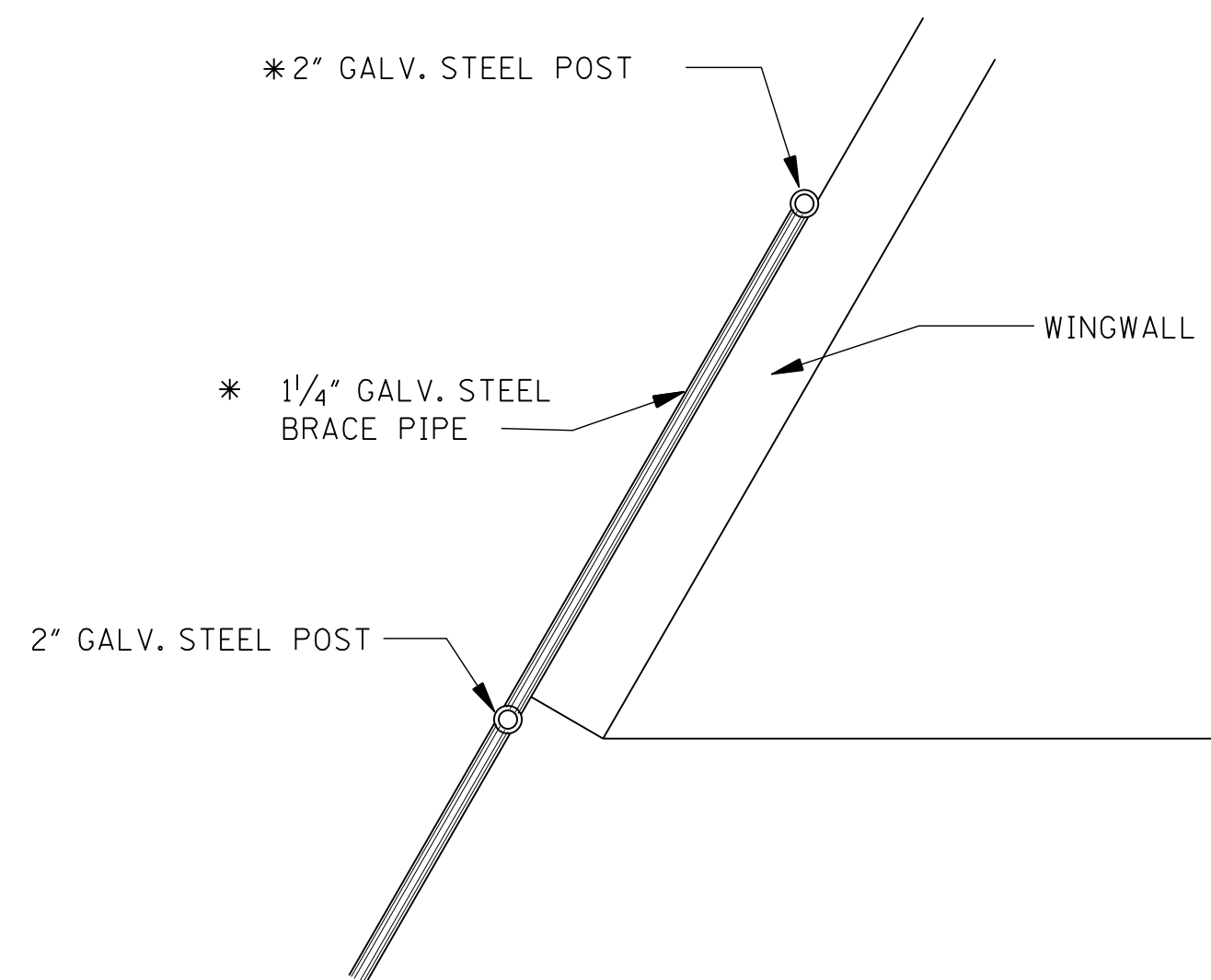


PERSPECTIVE OF FENCE UP AND OVER DRAINAGE STRUCTURE

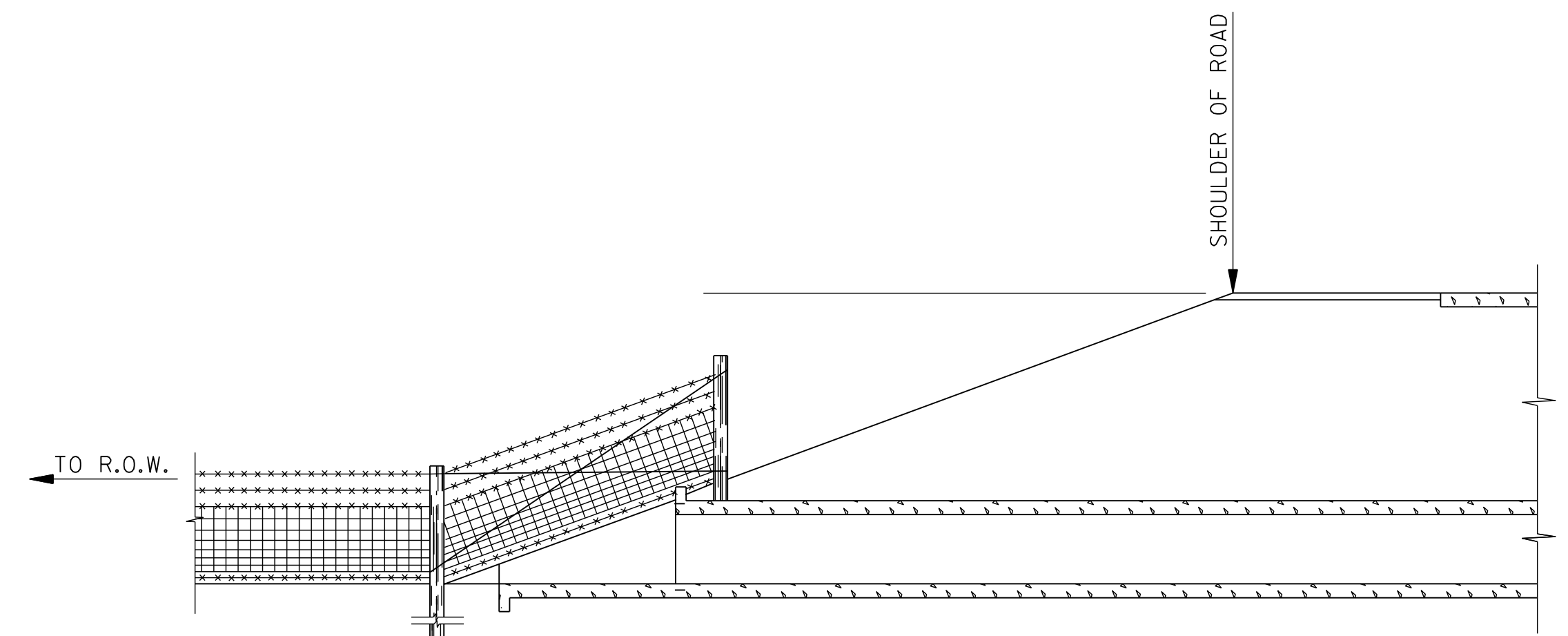


ELEVATION

\*NOTES: 1. TO BE PAID FOR AS ONE 7'-0" LENGTH BRACE POST.  
2. FOR USE WHEN DRAINAGE STRUCTURE HEIGHT IS 5'-0" OR GREATER AND WHEN IT IS NOT FEASIBLE TO GO UP AND OVER THE DRAINAGE STRUCTURE AS SHOWN ON THIS SHEET.




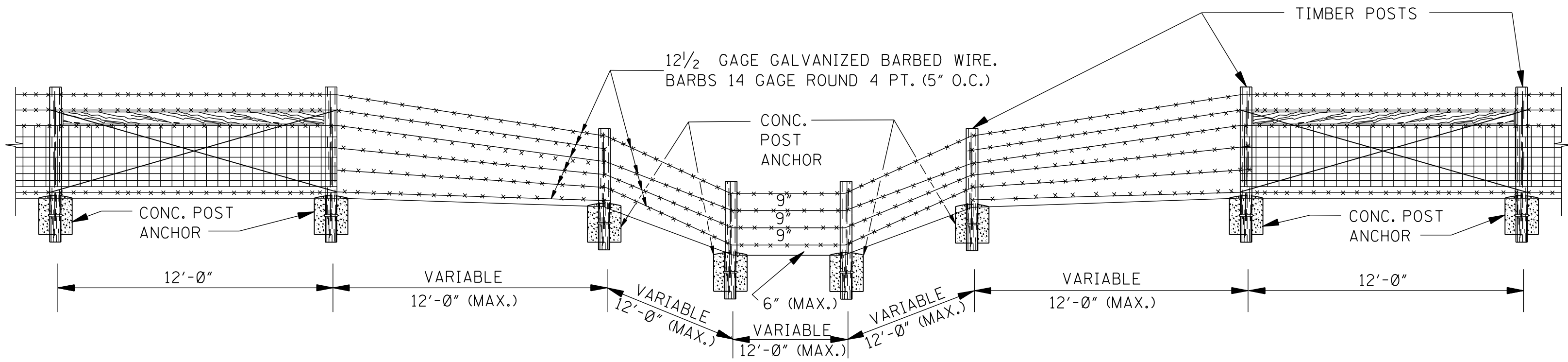
PLAN



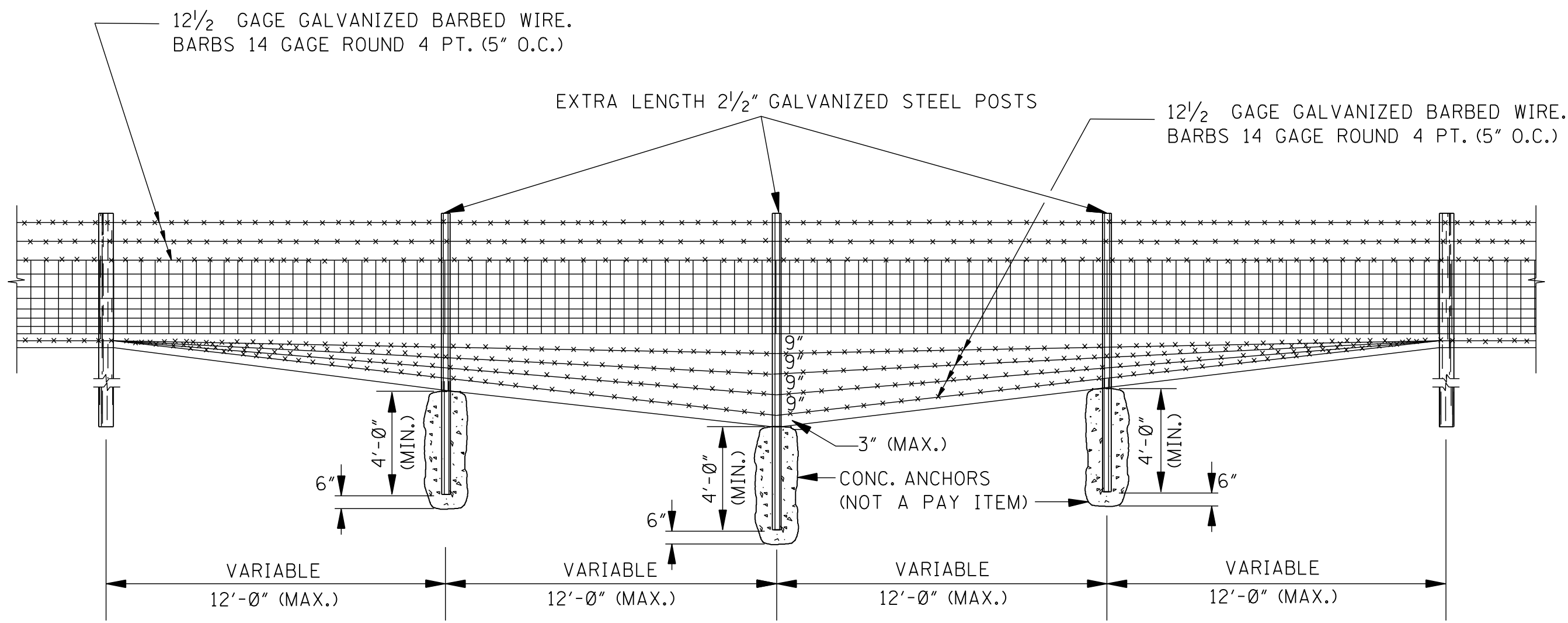
SECTIONAL ELEVATION OF FENCE UP AND OVER DRAINAGE STRUCTURE

NOTE: FOR USE WHEN THE ELEVATION OF THE FENCE POST TOP IS LOWER THAN THE ROADWAY SHOULDER AND WHEN THE NEAREST PORTION OF THE FENCE IS OUTSIDE THE CLEAR ZONE

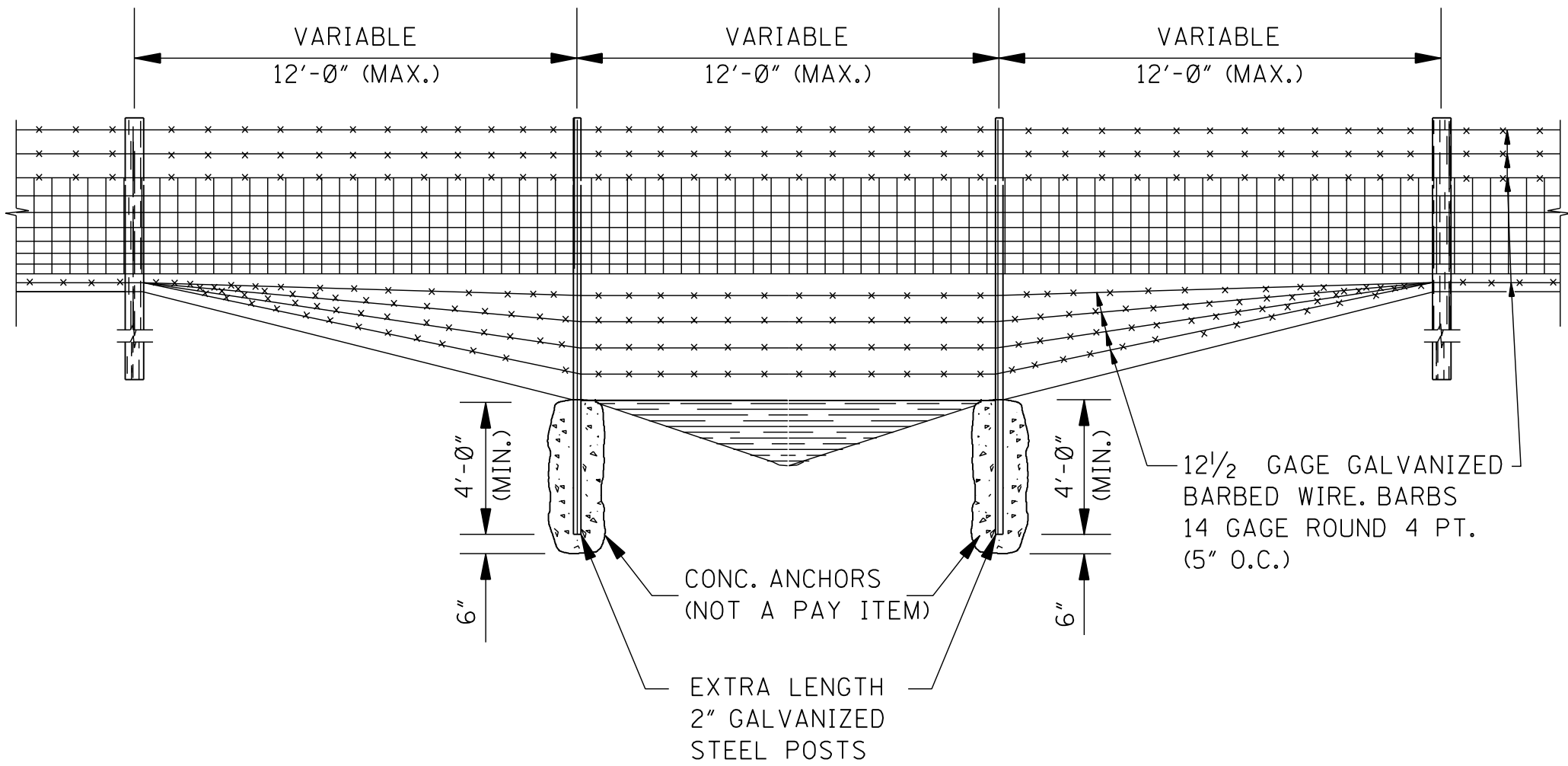
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>FENCE: TYPICAL INSTALLATION AT DRAINAGE STRUCTURES</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					 WORKING NUMBER F1-2 SHEET NUMBER 6188



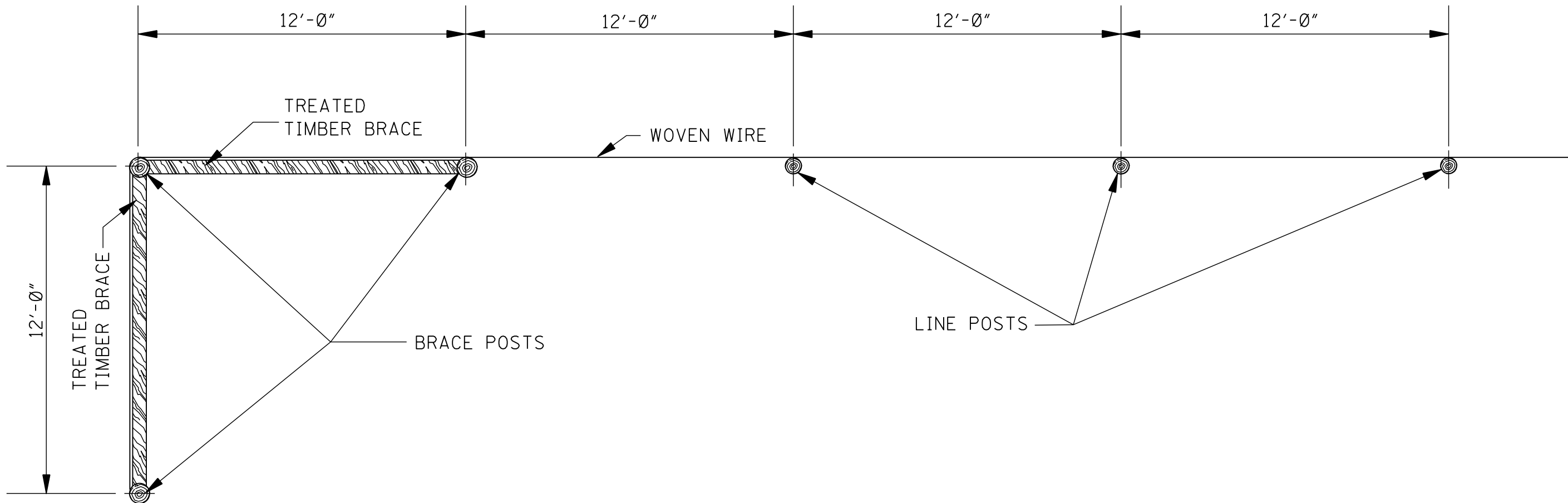
CROSSING TYPE I



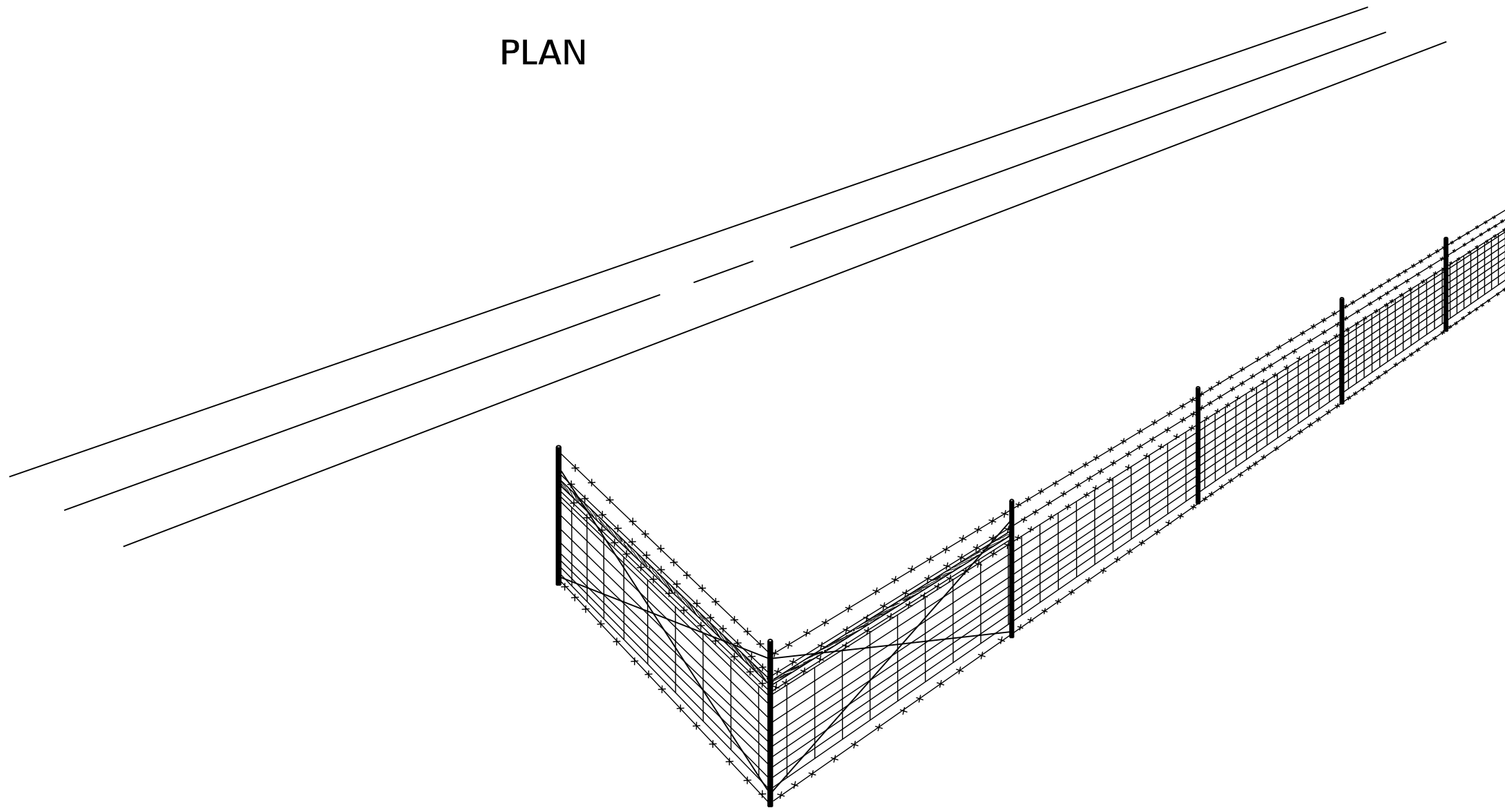
CROSSING TYPE II



CROSSING TYPE III



PLAN



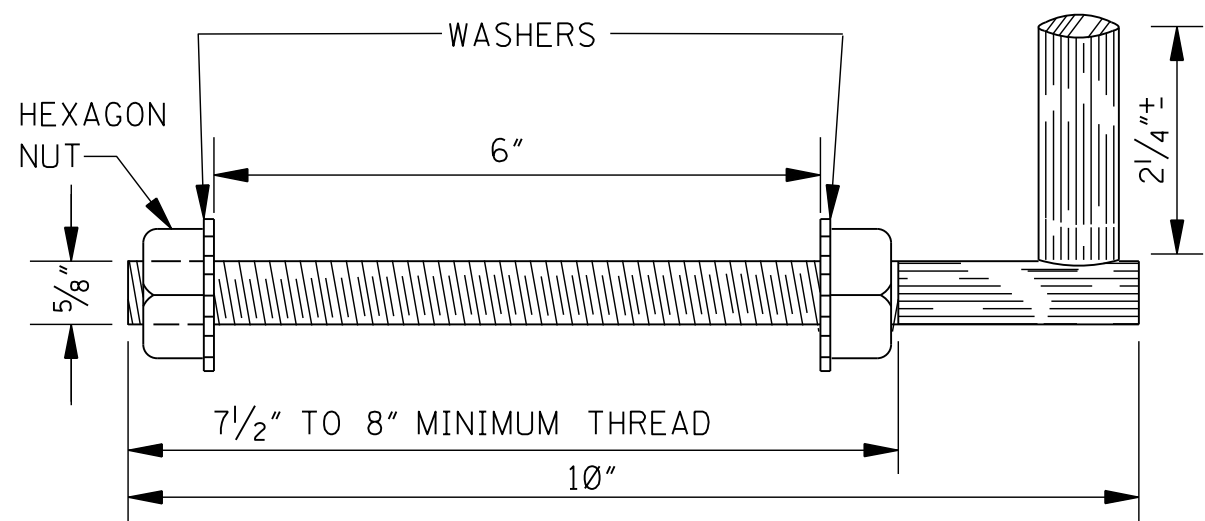
PERSPECTIVE

GENERAL NOTES:

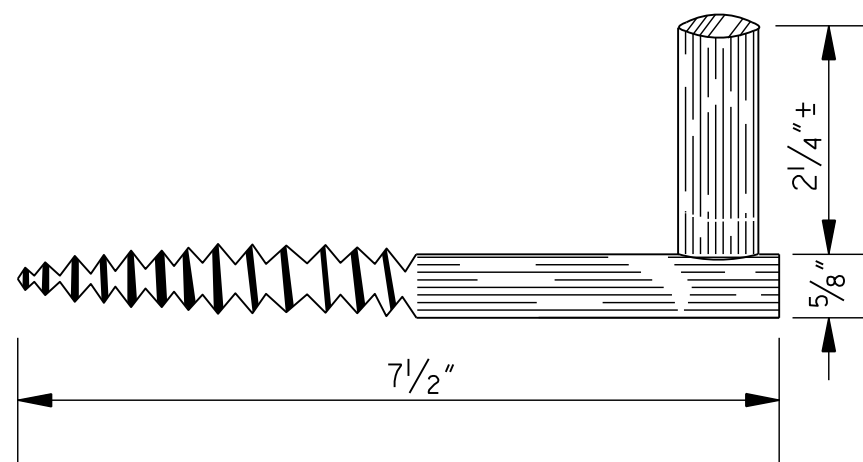
1. THE FENCE SHALL BE TURNED IN AT THE POINT OF "NO ACCESS" AS SHOWN IF THE R.O.W. IS MORE THAN 12'-0" OUTSIDE THE CLEAR ZONE
2. IF THE R.O.W. IS LESS THAN 12'-0" OUTSIDE THE CLEAR ZONE, THE FENCE WILL BE ENDED AT THE POINT OF "NO ACCESS" WITHOUT TURNING IN.
3. THE ILLUSTRATIONS ARE SHOWN FOR WOVEN WIRE FENCE BUT ARE ALSO APPLICABLE TO CHAIN LINK FENCE.
4. THESE INSTALLATION CONDITIONS ARE TYPICAL AND ARE NOT TO BE CONSTRUED AS REPRESENTATIVE OF ALL CONDITIONS WHICH WILL BE ENCOUNTERED. CONSTRUCTION WILL BE VARIED AS REQUIRED OR DIRECTED TO MEET FIELD CONDITIONS.
5. FOR CONCRETE ANCHOR DETAILS NOT SHOWN ON THIS SHEET, REFER TO OTHER SHEETS.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>FENCE: TYPICAL INSTALLATIONS AT DITCH CROSSINGS AND FENCE ENDINGS</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					WORKING NUMBER FI-3 SHEET NUMBER 6189



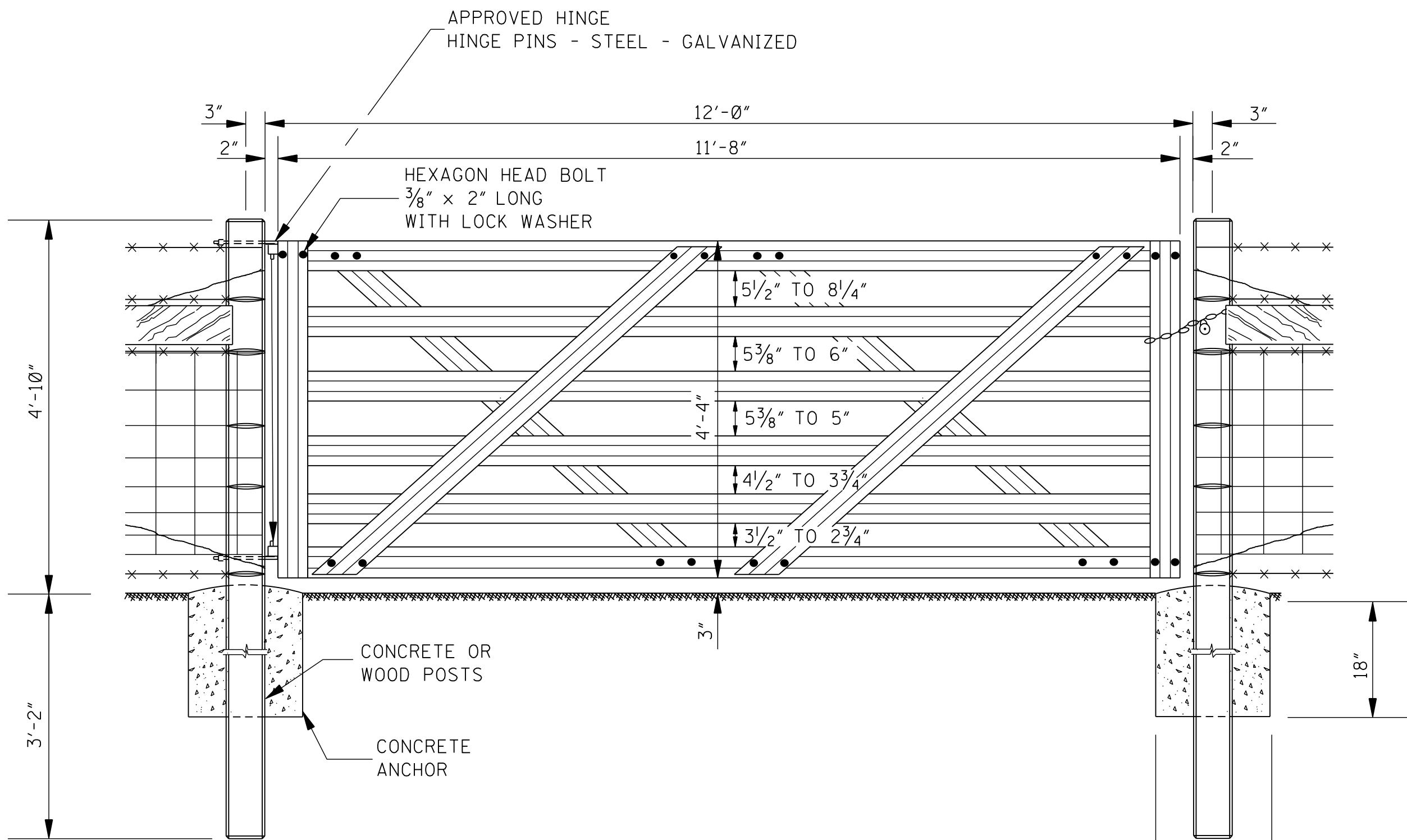


BOLT TYPE FOR CONCRETE POSTS



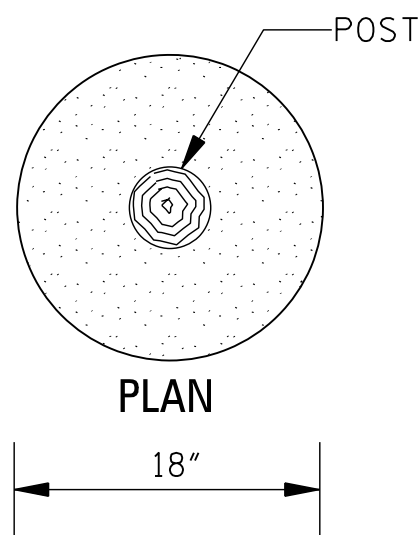
SCREW TYPE FOR WOOD POSTS

DETAILS OF SUGGESTED TYPES  
OF HOOK HINGE FOR GATES

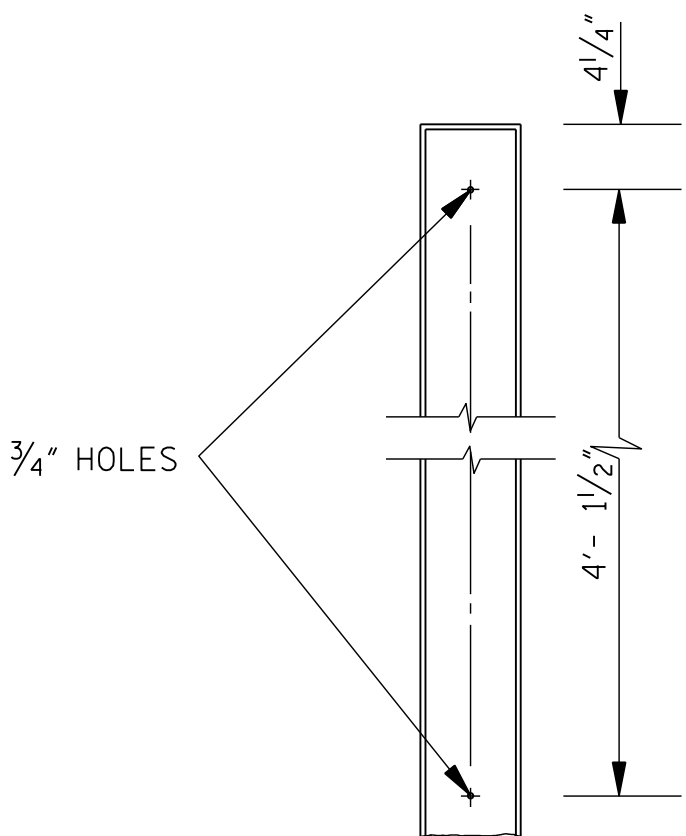


ALTERNATE NUMBER I

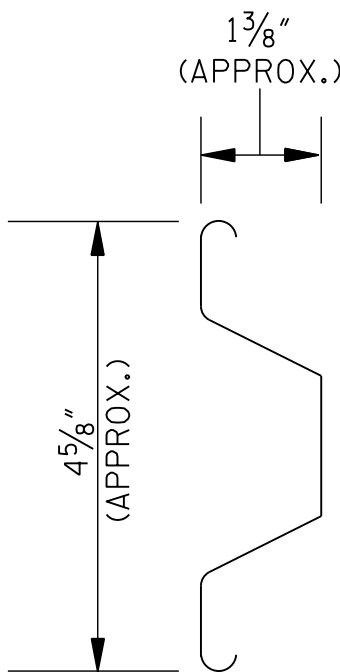
NOTE: GATE POSTS SIMILAR TO BRACE POSTS,  
BUT ADAPTED FOR USE WITH GATE HARDWARE.



CONCRETE ANCHOR  
PLAN DETAIL



DETAIL OF BOLT HOLES IN  
CONCRETE POSTS



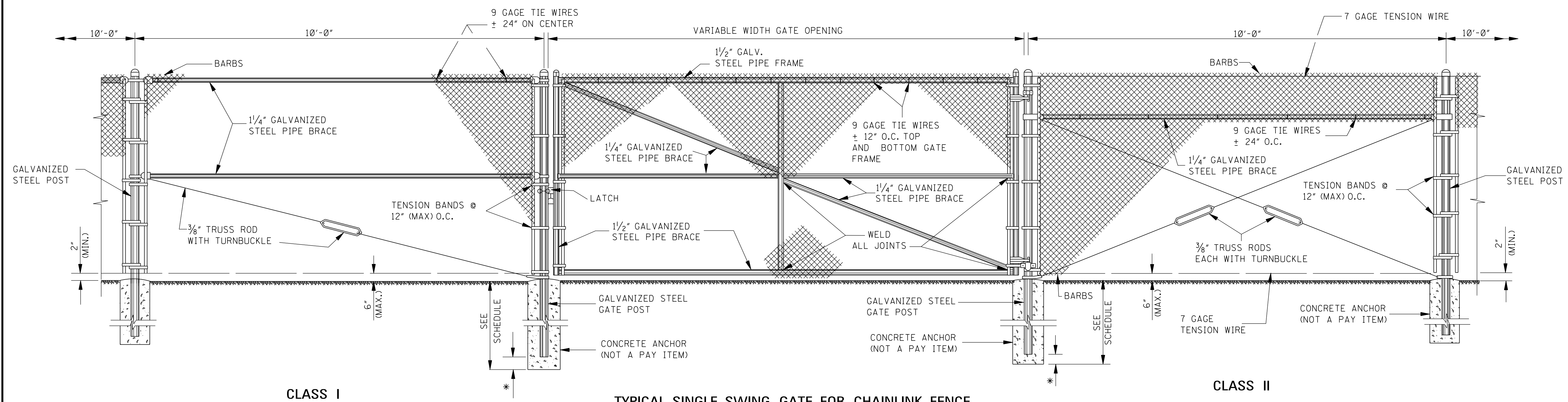
SECTION THRU SLAT

GENERAL NOTES:

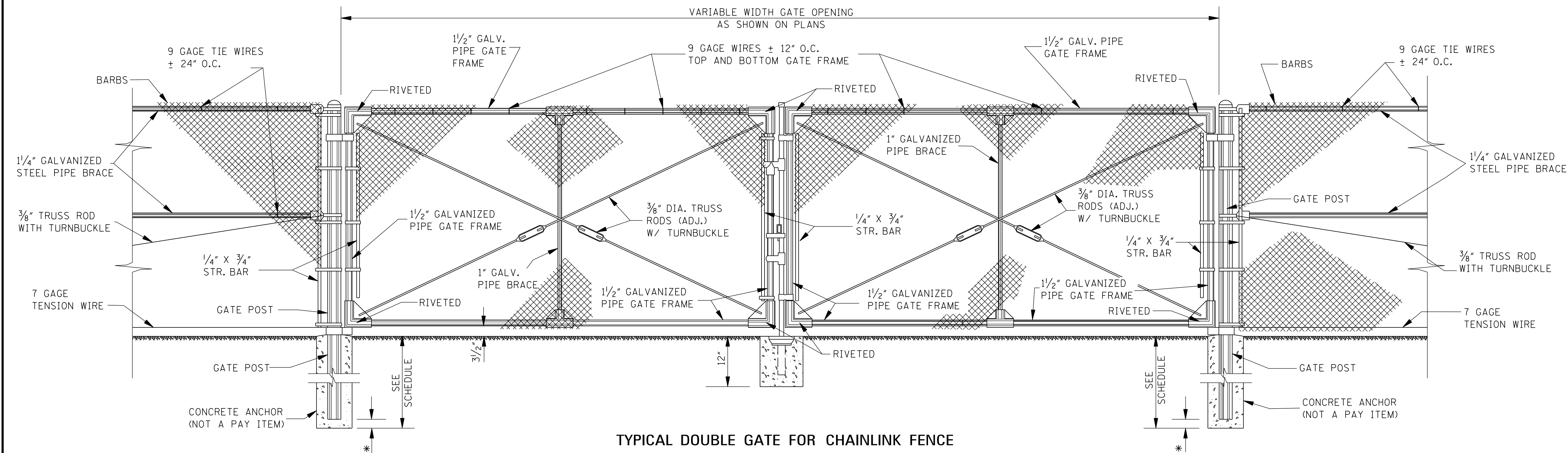
1. EACH GATE TO INCLUDE ONE CHAIN 36" OF 3/8" HIGH TENSILE STRENGTH, CASE HARDENED AND ONE PADLOCK WITH KEY. ALL PADLOCKS TO BE KEYED ALIKE (COST TO BE ABSORBED IN OTHER ITEMS BID).
2. EACH STRAND OF BARBED WIRE AND MESH WIRE SHALL BE SECURELY WRAPPED AND TIED AROUND GATE POSTS. IN ADDITION, ALL WIRE SHALL BE STAPLED TO WOOD POSTS.
3. THE DETAILS SHOWN SHOW SIX-HORIZONTAL SLATS, HOWEVER, DEPENDING UPON THE MANUFACTURER, FIVE-HORIZONTAL SLATS WILL BE ACCEPTED PROVIDED ALL OTHER CONTRACT REQUIREMENTS ARE MET.
4. PRE-DRILL FOR SCREW TYPE HOOK HINGES WHERE NECESSARY.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>FENCE: ALUMINUM OR GALVANIZED FERROUS METAL GATE</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					WORKING NUMBER AG-1 SHEET NUMBER 6190



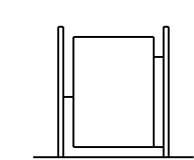


### TYPICAL SINGLE SWING GATE FOR CHAINLINK FENCE



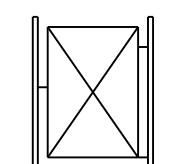
### TYPICAL DOUBLE GATE FOR CHAINLINK FENCE

- GENERAL NOTES:
1. CHAIN LINK FENCE TO BE 2" MESH FABRIC (9 GAGE WIRES).
  2. PIPE SIZES SHOWN FOR POSTS, BRACES AND RAILS ARE NOMINAL INSIDE DIAMETERS. ALL POSTS, BRACES AND RAILS SHALL CONFORM TO THE REQUIREMENTS OF THE MISSISSIPPI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
  3.  $\frac{3}{8}$ " TRUSS RODS NOT REQUIRED WHEN CONNECTING LESS THAN 4 PANELS LENGTHS TO STRUCTURES.
  4. MESH TO BE ATTACHED AT 24" INTERVALS TO TOP & BOTTOM TENSION WIRE WITH HOG RINGS OR OTHER APPROVED METHODS.
  5. THE FENCE SHALL BE GROUNDED IN ACCORDANCE WITH THE MISSISSIPPI DEPARTMENT OF TRANSPORTATION SPECIFICATIONS. COST TO BE ABSORBED IN OTHER ITEMS BID.



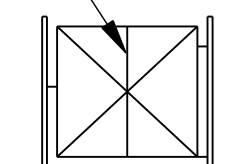
TYPE "A"

3' & 4' SGL.  
6' & 8' DBL.



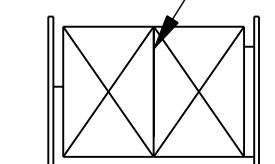
TYPE "B"

OVER 4' TO 7' SGL.  
OVER 8' TO 14' DBL.



TYPE "C"

OVER 7' TO 11' SGL.  
OVER 14' TO 22' DBL.

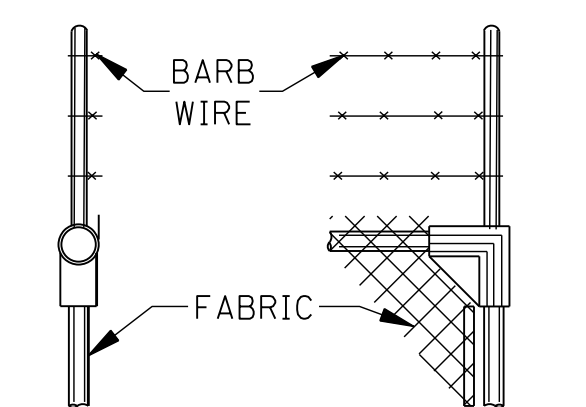


### TYPE "D"

OVER 11' TO 15' SGL.  
OVER 22' TO 30' DBL.

\* = HOLE DEPTH - POST DEPTH

POST SCHEDULE						
GATE OPENING	POST TYPE & MIN. SIZE			MIN. ANCHOR SIZE		
	ROUND		"C" BEAM	HOLE DIA.	HOLE DEPTH	POST DEPTH
	SIZE (NPS)		SIZE			
UP TO 6' SINGLE UP TO 12' DOUBLE	2½"		3.5Ø" X 3.5Ø"	12"	40"	34"
OVER 6' TO 13' SINGLE OVER 12' TO 26' DOUBLE	3½"			14"	42"	34"
OVER 13' TO 18' SINGLE OVER 26' TO 36' DOUBLE	6"			16"	46"	40"



SIDE VIEW                  FRONT VIEW

TOP GUARD DETAILS

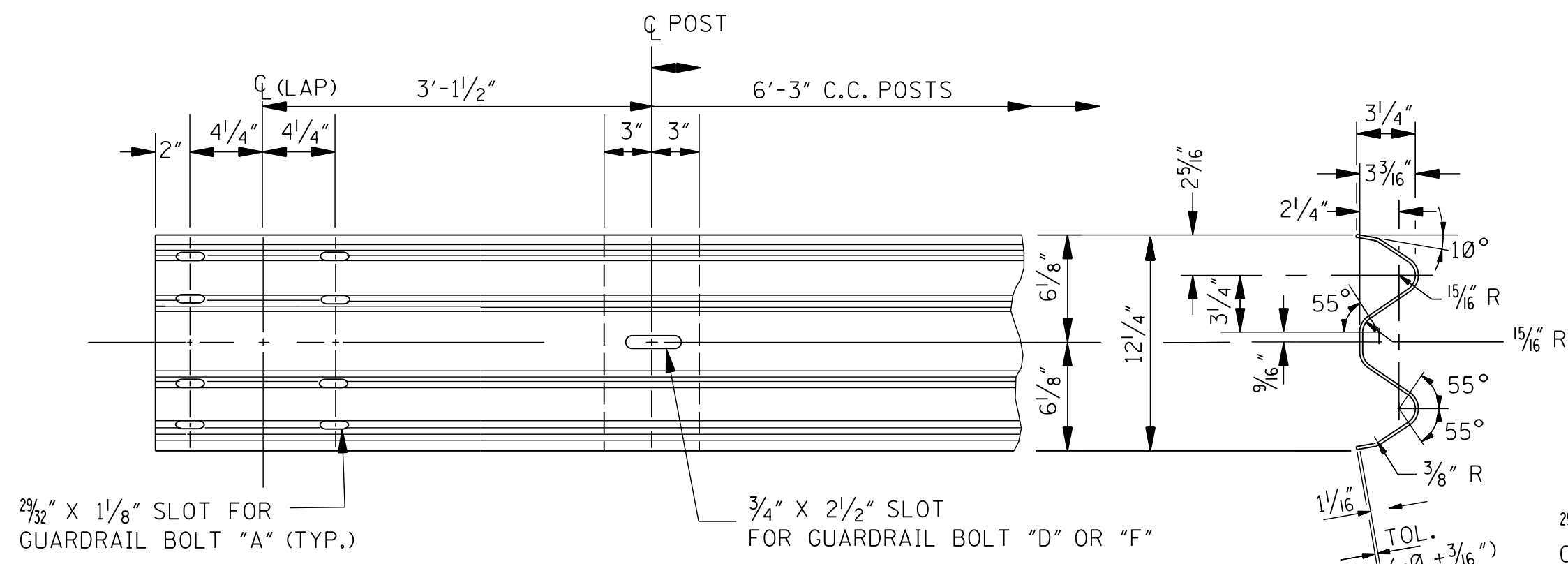
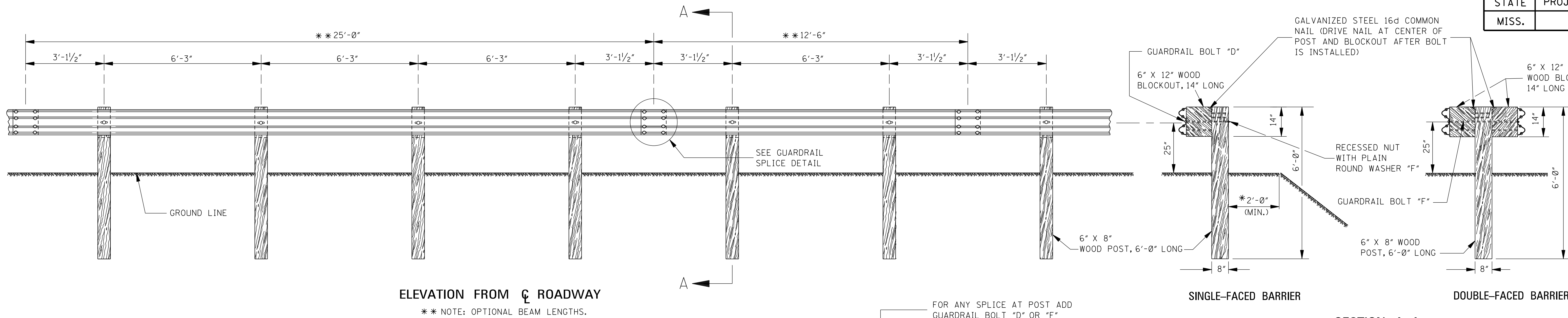
			BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
			REVISION	
				<p align="center"><b>FENCE: CHAIN LINK GATE</b></p>
			DATE	
				<p align="center">ISSUE DATE: <u>          AUGUST 01, 2017          </u></p>



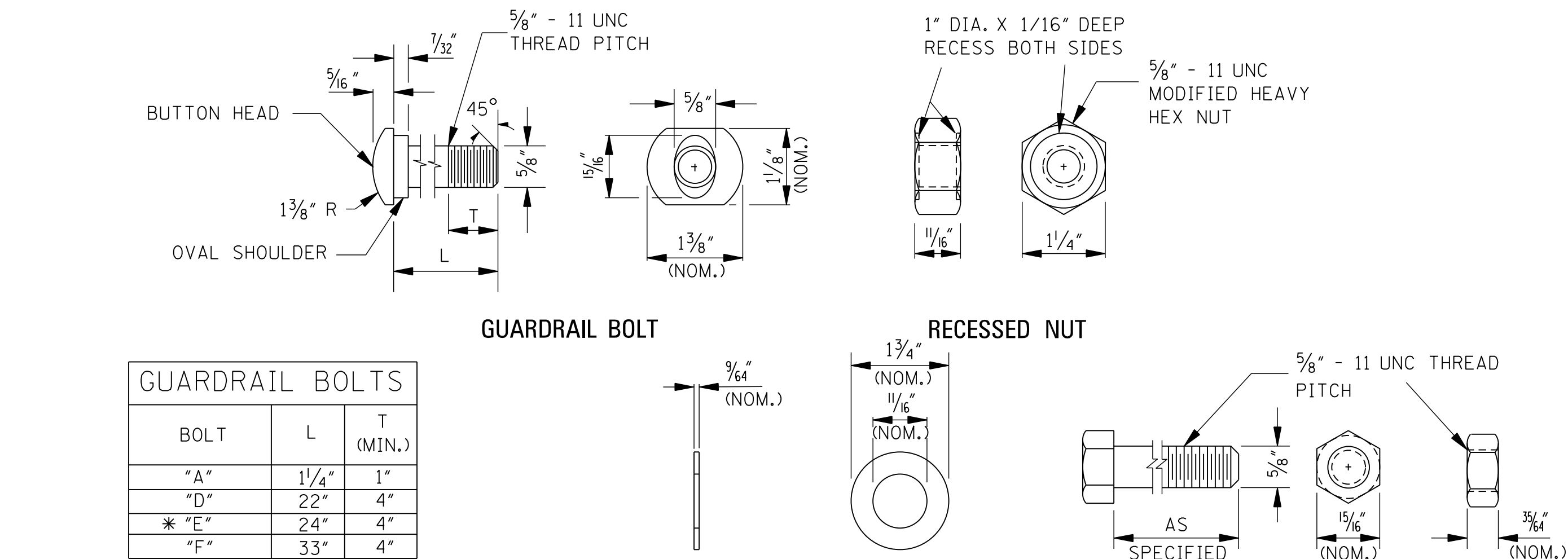
**MDOT**  
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

WORKING NUMBER  
 CLG-1

SHEET NUMBER  
 6191

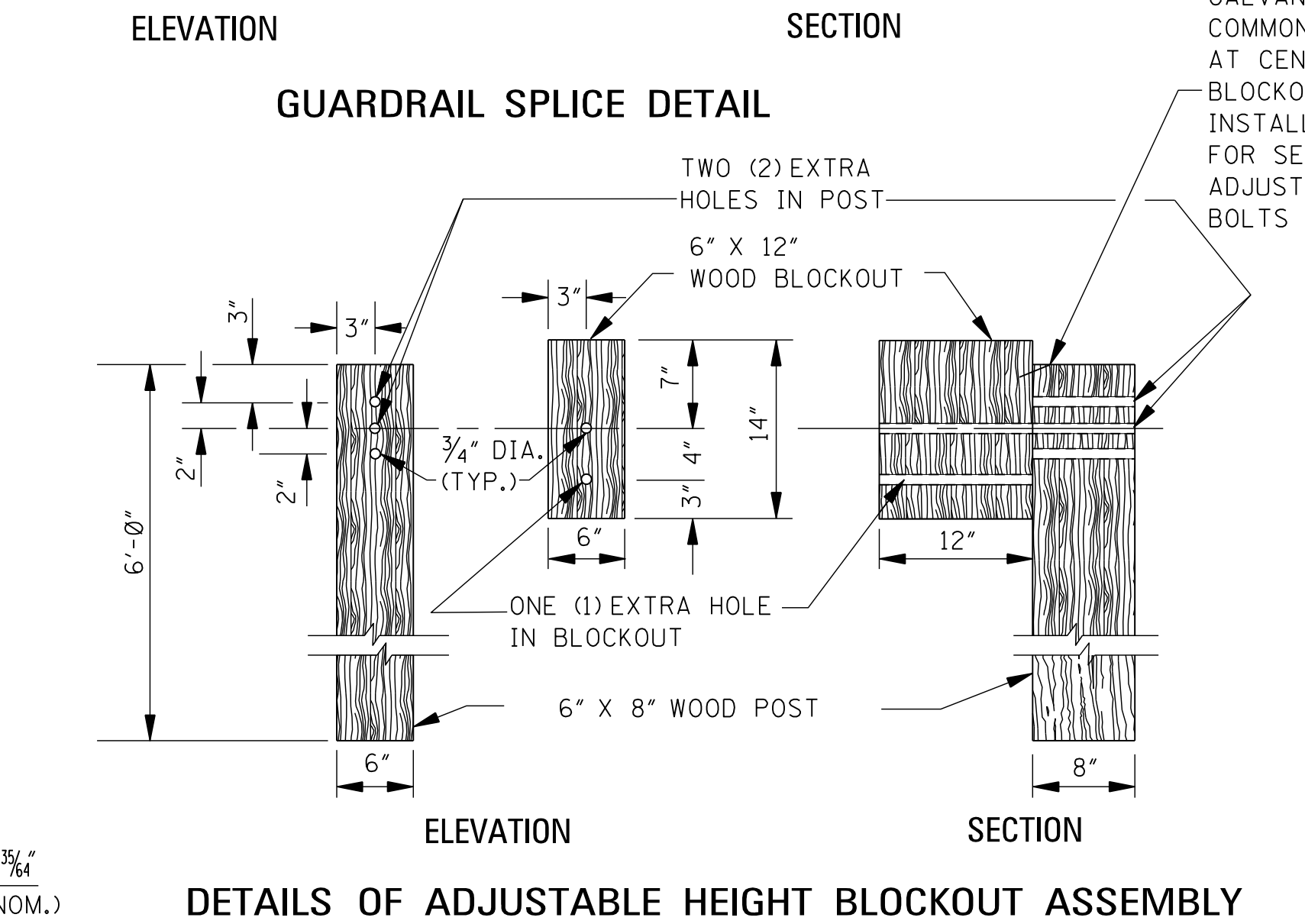


TYPICAL GUARDRAIL SECTION



FASTENER DETAILS

- NOTES:
1. ALL GUARDRAIL BOLTS ARE 5/8" - 11 UNC THREAD PITCH.
  2. IF ANY BOLT EXTENDS MORE THAN 1/4" FROM THE NUT, THE BOLT SHOULD BE TRIMMED BACK.
  - \* 3. GUARDRAIL BOLT "E" IS USED FOR SINGLE-FACED BARRIER WITH 10" X 10" WOOD POST AND 6" X 12" WOOD BLOCKOUT.



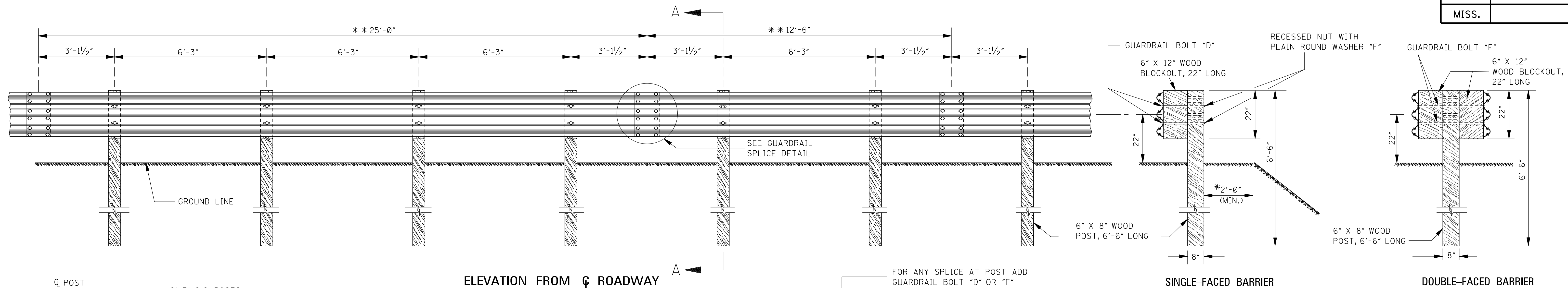
- NOTES:
1. ON INITIAL INSTALLATION, THE BLOCKOUT SHALL BE ATTACHED TO THE BOTTOM HOLE IN THE POST, OTHER HOLES IN THE POST AND BLOCKOUT ARE FOR FUTURE 2" HEIGHT ADJUSTMENT WHEN THE ROADWAY IS RESURFACED.
  2. FOR THE SECOND HEIGHT ADJUSTMENT, ONE (1) HEX NUT AND BOLT "D", 22" LONG FOR SINGLE-FACED BARRIER OR BOLT "F", 33" LONG FOR DOUBLE-FACED BARRIER, WITH TWO (2) PLAIN ROUND WASHERS "F", ONE (1) UNDER HEAD AND ONE (1) UNDER NUT, ARE REQUIRED PER POST IN ADDITION TO THE STANDARD GUARDRAIL BOLT AND RECESSED NUT.
  3. HOLE DETAILS ARE REQUIRED ON ALL WOOD POSTS AND BLOCKOUTS.
  4. WOOD POSTS ARE FABRICATED FROM 6" X 8" TREATED TIMBER AND BLOCKOUTS ARE FABRICATED FROM 6" X 12" TREATED TIMBER UNLESS SPECIFIED OTHERWISE ON THE PLANS.
  5. ALL HOLES IN BOTH POSTS AND BLOCKOUTS ARE 3/4" IN DIAMETER.

- GENERAL NOTES:
1. GUARDRAIL SHALL MEET THE REQUIREMENTS OF AASHTO M 180, CLASS A, TYPE 1 UNLESS OTHERWISE DESIGNATED.
  2. GUARDRAIL SHALL BE SINGLE FACED UNLESS OTHERWISE DESIGNATED.
  3. GUARDRAIL SECTIONS SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC FLOW FOR THE LANE NEAREST THE GUARDRAIL. THE ONLY EXCEPTION NOTED IS THAT GUARDRAIL SHALL BE LAPPED FOR APPROACHING TRAFFIC ON A BRIDGE WITH 2-WAY TRAFFIC.
  4. ALL WOOD POSTS AND BLOCKOUTS SHALL BE TREATED TIMBER IN ACCORDANCE WITH MISSISSIPPI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
  5. FOR OTHER DETAILS OF POSTS, POST ACCESSORIES, FASTENERS & RAIL ELEMENTS, SEE AASHTO-ACC-ARTBA JOINT TASK FORCE NO. 13, TITLED "A GUIDE TO STANDARDIZED HIGHWAY BARRIER HARDWARE," LATEST EDITION.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>GUARDRAIL: "W" BEAM (WOOD POSTS)</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					<b>MDOT</b> MISSISSIPPI DEPARTMENT OF TRANSPORTATION WORKING NUMBER GR-1 SHEET NUMBER 6201

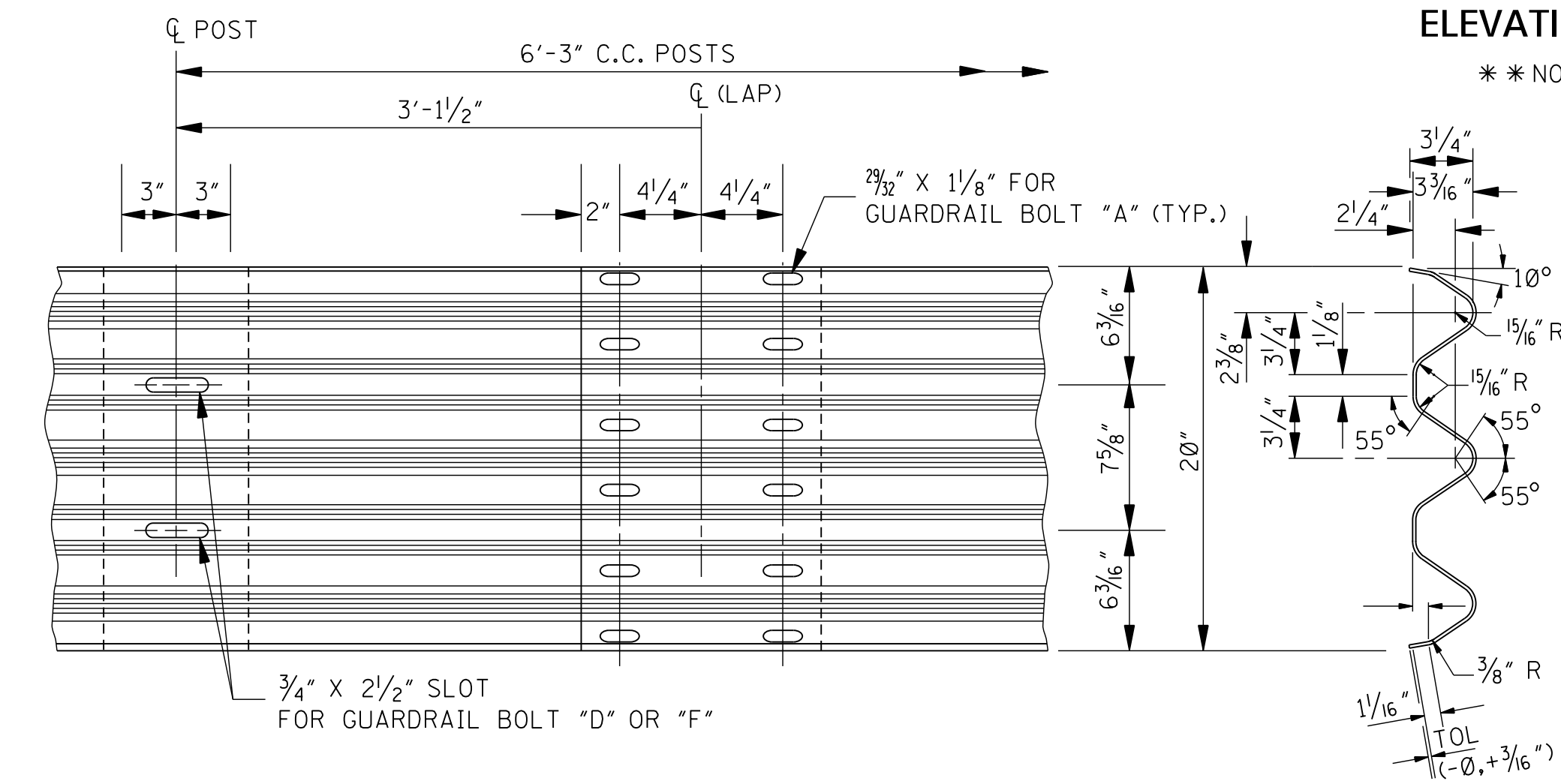


STATE	PROJECT NO.
MISS.	

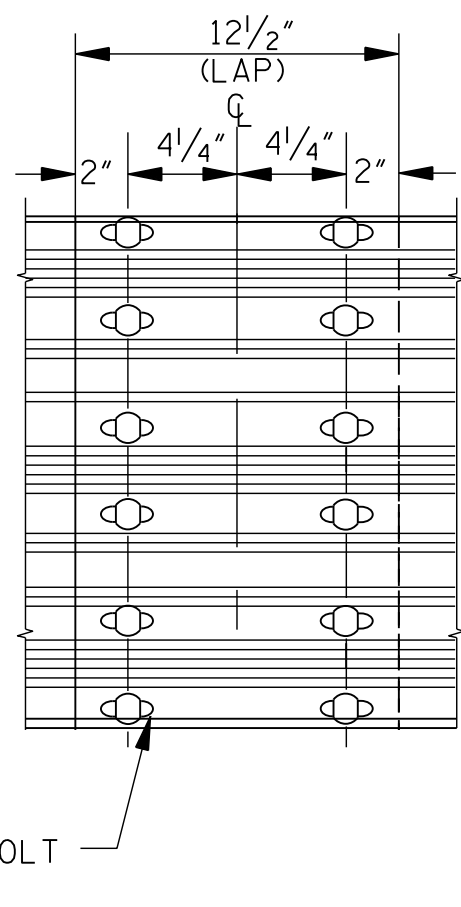


SECTION A-A

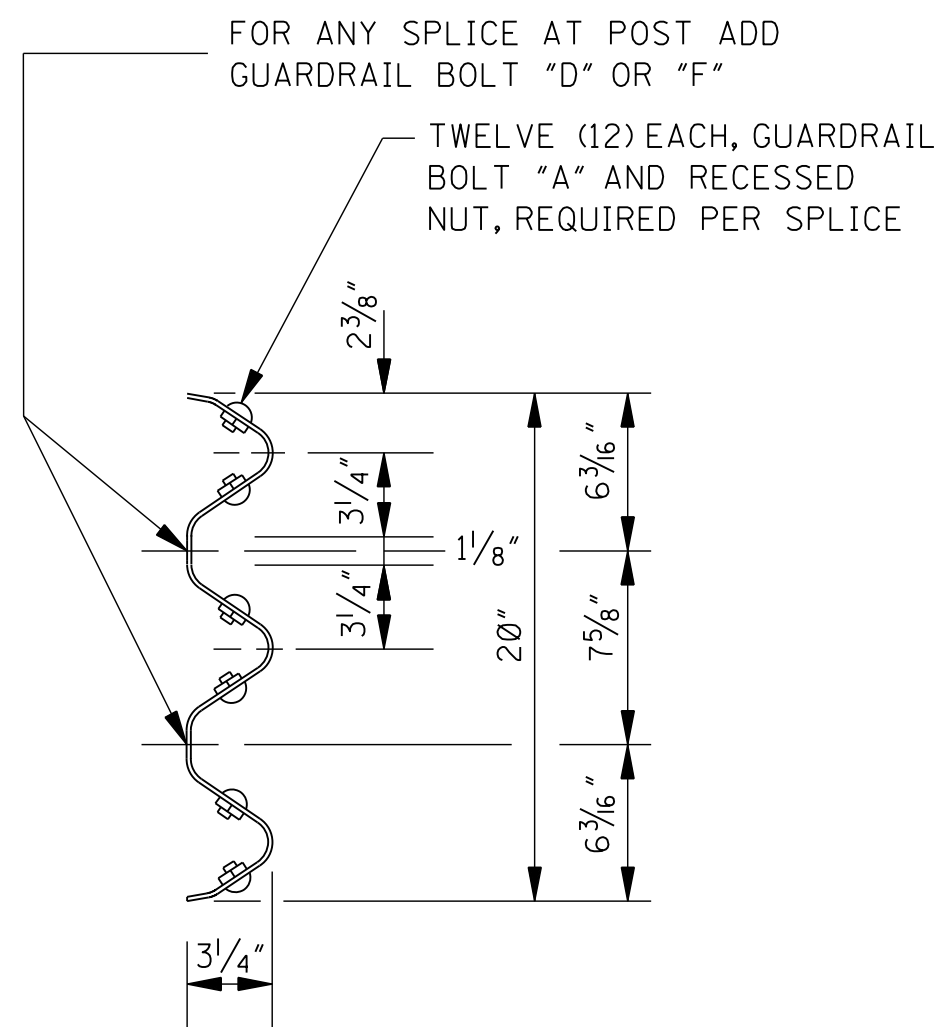
\* NOTE: UNLESS SPECIFIED OTHERWISE ON THE PLANS.



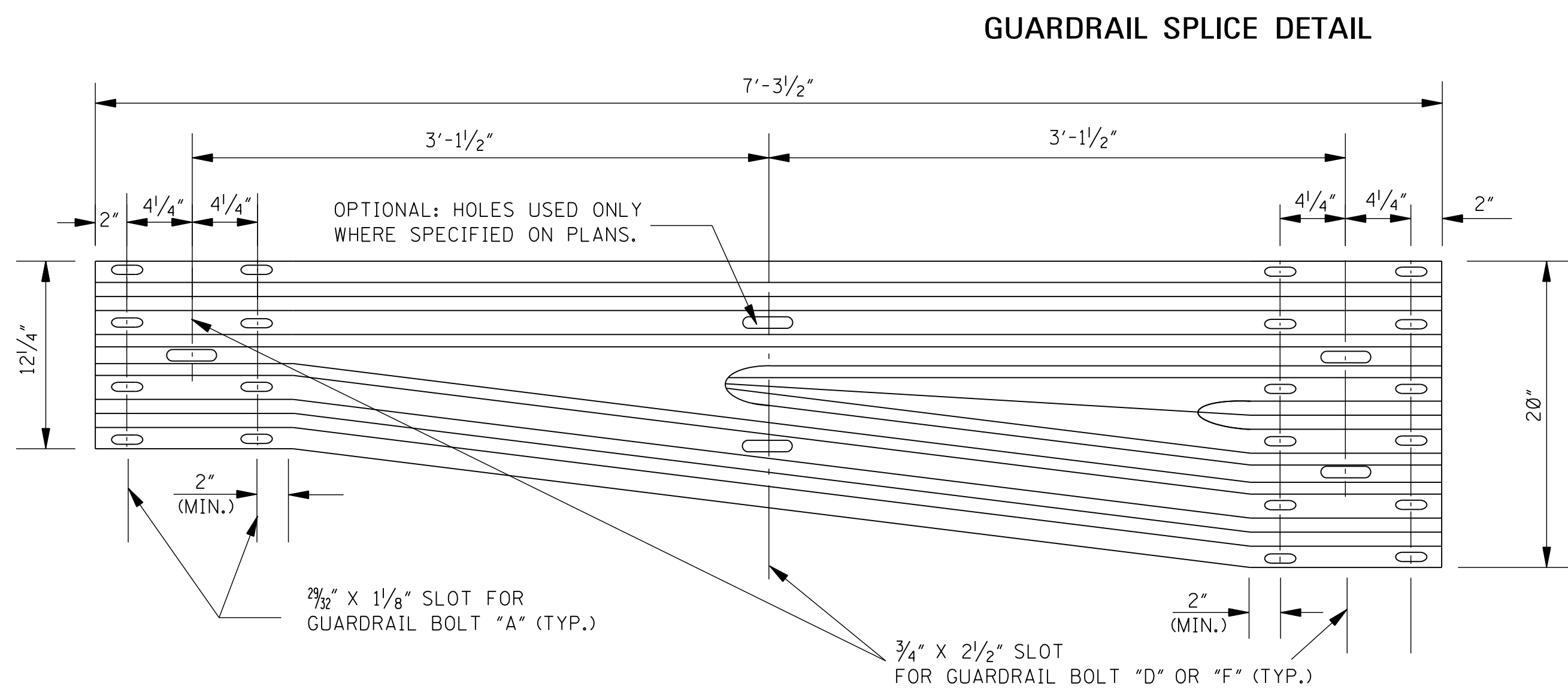
## TYPICAL GUARDRAIL SECTION



ELEVATION

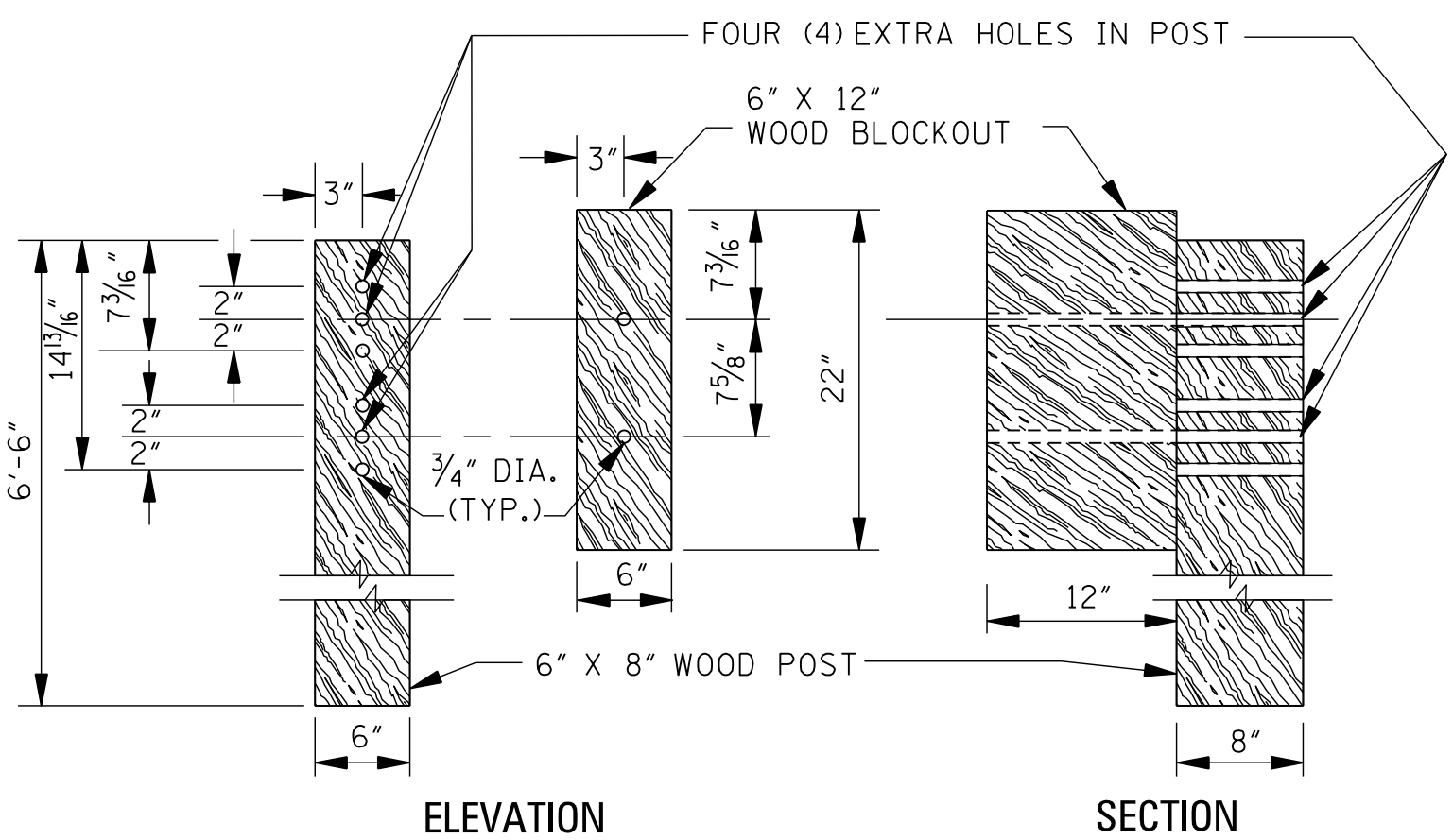


## SECTION



## "W" THRIE-BEAM TRANSITION SECTION


NOTE: THE CROSS-SECTIONAL DIMENSIONS FOR THE "W" AND THRIE BEAM ENDS OF THE TRANSITION SECTION ARE THE SAME AS THEIR RESPECTIVE TYPICAL GUARDRAIL SECTIONS.



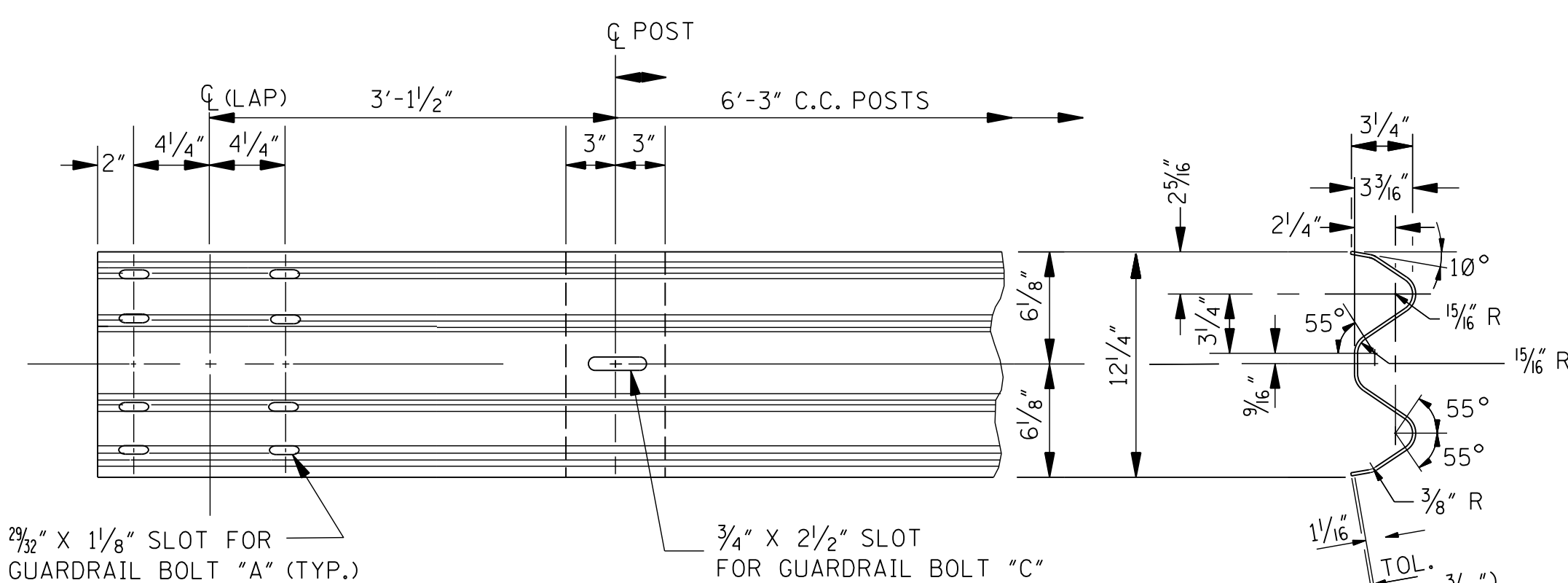
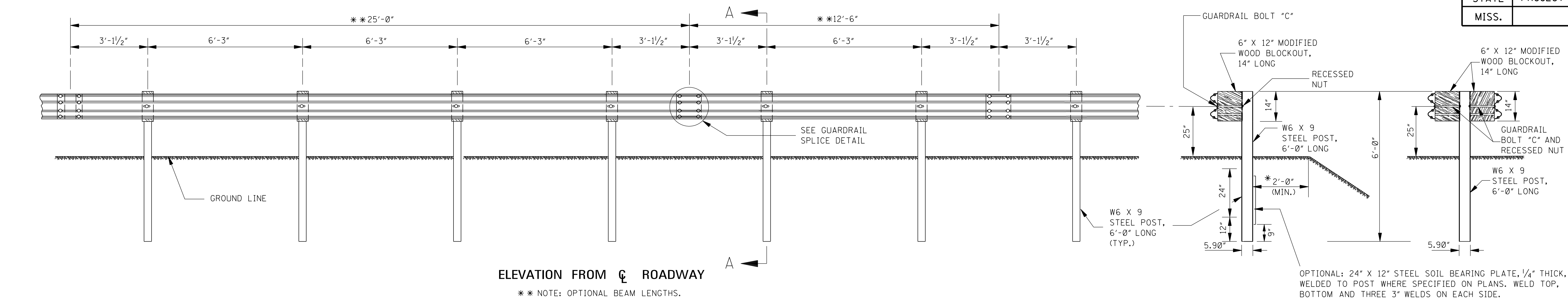
## DETAILS OF ADJUSTABLE HEIGHT BLOCKOUT ASSEMBLY

NOTES:

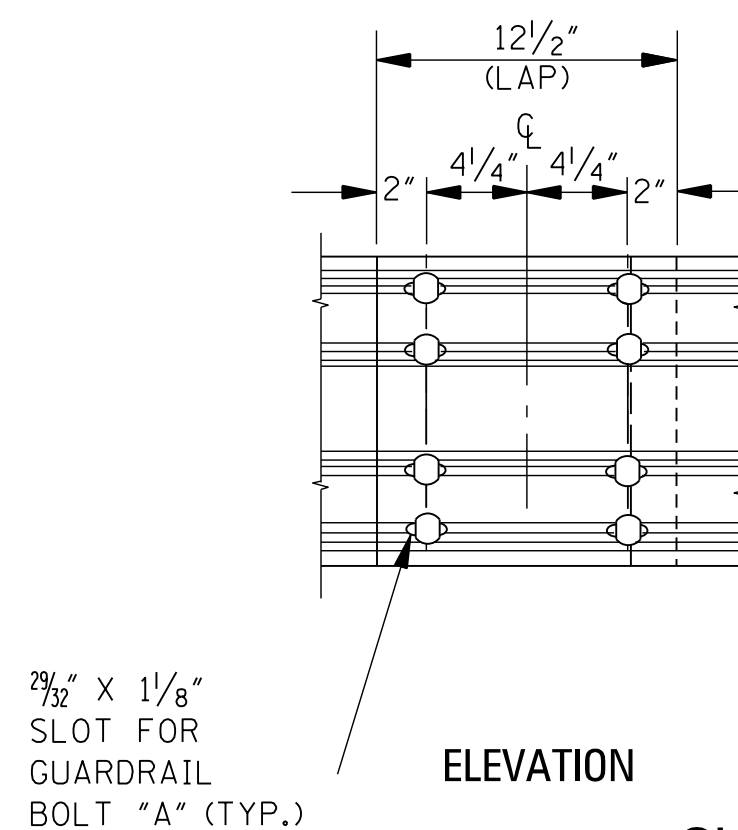
1. ON INITIAL INSTALLATION, THE TOP OF THE BLOCKOUT SHALL BE FLUSH WITH THE TOP OF THE POST. THE ADDITIONAL HOLES IN THE POST AND BLOCKOUT ARE FOR FUTURE 2" HEIGHT ADJUSTMENTS WHEN THE ROADWAY IS RESURFACED.
2. WOOD DETAILS ARE REQUIRED ON ALL WOOD POSTS AND BLOCKOUTS.
3. WOOD POSTS ARE FABRICATED FROM 6" X 8" TREATED TIMBER AND BLOCKOUTS ARE FABRICATED FROM 6" X 12" TREATED TIMBER UNLESS SPECIFIED OTHERWISE ON THE PLANS.
4. ALL HOLES IN BOTH POSTS AND BLOCKOUTS ARE 3/4" IN DIAMETER.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN  <b>GUARDRAIL: THREE BEAM (WOOD POSTS)</b>	
				REVISION		
				DATE	ISSUE DATE: AUGUST 01, 2017	<div> WORKING NUMBER GR-1A SHEET NUMBER 6202</div>

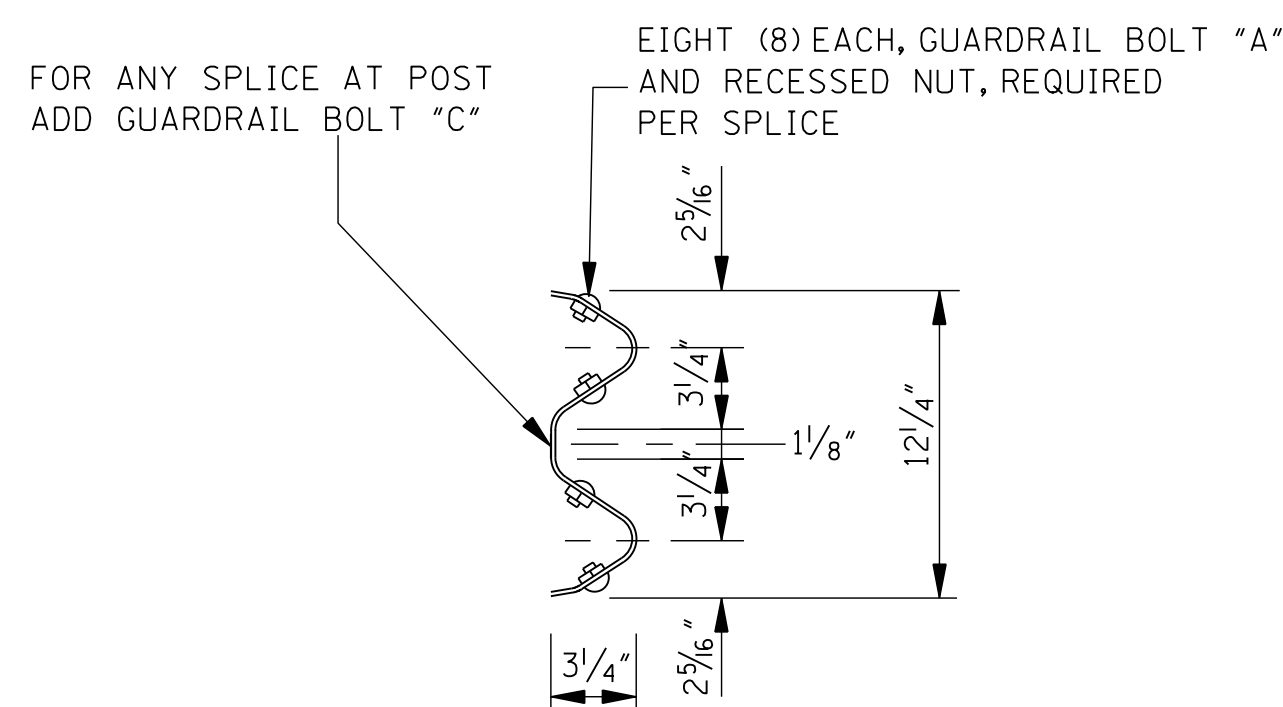
STATE	PROJECT NO.
MISS.	



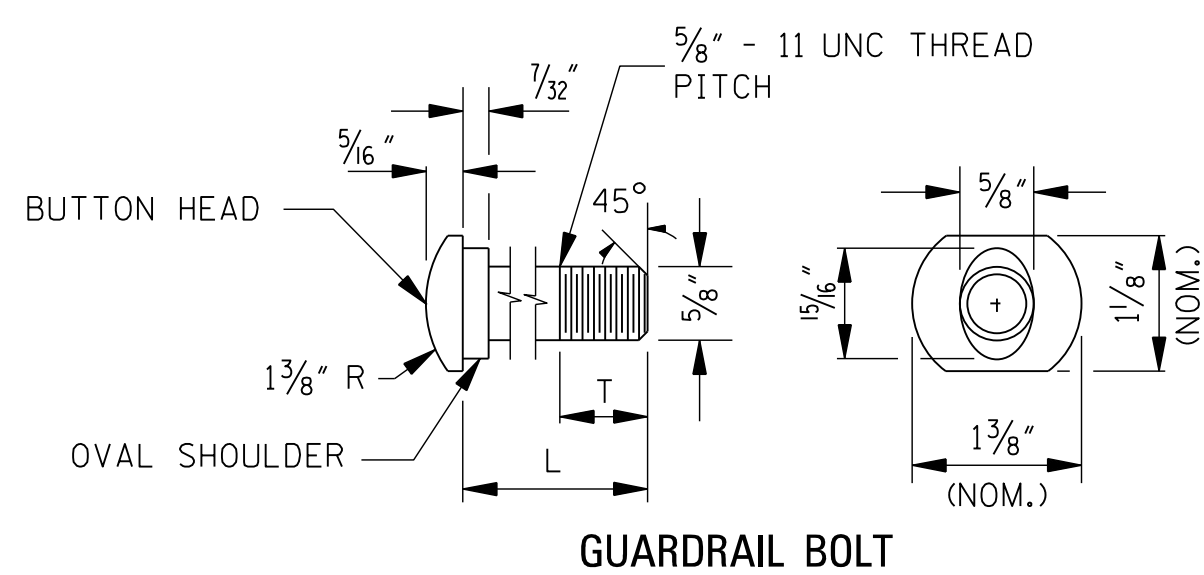
### TYPICAL GUARDRAIL SECTION



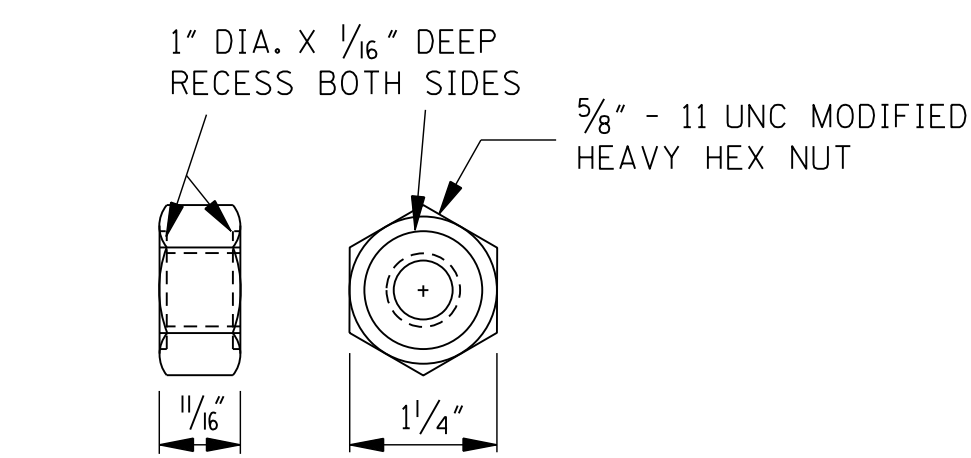
### GUARDRAIL SPLICE DETAIL



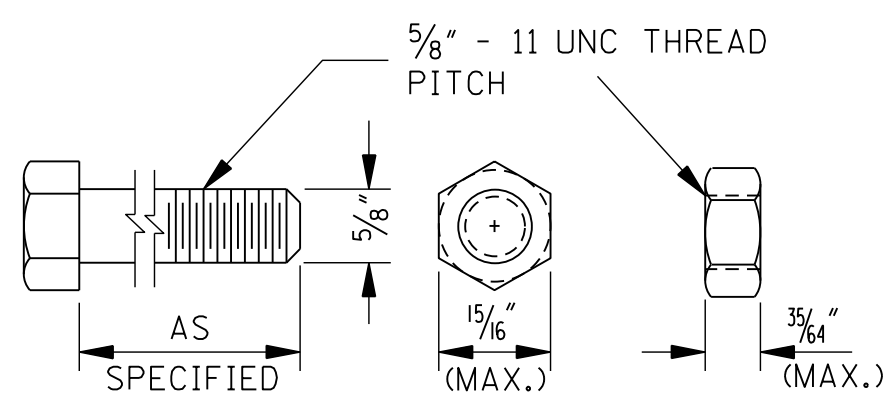
## SECTION



GUARDRAIL BOLT



RECESSED NUT



HEX NUT AND BOLT "F"

GUARDRAIL BOLTS		
BOLT	L	T (MIN.)
"A"	1 $\frac{1}{4}$ "	1"
"B"	12"	4"
"C"	14"	4"

NOTES:

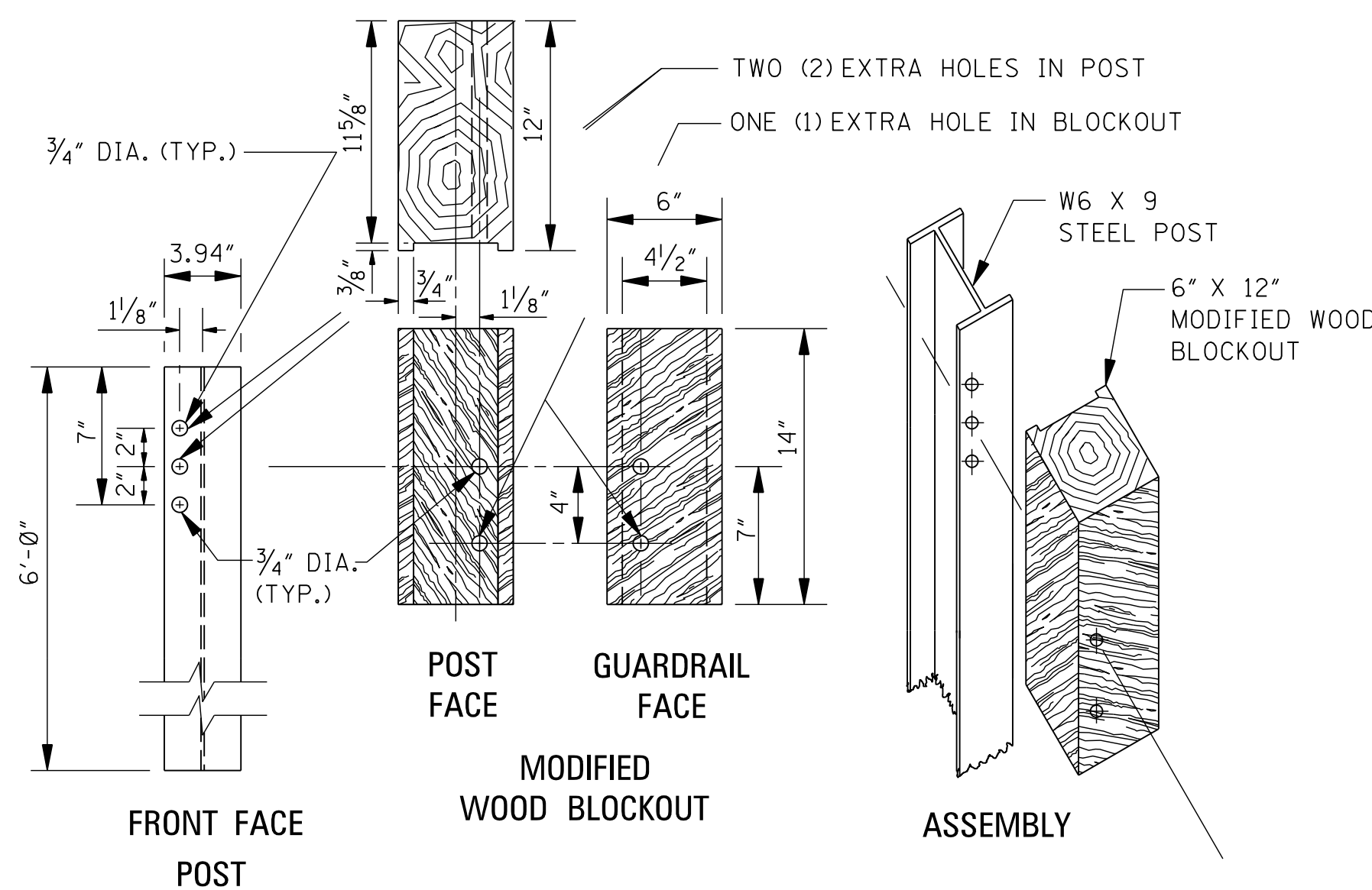
1. ALL GUARDRAIL BOLTS ARE  $\frac{5}{8}$ " - 11 UNC THREAD PITCH.
2. IF ANY BOLT EXTENDS MORE THAN  $\frac{1}{4}$ " FROM THE NUT, THE BOLT SHOULD BE TRIMMED BACK.

## FASTENER DETAILS

- NOTES:


1. ON INITIAL INSTALLATION, THE MODIFIED WOOD BLOCKOUT SHALL BE FASTENED TO THE BOTTOM HOLE IN THE STEEL POST. OTHER HOLES IN THE STEEL POST AND THE MODIFIED WOOD BLOCKOUT ARE FOR FUTURE 2" HEIGHT ADJUSTMENTS WHEN THE ROADWAY IS RESURFACED.
2. AN ADDITIONAL GUARDRAIL BOLT "C" AND RECESSED NUT IS REQUIRED FOR THE SECOND HEIGHT ADJUSTMENT.
3. HOLE DETAILS ARE REQUIRED ON ALL STEEL POSTS AND MODIFIED WOOD BLOCKOUTS.
4. STEEL POSTS ARE FABRICATED FROM W6 X 9 STRUCTURAL STEEL SHAPES.
5. MODIFIED WOOD BLOCKOUTS ARE FABRICATED FROM 6" X 12" TREATED TIMBER UNLESS SPECIFIED OTHERWISE ON THE PLANS.
6. ALL HOLES IN BOTH STEEL POSTS AND MODIFIED WOOD BLOCKOUTS ARE 3/4" IN DIAMETER.

## DETAILS OF ADJUSTABLE HEIGHT BLOCKOUT ASSEMBLY



## ASSEMBLY

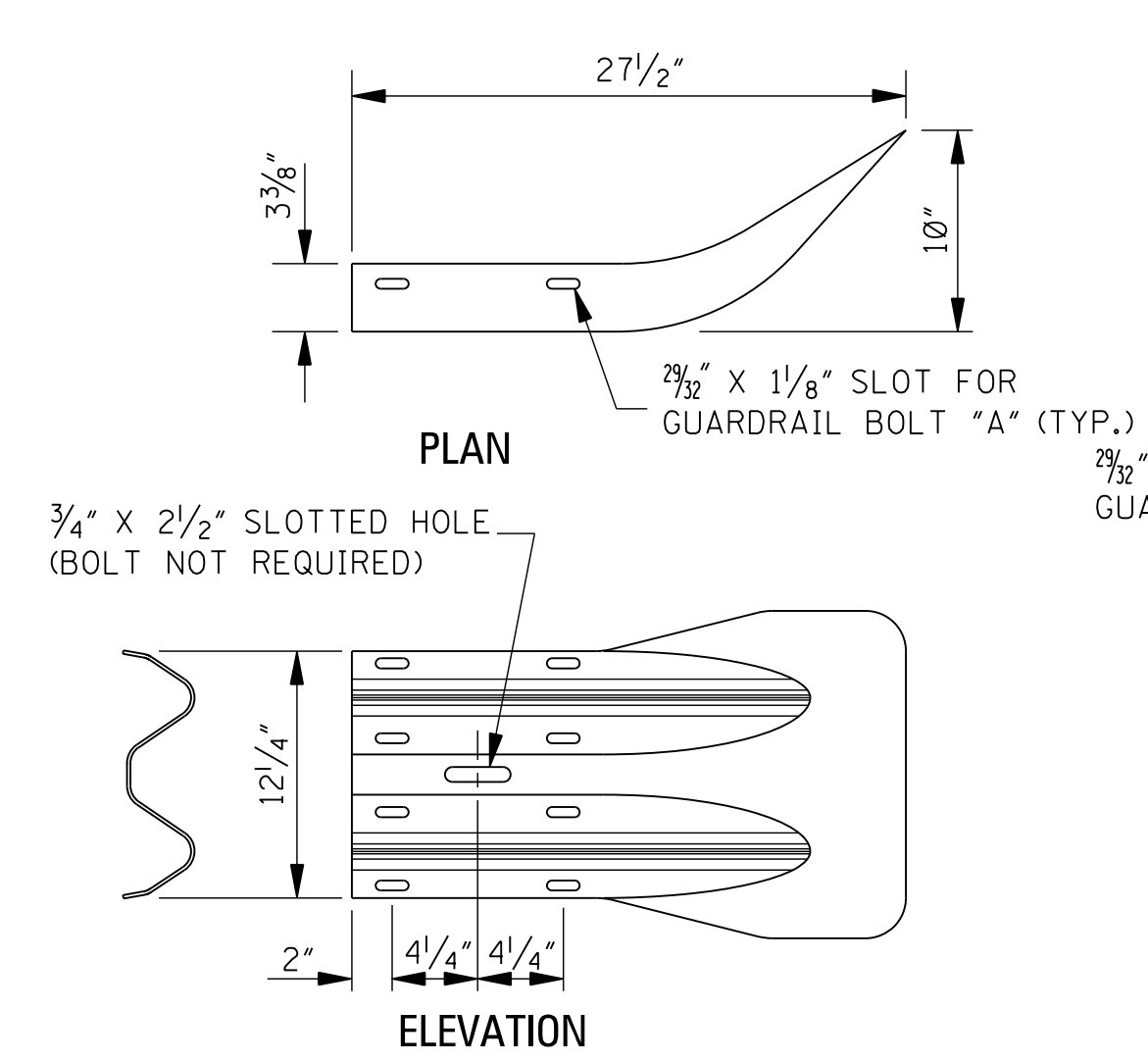
					BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
					REVISION	
					DATE	ISSUE DATE: AUGUST 01, 2017



WORKING NUMBER  
**GR-1B**

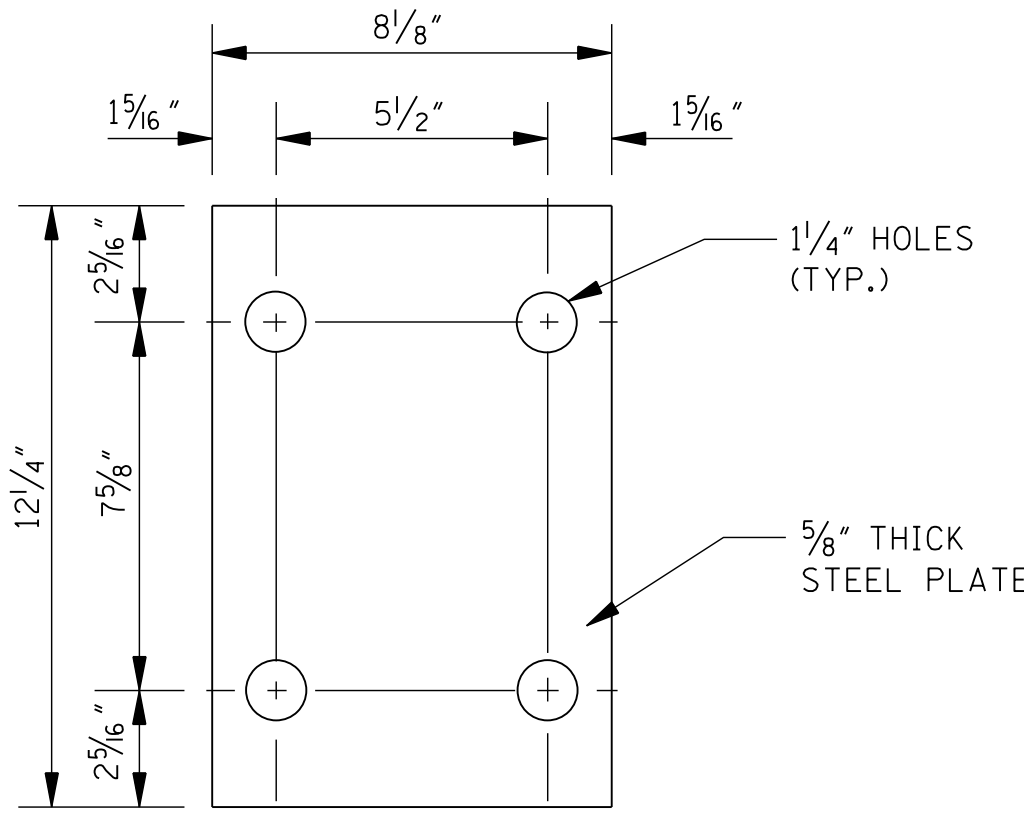
SHEET NUMBER  
**6203**



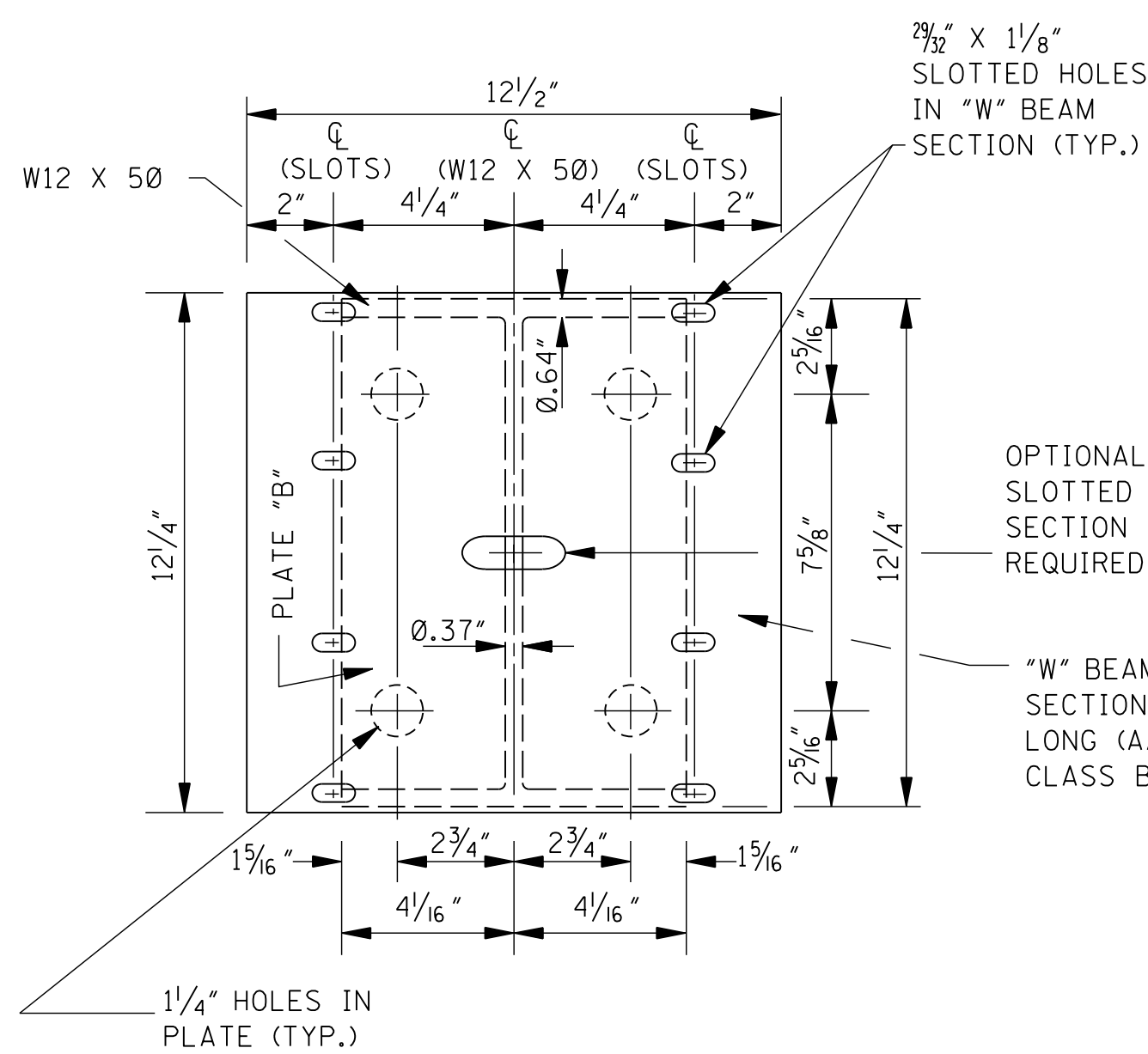


TYPE "1" "W" BEAM END SECTION

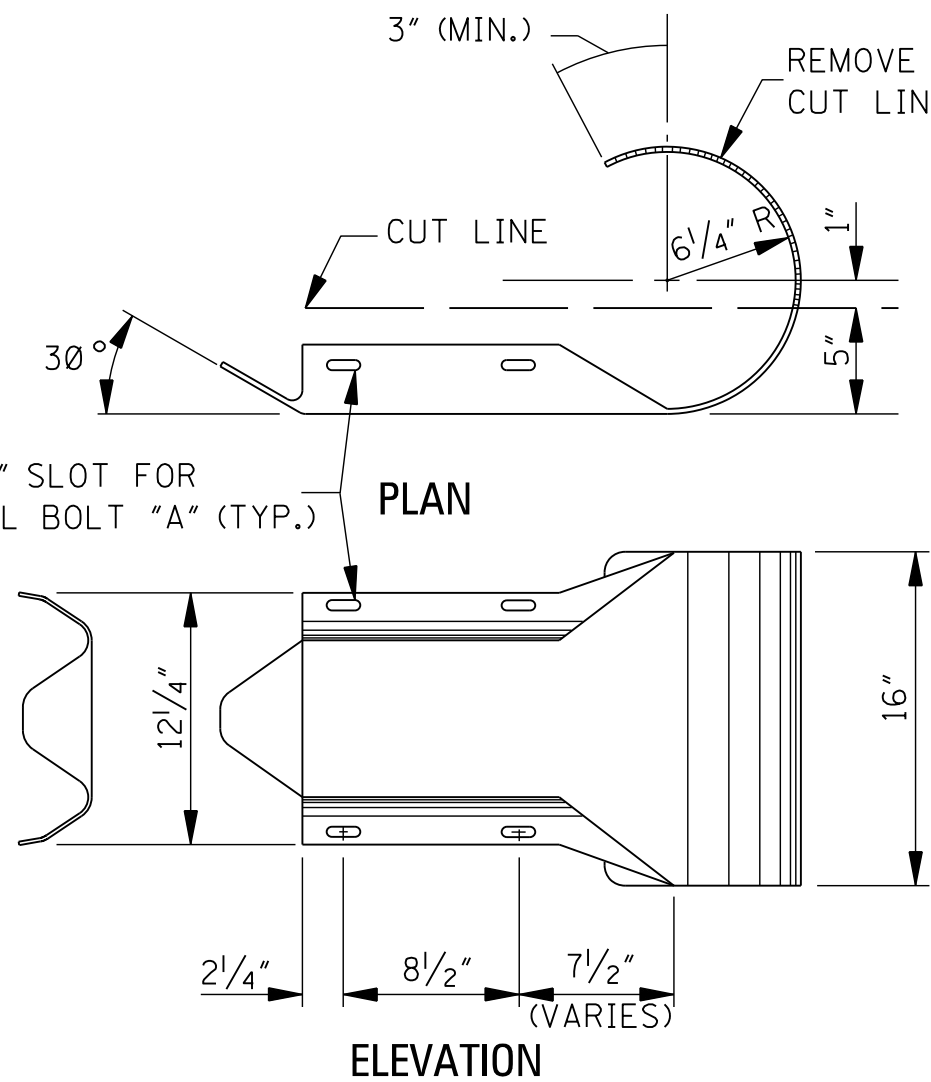
NOTE: THE TYPE "1" END SECTION IS THE STANDARD FLARED "W" BEAM END SECTION AND IS USED WITH THE TYPE "A" AND TYPE "E" BRIDGE END SECTIONS. THE CROSS-SECTIONAL DIMENSIONS OF THIS PART ARE IDENTICAL TO THOSE OF THE STANDARD "W" BEAM GUARDRAIL.



DETAIL OF PLATE "B"

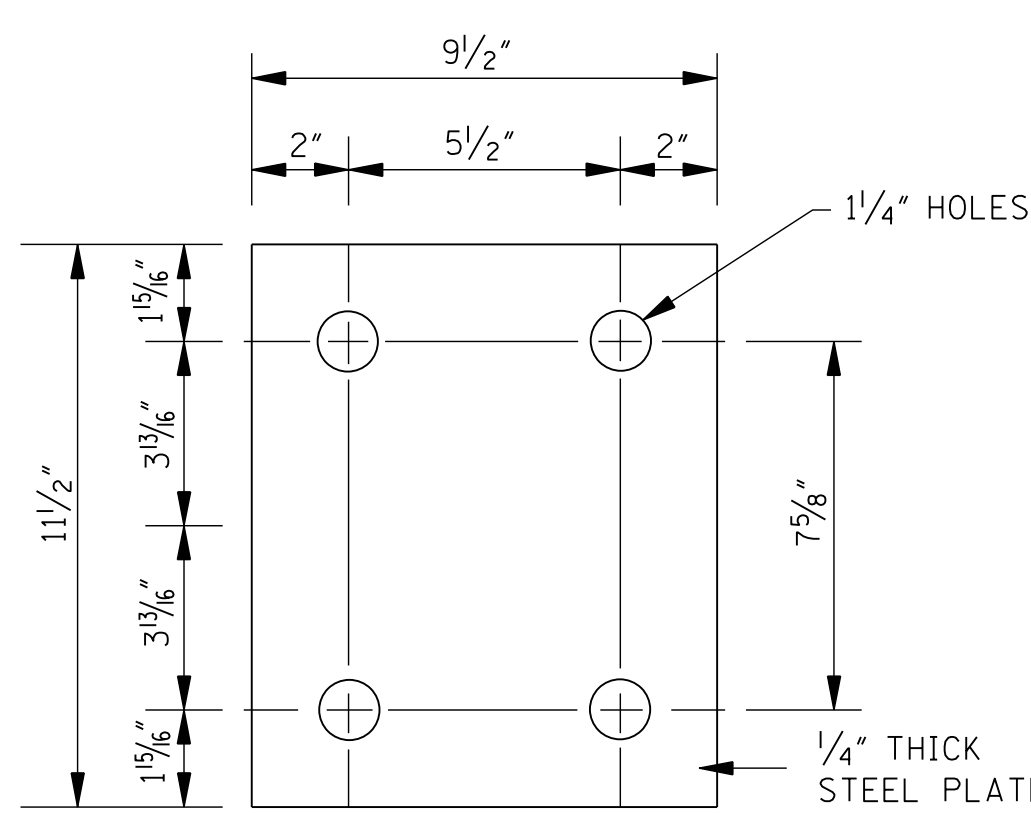


FACE ELEVATION



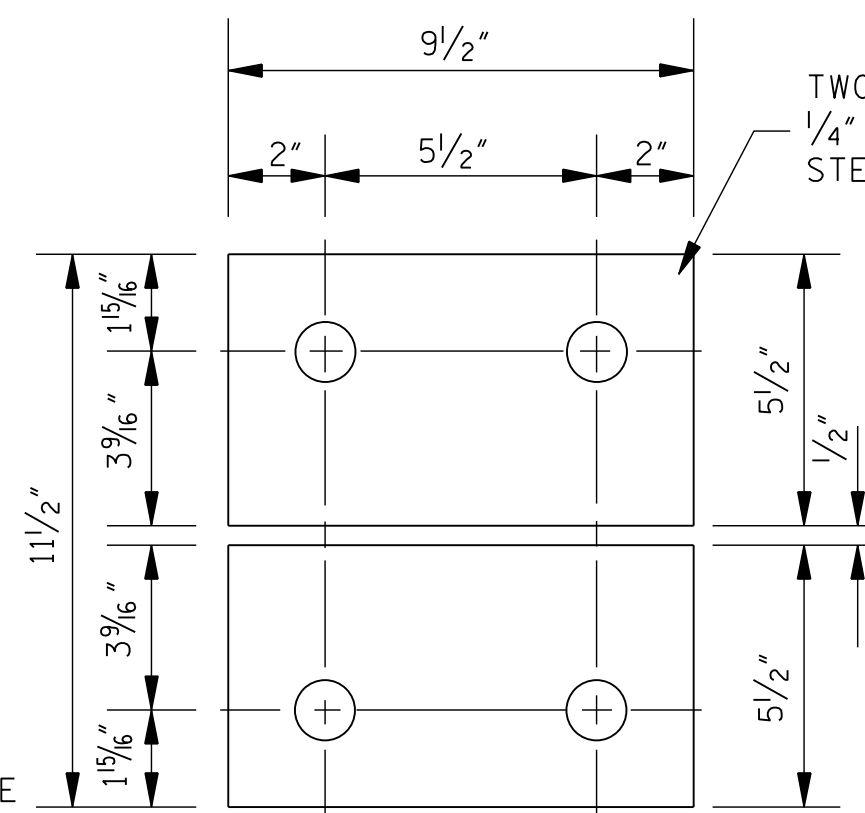
TYPE "2" "W" BEAM END SECTION

NOTE: THE TYPE "2" END SECTION IS A MODIFICATION OF THE STANDARD ROUNDED "W" BEAM END SECTION AND IS USED EXCLUSIVELY WITH THE TYPE "C" BRIDGE END SECTION. THE CROSS-SECTIONAL DIMENSIONS OF THIS PART ARE IDENTICAL TO THOSE OF THE STANDARD "W" BEAM GUARDRAIL.

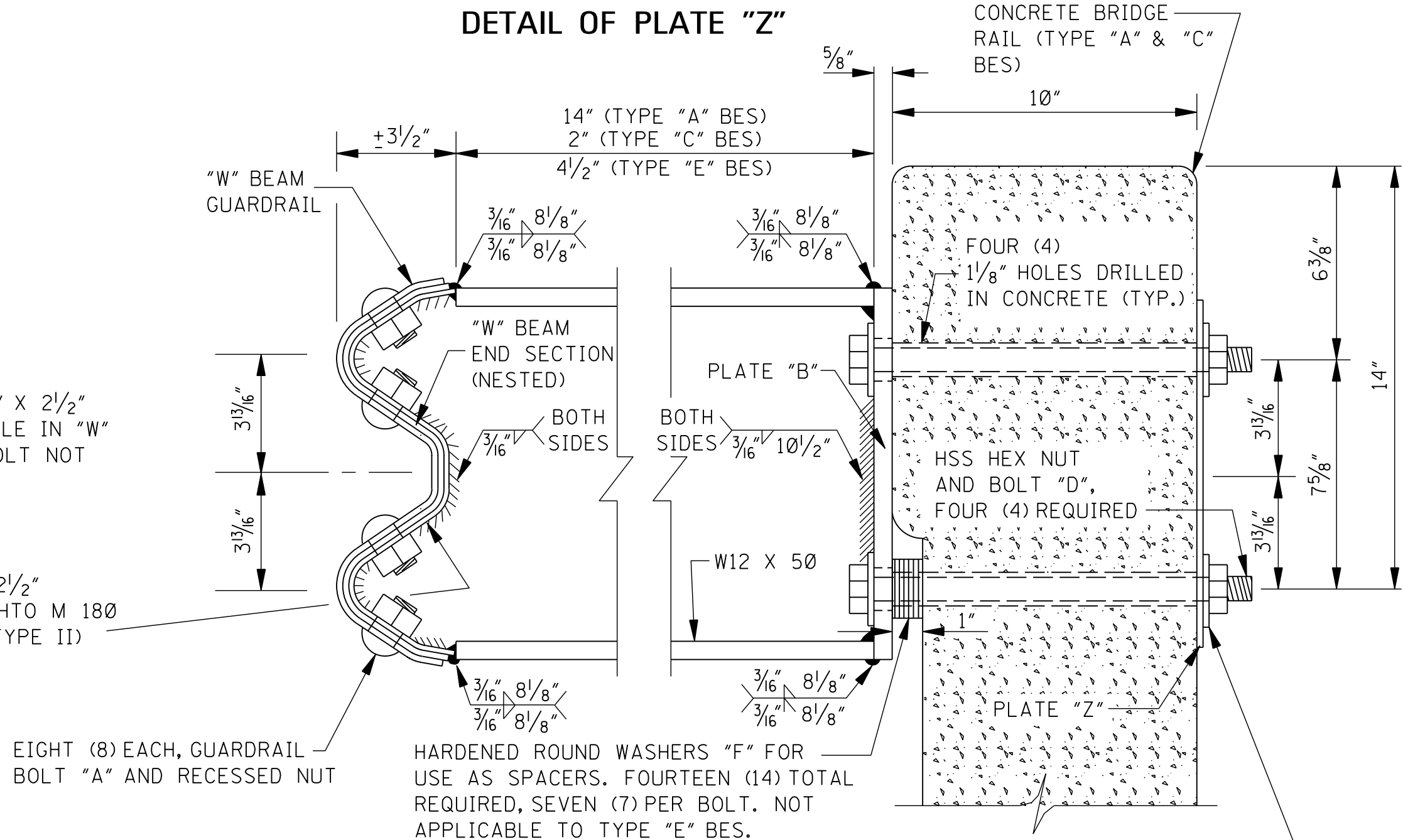


STANDARD

DETAIL OF PLATE "Z"

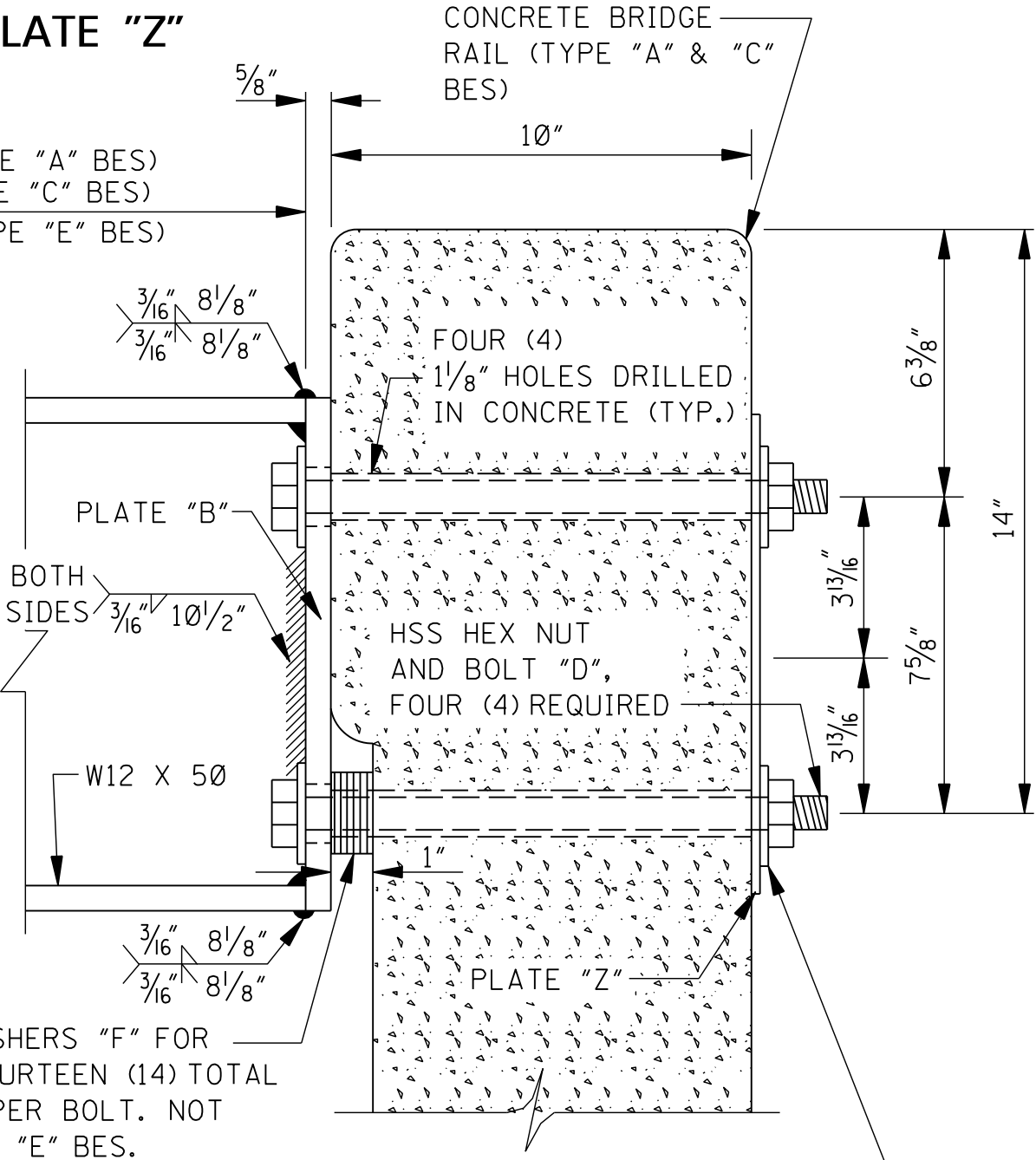


ALTERNATIVE

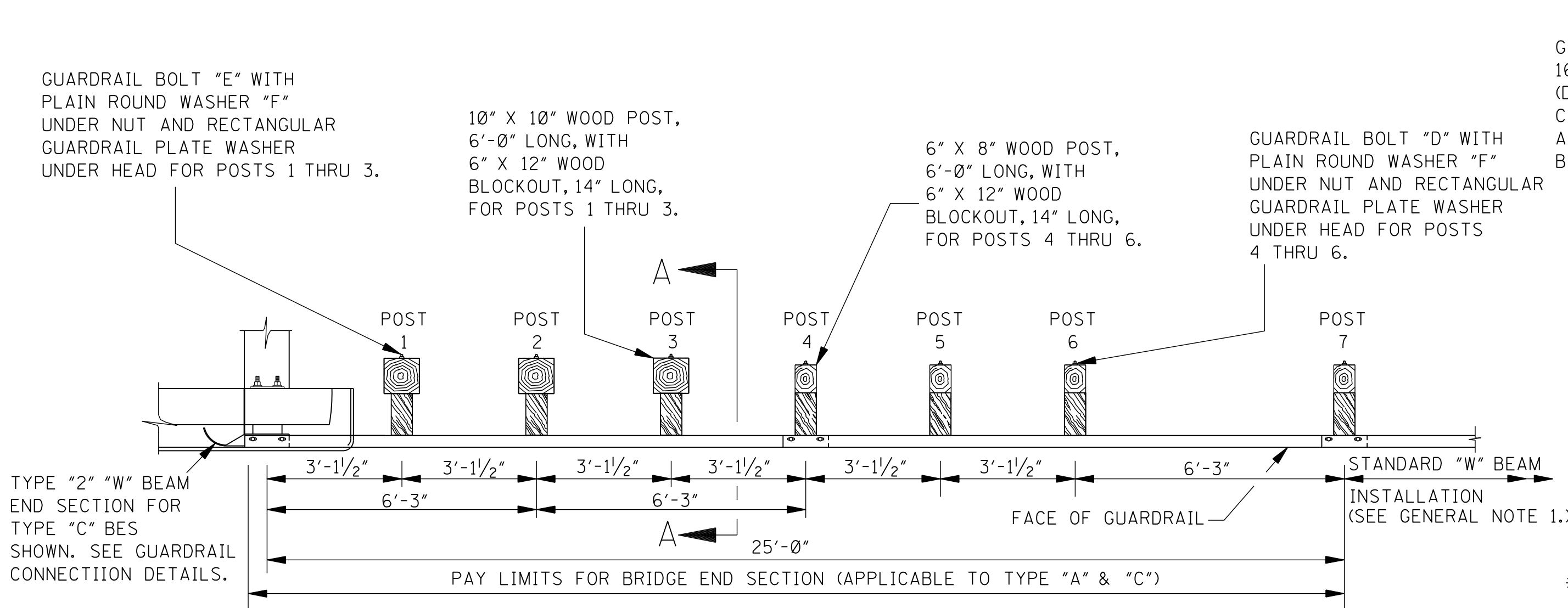


GUARDRAIL CONNECTION DETAILS

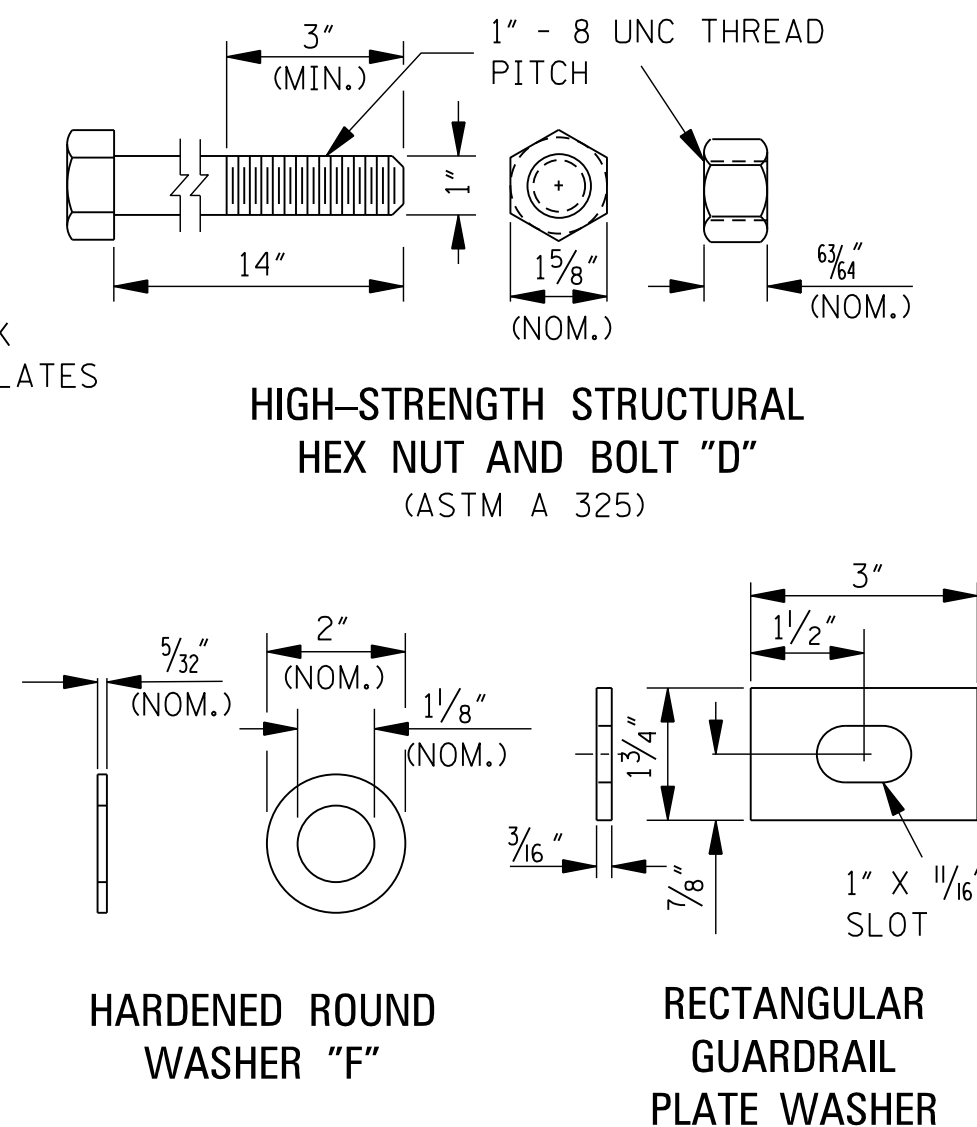
NOTE: UNLESS OTHERWISE SPECIFIED, THE BLOCKOUT ASSEMBLY, FASTENER AND PLATE DETAILS SHOWN ABOVE ARE ALSO APPLICABLE TO THE TYPE "E" BRIDGE END SECTION. SEE GENERAL NOTE 3.



SECTION



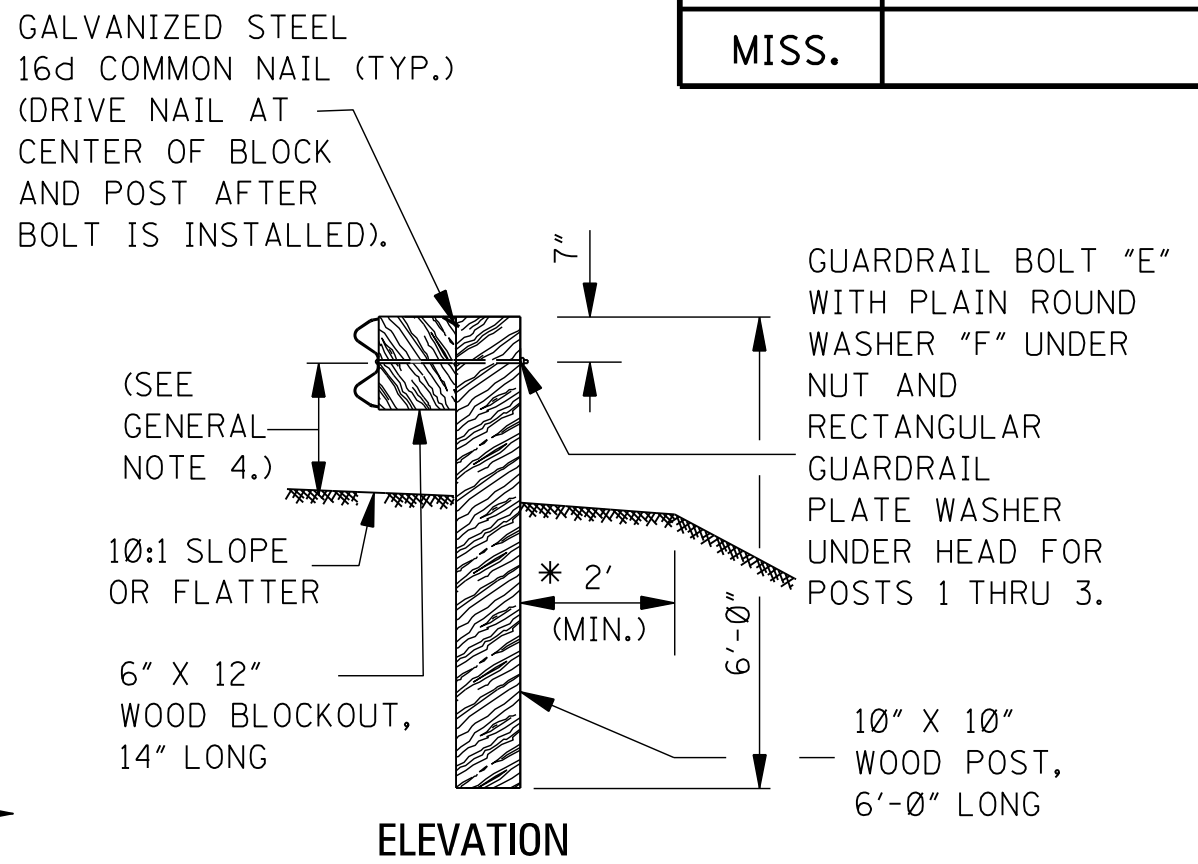
PLAN OF BRIDGE END SECTION



FASTENER DETAILS

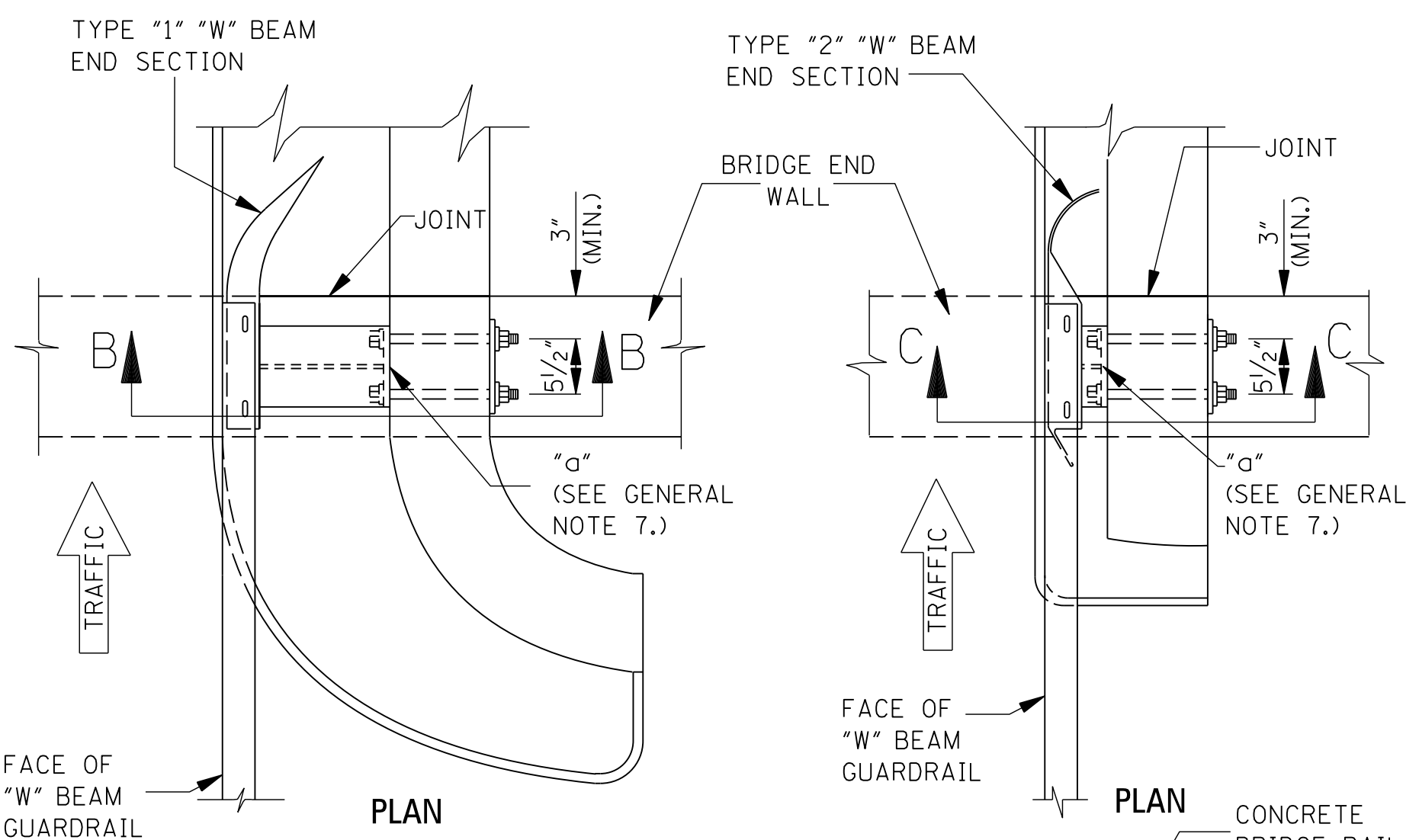
GENERAL NOTES:

- ALL NOTES AND DETAILS PERTAINING TO NORMAL "W" BEAM GUARDRAIL INSTALLATION NOT SPECIFICALLY MODIFIED ON THIS SHEET WILL BE FOUND ON EITHER SHEET GR-1 (WOOD POSTS) OR GR-1B (STEEL POSTS).
- WOOD POSTS ARE SHOWN ON THIS SHEET. WHEN STEEL POSTS ARE INSTALLED, A SOIL BEARING PLATE IS PLACED ON THE STANDARD SIZE STEEL POST FOR POSTS 1 THRU 3 AND A RECTANGULAR GUARDRAIL PLATE WASHER IS PLACED UNDER THE STANDARD POST BOLT HEAD FOR POSTS 1 THRU 6. SEE DETAILS FOR STEEL POST INSTALLATIONS ON SHEET GR-1B.
- FOR INFORMATION PERTAINING TO THE INSTALLATION OF THE TYPE "E" BRIDGE END SECTION, SEE SHEET GR-2A.
- THE HEIGHT OF RAIL AT THE BRIDGE END IS 20 7/8" AND WILL BE TRANSITIONED TO 25" AT POST 7.
- ALL GUARDRAIL ELEMENTS SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC.
- POINT "α", WHICH IS AT THE CENTERLINE BETWEEN THE ANCHOR BOLTS, WILL BE CENTERED OVER THE CENTERLINE OF THE BRIDGE END WALL EXCEPT IN SKEWED BRIDGE ENDS WHERE THE BOLT NEAREST THE JOINT WILL BE A MINIMUM OF 3" FROM THE JOINT.



SECTION A-A

\*NOTE: UNLESS OTHERWISE SPECIFIED ON THE PLANS.



SECTION B-B

TYPE "A" BRIDGE END SECTION

SECTION C-C

TYPE "C" BRIDGE END SECTION

GUARDRAIL CONNECTION AT BRIDGE END

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>GUARDRAIL: BRIDGE END SECTIONS TYPE "A" &amp; "C"</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					WORKING NUMBER GR-2
					SHEET NUMBER 6204

**TERMINAL CONNECTION**  
(SEE NOTE 2.)

**BRIDGE RAIL**  
(SEE NOTE 1.)

**BRIDGE END**

**FACE OF "W" BEAM GUARDRAIL**

**TRAFFIC**

**PLAN**

**SECTION A-A**

**SECTION B-B**

**NOTES:**

- BRIDGE RAILING MAY BE EITHER CONCRETE OR PIPE RAILING IN PLACE.
- FOR BLOCKOUT ASSEMBLY, FASTENER AND PLATE DETAILS, SEE SHEET GR-2.

HSS HEX NUT AND BOLT "D", FOUR (4) REQUIRED, WITH HARDENED ROUND WASHER "F", ONE (1) UNDER HEAD AND ONE (1) UNDER NUT, EIGHT (8) REQUIRED.

EIGHT (8) EACH, GUARDRAIL BOLT "A" AND RECESSED NUT.

DIMENSION ARROWS ARE INDICATED TO SHOW THE CENTERLINE ONLY.

TYPE "1" "W" BEAM END SECTION

TOP OF CURB

RIDING SURFACE OF BRIDGE DECK

ABSORBED ITEM

PLATE "Z"

FOUR (4) 1 1/8" HOLES DRILLED IN CONCRETE (TYP.)

12"

8" (MAX.)

4 1/2"

3 1/2" ±

6 1/8" 16 1/8"

12 1/4"

25"

CURB FACE

7 5/8"

5 1/2"

5"

25"

GUARDRAIL

W BEAM

BRIDGE END

C

HARDENED ROUND WASHER "E", ONE (1) UNDER HEAD AND ONE (1) UNDER NUT, EIGHT (8) REQUIRED.

BRIDGE RAIL (SEE NOTE 1.)

TRAFFIC

PLAN

12"

ABSORBED ITEM

1" DIA. HOLES DRILLED IN CONCRETE (TYP.)

12 1/4"

6 1/8" 1 6/8"

25"

CURB FACE

PLATE "P"

3 1/2"

3 1/2"

SECTION C-C

HSS HEX NUT AND BOLT "C", 14" LONG, FOUR (4) REQUIRED.

NOTES:

- BRIDGE RAILING MAY BE EITHER CONCRETE OR PIPE RAILING IN PLACE.
- FASTENER AND "W" BEAM TERMINAL CONNECTOR DETAILS ARE SHOWN BELOW.

12"

4"

4"

2"

1 1/4"

11"

3 1/2"

3 1/2"

2"

1" DIA. HOLES (TYP.)

DETAIL OF PLATE "P"

DIMENSION ARROWS ARE INDICATED TO SHOW THE CENTERLINE ONLY.

"W" BEAM TERMINAL CONNECTOR

TOP OF CURB

RIDING SURFACE OF BRIDGE DECK

SECTION D-D

MISS.

FACE OF "W" BEAM GUARDRAIL

BRIDGE END

ANCHOR PLATE ASSEMBLY IN PLACE IN RAILING.

HSS HEX NUT AND BOLT "C" 8" LONG, FOUR (4) REQUIRED.

HARDENED ROUND WASHER "E", ONE (1) UNDER HEAD AND ONE (1) UNDER NUT, EIGHT (8) REQUIRED.

TRAFFIC

PLAN

SECTION E-E

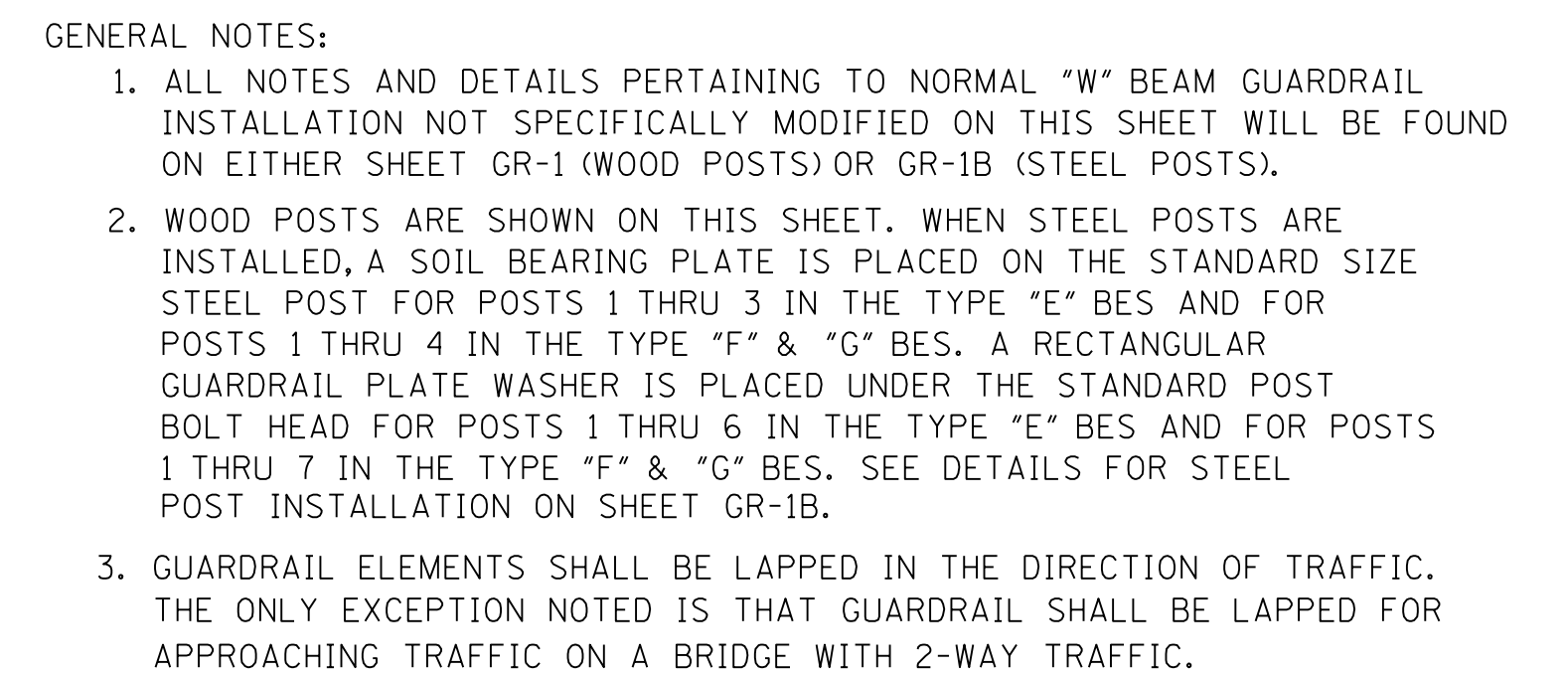
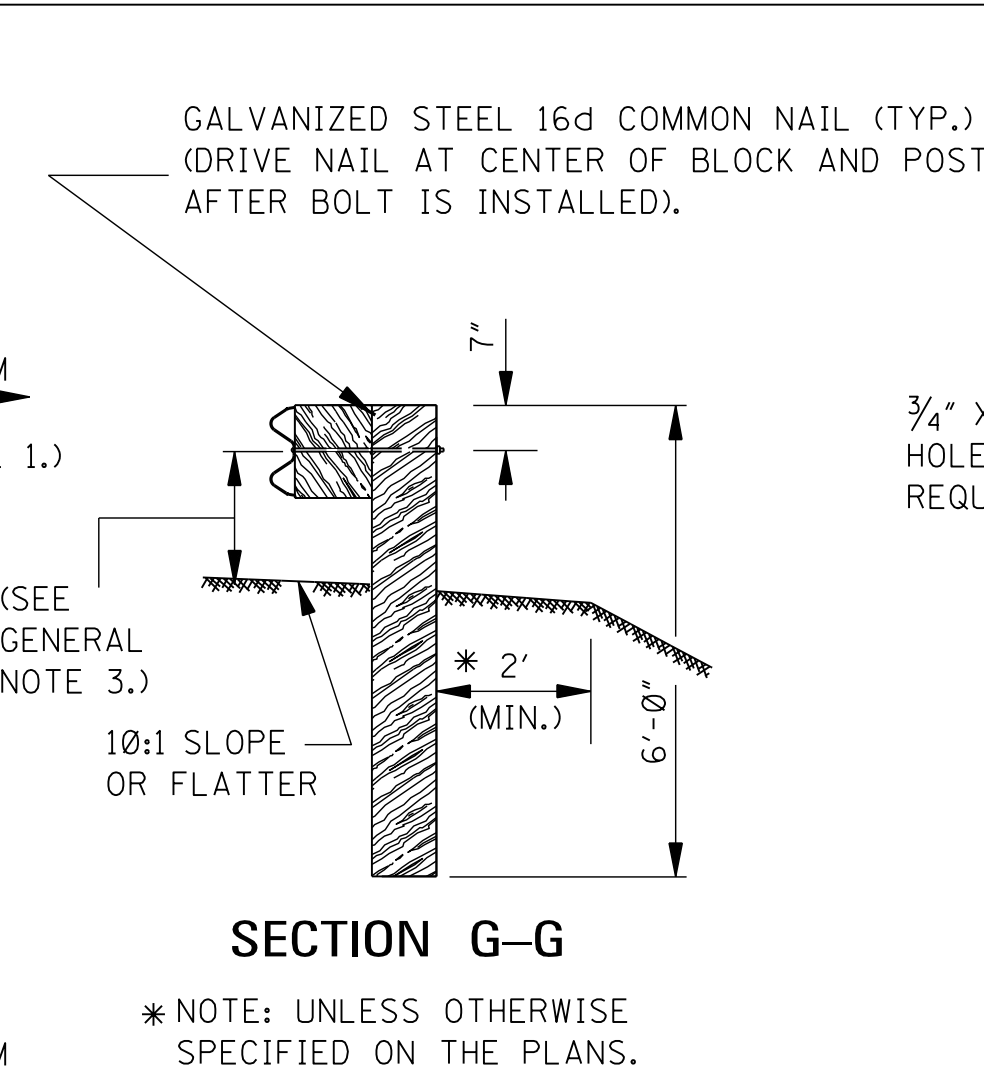
SECTION F-F

EIGHT (8) EACH, GUARDRAIL BOLT "A" AND RECESSED NUT.

"W" BEAM TERMINAL CONNECTOR

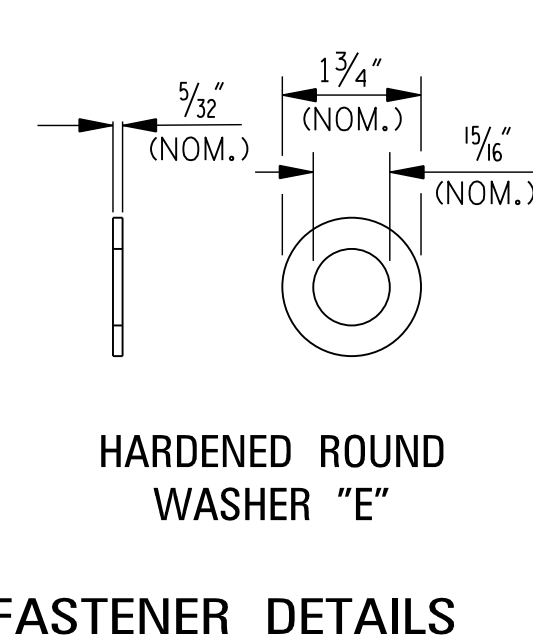
TOP OF CURB


RIDING SURFACE OF BRIDGE DECK.

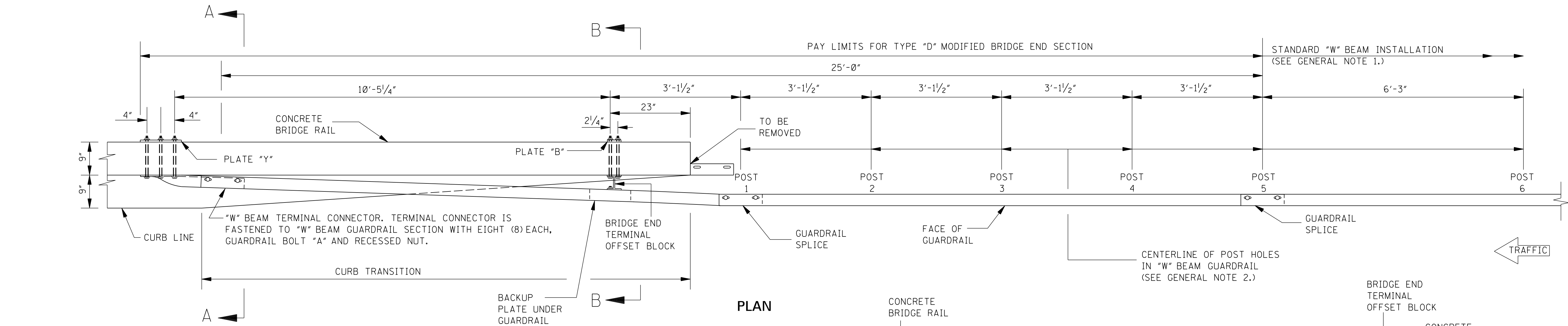


NOTES:

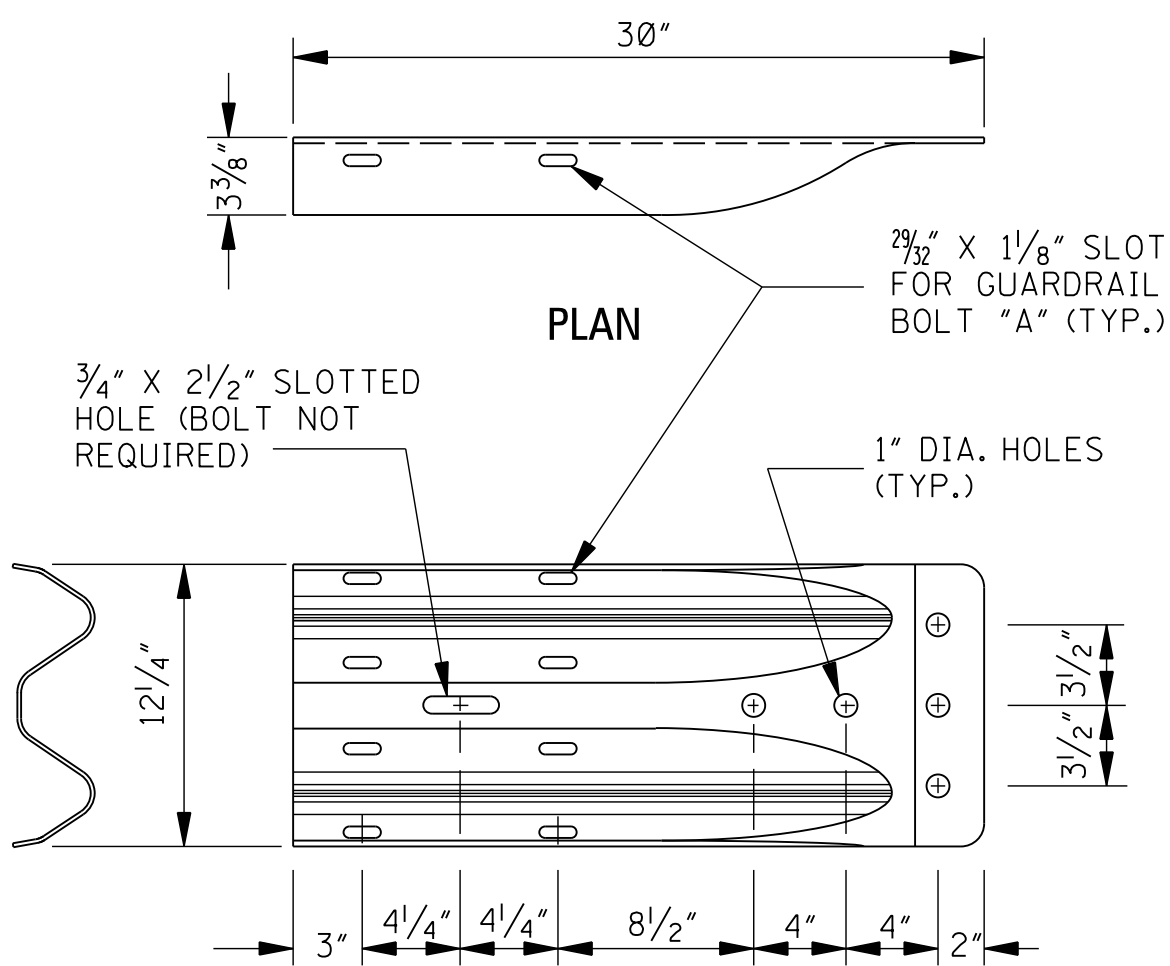
1. TYPE "E" BES (POSTS 1 THRU 3); TYPES "F" & "G" BES (POSTS 1 THRU 4); 10" X 10" WOOD POST, 6'-0" LONG, WITH 6" X 12" WOOD BLOCKOUT, 14" LONG, ATTACHED USING GUARDRAIL BOLT "E" WITH PLAIN ROUND WASHER "F" UNDER NUT AND RECTANGULAR GUARDRAIL PLATE WASHER UNDER HEAD.
2. TYPE "E" BES (POSTS 4 THRU 6); TYPES "F" & "G" BES (POSTS 5 THRU 7); 6" X 8" WOOD POST, 6'-0" LONG, WITH 6" X 12" WOOD BLOCKOUT, 14" LONG, ATTACHED USING GUARDRAIL BOLT "D" WITH PLAIN ROUND WASHER "F" UNDER NUT AND RECTANGULAR GUARDRAIL PLATE WASHER UNDER HEAD.



					BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
					REVISION	<p align="center"><b>GUARDRAIL: BRIDGE END SECTIONS TYPE "E", "F" &amp; "G"</b></p> <div style="float: right;">   WORKING NUMBER GR-2A   SHEET NUMBER 6205 </div>
					DATE	
					ISSUE DATE:	AUGUST 01, 2017



PLAN

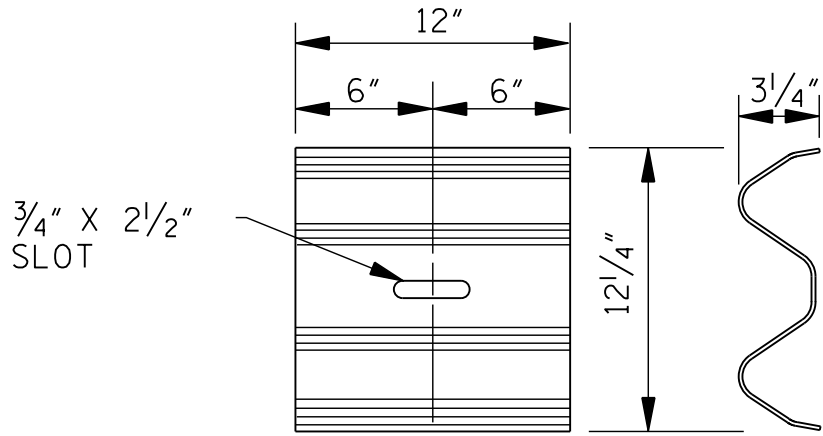


PLAN

ELEVATION

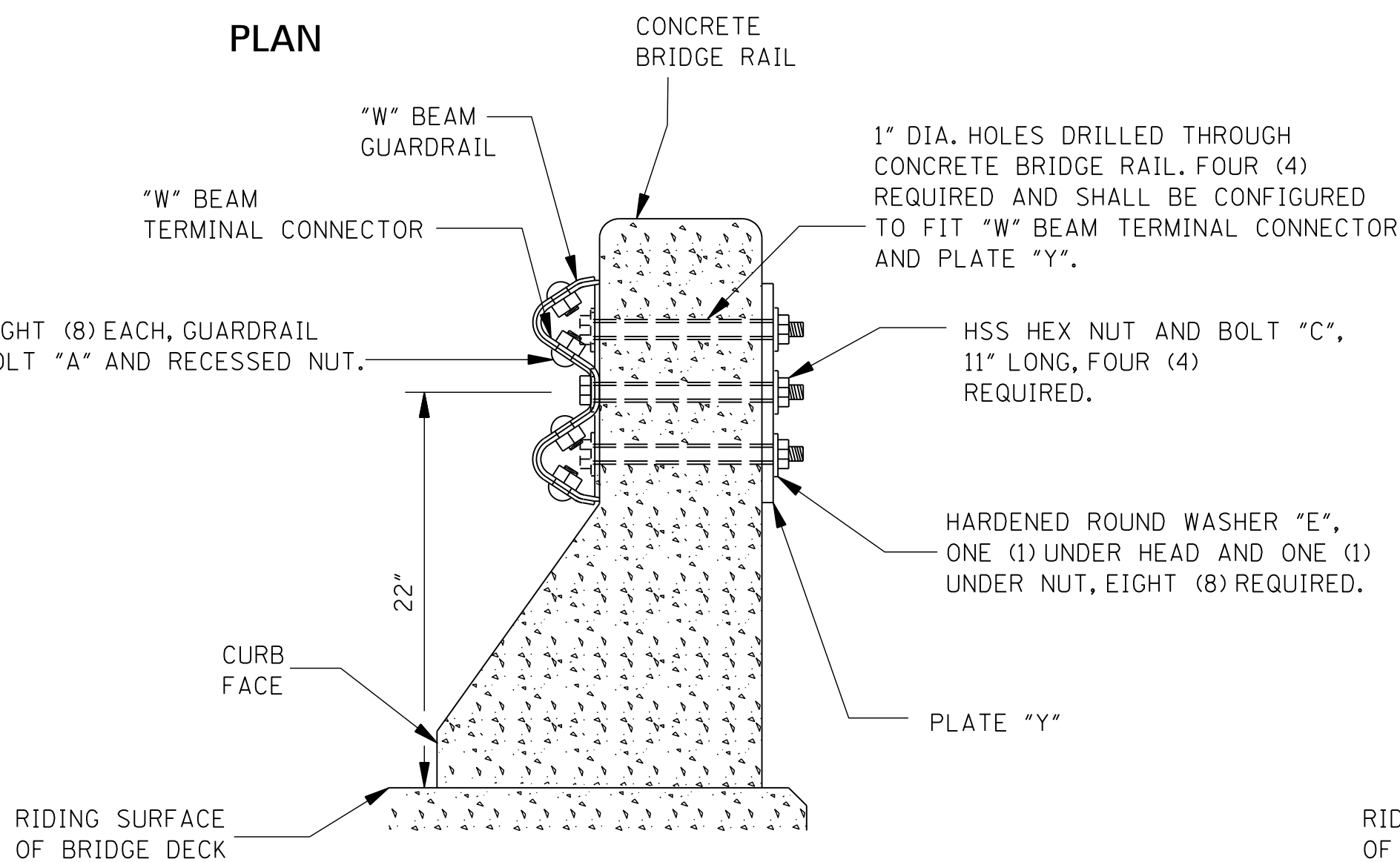
W BEAM TERMINAL CONNECTOR

NOTE: THE "W" BEAM TERMINAL CONNECTOR IS USED WITH THE TYPE "D" MODIFIED BRIDGE END SECTION. THE CROSS-SECTIONAL DIMENSIONS OF THIS PART ARE IDENTICAL TO THE STANDARD "W" BEAM SECTION (AASHTO M 180 CLASS B, TYPE II).

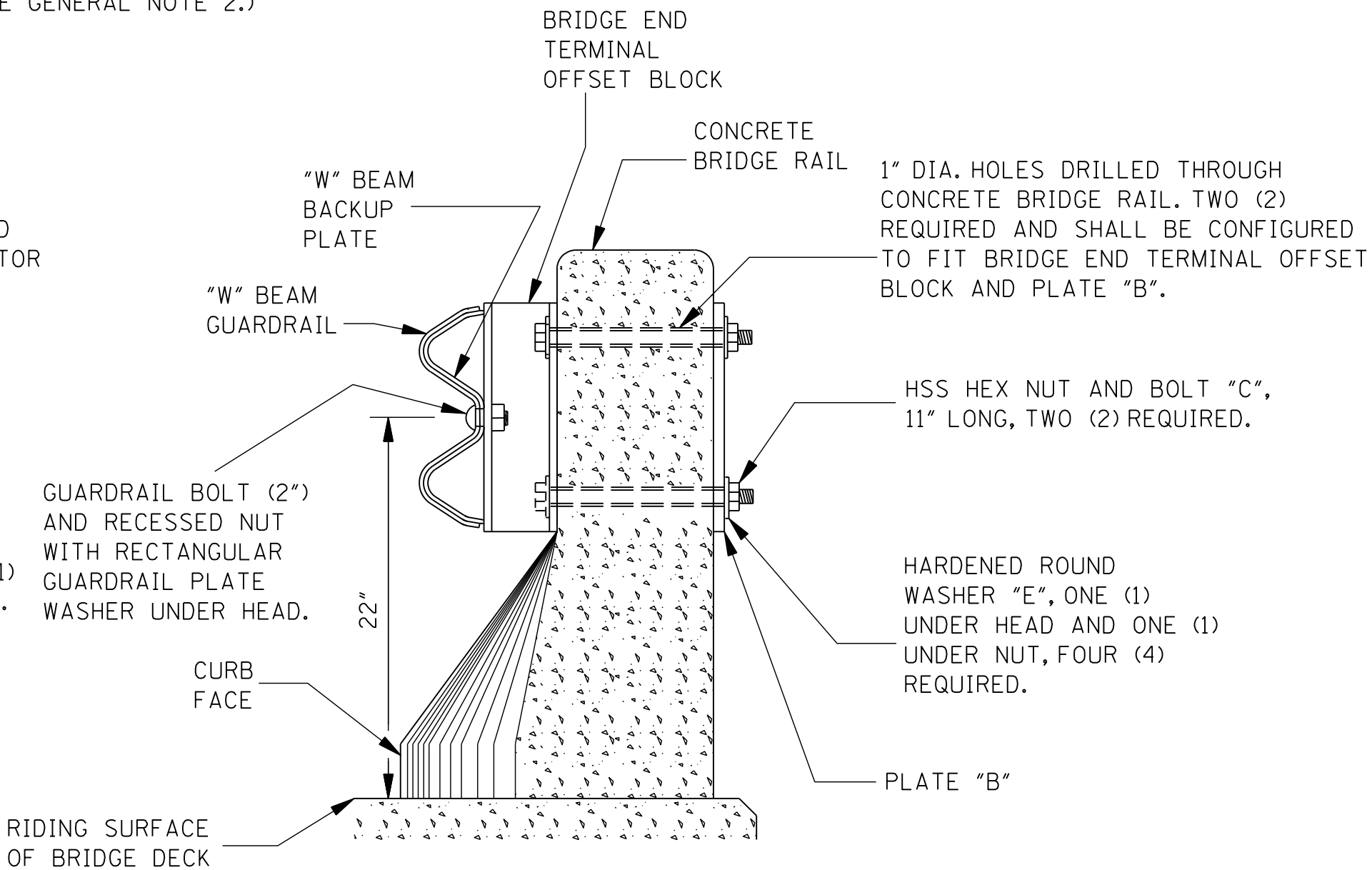


W BEAM BACKUP PLATE

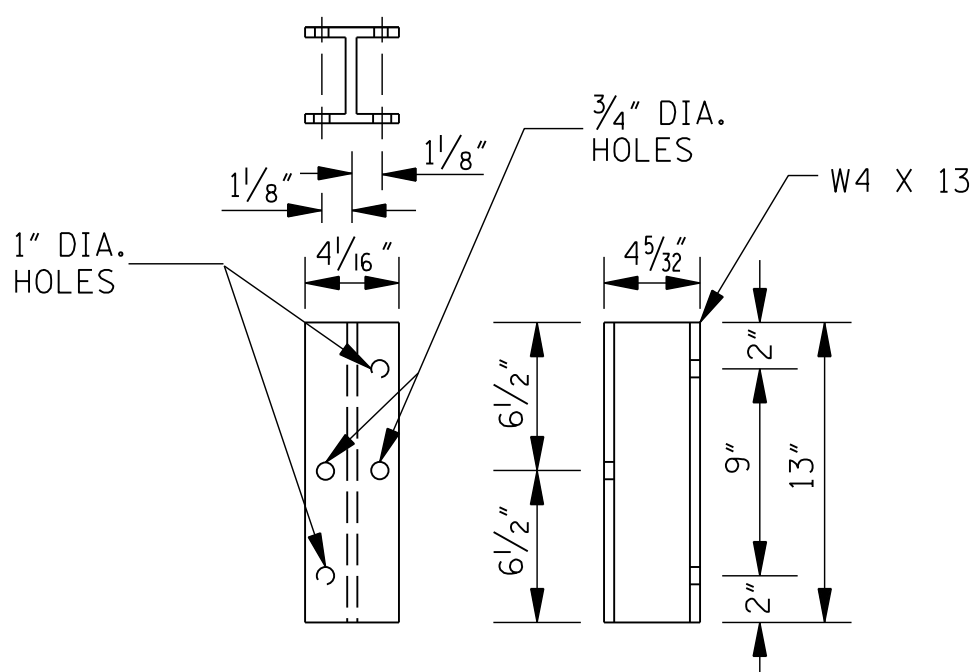
NOTE: THE "W" BEAM BACK-UP PLATE IS USED UNDER THE "W" BEAM RAIL SECTION WHERE INDICATED ON THIS SHEET. THE CROSS-SECTIONAL DIMENSIONS OF THIS PART ARE IDENTICAL TO THOSE OF THE STANDARD "W" BEAM RAIL SECTION.



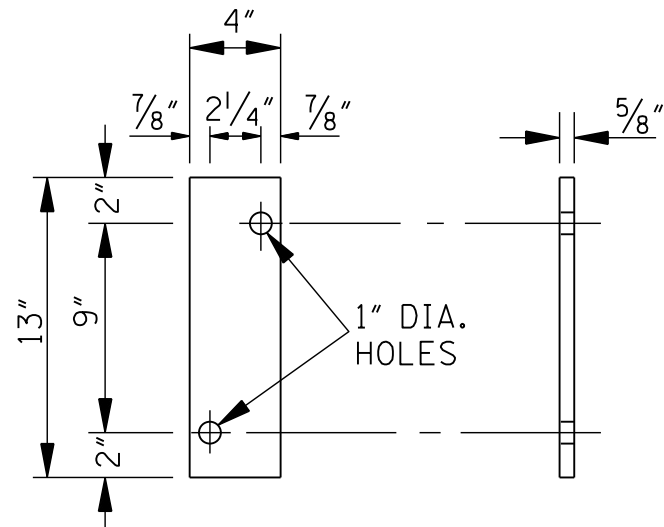
SECTION A-A



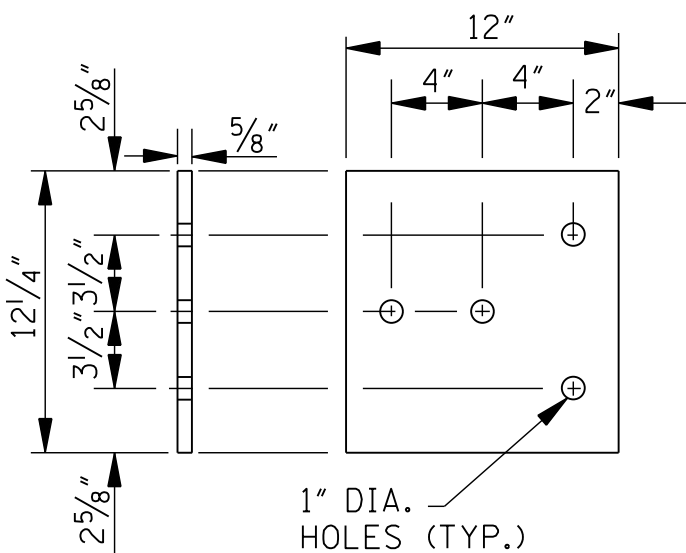
SECTION B-B



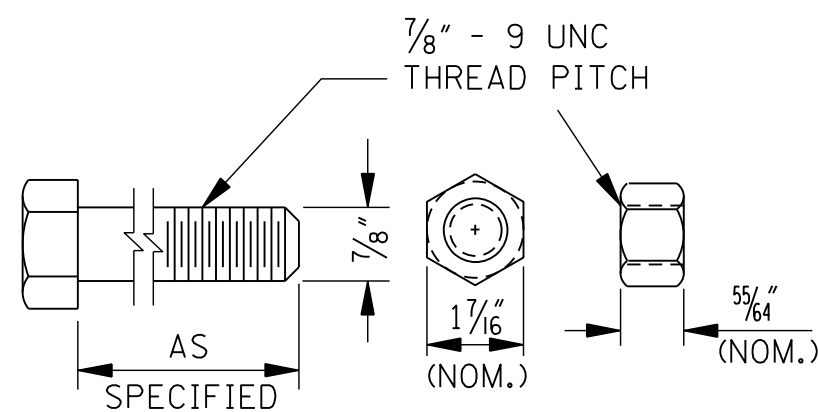
FRONT FACE SIDE  
DETAIL OF BRIDGE END  
TERMINAL OFFSET BLOCK



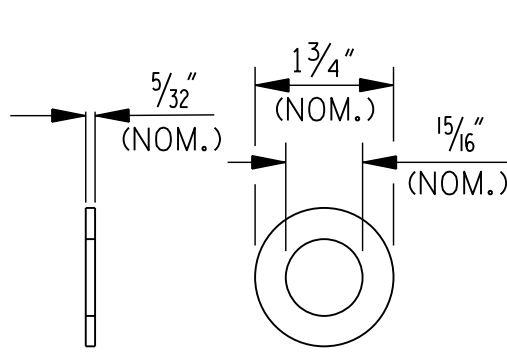
DETAIL OF PLATE "B"



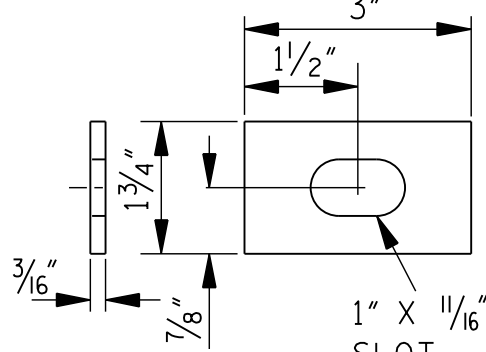
DETAIL OF PLATE "Y"



HIGH-STRENGTH STRUCTURAL  
HEX NUT AND BOLT "C"  
(ASTM A 325)



HARDENED ROUND  
WASHER "E"



RECTANGULAR  
GUARDRAIL  
PLATE WASHER

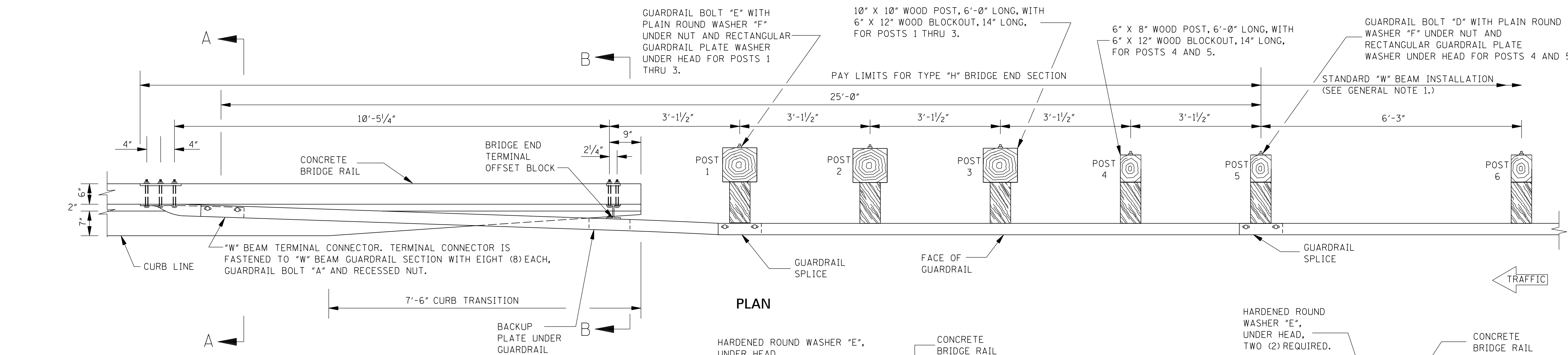
FASTENER DETAILS

GENERAL NOTES:

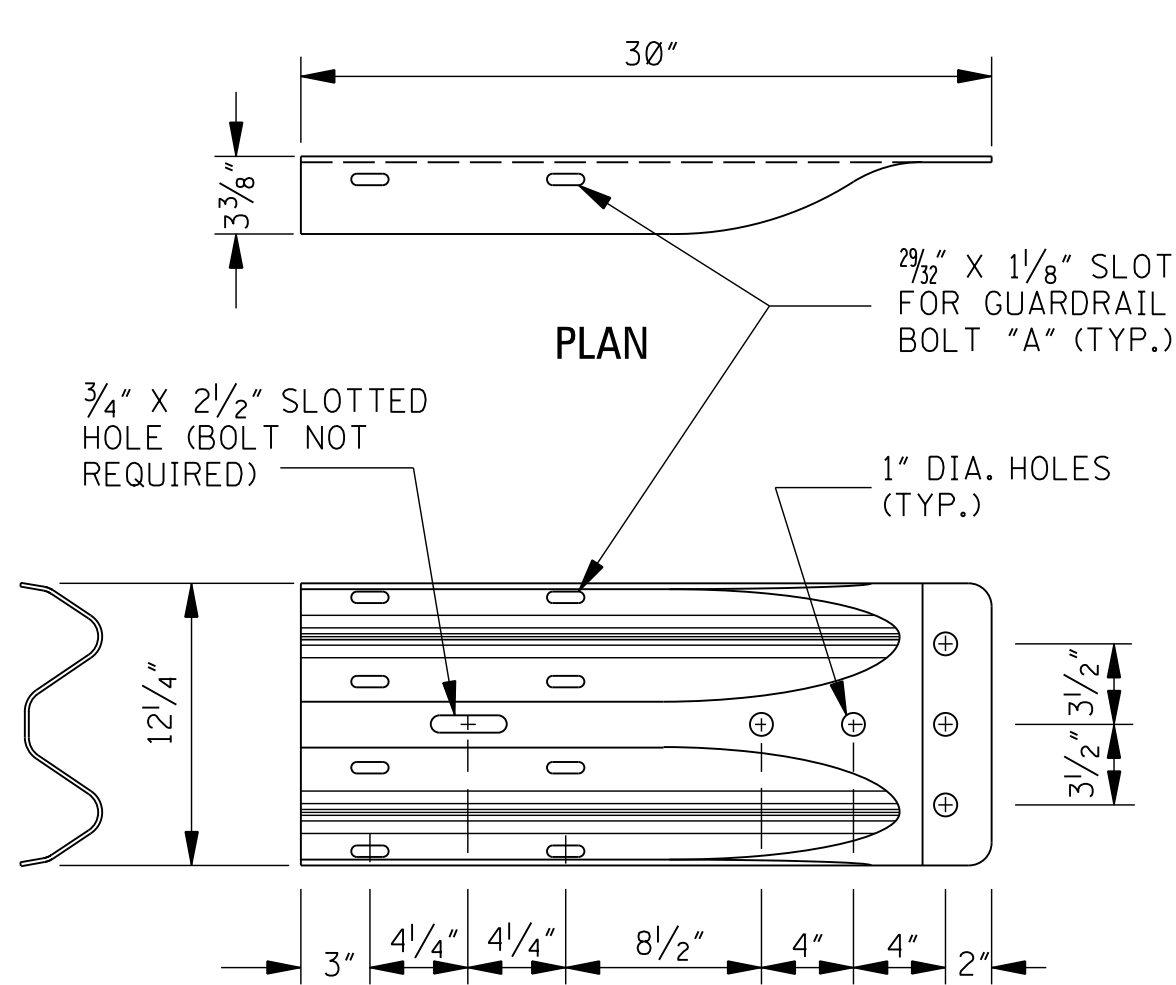
- ALL NOTES AND DETAILS PERTAINING TO NORMAL "W" BEAM GUARDRAIL INSTALLATION NOT SPECIFICALLY MODIFIED ON THIS SHEET WILL BE FOUND ON EITHER SHEET GR-1 (WOOD POSTS) OR GR-1B (STEEL POSTS).
- INSTALLATION DETAILS FOR BRIDGE END SECTION GUARDRAIL POSTS WILL BE FOUND ON EITHER SHEET GR-2C (WOOD POSTS) OR GR-2D (STEEL POSTS).
- GUARDRAIL ELEMENTS SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC. THE ONLY EXCEPTION NOTED IS THAT GUARDRAIL SHALL BE LAPPED FOR APPROACHING TRAFFIC ON A BRIDGE WITH 2-WAY TRAFFIC.
- THE HEIGHT OF RAIL AT THE BRIDGE END IS 22" AND WILL BE TRANSITIONED TO 25" AT POST 5.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>GUARDRAIL: BRIDGE END SECTION TYPE "D" MODIFIED</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					WORKING NUMBER GR-2B SHEET NUMBER 6206





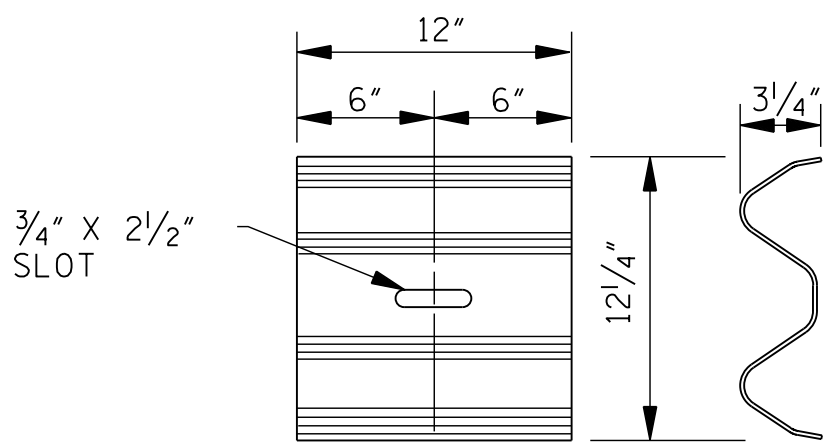
PLAN



ELEVATION

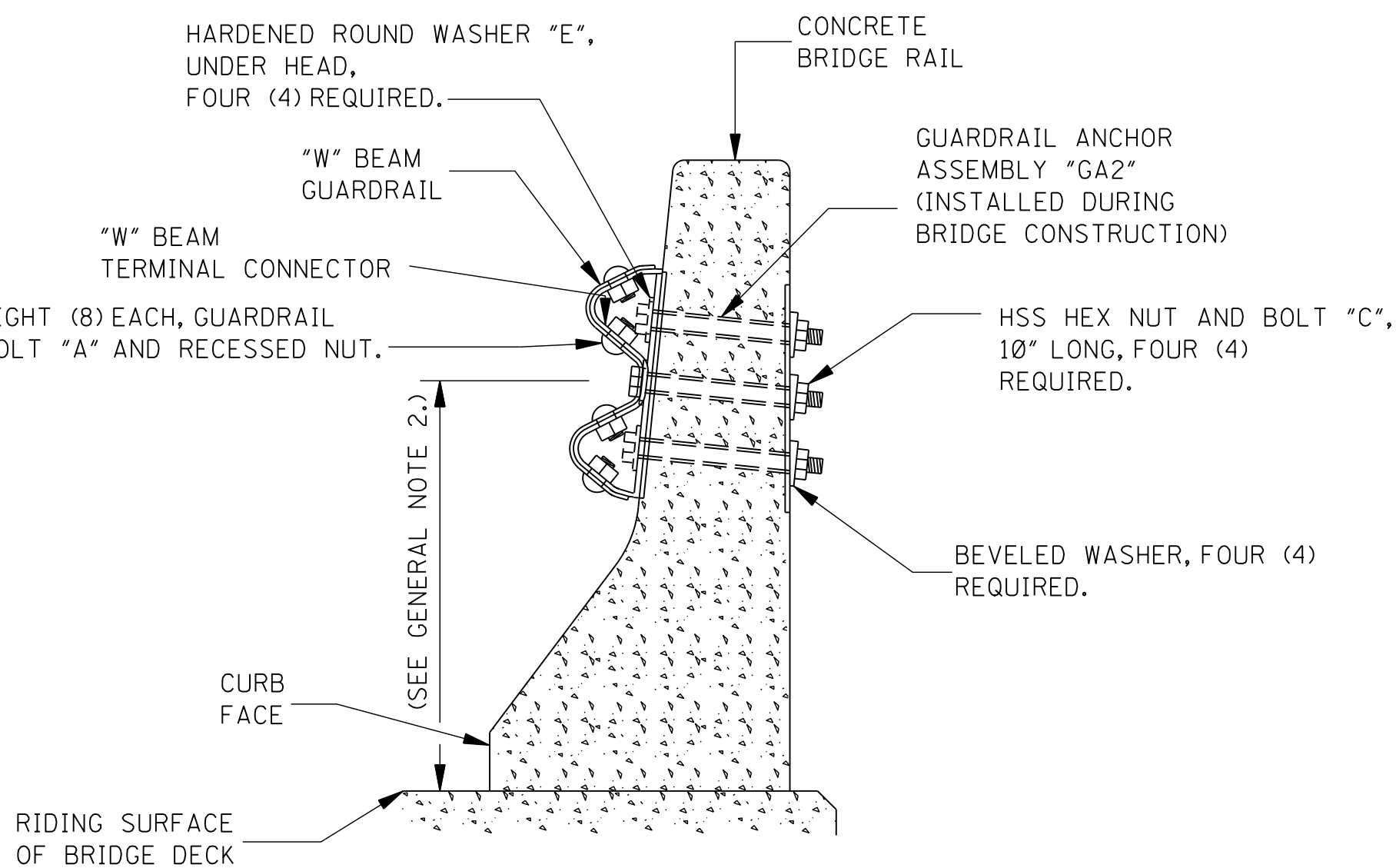
“W” BEAM TERMINAL CONNECTOR

NOTE: THE “W” BEAM TERMINAL CONNECTOR IS USED WITH THE TYPE “H” BRIDGE END SECTION. THE CROSS-SECTIONAL DIMENSIONS OF THIS PART ARE IDENTICAL TO THE STANDARD “W” BEAM SECTION (AASHTO M 180 CLASS B, TYPE II).

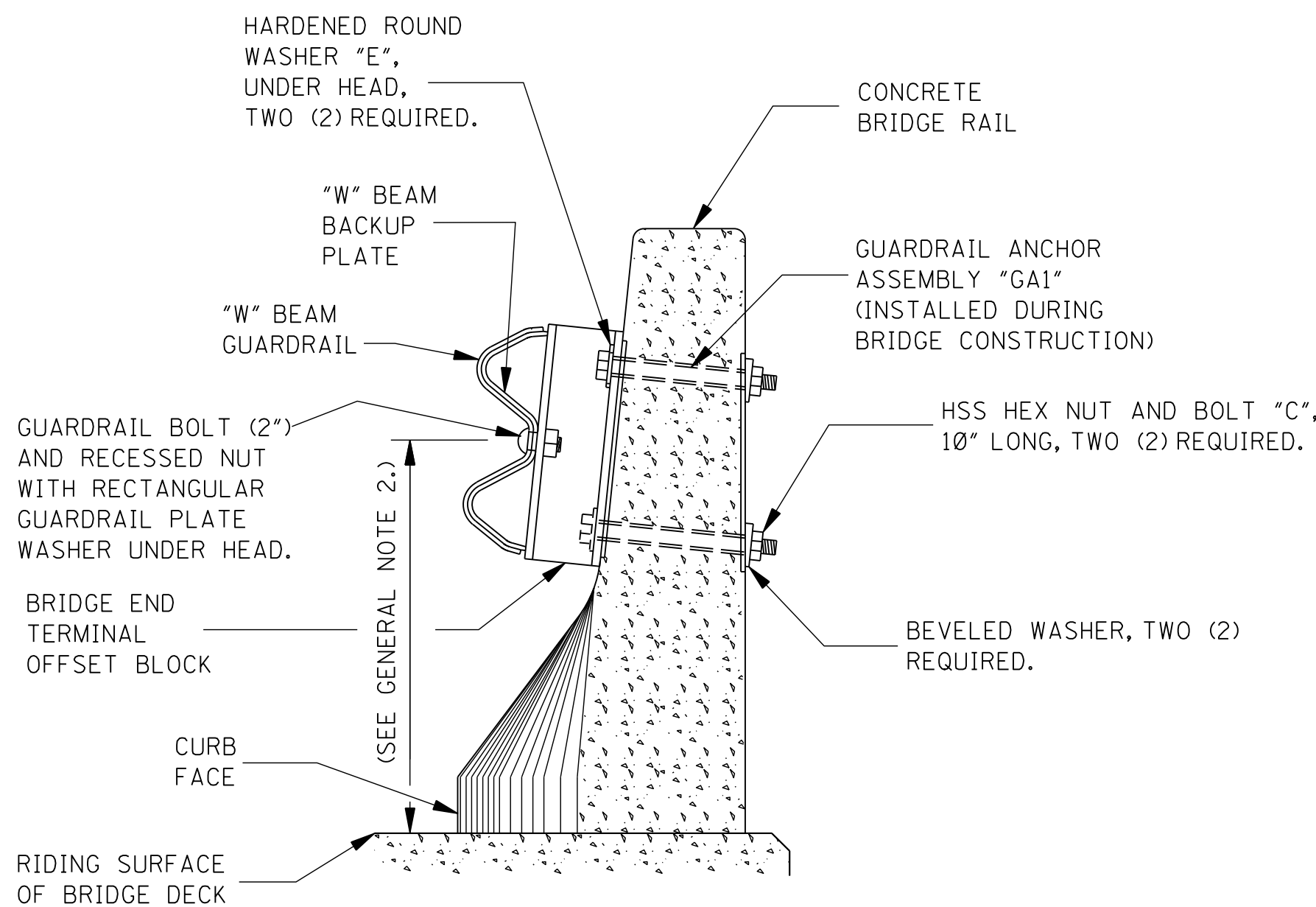


“W” BEAM BACKUP PLATE

NOTE: THE “W” BEAM BACK-UP PLATE IS USED UNDER THE “W” BEAM RAIL SECTION WHERE INDICATED ON THIS SHEET. THE CROSS-SECTIONAL DIMENSIONS OF THIS PART ARE IDENTICAL TO THOSE OF THE STANDARD “W” BEAM RAIL SECTION.



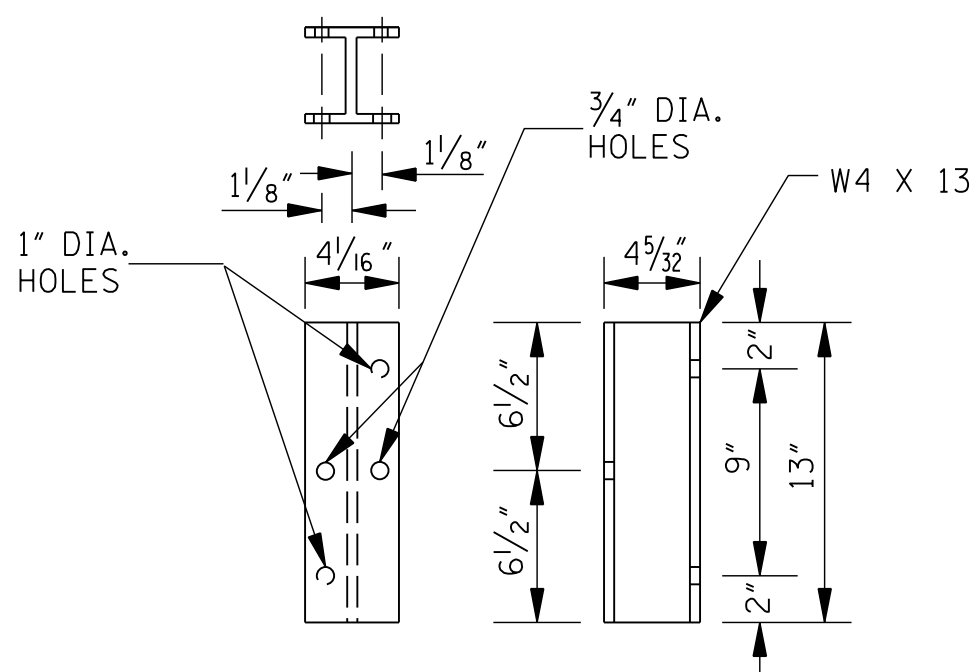
SECTION A-A



SECTION B-B

GENERAL NOTES:

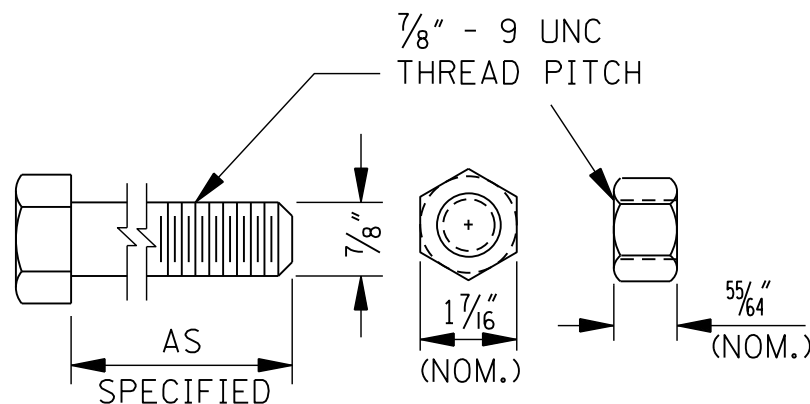
1. ALL NOTES AND DETAILS PERTAINING TO NORMAL “W” BEAM GUARDRAIL INSTALLATION NOT SPECIFICALLY MODIFIED ON THIS SHEET WILL BE FOUND ON SHEET GR-1 (WOOD POSTS).
2. THE HEIGHT OF RAIL AT THE BRIDGE END IS 21” AND WILL BE TRANSITIONED TO 25” AT POST 5.
3. GUARDRAIL ELEMENTS SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC. THE ONLY EXCEPTION NOTED IS THAT GUARDRAIL SHALL BE LAPPED FOR APPROACHING TRAFFIC ON A BRIDGE WITH 2-WAY TRAFFIC.



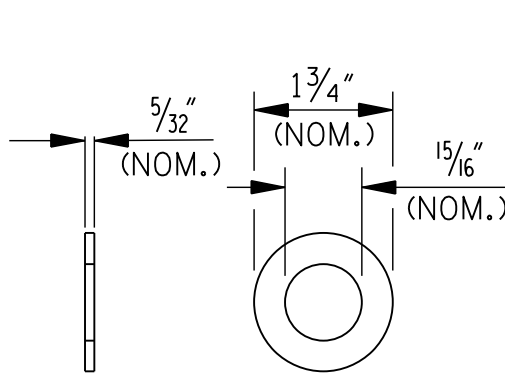
FRONT FACE

SIDE

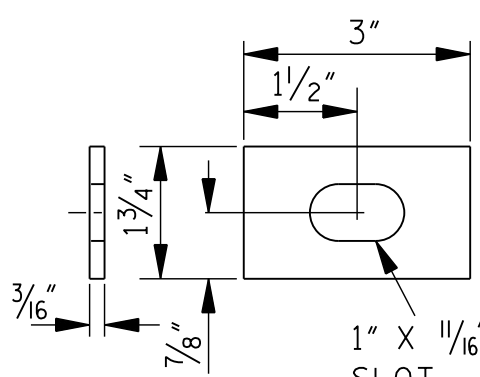
DETAIL OF BRIDGE END TERMINAL OFFSET BLOCK



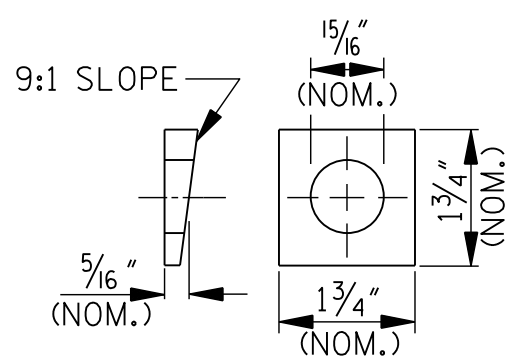
HIGH-STRENGTH STRUCTURAL HEX NUT AND BOLT “C” (ASTM A 325)



HARDENED ROUND WASHER “E”



RECTANGULAR GUARDRAIL PLATE WASHER



BEVELED WASHER

FASTENER DETAILS

MISSISSIPPI DEPARTMENT OF TRANSPORTATION  
ROADWAY DESIGN DIVISION  
STANDARD PLAN

**GUARDRAIL:  
BRIDGE END SECTION  
TYPE “H”  
(WOOD POSTS)**

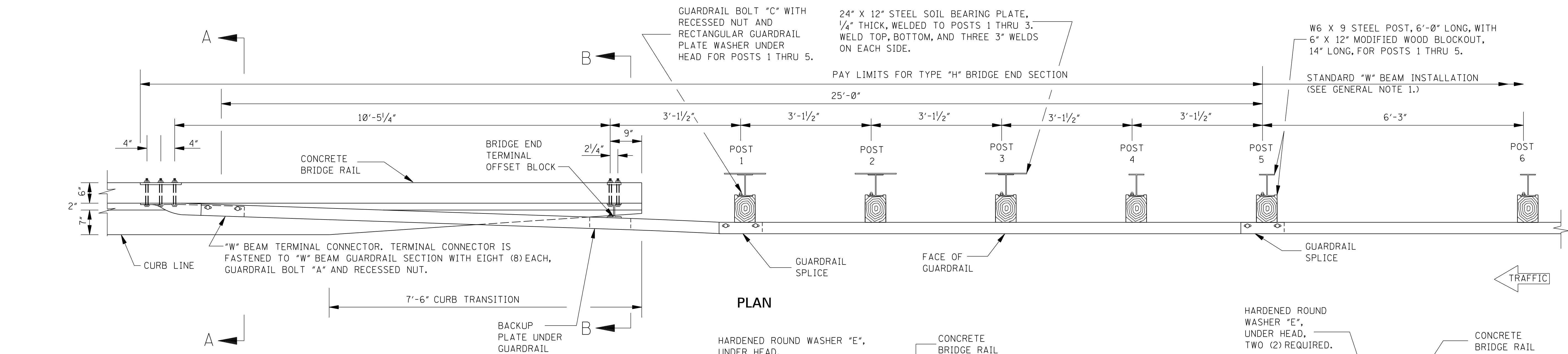


WORKING NUMBER  
GR-2C

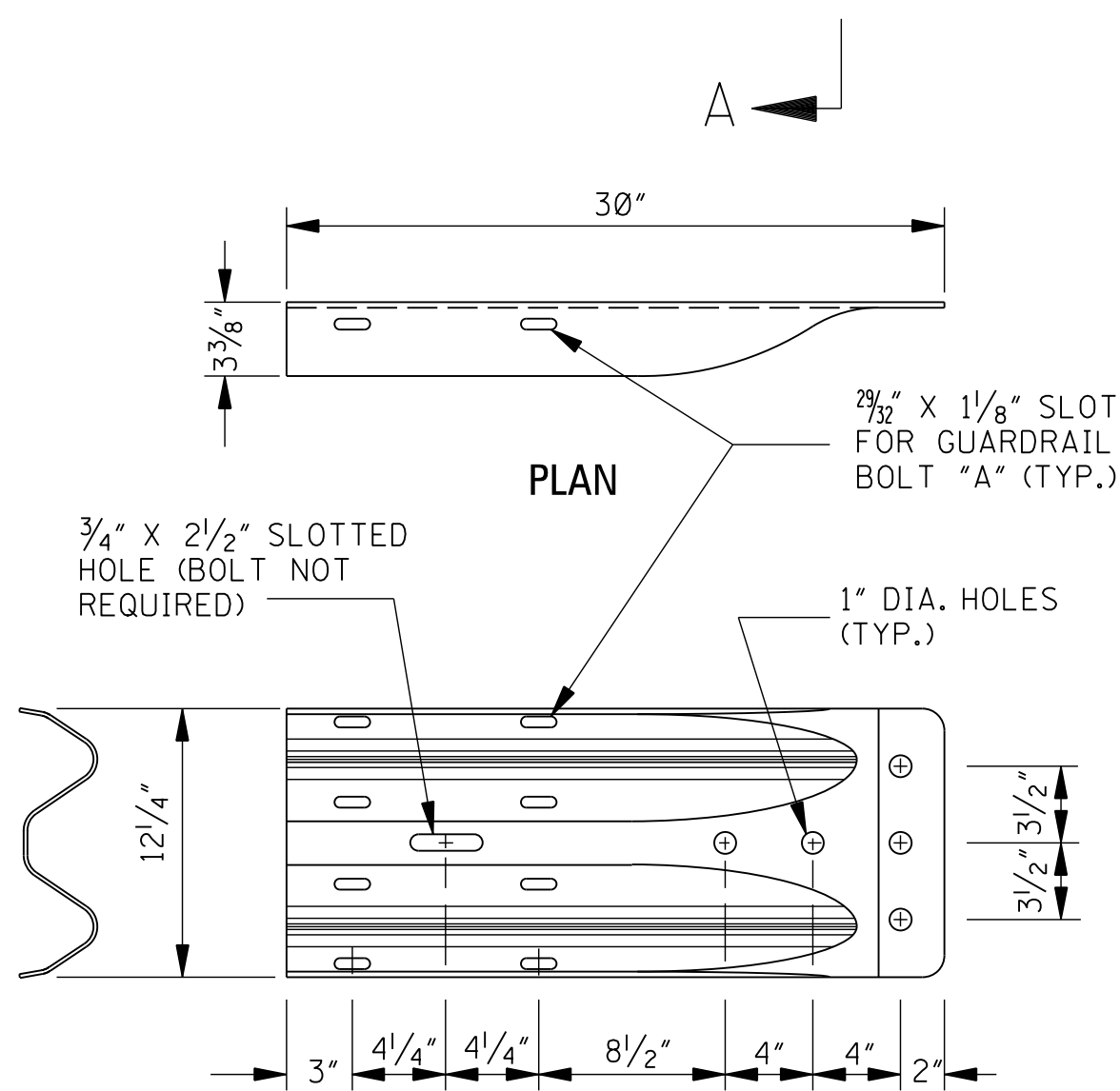
SHEET NUMBER  
6207

ISSUE DATE: AUGUST 01, 2017





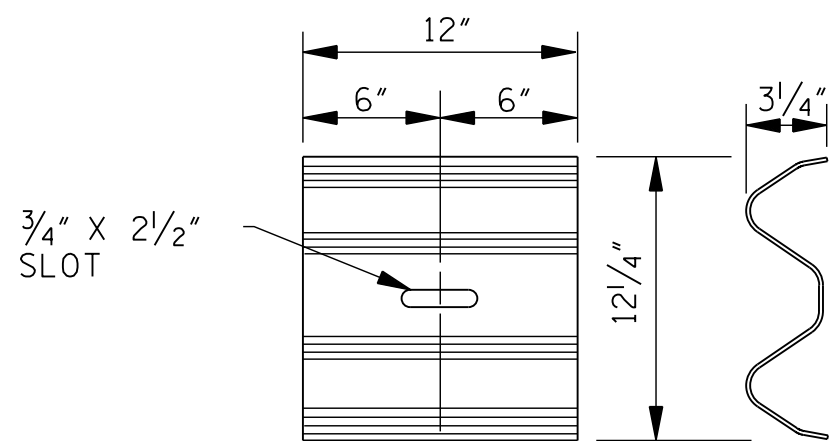
PLAN



ELEVATION

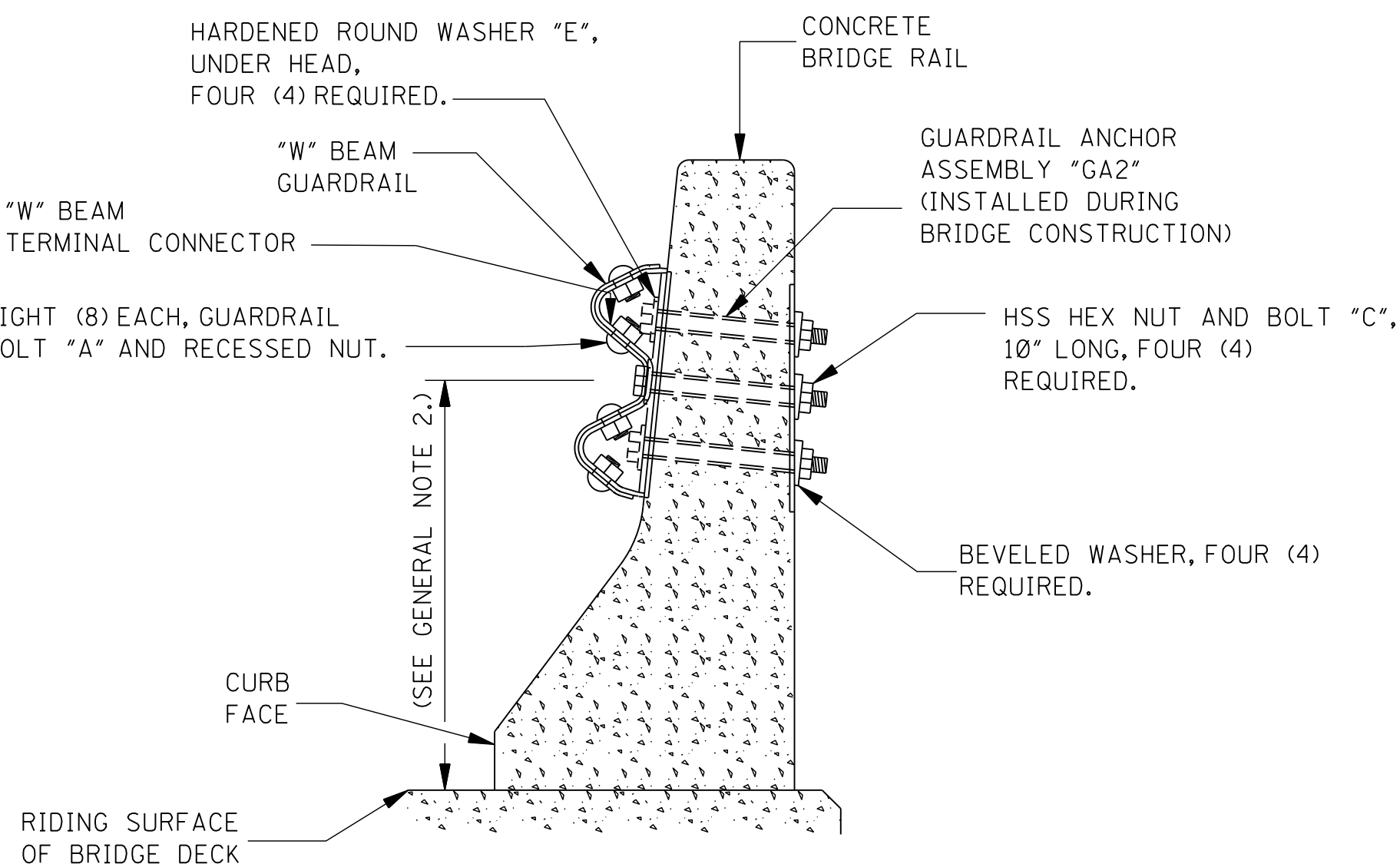
"W" BEAM TERMINAL CONNECTOR

NOTE: THE "W" BEAM TERMINAL CONNECTOR IS USED WITH THE TYPE "H" BRIDGE END SECTION. THE CROSS-SECTIONAL DIMENSIONS OF THIS PART ARE IDENTICAL TO THE STANDARD "W" BEAM SECTION (AASHTO M 180 CLASS B, TYPE II).

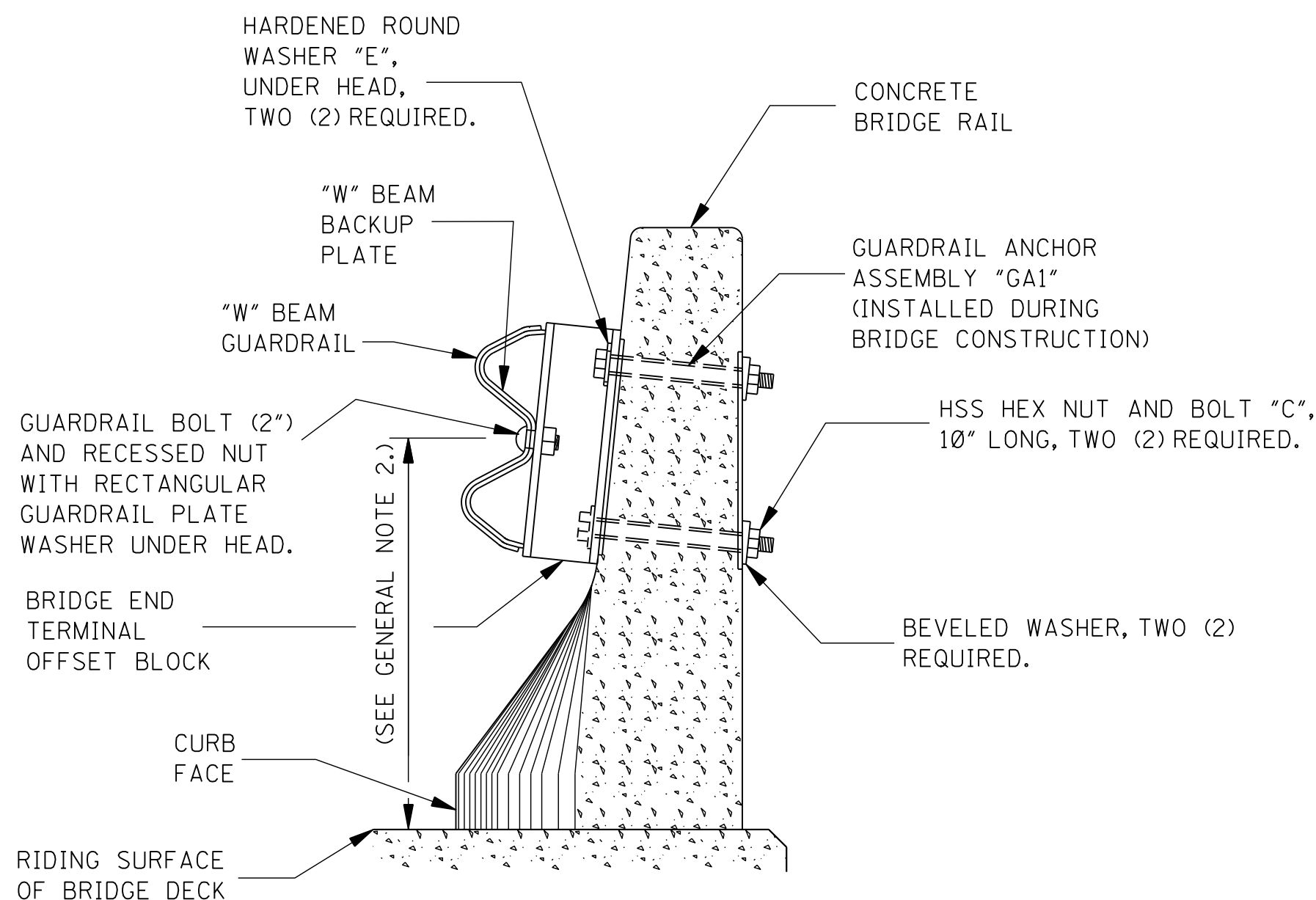


"W" BEAM BACKUP PLATE

NOTE: THE "W" BEAM BACK-UP PLATE IS USED UNDER THE "W" BEAM RAIL SECTION WHERE INDICATED ON THIS SHEET. THE CROSS-SECTIONAL DIMENSIONS OF THIS PART ARE IDENTICAL TO THOSE OF THE STANDARD "W" BEAM RAIL SECTION.



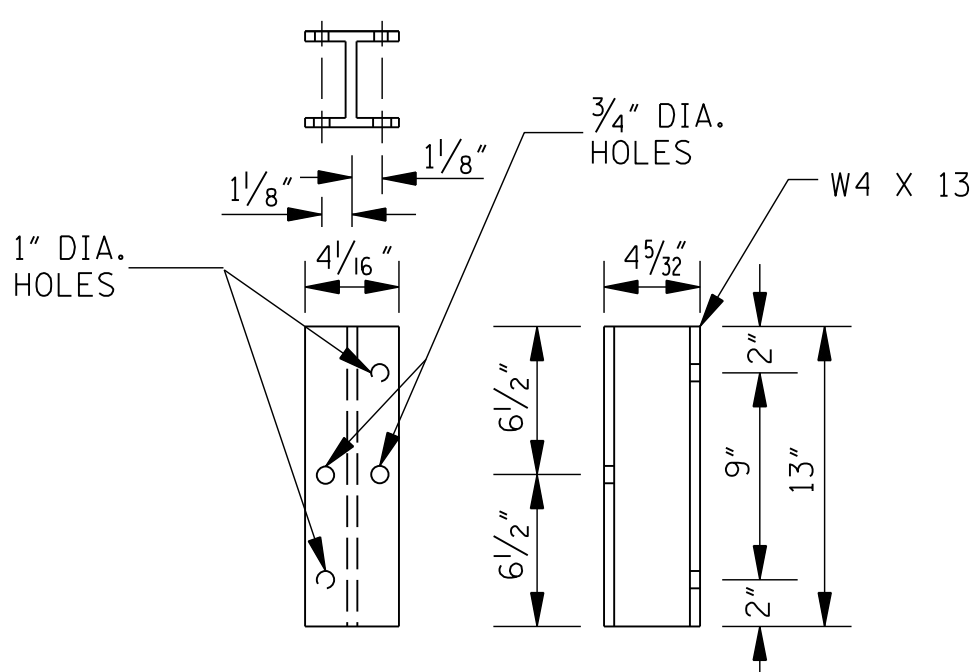
SECTION A-A



SECTION B-B

GENERAL NOTES:

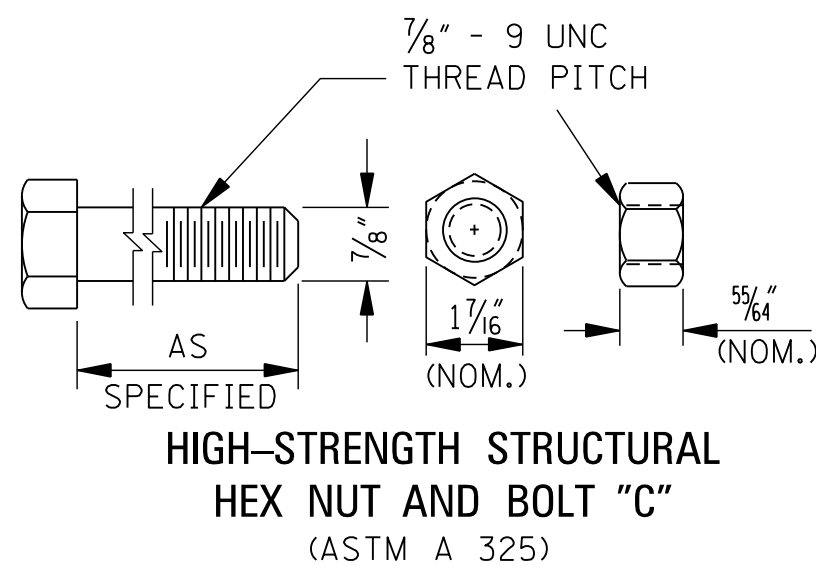
1. ALL NOTES AND DETAILS PERTAINING TO NORMAL "W" BEAM GUARDRAIL INSTALLATION NOT SPECIFICALLY MODIFIED ON THIS SHEET WILL BE FOUND ON SHEET GR-1B (STEEL POSTS).
2. THE HEIGHT OF RAIL AT THE BRIDGE END IS 21" AND WILL BE TRANSITIONED TO 25" AT POST 5.
3. GUARDRAIL ELEMENTS SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC. THE ONLY EXCEPTION NOTED IS THAT GUARDRAIL SHALL BE LAPPED FOR APPROACHING TRAFFIC ON A BRIDGE WITH 2-WAY TRAFFIC.



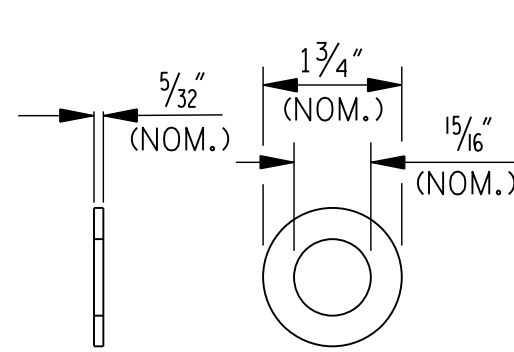
FRONT FACE

SIDE

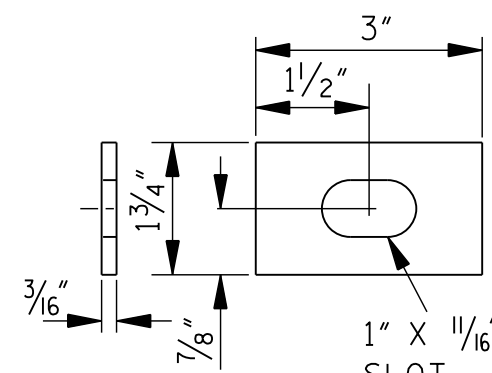
DETAIL OF BRIDGE END TERMINAL OFFSET BLOCK



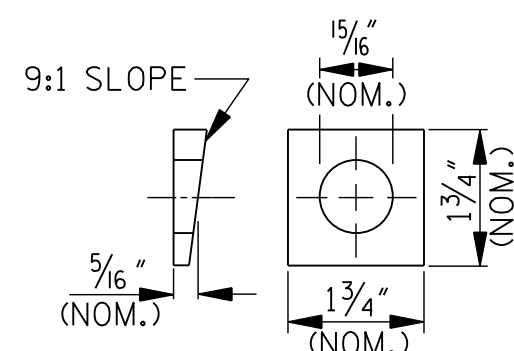
HIGH-STRENGTH STRUCTURAL HEX NUT AND BOLT "C" (ASTM A 325)



HARDENED ROUND WASHER "E"



RECTANGULAR GUARDRAIL PLATE WASHER



BEVELED WASHER

FASTENER DETAILS

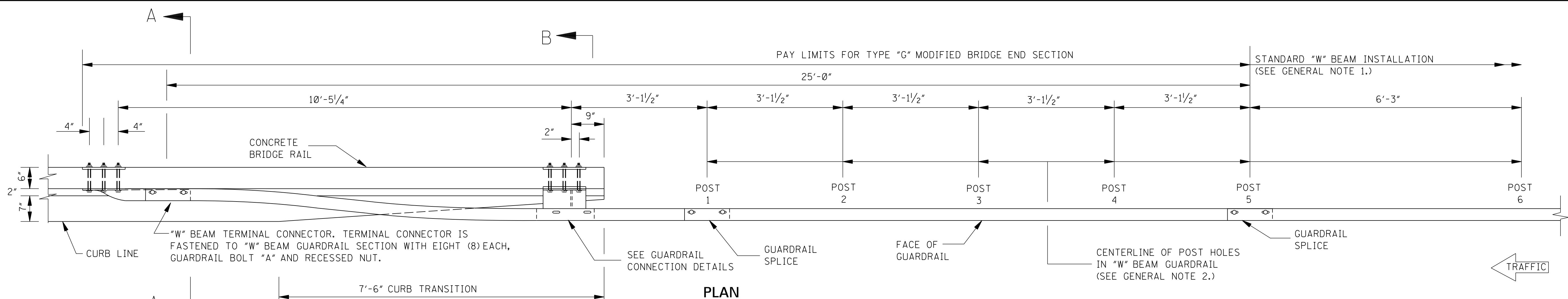
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	ISSUE DATE: AUGUST 01, 2017

**GUARDRAIL:  
BRIDGE END SECTION  
TYPE "H"  
(STEEL POSTS)**

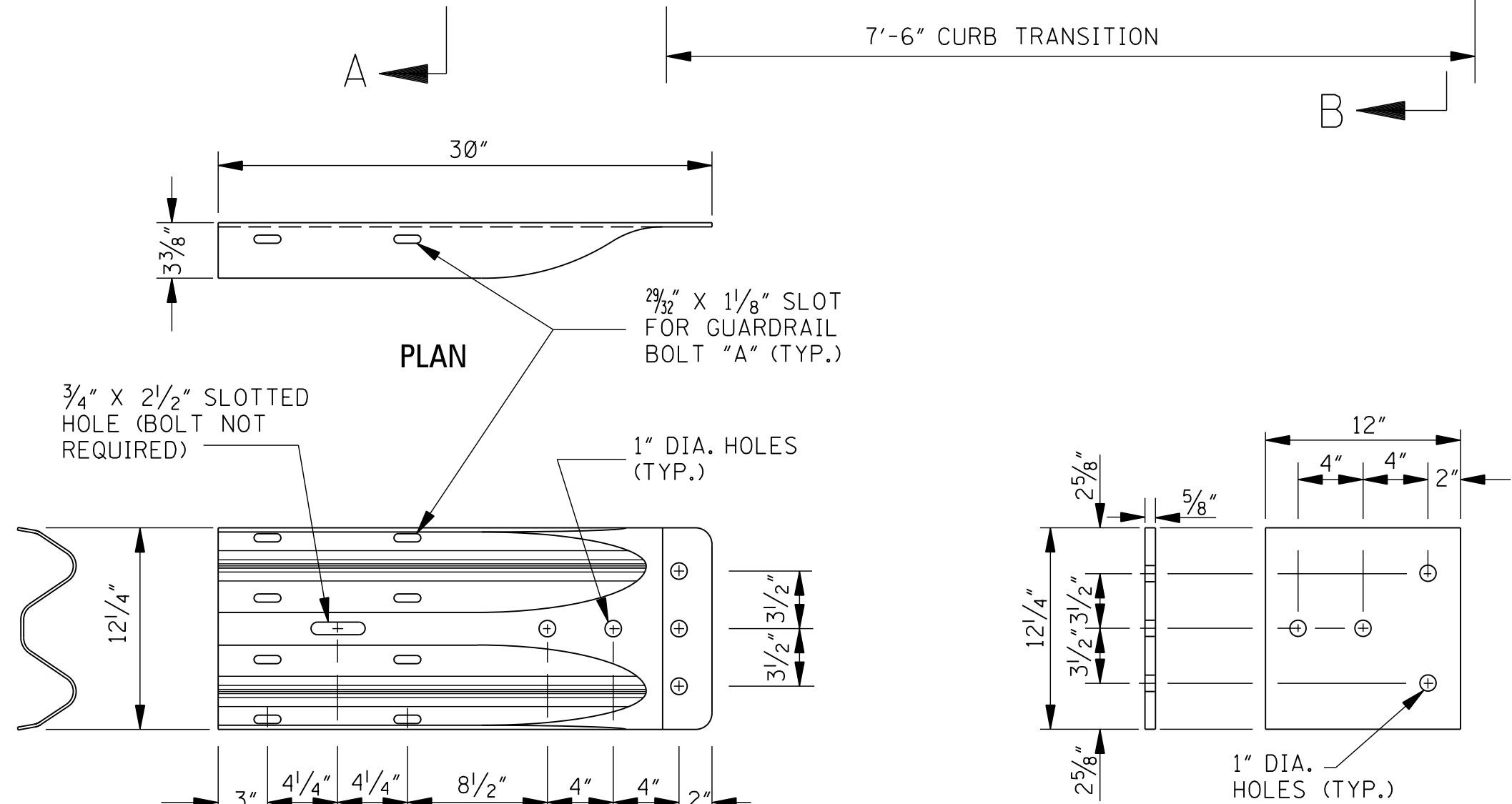
**MDOT**  
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

WORKING NUMBER  
GR-2D

SHEET NUMBER  
6208



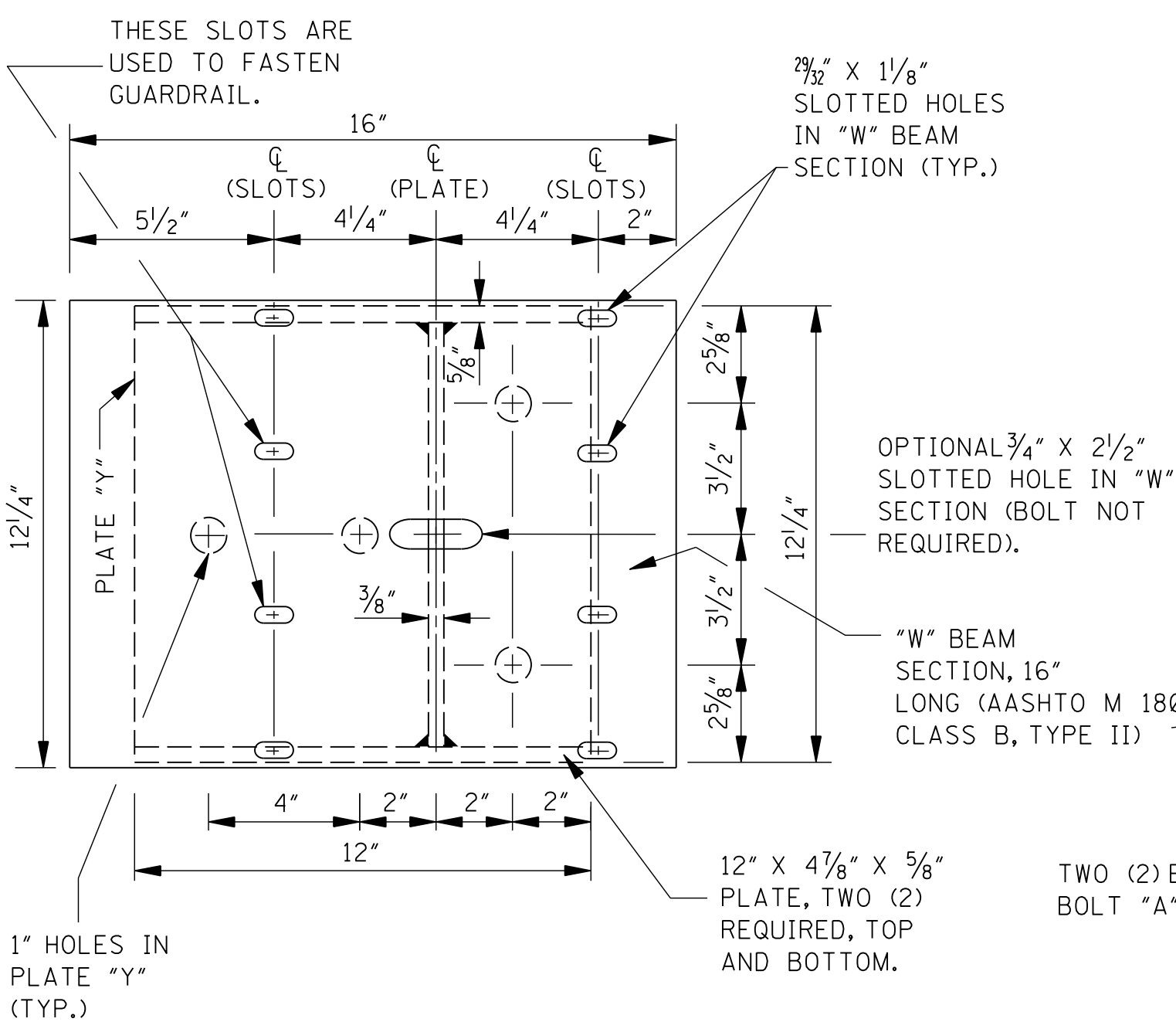
PLAN



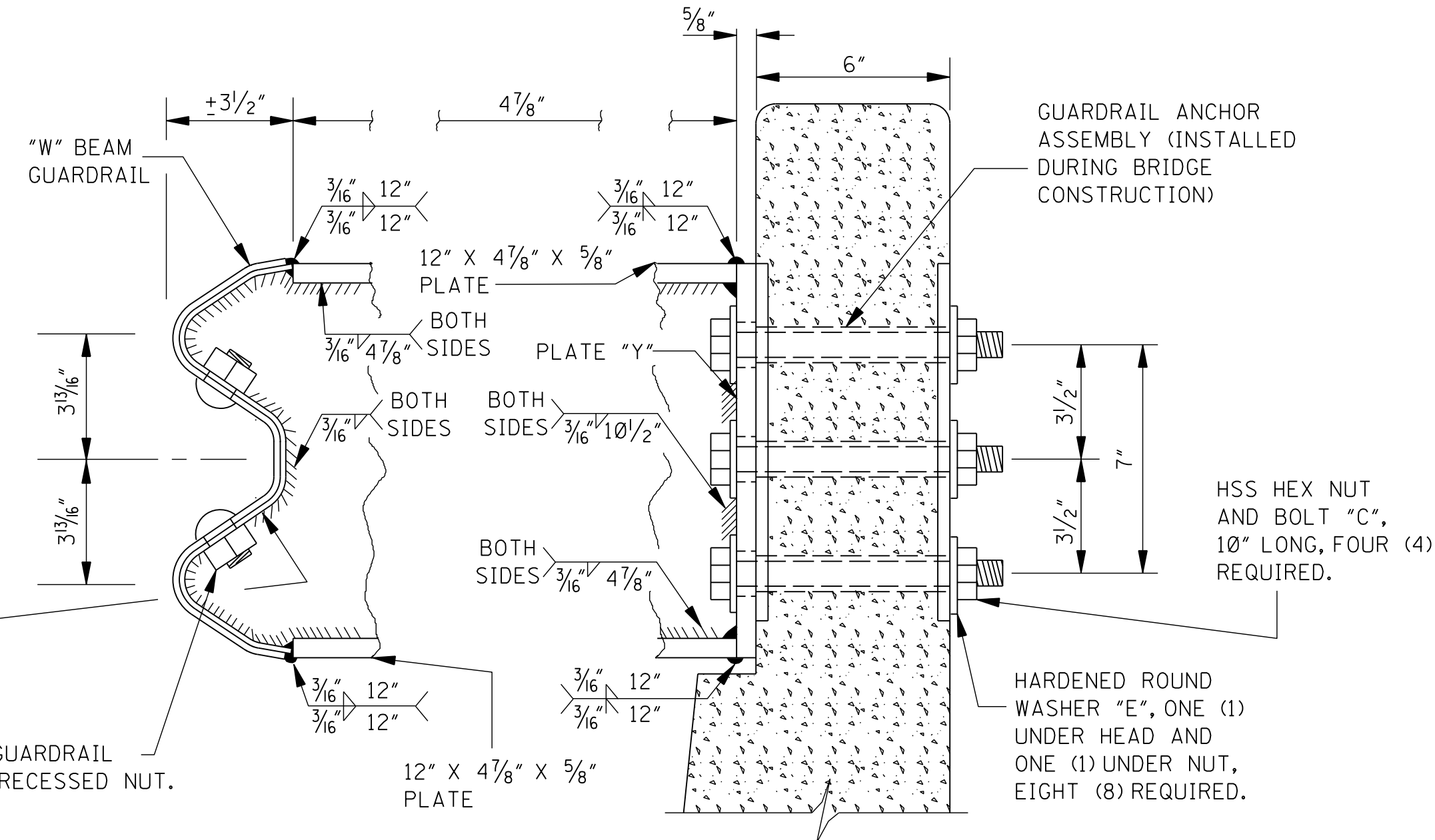
W' BEAM TERMINAL CONNECTOR

NOTE: THE "W" BEAM TERMINAL CONNECTOR IS USED WITH THE TYPE "G" MODIFIED BRIDGE END SECTION. THE CROSS-SECTIONAL DIMENSIONS OF THIS PART ARE IDENTICAL TO THE STANDARD "W" BEAM SECTION (AASHTO M 180 CLASS B, TYPE II).

DETAIL OF PLATE "Y"



FACE ELEVATION

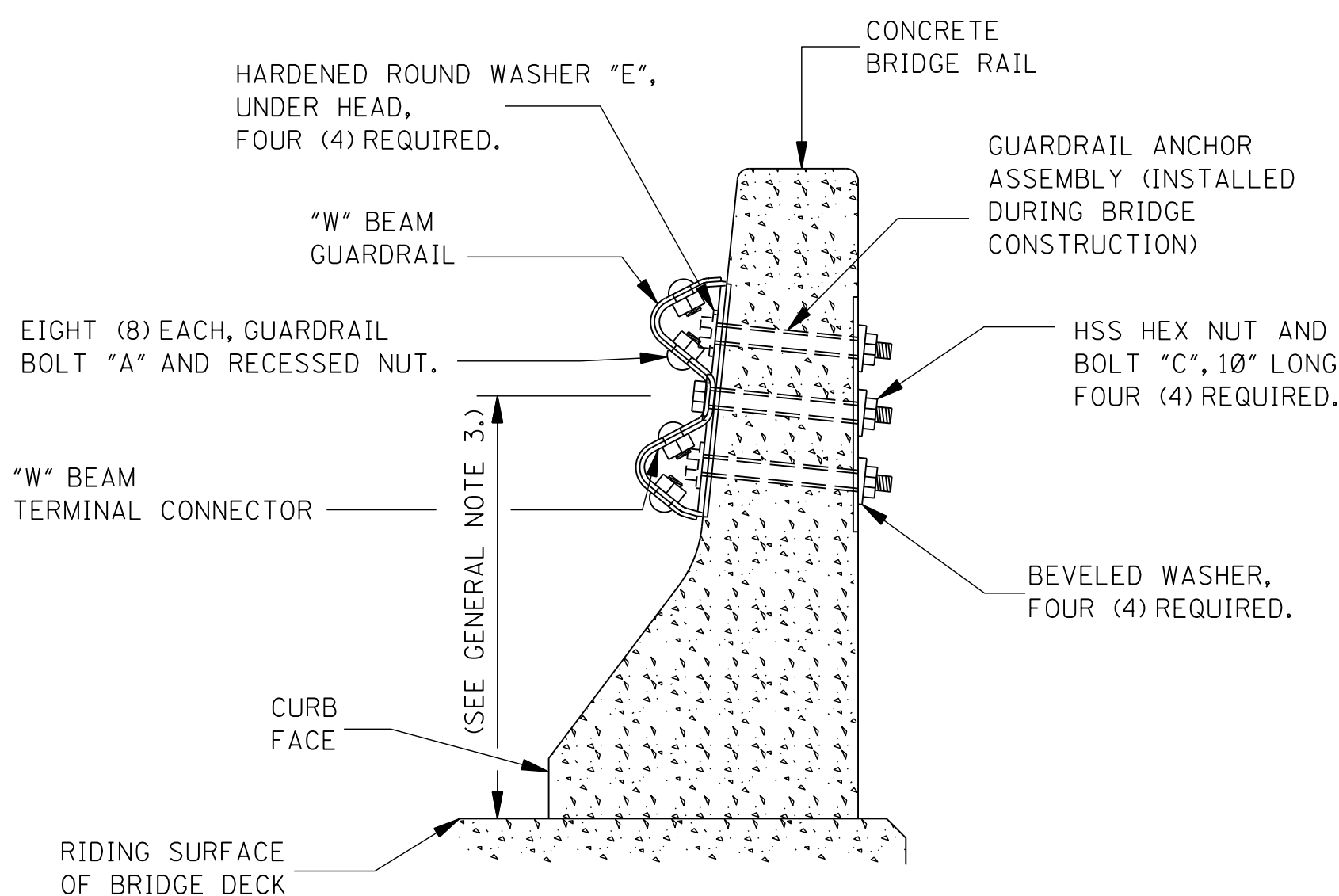


SECTION

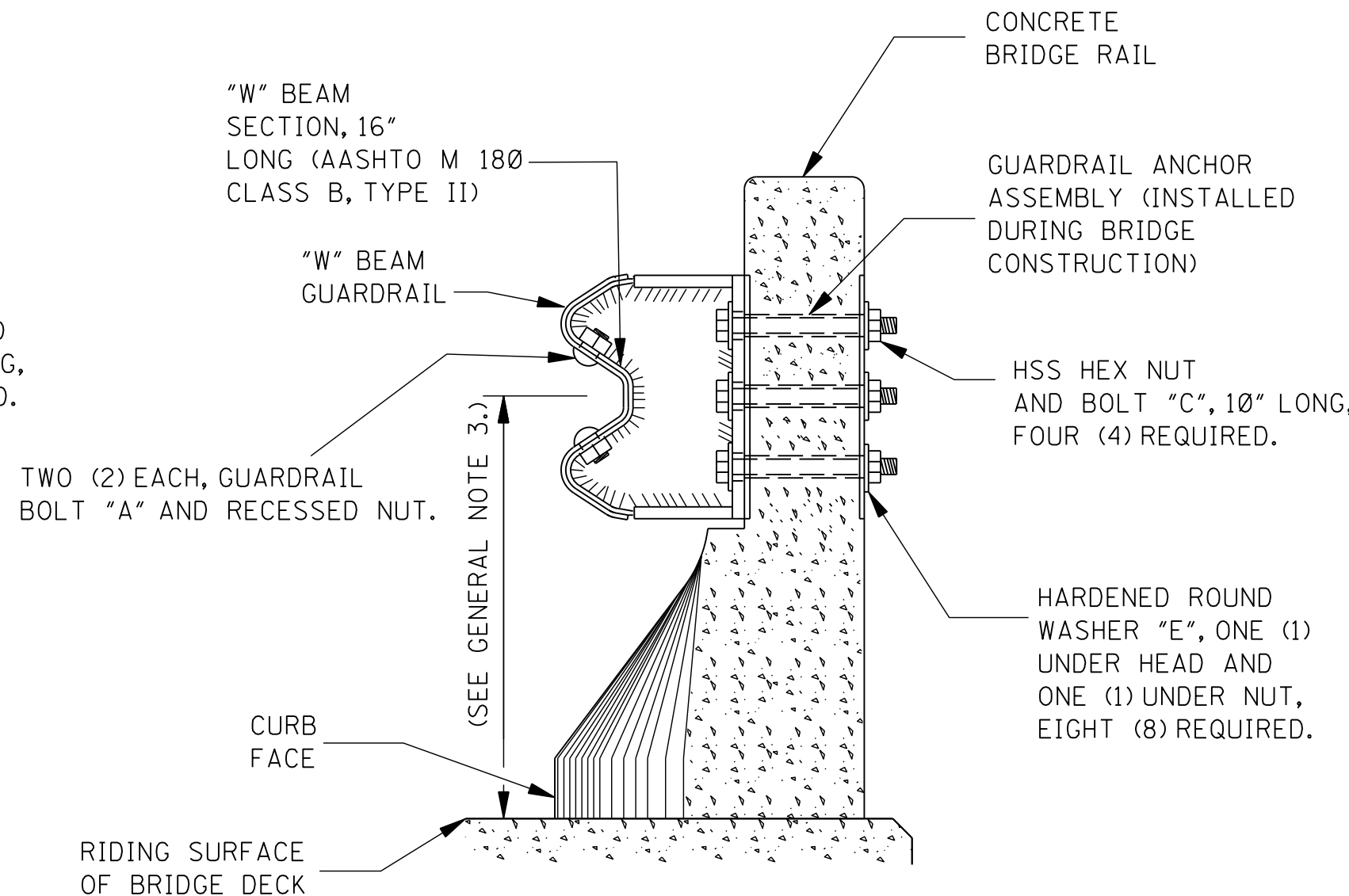
GUARDRAIL CONNECTION DETAILS

GENERAL NOTES:

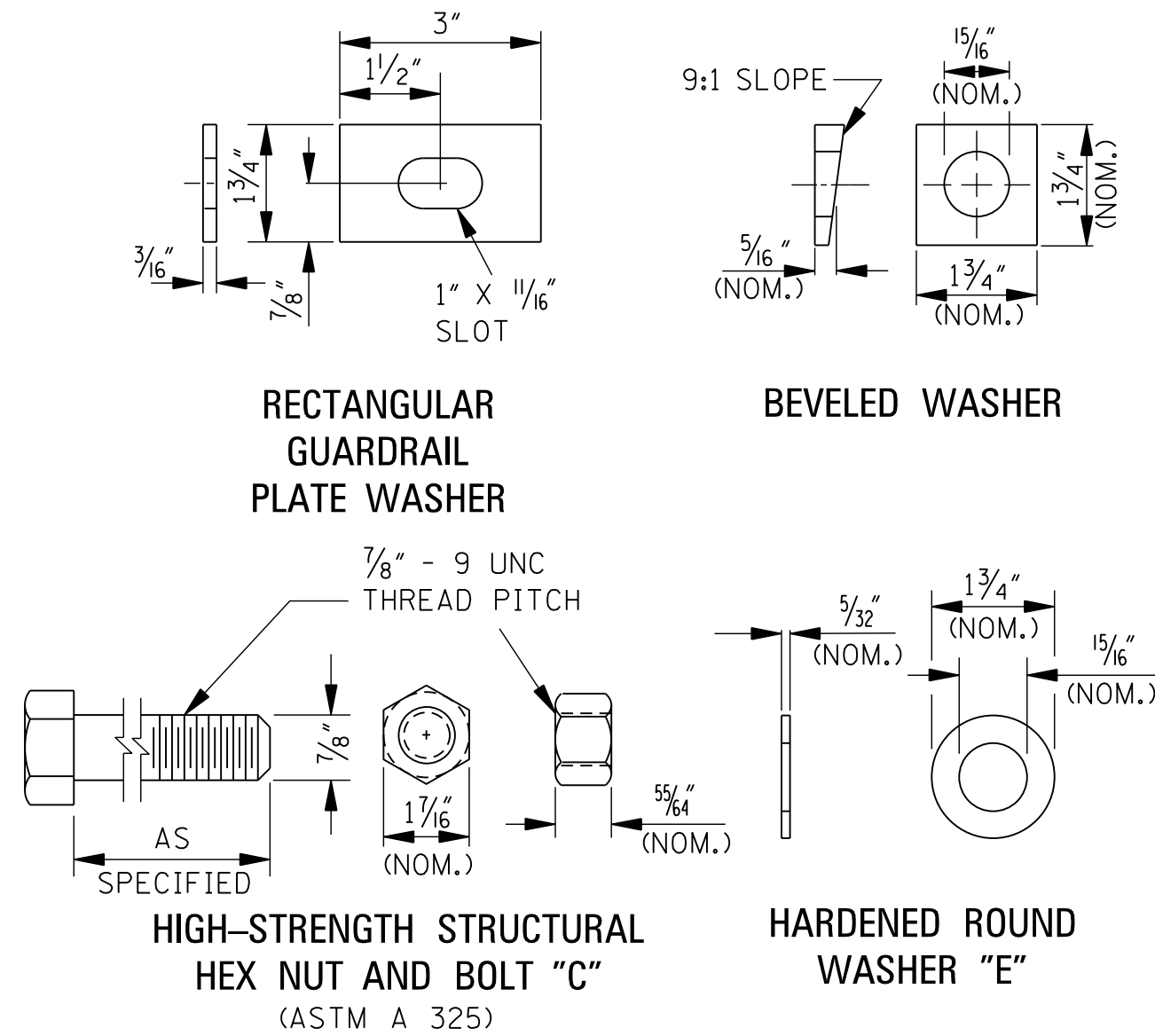
- ALL NOTES AND DETAILS PERTAINING TO NORMAL "W" BEAM GUARDRAIL INSTALLATION NOT SPECIFICALLY MODIFIED ON THIS SHEET WILL BE FOUND ON EITHER SHEET GR-1 (WOOD POSTS) OR GR-1B (STEEL POSTS).
- INSTALLATION DETAILS FOR BRIDGE END SECTION GUARDRAIL POSTS WILL BE FOUND ON EITHER SHEET GR-2C (WOOD POSTS) OR GR-2D (STEEL POSTS).
- THE HEIGHT OF RAIL AT THE BRIDGE END IS 21" AND WILL BE TRANSITIONED TO 25" AT POST 5.
- GUARDRAIL ELEMENTS SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC. THE ONLY EXCEPTION NOTED IS THAT GUARDRAIL SHALL BE LAPPED FOR APPROACHING TRAFFIC ON A BRIDGE WITH 2-WAY TRAFFIC.




SECTION A-A

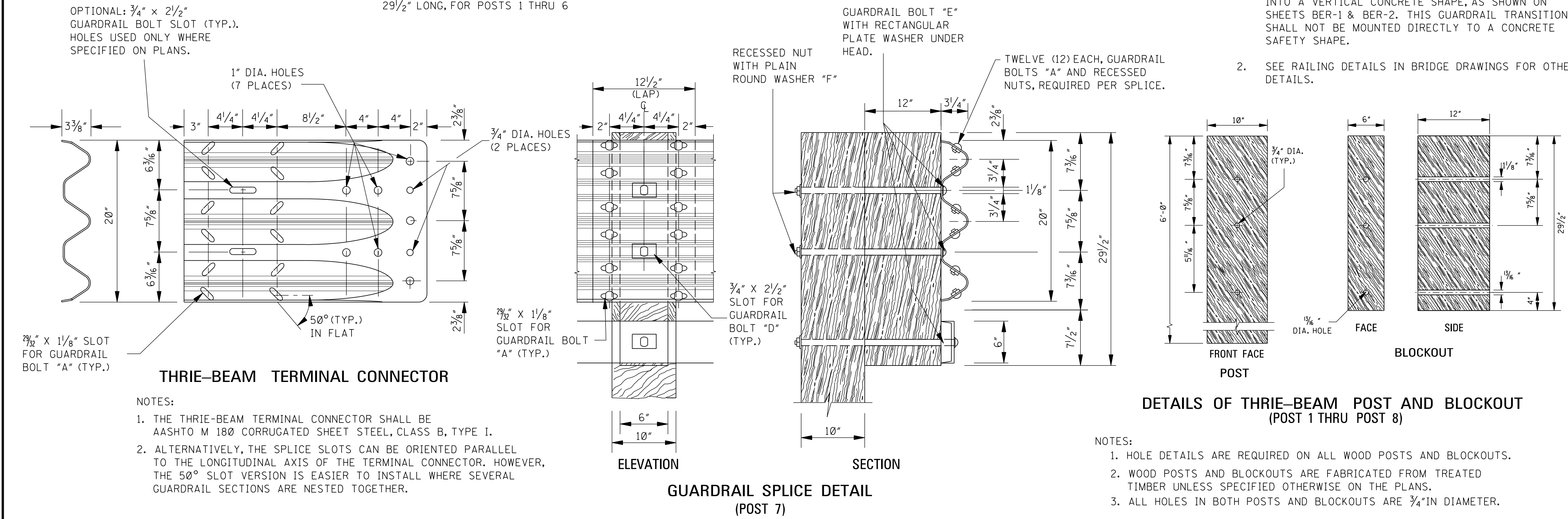
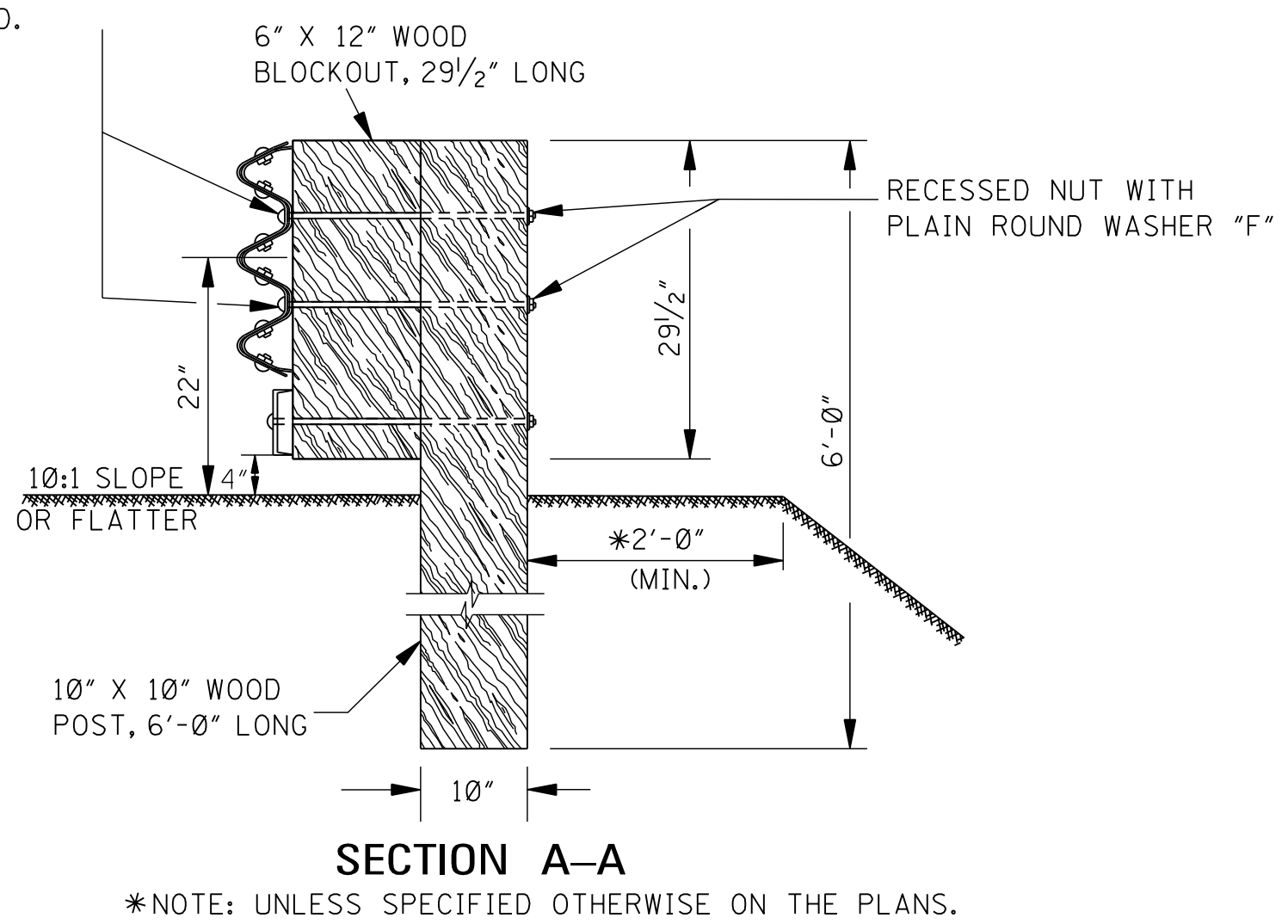
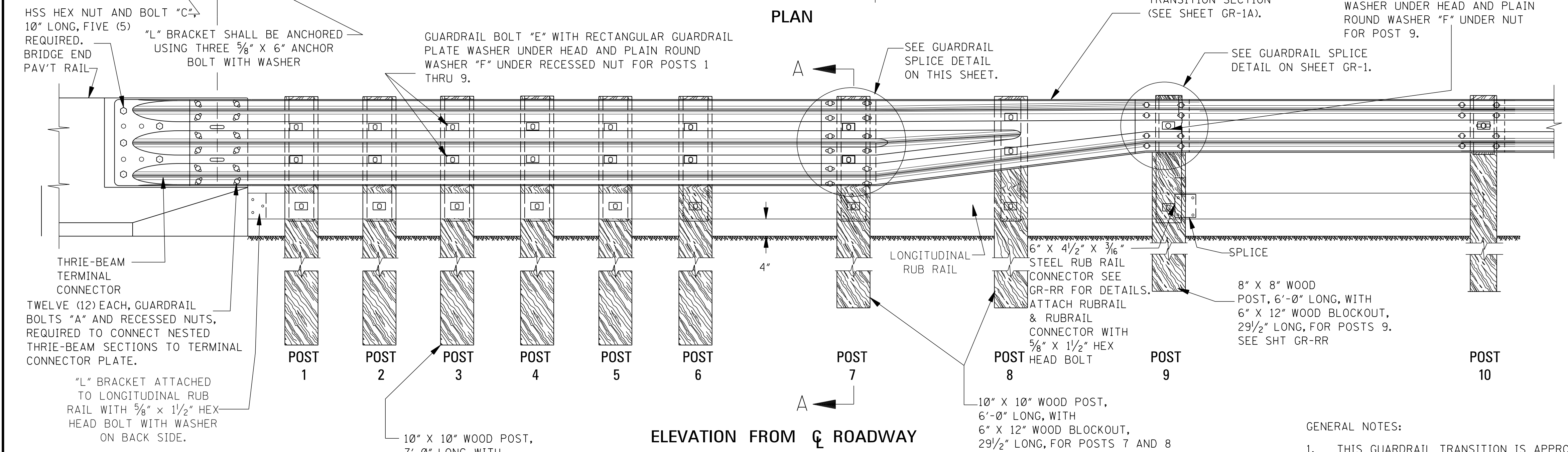
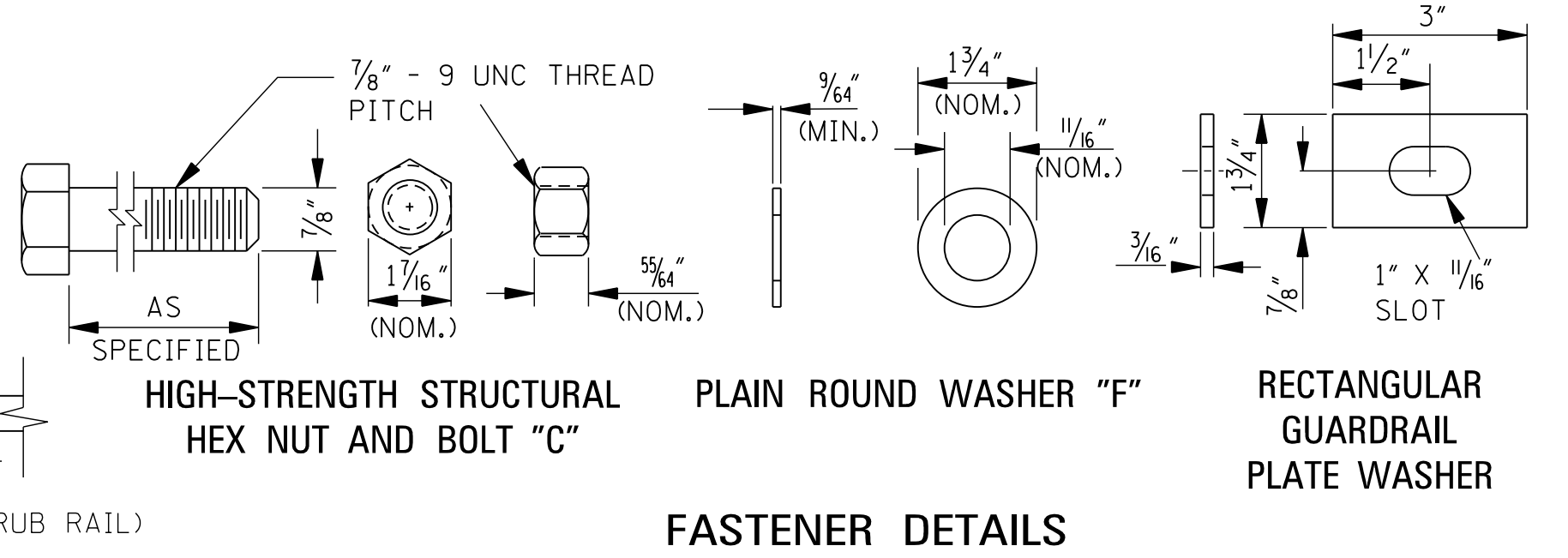
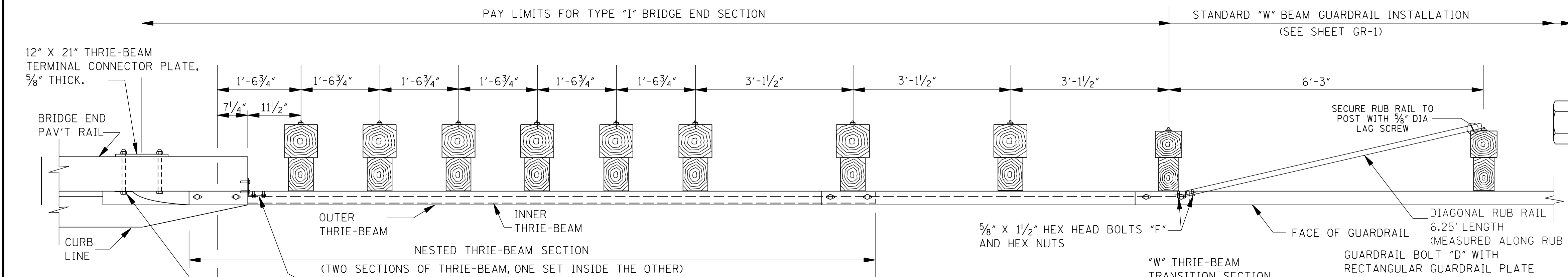



SECTION B-B



FASTENER DETAILS

MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN			
<b>GUARDRAIL: BRIDGE END SECTION TYPE "G" MODIFIED</b>			
			
WORKING NUMBER GR-2E			
SHEET NUMBER 6209			
DATE	ISSUE DATE:	AUGUST 01, 2017	

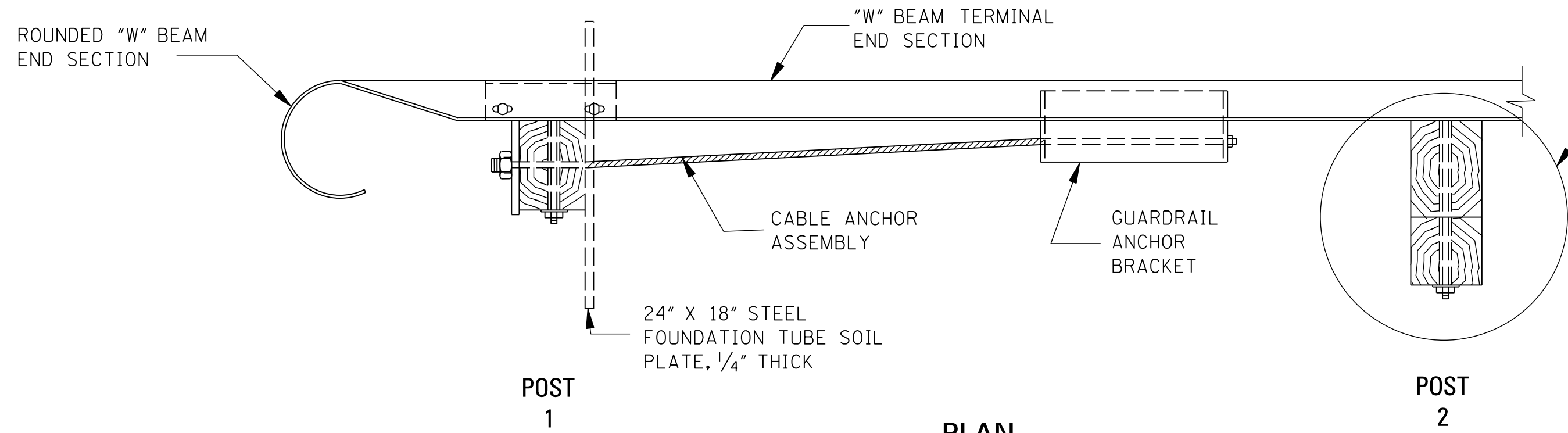


				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN		
				REVISION	<b>GUARDRAIL: BRIDGE END SECTION TYPE "I" (WOOD POSTS) (NEW CONSTRUCTION)</b>		
				DATE	ISSUE DATE: AUGUST 01, 2017		
					 WORKING NUMBER GR-2F SHEET NUMBER 6210		



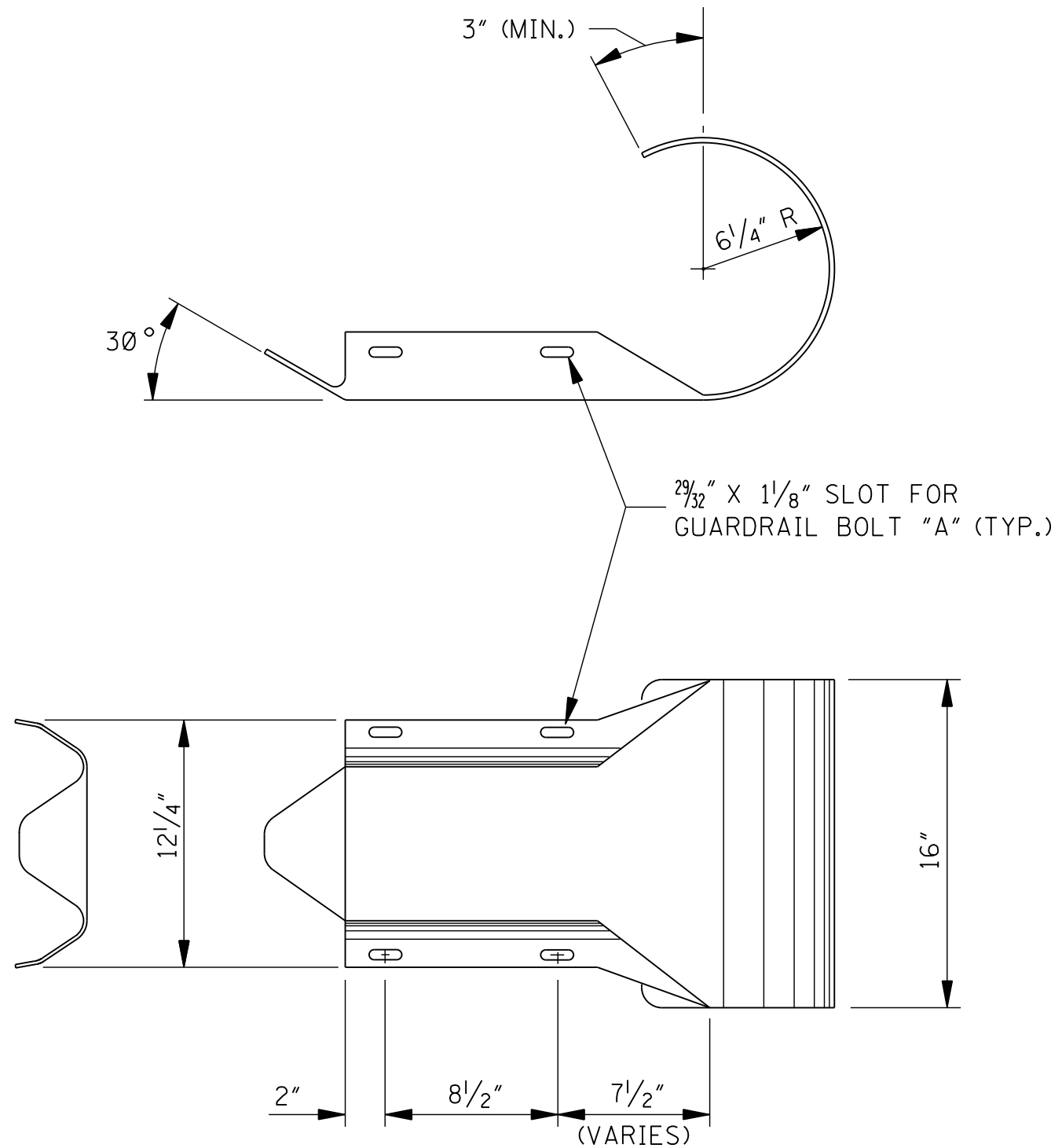






NOTE: THE "POST 2" ASSEMBLY DEPENDS ON WHETHER THE TRAILING END TERMINAL IS ATTACHED TO THE STANDARD WOOD OR STEEL POST "W" BEAM GUARDRAIL INSTALLATION AS FOLLOWS:

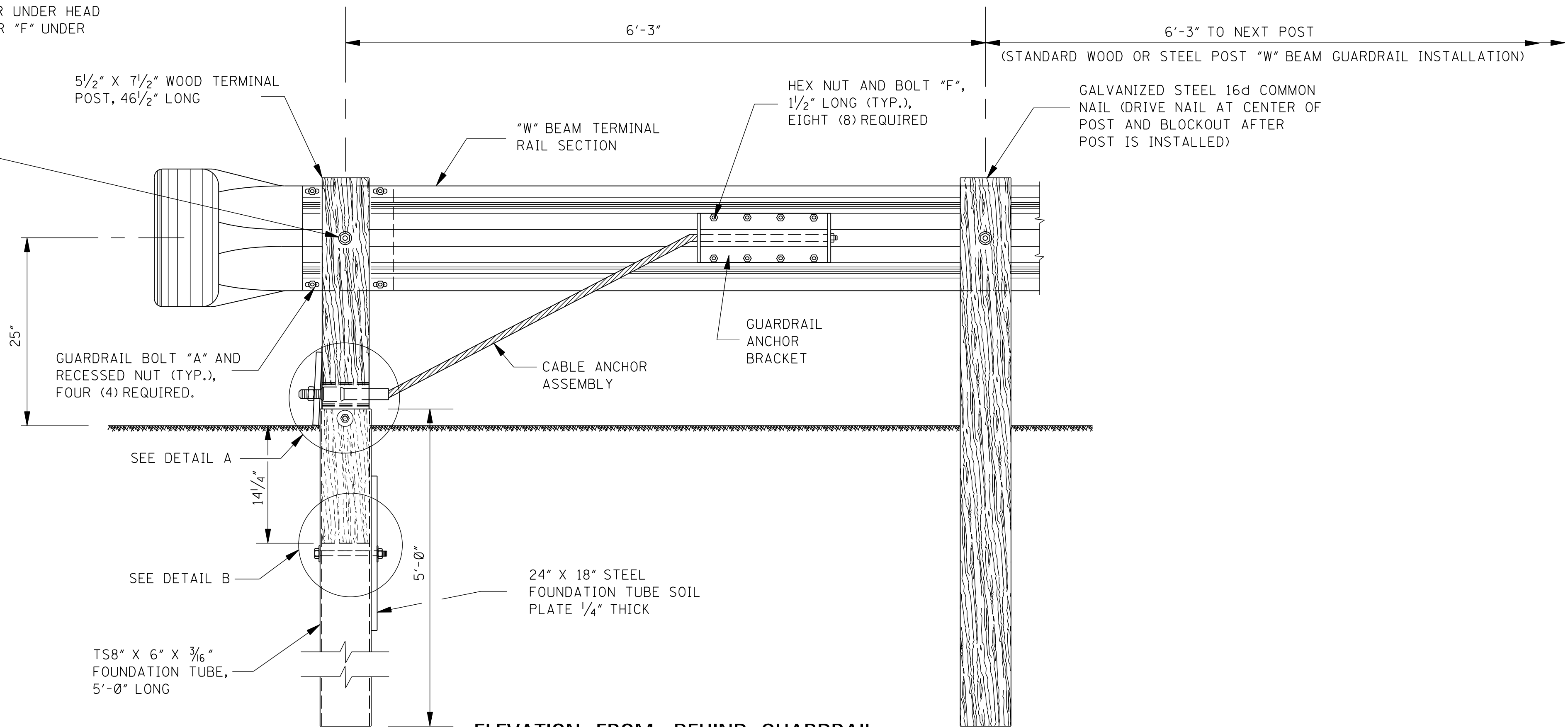
- WOOD POST INSTALLATION (SHOWN)**  
"W" BEAM TERMINAL RAIL SECTION, 6" X 12" WOOD BLOCKOUT, 14" LONG, AND 6" X 8" WOOD POST, 6'-0" LONG, ATTACHED WITH GUARDRAIL BOLT "D" AND RECESSED NUT. INSTALL RECTANGULAR GUARDRAIL PLATE WASHER UNDER HEAD AND PLAIN ROUND WASHER "F" UNDER RECESSED NUT.
- STEEL POST INSTALLATION**  
"W" BEAM TERMINAL RAIL SECTION, 6" X 12" MODIFIED WOOD BLOCKOUT, 14" LONG, AND W6 X 9 STEEL POST, 6'-0" LONG, ATTACHED WITH GUARDRAIL BOLT "C" AND RECESSED NUT. INSTALL RECTANGULAR GUARDRAIL PLATE WASHER UNDER GUARDRAIL BOLT HEAD.



#### ROUNDED "W" BEAM END SECTION

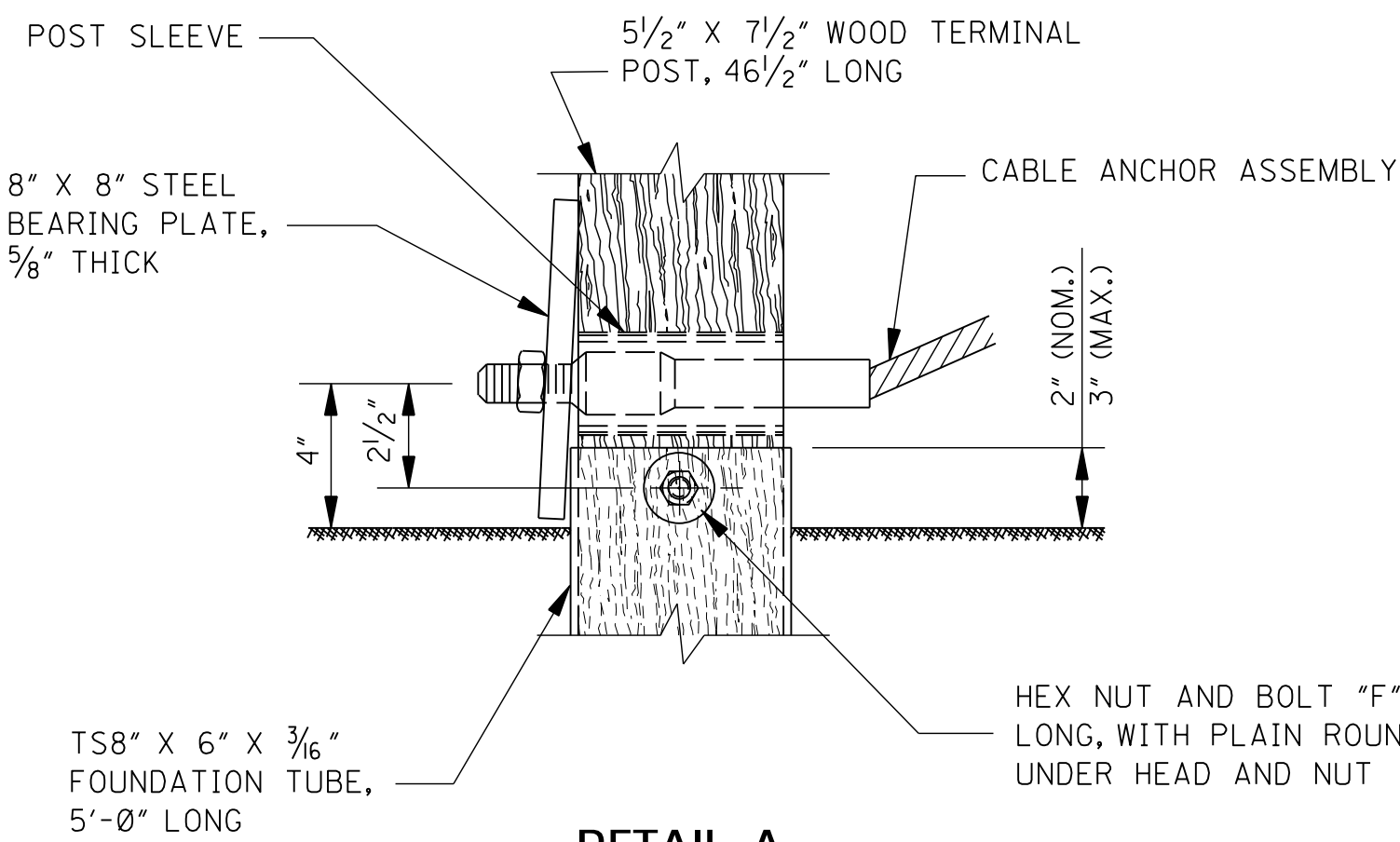
NOTE: THE CROSS-SECTIONAL DIMENSIONS FOR THIS PART ARE TO FIT OVER THE STANDARD "W" BEAM SECTION.

GUARDRAIL BOLT (10") WITH RECTANGULAR GUARDRAIL PLATE WASHER UNDER HEAD AND PLAIN ROUND WASHER "F" UNDER RECESSED NUT

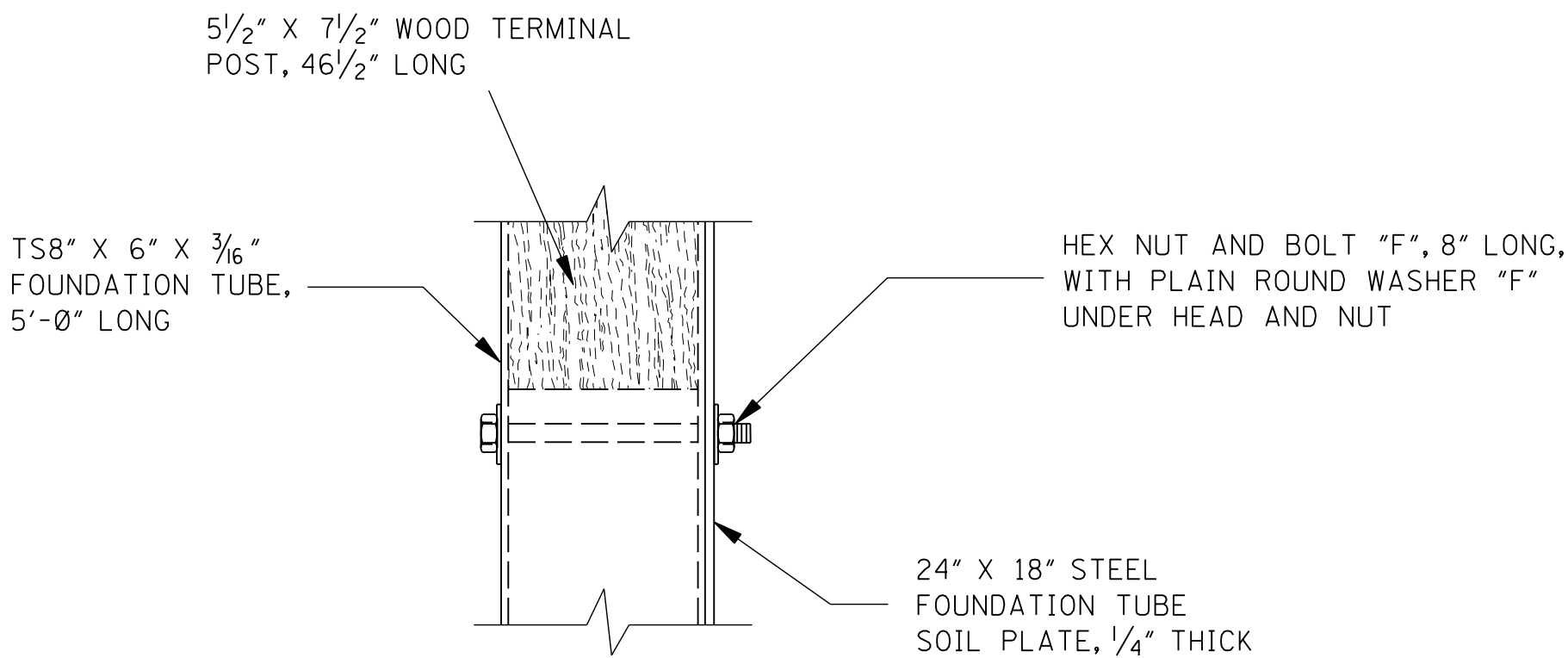


#### ELEVATION FROM BEHIND GUARDRAIL

NOTE: ANCHOR CABLE SHALL BE TAUT.



#### DETAIL A

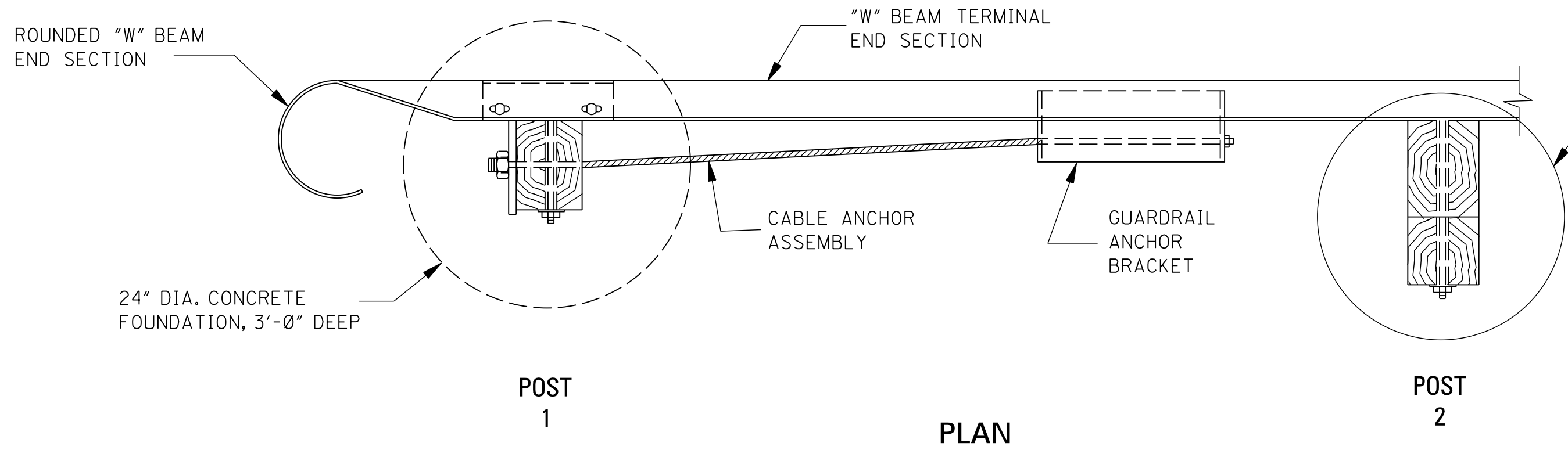


#### DETAIL B

#### GENERAL NOTES:

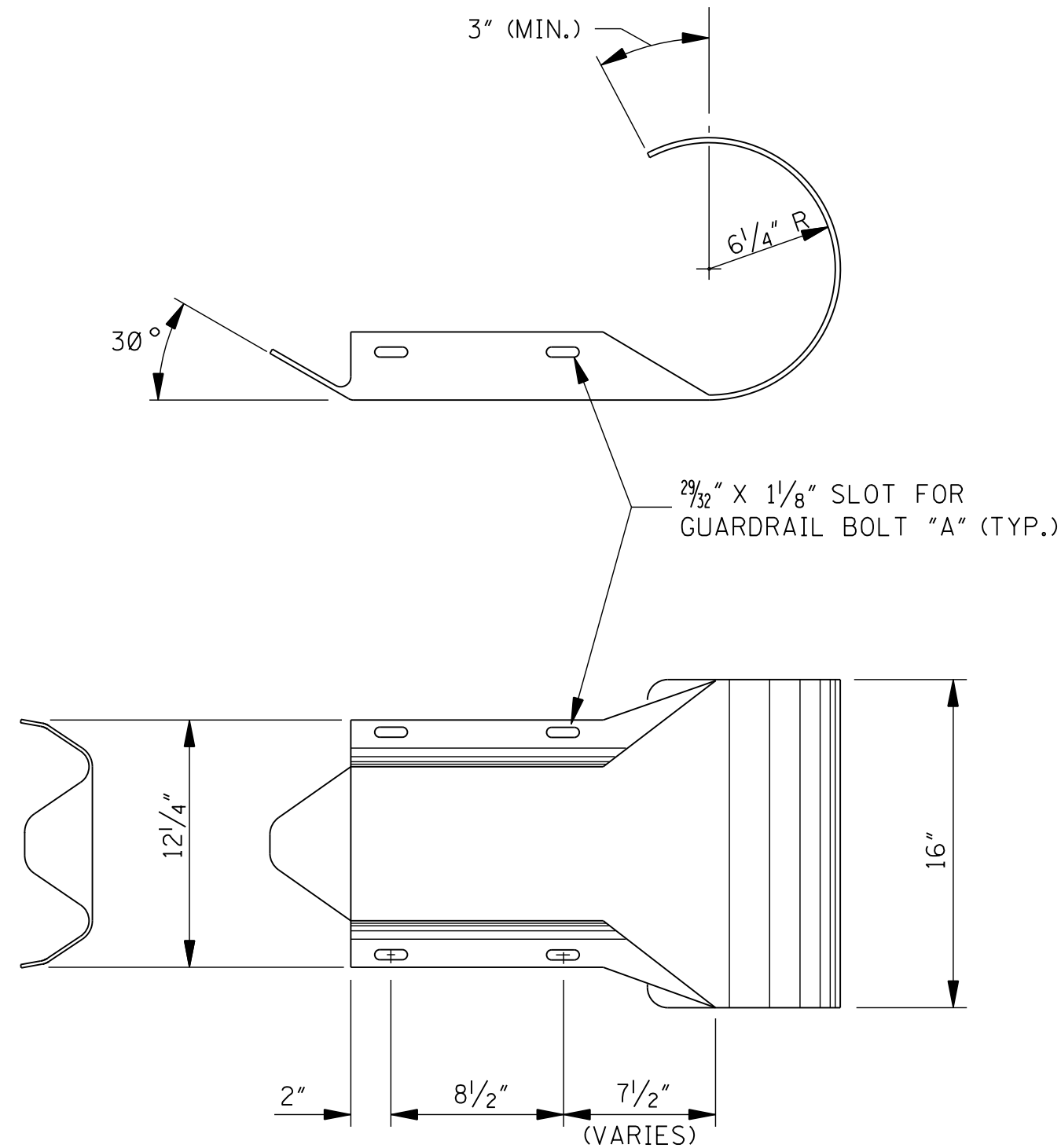
- THIS ANCHORAGE MAY ONLY BE USED ON THE TRAILING END OF A BARRIER WHICH IS NOT EXPOSED TO VEHICULAR IMPACT.
- GUARDRAIL SHALL MEET THE REQUIREMENTS OF AASHTO M 180, CLASS A, TYPE 1 UNLESS OTHERWISE DESIGNATED.
- ALL WOOD POSTS AND BLOCKOUTS SHALL BE TREATED TIMBER IN ACCORDANCE WITH MISSISSIPPI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
- FOR DETAILS OF HARDWARE AND COMPONENTS NOT FOUND ON THIS SHEET, SEE SHEET GR-HW.
- DETAILS PERTINENT TO THE STANDARD INSTALLATION OF "W" BEAM SECTIONS WILL BE FOUND ON SHEET GR-1, FOR WOOD POSTS, AND GR-1B, FOR STEEL POSTS.
- FOR OTHER DETAILS OF POSTS, POST ACCESSORIES, FASTENERS AND RAIL ELEMENTS, SEE AASHTO-AGC-ARTBA JOINT TASK FOR NO. 13, TITLED "A GUIDE TO STANDARDIZED HIGHWAY BARRIER HARDWARE," LATEST EDITION.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN	
				REVISION	<b>GUARDRAIL: TYPE 1 CABLE ANCHORAGE (FOUNDATION TUBE)</b>	
				DATE	ISSUE DATE: AUGUST 01, 2017	
					WORKING NUMBER GR-3	SHEET NUMBER 6212



NOTE: THE "POST 2" ASSEMBLY DEPENDS ON WHETHER THE TRAILING END TERMINAL IS ATTACHED TO THE STANDARD WOOD OR STEEL POST "W" BEAM GUARDRAIL INSTALLATION AS FOLLOWS:

- WOOD POST INSTALLATION (SHOWN)**  
"W" BEAM TERMINAL RAIL SECTION, 6" X 12" WOOD BLOCKOUT, 14" LONG, AND 6" X 8" WOOD POST, 6'-0" LONG, ATTACHED WITH GUARDRAIL BOLT "D" AND RECESSED NUT. INSTALL RECTANGULAR GUARDRAIL PLATE WASHER UNDER HEAD AND PLAIN ROUND WASHER "F" UNDER RECESSED NUT.
- STEEL POST INSTALLATION**  
"W" BEAM TERMINAL RAIL SECTION, 6" X 12" MODIFIED WOOD BLOCKOUT, 14" LONG, AND W6 X 9 STEEL POST, 6'-0" LONG, ATTACHED WITH GUARDRAIL BOLT "C" AND RECESSED NUT. INSTALL RECTANGULAR GUARDRAIL PLATE WASHER UNDER GUARDRAIL BOLT HEAD.

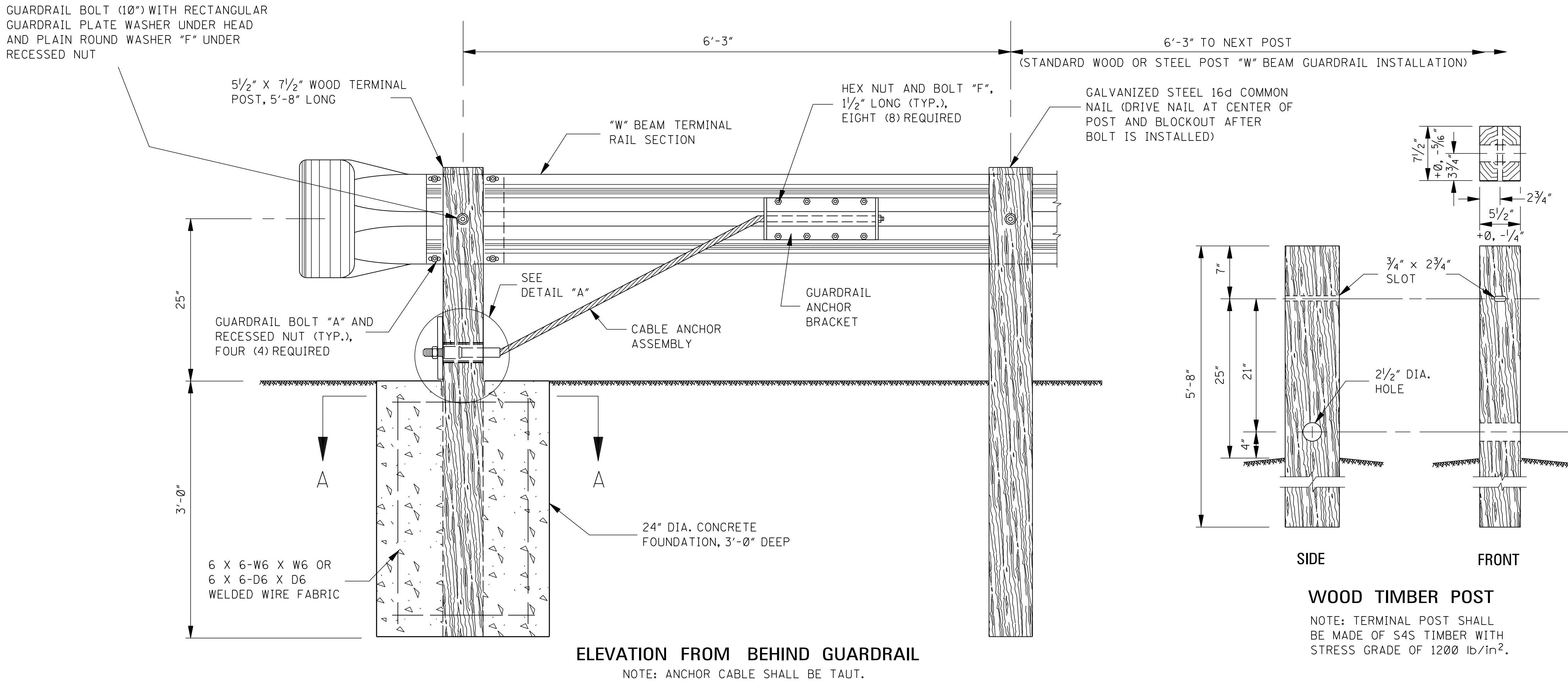


#### ROUNDED "W" BEAM END SECTION

NOTE: THE CROSS-SECTIONAL DIMENSIONS FOR THIS PART ARE TO FIT OVER THE STANDARD "W" BEAM SECTION.

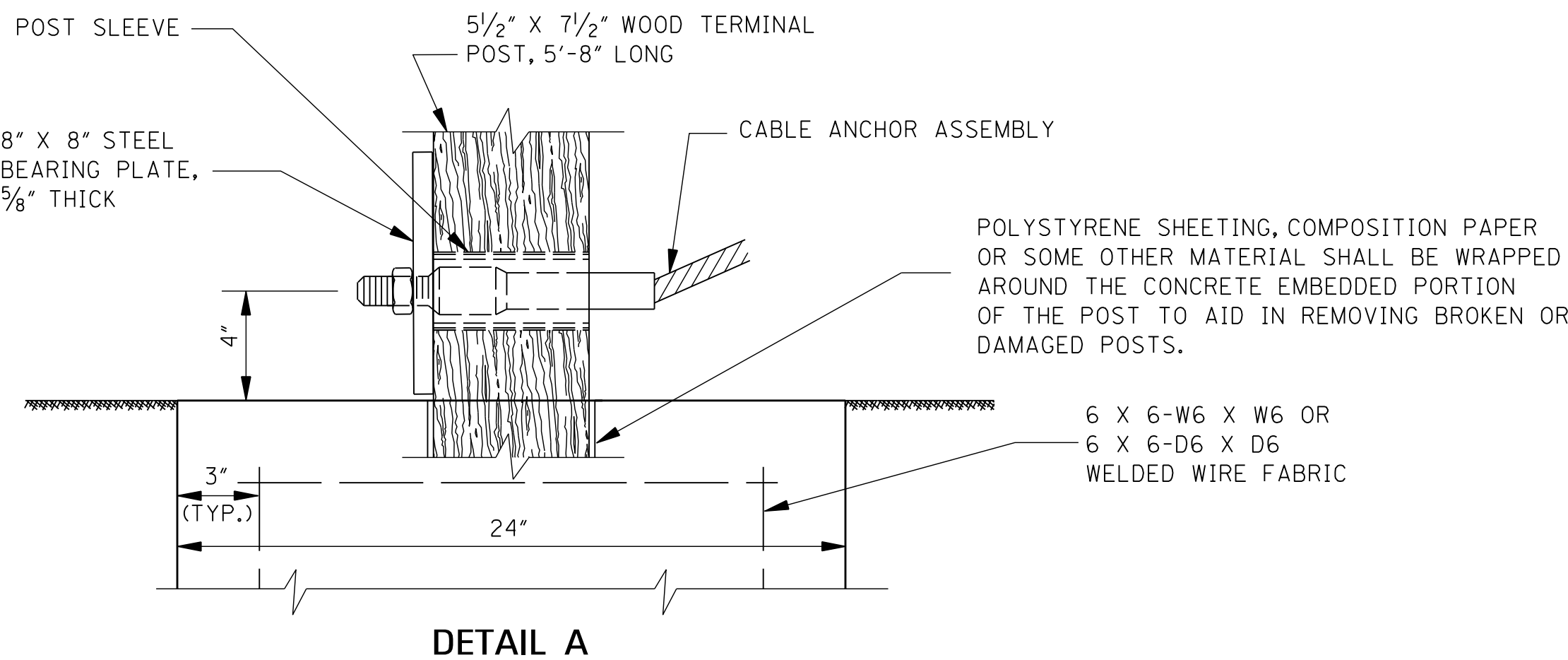
#### GENERAL NOTES:

- THIS ANCHORAGE MAY ONLY BE USED ON THE TRAILING END OF A BARRIER WHICH IS NOT EXPOSED TO VEHICULAR IMPACT.
- GUARDRAIL SHALL MEET THE REQUIREMENTS OF AASHTO M 180, CLASS A, TYPE 1 UNLESS OTHERWISE DESIGNATED.
- ALL WOOD POSTS AND BLOCKOUTS SHALL BE TREATED TIMBER IN ACCORDANCE WITH MISSISSIPPI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
- CONCRETE FOR THE CONCRETE FOUNDATION MAY BE EITHER CLASS "B" STRUCTURAL CONCRETE OR AN APPROVED COMMERCIAL PRE-MIXED BAG CONCRETE. THE WELDED WIRE FABRIC FOR THE CONCRETE FOUNDATION SHALL CONFORM TO AASHTO M 221/M 221M AND AASHTO M 55/M 55.
- FOR DETAILS OF HARDWARE AND COMPONENTS NOT FOUND ON THIS SHEET, SEE SHEET GR-HW.
- DETAILS PERTINENT TO THE STANDARD INSTALLATION OF "W" BEAM SECTIONS WILL BE FOUND ON SHEET GR-1, FOR WOOD POSTS, AND GR-1B, FOR STEEL POSTS.
- FOR OTHER DETAILS OF POSTS, POST ACCESSORIES, FASTENERS AND RAIL ELEMENTS, SEE AASHTO-AGC-ARTBA JOINT TASK FOR NO. 13, TITLED "A GUIDE TO STANDARDIZED HIGHWAY BARRIER HARDWARE," LATEST EDITION.

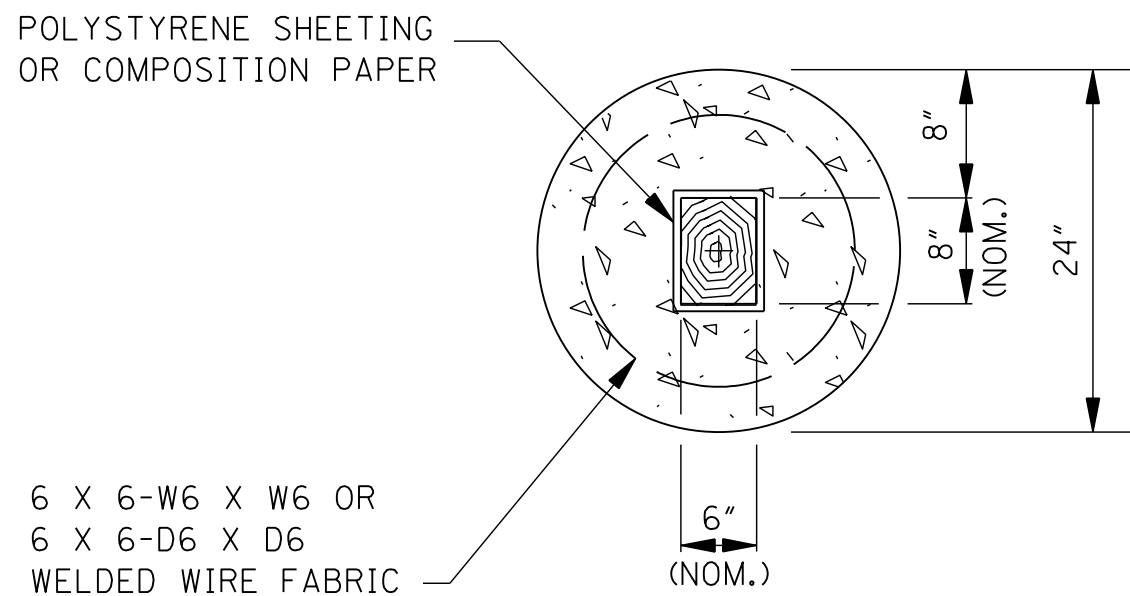


#### ELEVATION FROM BEHIND GUARDRAIL

NOTE: ANCHOR CABLE SHALL BE TAUT.



#### DETAIL A

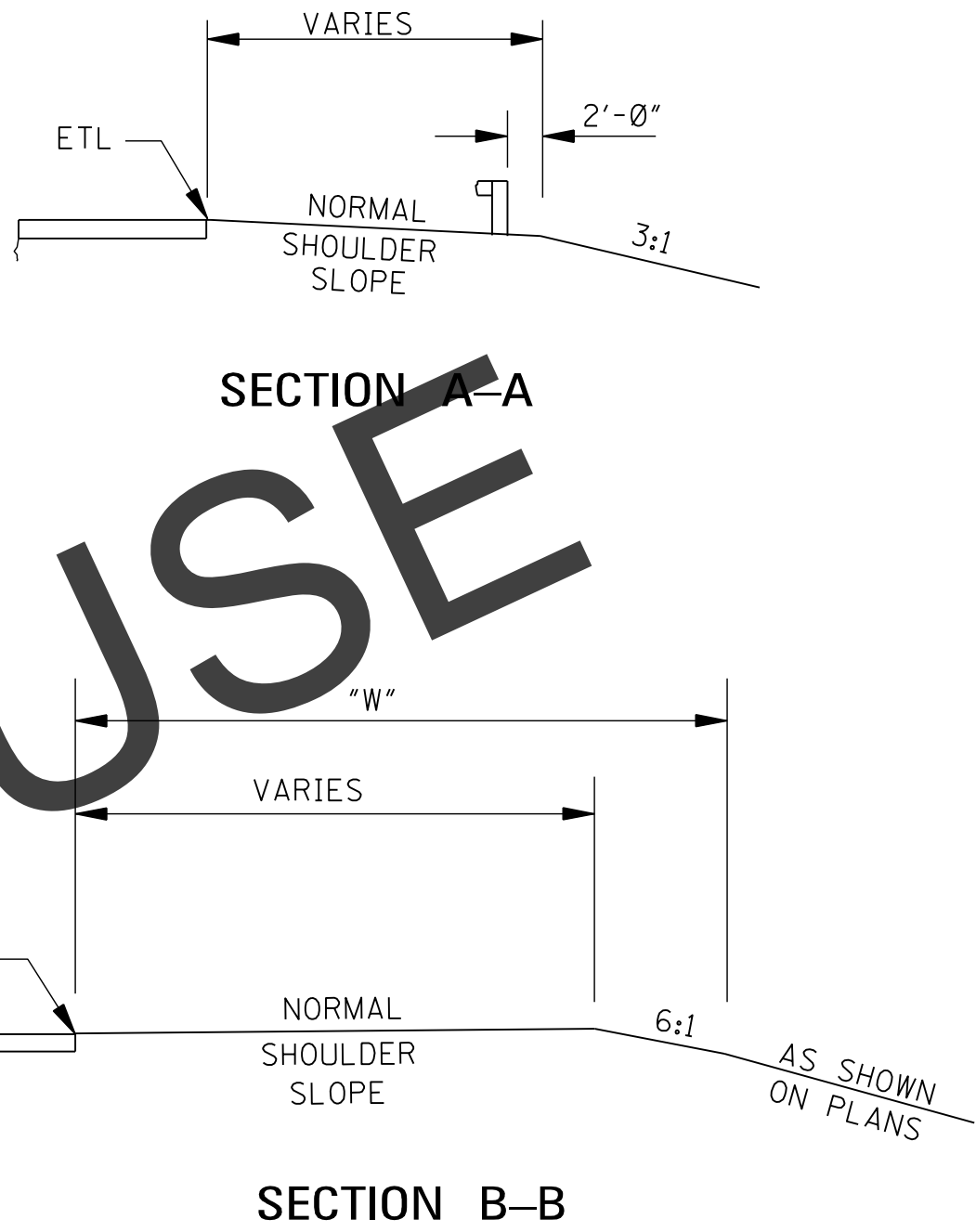
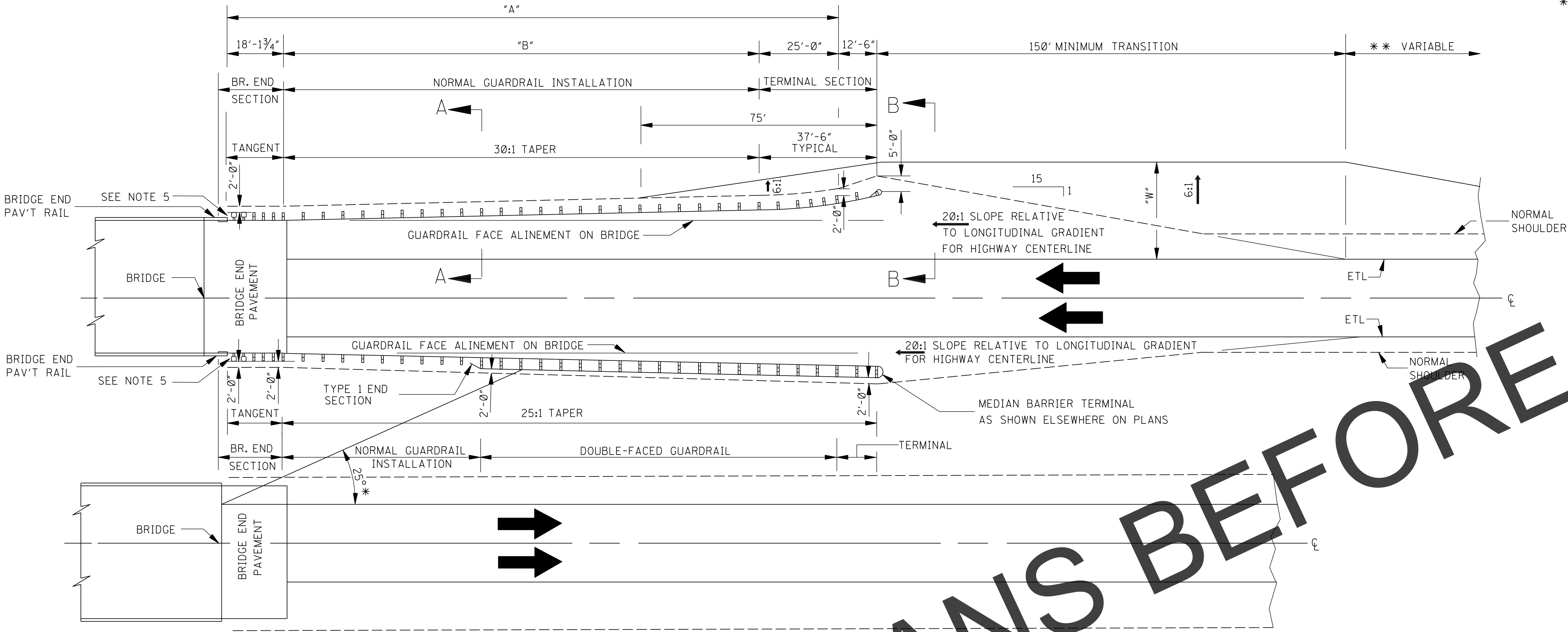


#### SECTION A-A

NOTE: FORM A NOMINAL 6" X 8" SOCKET IN THE FOUNDATION TO RECEIVE THE 5/2" X 7/2" TIMBER POST. FORM HOLE WITH 1/2" THICK POLYSTYRENE FOAM SHEETING OR WRAP THE TIMBER POST IN A DOUBLE LAYER OF COMPOSITION PAPER. THE LAYER OF SHEETING OR PAPER WILL AID IN REMOVING A DAMAGED POST.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>GUARDRAIL: TYPE 1 CABLE ANCHORAGE (CONCRETE FOOTING)</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					WORKING NUMBER GR-3A SHEET NUMBER 6213

\*\*\* NOTE: IF FORESLOPE, SHOWN ELSEWHERE ON PLANS, IS OTHER THAN 6:1, TRANSITION WILL OCCUR IN AREA SHOWN.

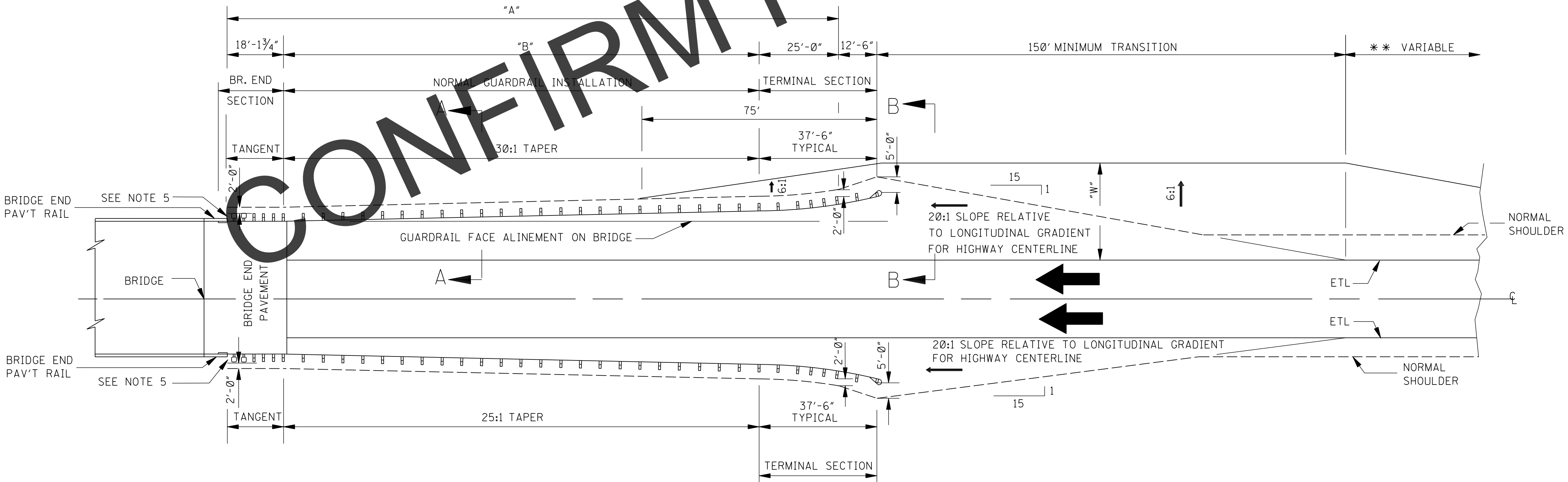


DIVIDED HIGHWAY WITH BARRIER INSIDE CLEAR ZONE OF OPPOSING TRAFFIC


\* NOTE: THE 25° LINE IS USED TO DETERMINE THE LIMITS OF MEDIAN BARRIER AS SHOWN.

GENERAL NOTES:

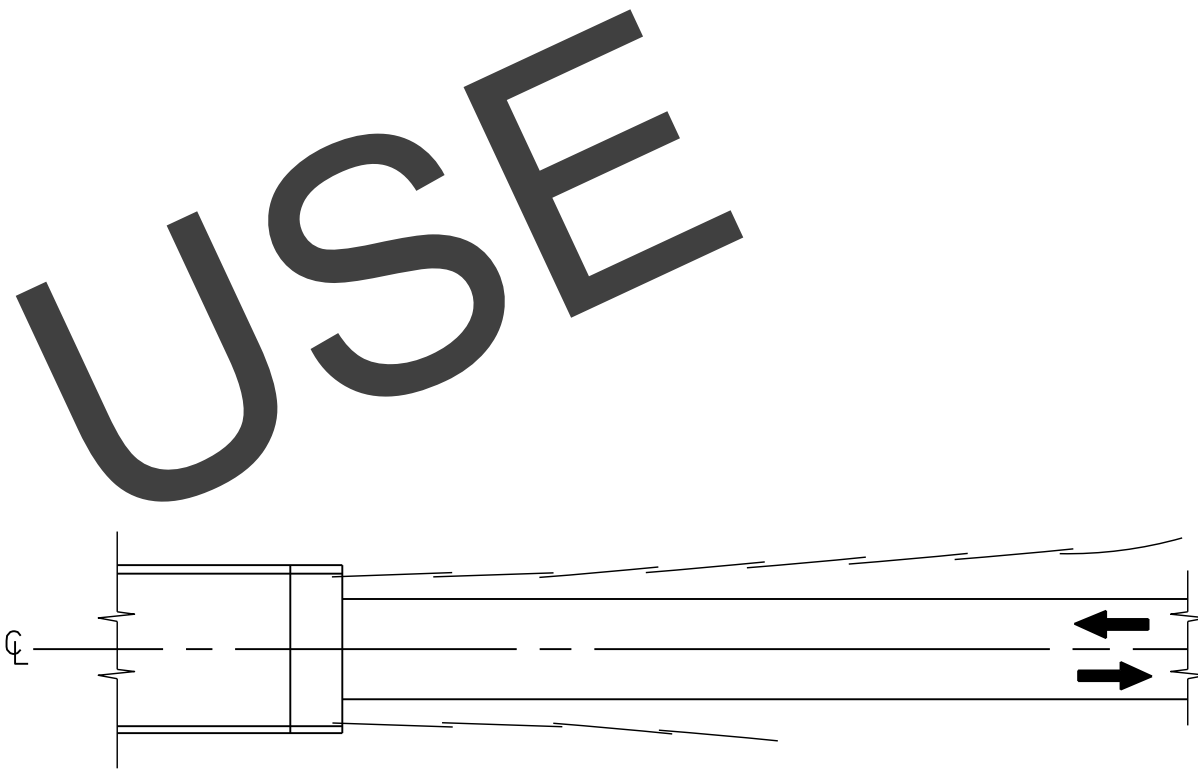
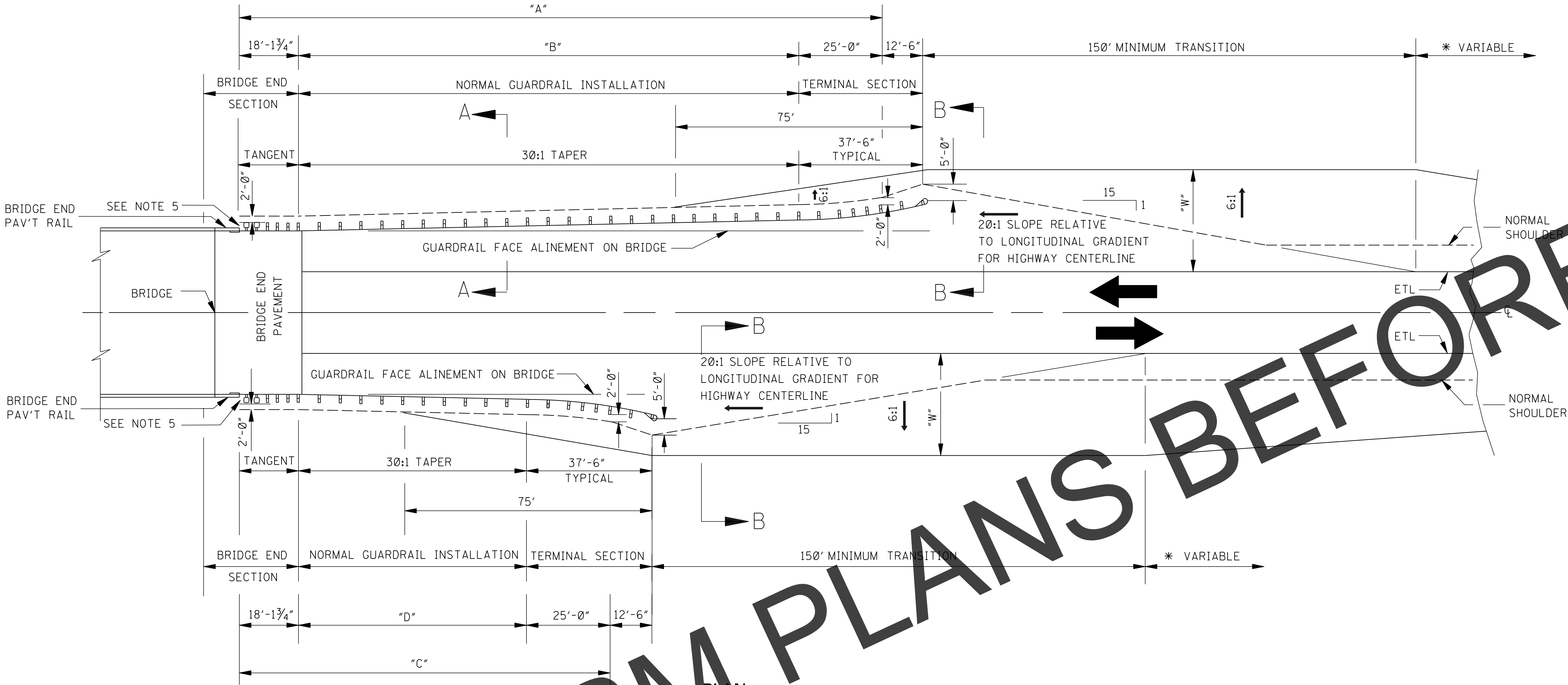
- VALUES FOR "A" AND "B" WILL BE SHOWN ELSEWHERE ON THE PLANS.
- FOR DETAILS PERTINENT TO INSTALLATION OF THE TERMINAL SECTION, SEE MANUFACTURER'S SPECIFICATIONS AND DRAWINGS OR ELSEWHERE ON PLANS
- GUARDRAIL SECTIONS SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC FLOW NEAREST THE GUARDRAIL FACE.
- THE OVERALL LENGTH OF GUARDRAIL IS MEASURED FROM THE CONNECTING END ON THE BRIDGE.
- IN THE ABSENCE OF A BRIDGE END PAVEMENT RAIL, CONNECT THE BRIDGE END SECTION TO THE BRIDGE RAIL (SEE WK. NOS. GR-2 THRU GR-20). THE SHOULDER WIDTH AT THE BRIDGE END PAVEMENT RAIL OR BRIDGE END RAIL SHOULD BE SUFFICIENTLY WIDE TO PROVIDE A MINIMUM OF 2'-0" BEHIND THE BACK OF POST BEFORE THE SLOPE BREAK (HINGEPOINT).
- TYPE, DETAILS AND LIMITS OF GUARDRAIL BRIDGE END SECTION WILL BE SHOWN ELSEWHERE ON THE PLANS.
- W = SHOULDER WIDTH + FORESLOPE WIDTH. DIMENSIONS FOUND ELSEWHERE ON THE PLANS.
- FOR DIVIDED HIGHWAYS WITH THREE (3) OR MORE LANES IN ONE DIRECTION, THE MEDIAN BARRIER MAY REQUIRE A TAPER RATE OTHER THAN 25:1.



DIVIDED HIGHWAY WITH BARRIER OUTSIDE CLEAR ZONE OF OPPOSING TRAFFIC

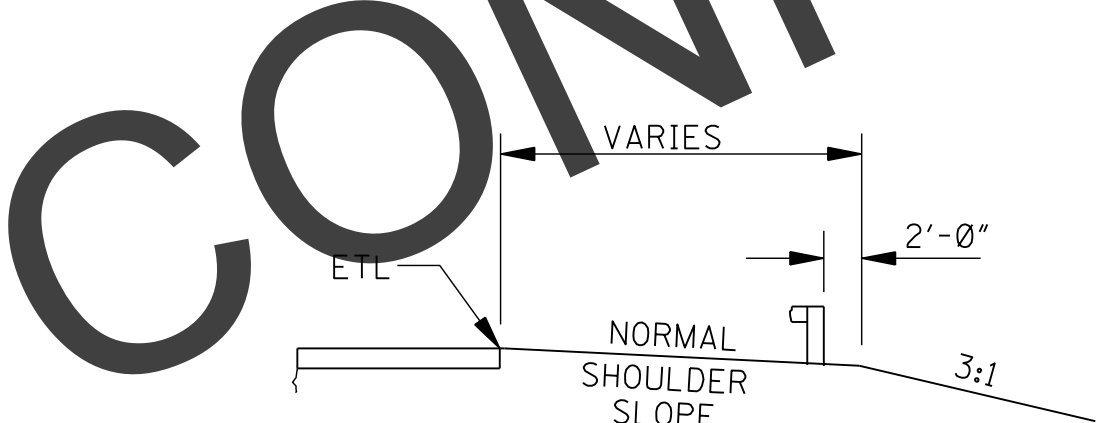
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>GUARDRAIL: TYPICAL INSTALLATION AT BRIDGE APPROACHES FOR DIVIDED HIGHWAYS</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					 WORKING NUMBER GR-4 SHEET NUMBER 6214

\* NOTE: IF FORESLOPE, SHOWN ELSEWHERE ON PLANS, IS OTHER THAN 6:1, TRANSITION WILL OCCUR IN AREA SHOWN.

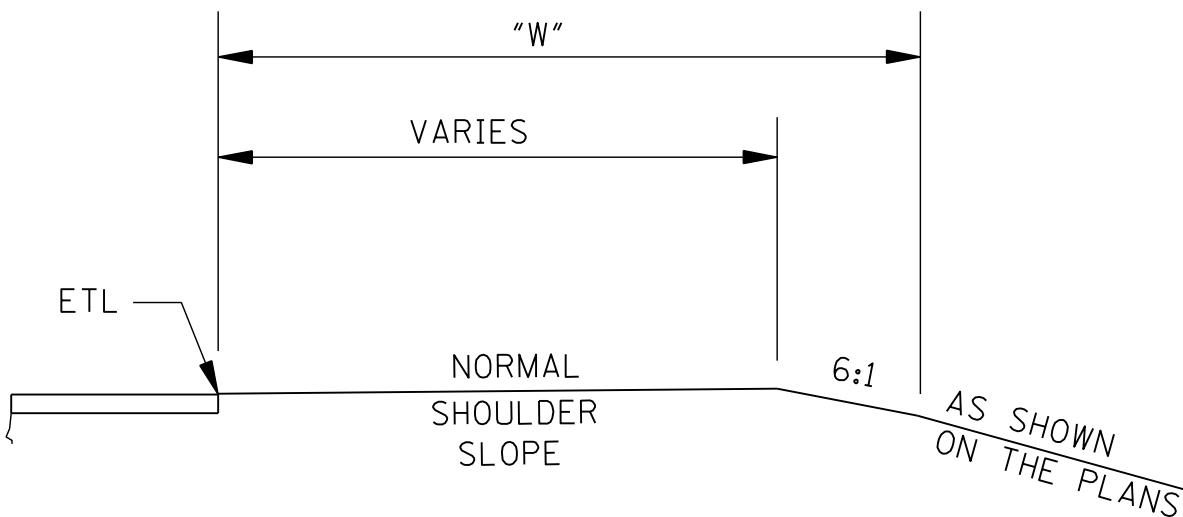


DETAIL OF GUARDRAIL SECTION LAPS


- GENERAL NOTES:
- VALUES FOR "A", "B", "C" AND "D" WILL BE SHOWN ELSEWHERE ON THE PLANS.
  - FOR DETAILS PERTINENT TO INSTALLATION OF THE TERMINAL SECTION, SEE MANUFACTURER'S SPECIFICATIONS AND DRAWINGS OR ELSEWHERE ON PLANS
  - GUARDRAIL SECTIONS SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC APPROACHING THE BRIDGE.
  - THE OVERALL LENGTH OF GUARDRAIL IS MEASURED FROM THE CONNECTING END ON THE BRIDGE.
  - IN THE ABSENCE OF A BRIDGE END PAVEMENT RAIL, CONNECT THE BRIDGE END SECTION TO THE BRIDGE RAIL (SEE WK. NOS. GR-2 THRU GR-2G). THE SHOULDER WIDTH AT THE BRIDGE END PAVEMENT RAIL OR BRIDGE END RAIL SHOULD BE SUFFICIENTLY WIDE TO PROVIDE A MINIMUM OF 2'-0" BEHIND THE BACK OF POST BEFORE THE SLOPE BREAK (HINGEPOINT).
  - TYPE, DETAILS AND LIMITS OF GUARDRAIL BRIDGE END SECTION WILL BE SHOWN ELSEWHERE ON THE PLANS.
  - W = SHOULDER WIDTH + FORESLOPE WIDTH. DIMENSIONS FOUND ELSEWHERE ON THE PLANS.



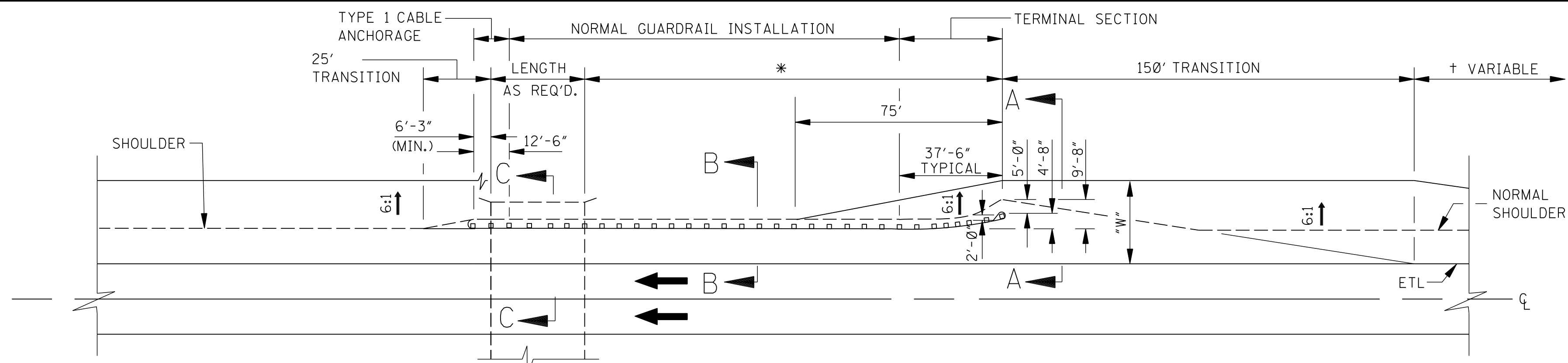
SECTION A-A



SECTION B-B

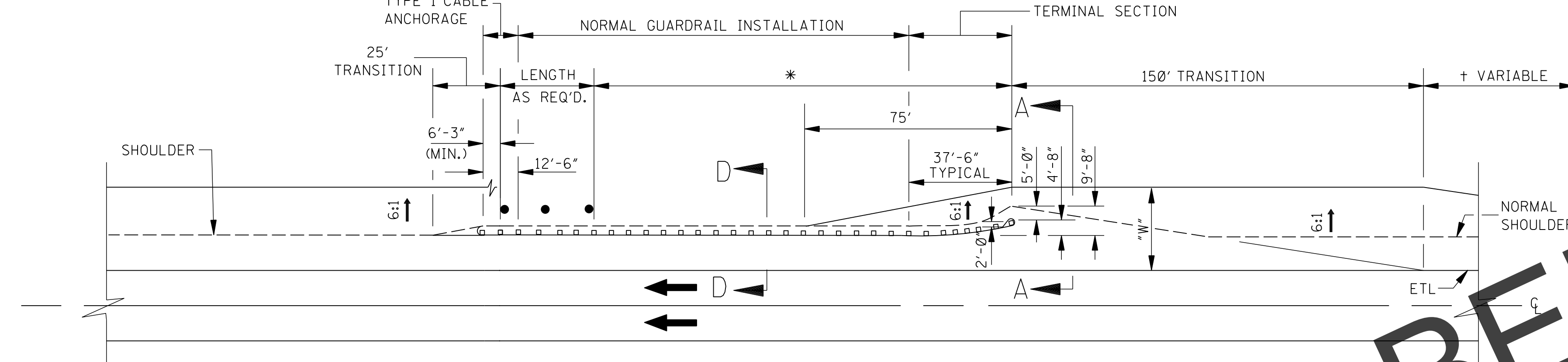
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>GUARDRAIL: TYPICAL INSTALLATION AT BRIDGE APPROACHES FOR 2-LANE, 2-WAY HIGHWAY</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					 WORKING NUMBER GR-4A SHEET NUMBER 6215





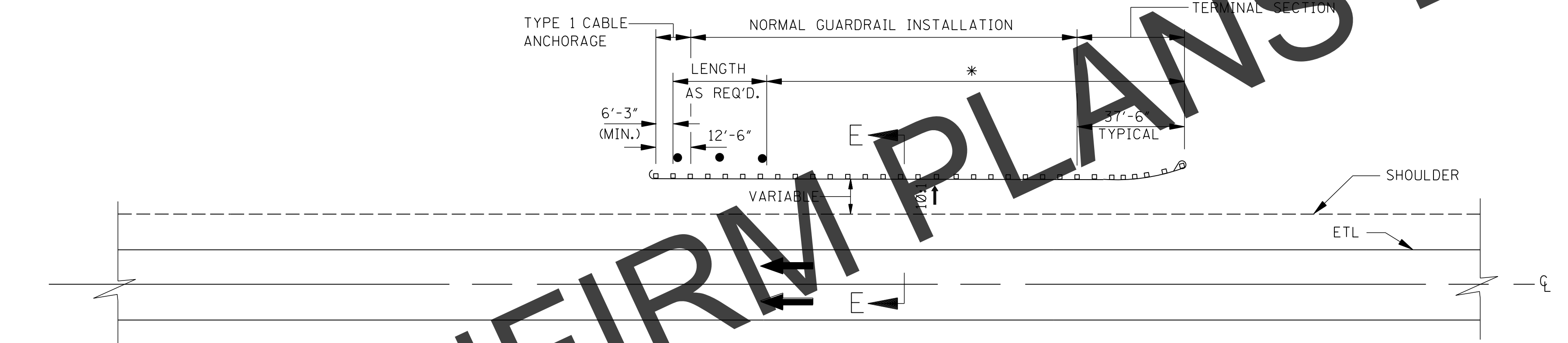
TYPICAL INSTALLATION FOR CULVERT

\* NOTE: DISTANCE REQUIRED SHOWN ELSEWHERE ON PLANS.



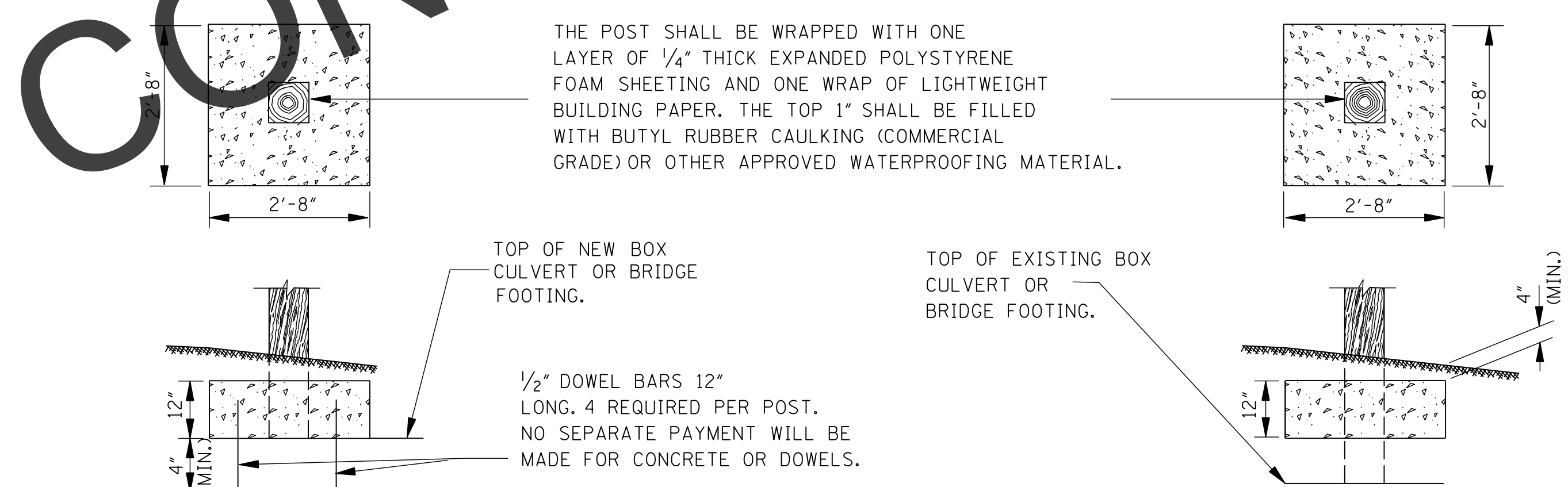
TYPICAL INSTALLATION FOR ROADSIDE OBSTACLE ON SIDE SLOPE STEEPER THAN 10:1

\* NOTE: DISTANCE REQUIRED SHOWN ELSEWHERE ON PLANS.



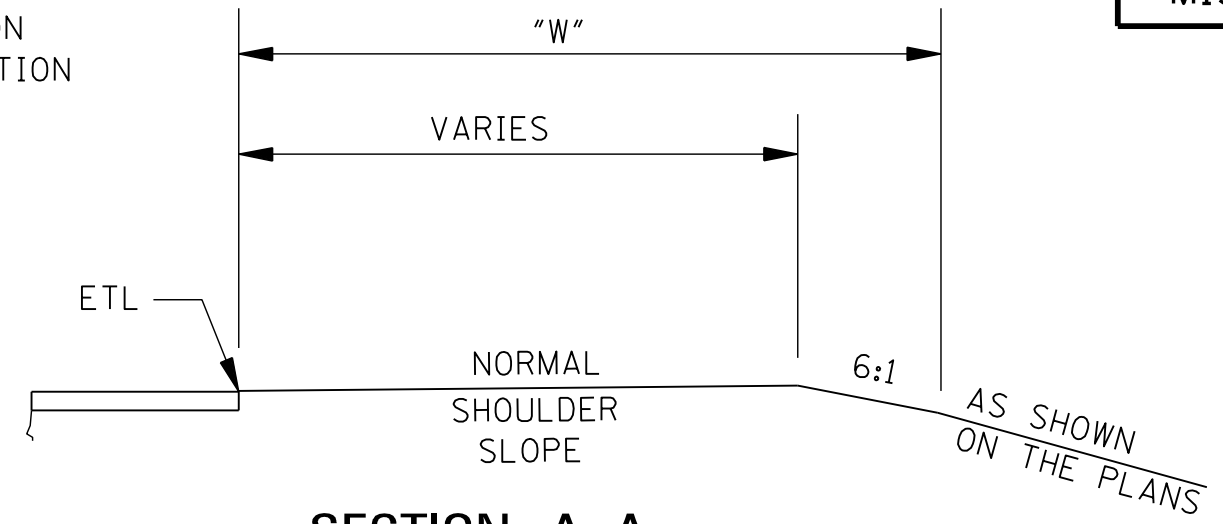
TYPICAL INSTALLATION FOR ROADSIDE OBSTACLE ON SIDE SLOPE 10:1 OR FLATTER

\* NOTE: DISTANCE REQUIRED SHOWN ELSEWHERE ON PLANS.

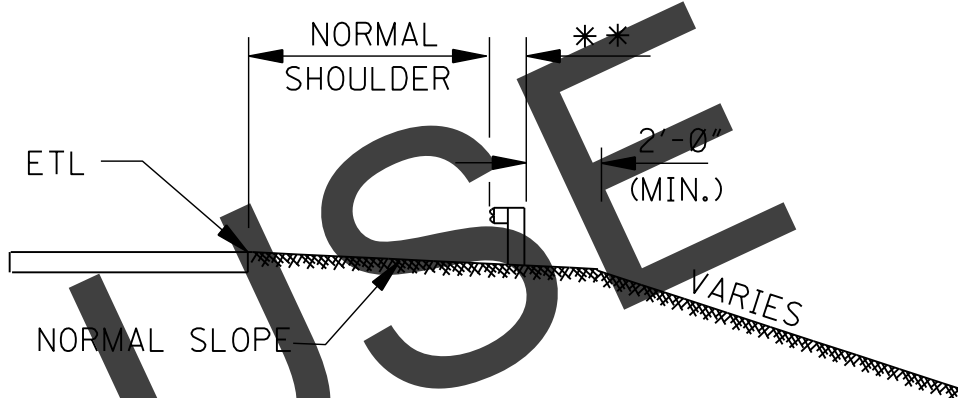


DETAIL OF POST INSTALLATION WITH COVER LESS THAN NORMAL POST LENGTH

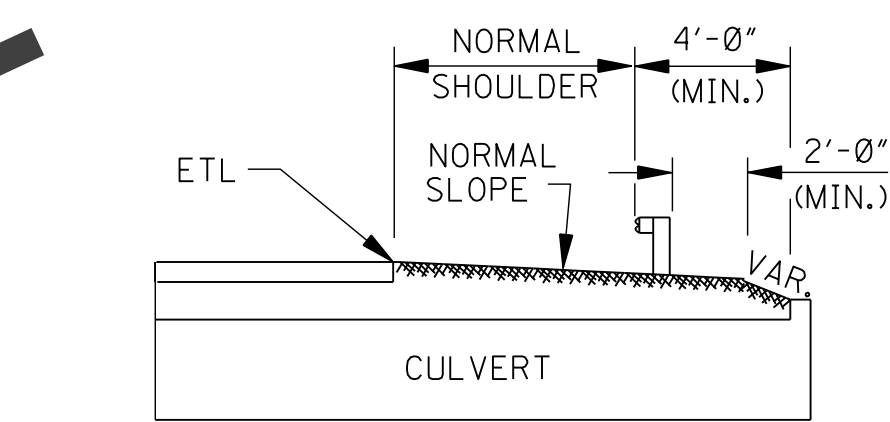
+ NOTE: IF FORESLOPE, SHOWN ELSEWHERE ON PLANS, IS OTHER THAN 6:1, TRANSITION WILL OCCUR IN AREA SHOWN.



SECTION A-A

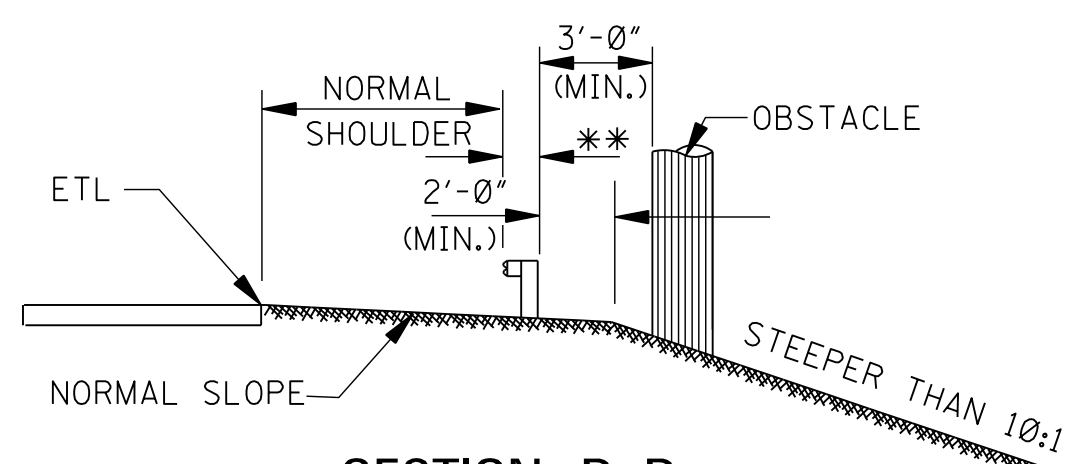


SECTION B-B

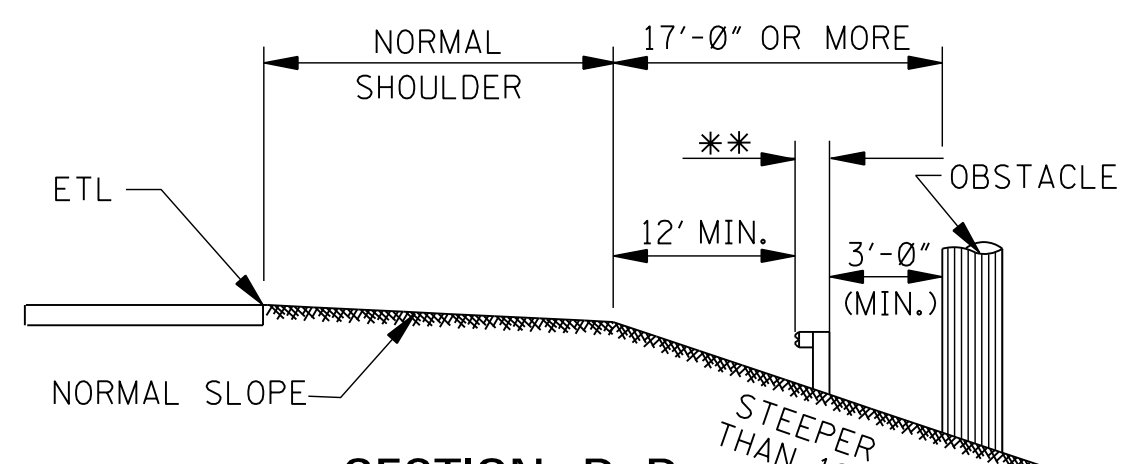


SECTION C-C

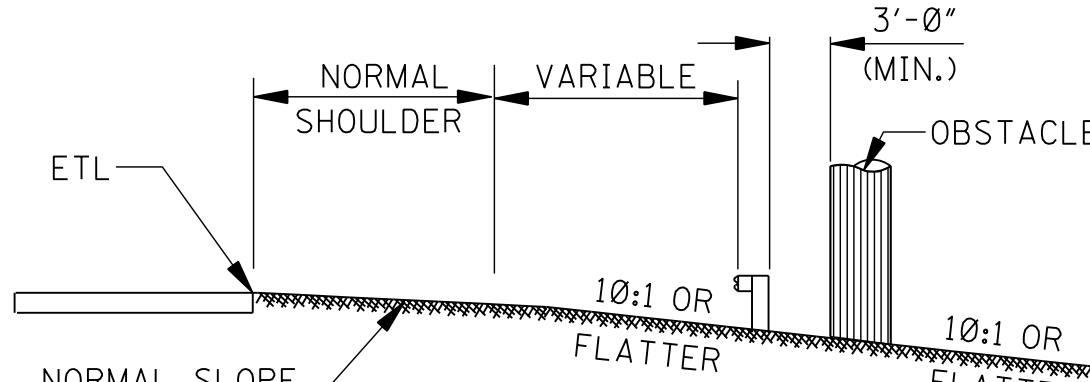
\*\* NOTE: FOR STEEL POST AND MODIFIED WOOD BLOCKOUT, 20.78°. FOR WOOD POST AND BLOCKOUT, 23.25°.



SECTION D-D  
FOR OBSTACLES 5' TO 17'  
FROM NORMAL SHOULDER



SECTION D-D  
FOR OBSTACLES 17' OR  
MORE FROM NORMAL SHOULDER



SECTION E-E

GENERAL NOTES:

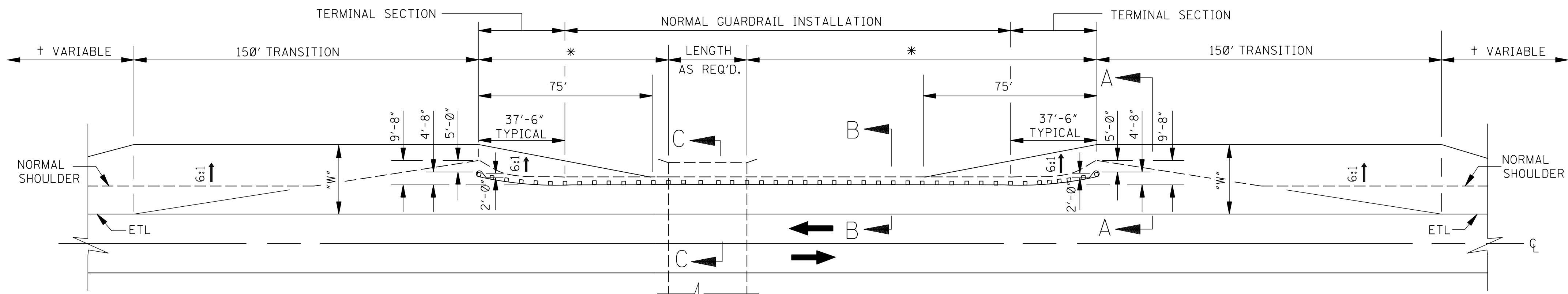
- FOR DETAILS PERTINENT TO INSTALLATION OF THE TERMINAL SECTION, SEE MANUFACTURER'S SPECIFICATIONS AND DRAWINGS OR ELSEWHERE ON PLANS
- GUARDRAIL SECTIONS TO BE LAPPED IN THE DIRECTION OF TRAFFIC FLOW NEAREST THE GUARDRAIL FACE.
- PAY LIMITS FOR NORMAL GUARDRAIL INSTALLATION WILL BE THE TOTAL LENGTH LESS THE LENGTHS OF END TERMINALS.
- W = SHOULDER WIDTH + FORESLOPE WIDTH. DIMENSIONS FOUND ELSEWHERE ON THE PLANS.

BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION
REVISION	ROADWAY DESIGN DIVISION
DATE	STANDARD PLAN
ISSUE DATE:	AUGUST 01, 2017

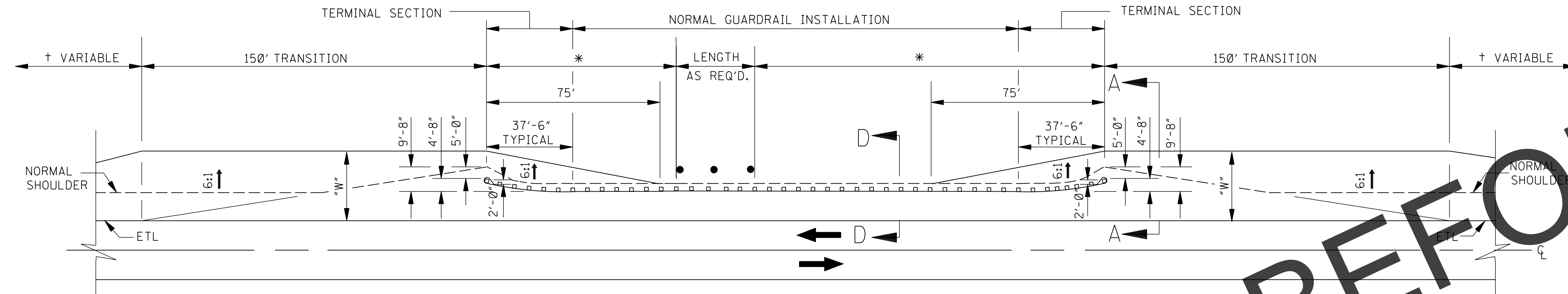
**GUARDRAIL:**  
**TYPICAL INSTALLATION**  
**FOR ROADSIDE HAZARDS**  
**ON DIVIDED HIGHWAYS**

WORKING NUMBER  
GR-4B

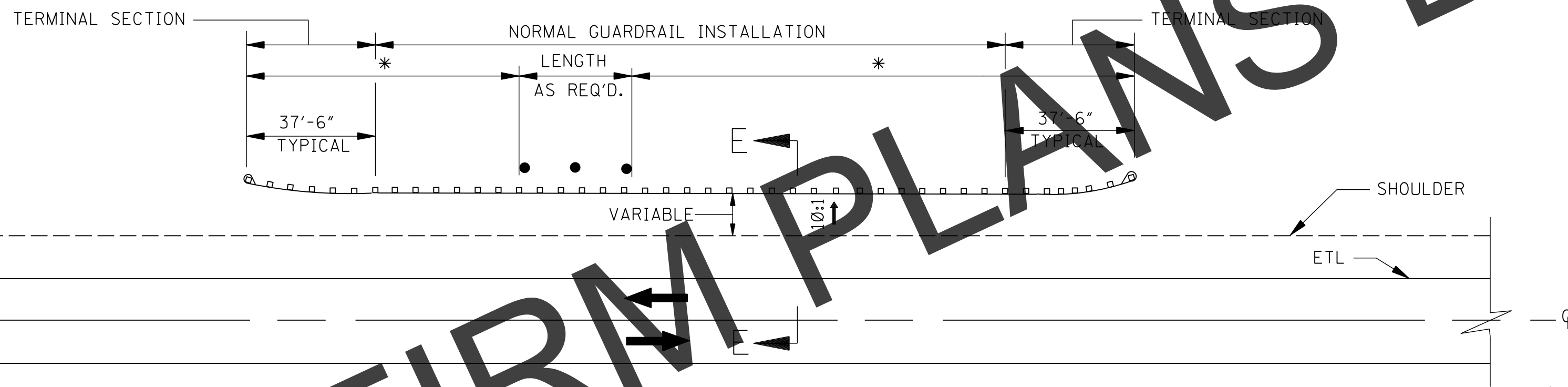
SHEET NUMBER  
6216



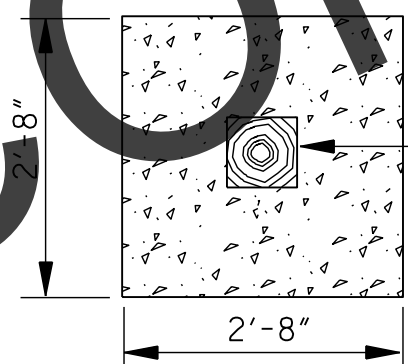
**TYPICAL INSTALLATION FOR CULVERT**  
\* NOTE: DISTANCE REQUIRED SHOWN ELSEWHERE ON PLANS.



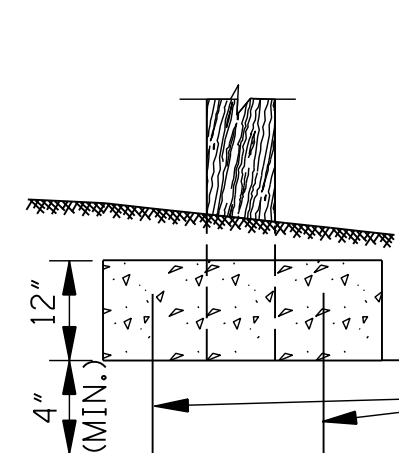
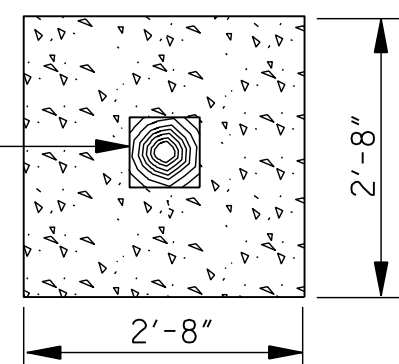
**TYPICAL INSTALLATION FOR ROADSIDE OBSTACLE ON SIDE SLOPE STEEPER THAN 10:1**  
\* NOTE: DISTANCE REQUIRED SHOWN ELSEWHERE ON PLANS.



**TYPICAL INSTALLATION FOR ROADSIDE OBSTACLE ON SIDE SLOPE 10:1 OR FLATTER**  
\* NOTE: DISTANCE REQUIRED SHOWN ELSEWHERE ON PLANS.

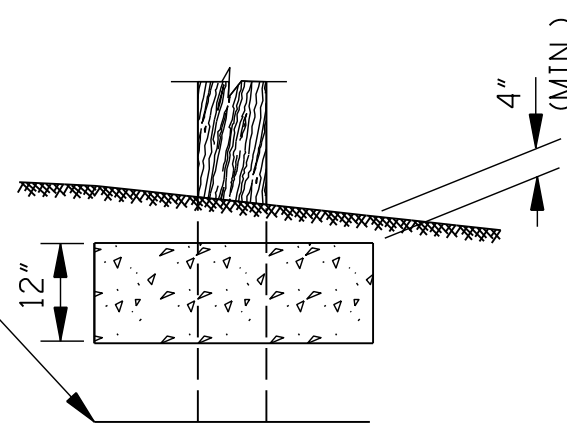


THE POST SHALL BE WRAPPED WITH ONE LAYER OF 1/4" THICK EXPANDED POLYSTYRENE FOAM SHEETING AND ONE WRAP OF LIGHTWEIGHT BUILDING PAPER. THE TOP 1" SHALL BE FILLED WITH BUTYL RUBBER CAULKING (COMMERCIAL GRADE) OR OTHER APPROVED WATERPROOFING MATERIAL.

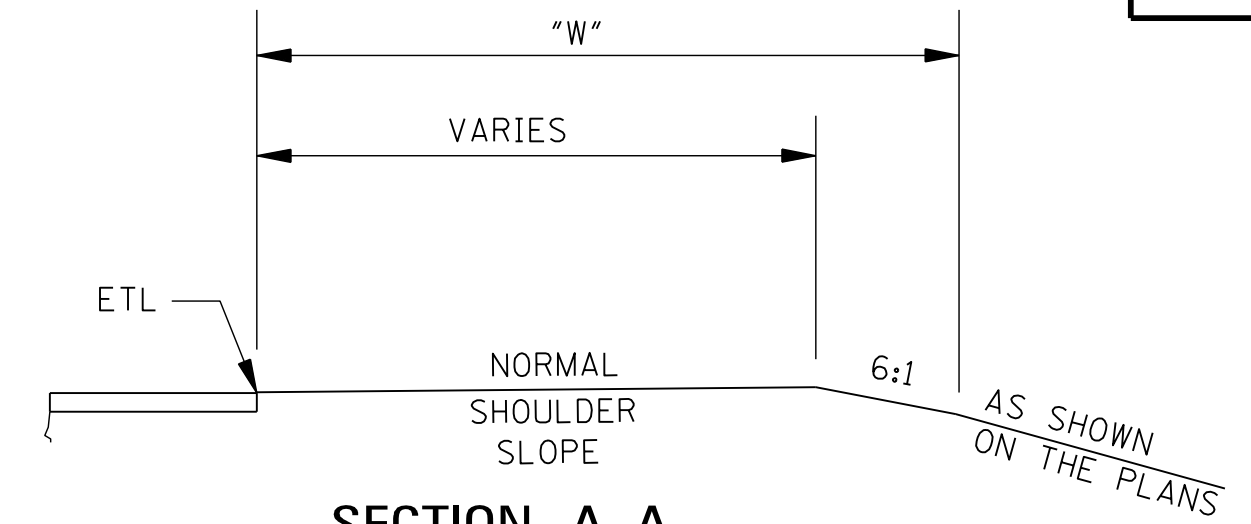


TOP OF NEW BOX CULVERT OR BRIDGE FOOTING.  
1/2" DOWEL BARS 12" LONG, 4 REQUIRED PER POST. NO SEPARATE PAYMENT WILL BE MADE FOR CONCRETE OR DOWELS.

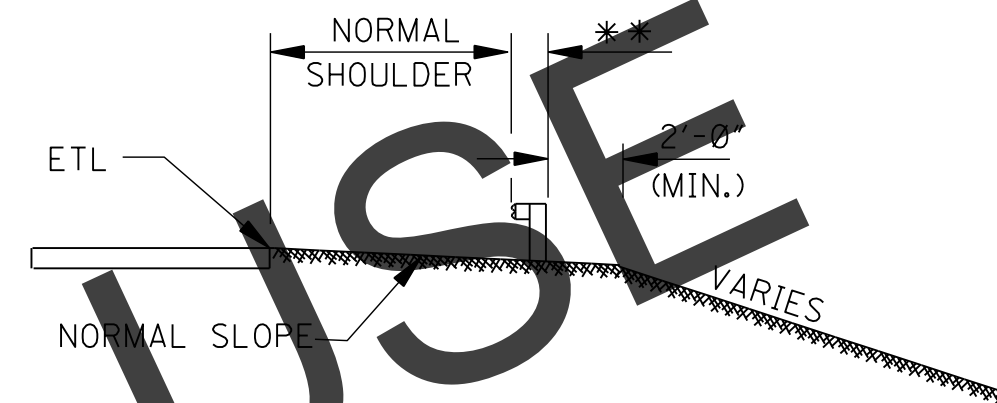
TOP OF EXISTING BOX CULVERT OR BRIDGE FOOTING.



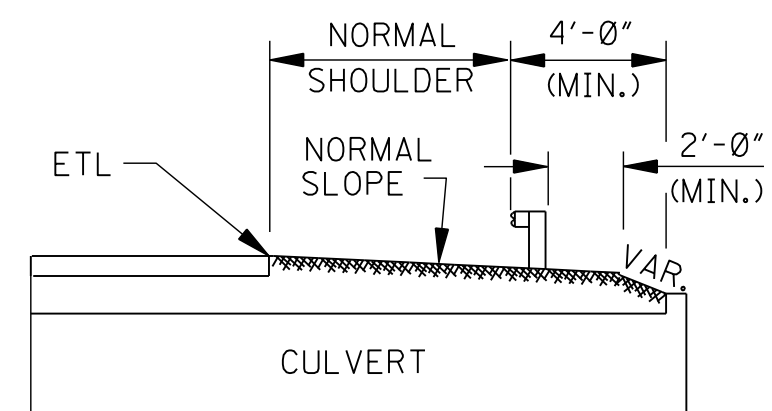
**DETAIL OF POST INSTALLATION WITH COVER LESS THAN NORMAL POST LENGTH**



**SECTION A-A**

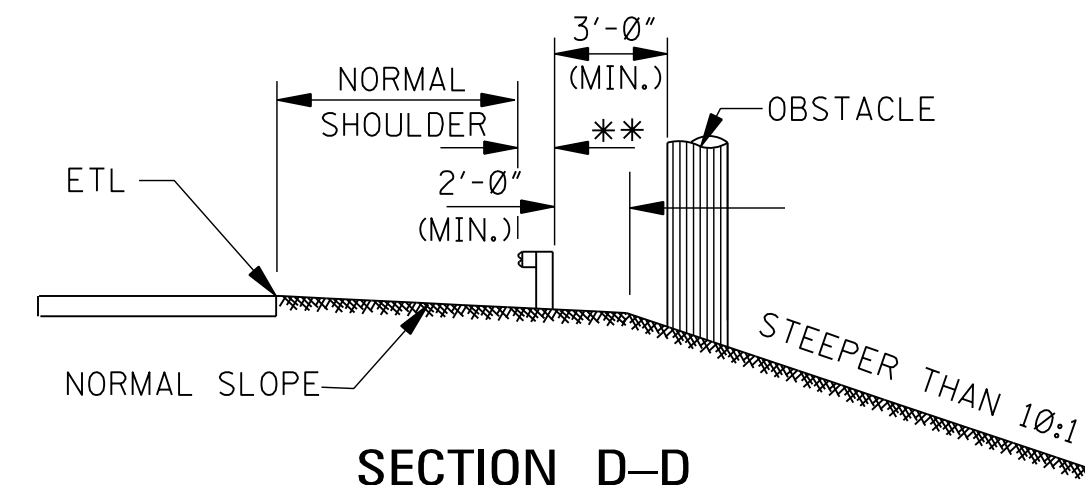


**SECTION B-B**

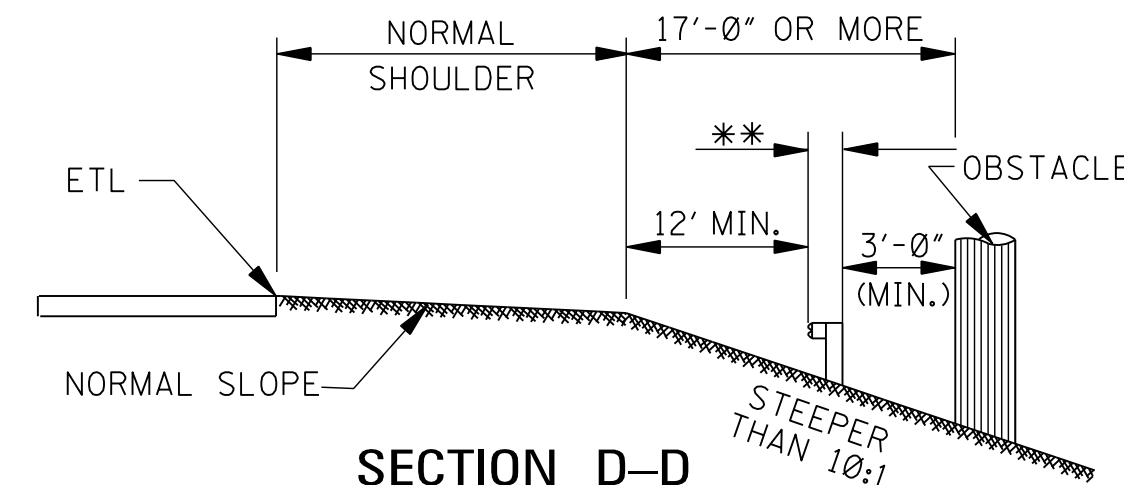


**SECTION C-C**

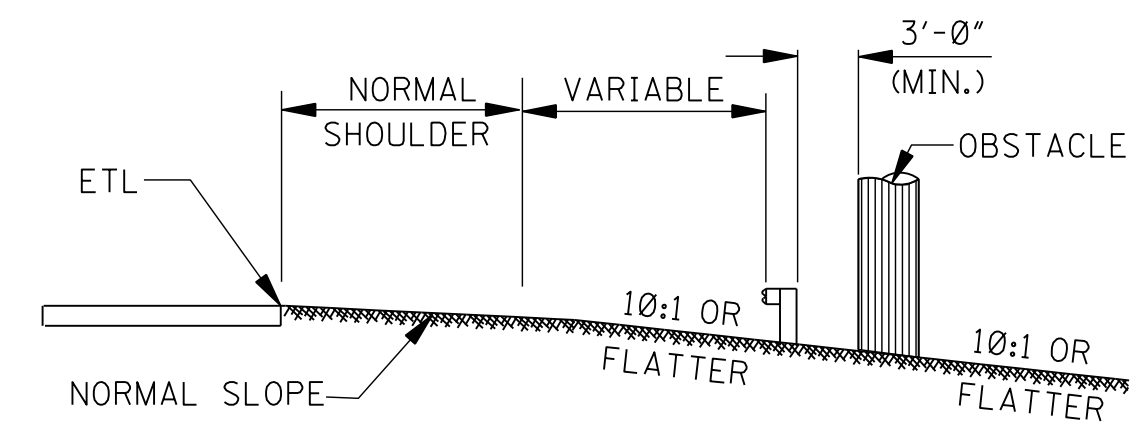
\*\* NOTE: FOR STEEL POST AND MODIFIED WOOD BLOCKOUT, 20.78". FOR WOOD POST AND WOOD BLOCKOUT, 23.25".



**SECTION D-D**  
FOR OBSTACLES 5' TO 17' FROM NORMAL SHOULDER



**SECTION D-D**  
FOR OBSTACLES 17' OR MORE FROM NORMAL SHOULDER



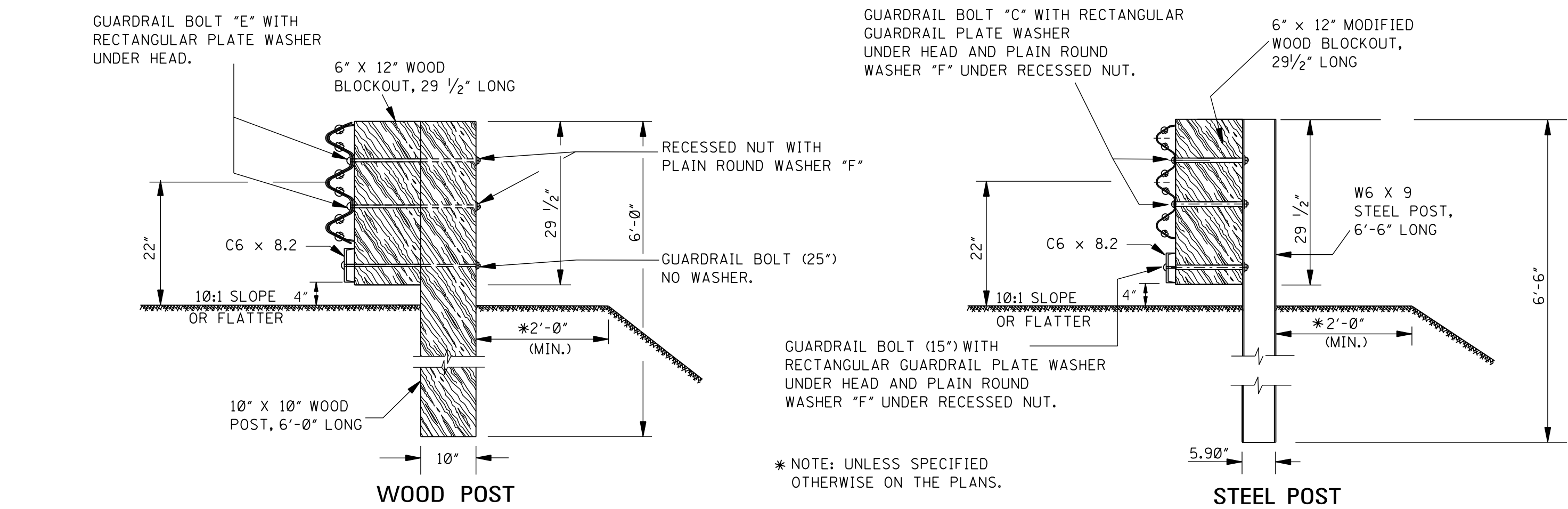
**SECTION E-E**

+ NOTE: IF FORESLOPE, SHOWN ELSEWHERE ON PLANS, IS OTHER THAN 6:1, TRANSITION WILL OCCUR IN AREA SHOWN.

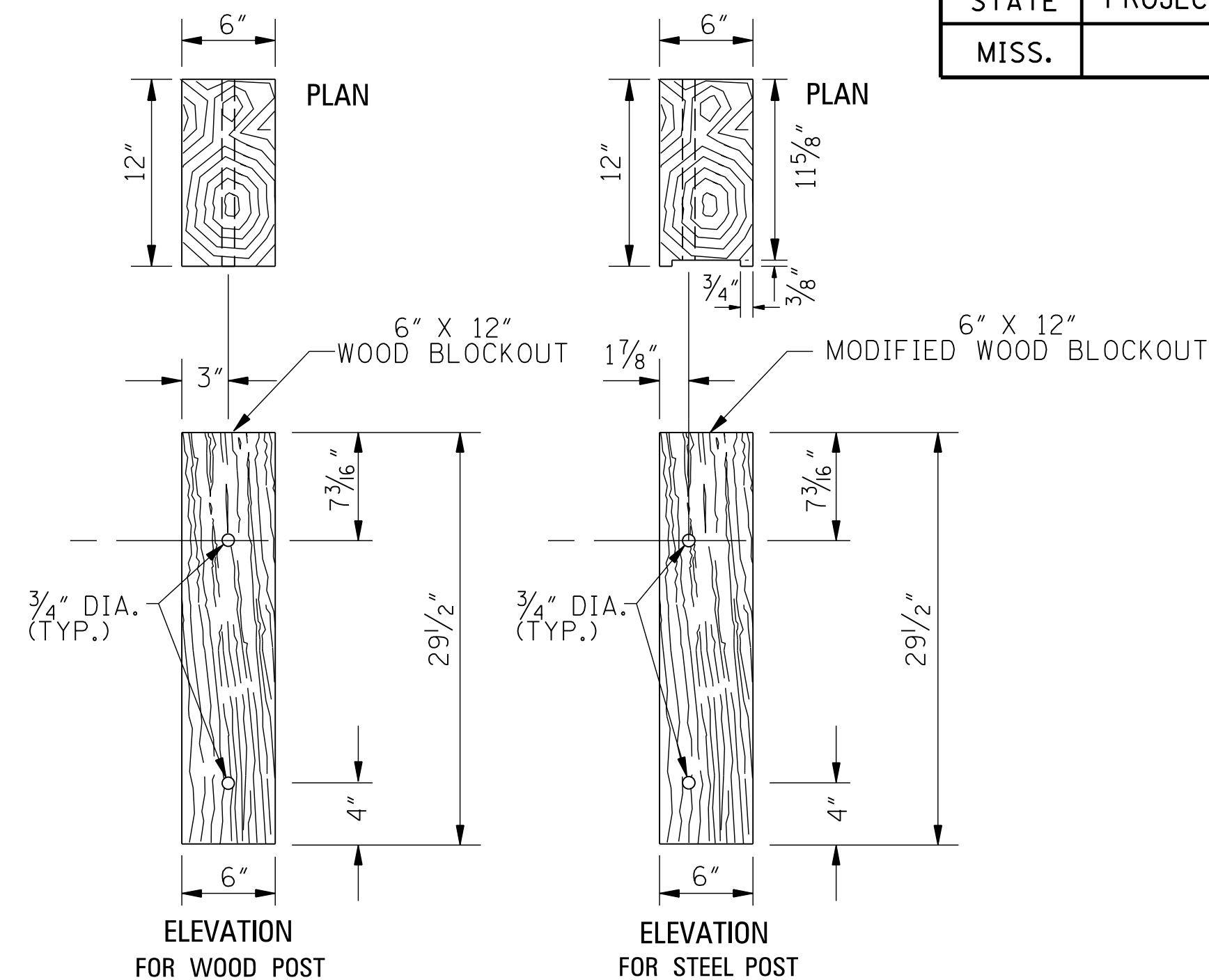
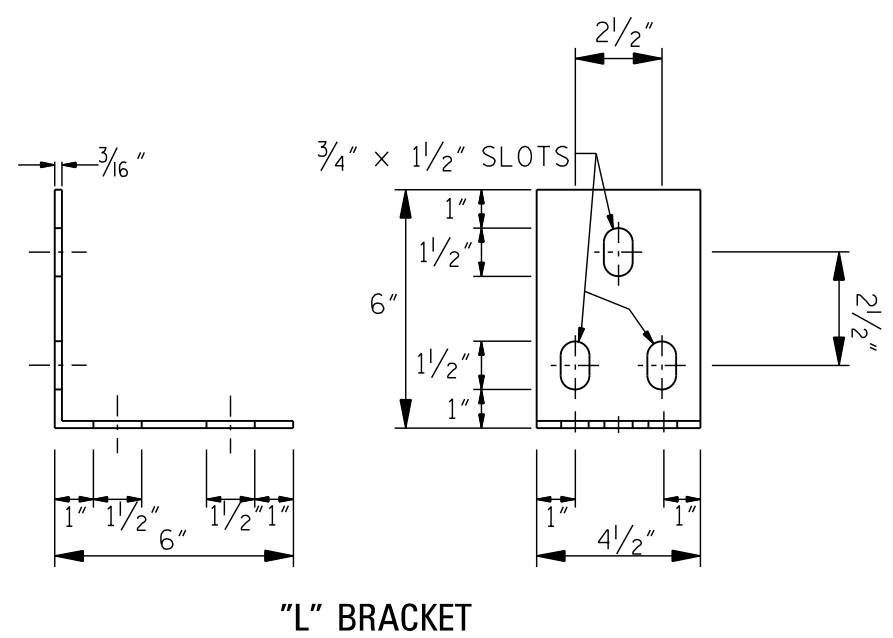
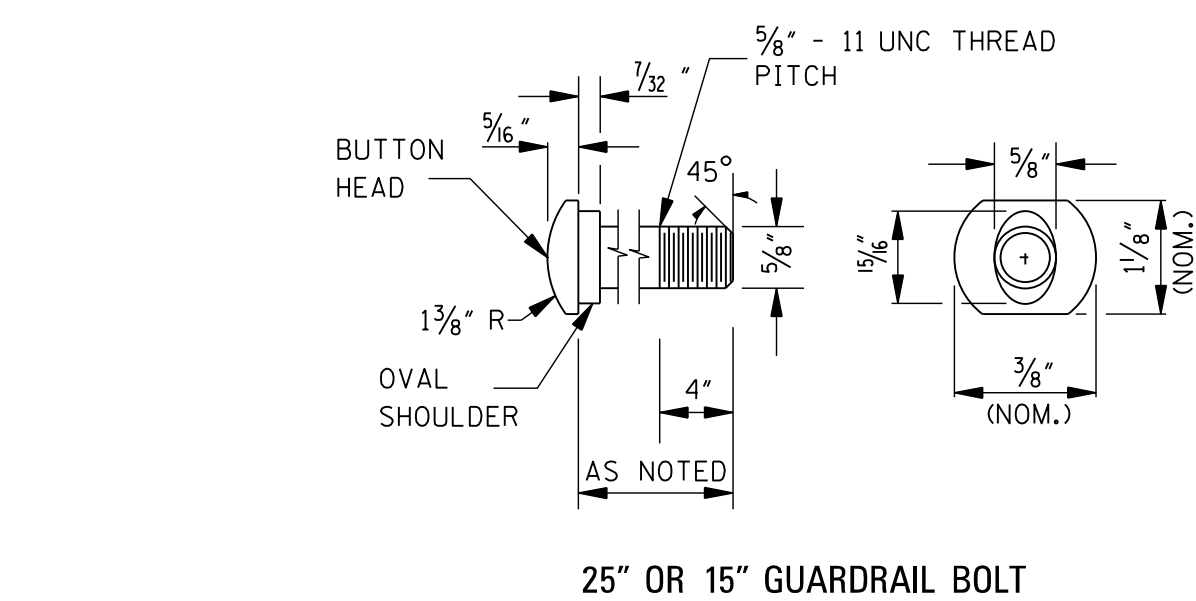
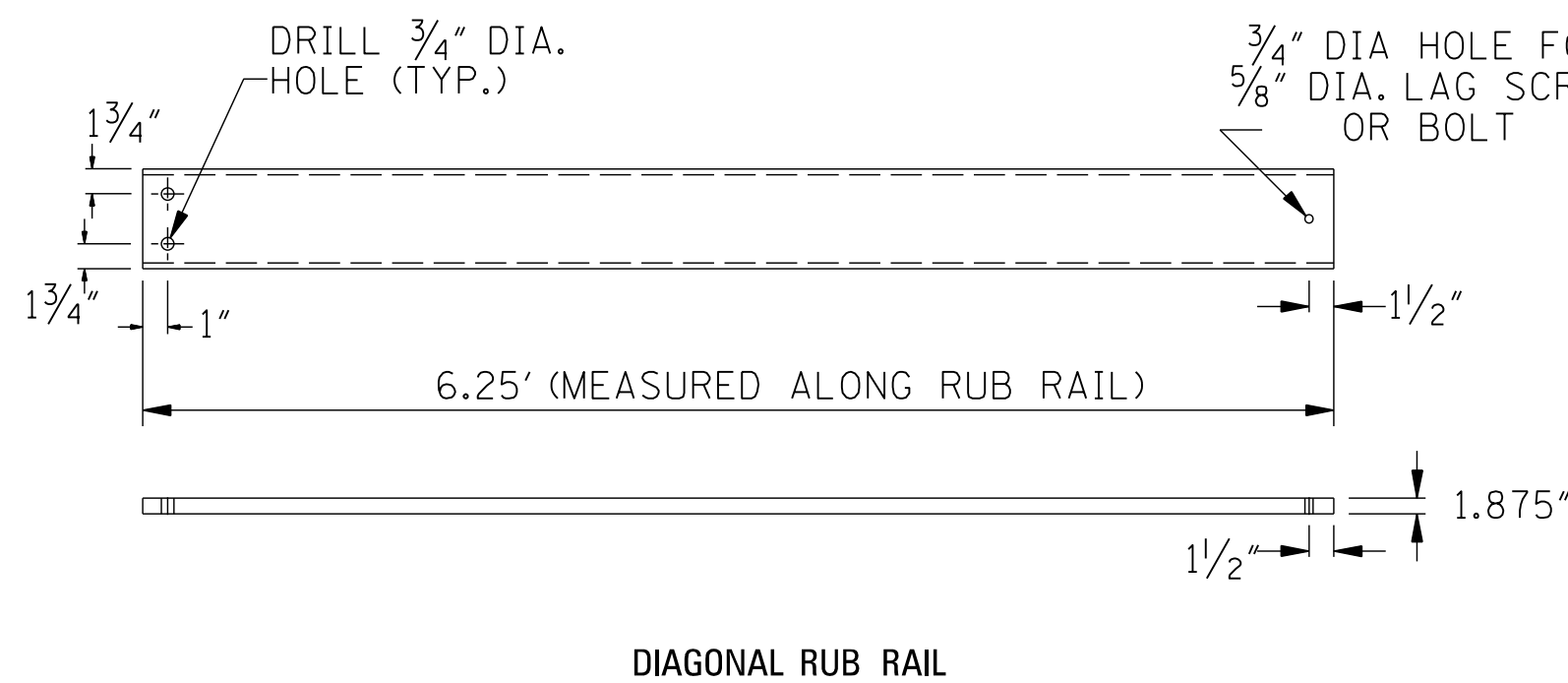
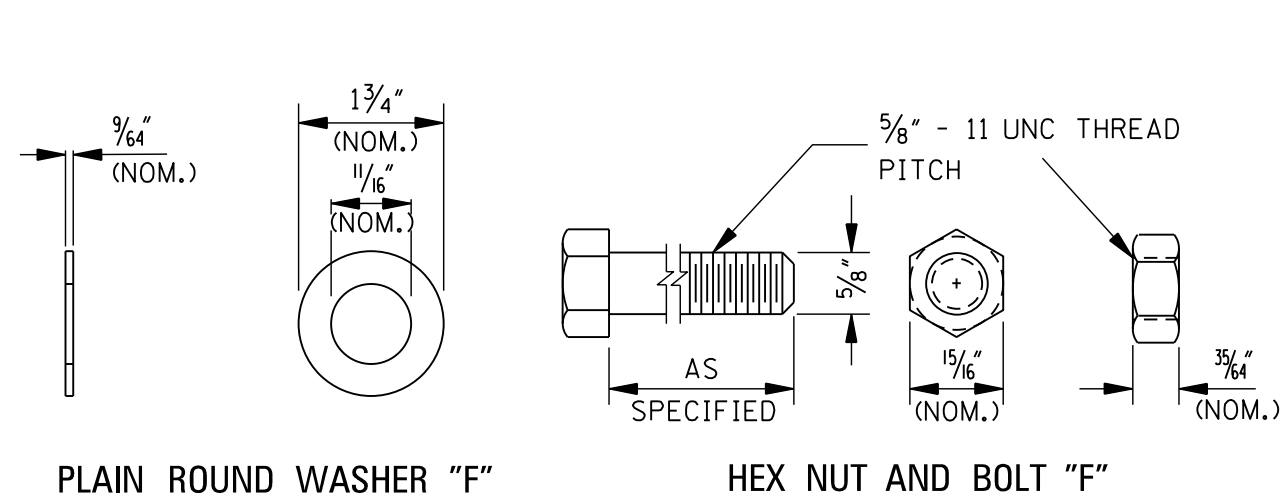
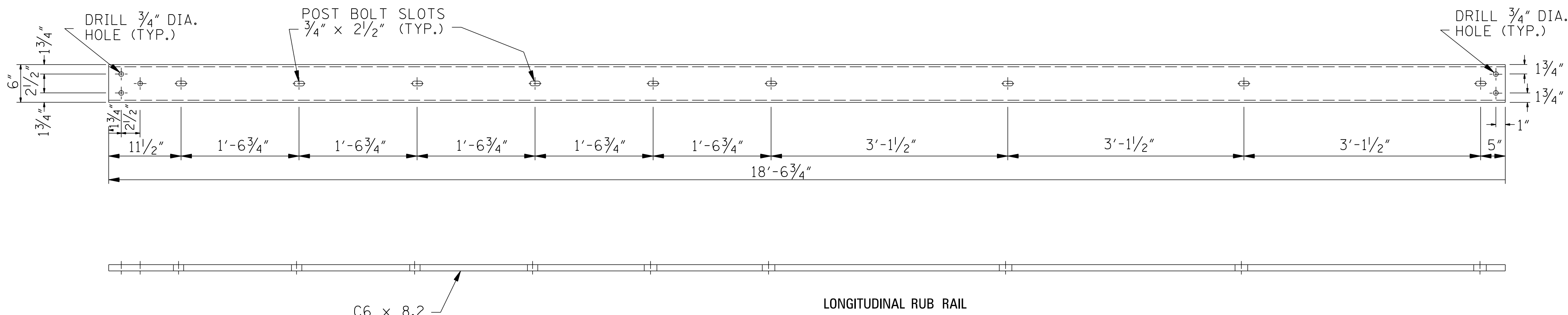
**GENERAL NOTES:**

- FOR DETAILS PERTINENT TO INSTALLATION OF THE TERMINAL SECTION, SEE MANUFACTURER'S SPECIFICATIONS AND DRAWINGS OR ELSEWHERE ON PLANS
- GUARDRAIL SECTIONS TO BE LAPPED IN THE DIRECTION OF TRAFFIC FLOW NEAREST THE GUARDRAIL FACE.
- PAY LIMITS FOR NORMAL GUARDRAIL INSTALLATION WILL BE THE TOTAL LENGTH LESS THE LENGTHS OF END TERMINALS.
- W = SHOULDER WIDTH + FORESLOPE WIDTH. DIMENSIONS FOUND ELSEWHERE ON THE PLANS.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>GUARDRAIL: TYPICAL INSTALLATION FOR ROADSIDE HAZARDS ON 2-LANE, 2-WAY HIGHWAYS</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					WORKING NUMBER GR-4C SHEET NUMBER 6217



PROFILE VIEW OF POSTS



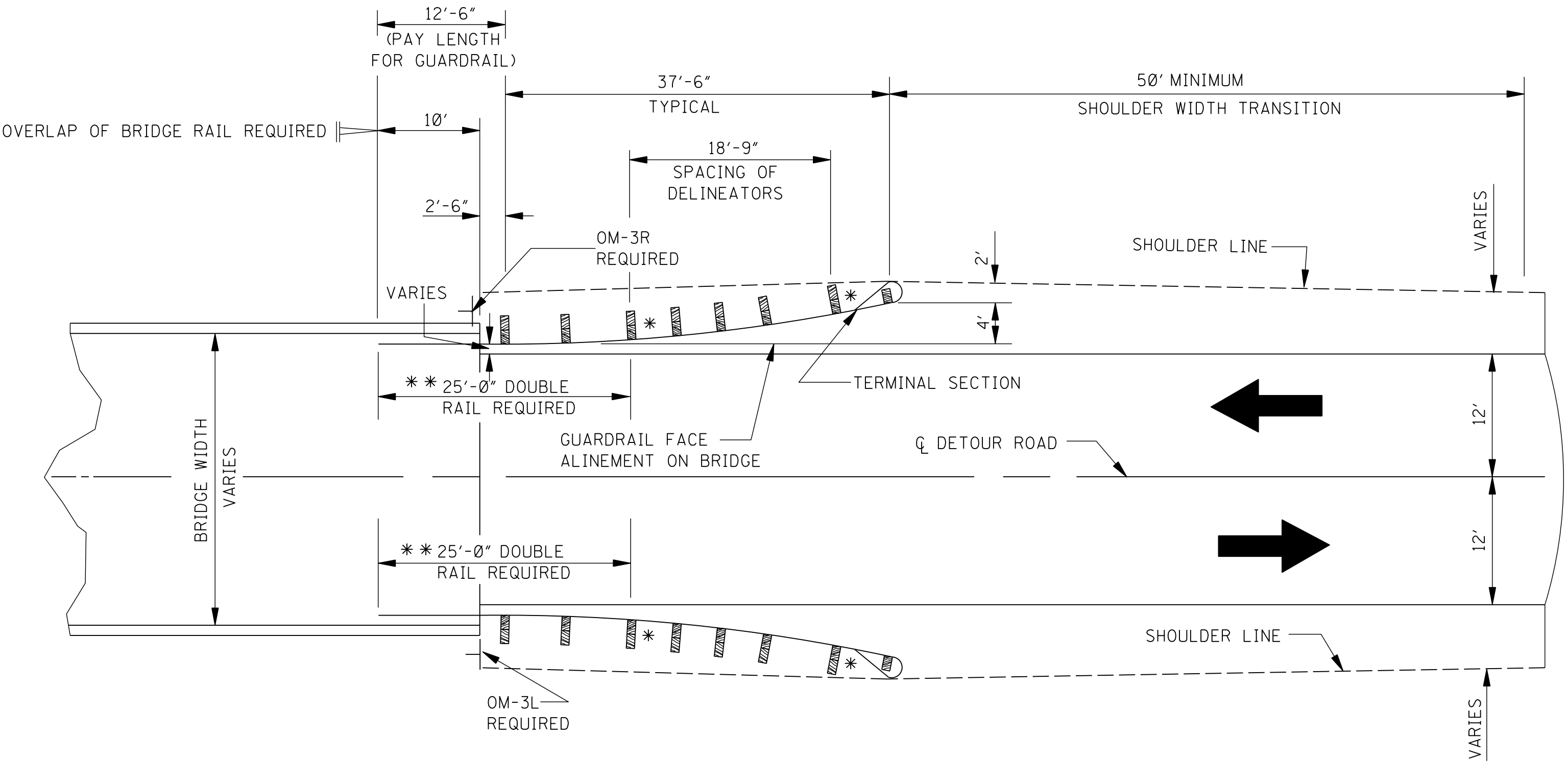
BLOCKOUT FOR POST 9 OF TYPE "I" BRIDGE END SECTION

CROSS-SECTION VIEW OF C6 X 8.2

GENERAL NOTES:

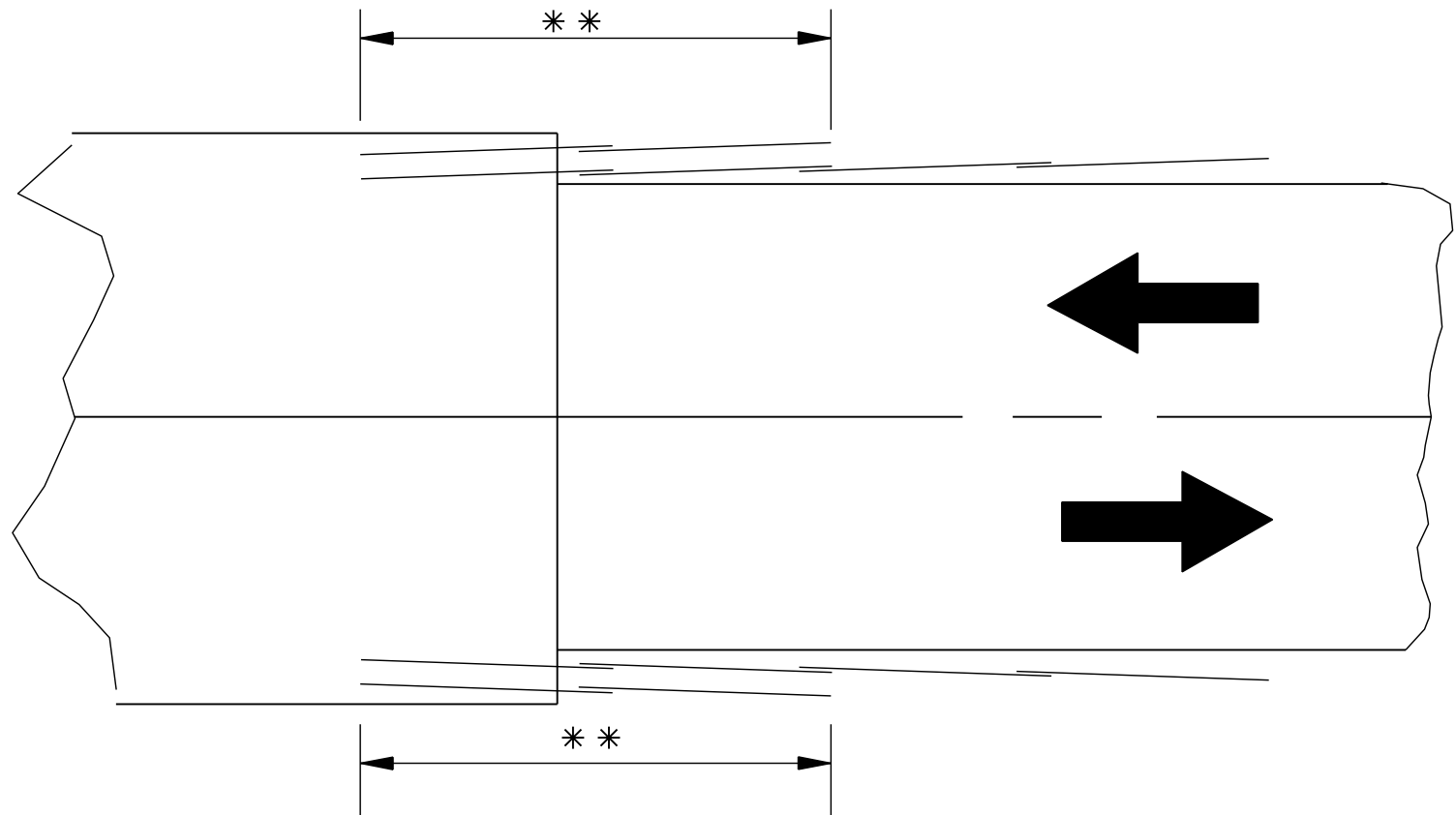
- POSTS 1 THROUGH 9 REQUIRE AN ADDITIONAL HOLE TO ATTACH LOWER BLOCKOUTS. STEEL POST REQUIRE 2 HOLES ON EITHER SIDE OF THE POST.
- RUBRAIL BLOCKOUTS SHALL BE SECURED WITH 5/8" BUTTONHEAD BOLT FOR STEEL POST AND 20" BOLT FOR WOOD POST. (SEE PROFILE VIEW FOR LENGTHS)
- RUBRAIL & LONG BLOCKOUT (POST 9) ARE NOT REQUIRED IN CURB & GUTTER SECTIONS OF ROADWAY.
- ATTACH RUBRAIL CONNECTOR PLATE AND RUBRAIL WITH 5/8" X 1 1/2" HEX HEAD BOLTS "F"

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN	
				REVISION	<b>GUARDRAIL: RUB RAIL HARDWARE</b>	
				DATE		
				ISSUE DATE:	AUGUST 01, 2017	
					WORKING NUMBER GR-RR	
					SHEET NUMBER 6218	



PLAN  
(TEMPORARY GUARDRAIL)

NOTE: TYPICAL FOR EACH END OF BRIDGE.



DETAIL SHOWING GUARDRAIL  
SECTION LAPS AND OVERLAPS

LEGEND

- \* SINGLE WHITE DELINEATOR REQUIRED (2 REQUIRED PER INSTALLATION)
- \*\* TWO SECTIONS OF GUARDRAIL ONE SET INSIDE THE OTHER.  
(NO EXTRA PAY FOR DOUBLE RAIL)
- ← INDICATES DIRECTION OF TRAFFIC

GENERAL NOTES:

- GUARDRAIL SHALL BE INSTALLED PRIOR TO PLACEMENT OF TRAFFIC ON DETOUR ROAD.
- FOR OTHER DETAILS OF GUARDRAIL INSTALLATION, SEE THE APPROPRIATE STANDARD DRAWINGS.
- OVERLAP GUARDRAIL 10' OVER BRIDGE RAIL.  
(NOT A SEPARATE PAY ITEM).
- BOLT GUARDRAIL TO BRIDGE RAIL AS PER STANDARD PLAN  
(NOT A SEPARATE PAY ITEM).
- POST SPACING TO BE 6'-3" UNLESS OTHERWISE NOTED OR AS DIRECTED BY THE ENGINEER.
- FOR DETAILS PERTINENT TO INSTALLATION OF THE TERMINAL SECTION, SEE MANUFACTURER'S SPECIFICATIONS AND DRAWINGS OR ELSEWHERE ON PLANS

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	ISSUE DATE: AUGUST 01, 2017

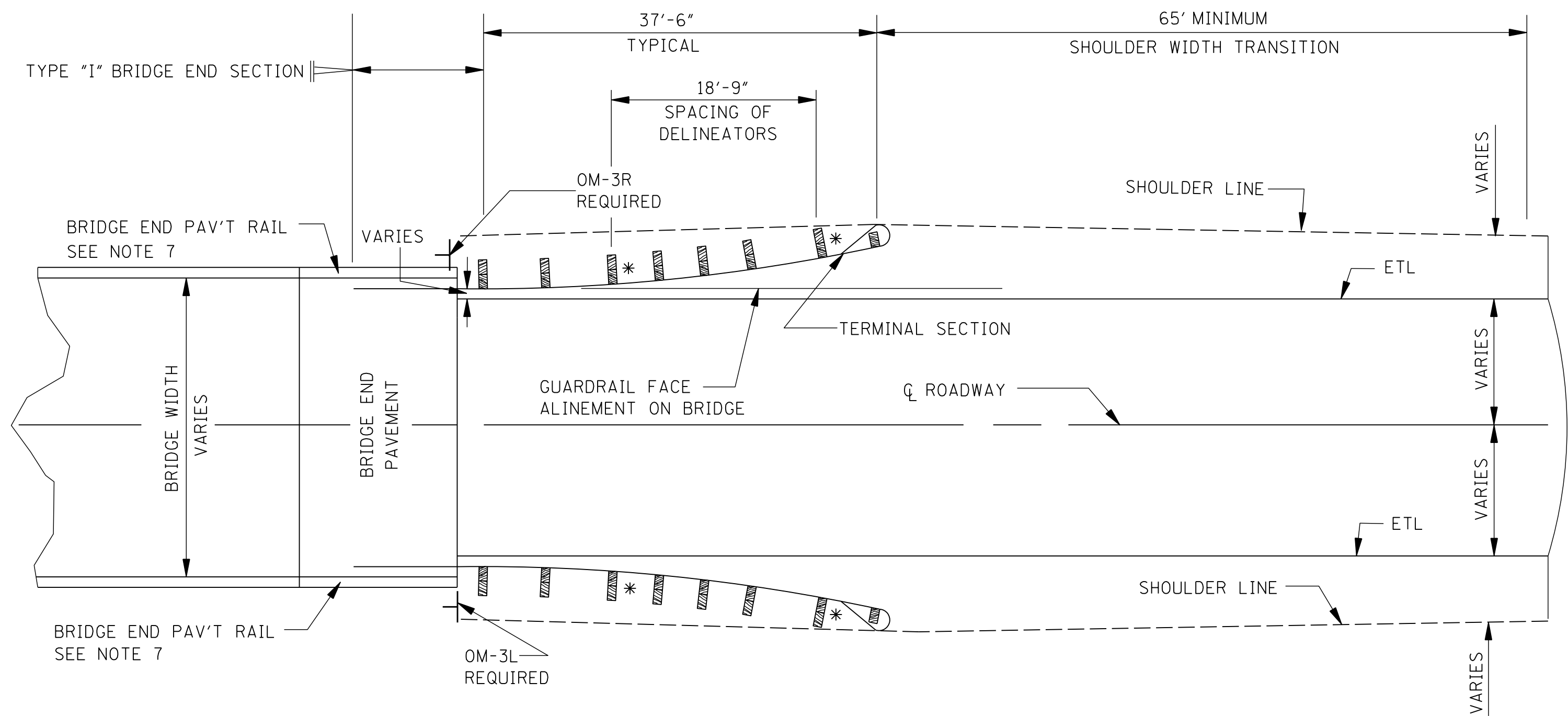
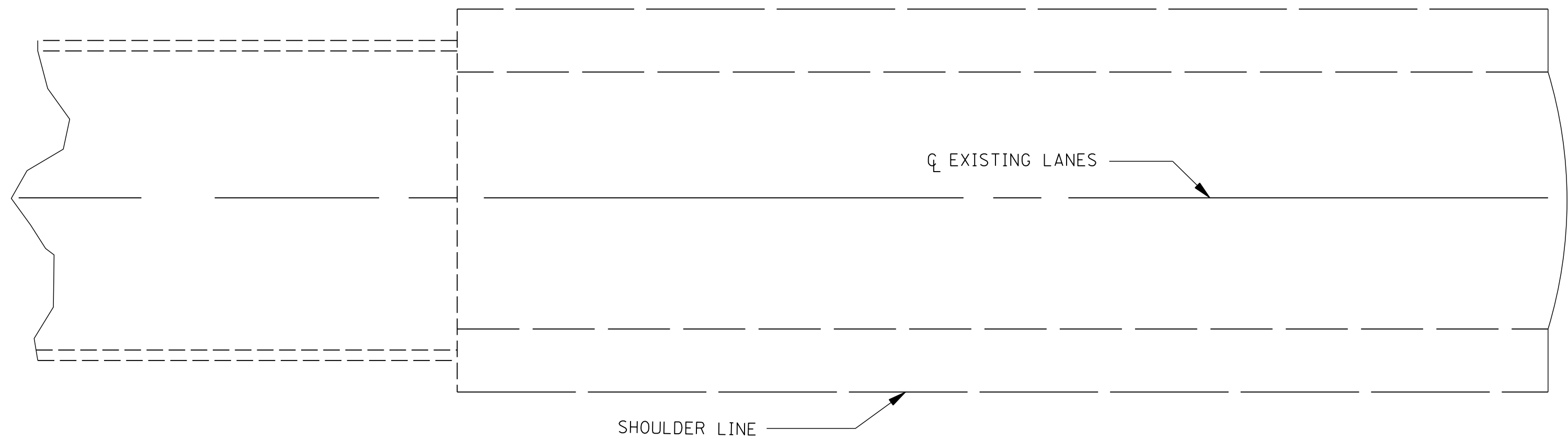
**GUARDRAIL (TEMPORARY):  
TYPICAL INSTALLATION  
AT DETOUR BRIDGE ENDS**

**MDOT**  
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

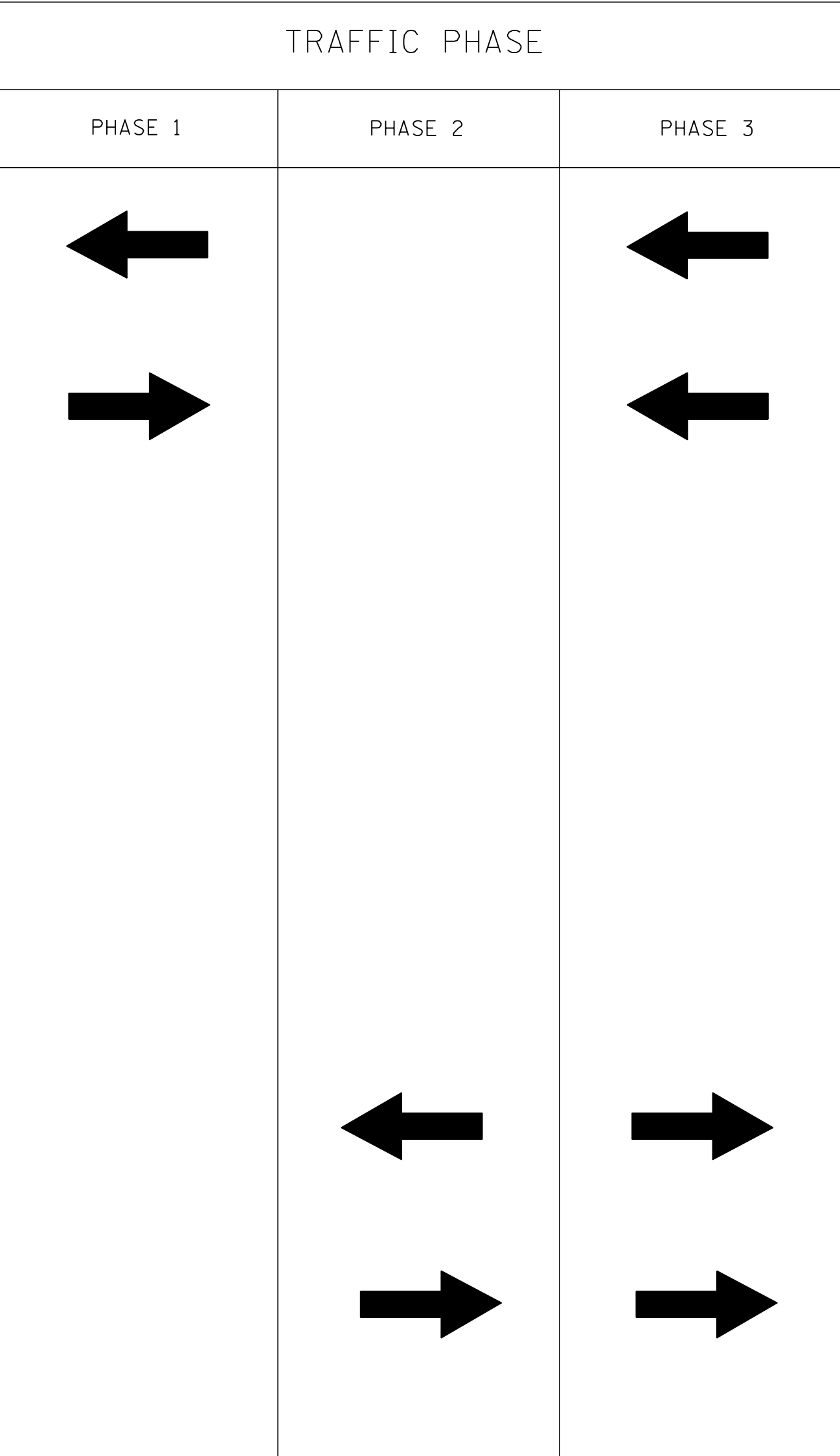
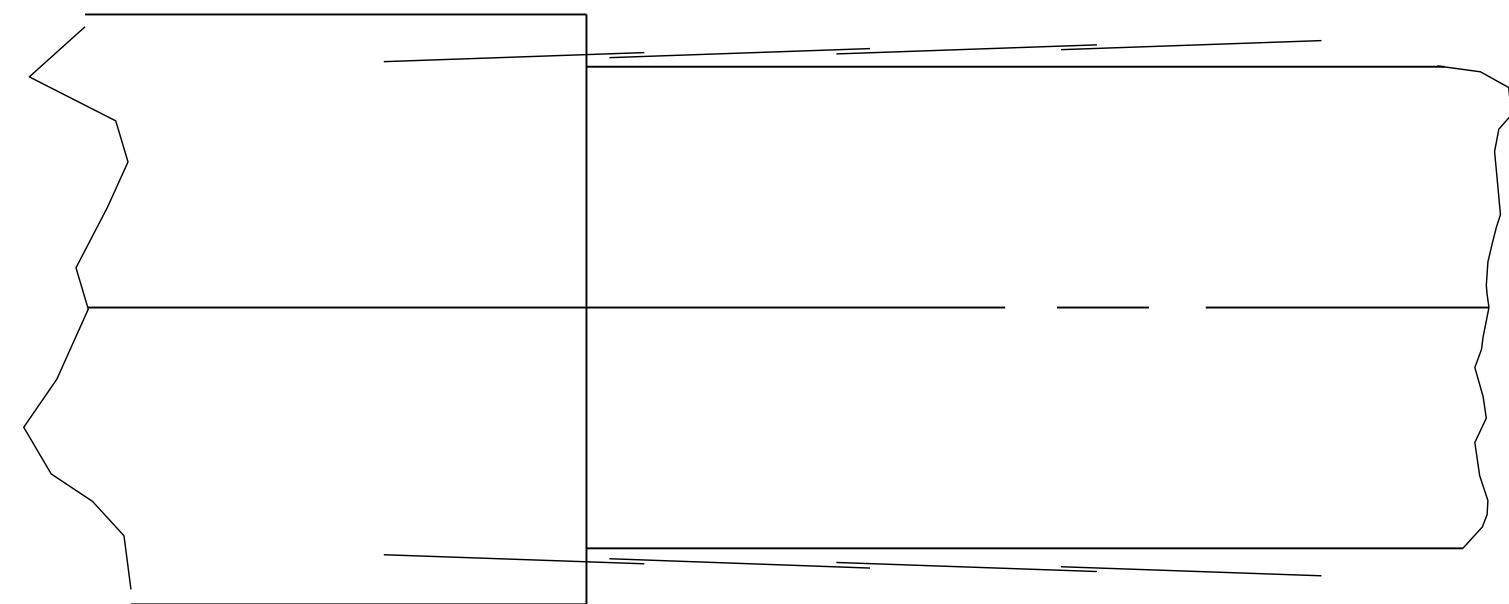
WORKING NUMBER  
TGR-1

SHEET NUMBER  
6219





PLAN  
(TEMPORARY GUARDRAIL)  
NOTE: TYPICAL FOR EACH END OF BRIDGE.




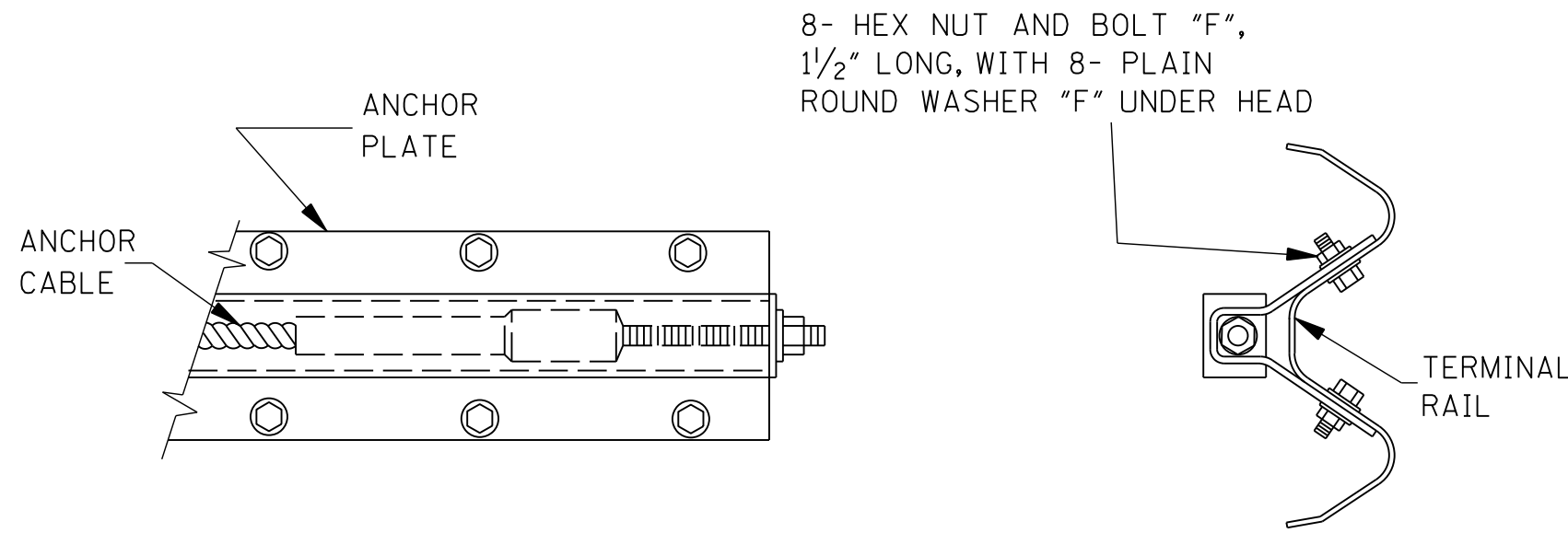
LEGEND

\* SINGLE WHITE DELINEATOR REQUIRED (2 REQUIRED PER INSTALLATION)

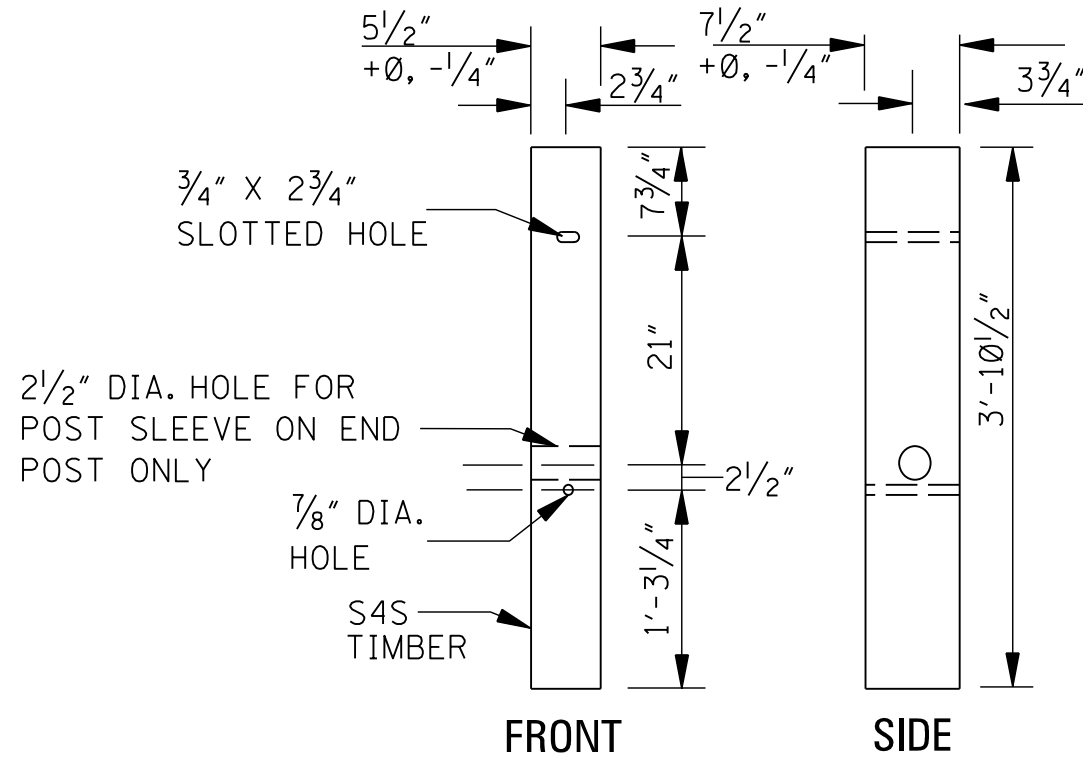
← INDICATES DIRECTION OF TRAFFIC

- GENERAL NOTES:
- GUARDRAIL SHALL BE INSTALLED PRIOR TO PHASE 2.
  - TEMPORARY GUARDRAIL SHALL BE REMOVED DURING PHASE 3.
  - PAYMENT FOR INSTALLATION AND REMOVAL WILL BE MADE UNDER:  
A. INSTALLATION AND REMOVAL OF GUARDRAIL TYPE \*\*\* BRIDGE  
END SECTION. (\*\*\* TYPE INDICATED ON QUANTITY SHEETS)  
B. INSTALLATION AND REMOVAL OF GUARDRAIL (TERMINAL END SECTION.)
  - REMOVAL OF GUARDRAIL SHALL INCLUDE FILLING OF POST HOLES  
AND RESTORING ROADWAY TO NORMAL SECTION (NOT A SEPARATE PAY ITEM).
  - FOR OTHER DETAILS OF GUARDRAIL INSTALLATION, SEE THE APPROPRIATE  
STANDARD DRAWINGS.
  - FOR DETAILS PERTINENT TO INSTALLATION OF THE TERMINAL  
SECTION, SEE MANUFACTURER'S SPECIFICATIONS AND DRAWINGS  
OR ELSEWHERE ON PLANS
  - IN THE ABSENCE OF A BRIDGE END PAVEMENT RAIL, CONNECT  
THE BRIDGE END SECTION TO THE BRIDGE RAIL USING APPROPRIATE  
TYPE BRIDGE END SECTION FROM ELSEWHERE IN THE PLANS.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	<b>GUARDRAIL (TEMPORARY): TYPICAL INSTALLATION AT BRIDGE END DURING CONSTRUCTION PHASES</b>
ISSUE DATE: AUGUST 01, 2017					 WORKING NUMBER TGR-2 SHEET NUMBER 6220

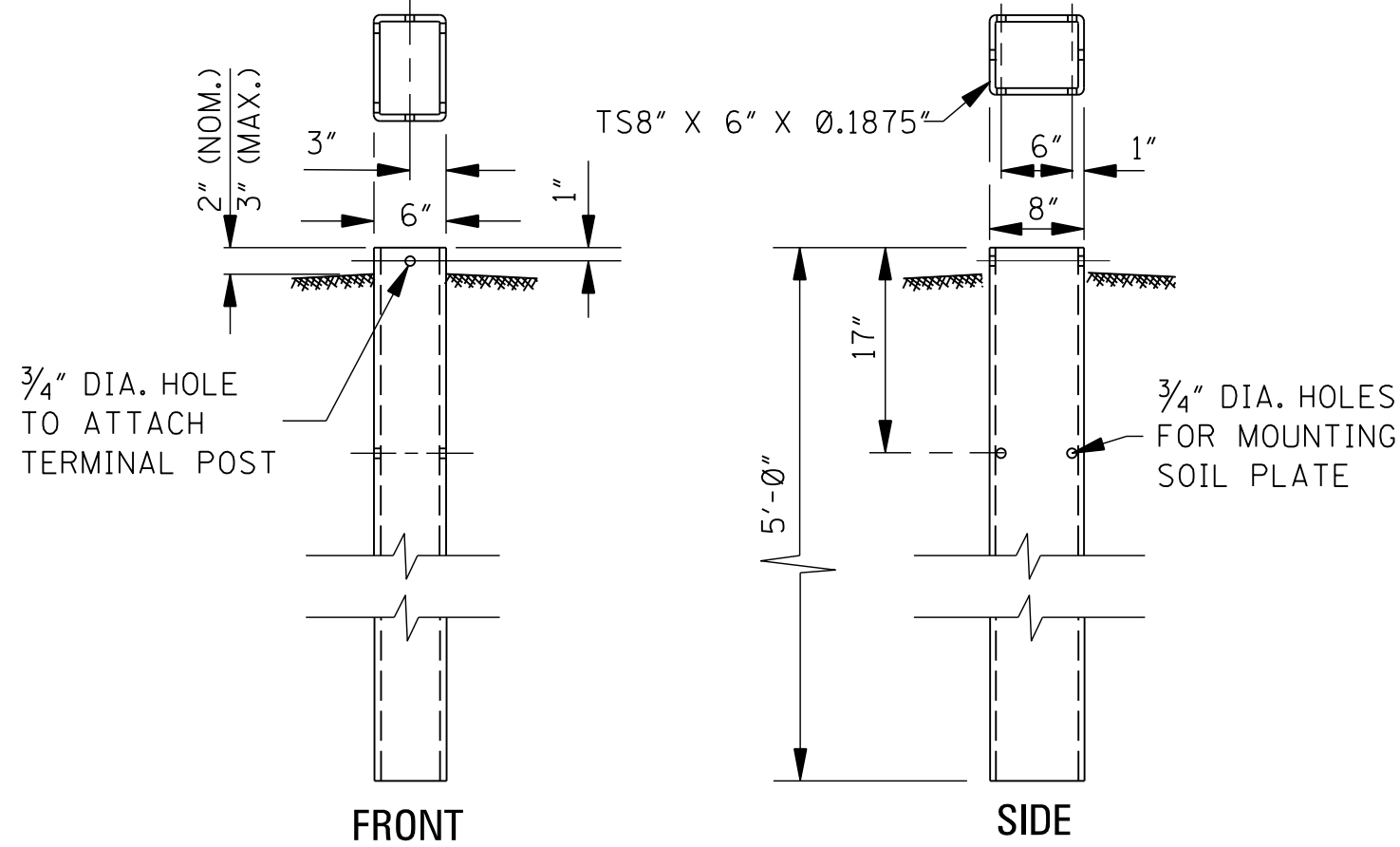


ANCHOR PLATE ASSEMBLY DETAILS



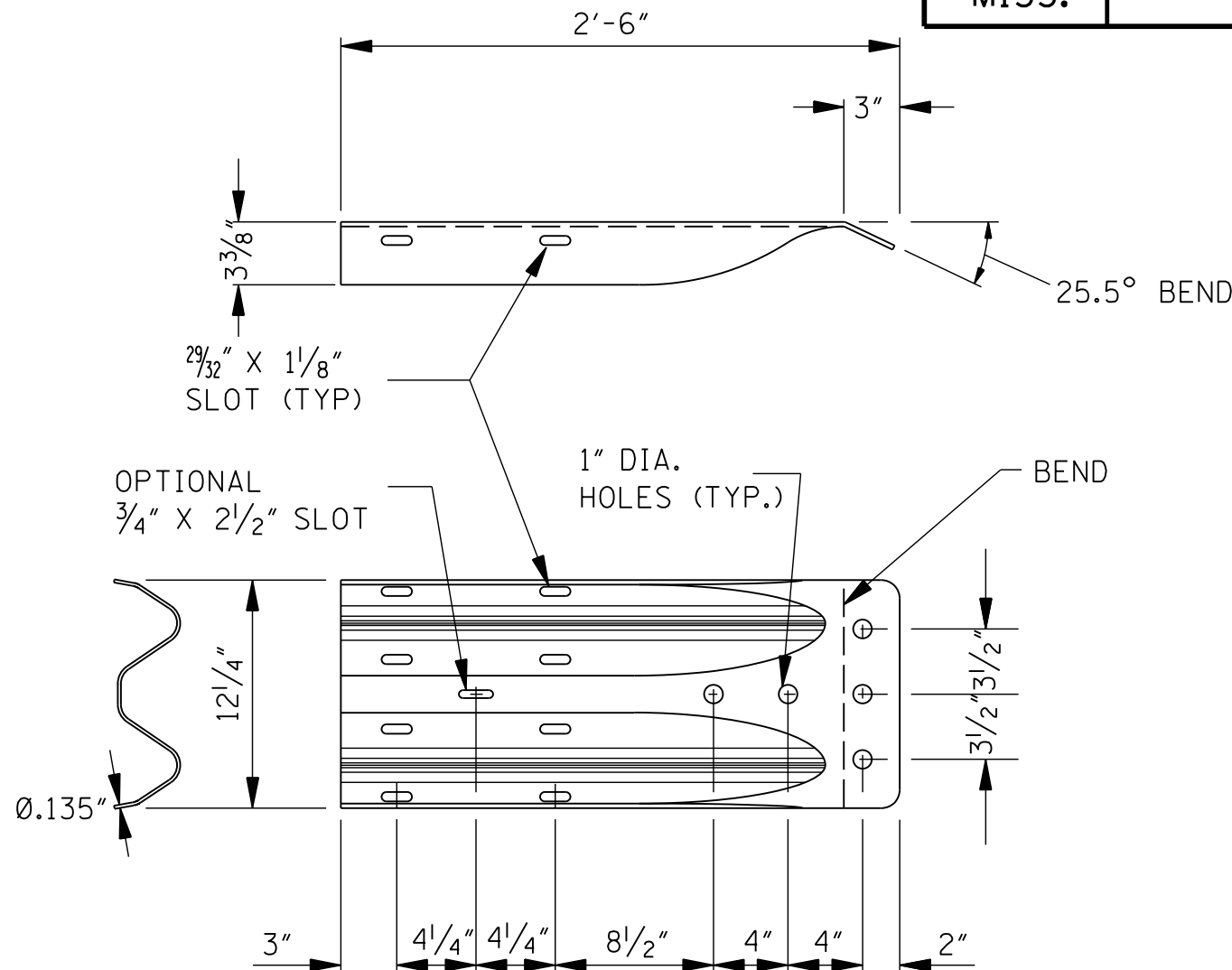
TERMINAL POST FOR FOUNDATION TUBE INSTALLATION

NOTE: TERMINAL POST SHALL BE MADE OF S4S TIMBER WITH 2 STRESS GRADE OF 1200 lbs/in .



STEEL TUBE ANCHOR

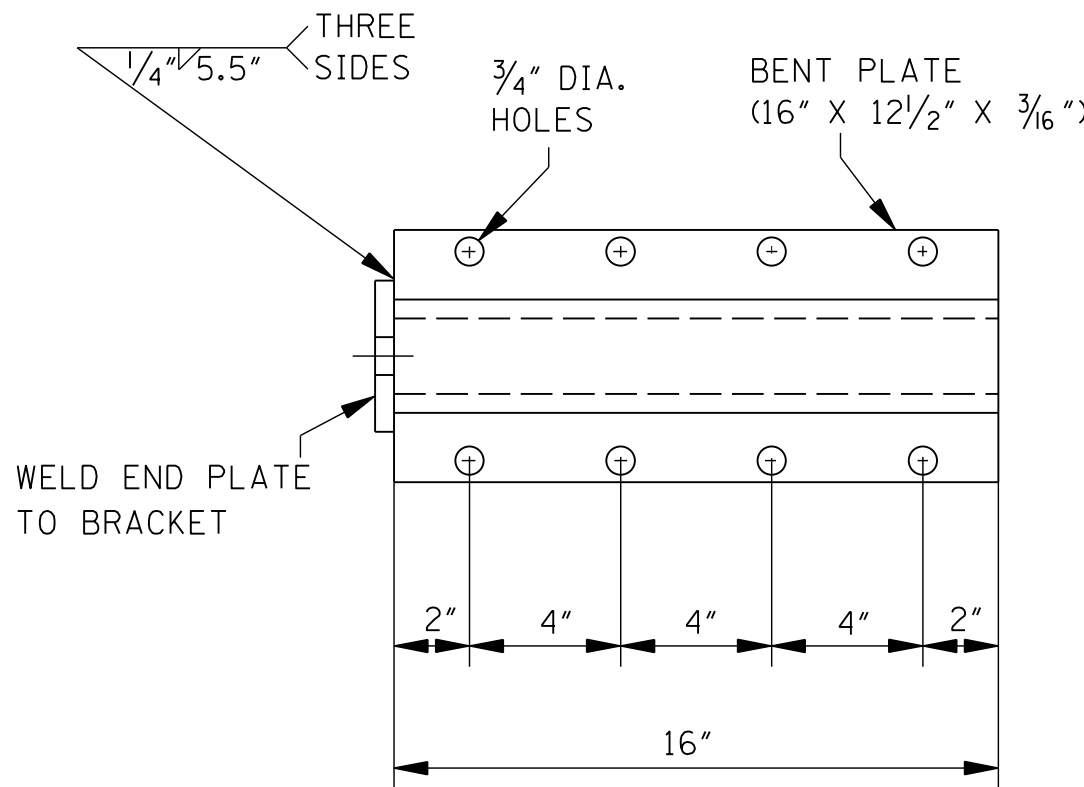
NOTE: TERMINAL POST SHALL BE ABLE TO SLIDE INTO THE TOP OF THIS SECTION SO THE ACTUAL INSIDE DIMENSIONS OF THIS GALVANIZED TUBE CANNOT BE LESS THAN 7 1/2" X 5 1/2".



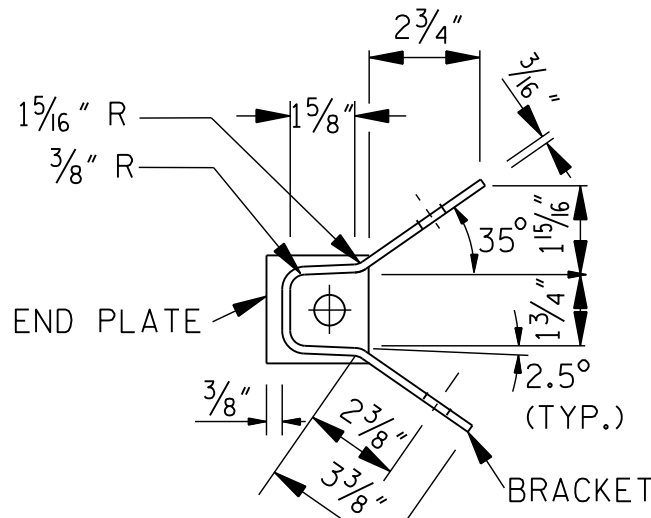
"W" BEAM TERMINAL CONNECTOR PLATE

NOTES:

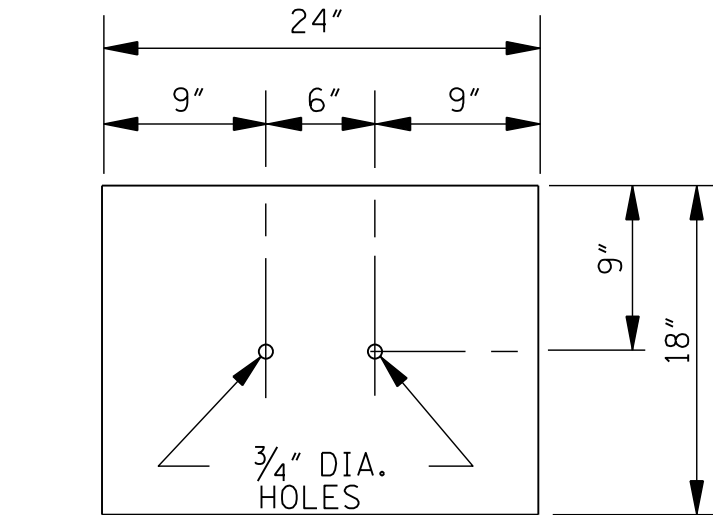
- THE "W" BEAM TERMINAL CONNECTOR SHALL BE AASHTO M 180 CORRUGATED SHEET STEEL, CLASS B, TYPE 1.
- SPLICE-BOLT SLOTS MAY ALSO BE ORIENTED AT 50° (ON THE FLAT) INSTEAD OF 0° AS SHOWN.



ANCHOR PLATE

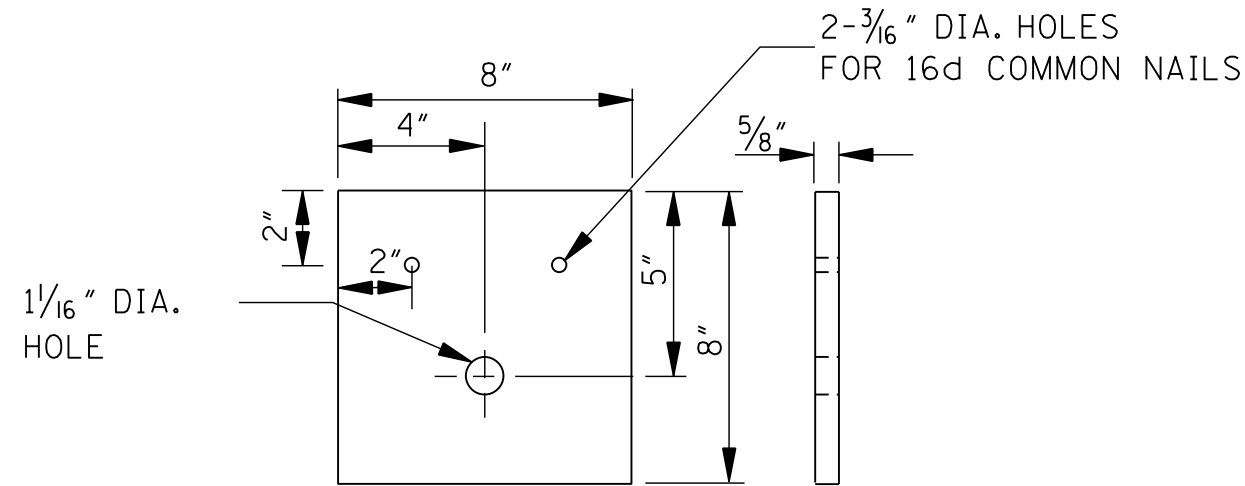


BRACKET

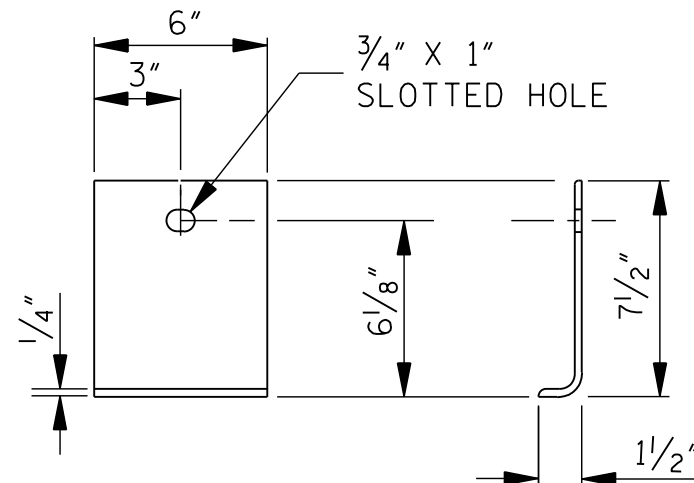


SOIL PLATE

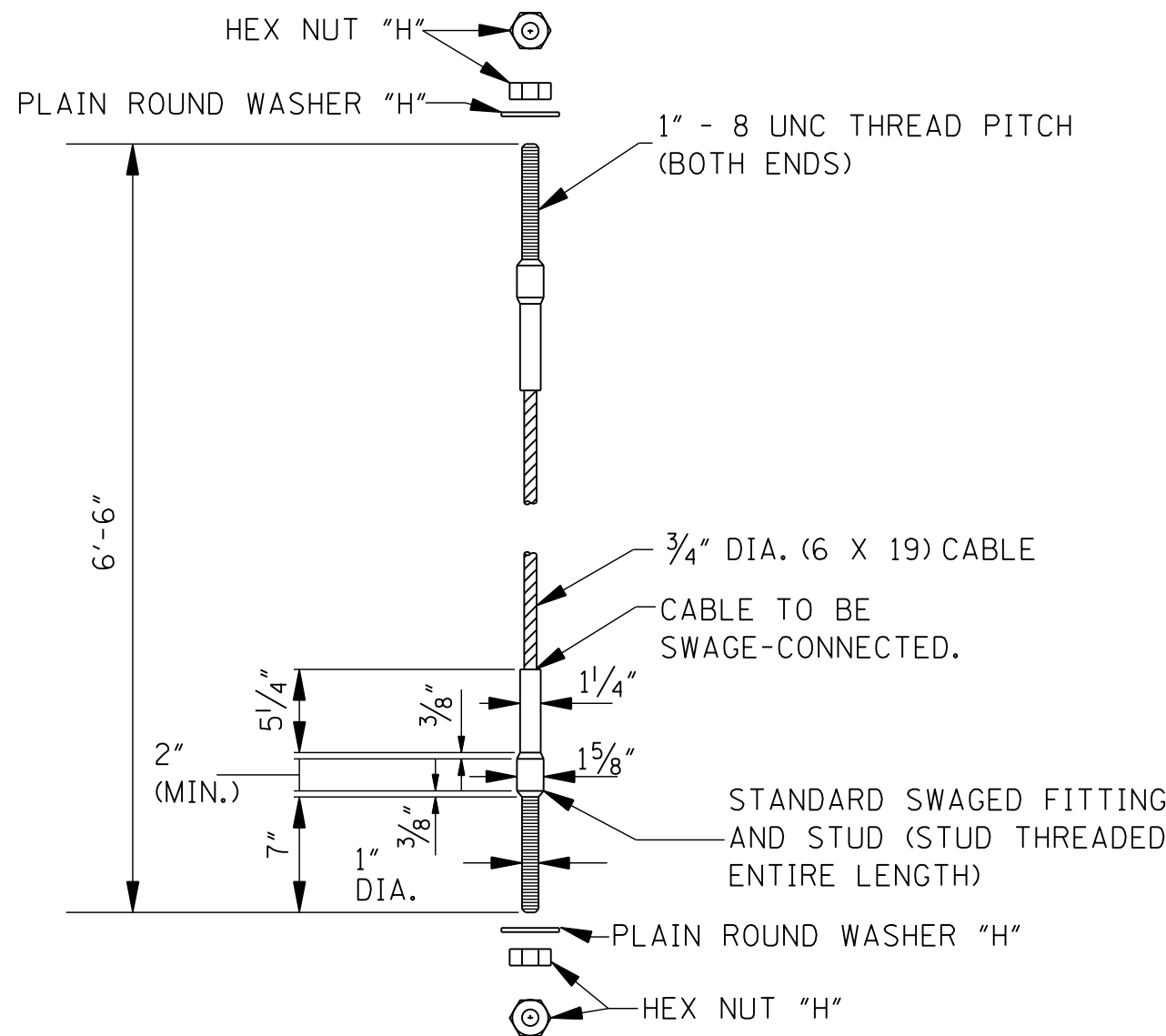
NOTE: 2 REQUIRED



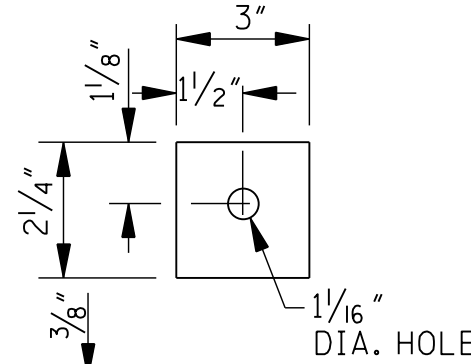
BEARING PLATE



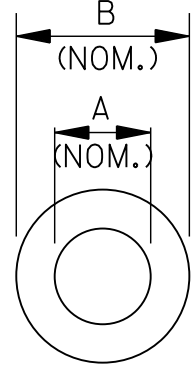
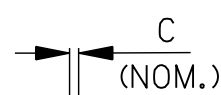
SHELF ANGLE BRACKET



CABLE ANCHOR ASSEMBLY

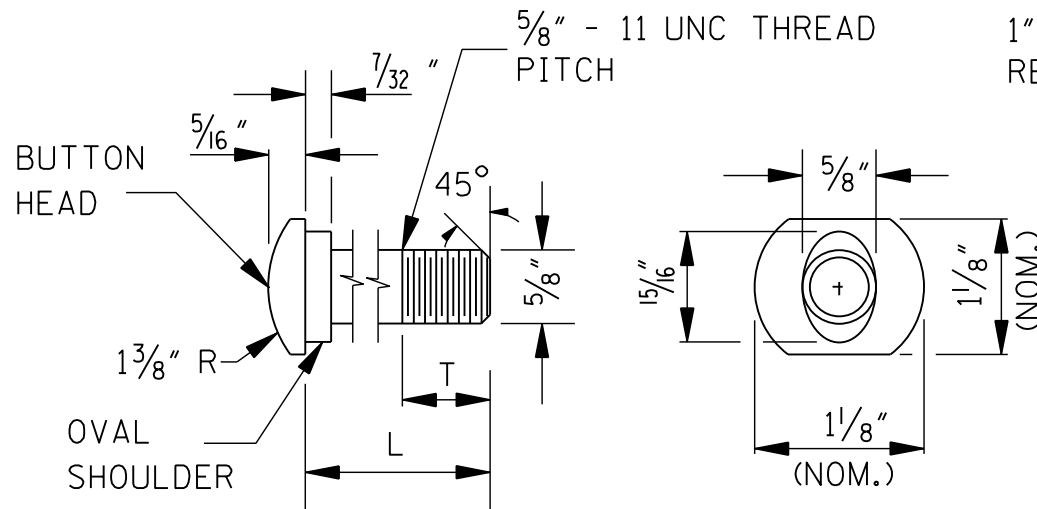


END PLATE

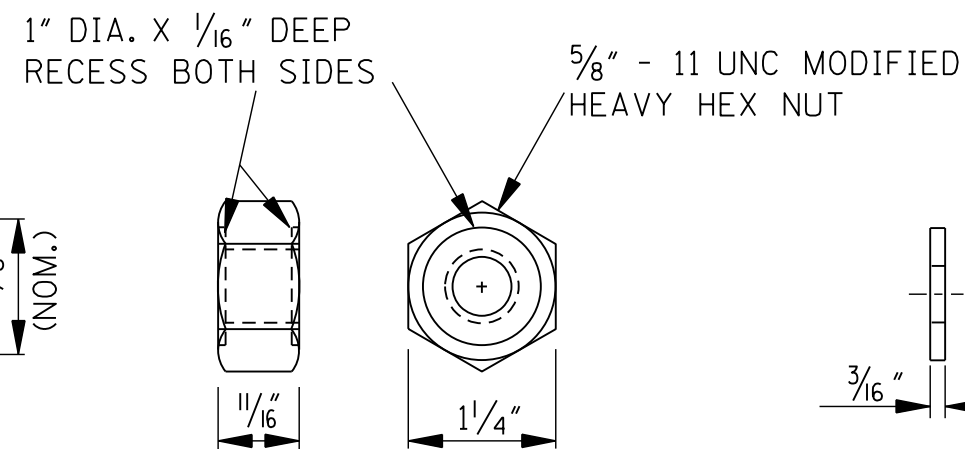


PLAIN ROUND WASHER

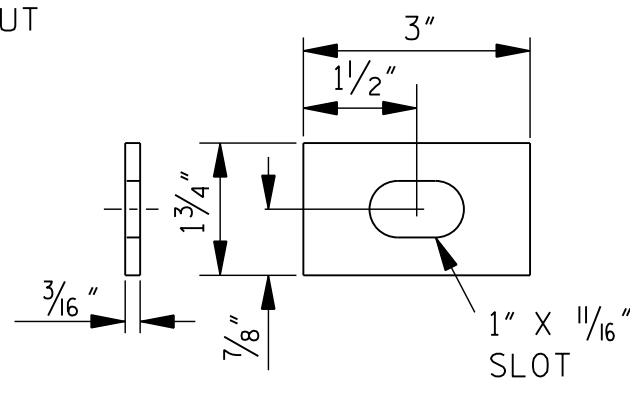
PLAIN ROUND WASHERS			
WASHER	A (NOM.)	B (NOM.)	C (NOM.)
"F"	1 1/16"	1 3/4"	9/64"
"H"	1 1/16"	2"	9/64"



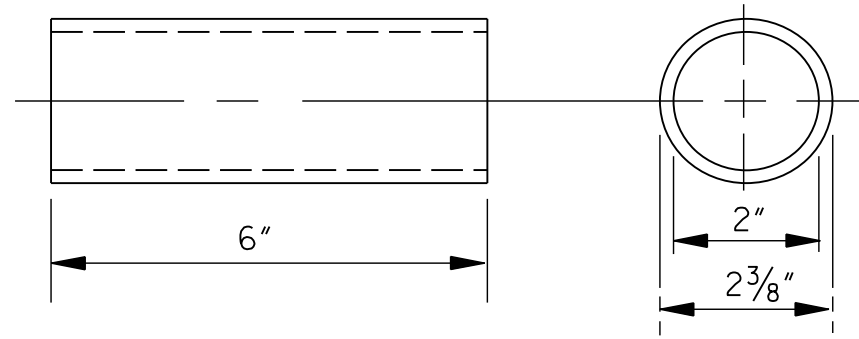
GUARDRAIL BOLT



RECESSED NUT



RECTANGULAR GUARDRAIL PLATE WASHER

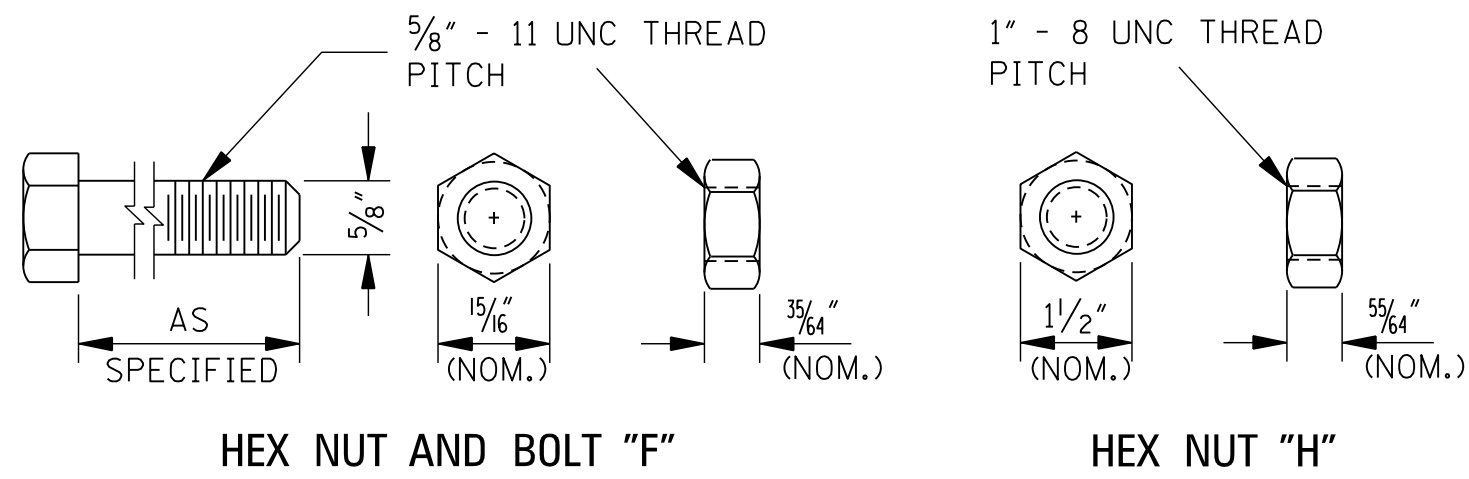



BREAKAWAY TERMINAL POST SLEEVE

NOTES:

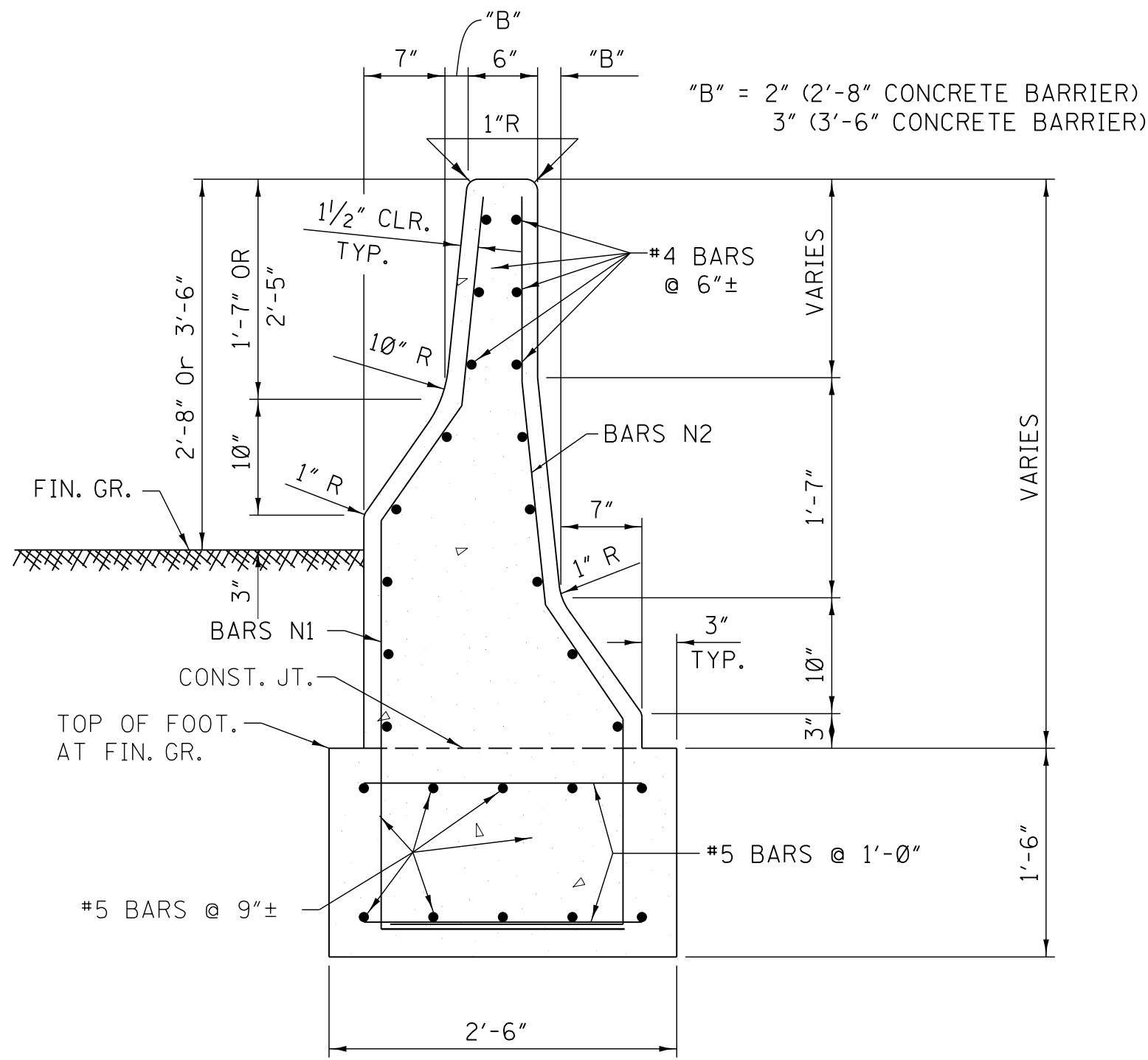
- ALL GUARDRAIL BOLTS ARE 5/8" - 11 UNC THREAD PITCH.
- IF ANY BOLT EXTENDS MORE THAN 1/4" FROM THE NUT, THE BOLT SHOULD BE TRIMMED BACK.

FASTENER DETAILS

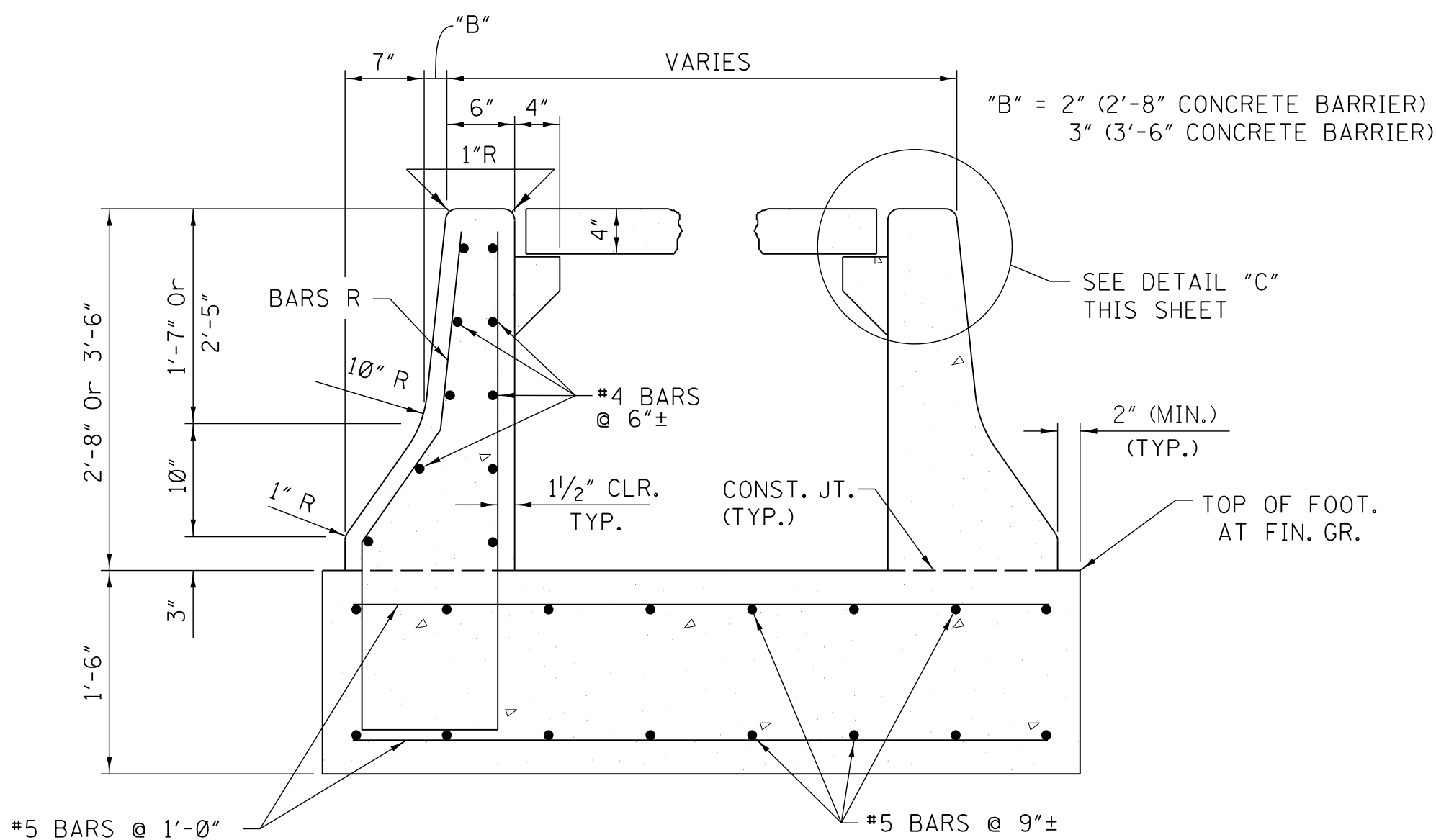


				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN	
				REVISION	<b>GUARDRAIL:</b> <b>MISCELLANEOUS HARDWARE</b>	
				DATE	ISSUE DATE: AUGUST 01, 2017	<div> MISSISSIPPI DEPARTMENT OF TRANSPORTATION</div> <div>WORKING NUMBER GR-HW</div> <div>SHEET NUMBER 6221</div>

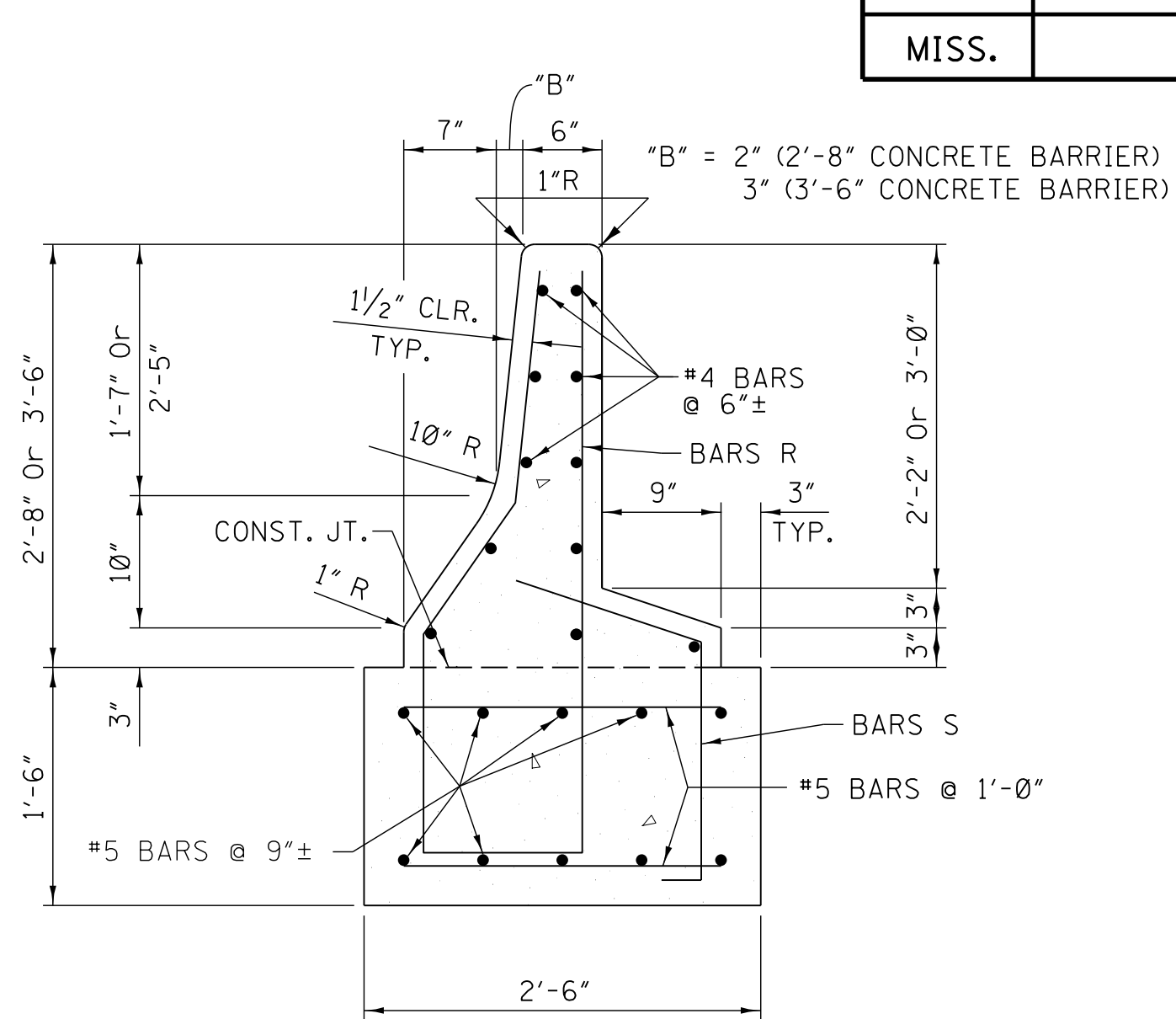




**TYPE 2**  
(2'-8" OR 3'-6" CONCRETE BARRIER)

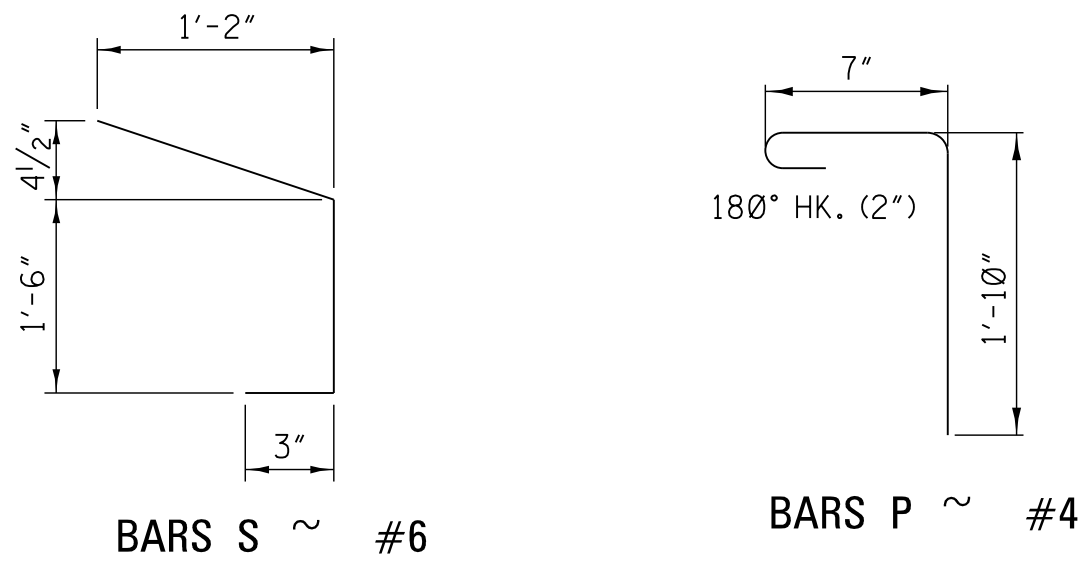


**TYPE 3**  
(2'-8" OR 3'-6" CONCRETE BARRIER)

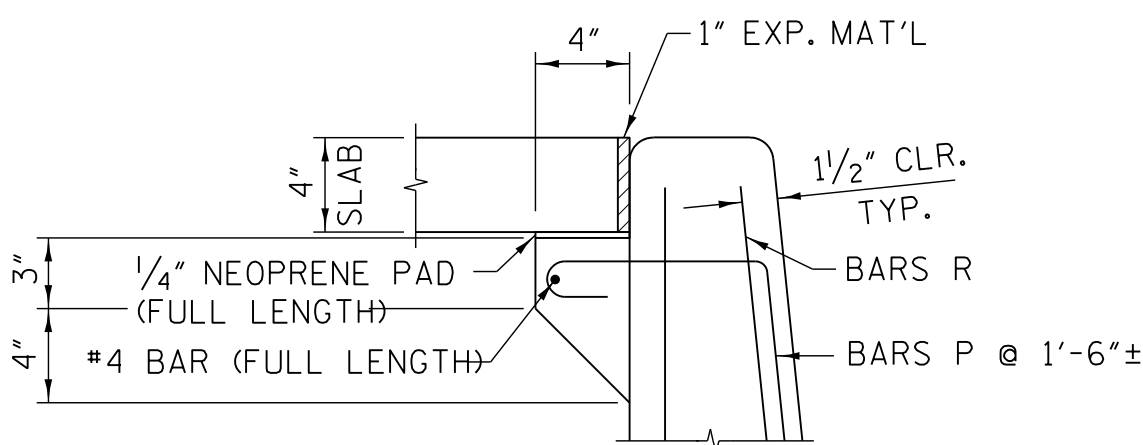


**TYPE 4**  
(2'-8" OR 3'-6" CONCRETE BARRIER)

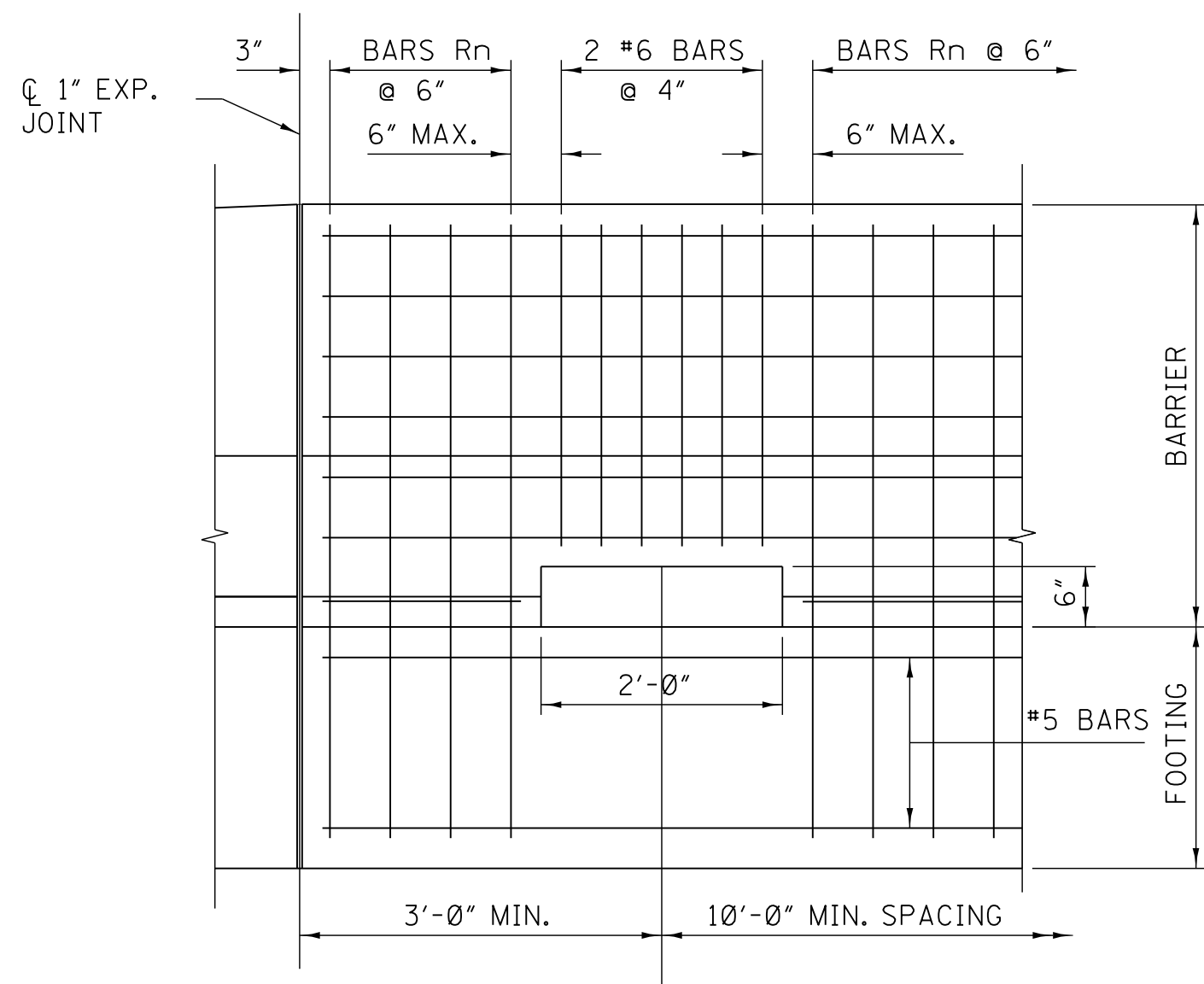
- TYPE 3 BARRIER:
- MATERIALS REQUIRED FOR SUPPORT BETWEEN BARRIER WALLS SHOULD BE SPECIFIED ON THE PLANS OR AS DIRECTED.
  - DETAILS OF THE 4" CONCRETE CAP SHOULD BE AS SHOWN ON THE PLANS OR AS DIRECTED.
  - PROVISIONS FOR DRAINAGE SHOULD BE SHOWN ON THE PLANS OR AS DIRECTED.
  - BARRIER HEIGHT SHOULD BE ADJUSTED IN SUPERELEVATED ROADWAY SECTIONS TO ACHIEVE A LEVEL CONCRETE CAP.



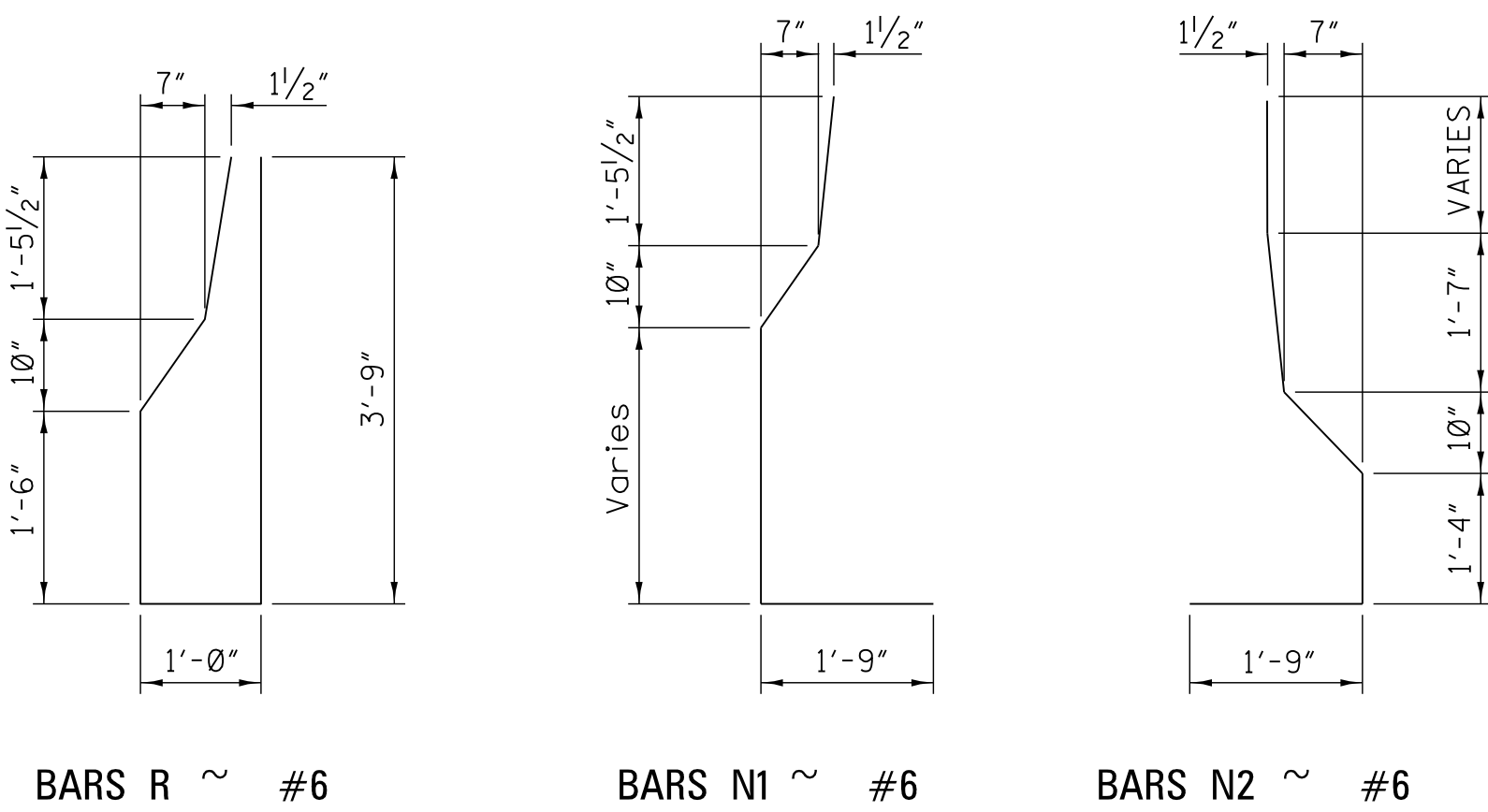
**BAR BENDING DETAILS**  
DIMENSIONS ARE OUT TO OUT



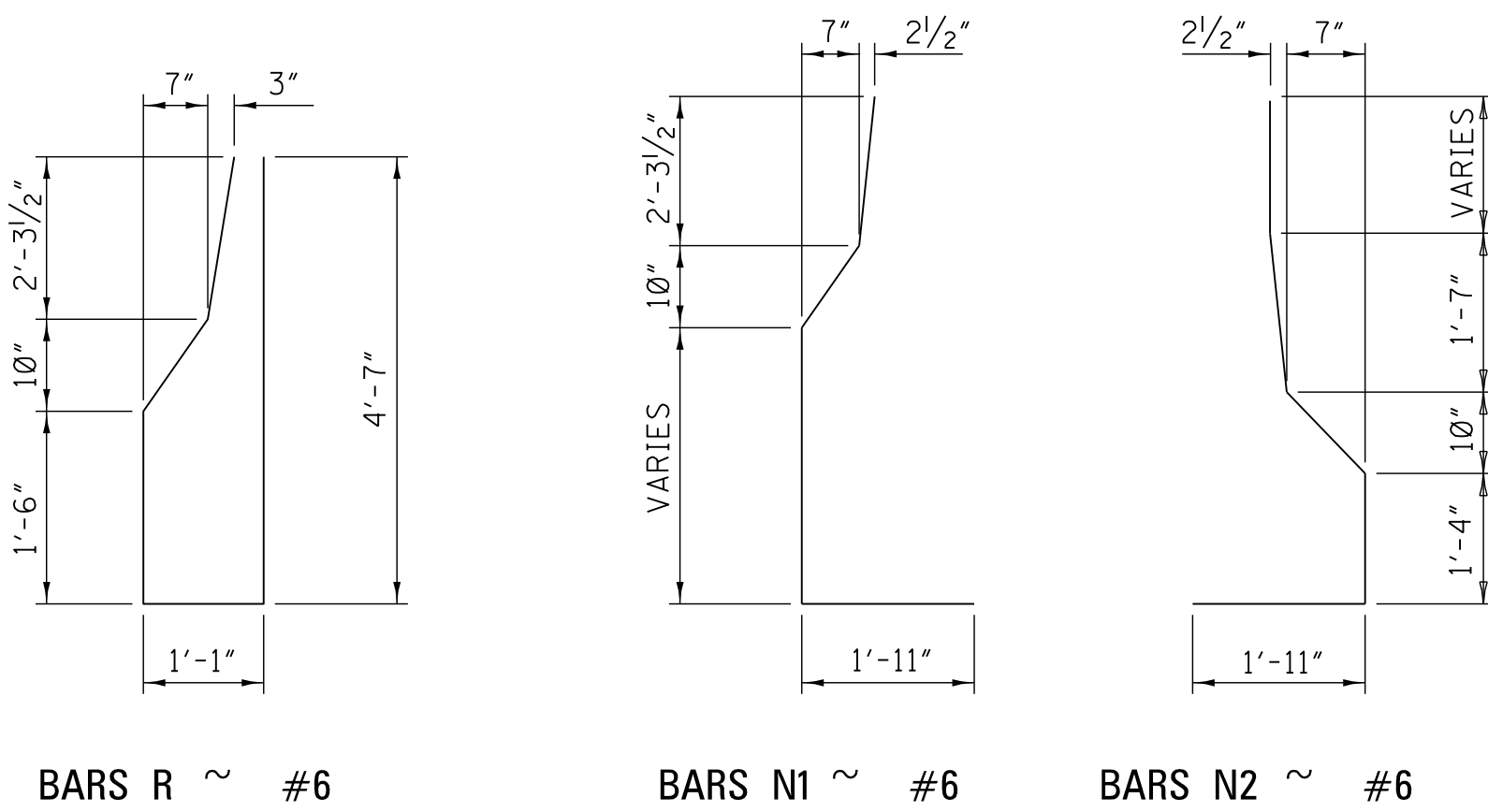
**DETAIL "C"**



**ELEVATION OF DRAIN SLOT**



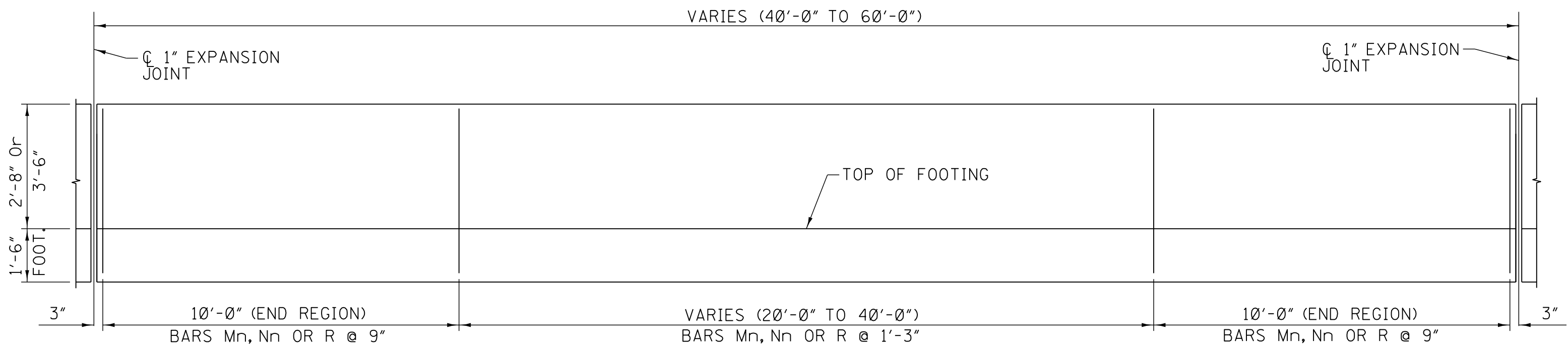
**BAR BENDING DETAILS (2'-8" CONCRETE BARRIER)**  
DIMENSIONS ARE OUT TO OUT



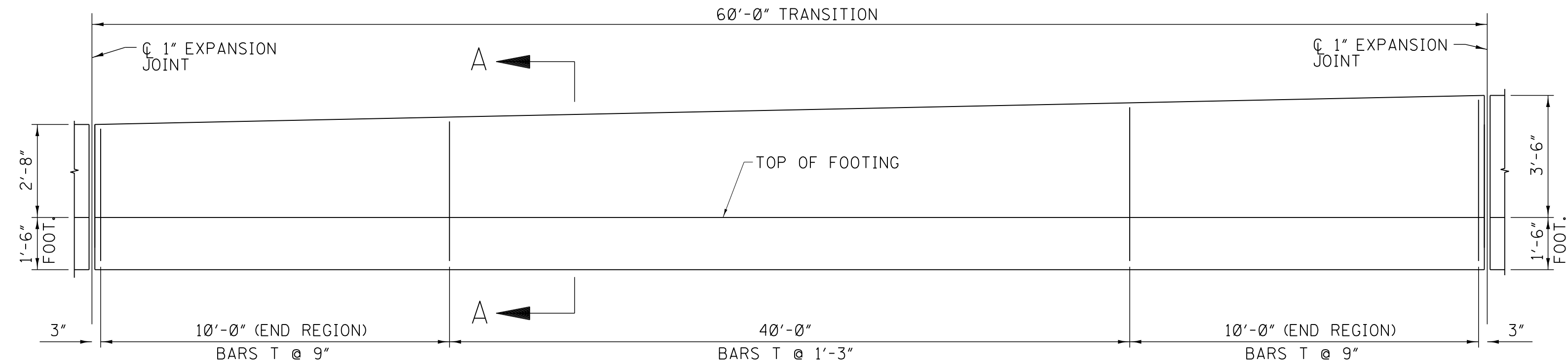
**BAR BENDING DETAILS (3'-6" CONCRETE BARRIER)**  
DIMENSIONS ARE OUT TO OUT

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>CONCRETE MEDIAN BARRIER (F SHAPE) (2 OF 2)</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					<b>MDOT</b> WORKING NUMBER CMB-1B SHEET NUMBER 6223

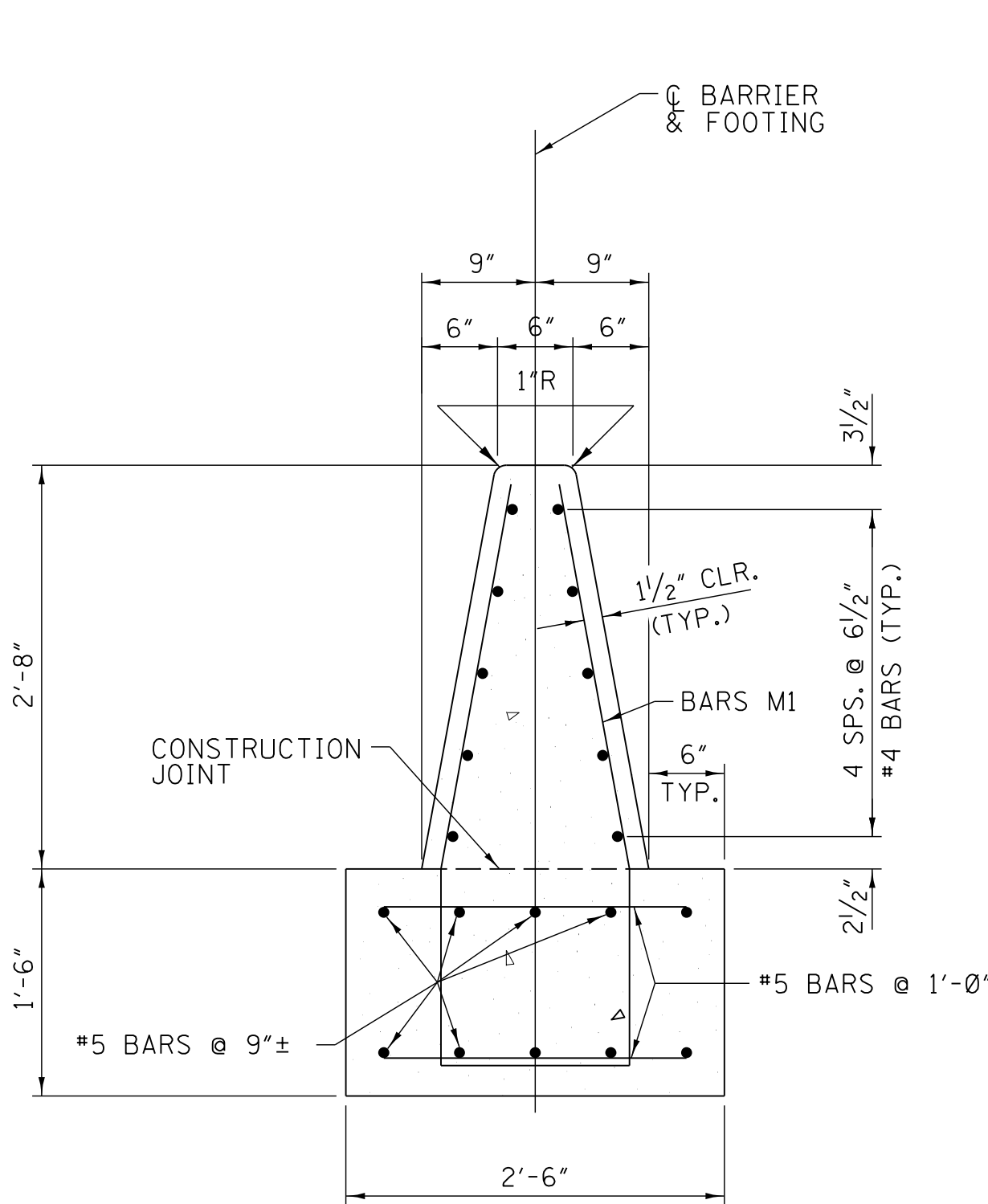




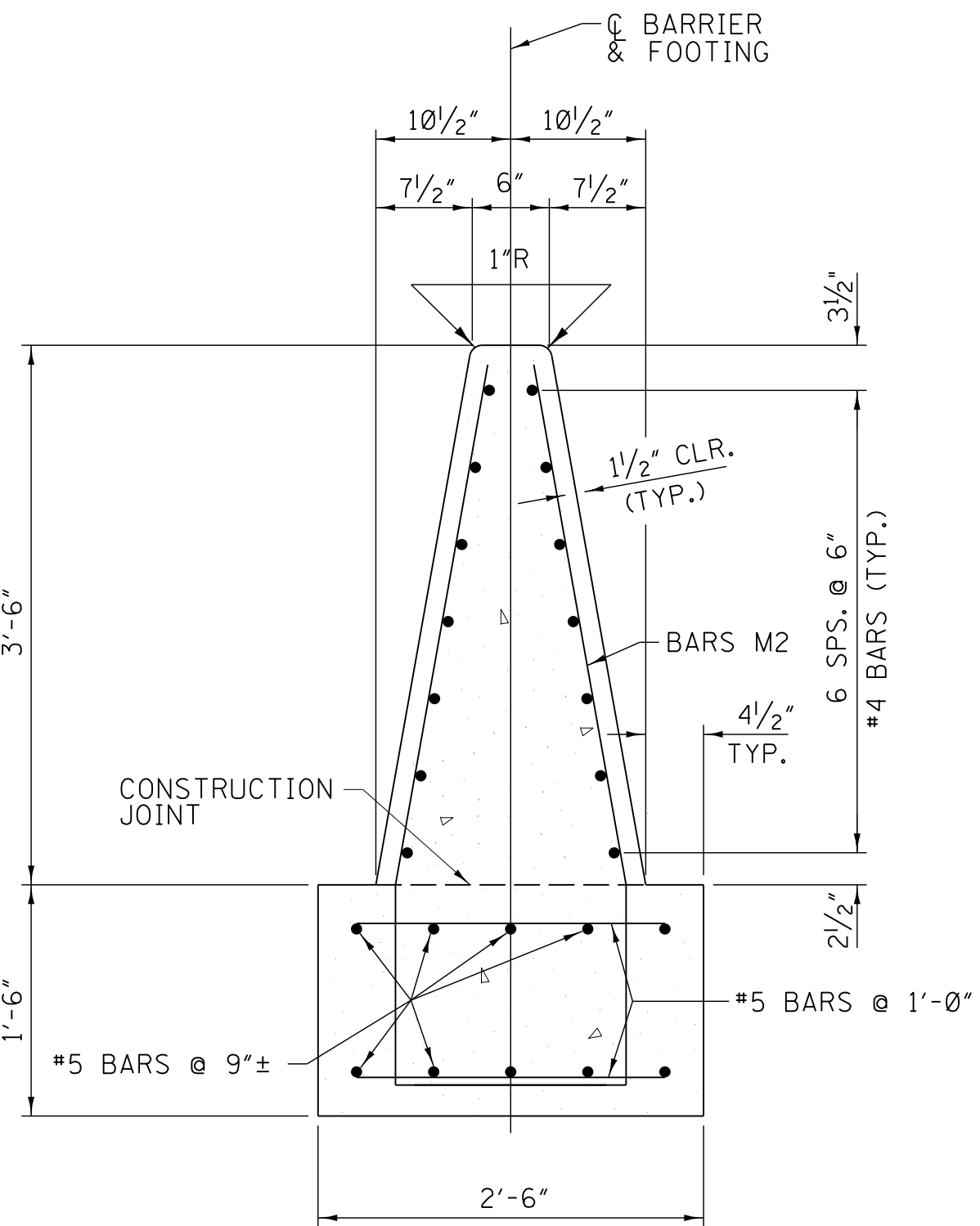
CONCRETE BARRIER ELEVATION  
(2'-8" And 3'-6" Concrete Barrier)



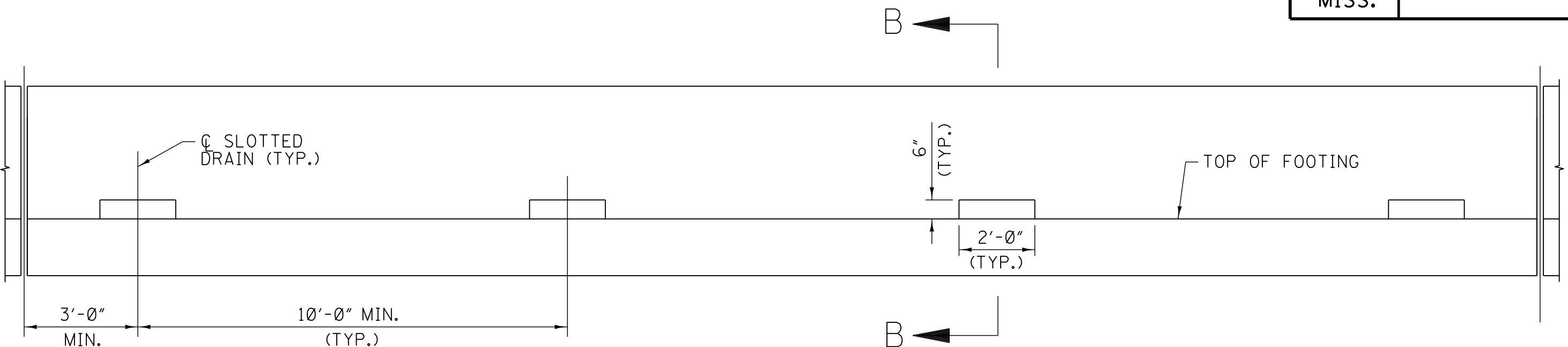
CONCRETE BARRIER TRANSITION ELEVATION



TYPE 1 (2'-8" CONCRETE BARRIER)



TYPE 1 (3'-6" CONCRETE BARRIER)



CONCRETE BARRIER WITH HORIZONTAL DRAIN SLOTS

GENERAL NOTES:

WELDED WIRE FABRIC MEETING THE REQUIREMENTS OF ASTM A 497 MAY BE USED PROVIDED THAT THE STEEL AREA MEETS OR EXCEEDS THAT SHOWN USING REINFORCING STEEL. DETAILS FOR WELDED WIRE FABRIC SHALL BE SUBMITTED TO THE PROJECT ENGINEER FOR APPROVAL.

JOINTS:

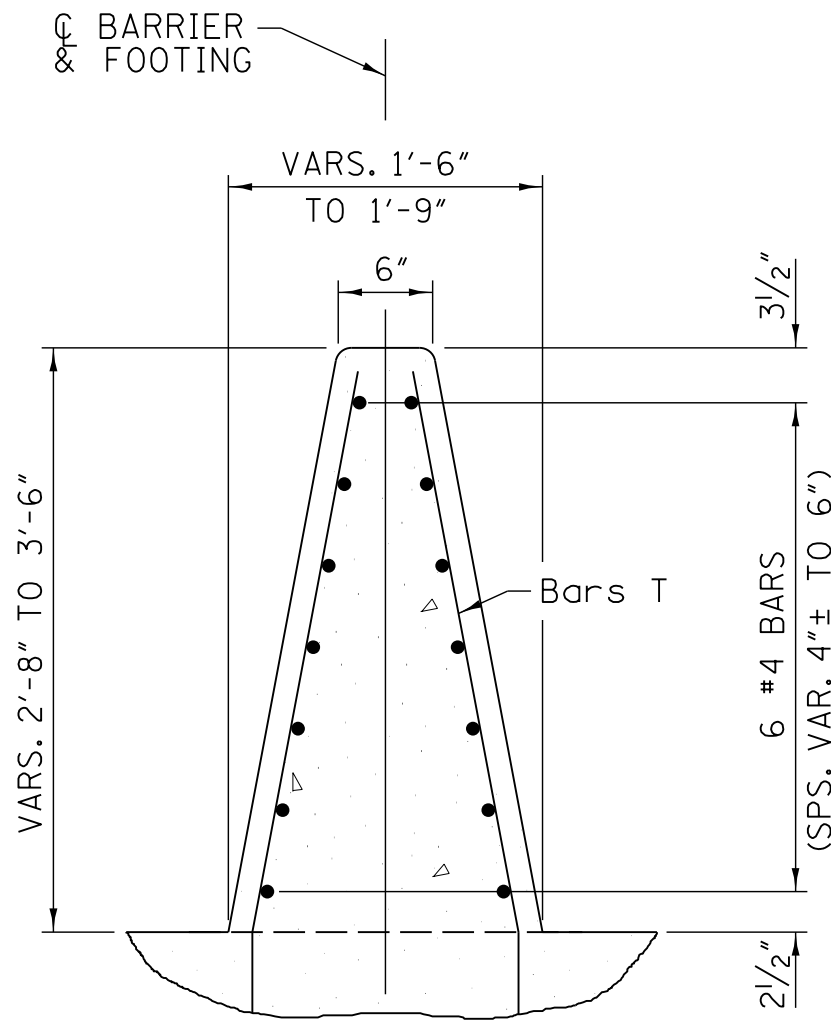
- CONSTRUCTION JOINTS:
- A. CONSTRUCTION JOINTS SHALL BE SPACED TO MINIMIZE IMPACTS WITH CONTRACTION AND EXPANSION JOINTS.
  - B. LONGITUDINAL REINFORCING STEEL SHALL CONTINUE THROUGH JOINT.

CONTRACTION JOINTS:

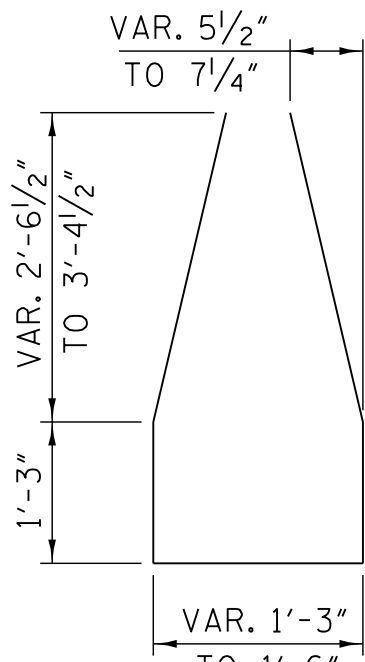
- A. MINIMUM SPACING = 20'-0".
- B. 3/4" CHAMFERS ARE REQUIRED FROM THE BARRIER BASE TO TOP OF WALL.
- C. LONGITUDINAL REINFORCING STEEL SHALL CONTINUE THROUGH JOINT.

EXPANSION JOINTS:

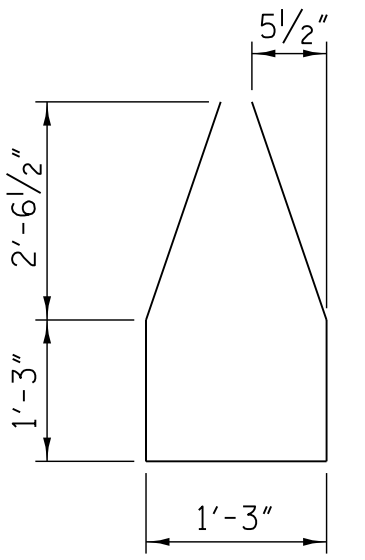
- A. MINIMUM SPACING = 40'-0".
- B. MAXIMUM SPACING = 60'-0".
- C. 1" X 2'-0" SMOOTH DOWELS SHALL BE SPACED WITH LONGITUDINAL REINFORCING STEEL WITH 1" X 1'-2" TUBING ON ONE SIDE OF THE JOINT.
- D. 3/4" CHAMFERS ARE REQUIRED FROM THE FOOTING BASE TO TOP OF WALL.



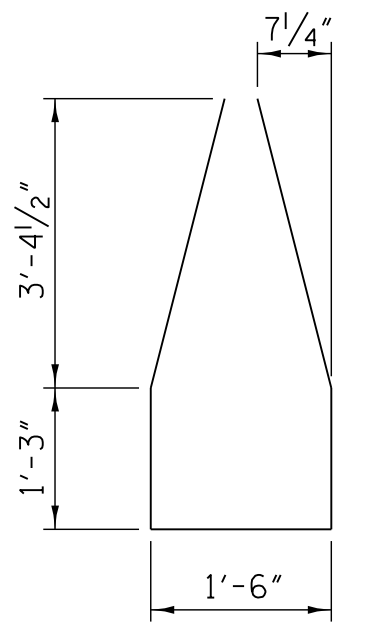
SECTION A-A



BARS T ~ #6



BARS M1 ~ #6



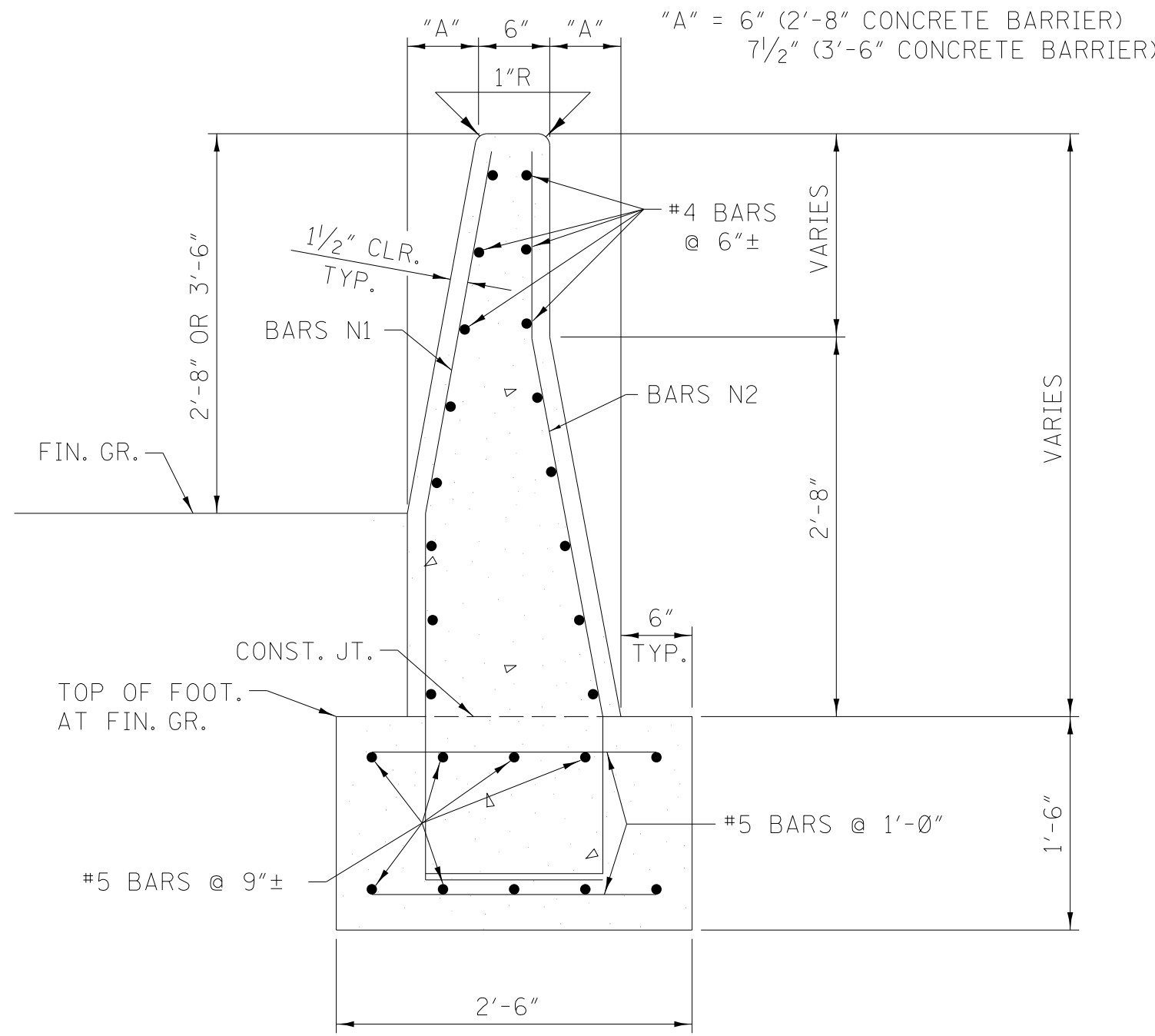
BARS M2 ~ #6

BAR BENDING DETAILS  
DIMENSIONS ARE OUT TO OUT

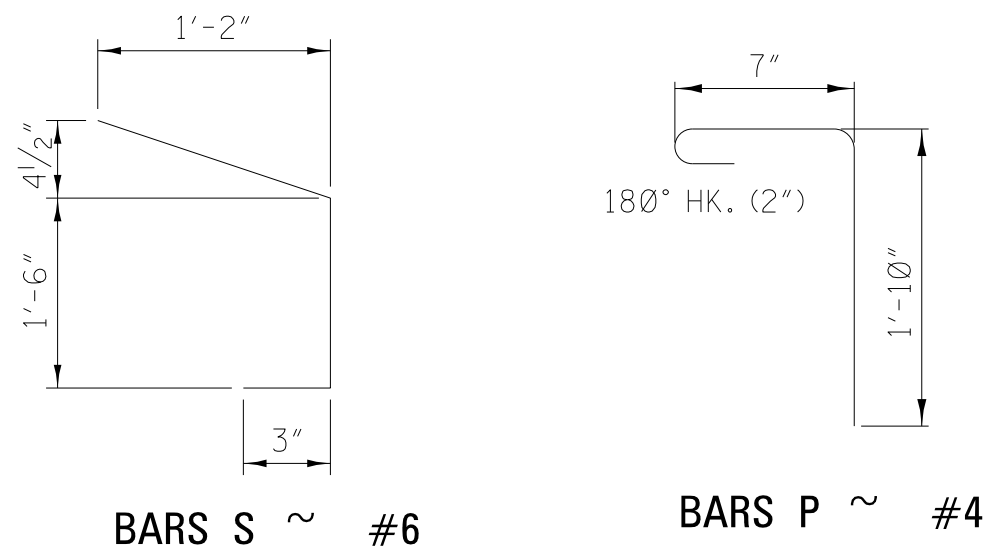
DESIGN DATA:  
SPECIFICATIONS..... AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 7TH ED. 2014

RAILING TEST LEVEL ..... TL-4  
CONCRETE ..... CLASS "B" (3,500 PSI)  
REINFORCING ..... A.S.T.M. A615 GRADE 60 (Fy=60ksi)  
MIN. SOIL BEARING CAPACITY .. 1,000 PSF

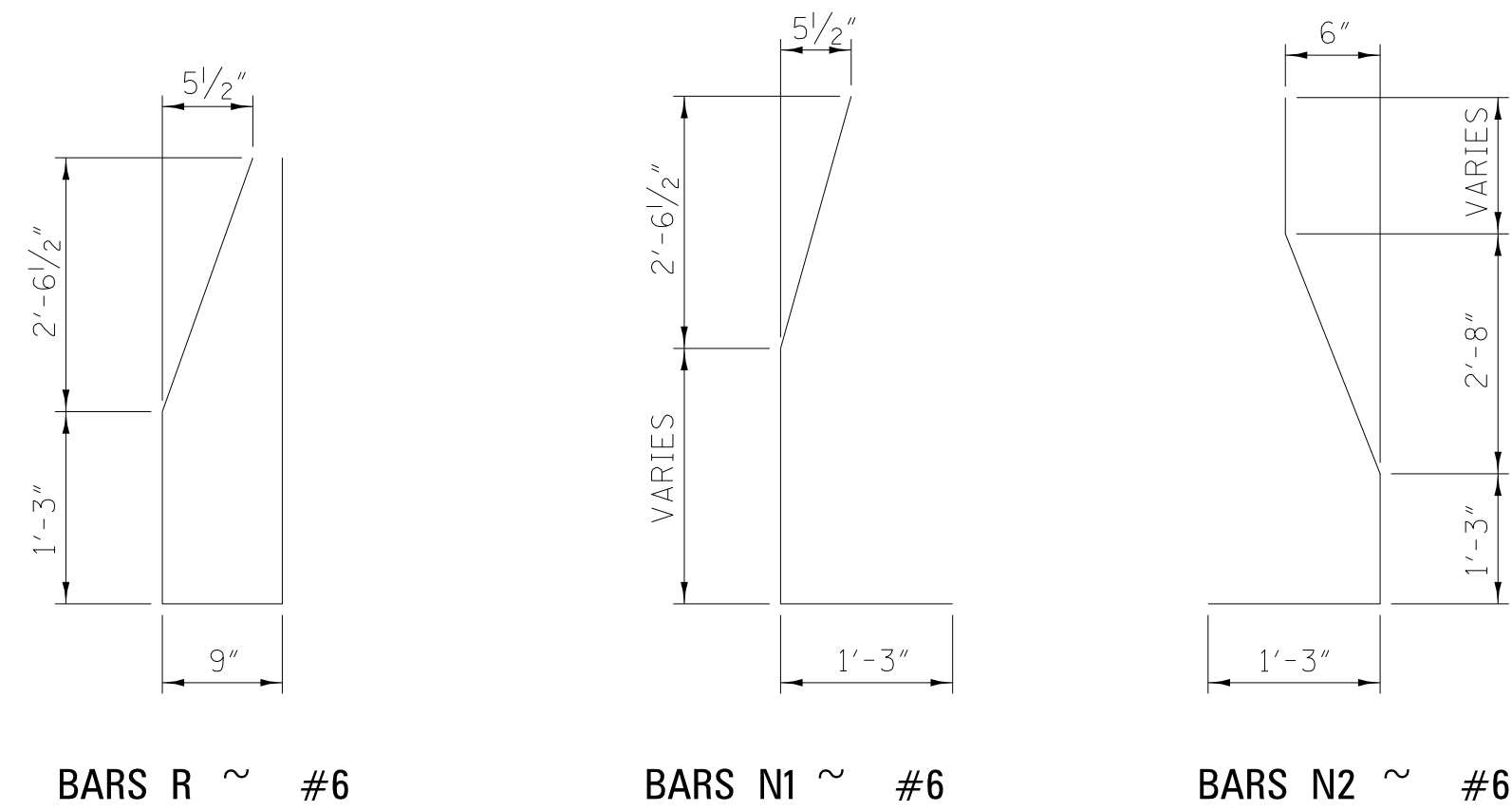
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>CONCRETE MEDIAN BARRIER (SLOPE FACE) (1 OF 2)</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					WORKING NUMBER CMB-2A SHEET NUMBER 6224



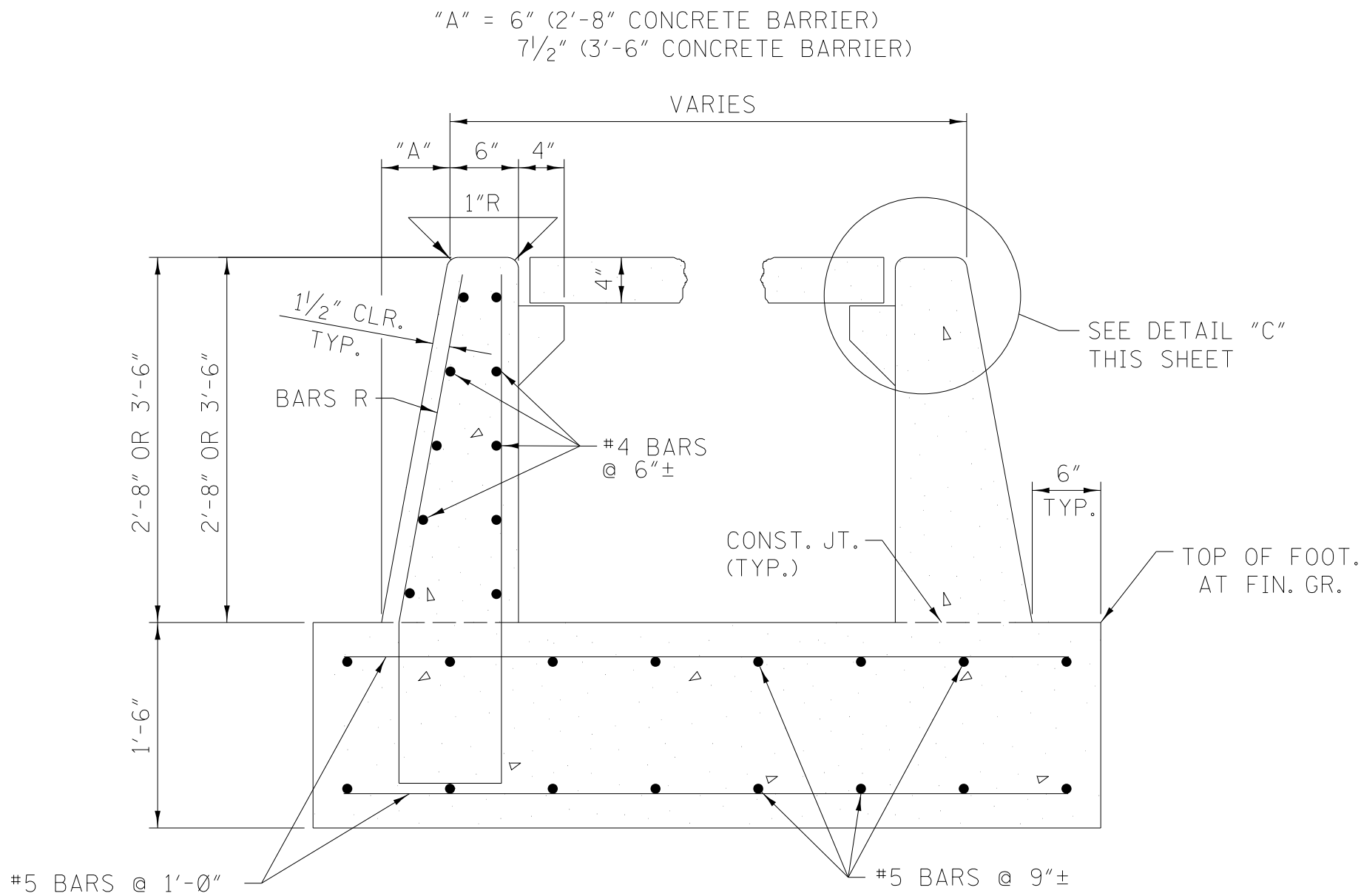
**TYPE 2**  
(2'-8" OR 3'-6" CONCRETE BARRIER)



**BAR BENDING DETAILS**  
DIMENSIONS ARE OUT TO OUT

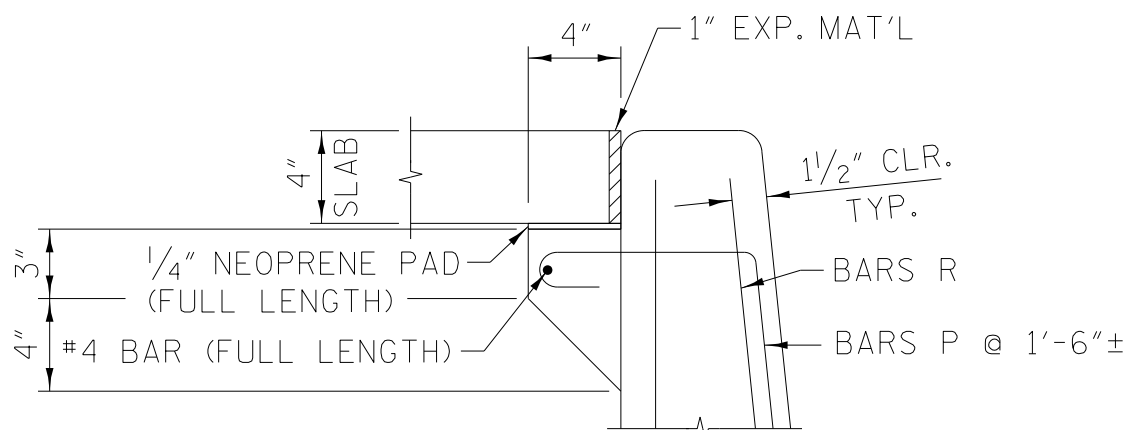


**BAR BENDING DETAILS (2'-8" CONCRETE BARRIER)**  
DIMENSIONS ARE OUT TO OUT

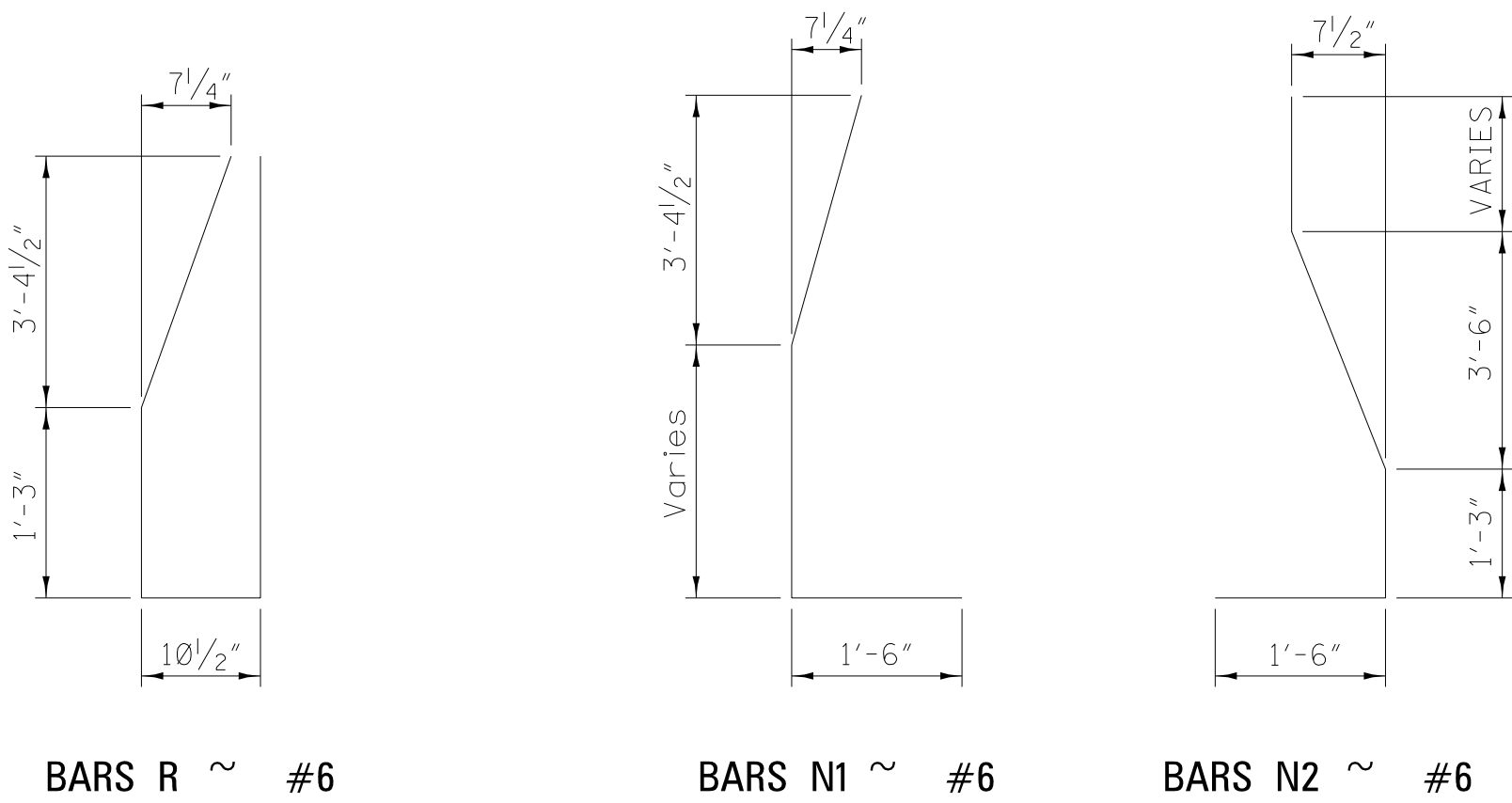


**TYPE 3**  
(2'-8" OR 3'-6" CONCRETE BARRIER)

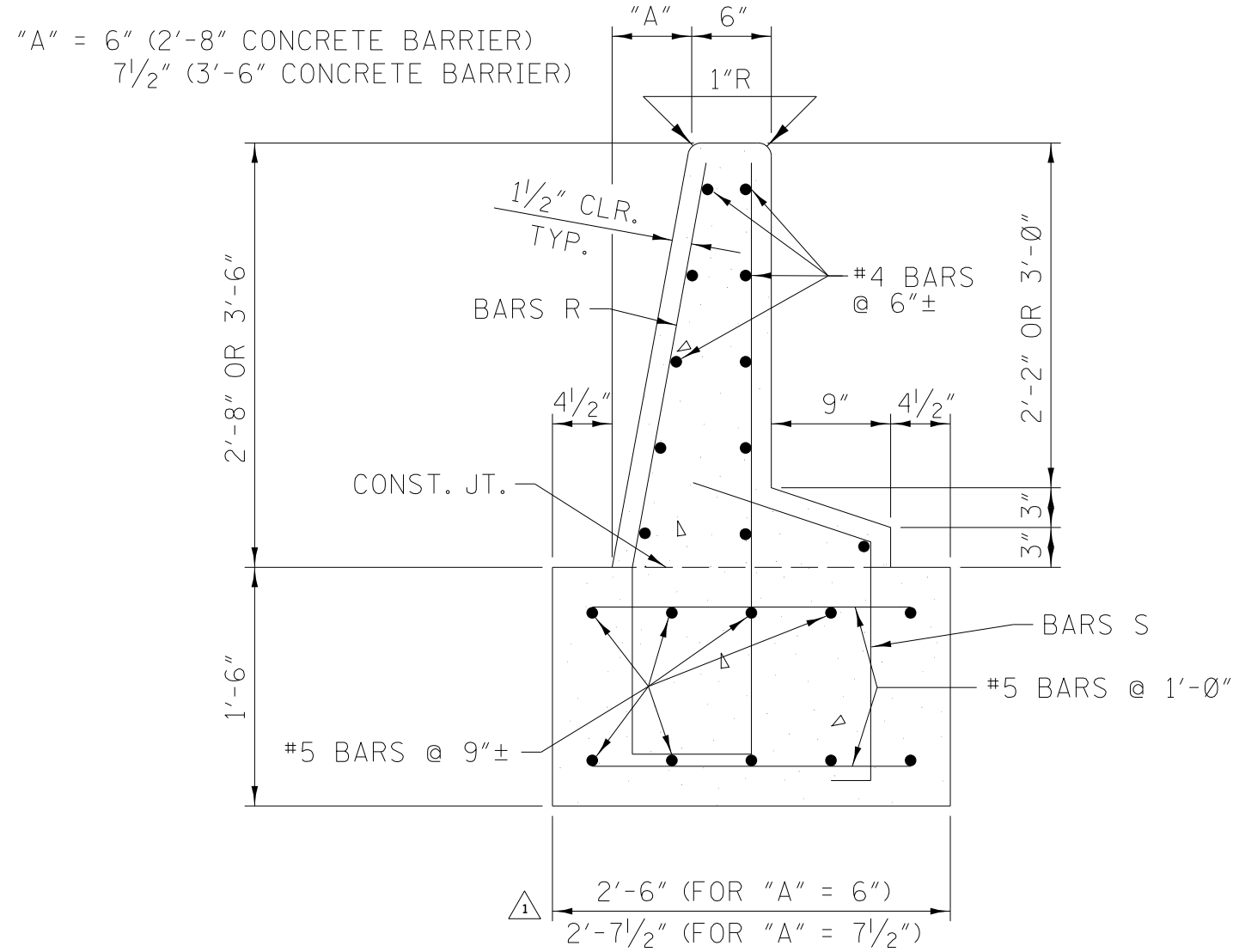
- TYPE 3 BARRIER:
- MATERIALS REQUIRED FOR SUPPORT BETWEEN BARRIER WALLS SHOULD BE SPECIFIED ON THE PLANS OR AS DIRECTED.
  - DETAILS OF THE 4" CONCRETE CAP SHOULD BE AS SHOWN ON THE PLANS OR AS DIRECTED.
  - PROVISIONS FOR DRAINAGE SHOULD BE SHOWN ON THE PLANS OR AS DIRECTED.
  - BARRIER HEIGHT SHOULD BE ADJUSTED IN SUPERELEVATED ROADWAY SECTIONS TO ACHIEVE A LEVEL CONCRETE CAP.



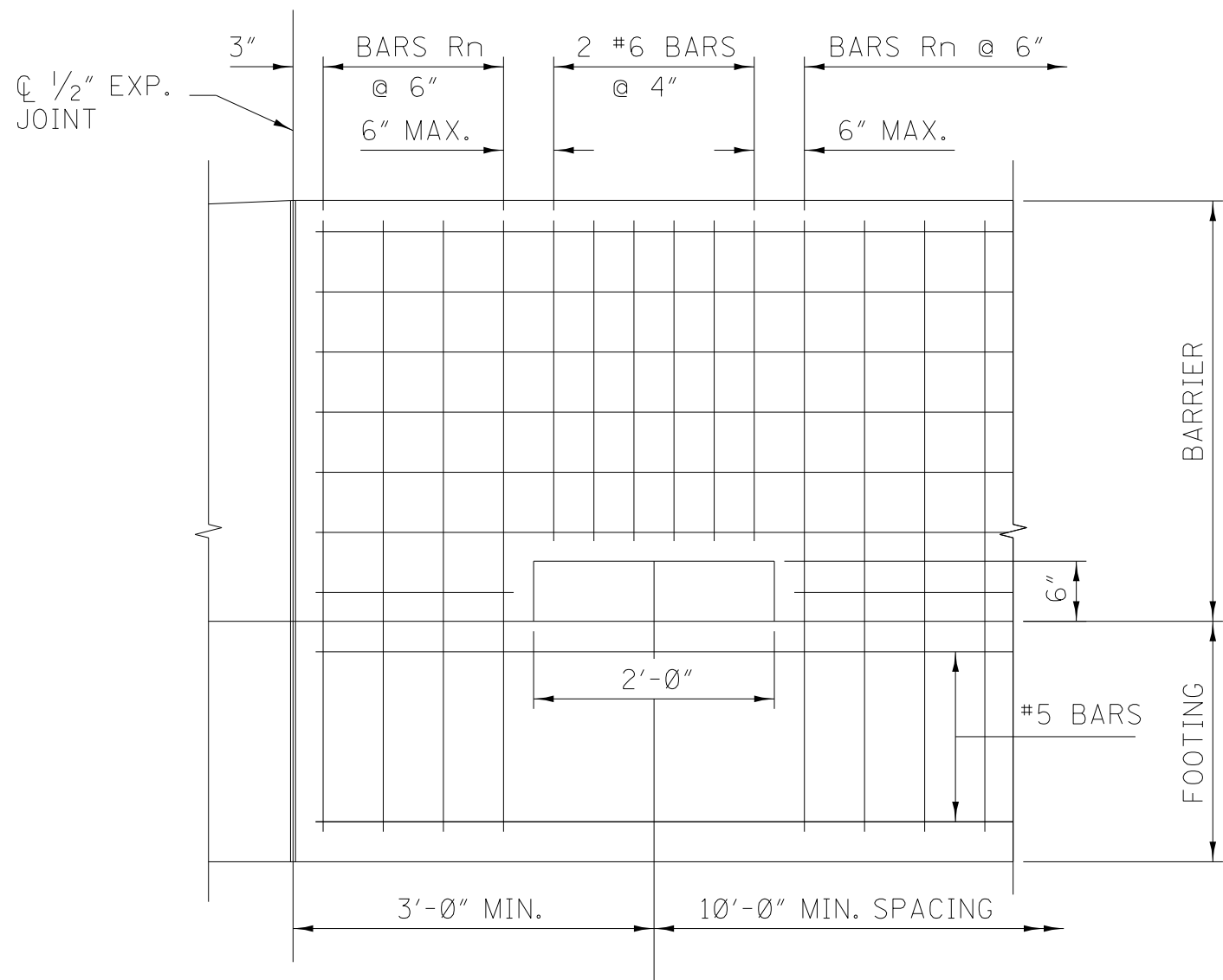
**DETAIL "C"**




**BAR BENDING DETAILS (3'-6" CONCRETE BARRIER)**  
DIMENSIONS ARE OUT TO OUT

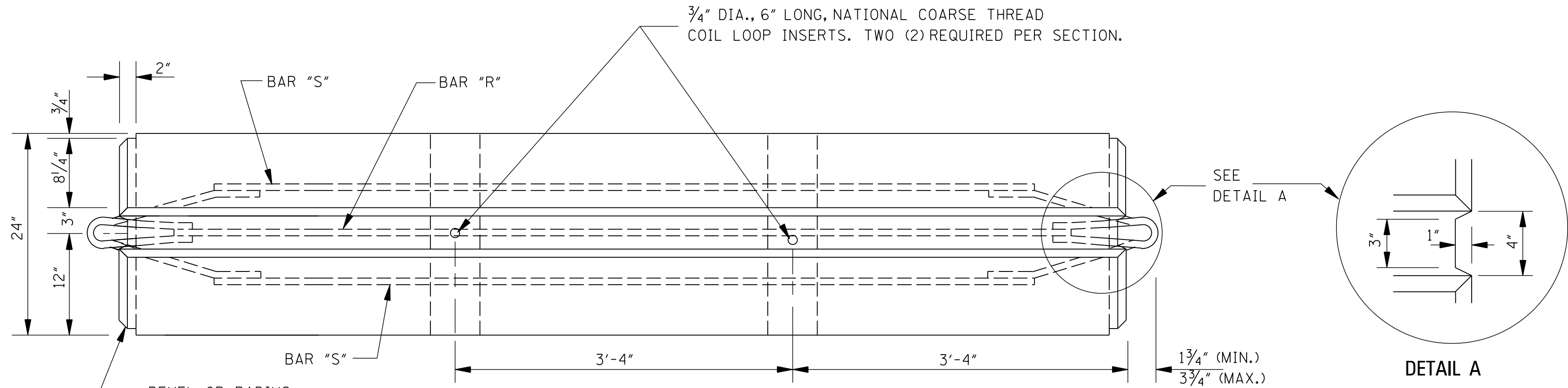


**TYPE 4**  
(2'-8" OR 3'-6" CONCRETE BARRIER)

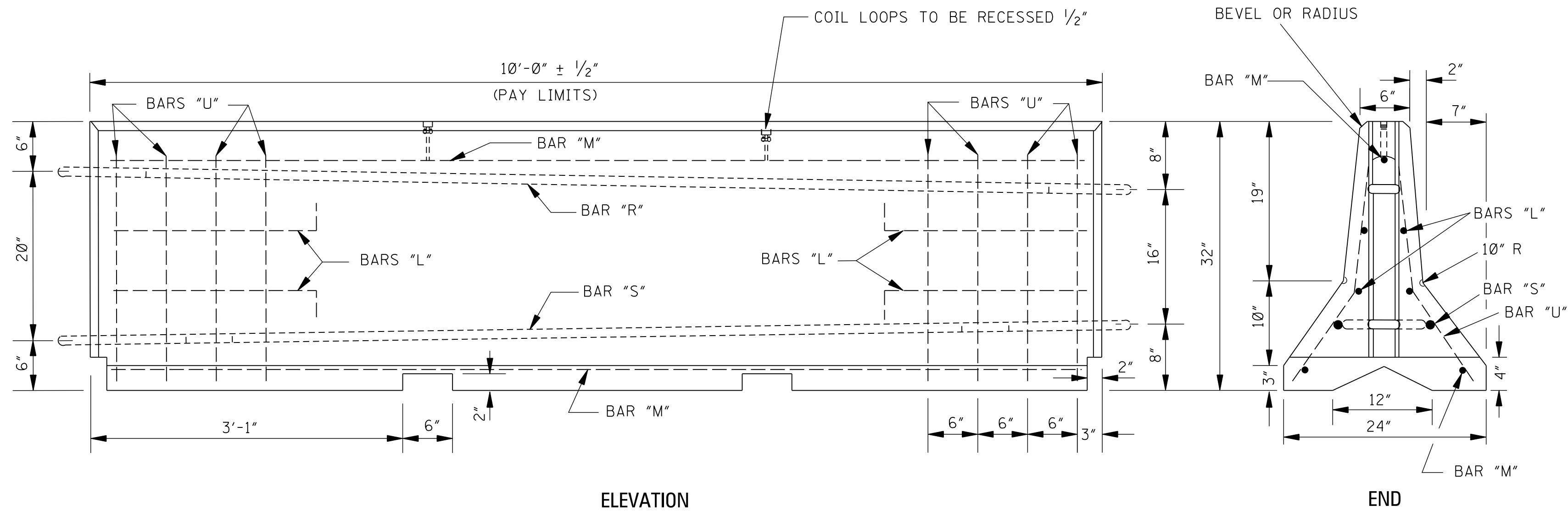


**ELEVATION OF DRAIN SLOT**

5/7/24	UPDATED DIMENSIONS	TO		BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN  <b>CONCRETE MEDIAN BARRIER (SLOPE FACE) (2 OF 2)</b>	<div> WORKING NUMBER CMB-2B SHEET NUMBER 6225</div>
		DATE	ISSUE DATE: MAY 07, 2024			



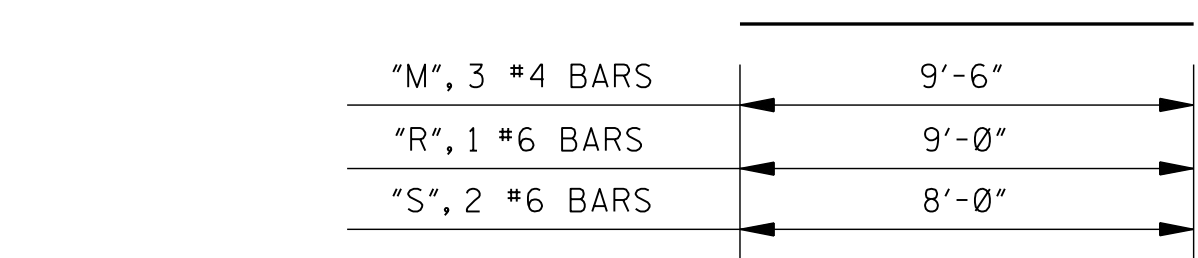
PLAN



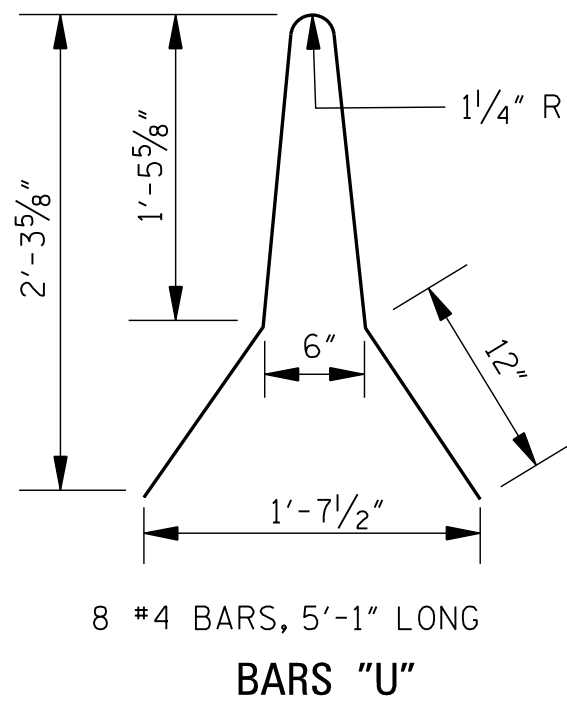
ELEVATION

END

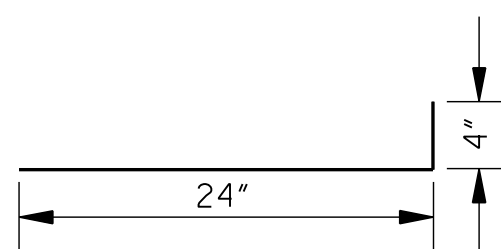
PRECAST CONCRETE MEDIAN BARRIER



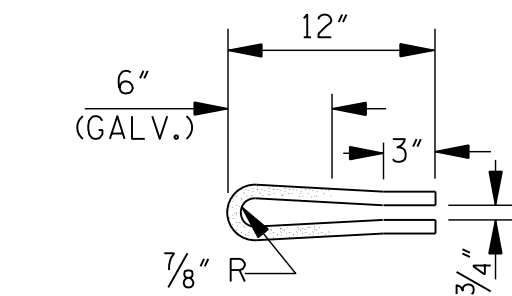
BARS "M", "R" & "S"



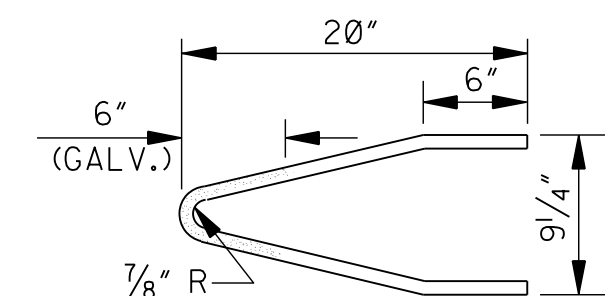
BARS "U"



BARS "L"



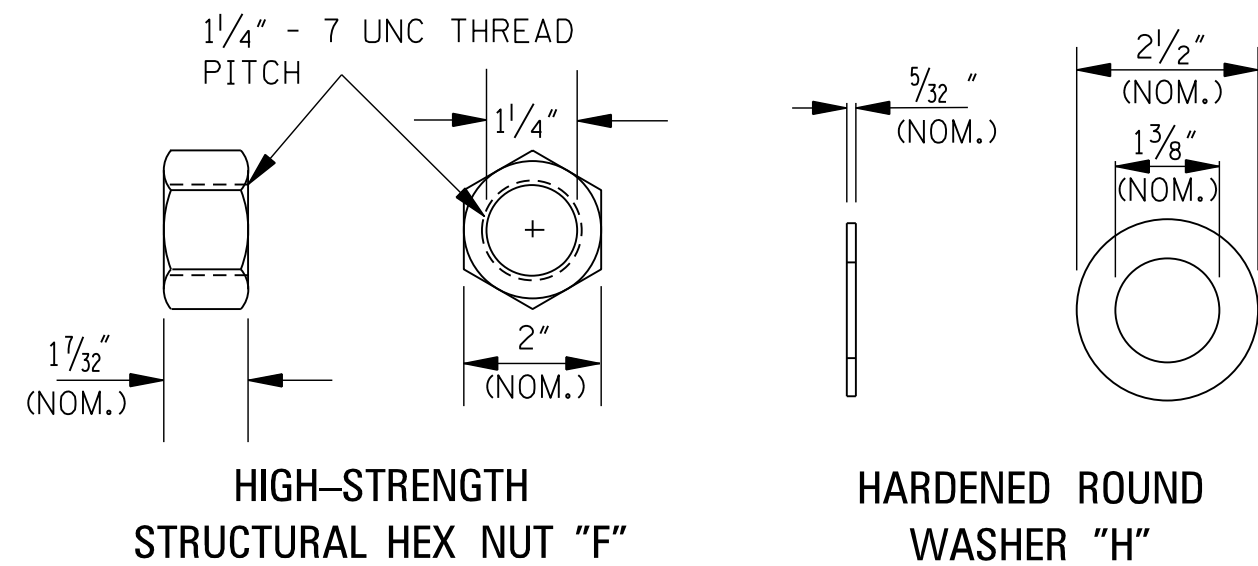
TOP CONNECTOR



BOTTOM CONNECTOR

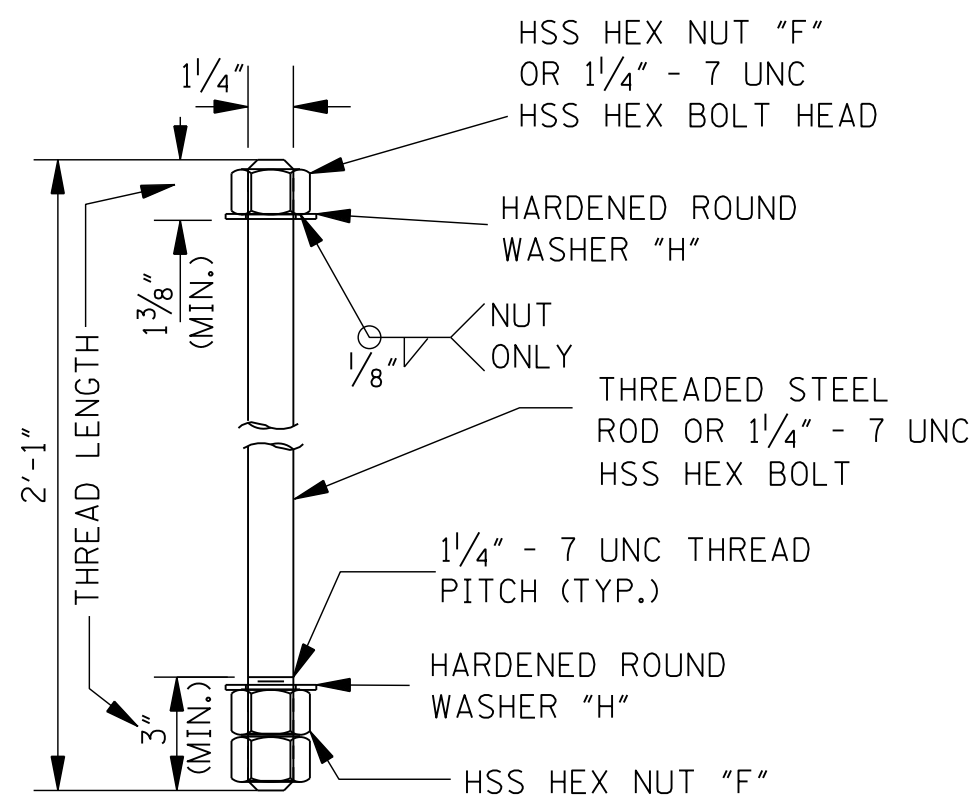
BAR AND ROD DETAILS

NOTE: WHERE STEEL ROD GALVANIZATION IS SHOWN ABOVE, GALVANIZE AFTER BENDING.



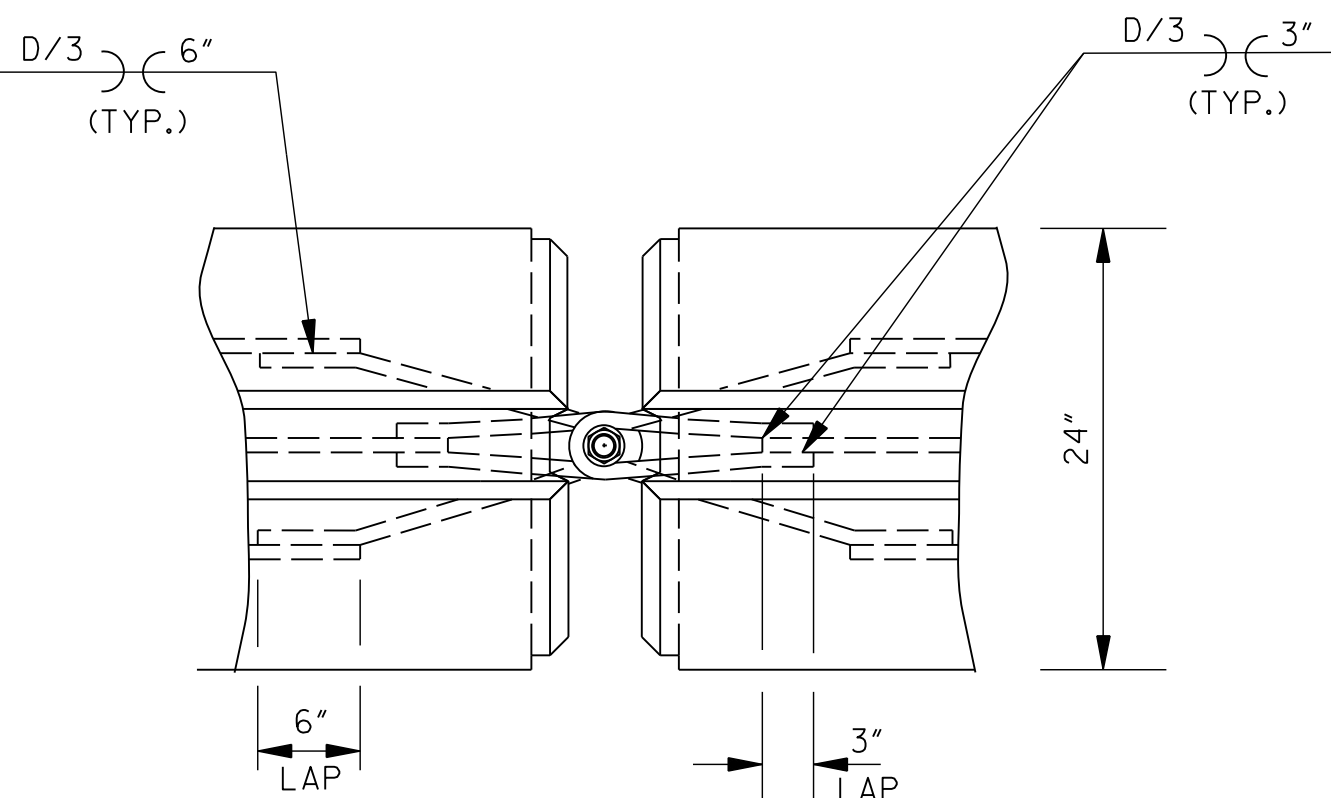
HIGH-STRENGTH  
STRUCTURAL HEX NUT "F"

HARDENED ROUND  
WASHER "H"

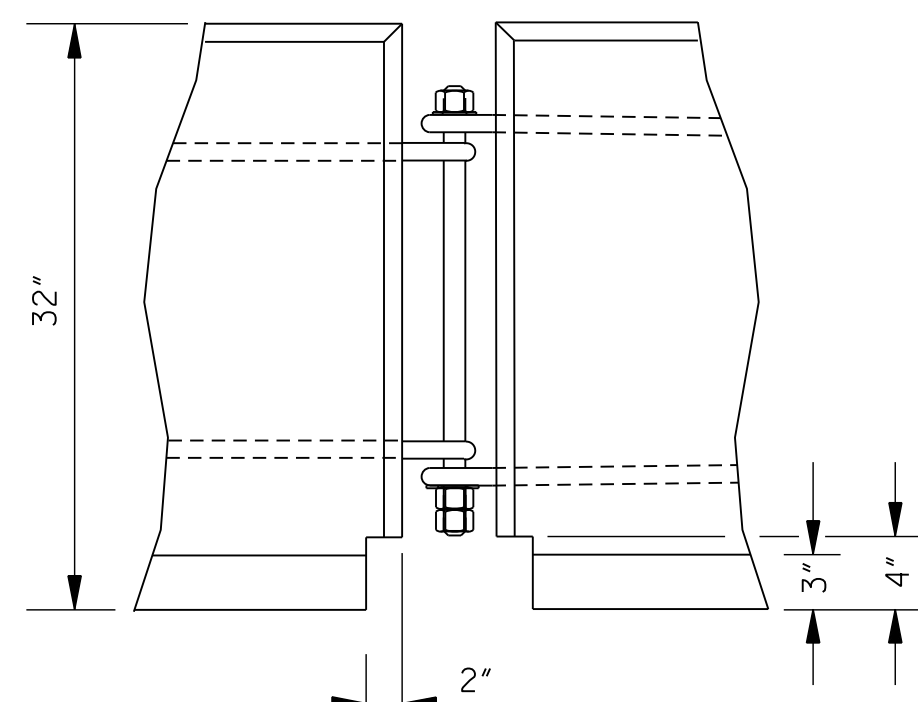


ANCHOR STUD CONNECTOR DETAILS

NOTE: ALTERNATE METHODS OF CONNECTING PRECAST BARRIERS, SUCH AS J-HOOKS, MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER.

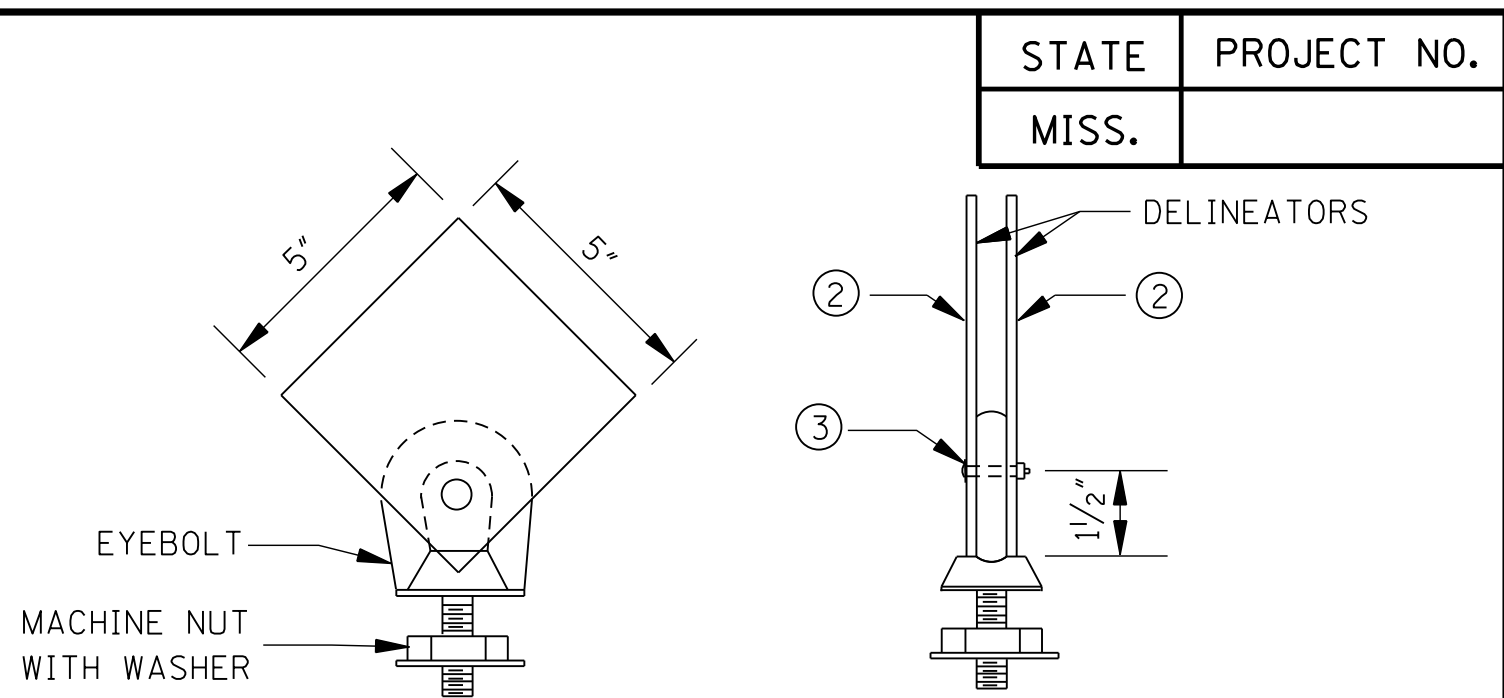


PLAN



ELEVATION

BARRIER CONNECTION DETAIL



DELINEATOR, CONCRETE  
PRECAST MEDIAN BARRIER, TYPE 1

- DELINEATORS SHALL BE REQUIRED UNLESS INDICATED OTHERWISE ON THE PLANS. THIS ITEM WILL NOT BE MEASURED SEPARATELY, BUT WILL BE INCLUDED UNDER PAYMENT FOR PRECAST CONCRETE BARRIER.
- DELINEATORS SHALL BE ENCAPSULATED LENS REFLECTIVE SHEETING ON ALUMINUM SHEET, 0.080" THICK, OR SHEET STEEL, 14 GAGE, WHICH IS GALVANIZED.
- ALUMINUM OR STAINLESS STEEL SLOTTED ROUND HEAD MACHINE SCREW, NO. 10, 1 1/2" LONG, 2-WASHERS AND 1-HEX HEAD NUT (COMMERCIAL QUALITY)
- THE DELINEATORS SHALL BE INSTALLED FACING TRAFFIC WITH YELLOW ON THE LEFT AND WHITE ON THE RIGHT, UNLESS OTHERWISE SPECIFIED.
- SPACINGS OF DELINEATORS: TANGENT SECTION - 20'-0". CURVED SECTION - 10'-0".
- OPTIONAL DELINEATORS, WHICH ARE ON THE MISSISSIPPI DEPARTMENT OF TRANSPORTATION "LIST OF APPROVED MATERIALS", WILL BE ACCEPTED.

GENERAL NOTES:

- LIFTING DEVICES AND ATTACHMENTS TO BARRIER SECTIONS SHALL BE AS APPROVED BY THE ENGINEER.
- PLACE ALL STEEL REINFORCEMENT 2" MINIMUM FROM OUTSIDE FACE OF WALL, EXCEPT AS OTHERWISE SHOWN.
- THE ANCHOR STUD CONNECTOR SHALL CONFORM TO AASHTO M 314, GRADE 55. THE HSS HEX NUTS AND THE HARDENED ROUND WASHERS SHALL MEET THE REQUIREMENTS OF ASTM A 325.
- CONCRETE SHALL BE CLASS "B" (CLASS 1 FINISH). REINFORCING STEEL SHALL MEET THE REQUIREMENTS OF AASHTO M 31.
- STEEL RODS SHALL MEET THE REQUIREMENTS OF ASTM A 36.
- CONNECTOR RODS, CONNECTOR PINS, NUTS AND WASHERS SHALL BE GALVANIZED MEETING THE REQUIREMENTS OF AASHTO M 111.

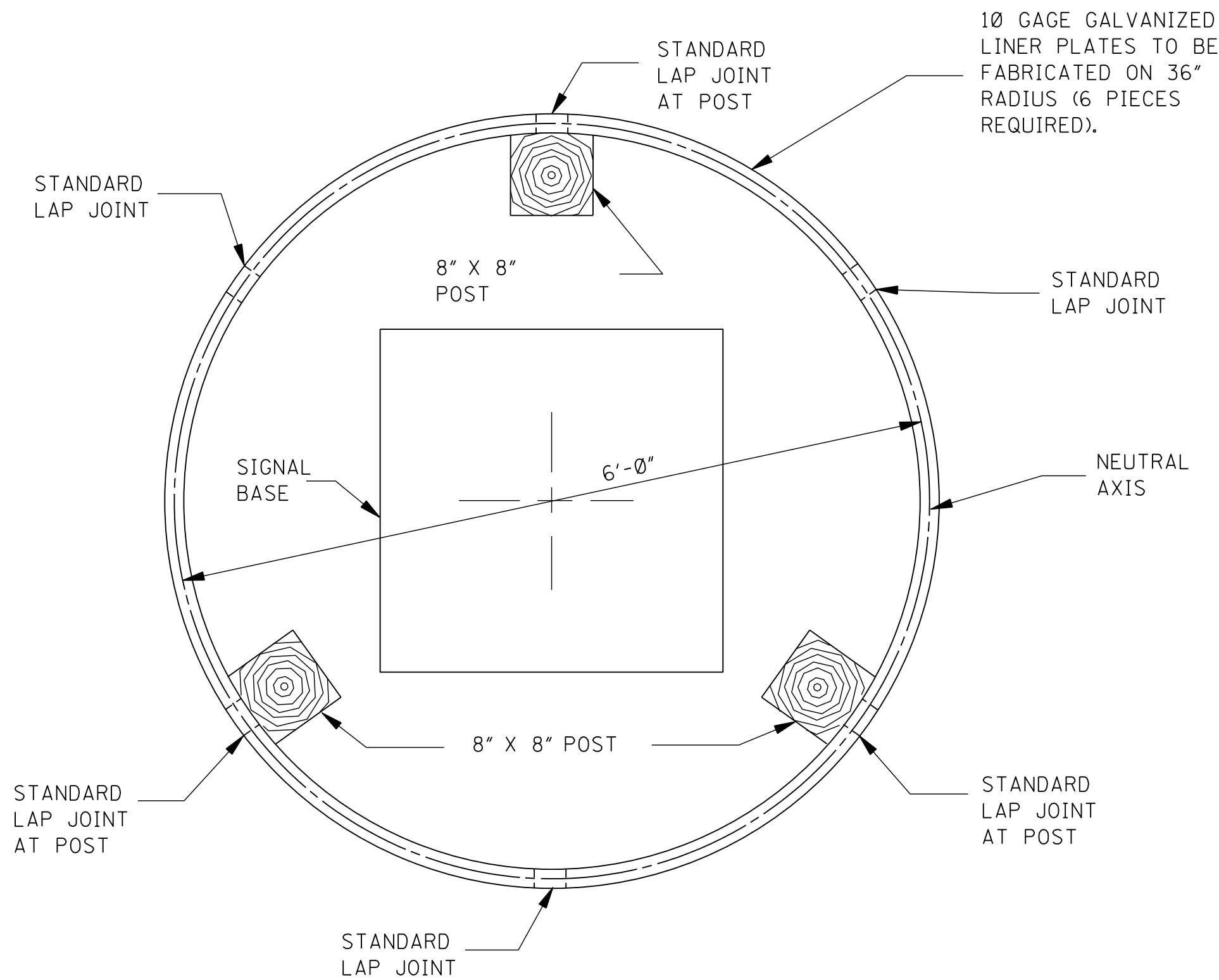
APPROXIMATE QUANTITIES FOR 10' BARRIER			
WEIGHT (lbs.)	REINF. STEEL (lbs.)	STEEL RODS (lbs.)	CONCRETE (yd <sup>3</sup> )
3875	104	18	0.931

BY	REVISION	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN	
		<b>CONCRETE MEDIAN BARRIER (PRECAST) (32")</b>	
DATE	ISSUE DATE:	AUGUST 01, 2017	
		WORKING NUMBER CMB-3	
		SHEET NUMBER 6226	

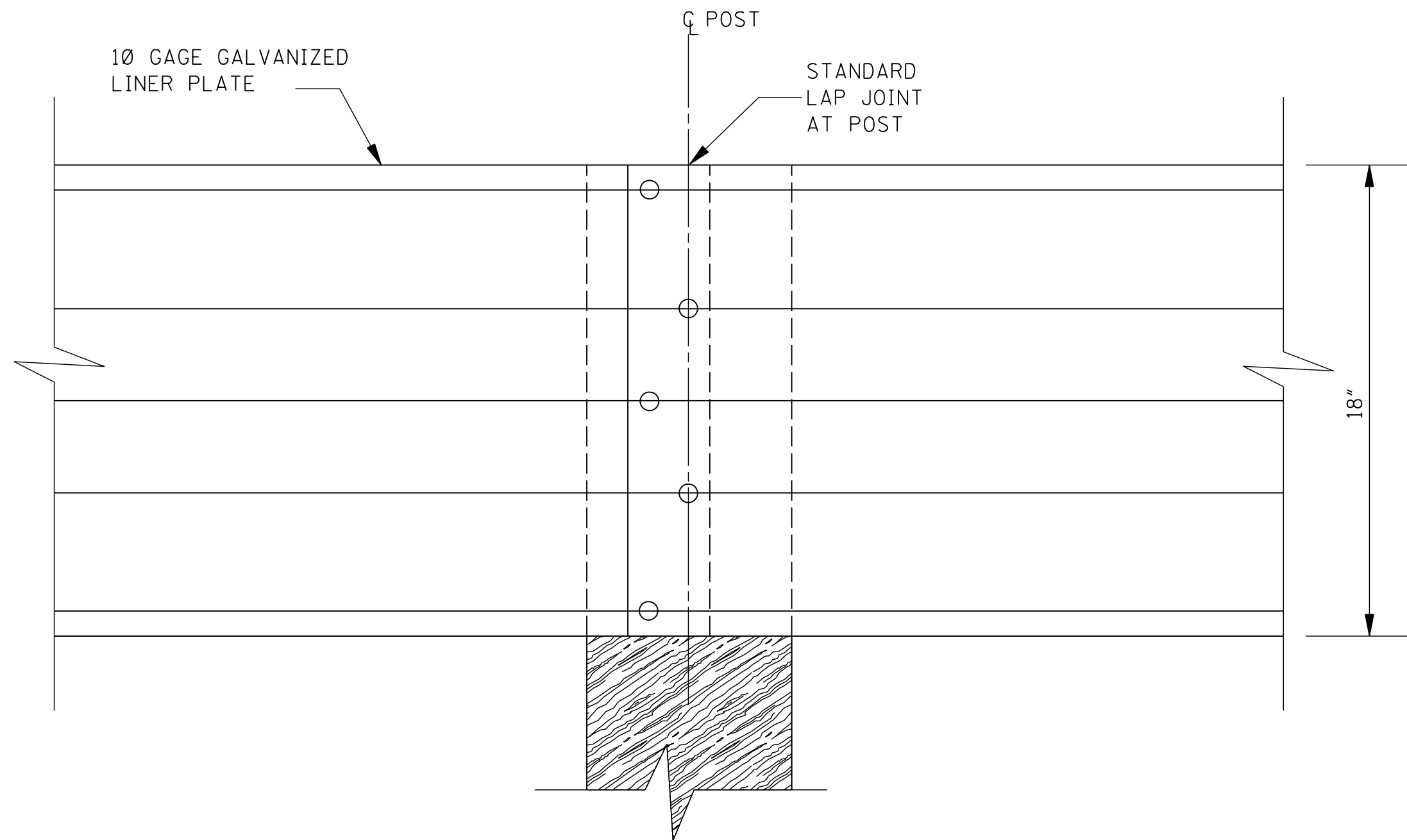


WORKING NUMBER  
CMB-3

SHEET NUMBER  
6226

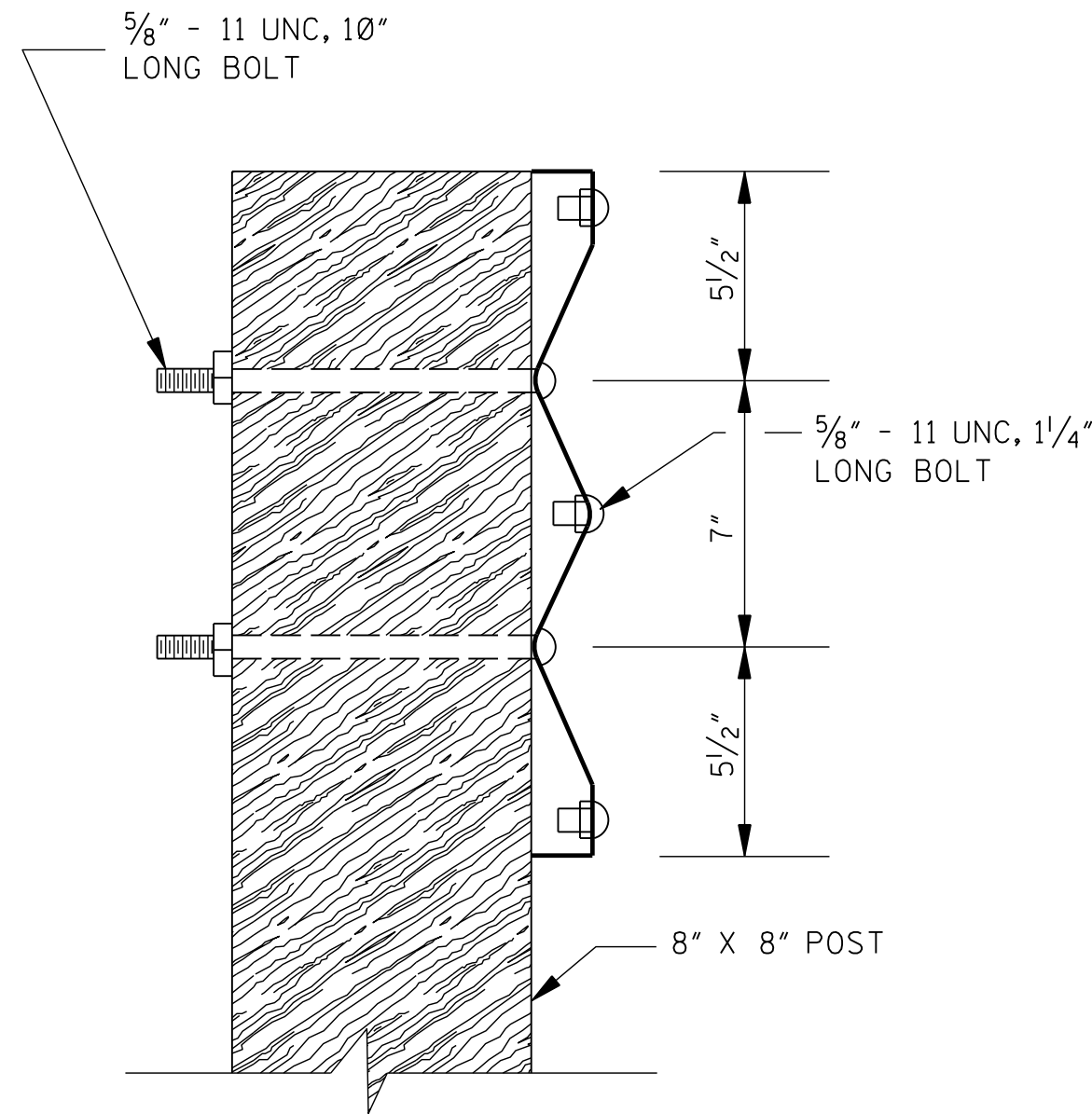


PLAN

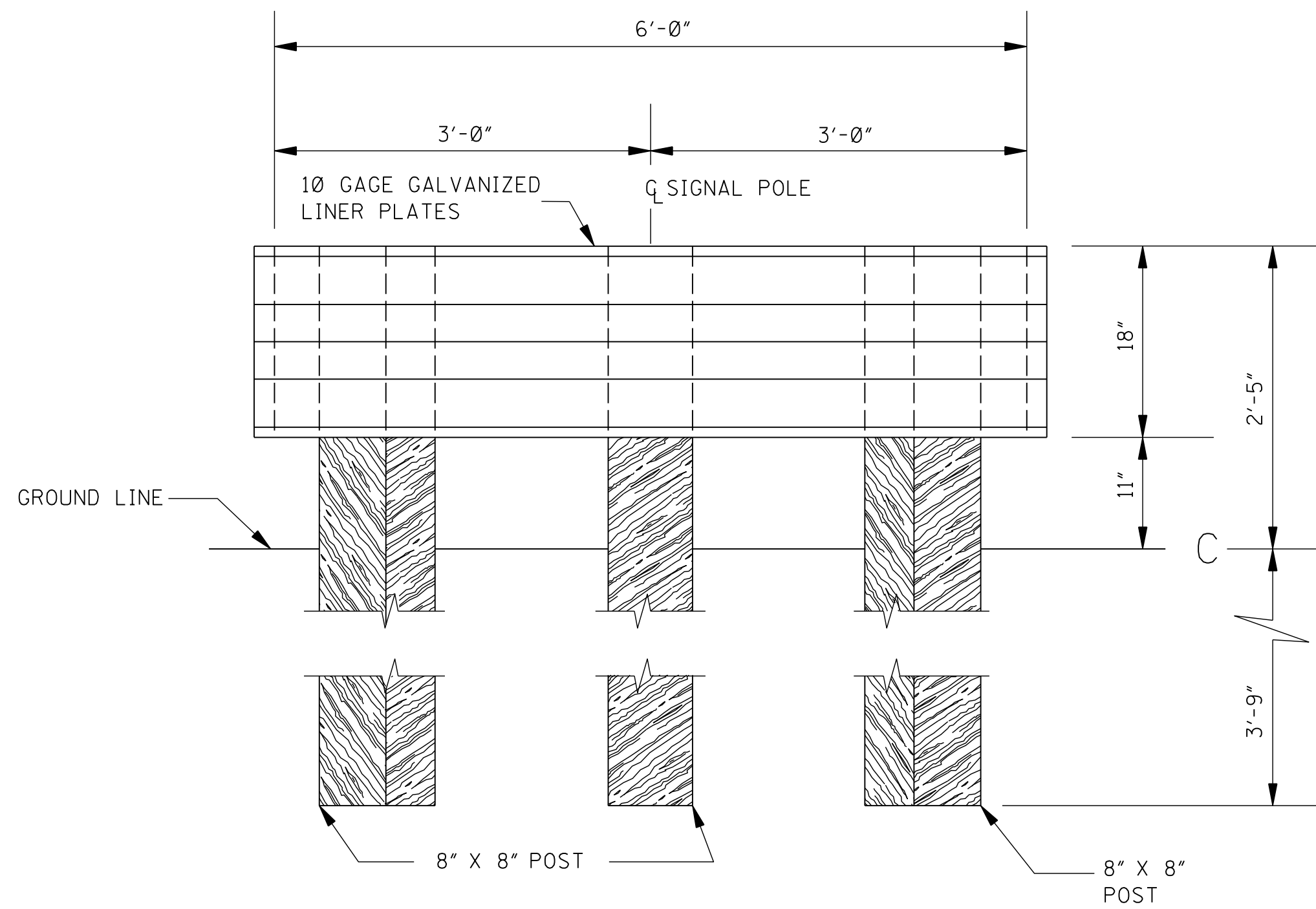


DETAIL OF STANDARD LAP JOINT AT POST  
(3 REQUIRED)

NOTE: BOLTS ARE 5/8" - 11 UNC, 1 1/4" LONG GALVANIZED CARRIAGE BOLTS (3 REQUIRED PER STANDARD LAP JOINT AT POST) AND 5/8" - 11 UNC, 10" LONG GALVANIZED CARRIAGE BOLTS THRU POST (2 REQUIRED PER STANDARD LAP JOINT AT POST).

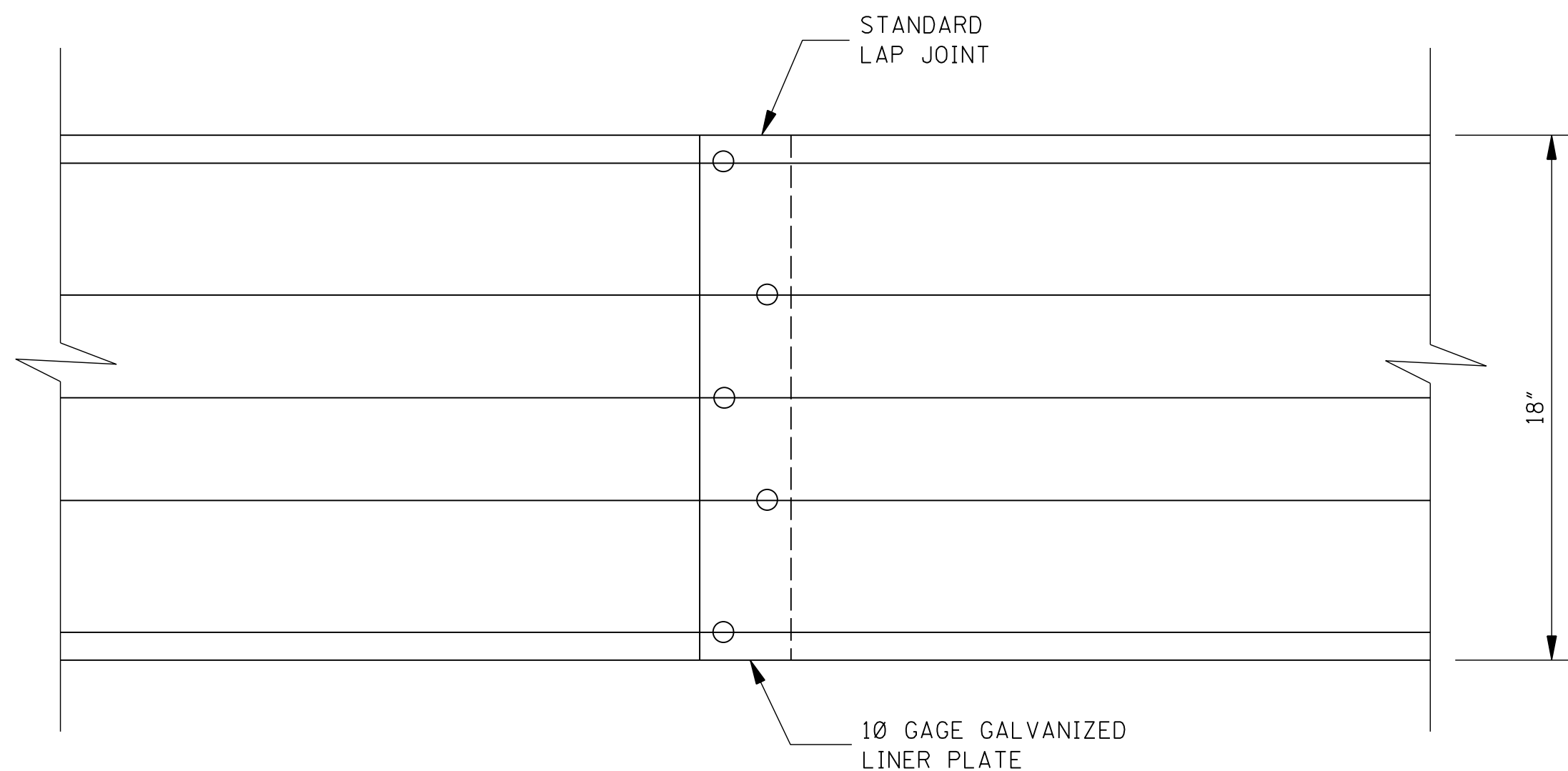


SECTION OF STANDARD LAP JOINT AT POST



ELEVATION

NOTE: SIGNAL BASE AND POLE NOT SHOWN.



DETAIL OF STANDARD LAP JOINT  
(3 REQUIRED)

NOTE: BOLTS ARE 5/8" - 11 UNC, 1 1/4" LONG GALVANIZED CARRIAGE BOLTS (5 REQUIRED PER STANDARD LAP JOINT).

GENERAL NOTES:

1. LINER PLATE MAY BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH COATING DESIGNATION G210 - ASTM A 525.
2. ALL POSTS SHALL BE 8" X 8" TREATED ROUGH TIMBER.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	ISSUE DATE: AUGUST 01, 2017

**PROTECTIVE DEVICE  
FOR RAILROAD SIGNAL**

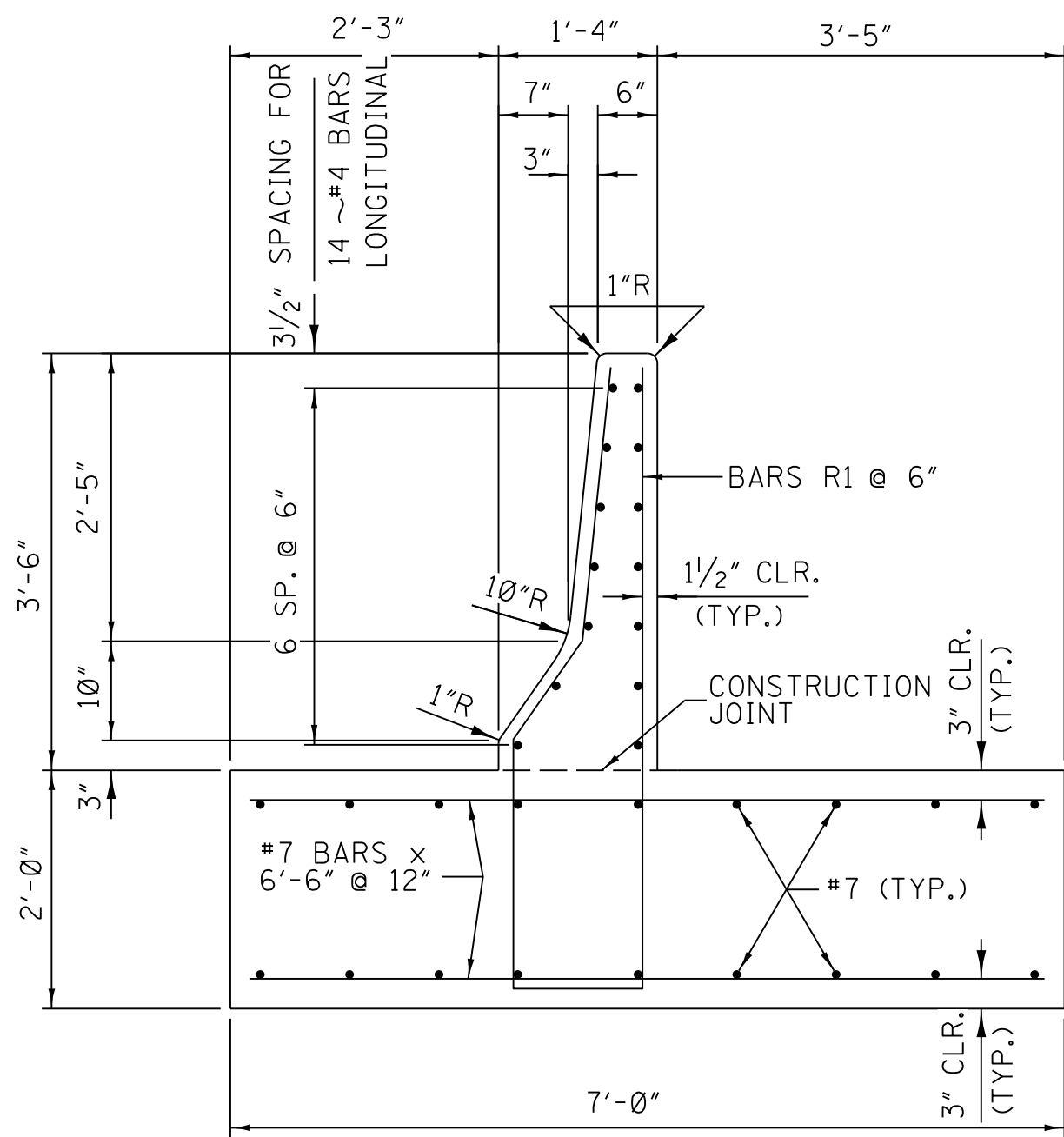
**MDOT**  
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

WORKING NUMBER  
RRS-1

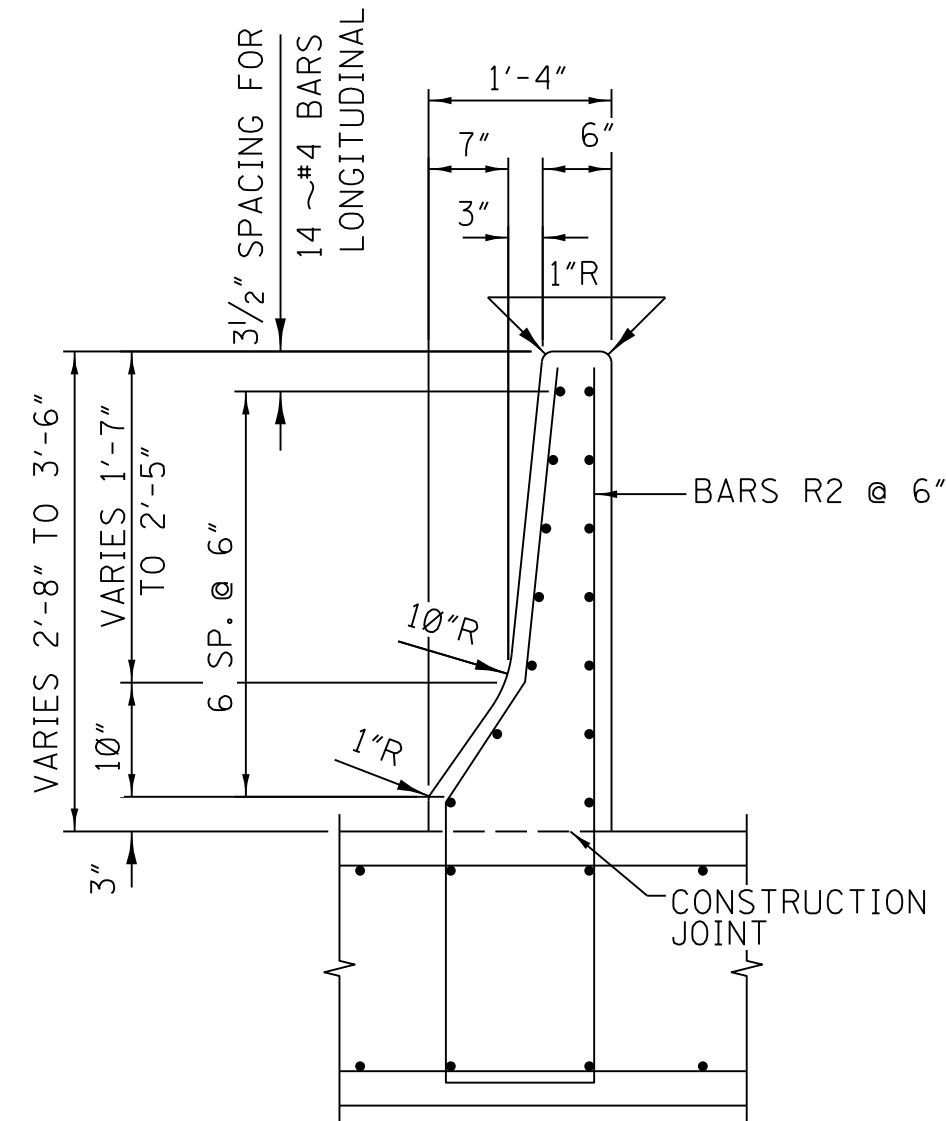
SHEET NUMBER  
6227



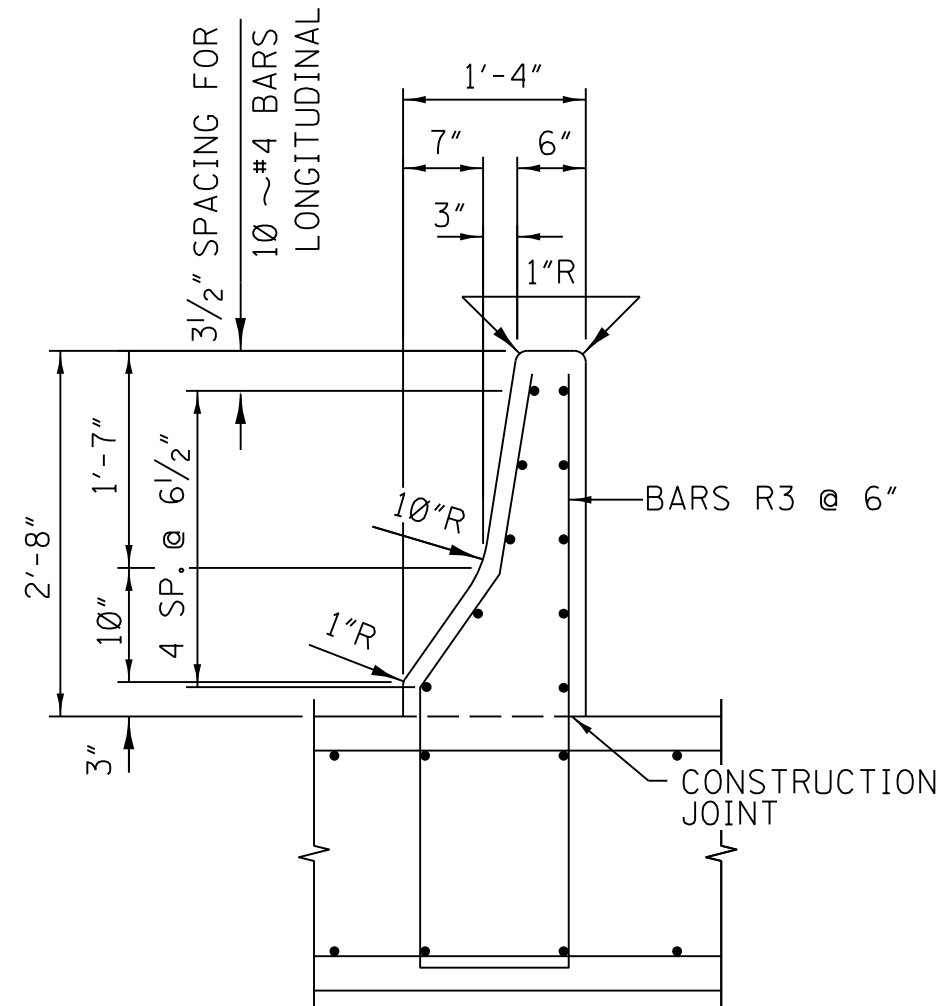




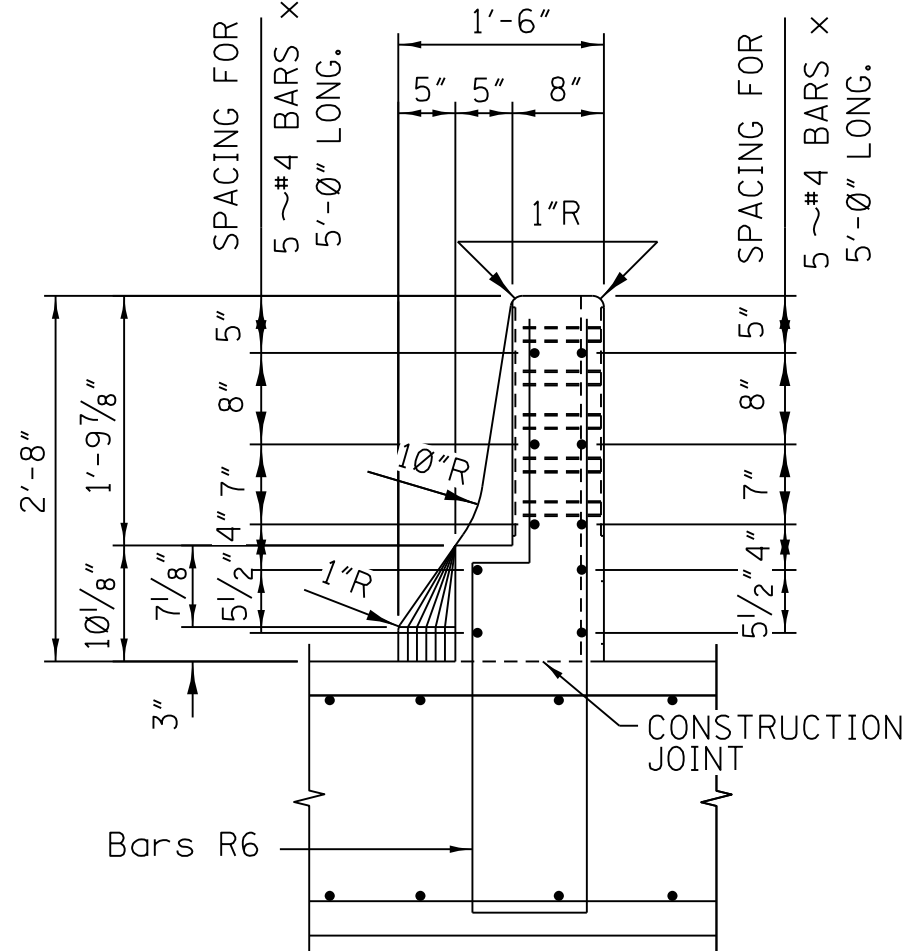
SECTION A-A



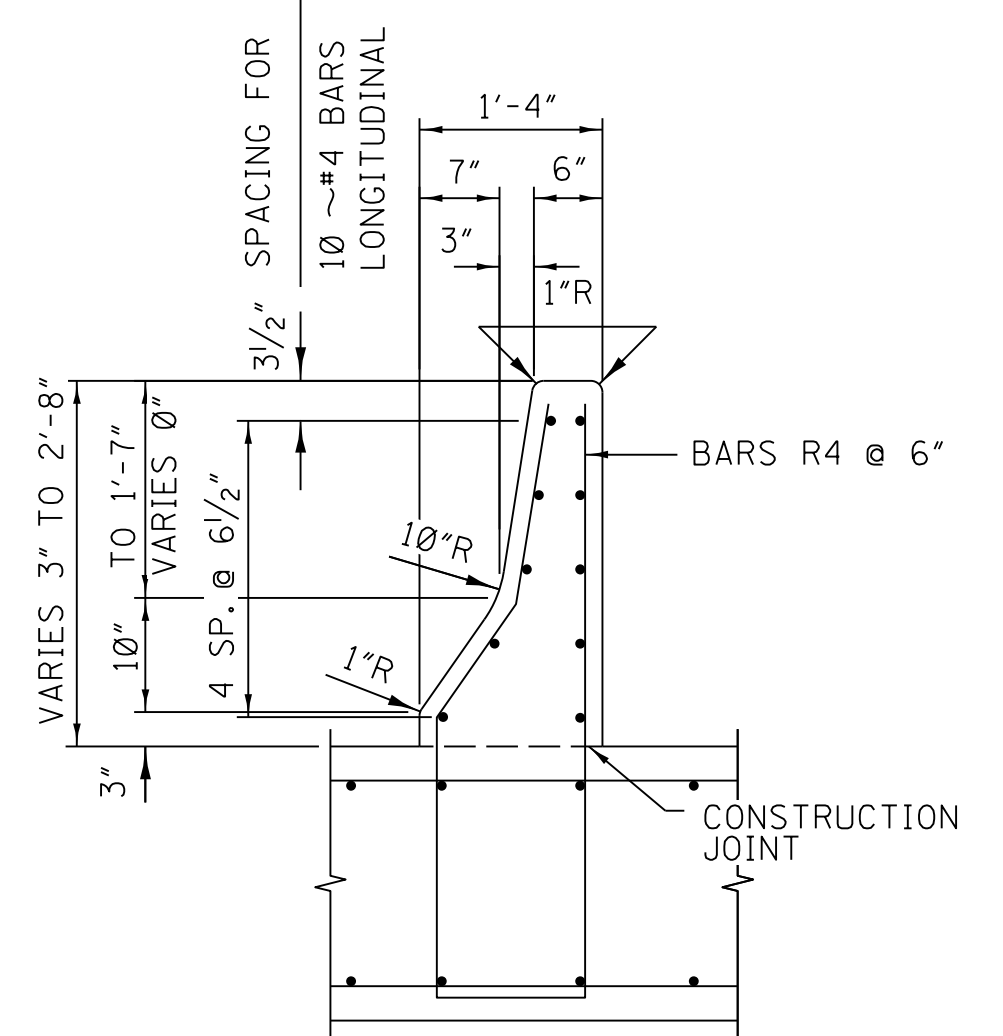
SECTION B-B



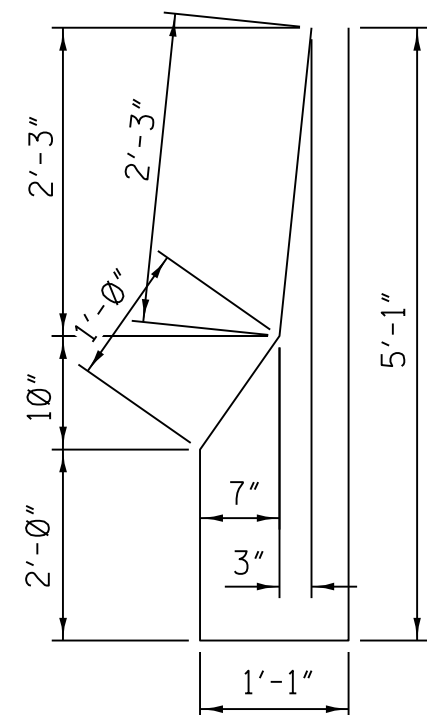
SECTION C-C



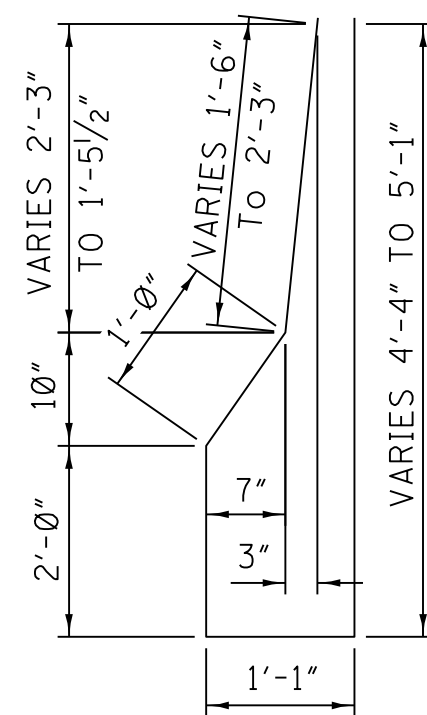
SECTION D-D



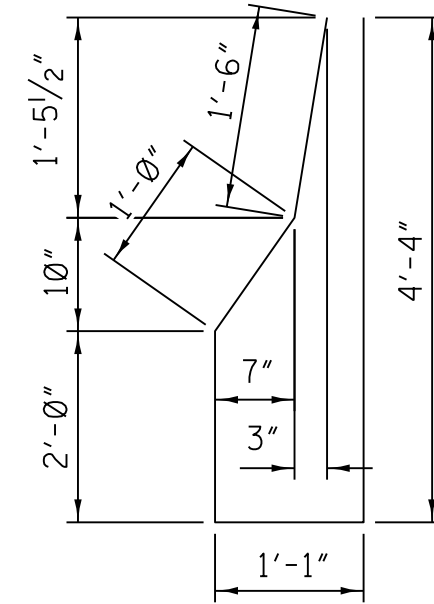
SECTION E-E



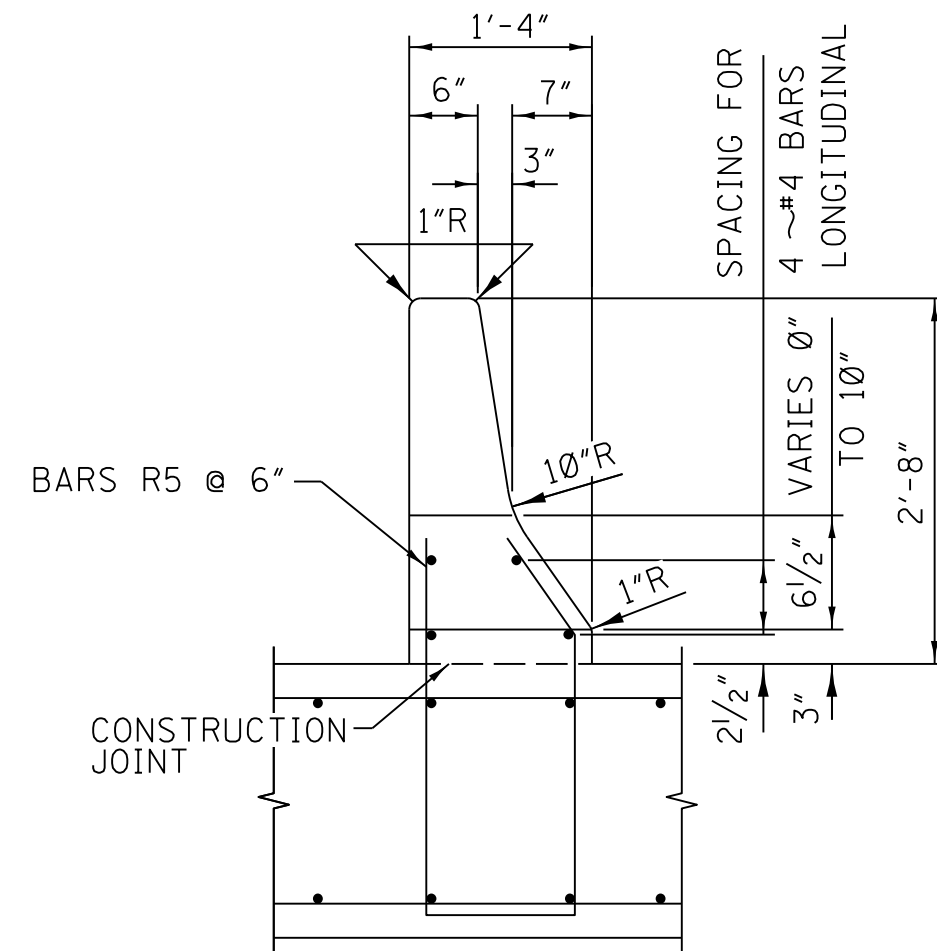
BARS R1 ~ #6



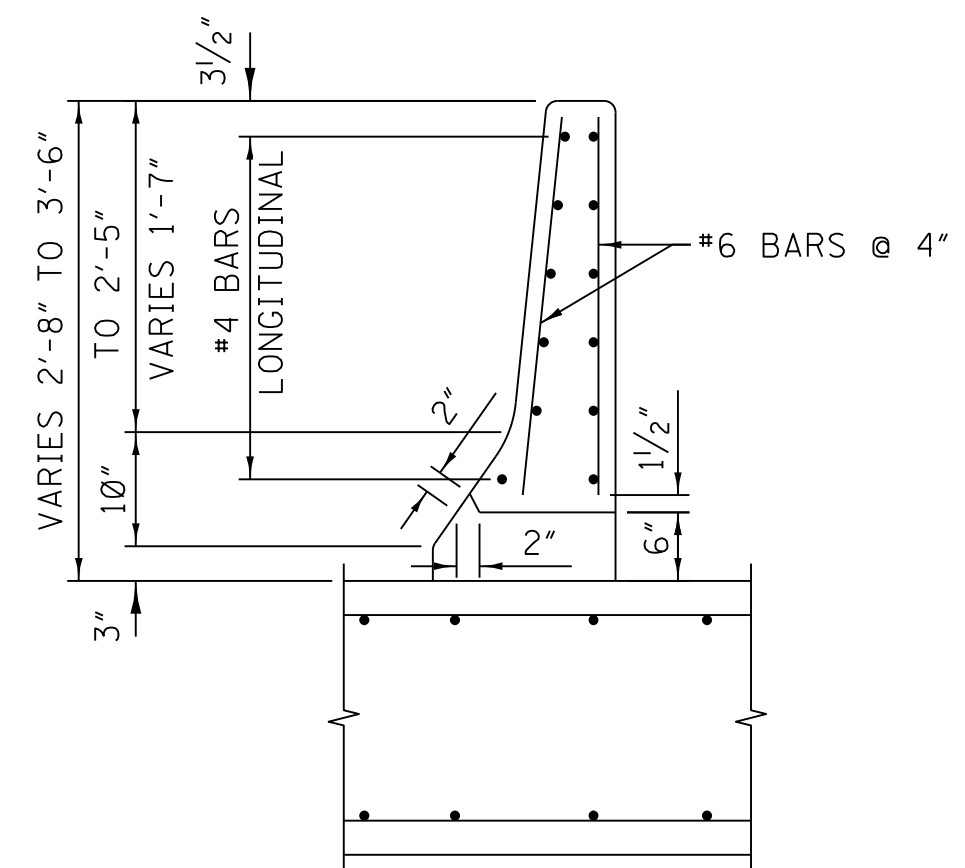
BARS R2 ~ #6



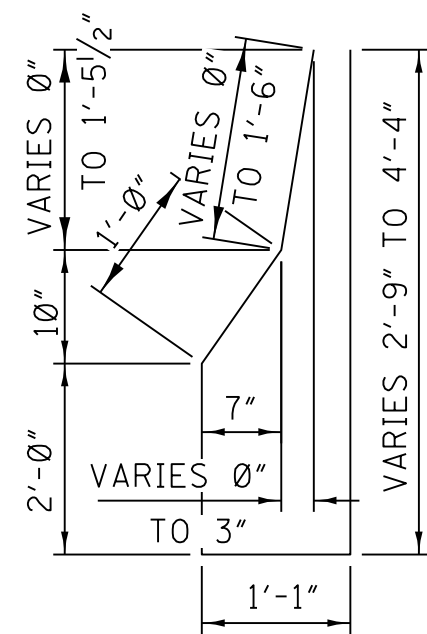
BARS R3 ~ #6



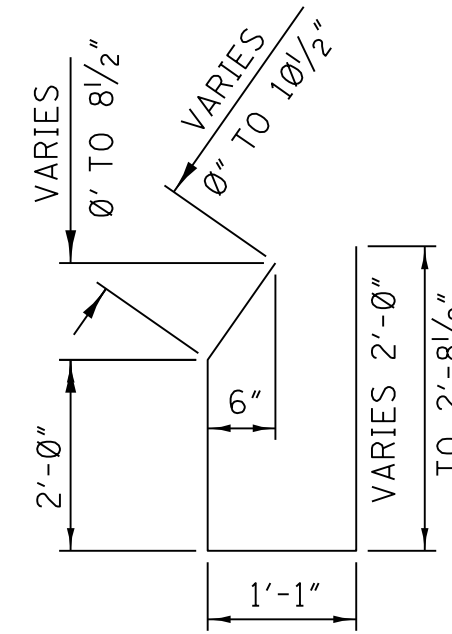
VIEW F-F



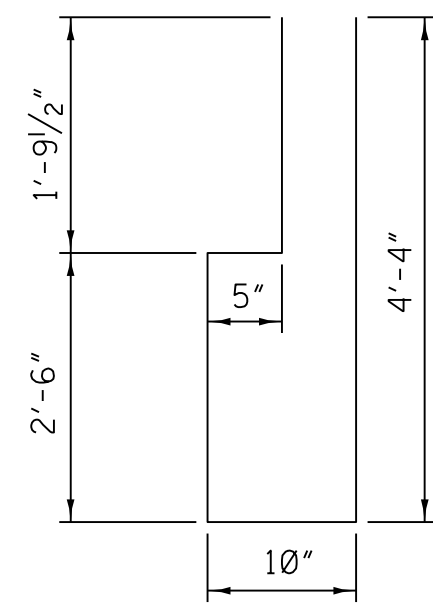
SECTION G-G



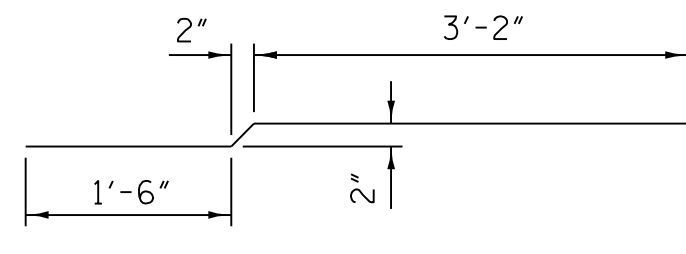
BARS R4 ~ #6



BARS R5 ~ #6



BARS R6 ~ #6



BARS L ~ #4

BAR BENDING DETAILS  
DIMENSIONS ARE OUT TO OUT

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	ISSUE DATE: AUGUST 01, 2017

**3'-6" PIER  
PROTECTION DETAILS  
(2 OF 3)**

**MDOT**  
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

WORKING NUMBER  
PPD-A2

SHEET NUMBER  
6229

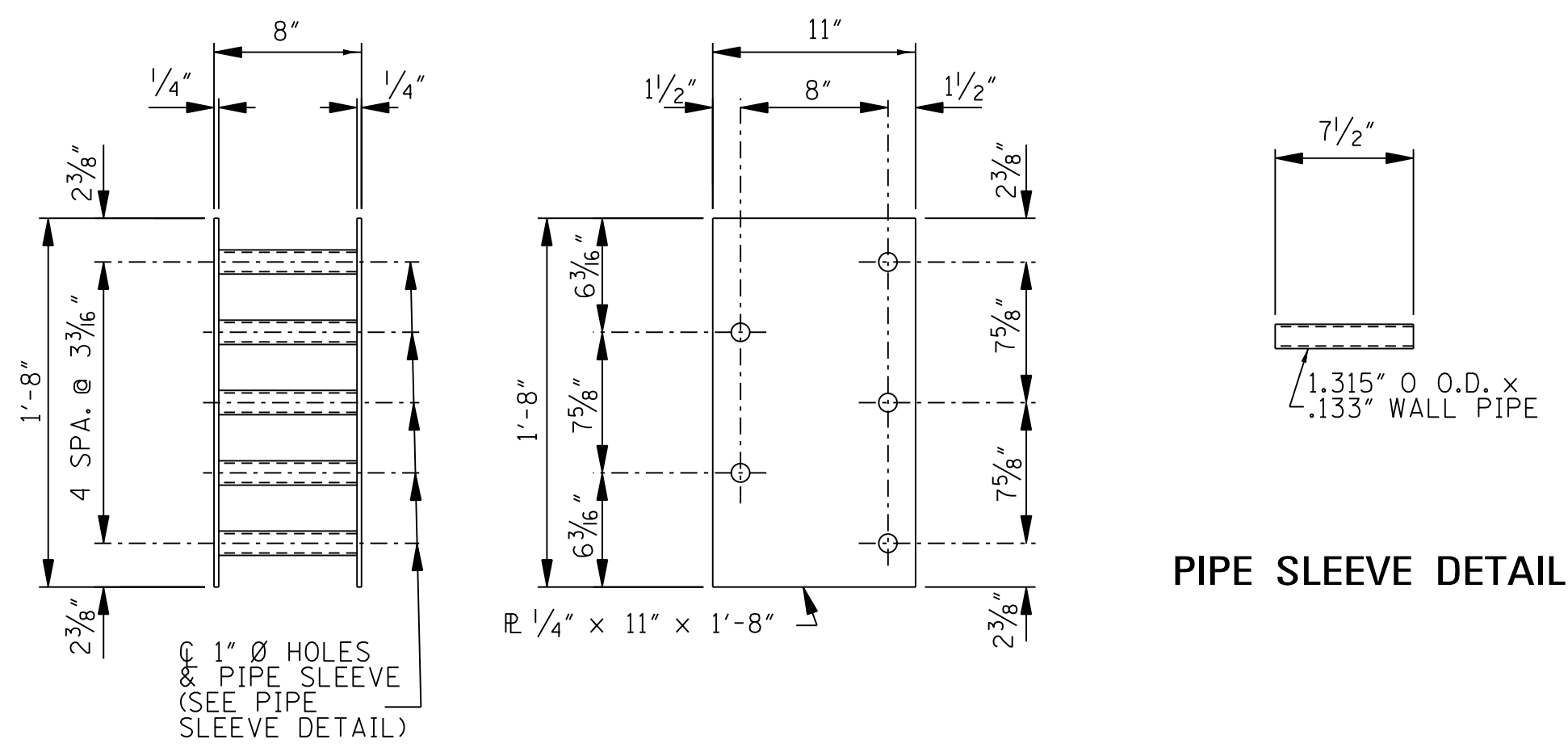
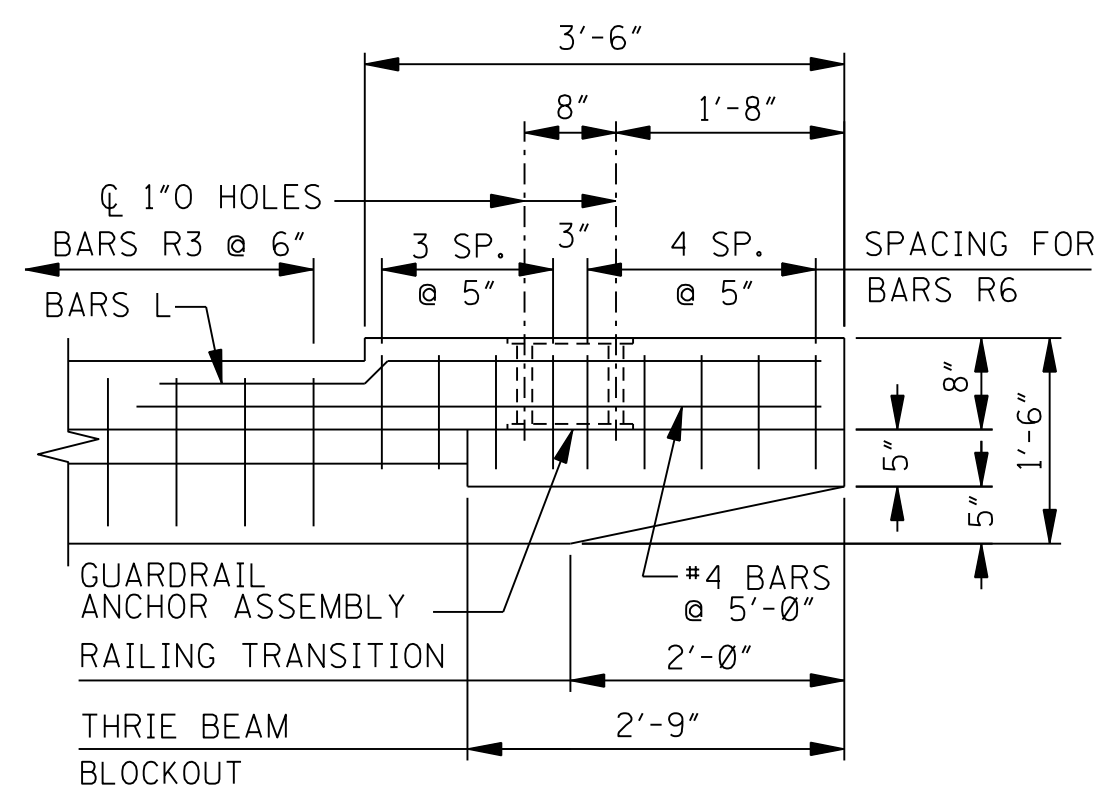
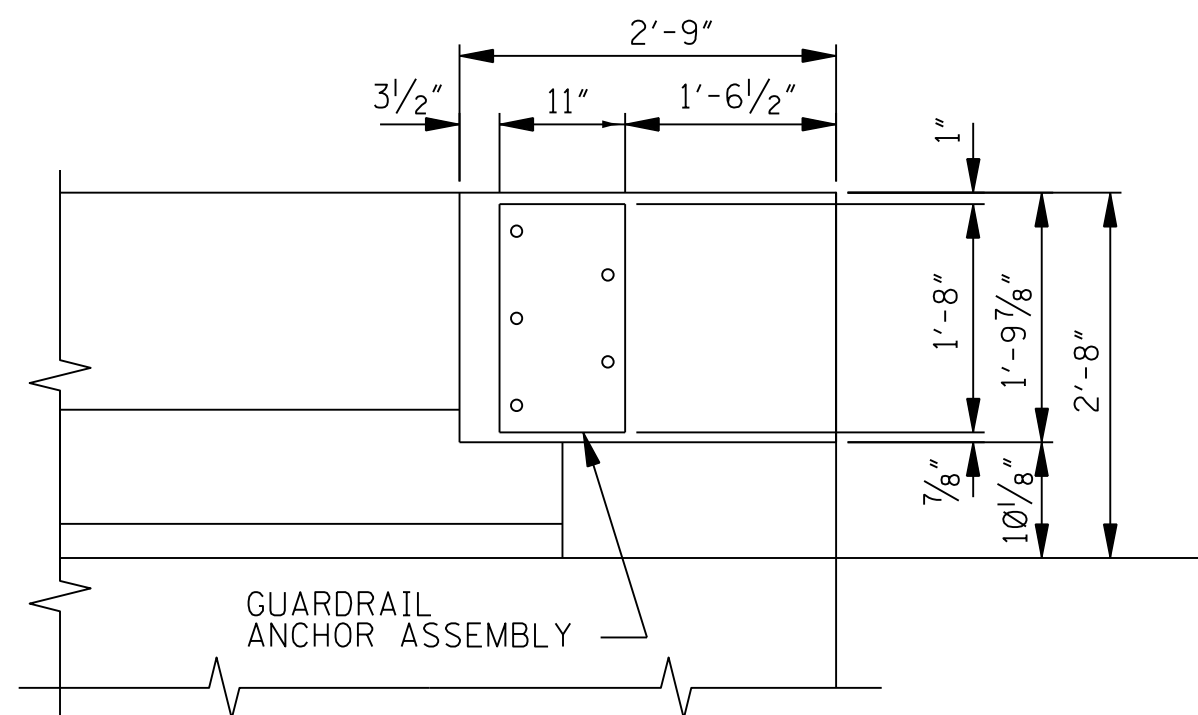


PLATE DETAIL

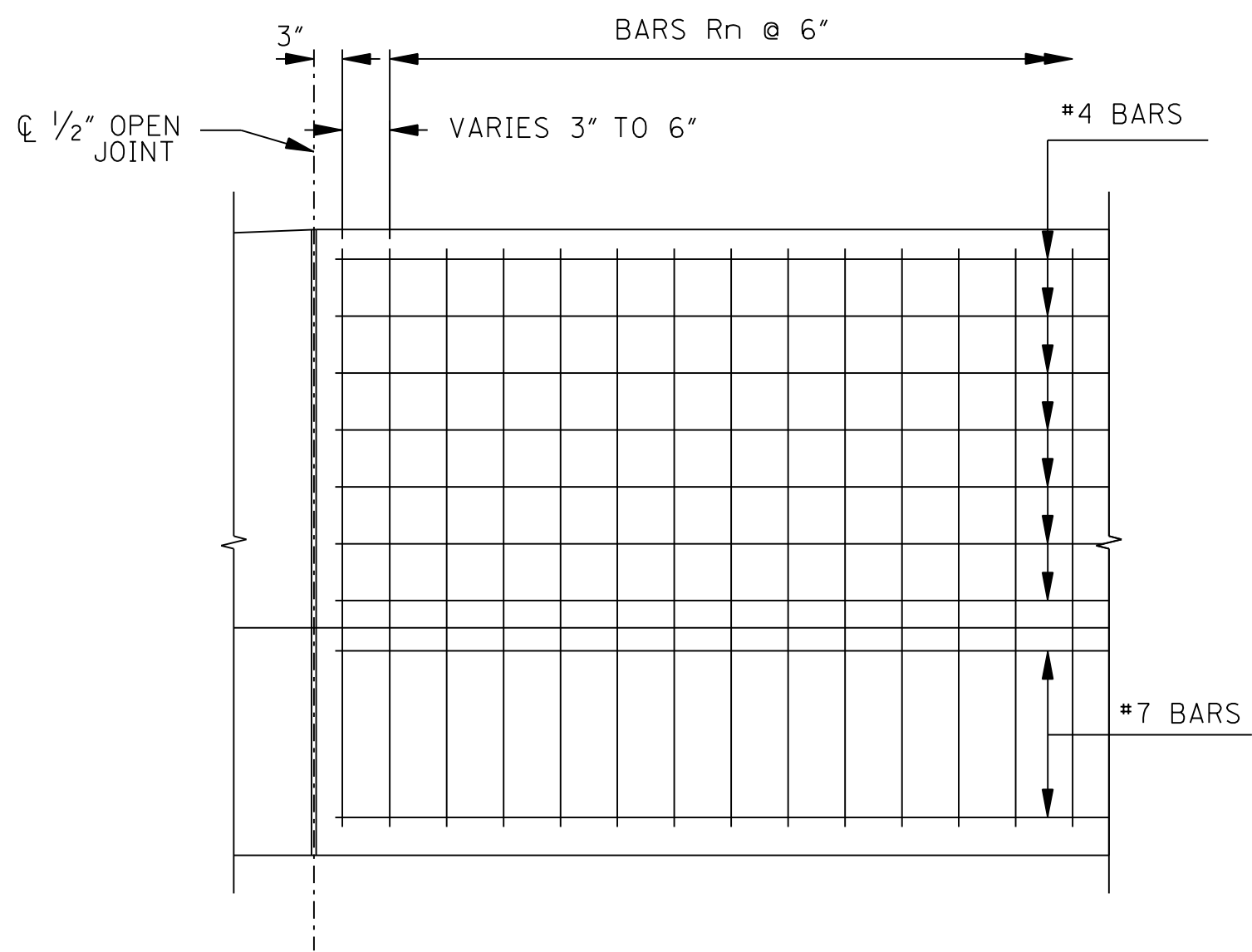
GUARDRAIL ANCHOR ASSEMBLY



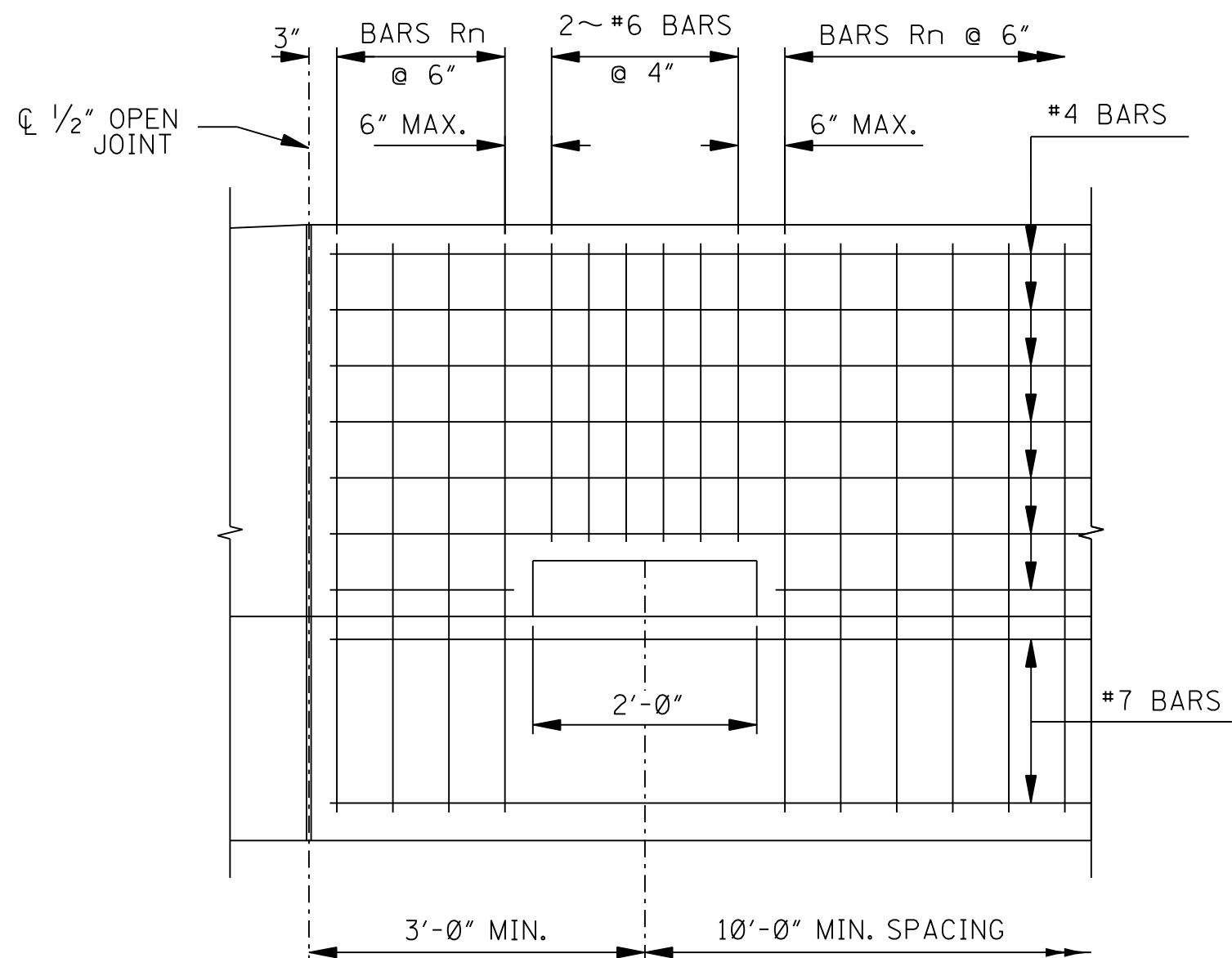
PLAN OF GUARDRAIL END



ELEVATION OF GUARDRAIL END



PART ELEVATION PIER PROTECTION



PART ELEVATION PIER PROTECTION  
SHOWING DRAIN SLOT

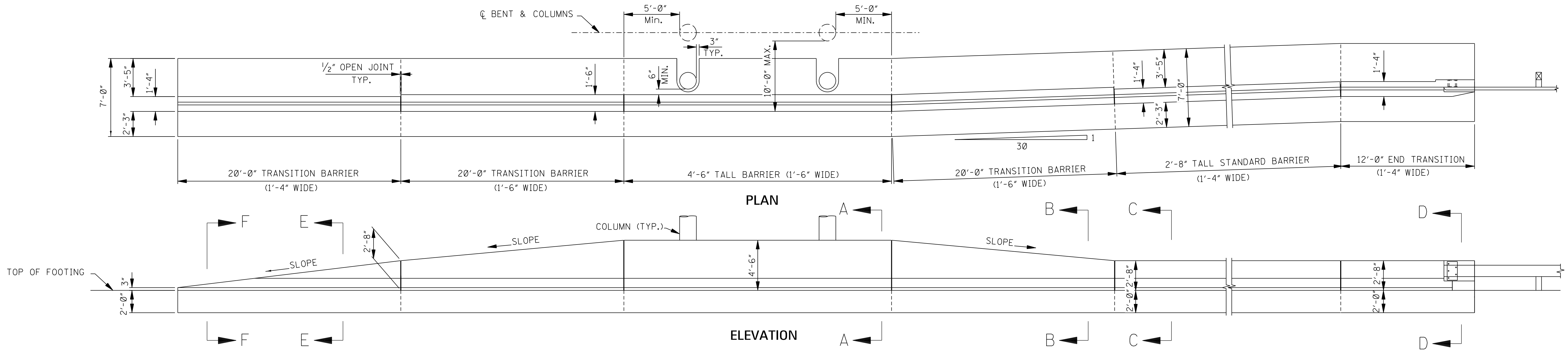
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	ISSUE DATE: AUGUST 01, 2017

**3'-6" PIER  
PROTECTION DETAILS  
(3 OF 3)**

**MDOT**  
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

WORKING NUMBER  
PPD-A3

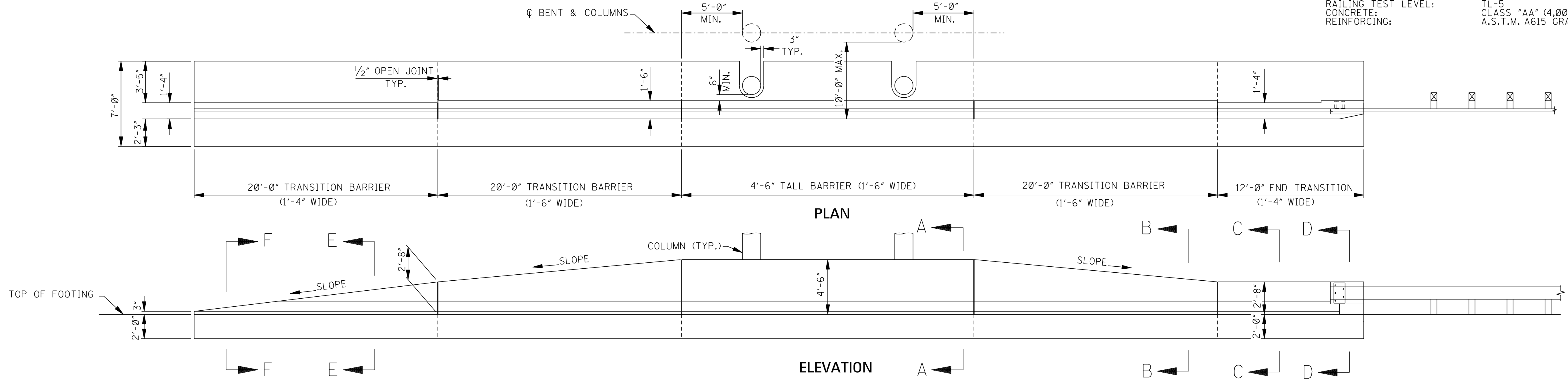
SHEET NUMBER  
6230



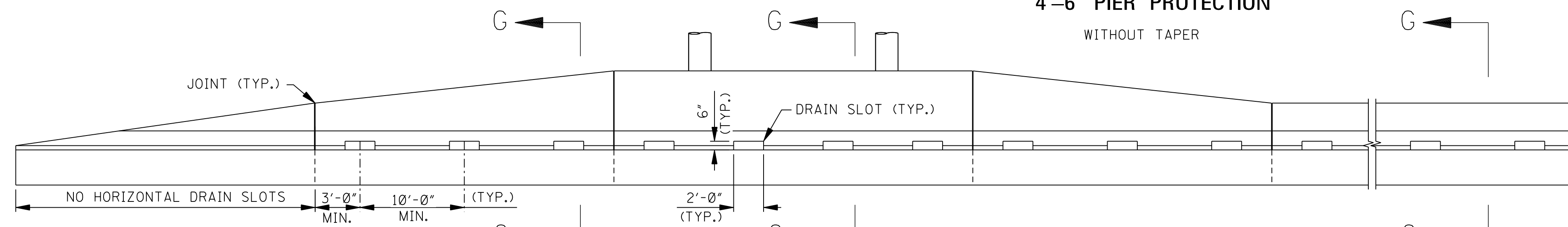
**4'-6" PIER PROTECTION**  
WITH TAPER

**DESIGN DATA:**

SPECIFICATIONS: AASHTO, LRFD 2012  
RAILING TEST LEVEL: TL-5  
CONCRETE: CLASS "AA" (4,000 PSI)  
REINFORCING: A.S.T.M. A615 GRADE 60 (Fy=60ksi)



**4'-6" PIER PROTECTION**  
WITHOUT TAPER

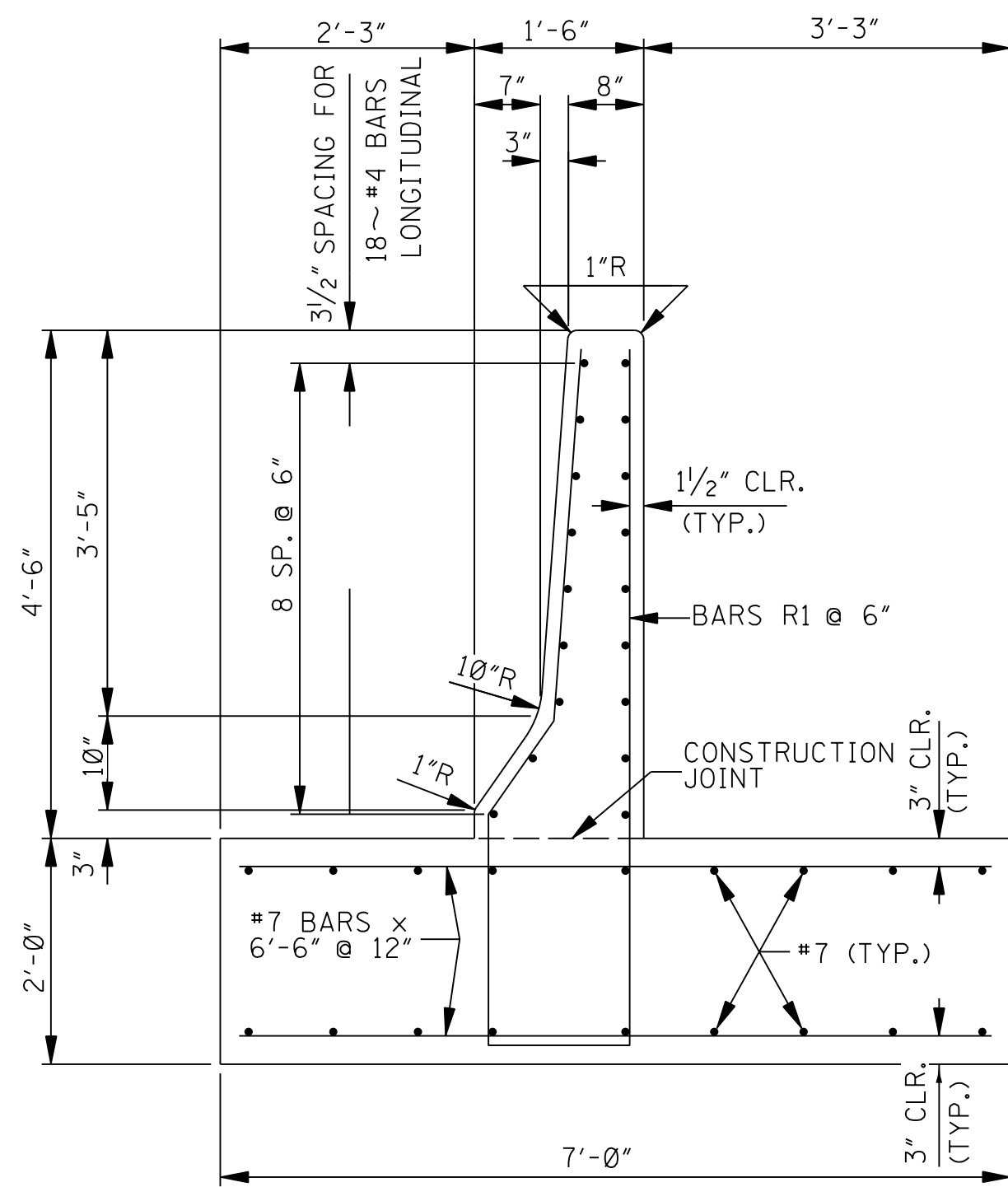


**PIER PROTECTION WITH HORIZONTAL DRAIN SLOTS**

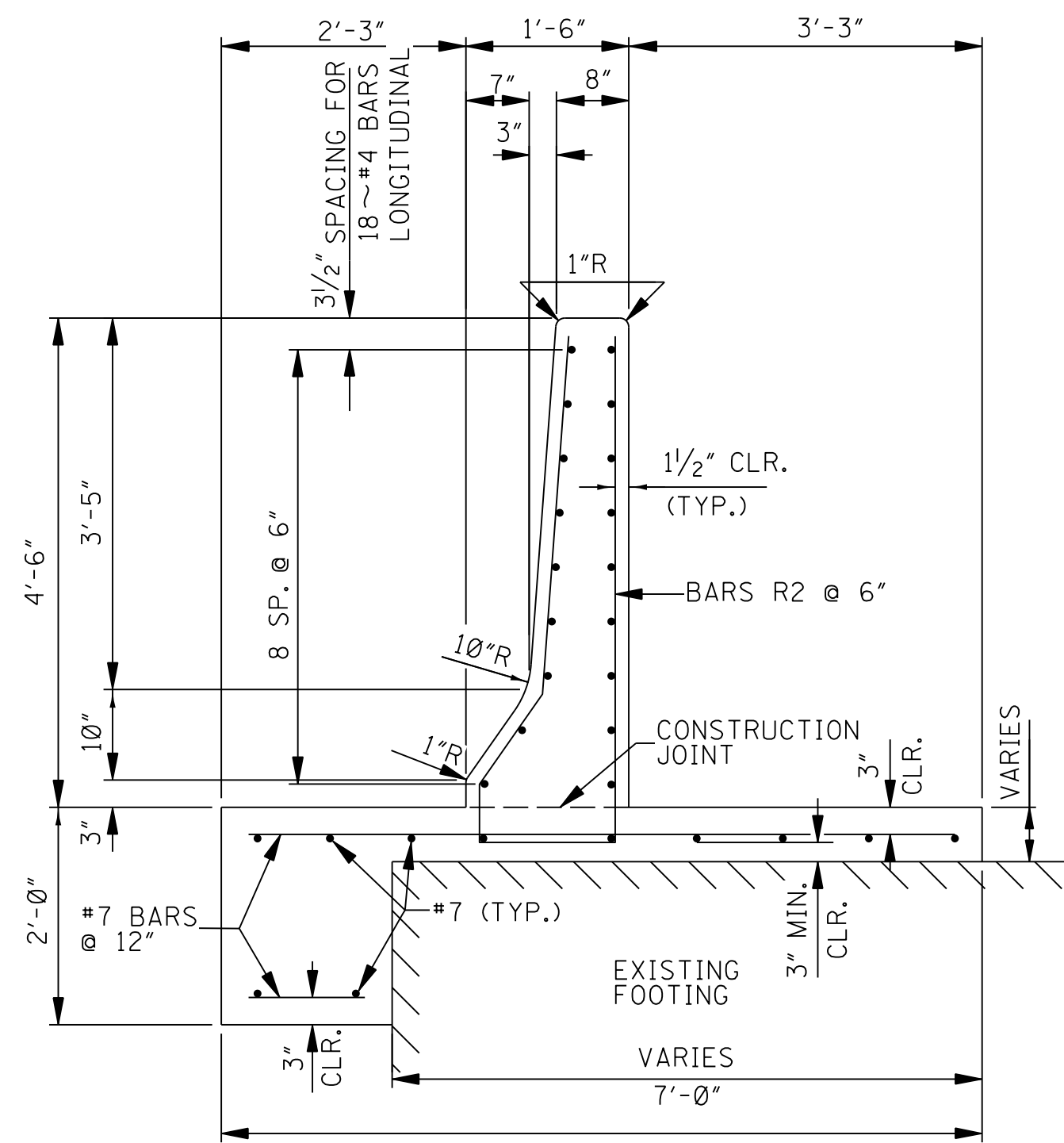
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>4'-6" PIER PROTECTION DETAILS (1 OF 3)</b>
				DATE	ISSUE DATE: AUGUST 01, 2017

WORKING NUMBER PPD-B1
SHEET NUMBER 6231

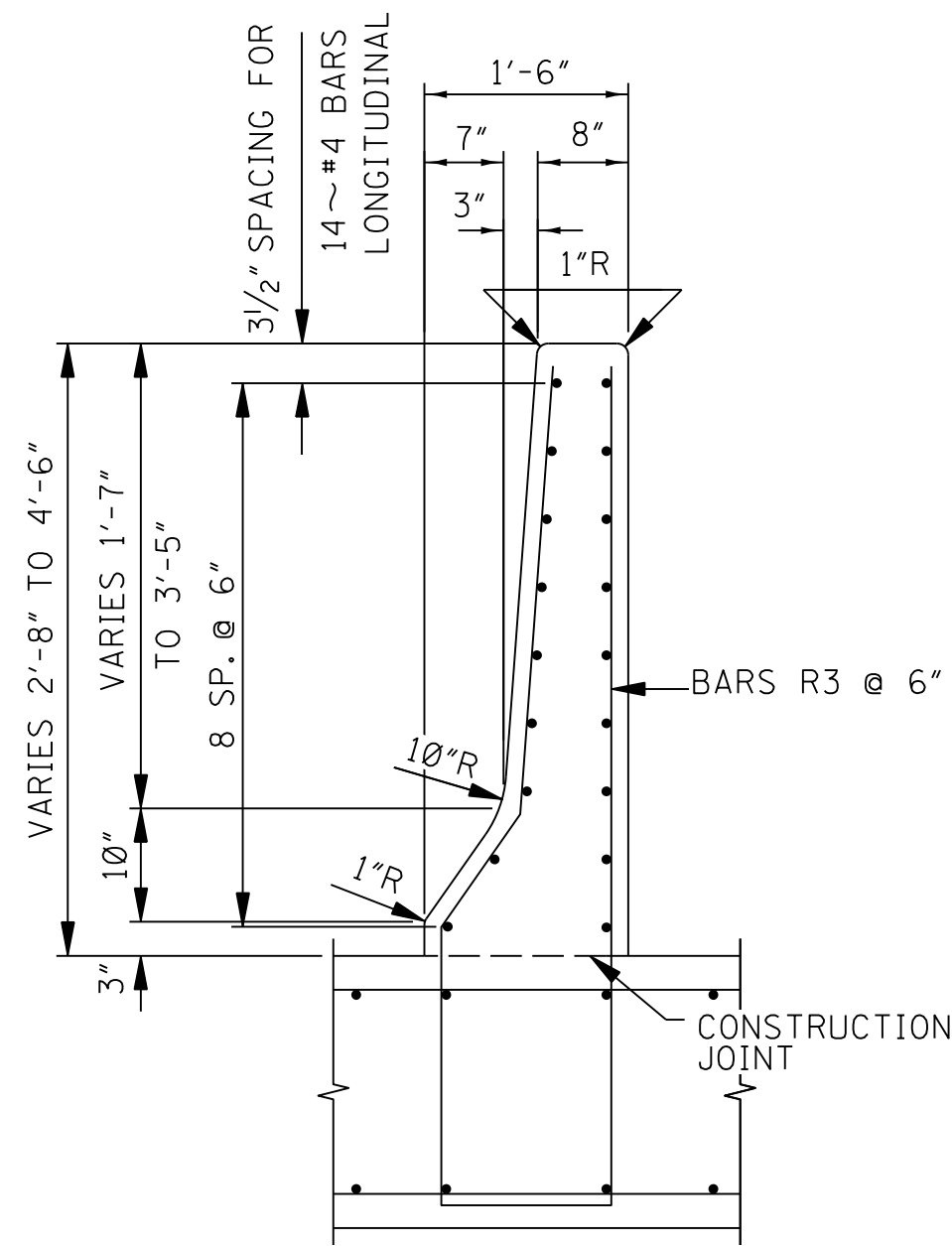




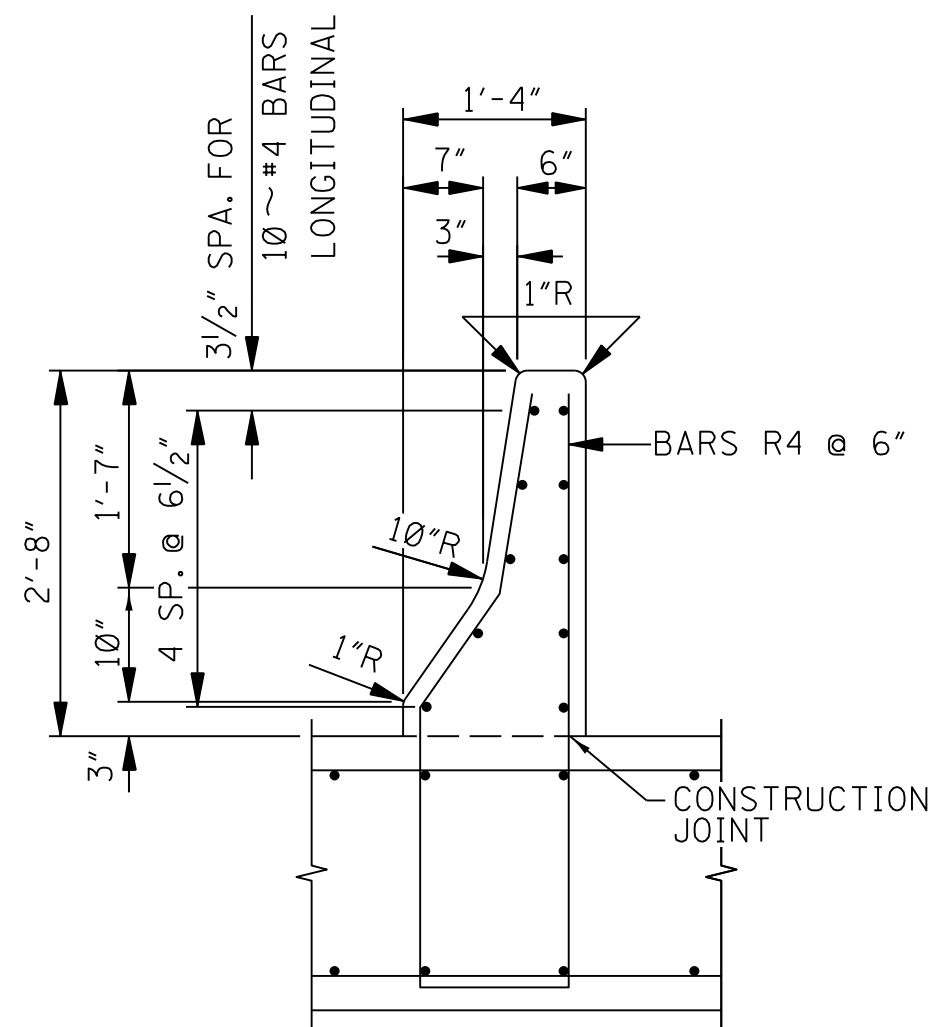
SECTION A-A



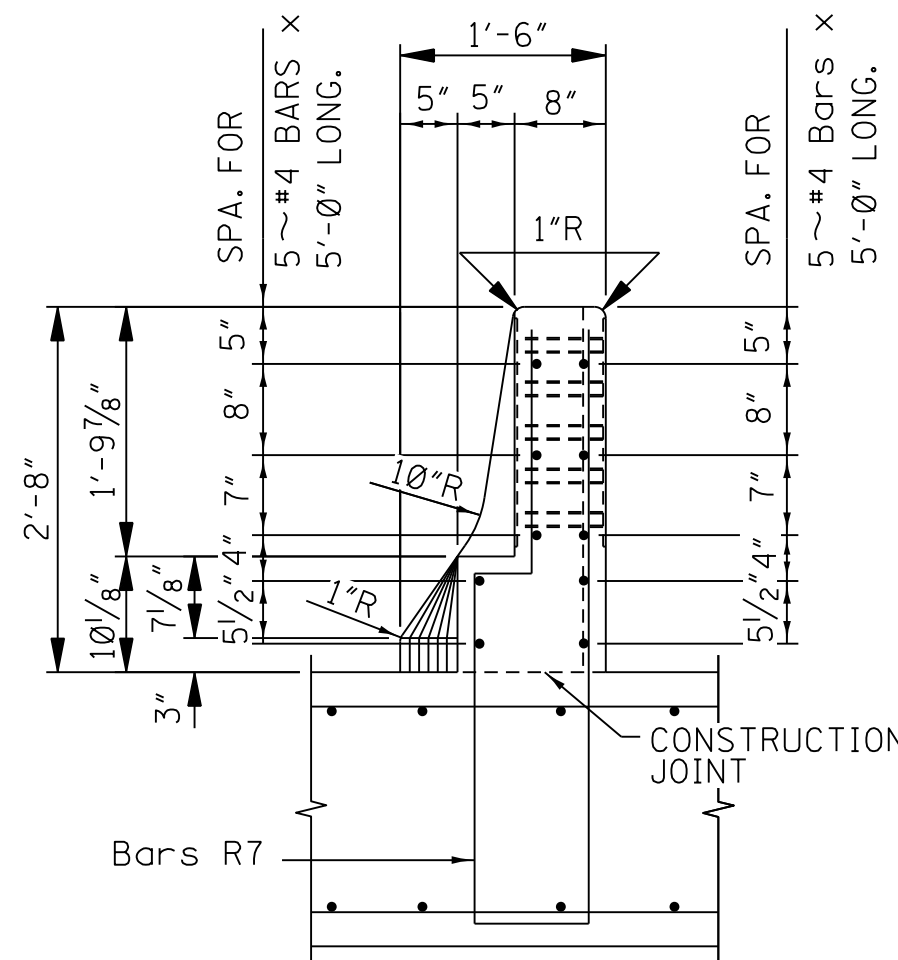
SECTION A-A



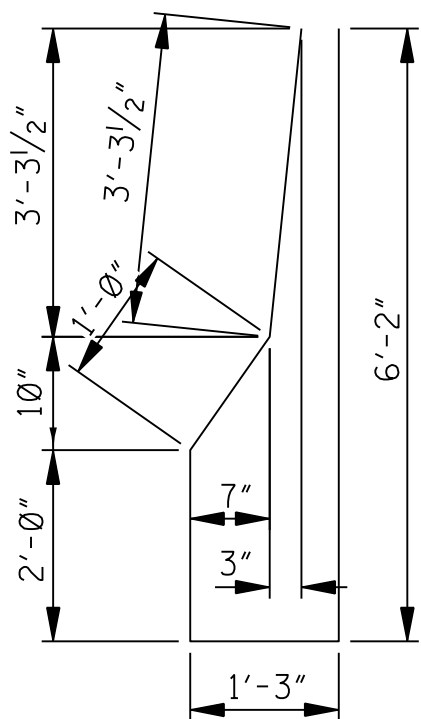
SECTION B-B



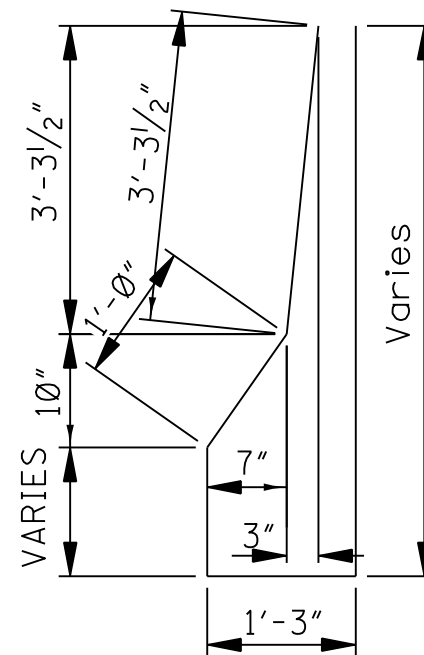
SECTION C-C



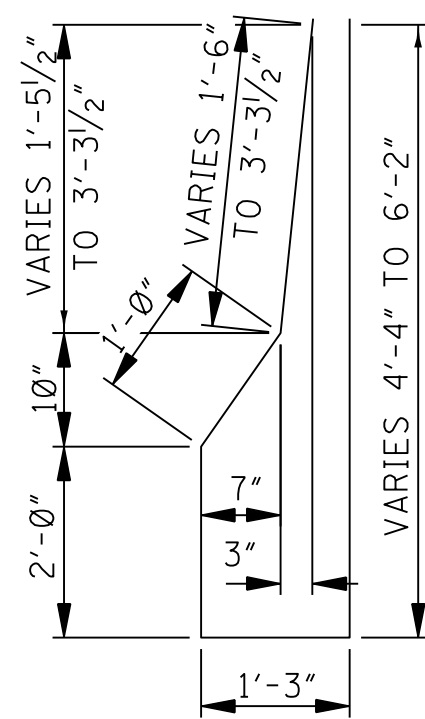
SECTION D-D



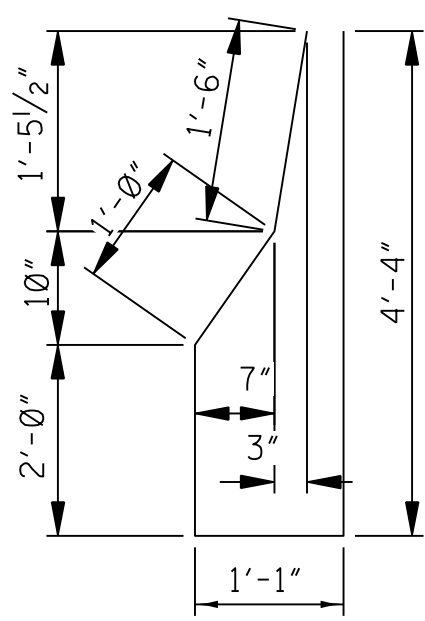
BARS R1 ~ #6



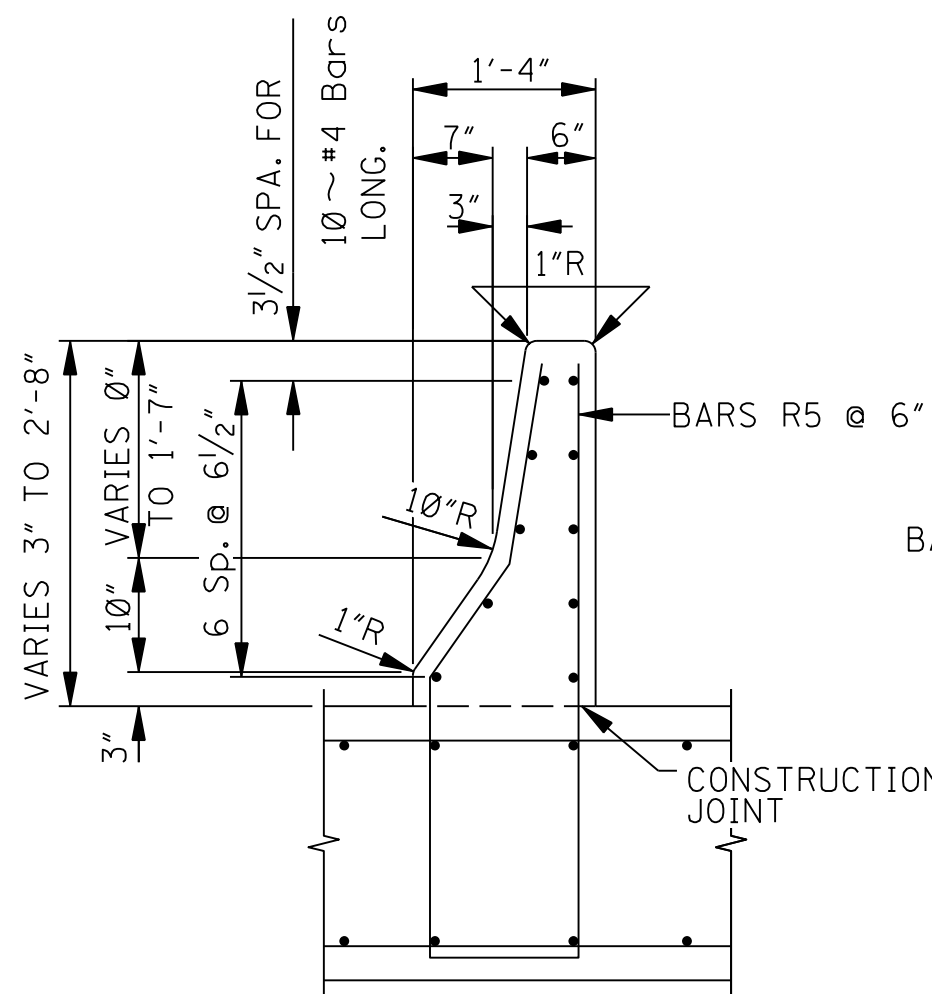
BARS R2 ~ #6



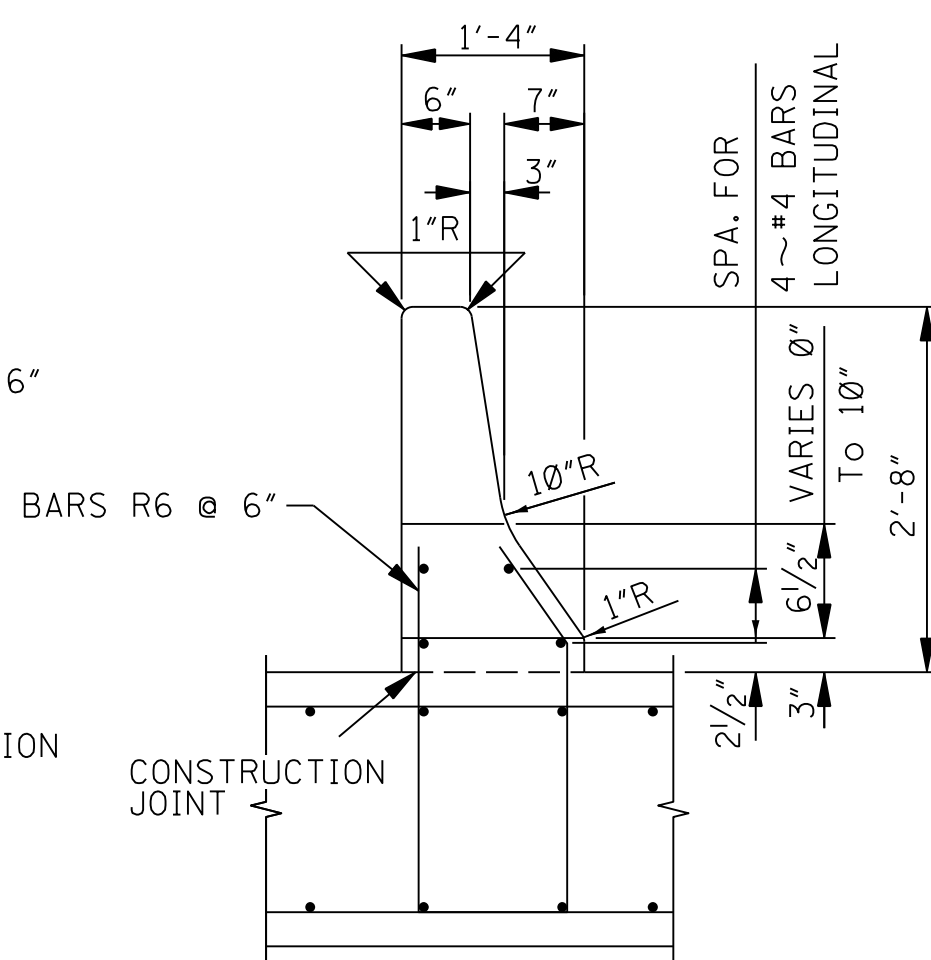
BARS R3 ~ #6



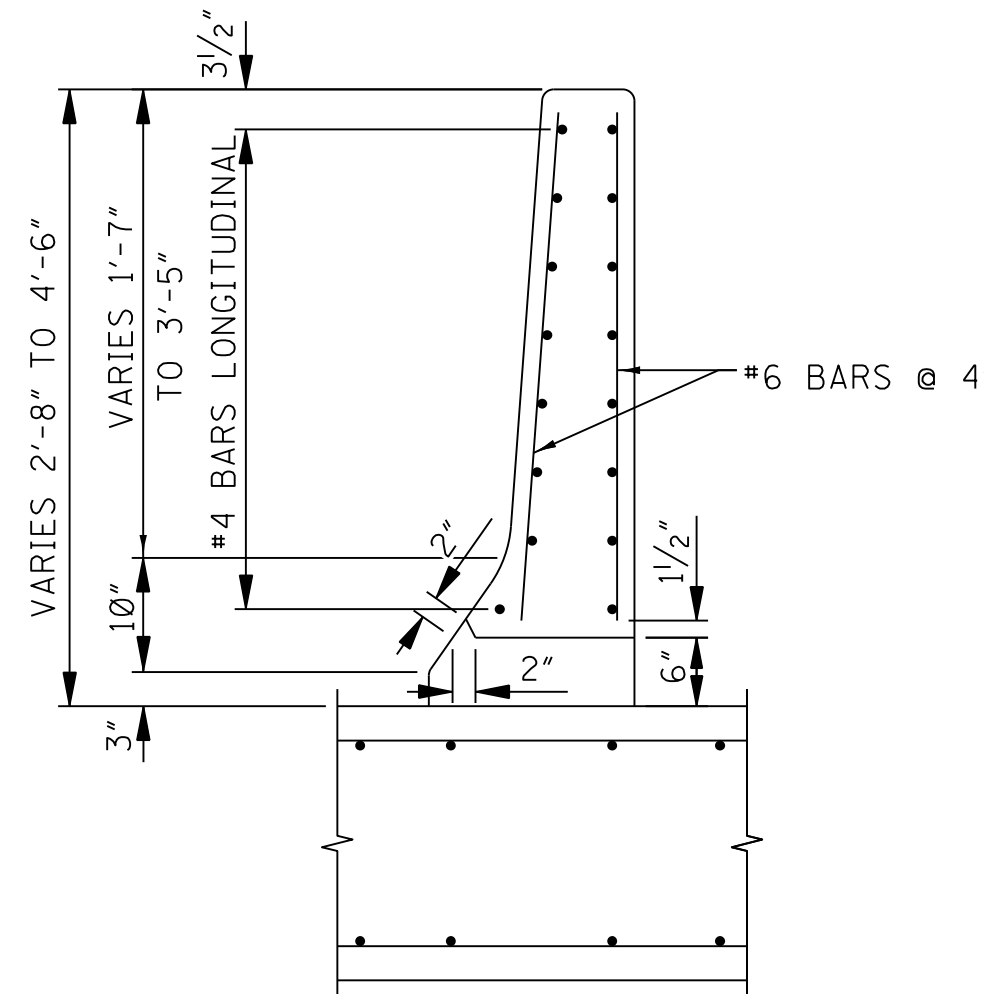
BARS R4 ~ #6



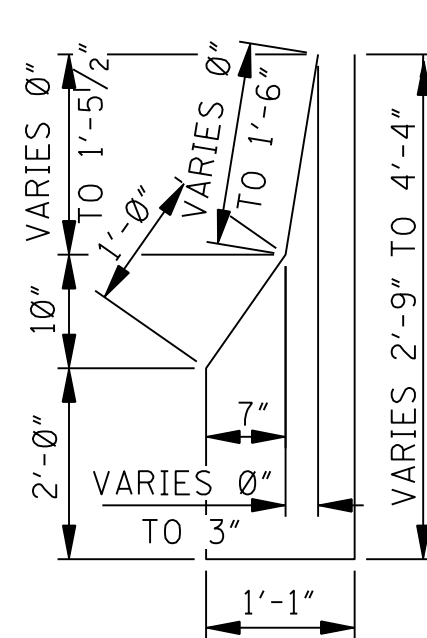
SECTION E-E



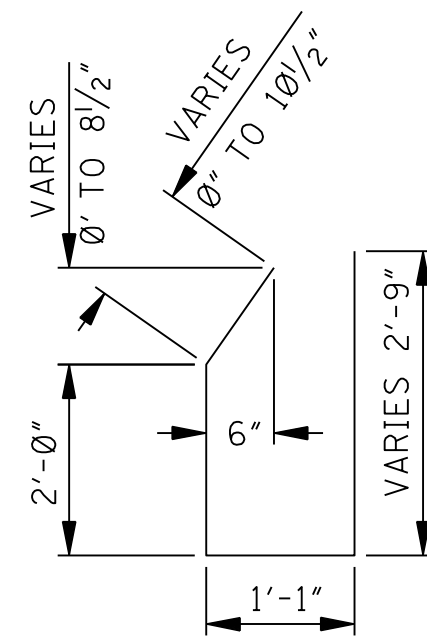
VIEW F-F



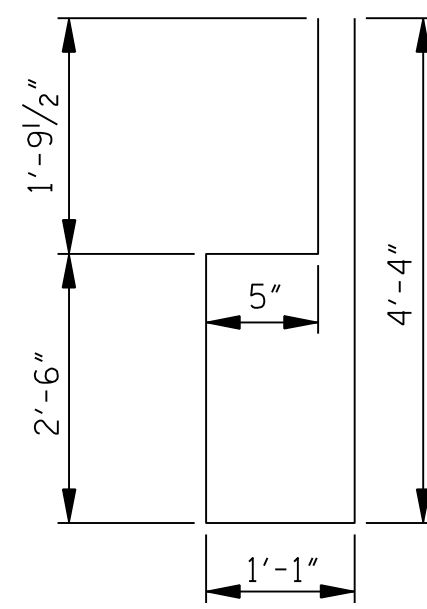
SECTION G-G



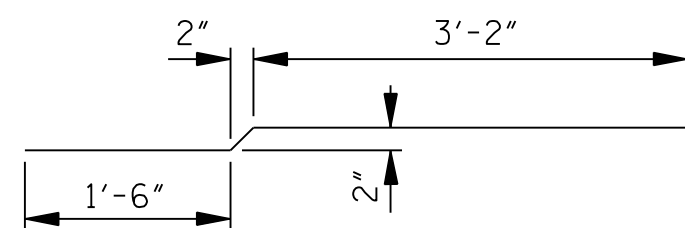
BARS R5 ~ #6



BARS R6 ~ #6



BARS R7 ~ #6



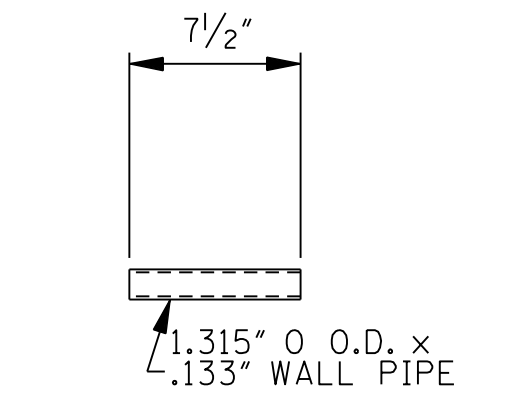
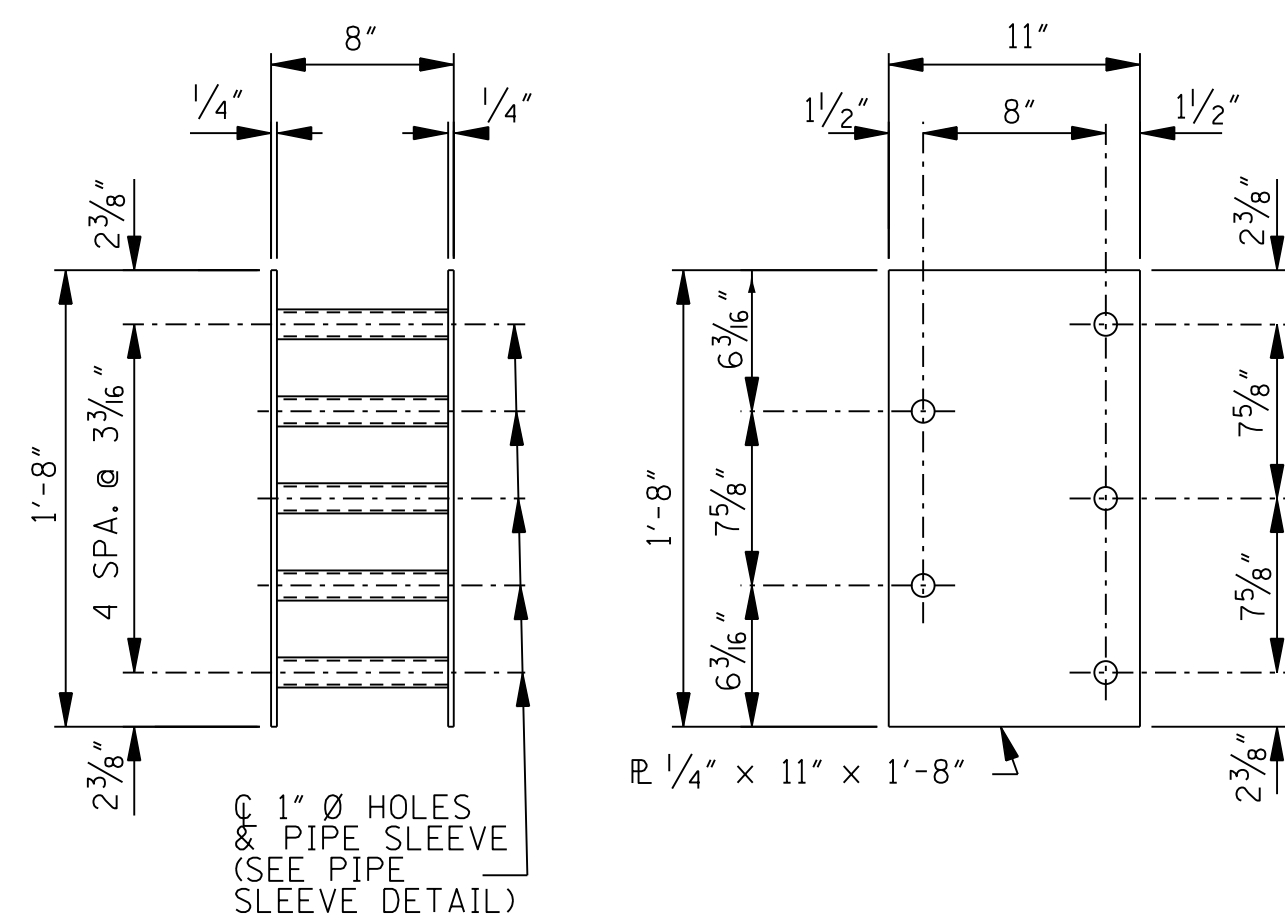
BARS L ~ #4

BAR BENDING DETAILS

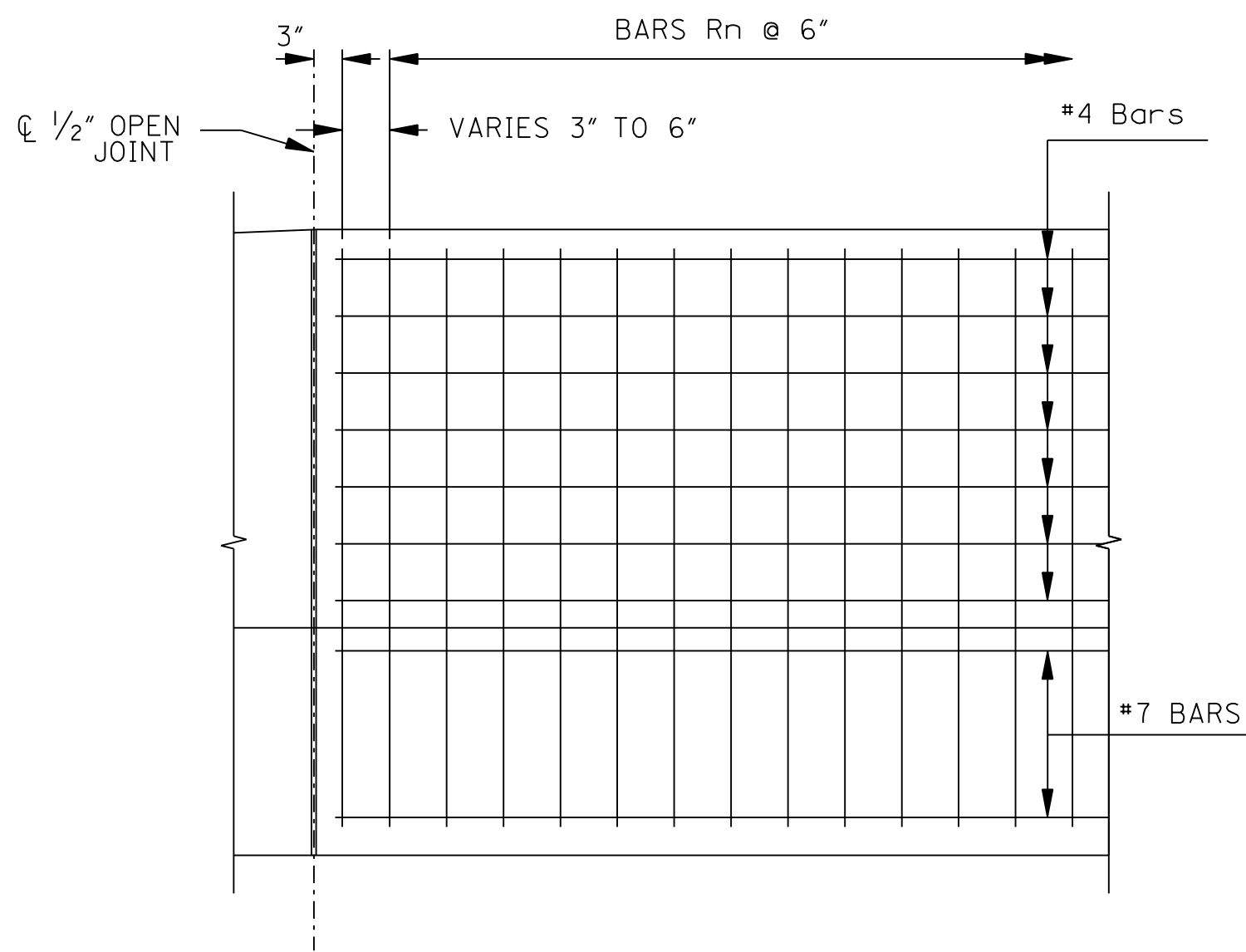
DIMENSIONS ARE OUT TO OUT

MISSISSIPPI DEPARTMENT OF TRANSPORTATION  
ROADWAY DESIGN DIVISION  
STANDARD PLAN

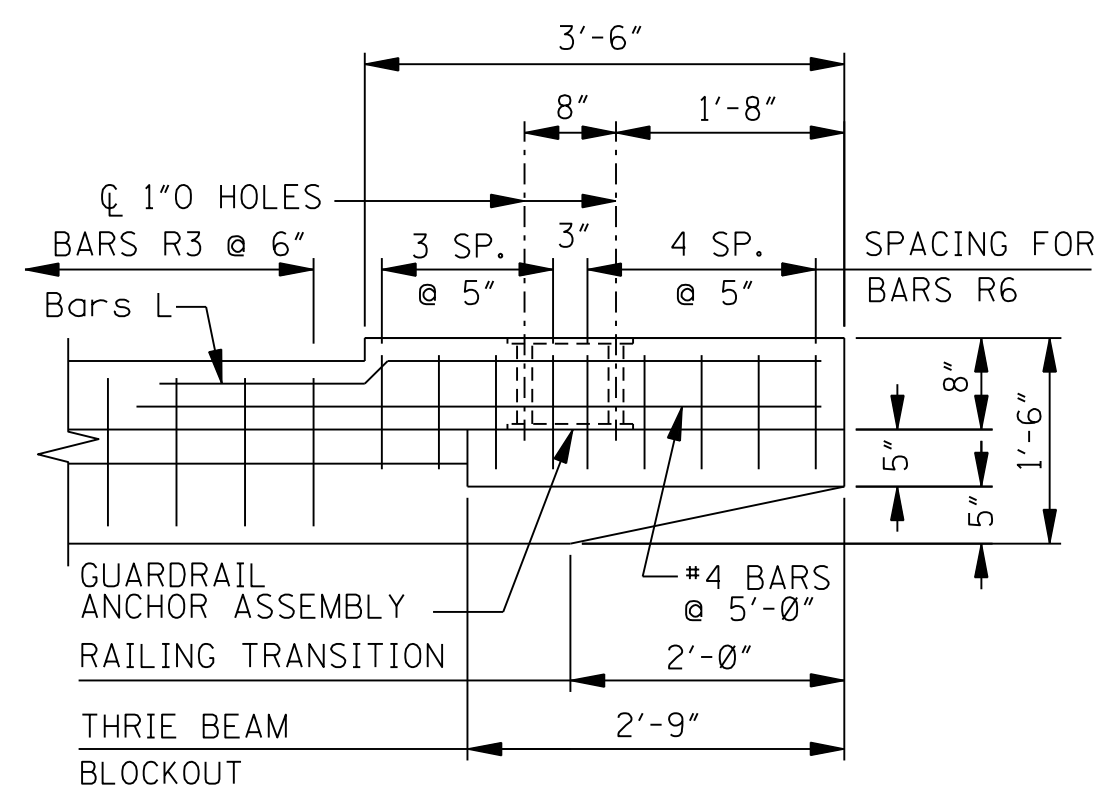
**4'-6" PIER  
PROTECTION DETAILS  
(2 OF 3)**



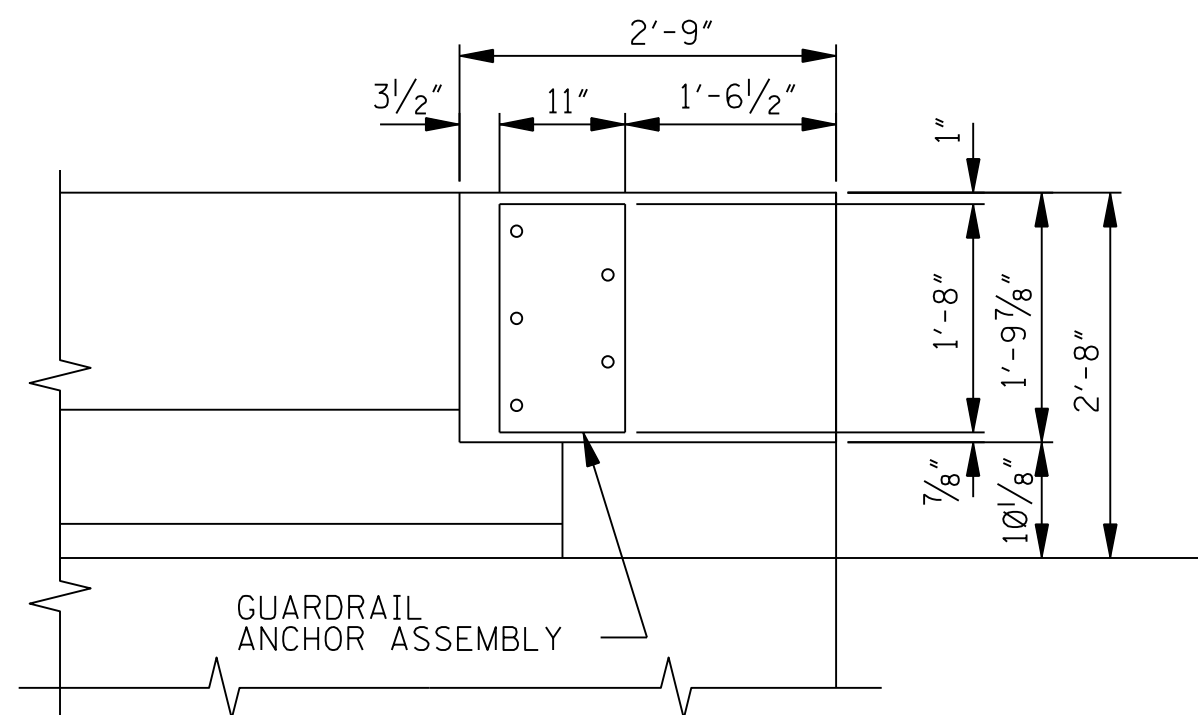
PIPE SLEEVE DETAIL



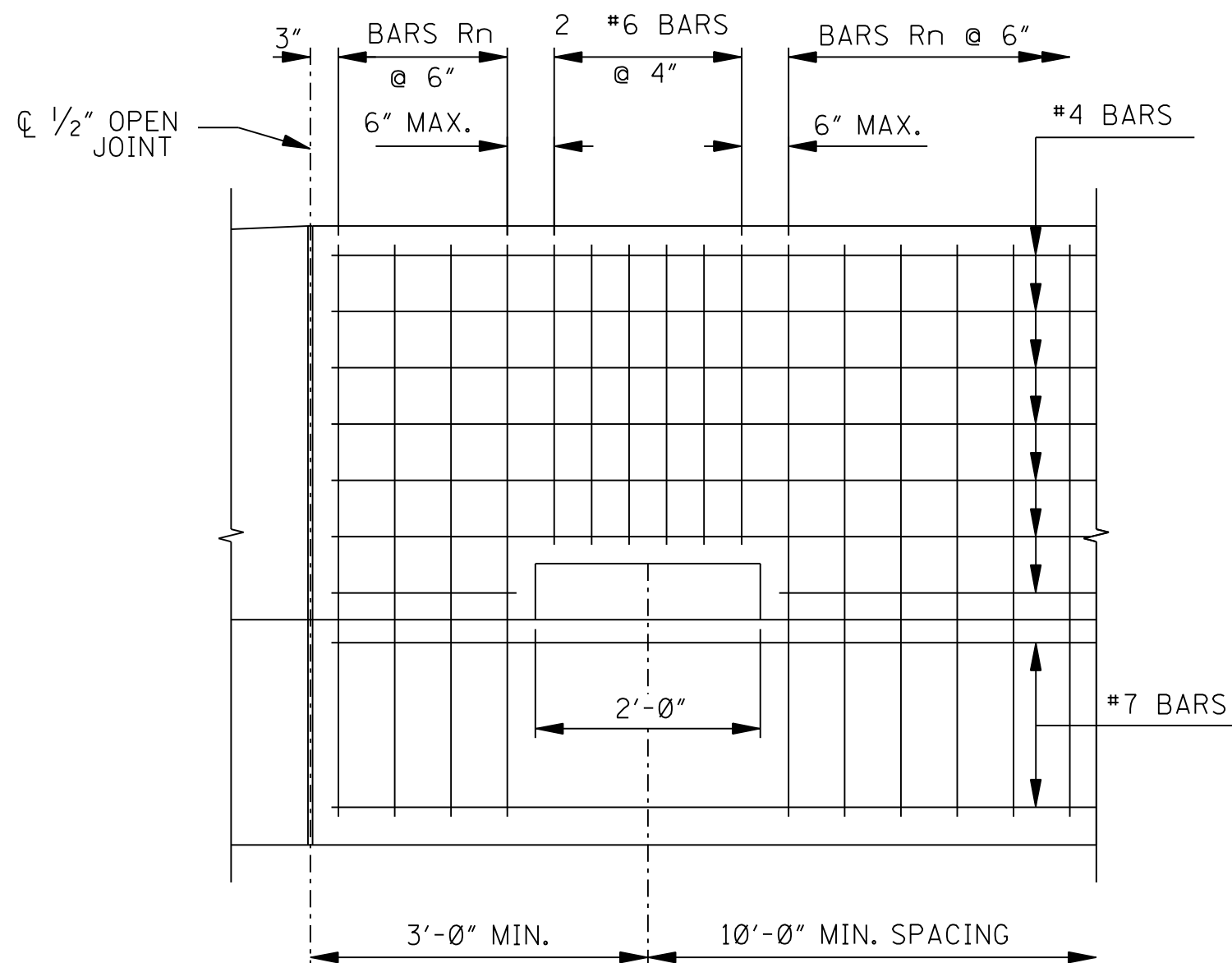
PART ELEVATION PIER PROTECTION



PLAN OF GUARDRAIL END



ELEVATION OF GUARDRAIL END



PART ELEVATION PIER PROTECTION  
SHOWING DRAIN SLOT

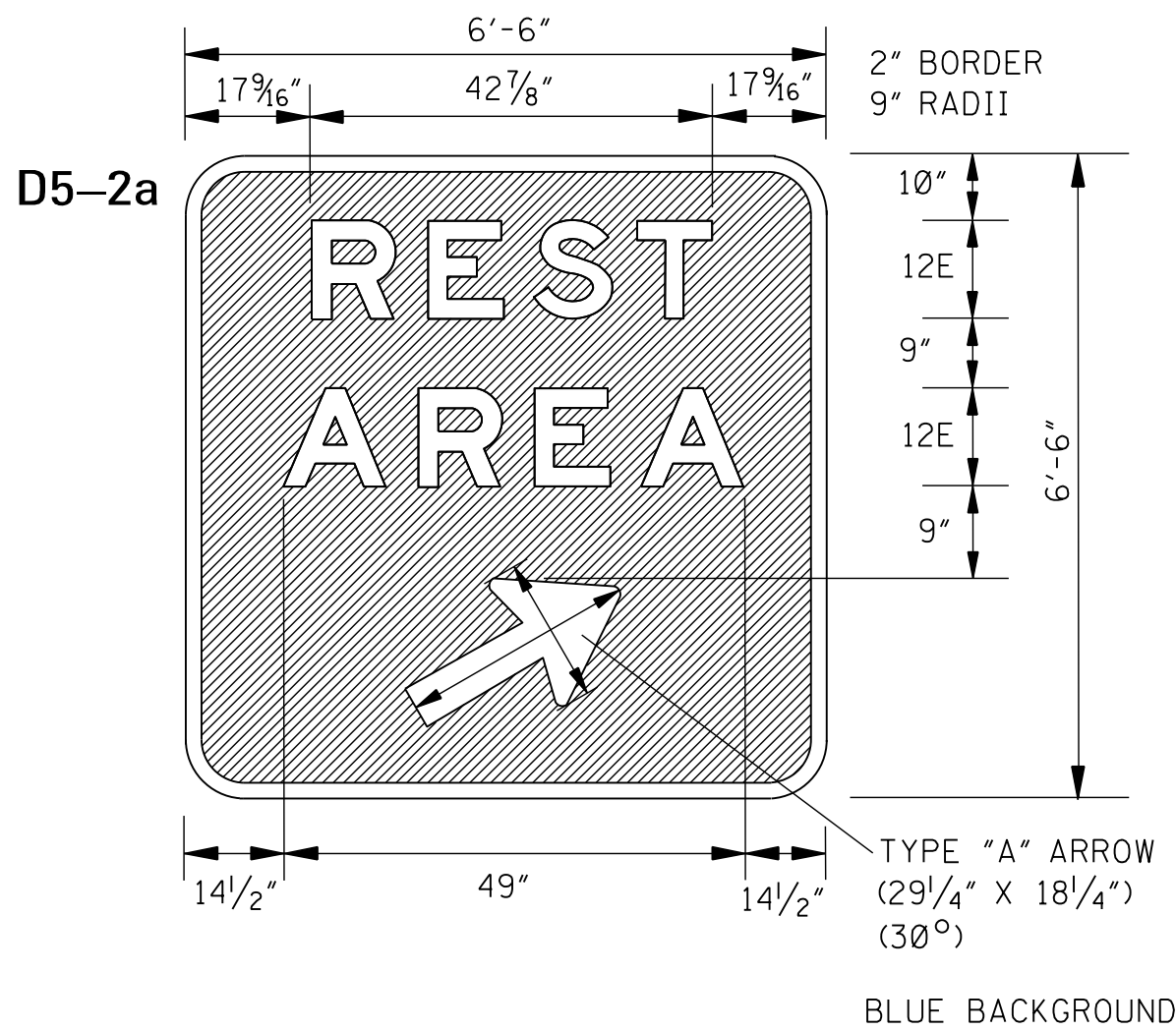
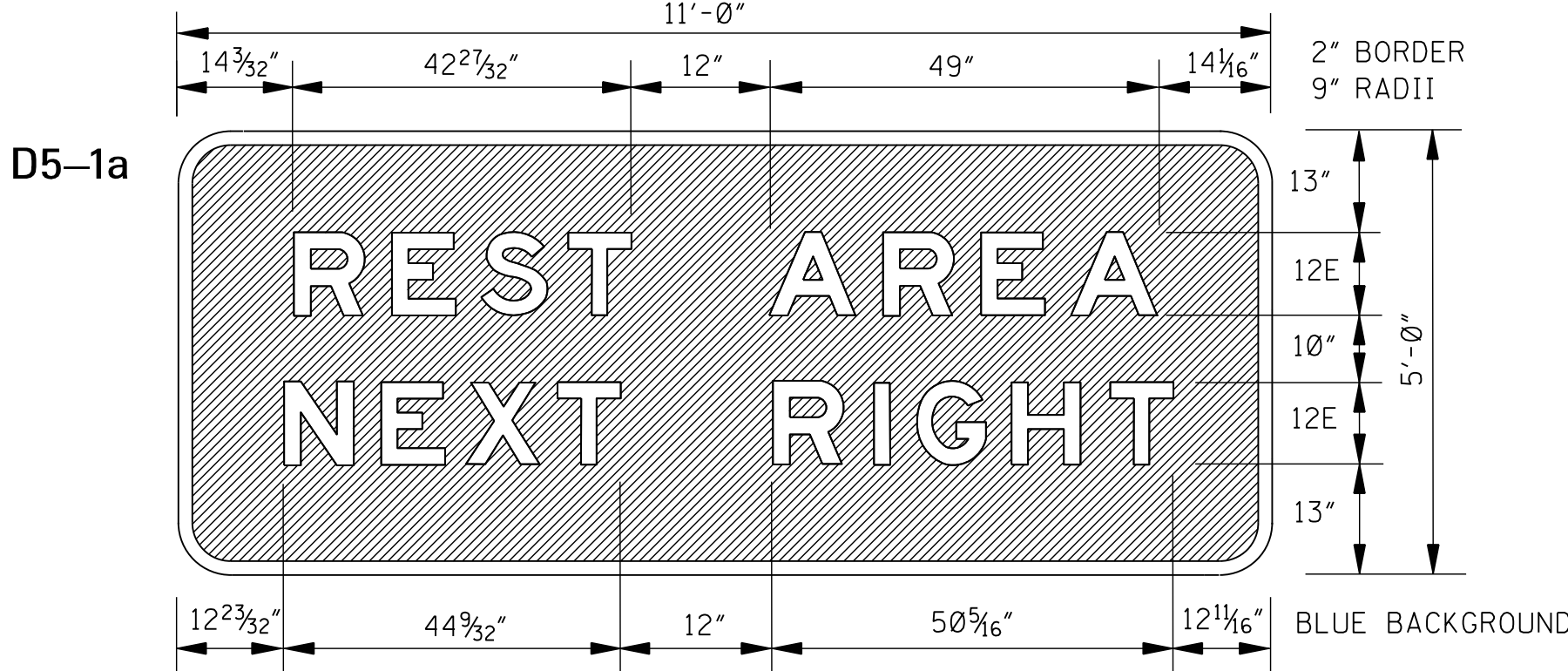
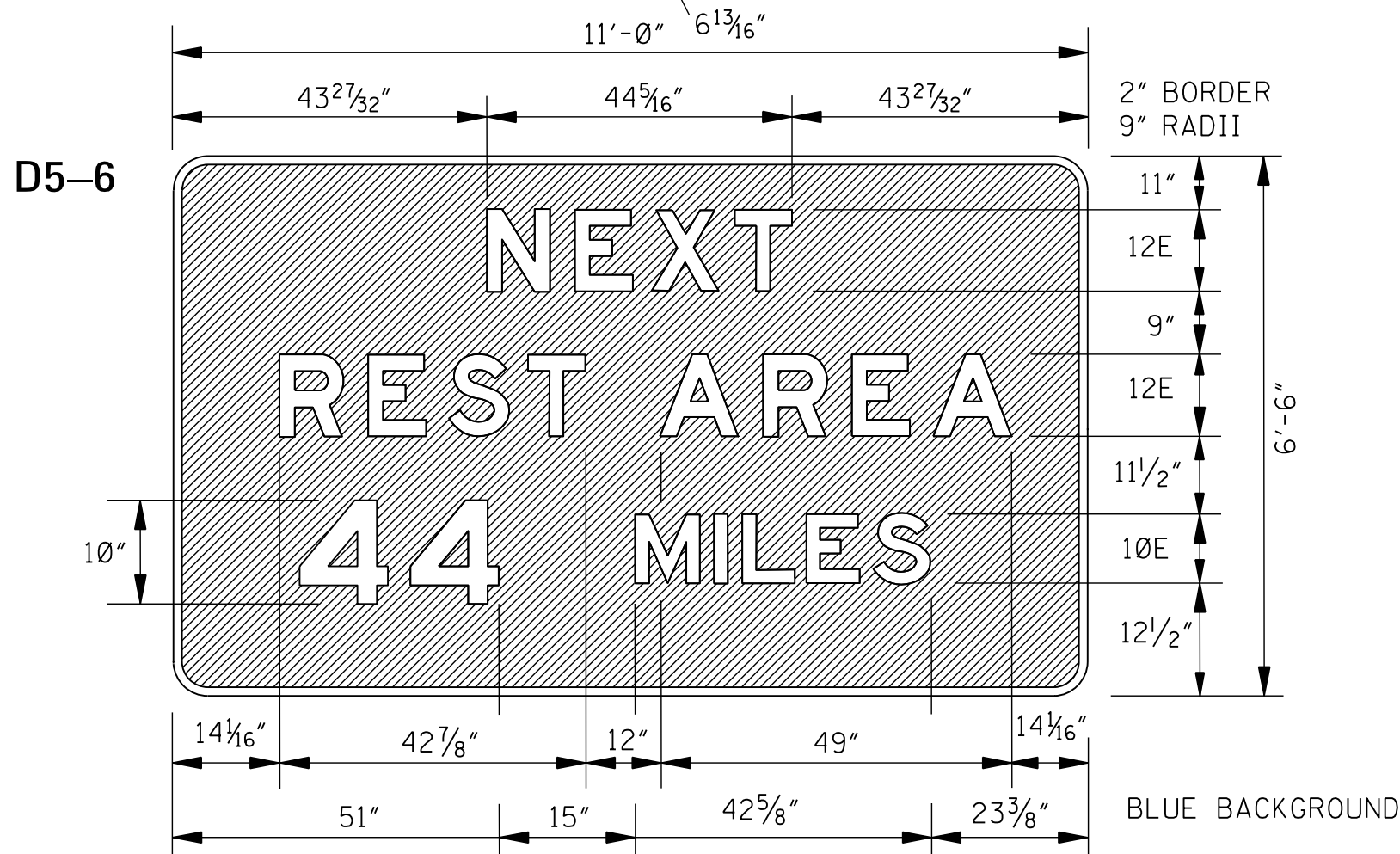
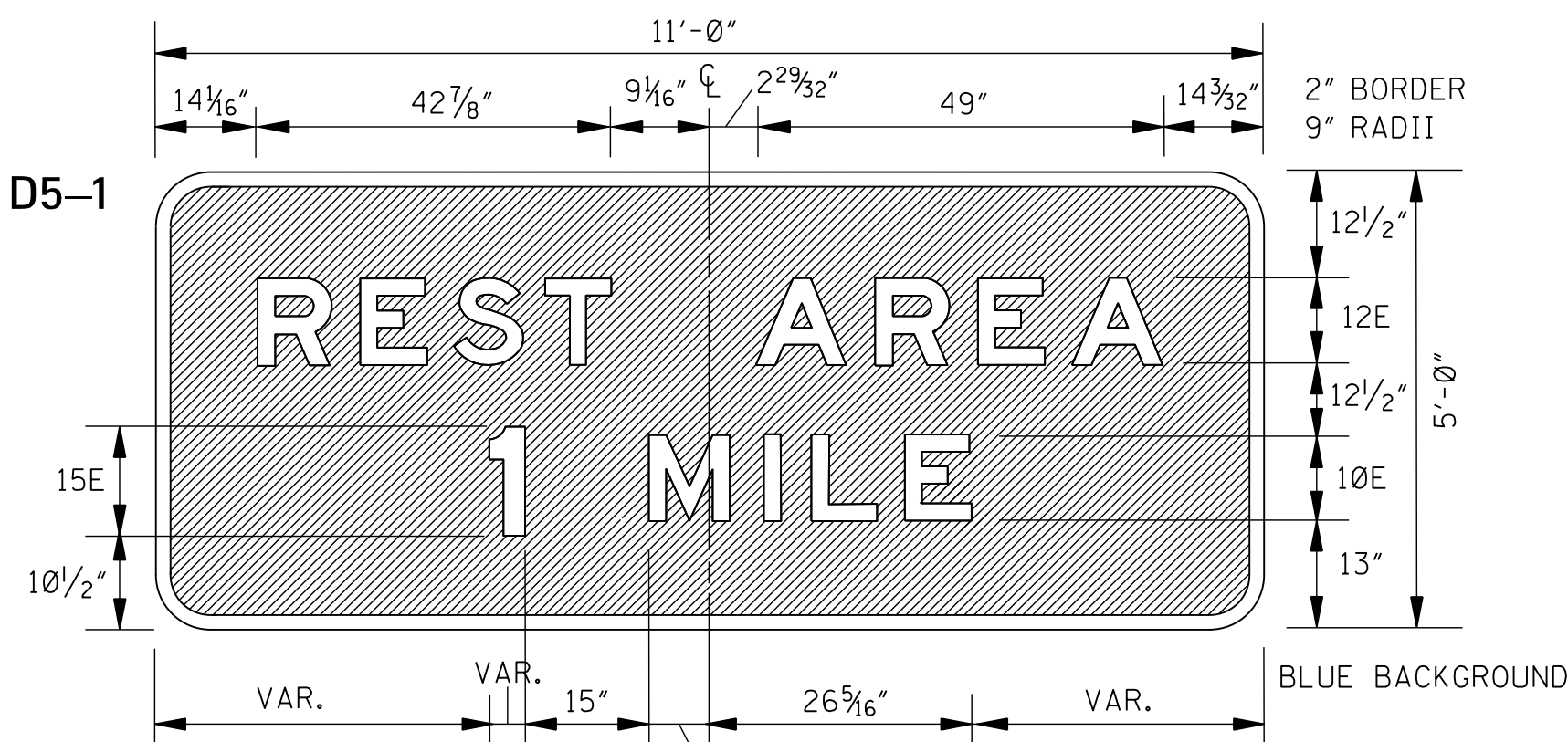
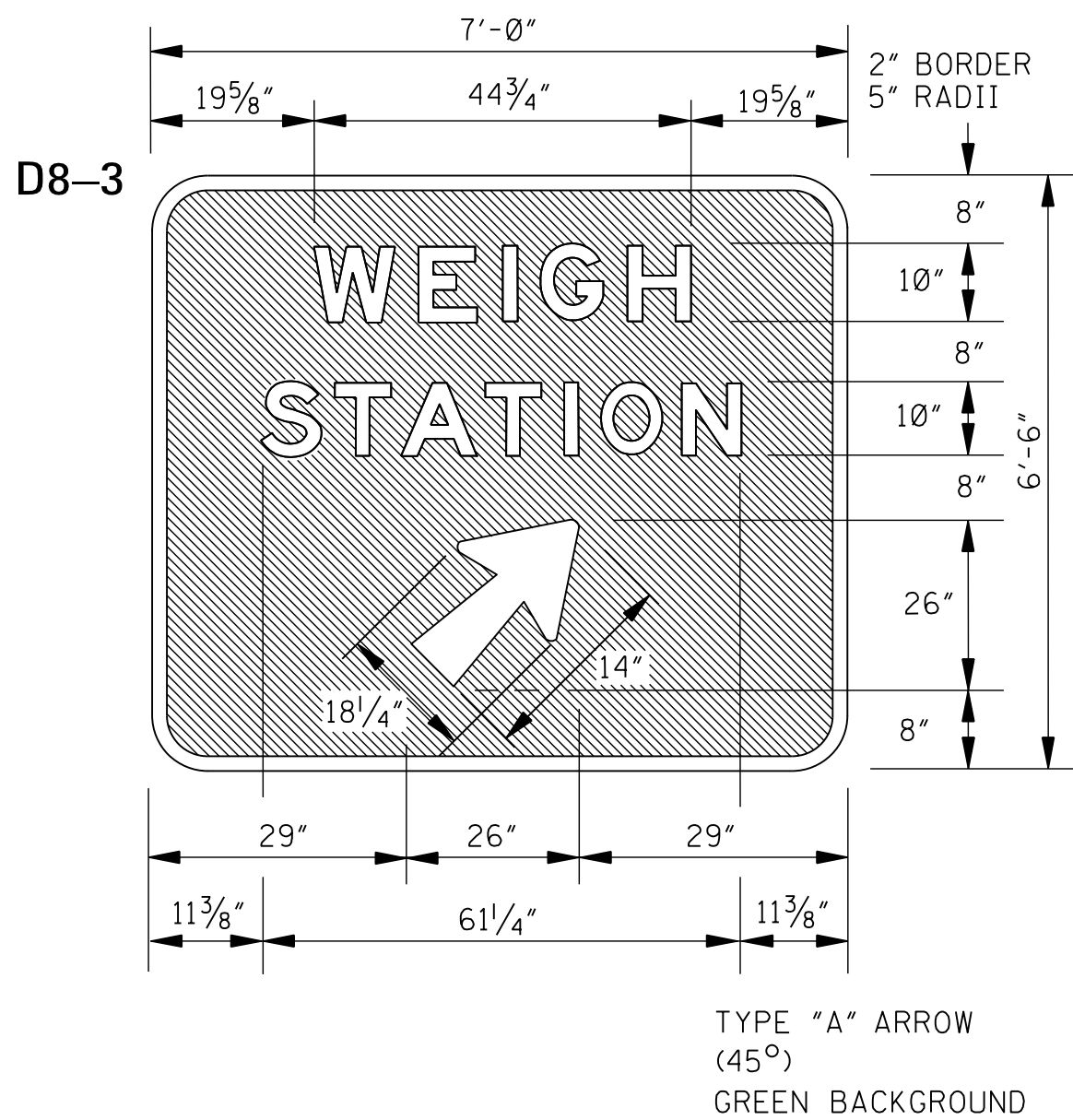
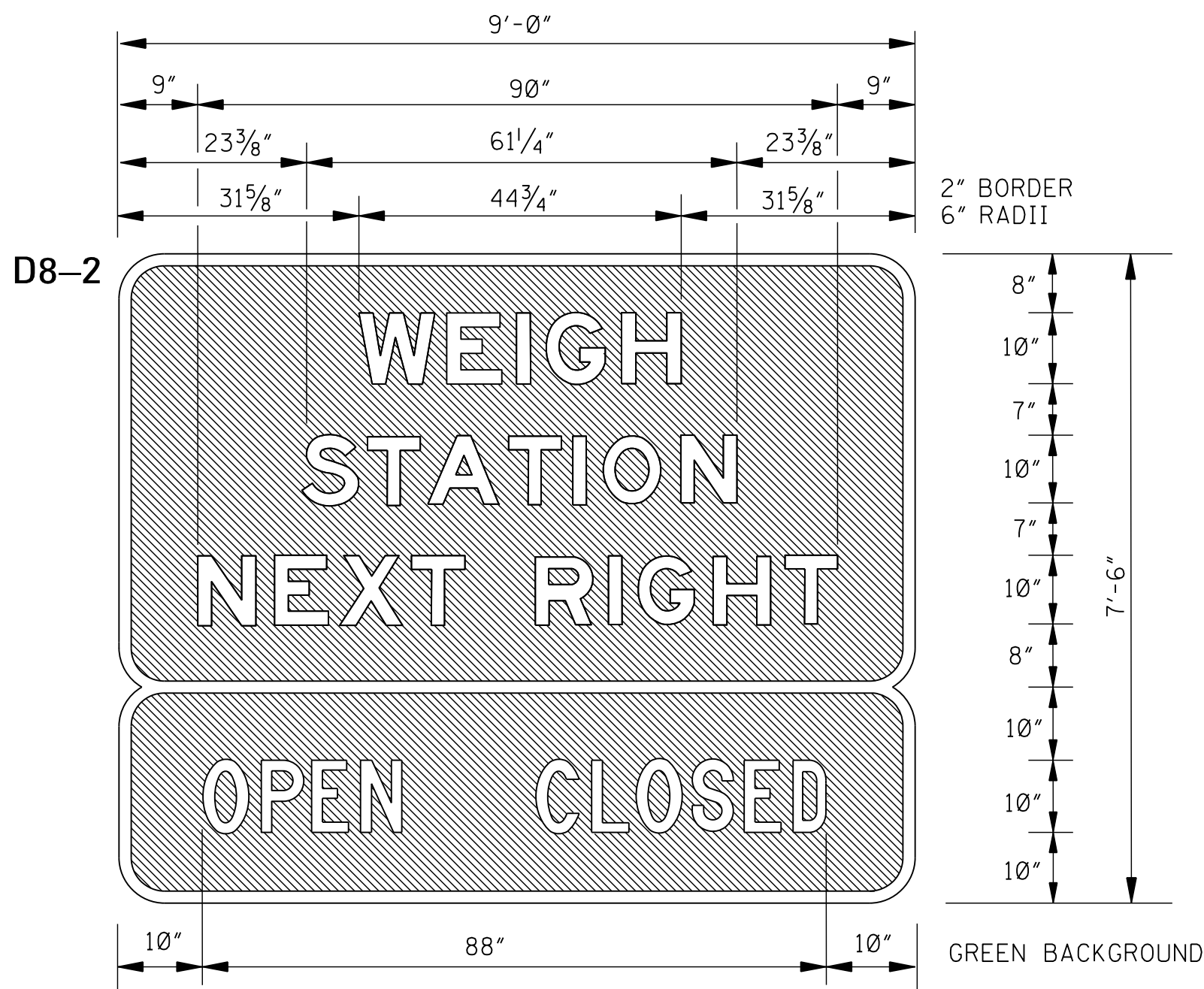
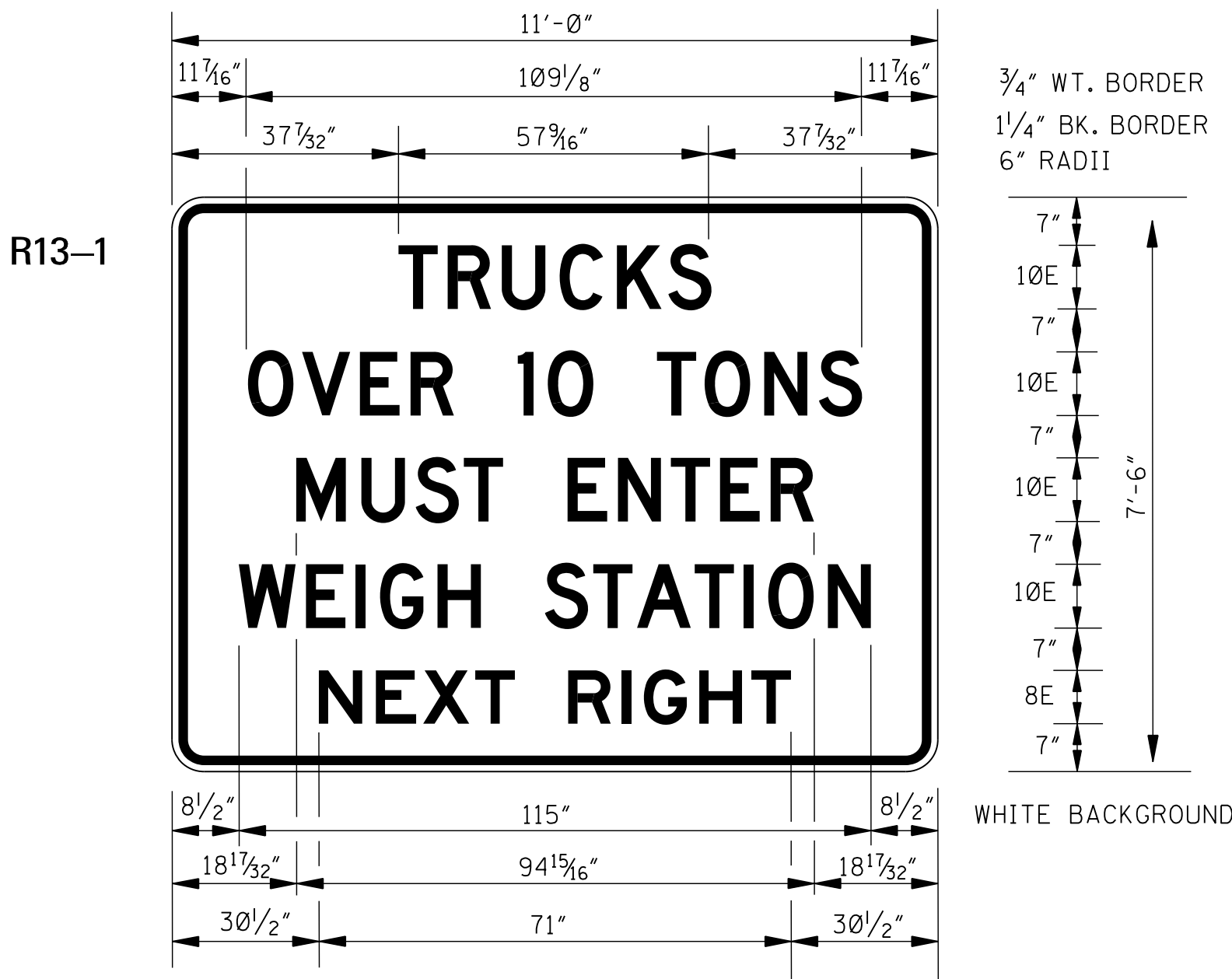
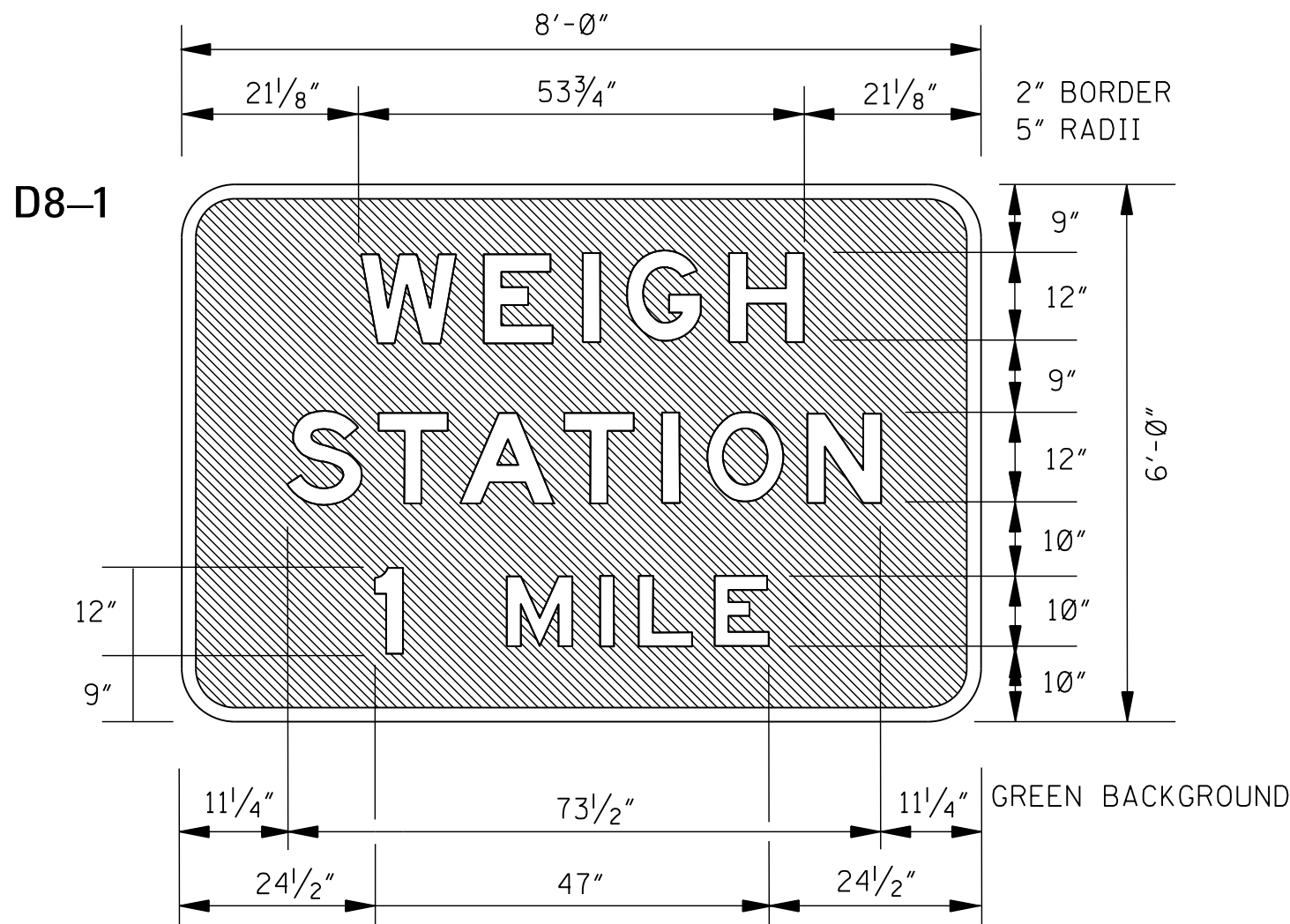
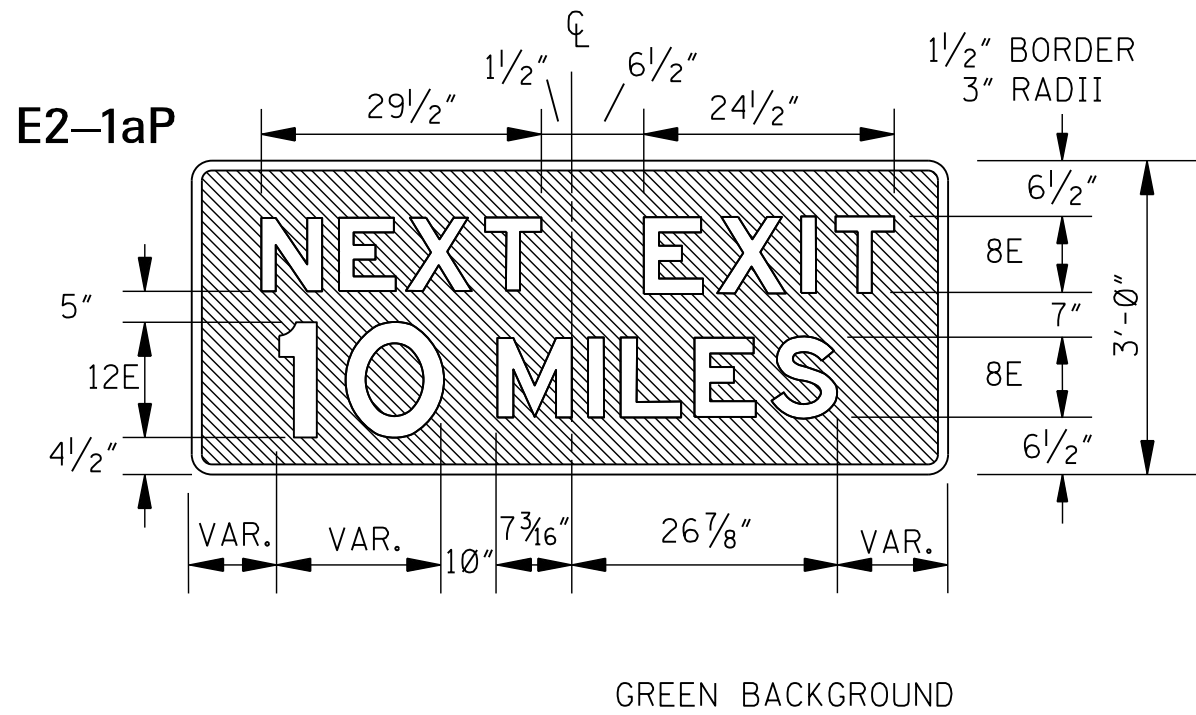
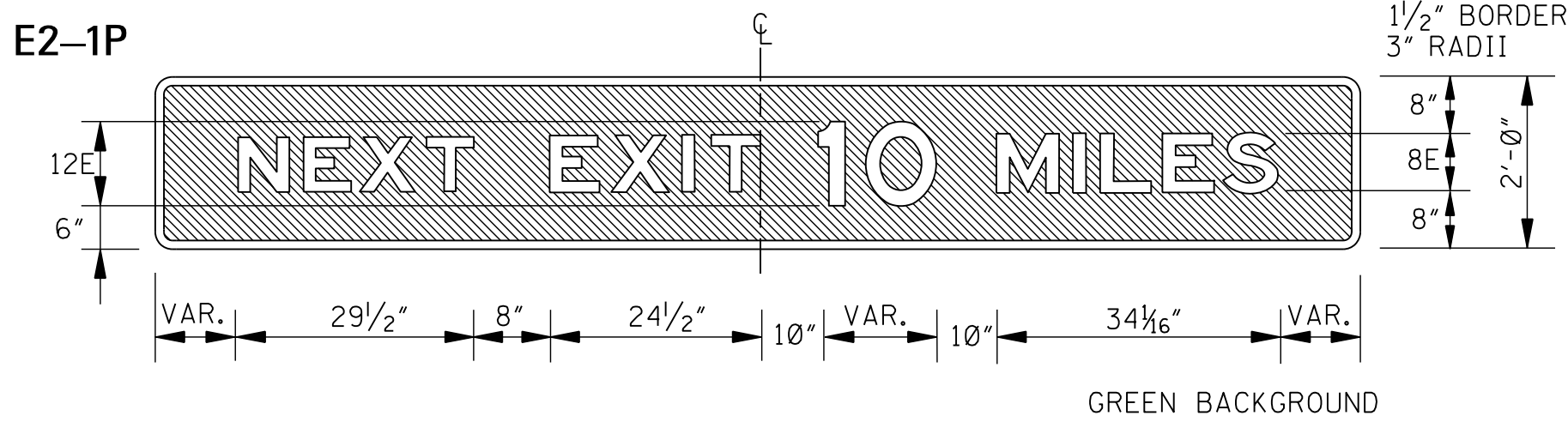
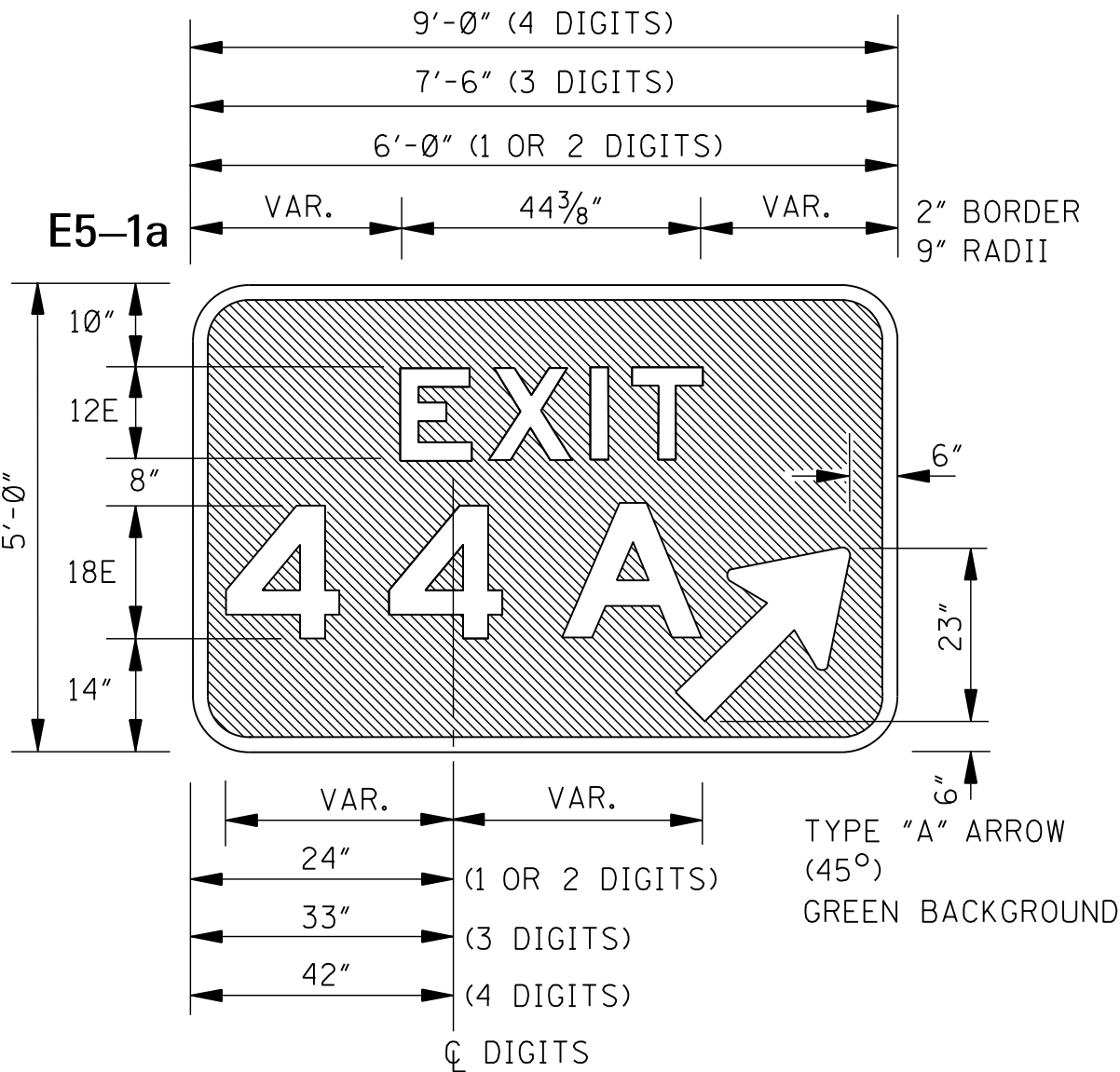
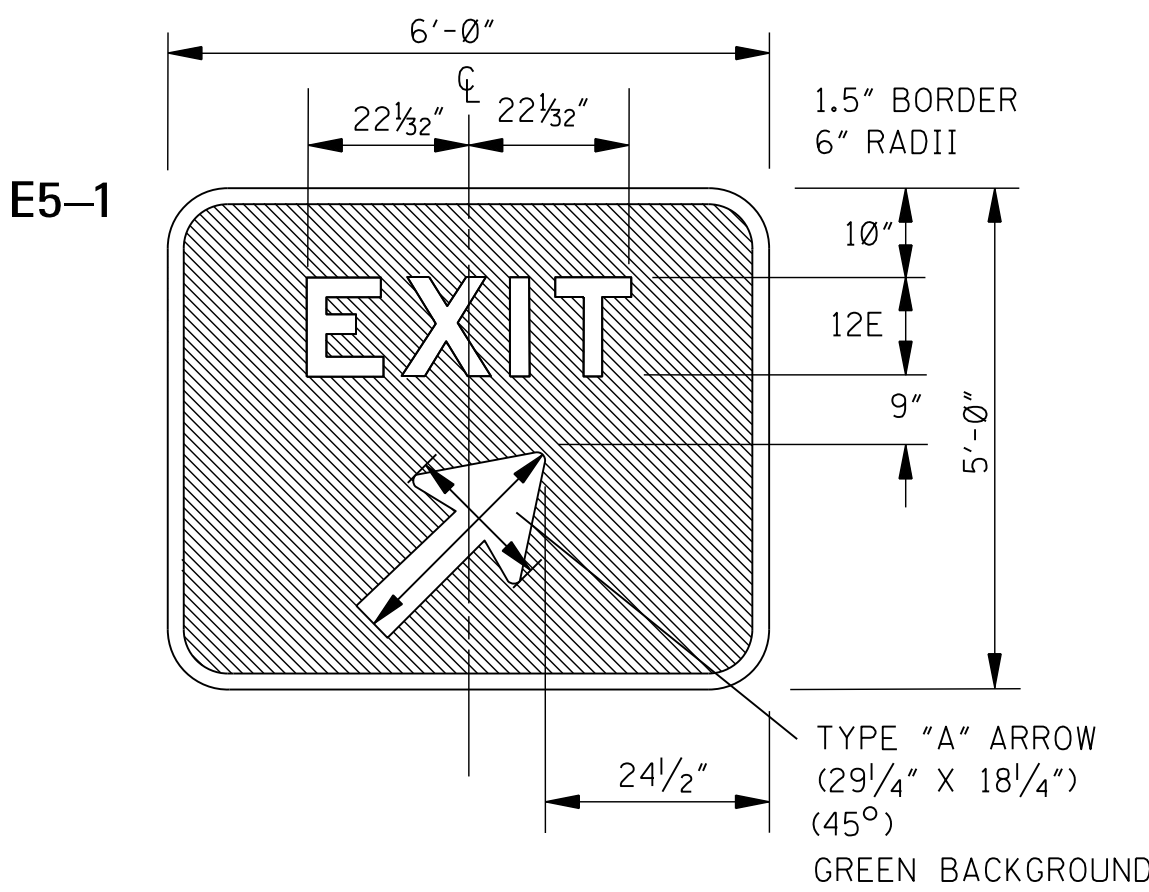
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	ISSUE DATE: AUGUST 01, 2017

**4'-6" PIER  
PROTECTION DETAILS  
(3 OF 3)**

**MDOT**  
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

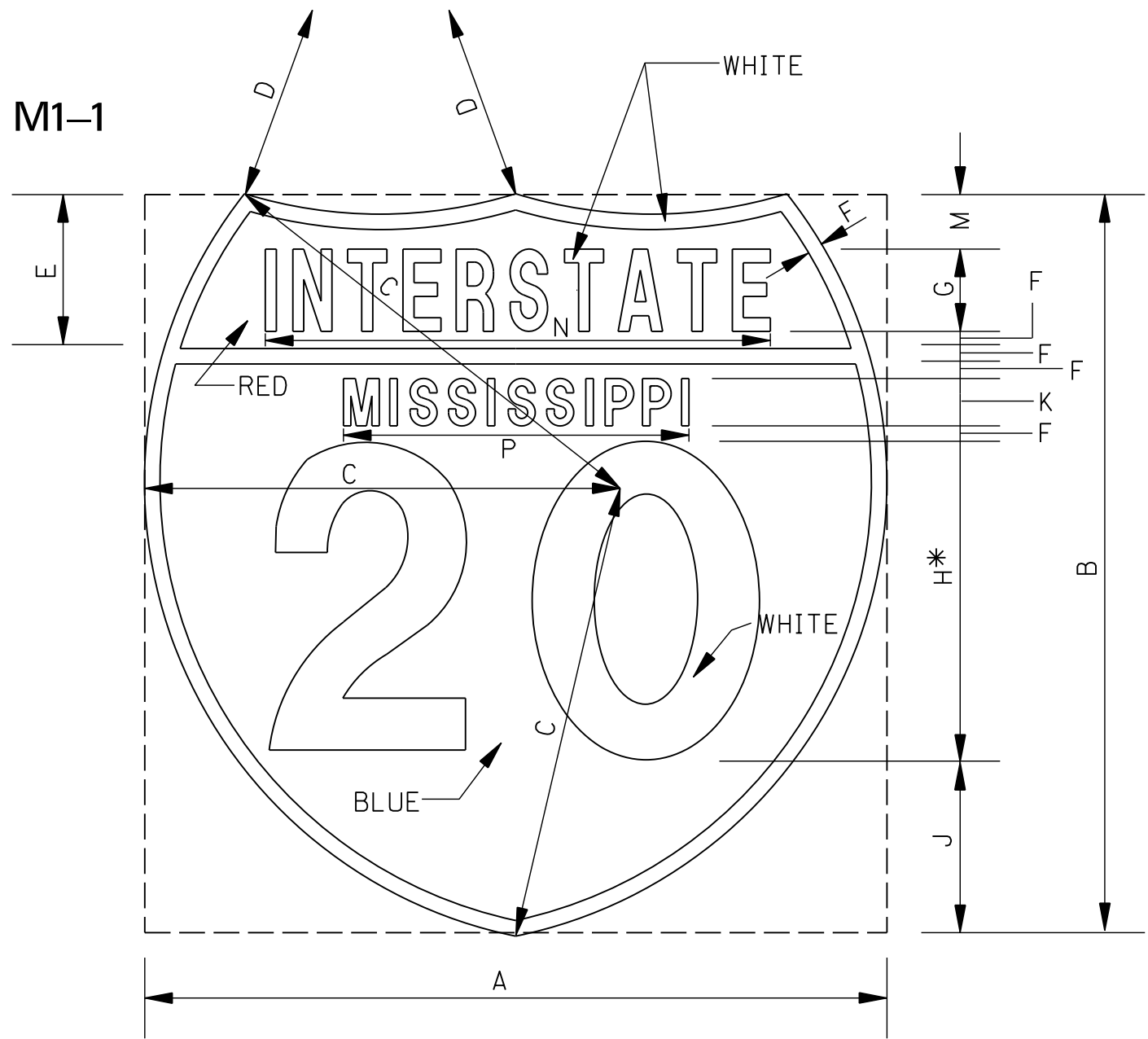
WORKING NUMBER  
PPD-B3

SHEET NUMBER  
6233

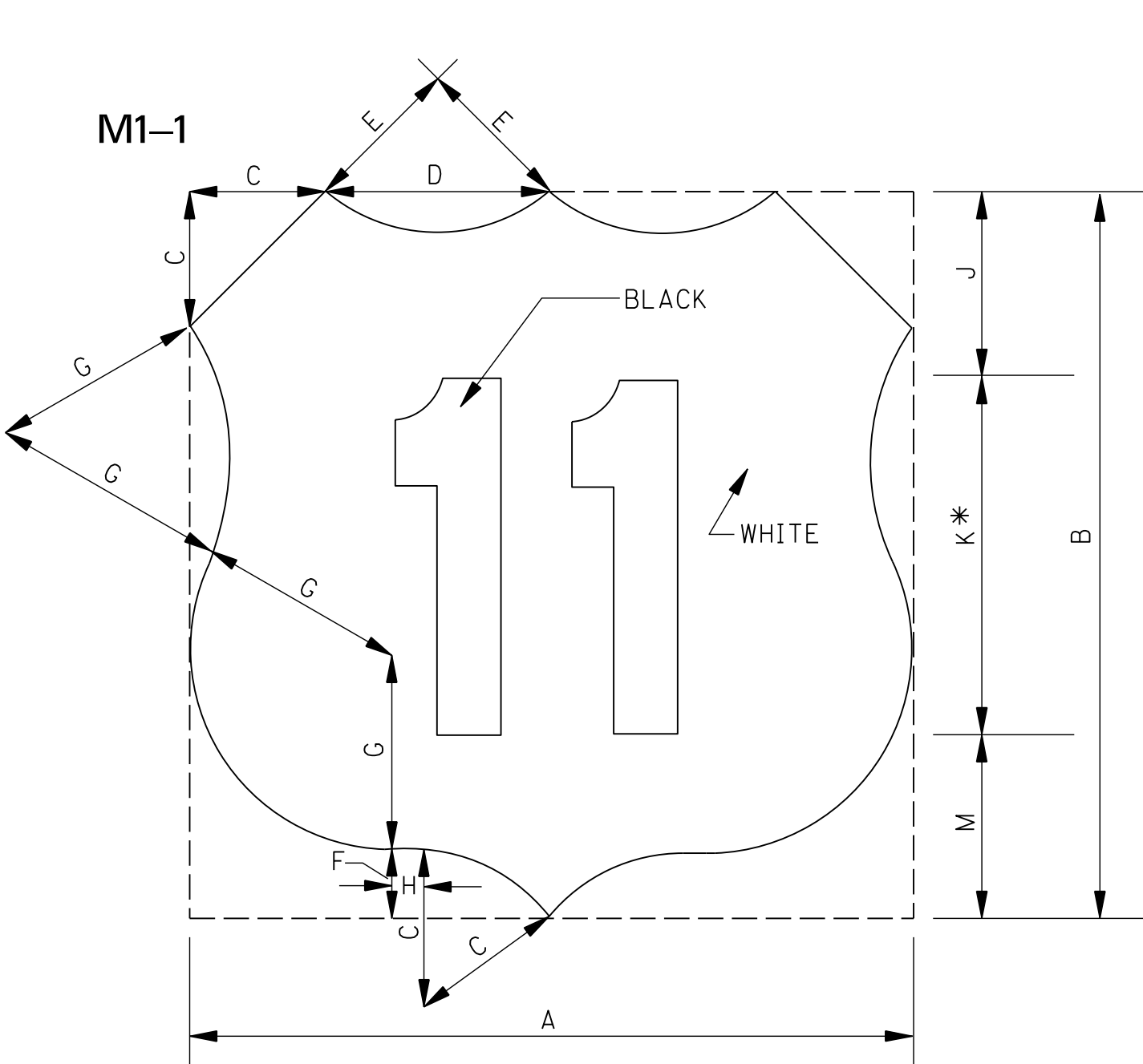


GENERAL NOTE:

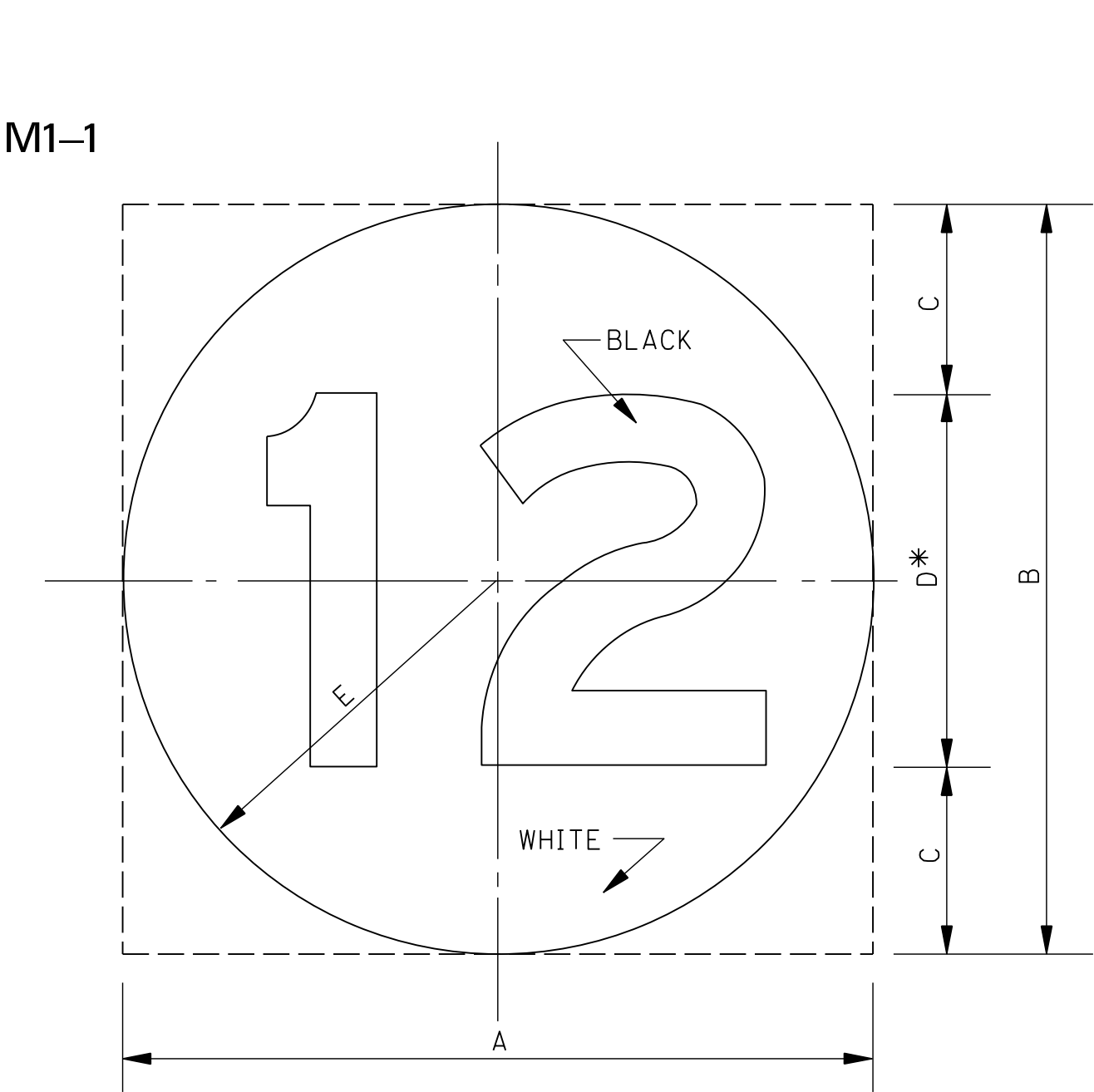
1. THE HORIZONTAL SPACING SHOWN ON THESE DRAWINGS IS FOR REMOVABLE COPY TYPE B (SEE SPECIFICATIONS). THIS SPACING MAY VARY SOMEWHAT WHEN REMOVABLE COPY TYPE A IS USED. THE VERTICAL SPACING WILL REMAIN THE SAME REGARDLESS OF WHICH TYPE IS USED. ANY CHANGE IN HORIZONTAL SPACING WILL BE SUBJECT TO APPROVAL BY THE STATE TRAFFIC ENGINEER.



12" NUMERALS		18" NUMERALS		24" NUMERALS	
2 DIGITS	3 DIGITS	2 DIGITS	3 DIGITS	2 DIGITS	3 DIGITS
A 24"	30"	36"	45"	48"	60"
B 24"	24"	36"	36"	48"	48"
C 15"	17"	22½"	25½"	30"	34"
D 15"	24"	22½"	36"	30"	48"
E 5"	5"	7½"	7½"	10"	10"
F ½"	½"	¾"	¾"	1"	1"
G 2½C	2½E	4C	4E	5C	5E
*H 10D	10D	15D	15D	20D	20D
J 6"	6"	9"	9"	12"	12"
K 1½D	1½D	2¼D	2¼D	3D	3D
M 2"	2"	2¾"	2¾"	4"	4"
N 15⅝"	21⅜"	24½"	34⅜"	30⅝"	43⅝"
P 10¾"	10¾"	16⅞"	16⅞"	21½"	21½"



12" NUMERALS		18" NUMERALS		24" NUMERALS	
2 DIGITS	3 DIGITS	2 DIGITS	3 DIGITS	2 DIGITS	3 DIGITS
A 24"	30"	36"	45"	48"	60"
B 24"	24"	36"	36"	48"	48"
C 5"	5"	7½"	7½"	10"	10"
D 7"	10"	10½"	15"	14"	20"
E 5"	9"	7½"	13½"	10"	18"
F 2"	2"	3"	3"	4"	4"
G 7"	7"	10½"	10½"	14"	14"
H 1"	4"	1½"	5½"	2"	8"
J 5½"	5½"	8½"	8½"	11"	11"
*K 12"	12"	18"	18"	24"	24"
M 6½"	6½"	9¾"	9¾"	13"	13"

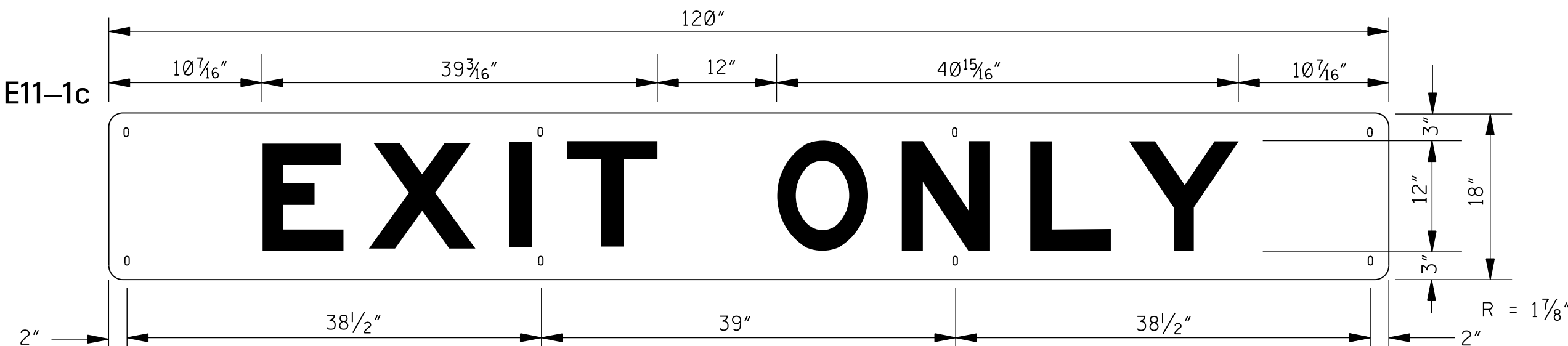
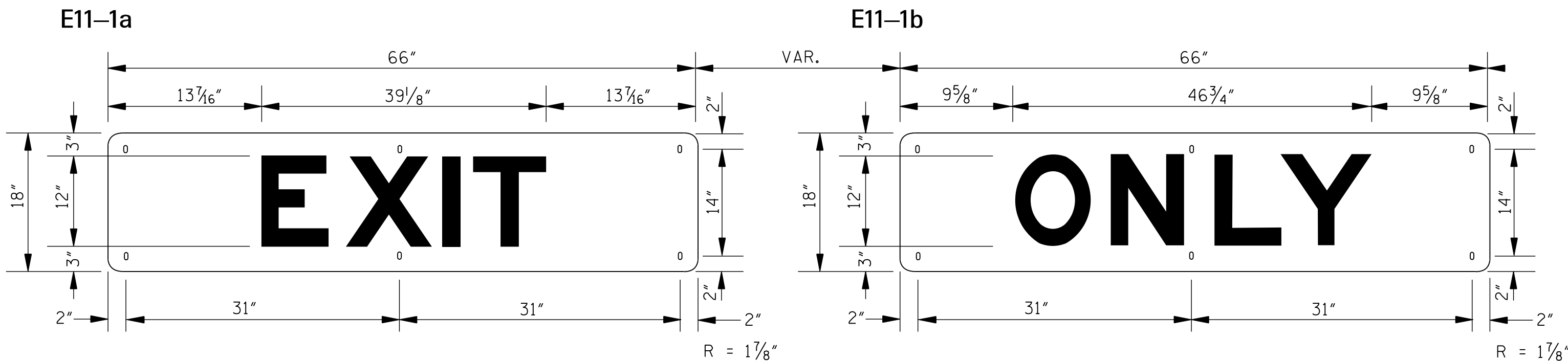


	DIMENSIONS (INCHES)				
	A	B	C	D*	E
1,2-DIGIT(S)	24"	24"	6"	12"	12"
1,2-DIGIT(S)	36"	36"	9"	18"	18"
1,2-DIGIT(S)	48"	48"	12"	24"	24"
3-DIGITS	30"	24"	6"	12"	VAR.
3-DIGITS	45"	36"	9"	18"	VAR.
3-DIGITS	60"	48"	12"	24"	VAR.

GENERAL NOTES:


1. U.S. AND MISSISSIPPI SHIELDS DO NOT HAVE AN OUTSIDE BORDER.
2. INTERSTATE, U.S. AND MISSISSIPPI SHIELDS SHOWN ON THIS DRAWING SHALL BE USED ONLY ON GUIDE SIGNS. SEE OTHER DRAWINGS FOR SHIELDS TO BE USED INDEPENDENTLY AS ROUTE MARKERS.
3. ON INTERSTATE SHIELDS, THE LEGEND AND BACKGROUND SHALL BE REFLECTORIZED.
4. ON U.S. AND MISSISSIPPI SHIELDS, THE BACKGROUND SHALL BE REFLECTORIZED.

- \* 5. IN SOME CASES, NUMERALS CANNOT BE ACCOMMODATED WITHIN THE SPACE AVAILABLE. FOR THESE SITUATIONS, THE STANDARD SERIES "D" NUMERALS MAY BE REDUCED TO SERIES "C" NUMERALS OR AS A SECOND CHOICE TO THE NEXT SMALLER HEIGHT COMMONLY AVAILABLE.



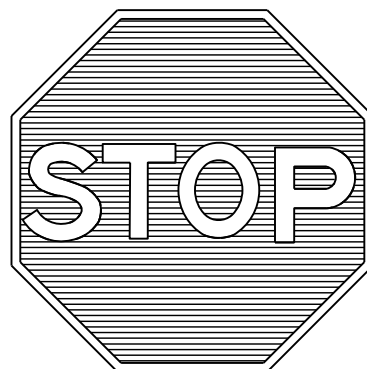
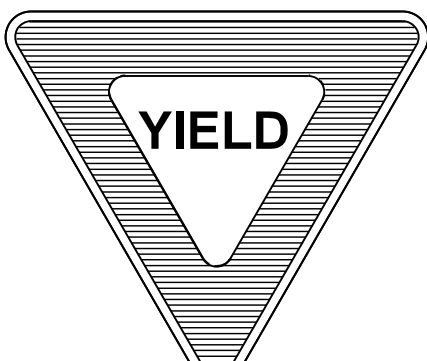
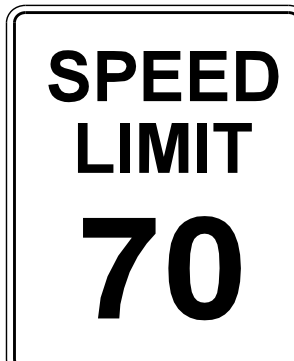
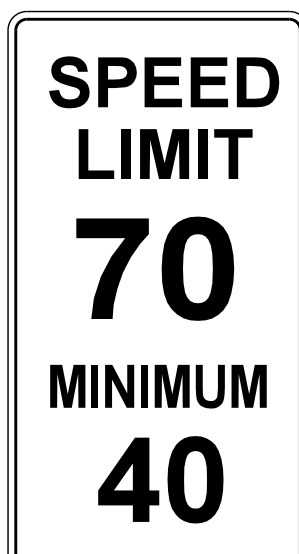
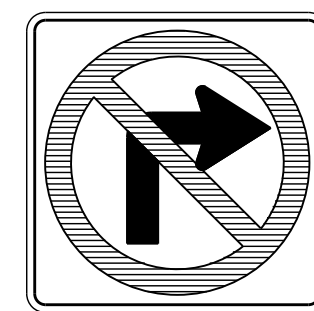
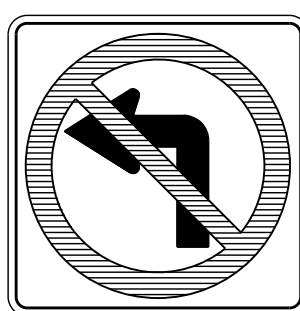
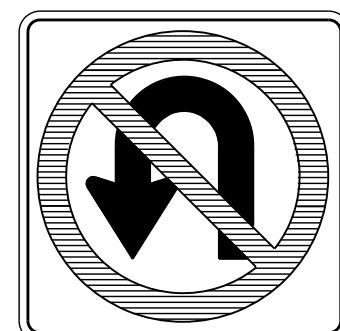

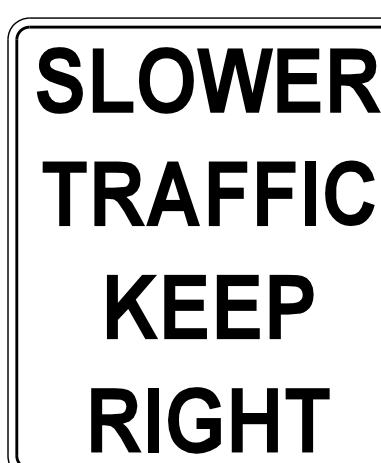
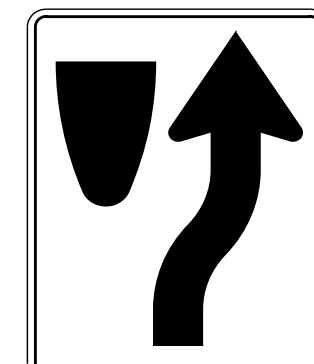
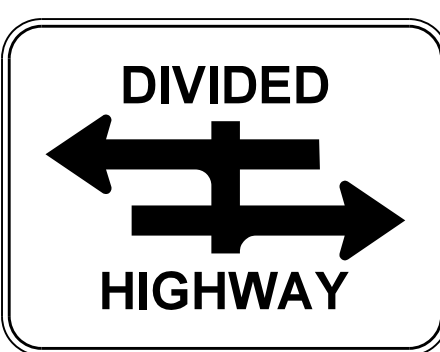
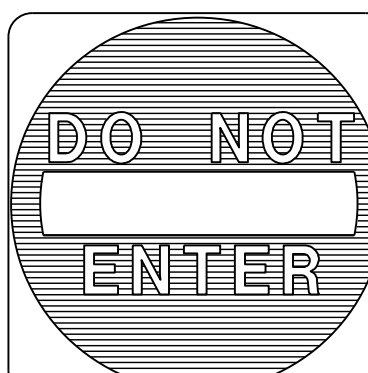




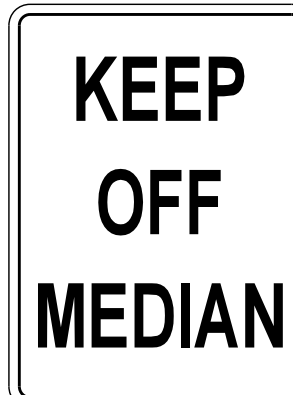
GENERAL NOTES:

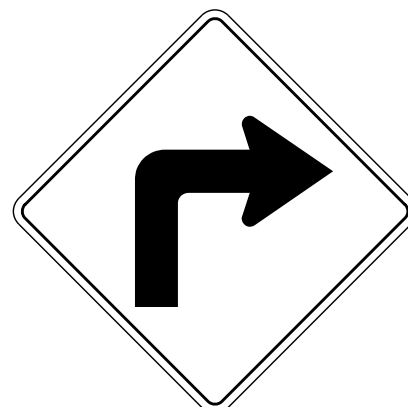

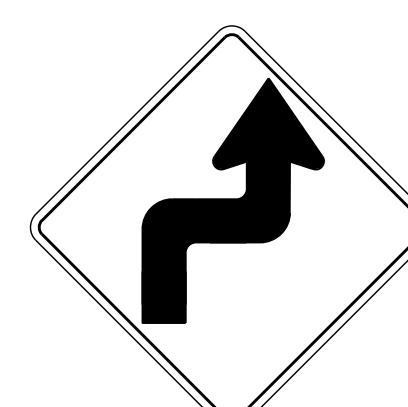
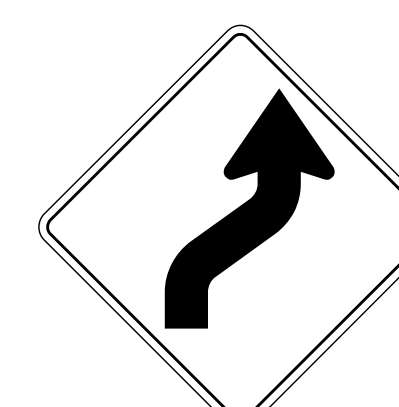
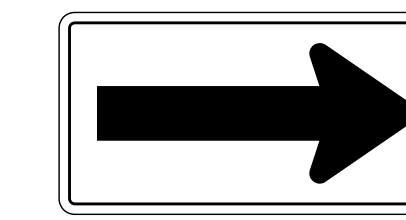
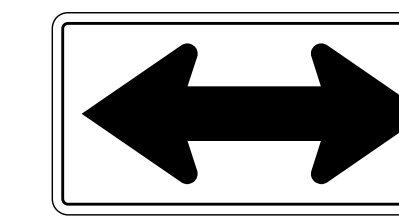
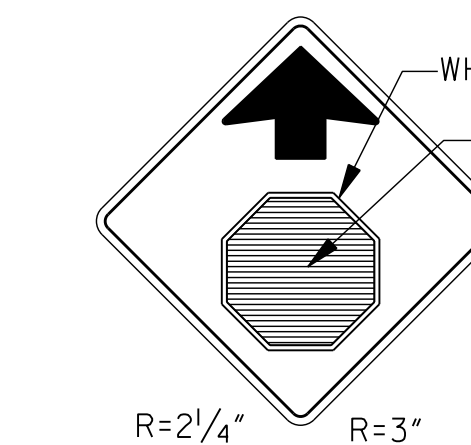
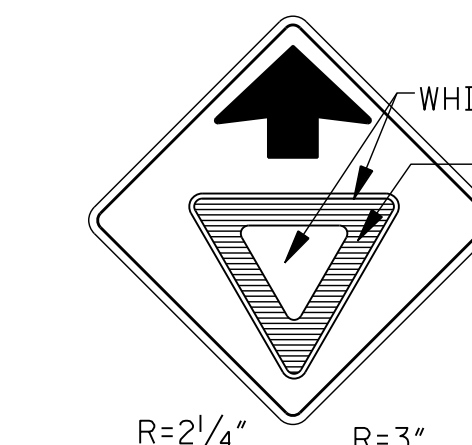
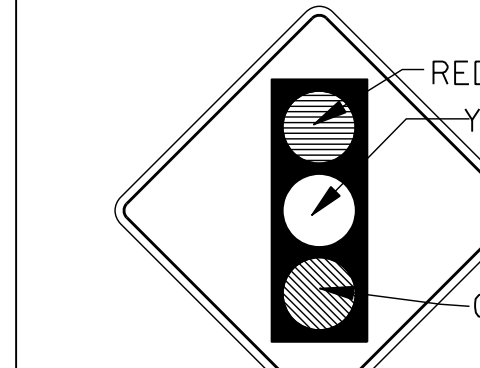

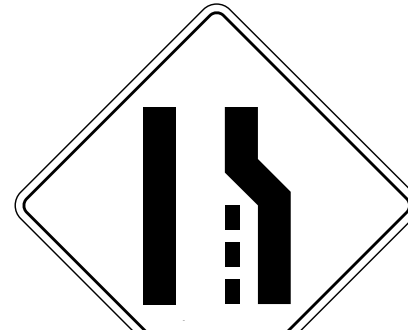

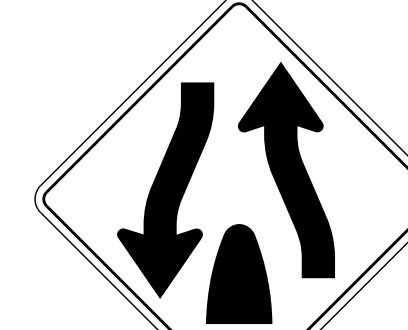
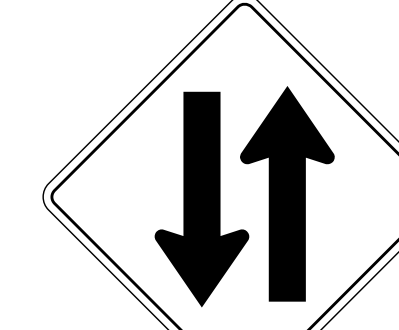

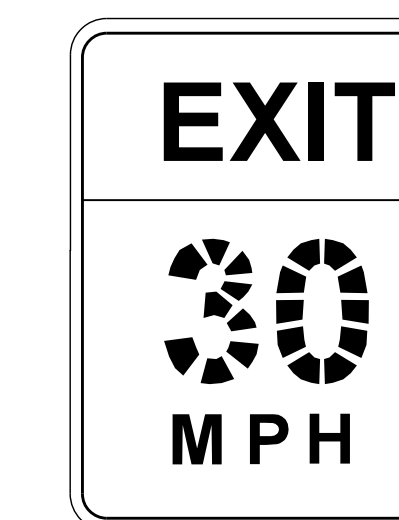
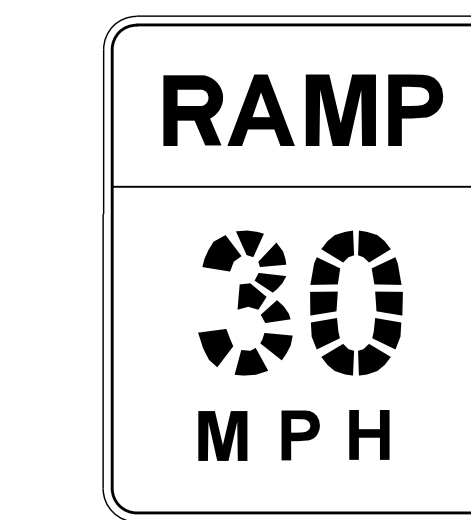

1. THESE ARE "OVERLAY" SIGNS FABRICATED ON 0.063" THICK ALUMINUM (6061-T6) AND SHALL BE RIVETED TO DIRECTIONAL SIGNS DESIGNATED ON PLANS. THESE SIGNS WILL NOT BE PAID FOR AS SEPARATE SIGNS BUT SHALL BE CONSIDERED AS PART OF THE MAJOR SIGNS TO WHICH THEY ARE AFFIXED.
2. LETTER SIZE: 12" SERIES "D"  
COLOR: LEGEND - BLACK; BACKGROUND - HI-INTENSITY YELLOW

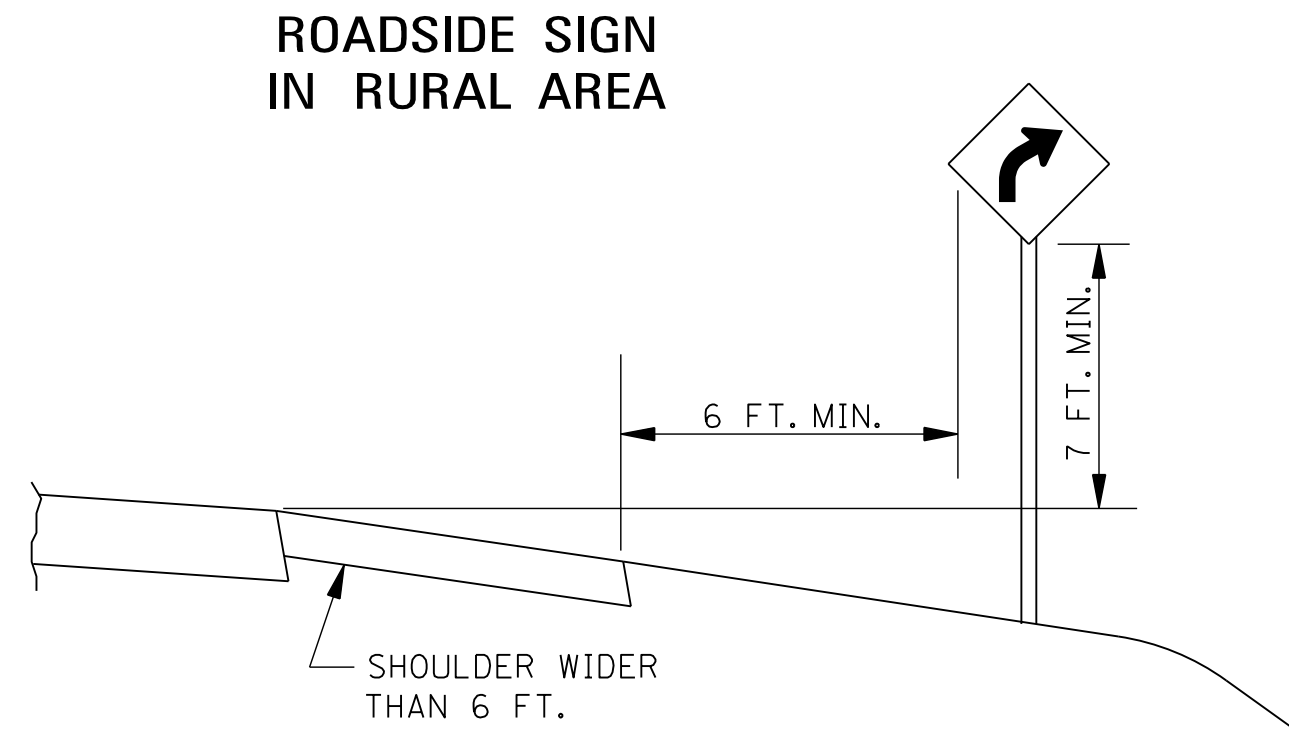
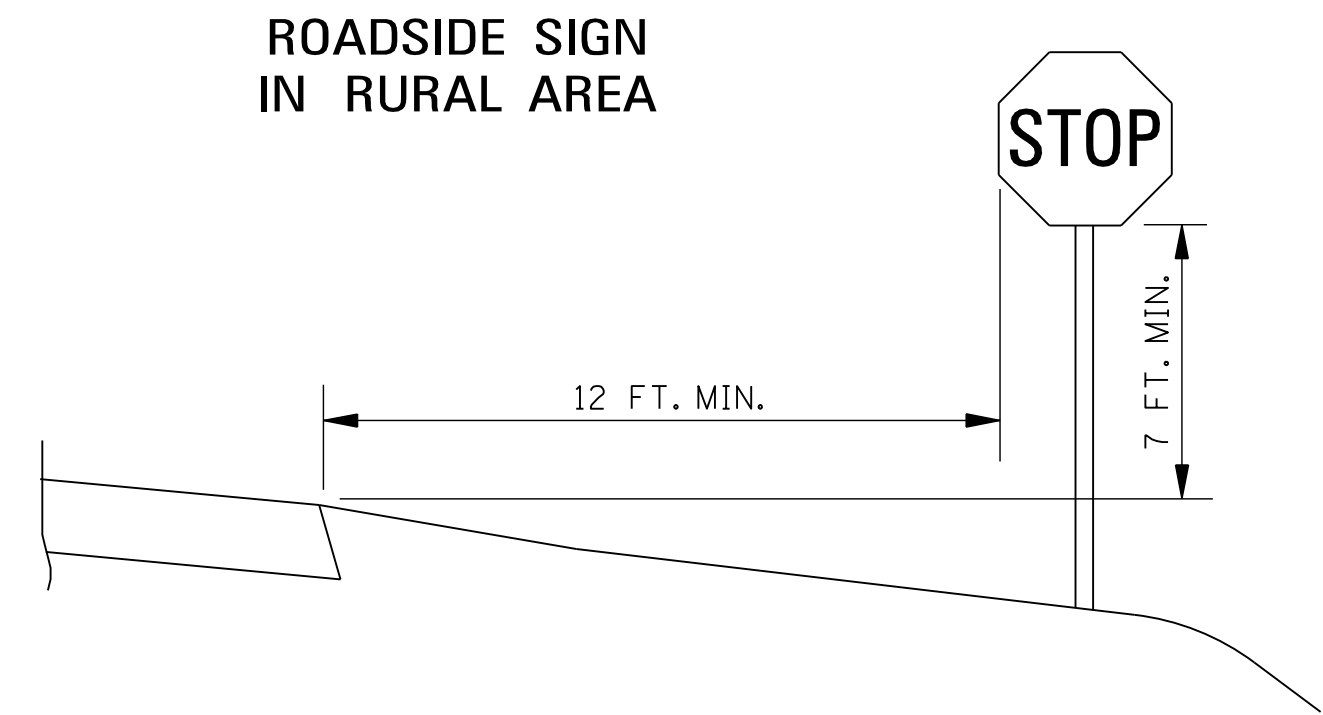
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN	
				REVISION	<b>ROUTE SHIELDS AND "EXIT ONLY" PANELS</b>	
				DATE	ISSUE DATE: AUGUST 01, 2017	
					 WORKING NUMBER SN-2 SHEET NUMBER 6302	



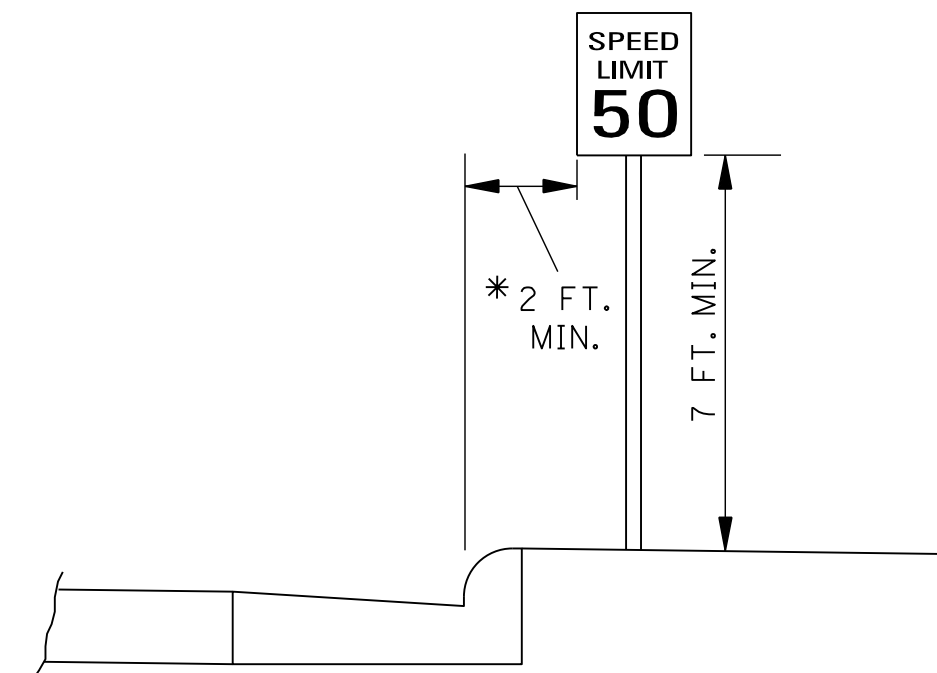


																		STATE		PROJECT NO.			
																		MISS.					
SIGN NUMBER		R1-1		R1-2			R2-1			R2-4a		R3-1		R3-2		R3-4		R3-5		R4-3			
ALUMINUM (6061-T6) SIGN BLANK THICKNESS		0.100"	0.125"	0.080"	0.100"	0.125"	0.080"	0.100"	0.125"	0.125"	0.080"	0.100"	0.080"	0.100"	0.080"	0.100"	0.080"	0.100"	0.080"	0.100"	0.125"		
LEGEND																							
				R=2" R=3" R=4"			R=1½" R=2¼" R=3"			R=3"		R=1½" R=2¼"		R=1½" R=2¼"		R=1½" R=2¼"		R=1⅞"		R=2¼" R=3"			
LETTER & NUMERAL SERIES		12" SERIES "C" 16" SERIES "C"		3" SERIES "C" 5" SERIES "C"			4" SERIES "E" 4" SERIES "E" 10" SERIES "E"			6" SERIES "E" 6" SERIES "E" 14" SERIES "E"		8" SERIES "E" 8" SERIES "E" 16" SERIES "E"		8" SERIES "E" 16" SERIES "E" 8" SERIES "C" 14" SERIES "D"						6" SERIES "D"		6" SERIES "D" 8" SERIES "D"	
WIDTH OF BORDER INSIDE OUTSIDE		⅞" WHITE 1¼" WHITE		5" RED ¾" WHITE 6" RED 1" WHITE 8" RED 1½" WHITE			⅝" BLACK ¾" WHITE ⅞" BLACK ⅝" WHITE 1¼" BLACK ¾" WHITE			⅞" BLACK ¾" WHITE		⅝" BLACK ¾" WHITE ⅞" BLACK ⅝" WHITE		⅝" BLACK ¾" WHITE ⅞" BLACK ⅝" WHITE		⅝" BLACK ¾" WHITE ⅞" BLACK ⅝" WHITE		⅝" BLACK ¾" WHITE ⅞" BLACK ⅝" WHITE		¾" BLACK ½" WHITE ⅞" BLACK ⅝" WHITE 1¼" BLACK ¾" WHITE		1⅞" BLACK ¾" WHITE	
SIZE (WIDTH X HEIGHT)		36" OCTAGON 48" OCTAGON		36" EQUIL. TRIANGLE 48" EQUIL. TRIANGLE 60" EQUIL. TRIANGLE			24" X 30" 36" X 48" 48" X 60"			48" X 96"		24" X 24" 36" X 36"		24" X 24" 36" X 36"		24" X 24" 36" X 36"		30" X 36"		36" X 48" 48" X 60"			
COLORS COPY BACKGROUND		WHITE RED WHITE RED		RED WHITE RED WHITE RED WHITE			BLACK WHITE BLACK WHITE BLACK WHITE			BLACK WHITE		BLACK & RED WHITE BLACK & RED WHITE		BLACK & RED WHITE BLACK & RED WHITE		BLACK & RED WHITE BLACK & RED WHITE		BLACK WHITE BLACK WHITE		BLACK WHITE BLACK WHITE			
REFLECTORIZATION		ALL ALL		ALL ALL ALL			B'GROUND B'GROUND B'GROUND			BACKGROUND		BACKGROUND, CIRCLE, & DIAG. BACKGROUND, CIRCLE, & DIAG.		BACKGROUND, CIRCLE, & DIAG. BACKGROUND, CIRCLE, & DIAG.		BACKGROUND, CIRCLE, & DIAG. BACKGROUND, CIRCLE, & DIAG.		BACKGROUND BACKGROUND		BACKGROUND BACKGROUND			
NUMBER OF POSTS FOR MOUNTING		1 1		1 1 1			1 1 1			1		1 1		1 1		1 1		1 1		1 1			
NUMBER OF HOLES TO BE PUNCHED (⅜" DIA.)		2 4		2 4 4			2 4 6			10		2 2		2 2		2 2		2 2		4 6			
PUNCHING DISTANCE FROM EACH VERTICAL EDGE		18" (VERT. CENTER) 9"		18" (VERT. CENTER) 12" (FROM CENTER) 15" (FROM CENTER)			12" (VERT. CENTER) 3"			9"		12" (VERT. CENTER) 18" (VERT. CENTER)		12" (VERT. CENTER) 18" (VERT. CENTER)		12" (VERT. CENTER) 18" (VERT. CENTER)		15" (VERT. CENTER) 3"		9"			
PUNCHING DISTANCE FROM TOP EDGE		3"; 33" 9"; 39"		3"; 27" 3"; 15" 3"; 21"			3"; 27" 9"; 39" 4"; 30"; 56"			4"; 28"; 52"; 60"; 92"		3"; 21" 6"; 30"		3"; 21" 6"; 30"		3"; 21" 6"; 30"		6"; 30"		9"; 39" 4"; 30"; 56"			
SIGN NUMBER		R4-7			R6-3			R5-1			R5-1a		R6-1L, R6-1R		R6-2L, R6-2R		R8-4		R11-1				
ALUMINUM (6061-T6) SIGN BLANK THICKNESS		0.080" 0.125"			0.080"			0.100" 0.125"			0.100"		0.080"		0.080"		0.080" 0.100"		0.125" 0.125"				
LEGEND																							
		R=1½" R=2¼" R=3"						R=1⅞" R=3"			R=2¼"		R=1½"		R=2¼"			R=3"					
LETTER & NUMERAL SERIES		⅝" BLACK ¾" WHITE ⅞" BLACK ⅝" WHITE 1¼" BLACK ¾" WHITE			5" RED ¾" WHITE 6" RED 1" WHITE 8" RED 1½" WHITE			WHITE OUT-SIDE BORDER WHITE OUT-SIDE BORDER			1" WHITE		½" WHITE		⅝" BLACK ¾" WHITE ⅞" BLACK ⅝" WHITE		⅝" BLACK ¾" WHITE ⅞" BLACK ⅝" WHITE 1¼" BLACK ¾" WHITE			1⅞" BLACK ¾" WHITE			
SIZE (WIDTH X HEIGHT)		24" X 30" 36" X 48" 48" X 60"			30" X 24"			36" X 36" 48" X 48"			42" X 30"		36" X 12"		24" X 30"		30" X 24" 48" X 36"			36" X 48" 48" X 60"			
COLORS COPY BACKGROUND		BLACK WHITE BLACK WHITE BLACK WHITE			BLACK WHITE			WHITE RED WHITE RED			WHITE RED		BLACK (WHITE ARROW) BLACK		BLACK WHITE BLACK WHITE		BLACK WHITE BLACK WHITE			BLACK WHITE			
REFLECTORIZATION		BACKGROUND BACKGROUND BACKGROUND			BACKGROUND			ALL ALL			ALL		ARROW & BORDER BACKGROUND		BACKGROUND BACKGROUND		BACKGROUND BACKGROUND			BACKGROUND BACKGROUND			
NUMBER OF POSTS FOR MOUNTING		1 1 1			1			1 1 1			1		1 1		1 1		1 2			1 1			
NUMBER OF HOLES TO BE PUNCHED (⅜" DIA.)		2 4 6			2			2 4 4			4		2 2		2 2		4 4			6			
PUNCHING DISTANCE FROM EACH VERTICAL EDGE		12" (VERT. CENTER) 3"			9" 15" (VERT. CENTER)			18" (VERT. CENTER) 9"			9"		18" (VERT. CENTER) 12" (VERT. CENTER)		15" (VERT. CENTER) 9"		3"; 33" 9"; 39"			4"; 30"; 56"			
PUNCHING DISTANCE FROM TOP EDGE		3"; 27" 9"; 39"			4"; 30"; 56" 3"; 21"			6"; 30" 4"; 44"			3"; 27"		1½"; 10½"		3"; 27" 3"; 21"		3"; 33" 9"; 39"			4"; 30"; 56"			
GENERAL NOTES:																							
1. THE QUANTITIES LISTED ON THE SUMMARY OF QUANTITIES SHEET FOR THE SIGNS SHOWN ON THIS SHEET WILL BE USED AS THE BASIS FOR FINAL PAYMENT, EXCEPT WHERE SIGNS ARE MODIFIED FROM THAT SHOWN.																							
2. THE SPEED LIMITS REQUIRED ON SIGNS R2-1 AND R2-4a WILL BE SHOWN ON INDIVIDUAL PLAN SHEETS.																							
																		BY		MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN			
																		REVISION		STANDARD ROADSIDE SIGNS			
																		DATE		ISSUE DATE: AUGUST 01, 2017			
																				MDOT MISSISSIPPI DEPARTMENT OF TRANSPORTATION WORKING NUMBER SN-3A SHEET NUMBER 6304			

																STATE	PROJECT NO.																																																																																																																																																																																																																																																																																																																															
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SIGN NUMBER	W1-1L W1-1R		W1-2L W1-2R		W1-3L W1-3R		W1-4L W1-4R		W1-6L W1-6R		W1-7		W3-1a		W3-2a		W3-3		W4-1L W4-1R		W4-101L W4-101R																																																																																																																																																																																																																																																																																																																											
ALUMINUM (6061-T6) SIGN BLANK THICKNESS	0.125"		0.125"		0.125"		0.125"		0.100"		0.100"		0.125"		0.125"		0.125"		0.125"		0.125"																																																																																																																																																																																																																																																																																																																											
LEGEND	 R=2 1/4" R=3"		 R=2 1/4" R=3"		 R=2 1/4" R=3"		 R=2 1/4" R=3"		 R=1 7/8"		 R=1 7/8"		 R=2 1/4" R=3"		 R=2 1/4" R=3"		 R=2 1/4" R=3"		 R=2 1/4" R=3"																																																																																																																																																																																																																																																																																																																													
LETTER & NUMERAL SERIES	1/8" BLACK 5/8" YELLOW		1/4" BLACK 3/4" YELLOW		1/8" BLACK 5/8" YELLOW		1/4" BLACK 3/4" YELLOW		1/8" BLACK 5/8" YELLOW		1/4" BLACK 3/4" YELLOW		1/8" BLACK 5/8" YELLOW		1/4" BLACK 3/4" YELLOW		1/8" BLACK 5/8" YELLOW		1/4" BLACK 3/4" YELLOW		1/8" BLACK 5/8" YELLOW																																																																																																																																																																																																																																																																																																																											
WIDTH OF BORDER INSIDE OUTSIDE	36" X 36" 48" X 48"		36" X 36" 48" X 48"		36" X 36" 48" X 48"		36" X 36" 48" X 48"		48" X 24"		48" X 24"		36" X 36" 48" X 48"		36" X 36" 48" X 48"		36" X 36" 48" X 48"		36" X 36" 48" X 48"		48" X 48"																																																																																																																																																																																																																																																																																																																											
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REFLECTORIZATION	BACKGROUND		BACKGROUND		BACKGROUND		BACKGROUND		BACKGROUND		BACKGROUND		BACKGROUND & SYMBOL		BACKGROUND & SYMBOL		BACKGROUND & SYMBOL		BACKGROUND & "LIGHTS"		BACKGROUND & "LIGHTS"																																																																																																																																																																																																																																																																																																																											
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NUMBER OF HOLES TO BE PUNCHED (3/8" DIA.)	2		4		2		4		4		4		2		4		2		4		2																																																																																																																																																																																																																																																																																																																											
PUNCHING DISTANCE FROM EACH VERT. EDGE	VERT. CENTER		15" FROM VERT. CENTER		VERT. CENTER		15" FROM VERT. CENTER		9"		9"		VERT. CENTER		15" FROM VERT. CENTER		VERT. CENTER		15" FROM VERT. CENTER		VERT. CENTER																																																																																																																																																																																																																																																																																																																											
PUNCHING DISTANCE FROM TOP EDGE	18" FROM HORIZ. CENTER		15" FROM HORIZ. CENTER		18" FROM HORIZ. CENTER		15" FROM HORIZ. CENTER		3"; 21"		3"; 21"		18" FROM HORIZ. CENTER		15" FROM HORIZ. CENTER		18" FROM HORIZ. CENTER		15" FROM HORIZ. CENTER		18" FROM HORIZ. CENTER																																																																																																																																																																																																																																																																																																																											
SIGN NUMBER	W4-2		W6-1		W6-2		W6-3		W13-1		W13-2		W13-3		W10-1																																																																																																																																																																																																																																																																																																																																	
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WIDTH OF BORDER INSIDE OUTSIDE	36" X 36"		48" X 48"		36" X 36"		48" X 48"		24" X 24"		48" X 60"		48" X 60"		36" DIAMETER																																																																																																																																																																																																																																																																																																																																	
COLORS COPY BACKGROUND	BLACK YELLOW		BLACK YELLOW		BLACK YELLOW		BLACK YELLOW		BLACK YELLOW		BLACK YELLOW		BLACK YELLOW		BLACK YELLOW																																																																																																																																																																																																																																																																																																																																	
REFLECTORIZATION	BACKGROUND		BACKGROUND		BACKGROUND		BACKGROUND		BACKGROUND		BACKGROUND		BACKGROUND		BACKGROUND																																																																																																																																																																																																																																																																																																																																	
NUMBER OF POSTS FOR MOUNTING	1		1		1		1		1		1		1		1																																																																																																																																																																																																																																																																																																																																	
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PUNCHING DISTANCE FROM EACH VERT. EDGE	VERT. CENTER		15" FROM VERT. CENTER		VERT. CENTER		15" FROM VERT. CENTER		12" (VERT. CENTER)		9"		9"		15"																																																																																																																																																																																																																																																																																																																																	
PUNCHING DISTANCE FROM TOP EDGE	18" FROM HORIZ. CENTER		15" FROM HORIZ. CENTER		18" FROM HORIZ. CENTER		15" FROM HORIZ. CENTER		3"; 21"		4"; 30"; 56"		4"; 30"; 56"		15" FROM HORIZ. CENTER																																																																																																																																																																																																																																																																																																																																	
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2. SIGNS W13-2 AND W13-3- THE STROKE WIDTH OF THE LETTER AND NUMERALS SHALL BE WIDENED TO 20% OF THE LETTER OR NUMERAL HEIGHT.																																																																																																																																																																																																																																																																																																																																																
3. THE SPEEDS REQUIRED ON SIGNS W13-1, W13-2 AND W13-3 WILL BE SHOWN ON INDIVIDUAL PLAN SHEETS.																																																																																																																																																																																																																																																																																																																																																
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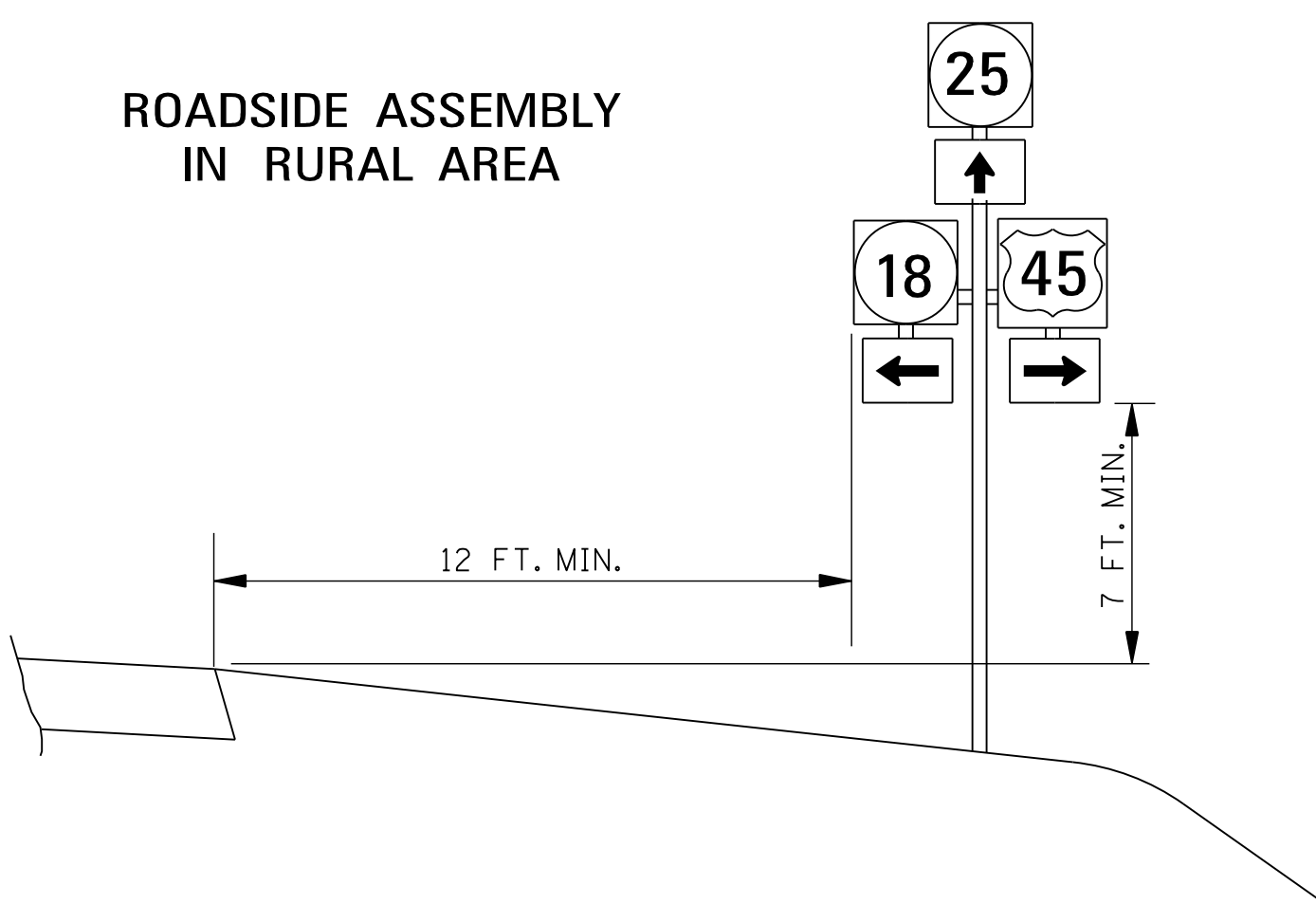
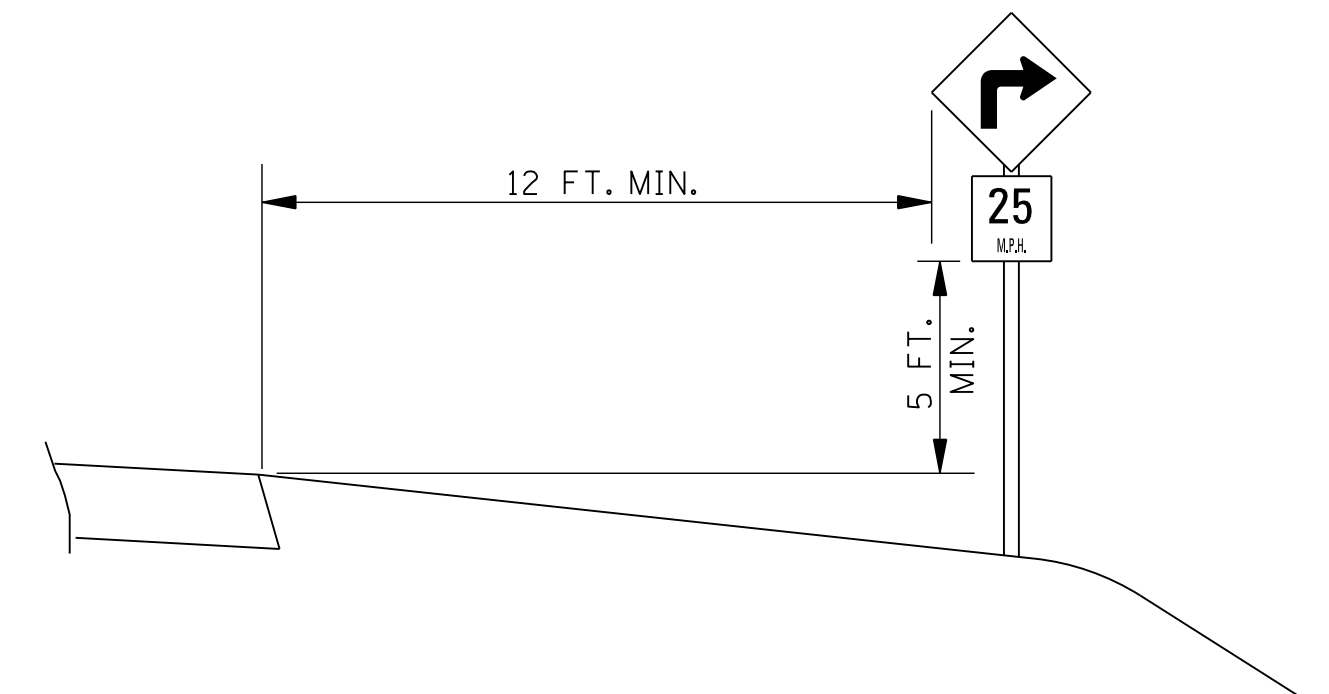


ROADSIDE SIGN IN BUSINESS,  
COMMERCIAL, OR RESIDENTIAL AREA

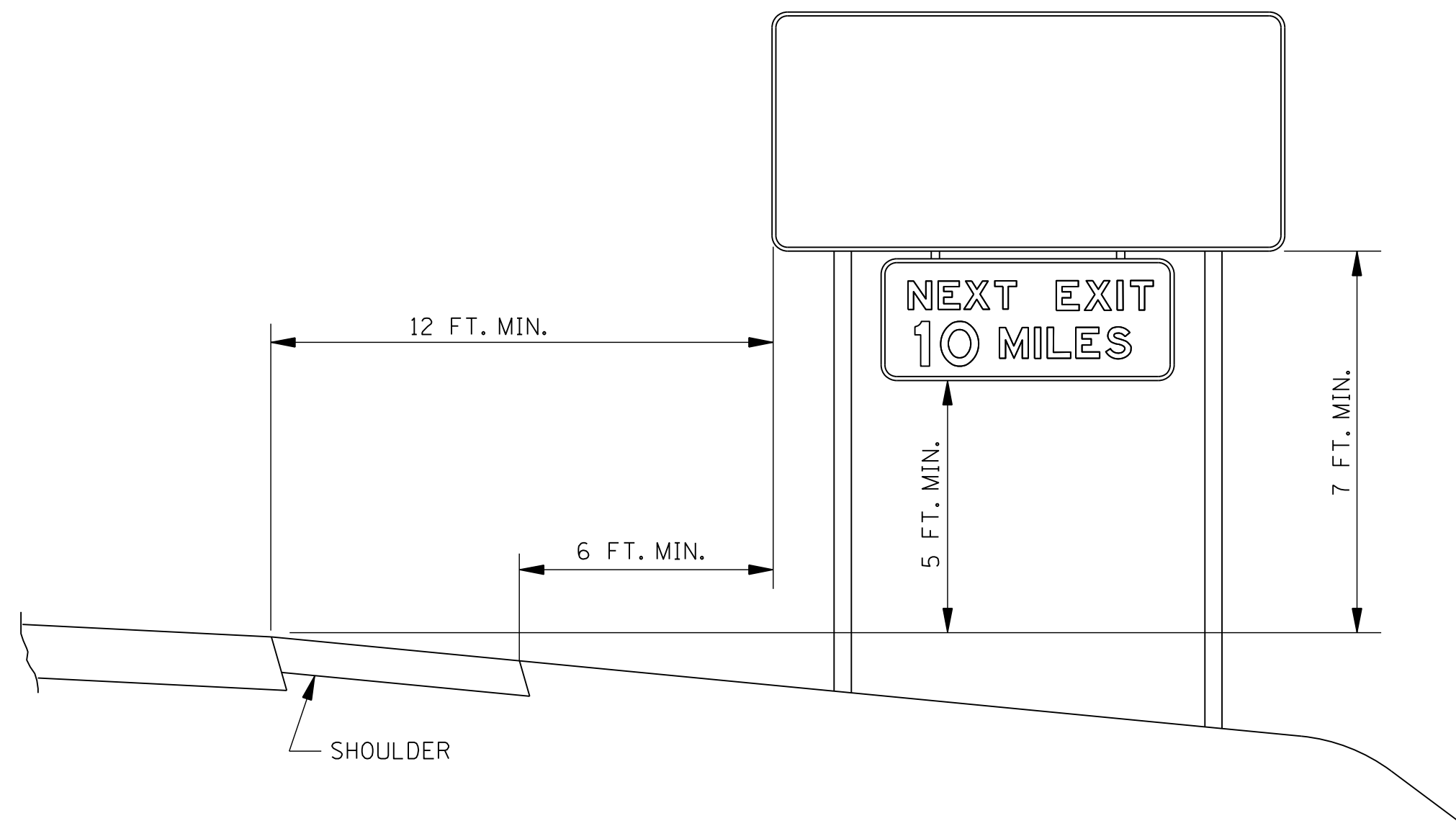


\* THE 2 FT. MINIMUM OFFSET APPLIES ONLY TO STANDARD SIGNS MOUNTED ON U-POSTS. ALL STANDARD SIGNS MOUNTED ON PIPE WILL BE OFFSET A MINIMUM OF 4 FT.. RAMP DESTINATION SIGNS WILL BE OFFSET 4 FT. FROM THE SHOULDERS.

WARNING SIGN WITH ADVISORY  
SPEED PLAQUE IN RURAL AREA



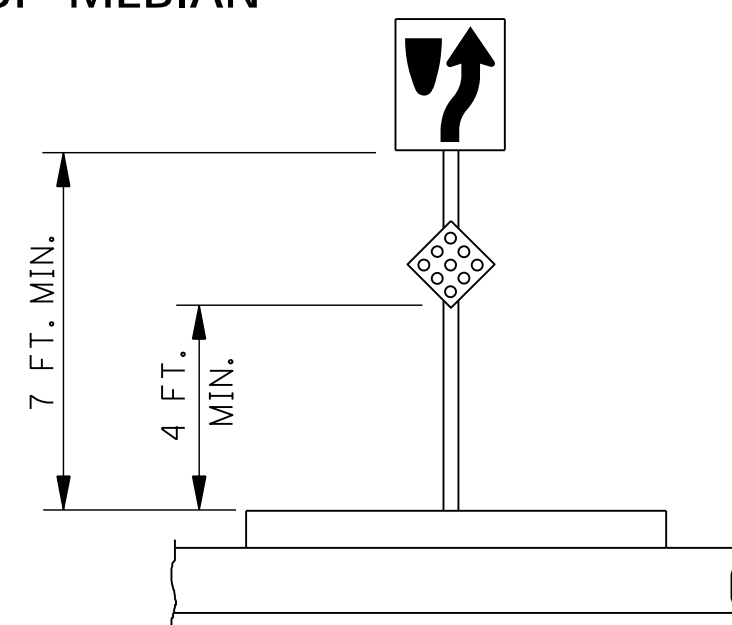
INTERSTATE OR FREEWAY SIGN WITH SECONDARY SIGN



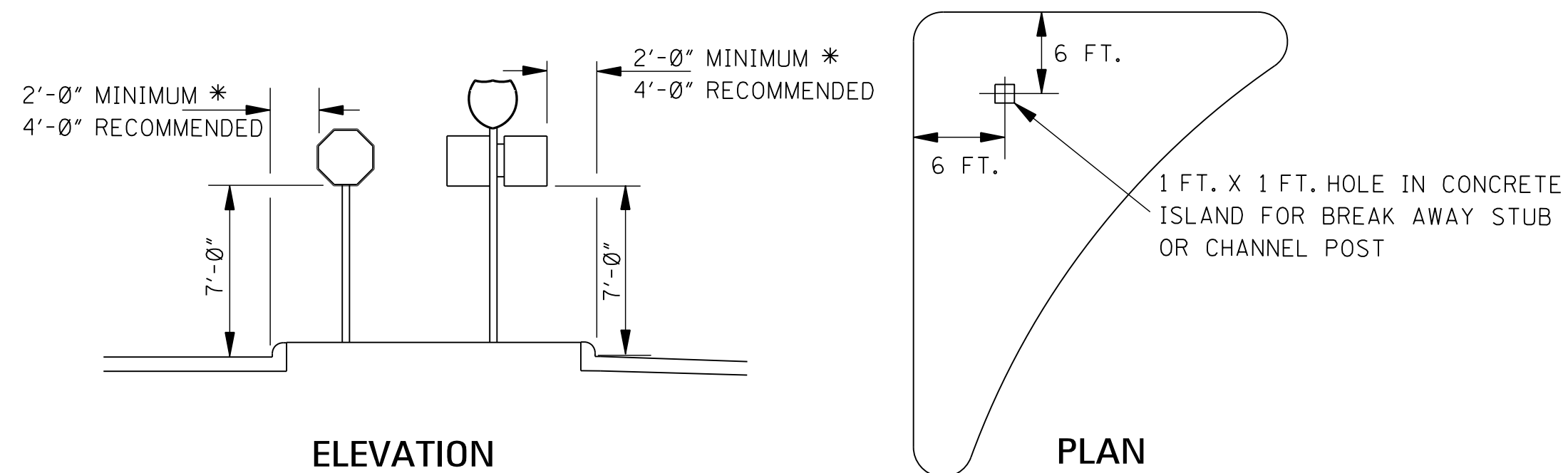
OVERHEAD SIGN



SIGN ON NOSE  
OF MEDIAN



SIGNS IN ISLANDS OR BEHIND CURB USING U-POSTS OR PIPE POSTS



GENERAL NOTES:

- SEE SECTION 2A-19 OF THE MUTCD FOR REDUCED LATERAL OFFSET DISTANCES THAT MAY BE USED IN AREAS WHERE LATERAL OFFSETS ARE LIMITED, AND IN BUSINESS, COMMERCIAL, OR RESIDENTIAL AREAS WHERE SIDEWALK WIDTH IS LIMITED OR WHERE EXISTING POLES ARE CLOSE TO THE CURB.
- SIGNS SHALL BE LOCATED OUTSIDE THE CLEAR ZONE UNLESS PLACED ON A BREAKAWAY OR YIELDING SUPPORT.

\* THE 2 FT. MINIMUM OFFSET APPLIES ONLY TO STANDARD SIGNS MOUNTED ON U-POSTS. ALL STANDARD SIGNS MOUNTED ON PIPE WILL BE OFFSET A MINIMUM OF 4 FT.. RAMP DESTINATION SIGNS WILL BE OFFSET 4 FT. FROM THE SHOULDERS.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	ISSUE DATE: AUGUST 01, 2017

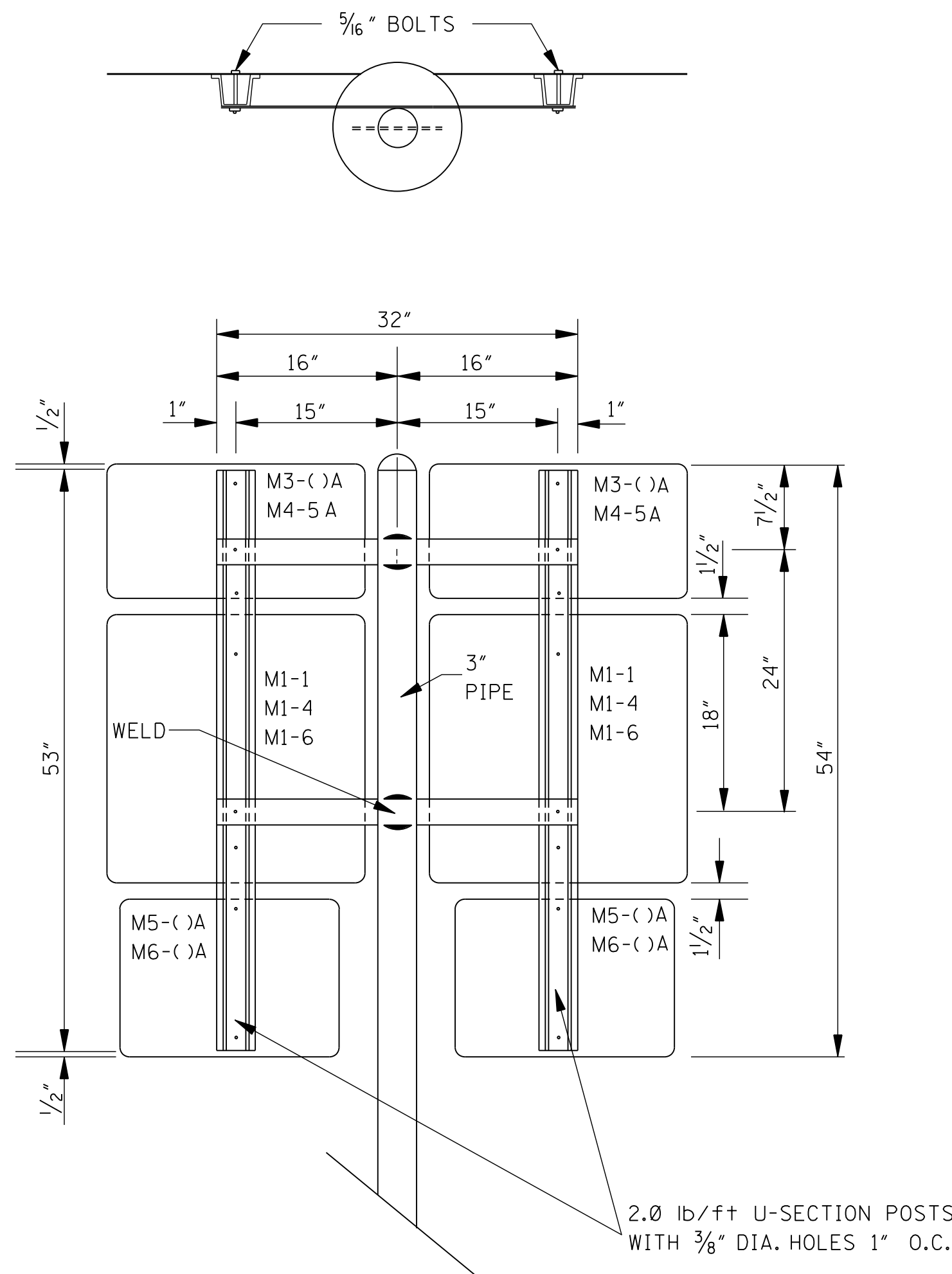
**STANDARD  
ROADSIDE SIGN  
ASSEMBLY AND  
INSTALLATION**

**MDOT**  
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

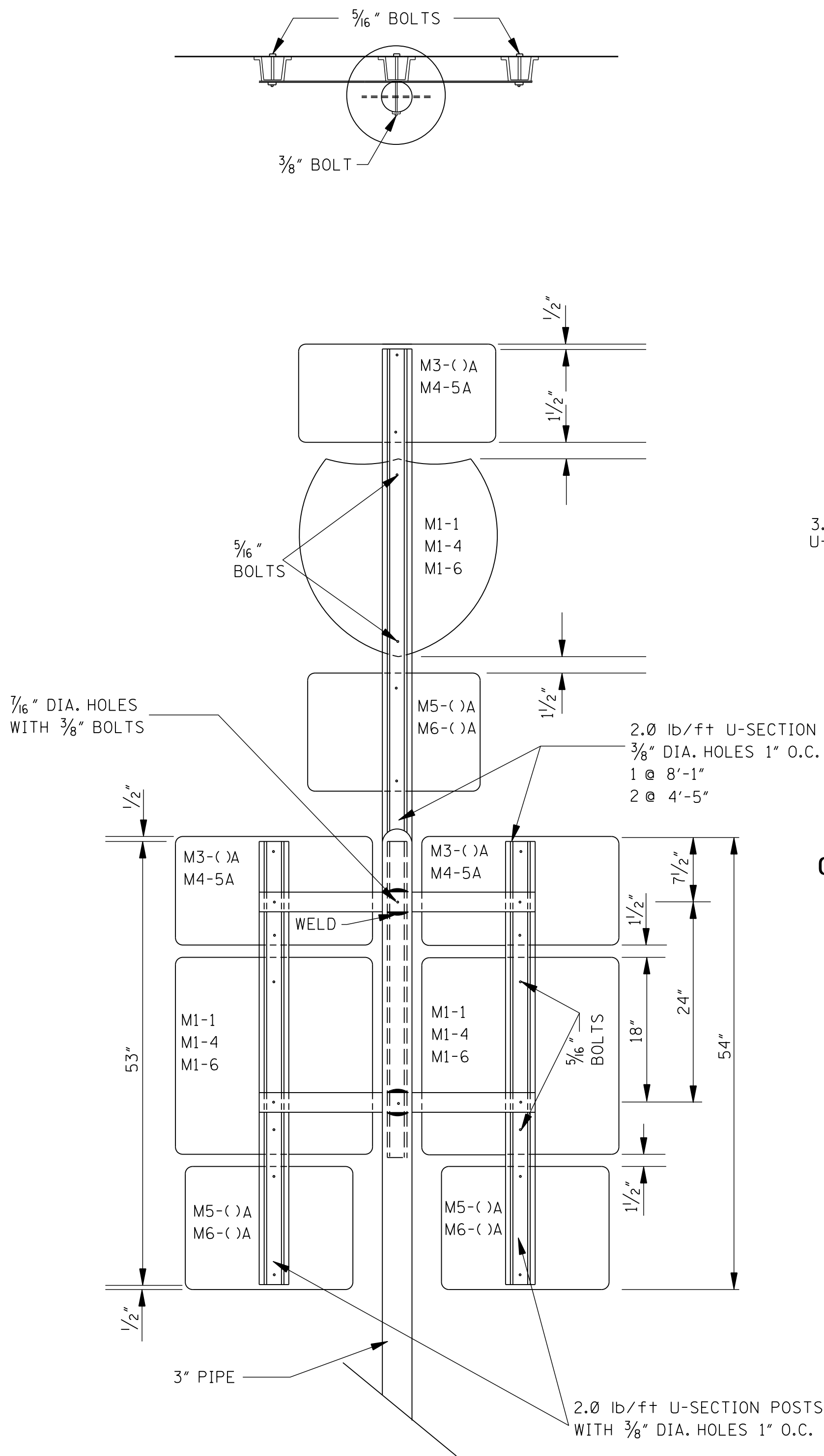
WORKING NUMBER  
SN-4

SHEET NUMBER  
6306



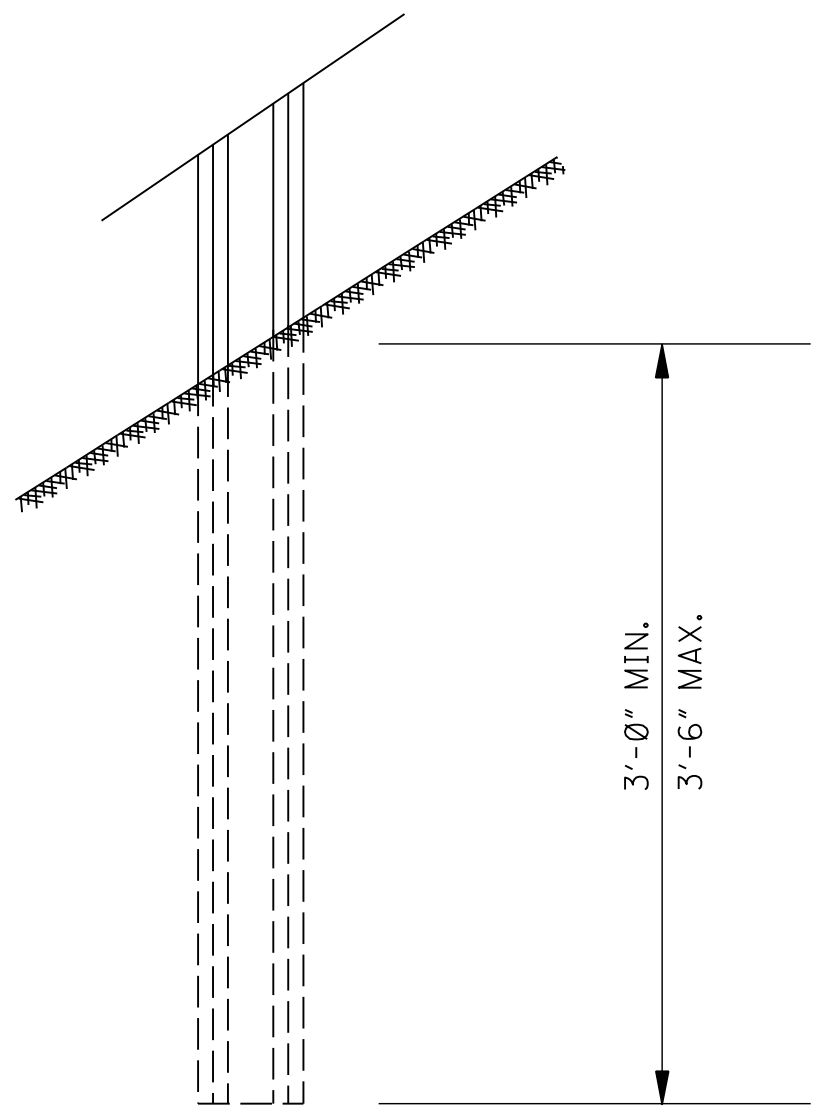


TYPICAL ROUTE ASSEMBLY



TYPICAL STACKED ROUTE ASSEMBLY

TYPICAL ASSEMBLY OF  
“FLAT TOPPED” REGULATORY  
OR WARNING SIGN MOUNTED ON  
A SINGLE U-SECTION POST



FOOTING DETAIL FOR  
U-SECTION POSTS

- GENERAL NOTES:
- UNLESS OTHERWISE SPECIFIED, HORIZONTAL BRACES ARE 7/16" X 2 1/2" X VARIABLE LENGTH FLAT STEEL BARS. BARS ARE WELDED TO PIPE AS SHOWN. WHEN FABRICATION IS COMPLETE, POST SHALL BE GALVANIZED AS PER SECTION 630 OF THE STANDARD SPECIFICATION.
  - HOLES IN FLAT BARS ARE 3/8" DIAMETER.
  - SIGNS ARE FASTENED TO FLAT BARS AND U-SECTION POST WITH 5/16" BOLTS, WITH FLAT WASHER AND LOCK-NUTS.
  - GROUND PLATE NOT REQUIRED ON U-SECTION POST.
  - SEE WK. NO. SN-4B FOR DETAIL OF 3" PIPE FOOTING DETAIL.

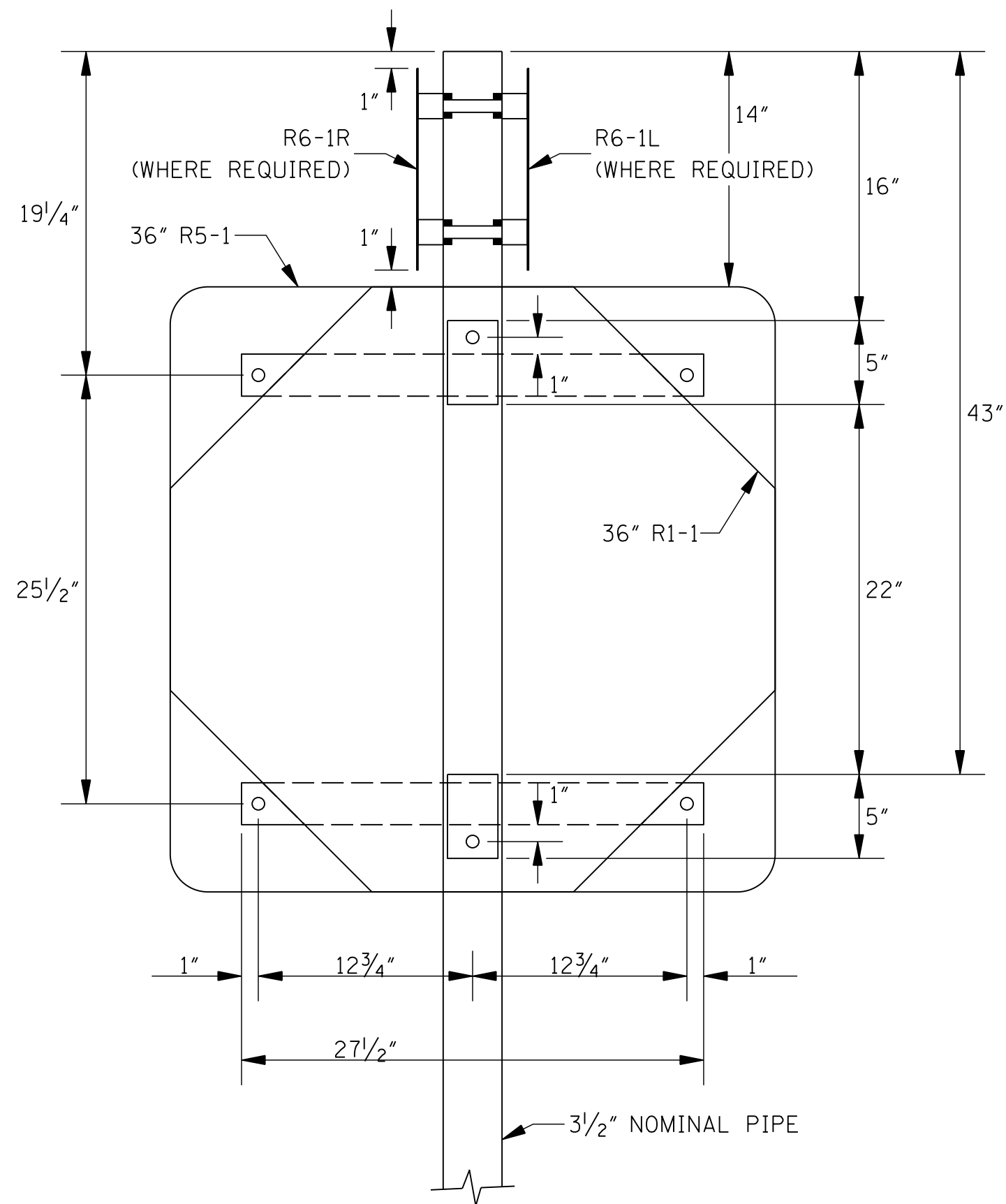
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	ISSUE DATE: AUGUST 01, 2017

**STANDARD  
ROADSIDE SIGN  
ASSEMBLY AND  
INSTALLATION**

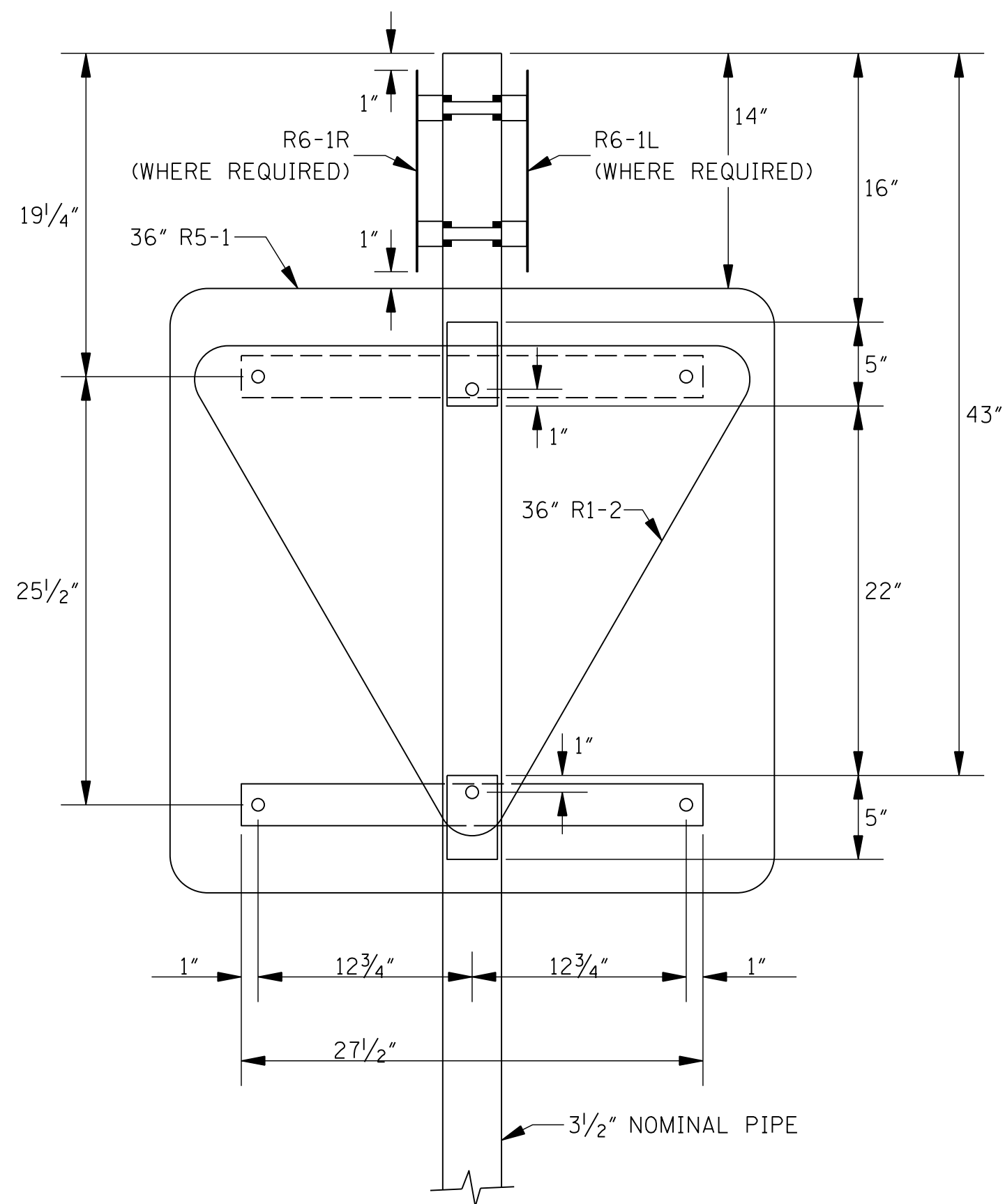
**MDOT**  
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

WORKING NUMBER  
SN-4A

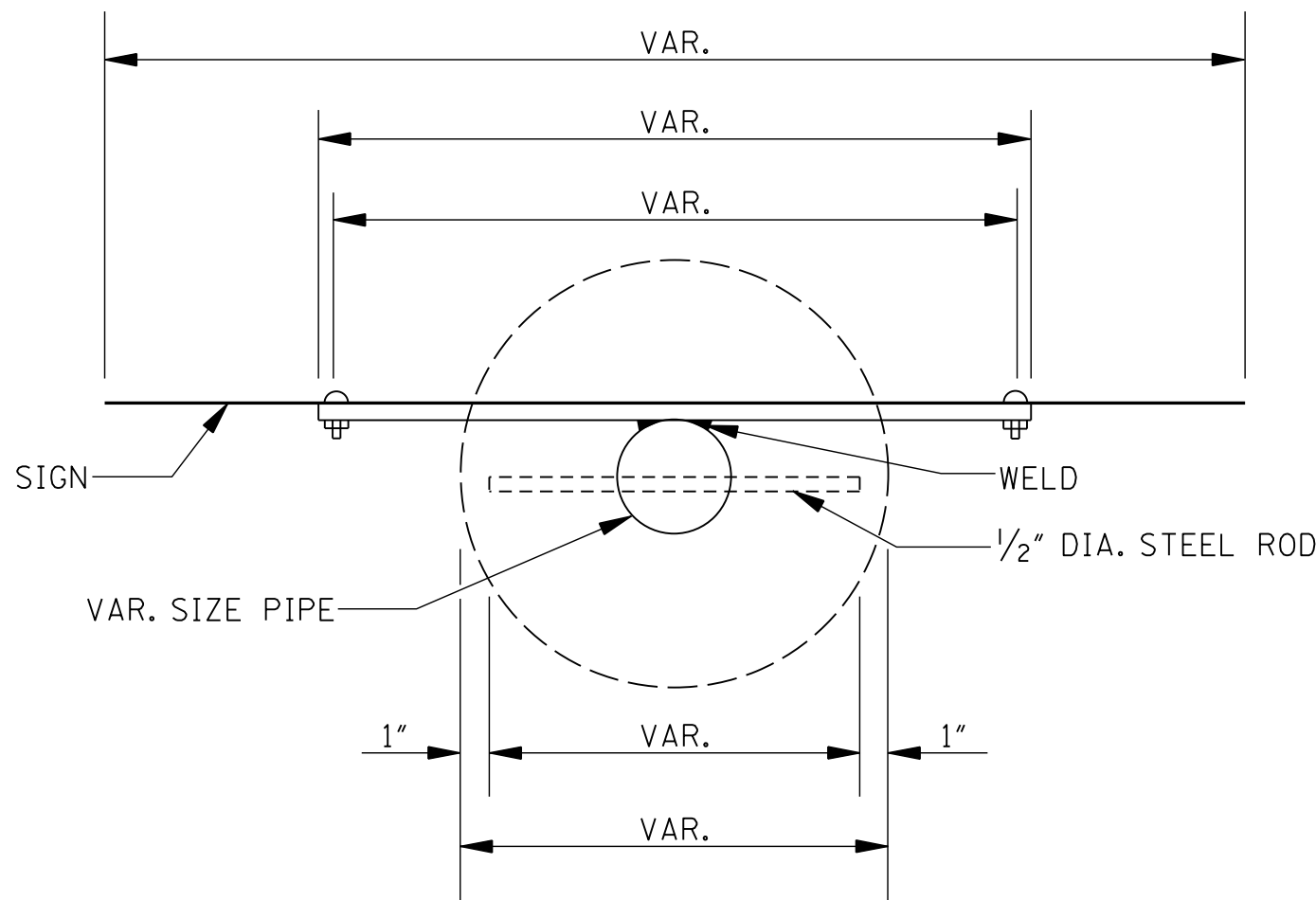
SHEET NUMBER  
6307



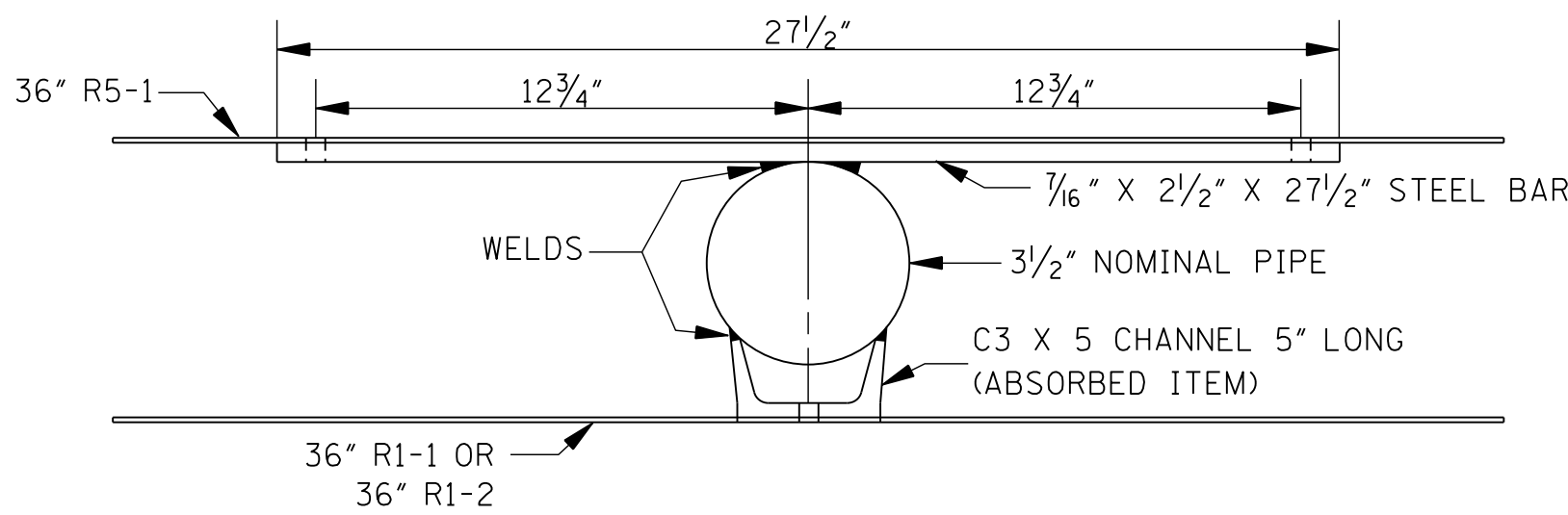
TYPICAL BACK-TO-BACK SIGN MOUNT  
SHOWING R5-1 WITH R1-1



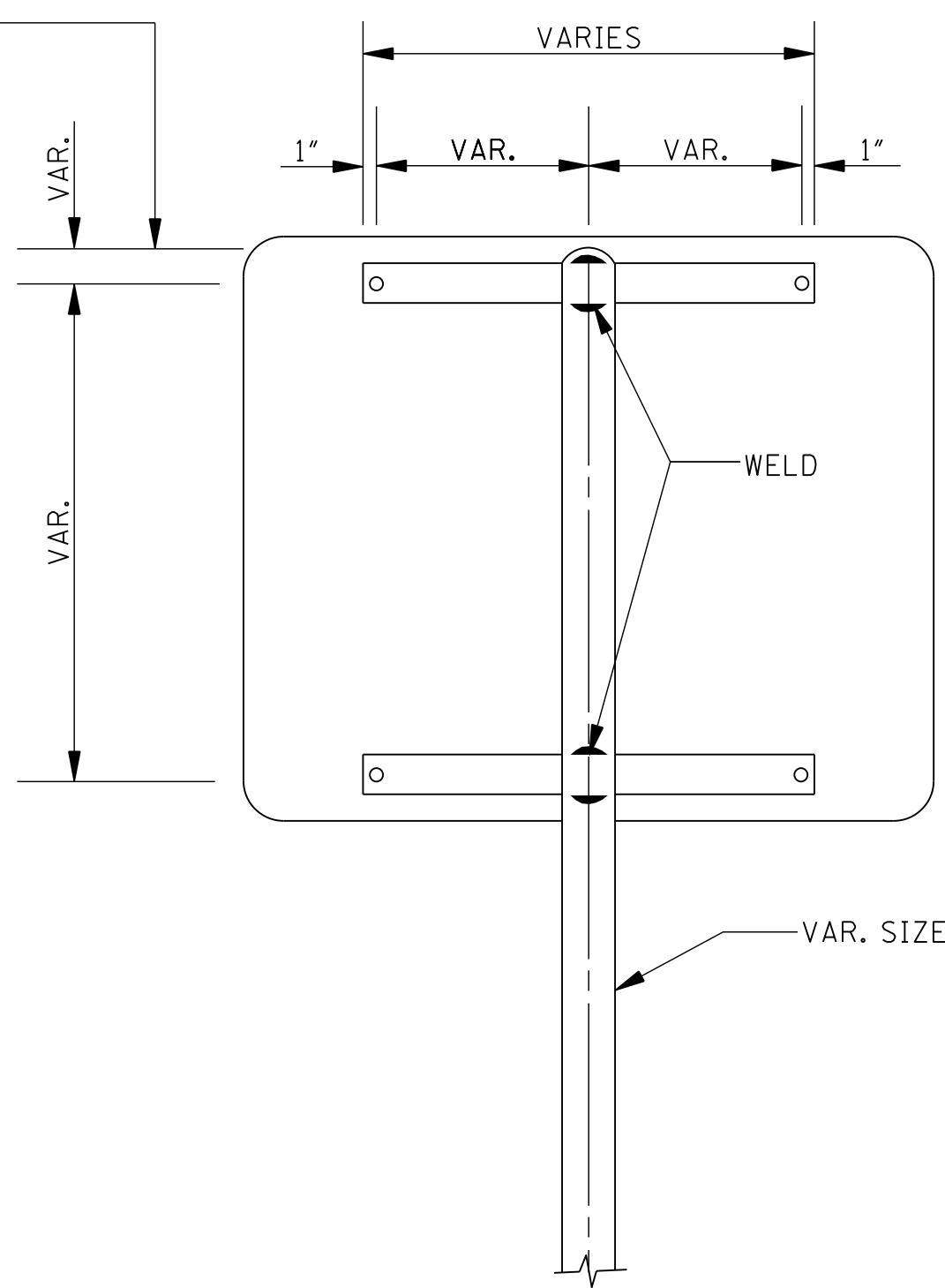
TYPICAL BACK-TO-BACK SIGN MOUNT  
SHOWING R5-1 WITH R1-2



TYPICAL PLAN VIEW



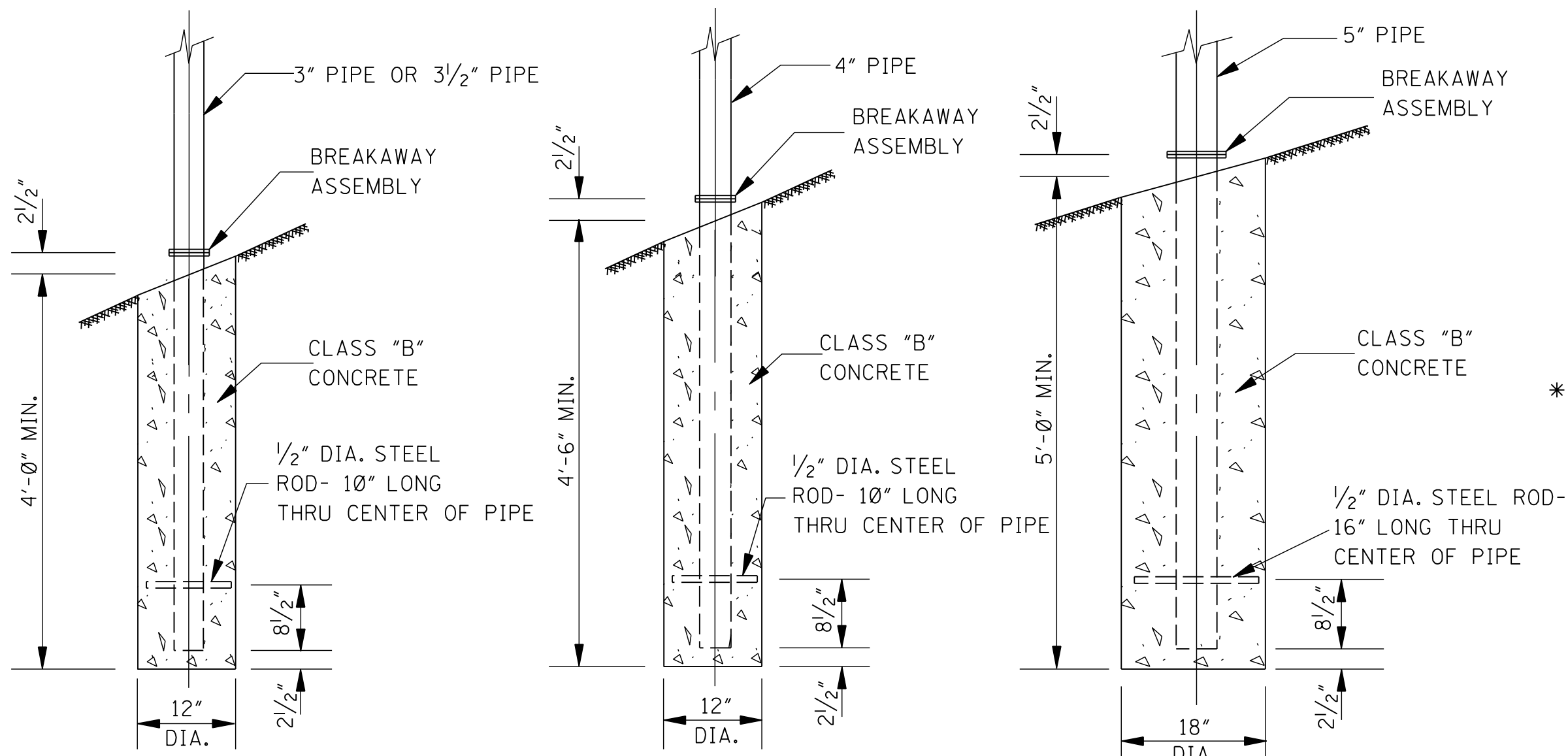
PLAN VIEW OF DOUBLE MOUNTING OF SIGNS



TYPICAL ASSEMBLY ON PIPE

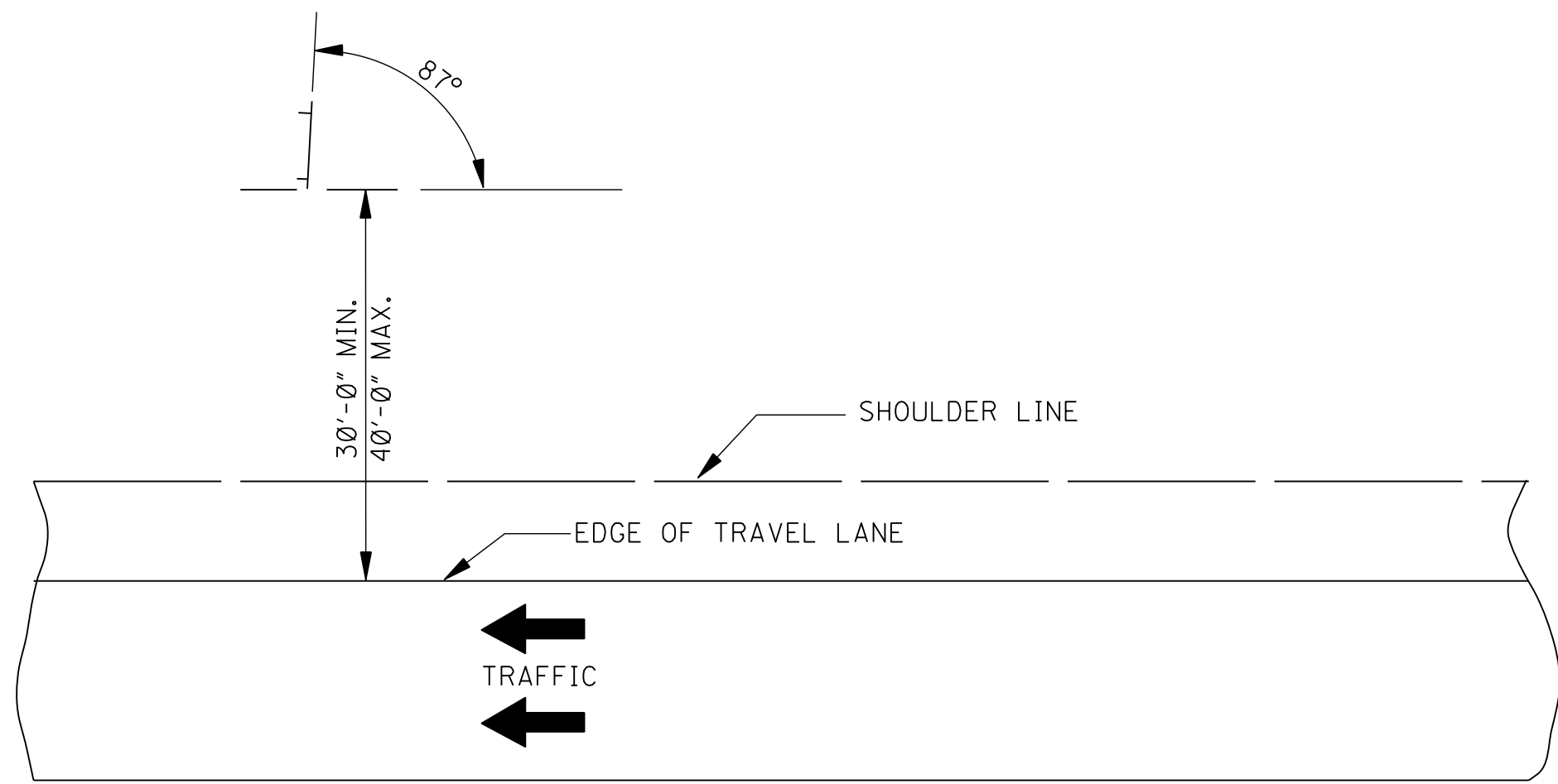
GENERAL NOTES:

- UNLESS OTHERWISE SPECIFIED, HORIZONTAL BRACES ARE 7/16" X 2 1/2" X VARIABLE LENGTH FLAT STEEL BARS. BARS ARE WELDED TO PIPE AS SHOWN. WHEN FABRICATION IS COMPLETE, POSTS SHALL BE GALVANIZED AS PER SECTION 630 OF THE STANDARD SPECIFICATION.
- HOLES IN FLAT BARS ARE 3/8" DIAMETER.
- SIGNS ARE FASTENED TO THE FLAT BARS AND U-SECTION POSTS WITH M8 BOLTS WITH FLAT WASHERS AND LOCK NUTS.
- WHERE REQUIRED, SIGNS R6-1L AND R6-1R SHALL BE MOUNTED ON PIPES WITH CLAMPS OR BUCKLE BRACKETS (NOT A PAY ITEM).
- ALL WELDS SHALL BE 3/16" FILLET.
- TOP OF POST

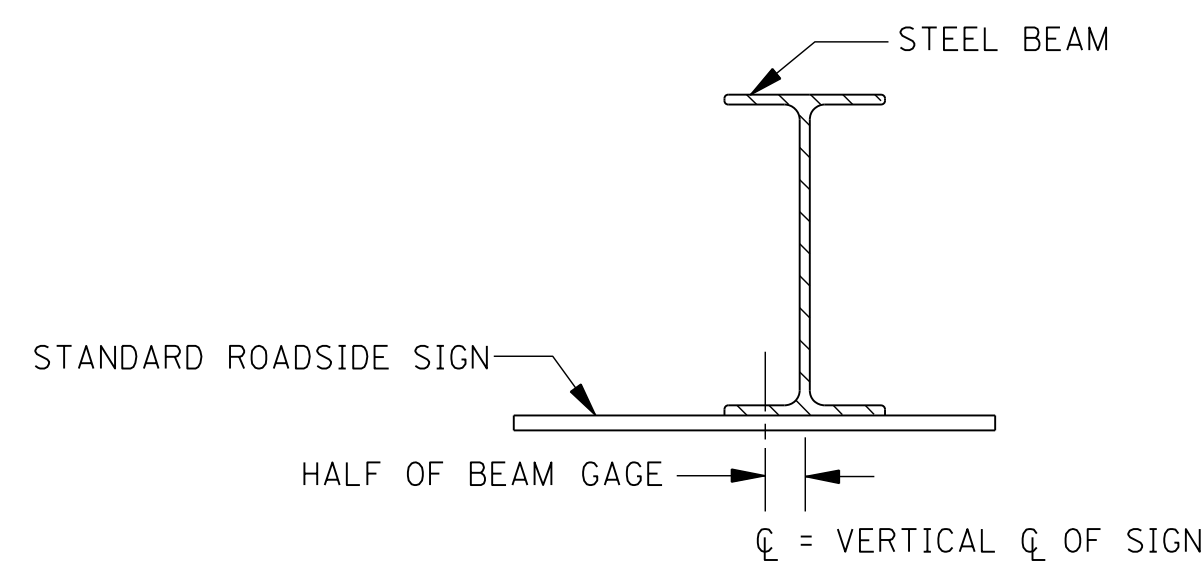


FOOTING DETAILS

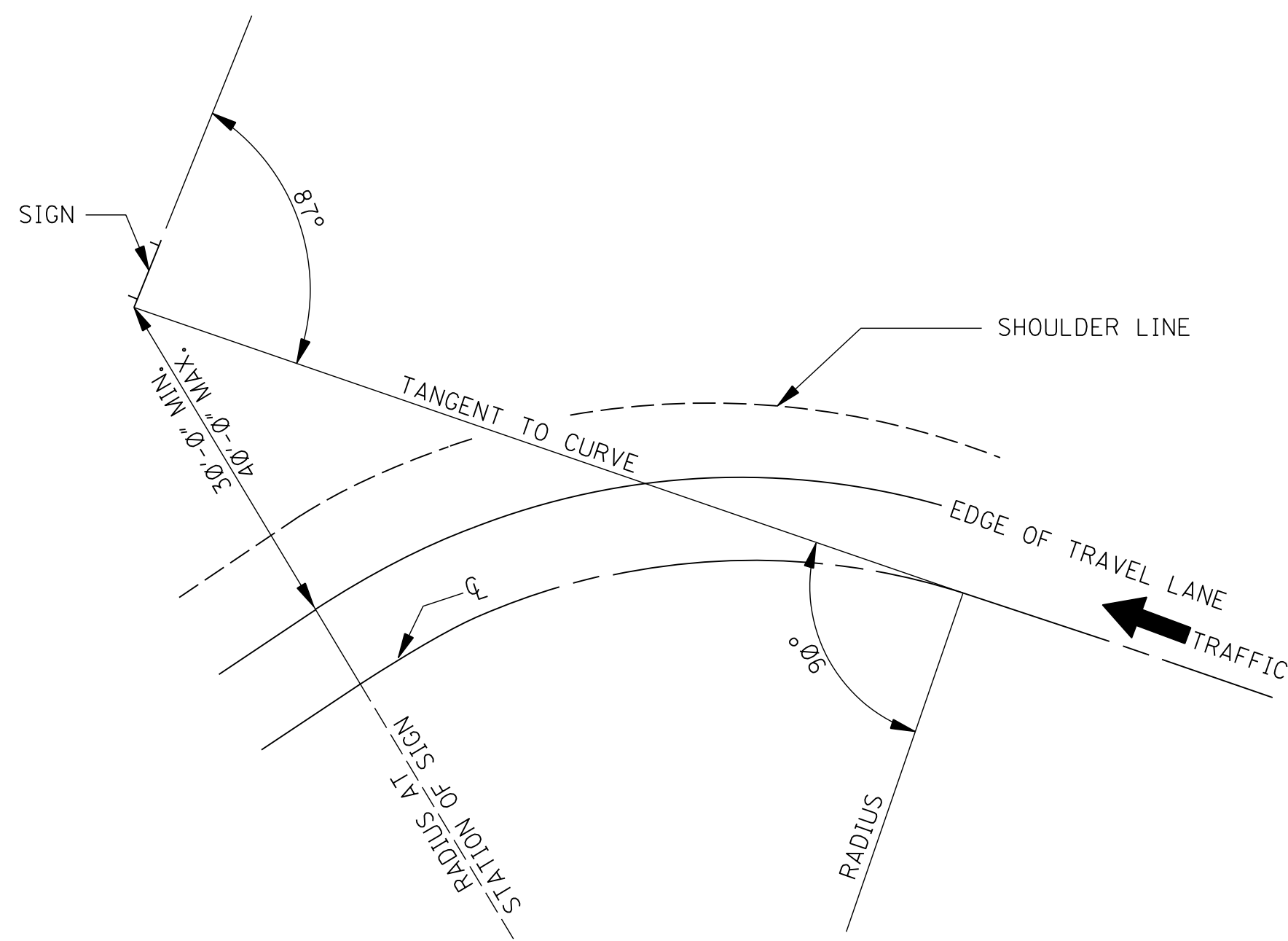
				MISSISSIPPI DEPARTMENT OF TRANSPORTATION	
				ROADWAY DESIGN DIVISION	
				STANDARD PLAN	
				<b>STANDARD ROADSIDE SIGN ASSEMBLY AND INSTALLATION</b>	
				ISSUE DATE: AUGUST 01, 2017	
				WORKING NUMBER SN-4B	
				SHEET NUMBER 6308	



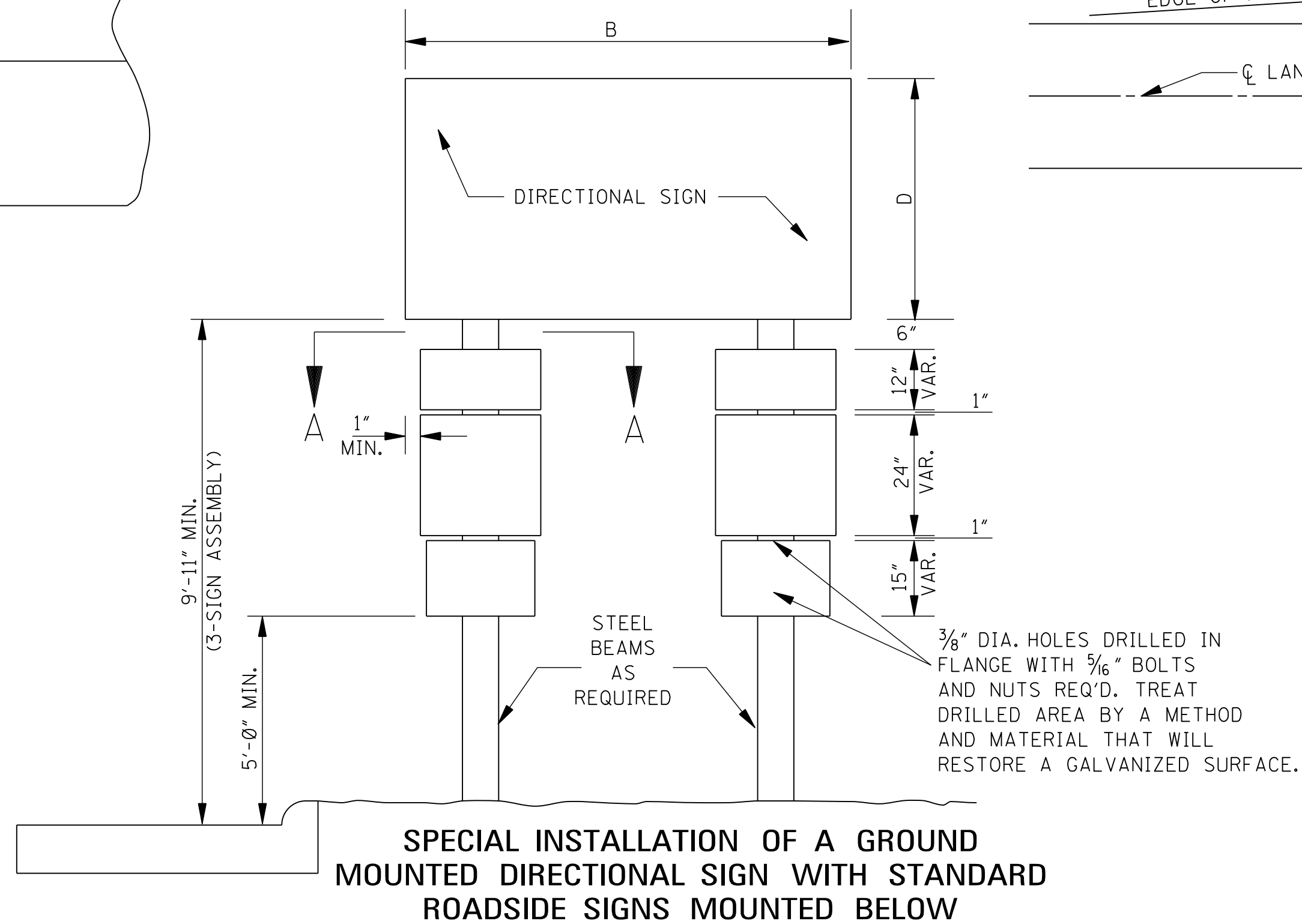
ALIGNMENT OF SIGNS FOR TANGENT SECTIONS



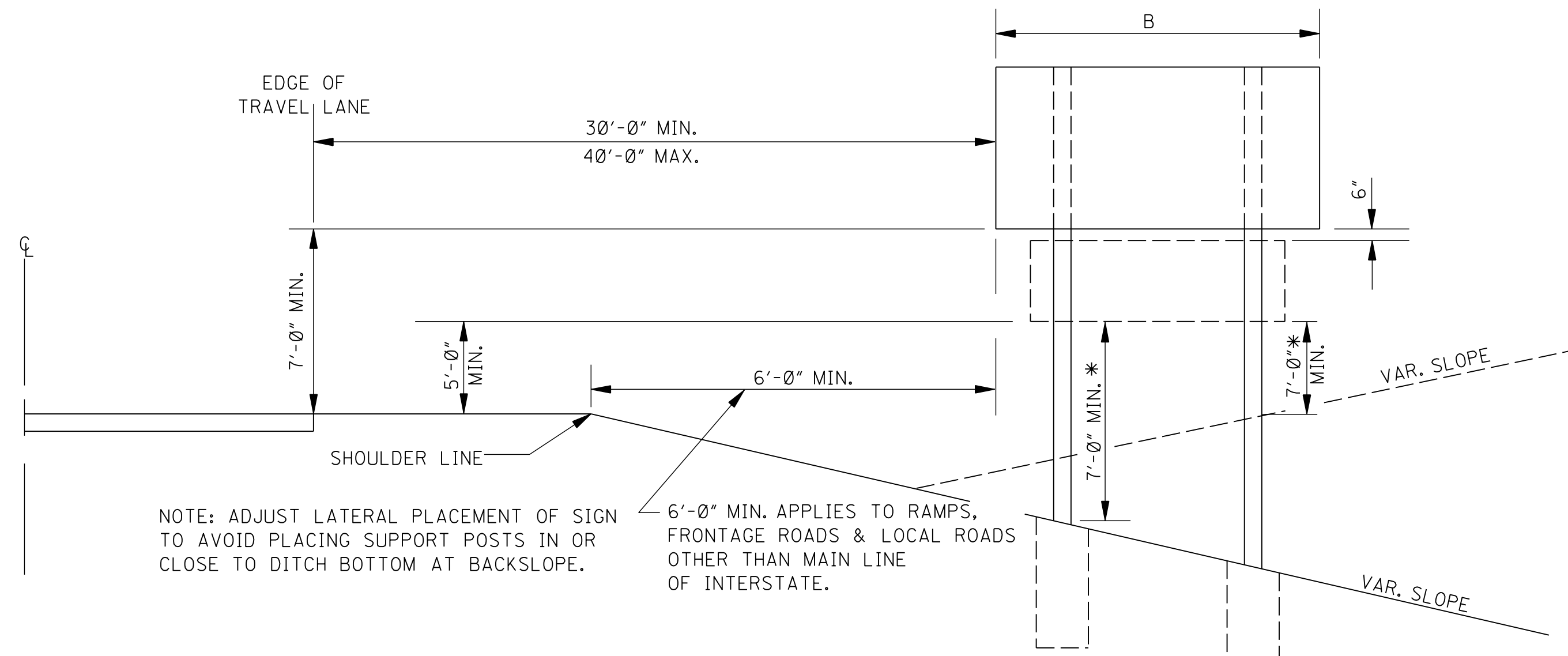
SECTION A-A



ALIGNMENT OF SIGN FOR CURVED SECTION



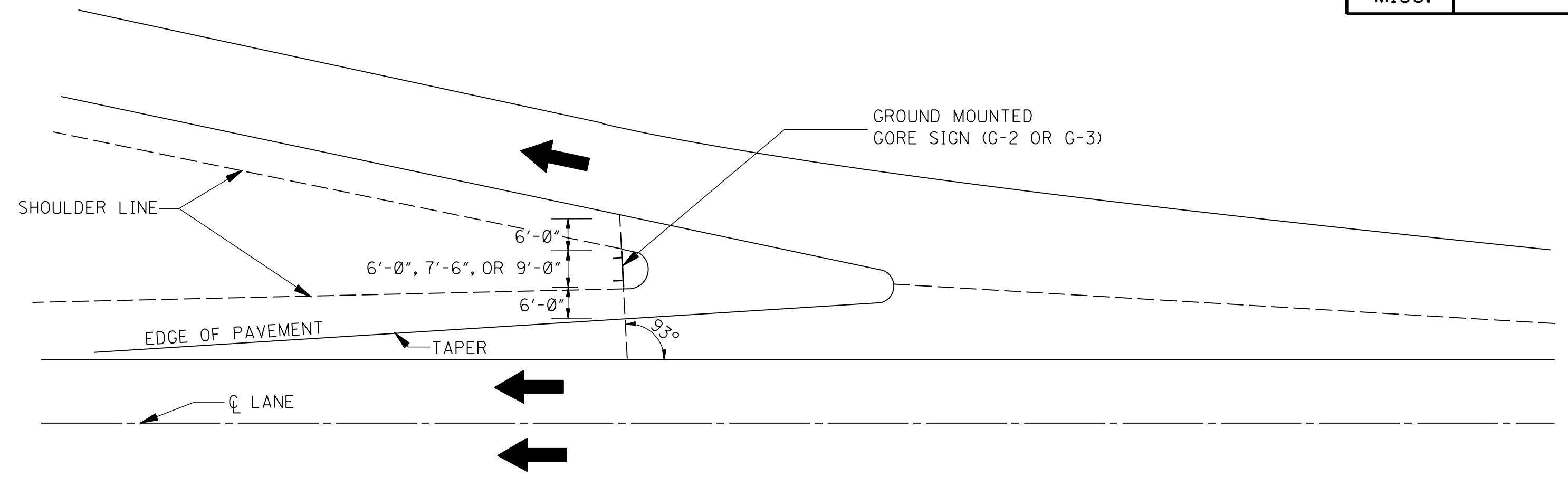
NOTE: BEFORE FINAL PLACEMENT OF SIGNS IN SHARP CURVE SECTIONS (AS IN THE CASE OF INTERCHANGE LOOPS AND RAMP), THE SIGN SHALL BE INSPECTED BY THE ENGINEER AT NIGHT TO INSURE PROPER REFLECTORIZATION OF THE SIGN. IT MAY THEN BE NECESSARY TO ADJUST THE ALIGNMENT OF THE SIGN (I.E., ORIENT THE SIGN FACE) TO AVOID OR MINIMIZE SPECULAR REFLECTION. THIS ADJUSTMENT SHOULD BE MADE WITH CARE AND UNDER THE DIRECTION OF THE ENGINEER.



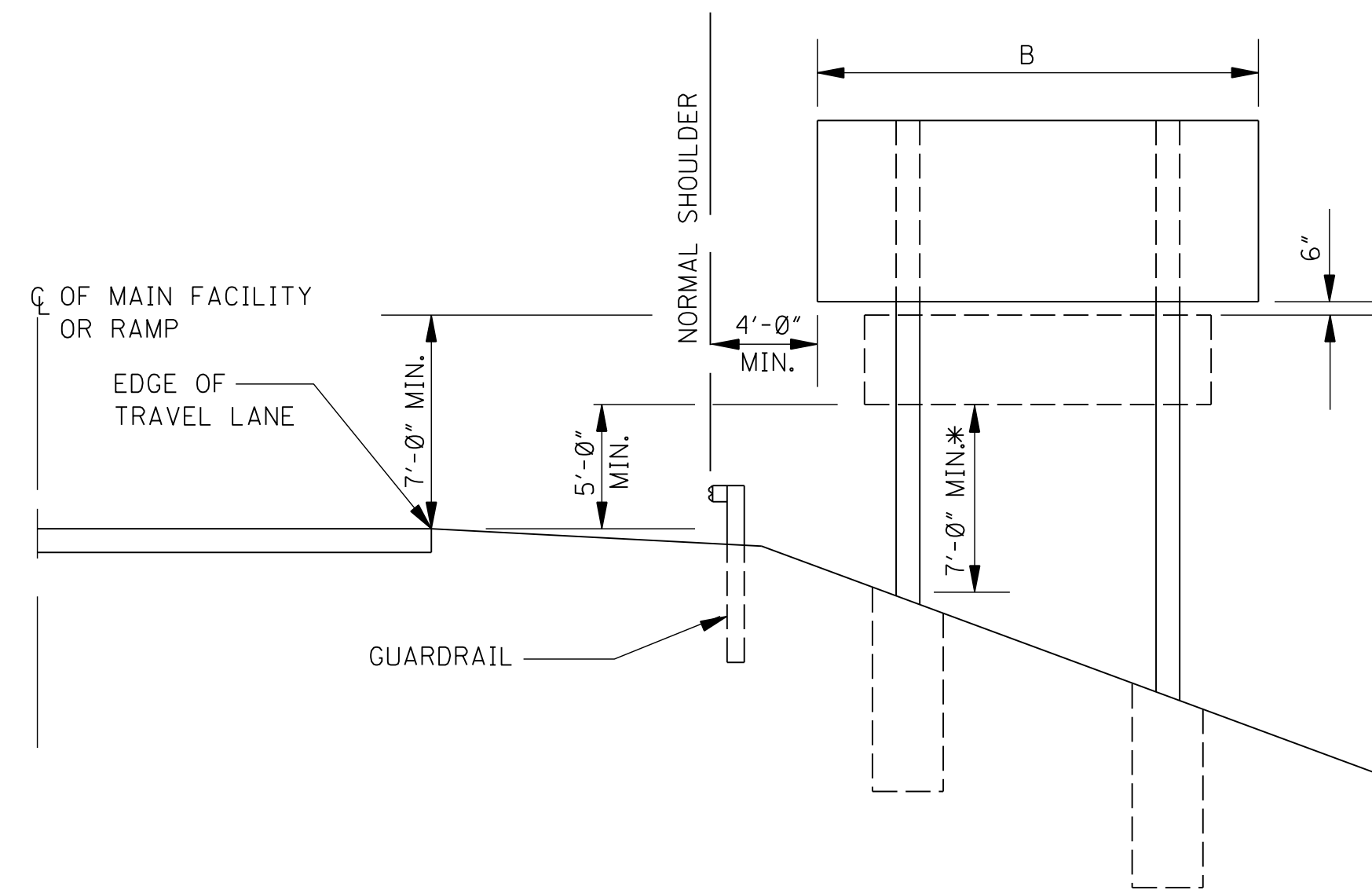
NOTE: ADJUST LATERAL PLACEMENT OF SIGN TO AVOID PLACING SUPPORT POSTS IN OR CLOSE TO DITCH BOTTOM AT BACKSLOPE.

6'-0" MIN. APPLIES TO RAMPS, FRONTAGE ROADS & LOCAL ROADS OTHER THAN MAIN LINE OF INTERSTATE.

TYPICAL INSTALLATION IN A CUT OR FILL SECTION



TYPICAL INSTALLATION OF GROUND MOUNTED GORE SIGN (G-2 OR G-3)



TYPICAL INSTALLATION IN A FILL SECTION PROTECTED BY GUARDRAIL

GENERAL NOTES:  
\* 1. 7'-0" MINIMUM FROM GROUND TO BOTTOM EDGE OF LOWEST SIGN (SHORTEST POST).

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>TYPICAL INSTALLATION OF GROUND MOUNTED DIRECTIONAL SIGNS</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					WORKING NUMBER SN-5
					SHEET NUMBER 6309

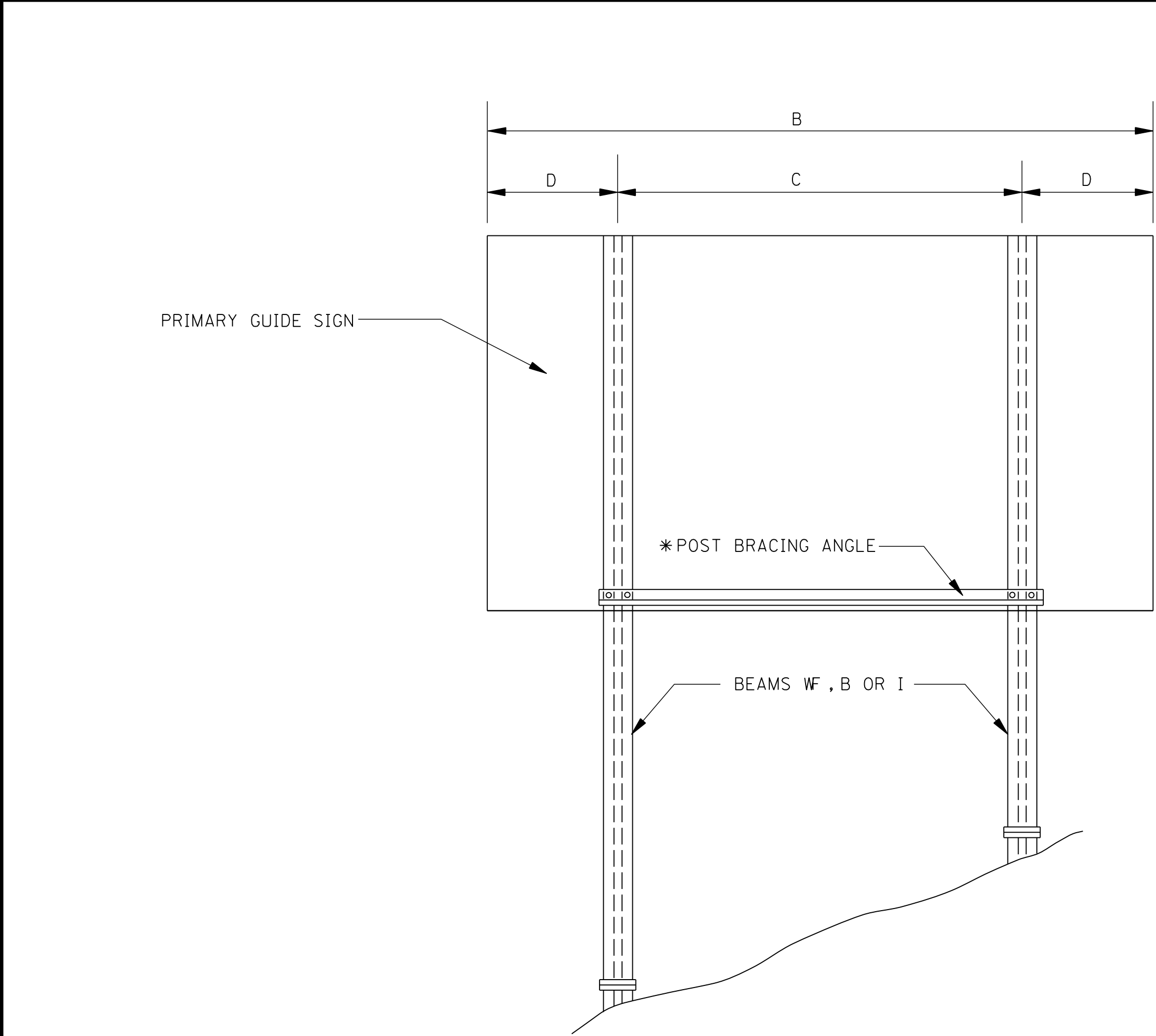
GENERAL NOTES FOR WORKING SHEETS SN-6, SN-6A AND SN-6B:

1. **FOOTING**  
ALL FOOTINGS SHALL BE CLASS "B" CONCRETE. POST STUBS SHALL BE SET IN CONCRETE FOOTING AT REQUIRED GRADE AND ALIGNMENT WITH CARE SO THAT MINIMUM SHIMMING WILL BE REQUIRED.
2. **BASE CONNECTION PROCEDURE**  
ASSEMBLE POST TO STUB WITH BOLTS AND WITH A FLAT WASHER ON EACH BOLT BETWEEN PLATES. SHIM AS REQUIRED TO PLUMB POST. TIGHTEN ALL BOLTS THE MAXIMUM POSSIBLE WITH A 12" TO 15" WRENCH TO BED WASHERS AND SHIMS AND TO CLEAN BOLT THREADS. THEN LOOSEN EACH BOLT IN TURN AND RETIGHTEN IN A SYSTEMATIC ORDER TO THE PRESCRIBED TORQUE AS SHOWN BY TABLE. BURR THREADS AT JUNCTION WITH NUT USING A CENTER PUNCH. HIGH STRENGTH BOLTS IN BASE CONNECTIONS SHALL BE TIGHTENED TO TORQUE AS SHOWN BY TABLE ON SN-6A. DO NOT OVER TIGHTEN!
3. **POST LENGTH**  
ALL POST LENGTHS SHALL BE VERIFIED AND APPROVED BY THE ENGINEER PRIOR TO FABRICATION. WHERE FIELD CONDITIONS REQUIRE THE POST LENGTH TO VARY MORE THAN 12", IT MAY BE NECESSARY TO CHANGE THE SIZE OR NUMBER OF POSTS. SUCH DETERMINATION WILL BE MADE BY THE STATE TRAFFIC ENGINEER. ANY CHANGE OF SIZE OR NUMBER OF POSTS SHALL NOT BE JUSTIFICATION FOR ANY CONTRACT PRICE ADJUSTMENTS.
4. **FABRICATOR NOTE**  
IMPORTANT- ALL FRICTION FUSE BOLTS SHALL BE TIGHTENED IN SHOP BY A METHOD APPROVED BY THE BRIDGE DESIGN ENGINEER. TIGHTENING SHALL BE TO SUCH A DEGREE AS TO PROVIDE THE MINIMUM TENSION IN EACH BOLT WHEN ALL BOLTS ARE TIGHT, AS SHOWN BY TABLE SN-6A.
5. ALL HOLES IN FUSE PLATES AND HINGE PLATES SHALL BE DRILLED.
6. ALL PLATE CUTS SHOULD BE SAW CUTS. FLAME CUTTING WILL BE PERMITTED PROVIDED ALL EDGES ARE GROUND. METAL PROJECTING BEYOND THE PLANE OF THE PLATE FACE WILL NOT BE ACCEPTABLE.
7. **WELDING FOR STEEL SIGN SUPPORTS**  
WELDING SHALL BE PERFORMED IN SHOP BY ELECTRIC ARC PROCESS.
8. **MATERIAL SPECIFICATIONS**  
THE MATERIALS USED IN THE CONSTRUCTION OF THE GROUND MOUNTED SIGN SUPPORT STRUCTURES, AS LISTED BELOW, SHALL CONFORM WITH THE REQUIREMENTS OF THE DESIGNATED ASTM SPECIFICATION. ALL OTHER MATERIALS, FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE SPECIFICATIONS, EXCEPT AS OTHERWISE NOTED ON THE PLANS.

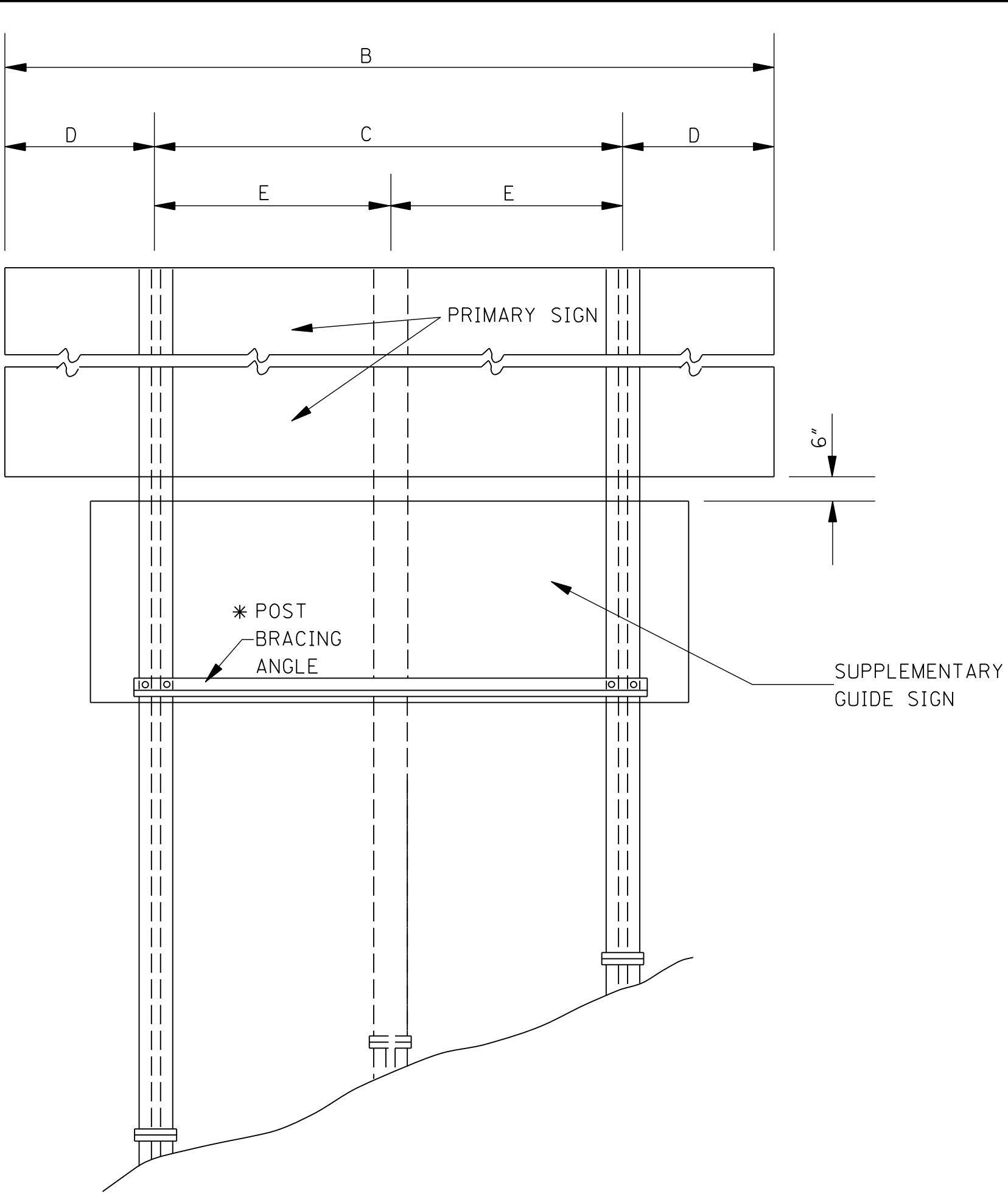
DESCRIPTION	MATERIALS PER ASTM DESIGNATION	GALVANIZE ① PER ASTM DESIGNATION
POSTS OF STEEL PIPE	A 53 (GRADE "B") ②	A 53
BASE CONNECTION PLATES FOR PIPES	A 36	A 123
POSTS OF STEEL WF, B, AND I BEAMS INCLUDING BASE CONNECTION, FUSE AND HINGE PLATES	A 588 OR A 572 GRADE 50	A 123
POST BRACING ANGLES AND FLAT BARS USED IN FABRICATION AND ERECTION OF SIGN SUPPORTS	A 36	A 123
HIGH STRENGTH BOLTS, NUTS AND WASHERS	A 325	A 153
BOLTS OTHER THAN HIGH STRENGTH ③	A 307 (GRADE "A")	A 153

- ① ALL STEEL SHALL BE GALVANIZED AFTER FABRICATION EXCEPT AS NOTED ON THE PLANS.
- ② PIPES MAY BE WELDED OR SEAMLESS.
- ③ BOLTS, WASHERS, AND NUTS USED FOR FASTENING ALUMINUM SIGN SHEETS AND PANELS SHALL BE ALUMINUM AS PER FOLLOWING TABLE.

DESCRIPTION	ASTM DESIGNATION	ALLOY
BOLTS AND WASHERS	B 209	2024-T4
PANEL BOLT NUTS	B 211	6061-T6
STOP NUTS	B 211	2017-T4



TYPICAL 2-POST INSTALLATION  
WITHOUT EXIT SIGN

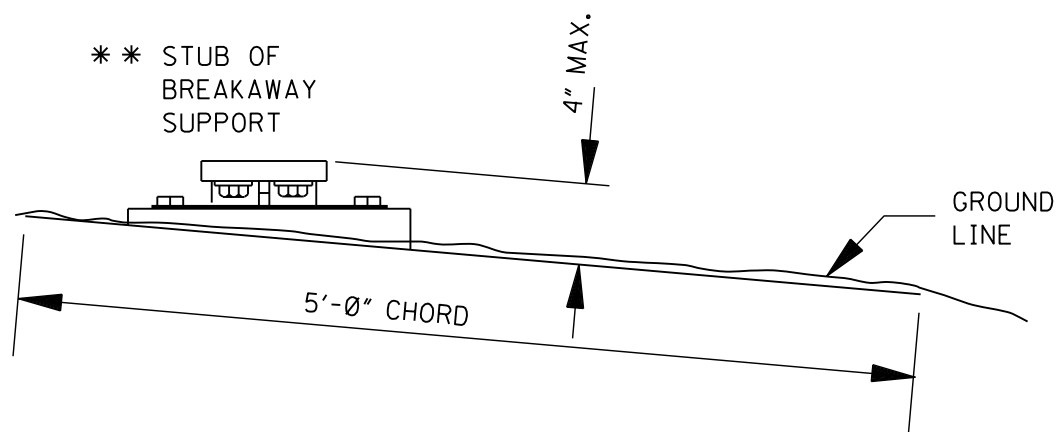


TYPICAL 2 OR 3 POST INSTALLATION  
WITH SUPPLEMENTARY GUIDE SIGN  
AND POST BRACING ANGLE LOCATION

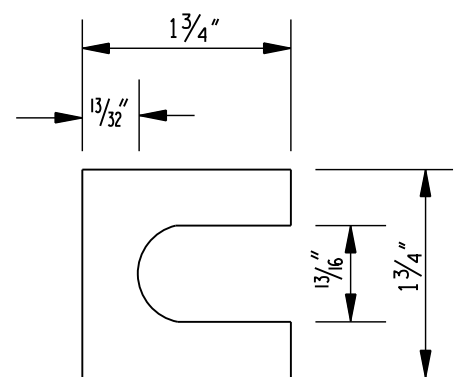
\* NOTE: PLACE POST BRACING ANGLE AT BOTTOM OF PRIMARY OR SUPPLEMENTARY SIGN WHICHEVER IS LOWER.  
(SEE "END ELEVATION OF POST AND FOOTING" ON SN-6A.)

SIGN POST SPACING TABLE									
2 POST			2 POST (CONT'D)			3 POST			
"B"	"C"	"D"	"B"	"C"	"D"	"B"	"C"	"D"	"E"
4'-0"	2'-0"	1'-0"	14'-6"	8'-9"	2'-10 1/2"	20'-0"	14'-0"	3'-0"	7'-0"
4'-6"	2'-6"	1'-0"	15'-0"	9'-0"	3'-0"	20'-6"	14'-3"	3'-1 1/2"	7'-1 1/2"
5'-0"	3'-0"	1'-0"	15'-6"	9'-3"	3'-1 1/2"	21'-0"	14'-9"	3'-1 1/2"	7'-4 1/2"
5'-6"	3'-6"	1'-0"	16'-0"	9'-6"	3'-3"	21'-6"	15'-0"	3'-3"	7'-6"
6'-0"	4'-0"	1'-0"	16'-6"	10'-0"	3'-3"	22'-0"	15'-6"	3'-3"	7'-9"
6'-6"	4'-6"	1'-0"	17'-0"	10'-3"	3'-4 1/2"	22'-6"	15'-9"	3'-4 1/2"	7'-10 1/2"
7'-0"	5'-0"	1'-0"	17'-6"	10'-6"	3'-6"	23'-0"	16'-0"	3'-6"	8'-0"
7'-6"	5'-6"	1'-0"	18'-0"	10'-9"	3'-7 1/2"	23'-6"	16'-6"	3'-6"	8'-3"
8'-0"	6'-0"	1'-0"	18'-6"	11'-0"	3'-9"	24'-0"	16'-9"	3'-7 1/2"	8'-4 1/2"
8'-6"	6'-6"	1'-0"	19'-0"	11'-6"	3'-9"	24'-6"	17'-3"	3'-7 1/2"	8'-7 1/2"
9'-0"	7'-0"	1'-0"	19'-6"	11'-9"	3'-10 1/2"	25'-0"	17'-6"	3'-9"	8'-9"
9'-6"	7'-6"	1'-3"	20'-0"	12'-0"	4'-0"	25'-6"	17'-9"	3'-10 1/2"	8'-10 1/2"
10'-0"	7'-0"	1'-6"	20'-6"	12'-3"	4'-1 1/2"	26'-0"	18'-3"	3'-10 1/2"	9'-1 1/2"
10'-6"	7'-0"	1'-9"	21'-0"	12'-6"	4'-3"	26'-6"	18'-6"	4'-0"	9'-3"
11'-0"	7'-0"	2'-0"	21'-6"	13'-0"	4'-3"	27'-0"	19'-0"	4'-0"	9'-6"
11'-6"	7'-0"	2'-3"	22'-0"	13'-3"	4'-4 1/2"	27'-6"	19'-3"	4'-1 1/2"	9'-7 1/2"
12'-0"	7'-3"	2'-4 1/2"	22'-6"	13'-6"	4'-6"	28'-0"	19'-6"	4'-3"	9'-9"
12'-6"	7'-6"	2'-6"	23'-0"	13'-9"	4'-7 1/2"	28'-6"	20'-0"	4'-3"	10'-0"
13'-0"	7'-9"	2'-7 1/2"	23'-6"	14'-0"	4'-9"	29'-0"	20'-3"	4'-4 1/2"	10'-1 1/2"
13'-6"	8'-0"	2'-9"	24'-0"	14'-6"	4'-9"	29'-6"	20'-6"	4'-6"	10'-3"
14'-0"	8'-6"	2'-9"				30'-0"	21'-0"	4'-6"	10'-6"





BREAKAWAY SUPPORT STUD  
CLEARANCE DIAGRAM



SHIM DETAIL  
NOTE: FURNISH 2-0.012" ± THICK AND 2-0.032" ± THICK SHIMS PER POST. SHIMS SHALL BE FABRICATED FROM BRASS SHIM STOCK OR STRIP CONFORMING TO ASTM B 36.

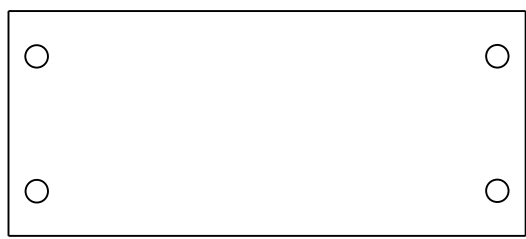
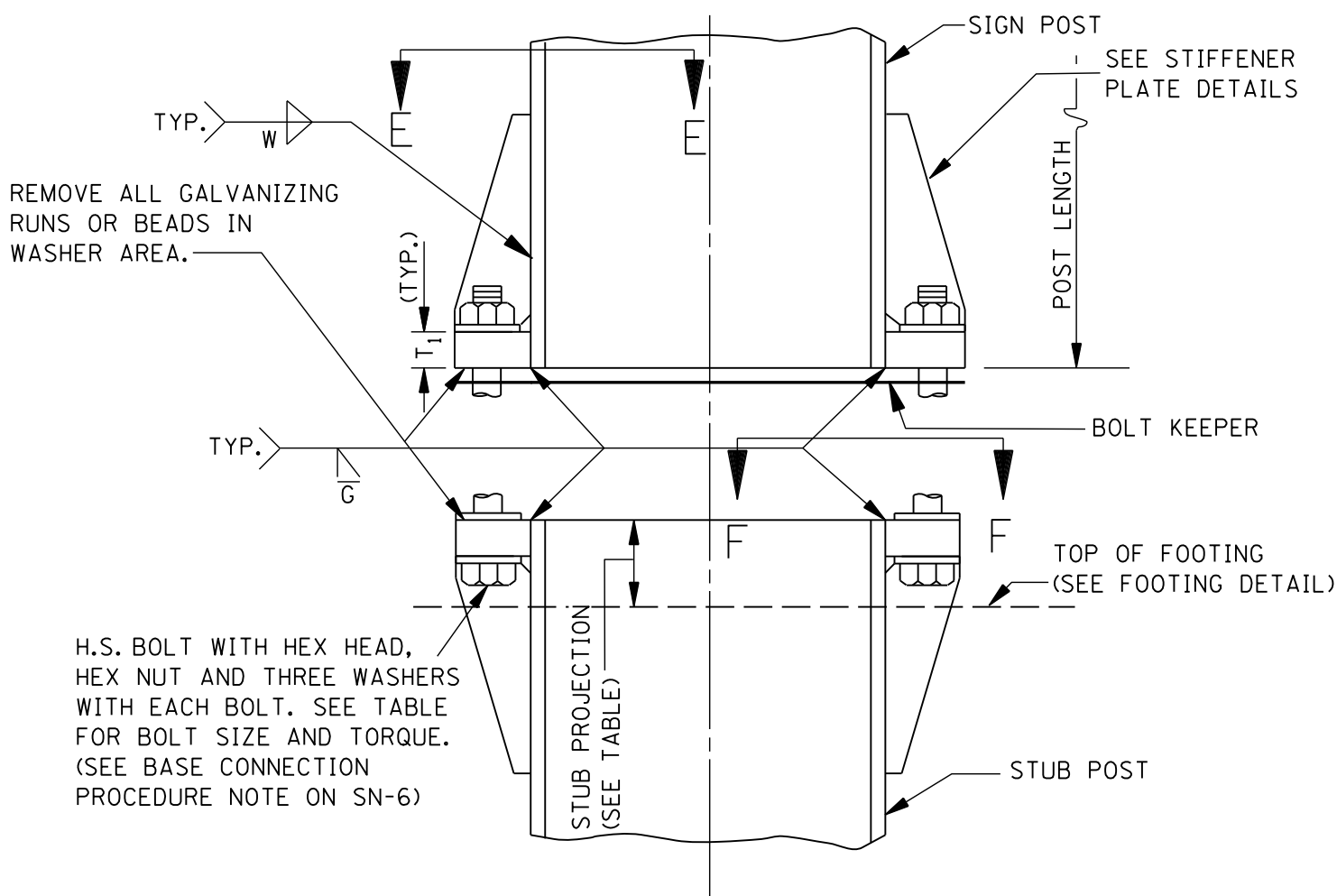
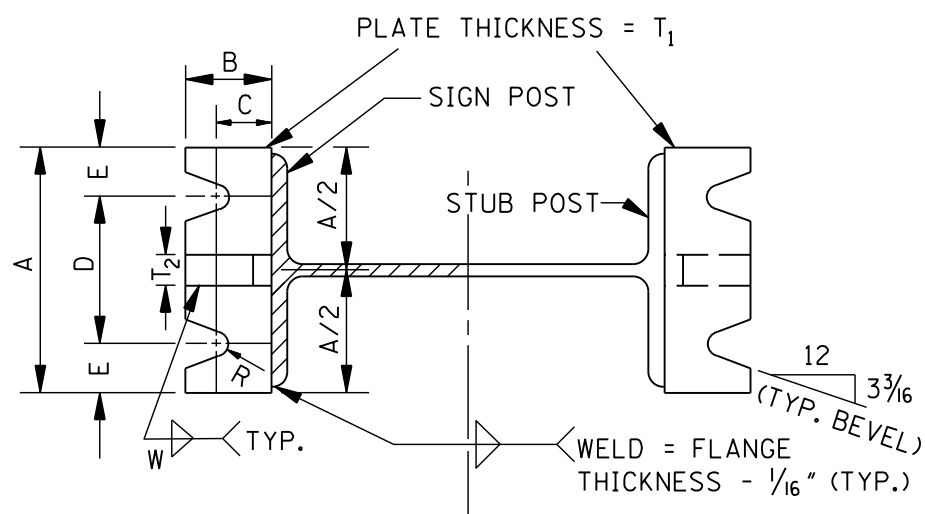


DIAGRAM OF  
"BOLT KEEPER"

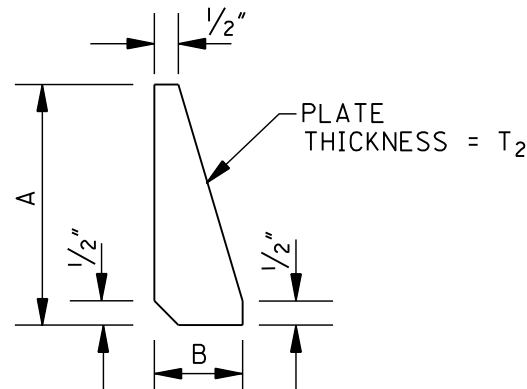
NOTE: FABRICATED FROM 28 GAGE GALVANIZED STEEL. REQUIRED BETWEEN BASE P AND STUB POST P. DIMENSIONED AS REQUIRED FOR EACH INSTALLATION.



BASE CONNECTION DETAILS  
FOR W SHAPED POSTS

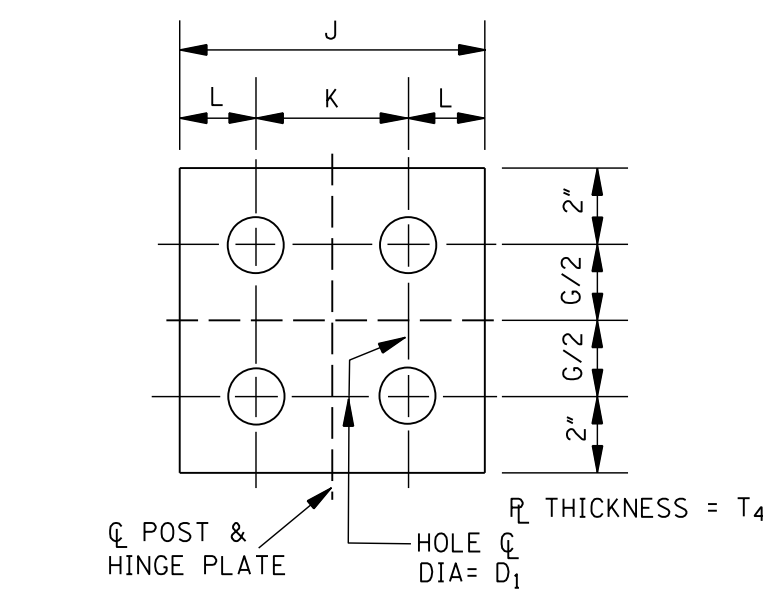


SECTION E-E SECTION F-F  
NOTE: SEE TABLE FOR DIMENSIONS



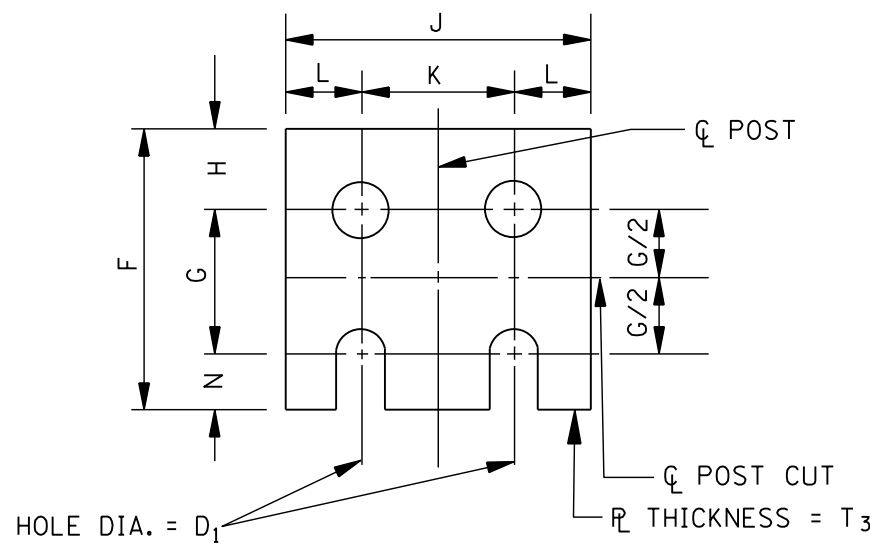
STIFFENER PLATE DETAIL

NOTE: SEE TABLE FOR DIMENSIONS



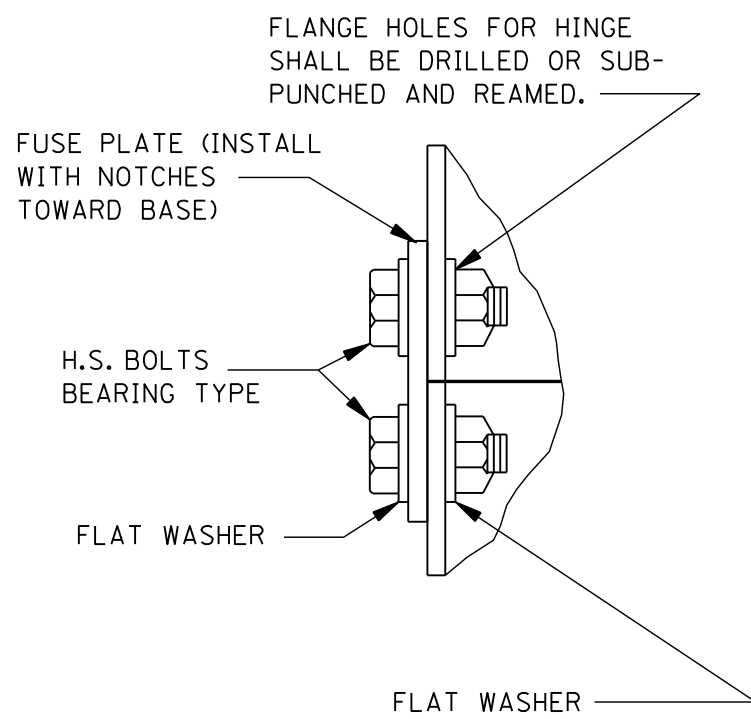
HINGE PLATE

NOTE: INSTALLATION SIMILAR TO DETAIL "A", FUSE PLATE.



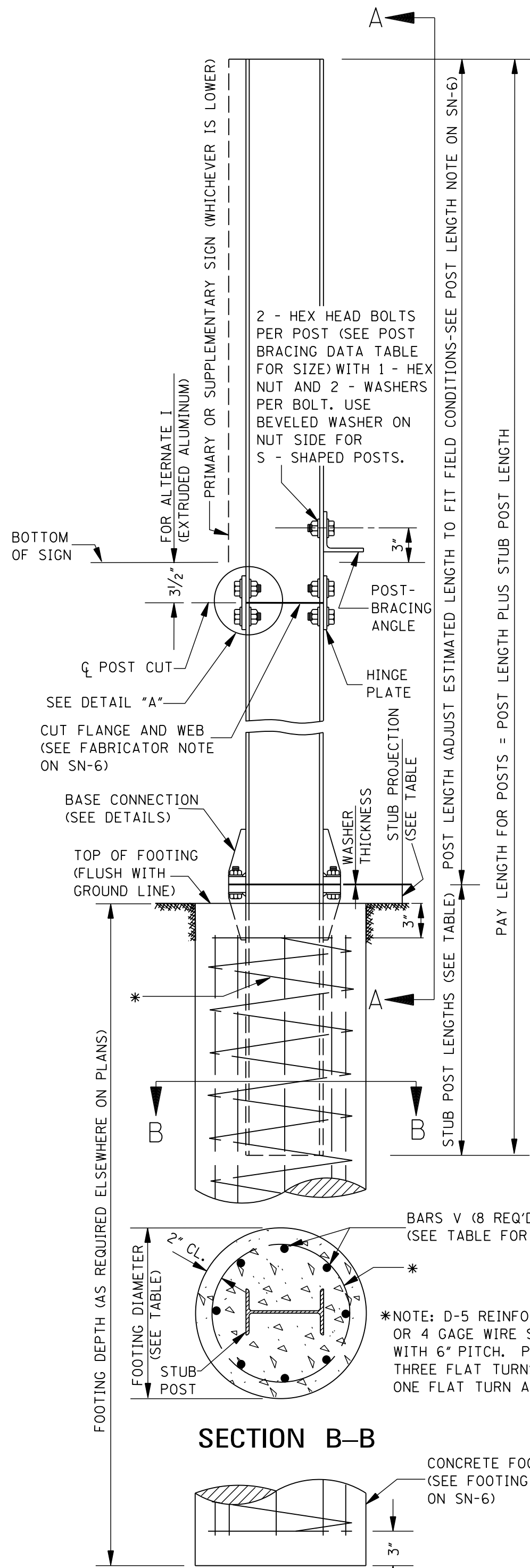
FUSE PLATE DETAIL

NOTE: SEE TABLE FOR DIMENSIONS. USE H.S. BOLTS WITH HEX HEAD, HEX NUTS, ONE FLAT WASHER UNDER EACH BOLT HEAD AND BEVEL OR FLAT WASHERS (WHERE REQUIRED) UNDER NUTS.

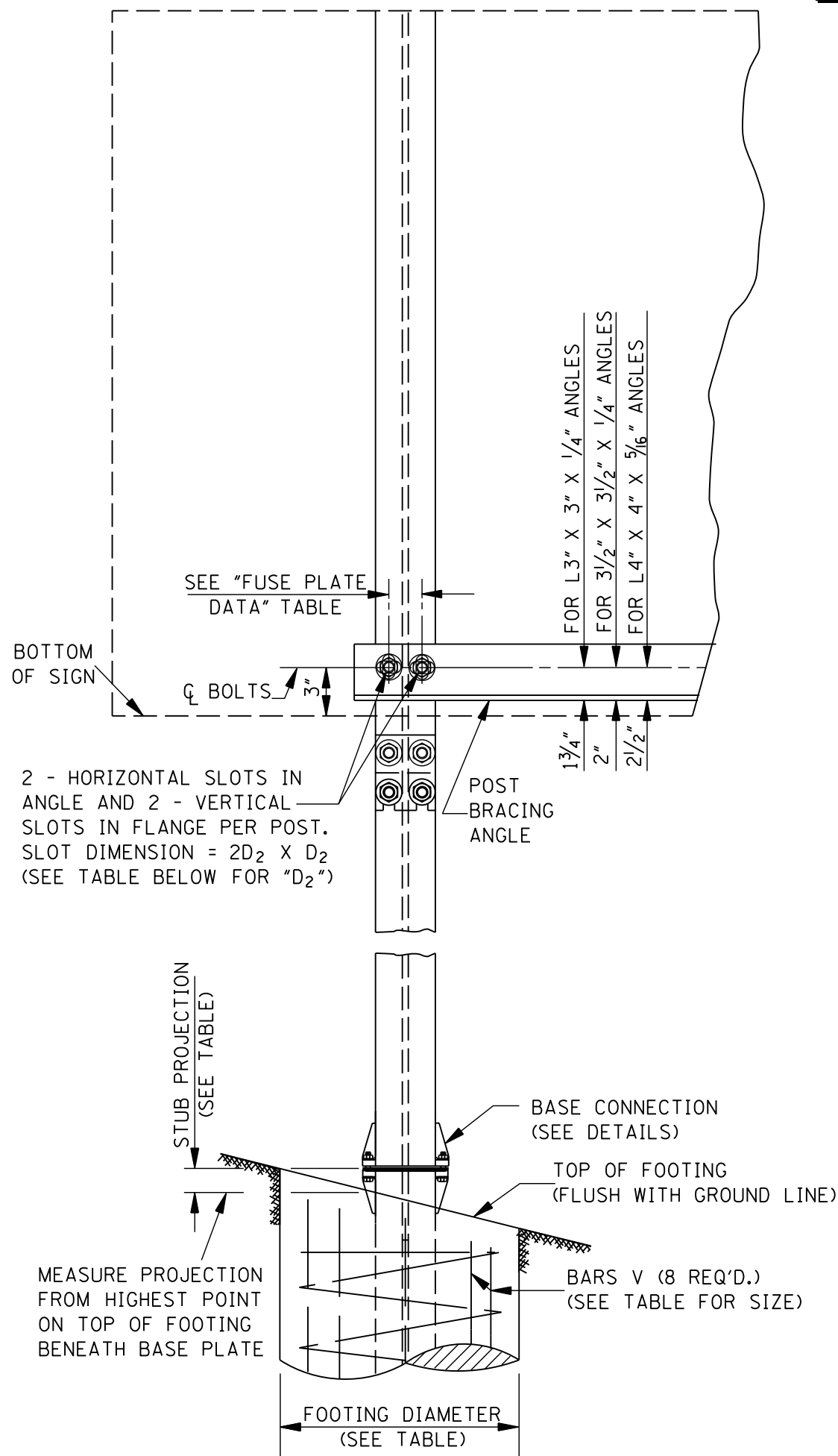


DETAIL "A", FUSE PLATE

NOTE: SEE FABRICATOR NOTE ON SN-6.



END ELEVATION OF POST  
AND FOOTING



SECTION A-A

GENERAL NOTE:  
1. SEE SN-6 FOR GENERAL NOTES.

POST BRACING DATA				
POST SIZE DESCRIPTION	W12 X 26	W8 X 21	W6 X 9	
	W10 X 26 W10 X 22	W8 X 18 W6 X 15	W6 X 12	
BOLT SIZE	7/8" X 2 1/4"	3/4" X 2"	1/2" X 1 3/4"	
ANGLE LENGTH	D2 15/16" Z + 9"	13/16" Z + 8"	7/16" Z + 6"	
ANGLE SIZE FOR POST SPACING OF	0'-9'	L4" X 4" X 5/16"	L3 1/2" X 3 1/2" X 1/4"	L3" X 3" X 1/4"
	9'-11'	L4" X 4" X 5/16"	L3 1/2" X 3 1/2" X 1/4"	L3 1/2" X 3 1/2" X 1/4"
	11'-18'	L4" X 4" X 5/16"	L4" X 4" X 5/16"	L4" X 4" X 5/16"

NOTE: Z = DISTANCE BETWEEN C'S OF EXTERIOR POSTS.

BASE CONNECTION DATA											FUSE PLATE DATA											FOOTING DATA					
DIMENSION POST SIZE	BOLT SIZE & TORQUE	A	B	C	D	E	T <sub>1</sub>	T <sub>2</sub>	W	R	F	G	H	J	K	L	N	D <sub>1</sub>	T <sub>3</sub>	BOLT SIZE (DIA. X LENGTH)	MIN. BOLT TENSION (lbs)	T <sub>4</sub>	STUB LENGTH	STUB ** PROJECTION	FOOTING DIAMETER	BARS V SIZE	FOOTING *** DEPTH
W6 X 9	5/8" X 2 3/4" LONG TORQUE 300 in·lbs	5"	2"	1 1/4"	2 3/4"	1 1/8"	3/4"	1/2"	1/4"	11/32"	3 5/8"	2"	1 1/8"	4"	2 1/4"	7/8"	1/2"	9/16"	1/4"	1/2" X 1 1/2"	12,050	1/4"	2'-0"	3"	2'-0"	#4	SEE NOTE BELOW
W6 X 12											3 3/4"	2"	1 1/8"	4"	2 1/4"	7/8"	5/8"	1/16"	3/8"	5/8" X 2"	19,200	3/8"	2'-0"	3"	2'-0"	#5	SEE NOTE BELOW
W6 X 15											4 1/2"	2 1/2"	1 1/4"	6"	3 1/2"	1 1/4"	3/4"	13/16"	1/2"	3/4" X 2 1/4"	28,400	3/8"	2'-6"	3"	2'-0"	#6	SEE NOTE BELOW
W8 X 18											4 1/2"	2 1/2"	1 1/4"	5 1/4"	2 3/4"	1 1/4"	3/4"	13/16"	1/2"	3/4" X 2 1/4"	28,400	3/8"	2'-6"	3"	2'-0"	#7	SEE NOTE BELOW
W8 X 21	3/4" X 3 1/2" LONG TORQUE 500 in·lbs	6"	2 1/4"	1 3/8"	3 1/2"	1 1/4"	1"	3/4"	5/16"	13/32"	4 7/8"	2 1/2"	1 1/2"	5 1/4"	2 3/4"	1 1/4"	7/8"	15/16"	9/16"	7/8" X 2 1/2"	39,250	3/8"	3'-0"	2 1/2"	2'-0"	#8	SEE NOTE BELOW
W10 X 22											5 3/8"	3"	1 1/2"	5 3/4"	2 3/4"	1 1/2"	7/8"	15/16"	9/16"	7/8" X 2 1/2"	39,250	3/8"	3'-0"	2 1/2"	2'-0"	#9	SEE NOTE BELOW
W10 X 26											5 3/8"	3"	1 1/2"	5 3/4"	2 3/4"	1 1/2"	7/8"	15/16"	9/16"	7/8" X 2 1/2"	39,250	7/16"	3'-0"	2 1/2"	2'-0"	#10	SEE NOTE BELOW
W12 X 26											5 3/8"	3"	1 1/2"	6 1/2"	3 1/2"	1 1/2"	7/8"	15/16"	9/16"	7/8" X 2 1/2"	39,250	3/8"	3'-0"	2 1/2"	2'-0"	#11	SEE NOTE BELOW

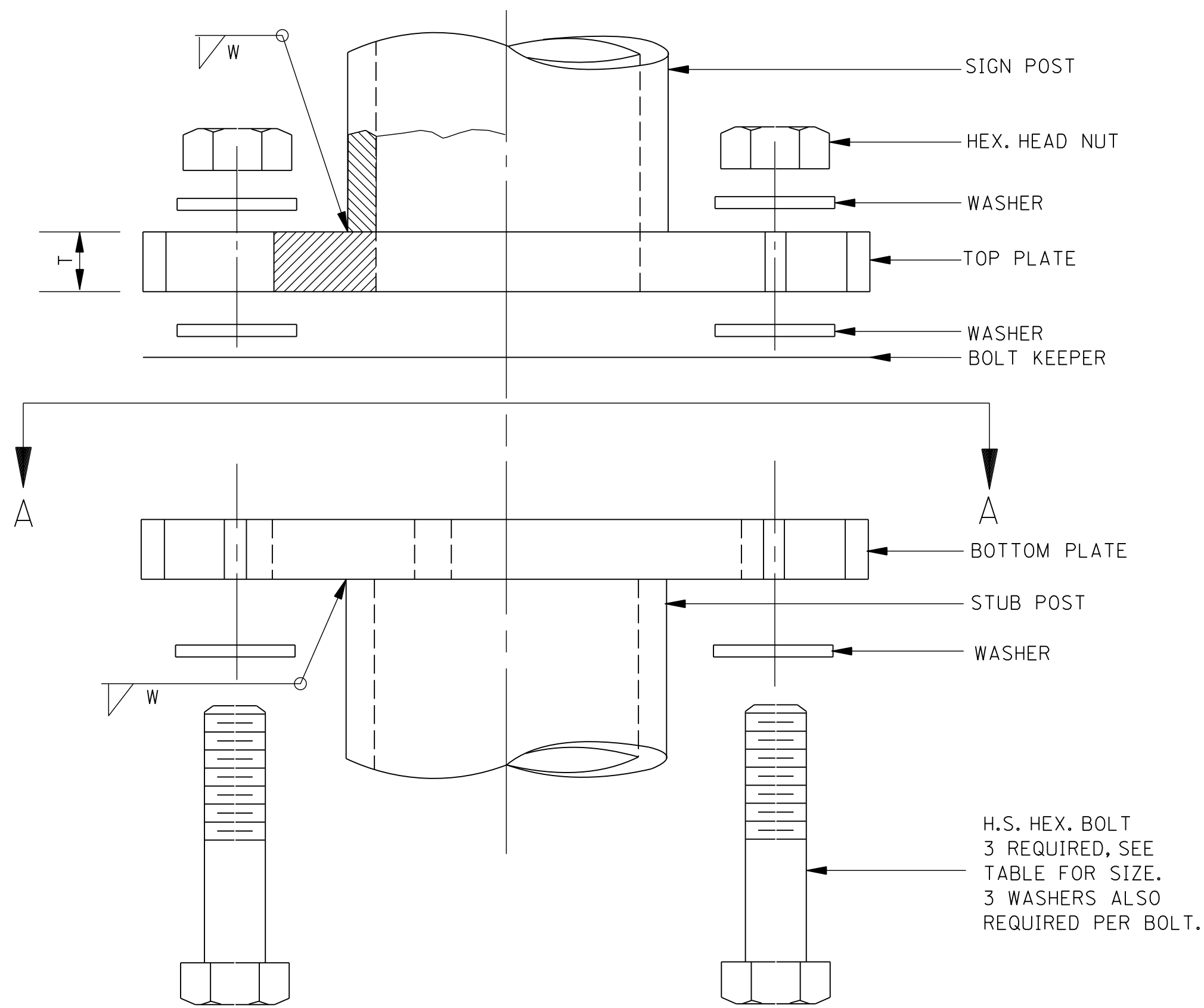
\*\*\* NOTE: STUB PROJECTION SHOULD BE MEASURED OVER A 5'-0" CHORD AS PER AASHTO LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, LATEST EDITION.

\*\*\* NOTE: FOOTING DEPTH TO BE SHOWN ELSEWHERE IN THE PLANS.

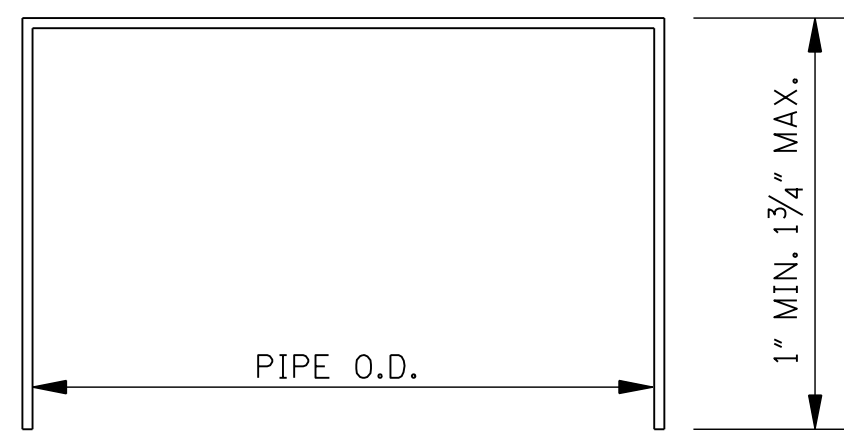
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>BREAKAWAY SIGN SUPPORTS</b>
				DATE	ISSUE DATE: AUGUST 01, 2017

WORKING NUMBER  
SN-6A

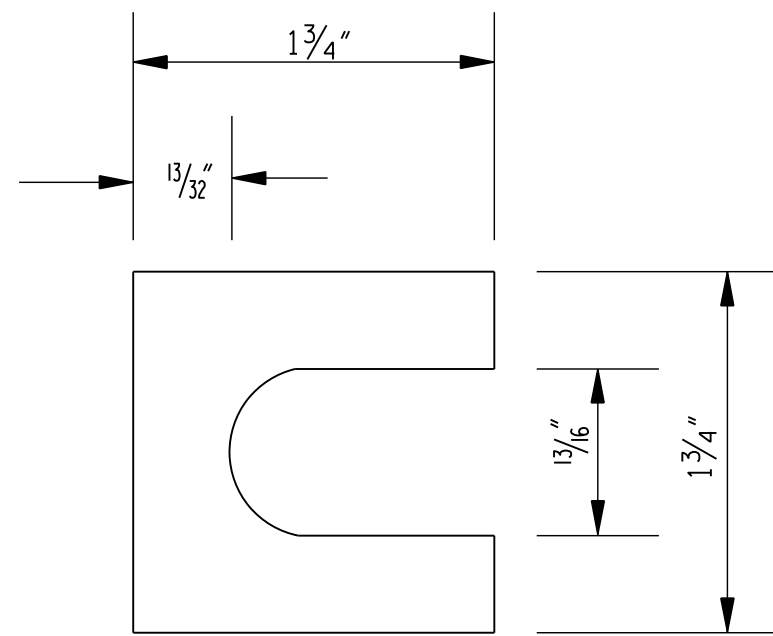
SHEET NUMBER  
6311



MULTI-DIRECTIONAL SIGN POST & STUB POST

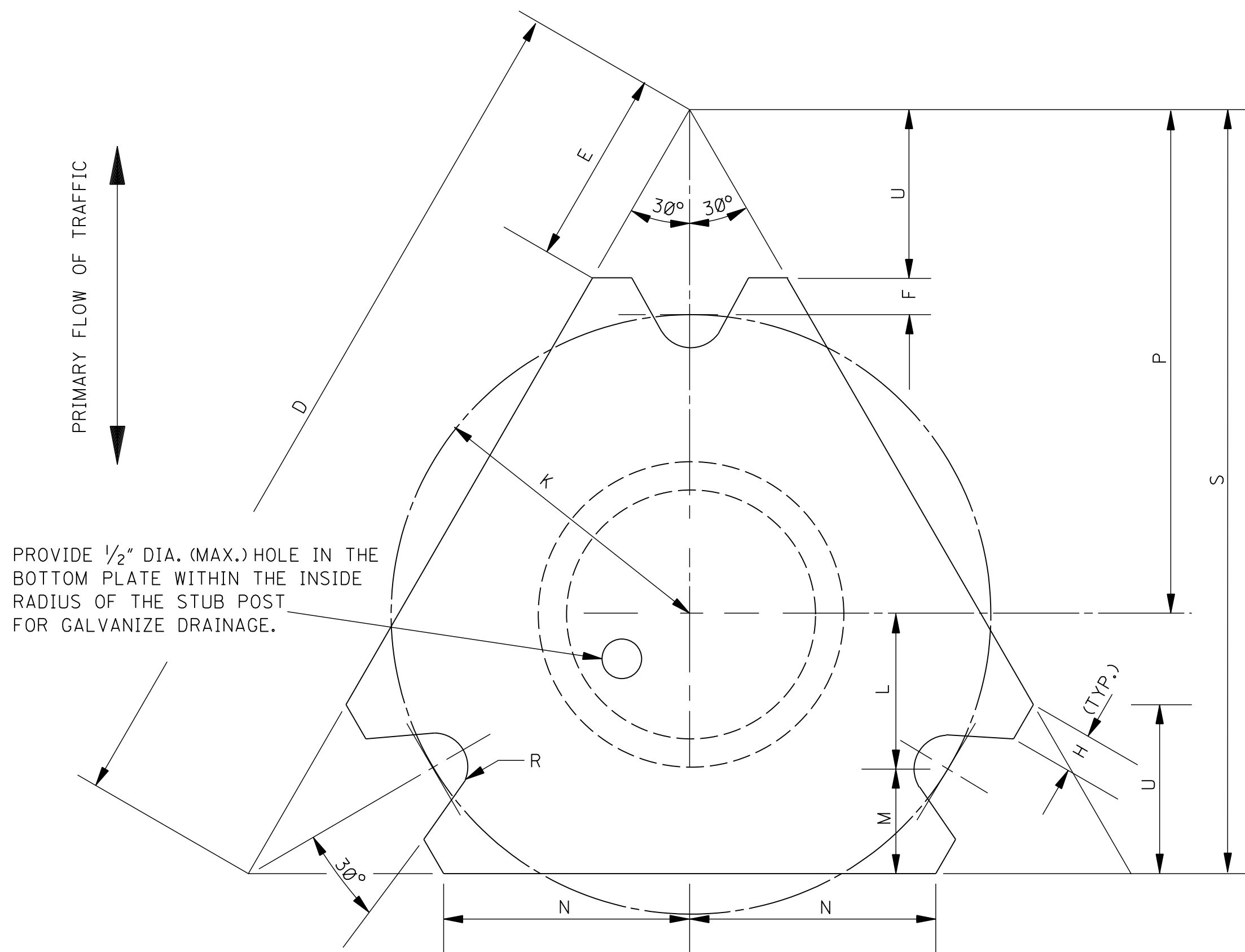


FRICTION CAP DETAIL  
NOTE: SEE NOTE 3



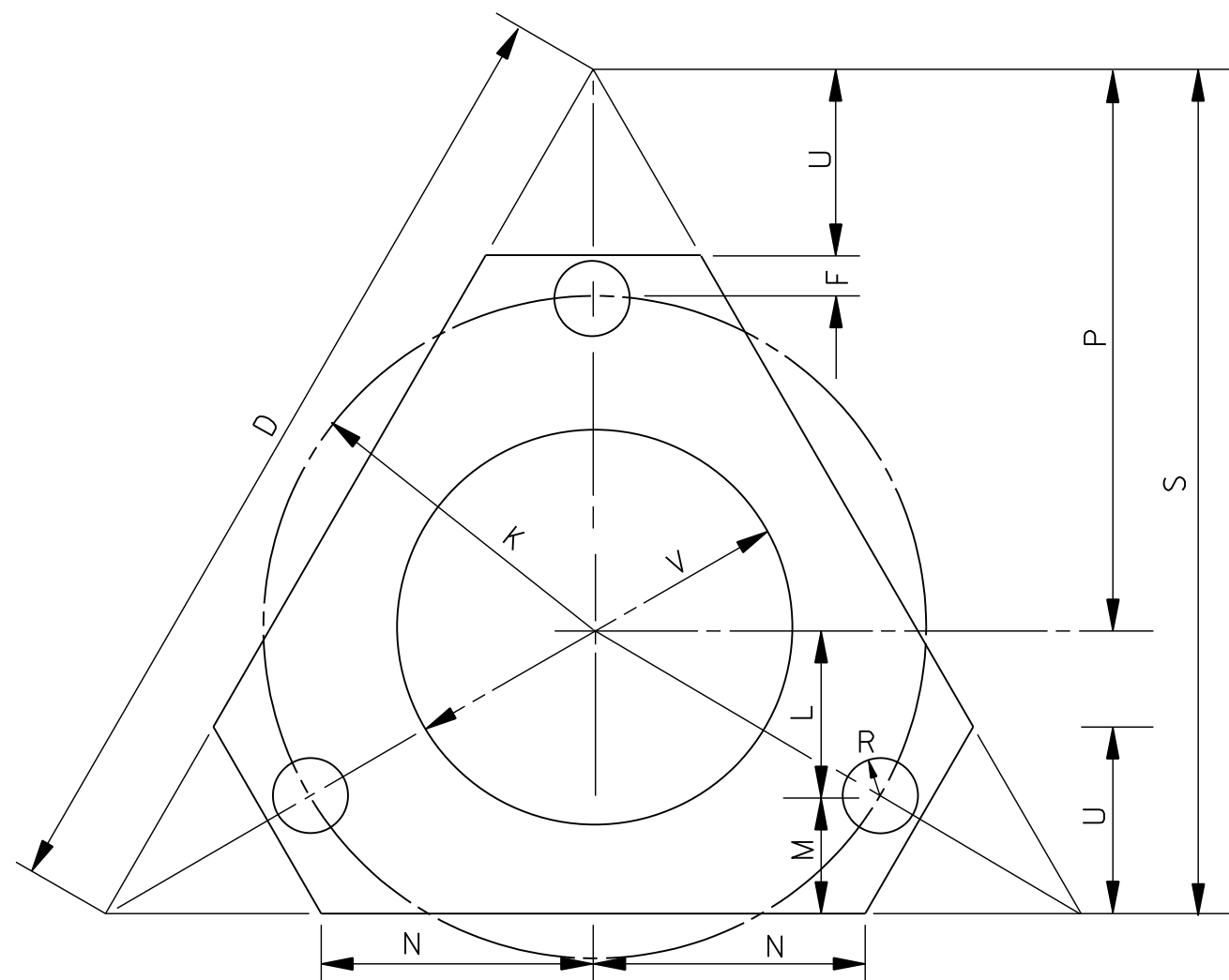
SHIM DETAIL

NOTE: FURNISH 2-0.012" ± THICK AND 2-0.032" ± THICK SHIMS PER POST. SHIMS SHALL BE FABRICATED FROM BRASS SHIM STOCK OR STRIP CONFORMING TO ASTM B 36.



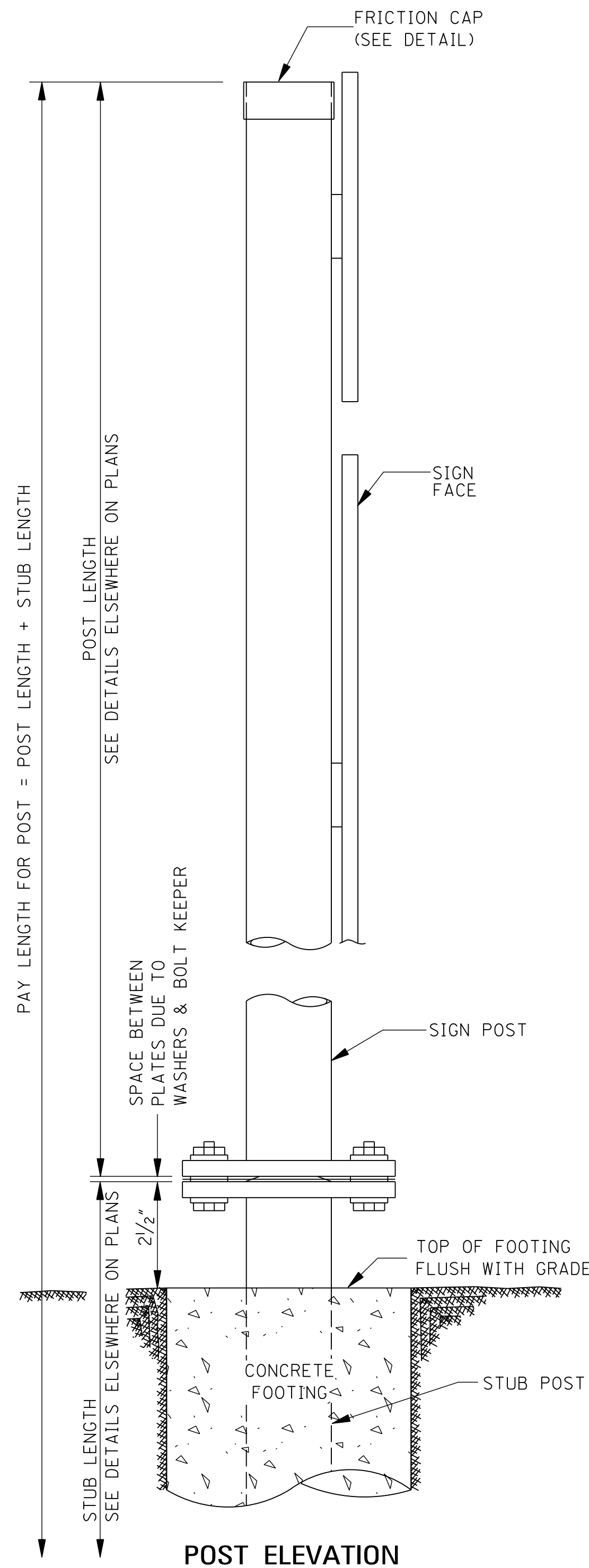
SECTION A-A

NOTE: SEE DATA TABLE FOR DIMENSIONS



BOLT KEEPER PLATE DETAIL

NOTE: TO BE FABRICATED FROM 28 GAGE THICK GALVANIZED STEEL. TO BE INSTALLED AS SHOWN IN DETAIL AT UPPER LEFT.



GENERAL NOTES: (SEE WK. NO. SN-6 FOR ADDITIONAL GENERAL NOTES)

1. THE TOP PLATE OF THE TRIANGULAR SLIP BASE SHALL HAVE THE SAME EXTERIOR DIMENSIONS AS THE BOTTOM PLATE. THE LIFTING CONE SHALL BE WELDED TO THE BOTTOM PLATE ONLY. A HOLE EQUAL TO THE INSIDE DIAMETER OF THE SIGN POST SHALL BE CUT THROUGH THE CENTER OF THE TOP PLATE WITH THE HOLE EDGE BEVELED AS DETAILED. TOP & BOTTOM PLATES SHALL BE SYMMETRICAL FOR THE PURPOSE OF ASSEMBLY IN ANY POSITION.
2. BASE CONNECTION ASSEMBLY AS FOLLOWS:
  - A. ASSEMBLE POST TO STUB WITH 3 BOLTS AND WITH 3 FLAT WASHERS PER BOLT.
  - B. SHIM AS REQUIRED TO PLUMB POST.
  - C. TIGHTEN ALL BOLTS THE MAXIMUM POSSIBLE WITH A 12" TO 15" WRENCH TO BED WASHERS, KEEPER PLATE, SHIMS AND TO CLEAN THREADS.
  - D. LOOSEN EACH BOLT IN TURN & RETIGHTEN IN A SYSTEMATIC ORDER TO PRESCRIBED TORQUE. (SEE BASE CONNECTION DATA TABLE).
  - E. BURR THREADS AT JUNCTION WITH NUT WITH A CENTER PUNCH TO PREVENT NUT FROM LOOSENING.
3. FRICTION CAPS TO BE MANUFACTURED FROM HOT ROLLED OR COLD ROLLED STEEL SHEETS. FOR ALL PIPE SIZES, MINIMUM THICKNESS SHALL BE 20 GAGE SHEET METAL. RIM EDGES SHOULD BE REASONABLY STRAIGHT AND SMOOTH. CAPS SHALL BE SIZED AND FORMED IN SUCH A MANNER AS TO PROVIDE A DRIVE-ON FRICTION FIT AND HAVE NO TENDENCY TO ROCK WHEN SEATED ON PIPE. THE DEPTH SHALL BE SUFFICIENT TO GIVE POSITIVE PROTECTION AGAINST ENTRANCE OF RAINWATER. THEY SHALL BE FREE OF SHARP CREASES OR INDENTATIONS AND SHOW NO SIGNS OF METAL FRACTURE. ALL CAPS SHALL BE SAME IN SHAPE AND GENERAL APPEARANCE AS APPROVED BY THE ENGINEER.
4. STUB PROJECTION SHOULD BE MEASURED OVER A 5'-0" CHORD AS PER AASHTO LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, LATEST EDITION. SEE WK. NO. SN-6A FOR DIAGRAM.
5. AS AN ALTERNATIVE THE POST LENGTH OF THE SIGN POST CAN BE MADE-UP USING A NOMINAL LENGTH OF GALVANIZED PIPE, A GALVANIZED SLIP BASE CASTING, GALVANIZED FLAT PLATES OR APPROVED EQUAL WITH ALL NECESSARY HARDWARE REQUIRED TO SECURE THEM TO THE SIGN POST, A GALVANIZED KEEPER PLATE AND A GALVANIZED FRICTION CAP. THE SLIP BASE CASTING SHALL HAVE 3-SCREWS TO SECURE THE POST TO THE CASTING AND ONE SET SCREW TO PREVENT ROTATION. THE MANUFACTURER SHALL PROVIDE SHOP DRAWINGS OF THE COMPLETE ASSEMBLY FOR MDOT APPROVAL.

BASE CONNECTION DATA TABLE																			
DIMENSIONS NOMINAL PIPE SIZES	BOLT SIZE & TORQUE	T	W	C	*D	*E	F	G	*H	J	K	L	M	*N	P	S	U	V	R
3" 3½"	5⁄8" X 2½" 300 in · lbs	5⁄8"	3⁄8"	1"	10 3⁄8"	2 5⁄16"	½"	3⁄8"	½"	1 3⁄4"	3 ½"	1 3⁄4"	1 ¼"	2 7⁄8"	6"	9"	2"	4 ¼"	11⁄32"
4" 5"	¾" X 3" 500 in · lbs	7⁄8"	7⁄16"	1 1⁄16"	13"	2 7⁄8"	½"	3⁄8"	5⁄8"	2 ½"	4 ½"	2 ¼"	1 ½"	3 5⁄8"	7 ½"	11 ¼"	2 ½"	5 ¾"	13⁄32"

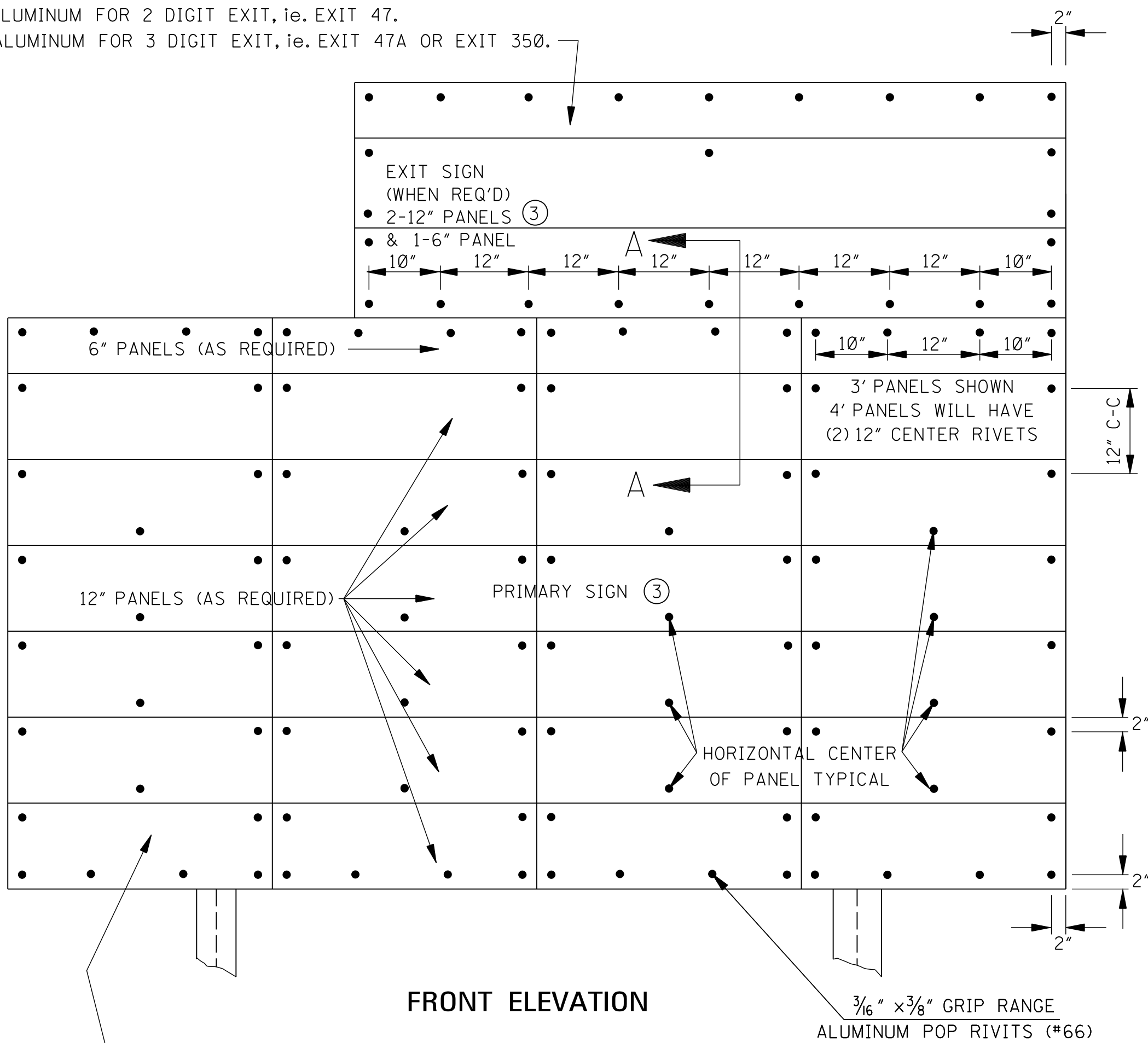
\*NOTE: APPROXIMATE DIMENSIONS

MISSISSIPPI DEPARTMENT OF TRANSPORTATION  
ROADWAY DESIGN DIVISION  
STANDARD PLAN

**BREAKAWAY  
SIGN SUPPORTS**

ISSUE DATE: AUGUST 01, 2017

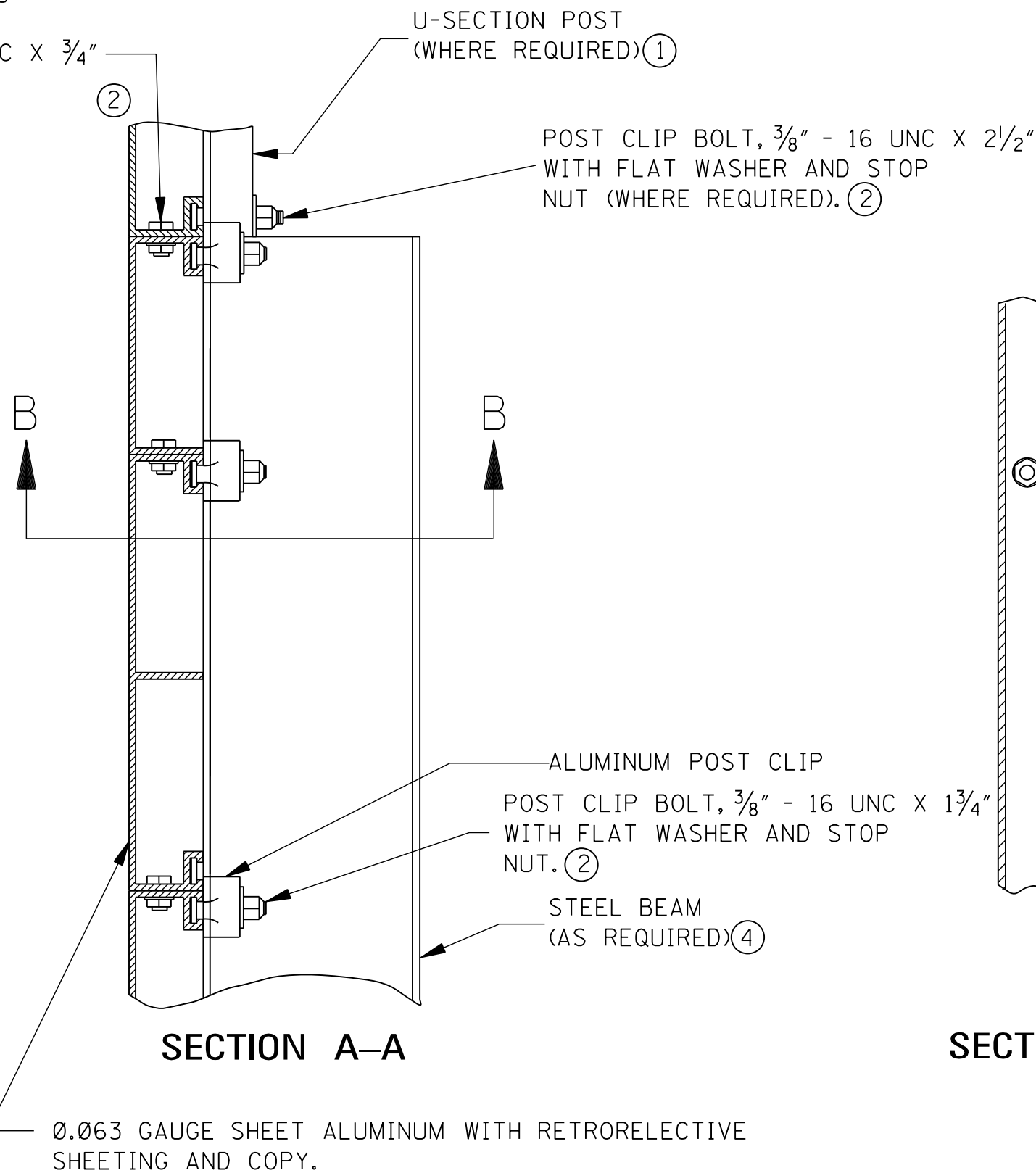
2½' x 8', 0.063 GAUGE ALUMINUM FOR 2 DIGIT EXIT, i.e. EXIT 47.  
2½' x 10', 0.063 GAUGE ALUMINUM FOR 3 DIGIT EXIT, i.e. EXIT 47A OR EXIT 350.



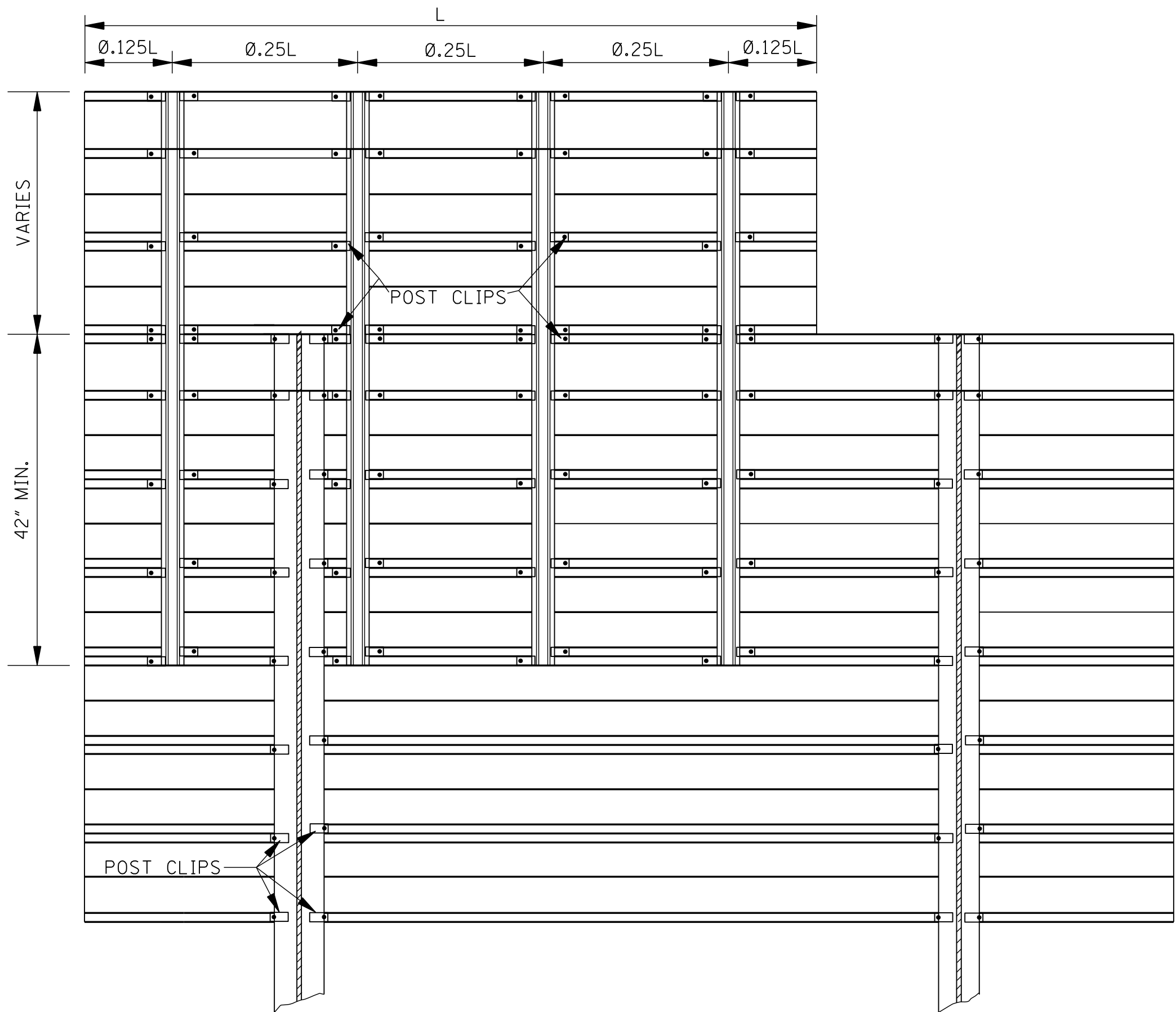
FRONT ELEVATION

SIGN FACE SHALL BE CONSTRUCTED  
OF 3' AND 4' 0.063 GAUGE ALUMINUM.  
4' PANELS SHOULD HAVE PRECEDENCE  
OVER 3' PANELS.  
EX. A 12' WIDE SIGN = (3) 4' PANELS.  
A 15' WIDE SIGN = (3) 4' + (1) 3'

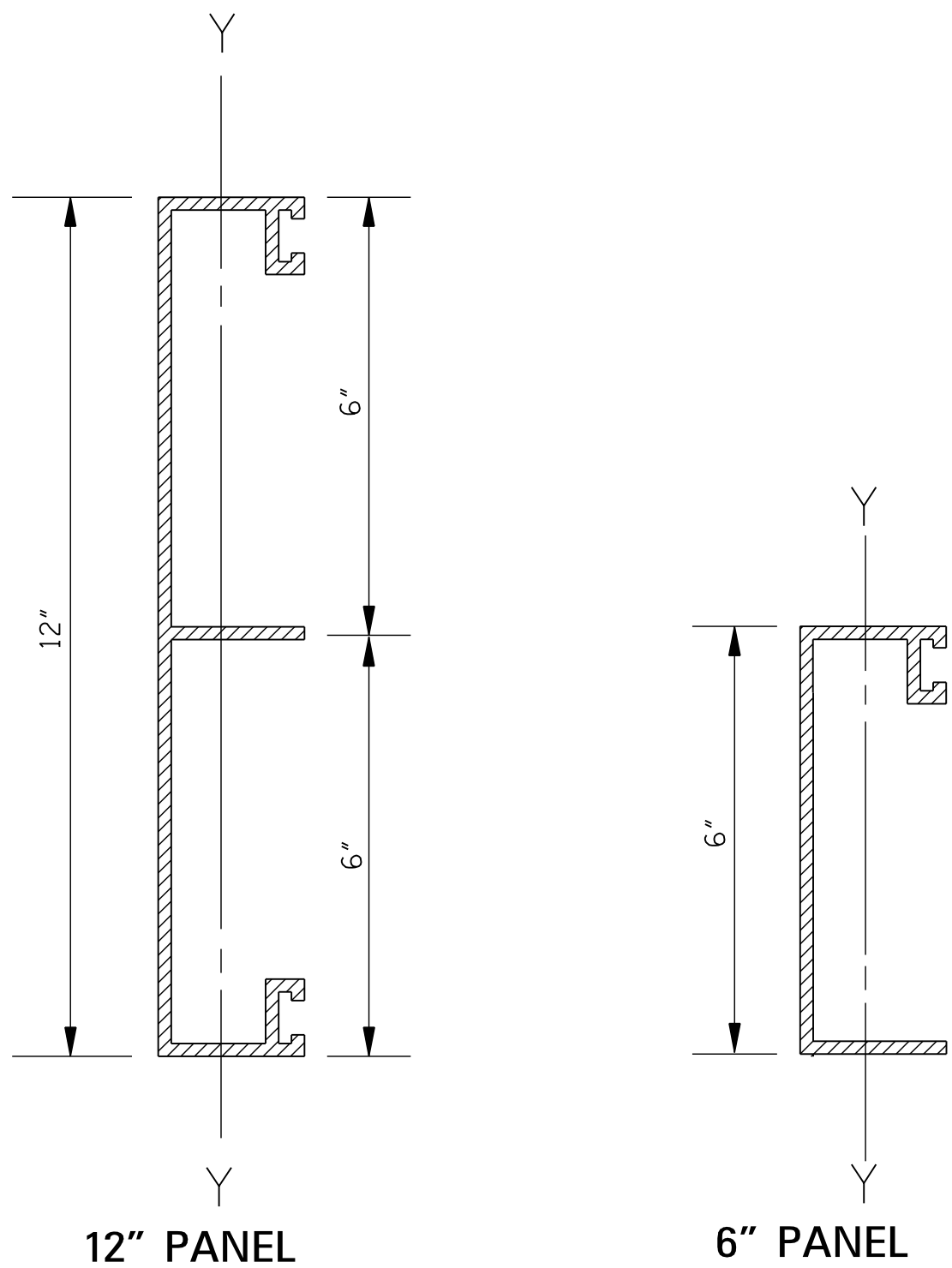
PANEL BOLT, 3/8" - 16 UNC X 3/4"  
WITH FLAT WASHER AND  
HEX NUT (24" O.C.)



SECTION B-B



REAR ELEVATION



NOTE: THE REQUIRED SECTION MODULUS (MINIMUM)  
ABOUT THE Y-Y AXIS (CENTER OF GRAVITY) IS:  
12" PANELS - 0.703 in<sup>3</sup>  
6" PANELS - 0.357 in<sup>3</sup>

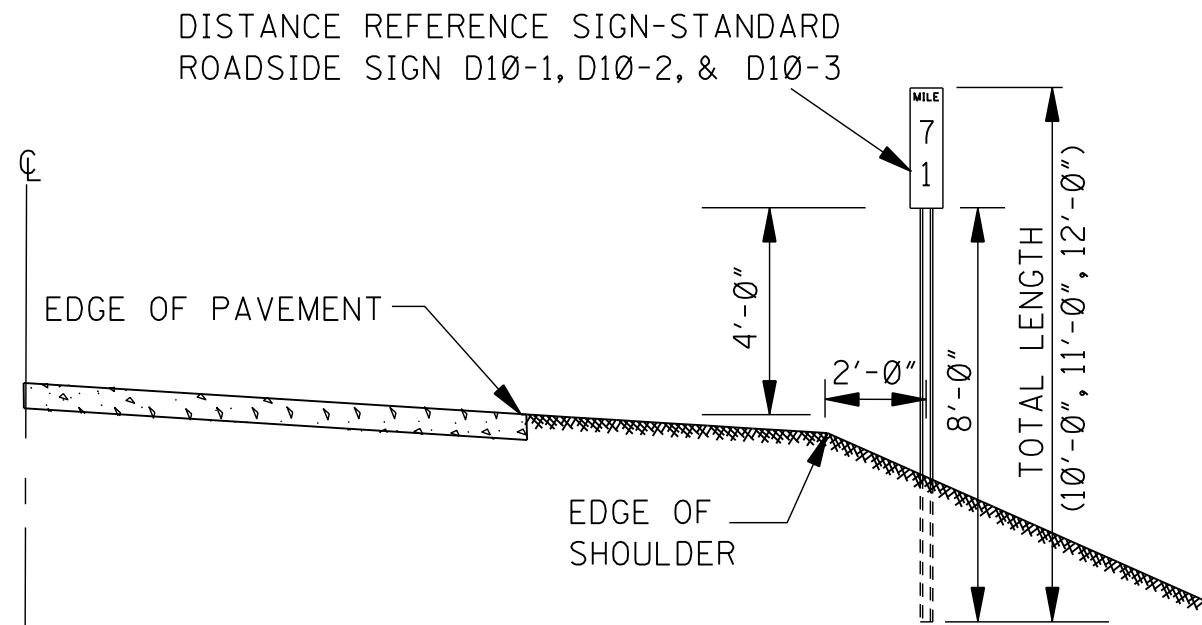
GENERAL NOTES:

- EXIT SIGNS, EXCEPT AS NOTED BELOW, SHALL BE ATTACHED TO PRIMARY SIGNS WITH PANEL BOLTS (AS REQUIRED) AND FOUR (4) STEEL U-SECTION POSTS (2.0 lb/ft) WITH HOLES PUNCHED AS NEEDED FOR INSTALLATION. U-SECTION POST LENGTHS SHALL BE 5'-0" FOR PRIMARY SIGNS WITH 12" UPPER PANELS AND 5'-6" FOR PRIMARY SIGNS WITH 6" UPPER PANELS. EACH POST SHALL HAVE SEVEN BOLTS - THREE (3) IN EXIT SIGN AND FOUR (4) IN PRIMARY SIGN. WHERE PANELS ARE JOINED, PROVIDING TWO (2) SLOTS, ONE ABOVE THE OTHER, PLACE BOLTS IN UPPER SLOT. WHERE NECESSARY, THE POST SPACING (SHOWN ON REAR ELEVATION) MAY BE ADJUSTED SOMEWHAT TO STAY CLEAR OF SIGN POSTS AND POST CLIPS.
- ALL BOLTS, WASHERS AND NUTS IN THE FABRICATION OF EXTRUDED ALUMINUM SIGNS AND THE ATTACHMENT OF SAME TO STEEL BEAMS SHALL BE ALUMINUM, AS PER SPECIFICATIONS. POST CLIP BOLTS AND BOLTS FOR U-SECTION POSTS SHALL HAVE HEADS DESIGNED TO FIT THE BOLT SLOTS IN THE PANELS. THE LOCK-NUTS SHALL BE TIGHTENED ON CLEAN, DRY, "AS RECEIVED" THREADS TO A TORQUE OF 150 in • lbs.
- UNLESS OTHERWISE SPECIFIED, THE BACKGROUND OF ALL DIRECTIONAL SIGNS (INCLUDING OVERHEAD SIGNS) SHALL BE INTERSTATE GREEN REFLECTORIZED SHEETING (AS PER STANDARD SPECIFICATIONS), DIRECT APPLIED TO 0.063 GAUGE SHEET ALUMINUM. THE COPY SHALL BE WHITE, REFLECTORIZED, DIRECT APPLIED, ADHESIVE BACKED, LETTERS, NUMBERS, SYMBOLS, AND BORDER.
- SEE OTHER DRAWINGS FOR SELECTION AND DETAILS OF STEEL BEAMS FOR VERTICAL SUPPORTS (SIGN POST).
- THE DETAILS OF SIGN FACE CONSTRUCTION SHOWN ON THIS SHEET ARE THE SAME FOR OVERHEAD SIGNS, BUT THE METHOD OF MOUNTING IS SHOWN ON OVERHEAD TRUSS DRAWINGS.
- DATE OF ERECTION AND SIGN SIZE (WIDTH X HEIGHT) SHALL BE LEGIBLY WRITTEN ON THE BACK OF EACH SIGN WITH A PERMANENT GREASE MARKER.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN			
				REVISION	<b>SIGN FACE CONST. AND ATTACHMENT OF GROUND MOUNTED DIRECTIONAL SIGNS TO STEEL BEAMS (EXTRUDED ALUMINUM PANELS)</b>			
				DATE				
				ISSUE DATE: AUGUST 01, 2017				

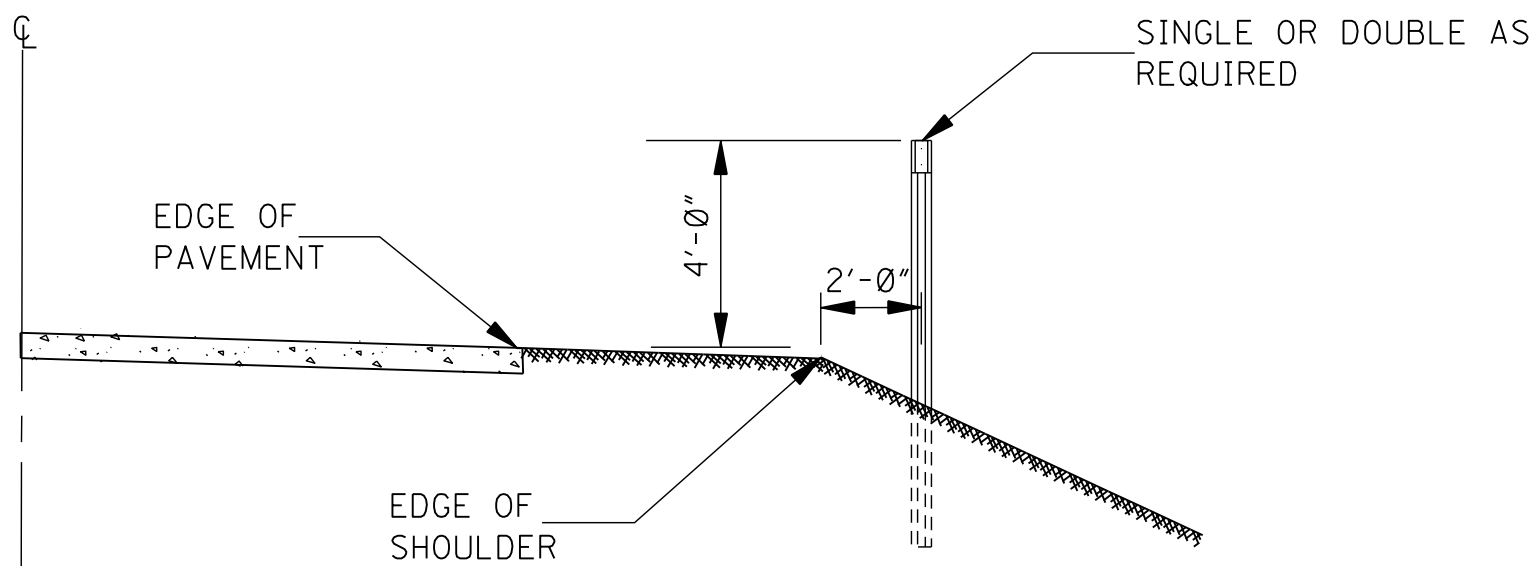


WORKING NUMBER  
SN-7  
SHEET NUMBER  
6313

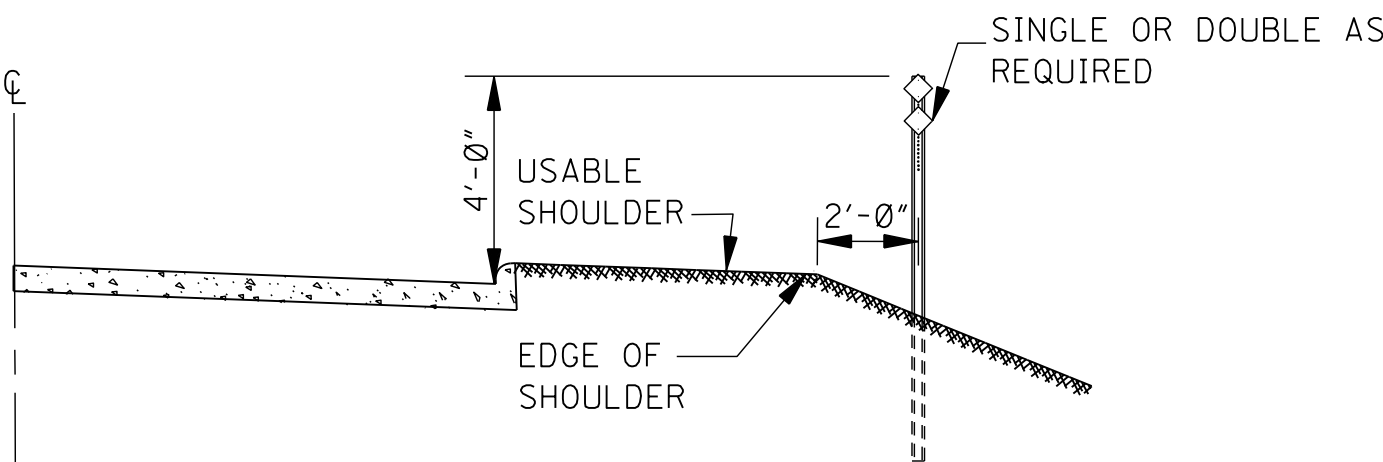


### DISTANCE REFERENCE SIGN MOUNTING ON OUTSIDE SHOULDER ALONG MAIN FACILITY

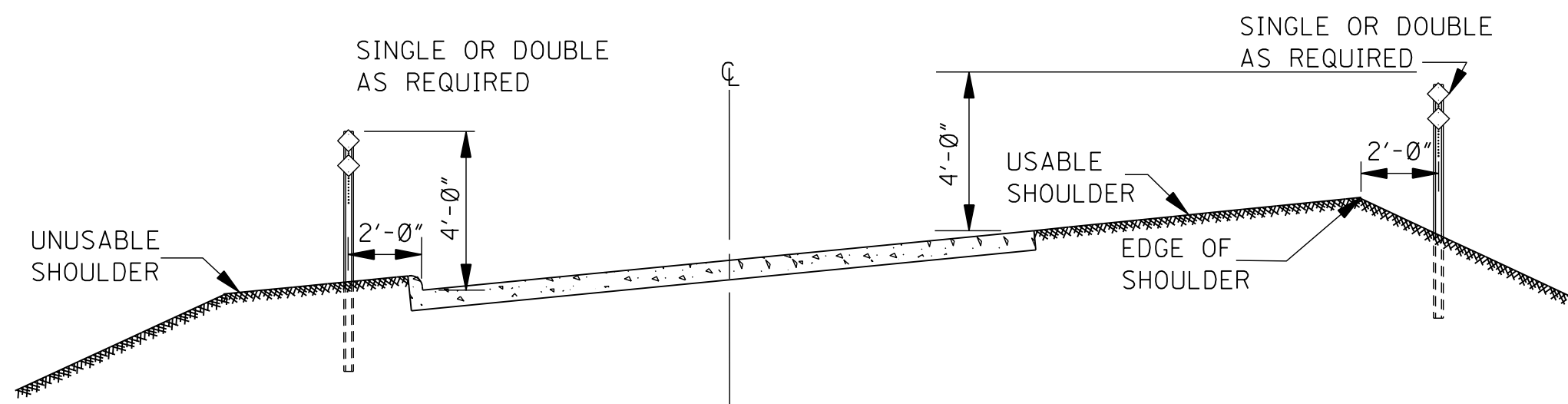
NOTE: SIGN MOUNTING ON LEFT LANE SHOULDER SHALL BE 90° OPPOSITE THE RIGHT LANE STATION. IF CONDITIONS ARE SUCH THAT MILE SIGN CANNOT BE LOCATED WITHIN 50 FEET OF ITS TRUE LOCATION, IT SHALL BE OMITTED ENTIRELY.



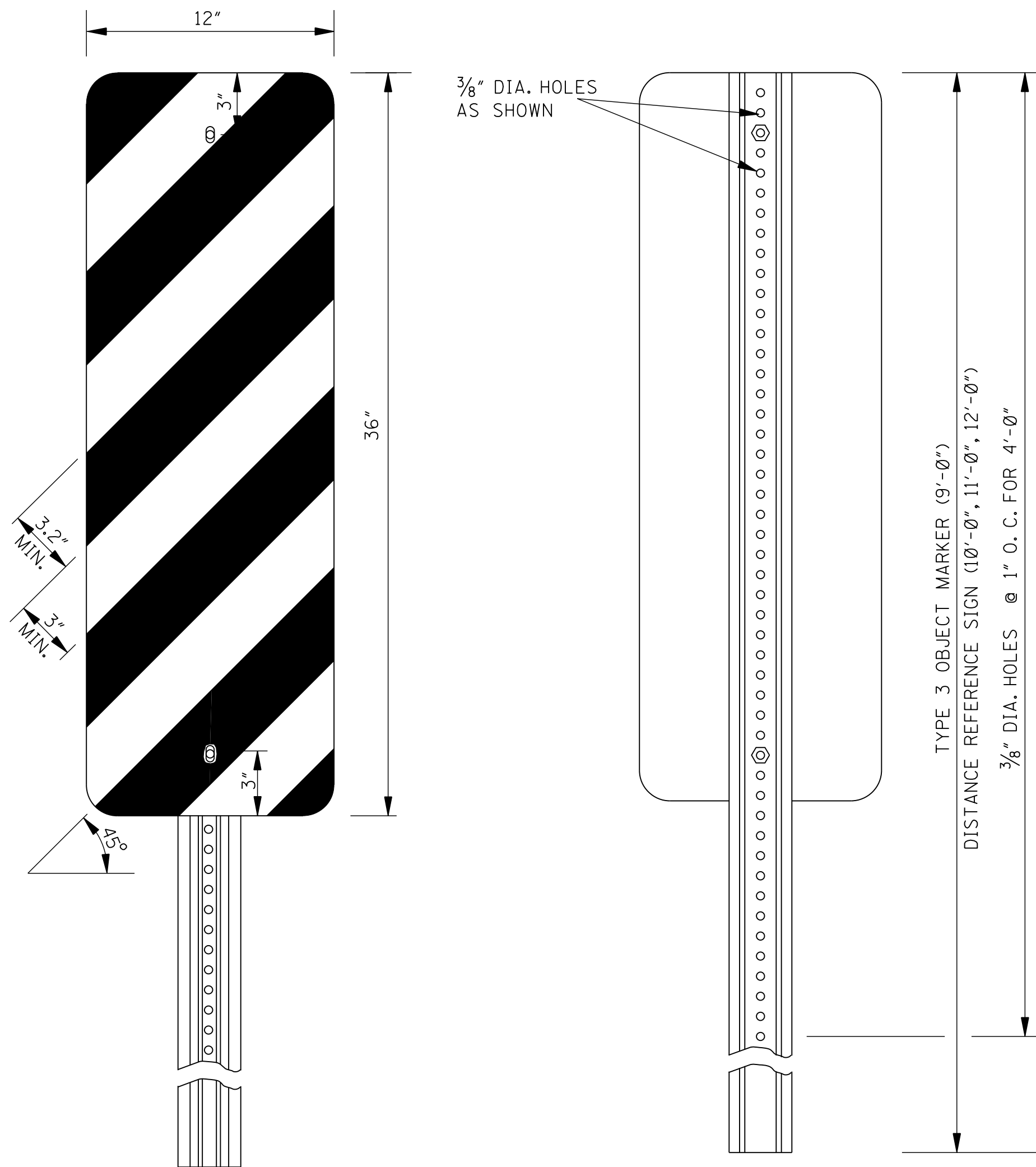
### DELINEATOR MOUNTING ON OUTSIDE SHOULDER ALONG MAIN FACILITY OR RAMP



### DELINEATOR MOUNTING ON OUTSIDE SHOULDER WITH MOUNTABLE CURB ALONG MAIN FACILITY OR RAMP



### DELINEATOR MOUNTING ON INTERCHANGE LOOPS WITH UNMOUNTABLE CURB ON INSIDE

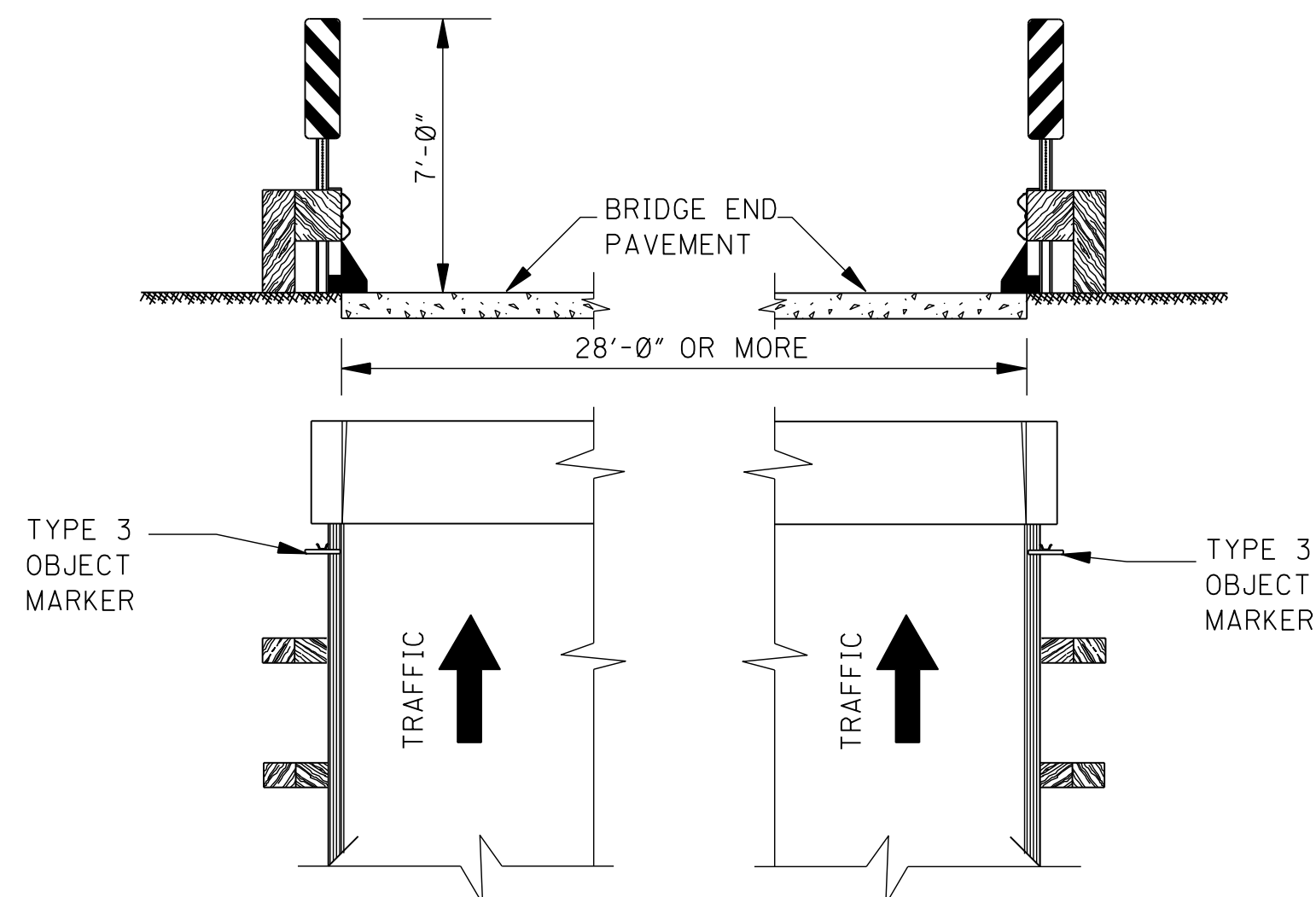


### DETAIL OF TYPE 3 OBJECT MARKER

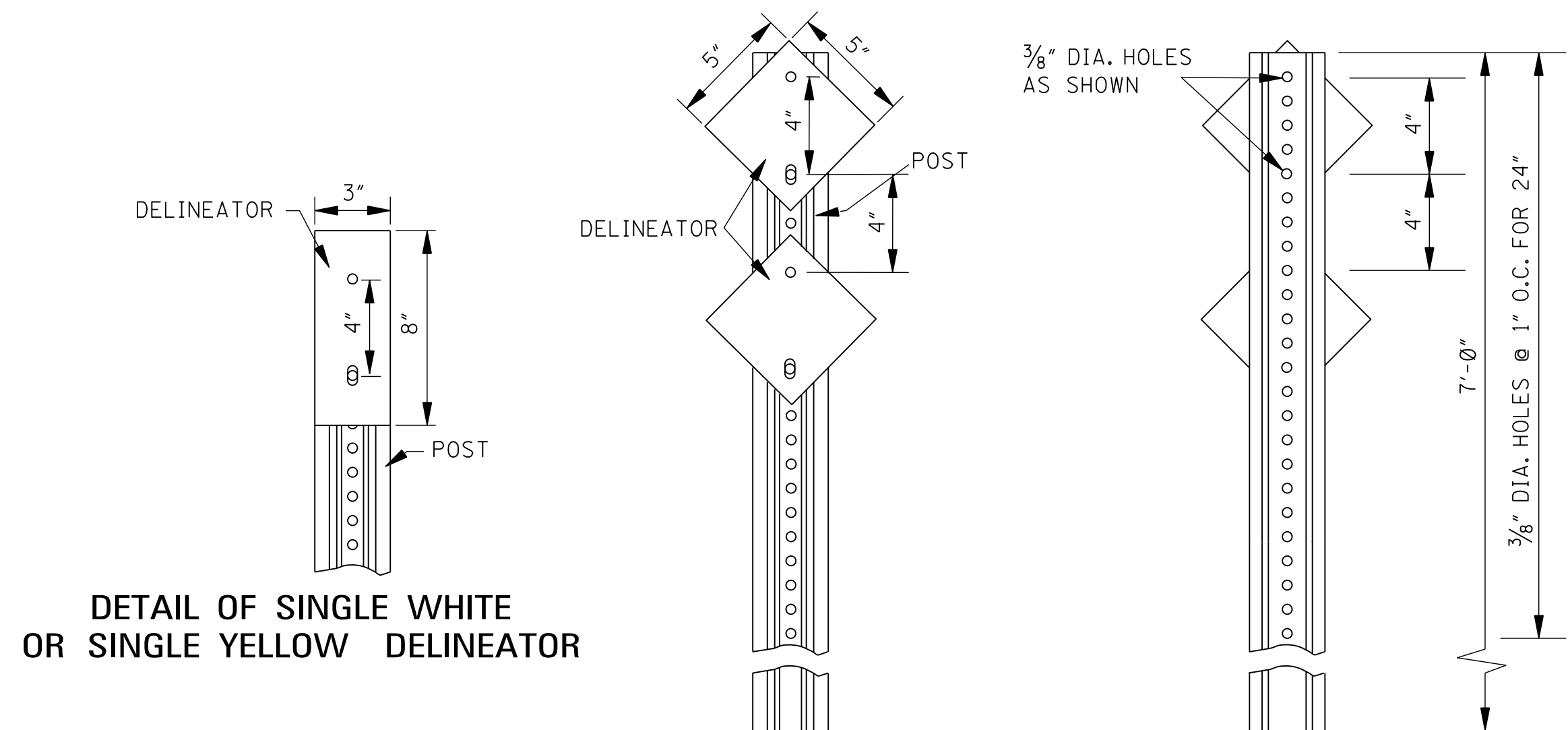
NOTE: COLORS- BLACK AND YELLOW. STRIPING SHOWN ABOVE FOR RIGHT SIDE ONLY. STRIPES SLANT DOWNWARD TO THE RIGHT FOR LEFT SIDE OF BRIDGE END. SEE DETAIL BELOW.

### REAR VIEW OF TYPE 3 OBJECT MARKER OR DISTANCE REFERENCE SIGN ASSEMBLY

NOTE: TYPE 3 OBJECT MARKER AND DISTANCE REFERENCE SIGNS SHALL BE FASTENED TO U-SECTION POSTS WITH 5/16" DIA. BLIND FASTENERS OF THE COLLAR TYPE.



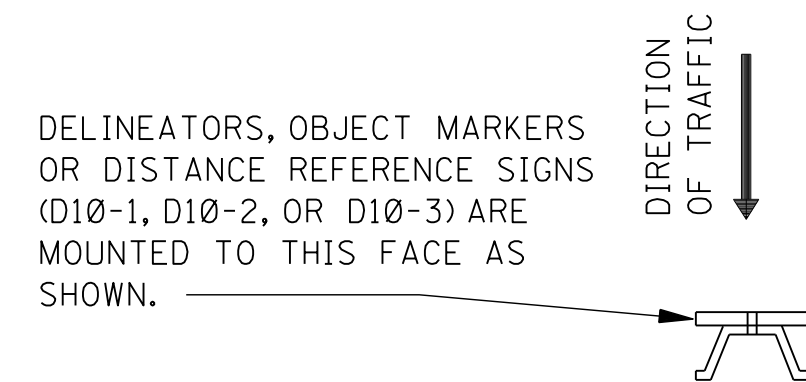
### DETAIL OF TYPE 3 OBJECT MARKER INSTALLATION



### DETAIL OF SINGLE WHITE OR SINGLE YELLOW DELINEATOR

### DETAIL OF DOUBLE WHITE OR DOUBLE YELLOW DELINEATOR

### REAR VIEW OF DELINEATOR ASSEMBLY



### MOUNTING DETAIL

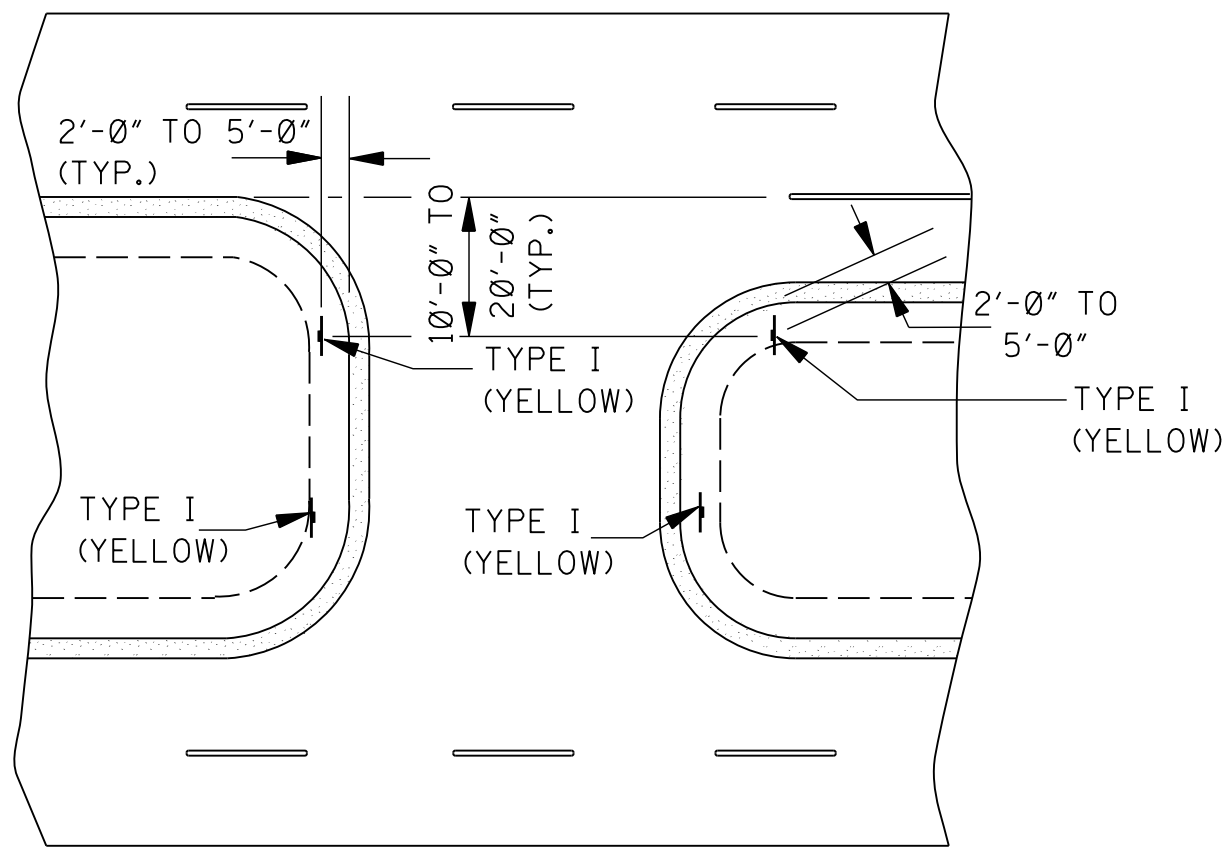
#### GENERAL NOTES:

- DELINEATORS AND TYPE 3 OBJECT MARKER SHALL BE REFLECTIVE SHEETING ON 0.080" THICK ALUMINUM SHEET OR 14 GAGE GALVANIZED SHEET STEEL.
- DELINEATOR, TYPE 3 OBJECT MARKER AND DISTANCE REFERENCE SIGN POSTS SHALL BE GALVANIZED STEEL. THE POSTS SHALL BE FABRICATED BEFORE THE METAL IS GALVANIZED.
- WEIGHT WITHOUT GROUND PLATES:  
A. DELINEATOR POST 7'-0" - 2.0 lb/ft TO 2.5 lb/ft  
B. TYPE 3 OBJECT MARKER POST 9'-0" - 2.5 lb/ft TO 3.0 lb/ft  
C. DISTANCE REFERENCE SIGN POST 10'-0", 11'-0", & 12'-0" - 3.0 lb/ft TO 3.5 lb/ft
- UNIT PRICE OF DELINEATORS AND TYPE 3 OBJECT MARKERS SHALL INCLUDE COST OF POST. DISTANCE REFERENCE SIGN POST WILL BE PAID FOR PER FOOT.
- RADIUS IN BENDS OF POST CROSS SECTION NOT TO EXCEED 3/8" FOR HOT ROLLED SECTION.
- GROUND PLATE NOT REQUIRED ON U-SECTION POST.

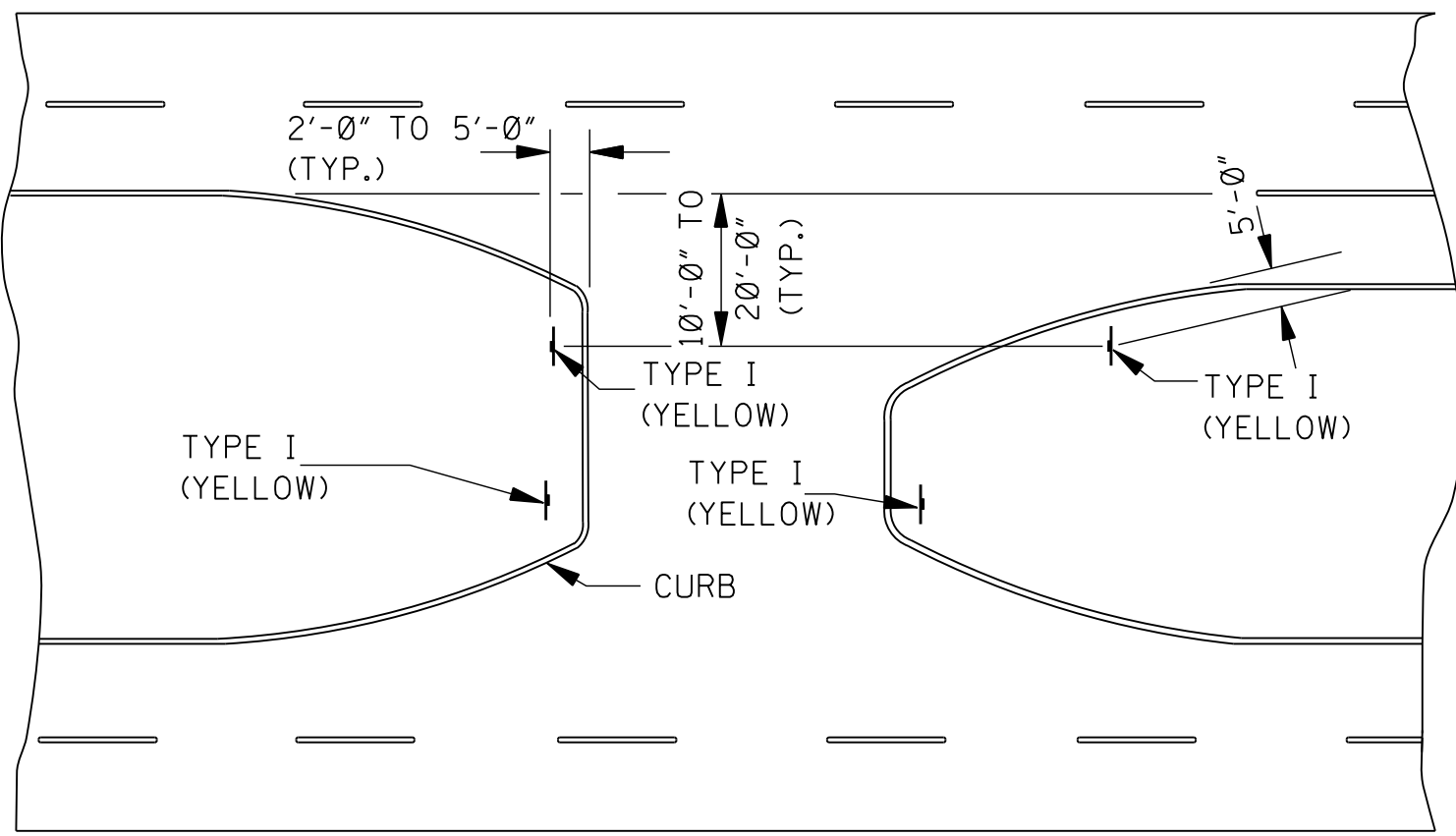
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>TYPICAL INSTALLATION AND DETAILS OF DELINEATORS AND DISTANCE REFERENCE SIGNS</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					WORKING NUMBER SN-8 SHEET NUMBER 6314



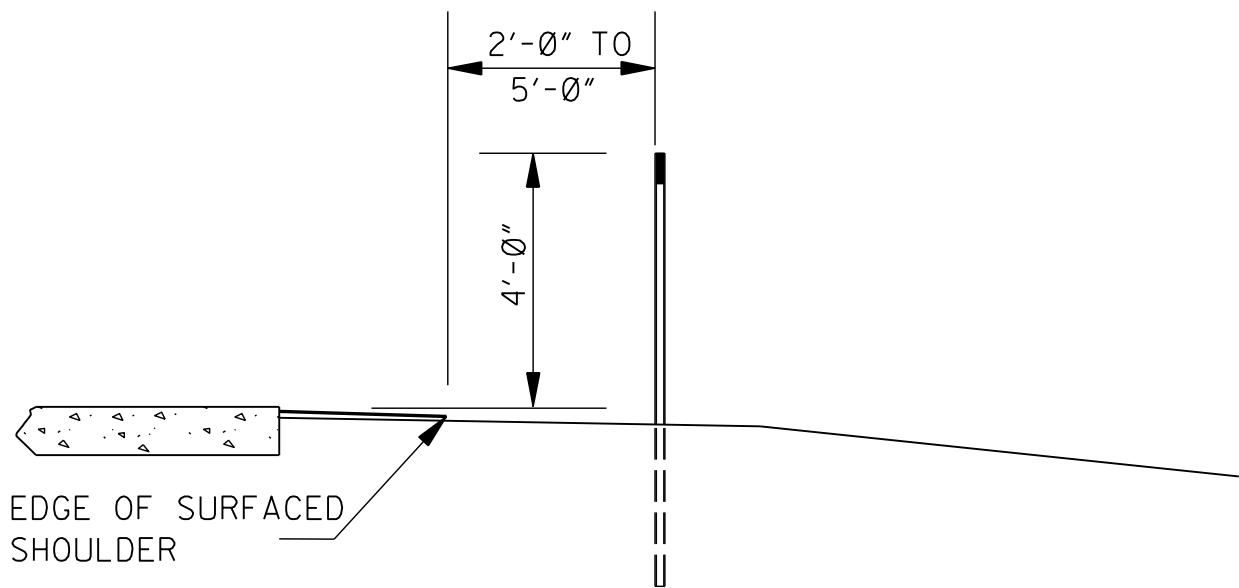




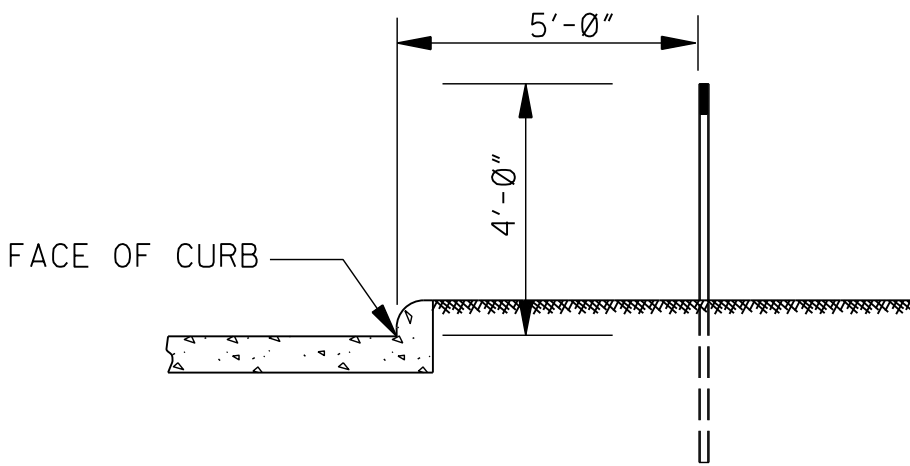
TYPICAL DELINEATION AT A CROSSOVER WITH USABLE SHOULDERS AND A MEDIAN WIDTH OVER 42'-0"



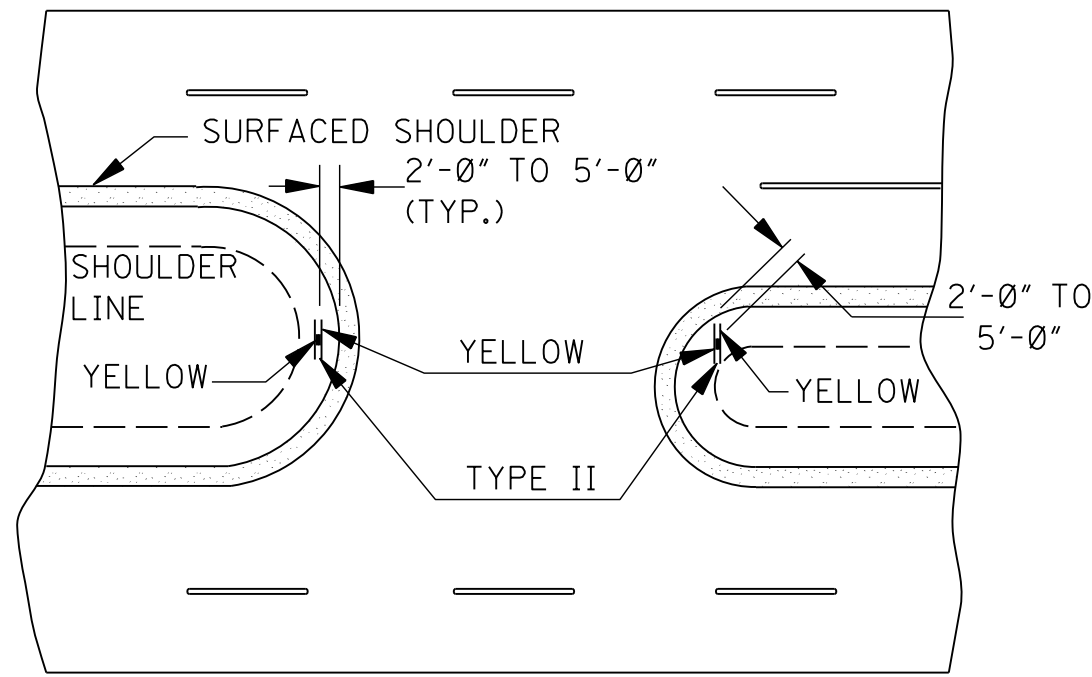
TYPICAL DELINEATION AT A CURBED CROSSOVER WITH A MEDIAN WIDTH OVER 42'-0"



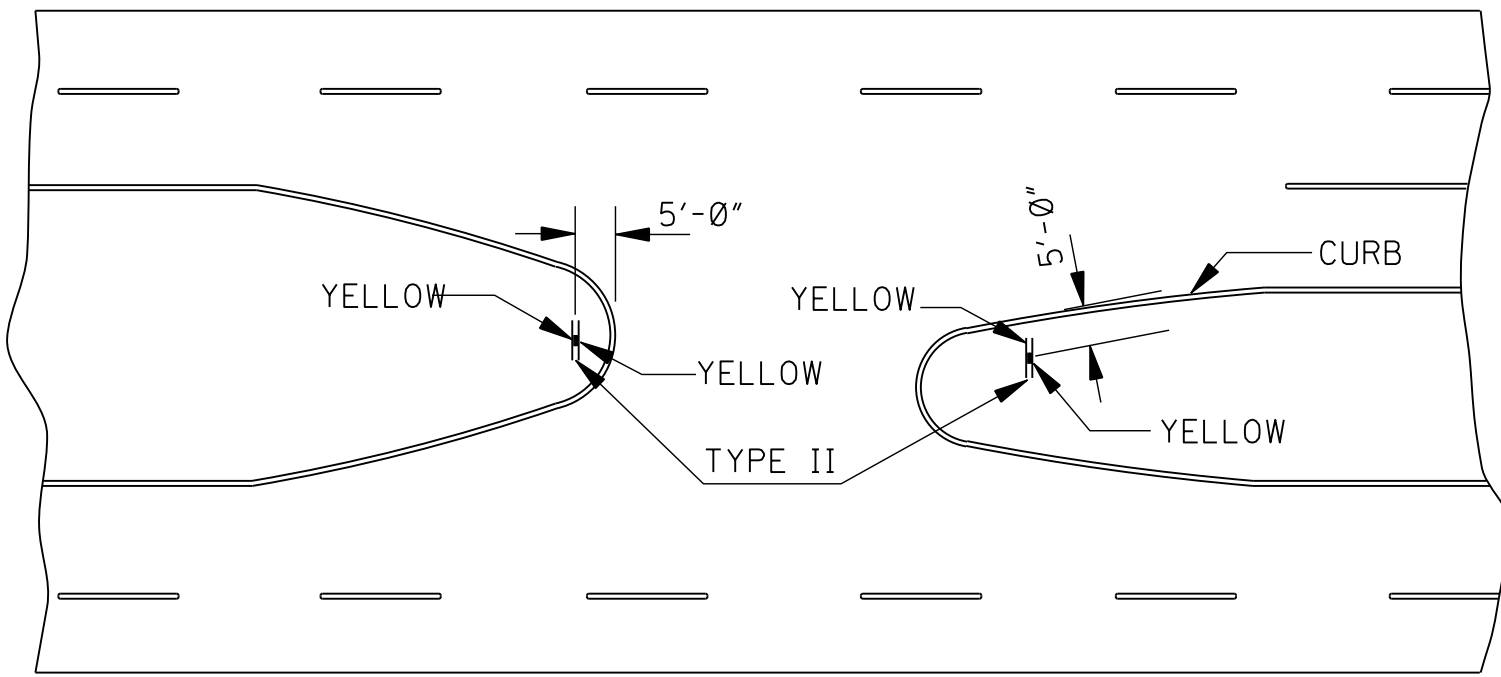
DELINEATOR MOUNTING ON CROSSOVER WITH USABLE SHOULDER



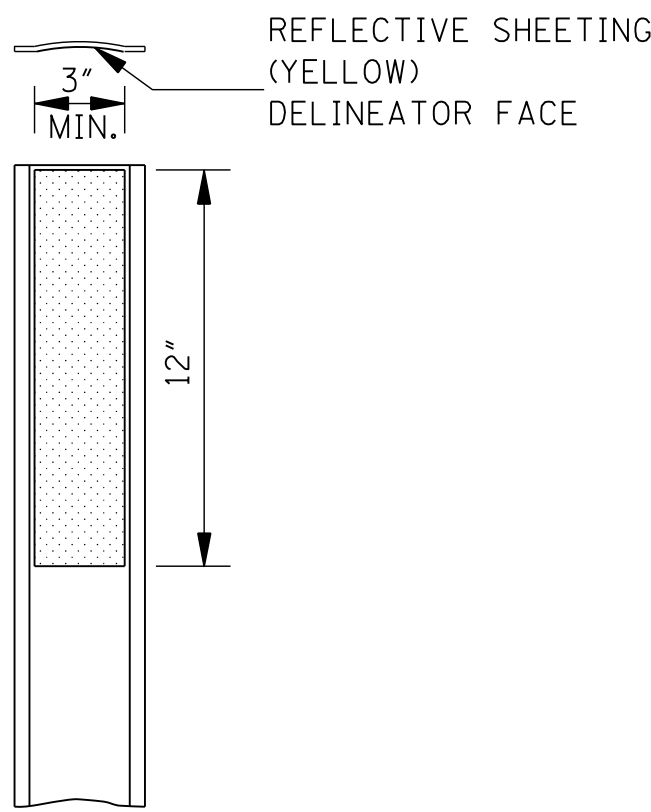
DELINEATOR MOUNTING ON CURBED CROSSOVER



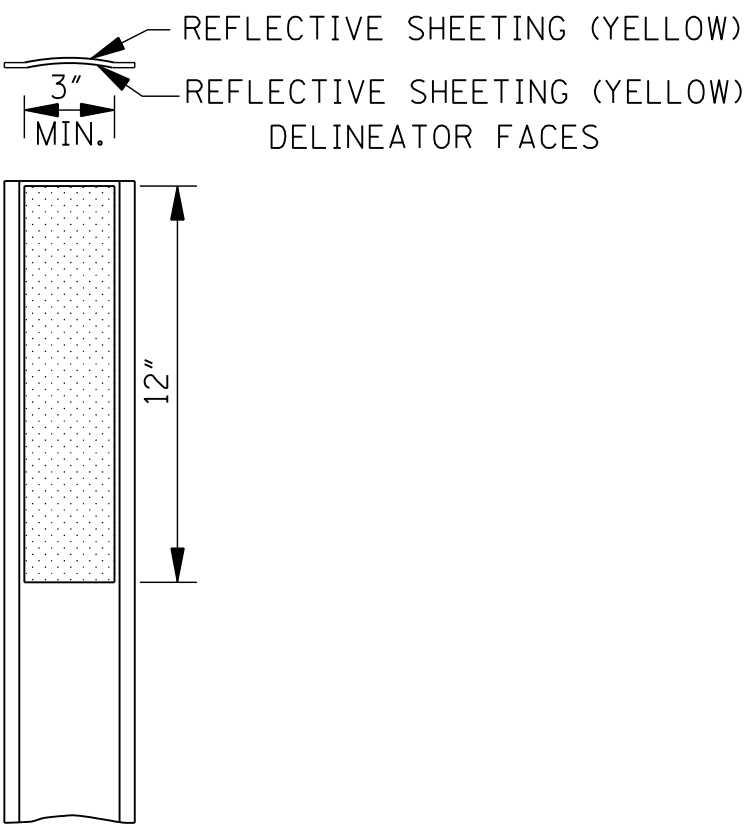
TYPICAL DELINEATION AT A CROSSOVER WITH USABLE SHOULDERS AND A MEDIAN WIDTH OF 42'-0" OR LESS



TYPICAL DELINEATION AT A CURBED CROSSOVER WITH A MEDIAN WIDTH OF 42'-0" OR LESS



DETAIL OF TYPE I FLEXIBLE POST DELINEATOR




DETAIL OF TYPE II FLEXIBLE POST DELINEATOR

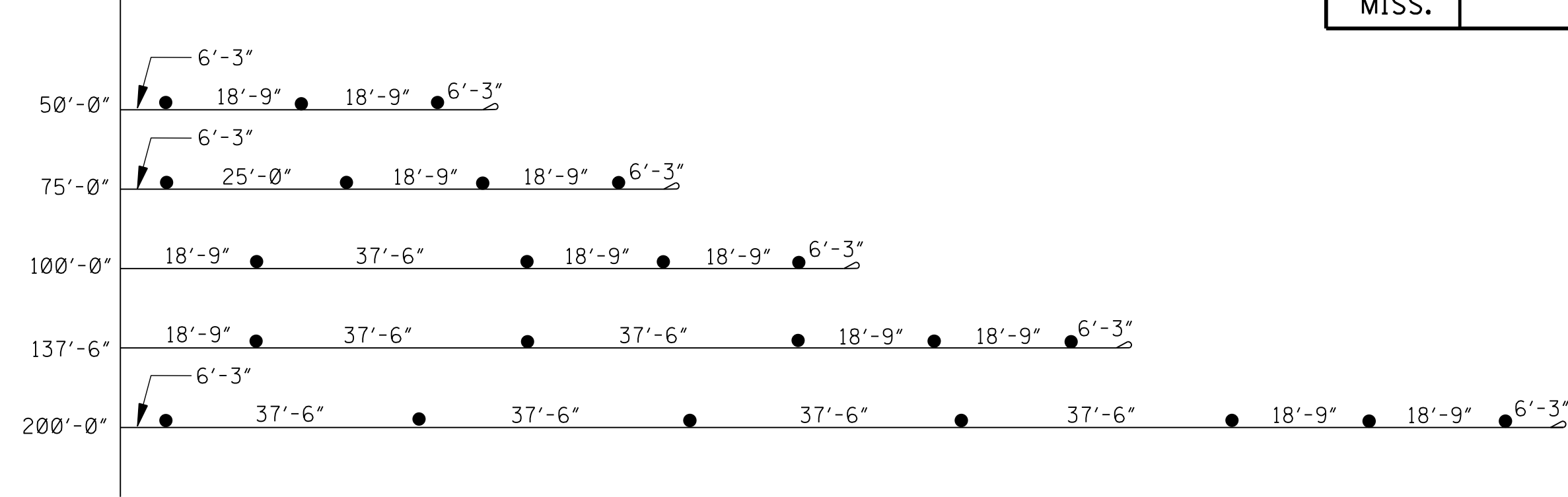
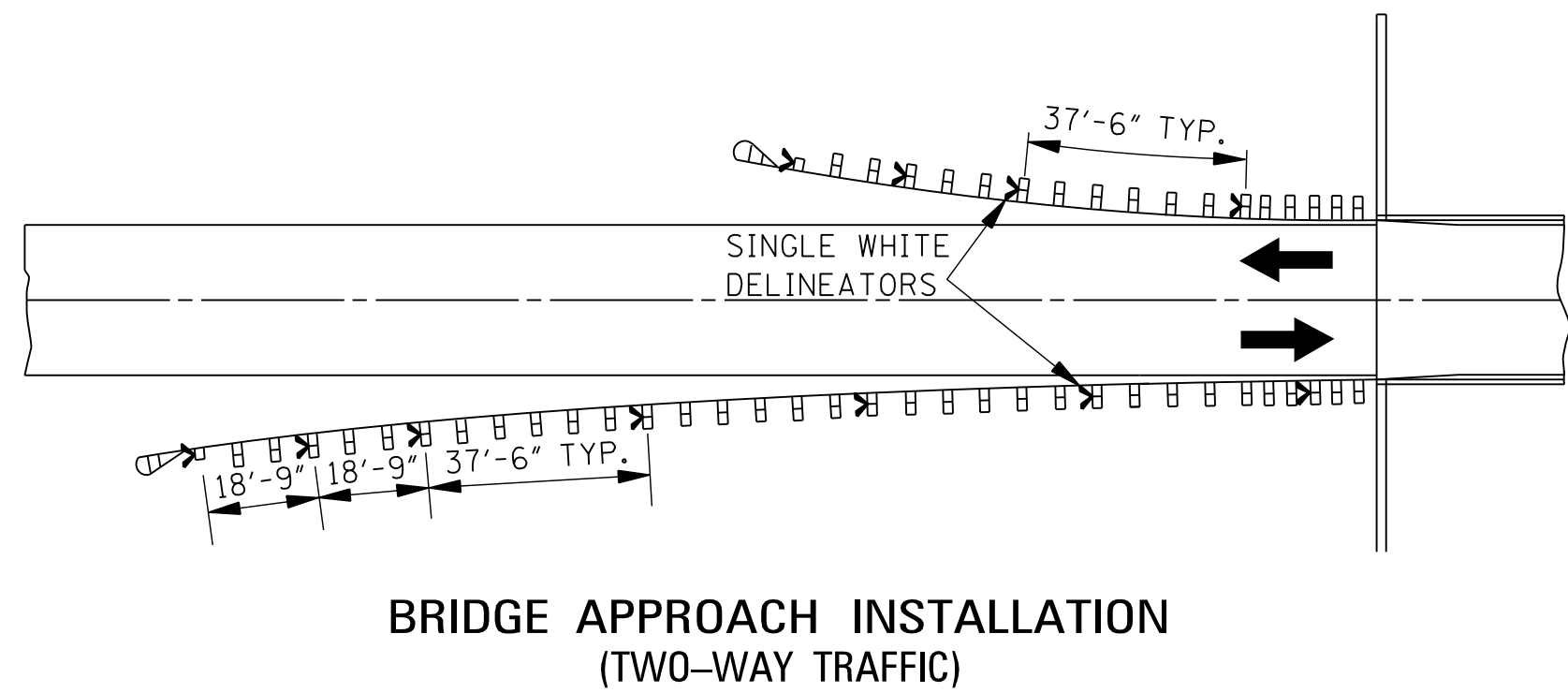
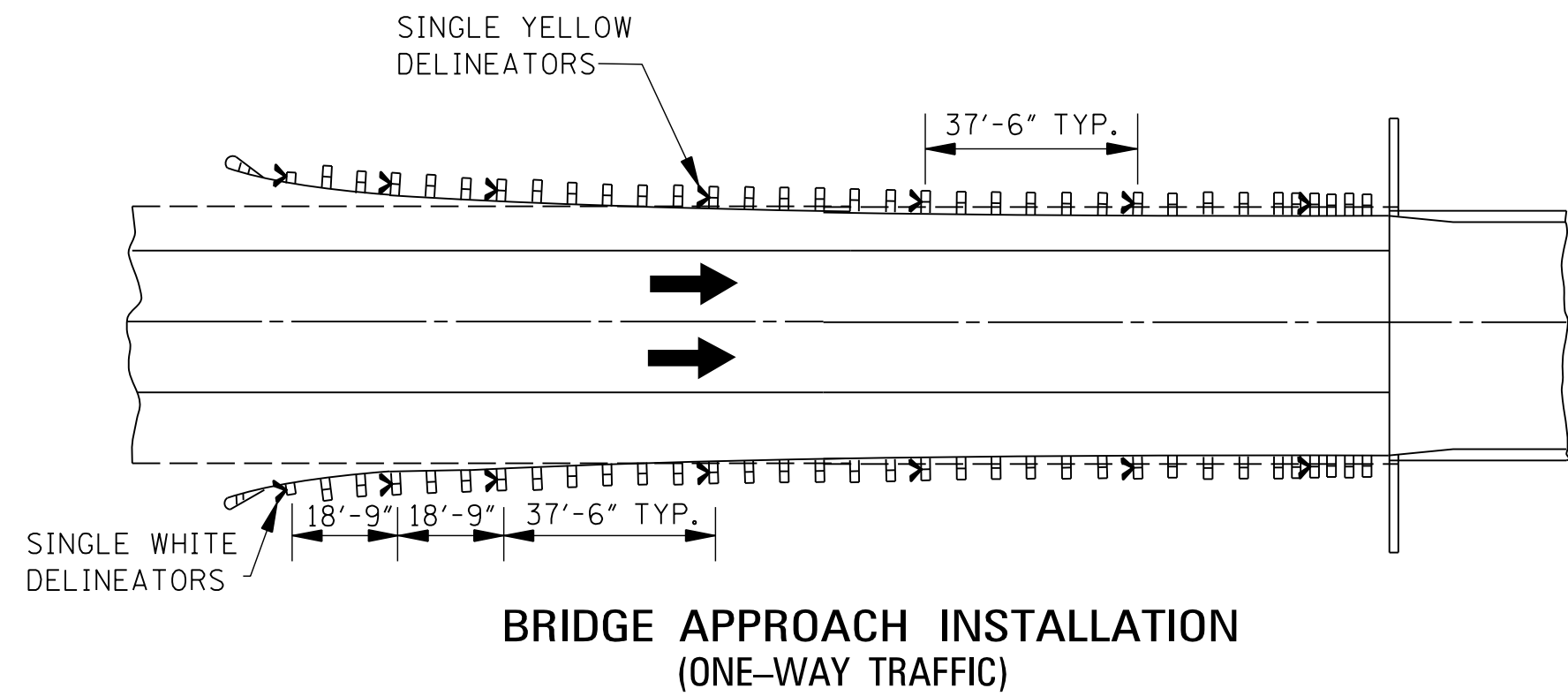
NOTE: CARSONITE'S CURV-FLEX DELINEATOR POSTS ARE SHOWN. OTHER FLEXIBLE POSTS THAT HAVE BEEN APPROVED FOR LISTING IN THE DEPARTMENT'S "APPROVED SOURCE OF MATERIALS" MAY BE FURNISHED.

NOTE: PLACE DELINEATORS NO MORE THAN 20'-0" FROM EDGE OF TRAVEL LANES EDGES.

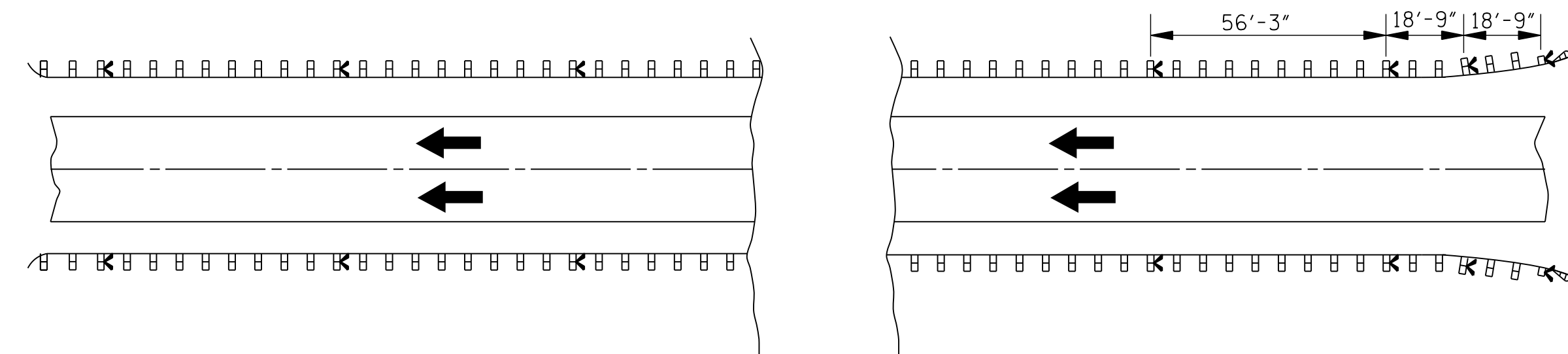
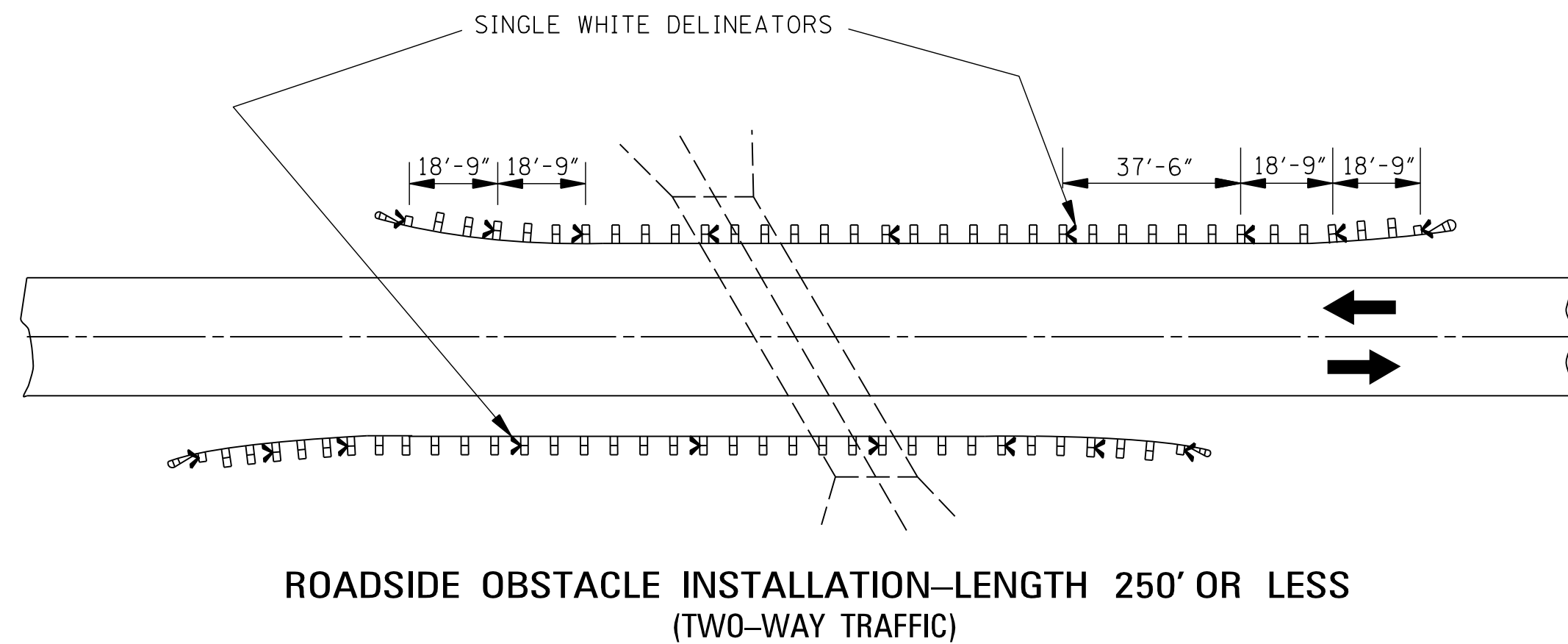
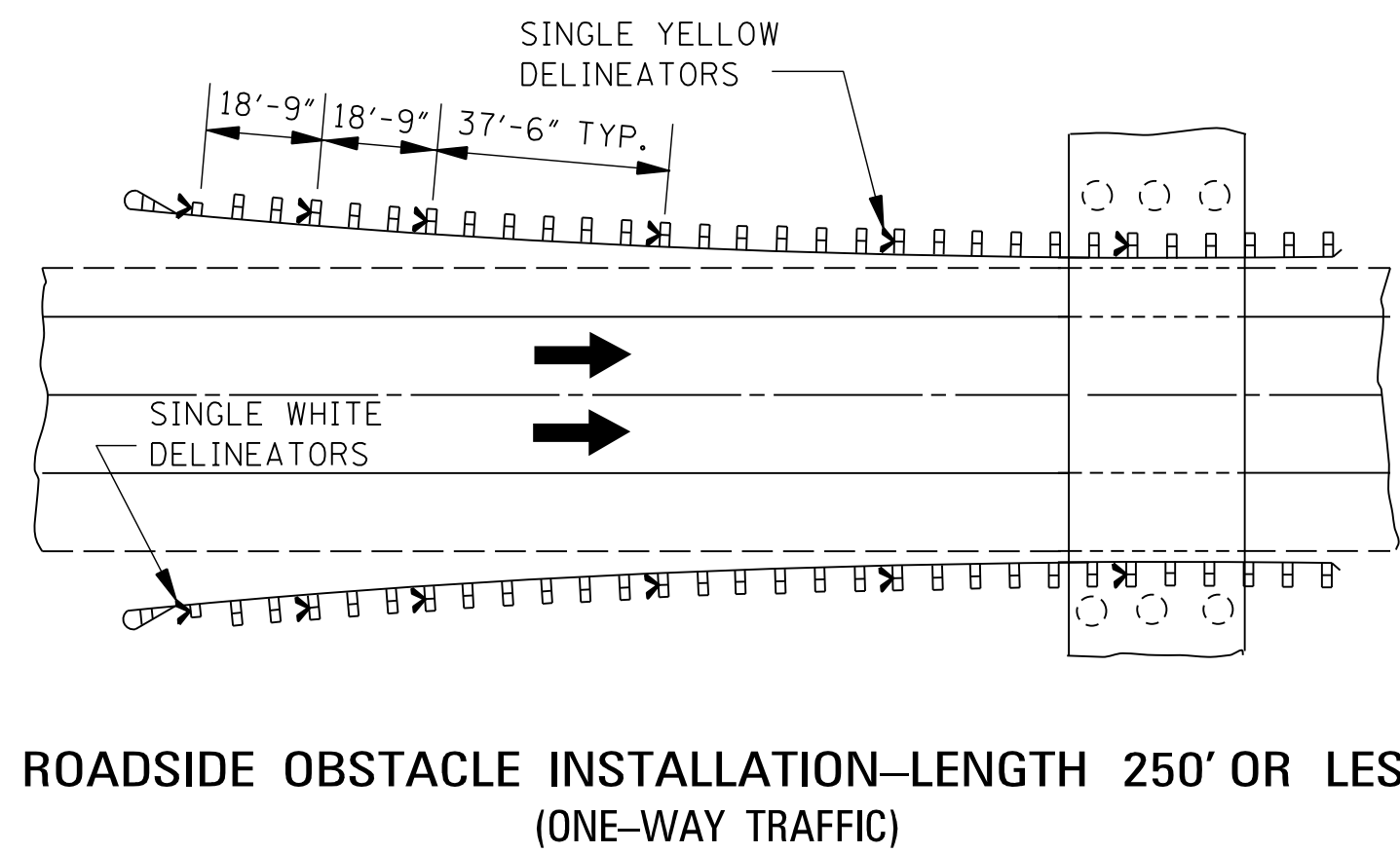
GENERAL NOTES:

1. THE UNIT PRICE OF DELINEATOR INCLUDES: COST(S) OF DELINEATOR FACE(S), POST, HARDWARE AND INSTALLATION.
2. DELINEATOR FACE WILL BE ENCAPSULATED LENS REFLECTIVE SHEETING.
3. POST REQUIRING THE INSTALLATION OF A BASE SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.
4. THE COLOR OF DELINEATORS SHALL BE THE COLOR OF THE ADJACENT EDGELINE PER MUTCD SECTION 3F.03.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>TYPICAL CROSSOVER DELINEATION</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					 WORKING NUMBER SN-8B SHEET NUMBER 6316



GRAPHIC SHOWING SPACINGS OF GUARDRAIL DELINEATORS  
AT SOME COMMONLY USED BRIDGE APPROACHES

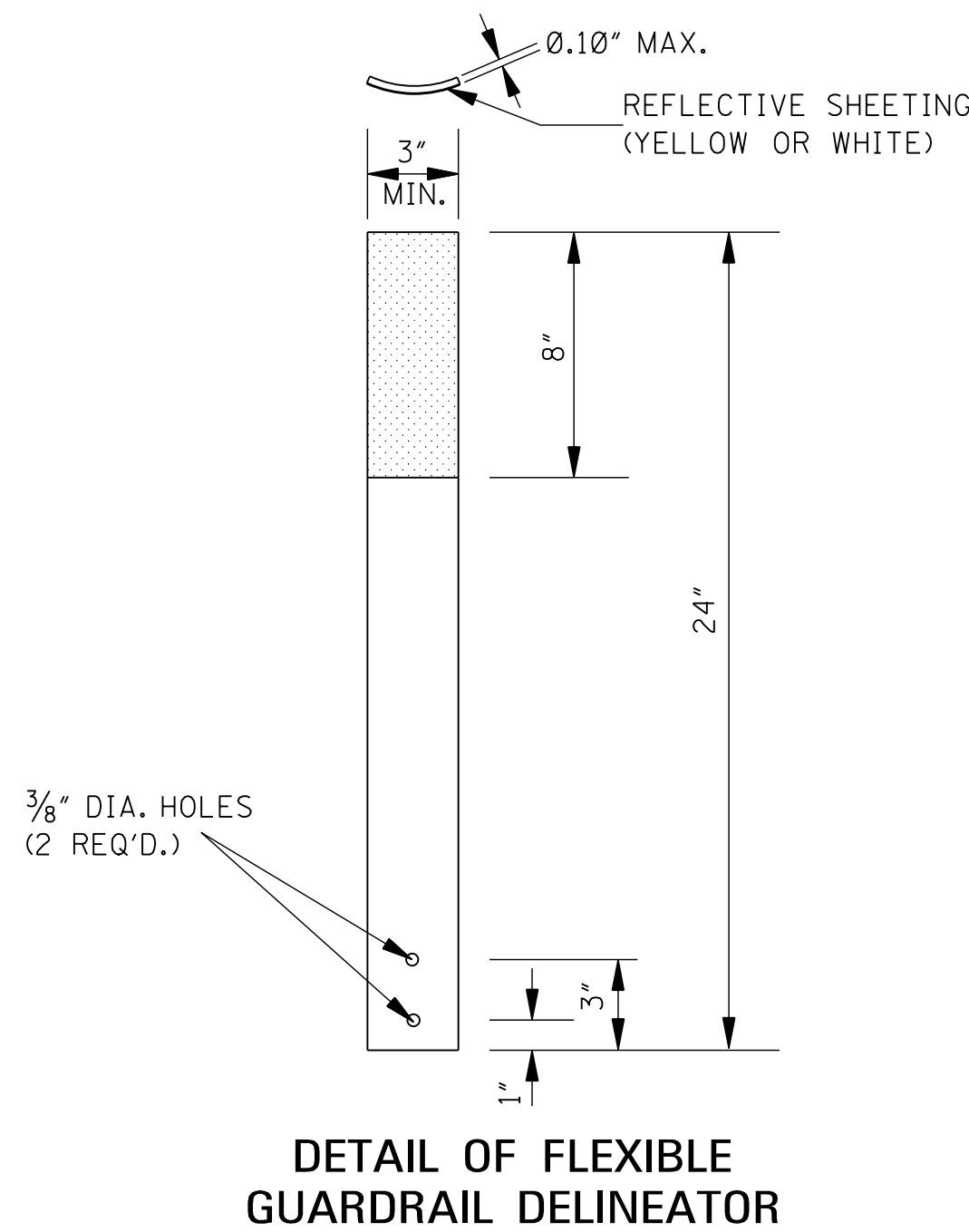
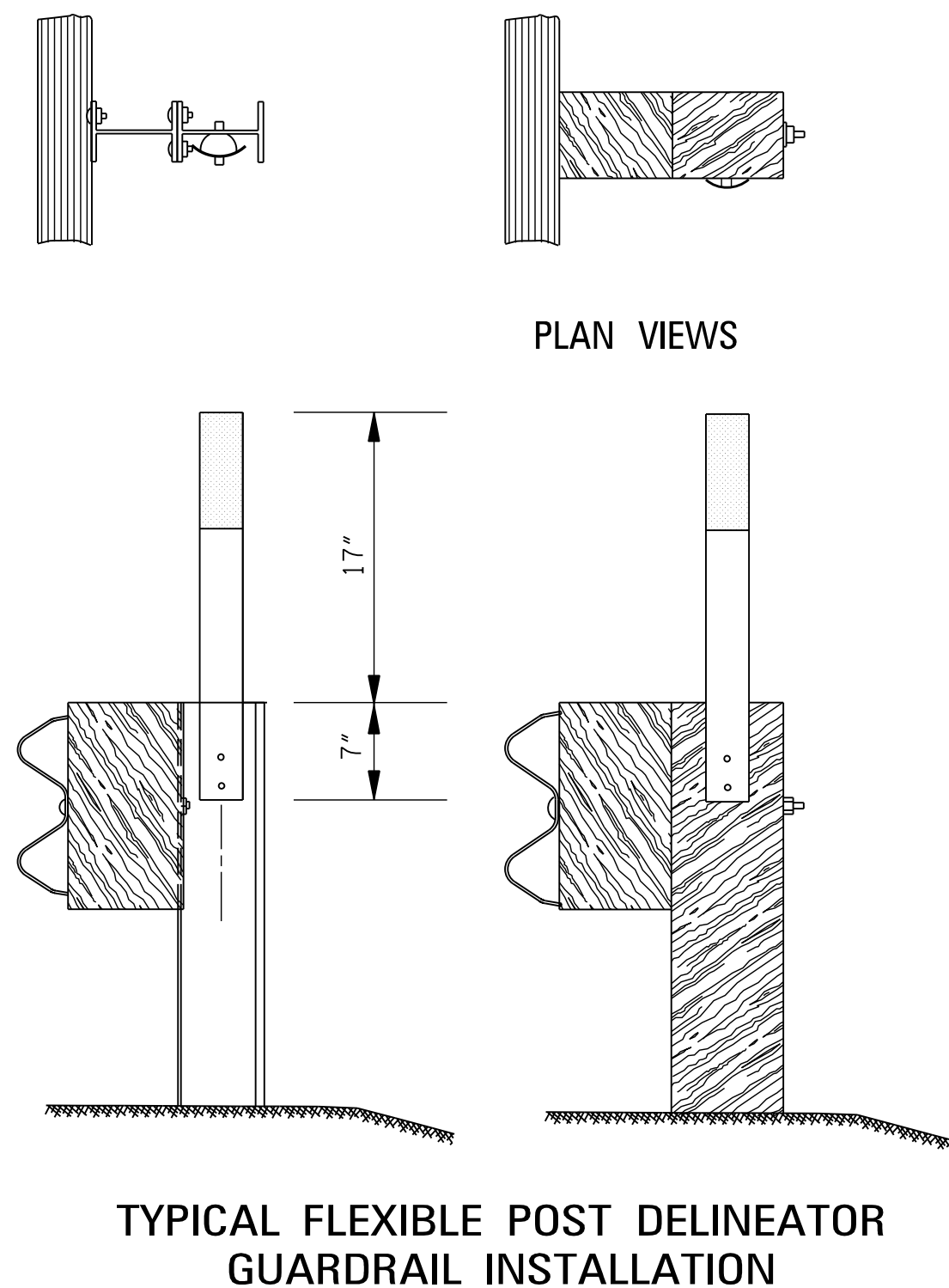


EMBANKMENT OR ROADSIDE OBSTACLE INSTALLATION—LENGTH GREATER THAN 250'  
(ONE-WAY TRAFFIC)

NOTE: ONE-WAY TRAFFIC SHOWN. DELINEATOR SPACING FOR TWO-WAY TRAFFIC SIMILAR. DELINEATOR COLOR WILL BE THE SAME AS THE ADJACENT PAVEMENT EDGE MARKING. THE FIRST THREE (3) MARKERS WILL FACE TRAFFIC IN OFF LANE FOR TWO-WAY TRAFFIC AS SHOWN IN DRAWING FOR OBSTACLE INSTALLATION FOR TWO-WAY TRAFFIC.

GENERAL NOTES:

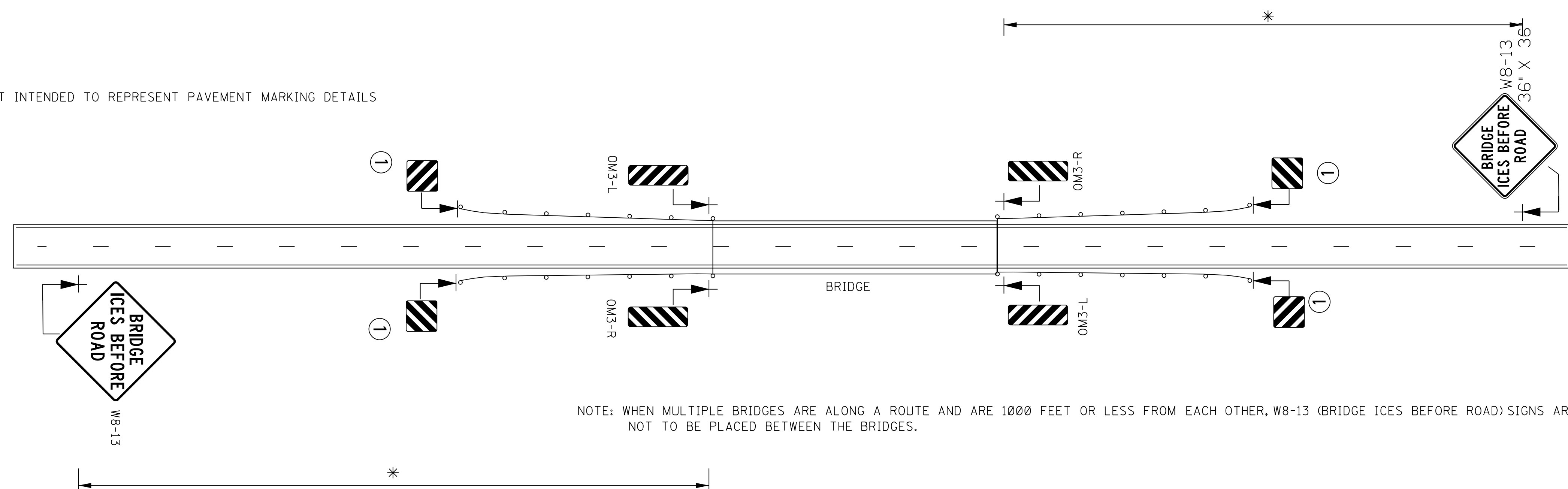
1. THE UNIT PRICE OF DELINEATOR INCLUDES: COST(S) OF DELINEATOR FACE(S), POST, HARDWARE AND INSTALLATION.
2. DELINEATOR FACE WILL BE ENCAPSULATED LENS REFLECTIVE SHEETING.
3. DELINEATORS FOR GUARDRAIL SHALL BE MOUNTED ON FLEXIBLE POSTS AS FOLLOWS:  
THE DELINEATOR POSTS WILL BE FROM THE DEPARTMENTS "APPROVED SOURCE OF MATERIALS" AND WILL BE FASTENED TO GUARDRAIL POST IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.



				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>TYPICAL GUARDRAIL DELINEATION</b>
				DATE	ISSUE DATE: AUGUST 01, 2017

WORKING NUMBER SN-8C
SHEET NUMBER 6317

DRAWING NOT INTENDED TO REPRESENT PAVEMENT MARKING DETAILS



NOTE: WHEN MULTIPLE BRIDGES ARE ALONG A ROUTE AND ARE 1000 FEET OR LESS FROM EACH OTHER, W8-13 (BRIDGE ICES BEFORE ROAD) SIGNS ARE NOT TO BE PLACED BETWEEN THE BRIDGES.

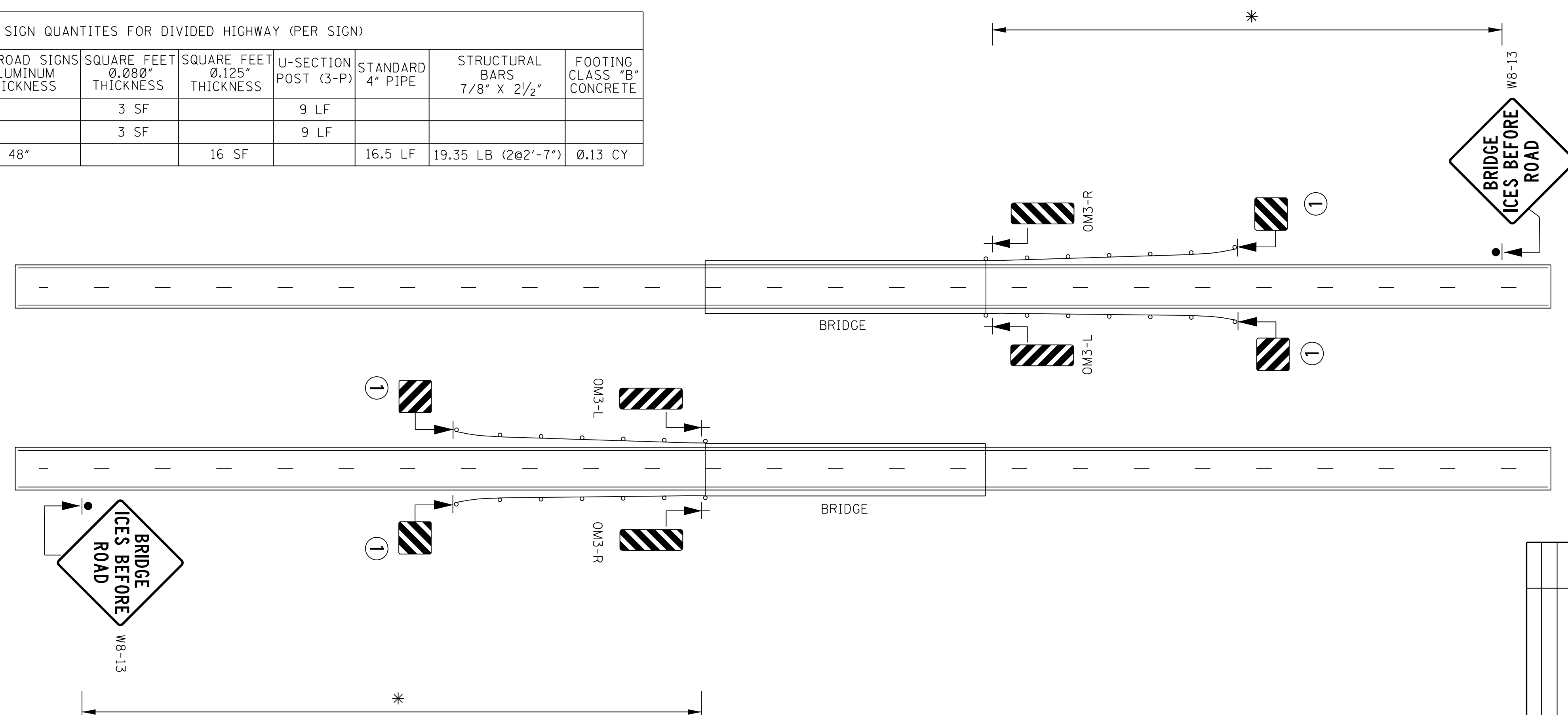
## UNDIVIDED HIGHWAY DETAIL

SIGN QUANTITIES FOR UNDIVIDED HIGHWAY (PER SIGN)					
MUTCD NUMBER	STANDARD ROAD SIGN SHEET ALUMINUM 0.080" THICKNESS	STANDARD ROAD SIGN SHEET ALUMINUM 0.125" THICKNESS	SQUARE FEET 0.080" THICKNESS	SQUARE FEET 0.125" THICKNESS	U-SECTION POST (3-P)
OM3-L	12" X 36"		3 SF		9 LF
OM3-R	12" X 36"		3 SF		9 LF
W8-13		36" X 36"		9 SF	15 LF

① REFLECTIVE ADHESIVE SHEETING WITH ALTERNATING BLACK AND YELLOW STRIPES (SLOPING DOWNWARD) AT AN ANGLE OF 45 DEGREES IN THE DIRECTION TRAFFIC IS TO PASS) IS REQUIRED ON THE END OF THE TERMINAL END SECTION. NOT A SEPARATE PAY ITEM. COST TO BE ABSORBED IN GUARD RAIL.

SIGN QUANTITIES FOR DIVIDED HIGHWAY (PER SIGN)								
MUTCD NUMBER	STANDARD ROAD SIGNS SHEET ALUMINUM 0.080" THICKNESS	STANDARD ROAD SIGNS SHEET ALUMINUM 0.125" THICKNESS	SQUARE FEET 0.080" THICKNESS	SQUARE FEET 0.125" THICKNESS	U-SECTION POST (3-P)	STANDARD 4" PIPE	STRUCTURAL BARS 7/8" X 2 1/2"	FOOTING CLASS "B" CONCRETE
OM3-L	12" X 36"		3 SF		9 LF			
OM3-R	12" X 36"		3 SF		9 LF			
W8-13		48" X 48"		16 SF		16.5 LF	19.35 LB (2@2'-7")	0.13 CY

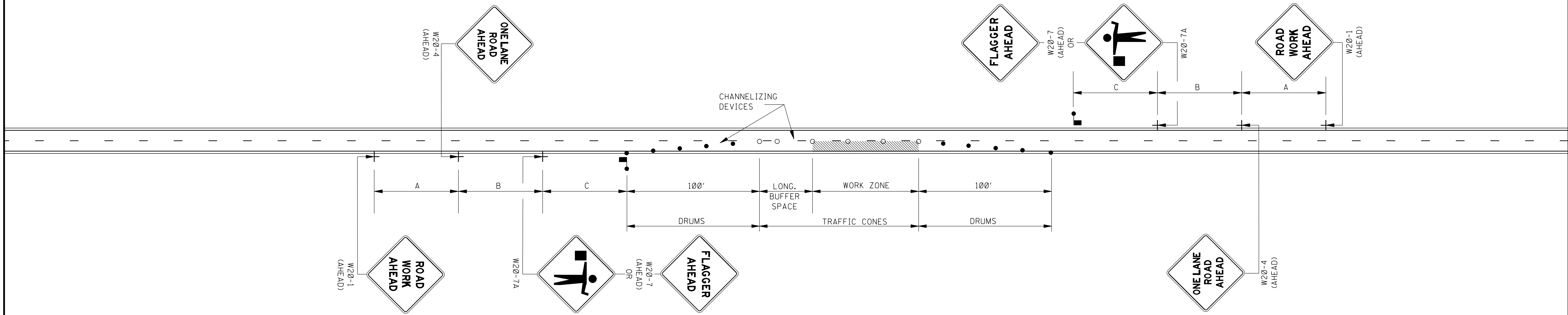
* TABLE 2C-4 MUTCD	
SPEED (MPH)	MINIMUM PLACEMENT (FEET)
35	100
40	125
45	175
50	250
55	325
60	400
65	475
70	550



## DIVIDED HIGHWAY DETAIL

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
<b><i>SIGNING DETAILS FOR BRIDGE APPROACHES</i></b>					 WORKING NUMBER SN-9
				DATE	
ISSUE DATE: <u>          AUGUST 01, 2017          </u>					SHEET NUMBER 6318





GENERAL NOTES:


1. THE LOCATION OF CHANNELIZING DEVICES AND THE WORK AREA LAYOUT SHALL BE BASED ON THE CRITERIA IN THE FOLLOWING TABLE. FLAGGER STATIONS SHALL BE LOCATED SUCH THAT APPROACHING VEHICLES WILL HAVE SUFFICIENT DISTANCE TO STOP. VALUES IN STOPPING SIGHT DISTANCE COLUMN MAY BE USED AS A MINIMUM FOR THIS DISTANCE.

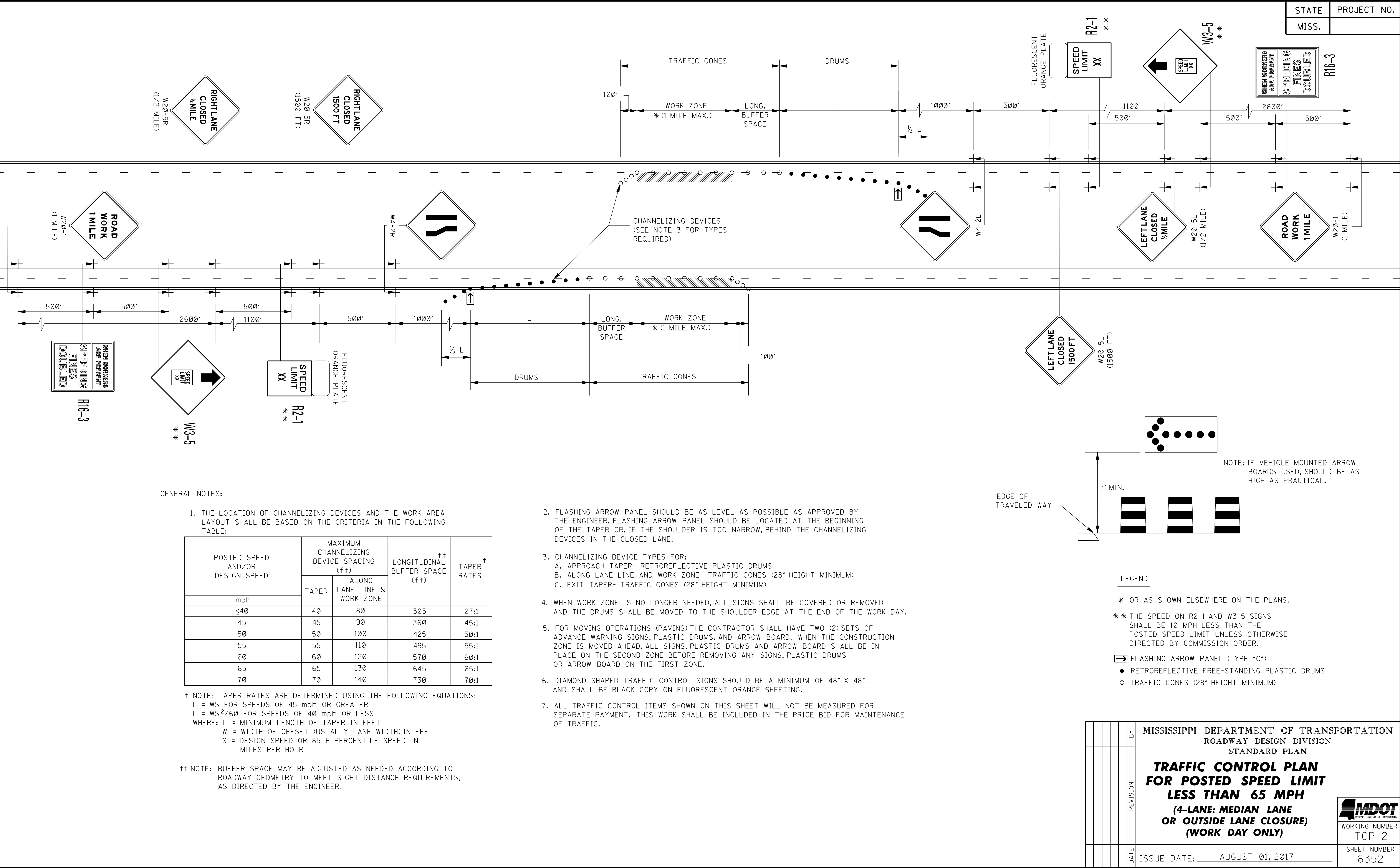
POSTED SPEED AND/OR DESIGN SPEED	MAXIMUM CHANNELIZING DEVICE SPACING (ft)		LONGITUDINAL BUFFER SPACE (ft)	STOPPING SIGHT DISTANCE
	TAPER	ALONG LANE LINE & WORK ZONE		
mph				
25	20	50	55	155
30	20	60	85	200
35	20	70	120	250
40	20	80	170	305
45	20	90	220	360
50	20	100	280	425
55	20	110	335	495
60	20	120	415	570
65	20	130	485	645

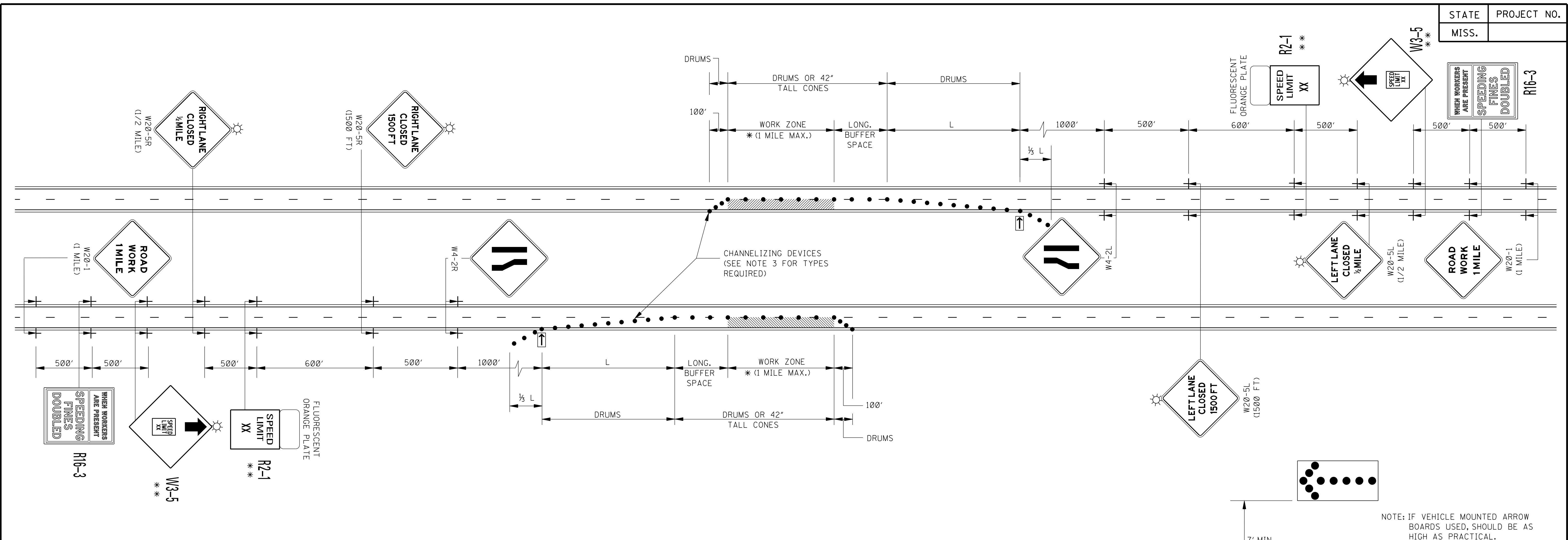
† NOTE: BUFFER SPACE MAY BE ADJUSTED AS NEEDED ACCORDING TO ROADWAY GEOMETRY TO MEET SIGHT DISTANCE REQUIREMENTS, AS DIRECTED BY THE ENGINEER.

2. ALL CHANNELIZING DEVICES SHALL BE A MINIMUM OF 28" IN HEIGHT.
3. DIAMOND SHAPED TRAFFIC CONTROL SIGNS SHALL BE A MINIMUM OF 36" x 36" AND BLACK COPY ON FLUORESCENT ORANGE SHEETING.
4. WHEN WORK ZONE IS NO LONGER NEEDED, ALL SIGNS SHALL BE COVERED OR REMOVED AND ALL CHANNELIZING DEVICES SHALL BE MOVED TO THE SHOULDER EDGE.
5. ADDITIONAL FLAGGERS MAY BE NEEDED AS DIRECTED BY THE ENGINEER.
6. WHEN WORK IS REQUIRED AT NIGHT, FLAGGER STATIONS SHALL BE ILLUMINATED.
7. CHANNELIZING DEVICE TYPES FOR:  
A. APPROACH AND EXIT TAPERS- RETROREFLECTIVE PLASTIC DRUMS  
B. ALONG LANE LINE AND WORK ZONE- TRAFFIC CONES (28" HEIGHT)
8. ALL TRAFFIC CONTROL ITEMS SHOWN ON THIS SHEET WILL NOT BE MEASURED FOR SEPARATE PAYMENT. THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR MAINTENANCE OF TRAFFIC.

DISTANCE BETWEEN SIGNS			
ROAD TYPE	A	B	C
URBAN (35 MPH OR LESS)	100 FT.	100 FT.	100 FT.
URBAN (40 - 70 MPH)	350 FT.	350 FT.	350 FT.
RURAL	500 FT.	500 FT.	500 FT.
EXPRESSWAY / FREEWAY	1000 FT.	1500 FT.	2640 FT.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>TRAFFIC CONTROL PLAN WITH FLAGGER (ONE-LANE CLOSURE OF TWO-WAY TRAFFIC)</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					 WORKING NUMBER TCP-1 SHEET NUMBER 6351





GENERAL NOTES:

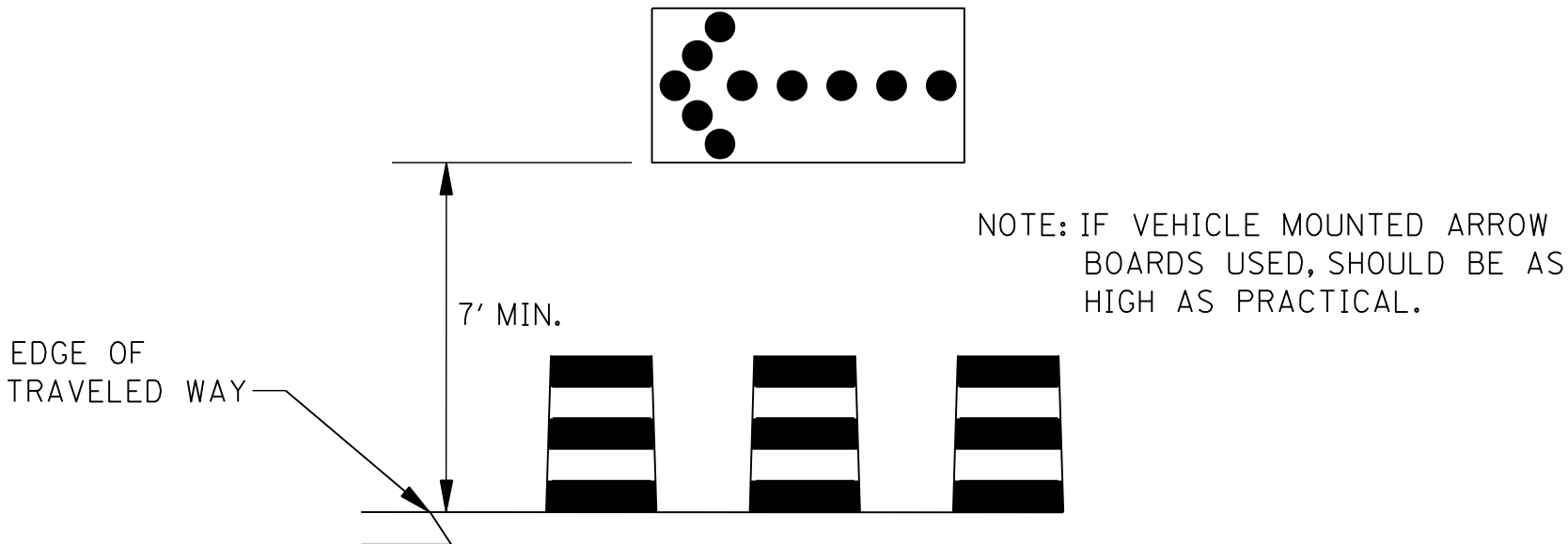
1. THE LOCATION OF CHANNELIZING DEVICES AND THE WORK AREA LAYOUT SHALL BE BASED ON THE CRITERIA IN THE FOLLOWING TABLE:

POSTED SPEED AND/OR DESIGN SPEED	MAXIMUM CHANNELIZING DEVICE SPACING (ft)		LONGITUDINAL BUFFER SPACE (ft)	TAPER <sup>†</sup> RATES
	TAPER	ALONG BUFFER SPACE & WORK ZONE		
mph				
≤40	40	80	305	27:1
45	45	90	360	45:1
50	50	100	425	50:1
55	55	110	495	55:1
60	60	120	570	60:1
65	65	130	645	65:1
70	70	140	730	70:1

† NOTE: TAPER RATES ARE DETERMINED USING THE FOLLOWING EQUATIONS:  
L = WS FOR SPEEDS OF 45 mph OR GREATER  
L = WS<sup>2</sup>/60 FOR SPEEDS OF 40 mph OR LESS  
WHERE: L = MINIMUM LENGTH OF TAPER IN FEET  
W = WIDTH OF OFFSET (USUALLY LANE WIDTH) IN FEET  
S = DESIGN SPEED OR 85TH PERCENTILE SPEED IN MILES PER HOUR

++ NOTE: BUFFER SPACE MAY BE ADJUSTED AS NEEDED ACCORDING TO ROADWAY GEOMETRY TO MEET SIGHT DISTANCE REQUIREMENTS, AS DIRECTED BY THE ENGINEER.

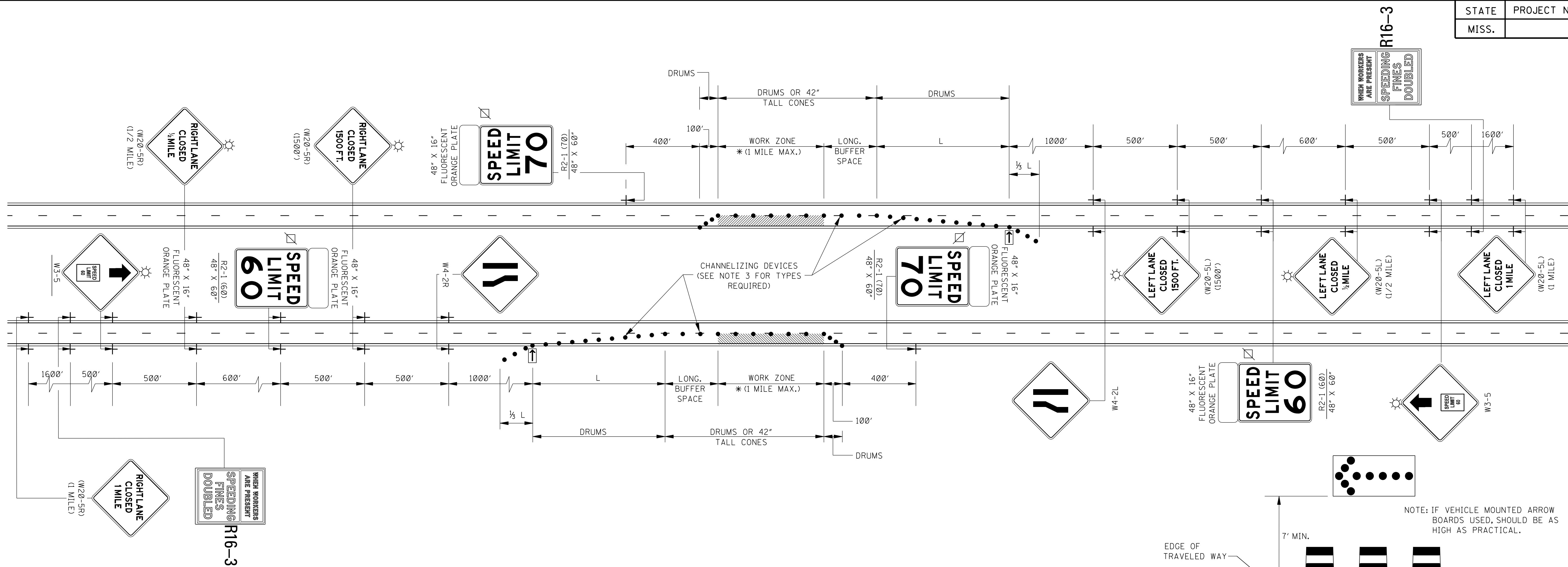
2. FLASHING ARROW PANEL SHOULD BE AS LEVEL AS POSSIBLE AS APPROVED BY THE ENGINEER. FLASHING ARROW PANEL SHOULD BE LOCATED AT THE BEGINNING OF THE TAPER OR, IF THE SHOULDER IS TOO NARROW, BEHIND THE CHANNELIZING DEVICES IN THE CLOSED LANE.
3. CHANNELIZING DEVICES:
- A. ALL CHANNELIZING DEVICES IN TAPERS SHALL BE RETROREFLECTIVE FREE STANDING PLASTIC DRUMS.
- B. CHANNELIZING DEVICES IN TANGENTS MAY BE EITHER RETROREFLECTIVE FREE STANDING PLASTIC DRUMS OR 42" TALL CONES.
- C. ALL CHANNELIZING DEVICES SHALL BE RETROREFLECTIVE.
- D. RETROREFLECTORIZATION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE M.U.T.C.D.
4. FOR MOVING OPERATIONS (PAVING) THE CONTRACTOR SHALL HAVE TWO (2) SETS OF ADVANCE WARNING SIGNS, PLASTIC DRUMS, AND ARROW BOARD. WHEN THE CONSTRUCTION ZONE IS MOVED AHEAD, ALL SIGNS, PLASTIC DRUMS AND ARROW BOARD SHALL BE IN PLACE ON THE SECOND ZONE BEFORE REMOVING ANY SIGNS, PLASTIC DRUMS OR ARROW BOARD ON THE FIRST ZONE.
5. DIAMOND SHAPED TRAFFIC CONTROL SIGNS SHOULD BE A MINIMUM OF 48" X 48". AND SHALL BE BLACK COPY ON FLUORESCENT ORANGE SHEETING.
6. ALL TRAFFIC CONTROL ITEMS SHOWN ON THIS SHEET WILL NOT BE MEASURED FOR SEPARATE PAYMENT. THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR MAINTENANCE OF TRAFFIC.



LEGEND

- \* OR AS SHOWN ELSEWHERE ON THE PLANS.
- \*\* THE SPEED ON R2-1 AND W3-5 SIGNS SHALL BE 10 MPH LESS THAN THE POSTED SPEED LIMIT UNLESS OTHERWISE DIRECTED BY COMMISSION ORDER.
- ➡ FLASHING ARROW PANEL (TYPE "C")
- RETROREFLECTIVE FREE-STANDING PLASTIC DRUMS
- ☀ TYPE "B" WARNING LIGHTS

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>TRAFFIC CONTROL PLAN FOR POSTED SPEED LIMIT LESS THAN 65 MPH</b> (4-LANE: MEDIAN LANE OR OUTSIDE LANE CLOSURE) (EXTENDED PERIOD)
				DATE	ISSUE DATE: AUGUST 01, 2017
					WORKING NUMBER TCP-3 SHEET NUMBER 6353



GENERAL NOTES:

1. THE LOCATION OF CHANNELIZING DEVICES AND THE WORK AREA LAYOUT SHALL BE BASED ON THE CRITERIA IN THE FOLLOWING TABLE:

POSTED SPEED AND/OR DESIGN SPEED	MAXIMUM CHANNELIZING DEVICE SPACING (ft)		LONGITUDINAL BUFFER SPACE (ft)	TAPER RATES <sup>†</sup>
	TAPER	ALONG BUFFER SPACE & WORK ZONE		
mph				
≤40	40	80	305	27:1
45	45	90	360	45:1
50	50	100	425	50:1
55	55	110	495	55:1
60	60	120	570	60:1
65	65	130	645	65:1
70	70	140	730	70:1

+ NOTE: TAPER RATES ARE DETERMINED USING THE FOLLOWING EQUATIONS:  
 $L = WS$  FOR SPEEDS OF 45 mph OR GREATER  
 $L = WS^2/60$  FOR SPEEDS OF 40 mph OR LESS  
 WHERE: L = MINIMUM LENGTH OF TAPER IN FEET  
           W = WIDTH OF OFFSET (USUALLY LANE WIDTH) IN FEET  
           S = DESIGN SPEED OR 85TH PERCENTILE SPEED IN  
               MILES PER HOUR

†† NOTE: BUFFER SPACE MAY BE ADJUSTED AS NEEDED ACCORDING TO ROADWAY GEOMETRY TO MEET SIGHT DISTANCE REQUIREMENTS, AS DIRECTED BY THE ENGINEER.

2. FLASHING ARROW PANEL SHOULD BE AS LEVEL AS POSSIBLE AS APPROVED BY THE ENGINEER. FLASHING ARROW PANEL SHOULD BE LOCATED AT THE BEGINNING OF THE TAPER OR, IF THE SHOULDER IS TOO NARROW, BEHIND THE CHANNELIZING DEVICES IN THE CLOSED LANE.




3. CHANNELIZING DEVICES:
  - A. ALL CHANNELIZING DEVICES IN TAPERS SHALL BE RETROREFLECTIVE FREE STANDING PLASTIC DRUMS.
  - B. CHANNELIZING DEVICES IN TANGENTS MAY BE EITHER RETROREFLECTIVE FREE STANDING PLASTIC DRUMS OR 42" TALL CONES.
  - C. ALL CHANNELIZING DEVICES SHALL BE RETROREFLECTIVE.
  - D. RETROREFLECTORIZATION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE M.U.T.C.D.
4. DIAMOND SHAPED TRAFFIC CONTROL SIGNS SHOULD BE A MINIMUM OF 48" X 48", AND SHALL BE BLACK COPY ON FLUORESCENT ORANGE SHEETING.
5. ALL EXISTING SPEED LIMIT SIGNS WHICH ARE INFLUENCED BY OR CONFLICT WITH THE SPEED ZONE REDUCTION SHALL BE COVERED AS DIRECTED BY THE ENGINEER WHILE THE REDUCED SPEED LIMIT IS IN EFFECT. TAPE SHALL NOT BE USED ON FACE OF SIGN.
6. ADDITIONAL REDUCED REGULATORY SPEED LIMIT SIGNS ARE REQUIRED AT EACH ENTRANCE RAMP WITHIN THE SPEED ZONE. TWO (2) WILL BE REQUIRED FOR EACH RAMP AND LOCATION WILL BE DETERMINED BY THE ENGINEER.
7. THIS TRAFFIC CONTROL PLAN, WITH SPEED ZONE, MAY NOT BE USED ON ANY FACILITY WHERE THE POSTED SPEED LIMIT IS BELOW 65 MPH WITHOUT A COMMISSION ORDER REQUESTING A SPEED LIMIT REDUCTION.
8. LAYOUT SHOWN ABOVE IS FOR AN INTERSTATE WITH A POSTED SPEED LIMIT OF 70 MPH. FOR POSTED SPEED LIMIT OF 65 MPH, THE REDUCED SPEED LIMIT WILL BE 55 MPH.
9. A FLUORESCENT ORANGE PLATE IS REQUIRED WITH ALL REGULATORY SPEED LIMIT SIGNS REQUIRED FOR LANE CLOSURE.
10. ALL TRAFFIC CONTROL ITEMS SHOWN ON THIS SHEET WILL NOT BE MEASURED FOR SEPARATE PAYMENT. THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR MAINTENANCE OF TRAFFIC.


EDGE OF  
TRAVELED

7' MIN.

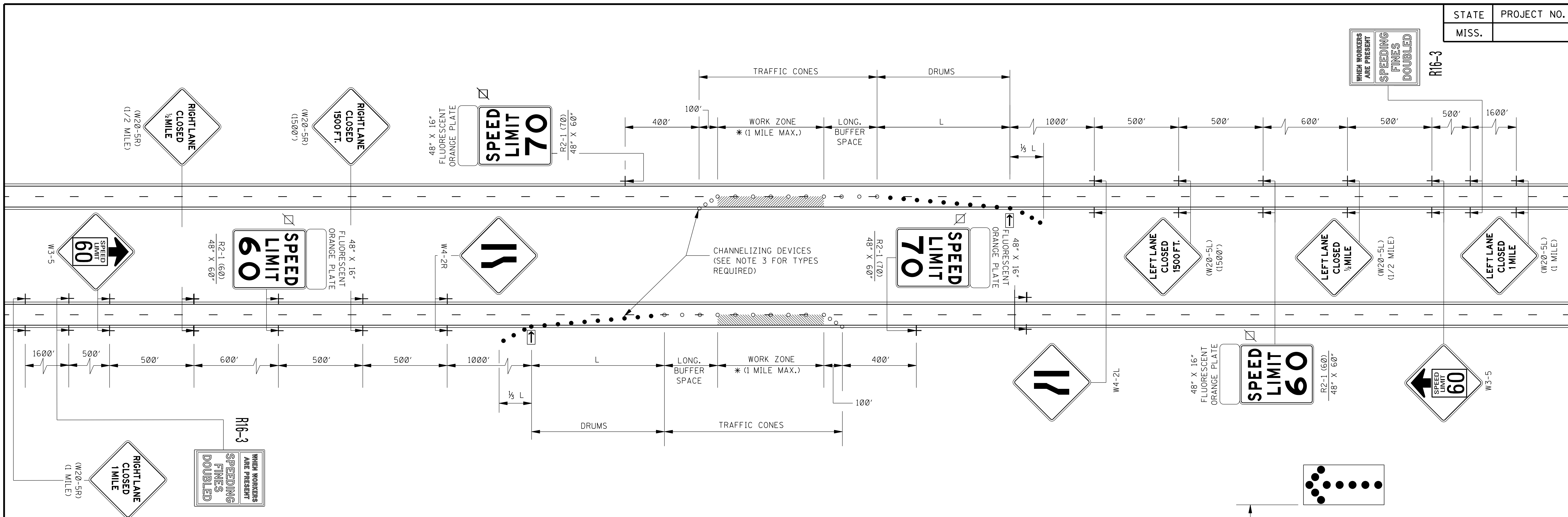
NOTE: IF VEHICLE MOUNTED ARROW  
BOARDS USED, SHOULD BE AS  
HIGH AS PRACTICAL.

### LEGEND

- \* OR AS SHOWN ELSEWHERE ON THE PLANS.
-  FLASHING ARROW PANEL (TYPE "C")
-  BLACK LEGEND AND BORDER ON WHITE BACKGROUND
-  TYPE "B" WARNING LIGHTS
- RETROREFLECTIVE FREE-STANDING PLASTIC DRUMS

					BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
					REVISION	<b>TRAFFIC CONTROL PLAN FOR POSTED SPEED LIMIT OF 65 OR 70 MPH (INTERSTATES AND OTHER 4-LANE DIVIDED HIGHWAYS) (MEDIAN LANE OR OUTSIDE LANE CLOSURE) (EXTENDED PERIOD)</b>
					DATE	 <small>MISSISSIPPI DEPARTMENT OF TRANSPORTATION</small> WORKING NUMBER TCP-4 SHEET NUMBER 6354
						ISSUE DATE: <u>          AUGUST 01, 2017          </u>





GENERAL NOTES:

1. THE LOCATION OF CHANNELIZING DEVICES AND THE WORK AREA LAYOUT SHALL BE BASED ON THE CRITERIA IN THE FOLLOWING TABLE:

POSTED SPEED AND/OR DESIGN SPEED	MAXIMUM CHANNELIZING DEVICE SPACING (ft)		LONGITUDINAL BUFFER SPACE (ft)	TAPER RATES
	TAPER	ALONG LANE LINE & WORK ZONE		
mph				
≤40	40	80	305	27:1
45	45	90	360	45:1
50	50	100	425	50:1
55	55	110	495	55:1
60	60	120	570	60:1
65	65	130	645	65:1
70	70	140	730	70:1

† NOTE: TAPER RATES ARE DETERMINED USING THE FOLLOWING EQUATIONS:  
 $L = WS$  FOR SPEEDS OF 45 mph OR GREATER  
 $L = WS^2/60$  FOR SPEEDS OF 40 mph OR LESS  
 WHERE: L = MINIMUM LENGTH OF TAPER IN FEET  
 W = WIDTH OF OFFSET (USUALLY LANE WIDTH) IN FEET  
 S = DESIGN SPEED OR 85TH PERCENTILE SPEED IN MILES PER HOUR



†† NOTE: BUFFER SPACE MAY BE ADJUSTED AS NEEDED ACCORDING TO ROADWAY GEOMETRY TO MEET SIGHT DISTANCE REQUIREMENTS, AS DIRECTED BY THE ENGINEER.

2. FLASHING ARROW PANEL SHOULD BE AS LEVEL AS POSSIBLE AS APPROVED BY THE ENGINEER. FLASHING ARROW PANEL SHOULD BE LOCATED AT THE BEGINNING OF THE TAPER OR, IF THE SHOULDER IS TOO NARROW, BEHIND THE CHANNELIZING DEVICES IN THE CLOSED LANE.

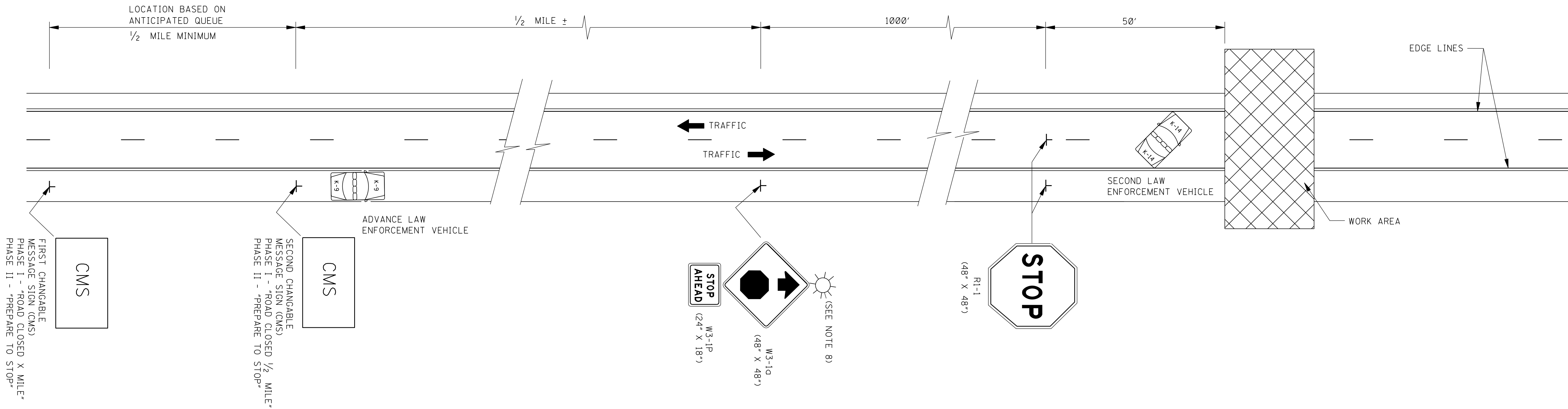
3. CHANNELIZING DEVICE TYPES FOR:
  - A. APPROACH TAPER- RETROREFLECTIVE PLASTIC DRUMS
  - B. ALONG LANE LINE AND WORK ZONE- TRAFFIC CONES (28" HEIGHT MINIMUM)
  - C. EXIT TAPER- TRAFFIC CONES (28" HEIGHT MINIMUM)
4. WHEN WORK ZONE IS NO LONGER NEEDED, ALL SIGNS SHALL BE COVERED OR REMOVED AND THE DRUMS SHALL BE MOVED TO THE SHOULDER EDGE AT THE END OF THE WORK DAY.
5. FOR MOVING OPERATIONS (PAVING) THE CONTRACTOR SHALL HAVE TWO (2) SETS OF ADVANCE WARNING AND REGULATORY SIGNS, PLASTIC DRUMS, AND ARROW BOARD. WHEN THE CONSTRUCTION ZONE IS MOVED AHEAD, ALL SIGNS, PLASTIC DRUMS AND ARROW BOARD SHALL BE IN PLACE ON THE SECOND ZONE BEFORE REMOVING ANY SIGNS, PLASTIC DRUMS OR ARROW BOARD ON THE FIRST ZONE.
6. DIAMOND SHAPED TRAFFIC CONTROL SIGNS SHOULD BE A MINIMUM OF 48" X 48". AND SHALL BE BLACK COPY ON FLUORESCENT ORANGE SHEETING.
7. ALL EXISTING SPEED LIMIT SIGNS WHICH ARE INFLUENCED BY OR CONFLICT WITH THE SPEED ZONE REDUCTION SHALL BE COVERED AS DIRECTED BY THE ENGINEER WHILE THE REDUCED SPEED LIMIT IS IN EFFECT. TAPE SHALL NOT BE USED ON THE FACE OF SIGNS.
8. ADDITIONAL REDUCED REGULATORY SPEED LIMIT SIGNS ARE REQUIRED AT EACH ENTRANCE RAMP WITHIN THE SPEED ZONE. TWO (2) WILL BE REQUIRED FOR EACH RAMP AND LOCATION WILL BE DETERMINED BY THE ENGINEER.
9. THIS TRAFFIC CONTROL PLAN, WITH SPEED ZONE, MAY NOT BE USED ON ANY FACILITY WHERE THE POSTED SPEED LIMIT IS BELOW 65 MPH WITHOUT A COMMISSION ORDER REQUESTING A SPEED LIMIT REDUCTION.
10. LAYOUT SHOWN ABOVE IS FOR AN INTERSTATE WITH A POSTED SPEED LIMIT OF 70 MPH. FOR POSTED SPEED LIMIT OF 65 MPH, THE REDUCED SPEED LIMIT WILL BE 55 MPH.
11. A FLUORESCENT ORANGE PLATE IS REQUIRED WITH ALL REGULATORY SPEED LIMIT SIGNS AND "REDUCED SPEED AHEAD" SIGNS REQUIRED FOR LANE CLOSURE.
12. ALL TRAFFIC CONTROL ITEMS SHOWN ON THIS SHEET WILL NOT BE MEASURED FOR SEPARATE PAYMENT. THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR MAINTENANCE OF TRAFFIC.

Diagram illustrating the minimum height requirement for a vehicle-mounted arrow board. The board is shown with a right-turn arrow (indicated by a cluster of dots). The height from the edge of the traveled way to the bottom of the board is labeled as 7' MIN. A note states: NOTE: IF VEHICLE MOUNTED ARROW BOARDS USED, SHOULD BE AS HIGH AS PRACTICAL.

LEGEND

- \* OR AS SHOWN ELSEWHERE ON THE PLANS.
-  FLASHING ARROW PANEL (TYPE "C")
-  BLACK LEGEND AND BORDER ON WHITE BACKGROUND
  - RETROREFLECTIVE FREE-STANDING PLASTIC DRUMS
  - TRAFFIC CONES (28" HEIGHT)

[illegible]



GENERAL NOTES:

1. THIS TYPE OF HIGHWAY CLOSURE SHOULD ONLY BE USED FOR CONSTRUCTION OPERATIONS WHEN THE DURATION OF CLOSURE WILL NOT EXCEED 30 MINUTES. AFTER THE HIGHWAY HAS BEEN CLOSED AND REOPENED VIA THIS PROCEDURE, A MINIMUM PERIOD OF 30 MINUTES SHOULD ELAPSE BEFORE ANOTHER SHORT DURATION CLOSURE, EXCEPT WITH THE APPROVAL OF THE ENGINEER.
2. AT LEAST TWO LAW ENFORCEMENT OFFICERS AND TWO LAW ENFORCEMENT VEHICLES SHOULD BE PROVIDED ON EACH APPROACH TO THE CLOSURE. EACH LAW ENFORCEMENT VEHICLE SHOULD HAVE A ROOF MOUNTED FLASHING BLUE LIGHT OR LIGHT BAR.
3. RESTRICTIONS ON ROAD CLOSURES ARE SPECIFIED IN THE CONTRACT DOCUMENT.
4. THE ADVANCE LAW ENFORCEMENT VEHICLE SHOULD BE MOVED BACK AS REQUIRED BY THE QUEUING OF STOPPED VEHICLES.
5. IF QUEUE EXCEEDS THE FIRST CHANGABLE MESSAGE SIGN (CMS) AT ANYTIME DURING A CLOSURE; THE TRAFFIC CONTROL PLAN SHOULD BE ADJUSTED AS NECESSARY, WITH APPROVAL OF THE ENGINEER.

6. TRAFFIC CONTROL FOR THE CLOSURE SHOULD BE ACCOMPLISHED IN THE FOLLOWING ORDER:
  - A. FIRST CHANGABLE MESSAGE SIGN (CMS)
  - B. SECOND CHANGEABLE MESSAGE SIGN (CMS)
  - C. ADVANCE LAW ENFORCEMENT VEHICLE, LIGHTS AND FLASHERS ON.
  - D. "W3-1a (48" X 48")" AND "W3-1P (24" X 18")" SIGNS ERECTED.
  - E. "R1-1 (48" X 48")" SIGNS ERECTED TO STOP TRAFFIC. THE ORDER OF ERECTION SHOULD BE IN THE FOLLOWING ORDER: RIGHT SHOULDER THEN CENTER.
  - F. SECOND LAW ENFORCEMENT VEHICLE, LIGHTS AND FLASHERS ON.
7. TRAFFIC CONTROL SHOULD BE REMOVED IN THE FOLLOWING ORDER:
  - A. WITH TRAFFIC STOPPED REMOVE THE "R1-1 (48" X 48")" SIGNS TOWARD THE RIGHT SHOULDER IN THE FOLLOWING ORDER: CENTER THEN SIGN ON THE RIGHT SHOULDER. SECOND LAW ENFORCEMENT VEHICLE LEADS TRAFFIC THROUGH WORK AREA.
  - B. AFTER ALL STOPPED VEHICLES HAVE STARTED MOVING, THE "W3-1a (48" X 48") AND "W3-1P (24" X 18") SIGNS SHOULD BE REMOVED. THESE SIGNS MAY BE COVERED IF RE-USE IS IMMINENT.
  - C. AFTER ALL VEHICLES HAVE RESUMED APPROXIMATELY NORMAL SPEED, THE CHANGABLE MESSAGE SIGNS TURNED OFF.

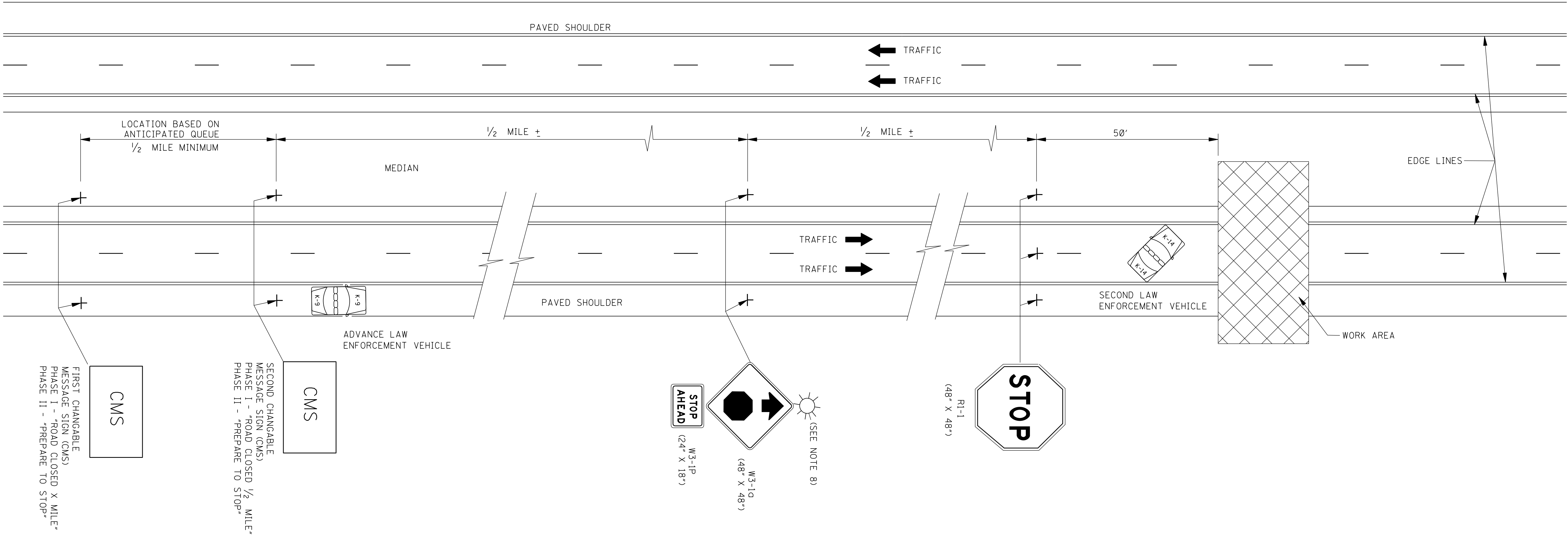
8. UNILLUMINATED SECTIONS OF HIGHWAYS SHOULD NOT BE CLOSED DURING HOURS OF DARKNESS EXCEPT FOR EMERGENCIES OR WITH THE APPROVAL OF THE ENGINEER. WHEN THE HIGHWAY MUST BE CLOSED DURING HOURS OF DARKNESS, A TYPE B HIGH INTENSITY FLASHING BARRICADE WARNING LIGHT SHALL BE USED ON EACH W3-1a SIGN.
9. IF AN ENTRANCE RAMP IS LOCATED BETWEEN THE SECOND CMS AND R1-1, THE CMS, "W3-1a (48" X 48")", AND "W3-1P (24" X 18") SIGNS SHOULD ALSO BE ERECTED ON THE RAMP SHOULDER.
10. THE ABOVE DURATION WILL APPLY TO EACH APPROACH TO THE CLOSURE.
11. ALL TRAFFIC CONTROL ITEMS SHOWN ON THIS SHEET WILL NOT BE MEASURED FOR SEPARATE PAYMENT. THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR MAINTENANCE OF TRAFFIC, INCLUDING SECURING LAW ENFORCEMENT SERVICES.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN	
				REVISION		
				DATE	ISSUE DATE: AUGUST 01, 2017	

MDOT

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

WORKING NUMBER	TCP-6
SHEET NUMBER	6356



GENERAL NOTES:

1. THIS TYPE OF HIGHWAY CLOSURE SHOULD ONLY BE USED FOR CONSTRUCTION OPERATIONS WHEN THE DURATION OF CLOSURE WILL NOT EXCEED 30 MINUTES. AFTER THE HIGHWAY HAS BEEN CLOSED AND REOPENED VIA THIS PROCEDURE, A MINIMUM PERIOD OF 30 MINUTES SHOULD ELAPSE BEFORE ANOTHER SHORT DURATION CLOSURE, EXCEPT WITH THE APPROVAL OF THE ENGINEER.
2. AT LEAST TWO LAW ENFORCEMENT OFFICERS AND TWO LAW ENFORCEMENT VEHICLES SHOULD BE PROVIDED ON EACH APPROACH TO THE CLOSURE. EACH LAW ENFORCEMENT VEHICLE SHOULD HAVE A ROOF MOUNTED FLASHING BLUE LIGHT OR LIGHT BAR.
3. RESTRICTIONS ON ROAD CLOSURES ARE SPECIFIED IN THE CONTRACT DOCUMENT.
4. THE ADVANCE LAW ENFORCEMENT VEHICLE SHOULD BE MOVED BACK AS REQUIRED BY THE QUEUING OF STOPPED VEHICLES.
5. IF QUEUE EXCEEDS THE FIRST CHANGABLE MESSAGE SIGN (CMS) AT ANYTIME DURING A CLOSURE; THE TRAFFIC CONTROL PLAN SHOULD BE ADJUSTED AS NECESSARY, WITH APPROVAL OF THE ENGINEER.

6. TRAFFIC CONTROL FOR THE CLOSURE SHOULD BE ACCOMPLISHED IN THE FOLLOWING ORDER:
  - A. FIRST CHANGABLE MESSAGE SIGN (CMS)
  - B. SECOND CHANGABLE MESSAGE SIGN (CMS)
  - C. ADVANCE LAW ENFORCEMENT VEHICLE, LIGHTS AND FLASHERS ON.
  - D. "W3-1a (48" X 48")" AND "W3-1P (24" X 18")" SIGNS ERECTED.
  - E. "R1-1 (48" X 48")" SIGNS ERECTED TO STOP TRAFFIC. THE ORDER OF ERECTION SHOULD BE TOWARD THE MEDIAN SHOULDER IN THE FOLLOWING ORDER: RIGHT SHOULDER, THEN CENTER, THEN MEDIAN SHOULDER.

- F. SECOND LAW ENFORCEMENT VEHICLE, LIGHTS AND FLASHERS ON.

7. TRAFFIC CONTROL SHOULD BE REMOVED IN THE FOLLOWING ORDER:


- A. WITH TRAFFIC STOPPED REMOVE THE "R1-1 (48" X 48")" SIGNS TOWARD THE RIGHT SHOULDER IN THE FOLLOWING ORDER: MEDIAN, THEN CENTER, THEN SIGN ON THE RIGHT SHOULDER. SECOND LAW ENFORCEMENT VEHICLE LEADS TRAFFIC THROUGH WORK AREA.
- B. AFTER ALL STOPPED VEHICLES HAVE STARTED MOVING, THE "W3-1a (48" X 48")" AND "W3-1P (24" X 18")" SIGNS SHOULD BE REMOVED. THESE SIGNS MAY BE COVERED IF RE-USE IS IMMINENT.
- C. AFTER ALL VEHICLES HAVE RESUMED APPROXIMATELY NORMAL SPEED, THE CHANGABLE MESSAGE SIGNS TURNED OFF.

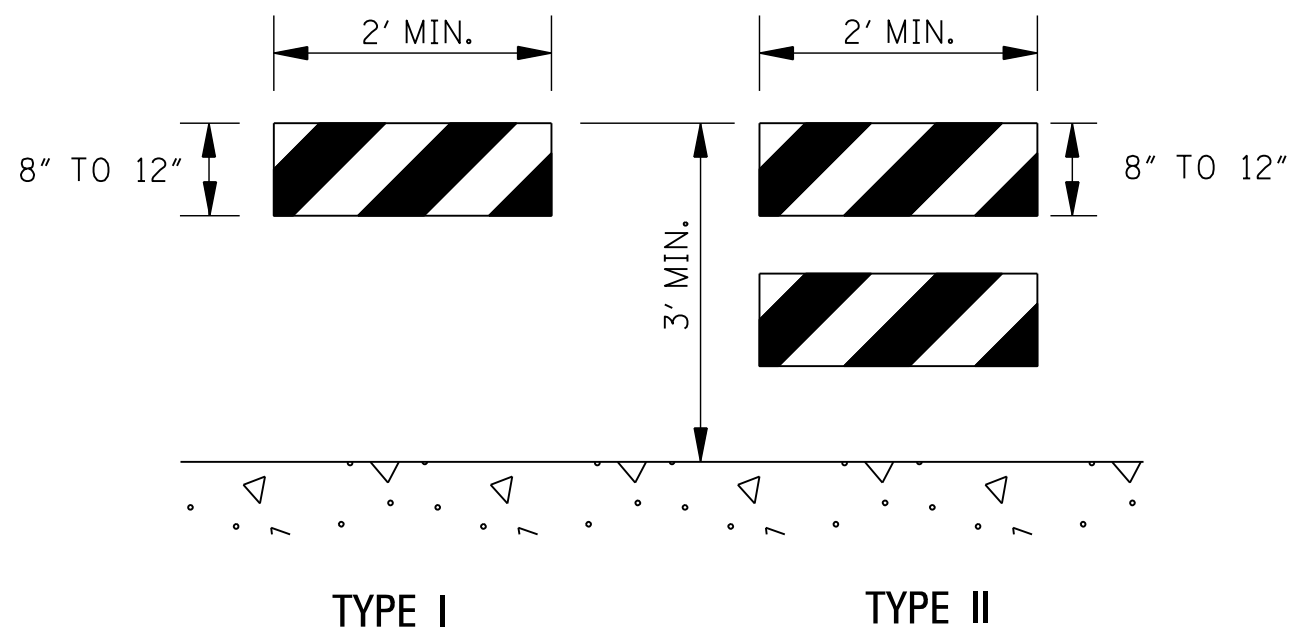
8. UNILLUMINATED SECTIONS OF HIGHWAYS SHOULD NOT BE CLOSED DURING HOURS OF DARKNESS EXCEPT FOR EMERGENCIES OR WITH THE APPROVAL OF THE ENGINEER. WHEN THE HIGHWAY MUST BE CLOSED DURING HOURS OF DARKNESS, A TYPE B HIGH INTENSITY FLASHING BARRICADE WARNING LIGHT SHALL BE USED ON EACH W3-1a SIGN.

9. IF AN ENTRANCE RAMP IS LOCATED BETWEEN THE SECOND CMS AND R1-1, THE CMS, "W3-1a (48" X 48")", AND "W3-1P (24" X 18")" SIGNS SHOULD ALSO BE ERECTED ON THE RAMP SHOULDER.

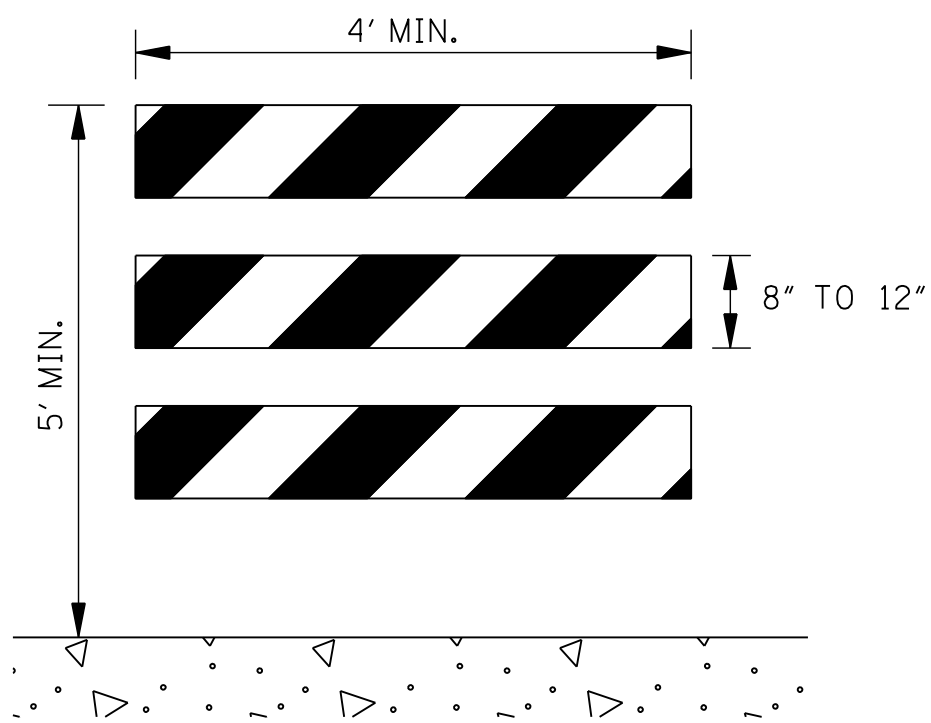
10. THE ABOVE DURATION WILL APPLY TO EACH APPROACH TO THE CLOSURE.

11. ALL TRAFFIC CONTROL ITEMS SHOWN ON THIS SHEET WILL NOT BE MEASURED FOR SEPARATE PAYMENT. THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR MAINTENANCE OF TRAFFIC, INCLUDING SECURING LAW ENFORCEMENT SERVICES.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN	
				REVISION		
				DATE	ISSUE DATE: AUGUST 01, 2017	
					<b>SHORT DURATION CLOSING OF DIVIDED HIGHWAYS</b>	
					 WORKING NUMBER TCP-7 SHEET NUMBER 6357	



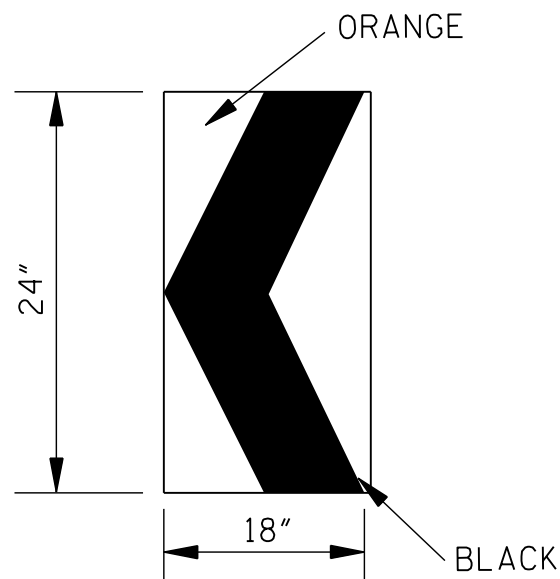
TYPE I                      TYPE II



TYPE III

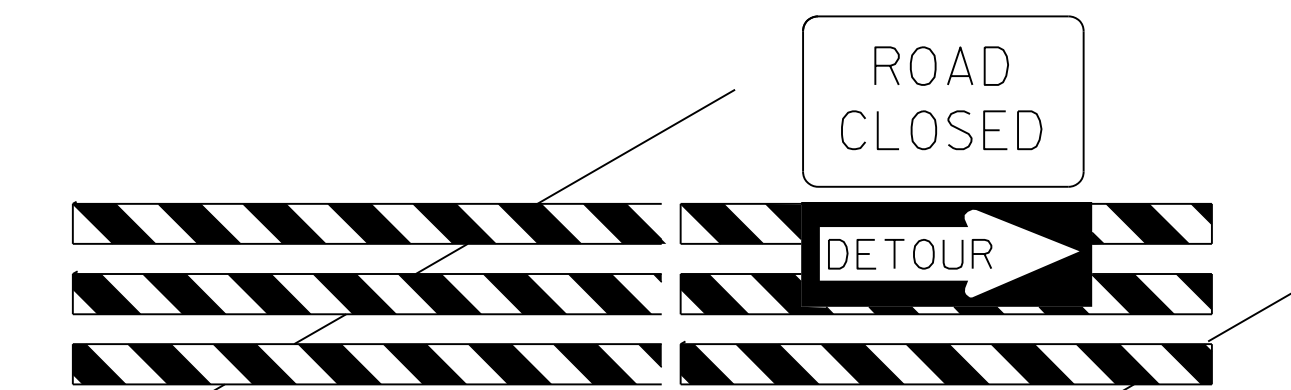
STANDARD BARRICADES

1. THE MARKING FOR BARRICADE RAILS SHALL BE ORANGE AND WHITE (SLOPING DOWNWARD AT AN ANGLE OF 45° IN THE DIRECTION TRAFFIC IS TO PASS).
2. RAIL STRIPE SHOULD BE 6 INCHES, EXCEPT THAT 4-INCH WIDE STRIPES MAY BE USED IF RAIL LENGTHS ARE LESS THAN 36 INCHES.
3. DO NOT PLACE SANDBAGS OR OTHER DEVICES TO PROVIDE MASS ON THE BOTTOM RAIL THAT WILL BLOCK VIEW OR RAIL FACE.
4. FOR ADDITIONAL INFORMATION OR DETAILS, SEE MUTCD, LATEST EDITION.
5. BARRICADES ARE CLASSIFIED BY FHWA AS CATEGORY II WORK ZONE DEVICES WHICH REQUIRE CRASHWORTHINESS ACCEPTANCE LETTERS. TO DATE, 2-IN. THICK TIMBER RAILS HAVE NOT BEEN SUCCESSFULLY CRASH TESTED. A LIST OF CRASHWORTHY BARRICADES AND OTHER CATAGORY II DEVICES CAN BE FOUND ON FHWA'S WEBSITE:  
[http://safety.fhwa.dot.gov/roadway\\_dept/policy\\_guide/road\\_hardware/cat2.cfm](http://safety.fhwa.dot.gov/roadway_dept/policy_guide/road_hardware/cat2.cfm)



CHEVRON SIGN  
DETAIL

1. A CHEVRON SIGN CONSISTS OF A BLACK CHEVRON TYPE MARKING ON AN ORANGE BACKGROUND AND SHALL POINT IN THE DIRECTION OF TRAFFIC FLOW.
2. THE CHEVRON SIGN SHALL BE MOUNTED ON CRASHWORTHY SUPPORT.
3. CHEVRON SIGNS MAY BE USED TO SUPPLEMENT OTHER STANDARD DEVICES WHERE ONE OR MORE LANES ARE CLOSED FOR CONSTRUCTION OR MAINTENANCE. THEY SHOULD BE PLACED APPROXIMATELY 2'-0" BEHIND THE LANE TRANSITION STRIPE.



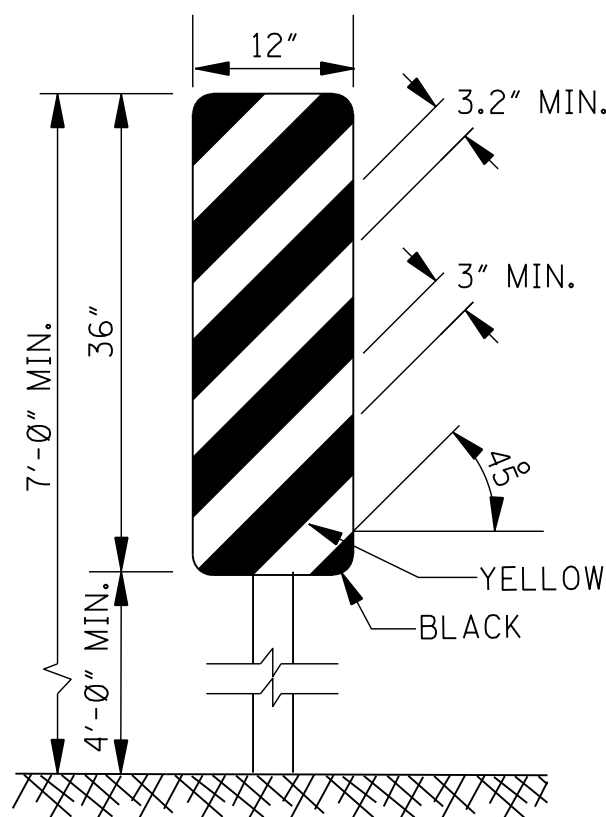
BARRICADE CLOSING A ROAD

BARRICADE CHARACTERISTICS

	I	II	III
WIDTH OF RAIL **	8" MIN. - 12" MAX.	8" MIN. - 12" MAX.	8" MIN. - 12" MAX.
LENGTH OF RAIL **	24" MIN.	24" MIN.	48" MIN.
WIDTH OF STRIPE *	6"	6"	6"
HEIGHT	36" MIN.	36" MIN.	60" MIN.
NUMBER OF RETROREFLECTORIZED RAIL FACES	2 (ONE EACH DIRECTION)	4 (TWO EACH DIRECTION)	3 IF FACING TRAFFIC IN ONE DIRECTION 6 IF FACING TRAFFIC IN TWO DIRECTIONS

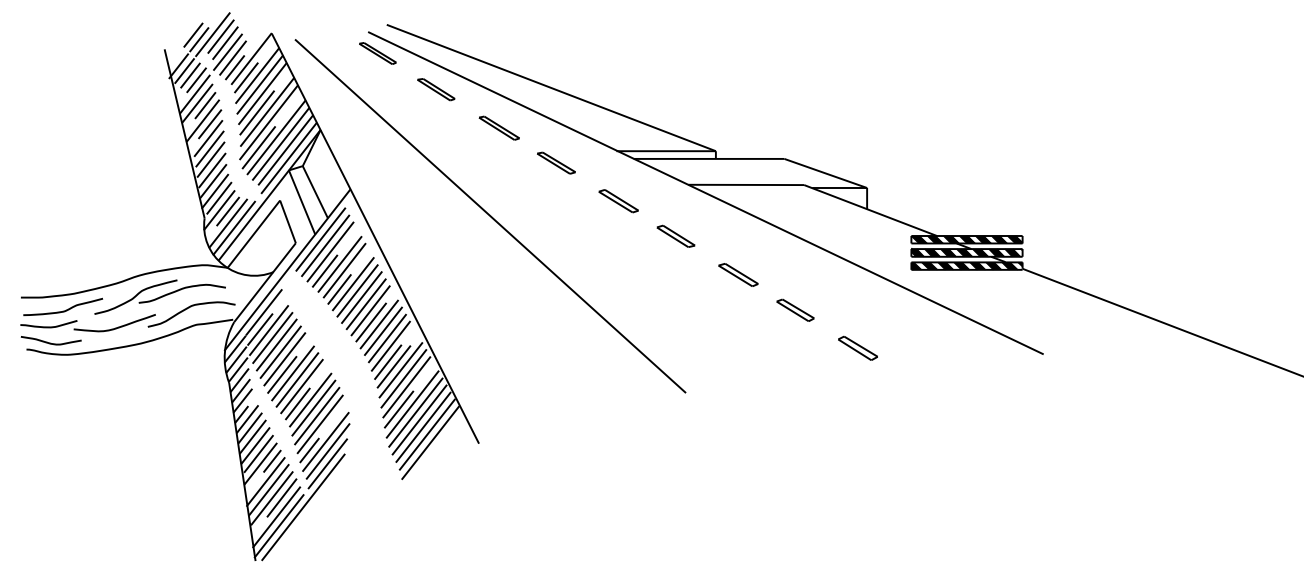
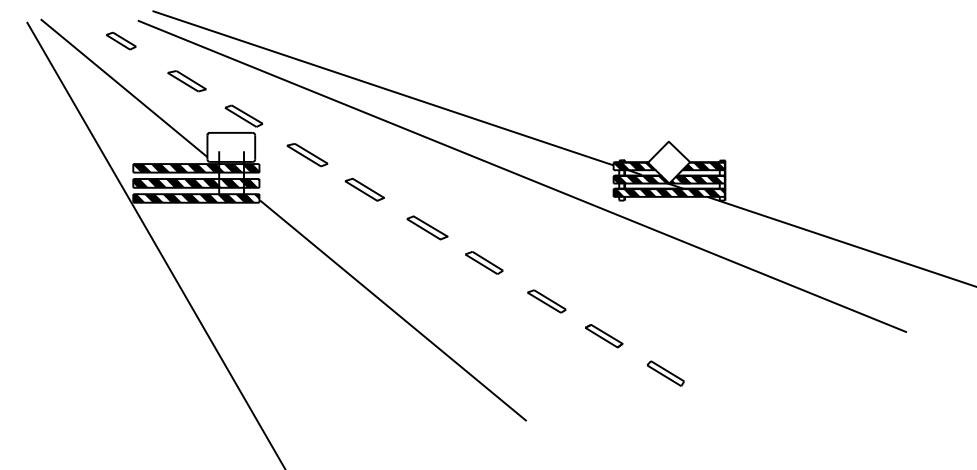
\* 1. FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES MAY BE USED.

\*\* 2. BARRICADES INTENDED FOR USE ON EXPRESSWAYS, FREEWAYS AND OTHER HIGH SPEED ROADWAYS, SHALL HAVE A MINIMUM OF 270 in<sup>2</sup> OF REFLECTIVE AREA FACING TRAFFIC.



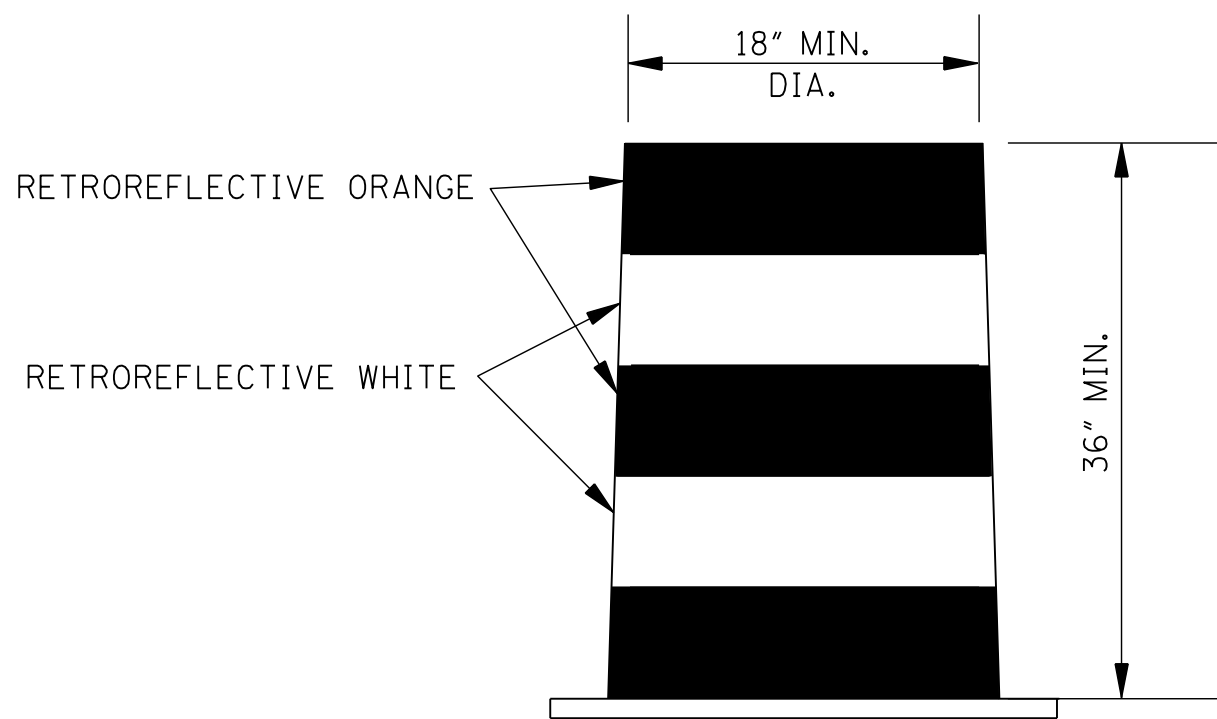
TYPE 3 OBJECT MARKER  
(OM-3R)

1. TYPE 3 OBJECT MARKERS SHALL BE USED AT ALL EXPOSED BRIDGE ABUTMENTS AND AT OTHER LOCATIONS AS DEEMED NECESSARY BY THE ENGINEER.
2. THE OM-3R IS SHOWN. THE OM-3L IS SIMILAR EXCEPT THE STRIPES SLOPE DOWNWARD FROM THE UPPER LEFT SIDE TO THE LOWER RIGHT SIDE AND SHALL BE PLACED ON THE LEFT SIDE OF THE OBJECT.
3. THE INSIDE EDGE OF THE MARKER SHALL BE IN LINE WITH THE INNER EDGE OF THE OBSTRUCTION.



WING BARRICADES

1. WING BARRICADES ARE TYPE III BARRICADES ERECTED ON THE SHOULDER ON ONE OR BOTH SIDES OF THE PAVEMENT TO GIVE THE SENSATION OF A NARROWING OR RESTRICTED ROADWAY. WING BARRICADES MAY BE USED AS A MOUNTING FOR THE ADVANCE WARNING SIGNS OR FLASHERS.
2. WING BARRICADES SHOULD BE USED:  
A. IN ADVANCE OF A CONSTRUCTION PROJECT EVEN WHEN NO PART OF THE ROADWAY IS ACTUALLY CLOSED.  
B. IN ADVANCE OF ALL BRIDGE OR CULVERT WIDENING OPERATIONS.



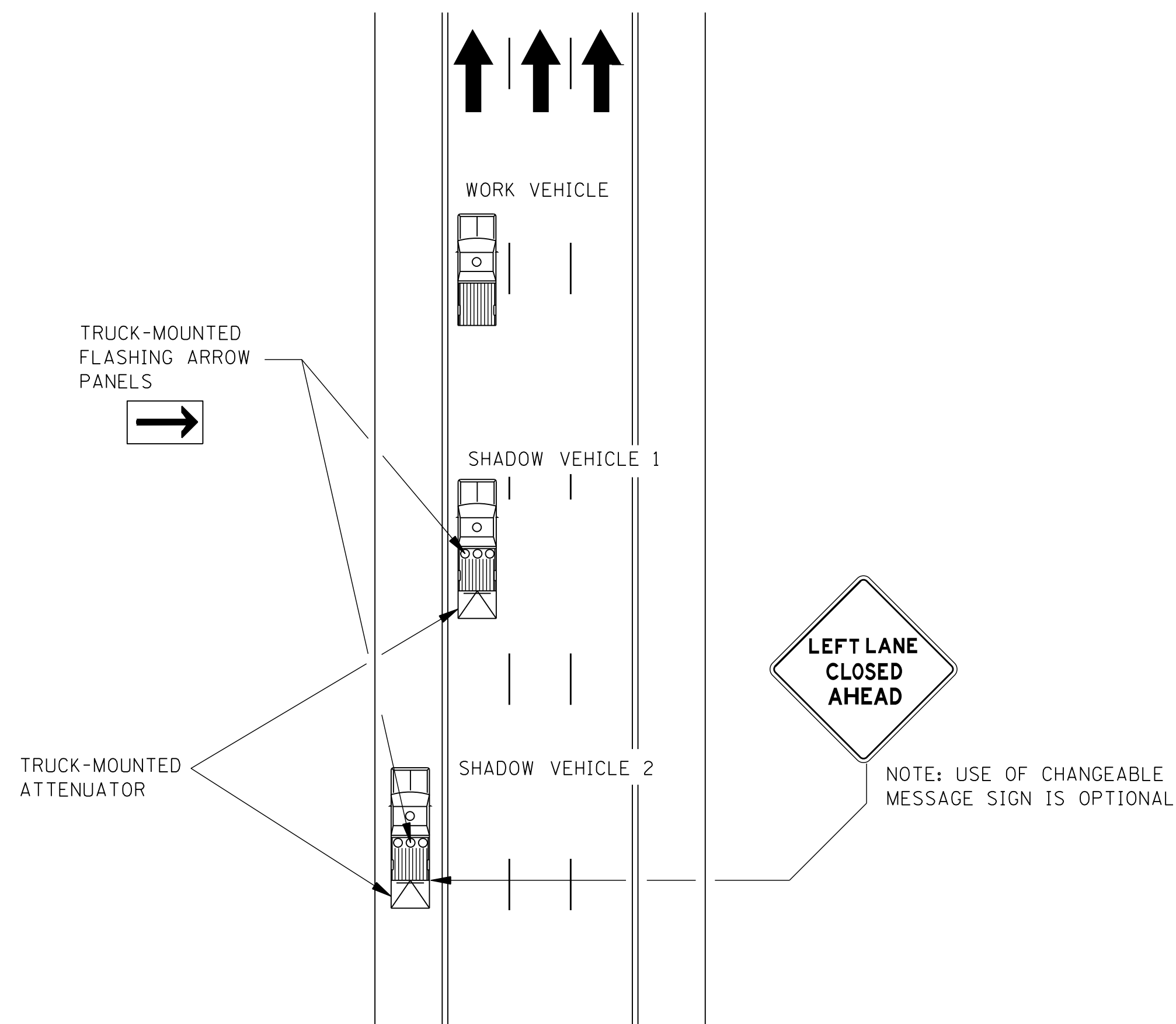
PLASTIC DRUM STRIPING DETAIL

1. PLASTIC DRUMS SHALL BE ON END AND USED AS AN EXPEDIENT METHOD FOR TRAFFIC CHANNELIZATION. THE COLOR AND MARKING OF DRUMS SHALL BE CONSISTENT WITH MARKING STANDARDS FOR BARRICADE. THE PREDOMINANT COLOR ON DRUMS SHALL BE ORANGE WITH FOUR (4) RETROREFLECTIVE, HORIZONTAL, CIRCUMFERENTIAL STRIPES (2 ORANGE & 2 WHITE) 6" WIDE.
2. DRUMS SHOULD NEVER BE PLACED IN THE ROADWAY WITHOUT WARNING SIGNS.
3. WHERE PRACTICAL PLASTIC DRUMS SHOULD BE PLACED NO CLOSER THAN 3'-0" FROM THE EDGE OF TRAVELED LANE.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	
ISSUE DATE: AUGUST 01, 2017					<b>HIGHWAY SIGN AND BARRICADE DETAILS FOR CONSTRUCTION PROJECTS</b>
					<b>MDOT</b> MISSISSIPPI DEPARTMENT OF TRANSPORTATION
					WORKING NUMBER TCP-8
					SHEET NUMBER 6358



MOBILE OPERATIONS ON MULTILANE ROAD

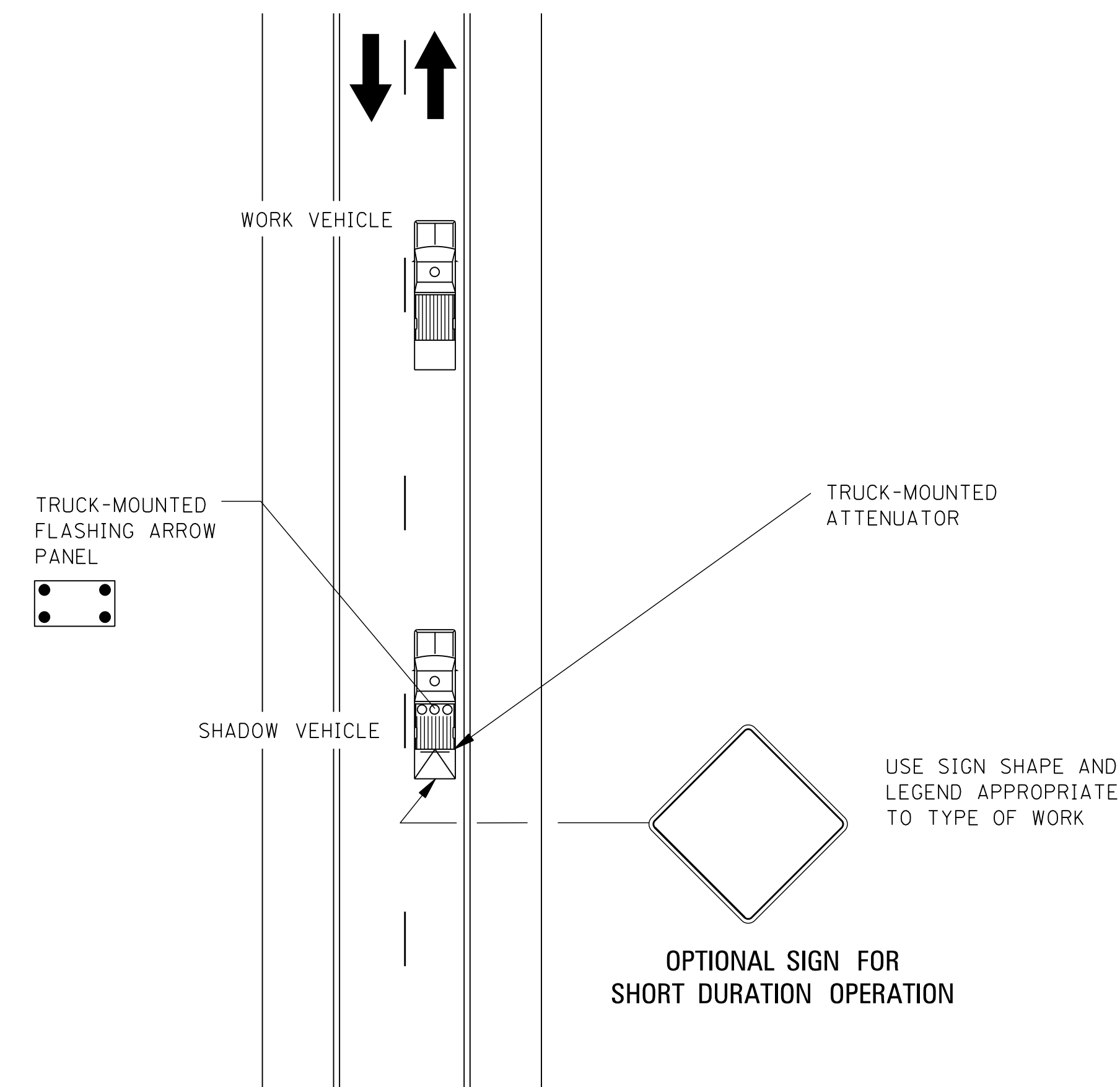


MOBILE OPERATIONS ON MULTILANE ROAD

NOTES FOR MULTILANE LANE OPERATION:

1. VEHICLES USED FOR THESE OPERATIONS SHOULD BE MADE HIGHLY VISIBLE WITH APPROPRIATE EQUIPMENT, SUCH AS FLASHING LIGHTS, ROTATING BEACONS, FLAGS, SIGNS, OR ARROW PANELS.
2. SHADOW VEHICLE 2 SHOULD BE EQUIPPED WITH AN ARROW PANEL AND TRUCK MOUNTED ATTENUATOR (TMA). AN APPROPRIATE LANE CLOSURE SIGN SHOULD BE PLACED ON SHADOW VEHICLE 2 SO AS NOT TO OBSCURE THE ARROW PANEL.
3. SHADOW VEHICLE 1 SHOULD BE EQUIPPED WITH AN ARROW PANEL AND TRUCK-MOUNTED ATTENUATOR (TMA).
4. SHADOW VEHICLE 2 SHOULD TRAVEL AT A VARYING DISTANCE FROM THE WORK OPERATION SO AS TO PROVIDE ADEQUATE SIGHT DISTANCE FOR TRAFFIC APPROACHING FROM THE REAR.
5. WHEN ADEQUATE SHOULDER WIDTH IS NOT AVAILABLE, SHADOW VEHICLE 2 SHOULD BE ELIMINATED.
6. ON HIGH-SPEED ROADWAYS, A THIRD SHADOW VEHICLE SHOULD BE USED (I.E., VEHICLE 3 ON THE SHOULDER (IF PRACTICAL), VEHICLE 2 IN THE CLOSED LANE, AND VEHICLE 1 IN THE CLOSED LANE).
7. ARROW PANELS SHALL BE AS A MINIMUM TYPE B, 60" X 30" IN ACCORDANCE WITH THE CRITERIA PRESENTED IN THE MUTCD.
8. WORK SHOULD NORMALLY BE DONE DURING OFF-PEAK HOURS.
9. VEHICLE-MOUNTED SIGNS SHOULD BE MOUNTED WITH THE BOTTOM OF THE SIGN LOCATED AT A MINIMUM HEIGHT OF 48" ABOVE THE PAVEMENT AND SHALL NOT BE OBSCURED BY EQUIPMENT OR SUPPLIES. SIGN LEGENDS SHALL BE COVERED OR TURNED FROM VIEW WHEN WORK IS NOT IN PROGRESS.
10. ALL TRAFFIC CONTROL ITEMS SHOWN ON THIS SHEET WILL NOT BE MEASURED FOR SEPARATE PAYMENT. THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR MAINTENANCE OF TRAFFIC.

MOBILE OPERATIONS ON TWO-LANE ROAD

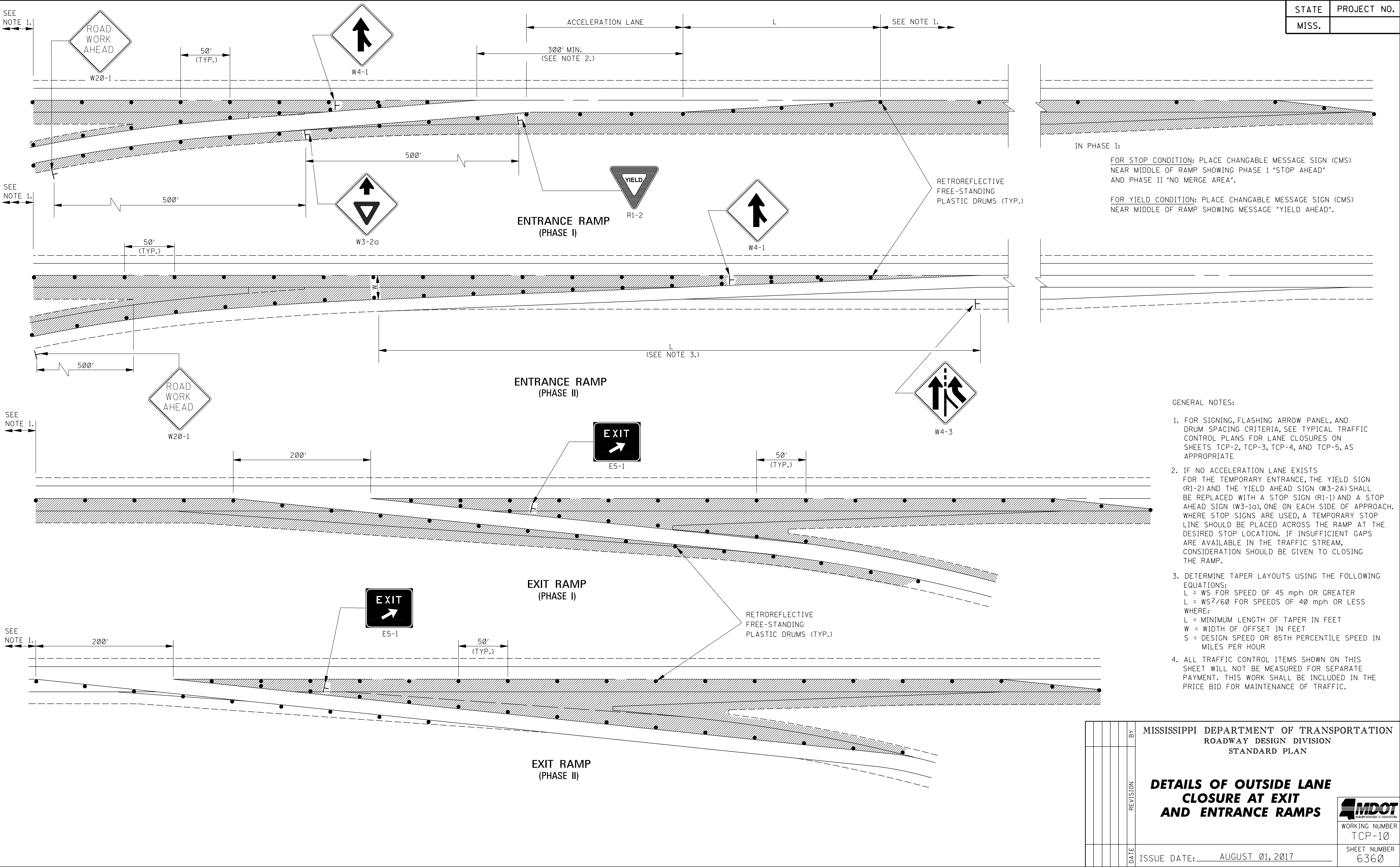


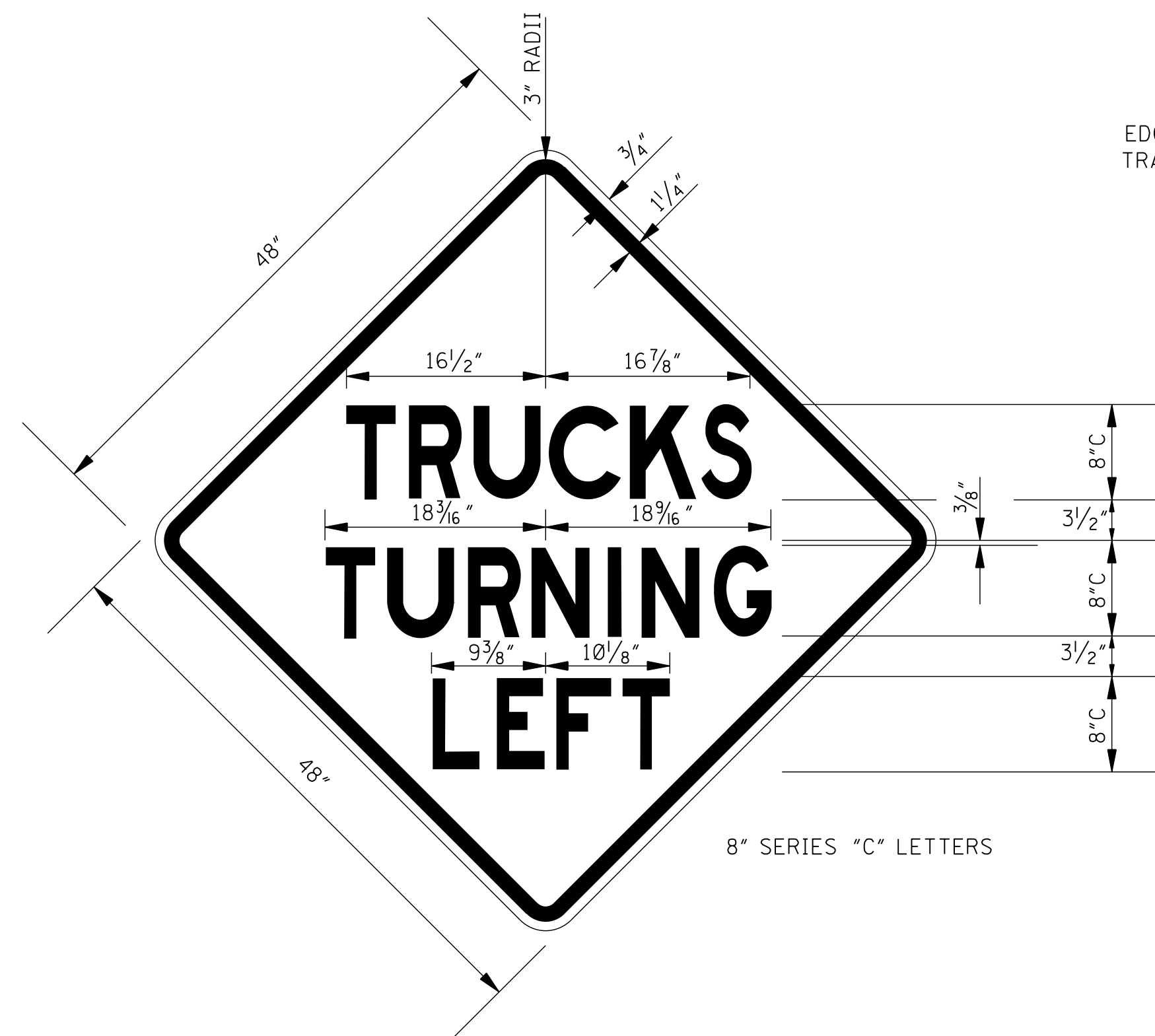
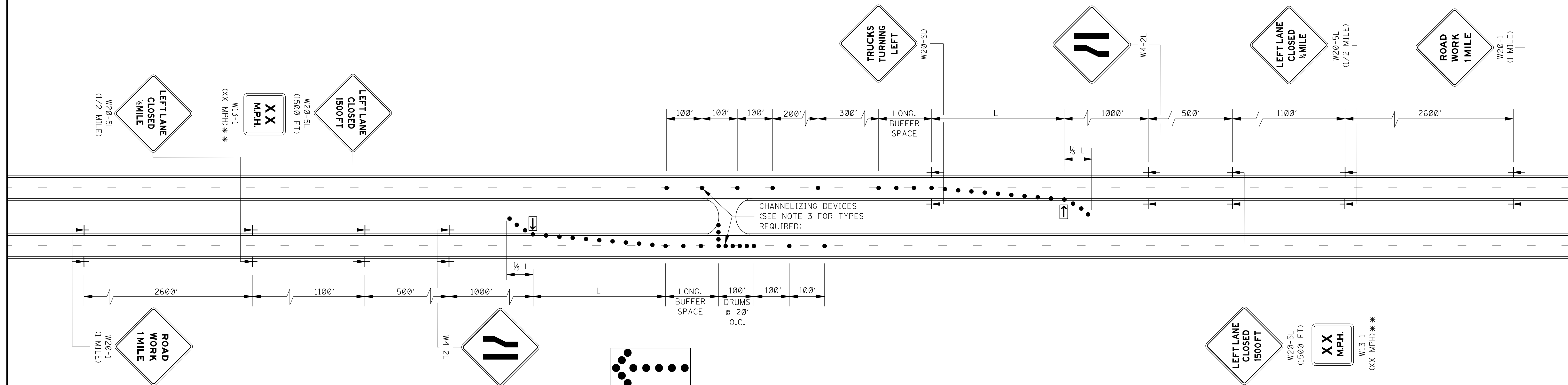
MOBILE OPERATIONS ON TWO-LANE ROAD

NOTES FOR TWO-LANE OPERATION:

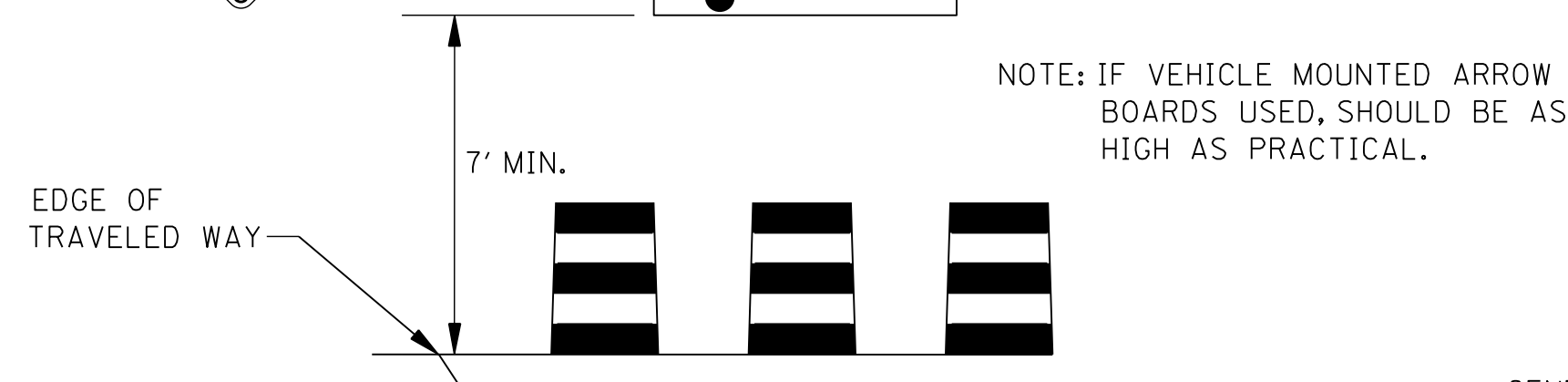
1. WHERE PRACTICAL AND WHEN NEEDED, THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS. IF THIS CAN NOT BE DONE FREQUENTLY, AS AN ALTERNATIVE, A "DO NOT PASS" SIGN MAY BE PLACED ON THE REAR OF THE VEHICLE BLOCKING THE LANE.
2. THE DISTANCE BETWEEN THE WORK AND SHADOW VEHICLES MAY VARY ACCORDING TO TERRAIN, PAINT DRYING TIME, AND OTHER FACTORS. SHADOW VEHICLES ARE USED TO WARN TRAFFIC OF THE OPERATION AHEAD. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, THE SHADOW VEHICLE SHOULD MAINTAIN THE MINIMUM DISTANCE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. THE SHADOW VEHICLE SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.
3. ADDITIONAL SHADOW VEHICLES TO WARN AND REDUCE THE SPEED OF ONCOMING OR OPPOSING TRAFFIC MAY BE USED. POLICE PATROL CARS MAY BE USED FOR THIS PURPOSE.
4. A TRUCK-MOUNTED ATTENUATOR (TMA) SHOULD BE USED ON THE SHADOW VEHICLE AND MAY BE USED ON THE WORK VEHICLE.
5. THE WORK VEHICLE SHALL BE EQUIPPED WITH BEACONS, AND THE SHADOW VEHICLES SHALL BE EQUIPPED WITH TWO HIGH-INTENSITY FLASHING LIGHTS MOUNTED ON THE REAR, ADJACENT TO THE SIGN. SHADOW AND WORK VEHICLES SHALL DISPLAY FLASHING OR ROTATING BEACONS BOTH FORWARD AND TO THE REAR.
6. VEHICLE-MOUNTED SIGNS SHOULD BE MOUNTED WITH THE BOTTOM OF THE SIGN LOCATED AT A MINIMUM HEIGHT OF 48" ABOVE THE PAVEMENT AND SHALL NOT BE OBSCURED BY EQUIPMENT OR SUPPLIES. SIGN LEGENDS SHALL BE COVERED OR TURNED FROM VIEW WHEN WORK IS NOT IN PROGRESS.
7. ARROW BOARD TO BE USED IN CAUTION MODE.
8. ALL TRAFFIC CONTROL ITEMS SHOWN ON THIS SHEET WILL NOT BE MEASURED FOR SEPARATE PAYMENT. THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR MAINTENANCE OF TRAFFIC.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	
ISSUE DATE: AUGUST 01, 2017					 WORKING NUMBER TCP-9 SHEET NUMBER 6359





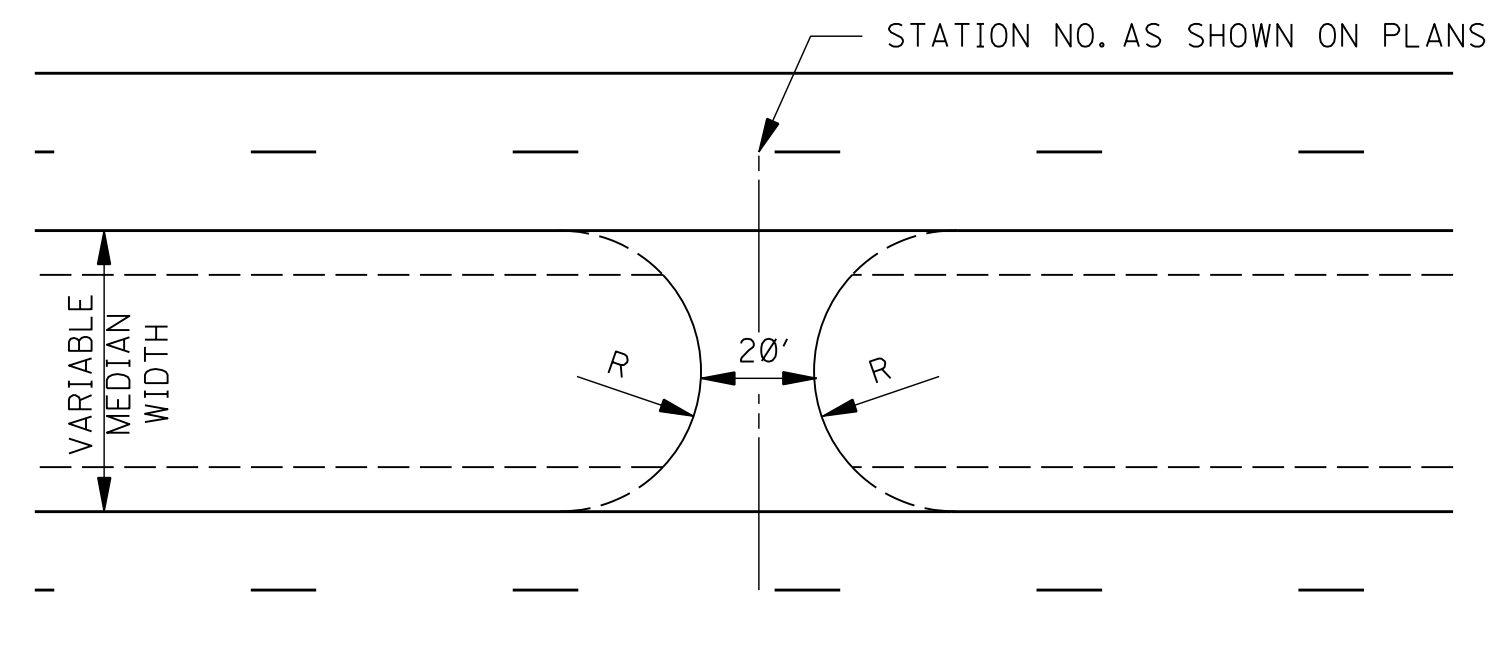


### DETAIL OF W20-SD



### LEGEND

- \* \* THE SPEED ON W13-1 SIGN SHALL BE 10 MPH LESS THAN THE POSTED SPEED LIMIT UNLESS OTHERWISE DIRECTED BY COMMISSION ORDER.
-  FLASHING ARROW PANEL (TYPE "C")
  - RETROREFLECTIVE FREE-STANDING PLASTIC DRUMS
-  TYPE "B" WARNING LIGHTS



### DETAIL OF TEMPORARY CROSSOVER

NOTE: R = 0.5 (MEDIAN WIDTH)

GENERAL NOTES:

1. THE LOCATION OF CHANNELIZING DEVICES AND THE WORK AREA LAYOUT SHALL BE BASED ON THE CRITERIA IN THE FOLLOWING TABLE:

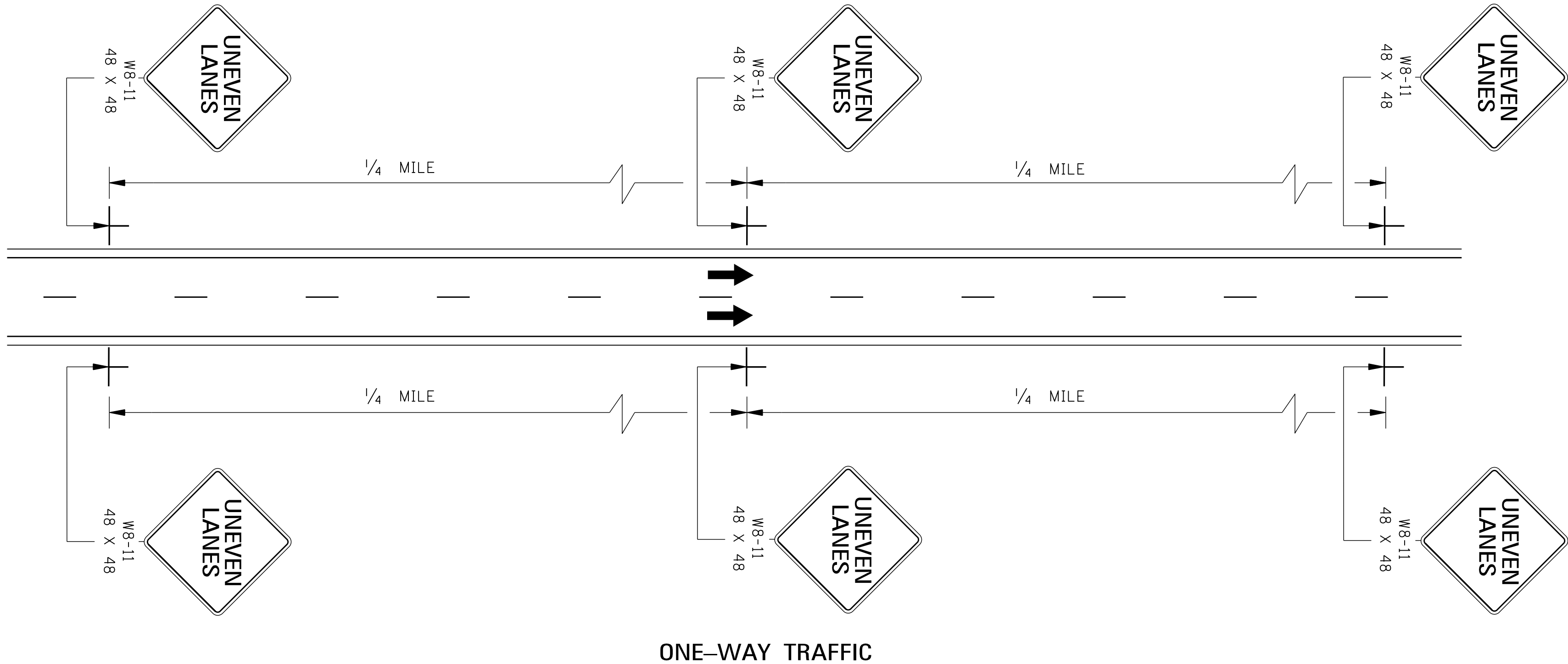
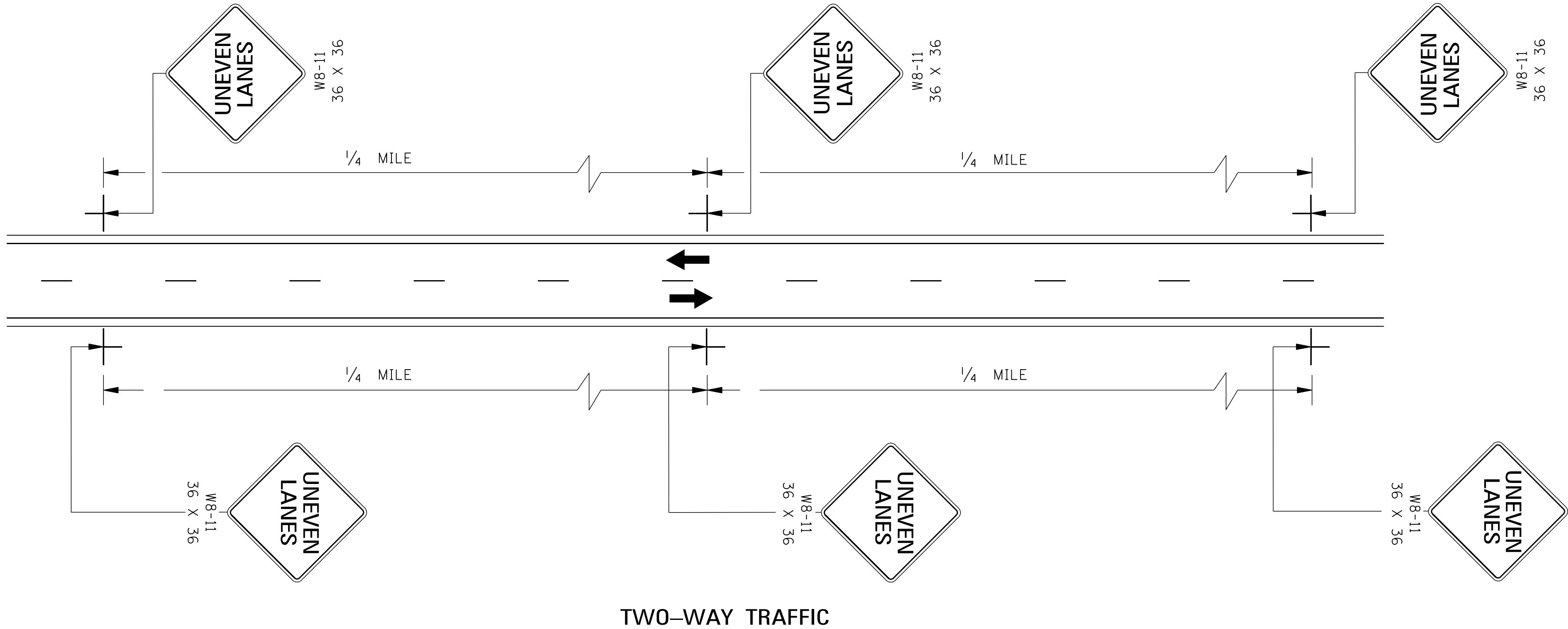
POSTED SPEED AND/OR DESIGN SPEED	MAXIMUM CHANNELIZING DEVICE SPACING (ft)		LONGITUDINAL BUFFER SPACE (ft)	TAPER RATES
	TAPER	ALONG LANE LINE & WORK ZONE		
mph				
≤40	40	80	305	27:1
45	45	90	360	45:1
50	50	100	425	50:1
55	55	110	495	55:1
60	60	120	570	60:1
65	65	130	645	65:1
70	70	140	730	70:1

+ NOTE: TAPER RATES ARE DETERMINED USING THE FOLLOWING EQUATIONS:  
 $L = WS$  FOR SPEEDS OF 45 mph OR GREATER  
 $L = WS^2/60$  FOR SPEEDS OF 40 mph OR LESS  
 WHERE: L = MINIMUM LENGTH OF TAPER IN FEET  
 W = WIDTH OF OFFSET (USUALLY LANE WIDTH) IN FEET  
 S = DESIGN SPEED OR 85TH PERCENTILE SPEED IN MILES PER HOUR


†† NOTE: BUFFER SPACE MAY BE ADJUSTED AS NEEDED ACCORDING TO ROADWAY GEOMETRY TO MEET SIGHT DISTANCE REQUIREMENTS, AS DIRECTED BY THE ENGINEER.

2. FLASHING ARROW PANEL SHOULD BE AS LEVEL AS POSSIBLE AS APPROVED BY THE ENGINEER. FLASHING ARROW PANEL SHOULD BE LOCATED AT THE BEGINNING OF THE TAPER OR, IF THE SHOULDER IS TOO NARROW, BEHIND THE CHANNELIZING DEVICES IN THE CLOSED LANE.
3. ALL CHANNELIZING DEVICES SHALL BE RETROREFLECTIVE FREE STANDING PLASTIC DRUMS.
4. DIAMOND SHAPED TRAFFIC CONTROL SIGNS SHOULD BE A MINIMUM OF 48" X 48" AND SHALL BE BLACK COPY ON FLUORESCENT ORANGE SHEETING.
5. LOCATION OF CROSSTOPS WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
6. USE OF CROSSTOP SHALL BE LIMITED TO TRUCKS APPROACHING FROM ONE DIRECTION ONLY.
7. REVERSE LAYOUT OF TAPERS, DRUMS AND SIGNS TO ACCOMMODATE TRUCKS APPROACHING FROM OPPOSITE DIRECTION.
8. EACH CONSTRUCTION CROSSTOP SHOULD BE CLOSED AS DIRECTED BY THE ENGINEER OR WHEN THE CONSTRUCTION OPERATION, ZONE OR SIGNS ENCRATCH ON OR INTERFERES WITH THE OPERATION OF THE CONSTRUCTION CROSSTOP. THE CROSSTOP SHOULD BE CLOSED USING 24' OF TYPE III BARRICADE (DOUBLE FACED).
9. ALL TRAFFIC CONTROL ITEMS SHOWN ON THIS SHEET WILL NOT BE MEASURED FOR SEPARATE PAYMENT. THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR MAINTENANCE OF TRAFFIC.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<p align="center"><b>TRAFFIC CONTROL PLAN FOR TEMPORARY CONSTRUCTION CROSSOVER (WORK DAY ONLY)</b></p>
				DATE	<div>  <p>MISSISSIPPI DEPARTMENT OF TRANSPORTATION</p> <p>WORKING NUMBER TCP-11</p> <p>SHEET NUMBER 6361</p> </div>
					ISSUE DATE: <u>          AUGUST 01, 2017          </u>



- GENERAL NOTES:
- UNEVEN LANE LINE:
    - IF LESS THAN OR EQUAL TO 1 1/2", NO SIGNS REQUIRED.
    - IF GREATER THAN 1 1/2" AND LESS THAN OR EQUAL TO 2 1/4", PLACE SIGNS AS SHOWN ON THIS SHEET.
    - IF GREATER THAN 2 1/4", TRAFFIC SHOULD NOT BE ALLOWED TO CROSS UNEVEN LANE LINE.
  - THE W8-11 SIGNS SHOULD BE SPACED AT 1/4-MILE INTERVALS THROUGHOUT UNEVEN LANE LINE LIMITS.
  - ALL TRAFFIC CONTROL ITEMS SHOWN ON THIS SHEET SHALL BE PAID FOR UNDER MAINTENANCE OF TRAFFIC.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	ISSUE DATE: _____ AUGUST 01, 2017 _____
					 WORKING NUMBER TCP-12 SHEET NUMBER 6362





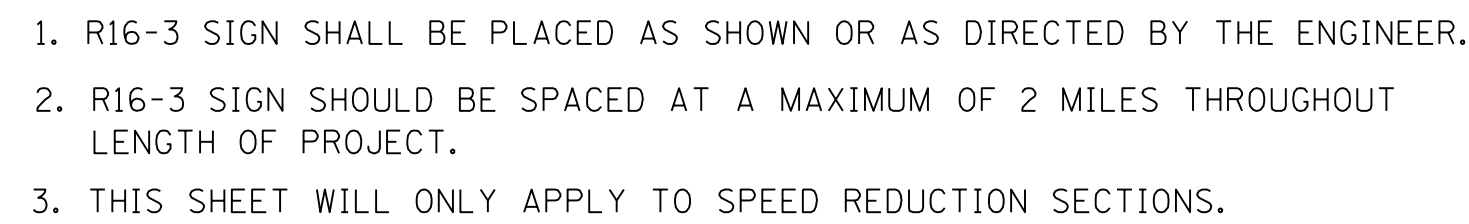
- \* 1. 3" UNLESS SHOWN ELSEWHERE ON THE PLANS.
- \*\* 2. EDGE STRIPE SHALL BE SAME MATERIAL AS LANE-LINE STRIPE (PAINT OR TAPE AS INDICATED IN PAY ITEMS).
- 3. REFLECTIVE RAISED PAVEMENT MARKERS TO BE USED IF TEMPORARY MARKINGS ARE TO REMAIN IN PLACE OVER 3 MONTHS
- \*\*\* 4. SPACING OF REFLECTIVE RAISED PAVEMENT MARKERS IS AS FOLLOWS:

	URBAN AREA (ft-in)	RURAL AREA (ft-in)
TANGENT SECTIONS	40'-0"	80'-0"
HORIZONTAL CURVES	40'-0"	40'-0"
INTERCHANGE LIMITS	40'-0"	+ 40'-0"

### 4-LANE WITH ONE-WAY TRAFFIC

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>TEMPORARY STRIPING FOR TRAFFIC CONTROL 2-LANE AND 4-LANE DIVIDED HIGHWAYS</b>
				DATE	 WORKING NUMBER TCP-13  SHEET NUMBER 6363
					ISSUE DATE: AUGUST 01, 2017



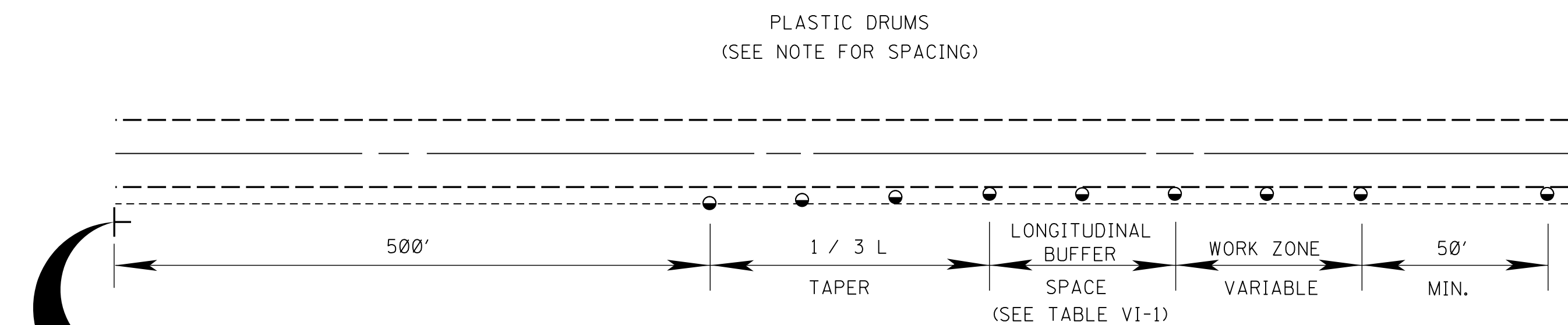


Technical drawing of a rectangular sign with dimensions and labels. The sign is divided into two horizontal sections. The top section contains the text "WHEN WORKERS ARE PRESENT" in a bold, sans-serif font. The bottom section contains the text "SPEEDING FINES DOUBLED" in a bold, sans-serif font. The sign has a double border. Dimensions are indicated by arrows and letters: A (total height), B (total width), C (top border), D (bottom border), E (left border), F (right border), G (top section height), H (bottom section height), J (section height), K (border thickness), M (top section height), N (section width), O (border thickness), P (section width), R (section width), S (border thickness), T (section width), U (border thickness), V (section width), W (border thickness), X (section width), Y (border thickness), Z (section width). Labels include "ORANGE/BLACK" pointing to the top section and "WHITE/BLACK" pointing to the bottom section.

48" x 60"  
(INTERSTATE USE)

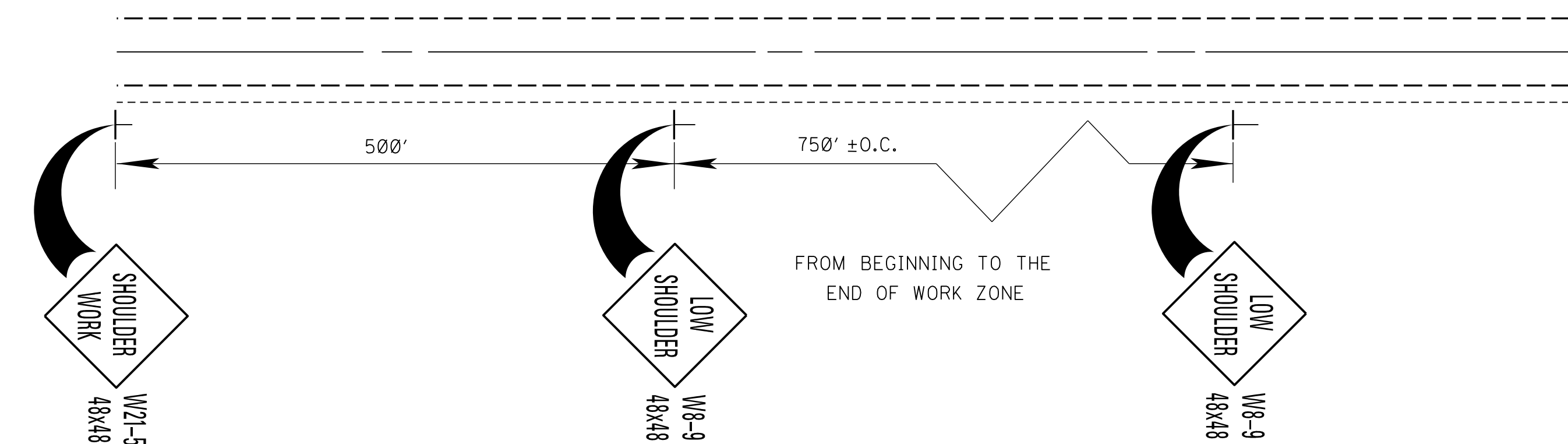
36" x 48"  
(ALL OTHER HIGHWAYS)

The diagram illustrates a diamond interchange layout. It features a central vertical line representing the main road and a horizontal line representing the crossing road. Four ramps, labeled "ENTRANCE RAMP", connect the main road to the crossing road. The ramps are shown as triangles. Dimensions are provided: a horizontal distance of 1500' from the centerline to the start of the ramps, and a vertical distance of R16-3 from the centerline to the start of the ramps. The crossing road is labeled "TRAVEL LANES" and "INTERCHANGE DETAIL".

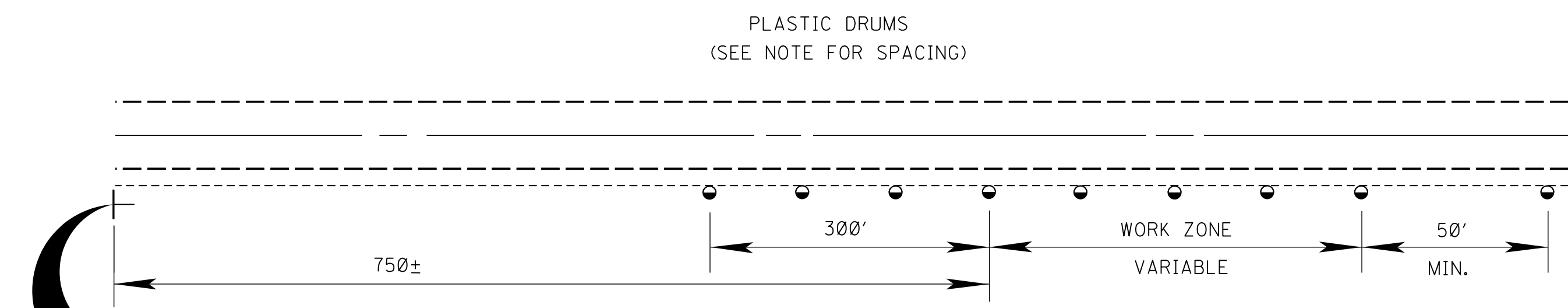


TYPICAL SHOULDER CLOSURE

- (1) TO BE USED WITH EIGHT (8) FOOT OR GREATER WIDTH IMPROVED SHOULDER.  
(2) TO BE USED WHEN CONSTRUCTION VEHICLES (EQUIPMENT) ENCROACHES ON OR WITHIN TWO (2) FEET OF THE SHOULDER BREAK.

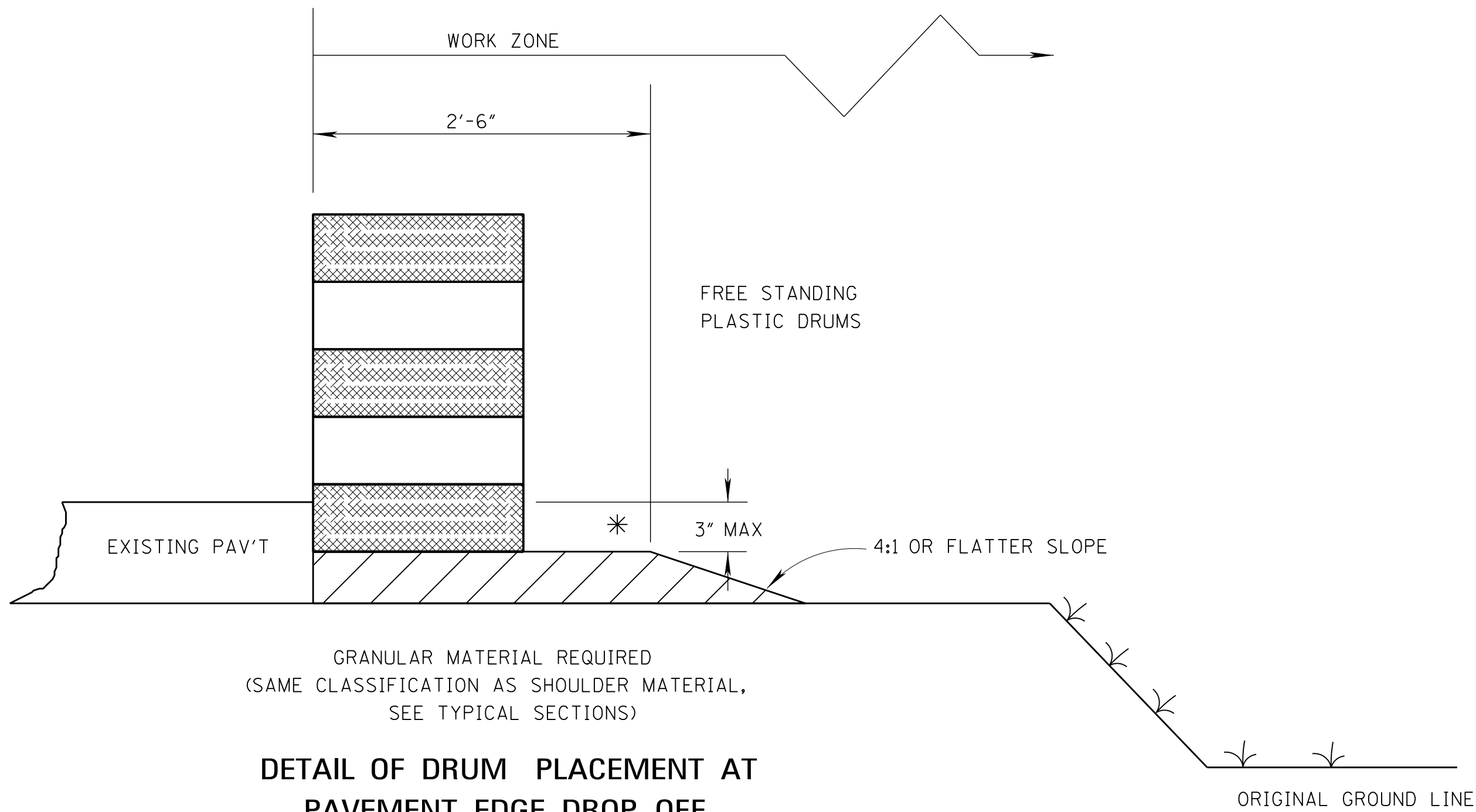
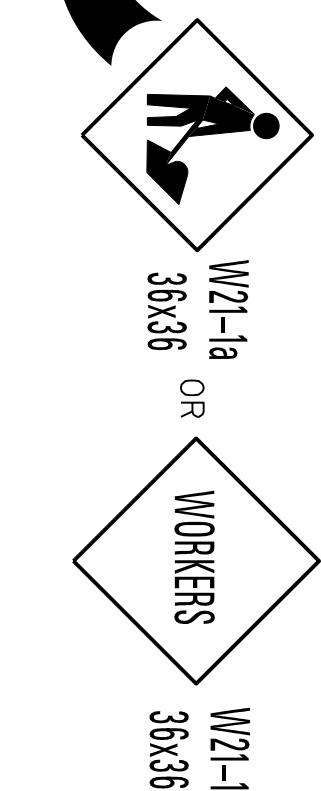


TYPICAL SHOULDER WORK #1  
(SEE NOTE A-1 THIS SHEET)



TYPICAL SHOULDER WORK #2

NOTE:  
WORK OUTSIDE TWO (2) FOOT AND WITHIN TEN (10) FEET OF THE SHOULDER BREAK MAY BE PROTECTED BY PLACING DRUMS ALONG THE SHOULDER EDGE, 300 FEET PRIOR TO AND 50 FEET BEYOND THE WORK AREA, OR SEE NOTE A-3 THIS SHEET.



DETAIL OF DRUM PLACEMENT AT  
PAVEMENT EDGE DROP-OFF

NOTES:

- A. PAVEMENT EDGE DROP-OFF
- IF LESS THAN TWO AND ONE QUARTER (2.25) INCHES-NO PROTECTION REQUIRED. PLACE A SHOULDER WORK SIGN (W21-5) 500 FEET IN ADVANCE OF WORK ZONE SHOULDER AND A LOW SHOULDER SIGN (W8-9) AT THE BEGINNING AND THROUGHOUT THE WORK ZONE @ (750'±O.C.).
  - TWO AND ONE QUARTER TO THREE INCHES-PLACE DRUMS, VERTICAL PANELS OR BARRICADES EVERY 100 FEET ON TANGENT SECTIONS FOR SPEEDS OF 50 MILES PER HOUR OR GREATER. CONES MAY BE USED IN PLACE OF DRUMS, PANELS, AND BARRICADES DURING DAYLIGHT HOURS. FOR TANGENT SECTIONS WITH SPEEDS LESS THAN 50 MILES PER HOUR AND FOR CURVES, DEVICES SHOULD BE PLACED EVERY 50 FEET. SPACING FOR TAPERS SHOULD BE IN ACCORDANCE WITH THE M.U.T.C.D. (1 / 3 L, WHERE L IS THE TAPER LENGTH IN FEET.)
  - GREATER THAN THREE (3) INCHES-POSITIVE SEPARATION OR WEDGE WITH 4:1 OR FLATTER SLOPE NEEDED. IF THERE IS EIGHT (8) FEET OR MORE DISTANCE BETWEEN THE EDGE OF TRAVEL LANE AND DROP-OFF, THEN DRUMS, PANELS OR BARRICADES MAY BE USED.
  - FOR TEMPORARY CONDITIONS, DROP-OFFS GREATER THAN THREE (3) INCHES MAY BE PROTECTED WITH DRUMS, VERTICAL PANELS OR BARRICADES FOR SHORT DISTANCES DURING DAYLIGHT HOURS WHILE WORK IS BEING DONE IN THE DROP-OFF AREA.
  - LESSER TREATMENTS THAN THOSE DESCRIBED ABOVE MAY BE CONSIDERED FOR LOW-VOLUME LOCAL STREETS.

B. DRUM SPACING

- TANGENTS = 2 X S
- TAPERS = L / 3  
WHERE L = S X W  
L = TAPER LENGTH IN FEET  
S = SPEED IN MPH (POSTED OR 85 PERCENTILE)  
W = WIDTH OF OFFSET IN FEET

C. ALL TRAFFIC CONTROL ITEMS SHOWN ON THIS SHEET SHALL BE PAID FOR UNDER MAINTENANCE OF TRAFFIC.

TABLE VI-1. GUIDELINES FOR LENGTH OF LONGITUDINAL BUFFER SPACE

* * SPEED (MPH)	LENGTH (FEET)
20	35
25	55
30	85
35	120
40	170
45	220
50	280
55	335
60	415
65	485

\* \* POSTED SPEED, OFF-PEAK 85 PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED IN MPH.

BY

REVISION

DATE

MISSISSIPPI DEPARTMENT OF TRANSPORTATION  
ROADWAY DESIGN DIVISION  
STANDARD PLAN

TRAFFIC CONTROL DETAILS  
DRUM PLACEMENT  
AND  
SHOULDER CLOSURE

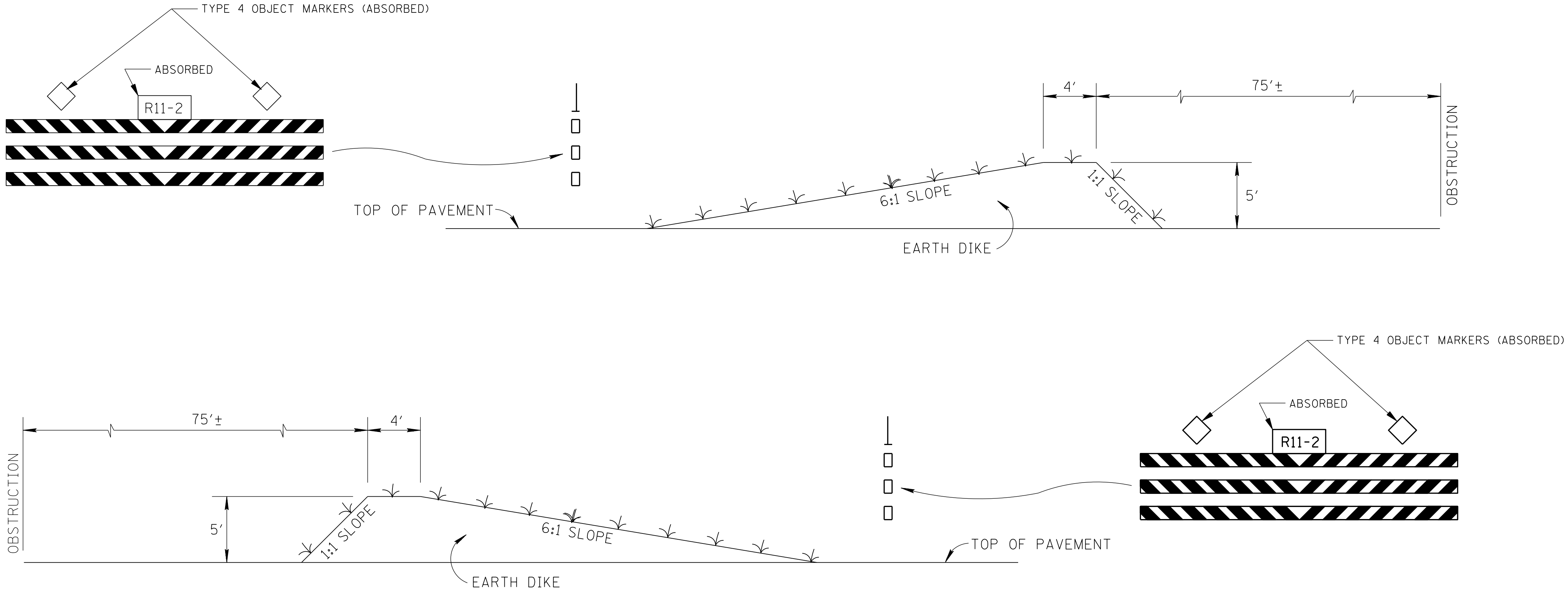
MDOT  
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

WORKING NUMBER  
TCP-16

SHEET NUMBER  
6366

ISSUE DATE: AUGUST 01, 2017






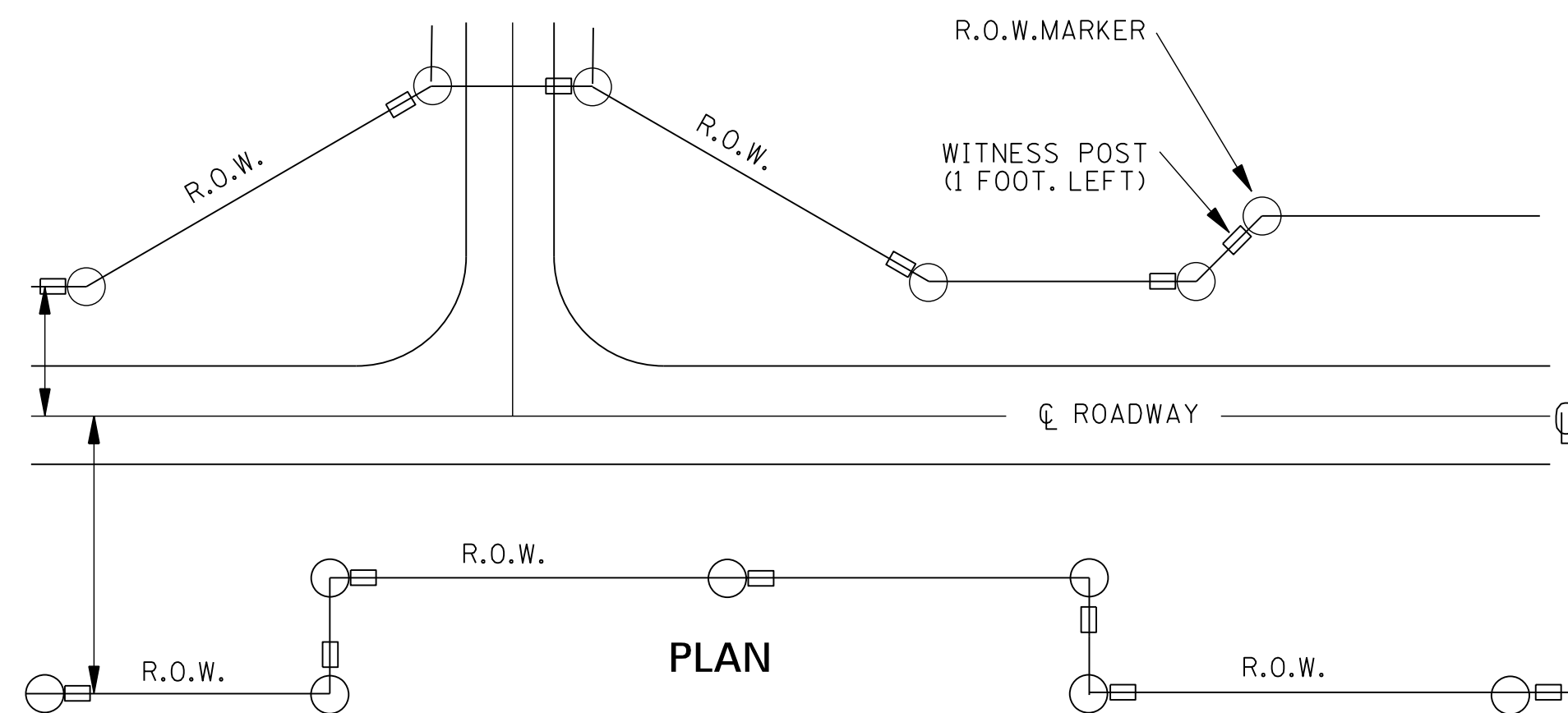
ROADWAY CLOSURE DETAIL  
(LONG-TERM)

TYPE III BARRICADE REQ'D. (WIDTH VARIES; SEE PLANS)  
(RED AND WHITE STRIPES - RETROREFLECTIVE SHEETING).  
BARRICADES (PERMANENT) TO REMAIN IN PLACE AFTER  
COMPLETION OF PROJECT.

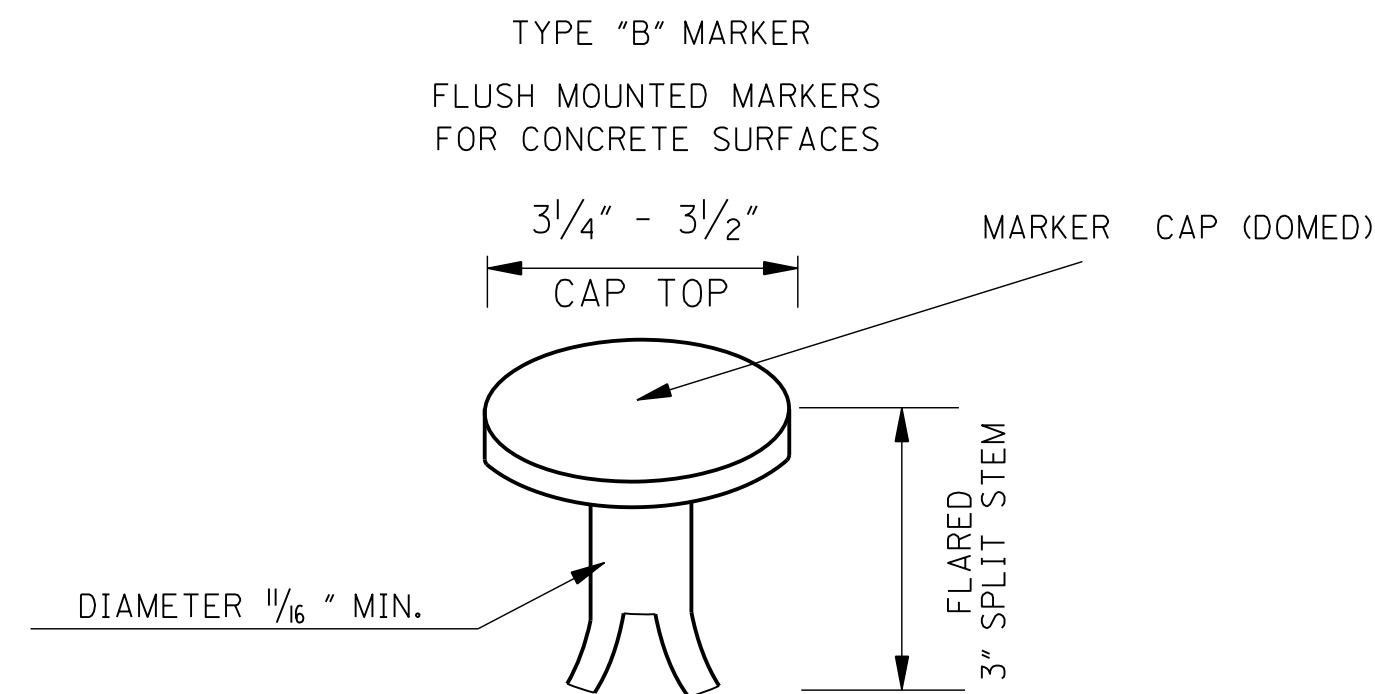
NOTES:

- ITEMS ON THIS SHEET SHALL BE USED ONLY IF CALLED FOR ELSEWHERE ON THE PLANS OR IF DIRECTED BY THE ENGINEER.
- BARRICADES ARE CLASSIFIED BY FHWA AS CATEGORY II WORK ZONE DEVICES WHICH REQUIRE CRASHWORTHINESS ACCEPTANCE LETTERS. TO DATE, 2-IN. THICK TIMBER RAILS HAVE NOT BEEN SUCCESSFULLY CRASH TESTED. A LIST OF CRASHWORTHY BARRICADES AND OTHER CATAGORY II DEVICES CAN BE FOUND ON FHWA'S WEBSITE:  
[http://safety.fhwa.dot.gov/roadway\\_dept/policy\\_guide/road\\_hardware/cat2.cfm](http://safety.fhwa.dot.gov/roadway_dept/policy_guide/road_hardware/cat2.cfm)

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>PERMANENT BARRICADE WITH BERM</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					 WORKING NUMBER TCP-17 SHEET NUMBER 6367



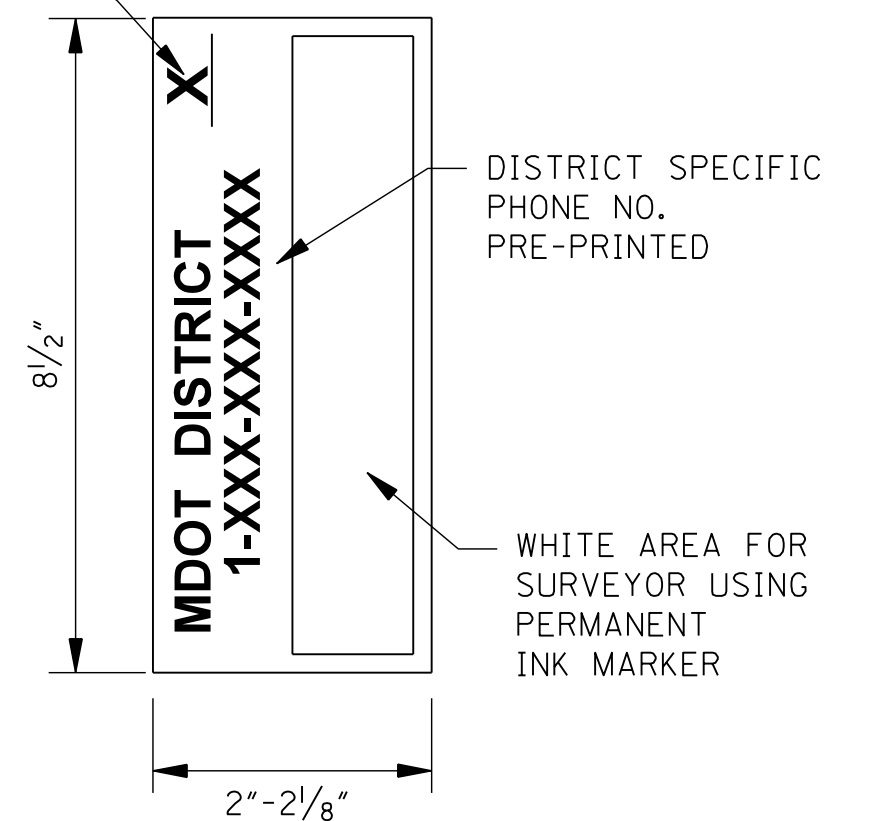
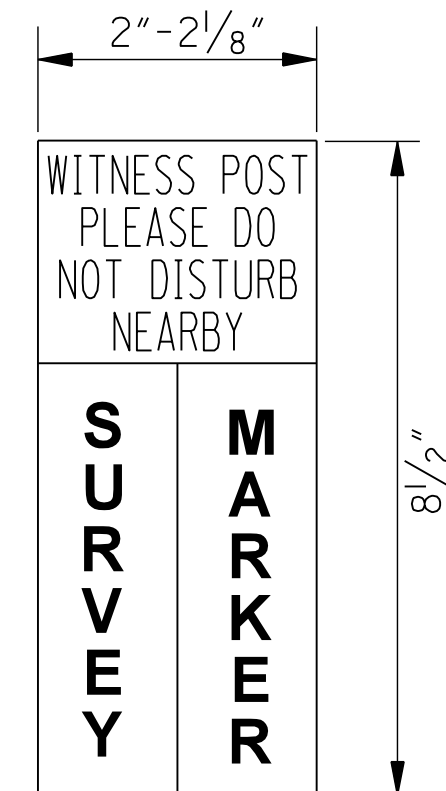
## TYPICAL PLACEMENT OF R.O.W. MARKERS AND WITNESS POSTS



GENERAL NOTE:

1. THE MARKERS SHALL BE PLACED AS INDICATED ELSEWHERE ON PLANS  
COST OF WITNESS POST AND DECALS SHALL BE INCLUDED IN THE COST OF MARKER

SURVEY MARKER WITNESS POST DECALS  
WHITE BACKGROUND WITH BLACK PRINT, VINYL WITH  
ADHESIVE BACKING



WHITE AREA FOR  
SURVEYOR USING  
PERMANENT  
INK MARKER

## MARKER CAP DETAILS FOR RIGHT-OF-WAY

NOTE: THE MARKER CAP SHALL NOT HAVE A DATUM POINT PRE-STAMPED BY THE MANUFACTURER. THE DATUM POINT SHALL BE PLACED AT THE TIME OF INSTALLATION BY THE PROFESSIONAL SURVEYOR

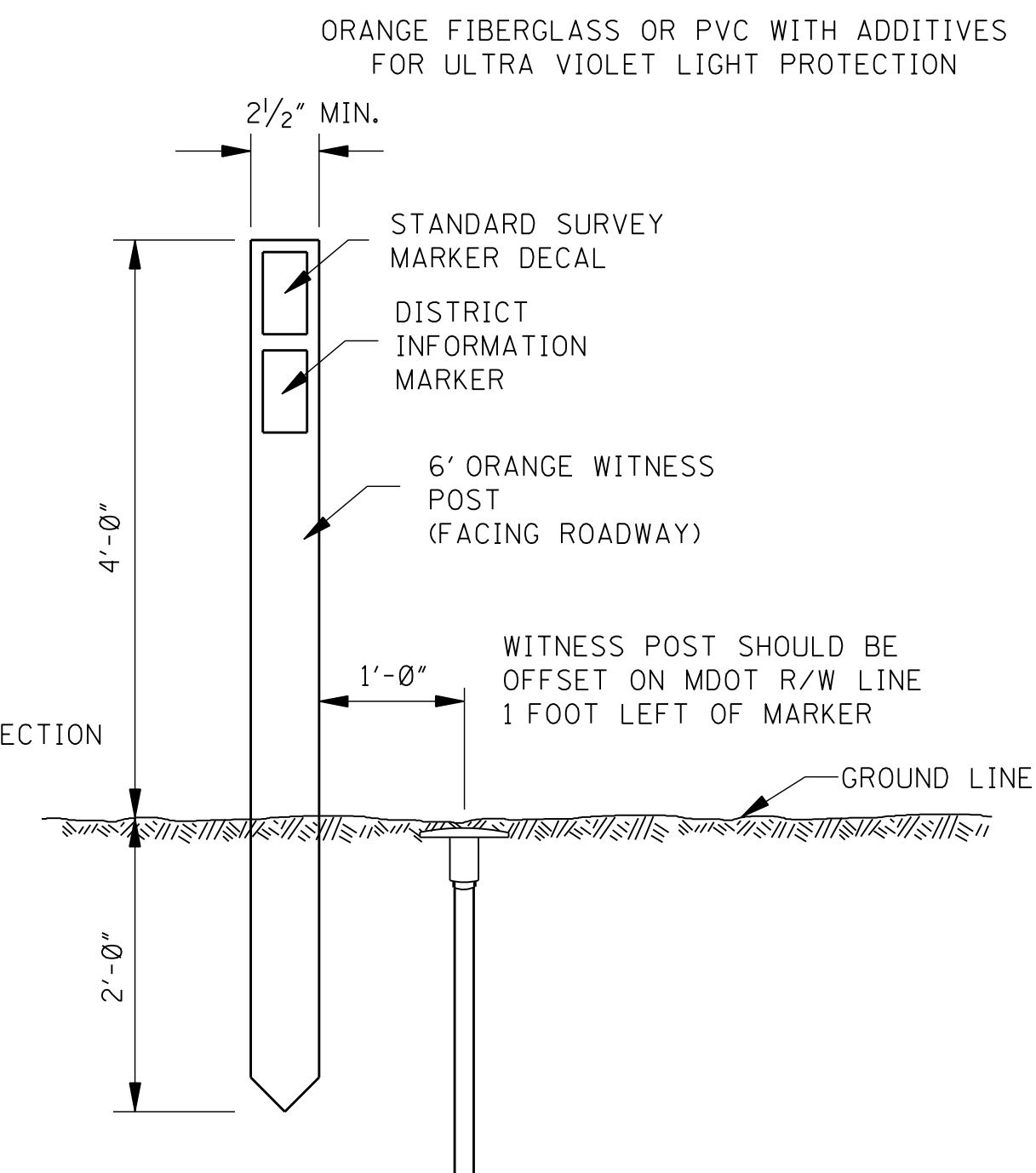
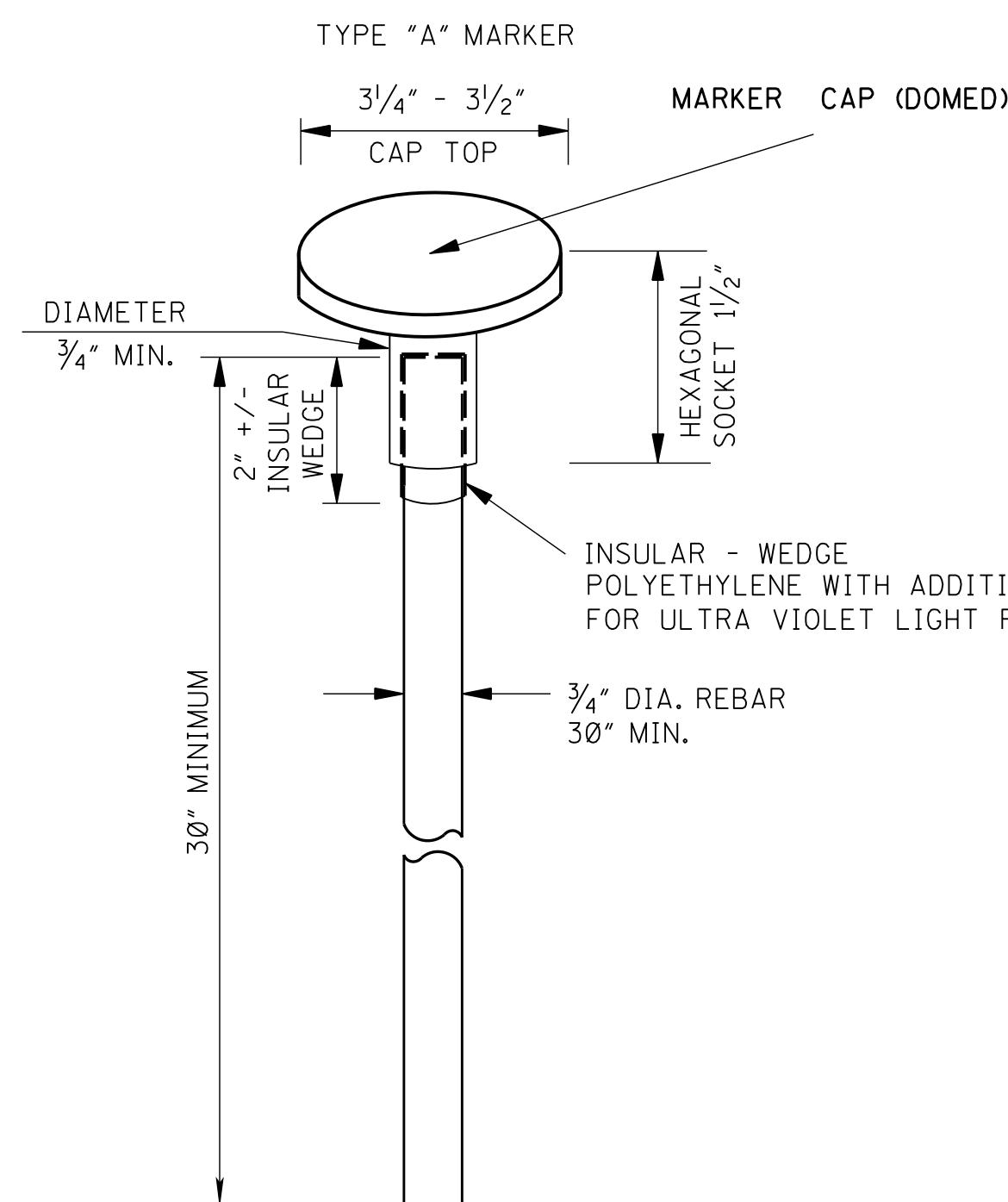
DATUM POINT SHALL BE WITHIN  
1/2" OF CENTER OF DISK

DEPTH OF PUNCH AND LETTERING IS  $\frac{1}{32}$ "

PROJECT CONSTRUCTION  
NUMBER SHALL BE  
PRE-STAMPED.

INDIVIDUAL MARKER NUMBER SHALL BE STAMPED AT THE TIME OF PLACEMENT. THESE NUMBERS SHALL COINCIDE WITH THE R.O.W. MARKER COORDINATE SHEET(S) IN THESE PLANS.

MARKER CAP SPECIFICATIONS (PRINT DATA WHERE SHOWN)
3.25" - 3.50" DIAMETER DOMED TOP
OUTSIDE ROW 46 SPACES "MDOT - DO NOT DISTURB" 3/16" LETTERS
MIDDLE ROW 35 SPACES "RIGHT OF WAY" 3/16" LETTERS
INSIDE ROW 35 SPACES "PROJECT P.E. NO. AND INDIVIDUAL MARKER NO." 1/8" LETTERS



WITNESS POST &  
RIGHT-OF-WAY MARKER

### MARKER CAP DETAILS FOR PERMANENT EASEMENT

NOTE: THE MARKER CAP SHALL NOT HAVE A DATUM POINT PRE-STAMPED BY THE MANUFACTURER. THE DATUM POINT SHALL BE PLACED AT THE TIME OF INSTALLATION BY THE PROFESSIONAL SURVEYOR

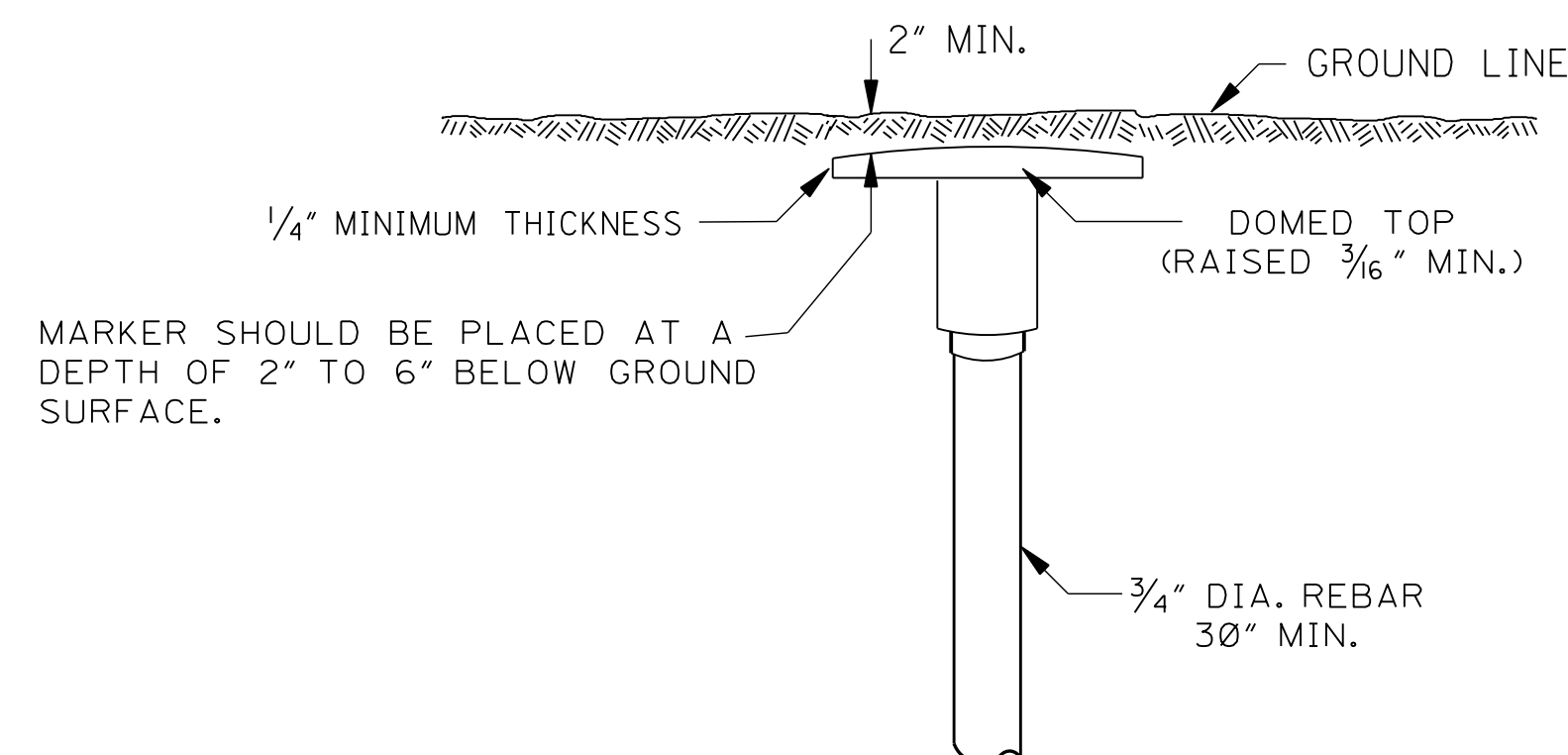
DATUM POINT SHALL BE WITHIN  
1/2" OF CENTER OF DISK

DEPTH OF PUNCH AND LETTERING IS  $\frac{1}{32}$ "

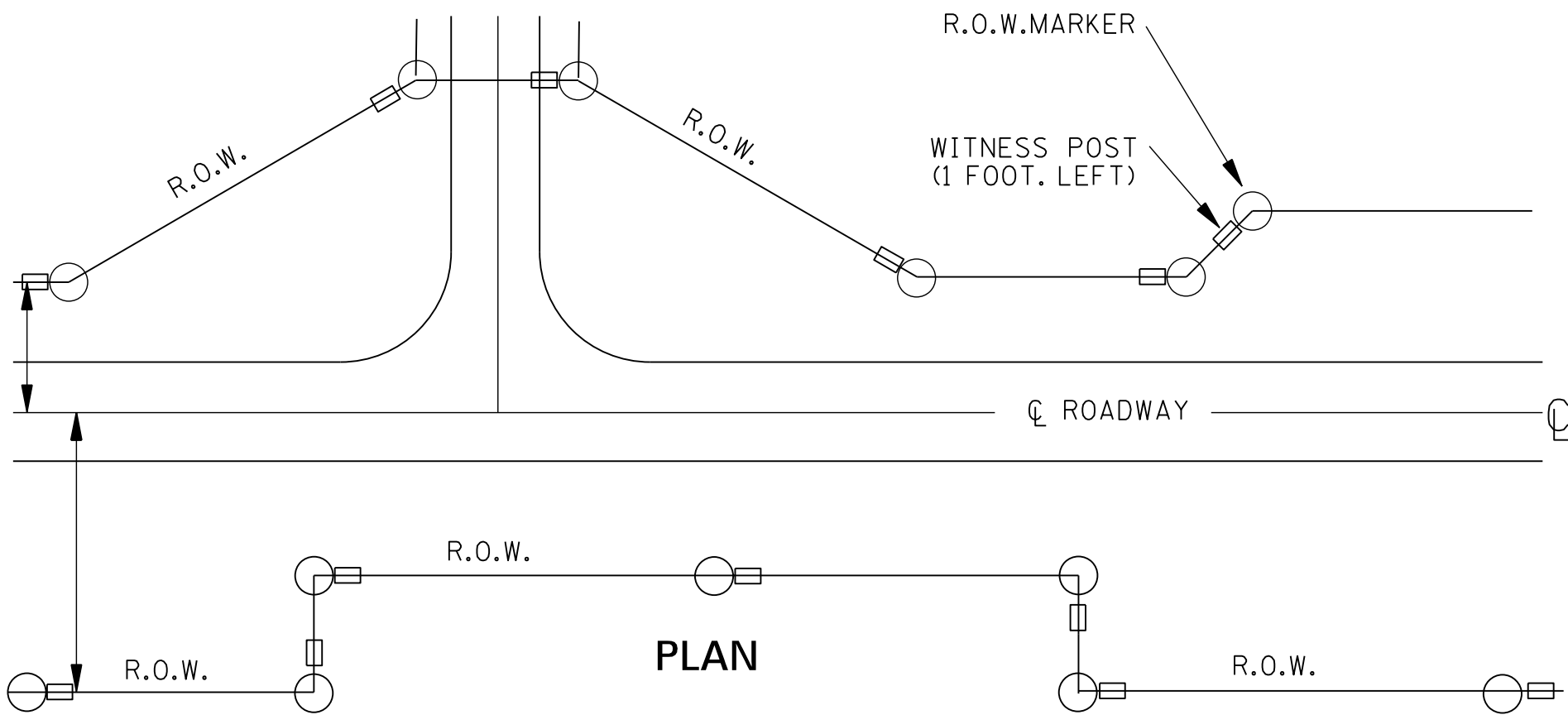
PROJECT CONSTRUCTION  
NUMBER SHALL BE  
PRE-STAMPED.

INDIVIDUAL MARKER NUMBER SHALL BE STAMPED AT THE TIME OF PLACEMENT. THESE NUMBERS SHALL COINCIDE WITH THE P.E. MARKER COORDINATE SHEET(S) IN THESE PLANS.

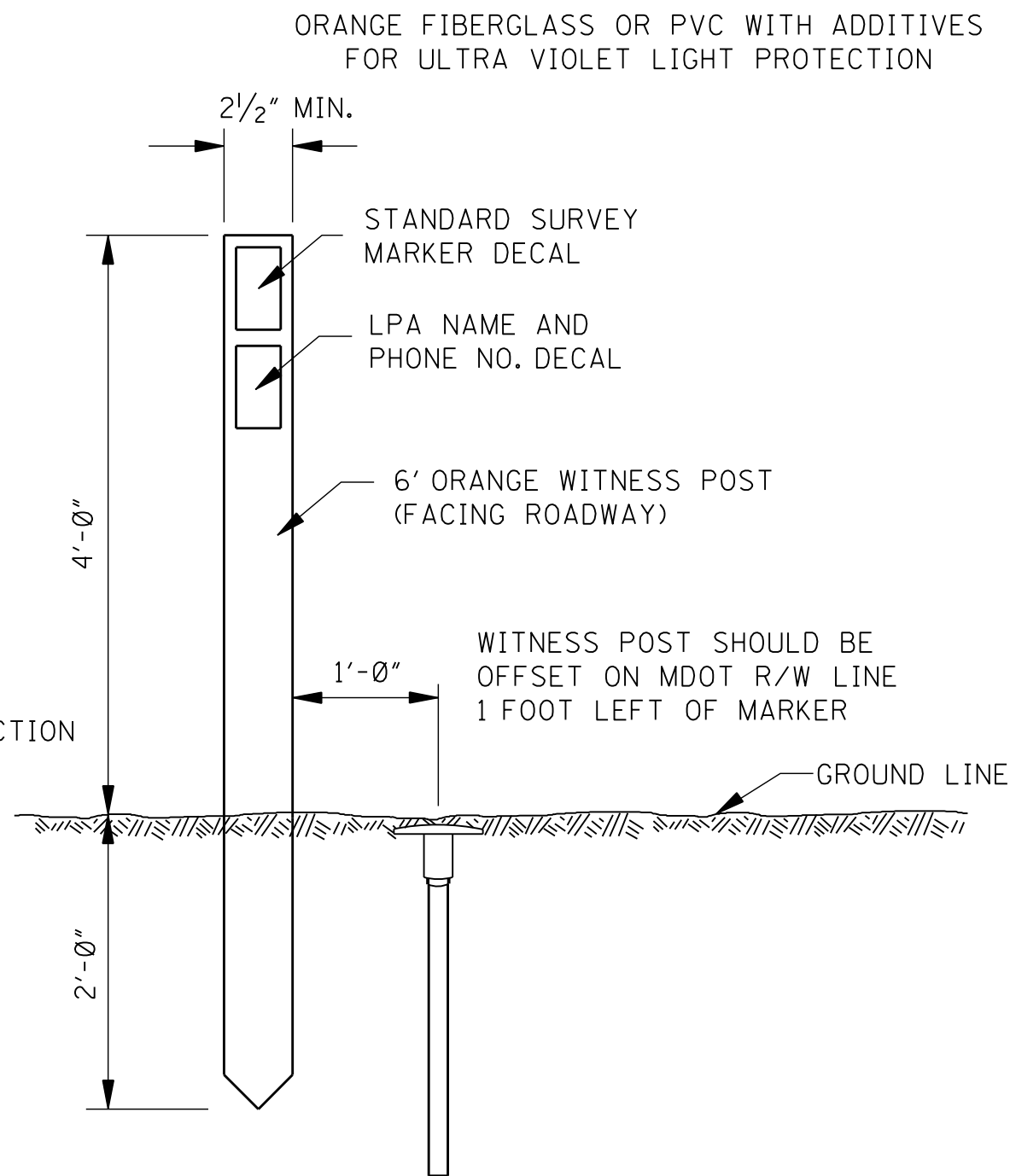
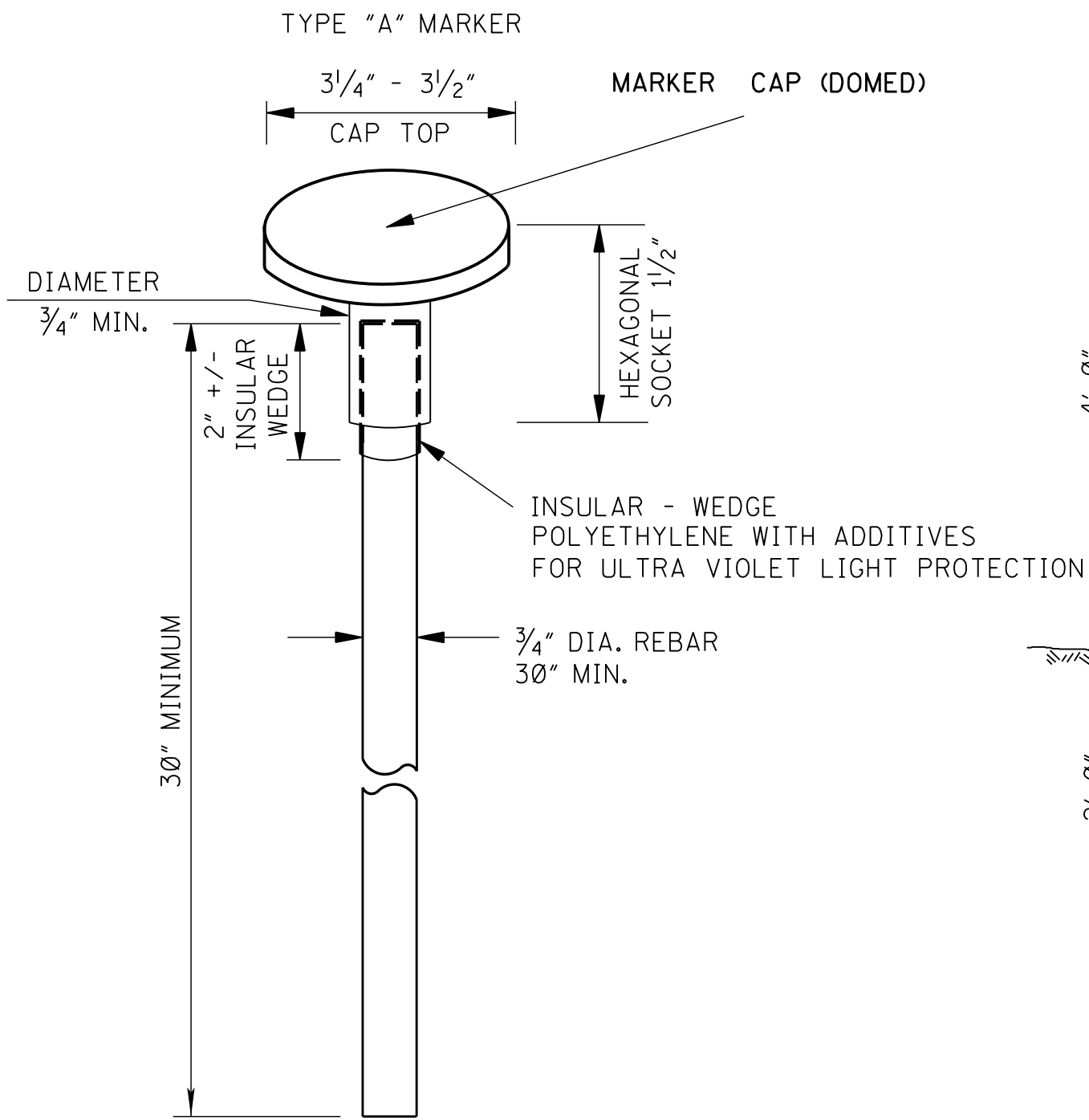
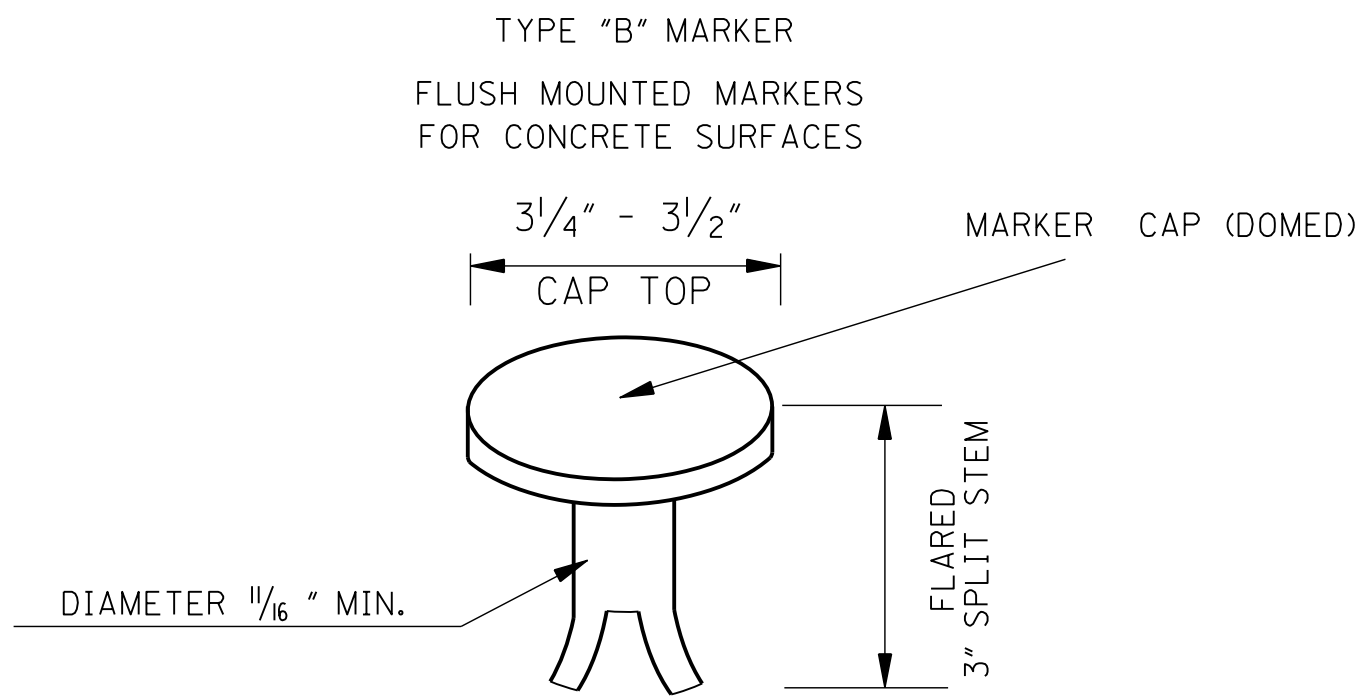
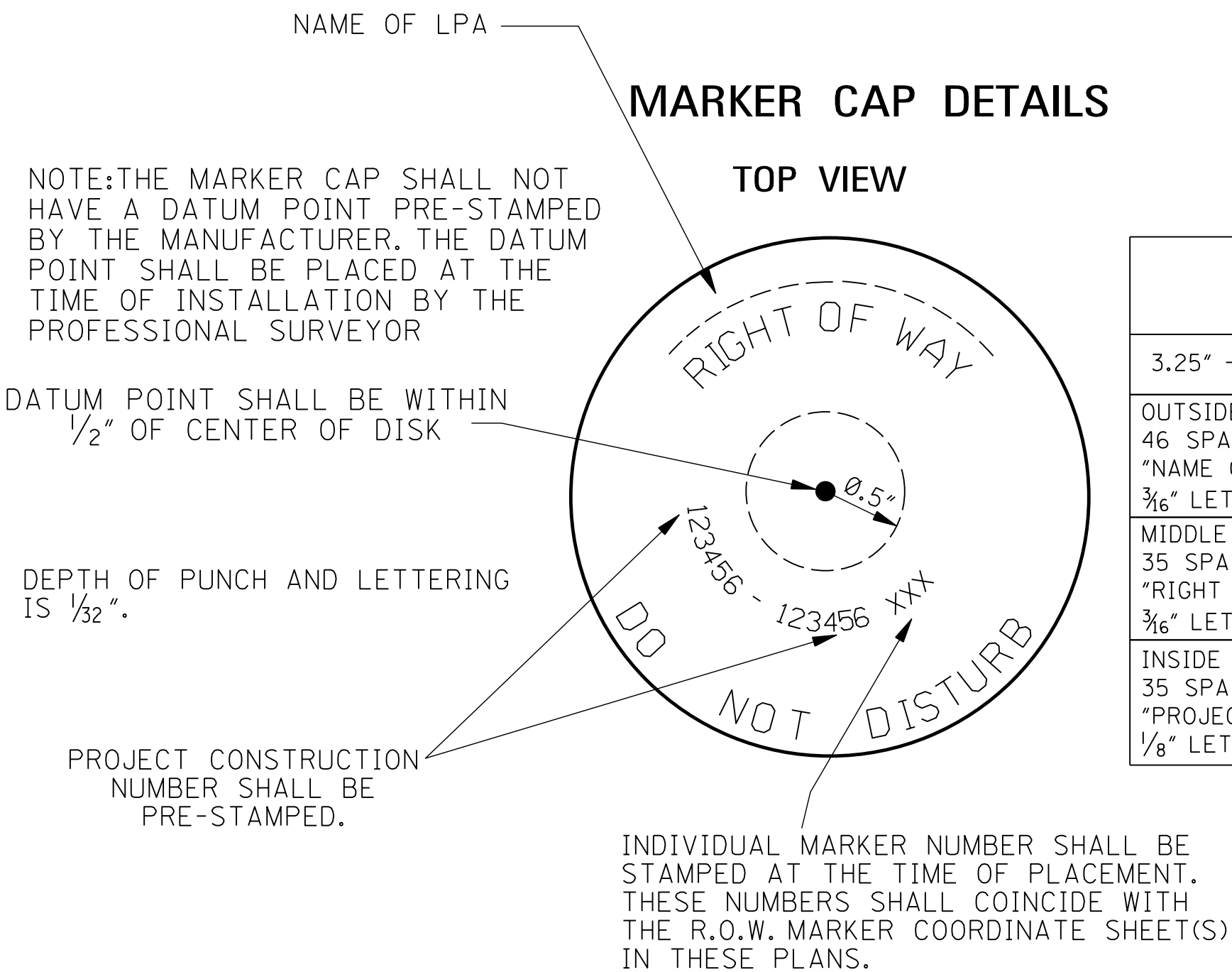
MARKER CAP SPECIFICATIONS (PRINT DATA WHERE SHOWN)
3.25" - 3.50" DIAMETER DOMED TOP
OUTSIDE ROW 46 SPACES "MDOT - DO NOT DISTURB" 3/16" LETTERS
MIDDLE ROW 35 SPACES "PERMANENT EASEMENT" 3/16" LETTERS
INSIDE ROW 35 SPACES "PROJECT P.E. NO. AND INDIVIDUAL MARKER NO." 1/8" LETTERS



				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
					<p align="center"><b><i>RIGHT-OF-WAY MARKER</i></b></p>
				DATE	<div>  <div> <div>WORKING NUMBER</div> <div>RW-1</div> </div> </div>
					<div> <div>SHEET NUMBER</div> <div>6401</div> </div>
					ISSUE DATE: <u>          AUGUST 01, 2017          </u>

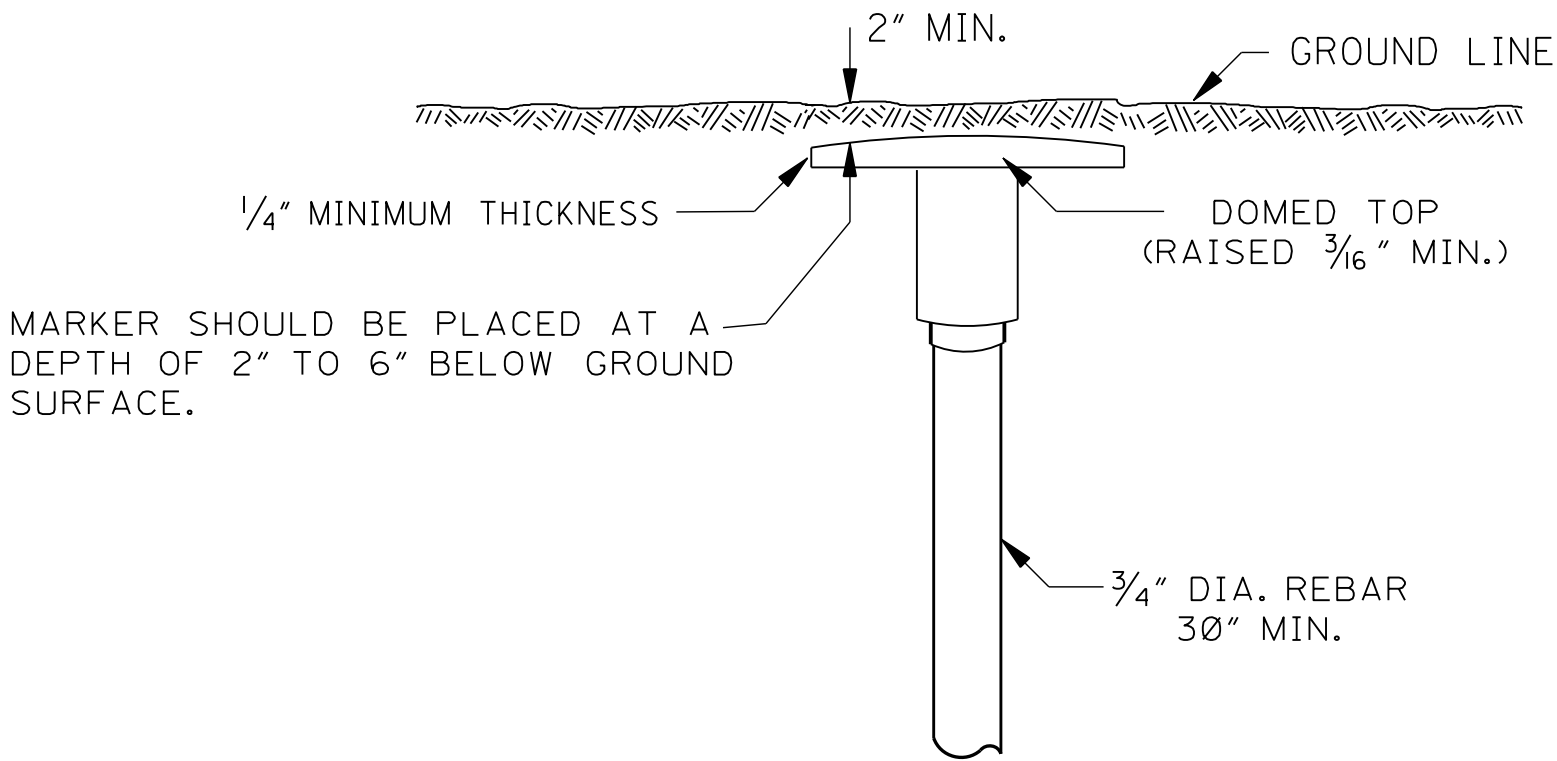
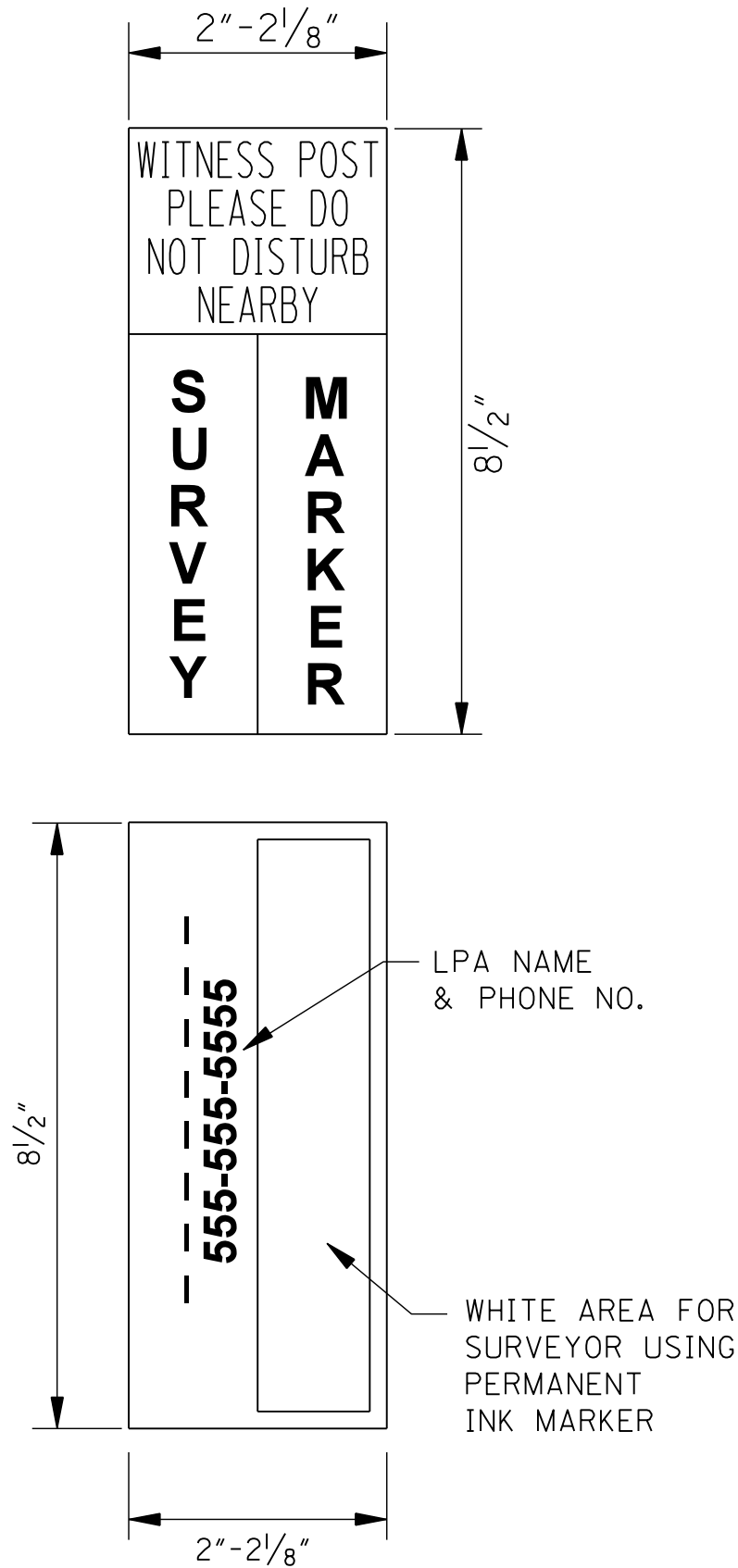


TYPICAL PLACEMENT OF R.O.W. MARKERS AND WITNESS POSTS



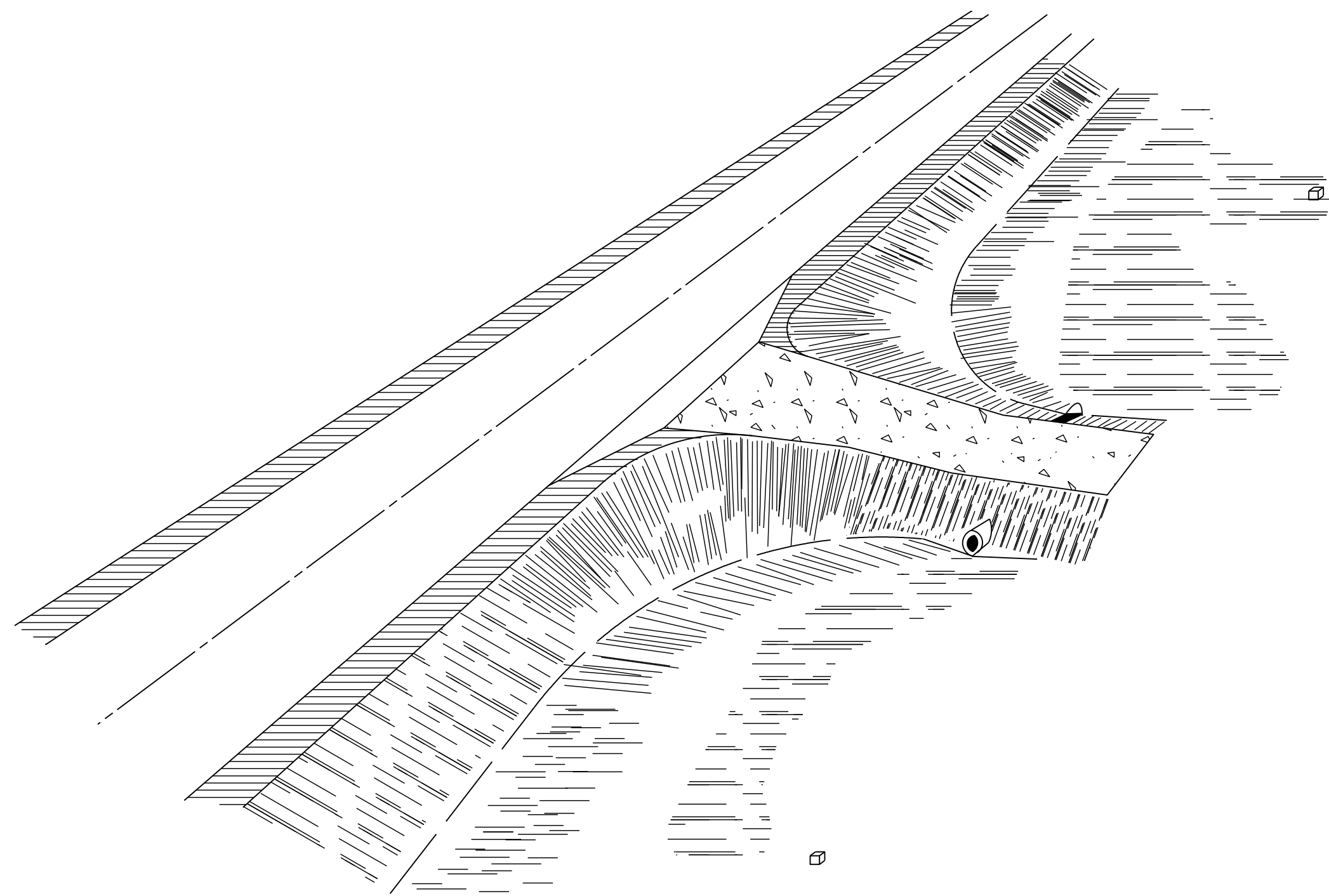
WITNESS POST & RIGHT-OF-WAY MARKER

SURVEY MARKER WITNESS POST DECALS  
WHITE BACKGROUND WITH BLACK PRINT, VINYL WITH ADHESIVE BACKING

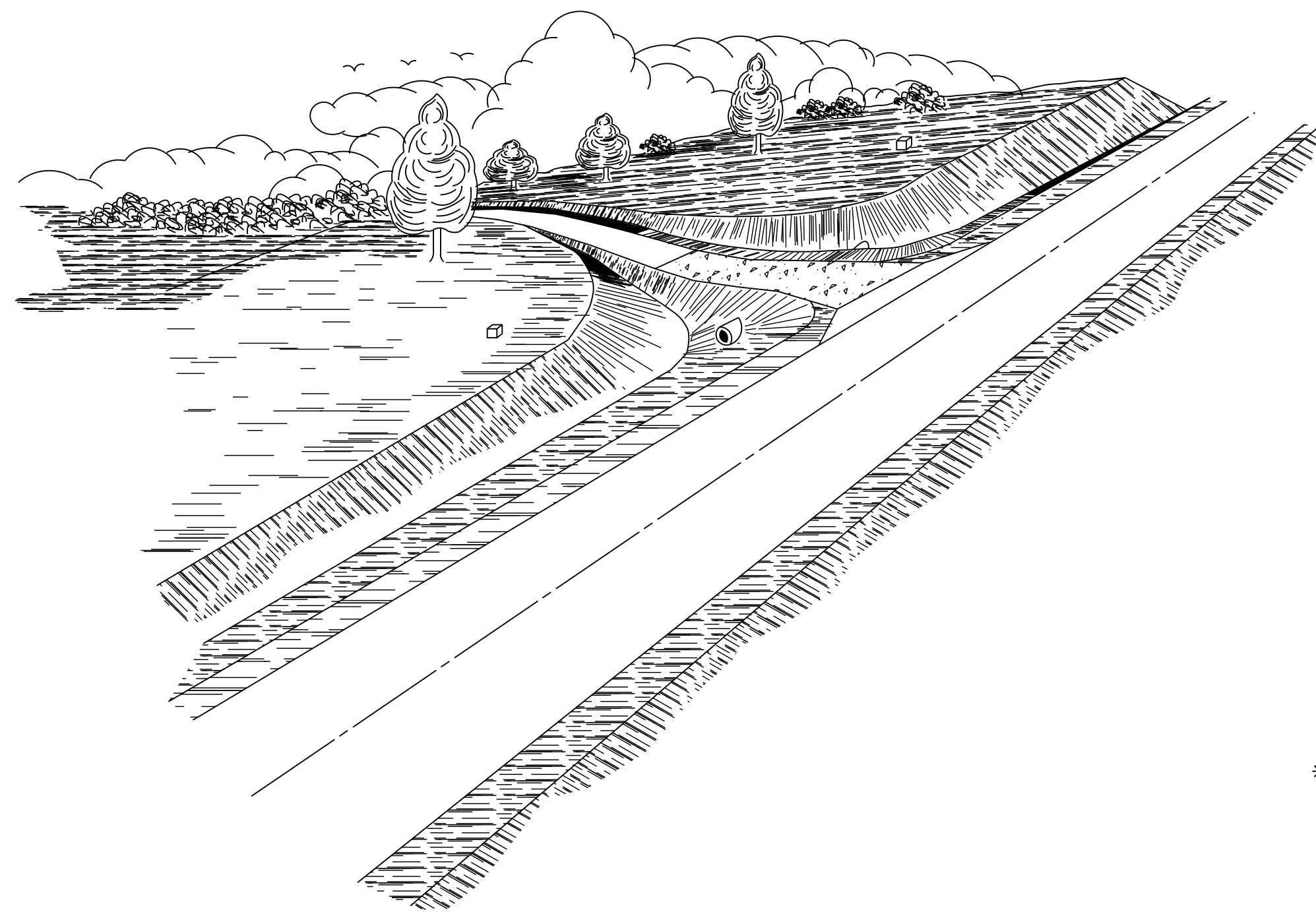


GENERAL NOTE:

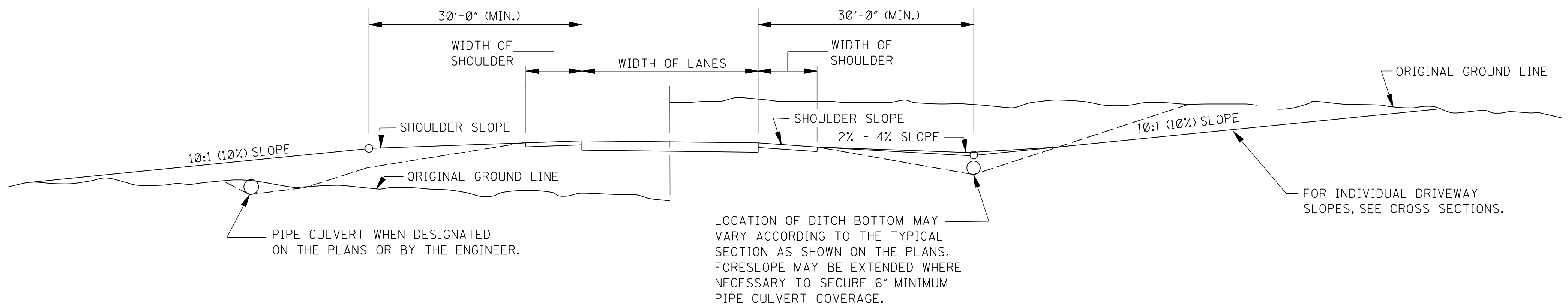
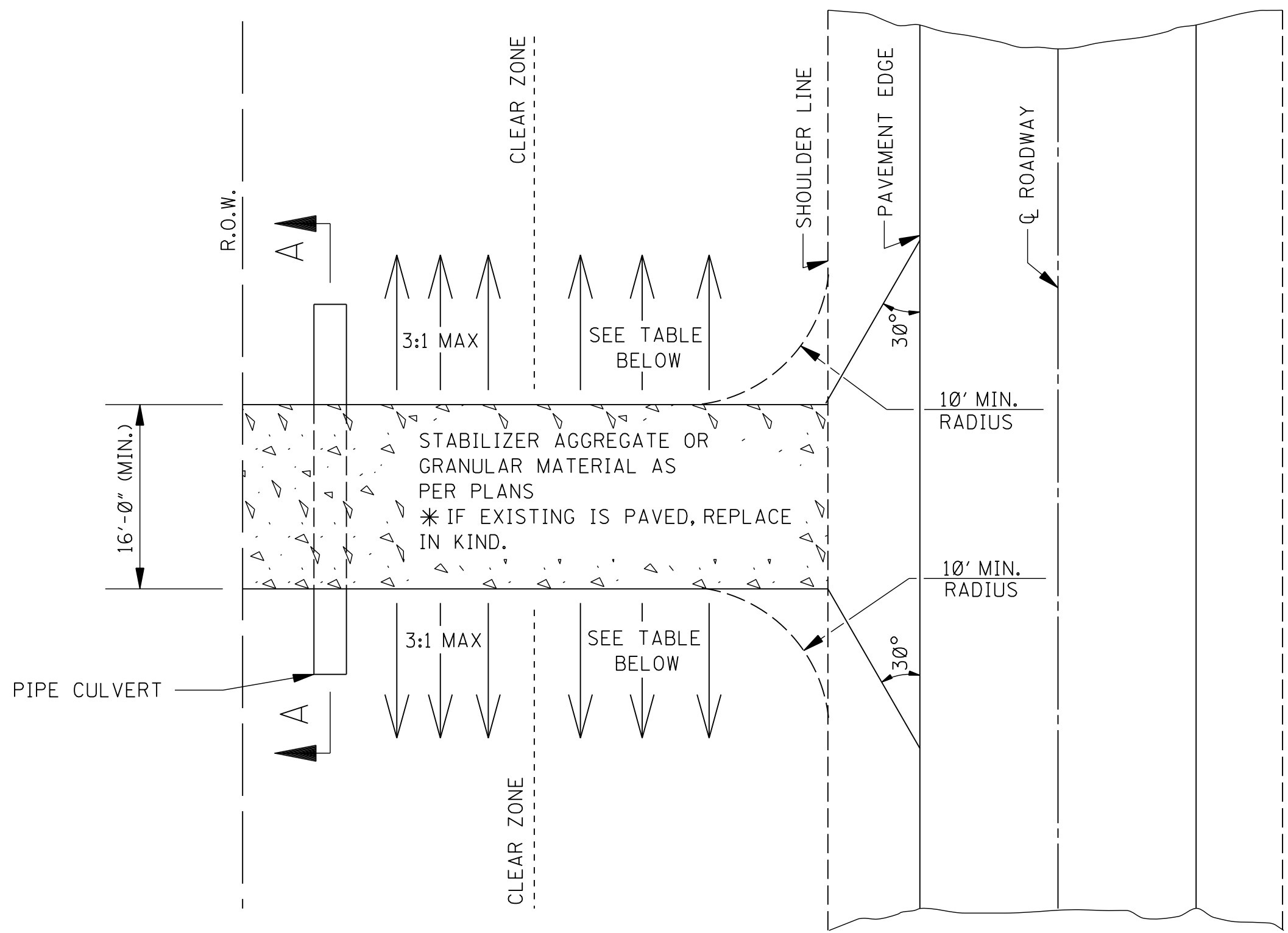
1. THE MARKERS SHALL BE PLACED AS INDICATED ELSEWHERE ON PLANS  
COST OF WITNESS POST AND DECALS SHALL BE INCLUDED IN THE COST OF MARKER



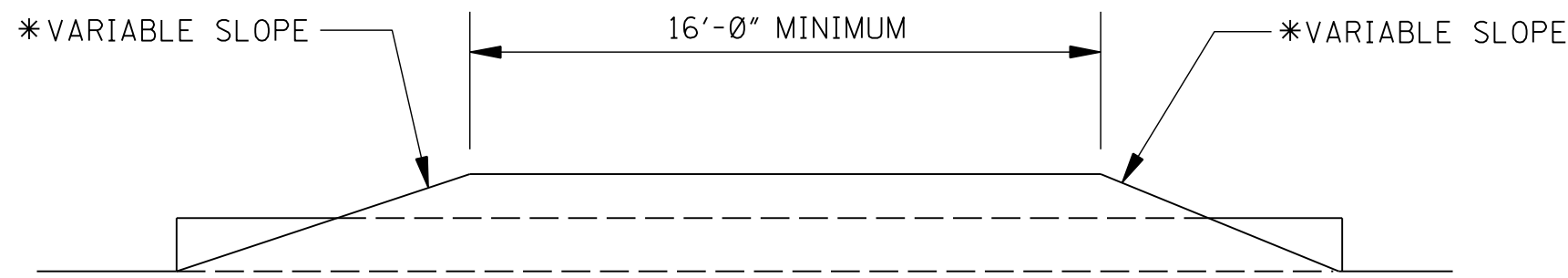
RAMP IN FILL SECTION



RAMP IN CUT SECTION



TYPICAL SECTION AT RAMP



SECTION A-A

\* DRIVEWAY SIDE SLOPES

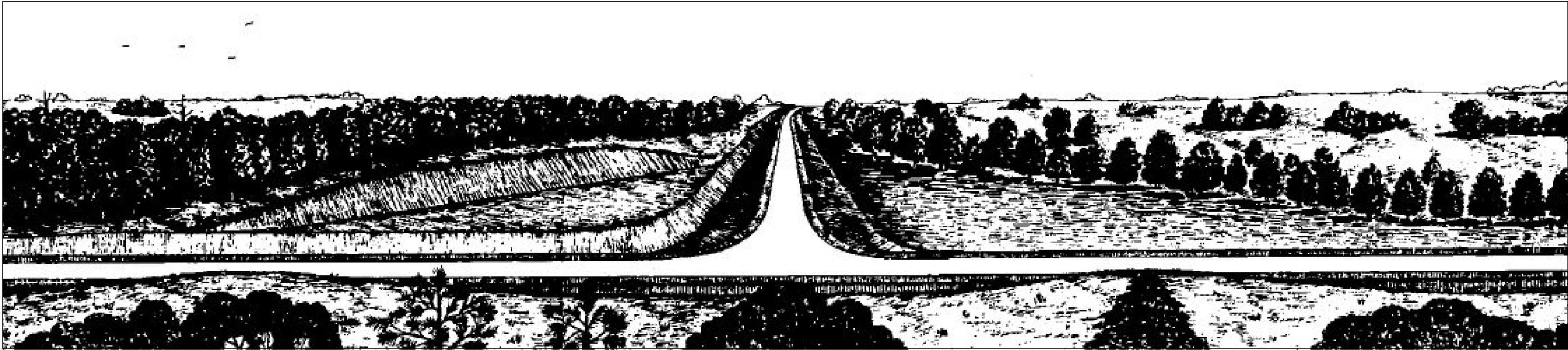
WITHIN CLEAR ZONE	V ≥ 50 mph - DES. 10:1 MAX 6:1 V ≤ 45 mph - MAX. 3:1
OUTSIDE CLEAR ZONE	MAXIMUM - 3:1

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>RURAL DRIVEWAYS</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					WORKING NUMBER RD-1
					SHEET NUMBER 6403

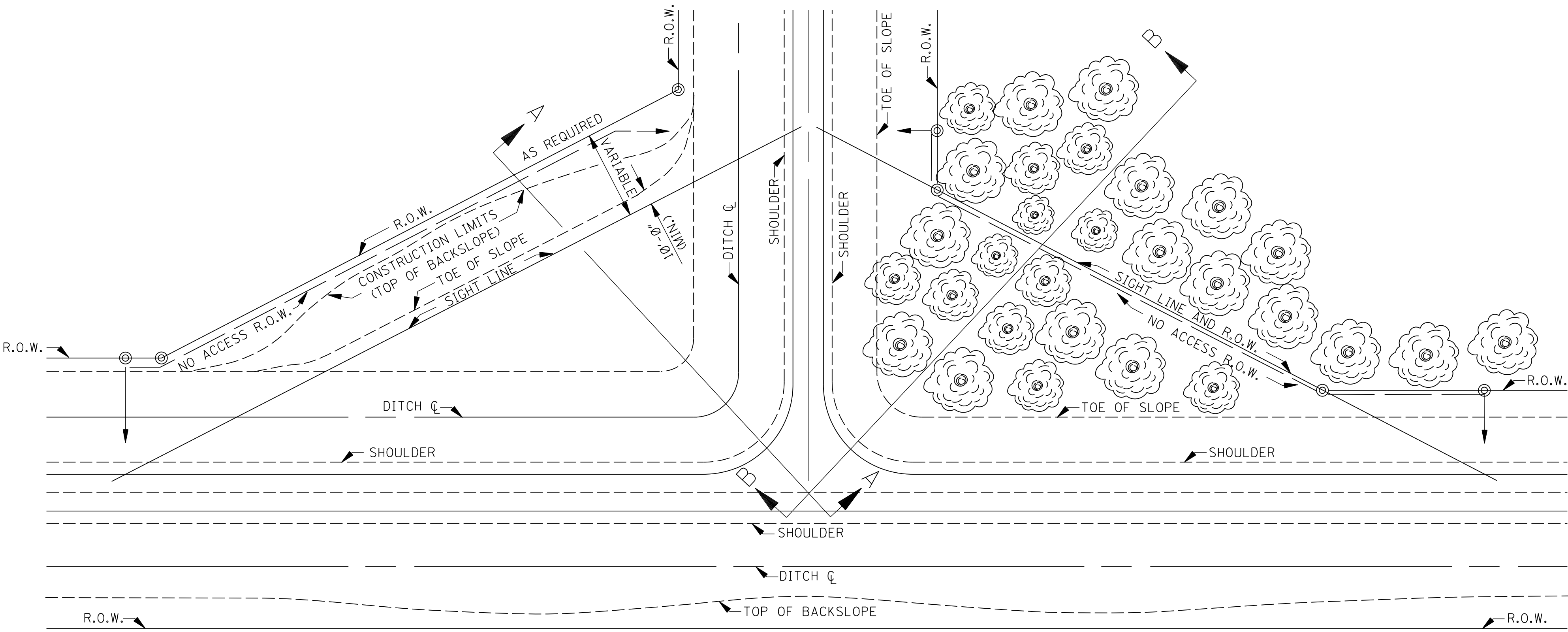




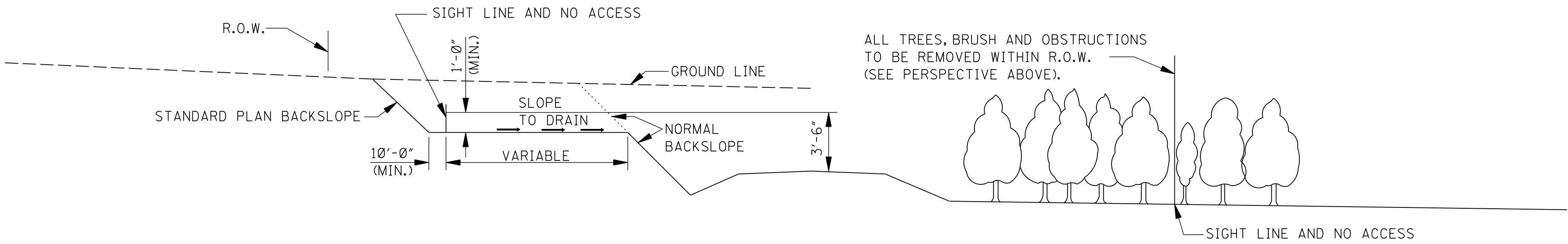




PERSPECTIVE OF TYPICAL DAYLIGHTING AT INTERSECTION IN CUT AND FILL

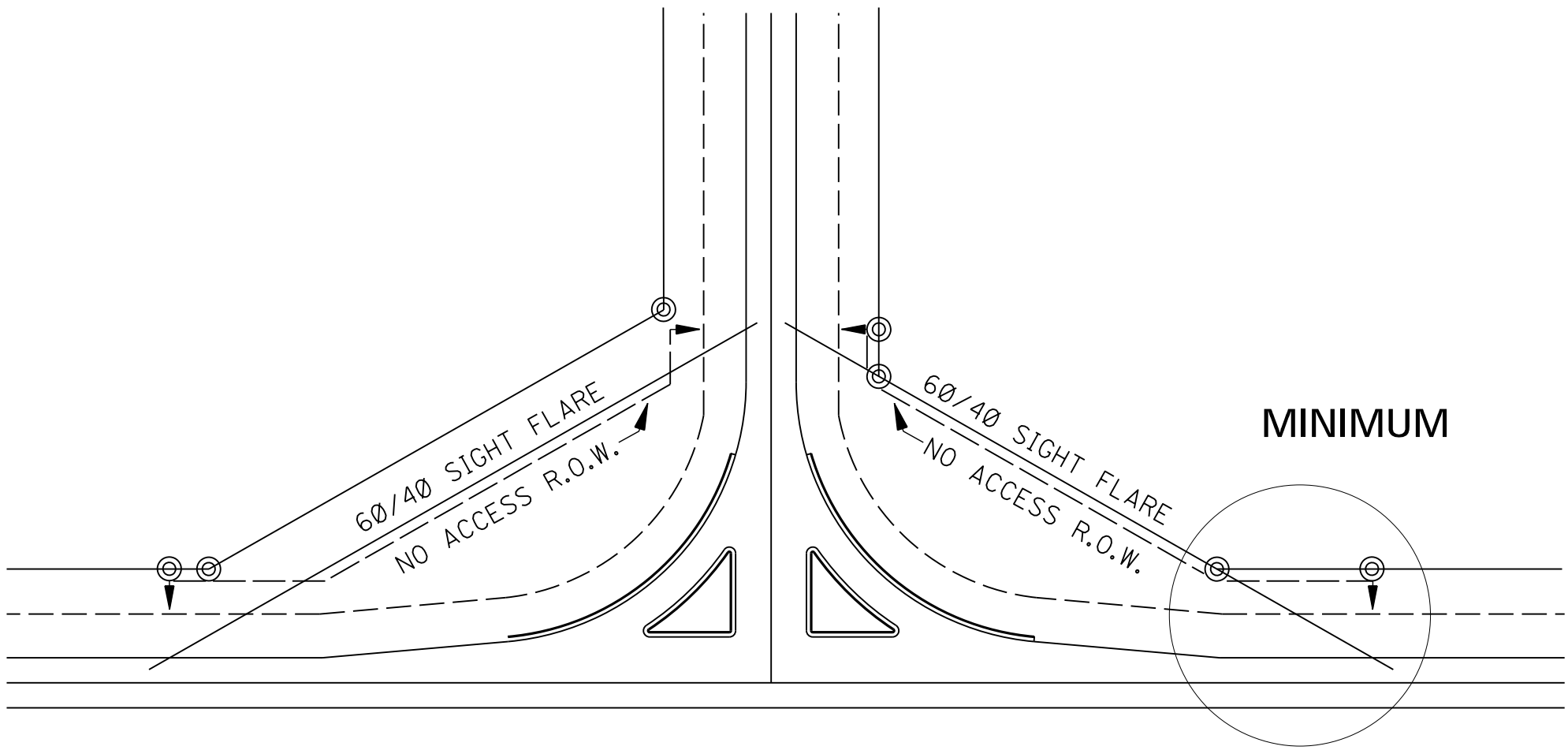


PLAN



SECTION A-A

SECTION B-B



NO-ACCESS LIMITS AT SIGHT FLARES

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	ISSUE DATE: AUGUST 01, 2017

**SIGHT FLARE**

**MDOT**  
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

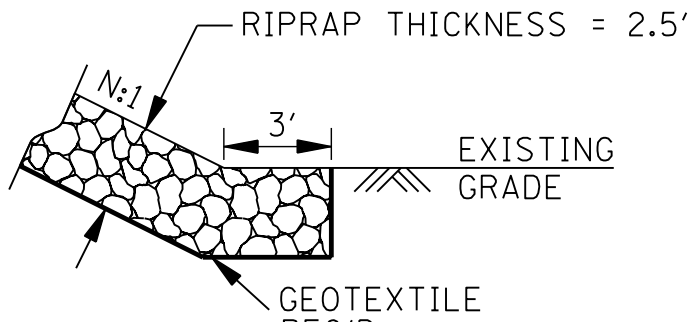
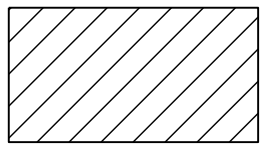
WORKING NUMBER  
SF-1

SHEET NUMBER  
6405

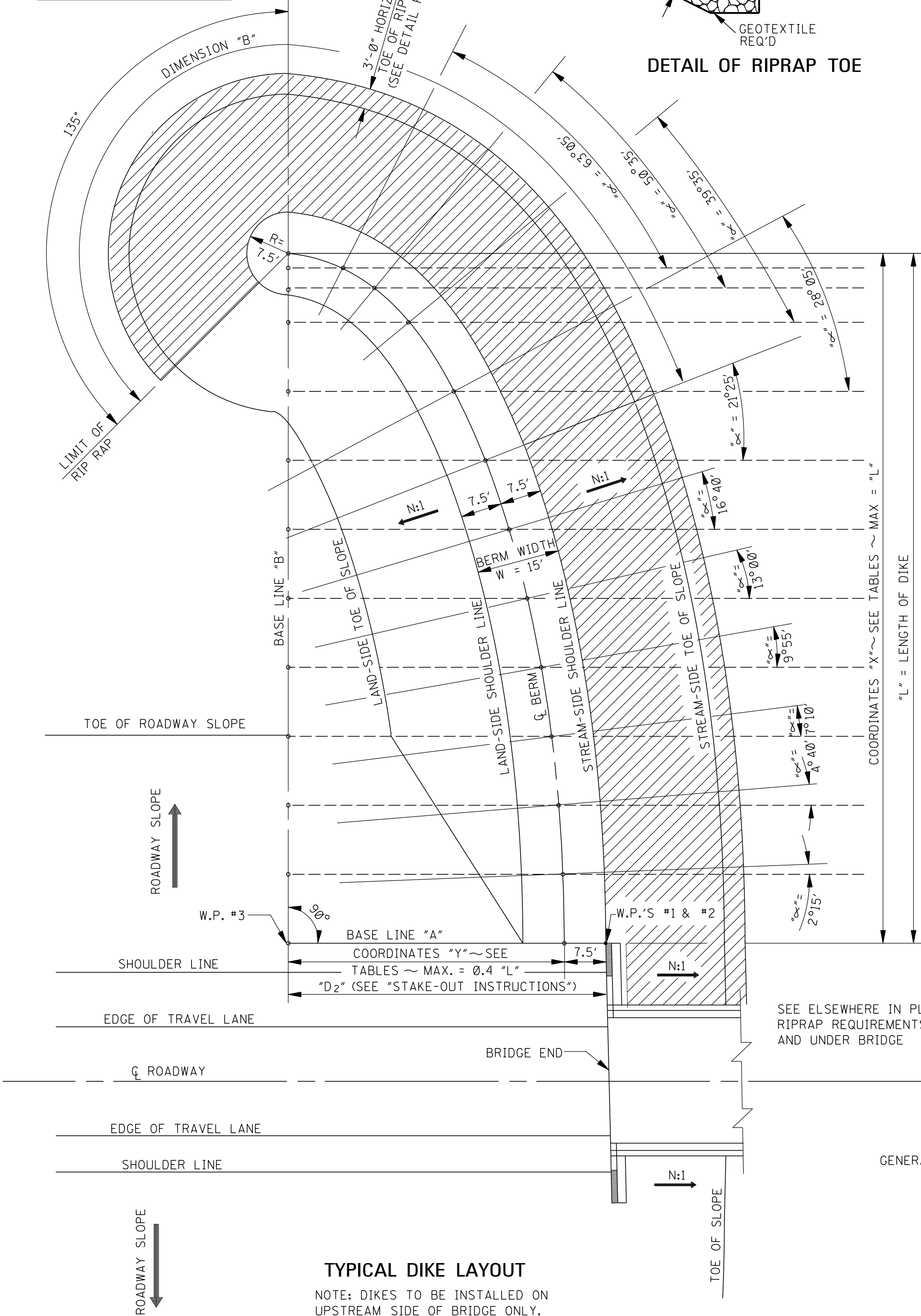
THE RIPRAP SIZE AND MINIMUM DEPTH FOR RIPRAP TREATMENT ARE AS FOLLOWS:

RIPRAP SIZE & MINIMUM DEPTH	
DEPTH (MIN.) (ft)	RIPRAP SIZE (lbs)
2.5	300

INDICATES AREA TO BE RIPAPPED:



DETAIL OF RIPRAP TOE



TYPICAL DIKE LAYOUT

NOTE: DIKES TO BE INSTALLED ON UPSTREAM SIDE OF BRIDGE ONLY. DIKE AT OTHER END OF BRIDGE SAME EXCEPT OPPOSITE HAND.

RIPRAP (TONS) & GEOTEXTILE (SQ.YD.)											
50' DIKE				100' DIKE				150' DIKE			
H (FT)	2:1 SLOPE RIPRAP	3:1 SLOPE GEOTX.	3:1 SLOPE RIPRAP	2:1 SLOPE RIPRAP	3:1 SLOPE GEOTX.	2:1 SLOPE RIPRAP	3:1 SLOPE GEOTX.	2:1 SLOPE RIPRAP	3:1 SLOPE GEOTX.	2:1 SLOPE RIPRAP	3:1 SLOPE GEOTX.
5	233	172	337	250	350	259	492	365	467	346	647
6	279	207	413	306	415	307	595	440	550	407	776
7	328	243	495	367	482	357	702	520	636	471	910
8	380	281	582	431	552	409	816	604	724	537	1049
9	434	321	675	500	625	463	935	692	815	604	1194
10	491	364	774	573	700	519	1059	784	909	673	1345
11	550	408	878	650	778	576	1189	881	1006	745	1501
12	613	454	987	731	859	636	1325	981	1105	818	1663
13	677	502	1102	817	942	698	1466	1086	1206	894	1830
14	745	552	1223	906	1028	761	1613	1195	1311	971	2003
15	815	604	1350	1000	1116	827	1765	1308	1417	1050	2181
16	887	657	1481	1097	1207	894	1923	1425	1527	1131	2365
17	963	713	1619	1199	1301	964	2087	1546	1639	1214	2555
18	1041	771	1762	1305	1397	1035	2256	1671	1754	1299	2750
19	1121	831	1911	1415	1496	1108	2431	1801	1872	1386	2951
20	1205	892	2065	1530	1598	1184	2612	1934	1992	1475	3158
21	1290	956	2225	1648	1702	1261	2798	2072	2114	1566	3370
22	1379	1021	2391	1771	1809	1340	2989	2214	2240	1659	3588
23	1470	1089	2562	1898	1919	1421	3186	2360	2368	1754	3811
24	1564	1158	2738	2028	2031	1504	3389	2510	2498	1851	4040
25	1660	1230	2921	2163	2146	1590	3597	2665	2632	1949	4274

TO ESTIMATE THE QUANTITY OF EMBANKMENT MATERIAL:

THE VOLUME OF EMBANKMENT MATERIAL, IN CUBIC YARDS, IS DETERMINED BY THE FOLLOWING FORMULA:

$$V = 0.0426 [(L)(H)(W+(N)(H))]$$

WHERE "L" IS THE DIKE LENGTH, IN FEET; "H" IS THE DIFFERENCE IN ELEVATIONS OF THE BERM AND THE AVERAGE GROUND LEVEL; "W" IS THE BERM WIDTH, IN FEET; AND N:1 IS THE DIKE SLOPE.

TO ESTIMATE THE QUANTITY OF RIP RAP:

1. CALCULATE RIPRAP AREA ON SLOPE, A<sub>S</sub> (SQ. FT.)

$$A_S = \frac{0.7854 \left( (L+NH+7.5)(Y_0+NH+7.5) - (L+7.5)(Y_0+7.5) \right) + 1.178 (NH+7.5)^2 - 66.263}{\frac{N}{\sqrt{N^2+1}}}$$

2. CALCULATE RIPRAP AREA OF HORIZONTAL TOE, A<sub>T</sub> (SQ. FT.)

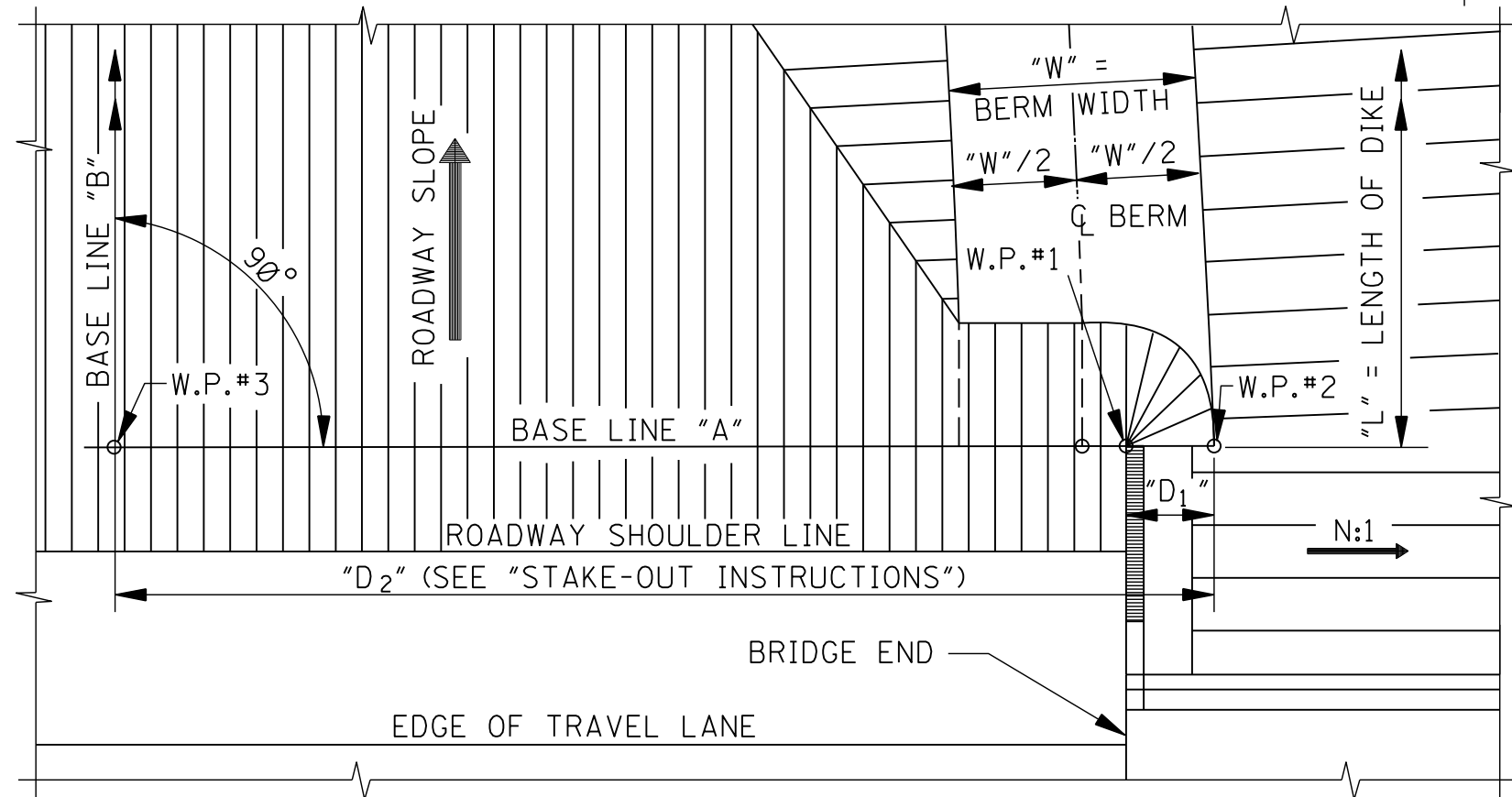
$$A_T = 2.356 (L+Y_0+2NH+18) + 7.069NH + 63.617$$

WHERE "L" IS THE DIKE LENGTH, IN FEET; "H" IS THE DIFFERENCE IN ELEVATIONS OF THE BERM AND THE AVERAGE GROUND LEVEL, "Y<sub>0</sub>" IS GIVEN IN TABLE ABOVE; AND N:1 IS THE DIKE SLOPE.

3. TOTAL RIPRAP AREA = A<sub>S</sub> + A<sub>T</sub>

4. TOTAL RIPRAP QUANTITY (TONS) = (A<sub>S</sub> + A<sub>T</sub>) (120 LB/CF) (2.5 FT) / (2000 LB/TON)

NOTE: RIPRAP QUANTITIES BASED ON THESE FORMULAS ARE TABULATED ABOVE.



DETAIL "A"

NOTE: SHOWING LOCATION OF WORKING POINTS FOR STAKING OUT DIKE WHEN BERM ELEVATION (E<sub>B</sub>) IS BELOW SLOPE ELEVATION (E<sub>S</sub>) AT W.P. #1.

GENERAL NOTES:

- THE SLOPE OF THE GUIDE BANK EMBANKMENT SHOULD BE THE SAME AS THE SLOPE (N:1) OF THE FILL UNDER THE BRIDGE UNLESS SPECIFIED OTHERWISE ON BRIDGE LAYOUT SHEET.
- EMBANKMENT MATERIAL FOR GUIDE BANKS WILL BE INCLUDED IN EXCAVATION QUANTITIES AS SHOWN ON THE PLANS.
- UNLESS OTHERWISE NOTED ON THE PLANS AND/OR TO MEET OTHER CONTRACT REQUIREMENTS, RIPRAP SHALL BE REQUIRED ON ALL GUIDE BANKS AS SHOWN HEREON.
- SODDING, WHEN REQUIRED, WILL BE INCLUDED IN REGULAR ROADWAY SODDING QUANTITIES.
- GEOTEXTILE FABRIC REQUIRED UNDER RIPRAP.

50' DIKE

BERM WIDTH, "W" = 15'  
BACK ARC = 135°  
"L" = 50' & "Y<sub>0</sub>" = 20'

COORDINATES (ft)

"X"	"Y"
0.0	20.00
5.0	19.90
10.0	19.60
15.0	19.08
20.0	18.33
25.0	17.32
30.0	16.00
35.0	14.28
40.0	12.00
45.0	8.72
47.5	6.25
49.0	3.98
50.0	0.00

100' DIKE

BERM WIDTH, "W" = 15'  
BACK ARC = 135°  
"L" = 100' & "Y<sub>0</sub>" = 40'

COORDINATES (ft)

"X"	"Y"
0.0	40.00
10.0	39.80
20.0	39.19
30.0	38.16
40.0	36.66
50.0	34.64
60.0	32.00
70.0	28.57
80.0	24.00
90.0	17.44
95.0	12.49
98.0	7.96
100.0	0.00

150' DIKE

BERM WIDTH, "W" = 15'  
BACK ARC = 135°  
"L" = 150' & "Y<sub>0</sub>" = 60'

COORDINATES (ft)

"X"	"Y"
0.0	60.00
15.0	59.70
30.0	58.79
45.0	57.24
60.0	54.99
75.0	51.96
90.0	48.00
105.0	42.85
120.0	36.00
135.0	26.15
142.5	18.74
147.0	11.94
150.0	0.00

STATE

PROJECT NO.

MISS.

EQUATION USED TO DETERMINE COORDINATES:

$$\frac{X^2}{L^2} + \frac{Y^2}{(0.4L)^2} = 1$$

STAKE OUT INSTRUCTIONS

1. W.P. #1 IS LOCATED AT THE LAND-SIDE CORNER OF THE UPSTREAM END BENT WING WALL, UNLESS OTHERWISE SPECIFIED. ESTABLISH BASE LINE "A" PASSING THRU W.P. #1 AND PARALLEL TO Q ROADWAY. WHERE Q ROADWAY IS ON A HORIZONTAL CURVE, BASE LINE "A" IS PARALLEL TO THE TANGENT OF Q ROADWAY AT Q JOINT (OR END OF SPAN) AT BRIDGE END. WHERE SKEWED DIKE IS REQUIRED, ROTATE BASE LINE "A" ABOUT W.P. #1 THRU THE ANGLE OF SKEW.

2A. UNLESS OTHERWISE SPECIFIED, ASSUME THE BERM ELEVATION, "E<sub>B</sub>" TO BE EQUAL TO THE DESIGN STAGE PLUS 2 FEET. IN ALL CASES WHERE E<sub>B</sub> = E<sub>S</sub>, W.P. #2 COINCIDES WITH W.P. #1 AS SHOWN IN "TYPICAL DIKE LAYOUT". FOR BRIDGES WHERE ELEVATIONS "E<sub>S</sub>" ARE NOT THE SAME AT BOTH BRIDGE ENDS, SET ELEVATION "E<sub>B</sub>" FOR BOTH DIKES EQUAL TO THE LOWER GRADE.

2B. FOR DIKES WHERE THE BERM SHALL BE SET AT ELEVATION "E<sub>B</sub>" OTHER THAN ELEVATION "E<sub>S</sub>", ESTABLISH W.P. #2 ALONG BASE LINE "A" A DISTANCE, "D<sub>1</sub>". STREAMWARD (LANDWARD, IF "D" IS NEGATIVE) FROM W.P. #1, WHERE:  
 $D_1 = N(E_S - E_B)$

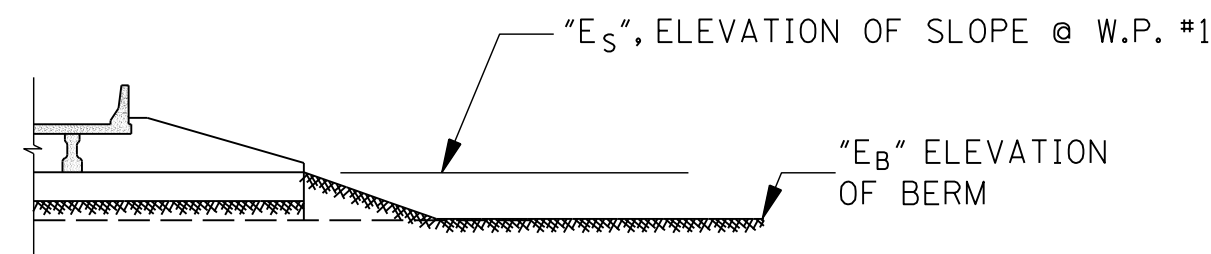
AND N:1 IS THE DIKE SLOPE. SEE DETAIL "A" BELOW.

3. MEASURE LANDWARD FROM W.P. #2 ALONG BASE LINE "A" A DISTANCE "D<sub>2</sub>" TO ESTABLISH W.P. #3, THE ZERO OF BASELINE "B", WHERE:  
 $D_2 = 7.5' + Y_0$

"Y<sub>0</sub>" IS THE DISTANCE "Y" GIVEN IN THE TABLES FOR "X" = 0.

4. AT W.P. #3, TURN 90° UPSTREAM FROM THE BASE LINE "A" TO ESTABLISH BASE LINE "B". LOCATE THE "X" COORDINATES ALONG BASE LINE "B" AND, AT RIGHT ANGLES TO BASE LINE "B" THRU THESE POINTS, MEASURE CORRESPONDING "Y" COORDINATES TO ESTABLISH POINTS ON Q BERM.

5. AT EACH POINT THUS OBTAINED ON Q BERM, TURN CORRESPONDING ANGLE "α", AND SET:  
(A) STREAM-SIDE SHOULDER LINE, AT HALF THE BERM WIDTH FROM Q BERM.  
(B) STREAM-SIDE TOE OF SLOPE, FROM THE PRECEDING POINT.  
(C) LAND-SIDE SHOULDER LINE, AT HALF THE BERM WIDTH FROM Q BERM.  
(D) LAND-SIDE TOE OF SLOPE, FROM THE PRECEDING POINT.



SECTION A-A

MISSISSIPPI DEPARTMENT OF TRANSPORTATION  
ROADWAY DESIGN DIVISION  
STANDARD PLAN

**GUIDE BANK (SPUR DIKE): EARTH**

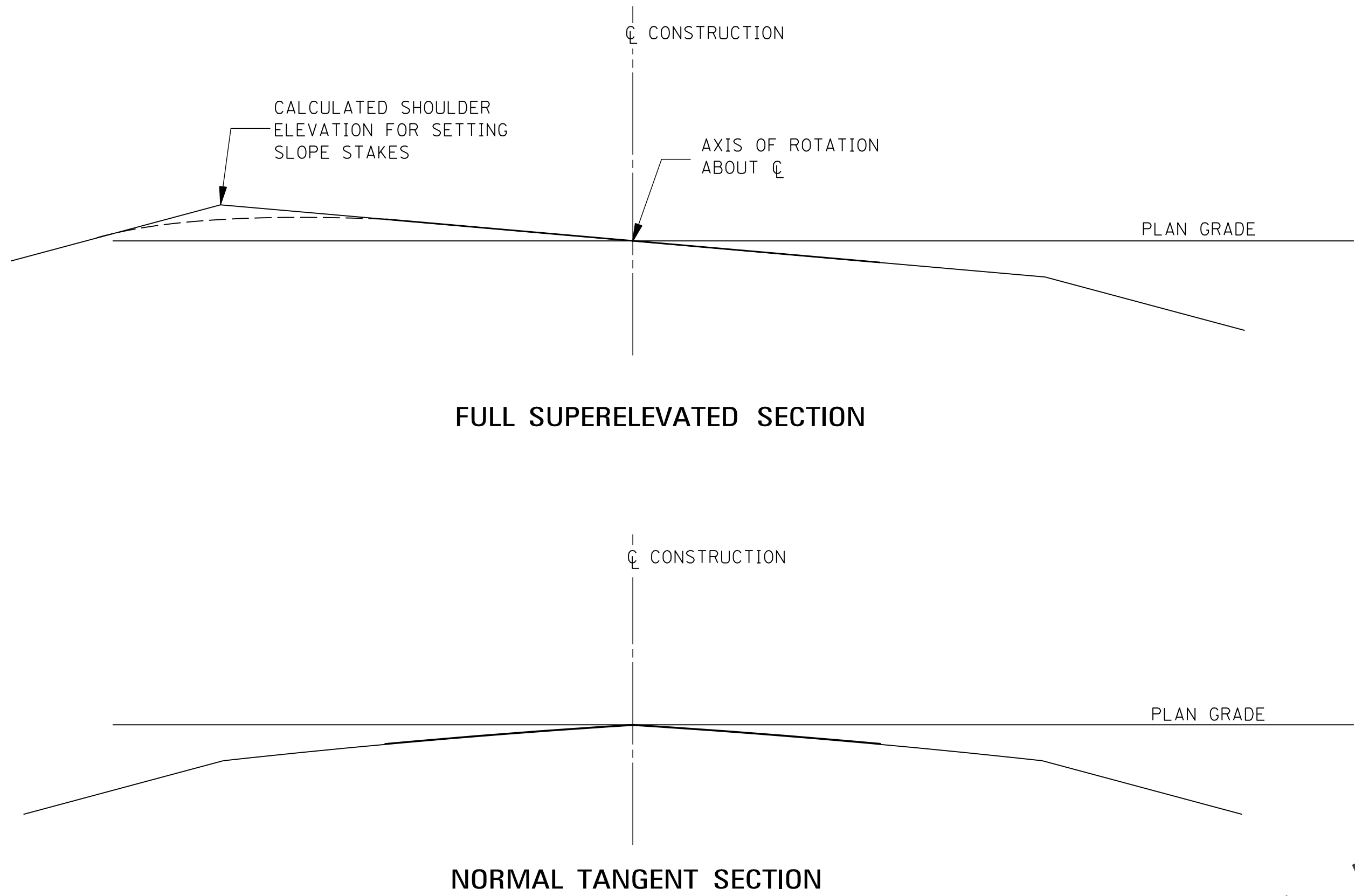


WORKING NUMBER  
ED-1

SHEET NUMBER  
6406

ISSUE DATE: AUGUST 01, 2017





e	V = 30 mph	V = 35 mph	V = 40 mph	V = 45 mph
	R (ft+)	R (ft+)	R (ft+)	R (ft+)
NC	3130	4100	5230	6480
RC	2240	2950	3770	4680
0.022	2000	2630	3370	4190
0.024	1790	2360	3030	3770
0.026	1610	2130	2740	3420
0.028	1460	1930	2490	3110
0.030	1320	1760	2270	2840
0.032	1200	1600	2080	2600
0.034	1080	1460	1900	2390
0.036	972	1320	1740	2190
0.038	864	1190	1590	2010
0.040	766	1070	1440	1840
0.042	684	960	1310	1680
0.044	615	868	1190	1540
0.046	555	788	1090	1410
0.048	502	718	995	1300
0.050	456	654	911	1190
0.052	413	595	833	1090
0.054	373	540	769	995
0.056	335	487	684	903
0.058	296	431	611	806
e <sub>max</sub> = 0.060 R <sub>min</sub> = 230 R <sub>min</sub> = 340 R <sub>min</sub> = 485 R <sub>min</sub> = 643				

KEY:  
V = DESIGN SPEED (mph)  
R = RADIUS (ft+)  
e = FULL SUPERELEVATION RATE (ft+/ft+)  
NC = NORMAL CROWN  
RC = REVERSE CROWN

*EXTRA WIDTH TABLE FOR TRAVELED WAY												
RADIUS OF CURVE (ft+)	TRAVELED WAY WIDTH = 24 ft+				TRAVELED WAY WIDTH = 22 ft+				TRAVELED WAY WIDTH = 20 ft+			
	DESIGN SPEED (mph)				DESIGN SPEED (mph)				DESIGN SPEED (mph)			
	30	35	40	45	30	35	40	45	30	35	40	45
7000												
6500												
6000												
5500												2.0
5000											2.0	2.1
4500										2.0	2.1	2.1
4000									2.0	2.1	2.2	2.2
3500									2.1	2.2	2.3	2.4
3000									2.3	2.4	2.4	2.5
2500									2.5	2.6	2.7	2.8
2000							2.0	2.1	2.7	2.9	3.0	3.1
1800						2.0	2.1	2.3	2.9	3.0	3.1	3.3
1600					2.1	2.2	2.3	2.5	3.1	3.2	3.3	3.5
1400					2.3	2.5	2.6	2.7	3.3	3.5	3.6	3.7
1200				2.1	2.7	2.8	2.9	3.1	3.7	3.8	3.9	4.1
1000	2.1	2.3	2.4	2.6	3.1	3.3	3.4	3.6	4.1	4.3	4.4	4.6
900	2.4	2.6	2.7	2.9	3.4	3.6	3.7	3.9	4.4	4.6	4.7	4.9
800	2.7	2.9	3.1	3.3	3.7	3.9	4.1	4.3	4.7	4.9	5.1	5.3
700	3.2	3.4	3.6	3.8	4.2	4.4	4.6	4.8	5.2	5.4	5.6	5.8
600	3.8	4.0	4.2	4.4	4.8	5.0	5.2	5.4	5.8	6.0	6.2	6.4
500	4.6	4.9	5.1	5.3	5.6	5.9	6.1	6.3	6.6	6.9	7.1	7.3
450	5.2	5.4	5.7		6.2	6.4	6.7		7.2	7.4	7.7	
400	5.9	6.1	6.4		6.9	7.1	7.4		7.9	8.1	8.4	
350	6.8	7.0	7.3		7.8	8.0	8.3		8.8	9.0	9.3	
300	7.9	8.2			8.9	9.2			9.9	10.2		
250	9.6				10.6				11.6			
200	12.0				13.0				14.0			

\* NOTE: EXTRA WIDTH TO BE ADDED ON INSIDE OF CURVE. THE SPECIFIED EXTRA WIDTH TO BE ADDED AT UNIFORM RATE THROUGHOUT SUPERELEVATION RUNOFF (L). CENTERLINE STRIPE SHOULD EQUALLY DIVIDE SURFACED WIDTH.

- GENERAL NOTES:
- SE RATE SHOULD BE DETERMINED FROM A RADIUS EQUAL TO OR SLIGHTLY SMALLER THAN, THE RADIUS OF THE CURVE.
  - THIS SHEET ONLY APPLIES TO LOCAL ROAD FACILITIES IN RESTRICTED LOCATIONS (V ≤ 45 mph).
  - IT IS SUGGESTED THAT BOTH SHOULDER GRADE & FORM GRADE CORRECTIONS FOR SUPERELEVATION RUNOFF BE DETERMINED GRAPHICALLY. USE STANDARD CROSS SECTION SHEET WITH HORIZONTAL SCALE 1"=20' AND VERTICAL SCALE 1"=1'. CONNECT CONTROL POINTS WITH FLEXIBLE CURVE. CORRECTIONS CAN BE READ AT ANY POINT.
  - STATE AID DIVISION: USE STANDARD SA-SE-1.
  - SEE SHEET SE-3A FOR RUNOFF VALUES.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	
ISSUE DATE: AUGUST 01, 2017					

**SUPERELEVATION  
TRANSITION  
FOR LOCAL FACILITIES  
(V <= 45 mph)**

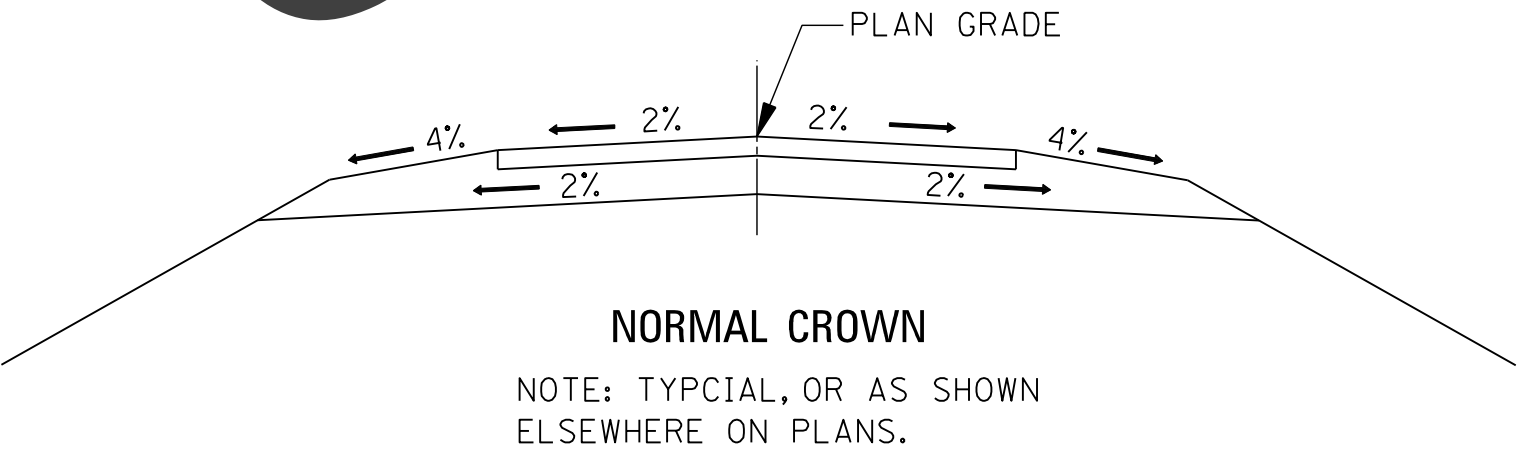
**MDOT**  
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

WORKING NUMBER  
SE-1

SHEET NUMBER  
6407



KEY:  
V = DESIGN SPEED (mph)  
R = RADIUS (ft)  
e = FULL SUPERELEVATION RATE (ft/ft)  
nc = NORMAL CROWN  
RC = REVERSE CROWN



GENERAL NOTES:

1. SE RATE SHOULD BE DETERMINED FROM A RADIUS EQUAL TO, OR SLIGHTLY SMALLER THAN, THE RADIUS OF THE CURVE.
2. SEE SHEET SE-3A FOR SE RUNOFF VALUES.
3. STATE AID DIVISION: USE STANDARD SA-SE-1.

[illegible]

MINIMUM RADII FOR DESIGN SUPERELEVATION RATES, DESIGN SPEEDS, AND  $e_{max} = 0.100$

e	V = 30 mph	V = 35 mph	V = 40 mph	V = 45 mph	V = 50 mph	V = 55 mph	V = 60 mph	V = 65 mph	V = 70 mph
	R (ft+)	R (ft+)	R (ft+)	R (ft+)	R (ft+)	R (ft+)	R (ft+)	R (ft+)	R (ft+)
NC	3320	4350	5520	6830	8280	9890	11700	13100	14700
RC	2440	3210	4080	5050	6130	7330	8630	9720	10900
0.022	2200	2900	3680	4570	5540	6630	7810	8800	9860
0.024	2000	2640	3350	4160	5050	6050	7130	8040	9010
0.026	1840	2420	3080	3820	4640	5550	6550	7390	8290
0.028	1690	2230	2840	3520	4280	5130	5950	6840	7680
0.030	1570	2060	2630	3270	3970	4760	5620	6360	7140
0.032	1450	1920	2450	3040	3700	4440	5230	5930	6680
0.034	1360	1790	2290	2850	3470	4160	4890	5560	6260
0.036	1270	1680	2150	2670	3250	3900	4620	5230	5900
0.038	1190	1580	2020	2510	3060	3680	4350	4940	5570
0.040	1120	1490	1900	2370	2890	3470	4110	4670	5270
0.042	1060	1400	1800	2240	2740	3290	3900	4430	5010
0.044	994	1330	1700	2120	2590	3120	3700	4210	4760
0.046	940	1260	1610	2020	2460	2970	3520	4010	4540
0.048	890	1190	1530	1920	2340	2830	3360	3830	4340
0.050	844	1130	1460	1830	2240	2700	3200	3660	4150
0.052	802	1080	1390	1740	2130	2580	3060	3500	3980
0.054	762	1030	1330	1660	2040	2460	2930	3360	3820
0.056	724	974	1270	1590	1950	2360	2810	3220	3670
0.058	688	929	1210	1520	1870	2260	2700	3090	3530
0.060	656	886	1160	1460	1790	2170	2590	2980	3400
0.062	624	846	1110	1400	1720	2090	2490	2870	3280
0.064	594	808	1060	1340	1650	2010	2400	2760	3160
0.066	564	772	1020	1290	1590	1930	2310	2670	3060
0.068	536	737	971	1230	1530	1860	2230	2570	2960
0.070	509	704	931	1190	1470	1790	2150	2490	2860
0.072	483	671	892	1140	1410	1730	2070	2410	2770
0.074	460	641	855	1100	1360	1670	2000	2330	2680
0.076	437	612	820	1050	1310	1610	1940	2250	2600
0.078	416	585	786	1010	1260	1550	1870	2180	2530
0.080	396	558	754	968	1220	1500	1810	2120	2450
0.082	377	533	722	930	1170	1440	1750	2050	2380
0.084	359	509	692	893	1130	1390	1690	1990	2320
0.086	341	486	662	856	1080	1340	1630	1930	2250
0.088	324	463	633	820	1040	1290	1570	1870	2190
0.090	307	440	604	784	992	1240	1520	1810	2130
0.092	291	418	574	748	948	1190	1460	1740	2060
0.094	274	395	545	710	903	1130	1390	1670	1990
0.096	256	370	513	671	854	1080	1320	1600	1910
0.098	236	343	477	625	798	1010	1250	1510	1820
$e_{max} = 0.100$	$R_{min} = 200$	$R_{min} = 292$	$R_{min} = 410$	$R_{min} = 540$	$R_{min} = 694$	$R_{min} = 877$	$R_{min} = 1090$	$R_{min} = 1340$	$R_{min} = 1630$

KEY:  
V = DESIGN SPEED (mph)  
R = RADIUS (ft+)  
e = FULL SUPERELEVATION RATE (ft+/ft+)  
NC = NORMAL CROWN  
RC = REVERSE CROWN

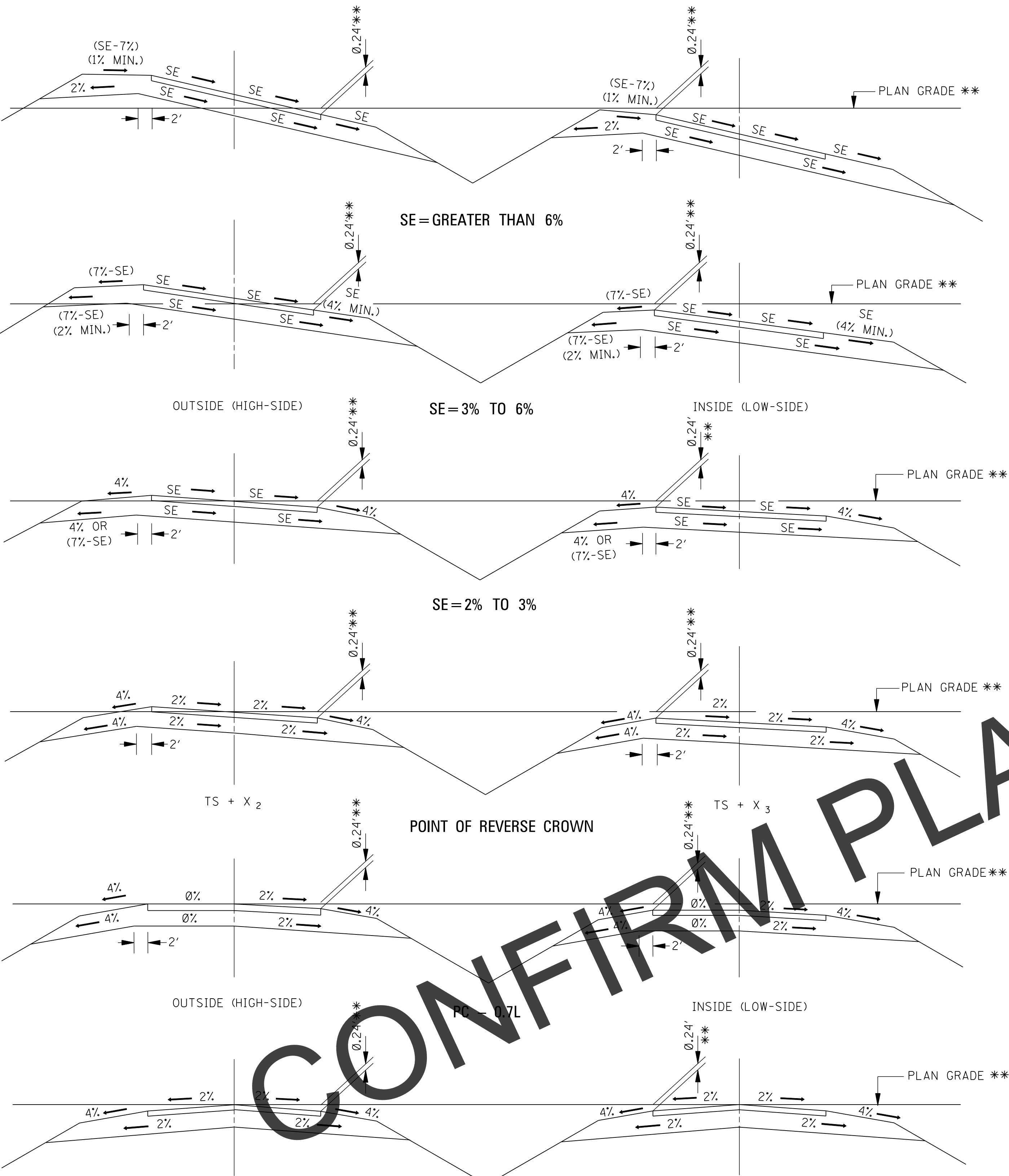
GENERAL NOTES:

- SE RATE SHOULD BE DETERMINED FROM A RADIUS EQUAL TO, OR SLIGHTLY SMALLER THAN, THE RADIUS OF THE CURVE.
- SEE SHEET SE-3B FOR SE RUNOFF VALUES.

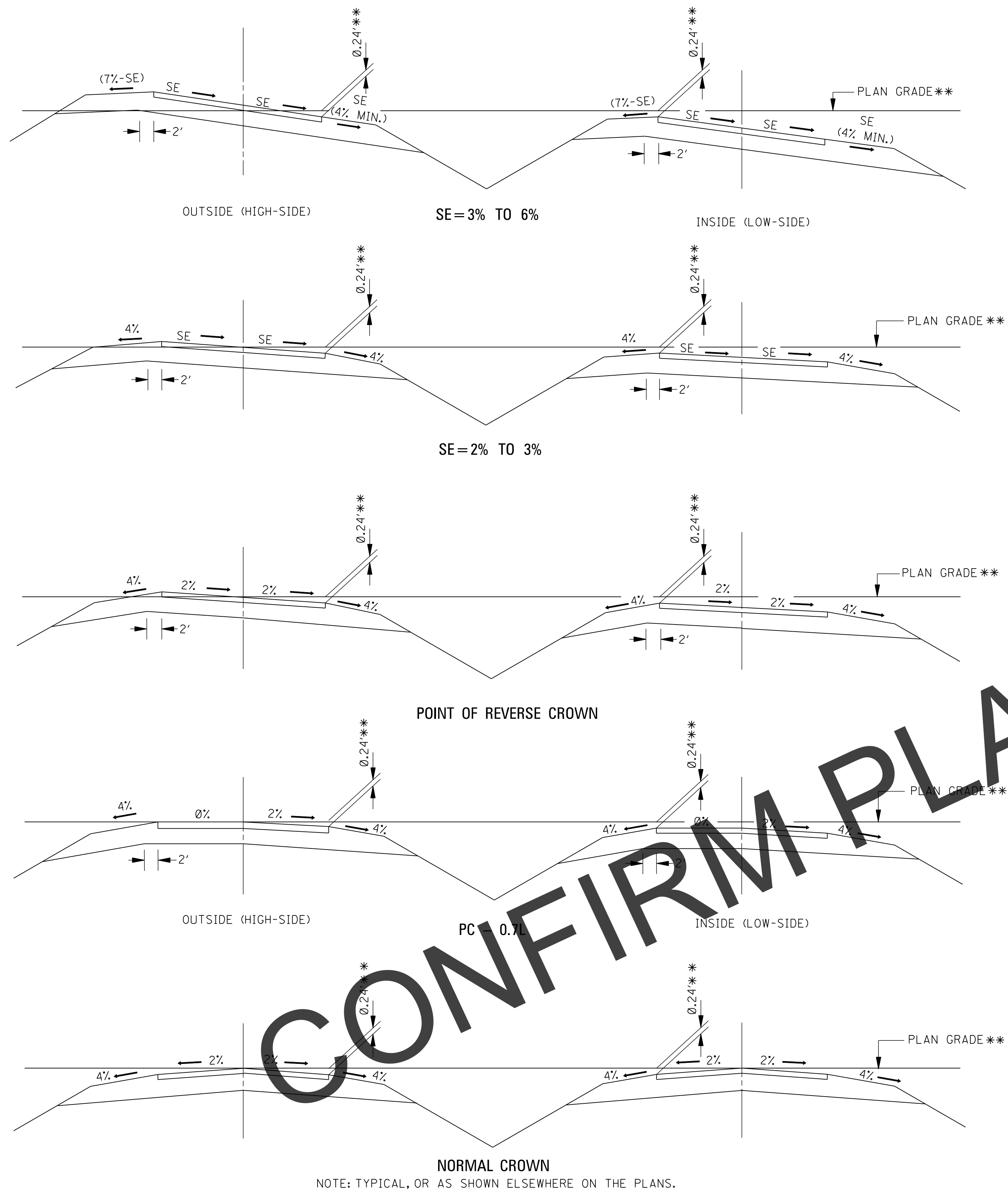
\*\* THE 0.24 DIFFERENCE IN ELEVATION FROM PLAN GRADE LINE TO EDGE OF TRAVELED WAY IS BASED ON 12' TRAVEL LANES, 2% NORMAL CROWN SLOPE, AND THE LOCATION OF PLAN GRADE AT THE CENTERLINE OF ROADWAY. ALTHOUGH THE HORIZONTAL LOCATION OF PLAN GRADE AT THE CENTERLINE IS PREFERRED AND ILLUSTRATED ON THIS STANDARD DRAWING, PLAN GRADE LOCATION IS VARIABLE (I.E. PLAN GRADE AT THE MEDIAN EDGE OF TRAVEL LANE) AND SHOULD BE VERIFIED ON THE TYPICAL SECTION(S).

NOTE: TYPICAL, OR AS SHOWN ELSEWHERE ON THE PLANS.

NORMAL CROWN





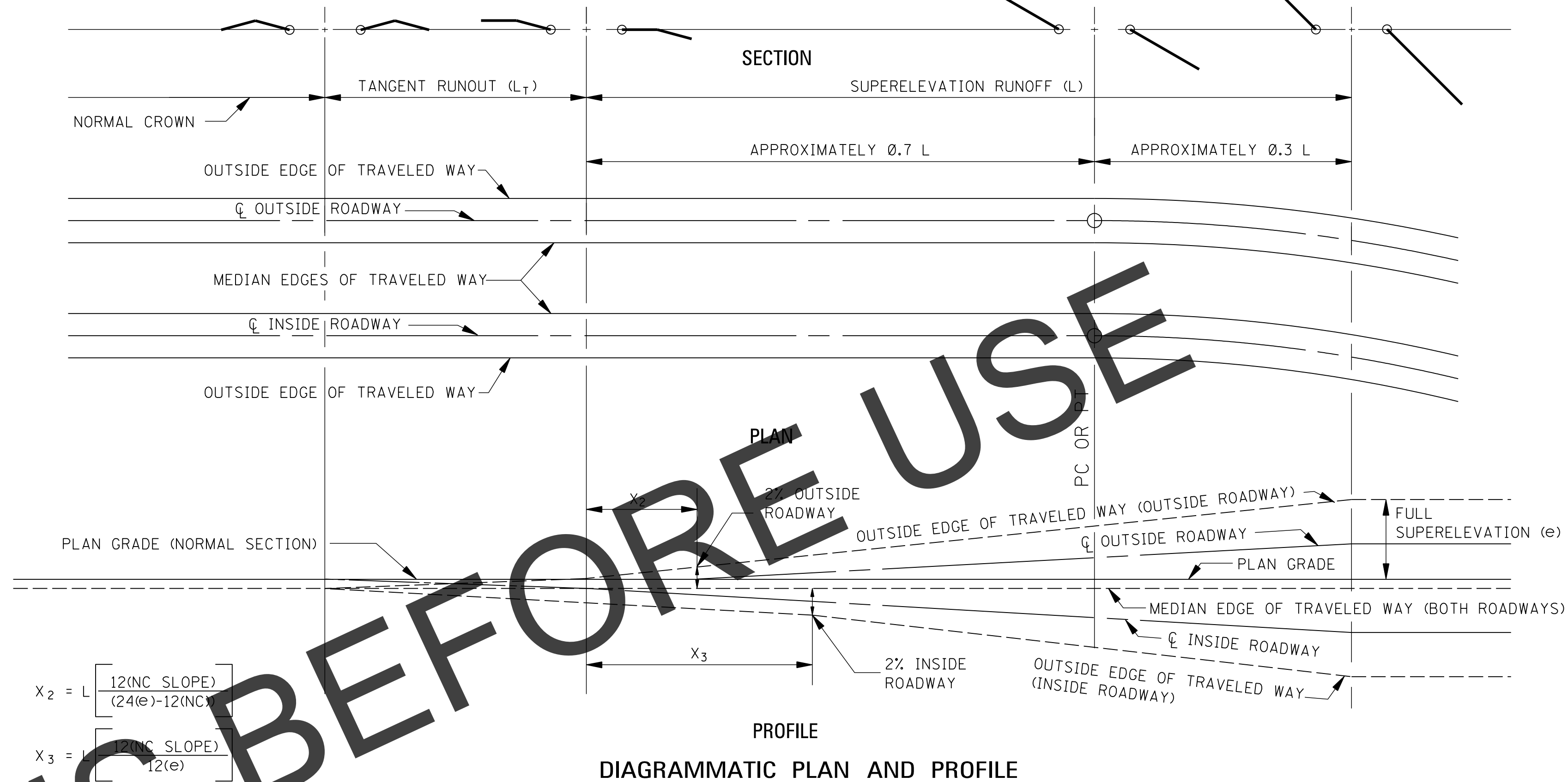


GENERAL NOTES:

1. SE RATE SHOULD BE DETERMINED FROM A RADIUS EQUAL TO, OR SLIGHTLY SMALLER THAN, THE RADIUS OF THE CURVE.
2. "L" IN THE TABLE IS FOR ROTATION ABOUT THE CENTERLINE OF 2 LANES ("A") AND 4 LANES ("B") OF TRAVELED WAYS (1 LANE AND 2 LANES EACH SIDE OF THE ROTATION POINT RESPECTIVELY). MINIMUM LENGTH OF RUNOFF FOR VARIOUS WIDTHS OF ROTATION ARE AS FOLLOWS:  
 FOR ROTATING A WIDTH OF 3 TRAVEL LANES:  $L = (1.33)(L \text{ IN COLUMN B})$   
 FOR ROTATING A WIDTH OF 4 TRAVEL LANES:  $L = (1.67)(L \text{ IN COLUMN B})$
3. THE SAME ADJUSTMENT FACTORS ABOVE APPLY TO "L<sub>T</sub>" WHEN THE NUMBER OF LANES ROATED IS GREATER THAN 2.
4. A VERTICAL CURVE WITH A LENGTH (IN FEET) EQUAL TO THE DESIGN SPEED (IN mph) SHOULD BE PLACED AT EXCESSIVE ANGULAR BREAKS.

\*\* 5.

THE 0.24 DIFFERENCE IN ELEVATION FROM PLAN GRADE LINE TO EDGE OF TRAVELED WAY IS BASED ON 12' TRAVEL LANES, 2% NORMAL CROWN SLOPE, AND THE LOCATION OF PLAN GRADE AT THE CENTERLINE OF ROADWAY. ALTHOUGH THE HORIZONTAL LOCATION OF PLAN GRADE AT THE CENTERLINE IS PREFERRED AND ILLUSTRATED ON THIS STANDARD DRAWING, THE LOCATION OF VARIABLE (e.g. PLAN GRADE AT THE MEDIAN EDGE OF TRAVEL LANE) AND SHOULD BE VERIFIED ON THE TYPICAL SECTIONS(S).



V = 50 mph			
e	R (ft)	L(ft)	
		A	B
NC	7870	0	0
RC	5700	48	72
0.022	5100	53	79
0.024	4600	58	86
0.026	4170	62	94
0.028	3800	67	101
0.030	3480	72	108
0.032	3200	77	115
0.034	2940	82	122
0.036	2710	86	130
0.038	2490	91	137
0.040	2300	96	144
0.042	2110	101	151
0.044	1940	106	158
0.046	1780	110	166
0.048	1640	115	173
0.050	1510	120	180
0.052	1390	125	187
0.054	1280	130	194
0.056	1160	134	202
0.058	1040	139	209
e <sub>max</sub> = 0.060	R <sub>min</sub> = 833	144	216


V = 50 mph	
L <sub>T</sub> (ft)	
A	B
48	72

KEY:

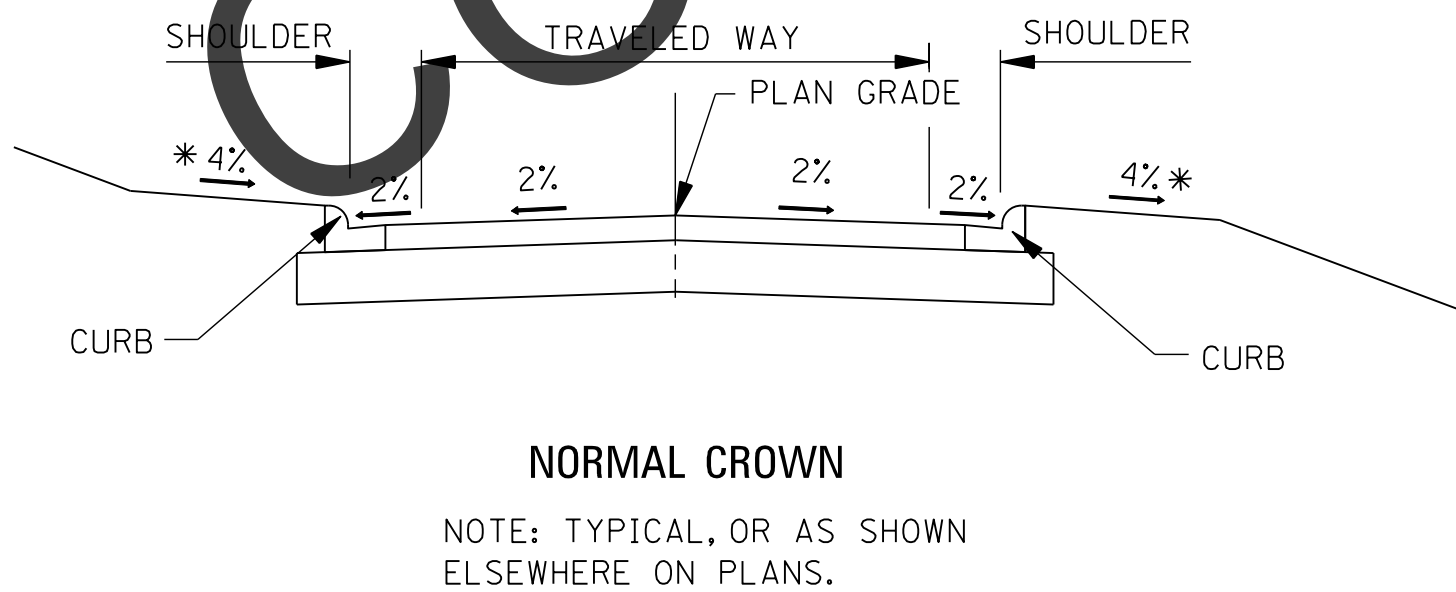
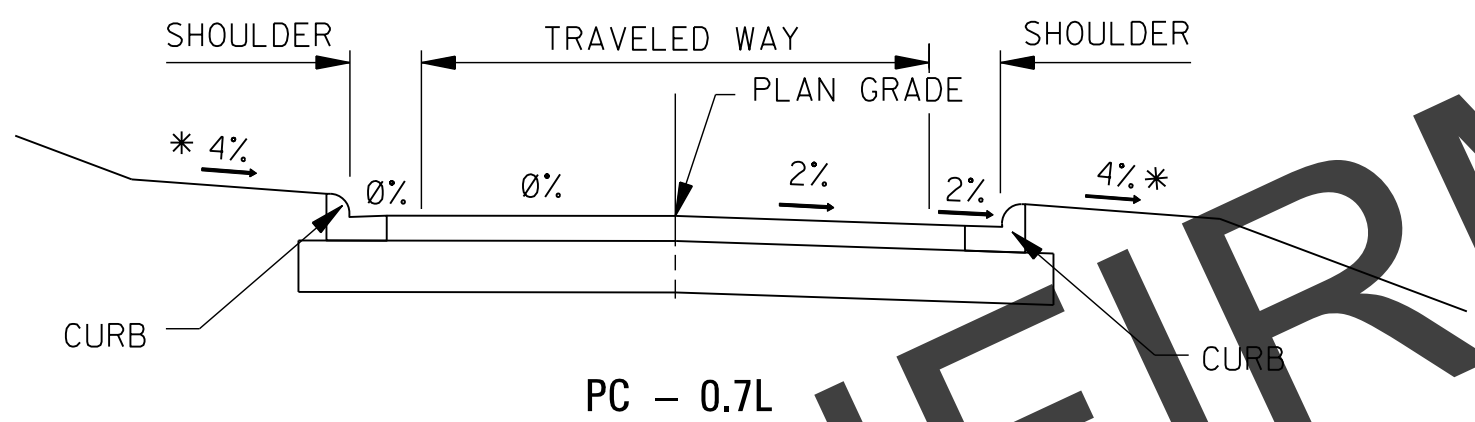
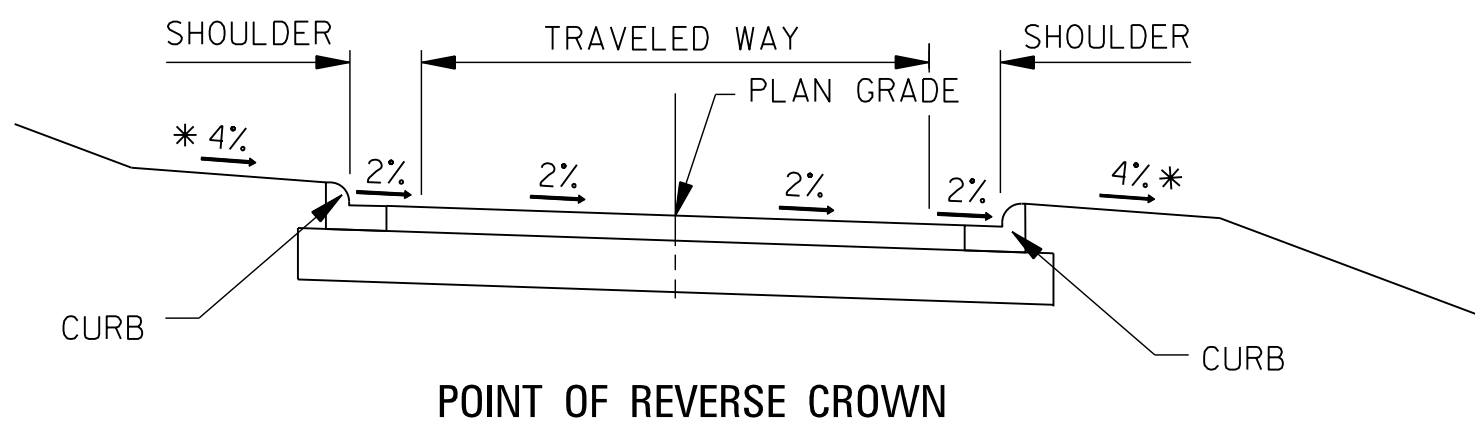
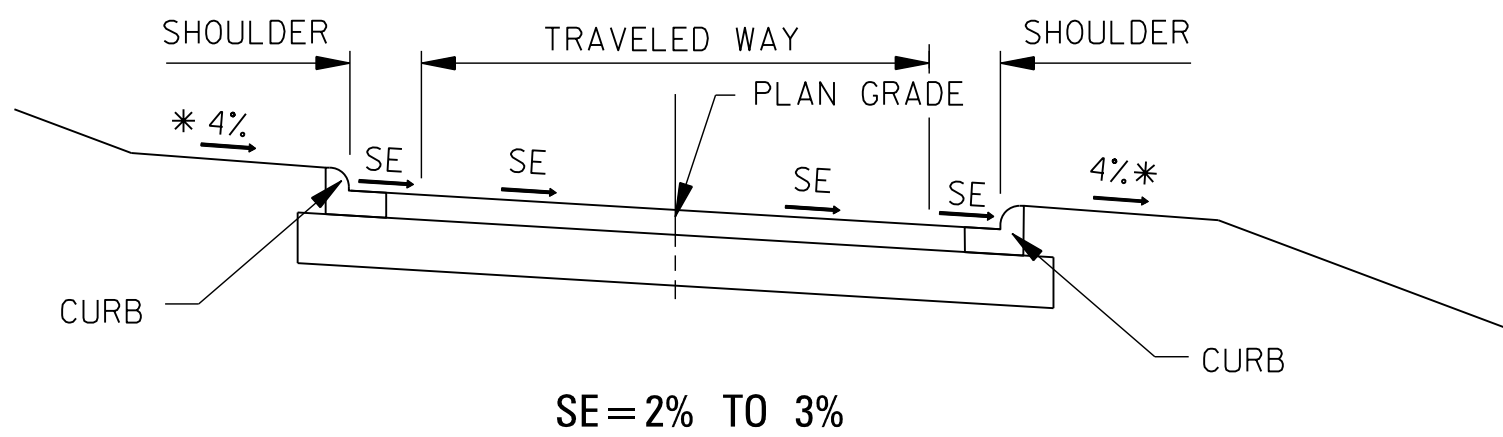
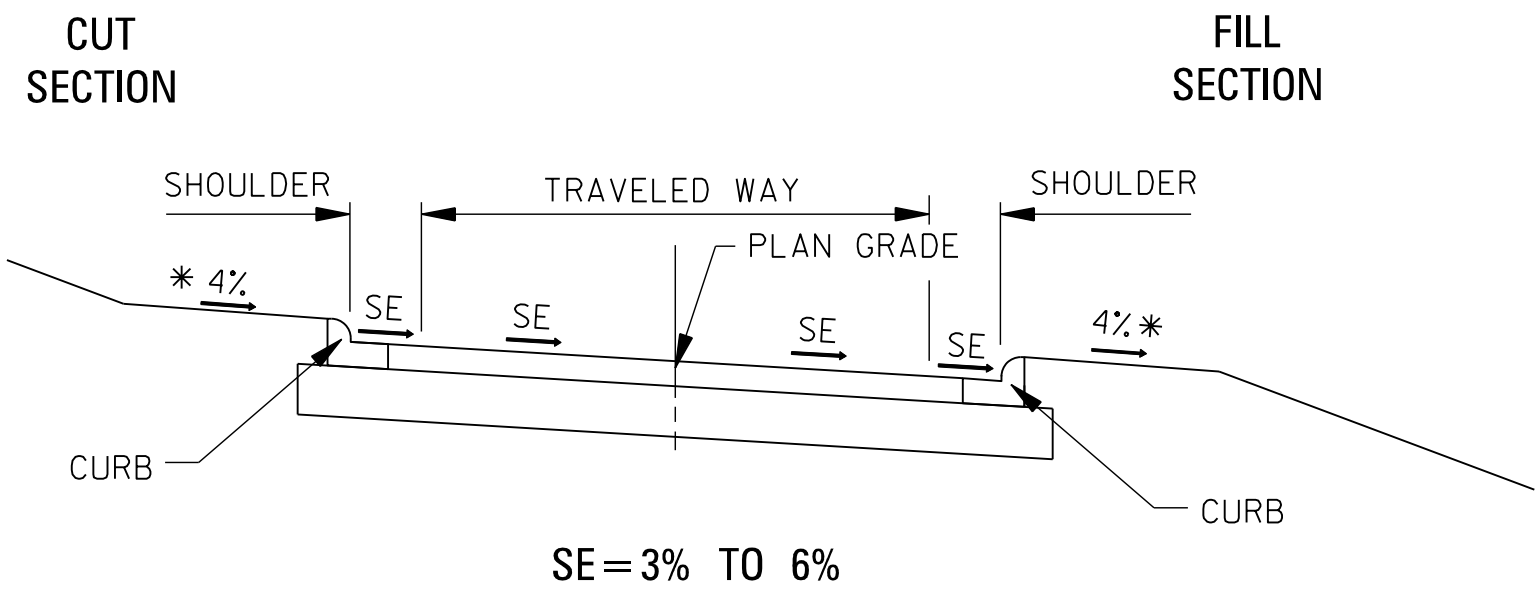
V = DESIGN SPEED (mph)  
L<sub>T</sub> = MINIMUM LENGTH OF TANGENT RUNOUT  
A = "L<sub>T</sub>" FOR 1-LANE WIDTH OF ROTATION  
B = "L<sub>T</sub>" FOR 2-LANE WIDTH OF ROTATION

KEY:

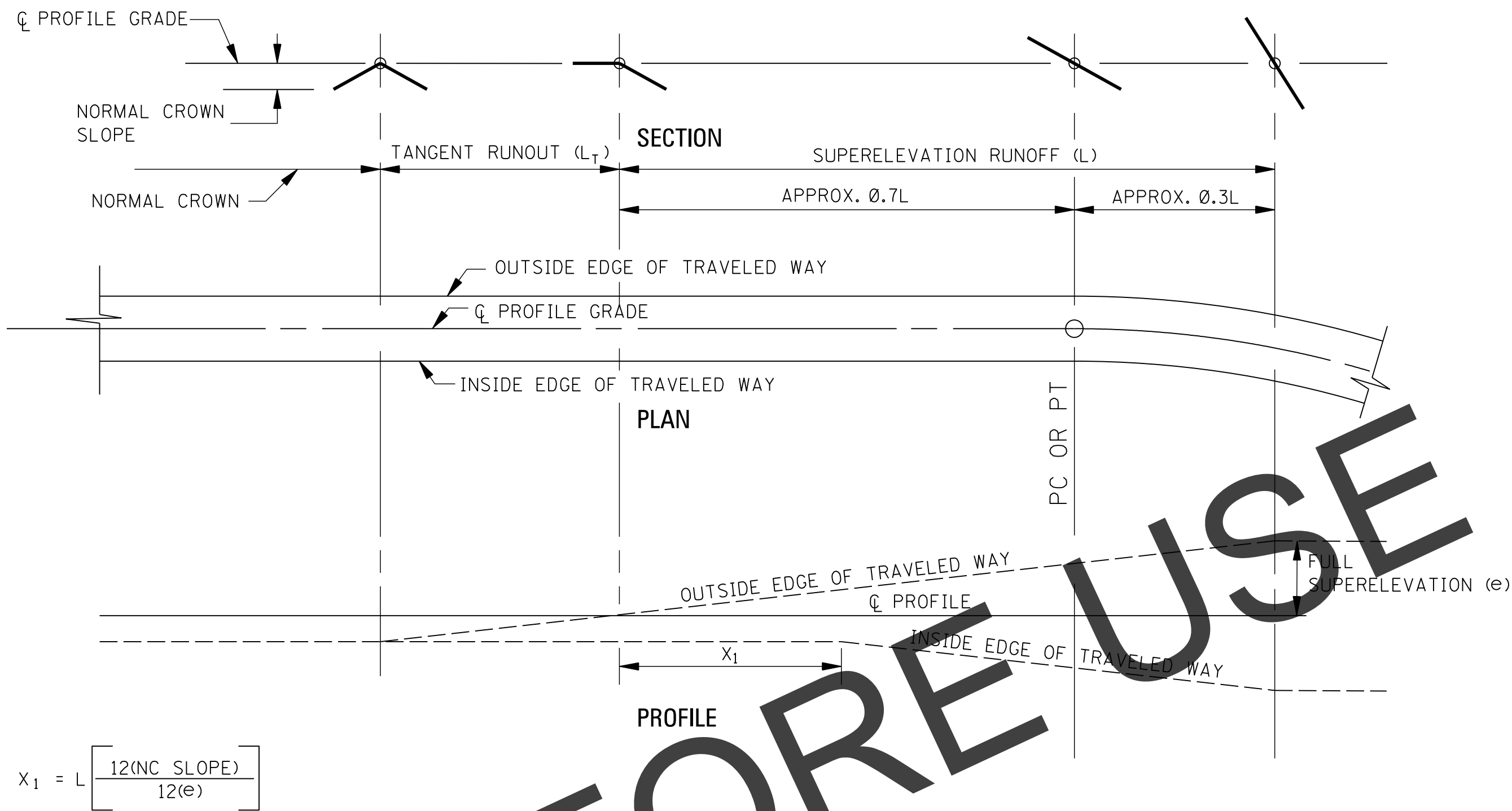
V = DESIGN SPEED (mph)  
R = RADIUS OF CURVE (ft)  
e = FULL SUPERELEVATION RATE (ft/ft)  
L = MINIMUM LENGTH OF SUPERELEVATION RUNOFF  
(FROM ADVERSE CROWN REMOVED TO FULL SUPER) (ft)  
A = "L" FOR 1-LANE WIDTH OF ROTATION  
B = "L" FOR 2-LANE WIDTH OF ROTATION  
NC = NORMAL CROWN  
RC = REVERSE CROWN

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN  <b>SUPERELEVATION  TRANSITION  CASE II</b>  <b>ROTATION ABOUT EDGE  OF TRAVELED WAY</b>  <b>(URBAN FACILITY, V=50 mph)</b>	 WORKING NUMBER <b>SE-2D</b>
				REVISION		
				DATE	ISSUE DATE: <u>          AUGUST 01, 2017          </u>	SHEET NUMBER <b>6411</b>





DETAILS OF SHOULDER TREATMENT



e	V = 20 mph			V = 25 mph			V = 30 mph			V = 35 mph			V = 40 mph			V = 45 mph		
	L(ft)			L(ft)			L(ft)			L(ft)			L(ft)			L(ft)		
	R (ft)	A	B	R (ft)	A	B	R (ft)	A	B	R (ft)	A	B	R (ft)	A	B	R (ft)	A	B
NC	1410	0	0	2050	0	0	2830	0	0	3730	0	0	4770	0	0	5930	0	0
RC	908	32	49	1340	34	51	1880	36	55	2490	39	58	3220	41	62	4040	44	67
0.022	823	36	54	1110	38	57	1580	40	60	2120	43	64	2760	46	68	3480	49	73
0.024	735	39	58	838	41	62	1270	44	65	1760	46	70	2340	50	74	2980	53	80
0.026	651	42	63	650	45	67	1000	47	71	1420	50	75	1930	54	81	2490	58	87
0.028	580	45	68	524	48	72	817	51	76	1170	54	81	1620	58	87	2100	62	93
0.030	511	49	73	433	51	77	681	55	82	982	58	87	1370	62	93	1800	67	100
0.032	449	52	78	363	55	82	576	58	87	835	62	93	1180	66	99	1550	71	107
0.034	393	55	83	307	58	87	490	62	93	714	66	99	1010	70	106	1340	76	113
0.036	342	58	88	259	62	93	416	65	98	610	70	105	865	74	112	1150	80	120
0.038	296	62	92	215	65	98	348	69	104	512	74	110	730	79	118	970	84	127
e max =0.040	R min = 86	65	97	R min = 154	69	103	R min = 250	73	109	R min = 371	77	116	R min = 533	83	124	R min = 711	89	133

KEY:

R = RADIUS OF CURVE (ft+)

V = DESIGN SPEED (mph)

e = FULL SUPERELEVATION RATE (ft+/ft+)

L = MINIMUM LENGTH OF SUPERELEVATION RUNOFF (FROM ADVERSE CROWN REMOVED TO FULL SUPER) (ft+)

A = "L" FOR 1-LANE WIDTH OF ROTATION

B = "L" FOR 2-LANE WIDTH OF ROTATION

NC = NORMAL CROWN

RC = REVERSE CROWN

V = 20 mph		V = 25 mph		V = 30 mph		V = 35 mph		V = 40 mph		V = 45 mph	
L <sub>T</sub> (ft+)		L <sub>T</sub> (ft+)		L <sub>T</sub> (ft+)		L <sub>T</sub> (ft+)		L <sub>T</sub> (ft+)		L <sub>T</sub> (ft+)	
A	B	A	B	A	B	A	B	A	B	A	B
32	49	34	51	36	55	39	58	41	62	44	67

KEY:

V = DESIGN SPEED (mph)

L<sub>T</sub> = MINIMUM LENGTH OF TANGENT RUNOUT

A = "L<sub>T</sub>" FOR 1-LANE WIDTH OF ROTATION

B = "L<sub>T</sub>" FOR 2-LANE WIDTH OF ROTATION


- GENERAL NOTES:
- SE RATE SHOULD BE DETERMINED FROM A RADIUS EQUAL TO, OR SLIGHTLY SMALLER THAN, THE RADIUS OF THE CURVE.
  - "L" IN THE TABLE IS FOR ROTATION ABOUT THE CENTERLINE OF 2 LANES ("A") AND 4 LANES ("B") OF TRAVELED WAYS (1 LANE AND 2 LANES EACH SIDE OF THE ROTATION POINT RESPECTIVELY). MINIMUM LENGTH OF RUNOFF FOR VARIOUS WIDTHS OF ROTATION ARE AS FOLLOWS:  
FOR ROTATING ABOUT THE CENTER OF A TWO-WAY LEFT-TURN LANE (i.e., A 5-LANE SECTION): L=(1.20)XL IN COLUMN B)  
FOR ROTATING A WIDTH OF 3 TRAVEL LANES: L = (1.33)XL IN COLUMN B)  
FOR ROTATING A WIDTH OF 4 TRAVEL LANES: L = (1.67)XL IN COLUMN B)
  - THE SAME ADJUSTMENT FACTORS ABOVE APPLY TO "L<sub>T</sub>" WHEN THE NUMBER OF LANES ROATED IS GREATER THAN 2.
  - A VERTICAL CURVE WITH A LENGTH (IN FEET)EQUAL TO THE DESIGN SPEED (IN mph) SHOULD BE PLACED AT EXCESSIVE ANGULAR BREAKS.
- \*5. THE MAXIMUM CROSS SLOPE ALLOWED WILL BE 1.5% WHERE A SIDEWALK IS REQUIRED.

BY

REVISION

DATE

MISSISSIPPI DEPARTMENT OF TRANSPORTATION  
ROADWAY DESIGN DIVISION  
STANDARD PLAN  
  
**SUPERELEVATION  
TRANSITION  
ROTATION ABOUT  
CENTERLINE**  
**(URBAN FACILITY, V <= 45 mph)**

  
WORKING NUMBER  
SE-2E

SHEET NUMBER  
6412

ISSUE DATE: AUGUST 01, 2017

SUPERELEVATION RUNOFF (L) FOR HORIZONTAL CURVES																		
e	V = 30 mph		V = 35 mph		V = 40 mph		V = 45 mph		V = 50 mph		V = 55 mph		V = 60 mph		V = 65 mph		V = 70 mph	
	L (ft+)		L (ft+)		L (ft+)		L (ft+)		L (ft+)		L (ft+)		L (ft+)		L (ft+)		L (ft+)	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
RC	36	55	39	58	41	62	44	67	48	72	51	77	53	80	56	84	60	90
0.022	40	60	43	64	46	68	49	73	53	79	56	84	59	88	61	92	66	99
0.024	44	65	46	70	50	74	53	80	58	86	61	92	64	96	67	100	72	108
0.026	47	71	50	75	54	81	58	87	62	94	66	100	69	104	73	109	78	117
0.028	51	76	54	81	58	87	62	93	67	101	71	107	75	112	78	117	84	126
0.030	55	82	58	87	62	93	67	100	72	108	77	115	80	120	84	126	90	135
0.032	58	87	62	93	66	99	71	107	77	115	82	123	85	128	89	134	96	144
0.034	62	93	66	99	70	106	76	113	82	122	87	130	91	136	95	142	102	153
0.036	65	98	70	105	74	112	80	120	86	130	92	138	96	144	100	151	108	162
0.038	69	104	74	110	79	118	84	127	91	137	97	146	101	152	106	159	114	171
0.040	73	109	77	116	83	124	89	133	96	144	102	153	107	160	112	167	120	180
0.042	76	115	81	122	87	130	93	140	101	151	107	161	112	168	117	176	126	189
0.044	80	120	85	128	91	137	98	147	106	158	112	169	117	176	123	184	132	198
0.046	84	125	89	134	95	143	102	153	110	166	117	176	123	184	128	193	138	207
0.048	87	131	93	139	99	149	107	160	115	173	123	184	128	192	134	201	144	216
0.050	91	136	97	145	103	155	111	167	120	180	128	191	133	200	140	209	150	225
0.052	95	142	101	151	108	161	116	173	125	187	133	199	139	208	145	218	156	234
0.054	98	147	105	157	112	168	120	180	130	194	138	207	144	216	151	226	162	243
0.056	102	153	108	163	116	174	124	187	134	202	143	214	149	224	156	234	168	252
0.058	105	158	112	168	120	180	129	193	139	209	148	222	155	232	162	243	174	261
0.060	109	164	116	174	124	186	133	200	144	216	153	230	160	240	167	251	180	270
0.062	113	169	120	180	128	192	138	207	149	223	158	237	165	248	173	260	186	279
0.064	116	175	124	186	132	199	142	213	154	230	163	245	171	256	179	268	192	288
0.066	120	180	128	192	137	205	147	220	158	238	169	253	176	264	184	276	198	297
0.068	124	185	132	197	141	211	151	227	163	245	174	260	181	272	190	285	204	306
0.070	127	191	135	203	145	217	156	233	168	252	179	268	187	280	195	293	210	315
0.072	131	196	139	209	149	223	160	240	173	259	184	276	192	288	201	301	216	324
0.074	135	202	143	215	153	230	164	247	178	266	189	283	197	296	207	310	222	333
0.076	138	207	147	221	157	236	169	253	182	274	194	291	203	304	210	318	228	342
0.078	142	213	151	226	161	242	173	260	187	281	199	299	208	312	218	327	234	351
0.080	145	218	155	232	166	248	178	267	192	288	204	306	213	320	223	335	240	360
0.082	149	224	159	238	170	254	182	273	197	295	209	311	217	328	229	343	246	369
0.084	153	229	163	244	174	261	187	280	202	302	211	322	224	330	234	352	252	378
0.086	156	235	166	250	178	267	191	287	206	310	215	329	229	344	240	360	258	387
0.088	160	240	170	255	182	273	196	293	211	317	225	337	235	352	246	368	264	396
0.090	164	245	174	261	186	279	200	300	216	324	230	345	240	360	251	377	270	405
0.092	167	251	178	267	190	286	204	307	221	331	235	352	245	368	257	385	276	414
0.094	171	256	182	273	194	292	209	313	226	336	240	360	251	376	262	393	282	423
0.096	175	262	186	279	199	298	215	320	230	346	245	368	256	384	268	402	288	432
0.098	178	267	190	285	203	304	218	327	235	353	250	375	261	392	273	410	294	441
0.100	182	273	194	290	207	310	222	333	240	360	255	383	267	400	279	419	300	450

TANGENT RUNOUT ( $L_T$ ) FOR HORIZONTAL CURVES																	
V = 30 mph		V = 35 mph		V = 40 mph		V = 45 mph		V = 50 mph		V = 55 mph		V = 60 mph		V = 65 mph		V = 70 mph	
$L_T$ (ft)		$L_T$ (ft)		$L_T$ (ft)		$L_T$ (ft)		$L_T$ (ft)		$L_T$ (ft)		$L_T$ (ft)		$L_T$ (ft)		$L_T$ (ft)	
A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
36	55	39	58	41	62	44	67	48	72	51	77	53	80	56	84	60	90

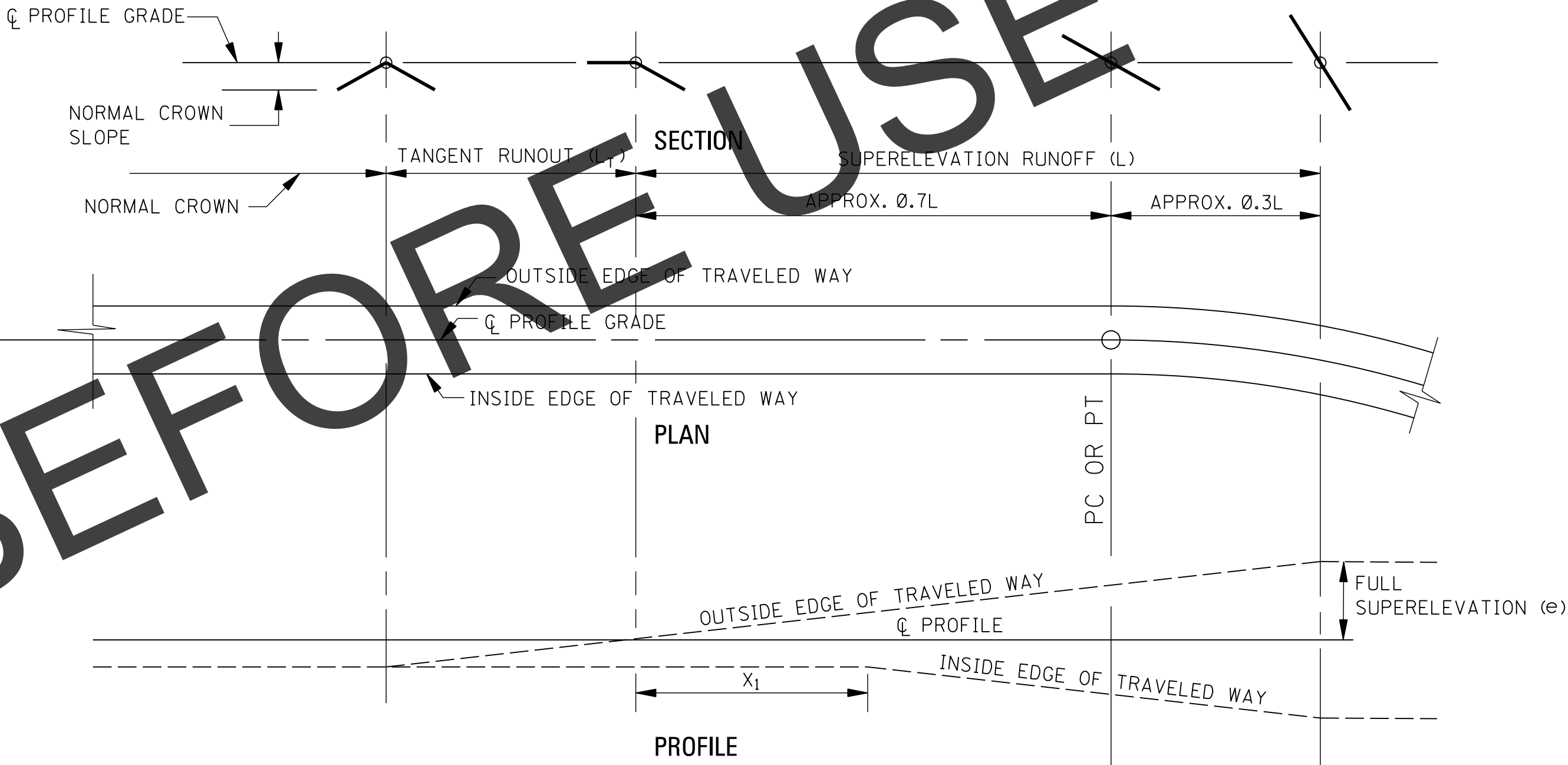
GENERAL NOTES:

1. STATE AID DIVISION: USE STANDARD SA-SE-1.
2. "L" IN THE TABLE IS FOR ROTATION ABOUT THE CENTERLINE OF 2 LANES ("A") AND 4 UNDIVIDED LANES ("B") OF TRAVELED WAYS (1 LANE AND 2 LANES EACH SIDE OF THE ROTATION POINT RESPECTIVELY). MINIMUM LENGTH OF RUNOFF FOR VARIOUS WIDTHS OF ROTATION ARE AS FOLLOWS:

FOR ROTATING A WIDTH OF 2.5 TRAVEL LANES: L = (1.20)X L IN COLUMN B) (ASSUMING AXIS OF ROTATION ABOUT THE CENTERLINE OF 5-LANE SECTION)


FOR ROTATING A WIDTH OF 3 TRAVEL LANES: L = (1.33)X L IN COLUMN B)

FOR ROTATING A WIDTH OF 4 TRAVEL LANES: L = (1.67)X L IN COLUMN B)
3. THE SAME ADJUSTMENT FACTORS ABOVE APPLY TO "L<sub>T</sub>" WHEN THE NUMBER OF LANES ROATED IS GREATER THAN 2.
4. SEE SHEET SE-2A, SE-2C or SE-2E FOR SE RATES.
5. A VERTICAL CURVE WITH A LENGTH (IN FEET) EQUAL TO THE DESIGN SPEED (IN mph) SHOULD BE PLACED AT EXCESSIVE ANGULAR BREAKS.



DIAGRAMMATIC PLAN AND PROFILE

- KEY:
- V = DESIGN SPEED (mph)
- e = FULL SUPERELEVATION RATE (ft+/ft+)
- L = MINIMUM LENGTH OF SUPERELEVATION RUNOFF (FROM ADVERSE CROWN REMOVED TO FULL SUPER) (ft+)
- A = "L" FOR 1-LANE WIDTH OF ROTATION
- B = "L" FOR 2-LANE WIDTH OF ROTATION
- RC = REVERSE CROWN

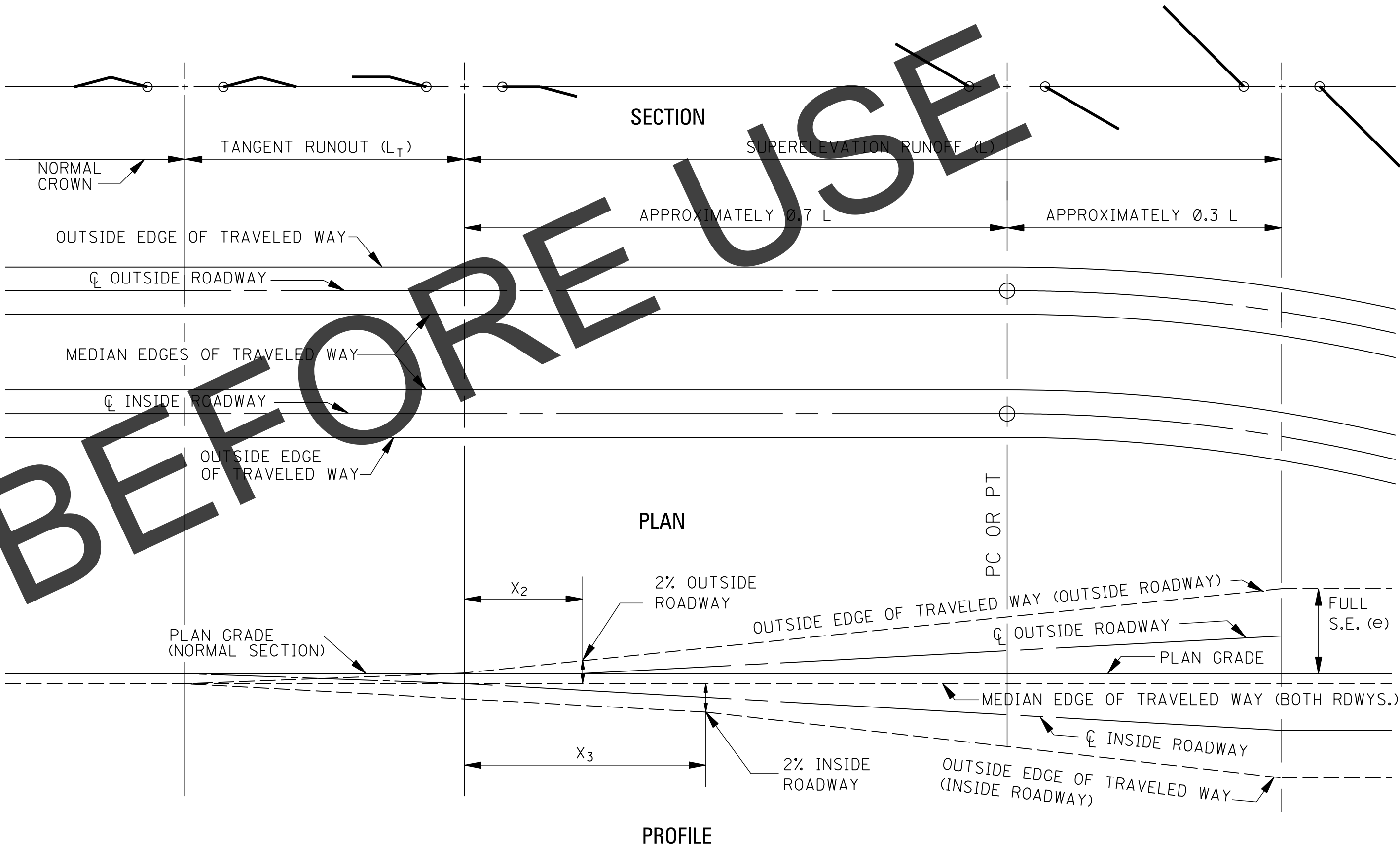
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN	
				REVISION	<b>SUPERELEVATION RUNOFF CASE I ROTATION ABOUT CENTERLINE</b>	
				DATE	ISSUE DATE: AUGUST 01, 2017	
					<div> WORKING NUMBER SE-3A SHEET NUMBER 6413</div>	

SUPERELEVATION RUNOFF (L) FOR HORIZONTAL CURVES																		
e	V = 30 mph		V = 35 mph		V = 40 mph		V = 45 mph		V = 50 mph		V = 55 mph		V = 60 mph		V = 65 mph		V = 70 mph	
	L (ft+)		L (ft+)		L (ft+)		L (ft+)		L (ft+)		L (ft+)		L (ft+)		L (ft+)		L (ft+)	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
RC	36	55	39	58	41	62	44	67	48	72	51	77	53	80	56	84	60	90
0.022	40	60	43	64	46	68	49	73	53	79	56	84	59	88	61	92	66	99
0.024	44	65	46	70	50	74	53	80	58	86	61	92	64	96	67	100	72	108
0.026	47	71	50	75	54	81	58	87	62	94	66	100	69	104	73	109	78	117
0.028	51	76	54	81	58	87	62	93	67	101	71	107	75	112	78	117	84	126
0.030	55	82	58	87	62	93	67	100	72	108	77	115	80	120	84	126	90	135
0.032	58	87	62	93	66	99	71	107	77	115	82	123	85	128	89	134	96	144
0.034	62	93	66	99	70	106	76	113	82	122	87	130	91	136	95	142	102	153
0.036	65	98	70	105	74	112	80	120	86	130	92	138	96	144	100	151	108	162
0.038	69	104	74	110	79	118	84	127	91	137	97	146	101	152	106	159	114	171
0.040	73	109	77	116	83	124	89	133	96	144	102	153	107	160	112	167	120	180
0.042	76	115	81	122	87	130	93	140	101	151	107	161	112	168	117	176	126	189
0.044	80	120	85	128	91	137	98	147	106	158	112	169	117	176	123	184	132	198
0.046	84	125	89	134	95	143	102	153	110	166	117	176	123	184	128	193	138	207
0.048	87	131	93	139	99	149	107	160	115	173	123	184	128	192	134	201	144	216
0.050	91	136	97	145	103	155	111	167	120	180	128	191	133	200	140	209	150	225
0.052	95	142	101	151	108	161	116	173	125	187	133	199	139	208	145	218	156	234
0.054	98	147	105	157	112	168	120	180	130	194	138	207	144	216	151	226	162	243
0.056	102	153	108	163	116	174	124	187	134	202	143	214	149	224	156	234	168	252
0.058	105	158	112	168	120	180	129	193	139	209	148	222	155	232	162	243	174	261
0.060	109	164	116	174	124	186	133	200	144	216	153	230	160	240	167	251	180	270
0.062	113	169	120	180	128	192	138	207	149	223	158	237	165	248	173	260	186	279
0.064	116	175	124	186	132	199	142	213	154	230	163	245	171	256	179	268	192	288
0.066	120	180	128	192	137	205	147	220	158	238	169	253	176	264	184	276	198	297
0.068	124	185	132	197	141	211	151	227	163	245	174	260	181	272	190	285	204	306
0.070	127	191	135	203	145	217	156	233	168	252	179	268	187	280	195	293	210	315
0.072	131	196	139	209	149	223	160	240	173	259	184	276	192	288	201	301	216	321
0.074	135	202	143	215	153	230	164	247	178	266	189	283	197	296	207	310	222	333
0.076	138	207	147	221	157	236	169	253	182	274	194	291	203	304	210	318	228	342
0.078	142	213	151	226	161	242	173	260	187	281	199	299	208	312	218	327	234	351
0.080	145	218	155	232	166	248	178	267	192	288	204	306	213	320	223	335	240	360
0.082	149	224	159	238	170	254	182	273	197	295	209	311	217	328	229	343	246	369
0.084	153	229	163	244	174	261	187	280	202	302	211	322	224	336	234	352	252	378
0.086	156	235	166	250	178	267	191	287	206	310	214	329	229	344	240	360	258	387
0.088	160	240	170	255	182	273	196	293	211	317	218	337	235	352	246	368	264	396
0.090	164	245	174	261	186	279	200	300	216	324	223	345	240	360	251	377	270	405
0.092	167	251	178	267	190	286	204	307	221	331	228	352	245	368	257	385	276	414
0.094	171	256	182	273	194	292	209	313	226	338	233	360	251	376	262	393	282	423
0.096	175	262	186	279	199	298	213	320	230	346	245	368	256	384	268	402	288	432
0.098	178	267	190	285	203	304	218	327	235	353	250	375	261	392	273	410	294	441
0.100	182	273	194	290	207	310	222	333	240	360	255	383	267	400	279	419	300	450

TANGENT RUNOUT (L <sub>T</sub> ) FOR HORIZONTAL CURVES																	
V = 30 mph		V = 35 mph		V = 40 mph		V = 45 mph		V = 50 mph		V = 55 mph		V = 60 mph		V = 65 mph		V = 70 mph	
L <sub>T</sub> (ft+)		L <sub>T</sub> (ft+)		L <sub>T</sub> (ft+)		L <sub>T</sub> (ft+)		L <sub>T</sub> (ft+)		L <sub>T</sub> (ft+)		L <sub>T</sub> (ft+)		L <sub>T</sub> (ft+)		L <sub>T</sub> (ft+)	
A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
36	55	39	58	41	62	44	67	48	72	51	77	53	80	56	84	60	90


GENERAL NOTES:

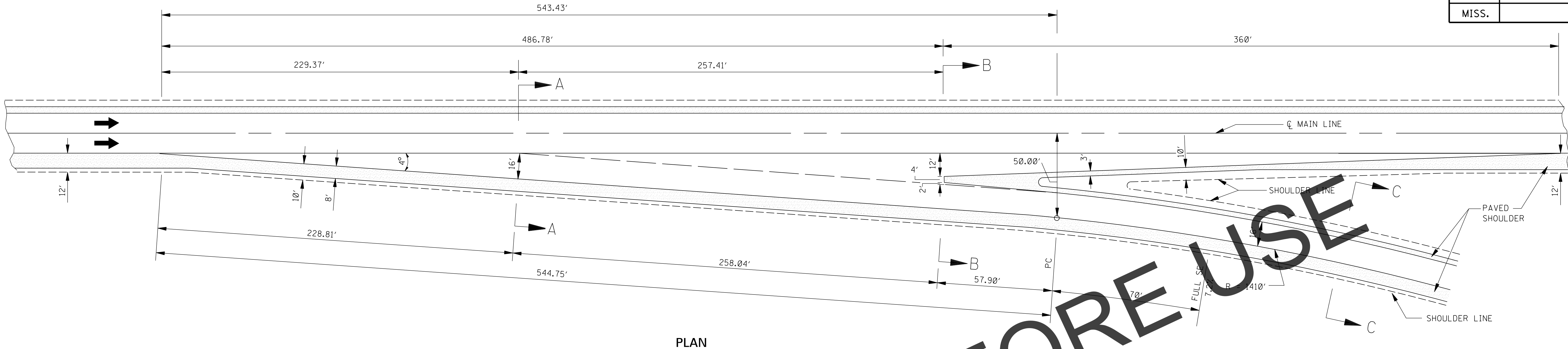
1. "L" IN THE TABLE IS FOR ROTATION ABOUT THE EDGE OF 1 LANE ("A") AND 2 LANES ("B") OF TRAVELED WAYS  
MINIMUM LENGTH OF RUNOFF FOR VARIOUS WIDTHS ARE AS FOLLOWS:  
FOR ROTATING A WIDTH OF 3 TRAVEL LANES: L = (1.33)X(L IN COLUMN B)  
FOR ROTATING A WIDTH OF 4 TRAVEL LANES: L = (1.67)X(L IN COLUMN B)
2. THE SAME ADJUSTMENT FACTORS ABOVE APPLY TO "L<sub>T</sub>" WHEN THE NUMBER OF LANES ROATED IS GREATER THAN 2.
3. SEE SHEET SE-2B or SE-2D FOR SE RATES
4. A VERTICAL CURVE WITH A LENGTH (IN FEET) EQUAL TO THE DESIGN SPEED (IN mph) SHOULD BE PLACED AT EXCESSIVE ANGULAR BREAKS.



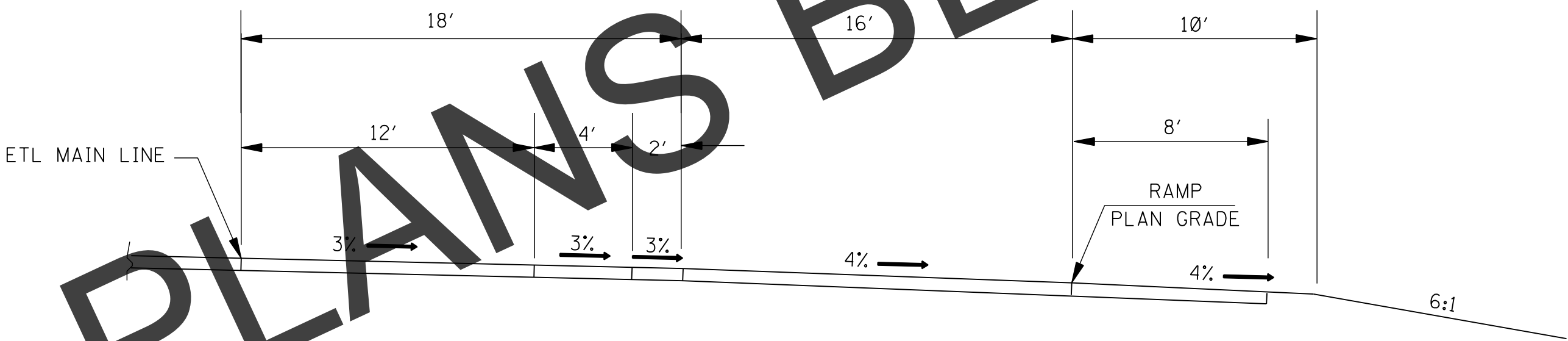
$$X_2 = L \left[ \frac{12(NC \text{ SLOPE})}{(24(e) - 12(NC))} \right]$$
$$X_3 = L \left[ \frac{12(NC \text{ SLOPE})}{12(e)} \right]$$

- KEY:
- V = DESIGN SPEED (mph)
  - e = FULL SUPERELEVATION RATE (ft+/ft+)
  - L = MINIMUM LENGTH OF SUPERELEVATION RUNOFF (FROM ADVERSE CROWN REMOVED TO FULL SUPER) (ft+)
  - A = "L" FOR 1-LANE WIDTH OF ROTATION
  - B = "L" FOR 2-LANE WIDTH OF ROTATION
  - RC = REVERSE CROWN

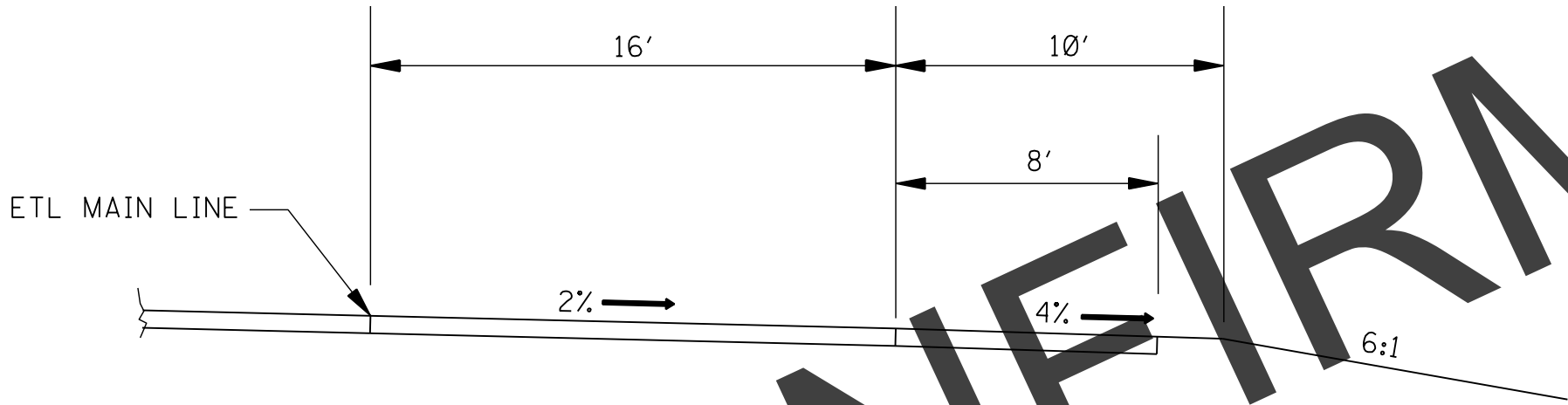
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN		
				REVISION	<b>SUPERELEVATION RUNOFF CASE II ROTATION ABOUT EDGE OF TRAVELED WAY</b>		
				DATE	ISSUE DATE: _____ AUGUST 01, 2017 _____		
					 WORKING NUMBER SE-3B SHEET NUMBER 6414		



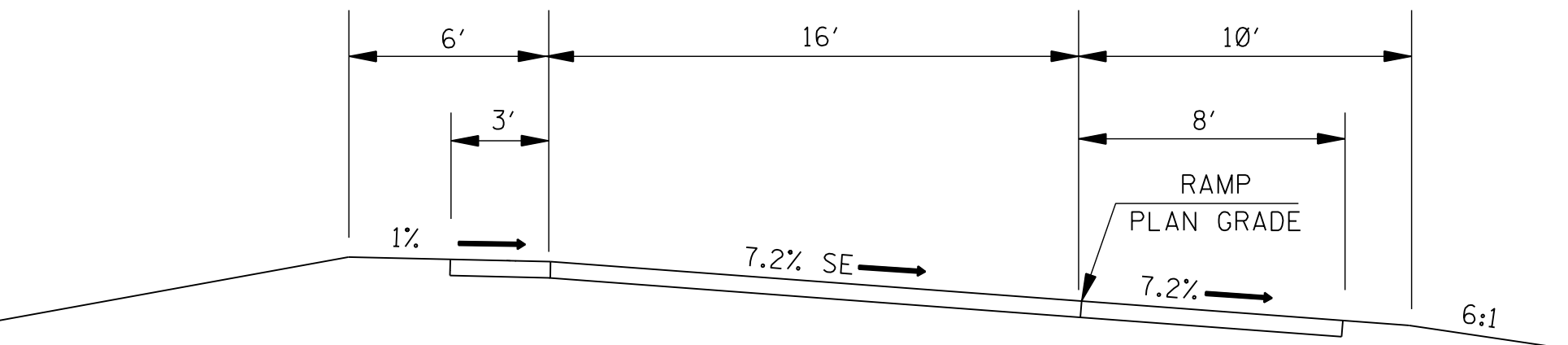
PLAN



SECTION B-B



SECTION A-A



SECTION C-C

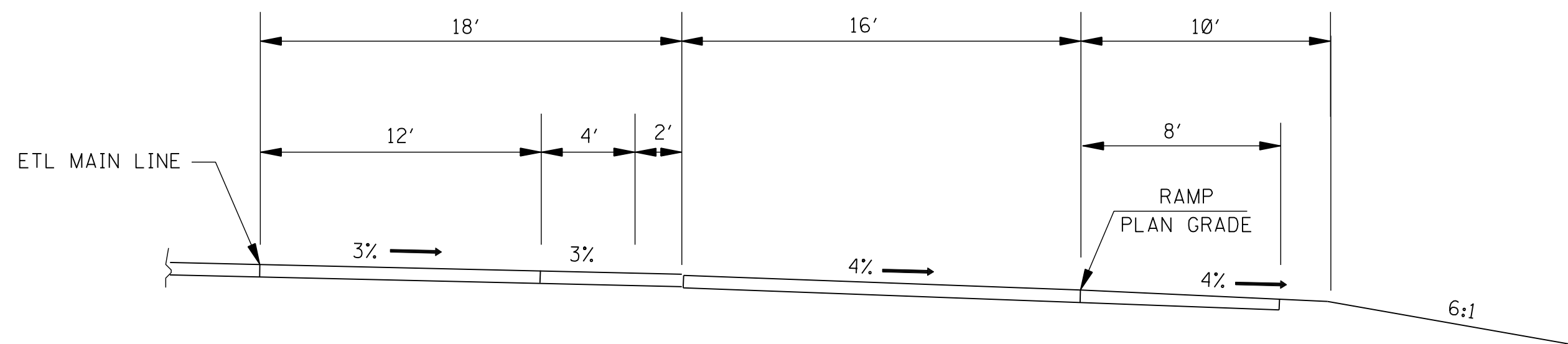
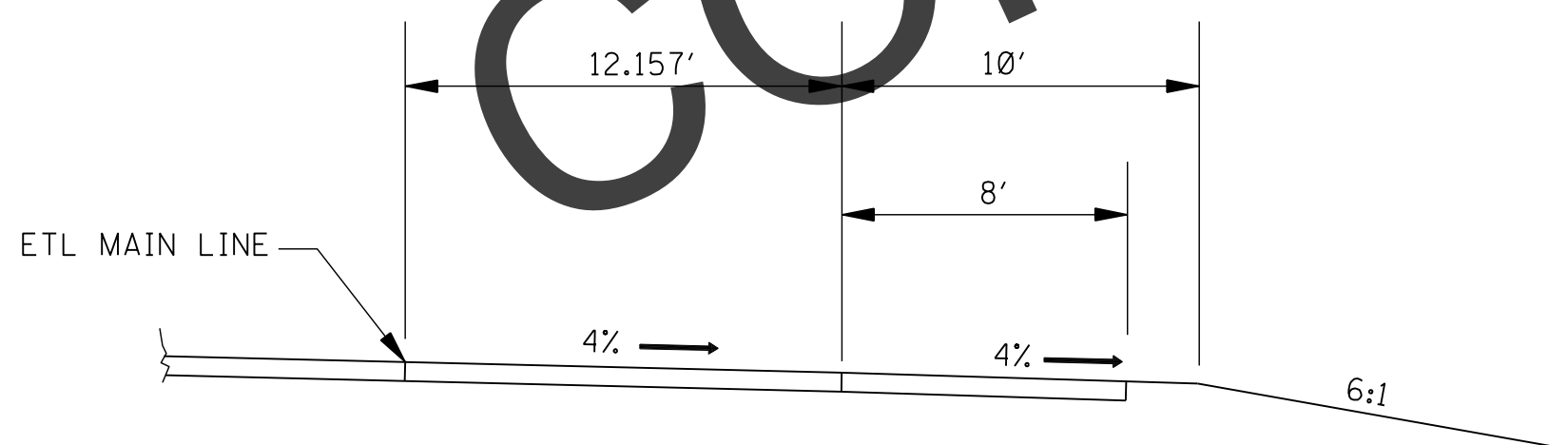
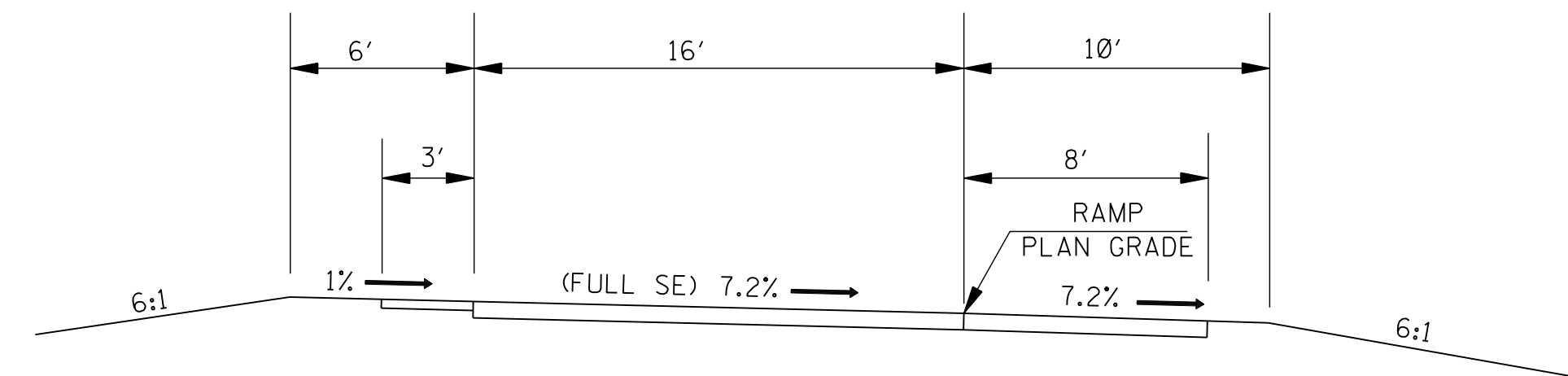
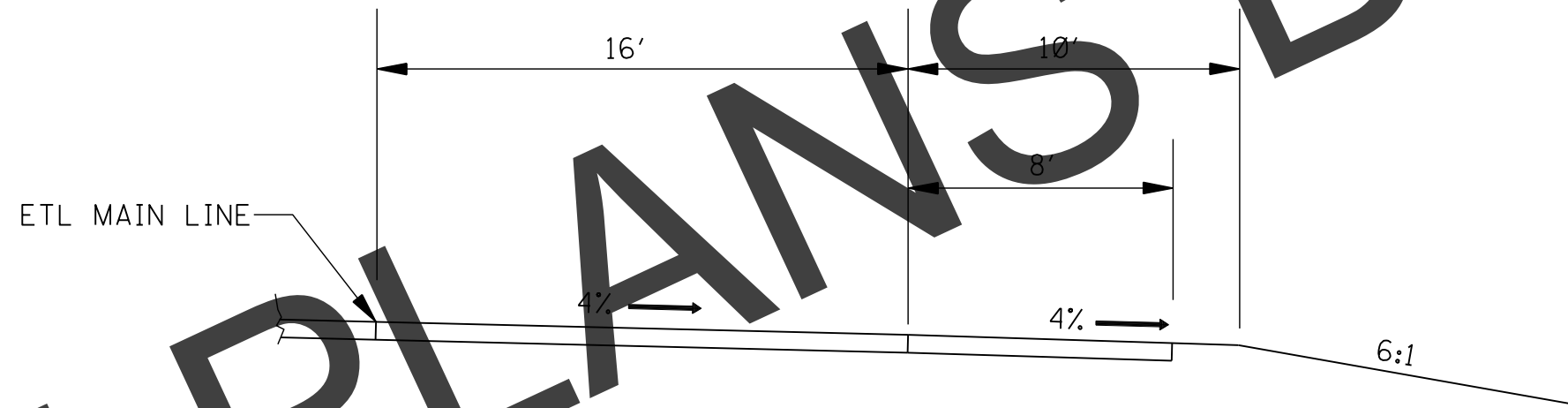
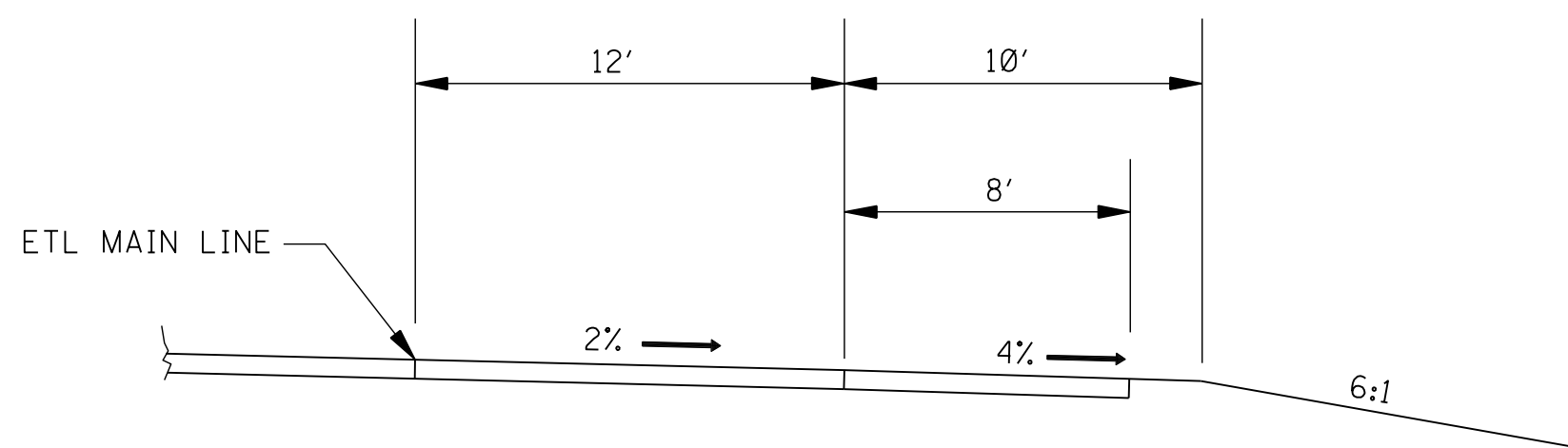
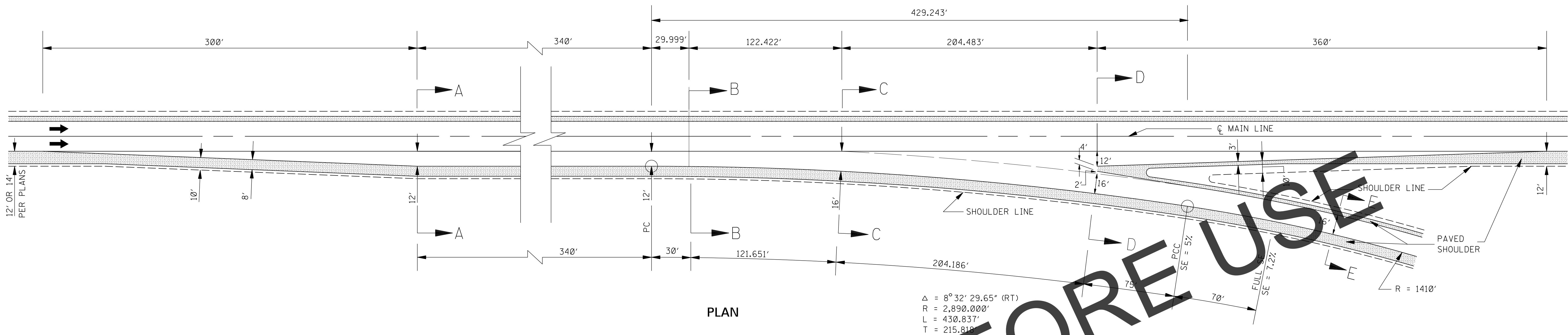
GENERAL NOTE:

- THIS SHEET ASSUMES A RAMP DESIGN SPEED = 50 mph, A MAINLINE DESIGN SPEED = 70 mph AND A RAMP WITH A RADIUS OF 1410'. FOR OTHER RAMP CURVES AND/OR MAINLINE DESIGN SPEEDS, MODIFICATIONS SHOULD BE MADE AS NECESSARY TO THE LOCATION OF THE PC, SUPERELEVATION TRANSITIONS, SUPERELEVATION RATE, DECELERATION LENGTHS, ETC., IN ACCORDANCE WITH CURRENT AASHTO POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>INTERCHANGE DESIGN FOR HIGH-SPEED TAPERED EXIT RAMP</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					WORKING NUMBER IR-1
					SHEET NUMBER 6415

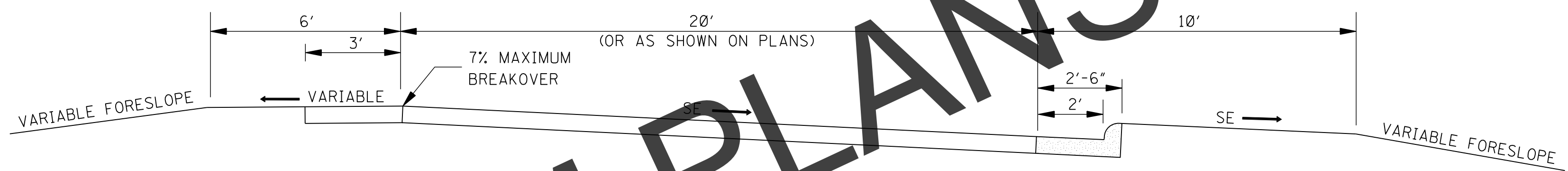
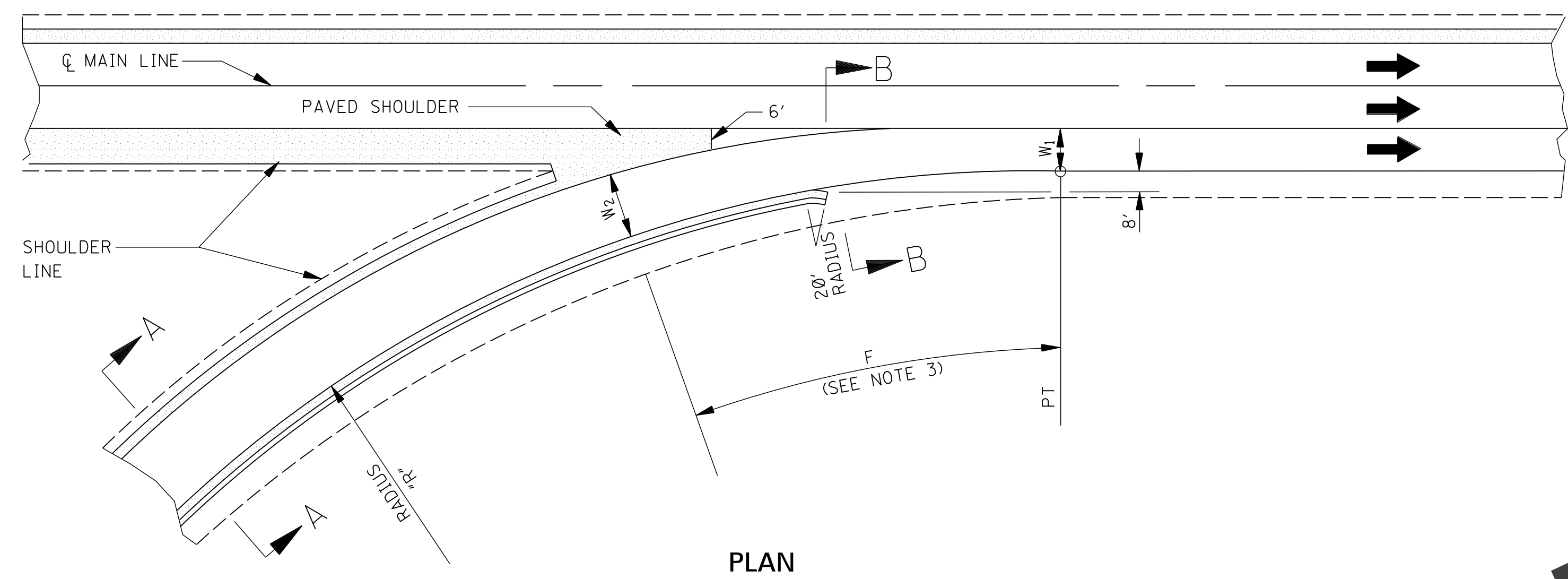




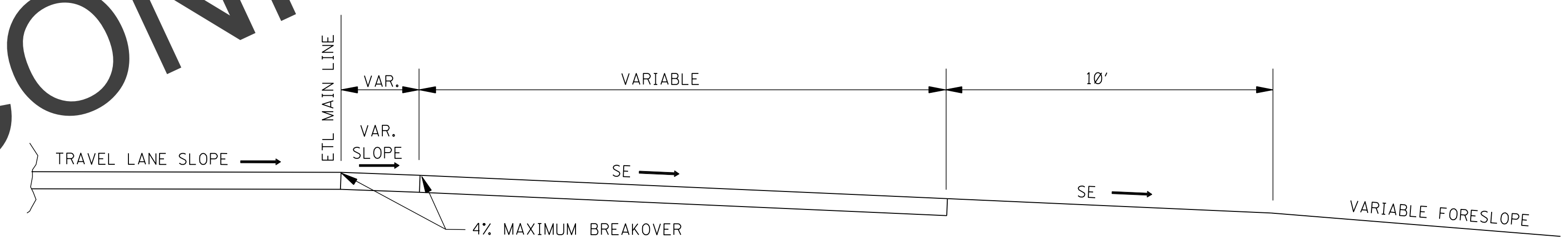


- GENERAL NOTE:
- THIS SHEET ASSUMES A RAMP DESIGN SPEED = 50 mph, A MAINLINE DESIGN SPEED = 70 mph AND A RAMP WITH A RADIUS OF 1410'. FOR OTHER RAMP CURVES AND/OR MAINLINE DESIGN SPEEDS, MODIFICATIONS SHOULD BE MADE AS NECESSARY TO THE LOCATION OF THE PC, SUPERELEVATION TRANSITIONS, SUPERELEVATION RATE, DECELERATION LENGTHS, ETC., IN ACCORDANCE WITH CURRENT AASHTO POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>INTERCHANGE DESIGN FOR HIGH-SPEED PARALLEL EXIT RAMP</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					WORKING NUMBER IR-1A
					SHEET NUMBER 6416



SECTION A-A



SECTION B-B

GENERAL NOTES:

1. THE RADIUS OF THE LOOP RAMP WILL VARY AS SHOWN ON THE PLANS.
2.  $W_1$  IS NORMALLY 12' AND  $W_2$  IS NORMALLY 20'.
3. THE LENGTH OF THE TRAVELED WAY WIDTH TRANSITION (F) IS DETERMINED BY:  
$$F = 0.5 V'(W_2 - W_1)$$

WHERE: F IS IN FEET AND  
 $W_2$  &  $W_1$  = WIDTHS AS SHOWN IN FEET  
 $V'$  = AVERAGE RUNNING SPEED (MPH)
4. CURB MAY BE SPECIFIED ON THE HIGH SIDE OF THE RAMP ELSEWHERE IN THE PLANS.

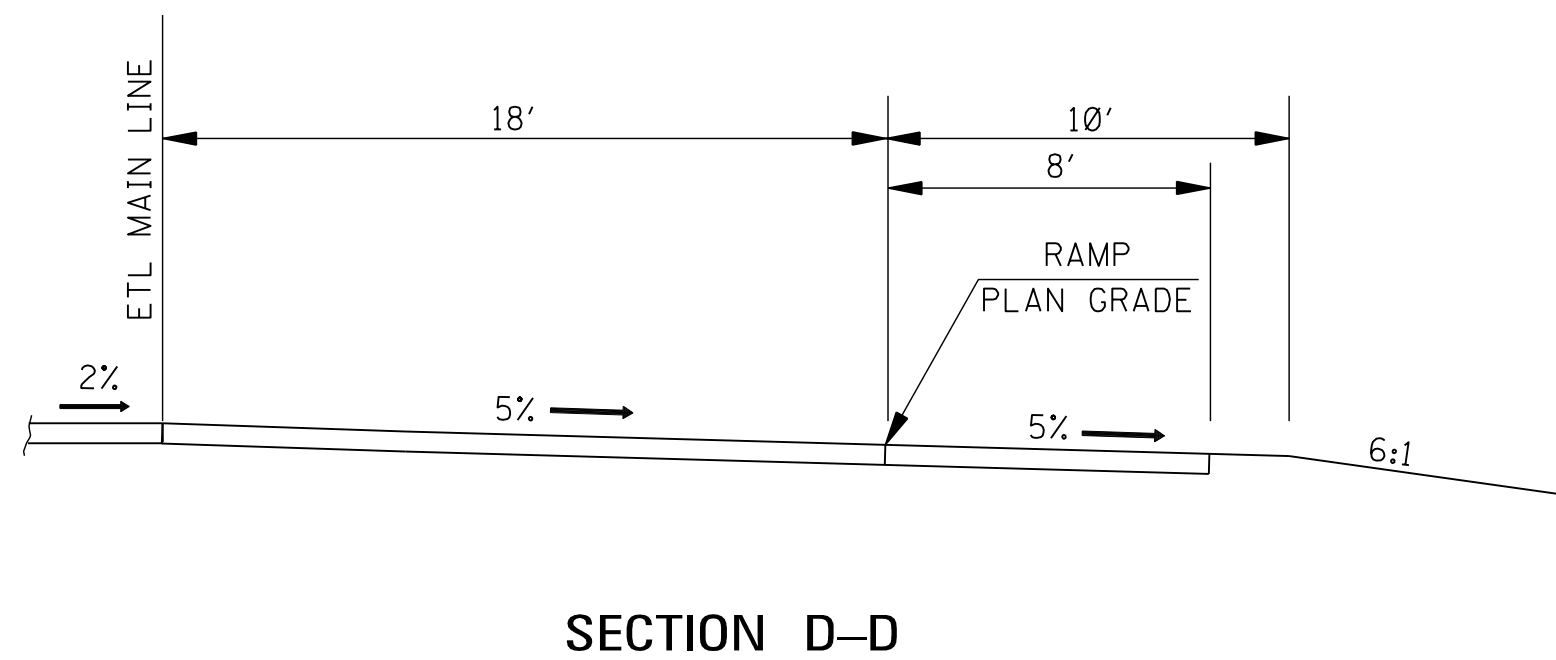
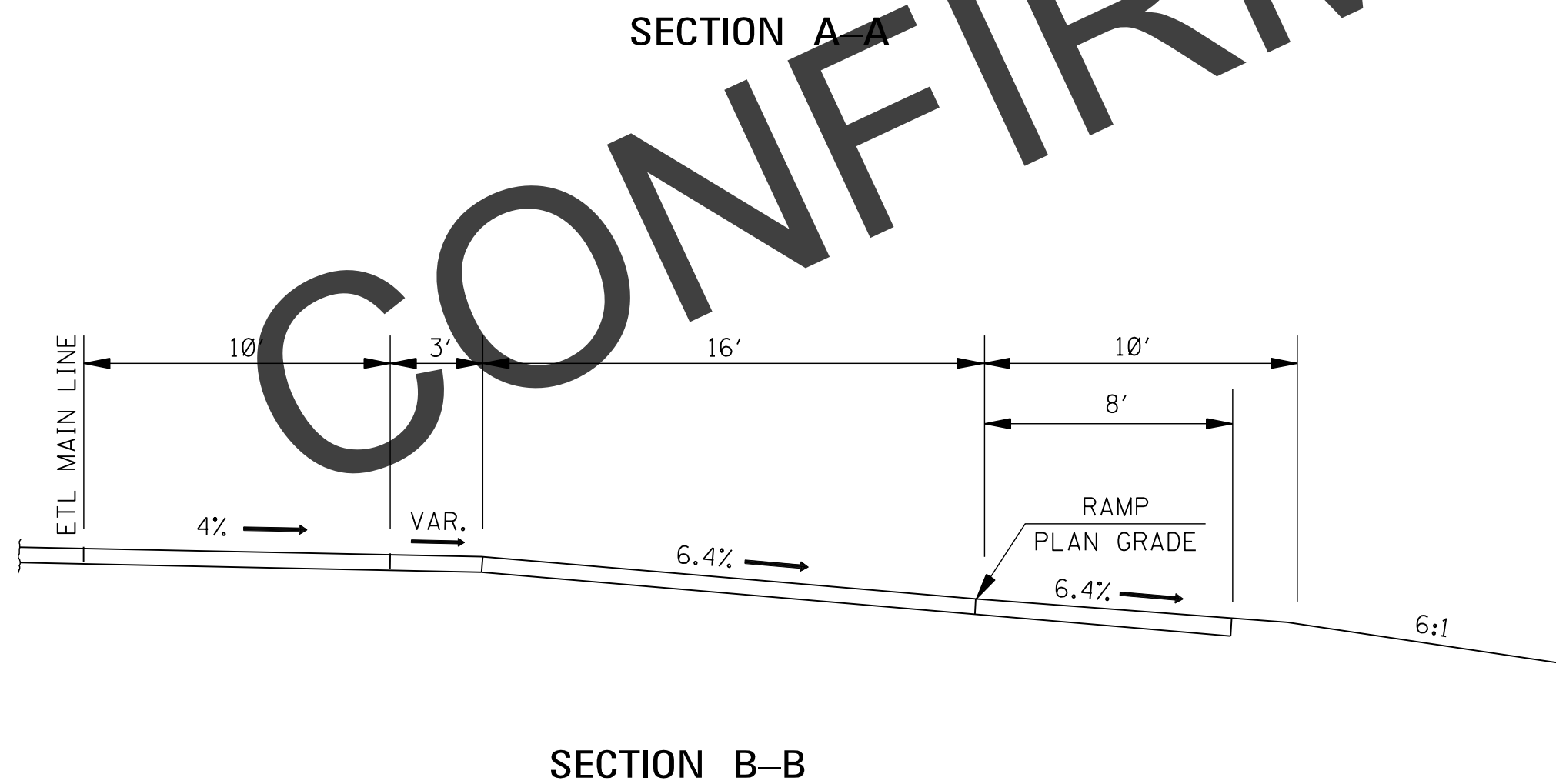
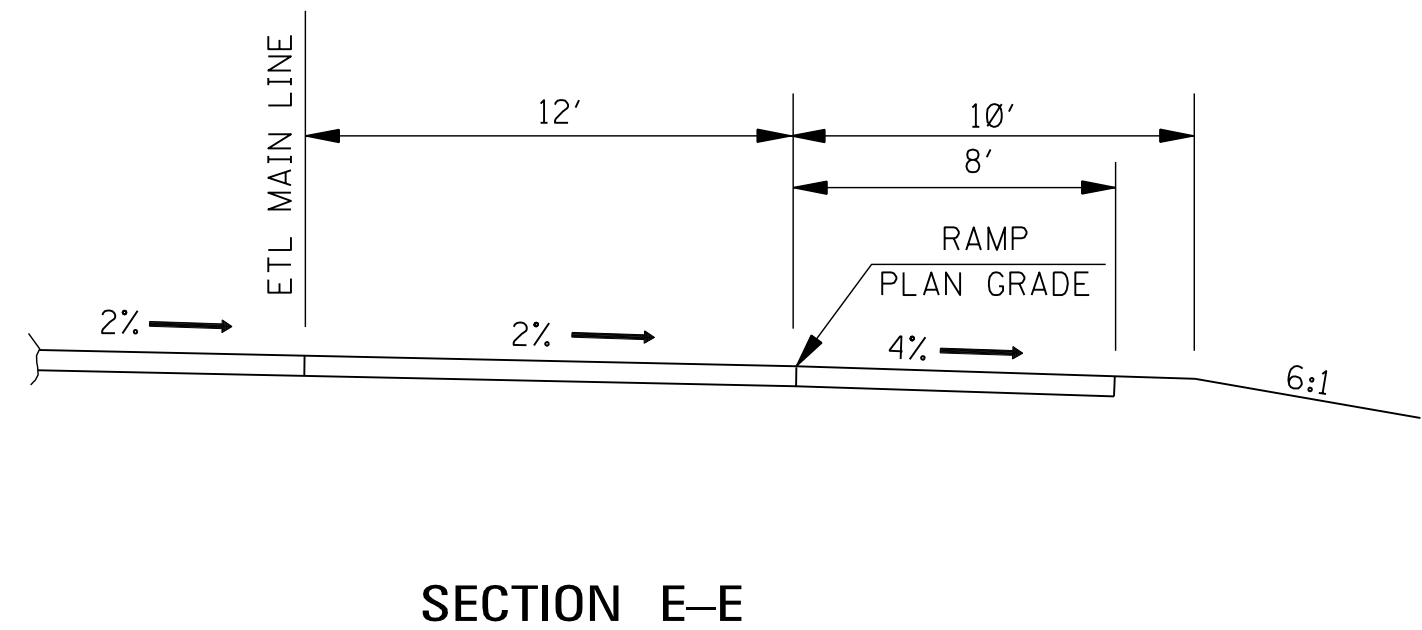
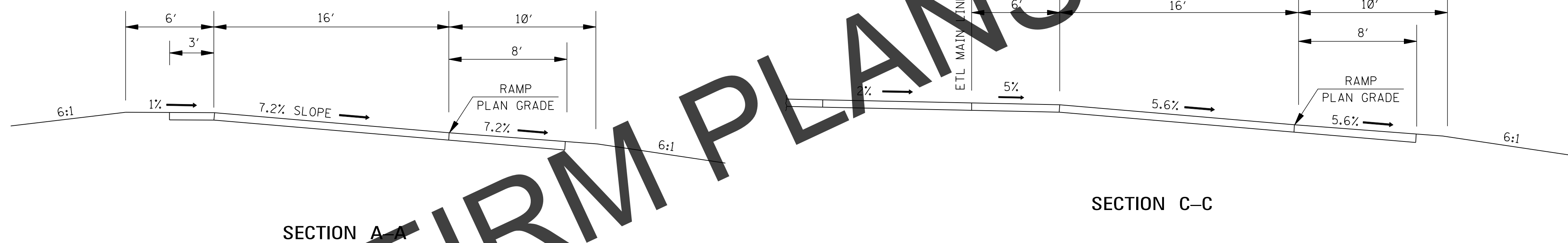
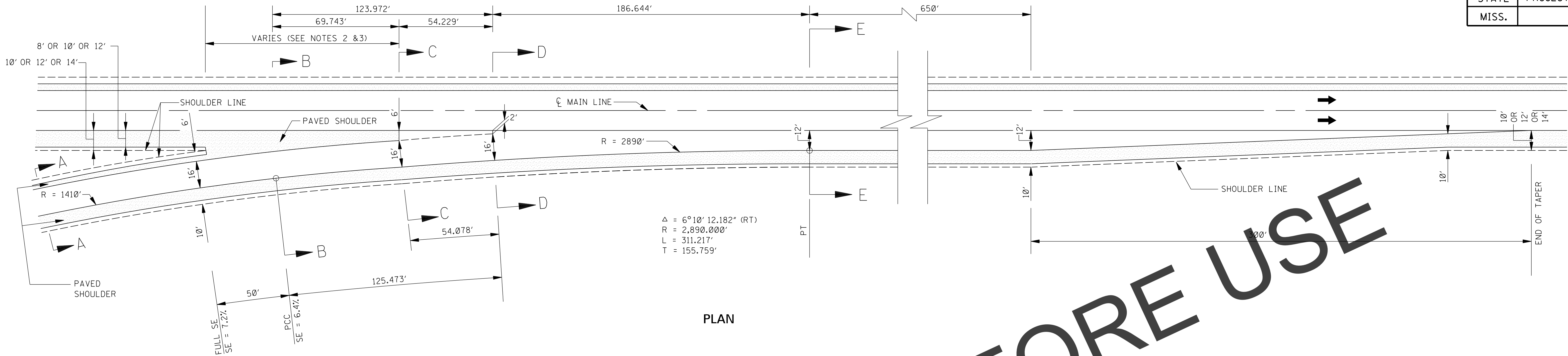
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN	
				REVISION		
				DATE	ISSUE DATE: AUGUST 01, 2017	

**INTERCHANGE  
DESIGN FOR  
LOOP ENTRANCE  
RAMP**

**MDOT**  
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

WORKING NUMBER  
IR-2

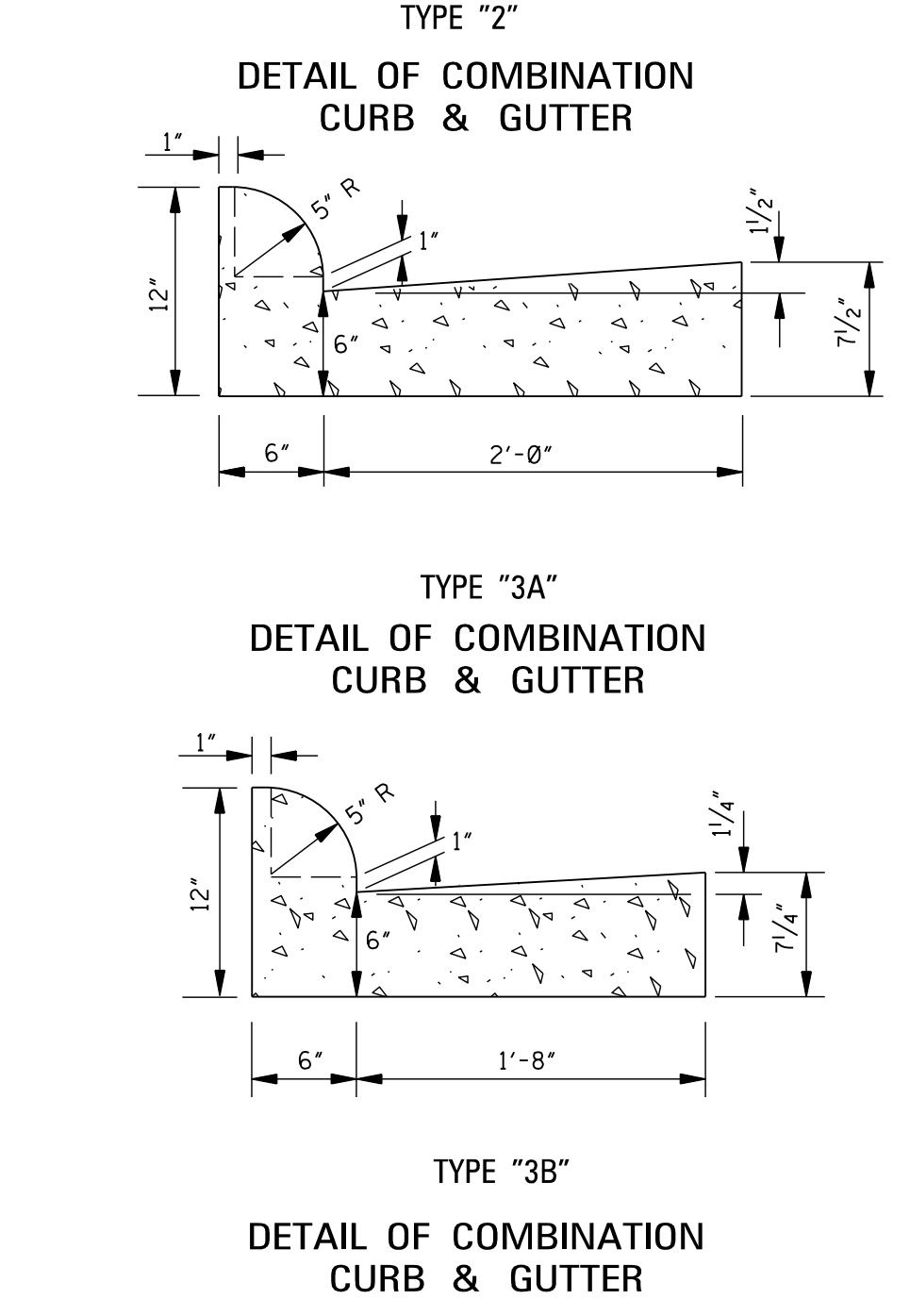
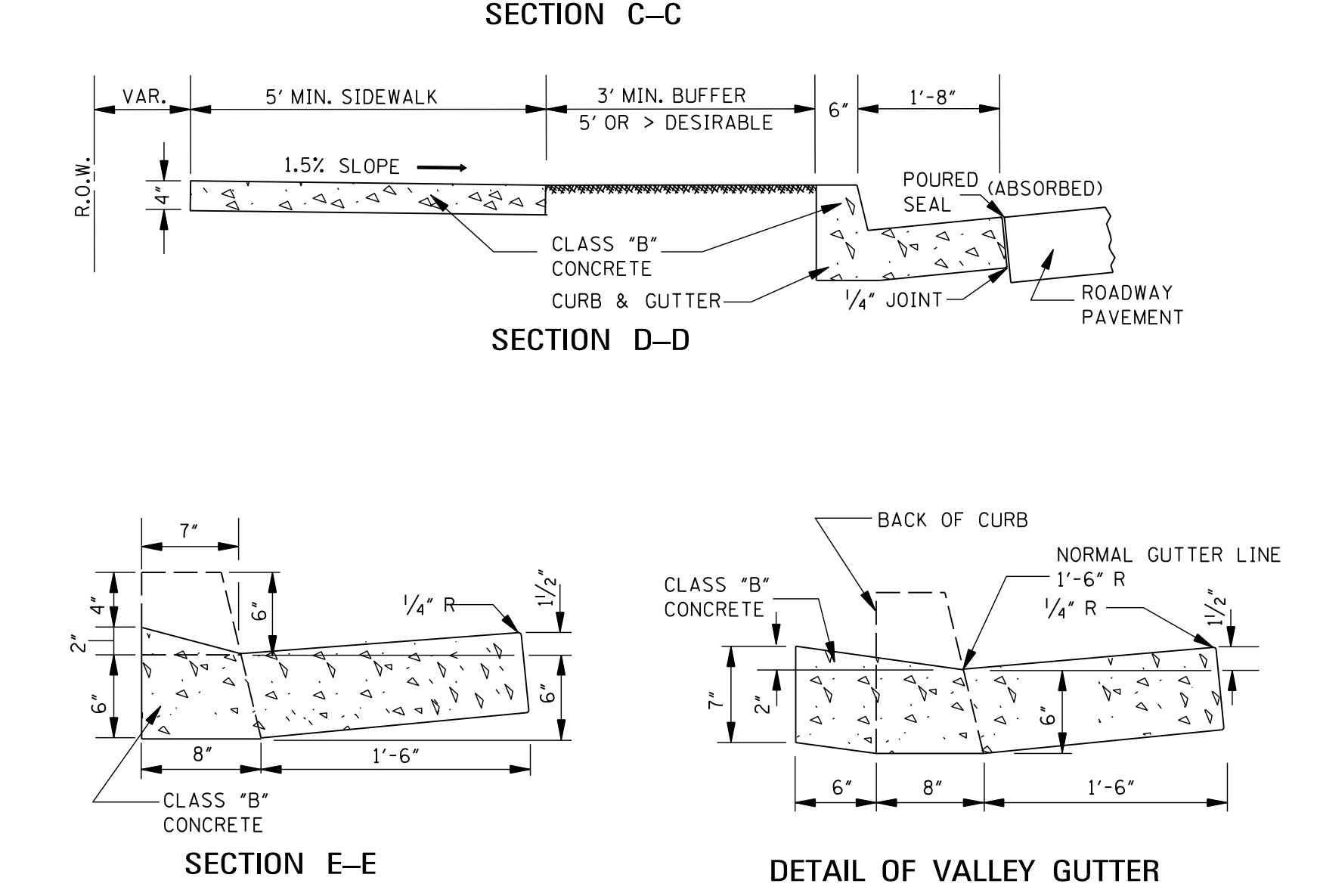
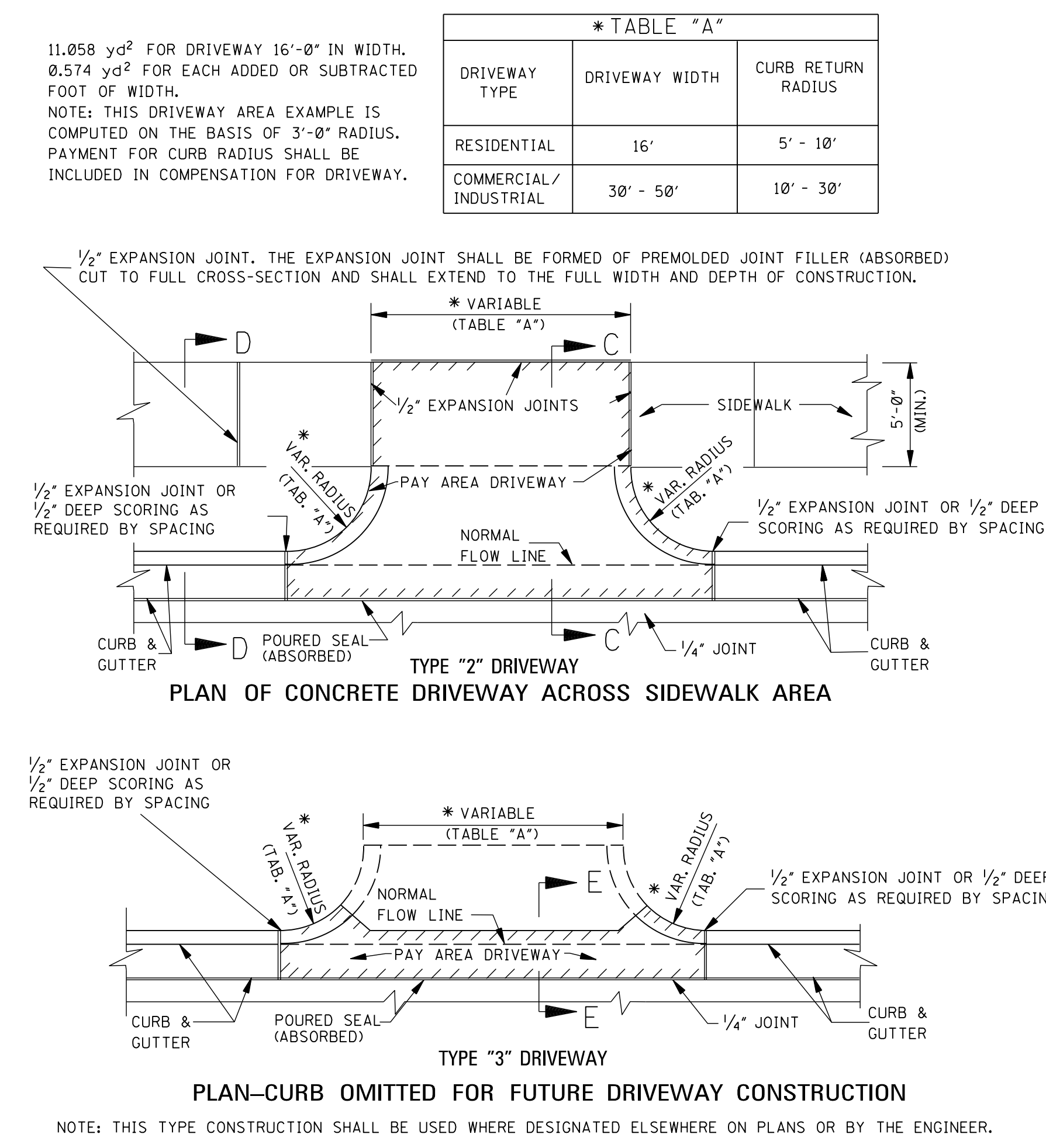
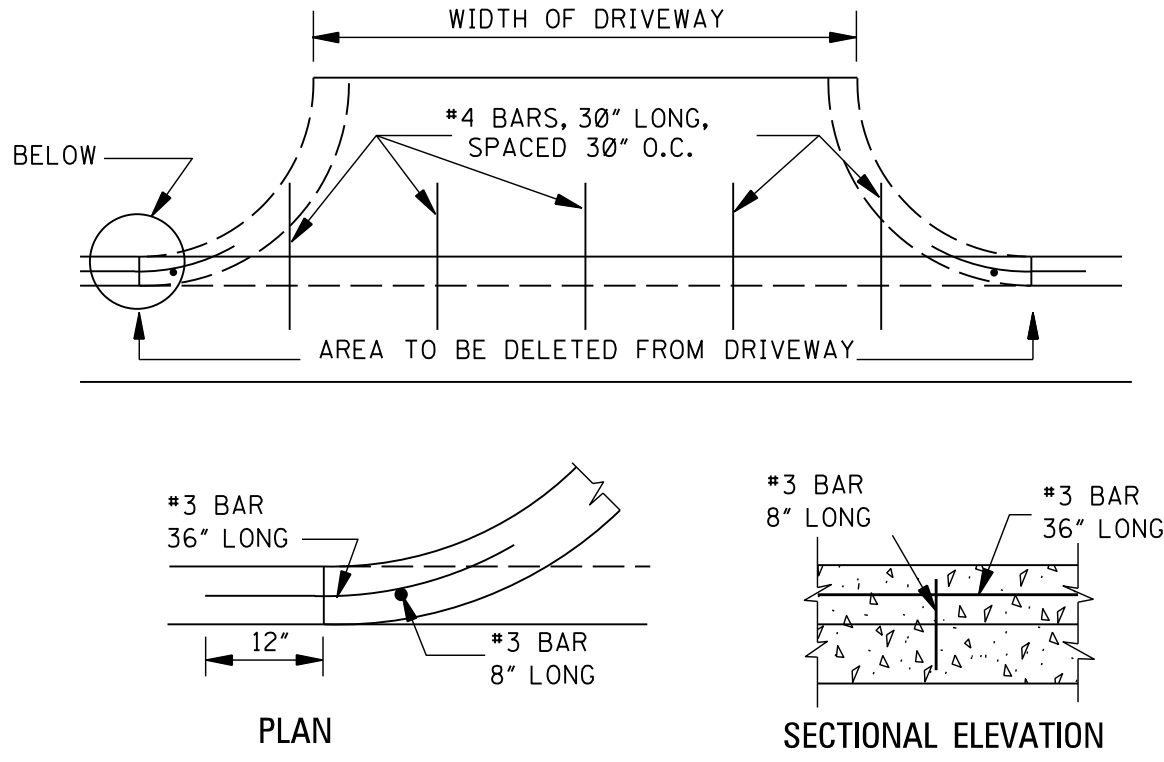
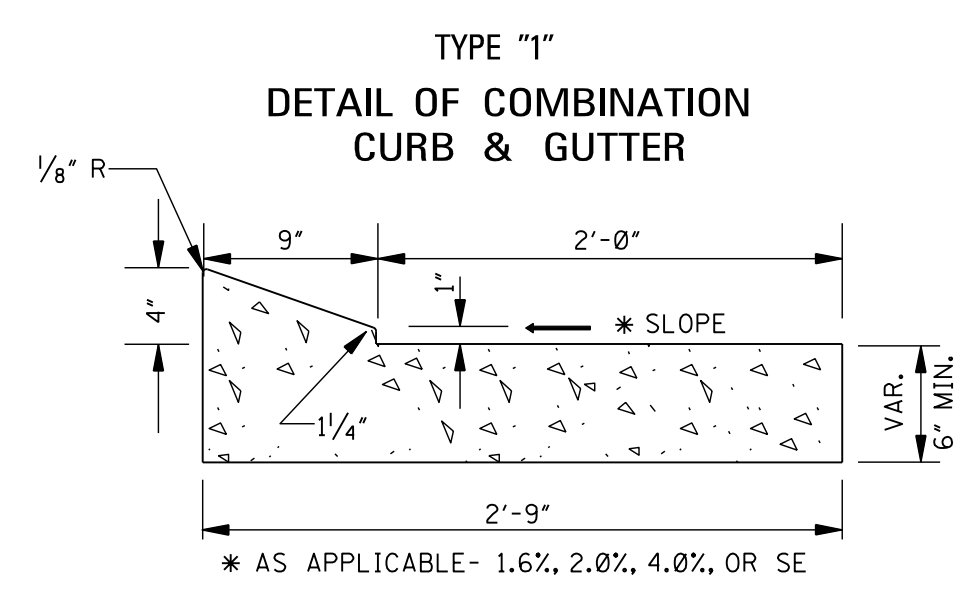
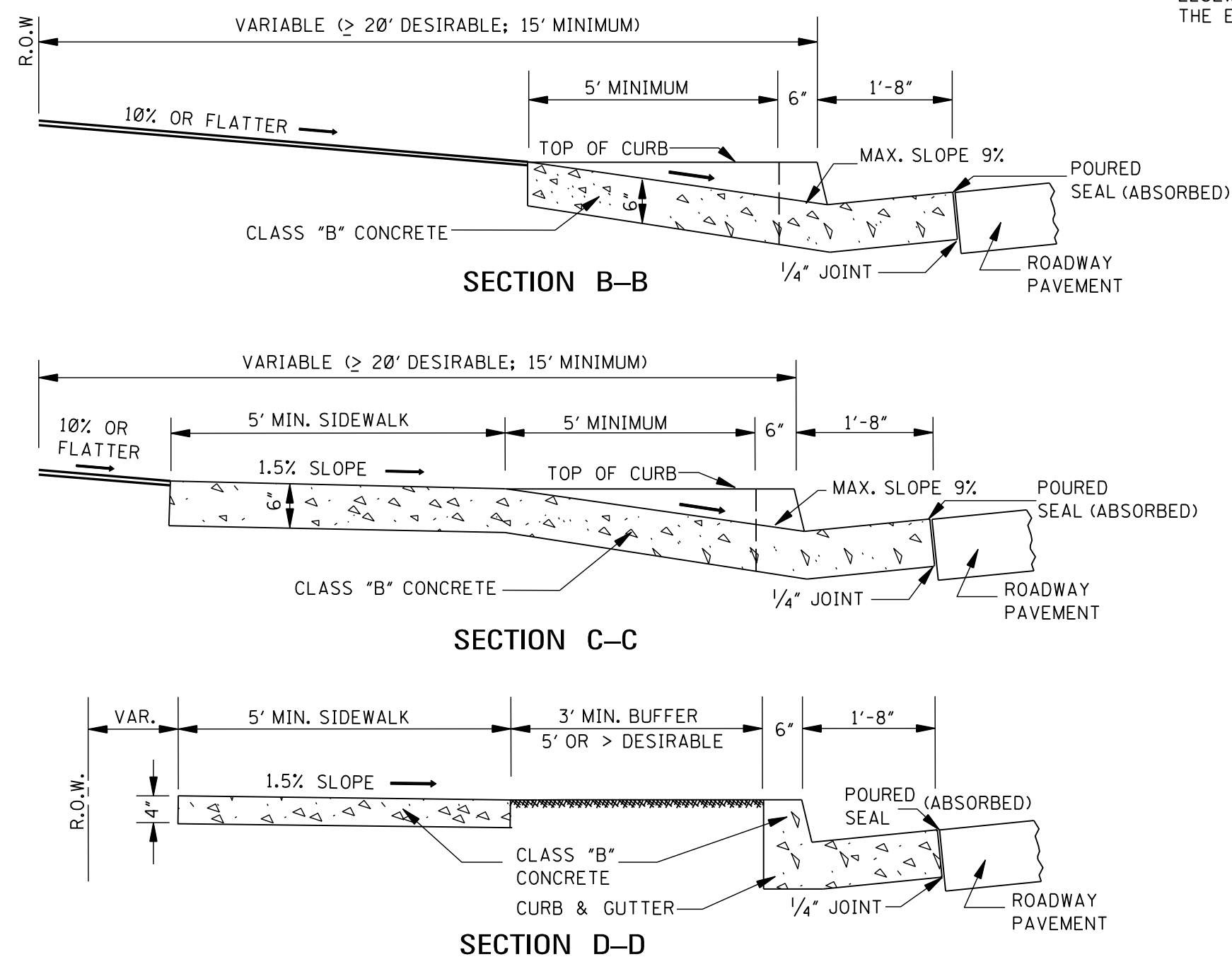
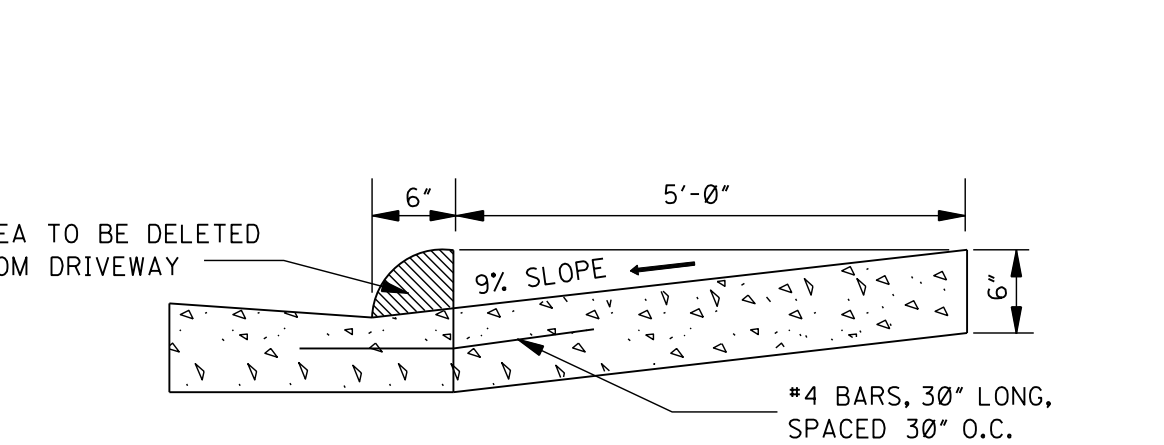
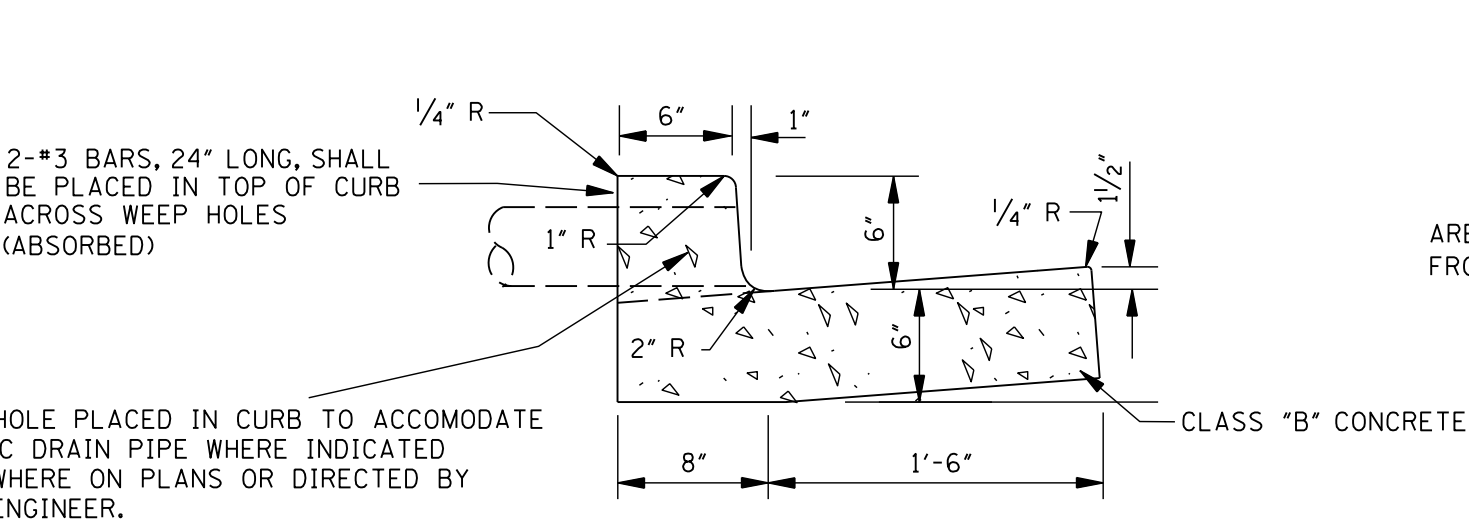
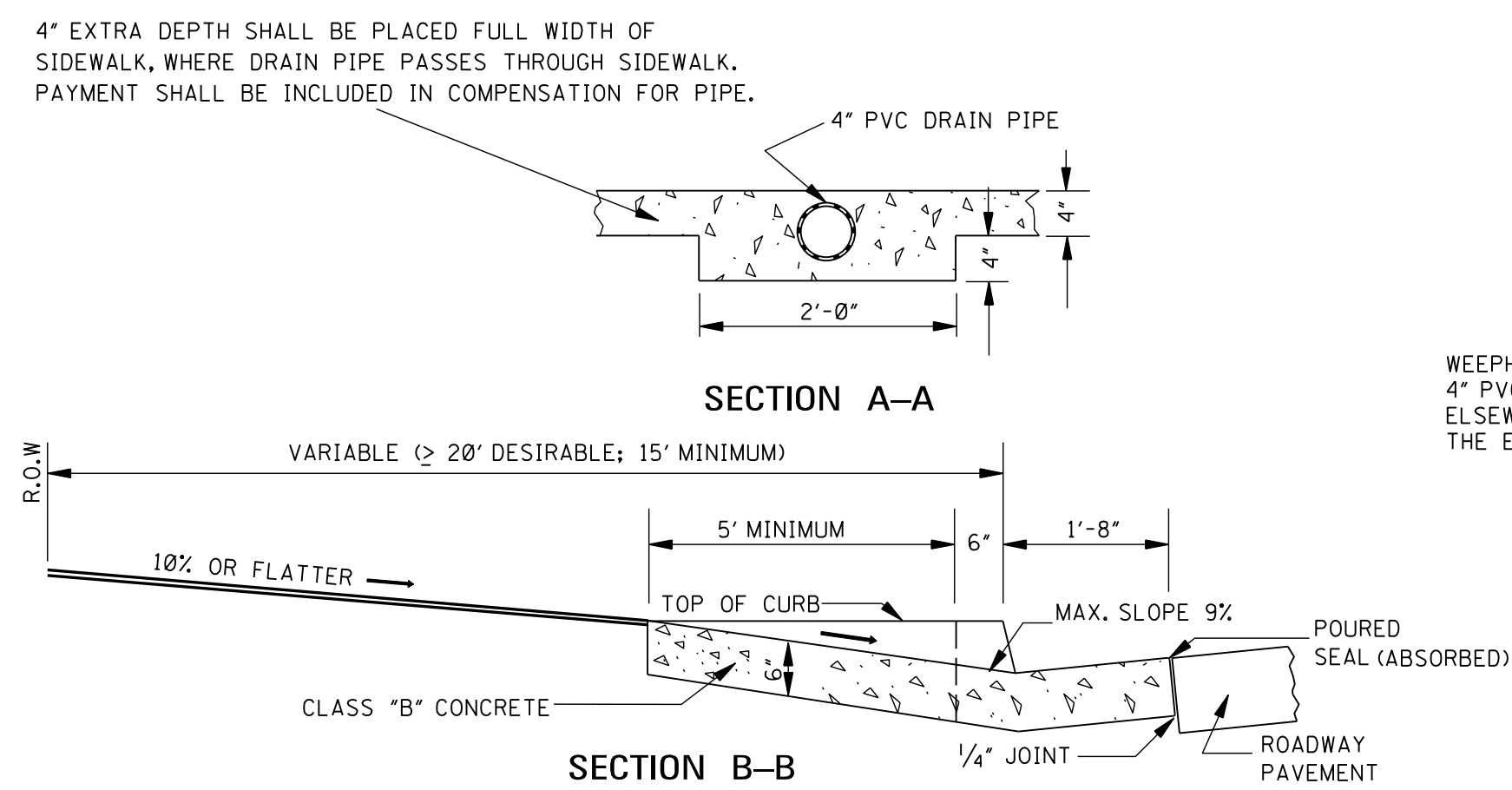
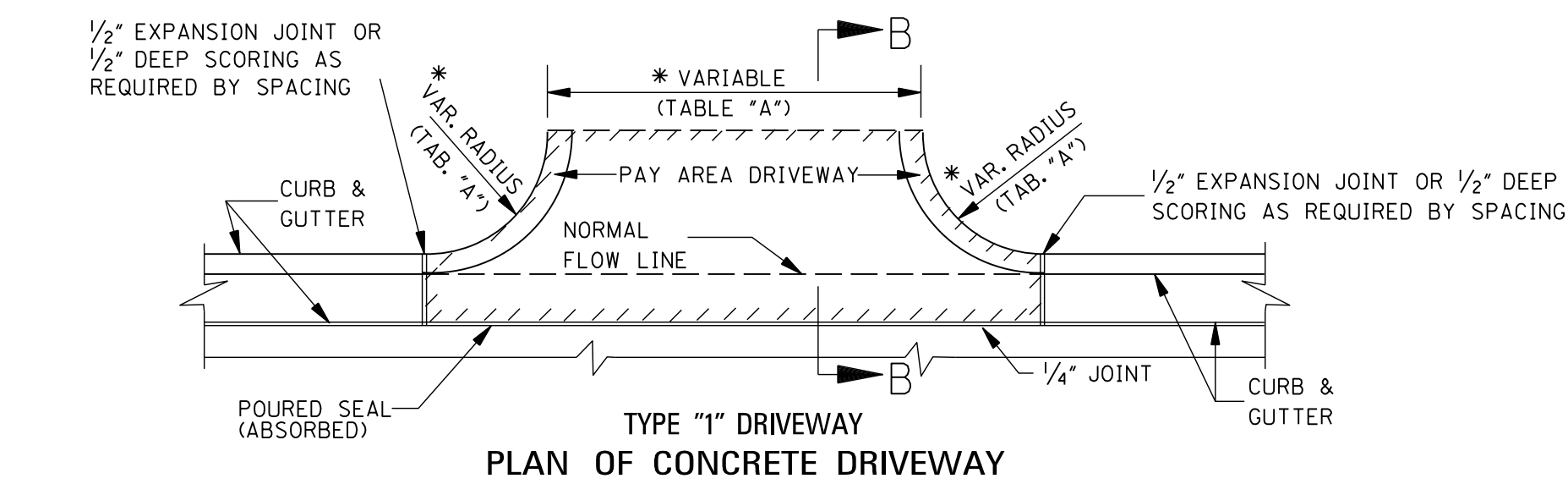
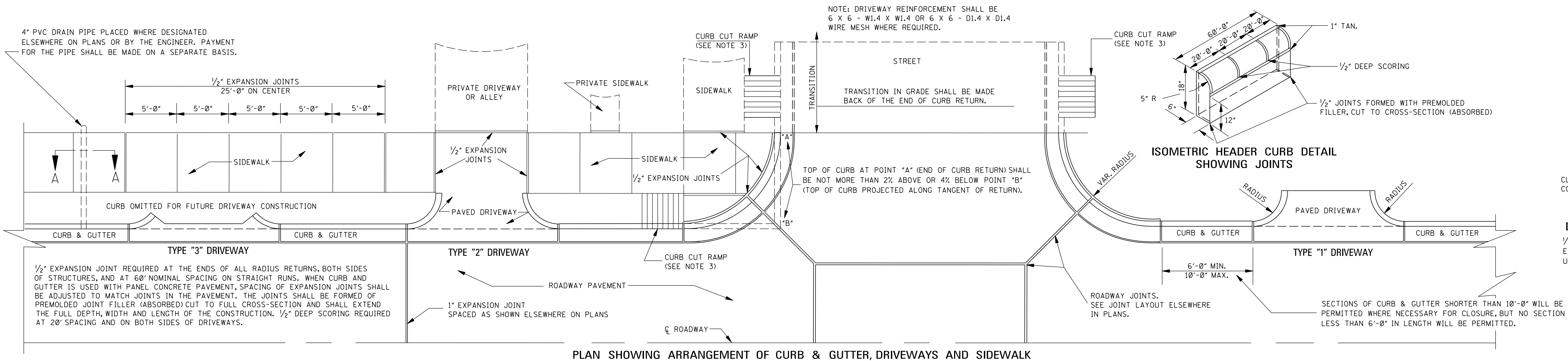
SHEET NUMBER  
6417



- GENERAL NOTES:
- THIS SHEET ASSUMES A RAMP DESIGN SPEED = 50 mph, A MAINLINE DESIGN SPEED = 70 mph AND A RAMP WITH A RADIUS OF 1410'. FOR OTHER RAMP CURVES AND/OR MAINLINE DESIGN SPEEDS, MODIFICATIONS SHOULD BE MADE AS NECESSARY TO THE LOCATION OF THE PC, SUPERELEVATION TRANSITIONS, SUPERELEVATION RATE, DECELERATION LENGTHS, ETC., IN ACCORDANCE WITH CURRENT AASHTO POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS.
  - THIS AREA TO BE PAVED WHETHER SHOULDERS ARE PAVED OR NOT.
  - THIS DIMENSION IS 98.739' FOR 10' SHOULDERS, 113.834' FOR 12' SHOULDERS, OR 127.826' FOR 14' SHOULDERS.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN	
				REVISION	<b>INTERCHANGE DESIGN FOR HIGH-SPEED PARALLEL ENTRANCE RAMP</b>	
				DATE		
				ISSUE DATE:	AUGUST 01, 2017	

WORKING NUMBER  
IR-2A  
SHEET NUMBER  
6418



GENERAL NOTES:

- TRAVERSE CONTRACTION JOINTS ARE REQUIRED AT 20' ON CENTER FOR ALL CONCRETE DRIVEWAYS THAT EXTEND PAST THE END OF THE CURB RETURN. A 1/2" WIDE EXPANSION JOINT IS REQUIRED AT THE END OF THE CURB RETURN AND AT 60' ON CENTER THROUGHOUT THE LENGTH OF THE DRIVEWAY. A LONGITUDINAL CONTRACTION JOINT IS REQUIRED FOR ALL DRIVEWAYS EXCEEDING 20' IN WIDTH.
- SEE WK. NOS. CR-1, CR-2, CR-3 & CR-4 FOR DETAILS OF CURB-CUT RAMPS.
- MAXIMUM 2% CROSS-SLOPE ON SIDEWALKS.

BY	REVISION	DATE

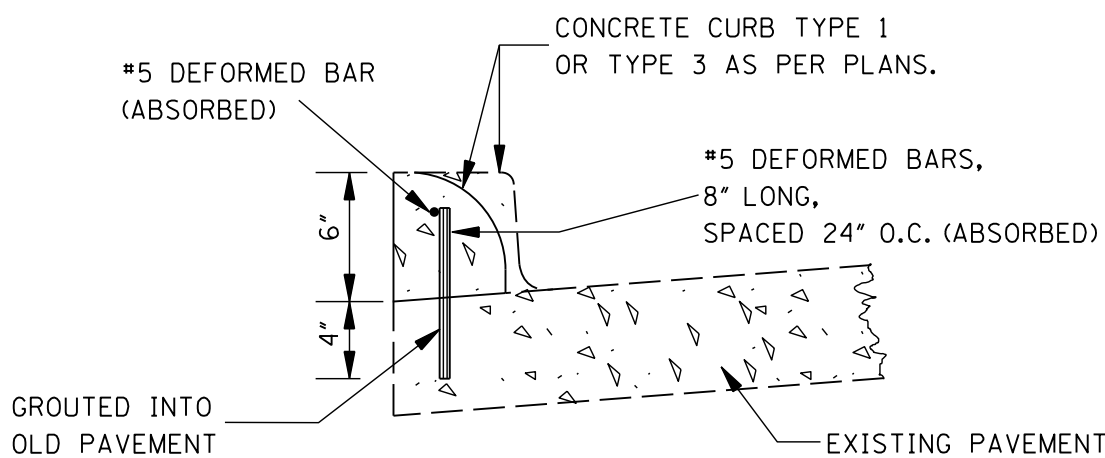
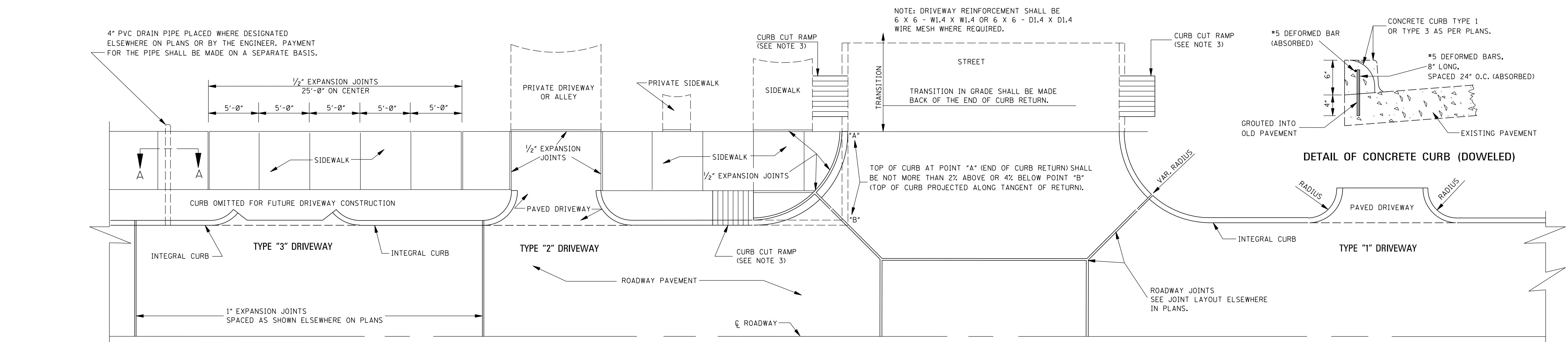
MISSISSIPPI DEPARTMENT OF TRANSPORTATION  
ROADWAY DESIGN DIVISION  
STANDARD PLAN

**DRIVEWAYS,  
CURB & GUTTER,  
& SIDEWALK**

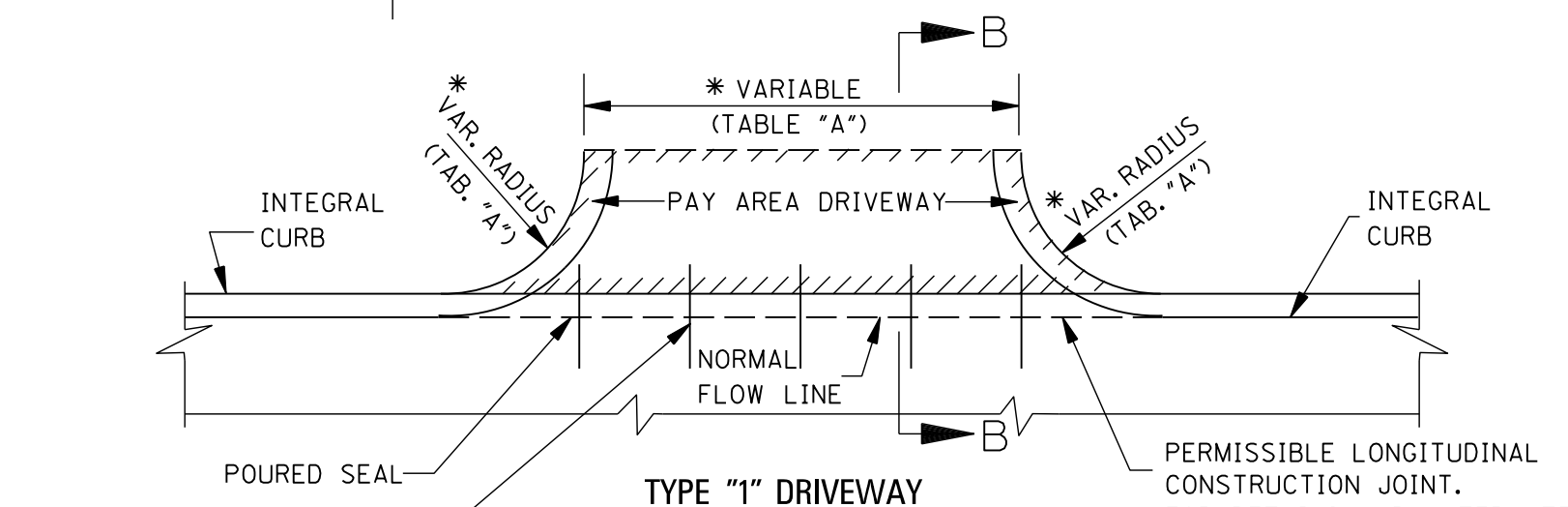
ISSUE DATE: AUGUST 01, 2017

WORKING NUMBER SD-1  
SHEET NUMBER 6419

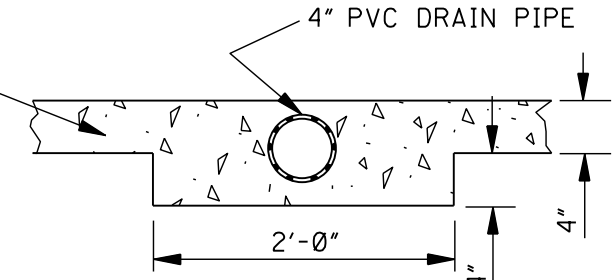




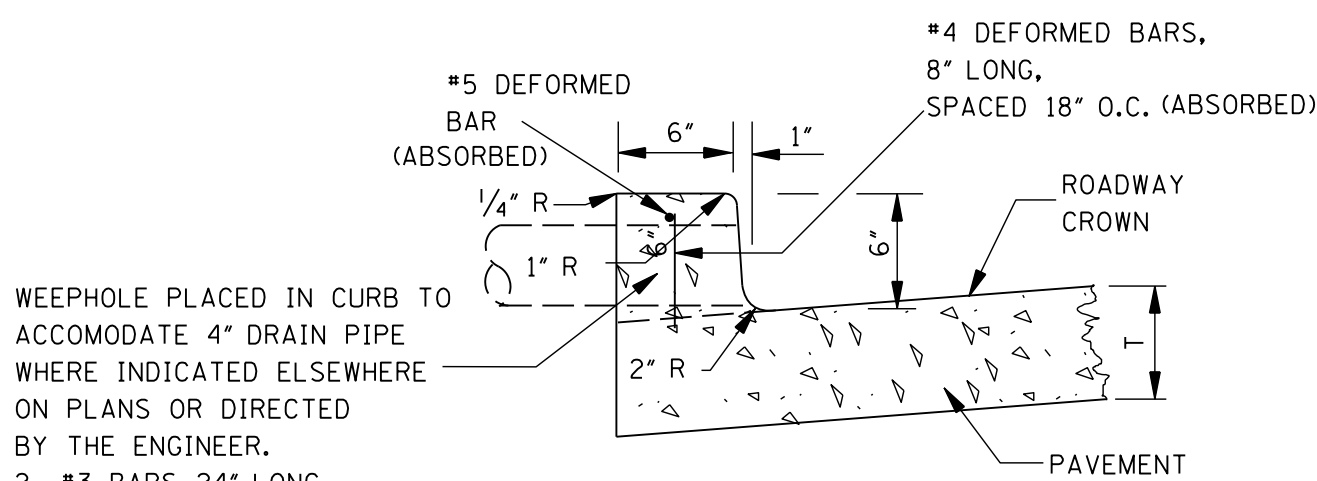
PLAN SHOWING ARRANGEMENT OF INTEGRAL CURB, DRIVEWAYS AND SIDEWALK



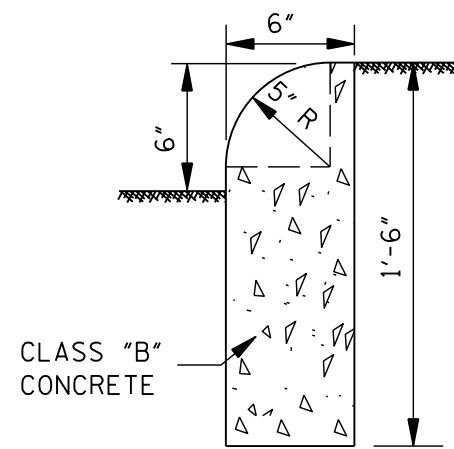
4" EXTRA DEPTH SHALL BE PLACED FULL WIDTH OF SIDEWALK, WHERE DRAIN PIPE PASSES THROUGH SIDEWALK. PAYMENT SHALL BE INCLUDED IN COMPENSATION FOR PIPE.



SECTION A-A

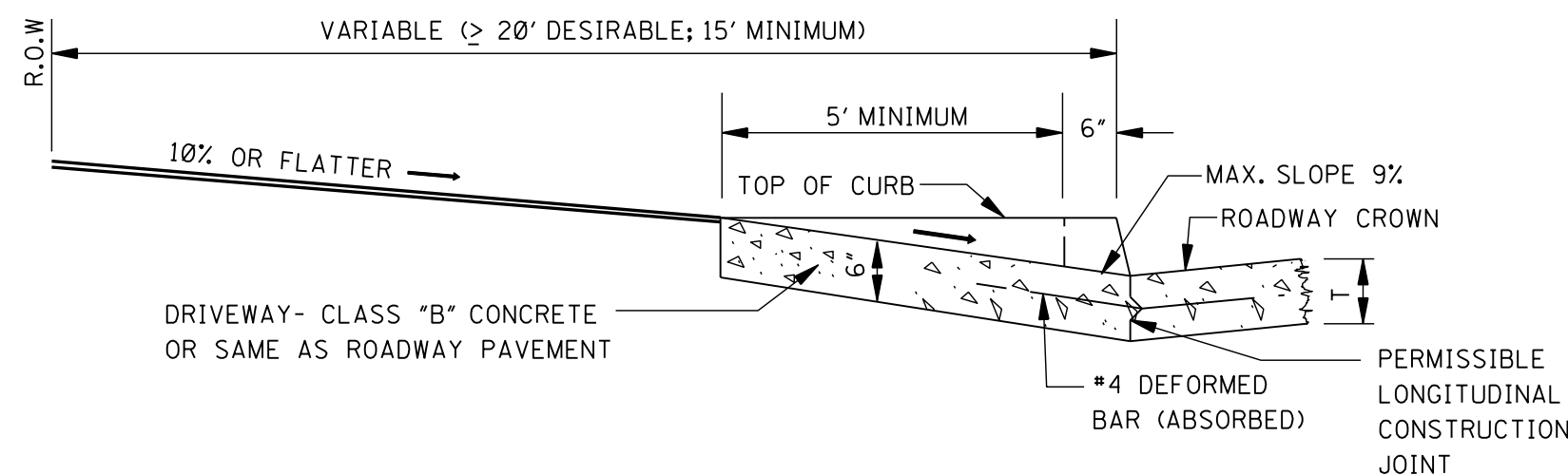


TYPE "1" DETAIL OF INTEGRAL CURB

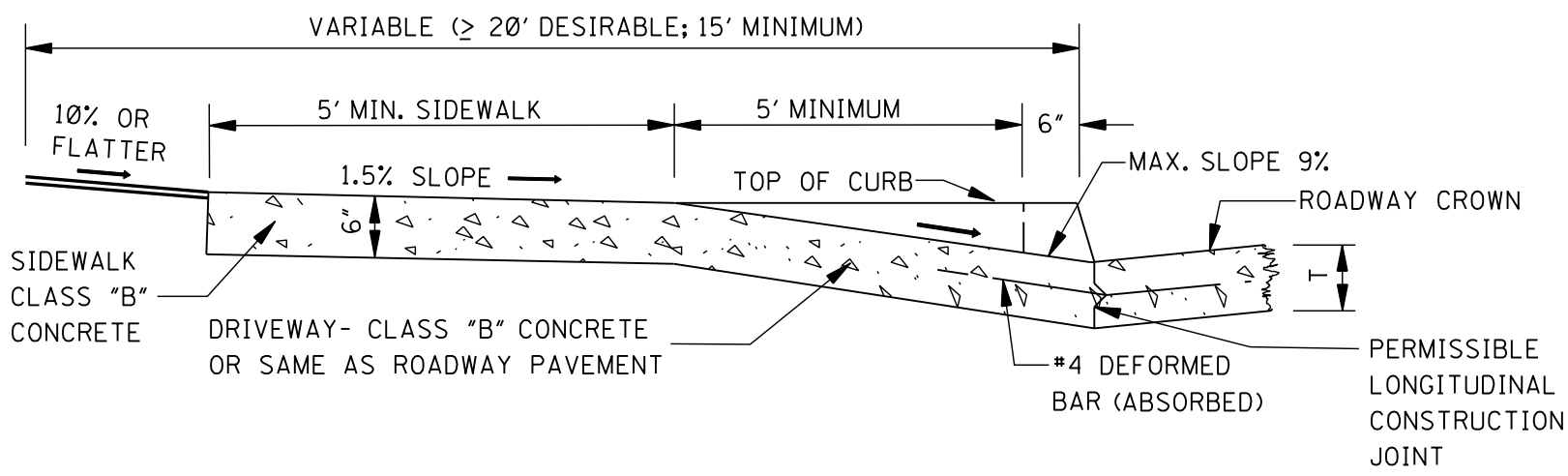


DETAIL OF HEADER CURB

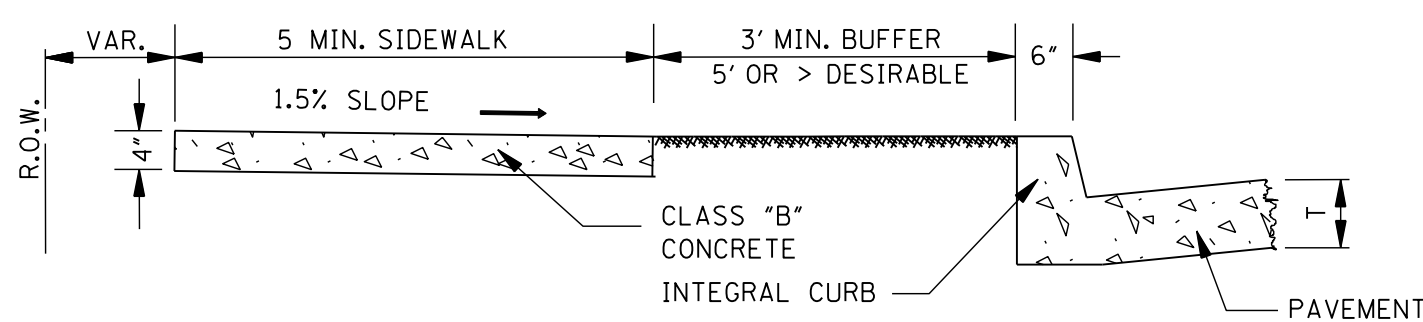
CONTRACTION JOINTS REQUIRED AT 20' O.C. EXPANSION JOINTS REQUIRED AT 60' O.C. UNLESS OTHERWISE DIRECTED BY ENGINEER.



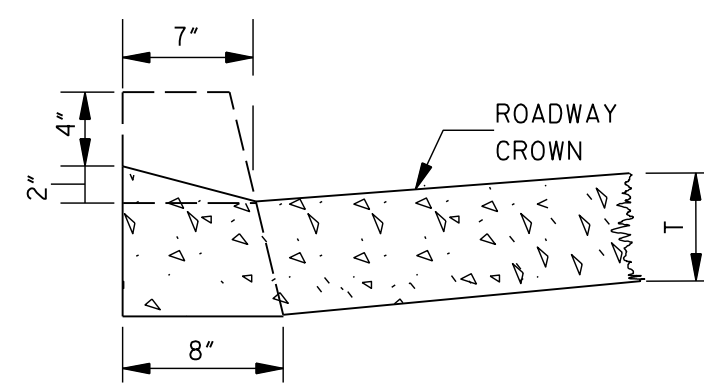
SECTION B-B



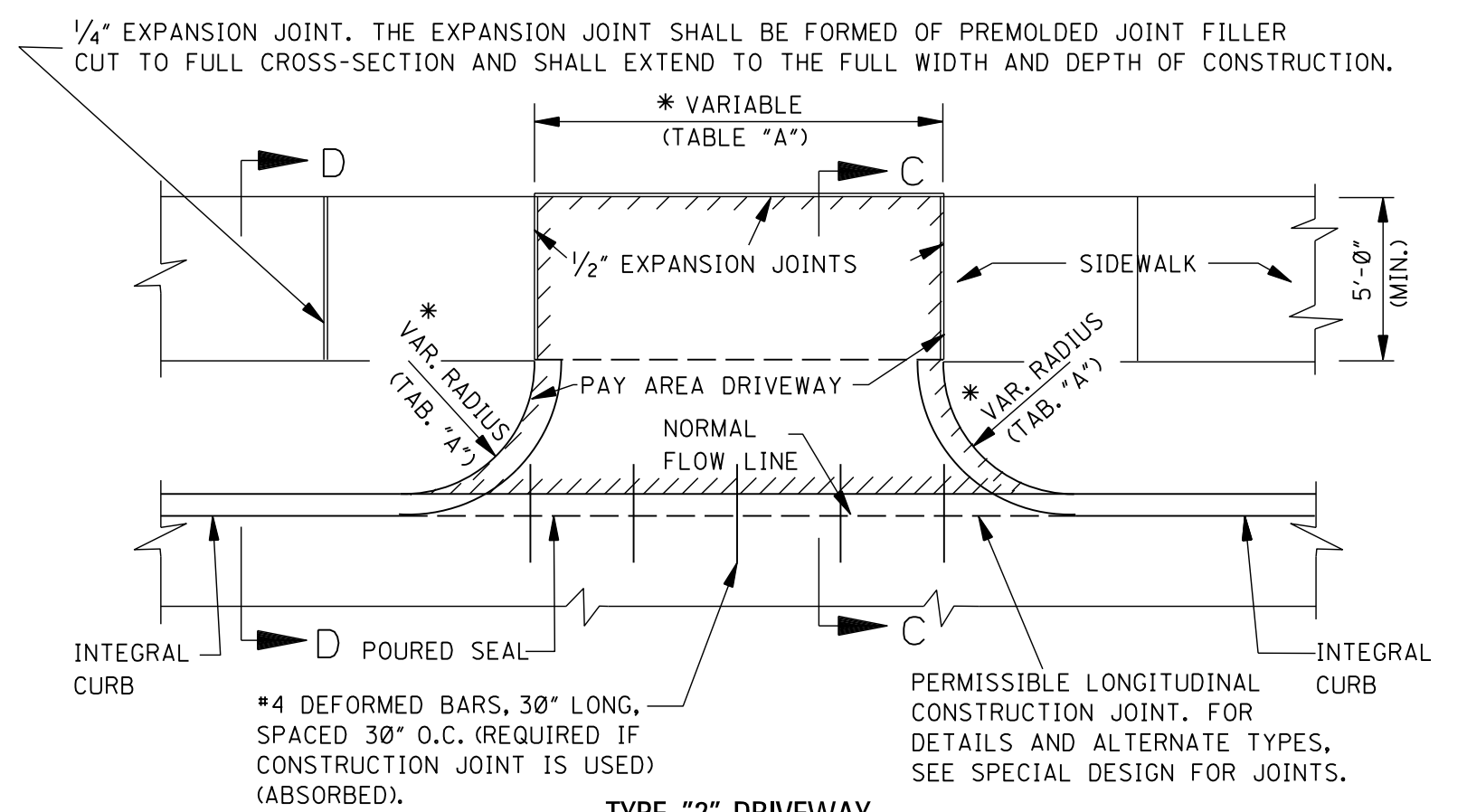
SECTION C-C



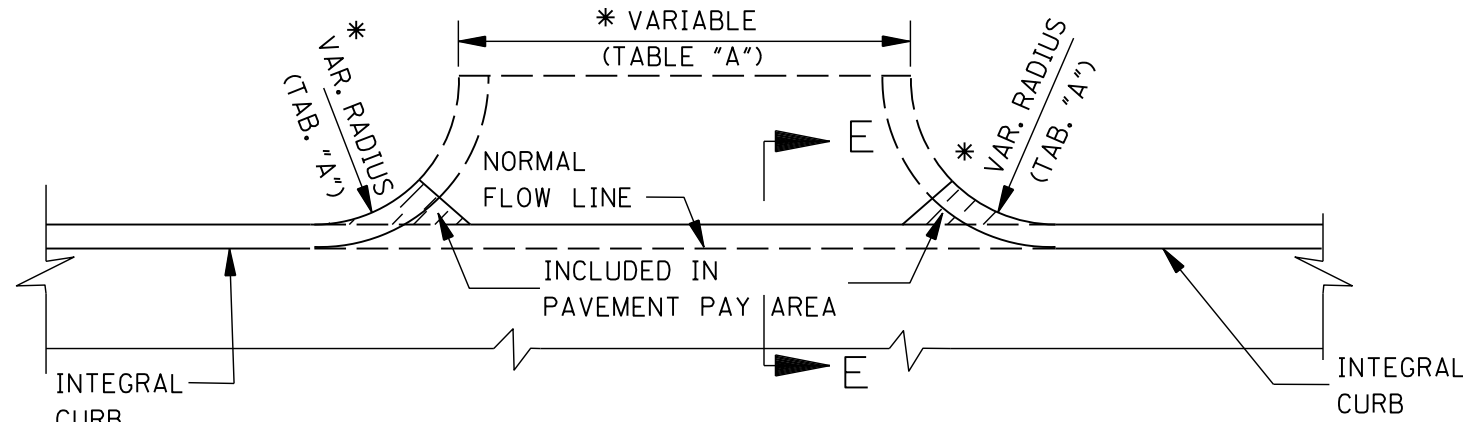
SECTION D-D



SECTION E-E



PLAN OF CONCRETE DRIVEWAY ACROSS SIDEWALK AREA

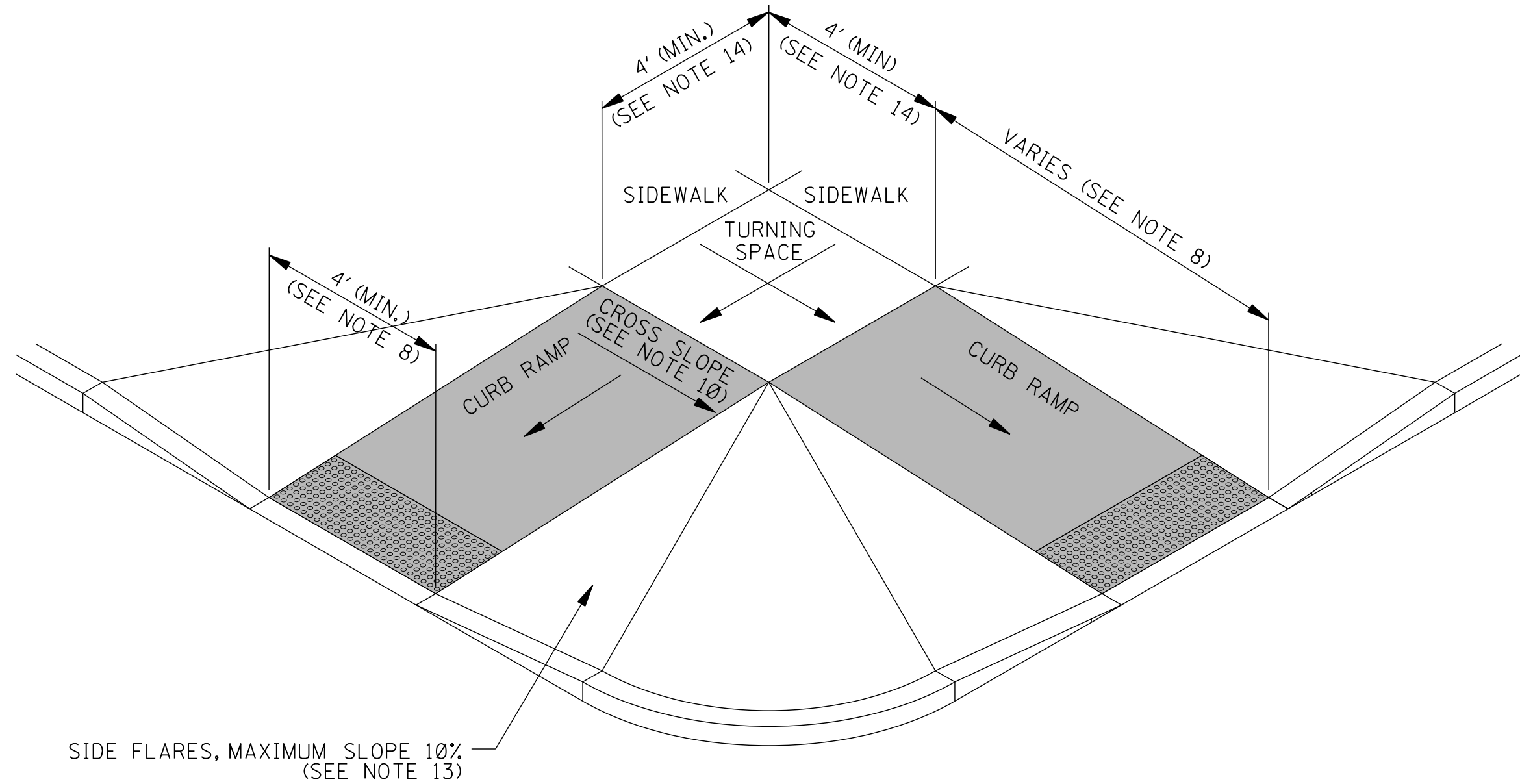


PLAN-CURB OMITTED FOR FUTURE DRIVEWAY CONSTRUCTION

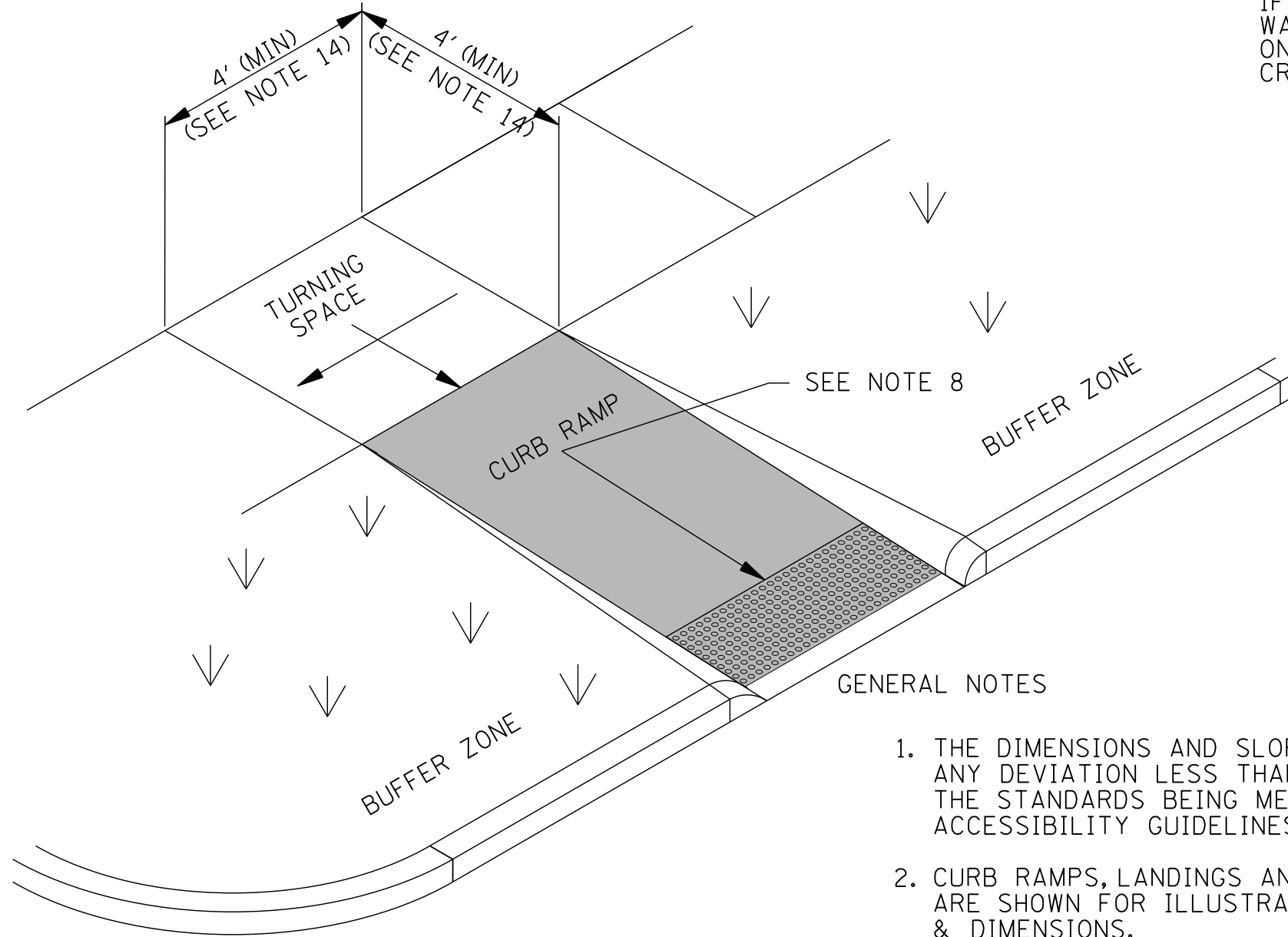
NOTE: THIS TYPE CONSTRUCTION SHALL BE USED WHERE DESIGNATED ELSEWHERE ON PLANS OR BY THE ENGINEER.

- GENERAL NOTES:
- TRAVERSE CONTRACTION JOINTS ARE REQUIRED AT 20' ON CENTER FOR ALL CONCRETE DRIVEWAYS THAT EXTEND PAST THE END OF THE CURB RETURN. A 1/2" WIDE EXPANSION JOINT IS REQUIRED AT THE END OF THE CURB RETURN AND AT 60' ON CENTER THROUGHOUT THE LENGTH OF THE DRIVEWAY. A LONGITUDINAL CONTRACTION JOINT IS REQUIRED FOR ALL DRIVEWAYS EXCEEDING 20' IN WIDTH.
  - SEE WK. NOS. CR-1, CR-2, CR-3 & CR-4 FOR DETAILS OF CURB-CUT RAMPS.
  - MAXIMUM 2% CROSS-SLOPE ON SIDEWALKS.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>DRIVEWAYS, INTEGRAL CURB &amp; SIDEWALK</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					WORKING NUMBER SD-2 SHEET NUMBER 6420

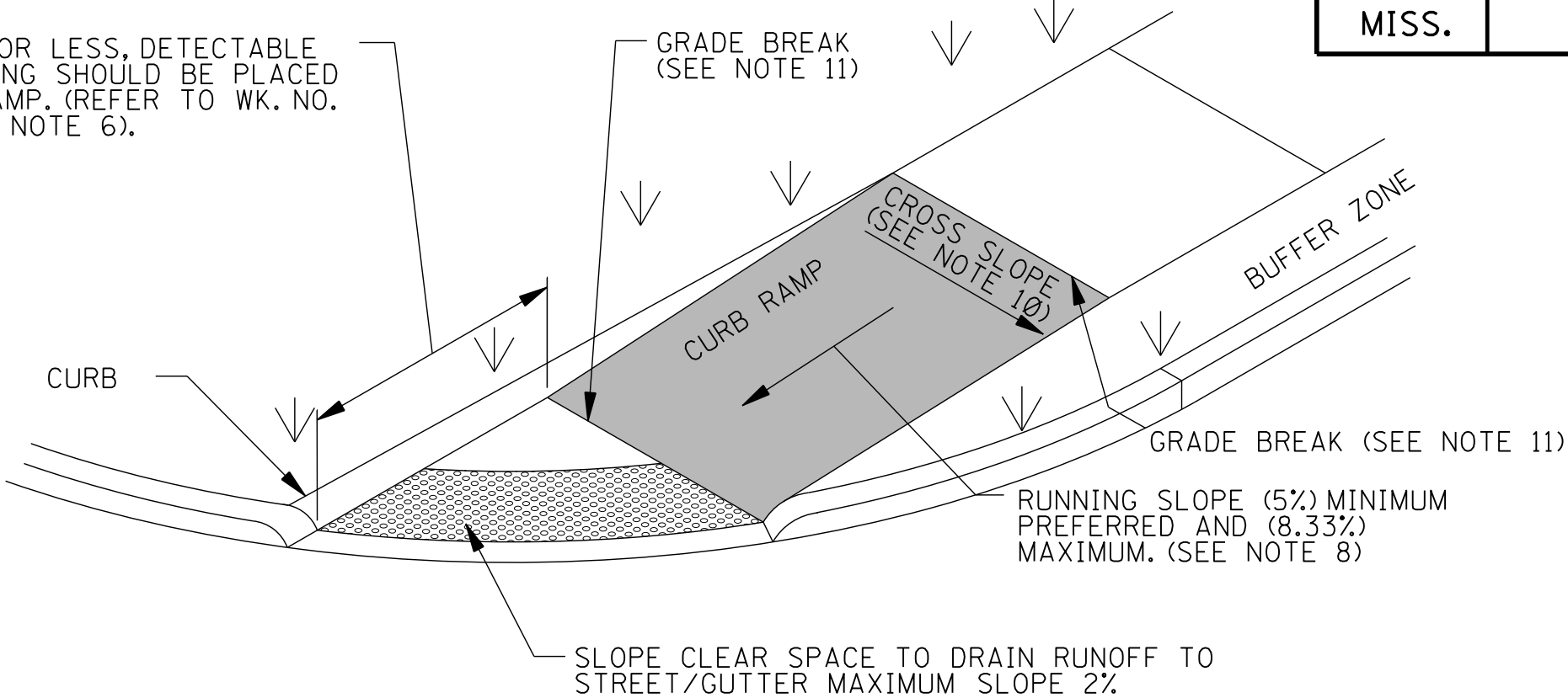


TYPE 1 – PERPENDICULAR CURB RAMP



TYPE 2 – PERPENDICULAR RETURNED CURB RAMP

SIDES OF CURB RAMPS MAY BE RETURNED, PROVIDING USEFUL DIRECTIONAL CUES, IF PROTECTED FROM CROSS TRAVEL BY LANDSCAPING, STREET FURNITURE, POLES, OR EQUIPMENT.



TYPE 3 – ALTERNATE PERPENDICULAR RETURNED CURB RAMP

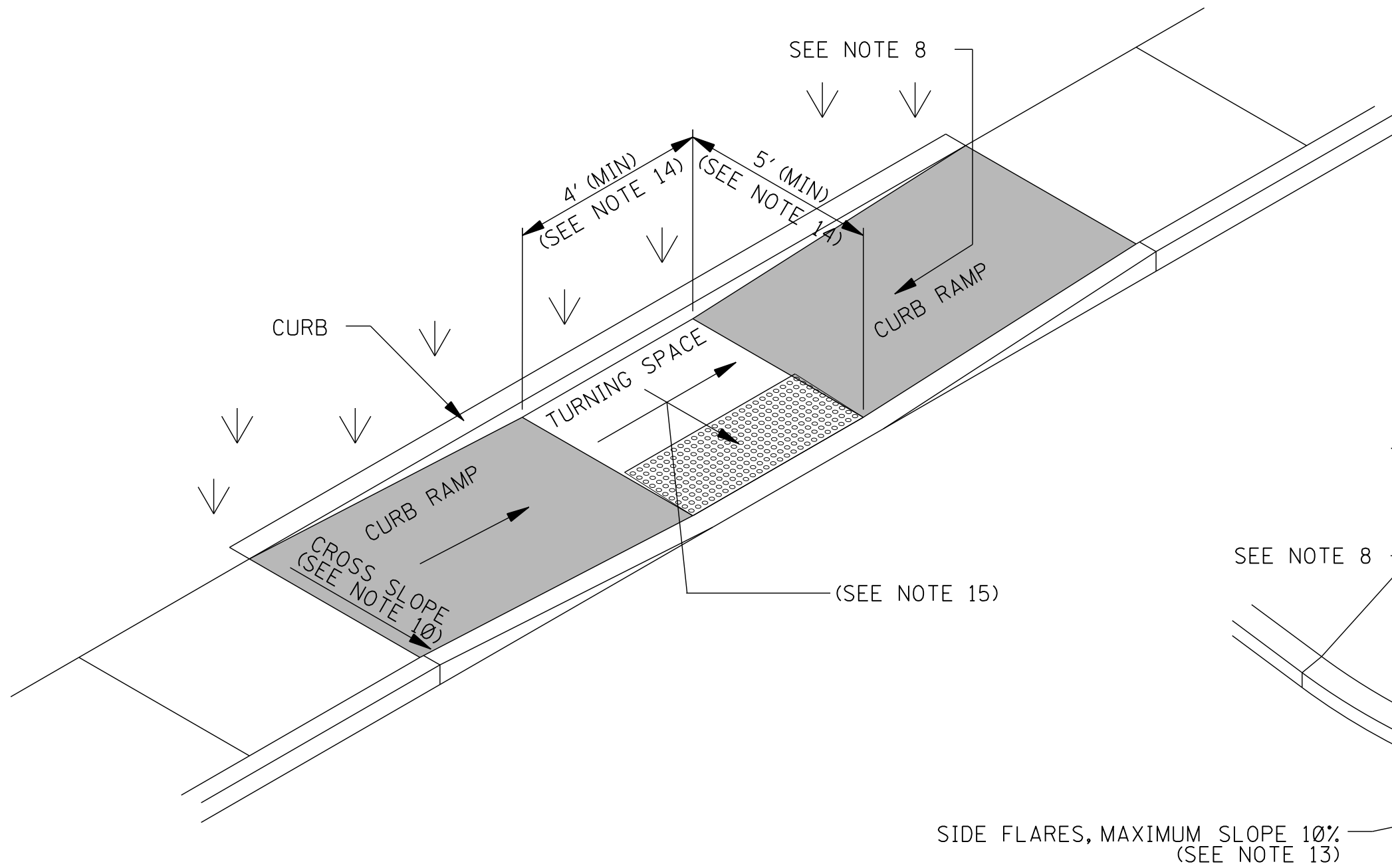
- GENERAL NOTES
1. THE DIMENSIONS AND SLOPES PRESENTED IN THE DETAILS ARE THE MINIMUM NECESSARY TO COMPLY WITH THE ADA AND MDOT STANDARDS. ANY DEVIATION LESS THAN THE MINIMUM WIDTH OR GREATER THAN THE MAXIMUM SLOPE FROM THESE STANDARDS MUST BE DOCUMENTED WITH THE STANDARDS BEING MET TO THE GREATEST EXTENT PRACTICABLE AND CONSISTENT WITH THE MOST CURRENT PUBLIC RIGHT-OF-WAY ACCESSIBILITY GUIDELINES (PROWAG).
  2. CURB RAMPS, LANDINGS AND BLENDED TRANSITIONS MAY REQUIRE THE USE OF DETECTABLE WARNINGS. DETECTABLE WARNINGS ON THIS SHEET ARE SHOWN FOR ILLUSTRATION ONLY. REFER TO THE DETECTABLE WARNING DETAILS ON WK. NO. CR-4 FOR DETAILS ON PLACEMENT, ORIENTATION & DIMENSIONS.
  3. THE LOCATION, ORIENTATION, AND TYPE OF CURB RAMPS SHOULD BE AS SHOWN IN THE PLANS.
  4. ANY COMBINATION OF PERPENDICULAR, PERPENDICULAR RETURNED, AND PARALLEL CURB RAMPS MAY BE USED TO ACHIEVE AN ACCESSIBLE DESIGN AS LONG AS THE BASIC REQUIREMENTS FOR CURB RAMPS ARE MET.
  5. CURB RAMPS SHALL BE PAID FOR AS SIDEWALK.
  6. THE THICKNESS OF THE CURB RAMP SHALL BE A MINIMUM OF 4".
  7. BEYOND THE BOTTOM GRADE BREAK, A CLEAR SPACE OF 4' MINIMUM BY 4' MINIMUM SHALL BE PROVIDED WITHIN THE WIDTH OF THE PEDESTRIAN STREET CROSSING AND WHOLLY OUTSIDE THE PARALLEL VEHICLE TRAVEL LANE.

CURB RAMP NOTES:

8. THE CLEAR WIDTH OF CURB RAMP RUNS (EXCLUDING ANY FLARED SIDES), BLENDED TRANSITIONS, AND TURNING SPACES SHALL BE THE WIDTH OF THE SIDEWALK, OR 4' MINIMUM. THE RUNNING SLOPE OF A CURB RAMP SHALL BE 5% MINIMUM, AND 8.33% MAXIMUM (7.1% PREFERRED). THE RUNNING SLOPE OF BLENDED TRANSITIONS SHALL BE 5% MAXIMUM.
9. WHERE THE SLOPE OF THE ROADWAY EXCEEDS 8.33%, THE CURB RAMP LENGTH IS THE LENGTH NECESSARY TO MEET THE EXISTING SIDEWALK. IT IS NOT NECESSARY THAT THE RAMP EXCEED 15'.
10. THE CROSS SLOPE OF CURB RAMPS, BLENDED TRANSITIONS, AND TURNING SPACES SHALL BE 2% MAXIMUM (1.5% PREFERRED). AT PEDESTRIAN STREET CROSSINGS WITHOUT YIELD OR STOP CONTROL AND AT MIDBLOCK PEDESTRIAN STREET CROSSINGS, THE CROSS SLOPE IS PERMITTED TO EQUAL THE STREET OR HIGHWAY GRADE.
11. GRADE BREAKS AT THE TOP AND BOTTOM OF CURB RAMP RUNS SHALL BE PERPENDICULAR TO THE DIRECTION OF THE RAMP RUN. GRADE BREAKS SHALL NOT BE PERMITTED ON THE SURFACE OF RAMP RUNS AND TURNING SPACES. SURFACE SLOPES THAT MEET AT GRADE BREAKS SHALL BE FLUSH.
12. RAMP TRANSITIONS BETWEEN WALKS, TURNING SPACES, LANDINGS, GUTTERS, OR STREETS SHALL BE FLUSH AND FREE OF ABRUPT VERTICAL CHANGES.
13. WHERE A PEDESTRIAN CIRCULATION PATH CROSSES THE CURB RAMP, FLARED SIDES SHALL BE SLOPED 10% MAXIMUM, MEASURED PARALLEL TO THE CURB LINE.

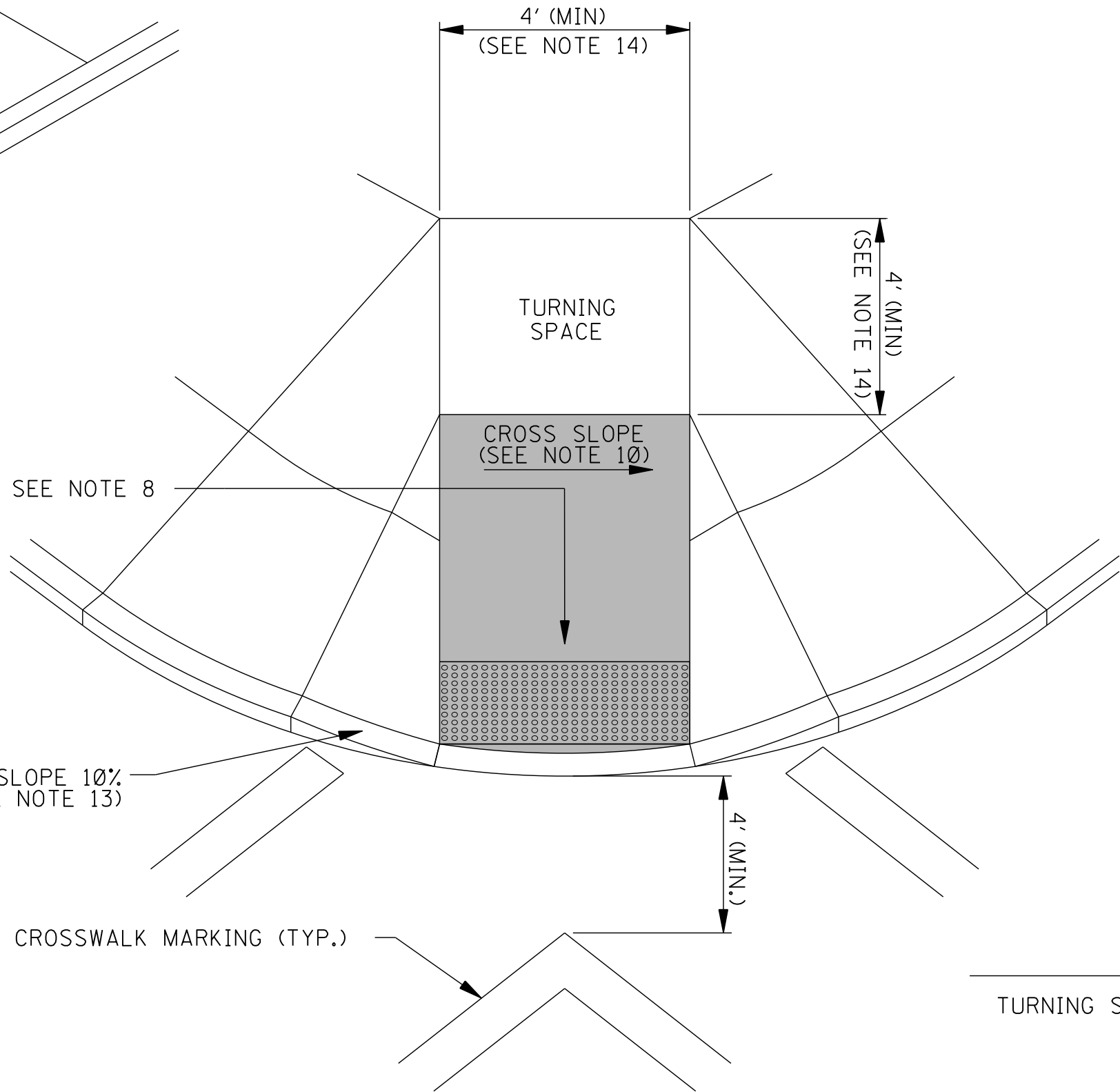
TURNING SPACE NOTES:

14. A TURNING SPACE 4' MINIMUM BY 4' MINIMUM SHALL BE PROVIDED AT THE TOP OF PERPENDICULAR RAMPS AND AT THE BOTTOM OF PARALLEL RAMPS. TURNING SPACES ARE ALLOWED TO OVERLAP OTHER TURNING SPACES AND CLEAR SPACES. IF THE TURNING SPACE IS CONSTRAINED BY A CURB, WALL, OR OTHER OBSTRUCTION, THE TURNING SPACE SHALL BE 4' MINIMUM BY 5' MINIMUM, WITH THE 5' DIMENSION PROVIDED IN THE DIRECTION OF TRAVEL TOWARD THE CONSTRAINT.
15. THE RUNNING SLOPE OF TURNING SPACES SHALL BE 2% MAXIMUM (1.5% PREFERRED). THE CROSS SLOPE OF TURNING SPACES SHALL BE 2% MAXIMUM (1.5% PREFERRED). AT PEDESTRIAN STREET CROSSINGS WITHOUT YIELD OR STOP CONTROL AND AT MIDBLOCK PEDESTRIAN STREET CROSSINGS, THE CROSS SLOPE SHALL BE PERMITTED TO EQUAL THE STREET OR HIGHWAY GRADE.
16. BEYOND THE BOTTOM GRADE BREAK, A CLEAR SPACE 4' MINIMUM BY 4' MINIMUM SHALL BE PROVIDED WITHIN THE WIDTH OF THE PEDESTRIAN STREET CROSSING AND WHOLLY OUTSIDE THE PARALLEL VEHICLE TRAVEL LANE.
17. THE COUNTER SLOPE OF THE GUTTER OR STREET AT THE FOOT OF CURB RAMP RUNS, BLENDED TRANSITIONS, AND TURNING SPACES SHALL BE 5% MAXIMUM. IT IS BEST PRACTICE TO PROVIDE A 2' LEVEL STRIP AT THE GUTTER IF THE GRADE BREAK EXCEEDS 11%.



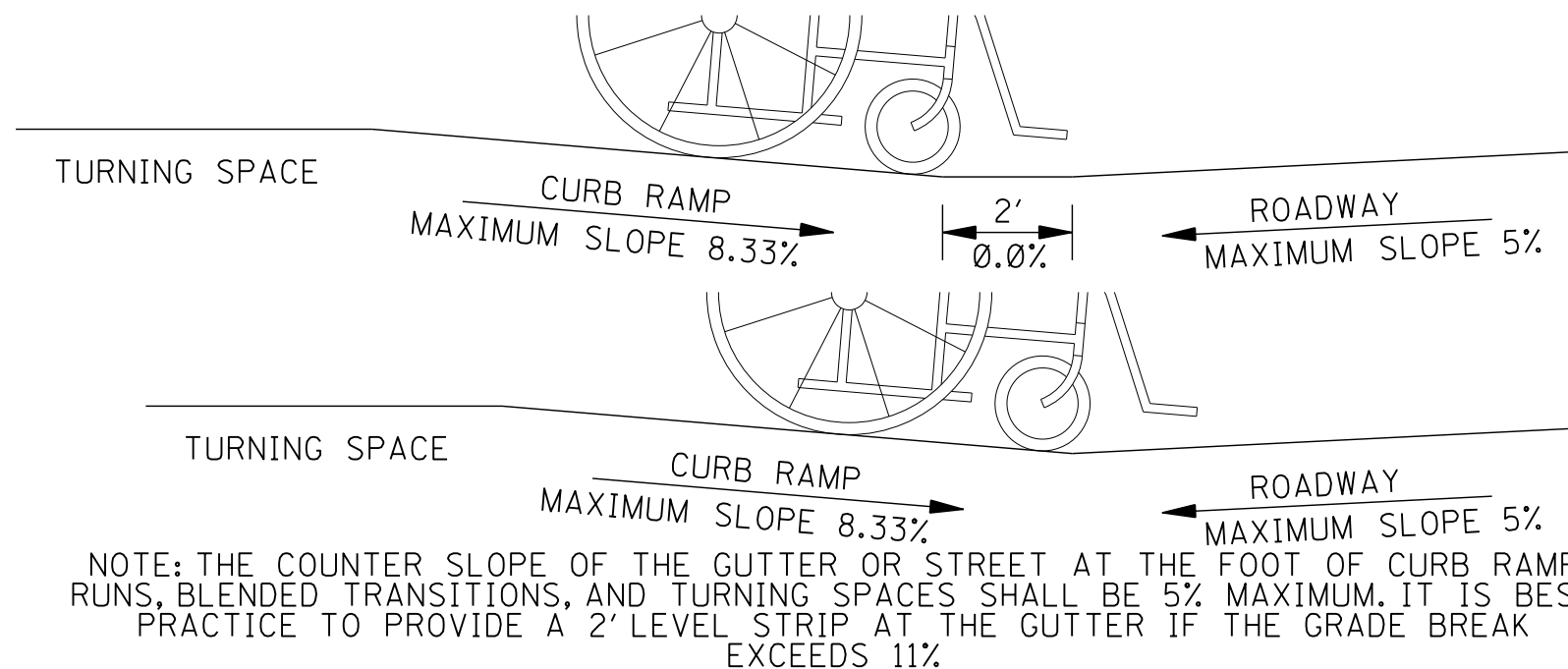
TYPE 4 – PARALLEL CURB RAMP

THE CURB BEHIND THE TURNING SPACE AND RAMPS IS NOT REQUIRED, BUT IS SUGGESTED FOR RETAINING SOIL AND PROVIDING AN EDGE FOR PEDESTRIANS WITH VISUAL IMPAIRMENTS.



TYPE 5 – DIAGONAL CURB RAMP

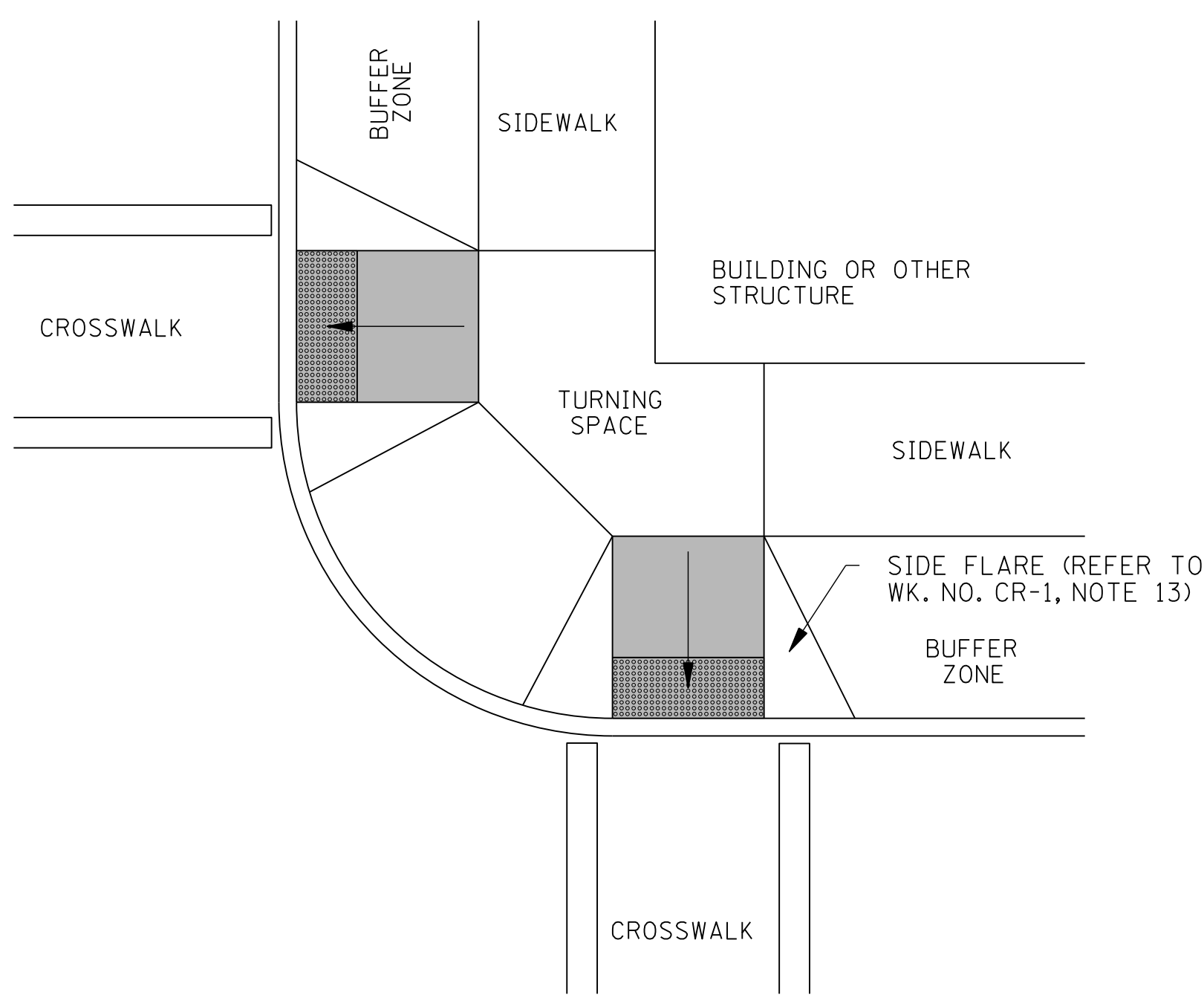
DIAGONAL CURB RAMPS ARE UNACCEPTABLE IN NEW CONSTRUCTION. THEY MAY BE USED FOR ALTERATIONS ONLY IF IT IS THE ONLY OPTION THAT WILL WORK.



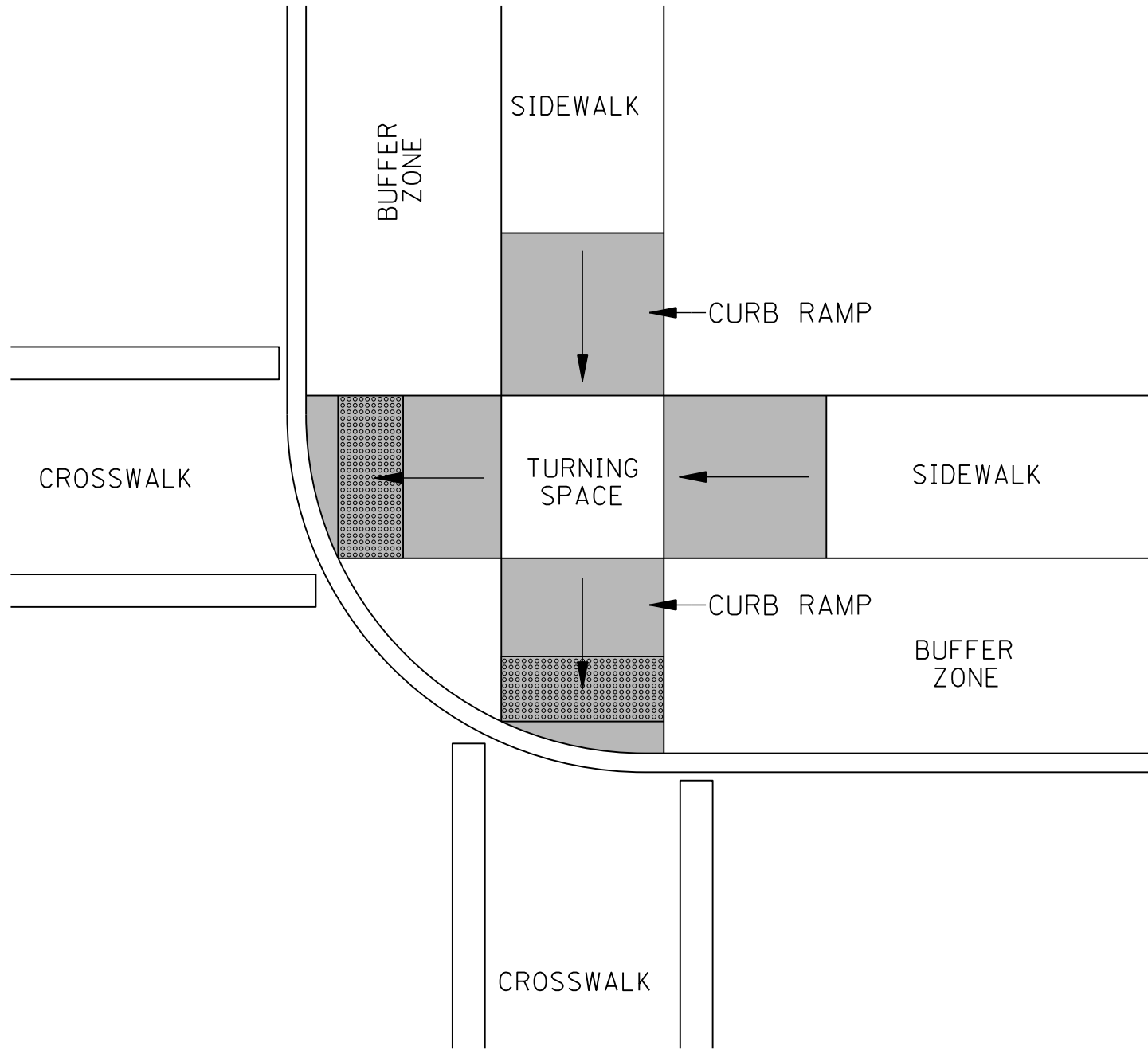
NOTE: THE COUNTER SLOPE OF THE GUTTER OR STREET AT THE FOOT OF CURB RAMP RUNS, BLENDED TRANSITIONS, AND TURNING SPACES SHALL BE 5% MAXIMUM. IT IS BEST PRACTICE TO PROVIDE A 2' LEVEL STRIP AT THE GUTTER IF THE GRADE BREAK EXCEEDS 11%.

COUNTER SLOPE CONDITIONS

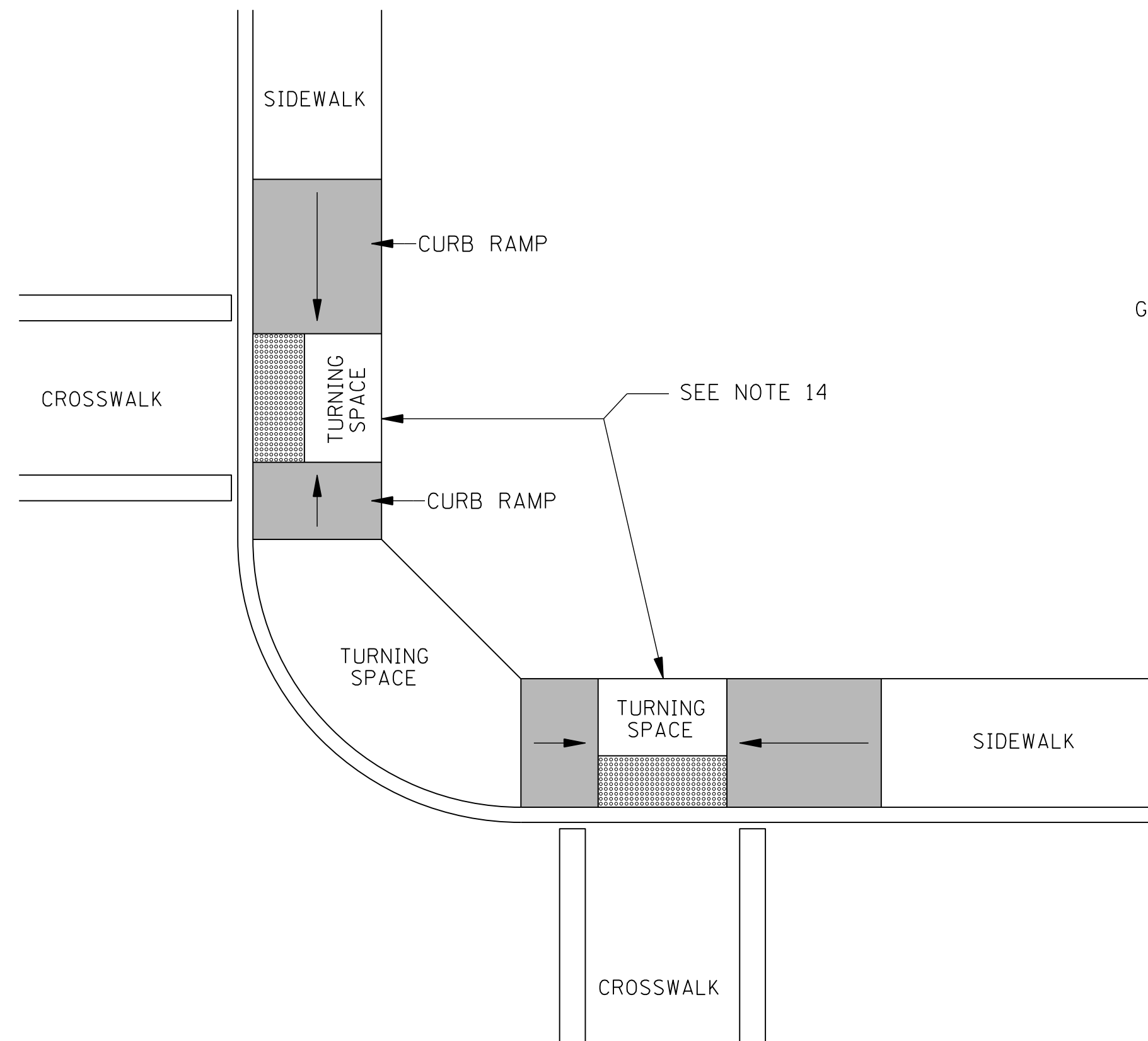
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>CURB RAMPS RAMP DESIGN ELEMENTS</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					WORKING NUMBER CR-1
					SHEET NUMBER 6421



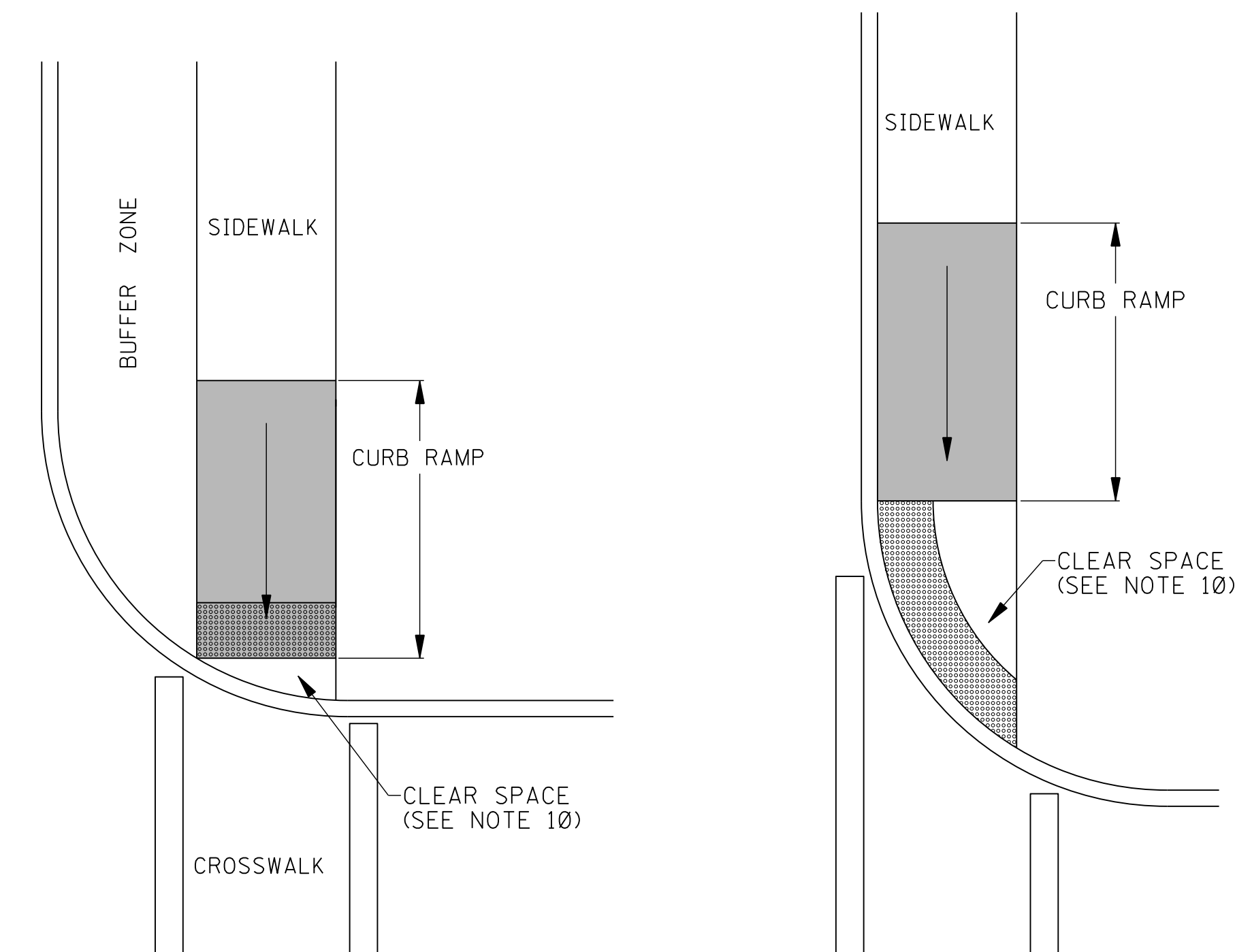
CURB RAMP CONFIGURATION: TYPE A



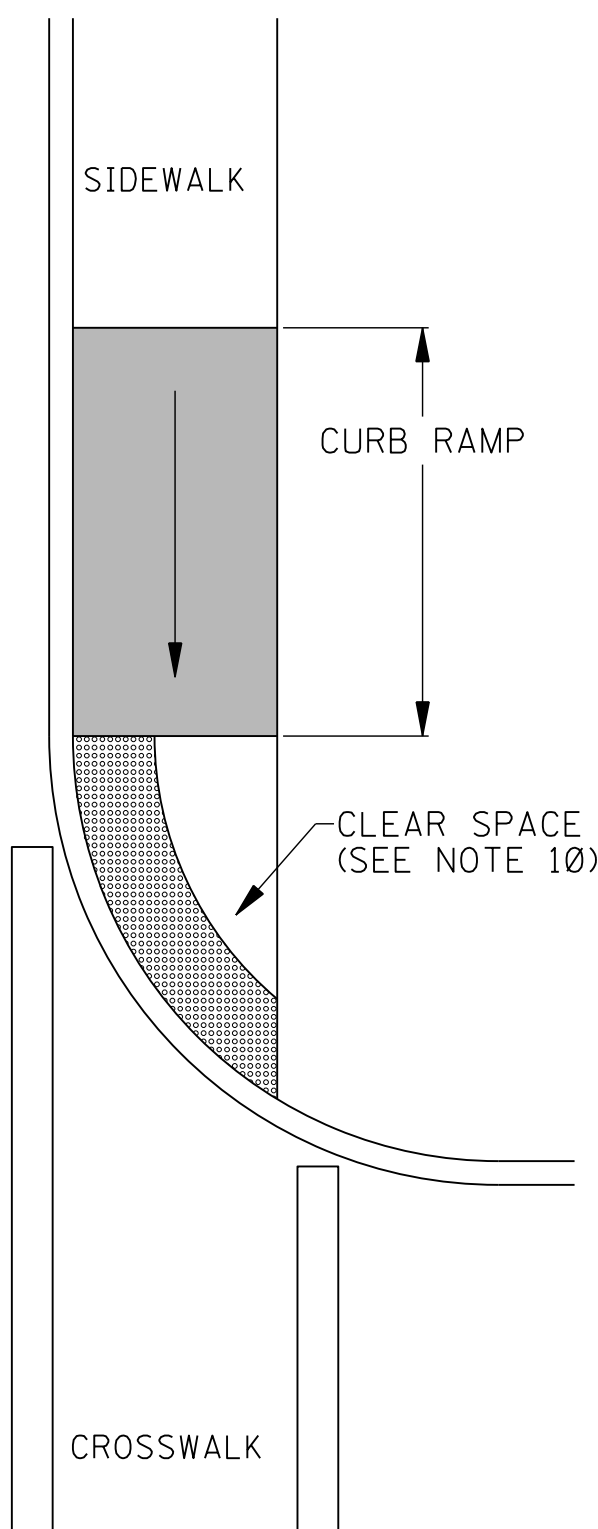
CURB RAMP CONFIGURATION: TYPE B



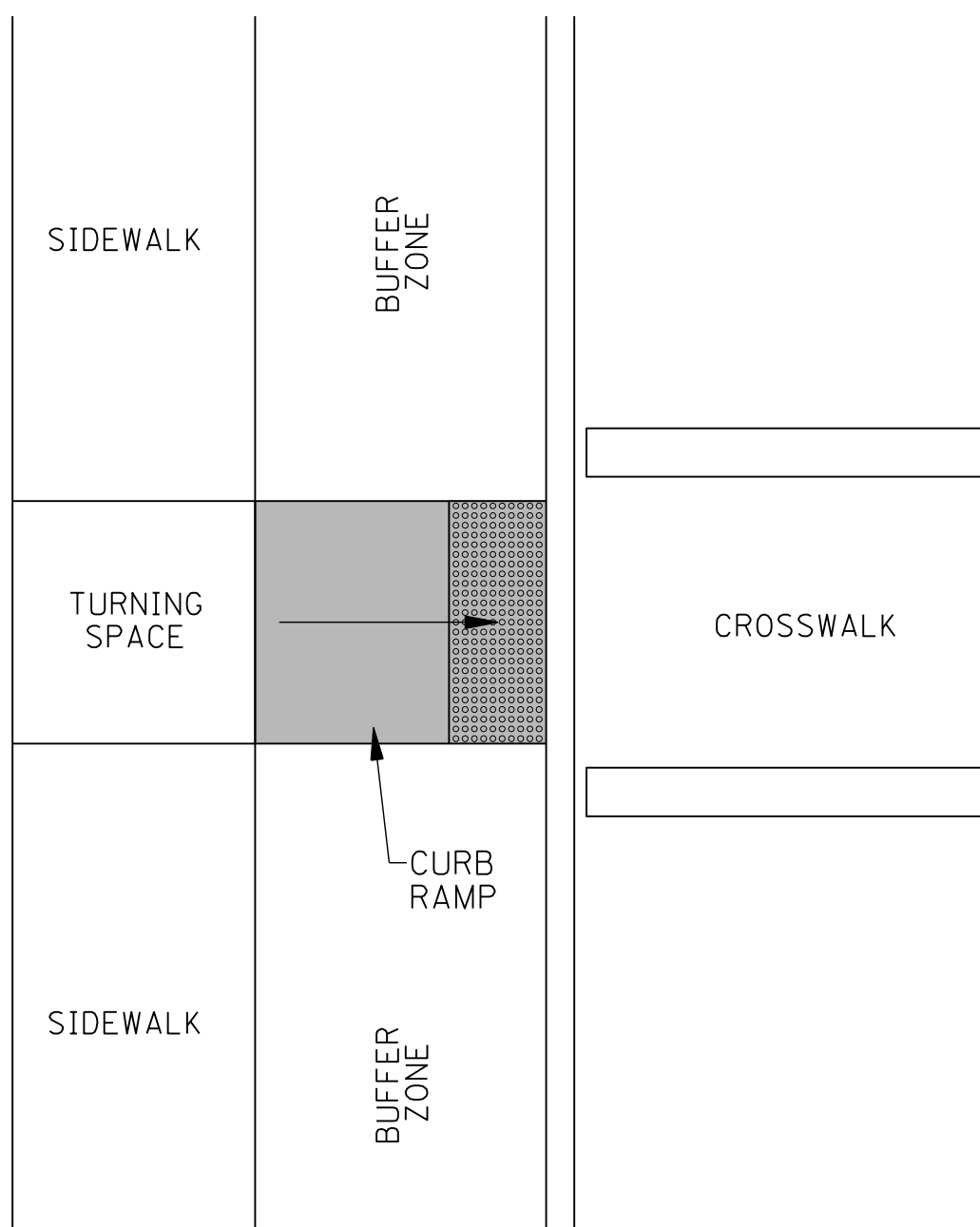
CURB RAMP CONFIGURATION: TYPE C



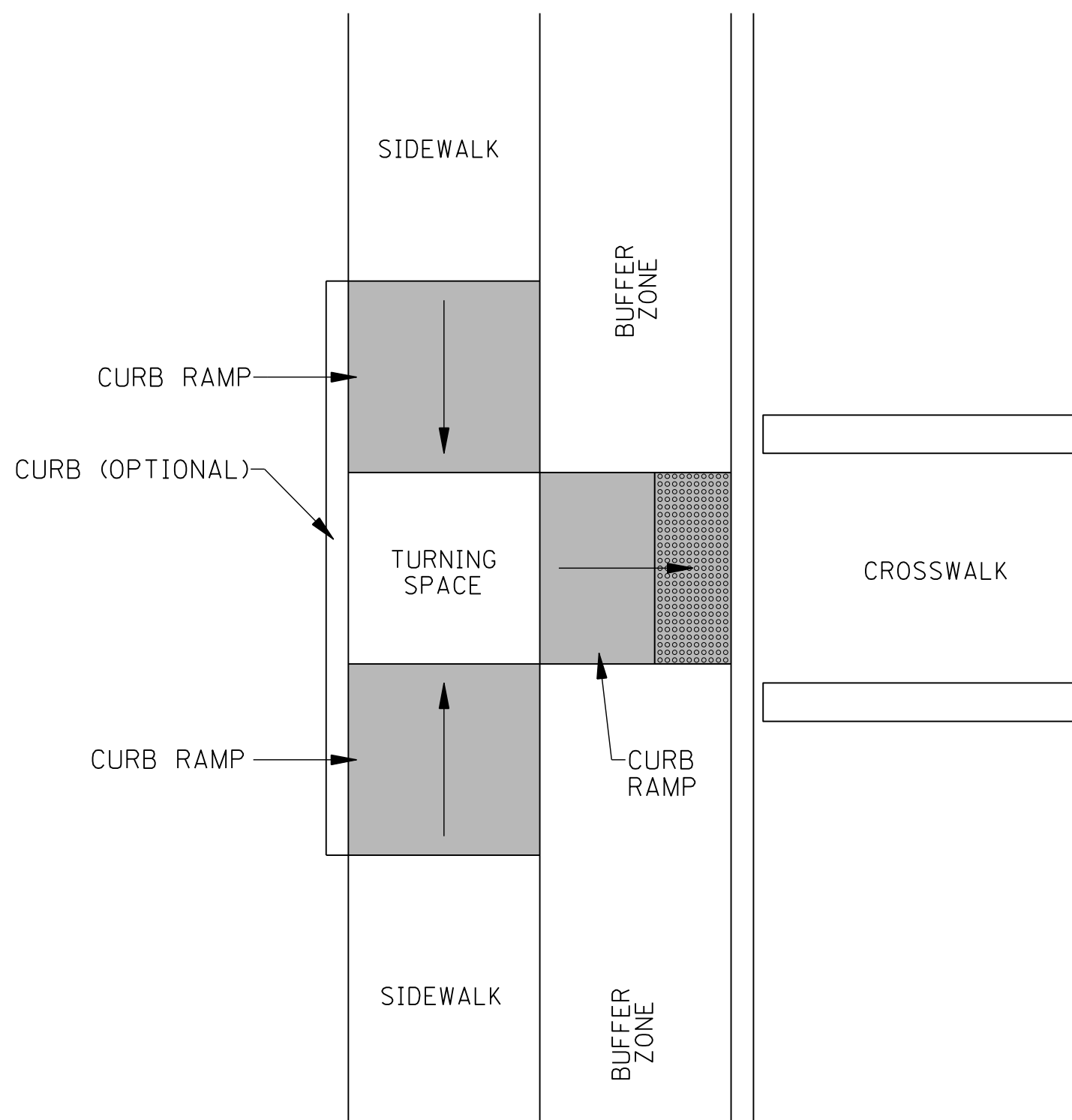
CURB RAMP CONFIGURATION: TYPE D



CURB RAMP CONFIGURATION: TYPE E



CURB RAMP CONFIGURATION: TYPE F



CURB RAMP CONFIGURATION: TYPE G  
MID BLOCK CROSSING

THE CURB BEHIND THE TURNING SPACE AND RAMPS IS NOT REQUIRED, BUT IS SUGGESTED FOR RETAINING SOIL AND PROVIDING AN EDGE FOR PEDESTRIANS WITH VISUAL IMPAIRMENTS.

GENERAL NOTES:

1. FOR DIMENSIONS & GEOMETRIC VALUES REFER TO WK. NO. CR-1.
2. THE CONFIGURATIONS SHOWN GENERICALLY REPRESENT THE MOST COMMON SITUATIONS ENCOUNTERED. THEY ARE INTENDED TO PRESENT CURB RAMP DESIGN CONCEPTS. SITE CONDITIONS AT INDIVIDUAL LOCATIONS REQUIRE SPECIFIC DESIGNS. CURB RAMP DESIGNS MUST BE CONSISTENT WITH THE PROVISIONS OF WK. NOS. CR-1, CR-2, CR-3 AND CR-4.
3. COORDINATE TRAFFIC CONTROL DEVICES, UTILITY LOCATIONS, SIGNS, STREET FURNITURE AND DRAINAGE TO ENSURE A CONTINUOUS PEDESTRIAN ACCESS ROUTE AT ALL CURB RAMP LOCATIONS. GUIDANCE FOR CROSSWALK MARKINGS AND TRAFFIC CONTROL DEVICES IS PROVIDED IN THE MUTCD.
4. DETECTABLE WARNINGS SHOWN ON THIS SHEET ARE FOR ILLUSTRATION ONLY. FOR SPECIFIC PLACEMENT ORIENTATIONS AND DIMENSIONS REFER TO WK. NO. CR-4.
5. THE CROSS SLOPE OF CURB RAMPS, BLENDED TRANSITIONS, AND TURNING SPACES SHALL BE 2% MAXIMUM (1.5% PREFERRED). AT PEDESTRIAN STREET CROSSINGS WITHOUT YIELD OR STOP CONTROL AND AT MIDBLOCK PEDESTRIAN STREET CROSSINGS, THE CROSS SLOPE SHALL BE PERMITTED TO EQUAL THE STREET OR HIGHWAY GRADE.
6. DIAGONAL CURB RAMPS ARE UNACCEPTABLE IN NEW CONSTRUCTION. THEY MAY BE USED FOR ALTERATIONS ONLY IF IT IS THE ONLY OPTION THAT WILL WORK.
7. GRATES SHALL NOT BE LOCATED ON CURB RAMPS, BLENDED TRANSITIONS, TURNING SPACES, OR LANDINGS. ACCESS COVERS OF SIMILAR SURFACES SHALL COMPLY WITH APPLICABLE SURFACE REQUIREMENTS.
8. UTILITIES, SIGNS, AND OTHER FIXED OBJECTS SHALL NOT BE PLACED ON A CURB RAMP, PEDESTRIAN ACCESS ROUTE, OR IN A MANNER THAT INTERFERES WITH THE USE OF THE CURB RAMP.
9. THE SURFACE OF ALL CURB RAMPS SHALL BE STABLE, FIRM, AND SLIP RESISTANT. A COARSE BROOM FINISH RUNNING PERPENDICULAR TO THE SLOPE IS RECOMMENDED ON CONCRETE RAMP SURFACES, EXCLUSIVE OF THE DETECTABLE WARNING FIELDS.
10. THERE SHALL BE A CLEAR SPACE AT THE BOTTOM OF THE ALTERNATE PERPENDICULAR RETURNED CURB RAMP. IT SHALL SLOPE TO DRAIN RUNOFF TO STREET/GUTTER AND HAVE A MAXIMUM SLOPE OF 2% (1.5% PREFERRED).
11. TURNING SPACES MAY OVERLAP WITH ADJACENT TURNING SPACES OR A SINGLE TURNING SPACE MAY SERVE MULTIPLE CURB RAMPS.
12. TURNING SPACES MAY OVERLAP WITH THE CLEAR GROUND SPACE REQUIRED AT PEDESTRIAN SIGNAL PUSH BUTTONS.
13. THE CLEAR WIDTH OF PEDESTRIAN ACCESS ROUTES WITHIN MEDIANS AND PEDESTRIAN REFUGE ISLANDS SHALL BE 5' MINIMUM.
14. BEYOND THE BOTTOM GRADE BREAK, A TURNING SPACE OF 4' MINIMUM BY 4' MINIMUM SHALL BE PROVIDED WITHIN THE WIDTH OF THE PEDESTRIAN STREET CROSSING AND WHOLLY OUTSIDE THE PARALLEL VEHICLE TRAVEL LANE.

NOTE: SEE WK. NO. CR-4 FOR  
DETECTABLE WARNING DIMENSIONS  
AND PLACEMENT ORIENTATION.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN	
				REVISION		
				DATE	ISSUE DATE: AUGUST 01, 2017	

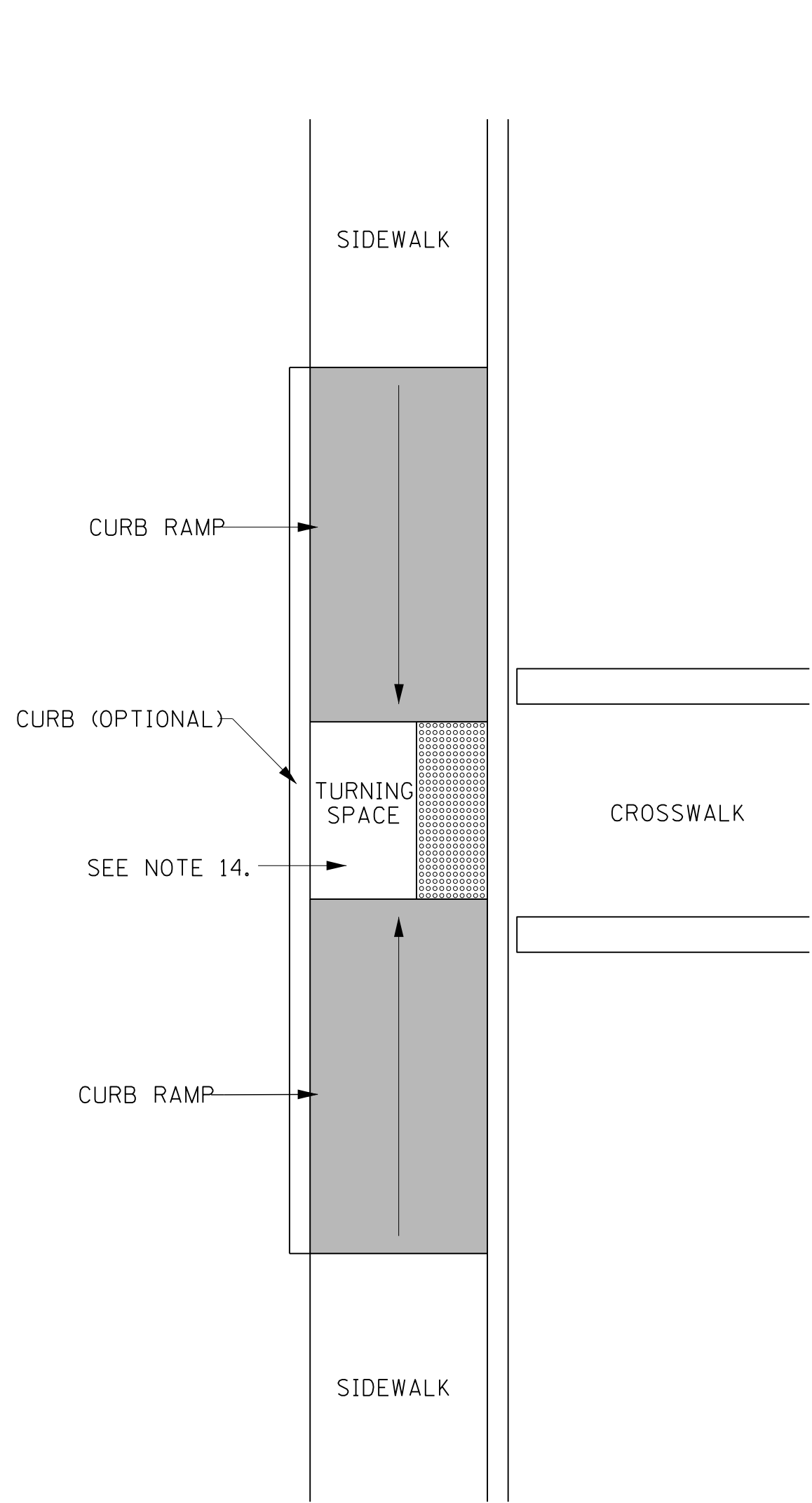
**CURB RAMPS  
PLACEMENT DETAILS**

**MDOT**  
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

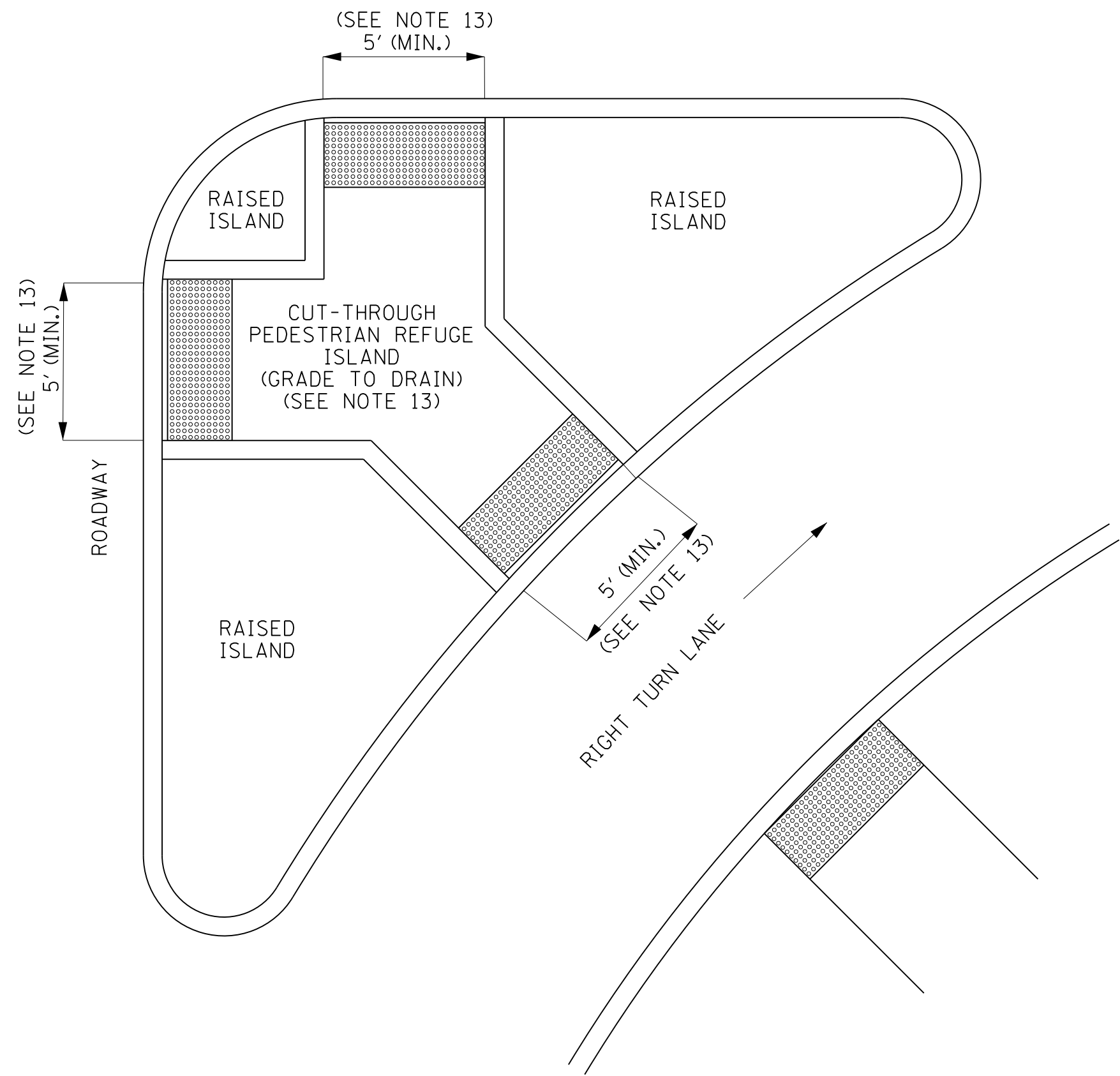
WORKING NUMBER  
CR-2

SHEET NUMBER  
6422

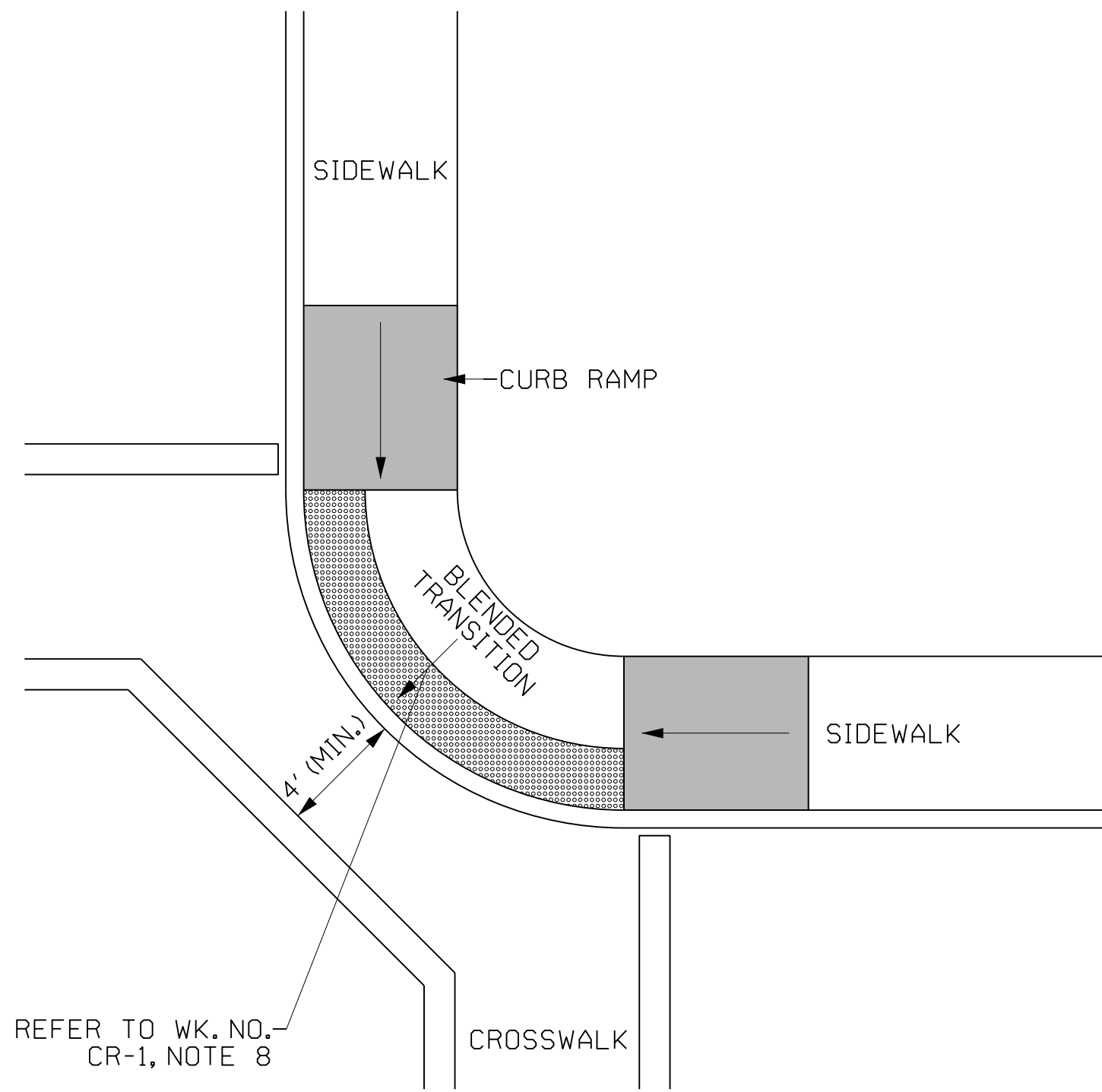




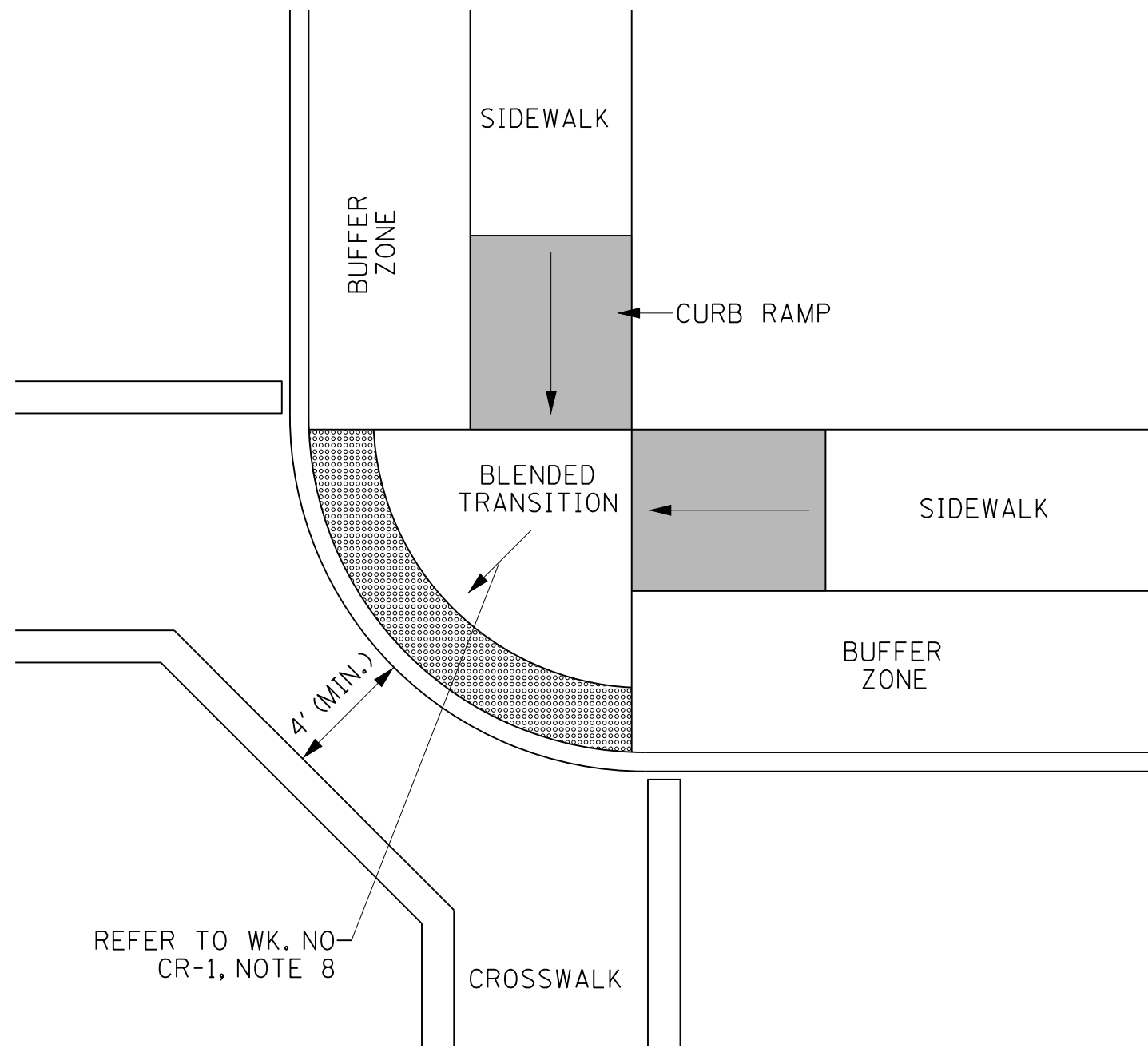
CURB RAMP CONFIGURATION: TYPE H



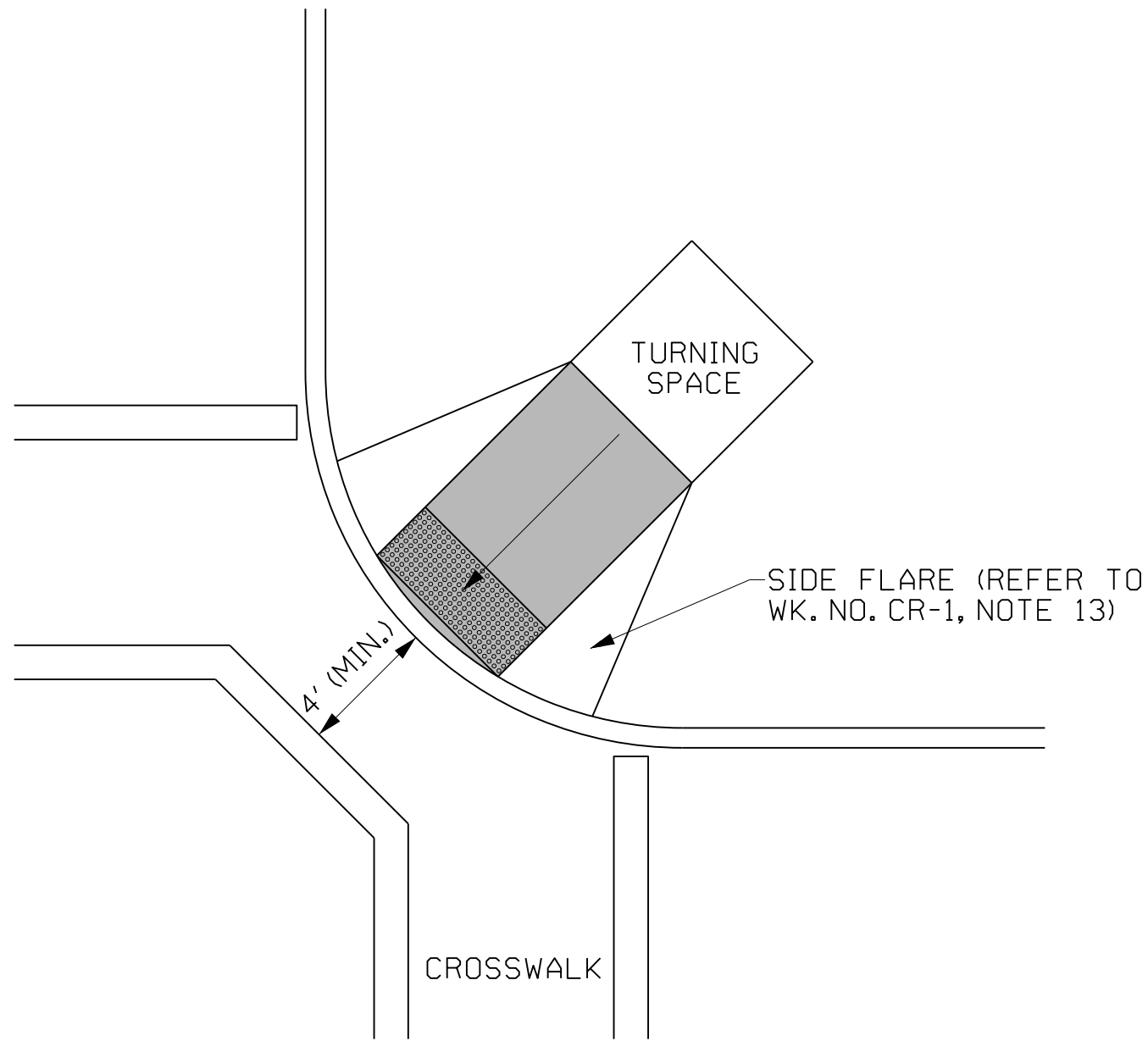
CURB RAMP CONFIGURATION: TYPE I  
RIGHT TURN ISLAND CUT THROUGH



CURB RAMP CONFIGURATION: TYPE K  
NOT RECOMMENDED



CURB RAMP CONFIGURATION: TYPE J  
NOT RECOMMENDED



CURB RAMP CONFIGURATION: TYPE L  
NOT RECOMMENDED  
REFER TO NOTE 6

- GENERAL NOTES:
- FOR DIMENSIONS & GEOMETRIC VALUES REFER TO WK. NO. CR-1.
  - THE CONFIGURATIONS SHOWN GENERICALLY REPRESENT THE MOST COMMON SITUATIONS ENCOUNTERED. THEY ARE INTENDED TO PRESENT CURB RAMP DESIGN CONCEPTS. SITE CONDITIONS AT INDIVIDUAL LOCATIONS REQUIRE SPECIFIC DESIGNS. CURB RAMP DESIGNS MUST BE CONSISTENT WITH THE PROVISIONS OF WK. NOS. CR-1, CR-2, CR-3 AND CR-4.
  - COORDINATE TRAFFIC CONTROL DEVICES, UTILITY LOCATIONS, SIGNS, STREET FURNITURE AND DRAINAGE TO ENSURE A CONTINUOUS PEDESTRIAN ACCESS ROUTE AT ALL CURB RAMP LOCATIONS. GUIDANCE FOR CROSSWALK MARKINGS AND TRAFFIC CONTROL DEVICES IS PROVIDED IN THE MUTCD.
  - DETECTABLE WARNINGS SHOWN ON THIS SHEET ARE FOR ILLUSTRATION ONLY. FOR SPECIFIC PLACEMENT ORIENTATIONS AND DIMENSIONS REFER TO WK. NO. CR-4.
  - THE CROSS SLOPE OF CURB RAMPS, BLENDED TRANSITIONS, AND TURNING SPACES SHALL BE 2% MAXIMUM (1.5% PREFERRED). AT PEDESTRIAN STREET CROSSINGS WITHOUT YIELD OR STOP CONTROL AND AT MIDBLOCK PEDESTRIAN STREET CROSSINGS, THE CROSS SLOPE SHALL BE PERMITTED TO EQUAL THE STREET OR HIGHWAY GRADE.
  - DIAGONAL CURB RAMPS ARE UNACCEPTABLE IN NEW CONSTRUCTION. THEY MAY BE USED FOR ALTERATIONS ONLY IF IT IS THE ONLY OPTION THAT WILL WORK.
  - GRATES SHALL NOT BE LOCATED ON CURB RAMPS, BLENDED TRANSITIONS, TURNING SPACES, OR LANDINGS. ACCESS COVERS OF SIMILAR SURFACES SHALL COMPLY WITH APPLICABLE SURFACE REQUIREMENTS.
  - UTILITIES, SIGNS, AND OTHER FIXED OBJECTS SHALL NOT BE PLACED ON A CURB RAMP, PEDESTRIAN ACCESS ROUTE, OR IN A MANNER THAT INTERFERES WITH THE USE OF THE CURB RAMP.
  - THE SURFACE OF ALL CURB RAMPS SHALL BE STABLE, FIRM, AND SLIP RESISTANT. A COARSE BROOM FINISH RUNNING PERPENDICULAR TO THE SLOPE IS RECOMMENDED ON CONCRETE RAMP SURFACES, EXCLUSIVE OF THE DETECTABLE WARNING FIELDS.
  - THERE SHALL BE A CLEAR SPACE AT THE BOTTOM OF THE ALTERNATE PERPENDICULAR RETURNED CURB RAMP. IT SHALL SLOPE TO DRAIN RUNOFF TO STREET/GUTTER AND HAVE A MAXIMUM SLOPE OF 2% (1.5% PREFERRED).
  - TURNING SPACES MAY OVERLAP WITH ADJACENT TURNING SPACES OR A SINGLE TURNING SPACE MAY SERVE MULTIPLE CURB RAMPS.
  - TURNING SPACES MAY OVERLAP WITH THE CLEAR GROUND SPACE REQUIRED AT PEDESTRIAN SIGNAL PUSH BUTTONS.
  - THE CLEAR WIDTH OF PEDESTRIAN ACCESS ROUTES WITHIN MEDIANS AND PEDESTRIAN REFUGE ISLANDS SHALL BE 5' MINIMUM.
  - BEYOND THE BOTTOM GRADE BREAK, A TURNING SPACE OF 4' MINIMUM BY 4' MINIMUM SHALL BE PROVIDED WITHIN THE WIDTH OF THE PEDESTRIAN STREET CROSSING AND WHOLLY OUTSIDE THE PARALLEL VEHICLE TRAVEL LANE.

NOTE: SEE WK. NO. CR-4 FOR  
DETECTABLE WARNING DIMENSIONS  
AND PLACEMENT ORIENTATION.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN	
				REVISION		
				DATE	ISSUE DATE: AUGUST 01, 2017	

**CURB RAMPS  
PLACEMENT DETAILS**

**MDOT**  
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

WORKING NUMBER  
CR-3

SHEET NUMBER  
6423



GENERAL NOTES:

- THE DETAILS PROVIDED ARE NOT DRAWN TO SCALE. THE QUANTITY OF DOMES DEPICTED ON THE DETECTABLE WARNING UNIT (THE DOMES AND THE ENTIRE 2' LEVEL SURFACE) IS FOR ILLUSTRATION ONLY.
- ALL DETECTABLE WARNINGS SHOWN ON THIS SHEET SHALL BE PAID FOR - PER SQUARE FEET, UNLESS OTHERWISE NOTED IN THE PLANS.

DETECTABLE WARNING UNIT DIMENSIONS:

- DETECTABLE WARNING SURFACES SHALL EXTEND 2' MINIMUM IN THE DIRECTION OF PEDESTRIAN TRAVEL. AT CURB RAMPs AND BLENDED TRANSITIONS, DETECTABLE WARNING SURFACES SHALL EXTEND THE FULL WIDTH OF THE RAMP RUN (EXCLUDING ANY FLARED SIDES), BLENDED TRANSITION, OR TURNING SPACE. AT PEDESTRIAN AT-GRADE RAIL CROSSINGS NOT LOCATED WITHIN A STREET OR HIGHWAY, DETECTABLE WARNINGS SHALL EXTEND THE FULL WIDTH OF THE CROSSING. AT BOARDING PLATFORMS FOR BUSES AND RAIL VEHICLES, DETECTABLE WARNING SURFACES SHALL EXTEND THE FULL LENGTH OF THE PUBLIC USE AREAS OF THE PLATFORM. AT BOARDING AND ALIGHTING AREAS AT SIDEWALK OR STREET LEVEL TRANSIT STOPS FOR RAIL VEHICLES, DETECTABLE WARNING SURFACES SHALL EXTEND THE FULL LENGTH OF THE TRANSIT STOP.

DOME ALIGNMENT:

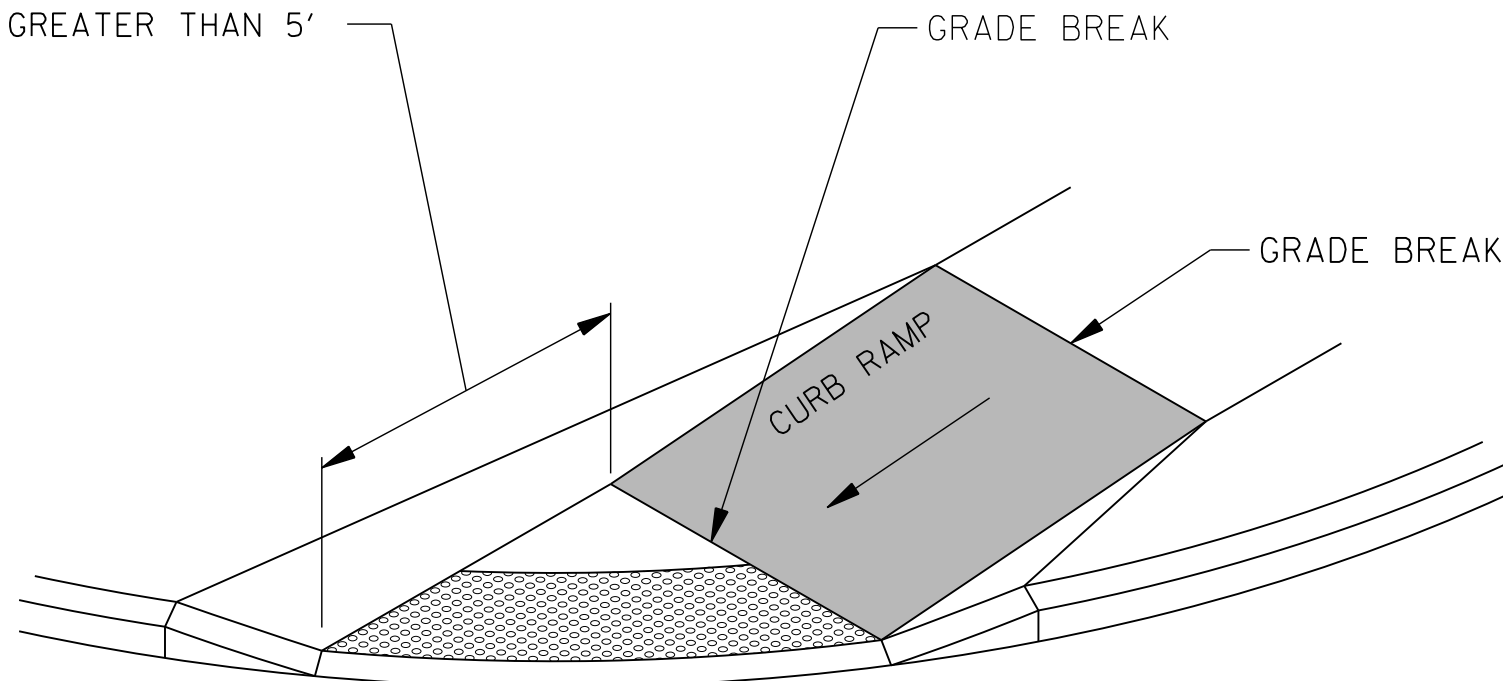
- THE ROWS OF DOMES SHALL BE ALIGNED TO BE PERPENDICULAR OR RADIAL TO THE GRADE BREAK AT THE RAMP LANDING OR BETWEEN THE CURB RAMP AND THE STREET.
- WHERE DOMES ARE ARRAYED RADially THEY MAY DIFFER IN DOME DIAMETER AND CENTER-TO-CENTER SPACING WITHIN THE RANGES SPECIFIED ON THIS SHEET.

COLOR REQUIREMENTS:

- DETECTABLE WARNING SURFACES SHALL CONTRAST VISUALLY WITH ADJACENT GUTTER, STREET OR HIGHWAY, OR PEDESTRIAN ACCESS ROUTE SURFACE, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT.

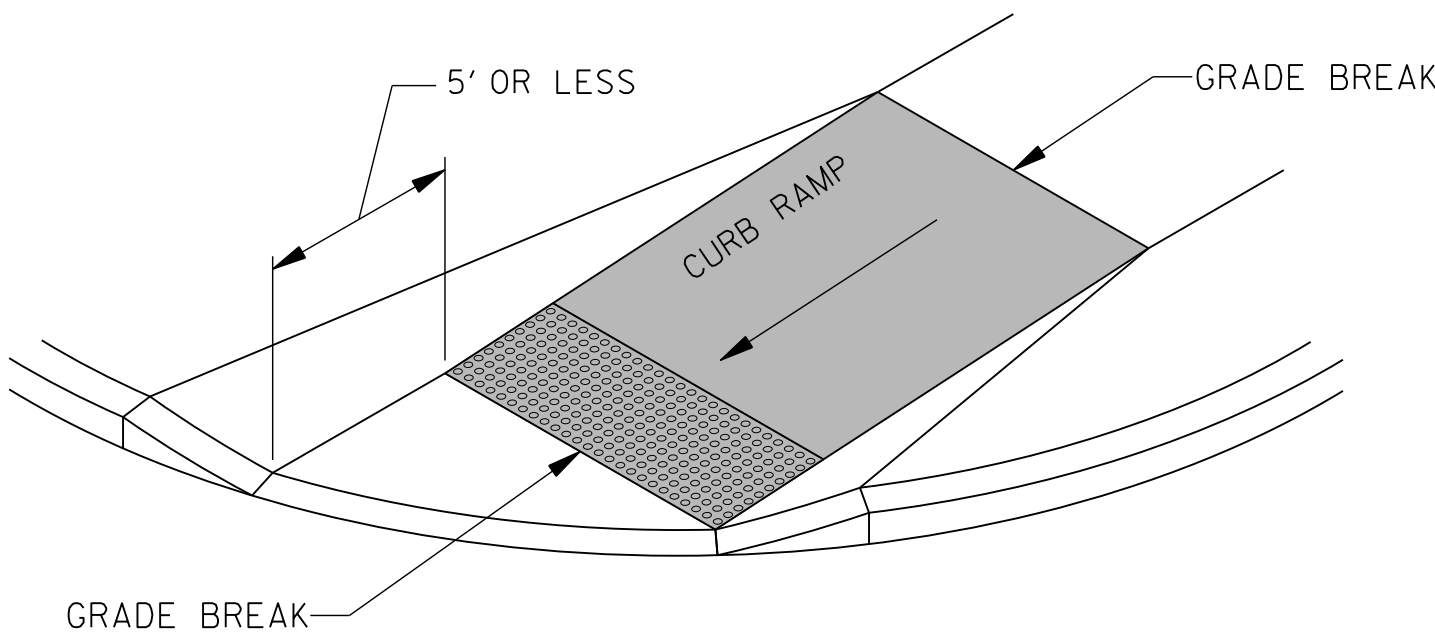
DETECTABLE WARNINGS LOCATIONS:

- ON PERPENDICULAR CURB RAMPs, WHERE THE ENDS OF THE BOTTOM GRADE BREAK ARE IN FRONT OF THE BACK OF CURB, DETECTABLE WARNING SURFACES SHALL BE PLACED AT THE BACK OF CURB. WHERE THE ENDS OF THE BOTTOM GRADE BREAK ARE BEHIND THE BACK OF CURB AND THE DISTANCE FROM EITHER END OF THE BOTTOM GRADE BREAK TO THE BACK OF CURB IS 5' OR LESS, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE RAMP RUN WITHIN ONE DOME SPACING OF THE BOTTOM GRADE BREAK. WHERE THE ENDS OF THE BOTTOM GRADE BREAK ARE BEHIND THE BACK OF CURB AND THE DISTANCE FROM EITHER END OF THE BOTTOM GRADE BREAK TO THE BACK OF CURB IS MORE THAN 5', DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE LOWER LANDING AT THE BACK OF CURB.
- ON PARALLEL CURB RAMPs, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE TURNING SPACE AT THE FLUSH TRANSITION BETWEEN THE STREET AND SIDEWALK.
- ON BLENDED TRANSITIONS, DETECTABLE WARNING SURFACES SHALL BE PLACED AT THE BACK OF CURB. WHERE RAISED PEDESTRIAN STREET CROSSINGS, DEPRESSED CORNERS, OR OTHER LEVEL PEDESTRIAN STREET CROSSINGS ARE PROVIDED, DETECTABLE WARNING SURFACES SHALL BE PLACED AT THE FLUSH TRANSITION BETWEEN THE STREET AND THE SIDEWALK.
- AT CUT-THROUGH PEDESTRIAN REFUGE ISLANDS, DETECTABLE WARNING SURFACES SHALL BE PLACED AT THE EDGES OF THE PEDESTRIAN ISLAND AND SHALL BE SEPARATED BY A 2' MINIMUM LENGTH OF SURFACE WITHOUT DETECTABLE WARNINGS.
- AT PEDESTRIAN AT-GRADE RAIL CROSSINGS NOT LOCATED WITHIN A STREET OR HIGHWAY, DETECTABLE WARNING SURFACES SHALL BE PLACED ON EACH SIDE OF THE RAIL CROSSING. THE EDGE OF THE DETECTABLE WARNING SURFACE NEAREST THE RAIL CROSSING SHALL BE 6' MINIMUM AND 15' MAXIMUM FROM THE CENTERLINE OF THE NEAREST RAIL. WHERE PEDESTRIAN GATES ARE PROVIDED, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE SIDE OF THE GATES OPPOSITE THE RAIL.
- AT BOARDING PLATFORMS FOR BUSES AND RAIL VEHICLES, DETECTABLE WARNING SURFACES SHALL BE PLACED AT THE BOARDING EDGE OF THE PLATFORM.
- AT BOARDING AND ALIGHTING AREAS AT SIDEWALK OR STREET LEVEL TRANSIT STOPS FOR RAIL VEHICLES, DETECTABLE WARNING SURFACES SHALL BE PLACED AT THE SIDE OF THE BOARDING AND ALIGHTING AREA FACING THE RAIL VEHICLES.



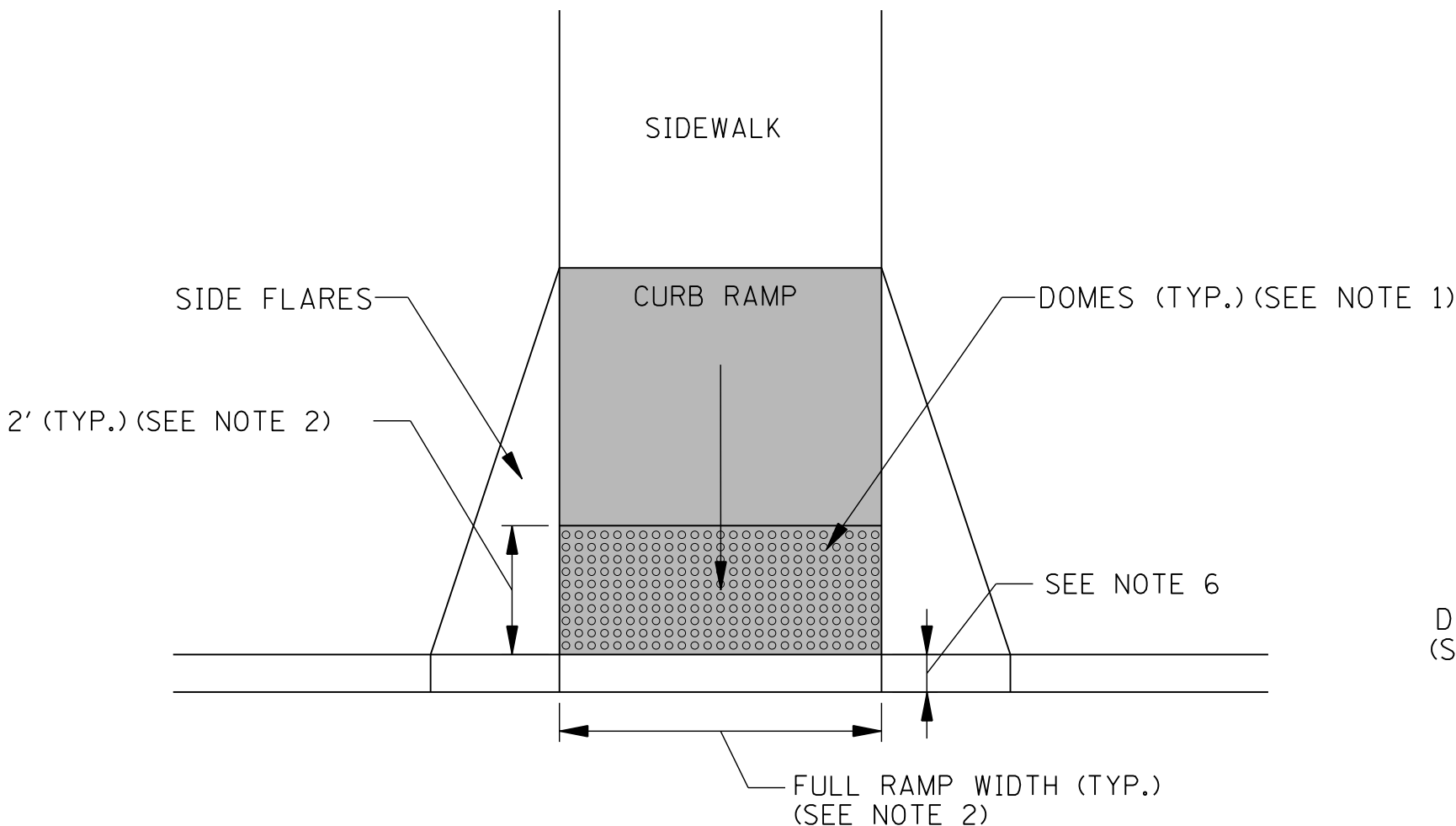
DETECTABLE WARNING PLACEMENT DETAIL 1

NOTE: IF THE DISTANCE FROM THE GRADE BREAK IS GREATER THAN OR EQUAL TO 5', DETECTABLE WARNINGS SHALL BE PLACED ALONG THE RADIUS OF THE CURVE AS SHOWN IN THE ABOVE DETAIL.

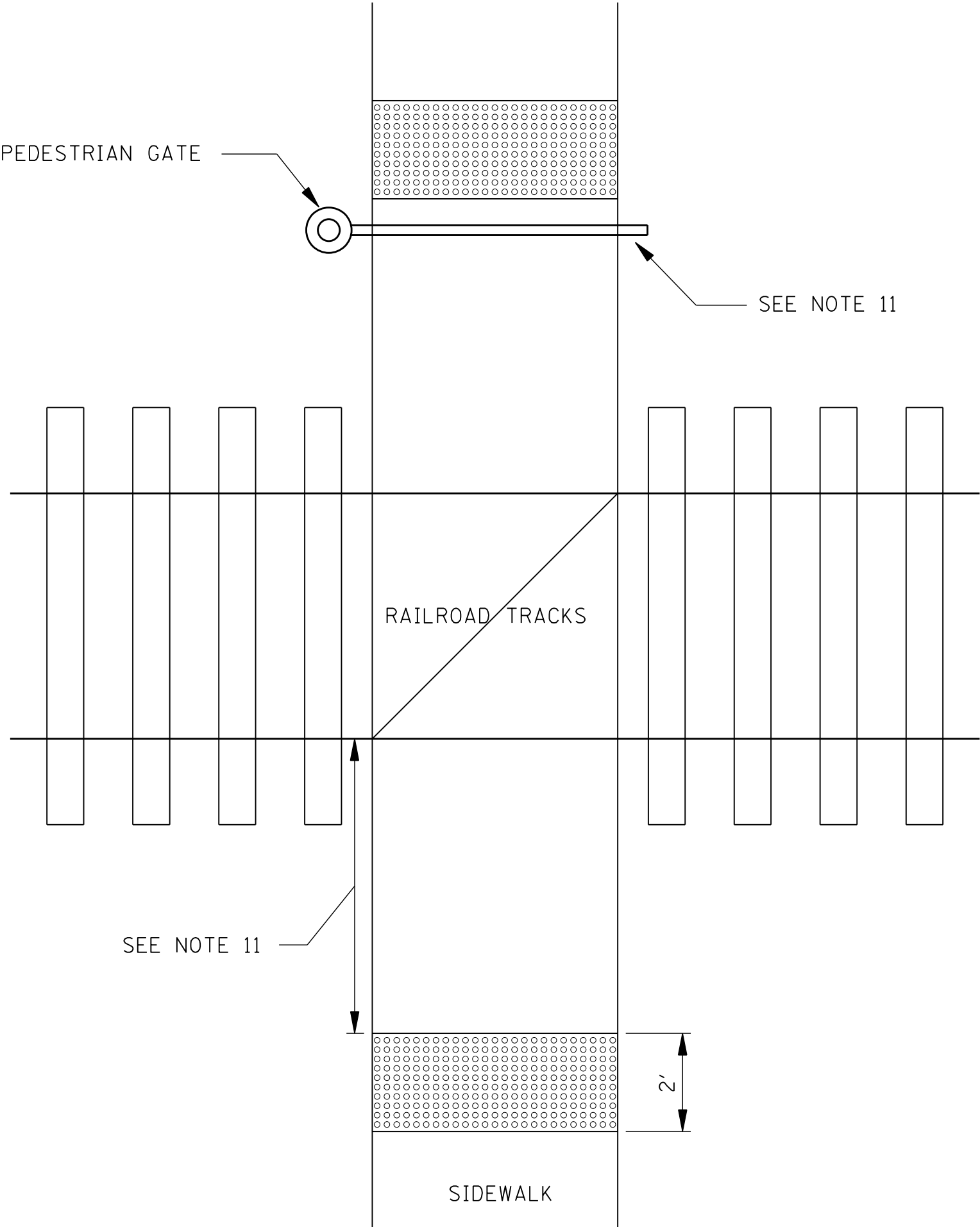


DETECTABLE WARNING PLACEMENT DETAIL 2

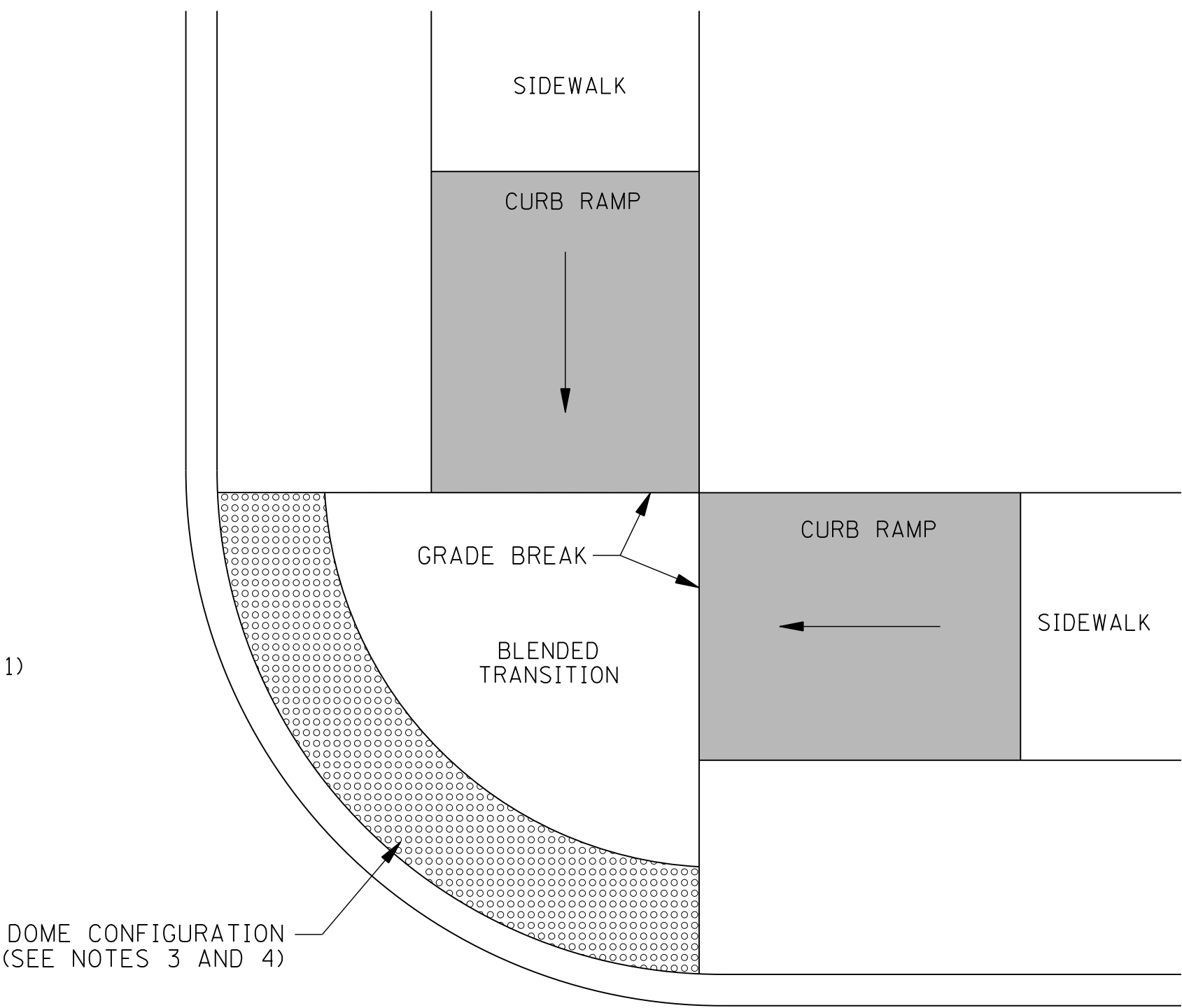
NOTE: IF THE DISTANCE FROM THE GRADE BREAK IS LESS THAN OR EQUAL TO 5', DETECTABLE WARNINGS SHALL BE PLACED ON THE CURB RAMP ALONG THE BOTTOM GRADE BREAK WITH ONE CORNER 5" TO 9" FROM THE FRONT OF THE CURB OR EDGE OF THE ROADWAY.



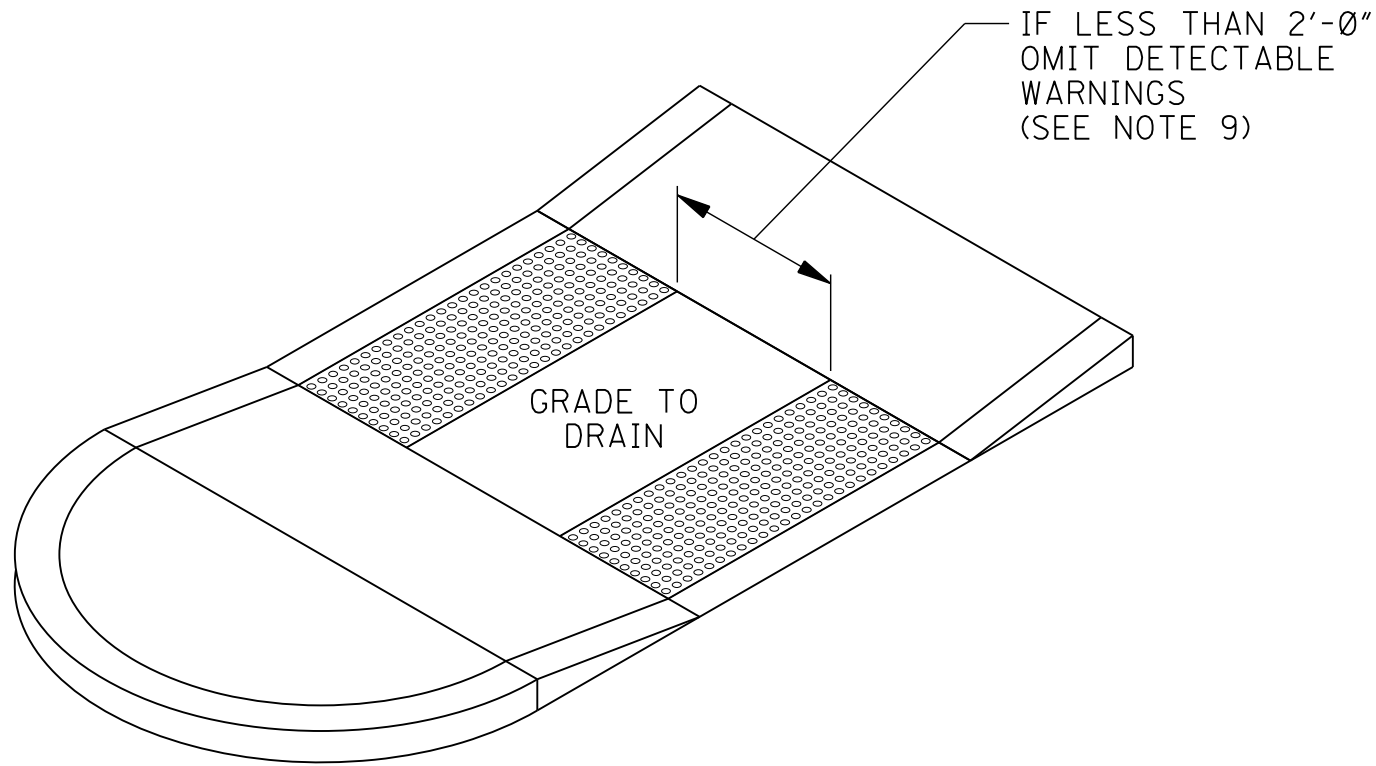
DETECTABLE WARNING AT CURB RAMP



DETECTABLE WARNINGS AT RAILROAD CROSSING

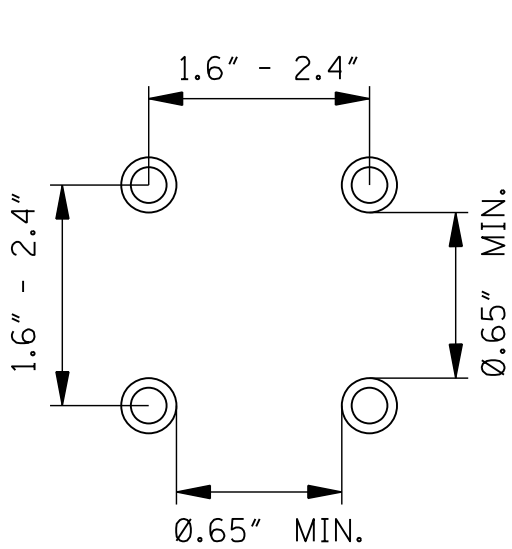


DETECTABLE WARNING AT BLENDED TRANSITION (CONFIGURATION: TYPES K AND J)

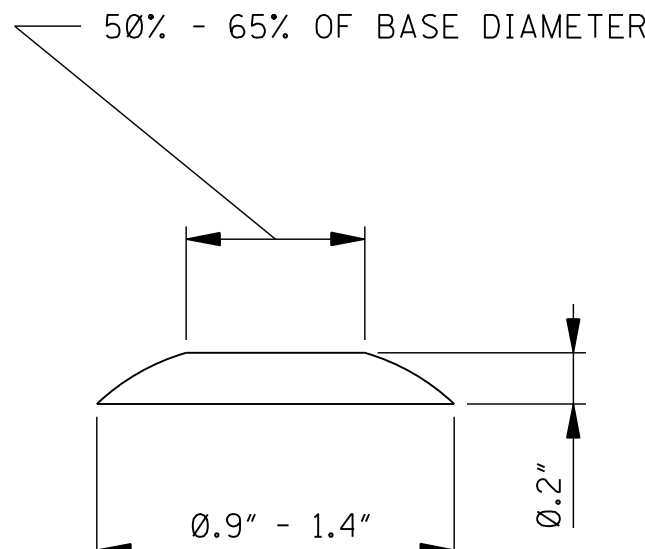


DETECTABLE WARNINGS AT MEDIAN ISLANDS

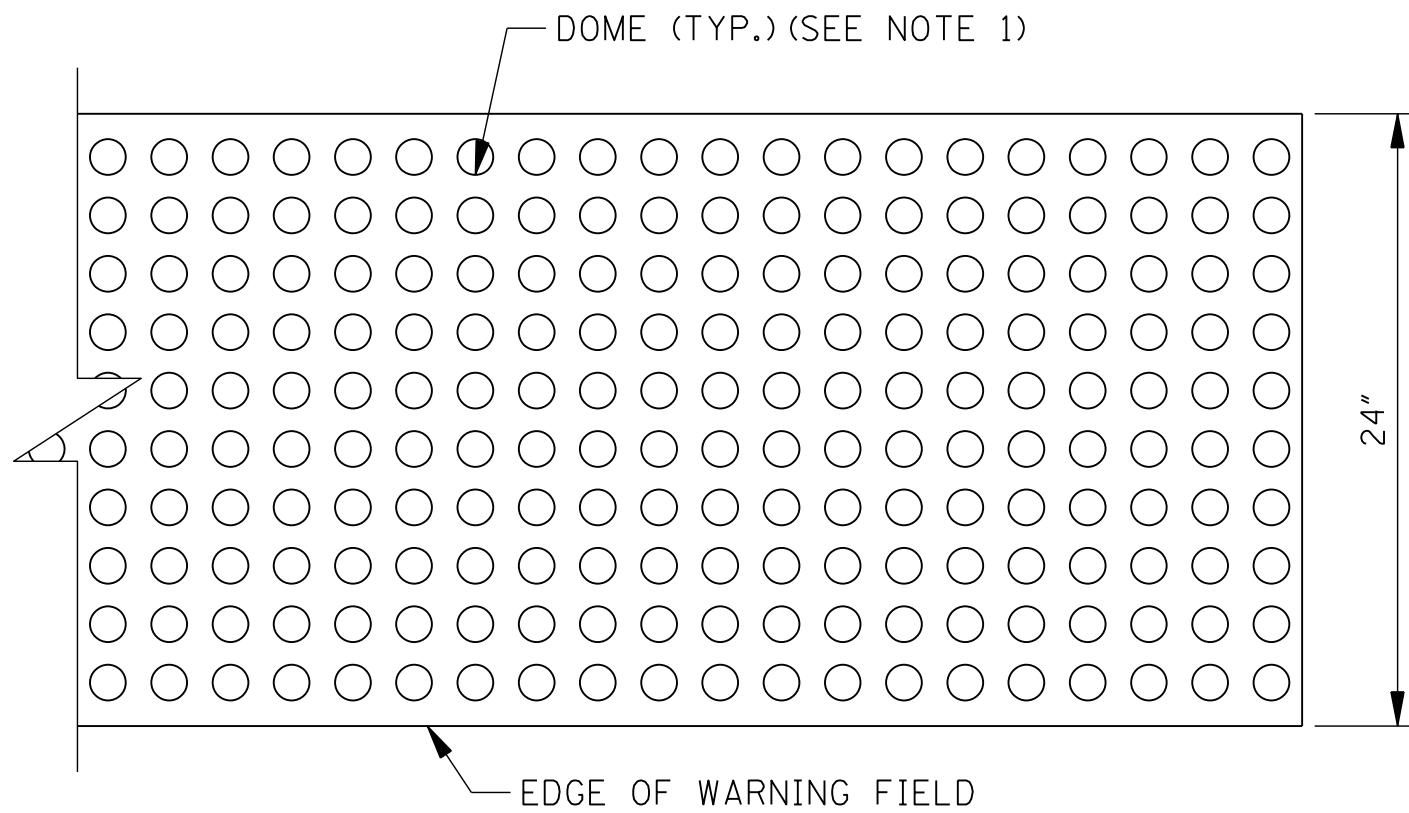
NON-ELEVATED CROSSING



DOME SPACING




DOME SECTION

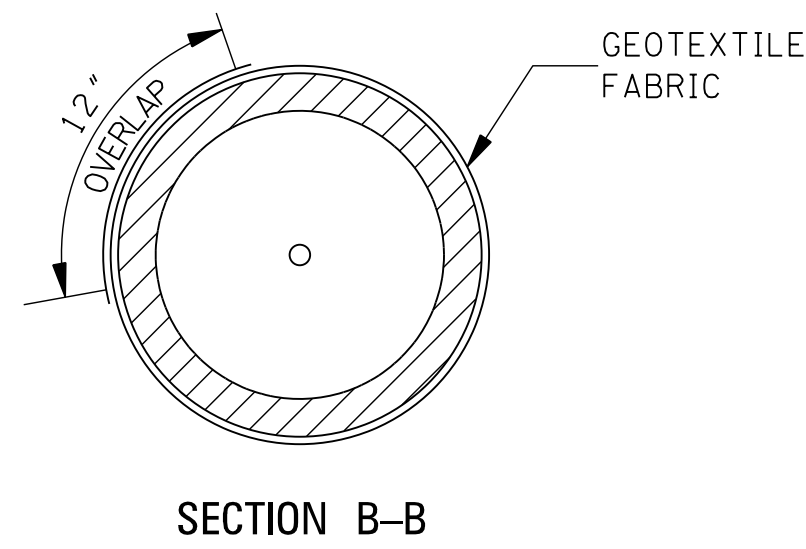
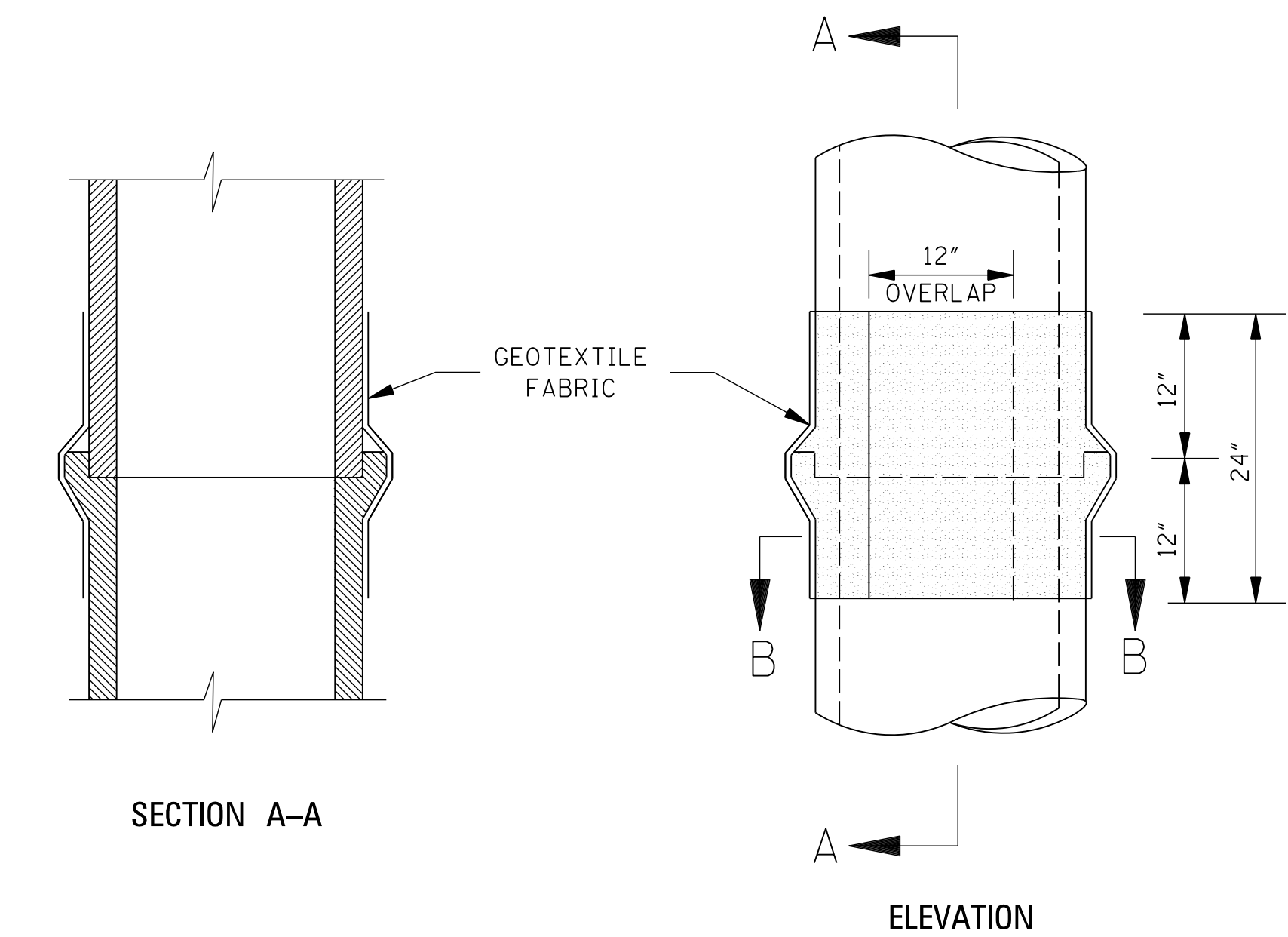


DETECTABLE WARNING LAYOUT

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	ISSUE DATE: AUGUST 01, 2017

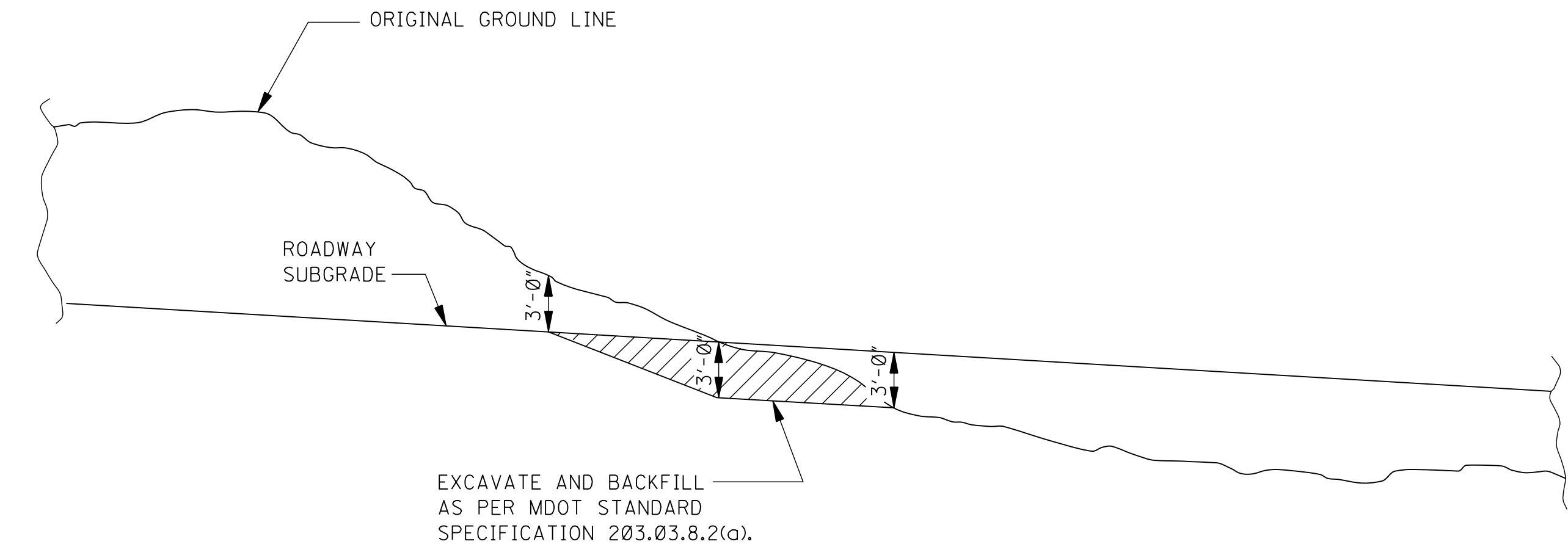
**CURB RAMPs**  
**DETECTABLE WARNING**  
**DETAILS**

  
WORKING NUMBER  
CR-4  
SHEET NUMBER  
6424

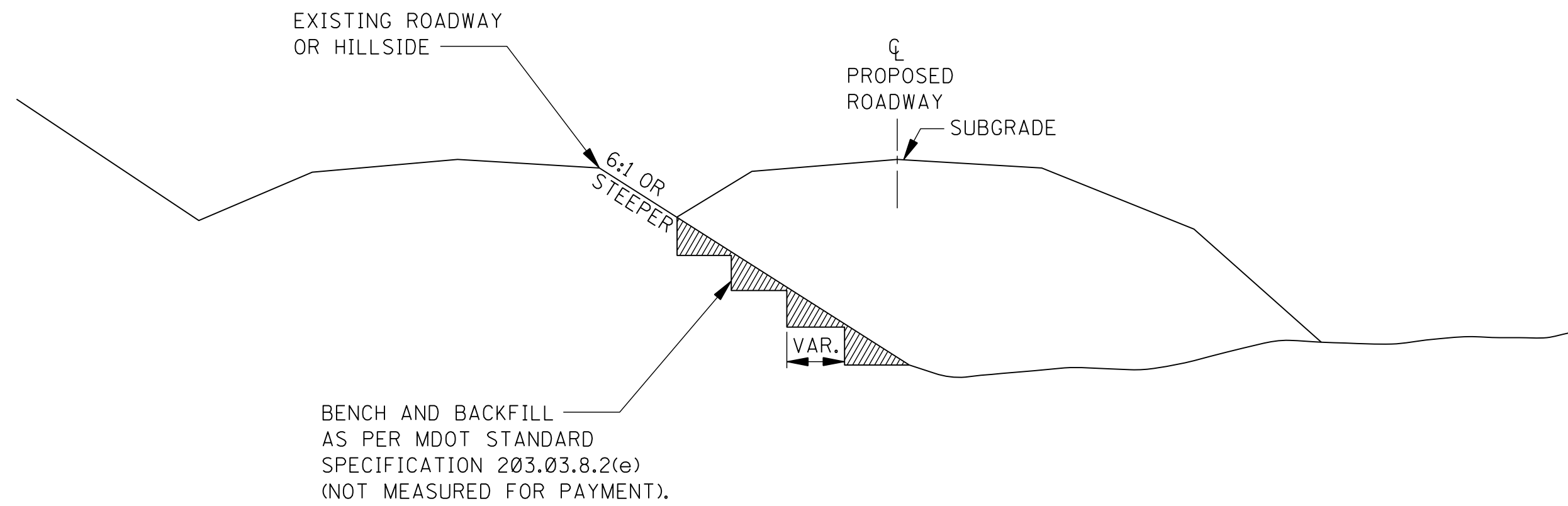


**STACKED PIPE JOINTS**

NOTE: EACH STACKED PIPE JOINT SHALL BE TREATED FIRST WITH A BITUMINOUS PLASTIC SEALER MATERIAL AND SECONDLY WRAPPED WITH 24" WIDE TYPE V GEOTEXTILE FABRIC (AASHTO M 288). THE FABRIC SHALL OVERLAP A MINIMUM OF 12" AT THE WRAP AND SHALL BE SECURED WITH STRING OR WIRE AS APPROVED BY THE ENGINEER PRIOR TO BACKFILLING. THE COST SHALL BE ABSORBED IN OTHER ITEMS BID.




**PROFILE SHOWING REQUIRED EXCAVATION AT GRADE POINTS**

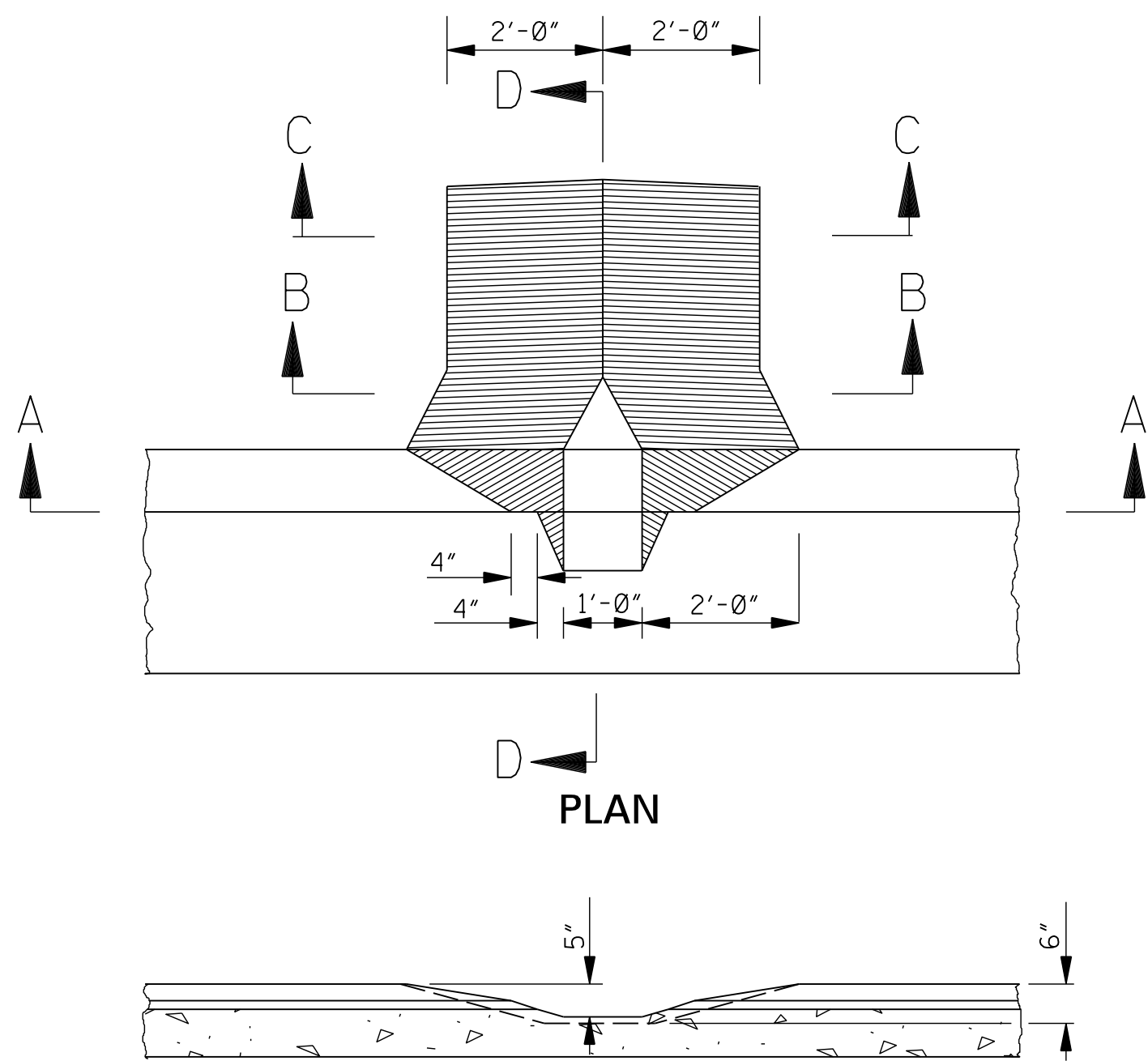


**CROSS-SECTION SHOWING REQUIRED BENCHING UNDER EMBANKMENTS ON STEEP SLOPES**

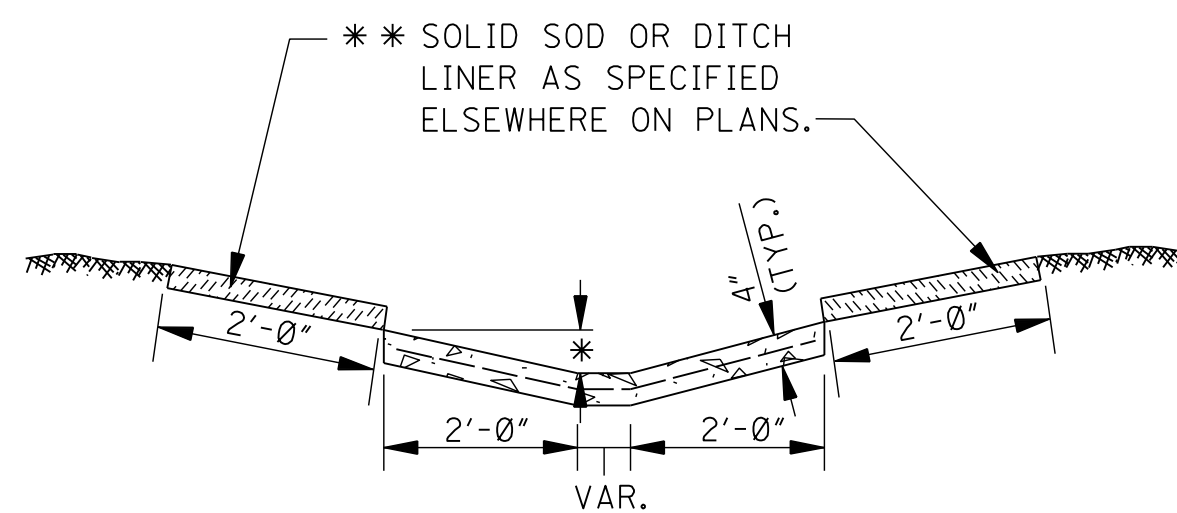
**EXCAVATION AT GRADE POINTS**

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN	
				REVISION		
				DATE		
					ISSUE DATE: AUGUST 01, 2017	
					<b>MISCELLANEOUS DETAIL SHEET</b> <b>1. STACKED PIPE JOINTS</b> <b>2. EXCAVATION AT GRADE POINTS</b>	
					 WORKING NUMBER MDS-1 SHEET NUMBER 6425	

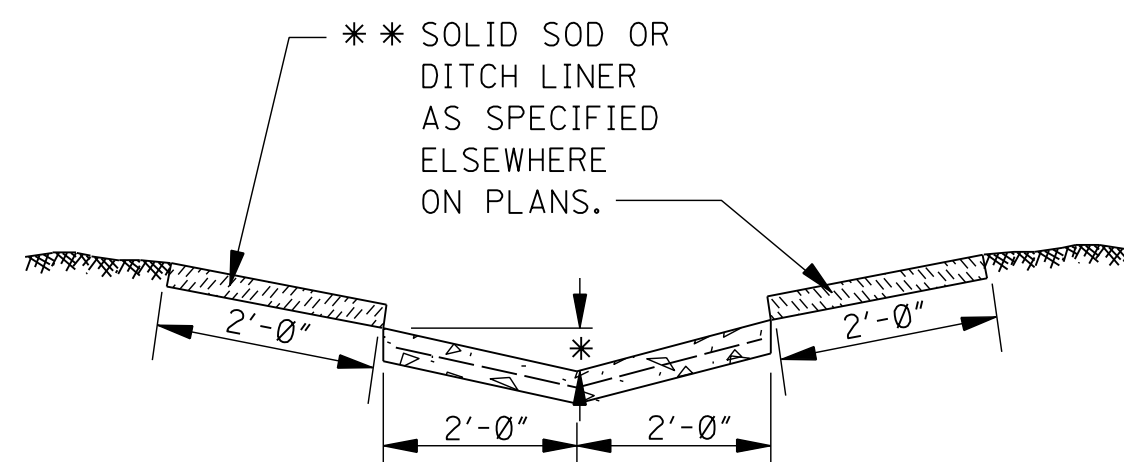
FLUME – TYPE “A”  
(INTERMEDIATE RUNOFF THROUGH CURB & GUTTER)



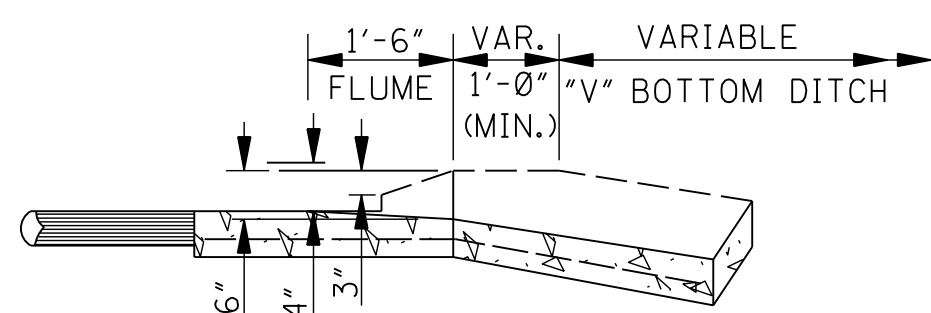
SECTION A-A



SECTION B-B  
(TRANSITION SECTION)

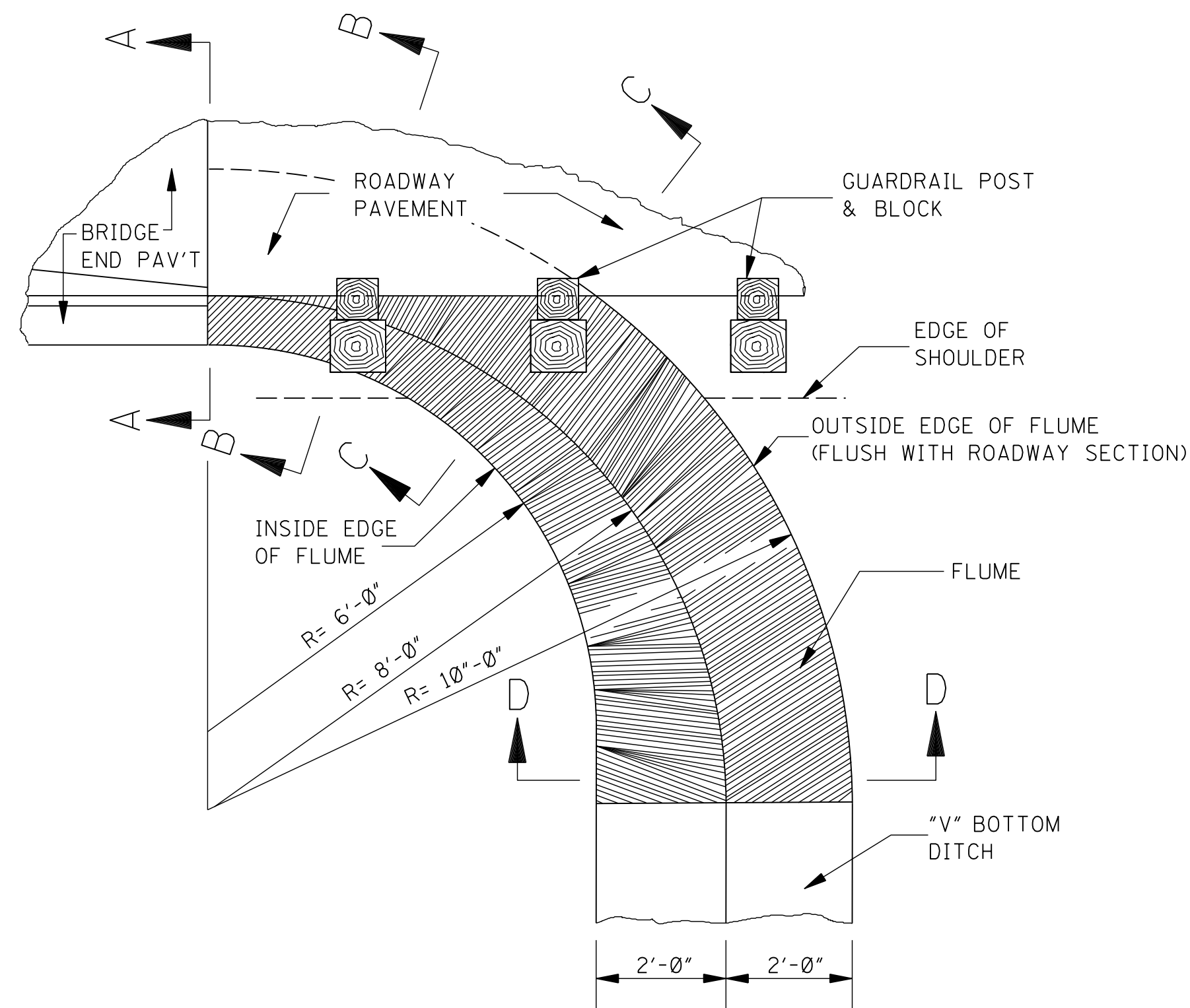


SECTION C-C  
(DITCH SECTION)

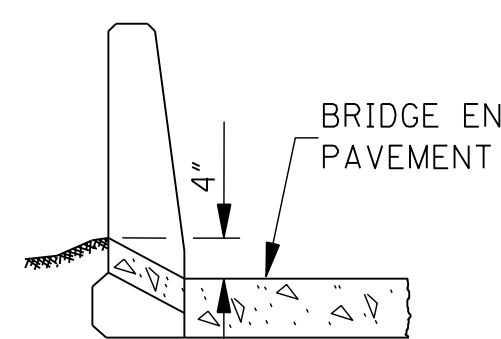


SECTION D-D

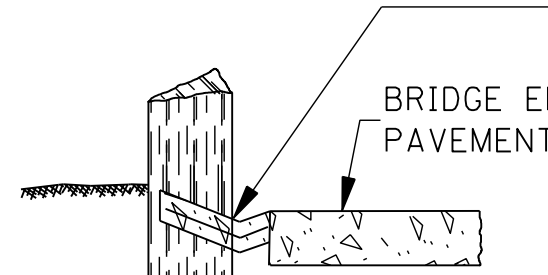
FLUME – TYPE “B”  
(AT END OF BRIDGE)



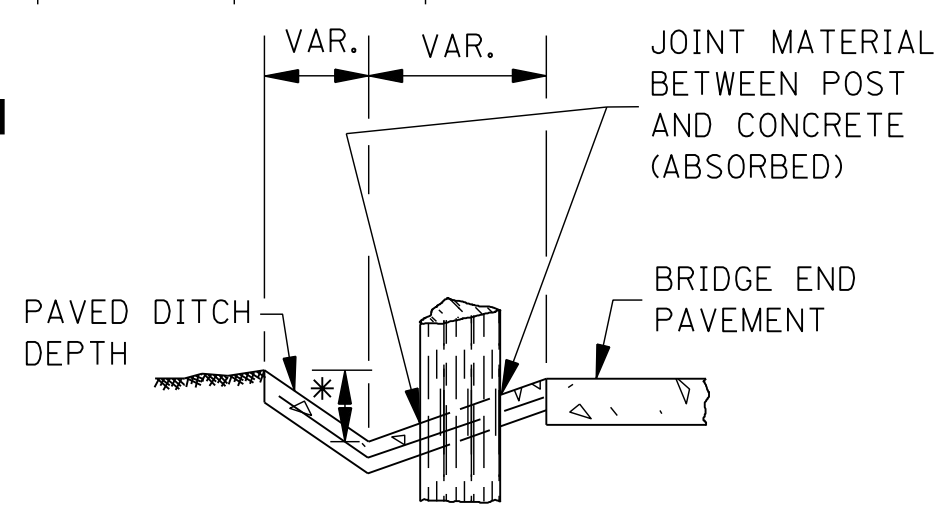
PLAN



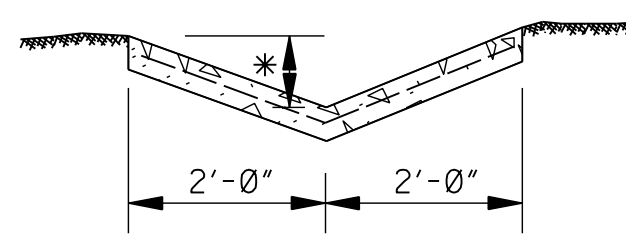
SECTION A-A  
(AT BRIDGE END)



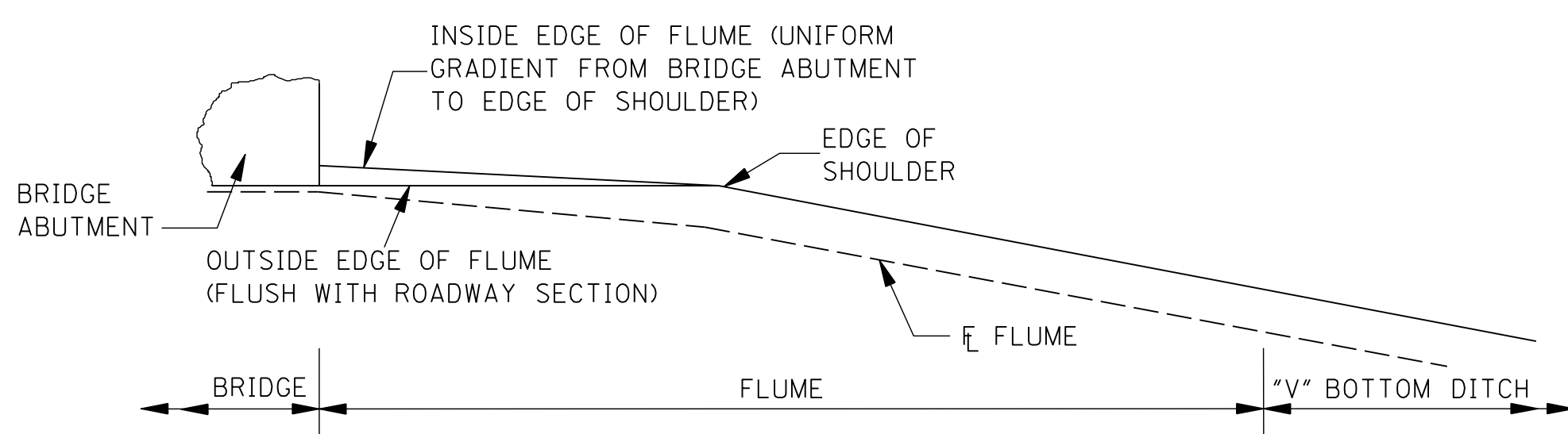
SECTION B-B



SECTION C-C  
(AT EDGE OF SHOULDER)

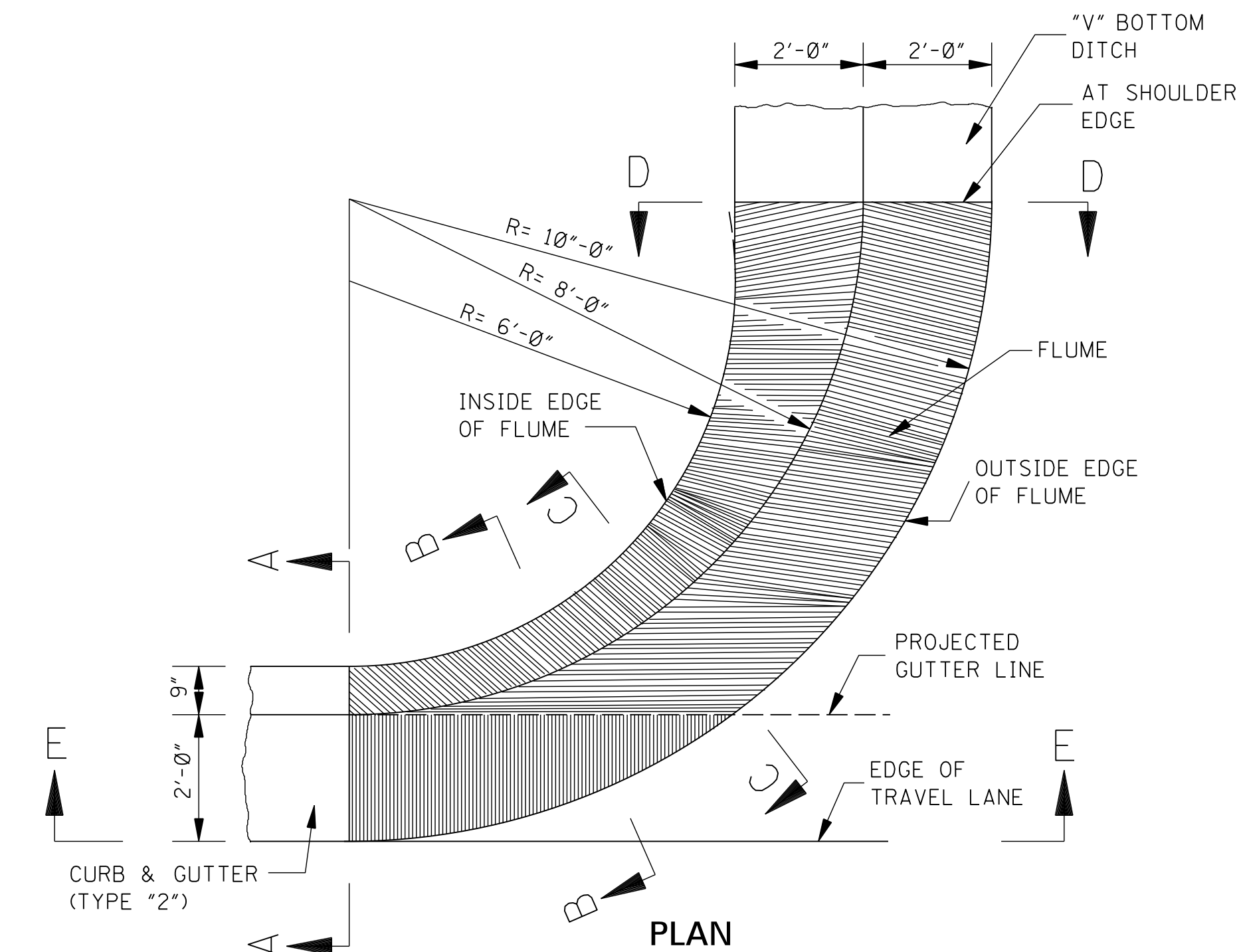


SECTION D-D  
(AT “V” BOTTOM DITCH)

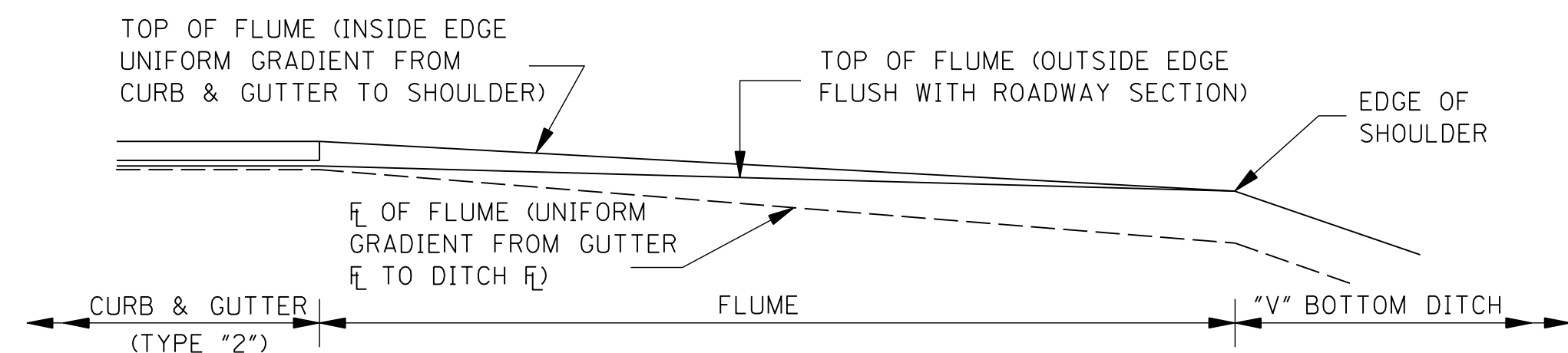


PROFILE

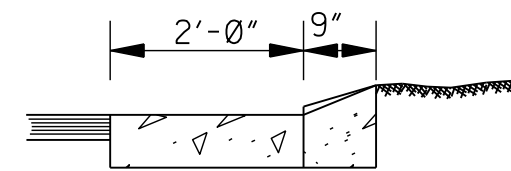
FLUME – TYPE “C”  
(AT END OF CURB & GUTTER)



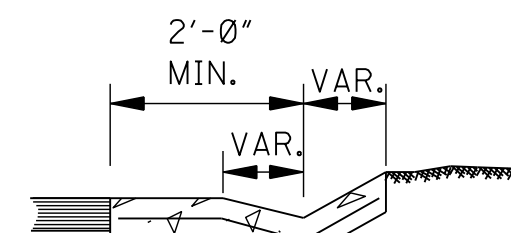
SECTION E-E



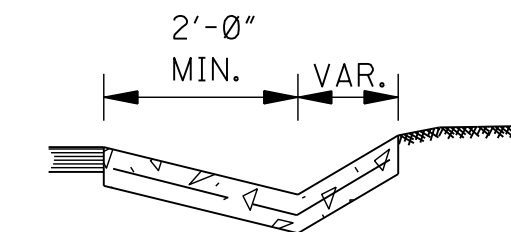
PROFILE



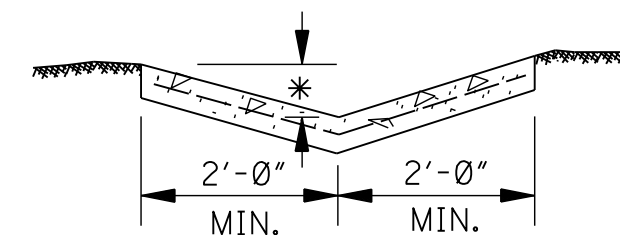
SECTION A-A  
(AT END OF CURB & GUTTER)



SECTION B-B



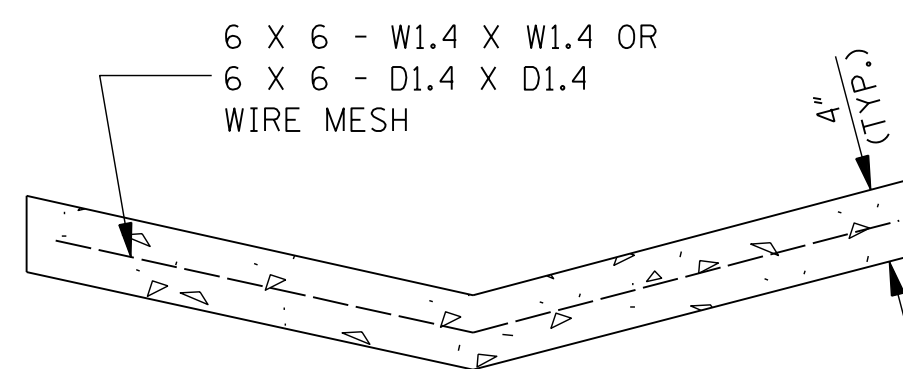
SECTION C-C  
(AT EDGE OF PROJECTED GUTTER LINE)



SECTION D-D  
(AT EDGE OF SHOULDER)

NOTES:

- \* 1. THIS DIMENSION IS 6" FOR 4:1 SLOPES AND 8" FOR 3:1 SLOPES (VARIABLE).
- \*\* 2. CENTER ROW OF STAPLES MAY BE OMITTED ON DITCH LINER.

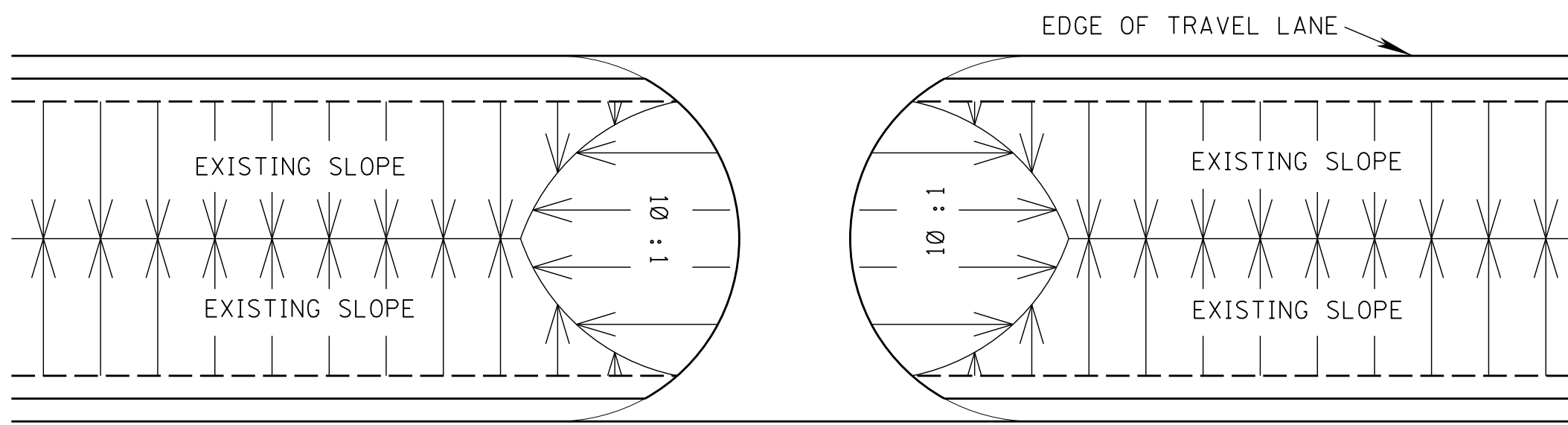


TYPICAL SECTION  
(WIRE MESH REQUIREMENTS OF PAVED FLUME)

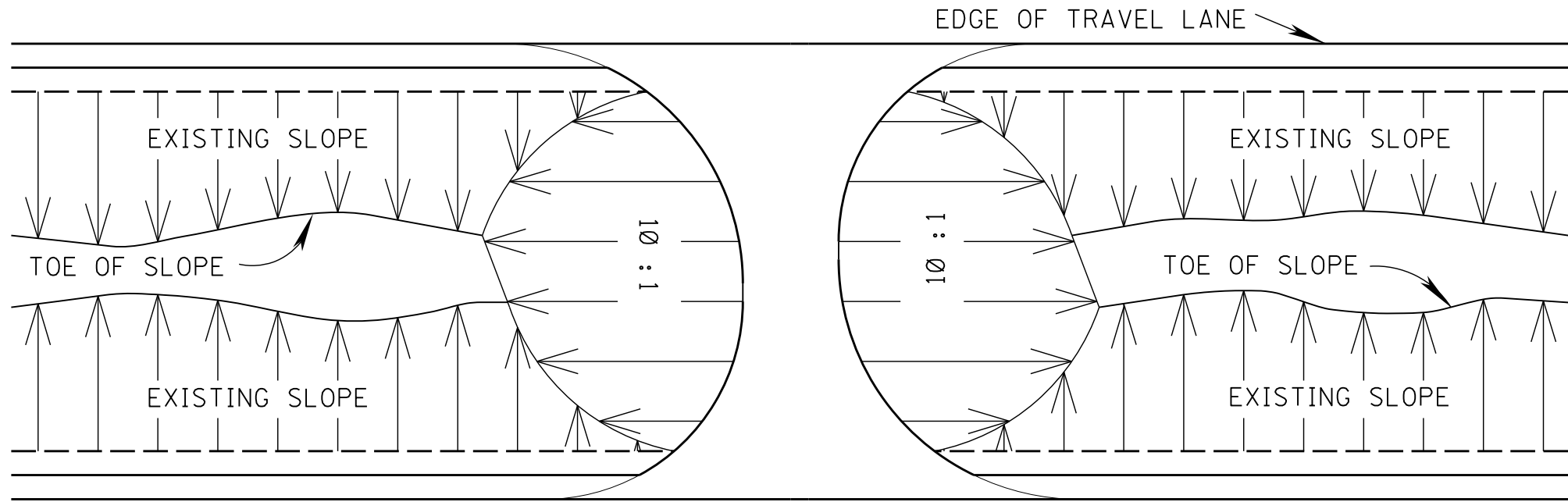
MISSISSIPPI DEPARTMENT OF TRANSPORTATION  
ROADWAY DESIGN DIVISION  
STANDARD PLAN

DETAILS OF  
PAVED FLUMES

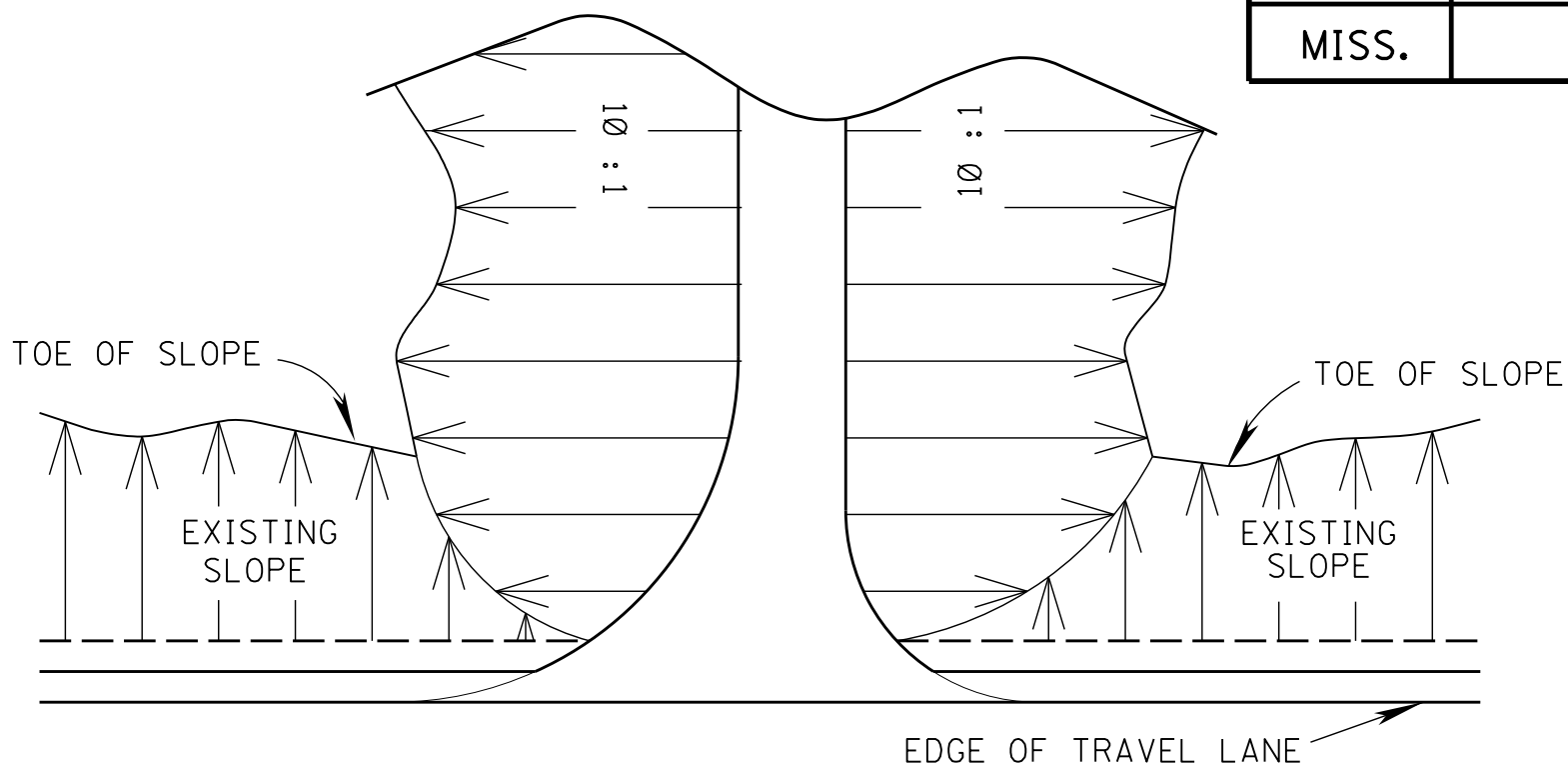
ISSUE DATE: AUGUST 01, 2017



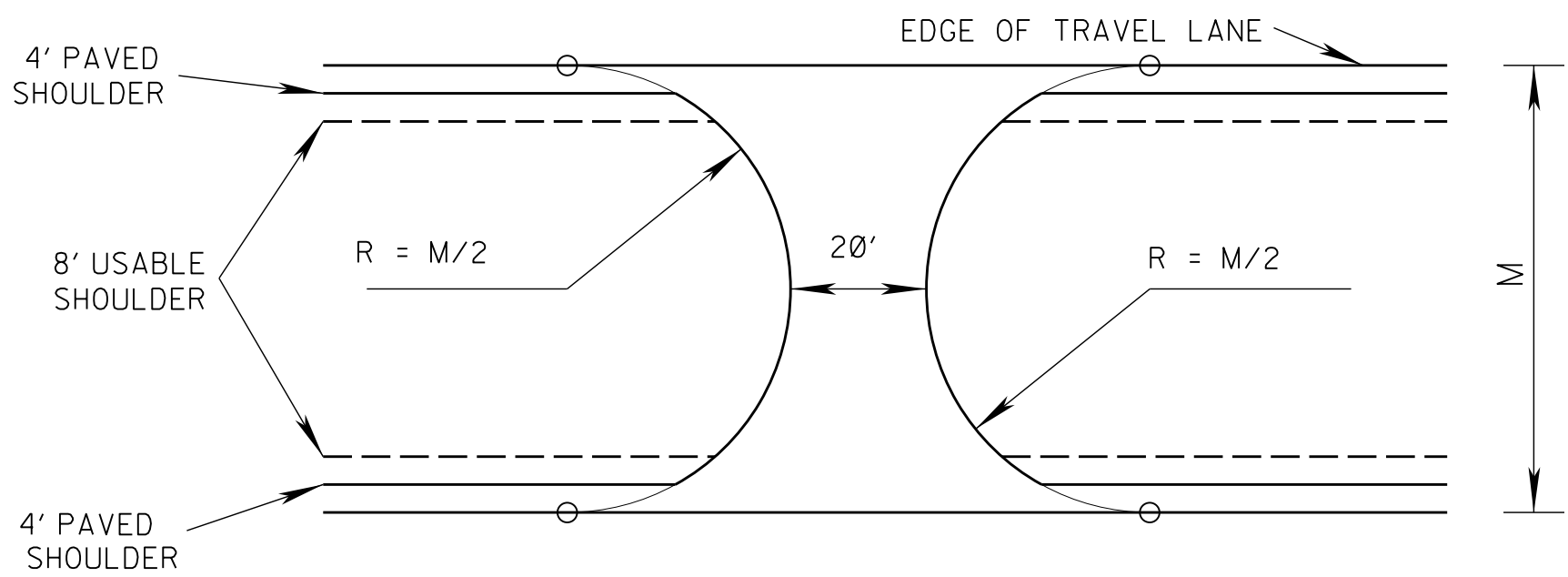
TYPICAL GRADING (40' – 64' MEDIANS)



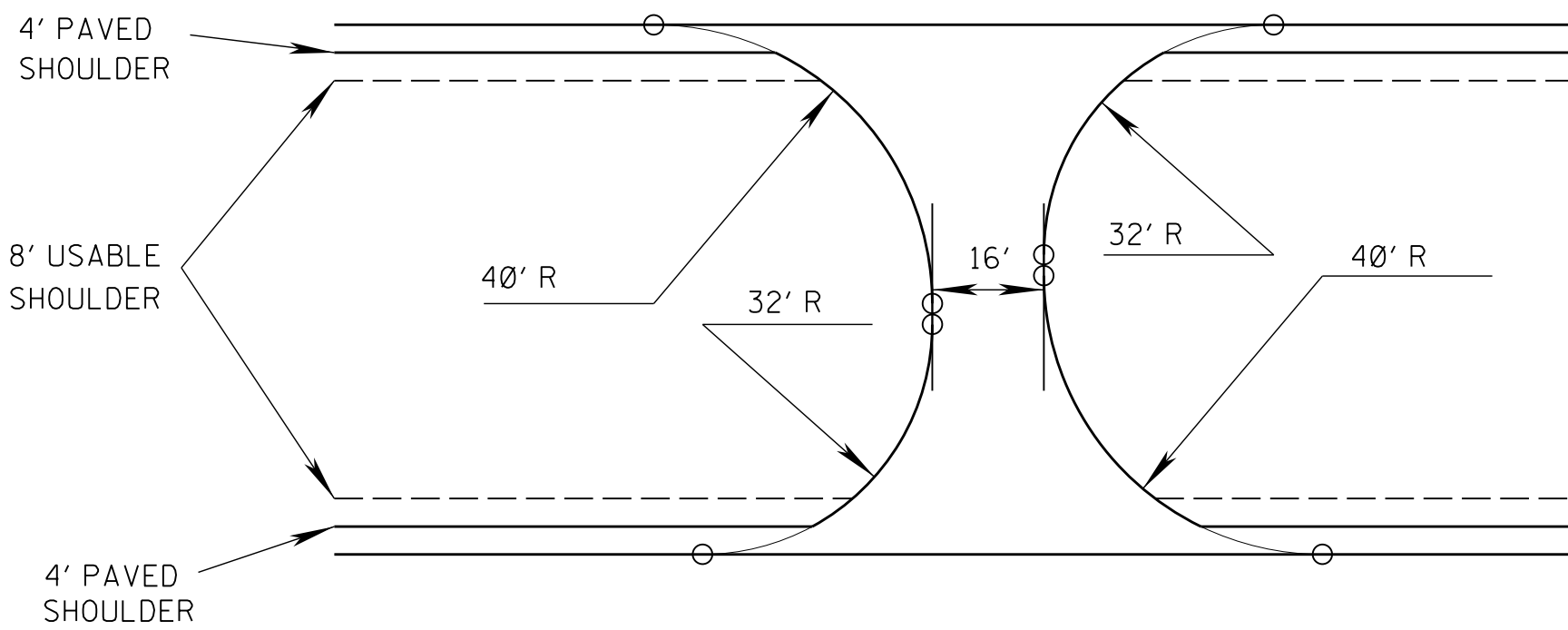
TYPICAL GRADING (101' MEDIANS)



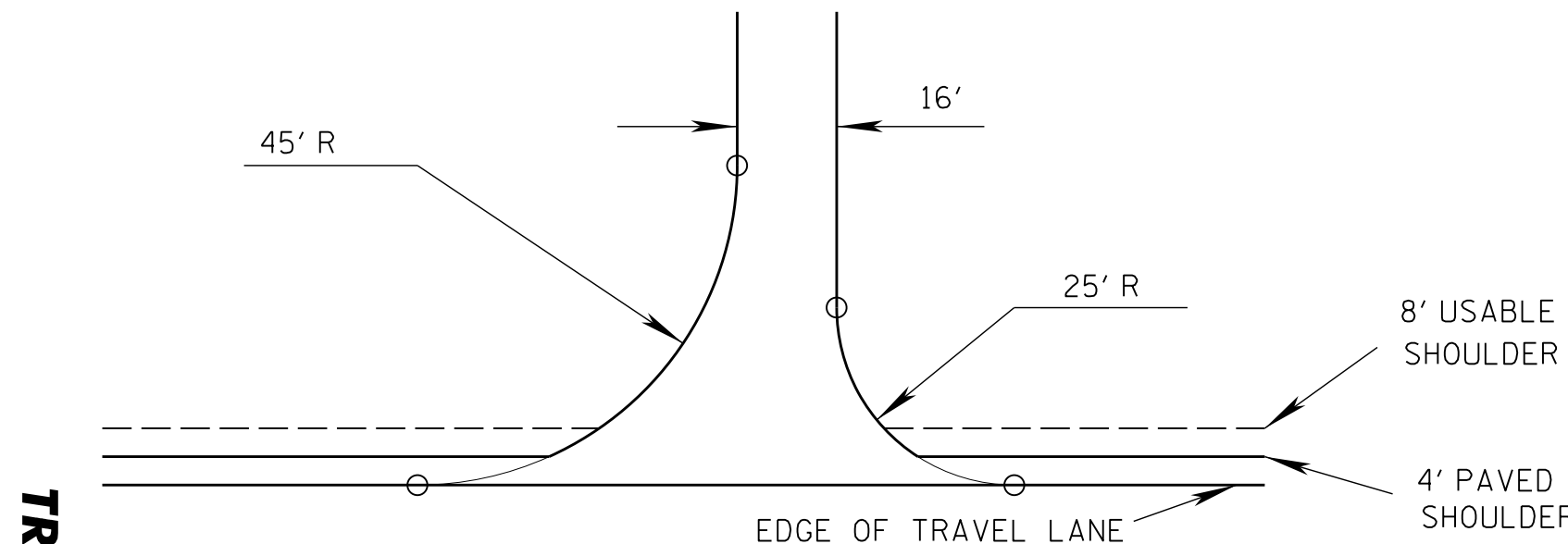
TYPICAL GRADING (MEDIANS > 101')



TYPICAL LAYOUT (40' – 64' MEDIANS)



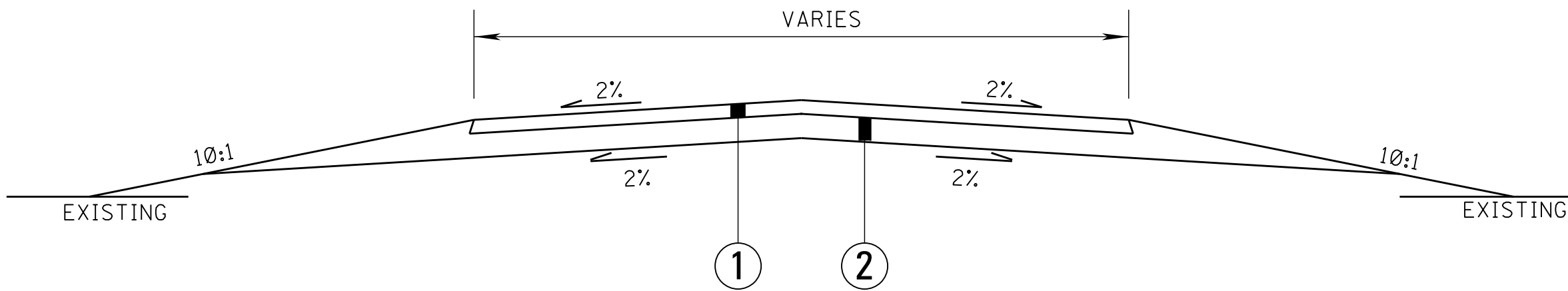
TYPICAL LAYOUT (101' MEDIANS)



TYPICAL LAYOUT (MEDIANS > 101')

GENERAL NOTES:

- IF EXISTING MAINLINE SIDE SLOPES ARE STEEPER THAN 4:1, SLOPES SHALL BE FLATTENED TO 6:1 FOR A DISTANCE OF 100 FEET ON BOTH SIDES OF THE CROSSOVER. THE SLOPES SHALL THEN BE TRANSITIONED BACK TO THE EXISTING SLOPE IN APPROXIMATELY 100 FEET.
- LOCATION OF EMERGENCY CROSSOVERS IS SHOWN ELSEWHERE IN THE PLANS, OR AS DIRECTED BY THE ENGINEER. REFERENCE SECTION 6-9.01 OF THE MDOT ROADWAY DESIGN MANUAL FOR SPACING REQUIREMENTS.

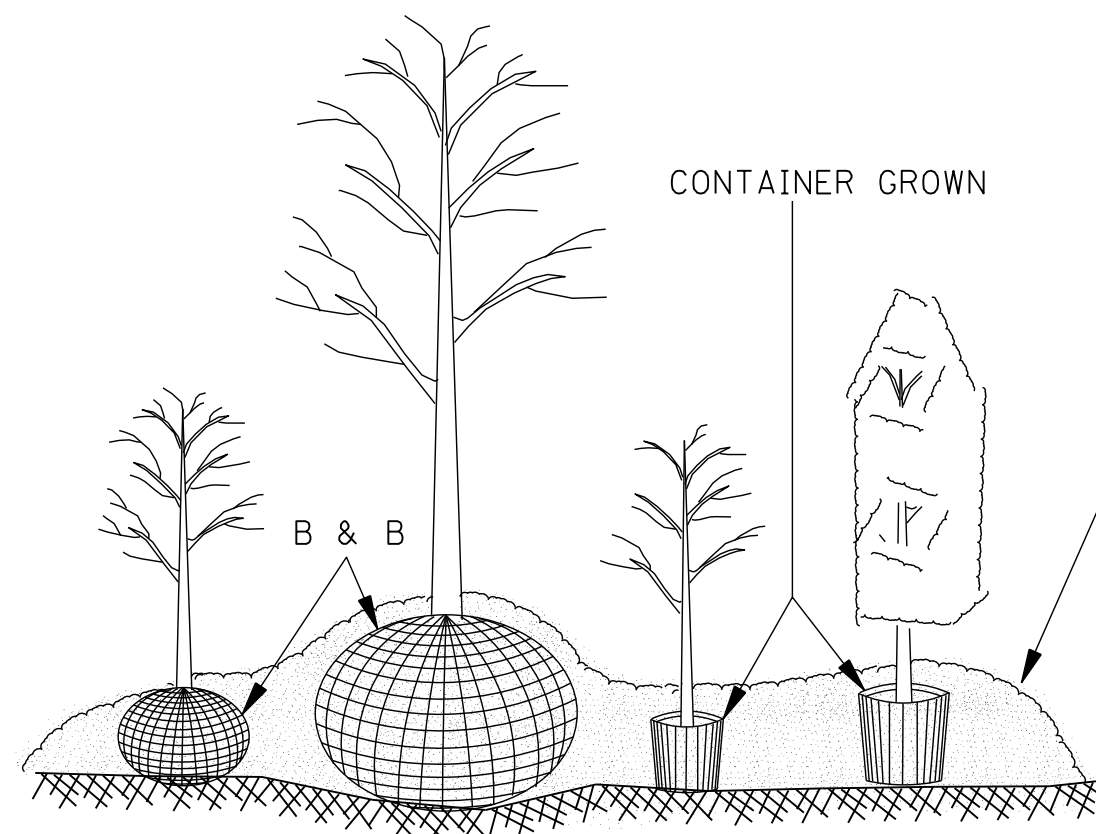


- ① 4" ASPHALT PAVEMENT REQ'D (AS SHOWN ELSEWHERE ON THE PLANS)
- ② 6" & VARIABLE GRANULAR MATERIAL REQ'D (CLASS AND GROUP SHOWN ELSEWHERE ON THE PLANS)

TYPICAL SECTION

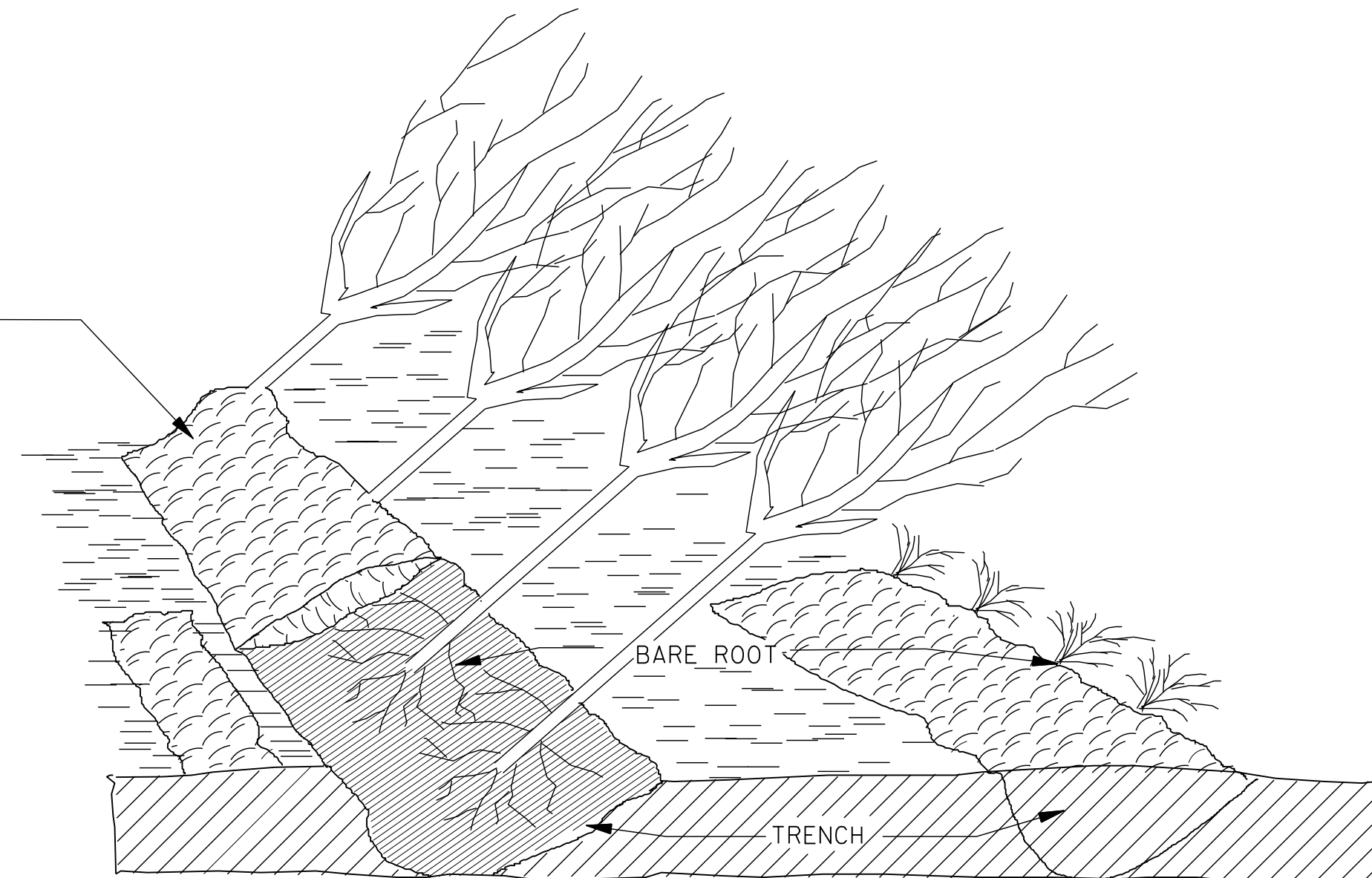
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>EMERGENCY / OFFICIAL USE MEDIAN CROSSOVERS</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					<b>MDOT</b> WORKING NUMBER EX0-1 SHEET NUMBER 6427





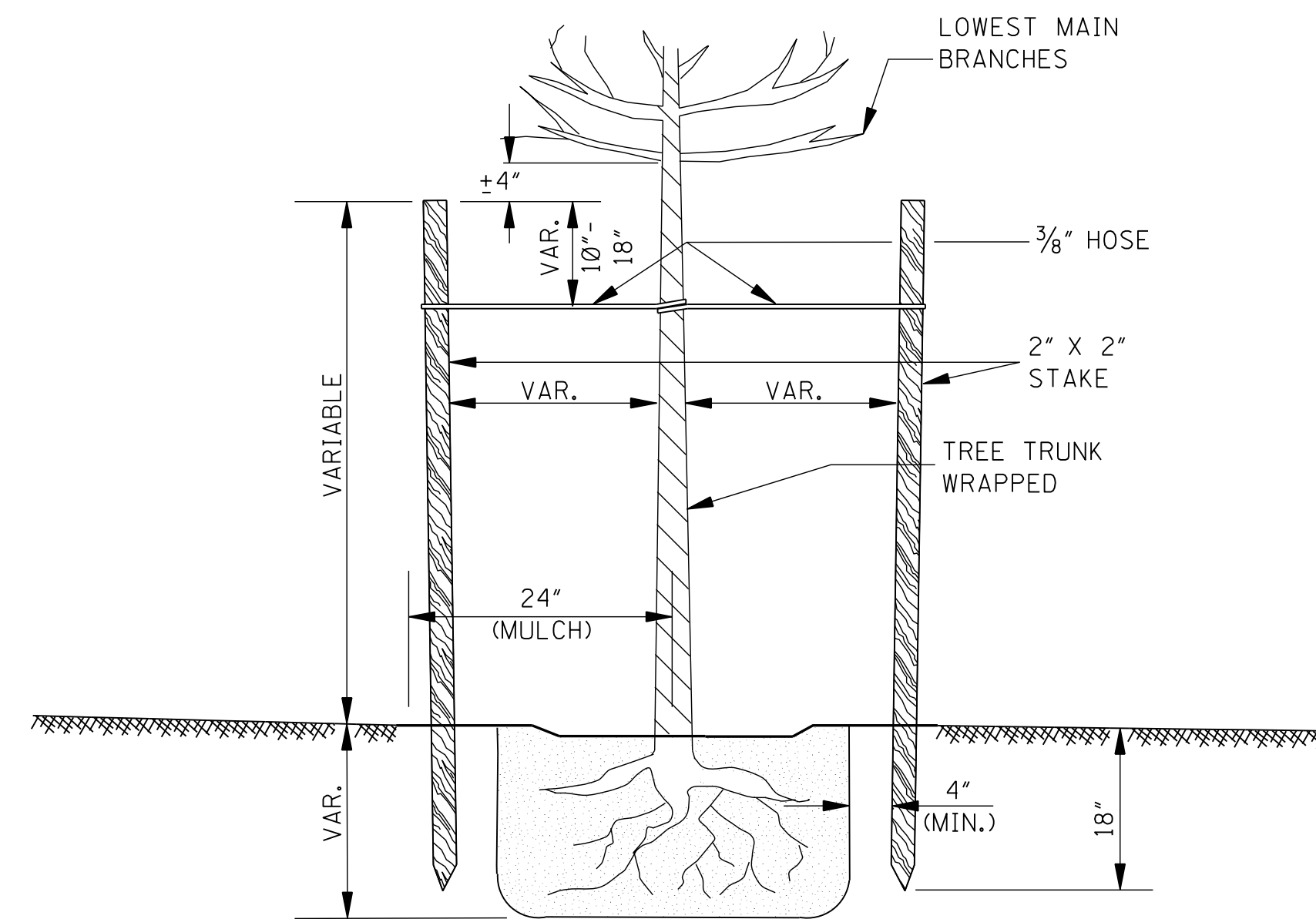
B & B AND CONTAINER GROWN PLANTS

SOIL, SAWDUST OR OTHER APPROVED MATERIALS

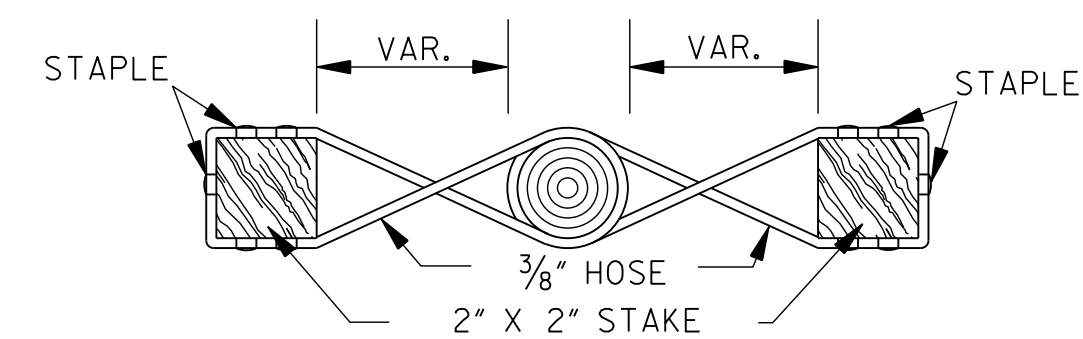


BARE ROOT PLANTS

NOTE: METHOD OF "HEELING IN" BEFORE PLANTING CONSISTS OF PLACING THE PLANTS IN A TRENCH AND COVERING THE ROOTS WITH DIRT. THIS MAY BE DONE ON TRUCK FOR EASE OF MOVEMENT. SAW DUST OR OTHER APPROVED MATERIAL MAY BE USED. ROOTS MUST BE KEPT MOIST AT ALL TIMES.



ELEVATION

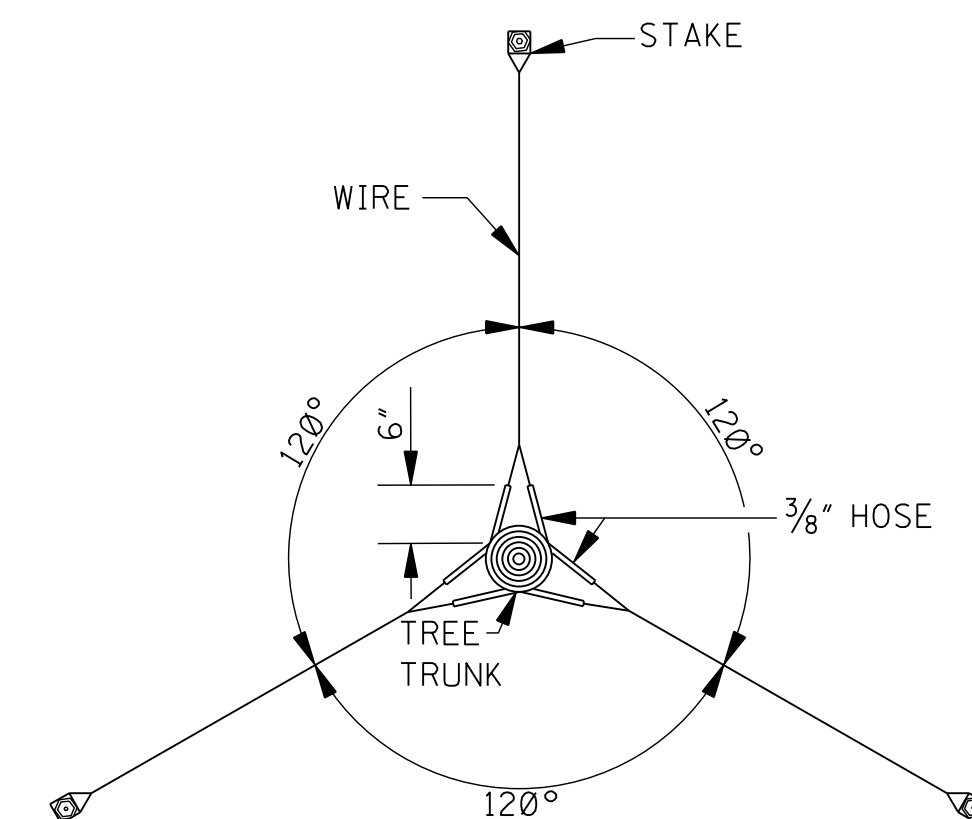
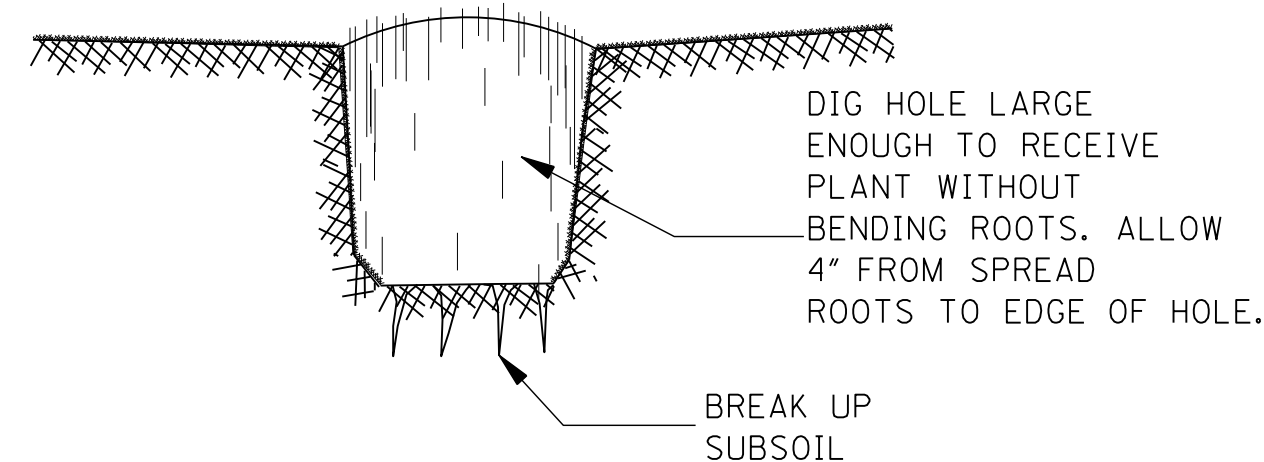
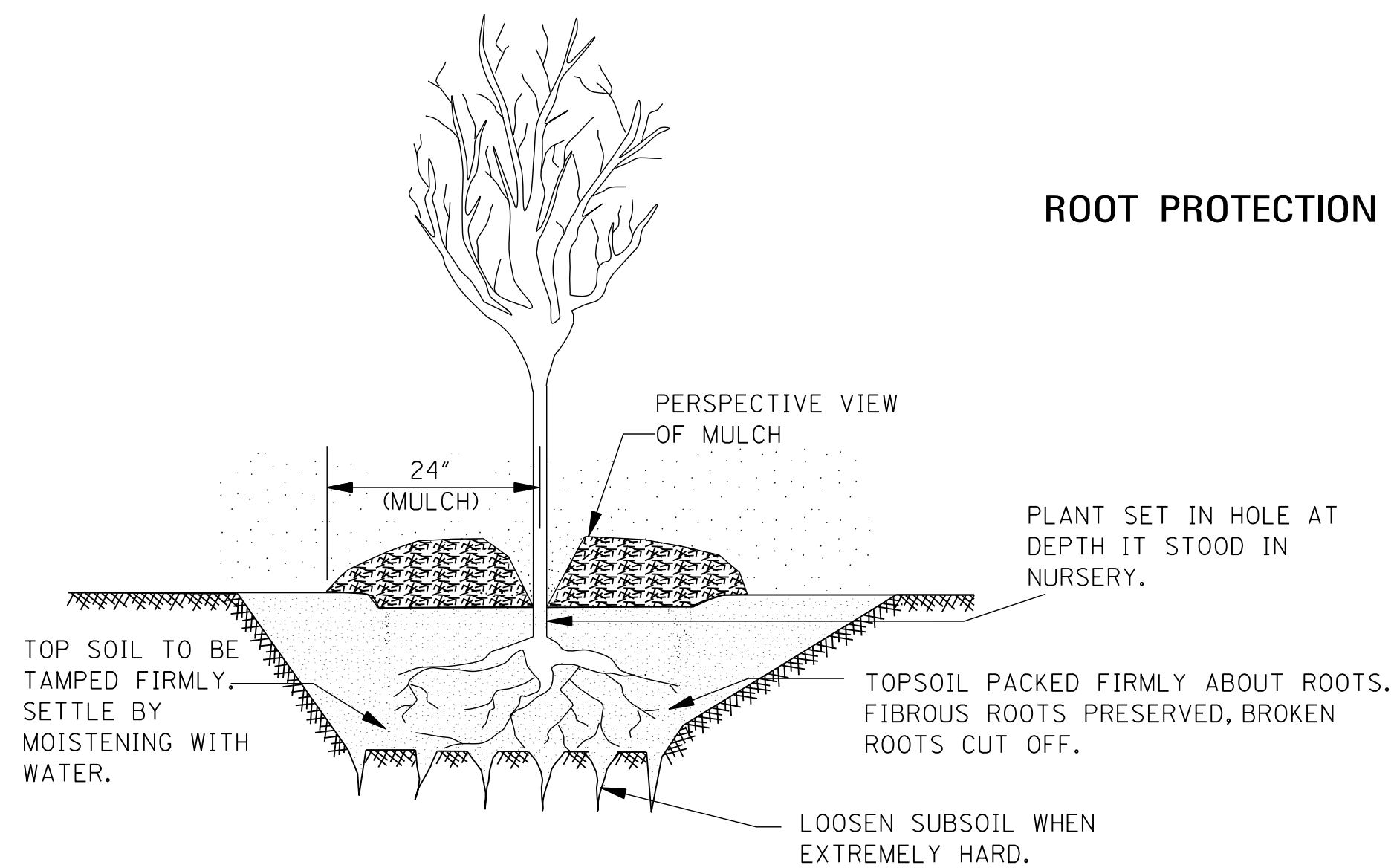


PLAN

DOUBLE VERTICAL STAKING METHOD

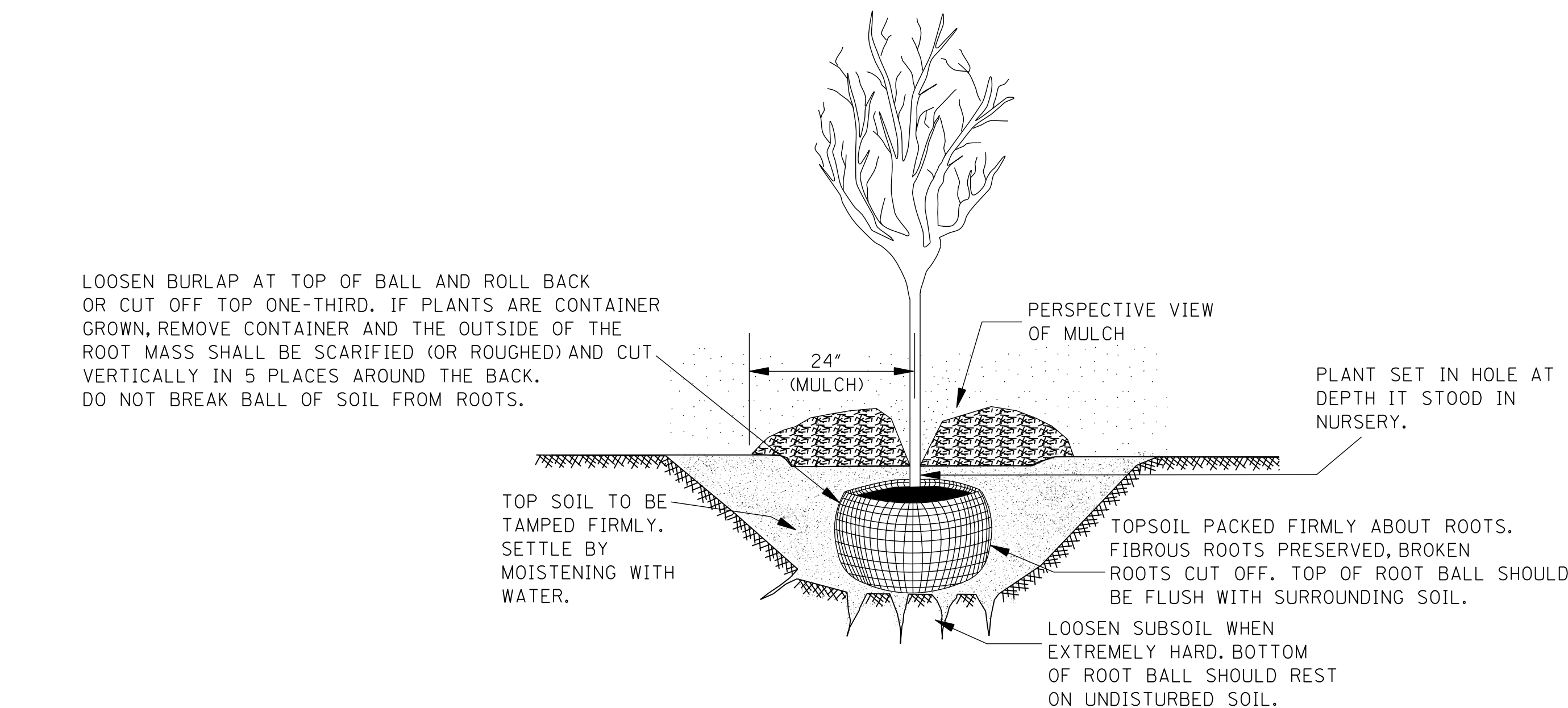
NOTE: ALL TREES SHALL BE STAKED OR GUYED. THE TRUNK OF ALL SMOOTH BARKED TREES SHALL BE WRAPPED. LARGE SHRUBS TO BE STAKED AND WRAPPED WHEN SPECIFIED ON PLANS.

ROOT PROTECTION ("HEELING-IN") DURING STORAGE

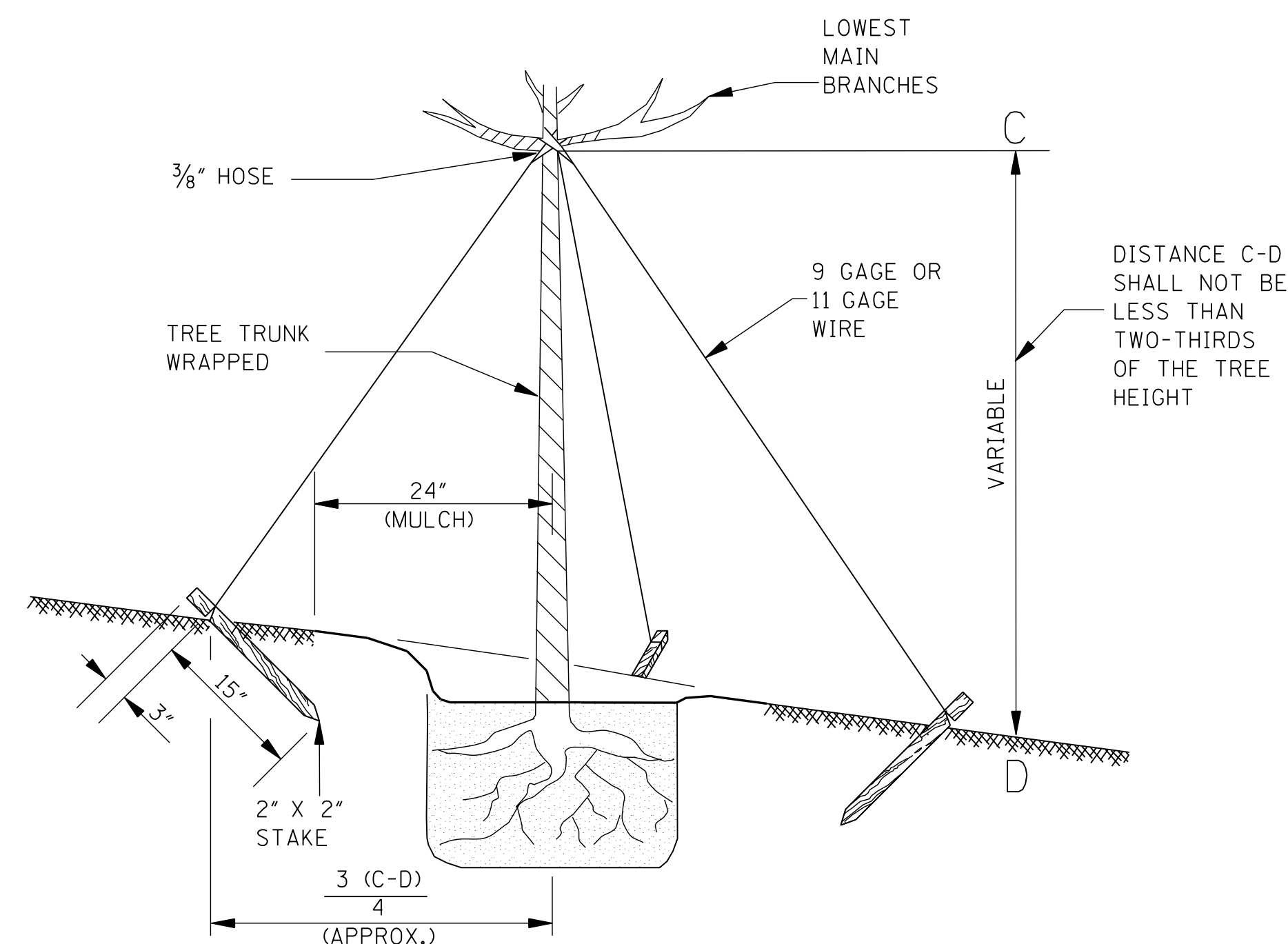


PLAN

TREE AND SHRUB PLANTING (BARE ROOT)



TREE AND SHRUB PLANTING (B & B OR CONTAINER GROWN)



ELEVATION  
GUYING TRIPOD METHOD

GENERAL NOTES:

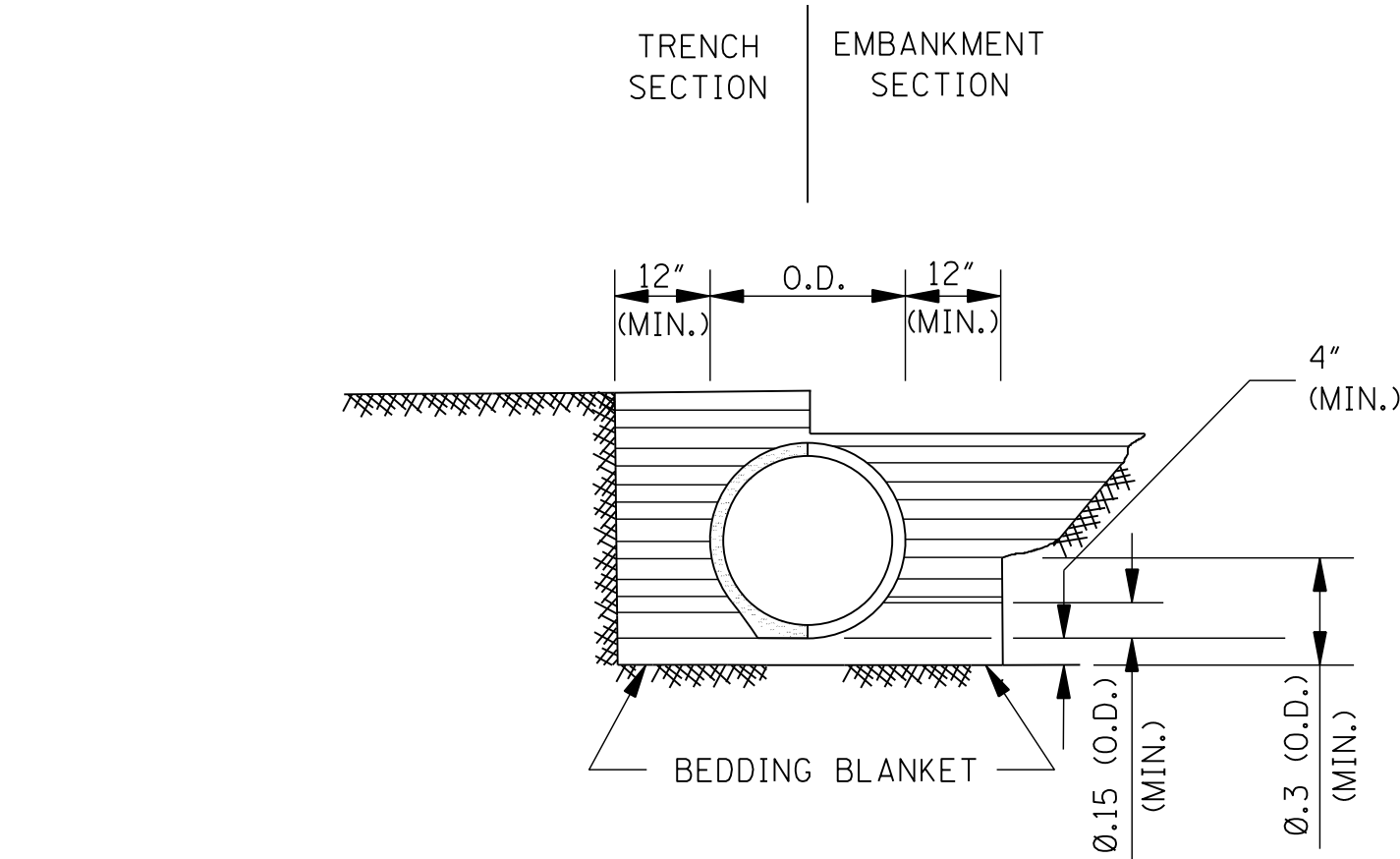
1. THE TYPE(S), RATE(S) OF APPLICATION AND PLACEMENT OF FERTILIZER AND MULCH SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS.
2. TENSION IN GUY WIRES WILL BE SUCH AS TO ALLOW SOME SWAYING MOTION IN TREE.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>TYPICAL PLANTING DETAILS FOR TREES &amp; SHRUBS</b>
				DATE	ISSUE DATE: AUGUST 01, 2017

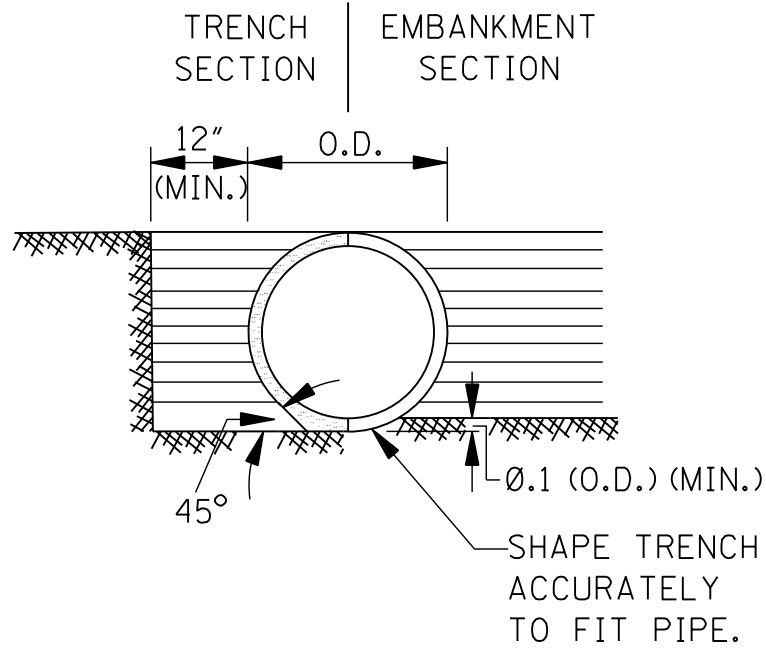
	WORKING NUMBER PD-1
	SHEET NUMBER 6428

CORRUGATED STEEL AND ALUMINUM PIPE (ROUND)						
PIPE DIAMETER (in)	MINIMUM COVER FROM TOP OF PIPE TO TOP OF SUBGRADE (in)	MAXIMUM FILL HEIGHT ABOVE TOP OF PIPE (ft†)				
		SHEET THICKNESS (in)				
		0.064 STEEL 0.060 ALUM. 16 GAGE	0.079 STEEL 0.075 ALUM. 14 GAGE	0.109 STEEL 0.105 ALUM. 12 GAGE	0.138 STEEL 0.135 ALUM. 10 GAGE	0.168 STEEL 0.164 ALUM. 8 GAGE
		2 2⁄3" X 1⁄2" CORRUGATED STEEL HELICAL	/	3" X 1" OR 5" X 1" CORRUGATED STEEL HELICAL	/	2 2⁄3" X 1⁄2" CORRUGATED ALUMINUM HELICAL
12"	12"	207' / - / 125'		259' / - / 157'	- / - / -	- / - / -
15"	12"	165' / - / 100'		207' / - / 125'	- / - / -	- / - / -
18"	12"	138' / - / 83'		172' / - / 104'	242' / - / -	- / - / -
24"	12"	103' / - / 62'		129' / - / 78'	181' / - / 109'	- / - / -
30"	12"	82' / - / -		103' / - / 69'	145' / - / 97'	- / - / -
36"	12"	68' / - / -		86' / - / 62'	120' / - / 87'	155' / - / 94'
42"	12"	58' / - / -		73' / - / 51'	103' / - / 73'	133' / - / 80'
48"	12"	51' / - / -		64' / - / -	90' / - / 62'	116' / - / 70'
54"	12"	- / 46' / -		57' / 58' / -	80' / 82' / 54'	103' / 106' / 62'
60"	12"	- / 42' / -		- / 52' / -	72' / 74' / 48'	93' / 95' / 52'
66"	12"	- / 38' / -		- / 47' / -	- / 66' / -	84' / 86' / -
72"	12"	- / 35' / -		- / 43' / -	- / 61' / -	77' / 79' / -
78"	12"	- / 32' / -		- / 40' / -	- / 56' / -	- / 73' / -
84"	12"	- / 29' / -		- / 37' / -	- / 52' / -	84' / 86' / -
90"	12"	- / 27' / -		- / 34' / -	- / 49' / -	- / 63' / -
96"	12"	- / - / -		- / 32' / -	- / 46' / -	- / 59' / -
102"	24"	- / - / -		- / 30' / -	- / 43' / -	- / 55' / -
108"	24"	- / - / -		- / - / -	- / 40' / -	- / 52' / -
114"	24"	- / - / -		- / - / -	- / 38' / -	- / 50' / -
120"	24"	- / - / -		- / - / -	- / 36' / -	- / 47' / -

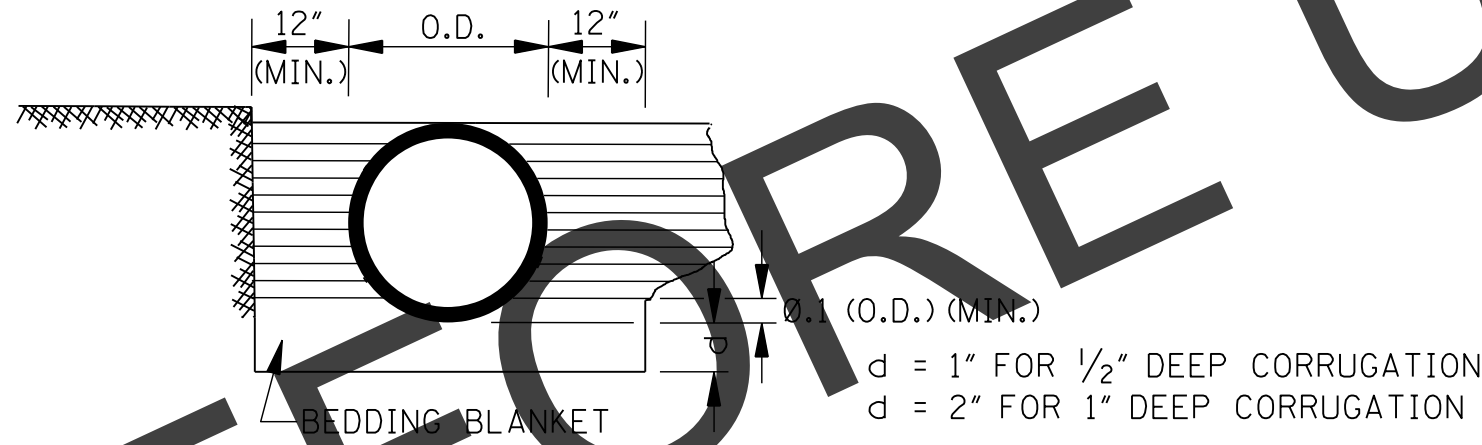
NOTE: THE AVERAGE INSIDE DIAMETER SHALL NOT VARY MORE THAN ONE (1) PERCENT OR 1⁄2", WHICHEVER IS GREATER, FROM THE NOMINAL DIAMETER WHEN MEASURED ON THE INSIDE CREST OF THE CORRUGATIONS (AASHTO M 36M/M 36 & AASHTO M 196M/M 196).



CLASS B



CLASS C



CLASS C MODIFIED

MAXIMUM HEIGHT OF FILL OVER REINFORCED CONCRETE PIPE		
CLASS OF PIPE	MAXIMUM COVER (ft)	
	CLASS "C" BEDDING	CLASS "B" BEDDING
III	12'	19'
IV	18'	30'
V	28'	48'
SPECIAL DESIGN	>28'	>48'

NOTE: CLASS OF PIPE AND BEDDING TO BE CONSISTENT THROUGHOUT THE PIPE LENGTH.

CORRUGATED METAL PIPE ARCHES						
EQUIV. DIAMETER (in)	PIPE DIMENSION (SPAN X RISE) (in)	MINIMUM COVER	STEEL		ALUMINUM	
			MINIMUM THICKNESS REQUIRED (in)	MAXIMUM FILL HEIGHT ABOVE TOP OF PIPE (ft) FOR THE FOLLOWING CORNER BEARING PRESSURE (tons/ft <sup>2</sup> )	MINIMUM THICKNESS REQUIRED (in)	MAXIMUM FILL HEIGHT ABOVE TOP OF PIPE (ft) FOR THE FOLLOWING CORNER BEARING PRESSURE (tons/ft <sup>2</sup> )
				† 4 tons/ft <sup>2</sup>		† 4 tons/ft <sup>2</sup>
			2 <sup>2</sup> / <sub>3</sub> " X 1/2" CORRUGATION HELICAL		2 <sup>2</sup> / <sub>3</sub> " X 1/2" CORRUGATION RIVETED OR HELICAL	
15"	17" X 13"	12"	0.064"	13'	0.064"	13'
18"	21" X 15"	12"	0.064"	12'	0.064"	12'
24"	28" X 20"	12"	0.064"	12'	0.075"	12'
30"	35" X 24"	12"	0.064"	12'	0.075"	12'
36"	42" X 29"	12"	0.064"	12'	0.105"	12'
42"	49" X 33"	12"	0.079"	12'	0.105"	12'
48"	57" X 38"	12"	0.109"	12'	0.135"	12'
54"	64" X 43"	12"	0.109"	12'	0.135"	12'
60"	71" X 47"	12"	0.138"	12'	0.164"	12'
66"	77" X 52"	12"	0.168"	12'		
72"	83" X 57"	12"	0.168"	12'		
			3" X 1" CORRUGATION HELICAL	5" X 1" CORRUGATION HELICAL		
48"	53" X 41"	12' / -	0.079"	12' / -		
54"	60" X 46"	15' / -	0.079"	20' / -		
60"	66" X 51"	15' / -	0.079"	20' / -		
66"	73" X 55"	18' / -	0.079"	20' / -		
72"	81" X 59"	18' / 18"	0.079" / 0.109"	17' / 17'		
78"	87" X 63"	18" / 18"	0.079" / 0.109"	16' / 16'		
84"	95" X 67"	18" / 18"	0.079" / 0.109"	16' / 16'		
90"	103" X 71"	18" / 18"	0.109" / 0.109"	16' / 16'		
96"	112" X 75"	21" / 21"	0.109" / 0.109"	16' / 16'		
102"	117" X 79"	21" / 21"	0.109" / 0.109"	16' / 16'		
108"	128" X 83"	24" / 24"	0.138" / 0.138"	16' / 16'		
114"	137" X 87"	24" / 24"	0.138" / 0.138"	16' / 16'		
120"	142" X 91"	27" / 27"	0.168" / 0.168"	16' / 16'		

NOTES:  
1. THE AVERAGE INSIDE DIAMETER SHALL NOT VARY MORE THAN ONE (1) PERCENT OR 1⁄2", WHICHEVER IS GREATER, FROM THE NOMINAL DIAMETER WHEN MEASURED ON THE INSIDE CREST OF THE CORRUGATIONS. (AASHTO M 36M/M 36 & AASHTO M 196M/M 196).

† 2. BEARING PRESSURES FOR GIVEN FILL HEIGHT SHALL HAVE FOUNDATION MATERIALS INVESTIGATED TO DETERMINE BEARING CAPACITY.

- GENERAL NOTES:
1. MINIMUM SPACING BETWEEN MULTIPLE LINES OF PARALLEL PIPE SHALL BE THE DISTANCE REQUIRED FOR INSTALLING THE ADJACENT FLARED END SECTIONS OR AS SHOWN ON THE HEADWALL DRAWINGS FOR CONDUITS REQUIRING HEADWALLS.
  2. UNLESS OTHERWISE INDICATED, THE TOP OF THE PIPE SHALL BE BELOW THE TOP OF THE SUBGRADE, AND A MINIMUM OF 12" OF COVER OVER THE TOP OF THE PIPE SHALL BE MAINTAINED BETWEEN THE SHOULDER LINES.
  3. WHERE PRE-BED PIPE IS INSTALLED, FLARED END SECTIONS FROM OTHER MANUFACTURERS MAY BE JOINED TO PRE-BED PIPE PROVIDED A CONCRETE COLLAR IS PLACED AT THE CONTRACTOR'S EXPENSE AND A DEFORMATION TO THE PIPE'S FLOWLINE IS NOT EVIDENT ON FINAL PLACEMENT.
  4. THE BACKFILL SHALL BE EITHER CLASS "B", CLASS "C", OR CLASS "C" MODIFIED. A MINIMUM COMPACTION LEVEL OF 95% STANDARD PROCTOR DENSITY PER AASHTO T99 SHALL BE ACHIEVED BY USE OF VIBRATORY PLATE, HYDROHAMMER TYPE COMPACTORS SHALL NOT BE USED OVER THE PIPE. ALL COMPACTION EQUIPMENT USED SHALL BE APPROVED BY THE ENGINEER.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	ISSUE DATE: AUGUST 01, 2017

PIPE CULVERT  
INSTALLATION

WORKING NUMBER  
PI-1  
SHEET NUMBER  
6501

## STANDARD INSTALLATION DETAIL

TABLE 1: BEDDING AND BACKFILL REQUIREMENTS

## BEDDING AND BACKFILL REQUIREMENTS FOR NON-RIGID PIPE IN CROSS DRAIN AND STORM DRAIN APPLICATIONS

- A. BEDDING SHALL BE CLASS B IN ACCORDANCE WITH THE MISSISSIPPI STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
- B. BACKFILL MATERIAL SHALL BE ONE OF THE FOLLOWING:
1. FLOWABLE FILL IN ACCORDANCE WITH THE MISSISSIPPI STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION LATEST EDITION.
  2. CRUSHED STONE AGGREGATE BACKFILL IN ACCORDANCE WITH THE MISSISSIPPI STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.

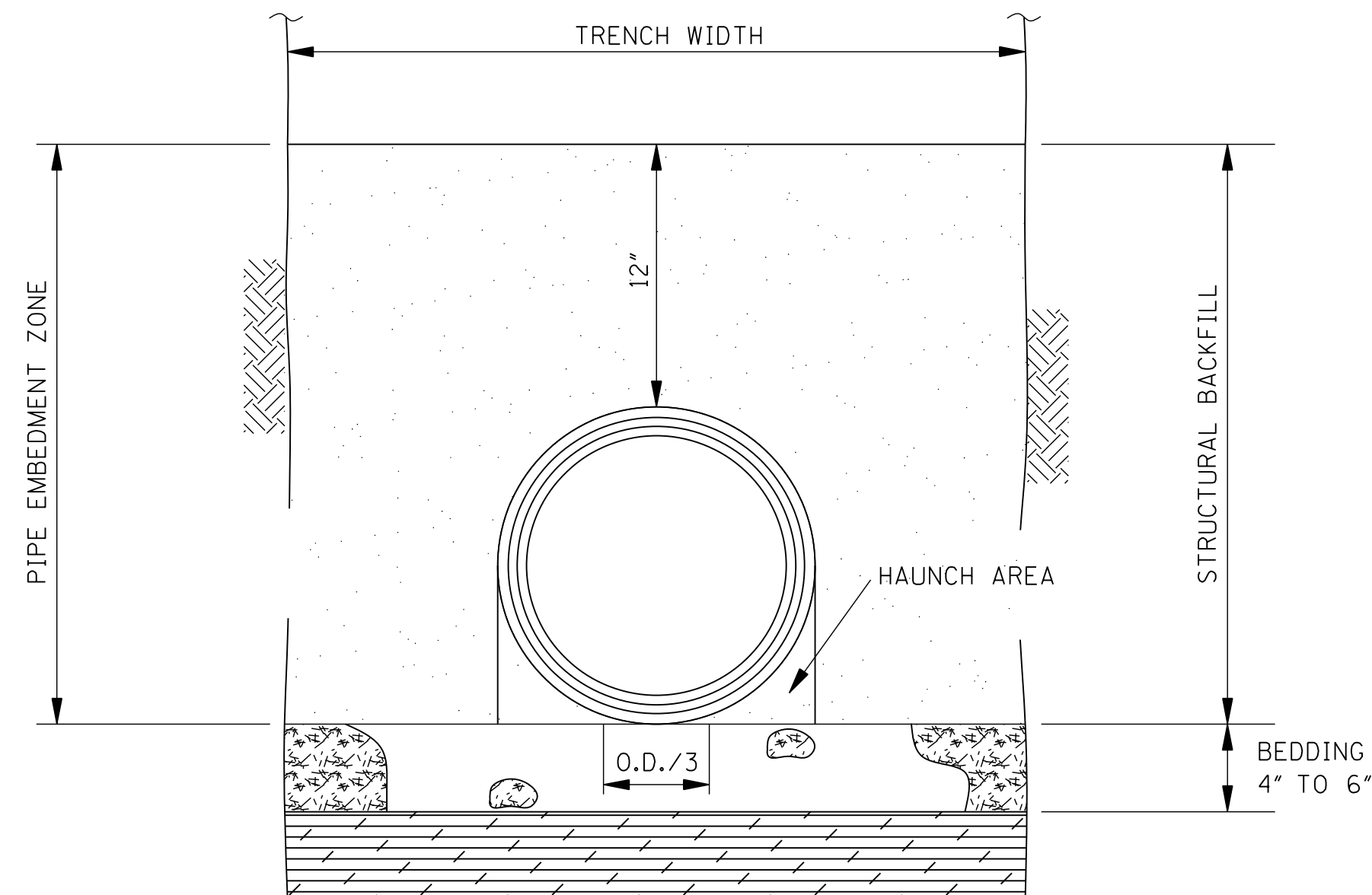
IF FLOWABLE FILL IS UTILIZED, CARE SHALL BE TAKEN TO PREVENT "FLOATING" OF THE PIPE.

THE COST OF FURNISHING AND PLACING THE REQUIRED BEDDING AND BACKFILL MATERIAL INDICATED IN A AND B SHALL BE INCLUDED IN THE UNIT COST OF THE NON-RIGID PIPE ALTERNATE, I.E., THERE IS NO SEPARATE PAY ITEM FOR NON-RIGID PIPE BEDDING AND BACKFILL MATERIAL.

## BEDDING AND BACKFILL REQUIREMENTS FOR NON-RIGID PIPE IN SIDE DRAIN APPLICATIONS

- A. BEDDING SHALL BE CLASS C IN ACCORDANCE WITH THE MISSISSIPPI SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
- B. BACKFILL MATERIAL SHALL BE IN ACCORDANCE WITH THE MISSISSIPPI SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION. PIPES THAT SERVE AS A SIDE DRAIN ON DEPARTMENT RIGHT OF WAY, BUT CARRY DRAINAGE UNDER A COUNTY OR LOCAL ROAD SHALL ADHERE TO THE BEDDING AND BACKFILL REQUIREMENTS FOR A CROSS DRAIN CONTAINED ABOVE.

THE COST OF FURNISHING AND PLACING THE REQUIRED BEDDING AND BACKFILL MATERIAL INDICATED IN A AND B SHALL BE INCLUDED IN THE UNIT COST OF THE NON-RIGID ALTERNATE PIPE, I.E., THERE IS NO SEPARATE PAY ITEM FOR NON-RIGID BEDDING AND BACKFILL MATERIAL.



### TRENCH CROSS SECTION SHOWING TERMINOLOGY

GENERAL NOTES:

- ## 1. MATERIALS
- ### THERMOPLASTIC PIPE

POLYETHYLENE PIPE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 294, LATEST EDITION.

DESIGNATION OF TYPE: TYPE S: THIS PIPE WILL HAVE A FULL CIRCULAR CROSS SECTION WITH AN OUTER CORRUGATED PIPE WALL AND A SMOOTH INNER LINER.

BEDDING MATERIAL AND STRUCTURAL BACKFILL

BEDDING MATERIAL AND STRUCTURAL BACKFILL SHALL MEET THE REQUIREMENTS OF TABLE 1.

- ## 2. JOINTS

JOINTS FOR THERMOPLASTIC PIPE SHALL MEET THE PERFORMANCE REQUIREMENTS OF SOILTIGHTNESS UNLESS WATERTIGHTNESS IS SPECIFIED.

SUITABLE JOINTS CAN BE OBTAINED WITH THE FOLLOWING TYPES OF CONNECTIONS:

- A) CORRUGATED BANDS (WITH OR WITHOUT GASKETS)  
B) BELL AND SPIGOT PIPE ENDS (WITH OF WITHOUT GASKETS)  
C) DOUBLE BELL COUPLINGS (WITH OR WITHOUT GASKETS)

- ### 3. INSTALLATION

MINIMUM TRENCH WIDTHS SHALL MEET THE REQUIREMENTS OF TABLE 3.


THE MIDDLE THIRD OF THE BEDDING MATERIAL UNDER THE PIPE SHOULD BE LOOSELY PLACED, WHILE THE REMAINDER SHALL BE COMPACTED TO A MINIMUM 90% OF MAXIMUM DENSITY PER AASHTO T 99.

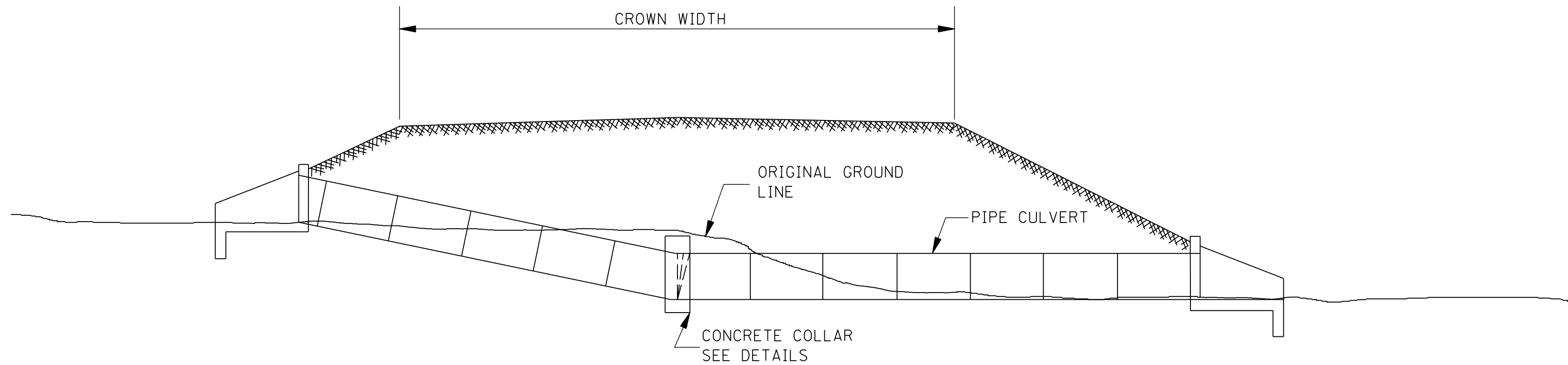
A MINIMUM OF 4 INCHES OF BEDDING SHALL BE PROVIDED PRIOR TO PLACEMENT OF THE PIPE. STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING AN 8" LOOSE LIFT THICKNESS AND BROUGHT UP EVENLY ON BOTH SIDES OF THE PIPE WITH AN ELEVATION NOT LESS THAN 12 INCHES ABOVE THE TOP OF THE PIPE. A MINIMUM COMPACTION LEVEL OF 90% STANDARD DENSITY PER AASHTO T 99 SHALL BE ACHIEVED.

MINIMUM COVER REQUIREMENTS SHALL MEET THE REQUIREMENTS OF TABLE 2.

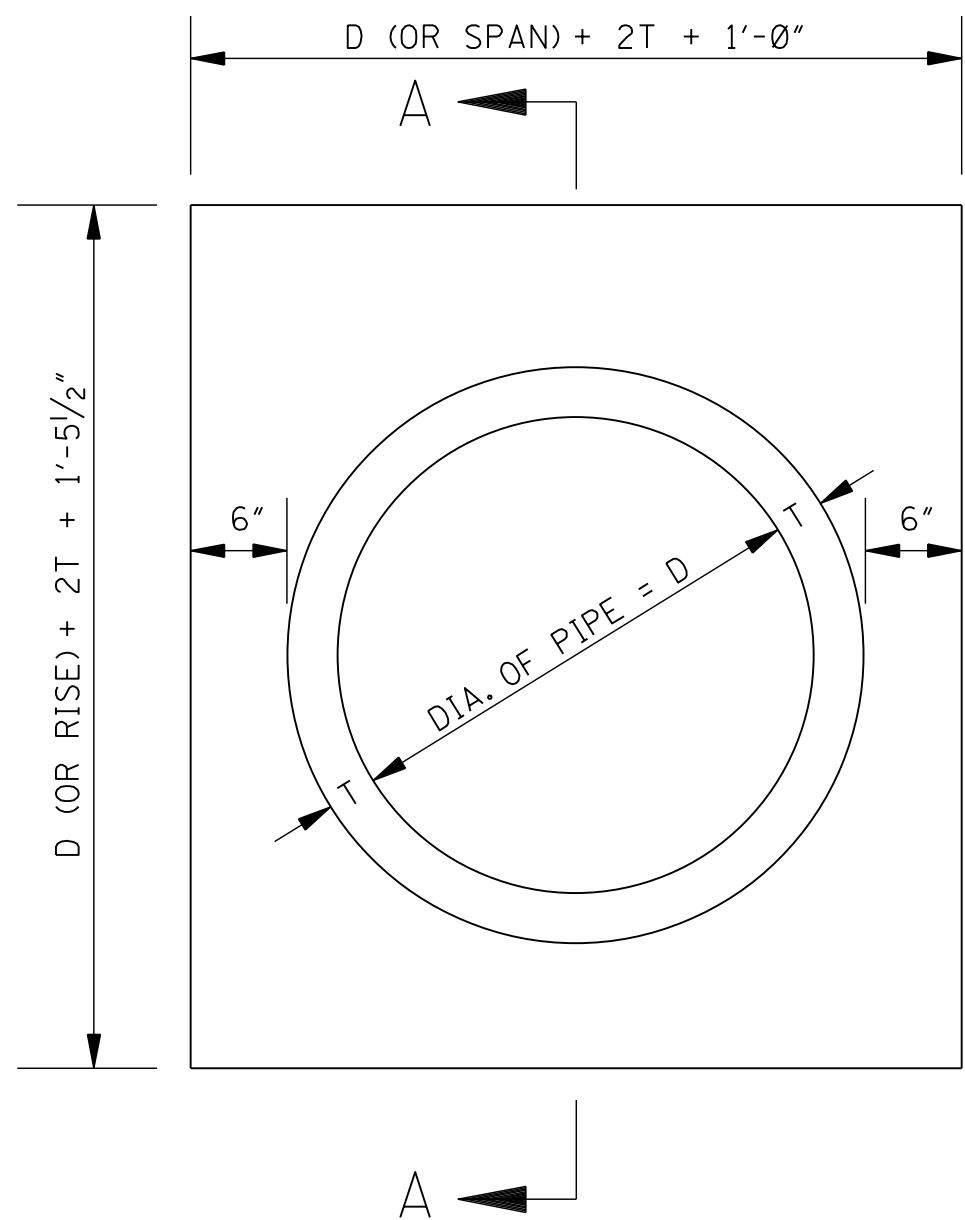
FOR MULTIPLE INSTALLATIONS OF POLYETHYLENE PIPES, A CLEAR DISTANCE BETWEEN THE PIPES SHALL MEET THE REQUIREMENTS OF TABLE 4.

4. CALCULATIONS FOR FILL DEPTHS ARE BASED ON PROPERTIES DEFINED IN AASHTO M294 AND CALCULATIONS IN AASHTO SEC.19.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<p align="center"><b><i>FLEXIBLE PIPE CULVERT INSTALLATION</i></b></p>
				DATE	<div style="display: flex; justify-content: space-between; align-items: center;"> <div>  <p>MISSISSIPPI DEPARTMENT OF TRANSPORTATION</p> </div> <div> <p>WORKING NUMBER PI-2</p> <p>SHEET NUMBER 6502</p> </div> </div> <p>ISSUE DATE: <u>          AUGUST 01, 2017          </u></p>

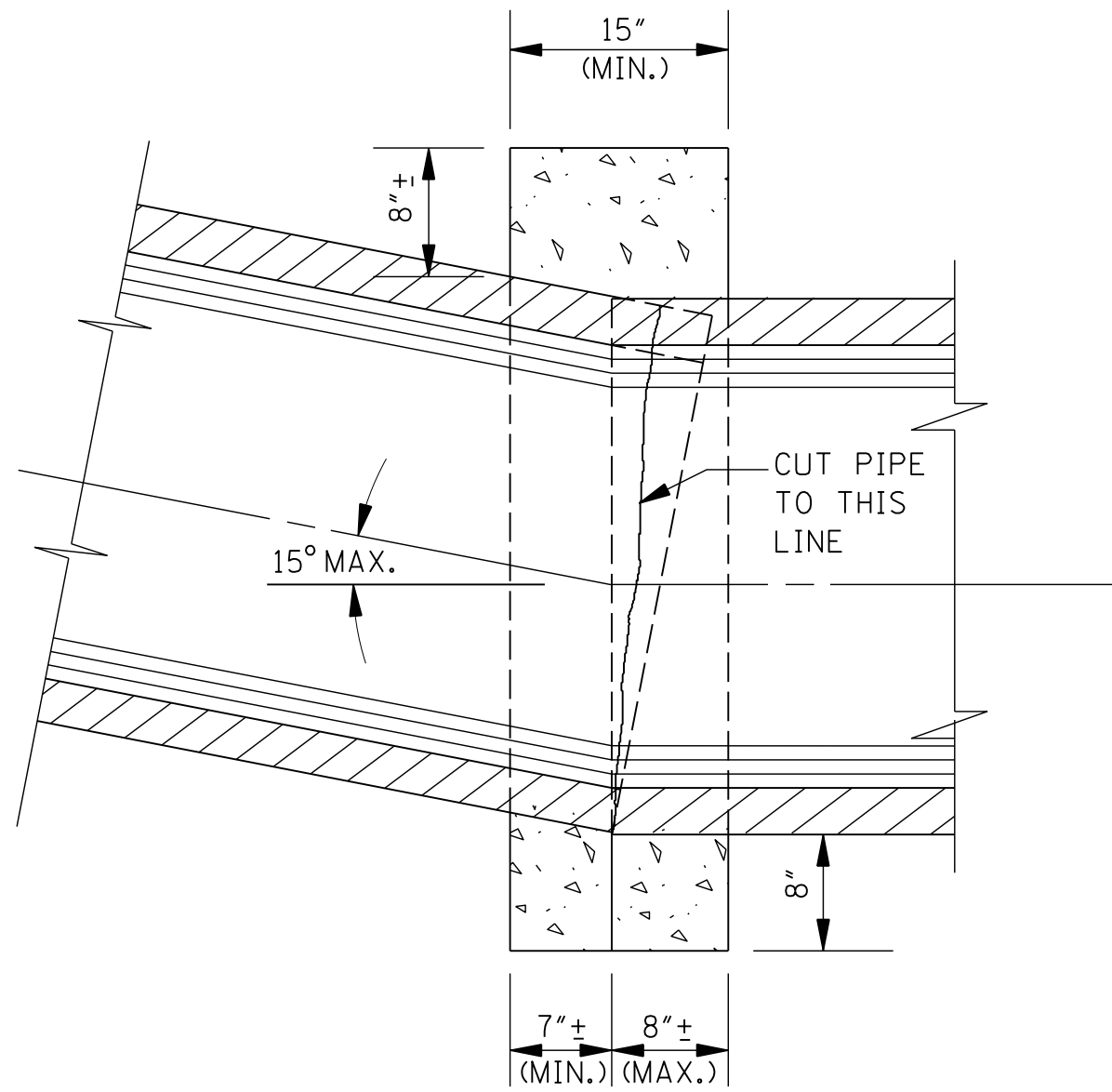


TYPICAL INSTALLATION FOR PIPE CULVERT WITH BROKEN FLOW LINE



ELEVATION OF CONCRETE COLLAR

NOTE: CIRCULAR PIPE IS SHOWN, ARCH PIPE IS SIMILAR.




SECTION A-A

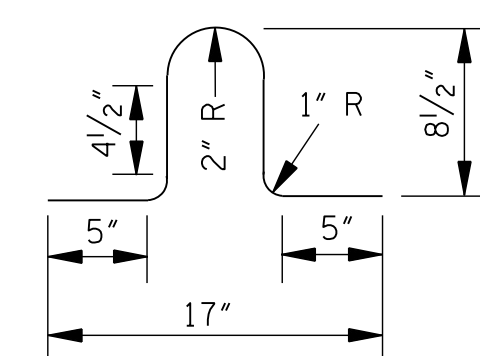
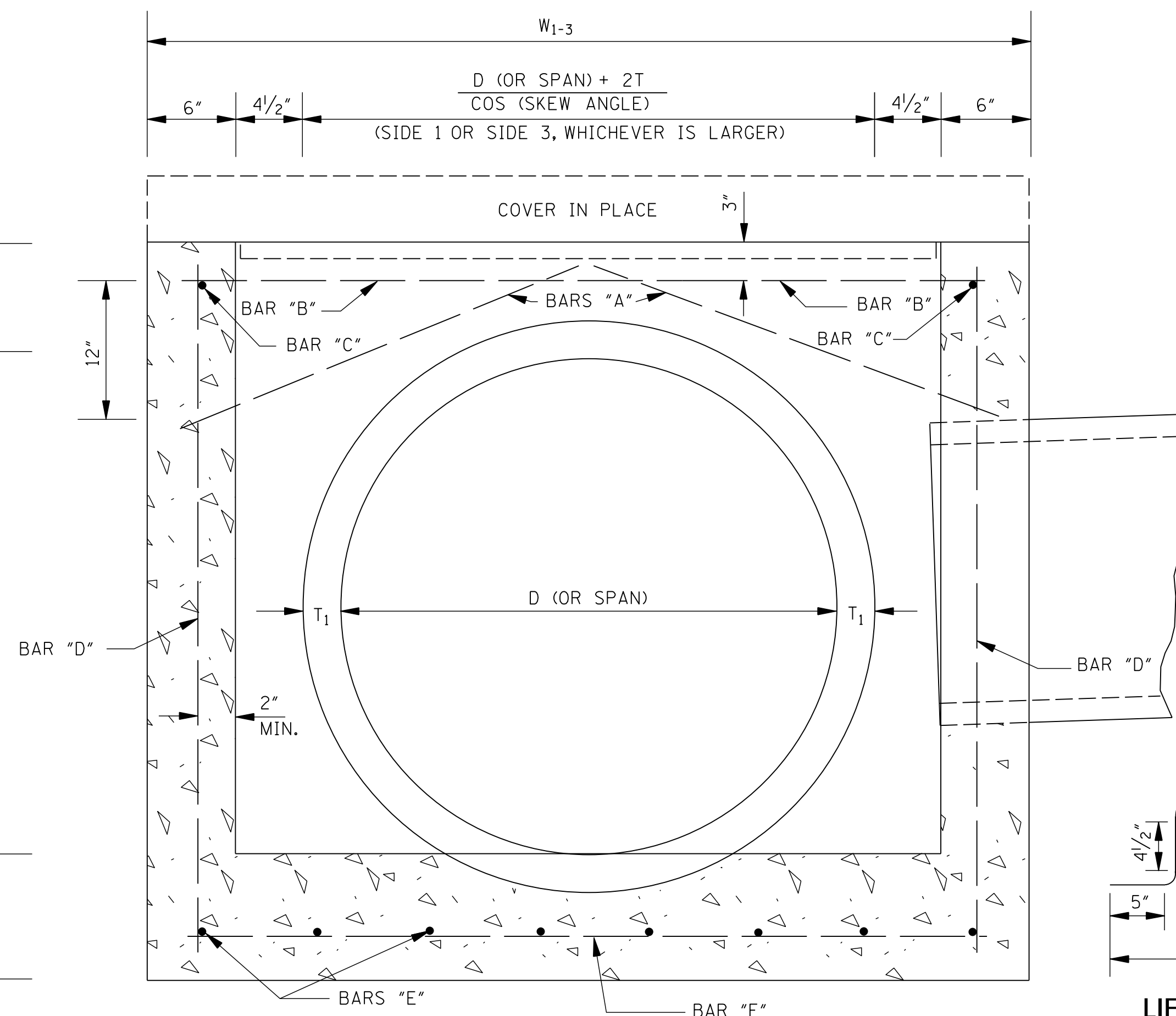
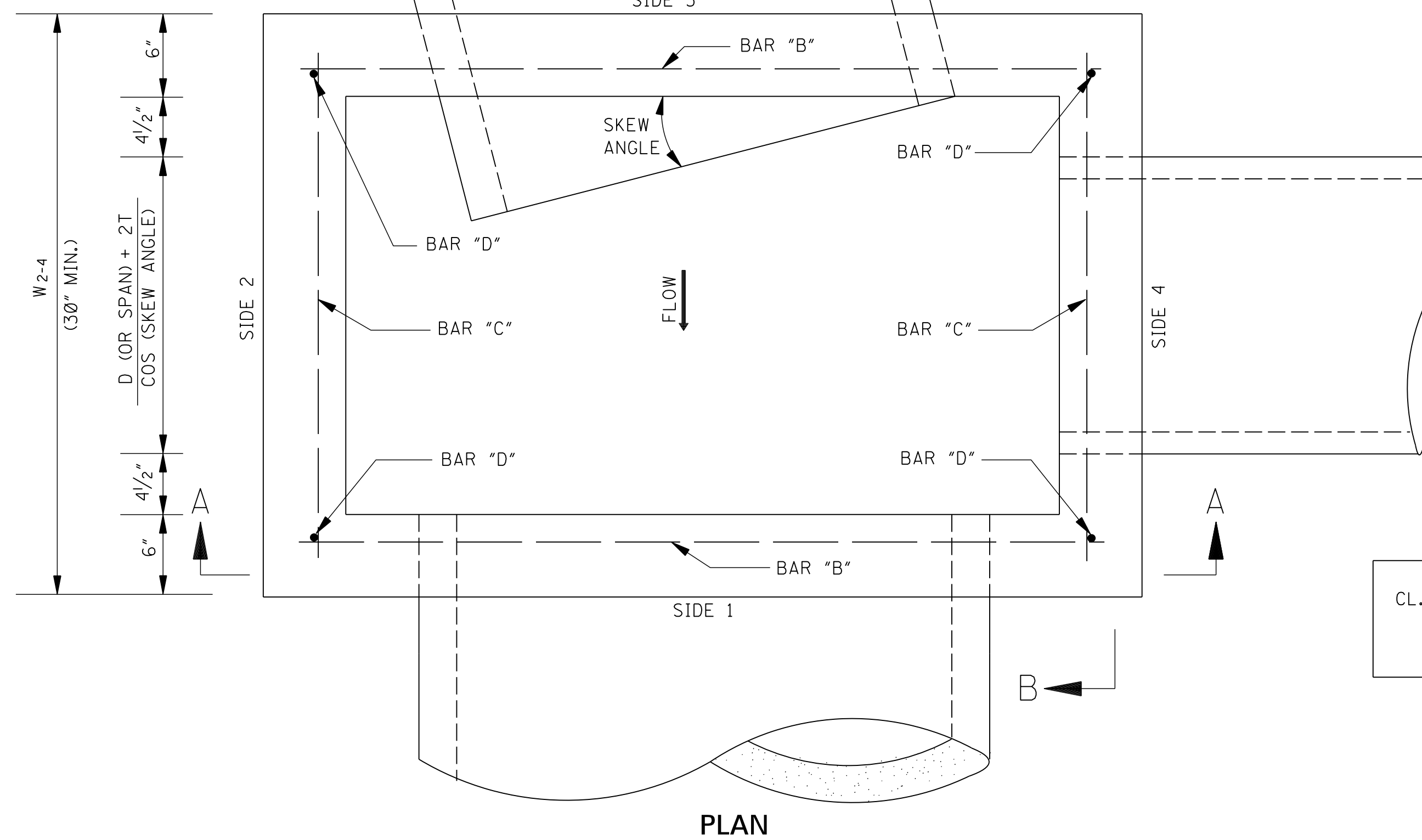
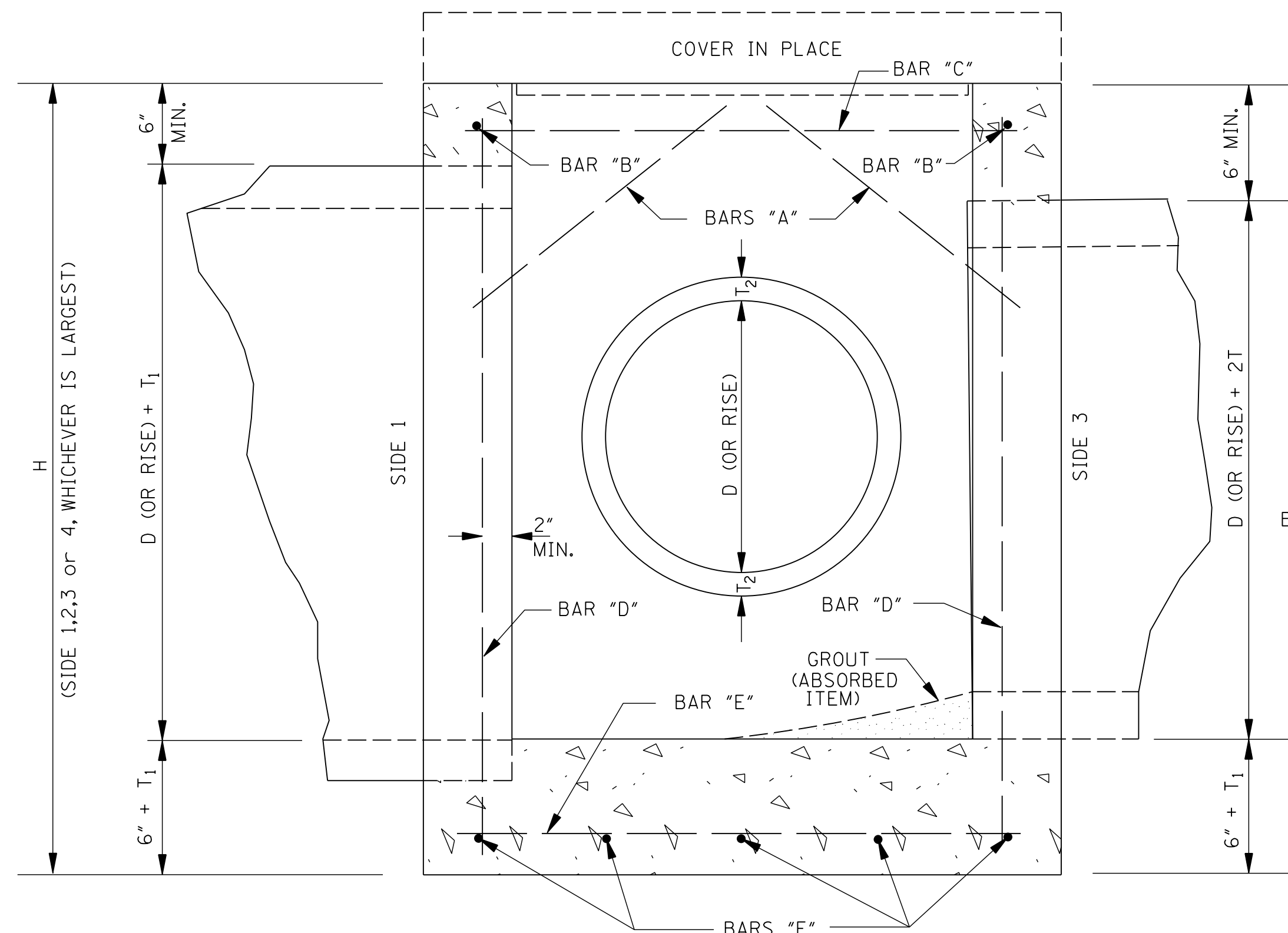
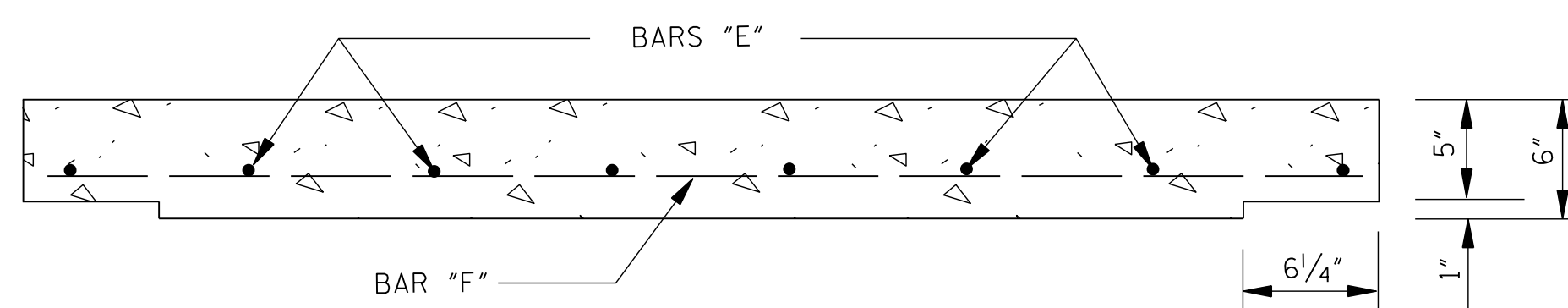
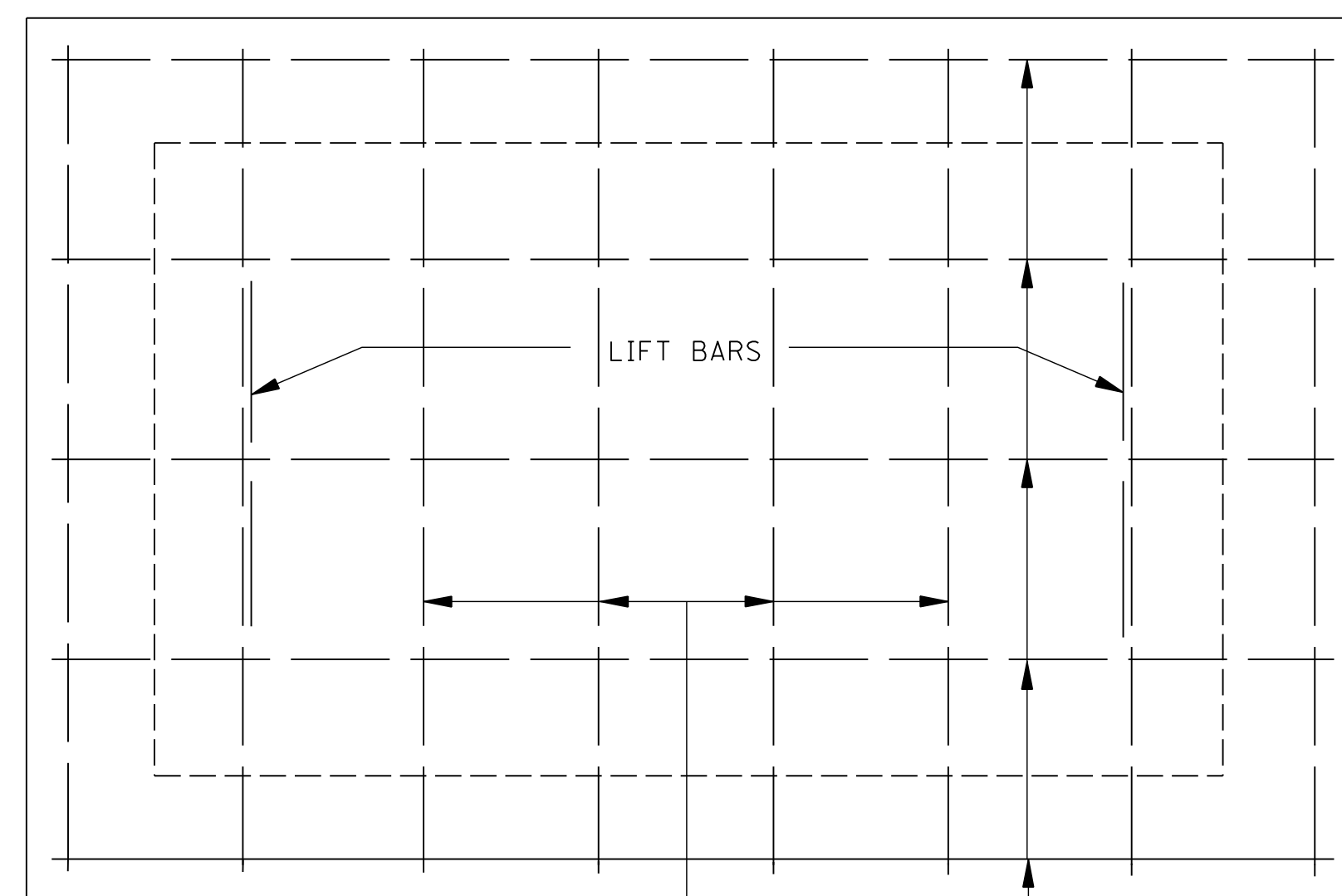
GENERAL NOTES:

1. THE MAXIMUM BEND ANGLE IS 15 DEGREES.
2. THE FOLLOWING QUANTITIES SHALL BE THE BASIS FOR PAYMENT UNLESS AUTHORIZED MODIFICATIONS ARE MADE:

QUANTITIES FOR CONCRETE COLLAR FOR PIPE CULVERTS			
CIRCULAR PIPE		ARCH PIPE	
DIA. OF PIPE	CLASS "B" CONCRETE (yd <sup>3</sup> )	SIZE OF PIPE	CLASS "B" CONCRETE (yd <sup>3</sup> )
12"	0.240		
15"	0.260	18 × 11	0.280
18"	0.320	22 × 13	0.310
24"	0.410	29 × 18	0.410
30"	0.510	36 × 23	0.490
36"	0.620	44 × 27	0.600
42"	0.730	51 × 31	0.690
48"	0.850	58 × 36	0.820
54"	0.980	65 × 40	0.920
60"	1.110	73 × 45	1.070
66"	1.248	88 × 54	1.366
72"	1.393		

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN	
				REVISION		
				DATE	ISSUE DATE: AUGUST 01, 2017	
					<b>CONCRETE PIPE COLLAR</b>	
					 WORKING NUMBER PC-1	
					SHEET NUMBER 6503	





NOTE: LIFT BAR TO BE FABRICATED FROM A #4 BAR 30" LONG. TWO LIFT BARS ARE REQUIRED. REINFORCING STEEL FOR 2 LIFT BARS = 3.3 lbs.

REINFORCING BAR LIST			
BAR	SIZE	NUMBER REQUIRED	LENGTH
A	#4	2 PER PIPE OPENING	$\sqrt{196'' + \left(\frac{W_1}{2} + 2''\right)^2}$
B	#4	2	$W_{1-3} - 6''$
C	#4	2	$W_{2-4} - 6''$
D	#4	4	$H - 6''$
E	#4	$2 \left[ \left( \frac{W_{1-3}}{9''} \right) ** + 1 \right]$	$W_{2-4} - 4''$
F	#4	$2 \left[ \left( \frac{W_{2-4}}{9''} \right) ** + 1 \right]$	$W_{1-3} - 4''$

NOTE: VARIABLES AND DESIGNATIONS ARE AS FOLLOWS:


D (OR SPAN)	=	PIPE DIAMETER (OR SPAN)
W <sub>1-3</sub>	=	WIDTH OF SIDE 1 & SIDE 3
W <sub>2-4</sub>	=	WIDTH OF SIDE 2 & SIDE 4
W*	=	W <sub>1-3</sub> OR W <sub>2-4</sub> (SIDE OF ENTERING PIPE)
**	=	ROUND TO NEAREST WHOLE NUMBER

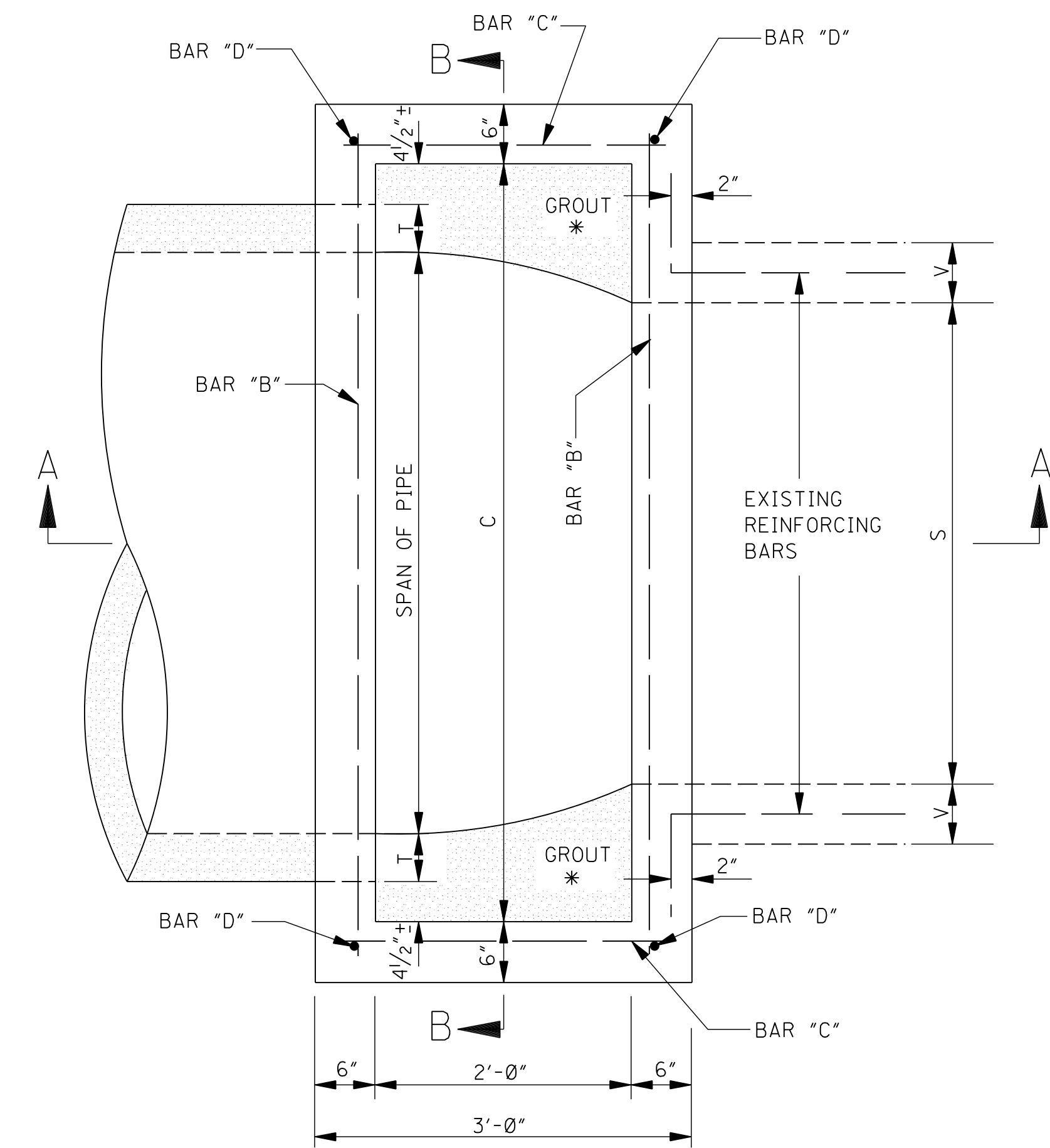
CL. "B" CONC. (yd<sup>3</sup>) = [(Q1 + Q2) / 46,656 ] - Σ PIPE OPENING DEDUCTIONS  
 WHERE: Q1 = [5"W<sub>1-3</sub>W<sub>2-4</sub>] + [1"(W<sub>1-3</sub> - 12.5")W<sub>2-4</sub> - 12.5"] + [(T<sub>1</sub> + 6")W<sub>1-3</sub>W<sub>2-4</sub>]  
 Q2 = 12"[H - (T<sub>1</sub> + 6")][(W<sub>1-3</sub> - 12") + W<sub>2-4</sub>]

COMMON PIPE SIZE						
CIRCULAR PIPE				ARCH PIPE		
PIPE SIZE	T	PIPE OPENING DEDUCTION (yd <sup>3</sup> )		PIPE SIZE	T	PIPE OPENING DEDUCTION (yd <sup>3</sup> )
18"	2½"	0.053		22" x 13"	2½"	0.053
24"	3"	0.091		29" x 18"	3"	0.087
30"	3½"	0.138		36" x 23"	3½"	0.129
36"	4"	0.196		44" x 27"	4"	0.185
42"	4½"	0.263		51" x 31"	4½"	0.245
48"	5"	0.340		58" x 36"	5"	0.318
54"	5½"	0.427		65" x 40"	5½"	0.394
60"	6"	0.524		73" x 45"	6"	0.489
66"	6½"	0.630				
72"	7"	0.747				

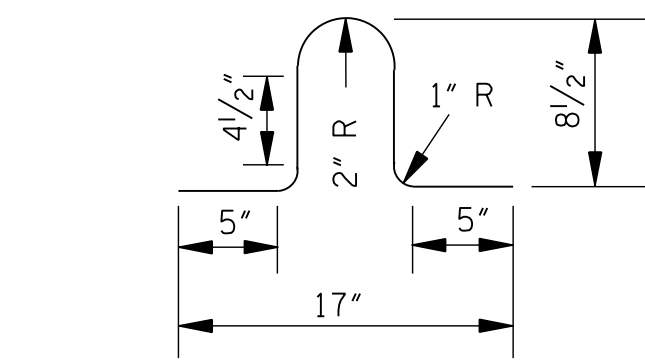
GENERAL NOTES:

1. REINFORCING STEEL QUANTITIES TO BE COMPUTED FROM BAR LIST AND SHOWN ELSEWHERE ON THE PLANS.
2. QUANTITIES FOR JUNCTION BOXES SHOWN ON THE PLANS WILL BE THE BASIS FOR PAYMENT UNLESS AUTHORIZED MODIFICATIONS ARE MADE.
3. CONCRETE SHALL BE CLASS "B" AND REINFORCING STEEL SHALL BE DEFORMED BARS.
4. SIDE 1 OF THE JUNCTION BOX WILL ALWAYS BE THE OUTFLOW SIDE.
5. IF PIPES ARE SKEWED MORE THAN 15° OR IF SKEWED PIPES PRODUCE CONFLICTS WITH ANOTHER OPENING, THE PIPE SHALL BE BROKEN BACK TO THE WALL OF THE JUNCTION BOX.

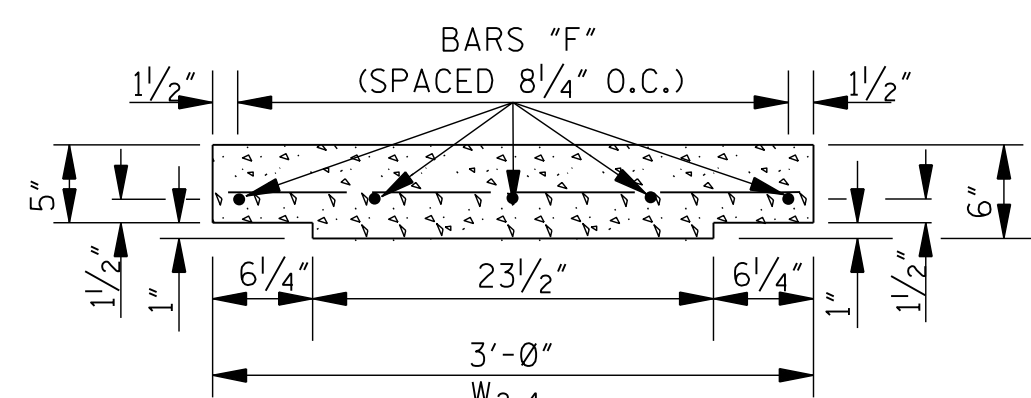
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
					<p align="center"><b><i>JUNCTION BOX FOR PIPE CULVERTS</i></b></p>
				DATE	<div>  <div> WORKING NUMBER JB-1 </div> </div>
					<div> <div> ISSUE DATE: </div> <div> AUGUST 01, 2017 </div> </div>
					<div> <div> SHEET NUMBER 6504 </div> </div>



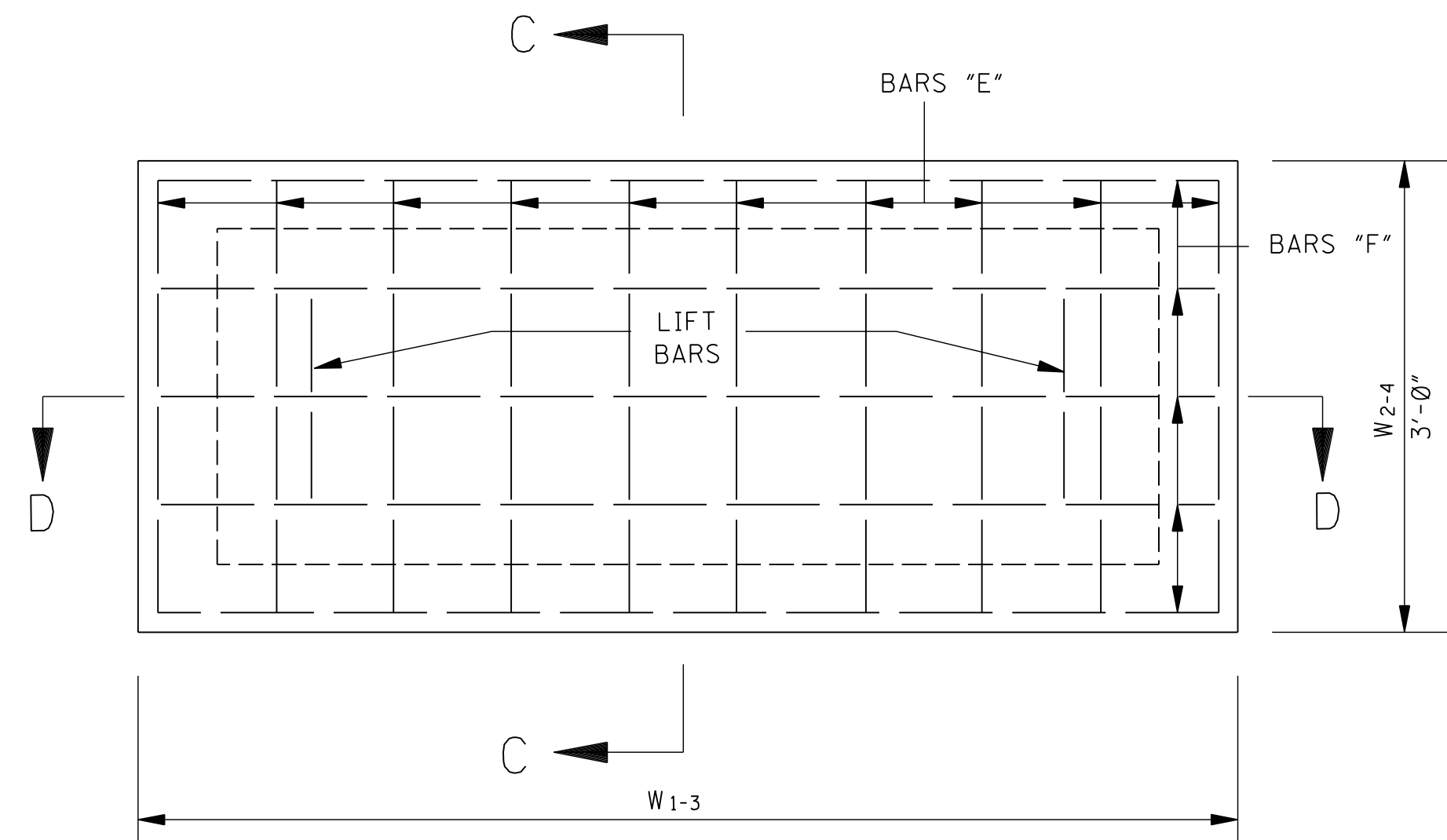
PLAN



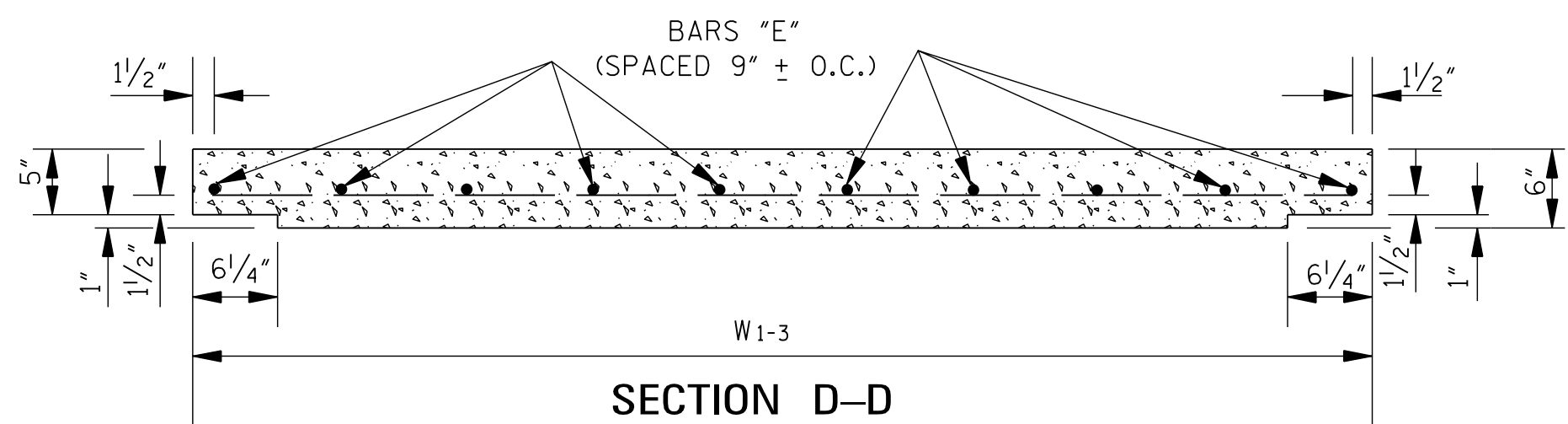
**LIFT BAR**  
NOTE: LIFT BAR TO BE FABRICATED FROM A #4 BAR 30" LONG. TWO LIFT BARS ARE REQUIRED. REINFORCING STEEL FOR 2 LIFT BARS = 3.3 lbs.



SECTION C-C

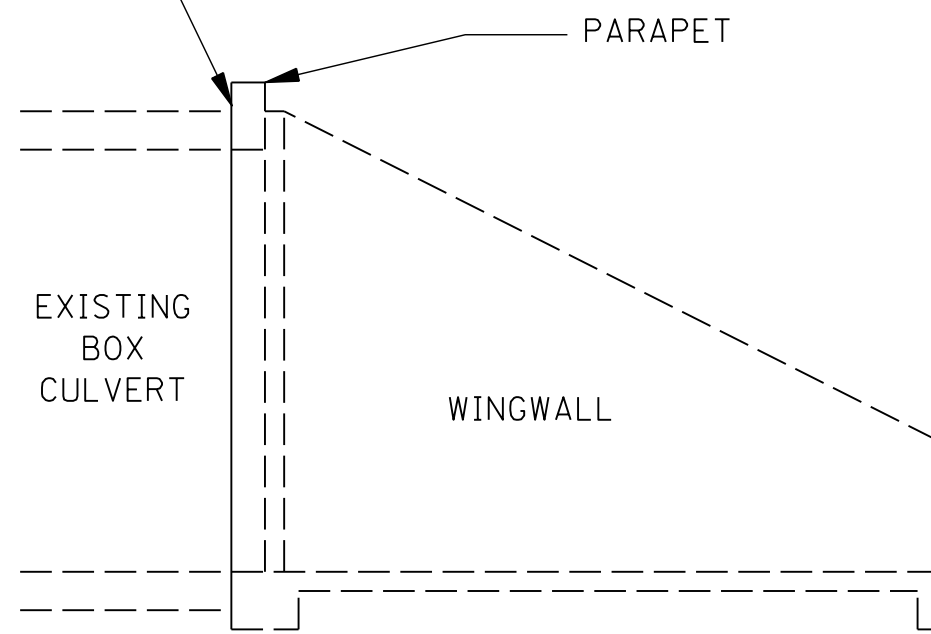


PLAN OF COVER

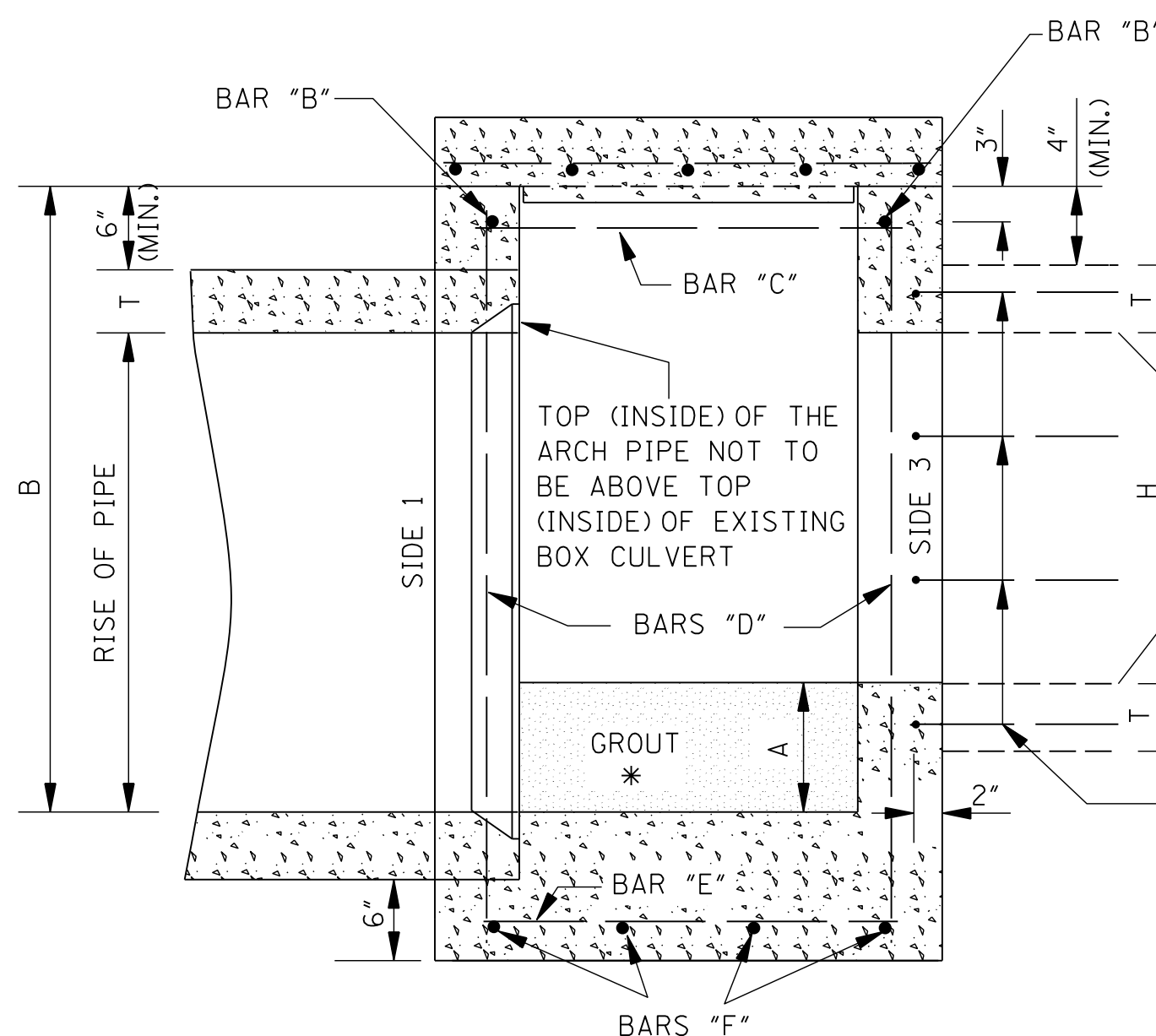


SECTION D-D

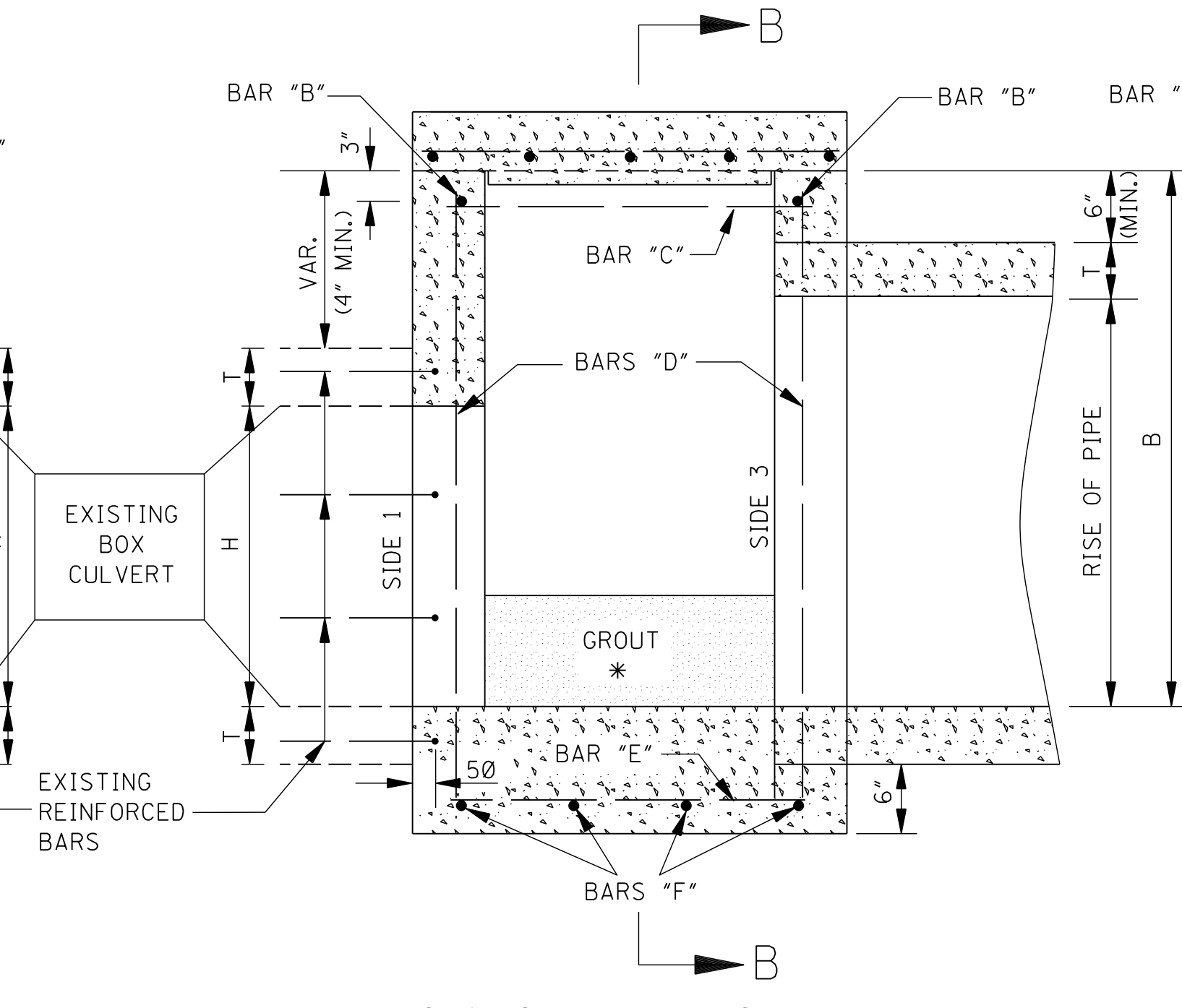
REMOVE HEADWALLS OF EXISTING BOX CULVERT TO A NEAT LINE IMMEDIATELY BEHIND PARAPET LEAVING EXPOSED REINFORCING BARS TO BE BENT AND LOCATED IN INLET AS INDICATED IN DETAILS ELSEWHERE ON THIS DRAWING OR AS DIRECTED.



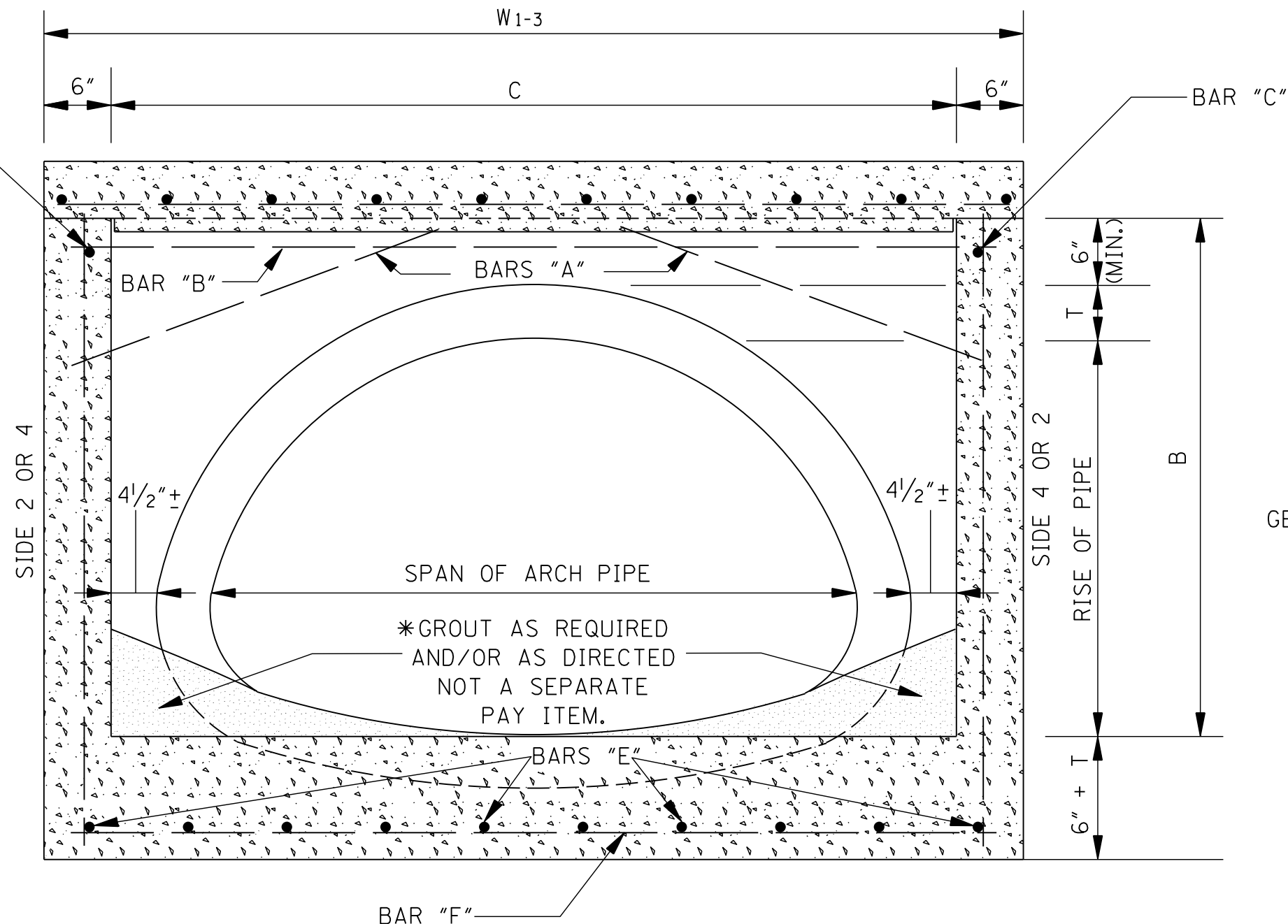
HEADWALL REMOVAL DETAILS



SECTION A-A DOWNSTREAM



SECTION A-A UPSTREAM



SECTION B-B

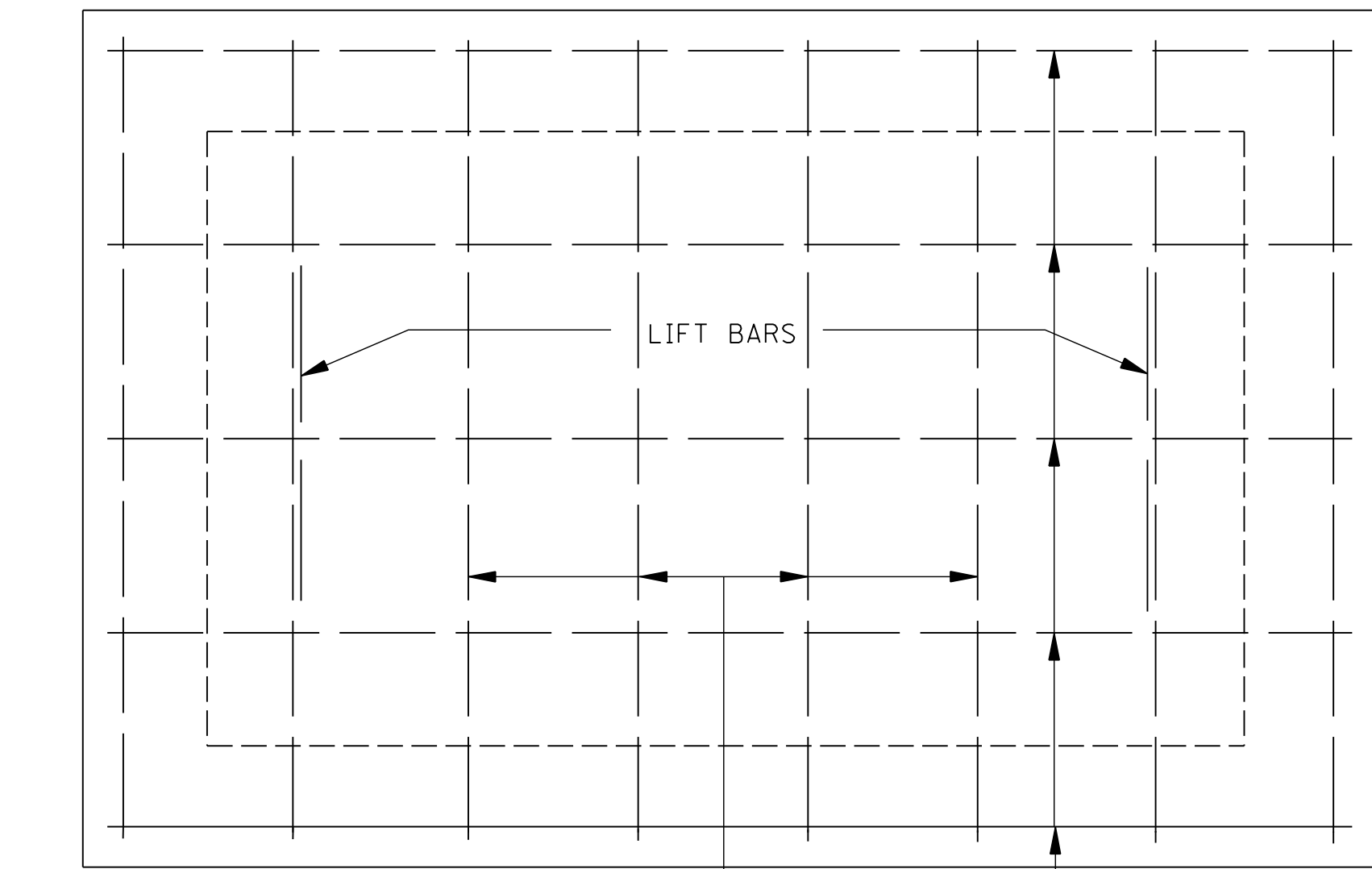
- GENERAL NOTES:
1. THE QUANTITIES SHOWN WILL BE USED AS THE BASIS FOR PAYMENT UNLESS THIS DRAWING IS MODIFIED.
  2. CONCRETE SHALL BE CLASS "B" AND REINFORCING STEEL SHALL BE SIZE #4 DEFORMED BARS.
  3. SIDE 1 OF THE JUNCTION BOX WILL ALWAYS BE THE OUTFLOW SIDE.
  4. ESTIMATE AN ADDITIONAL 3.3 lbs. FOR 2 LIFT BARS.
  5. CONCRETE QUANTITIES SHOWN HAVE BEEN ADJUSTED FOR BOX & PIPE OPENING DEDUCTIONS.

DIMENSIONS OF EXISTING BOX CULVERT				DIMENSIONS OF JUNCTION BOX REQUIRED			DIMENSIONS OF PRECAST COVER		DIMENSIONS OF ARCH PIPE REQUIRED				CLASS "B" STRUCTURAL CONCRETE (yd <sup>3</sup> )	REINFORCING STEEL (lbs)	BAR LIST					
S	H	T	V	A	B	C	W1-3	W2-4	S	R	L	T			"A"	"B"	"C"	"D"	"E"	"F"
2'	2'	6"	6"	0"	32 1/2"	52"	5'-4"	3'	36"	23"	6'	3 1/2"	1.532	78	2 @ 3'-1"	2 @ 4'-10"	2 @ 2'-6"	4 @ 3'-3"	16 @ 2'-6"	9 @ 4'-10"
3'	2'	6 1/2"	6"	3"	37"	61"	6'-1"	3'	44"	27"	8'	4"	1.764	89	2 @ 3'-5"	2 @ 5'-7"	2 @ 2'-6"	4 @ 3'-8"	18 @ 2'-6"	9 @ 5'-7"
4'	2'	7"	6"	7"	41 1/2"	69"	6'-9"	3'	51"	31"	8'	4 1/2"	1.996	99	2 @ 3'-9"	2 @ 6'-3"	2 @ 2'-6"	4 @ 4'-1"	20 @ 2'-6"	9 @ 6'-3"
5'	2'	7 1/2"	6"	12"	47"	77"	7'-5"	3'	58"	36"	8'	5"	2.258	105	2 @ 4'-1"	2 @ 6'-11"	2 @ 2'-6"	4 @ 4'-7"	20 @ 2'-6"	9 @ 6'-11"
3'	3'	6 1/2"	6"	0"	45 1/2"	69"	6'-9"	3'	51"	31"	8'	4 1/2"	1.995	99	2 @ 3'-9"	2 @ 6'-3"	2 @ 2'-6"	4 @ 4'-5"	20 @ 2'-6"	9 @ 6'-3"
4'	3'	7"	6"	0"	47"	77"	7'-5"	3'	58"	36"	8'	5"	2.238	105	2 @ 4'-1"	2 @ 6'-11"	2 @ 2'-6"	4 @ 4'-7"	20 @ 2'-6"	9 @ 6'-11"
5'	3'	7 1/2"	6 1/2"	4"	51 1/2"	85"	8'-1"	3'	65"	40"	8'	5 1/2"	2.469	115	2 @ 4'-4"	2 @ 7'-7"	2 @ 2'-6"	4 @ 5'-0"	22 @ 2'-6"	9 @ 7'-7"
6'	3'	8"	6 1/2"	9"	57"	94"	8'-10"	3'	73"	45"	8'	6"	2.767	126	2 @ 4'-9"	2 @ 8'-4"	2 @ 2'-6"	4 @ 5'-6"	24 @ 2'-6"	9 @ 8'-4"

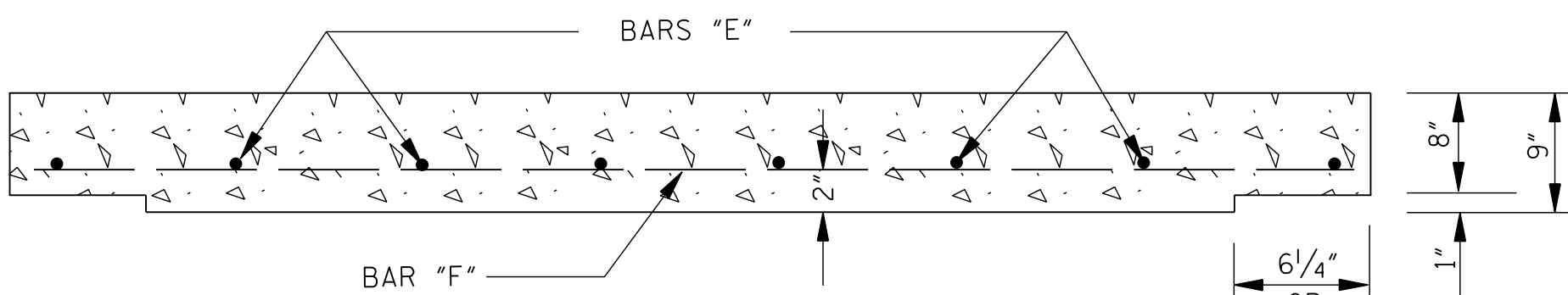
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN				
				REVISION	<b>JUNCTION BOX FOR BOX CULVERT TO CONCRETE ARCH PIPE</b>				
				DATE					
				ISSUE DATE:	AUGUST 01, 2017				

WORKING NUMBER  
JB-1A

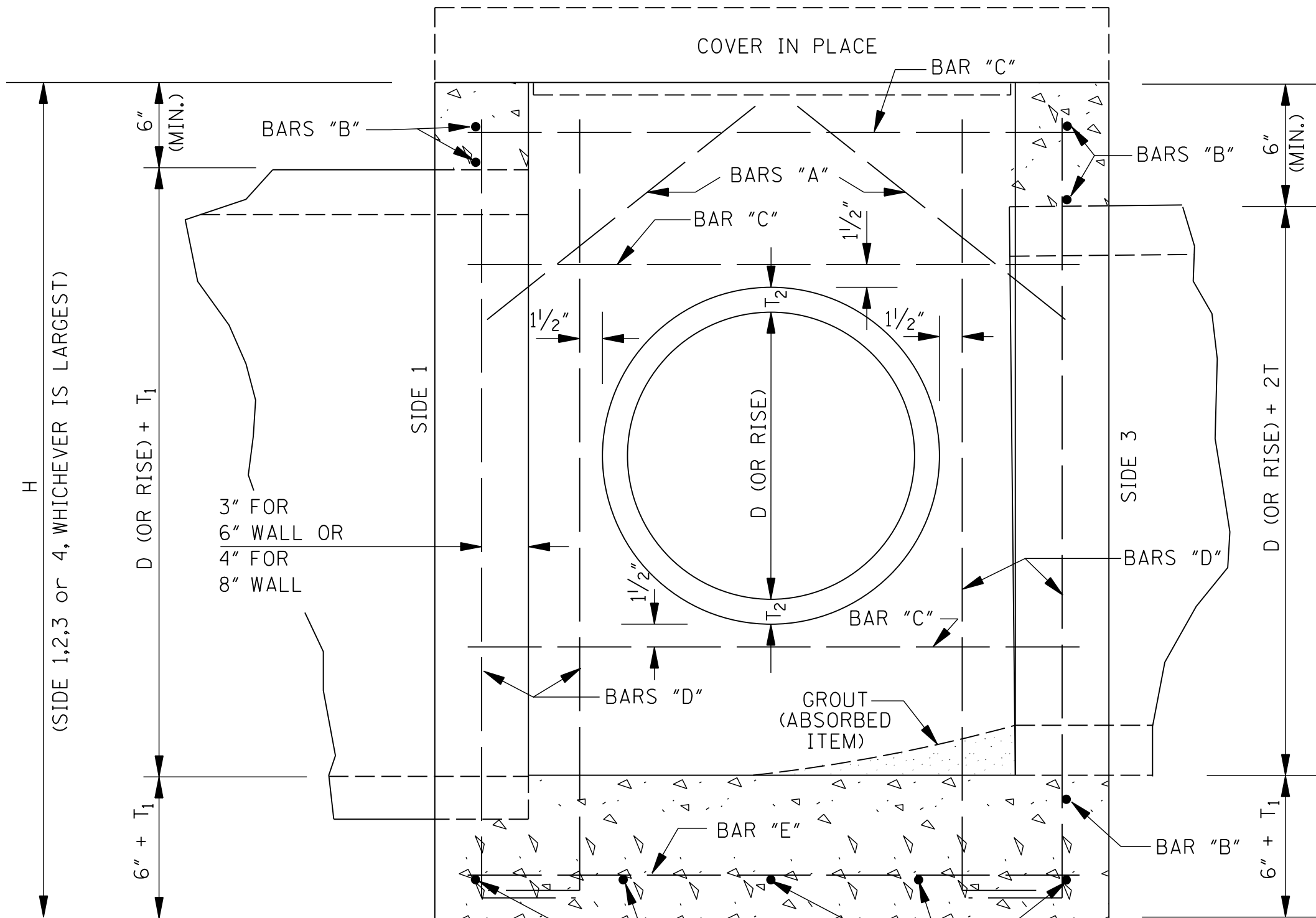
SHEET NUMBER  
6505



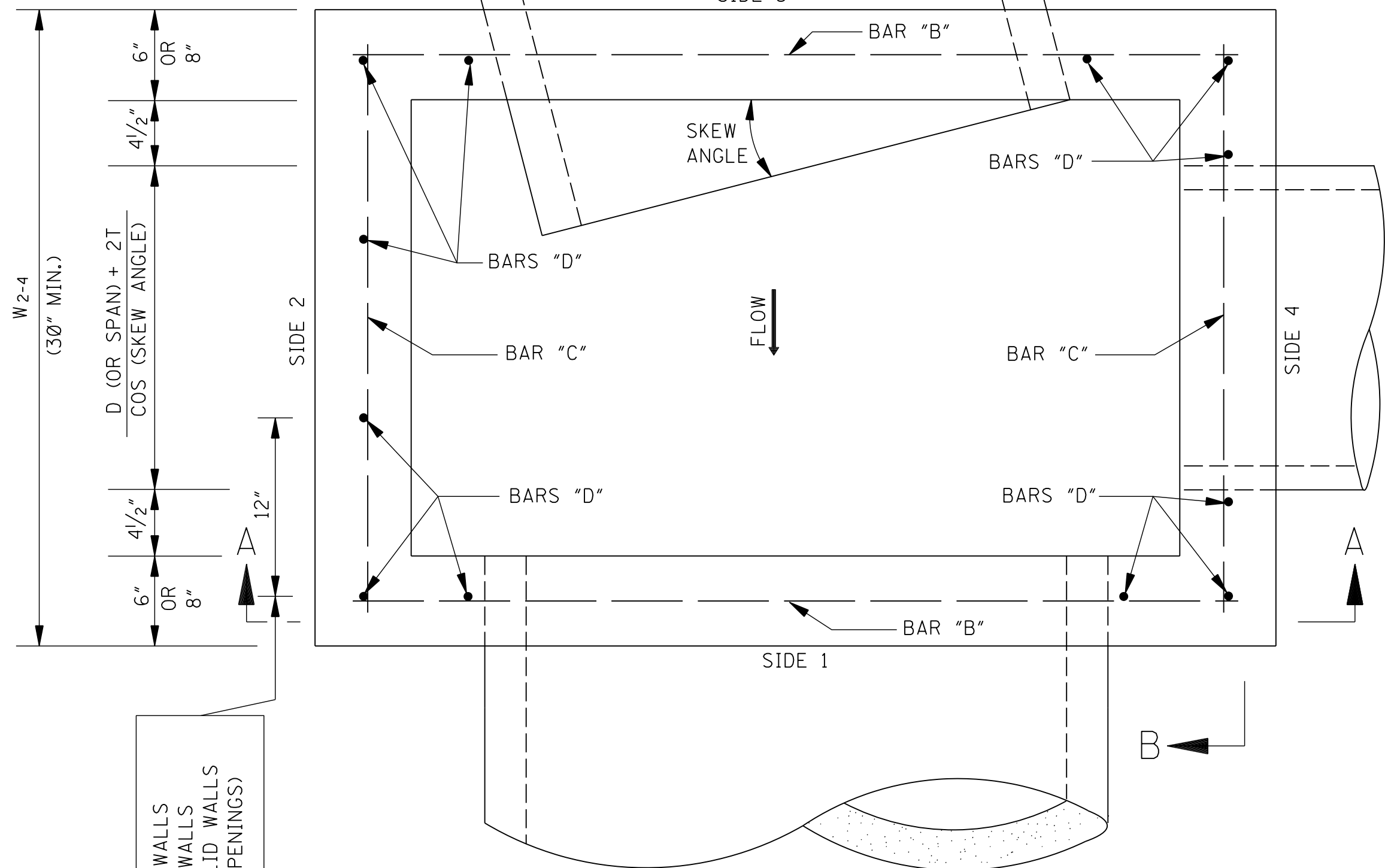
PLAN OF COVER



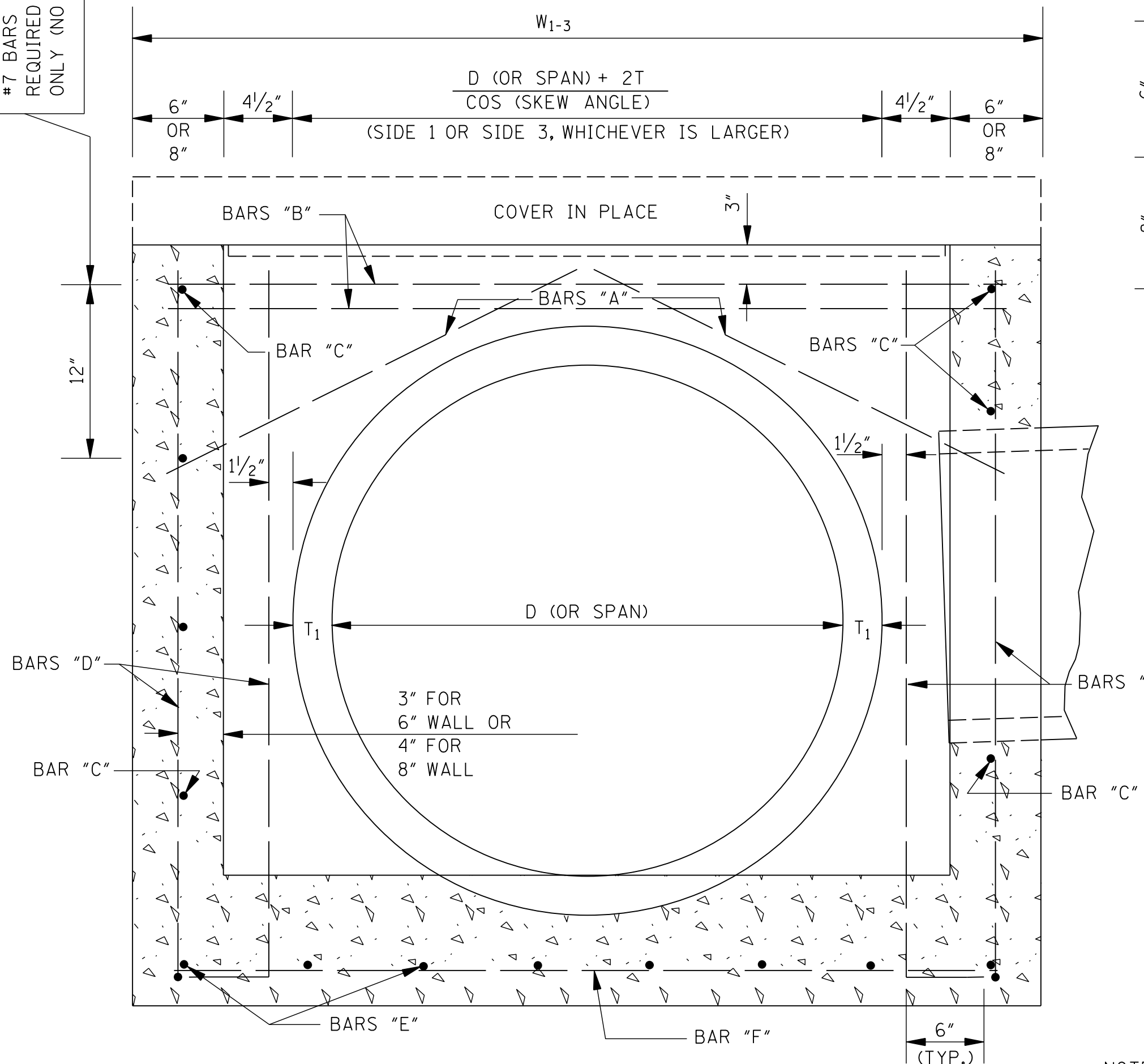
ELEVATION OF COVER



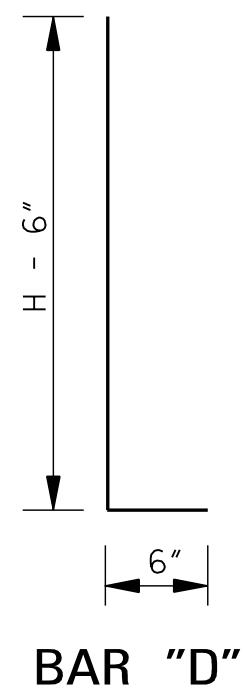
SECTION B-B



PLAN



SECTION A-A



BAR "D"

REINFORCING BAR LIST			
BAR	SIZE	NUMBER REQUIRED	LENGTH
"A"	#4	2 PER PIPE OPENING	$\sqrt{196 + \left(\frac{W*}{2} + 2\right)^2}$
"B"	#6 FOR 6" WALL	2 + [2 PER OPENING SIDE 3] + [1 PER SIDE 1] + [12" O.C. FOR SOLID WALL]	$W_{1-3} - 4"$
"C"	#7 FOR 8" WALL	2 + [2 PER OPENING] + [12" O.C. FOR SOLID WALL]	$W_{2-4} - 4"$
"D"	#7 FOR 8" WALL	4 + [2 PER OPENING] + [12" O.C. FOR SOLID WALL]	H
"E"	#6	$2 \left[ \left( \frac{W_{1-3}}{6} \right) ** + 1 \right]$	$W_{2-4} - 4"$
"F"	#6	$2 \left[ \left( \frac{W_{2-4}}{6} \right) ** + 1 \right]$	$W_{1-3} - 4"$

NOTE: VARIABLES AND DESIGNATIONS ARE AS FOLLOWS:  
D (OR SPAN) = PIPE DIAMETER (OR SPAN)  
W<sub>1-3</sub> = WIDTH OF SIDE 1 & SIDE 3  
W<sub>2-4</sub> = WIDTH OF SIDE 2 & SIDE 4  
W\* = W<sub>1-3</sub> OR W<sub>2-4</sub> (SIDE OF ENTERING PIPE)  
\*\* = ROUND TO NEAREST WHOLE NUMBER

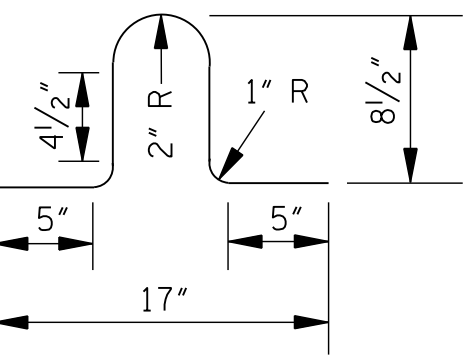
CL. "B" CONC. (yd<sup>3</sup>) = [(Q1 + Q2) / 46,656] - Σ PIPE OPENING DEDUCTIONS  
WHERE: 6" WALL  
Q1 = [8"W<sub>1-3</sub>W<sub>2-4</sub>] + [1"(W<sub>1-3</sub> - 12.5')(W<sub>2-4</sub> - 12.5')] + [(T<sub>1</sub> + 6")W<sub>1-3</sub>W<sub>2-4</sub>]  
Q2 = 12"[H - (T<sub>1</sub> + 6")][(W<sub>1-3</sub> - 12") + W<sub>2-4</sub>]  
OR: 8" WALL  
Q1 = [8"W<sub>1-3</sub>W<sub>2-4</sub>] + [1"(W<sub>1-3</sub> - 16.5')(W<sub>2-4</sub> - 16.5')] + [(T<sub>1</sub> + 6")W<sub>1-3</sub>W<sub>2-4</sub>]  
Q2 = 16"[H - (T<sub>1</sub> + 6")][(W<sub>1-3</sub> - 16") + W<sub>2-4</sub>]

COMMON PIPE SIZE							
CIRCULAR PIPE				ARCH PIPE			
PIPE SIZE	T	PIPE OPENING DEDUCTION (yd <sup>3</sup> )		PIPE SIZE	T	PIPE OPENING DEDUCTION (yd <sup>3</sup> )	
		6" WALL	+8" WALL			6" WALL	+8" WALL
18"	2½"	0.053	0.071	22" X 13"	2½"	0.053	0.071
24"	3"	0.091	0.121	29" X 18"	3"	0.087	0.116
30"	3½"	0.138	0.184	36" X 23"	3½"	0.129	0.172
36"	4"	0.196	0.261	44" X 27"	4"	0.185	0.247
42"	4½"	0.263	0.350	51" X 31"	4½"	-	0.327
48"	5"	-	0.453	58" X 36"	5"	-	0.424
54"	5½"	-	0.569	65" X 40"	5½"	-	0.525
60"	6"	-	0.699	73" X 45"	6"	-	0.652
66"	6½"	-	0.840				
72"	7"	-	0.996				

+ NOTE: IF ANY PIPE REQUIRING A 8" WALL IS USED, ALL WALLS SHALL BE 8" REGARDLESS OF PIPE SIZE.

GENERAL NOTES:

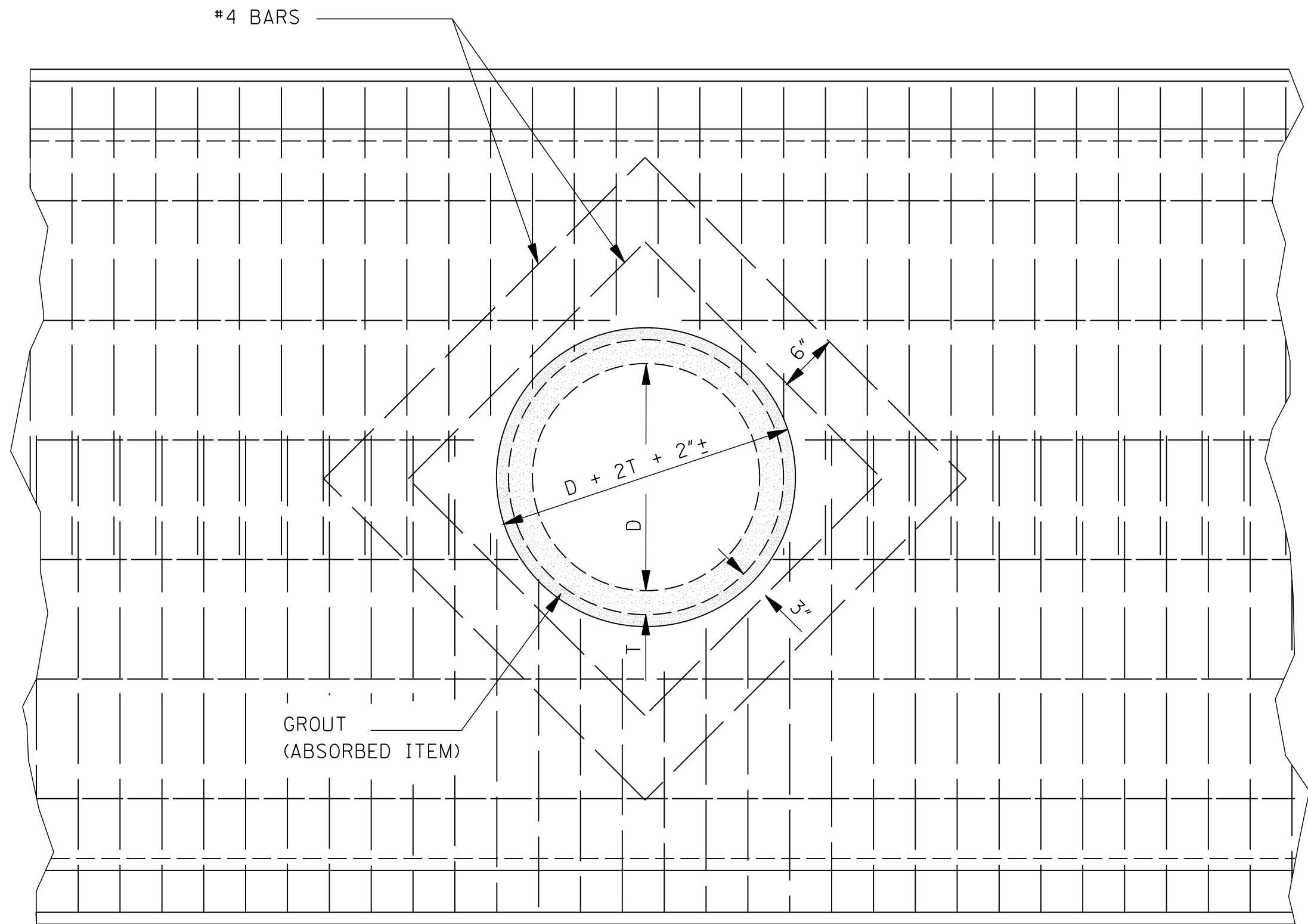
- REINFORCING STEEL QUANTITIES TO BE COMPUTED FROM BAR LIST AND SHOWN ELSEWHERE ON THE PLANS.
- QUANTITIES FOR JUNCTION BOXES SHOWN ON THE PLANS WILL BE THE BASIS FOR PAYMENT UNLESS AUTHORIZED MODIFICATIONS ARE MADE.
- CONCRETE SHALL BE CLASS "B" AND REINFORCING STEEL SHALL BE DEFORMED BARS, ASTM A 615, GRADE 60 OR AASHTO M 31, GRADE 60.
- SIDE 1 OF THE JUNCTION BOX WILL ALWAYS BE THE OUTFLOW SIDE.
- IF PIPES ARE SKEWED MORE THAN 15° OR IF SKEWED PIPES PRODUCE CONFLICTS WITH ANOTHER OPENING, THE PIPE SHALL BE BROKEN BACK TO THE WALL OF THE JUNCTION BOX.



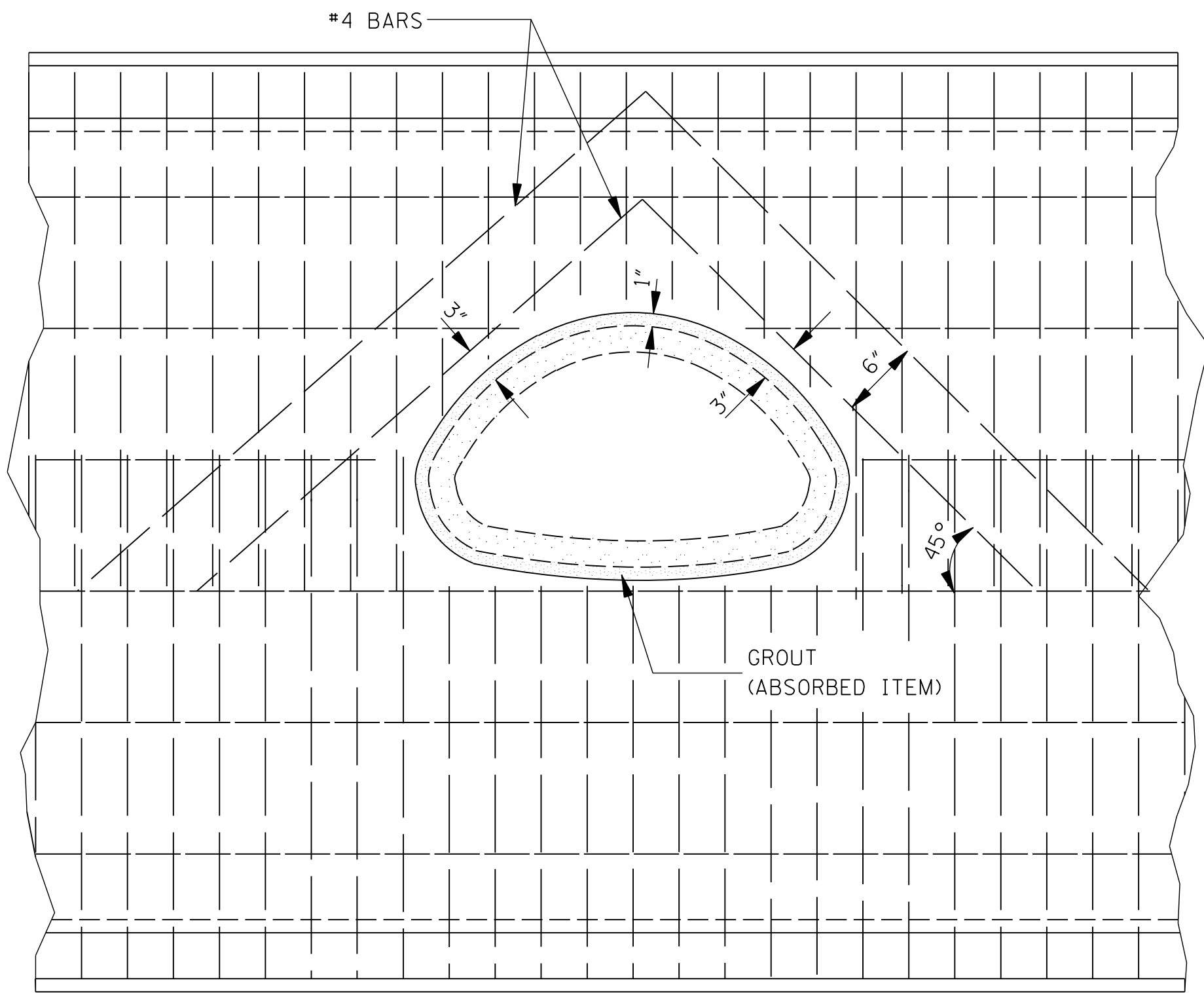
LIFT BAR

NOTE: LIFT BAR TO BE FABRICATED FROM A #4 BAR 30" LONG. TWO LIFT BARS ARE REQUIRED. REINFORCING STEEL FOR 2 LIFT BARS = 3.3 lbs.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>JUNCTION BOX TYPE 2 FOR TRAFFIC LOAD (MAXIMUM "W"=9'-3")</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					WORKING NUMBER JB-2
					SHEET NUMBER 6506



ELEVATION SHOWING CIRCULAR PIPE  
STUBBED INTO BOX CULVERT BARREL OR WING-WALL



ELEVATION SHOWING ARCH PIPE STUBBED  
INTO BOX CULVERT BARREL OR WING-WALL

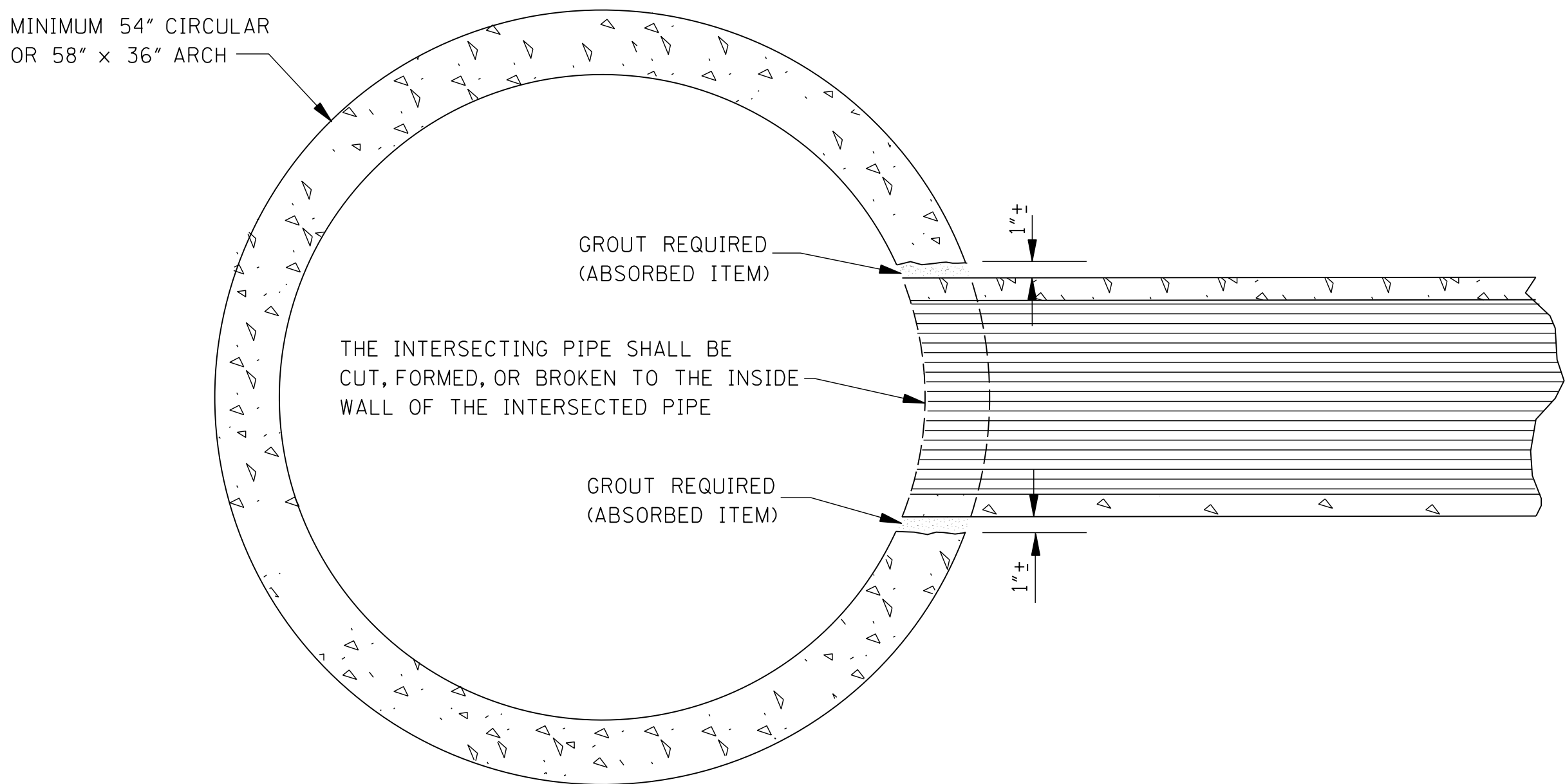
BAR LIST		
PIPE SIZE	#4 BARS NO.	LGTH.
18"	4	2'-6"
	4	3'-6"
24"	4	3'-1"
	4	4'-1"
30"	4	3'-8 1/2"
	4	4'-8 1/2"
22" X 13"	2	3'-10"
	2	4'-9"
	1	5'-4"
29" X 18"	2	4'-6"
	2	5'-5"
	1	6'-3"

NOTES:

- A 24" DIAMETER PIPE IS THE MAXIMUM SIZE THAT MAY BE STUBBED INTO A 54" DIAMETER PIPE.
- A 60" DIAMETER PIPE IS THE MINIMUM SIZE THAT A 30" DIAMETER PIPE MAY BE STUBBED INTO.

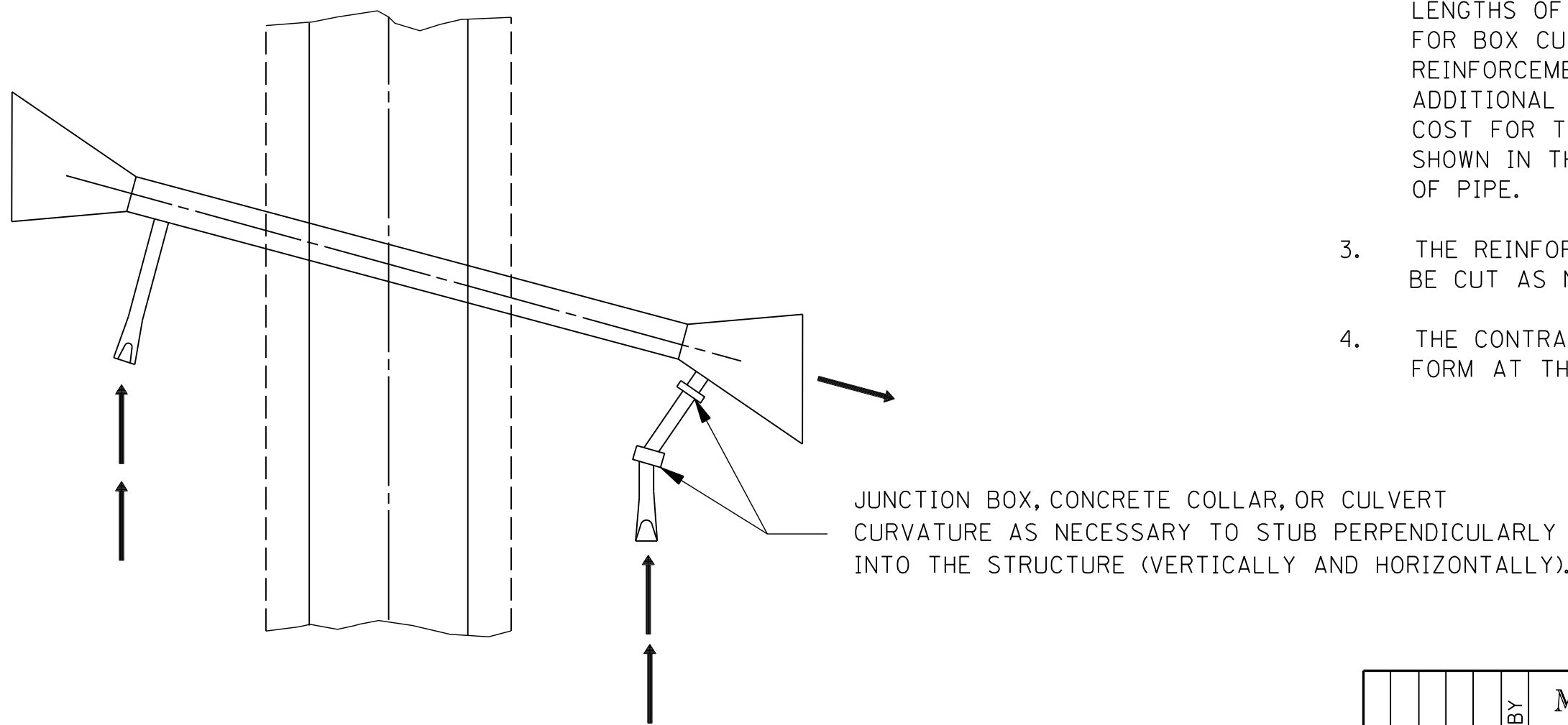
GENERAL NOTES:

- PAYMENT FOR WORK AND MATERIALS FOR STUBBING A PIPE CULVERT INTO A BOX CULVERT OR CONCRETE PIPE SHALL BE PAID FOR AS A BRANCH CONNECTION OF THE APPROPRIATE SIZE, TYPE AND DESCRIPTION.
- THE TABLE ON THIS SHEET INDICATES THE NUMBER AND LENGTHS OF ADDITIONAL REINFORCING STEEL BARS REQUIRED FOR BOX CULVERTS CONSTRUCTED. FOR A DOUBLE ROW OF REINFORCEMENT, DOUBLE THE NUMBER OF BARS SHOWN. THE ADDITIONAL REINFORCING STEEL SHALL BE INCLUDED IN THE COST FOR THIS TYPE OF BRANCH CONNECTION. THE QUANTITIES SHOWN IN THE TABLE ARE FOR THE MOST COMMON SIZES OF PIPE.
- THE REINFORCEMENT OF THE INTERSECTED BOX OR PIPE SHALL BE CUT AS NECESSARY TO ACCOMMODATE THE STUBBED PIPE.
- THE CONTRACTOR MAY INSERT THE INTERSECTING PIPE INTO THE FORM AT THE PROPER LOCATION IN LIEU OF FORMING BY BLOCKING OUT.



ELEVATION SHOWING PIPE CULVERT  
STUBBED INTO CONCRETE PIPE CULVERT

NOTE: TYPICAL INSTALLATION FOR MEDIAN STUB TO  
CROSSING DRAIN WITH MINIMUM COVER.



TYPICAL PLAN OF BRANCH CONNECTION  
TO BOX CULVERT WING-WALL

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN	
				REVISION		
				DATE	ISSUE DATE: AUGUST 01, 2017	

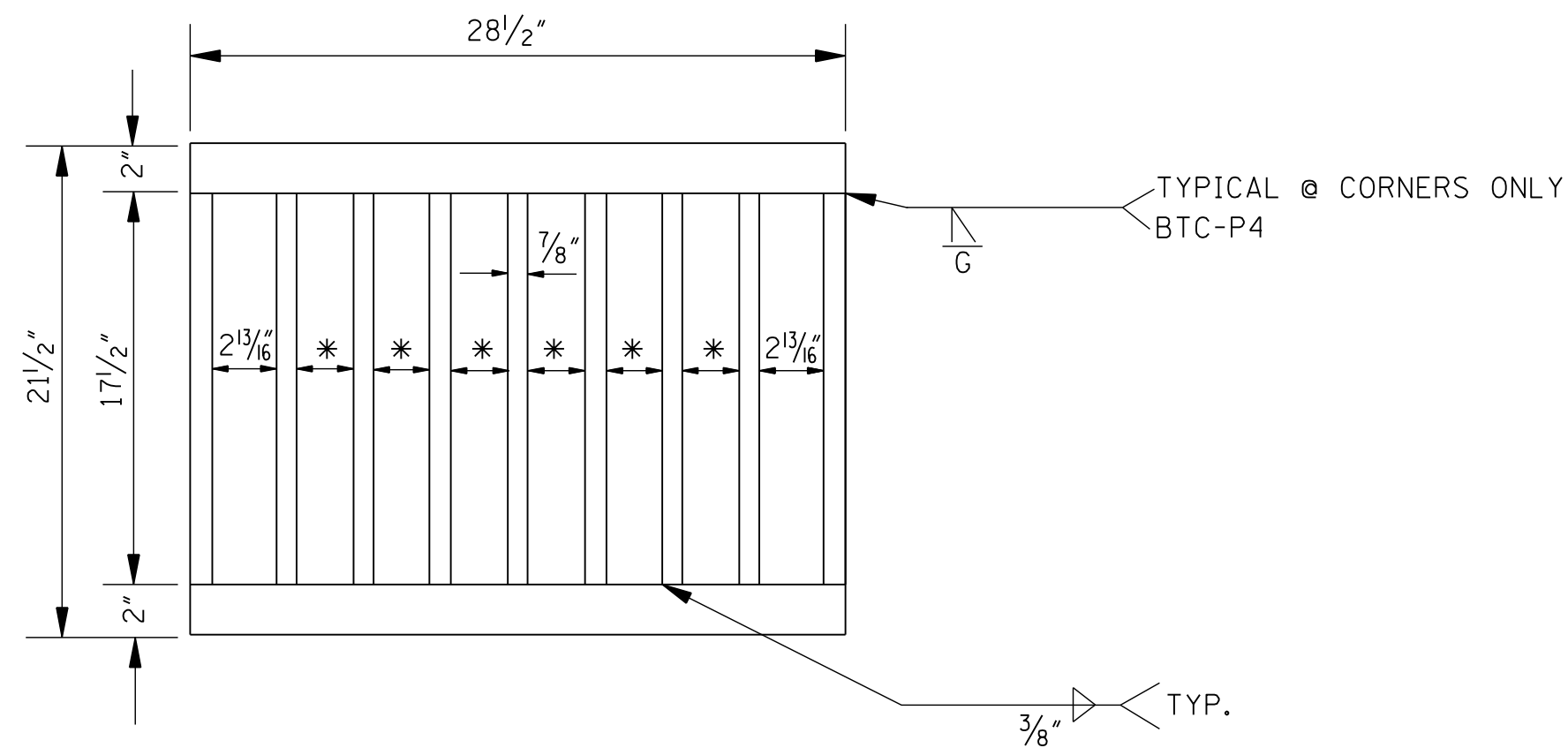
BRANCH CONNECTIONS

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

WORKING NUMBER  
BC-1

SHEET NUMBER  
6507





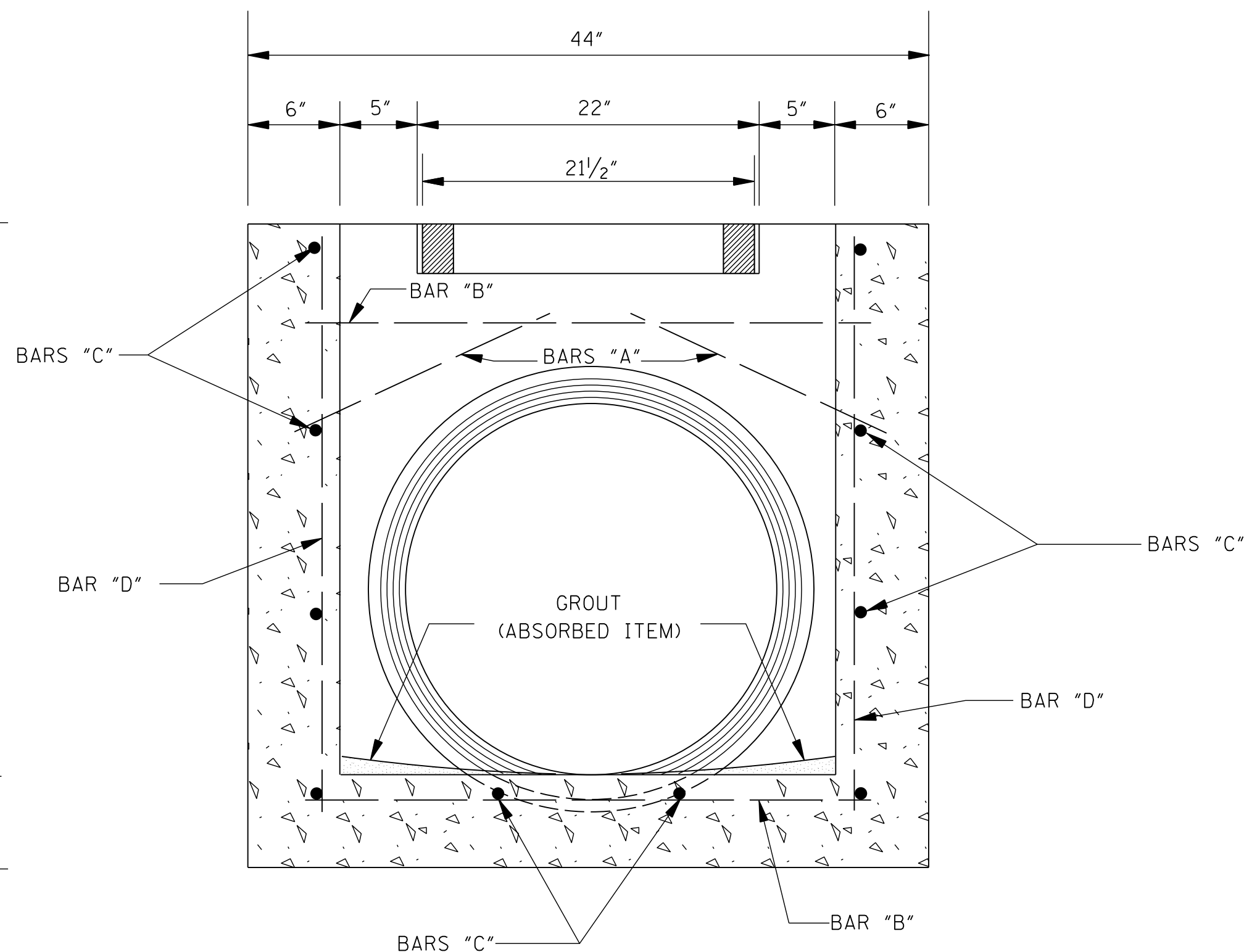
\* NOTE: TYPICAL SPACING 2 1/2"

PIPE SIZE	MIN. DEPTH TO F.L.	QUANTITIES				T	PIPE OPENING DEDUCTION (yd <sup>3</sup> )
		MIN. DEPTH INLET		EACH ADDED FOOT			
		CONC. (yd <sup>3</sup> )	STEEL (lbs)	CONC. (yd <sup>3</sup> )	STEEL (lbs)		
18"	2.500'	0.670	48	0.211	10	2 1/2"	0.053
24"	3.042'	0.747	54	0.211	10	3"	0.091
22" X 13"	2.125'	0.591	46	0.211	10	2 1/2"	0.053

NOTE: ONE (1) PIPE OPENING DEDUCTED FROM INLET.

BAR LIST FOR MINIMUM DEPTH INLET				
PIPE SIZE	BARS/SIZES			
	"A" #4	"B" #4	"C" #4	"D" #4
	NO. @ LGTH.	NO. @ LGTH.	NO. @ LGTH.	NO. @ LGTH.
18"	2 @ 1'-6"	6 @ 3'-2"	10 @ 2'-5"	10 @ 2'-6"
24"	2 @ 1'-6"	7 @ 3'-2"	10 @ 2'-5"	10 @ 3'-1"
22" x 13"	2 @ 1'-6"	6 @ 3'-2"	10 @ 2'-5"	10 @ 2'-4"


## PLAN OF CONCRETE DIMENSIONS

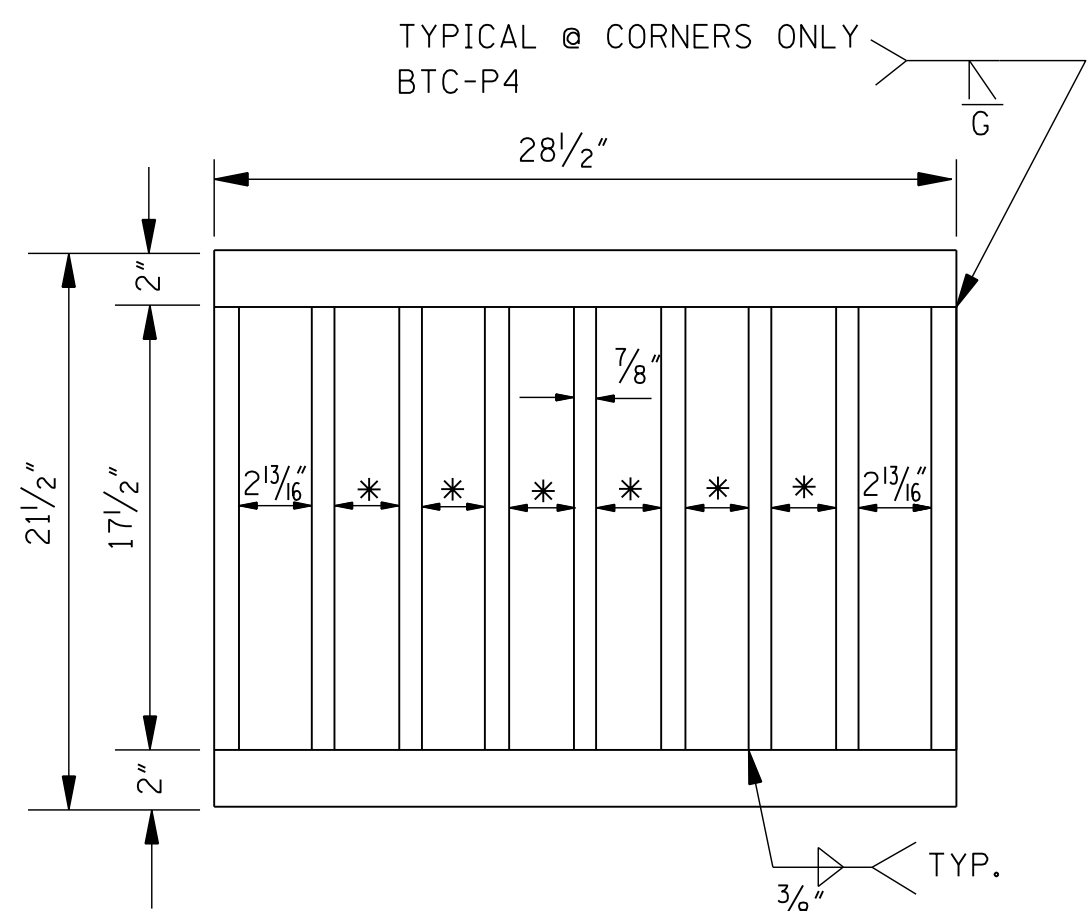


SECTION B-B

GENERAL NOTES:

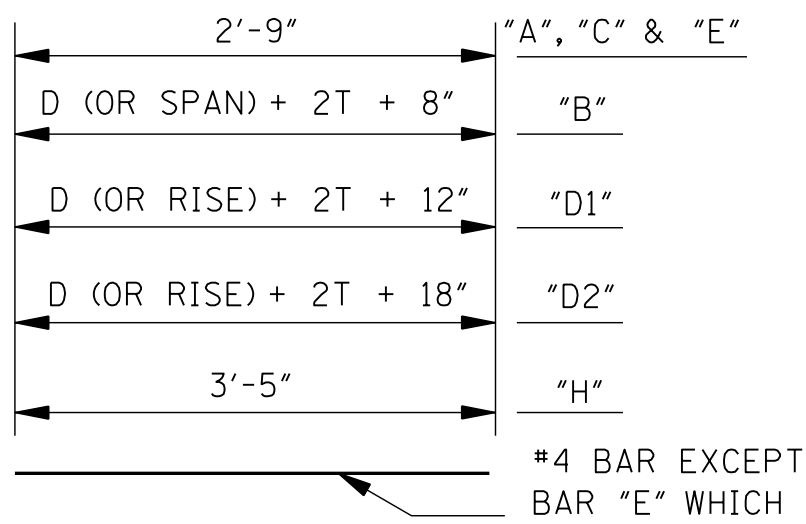
1. QUANTITIES SHOWN WILL BE THE BASIS OF PAYMENT UNLESS AUTHORIZED MODIFICATIONS ARE MADE.
2. INLET:
  - A. THE INLET ON THIS DRAWING IS SHOWN AS THE ENTRANCE TO A PIPE CULVERT BUT MAY ALSO BE USED ON A CROSSEDRAIN.
  - B. THE CONCRETE SHALL BE CLASS "B".
  - C. THE REINFORCEMENT SHALL BE SPACED A MAXIMUM OF 12" ON CENTER BOTH WAYS WITH A MINIMUM CLEARANCE OF 1" TO THE INSIDE OF THE INLET WALLS.
3. GRATE: THE CONTRACTOR HAS THE OPTION TO PROVIDE GRATE NO. 1 OR GRATE NO. 2 AS SHOWN ON SHEET IG-1.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN  <b><i>TYPE I MEDIAN INLET (24" PIPE AND UNDER)</i></b>   WORKING NUMBER MI-1 SHEET NUMBER 6508
				REVISION	
			DATE	ISSUE DATE: AUGUST 01, 2017	

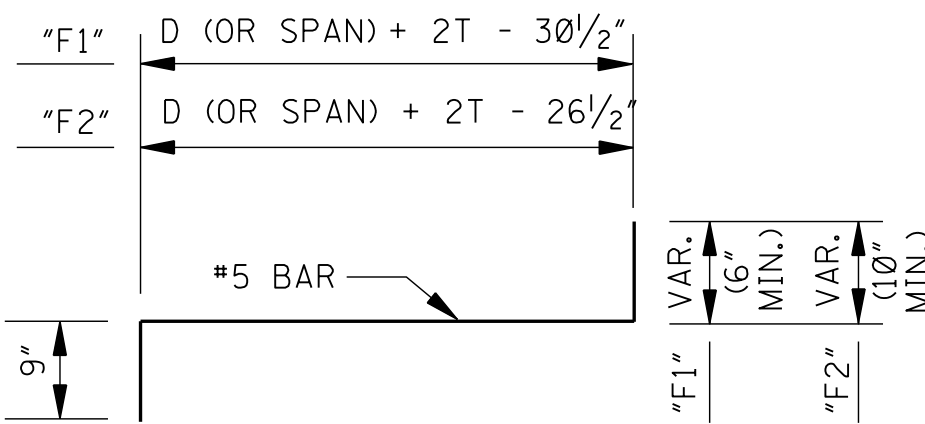


PLAN OF GRATE NO. 1

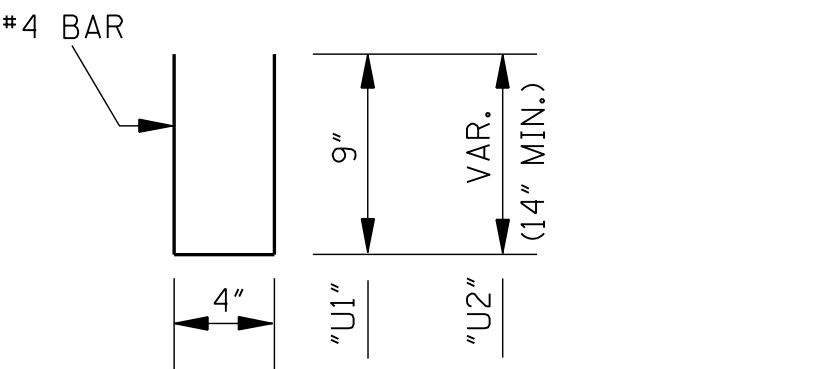
\*NOTE: TYPICAL SPACING 2 1/2"



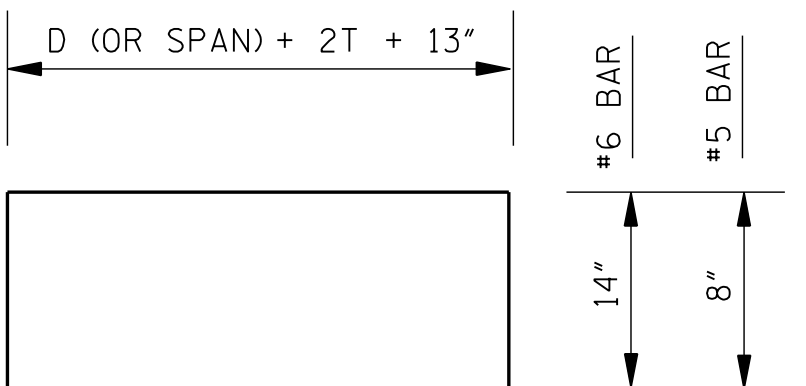
BAR S "A", "C", "E", "B", "D1", "D2" & "H"



BAR S "F1" & "F2"



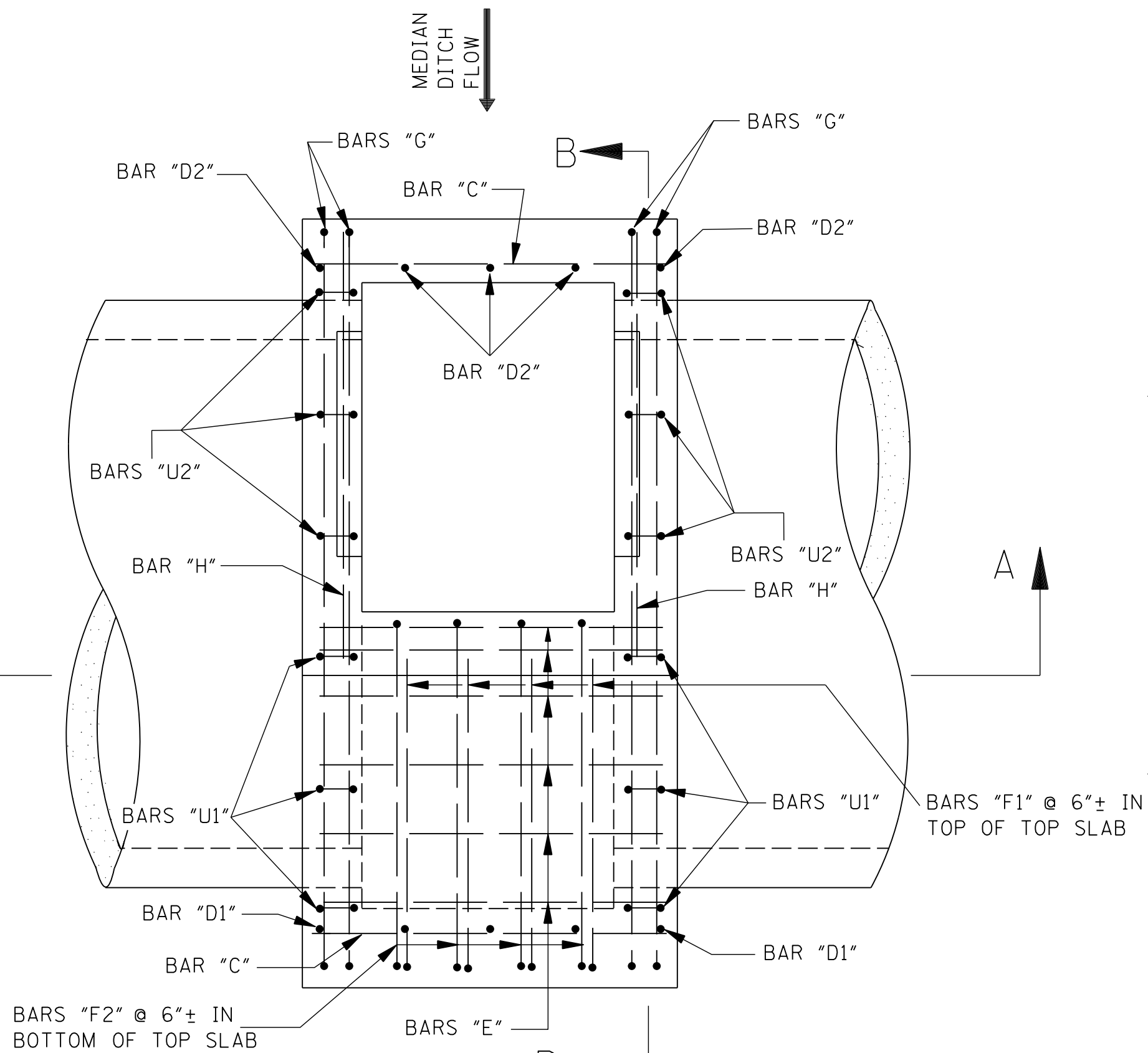
BAR S "U1" & "U2"



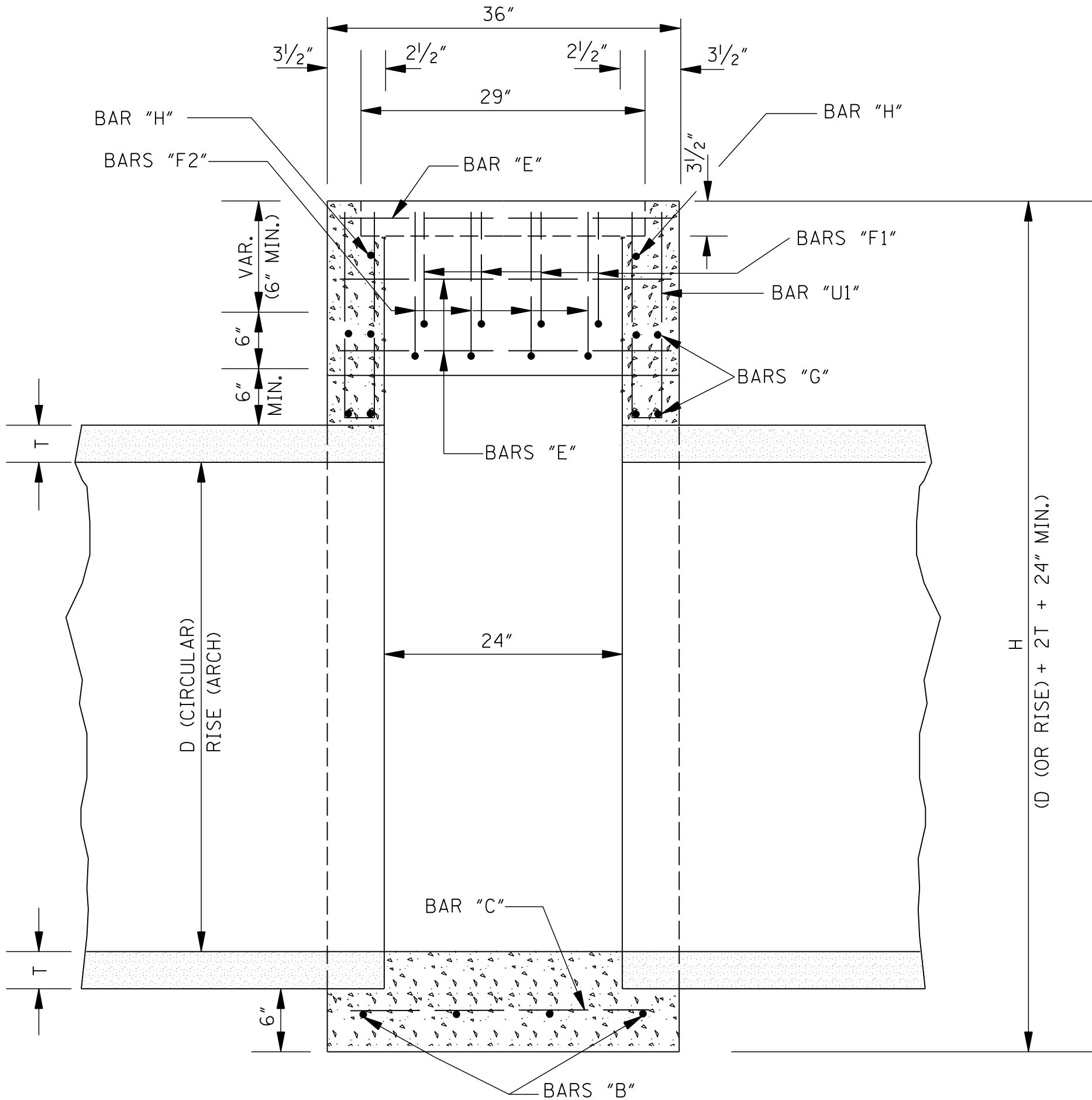
BAR S "G"

NOTE: BAR S "G" ARE #5 BARS FOR ALL CIRCULAR PIPES AND FOR PIPE ARCHES UP TO AND INCLUDING A 44" SPAN. FOR PIPE ARCHES WITH A SPAN LARGER THAN 44", USE #6 BARS FOR BAR S "G".

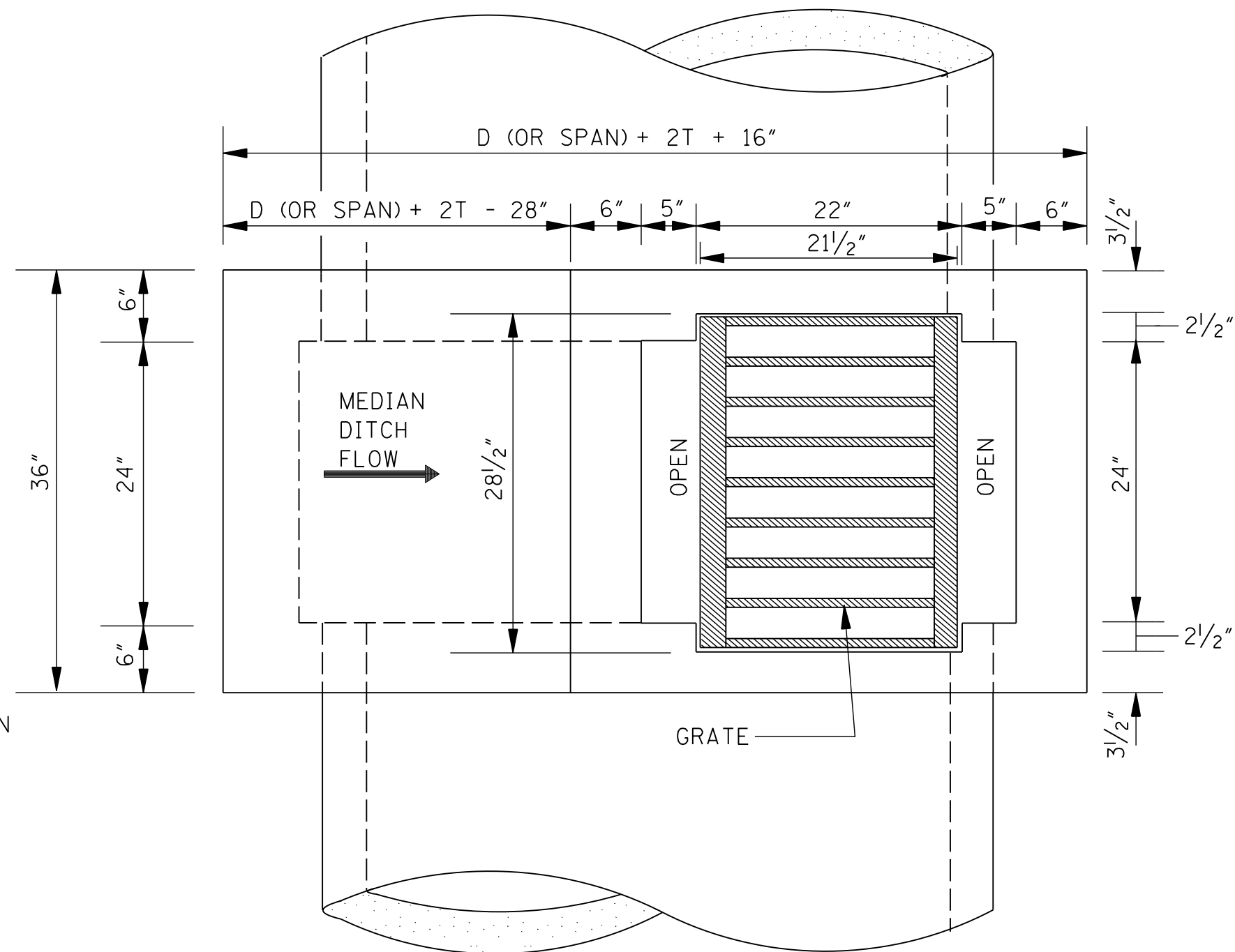
BAR DETAILS



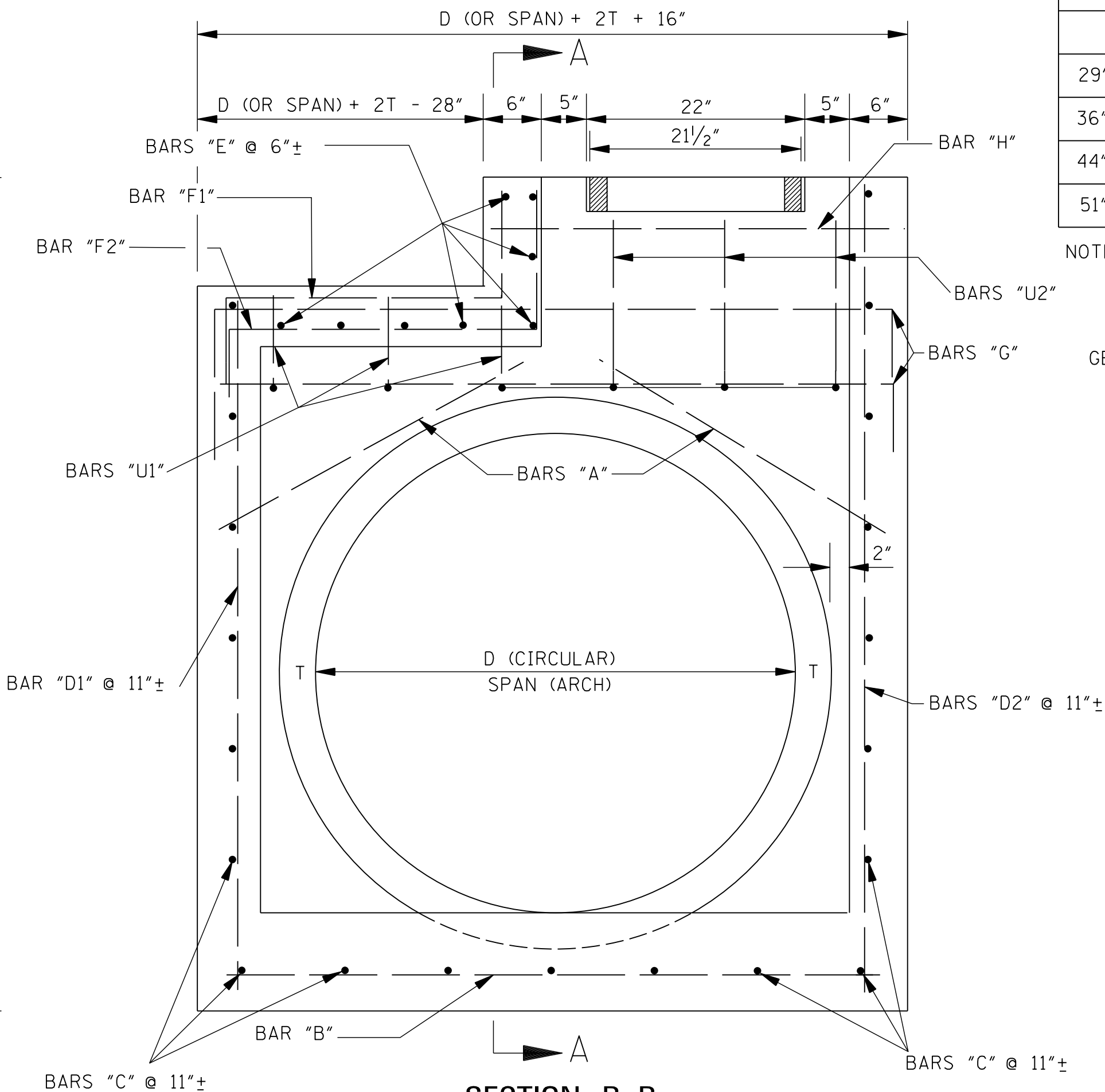
PLAN OF REBAR LAYOUT



SECTION A-A



PLAN OF CONCRETE DIMENSIONS



SECTION B-B

BAR LIST												
PIPE SIZES	BARS/SIZES											
	"A" #4	"B" #4	"C" #4	"D1" #4	"D2" #4	"E" #5	"F1" #5	"F2" #5	"G"* #5	"H" #4	"U1" #4	"U2" #4
	LENGTHS											
	2'-9"	L <sub>B</sub>	2'-9"	L <sub>D1</sub>	L <sub>D2</sub>	2'-9"	L <sub>F1</sub>	L <sub>F2</sub>	L <sub>G</sub>	3'-5"	1'-10"	L <sub>U2</sub>
	NUMBER OF BARS											
30"	4	4	15	4	4	4	4	4	8	2	2	6
36"	4	4	17	4	4	6	4	4	8	2	2	6
42"	4	4	18	4	4	7	4	4	8	2	4	6
48"	4	4	20	4	4	8	4	4	8	2	4	6
29" X 18"	4	4	12	4	4	4	4	4	8	2	2	6
36" X 23"	4	4	13	4	4	6	4	4	8	2	2	6
44" X 27"	4	4	16	4	4	7	4	4	8	2	4	6
51" X 31"	4	4	17	4	4	8	4	4	8	2	6	6

NOTES:  
\*1. USE #6 BARS FOR A 51" X 31" ARCH PIPE.  
2. BAR SPACINGS FOR ADDITIONAL INLET HEIGHTS:  
BAR S "E" @ 6"±  
BAR S "H" @ 11"±  
BAR S "C" @ 11"±

INLET QUANTITIES							
PIPE SIZE	MIN. DEPTH TO F.L.	MIN. DEPTH INLET		EACH ADDED FOOT		T	PIPE OPENING DEDUCTION (yd <sup>3</sup> )
		CONC. (yd <sup>3</sup> )	STEEL (lbs)	CONC. (yd <sup>3</sup> )	STEEL (lbs)		
30"	4.29'	1.138	161	0.210	25	3 1/2"	0.138
36"	4.85'	1.341	185	0.210	25	4"	0.196
42"	5.38'	1.554	206	0.210	25	4 1/2"	0.263
48"	5.92'	1.776	227	0.210	25	5"	0.340
29" X 18"	3.25'	0.935	146	0.210	25	3"	0.087
36" X 23"	3.71'	1.139	170	0.210	25	3 1/2"	0.129
44" X 27"	4.08'	1.343	197	0.210	25	4"	0.185
51" X 31"	4.46'	1.543	259	0.210	25	4 1/2"	0.245

NOTE: TWO PIPE OPENINGS HAVE BEEN DEDUCTED.

GENERAL NOTES:

- QUANTITIES SHOWN WILL BE THE BASIS OF PAYMENT UNLESS AUTHORIZED MODIFICATIONS ARE MADE.
- INLET:
  - THE CONCRETE SHALL BE CLASS "B".
  - THE REINFORCEMENT SHALL BE SPACED A MAXIMUM OF 12" ON CENTER BOTH WAYS WITH A MINIMUM CLEARANCE OF 1" TO THE INSIDE OF THE INLET WALLS. SEE CHART FOR BAR SIZES.
- GRATE: THE CONTRACTOR HAS THE OPTION TO PROVIDE GRATE NO. 1 OR GRATE NO. 2 AS SHOWN ON SHEET IG-1.

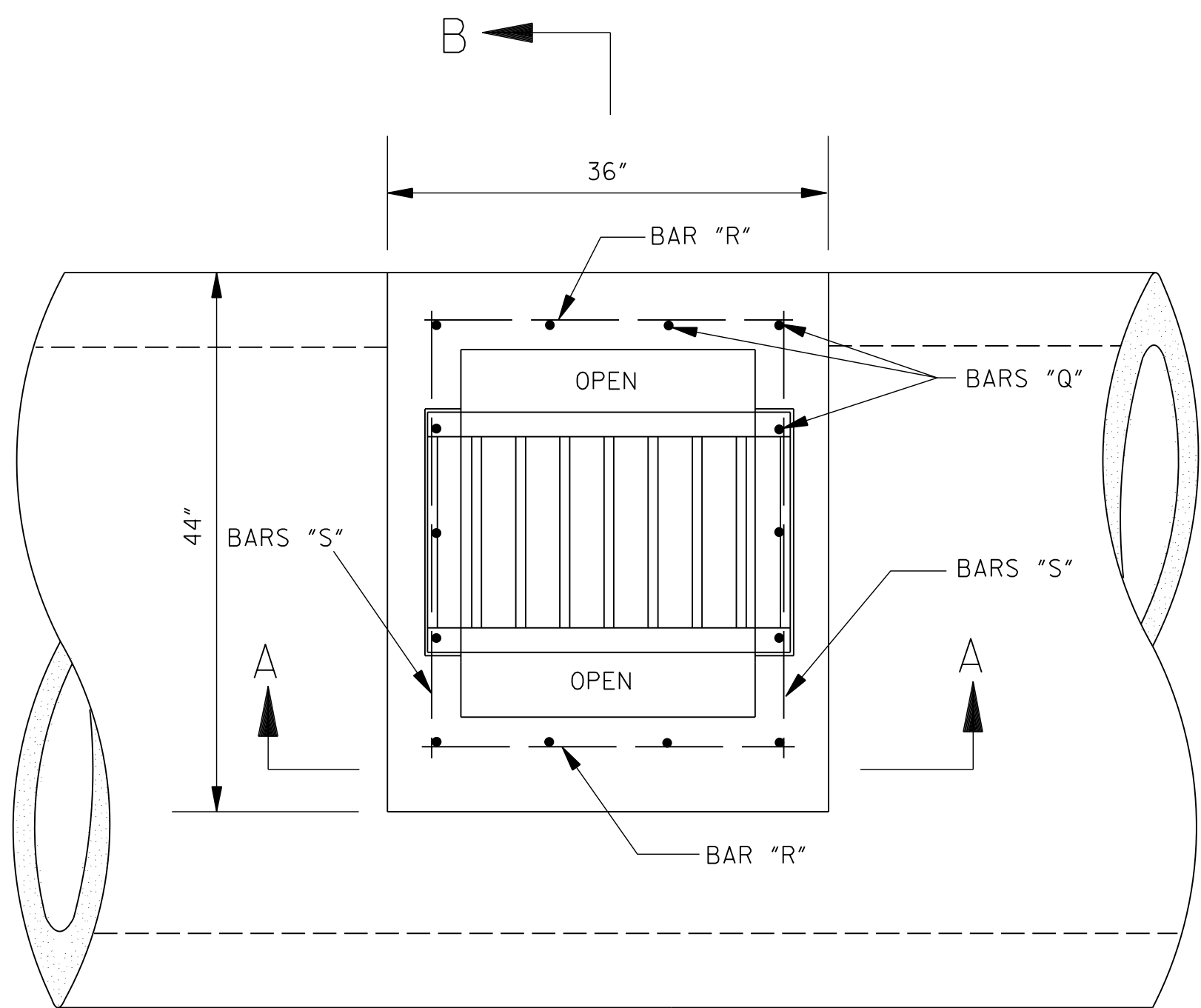
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	ISSUE DATE: AUGUST 01, 2017

**TYPE I MEDIAN INLET**  
(29" TO 51" PIPE)

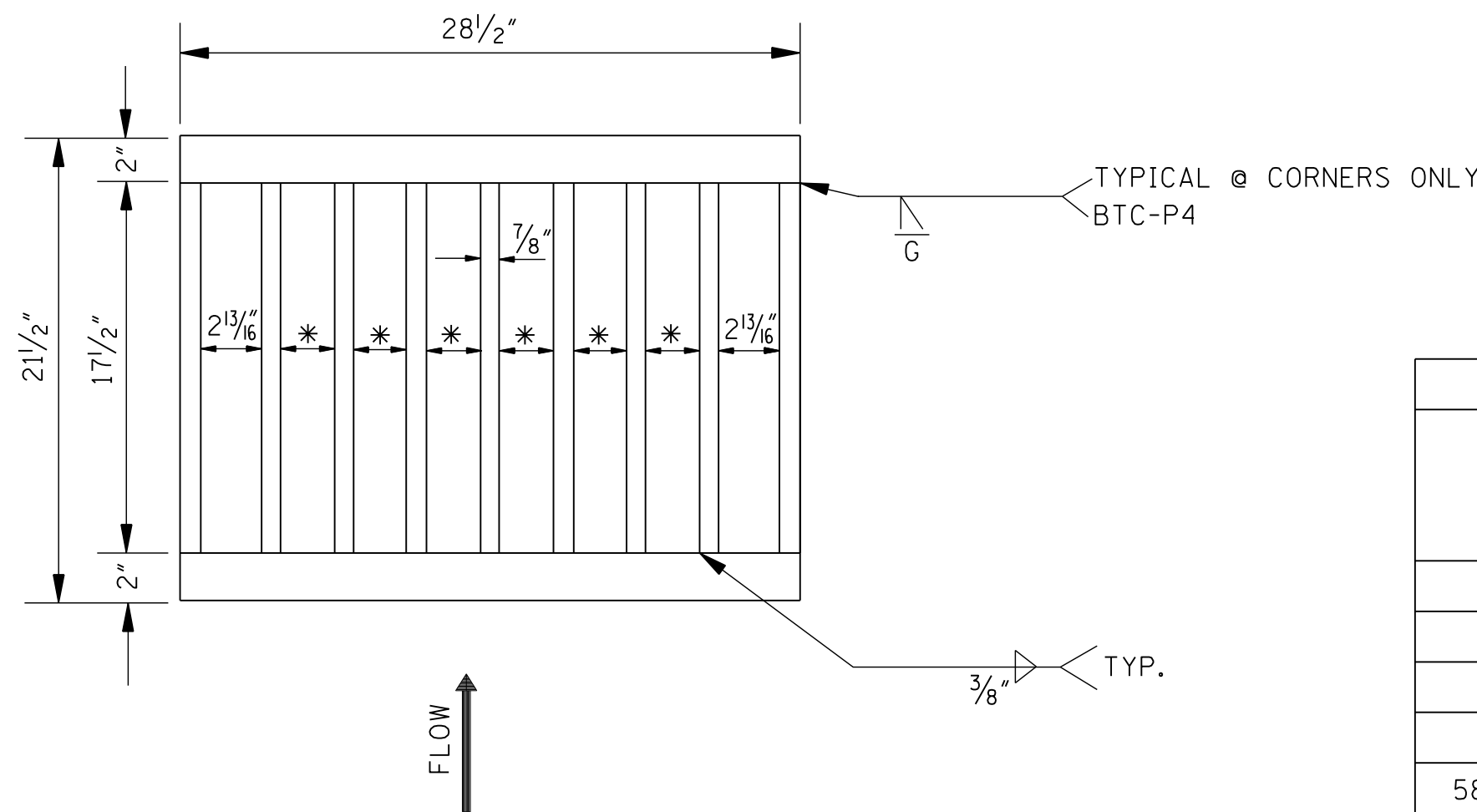
**MDOT**  
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

WORKING NUMBER  
MI-1A

SHEET NUMBER  
6509



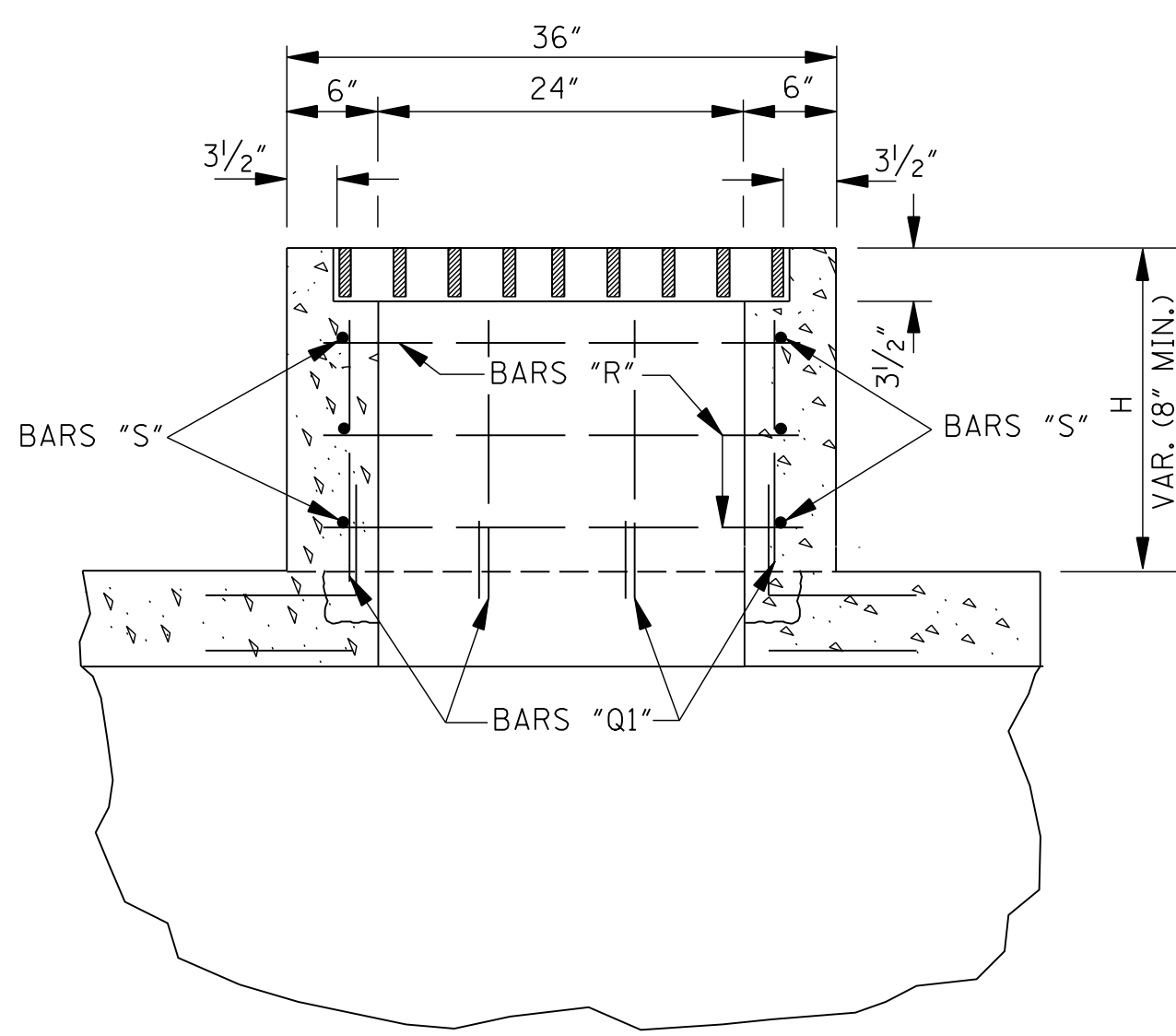
PLAN



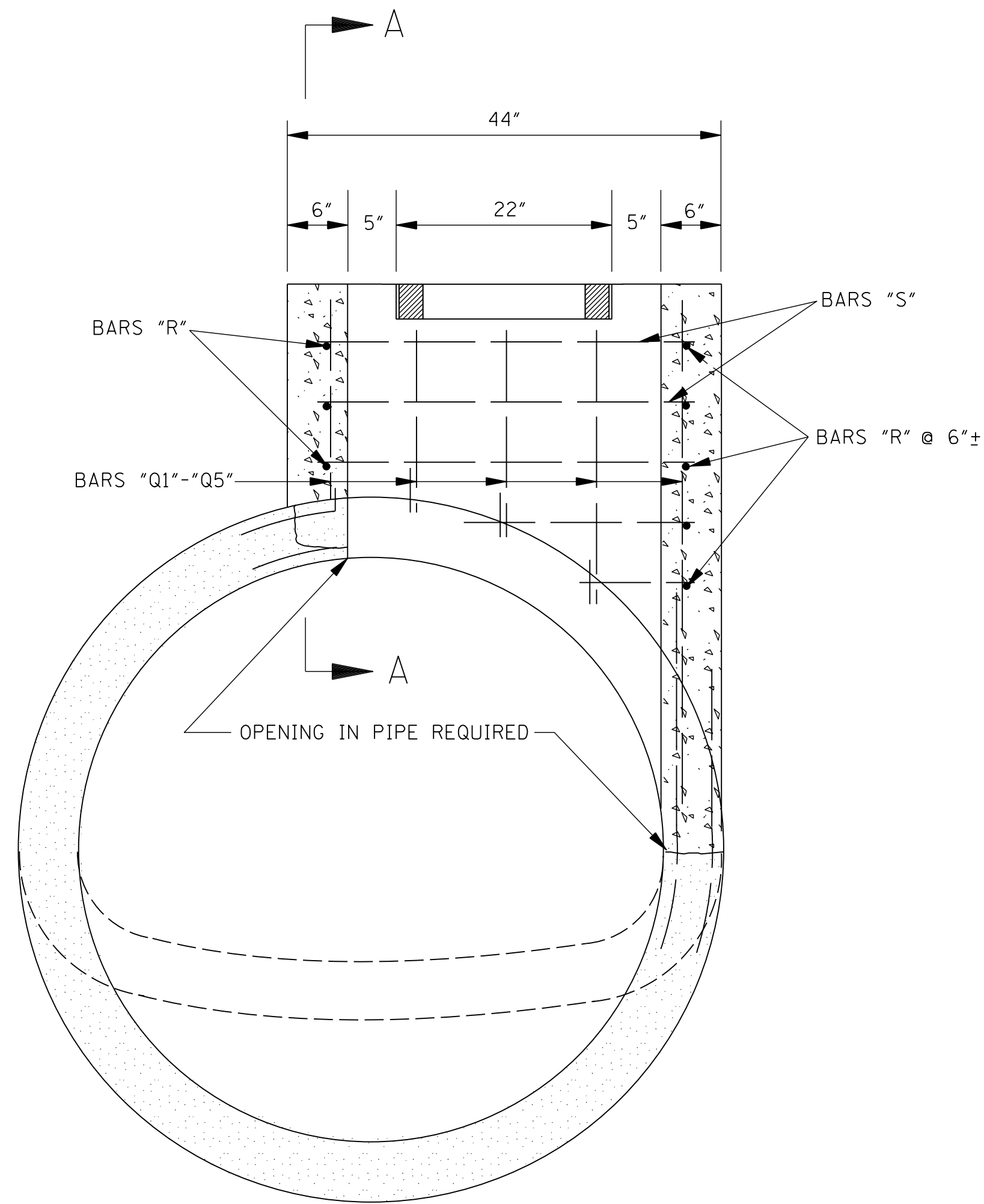
PLAN OF GRATE NO.1  
\* NOTE: TYPICAL SPACING 2 1/2"

* QUANTITIES FOR MINIMUM HEIGHT TYPE I INLET									
PIPE SIZE	CONC. (yd <sup>3</sup> )	STEEL (lbs)	BAR LIST						
			"Q1"	"Q2"	"Q3"	"Q4"	"Q5"	"R"	"S"***
			NO. @ LG.	NO. @ LG.	NO. @ LG.	NO. @ LG.	NO. @ LG.	NO. @ LG.	NO. @ LG.
54"	0.317	45	4 @ 1'-1"	2 @ 1'-1"	2 @ 1'-3"	2 @ 1'-7"	4 @ 3'-9"	9 @ 2'-6"	6 @ 3'-0"
60"	0.337	48	4 @ 1'-1"	2 @ 1'-1"	2 @ 1'-3"	2 @ 1'-8"	4 @ 4'-1"	10 @ 2'-6"	6 @ 3'-0"
66"	0.360	49	4 @ 1'-1"	2 @ 1'-2"	2 @ 1'-4"	2 @ 1'-10"	4 @ 4'-4"	10 @ 2'-6"	6 @ 3'-0"
72"	0.384	52	4 @ 1'-1"	2 @ 1'-2"	2 @ 1'-5"	2 @ 1'-11"	4 @ 4'-8"	11 @ 2'-6"	6 @ 3'-0"
58" X 36"	0.292	44	4 @ 1'-1"	2 @ 1'-1"	2 @ 1'-3"	2 @ 1'-7"	4 @ 3'-4"	9 @ 2'-6"	6 @ 3'-0"
65" X 40"	0.313	45	4 @ 1'-1"	2 @ 1'-2"	2 @ 1'-4"	2 @ 1'-9"	4 @ 3'-7"	9 @ 2'-6"	6 @ 3'-0"
73" X 45"	0.335	48	4 @ 1'-1"	2 @ 1'-2"	2 @ 1'-5"	2 @ 1'-11"	4 @ 3'-10"	10 @ 2'-6"	6 @ 3'-0"
88" X 54"	0.394	52	4 @ 1'-2"	2 @ 1'-4"	2 @ 1'-8"	2 @ 2'-2"	4 @ 4'-5"	11 @ 2'-6"	6 @ 3'-0"
EACH ADD. FOOT OF HEIGHT	0.210	24	--	--	--	--	--	--	--

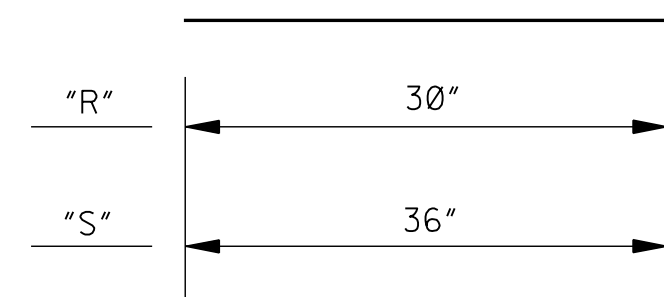
- NOTES:
- \* 1. 8" MINIMUM HEIGHT INLET.
  - \*\* 2. 2 BARS MAY BE FIELD CUT TO PROVIDE VARIABLE LENGTH BARS "S" AS SHOWN.



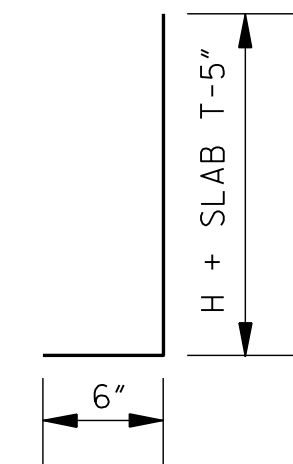
SECTION A-A



SECTION B-B



BARS "R" & "S"



BARS "Q1" - "Q5"  
NOTE: 14 BARS "Q" REQUIRED.

BAR DETAILS

- GENERAL NOTES:
- QUANTITIES SHOWN WILL BE THE BASIS OF PAYMENT UNLESS AUTHORIZED MODIFICATIONS ARE MADE
  - INLET:
    - THE CONCRETE SHALL BE CLASS "B".
    - THE REINFORCEMENT SHALL BE #4 BARS SPACED A MAXIMUM OF 12" ON CENTER BOTH WAYS WITH A MINIMUM CLEARANCE OF 1" TO THE INSIDE OF THE INLET WALLS.
  - GRATE: THE CONTRACTOR HAS THE OPTION TO PROVIDE GRATE NO. 1 OR GRATE NO. 2 AS SHOWN ON SHEET IG-1.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	ISSUE DATE: AUGUST 01, 2017

**TYPE I MEDIAN INLET**  
(OVER 51" PIPE)

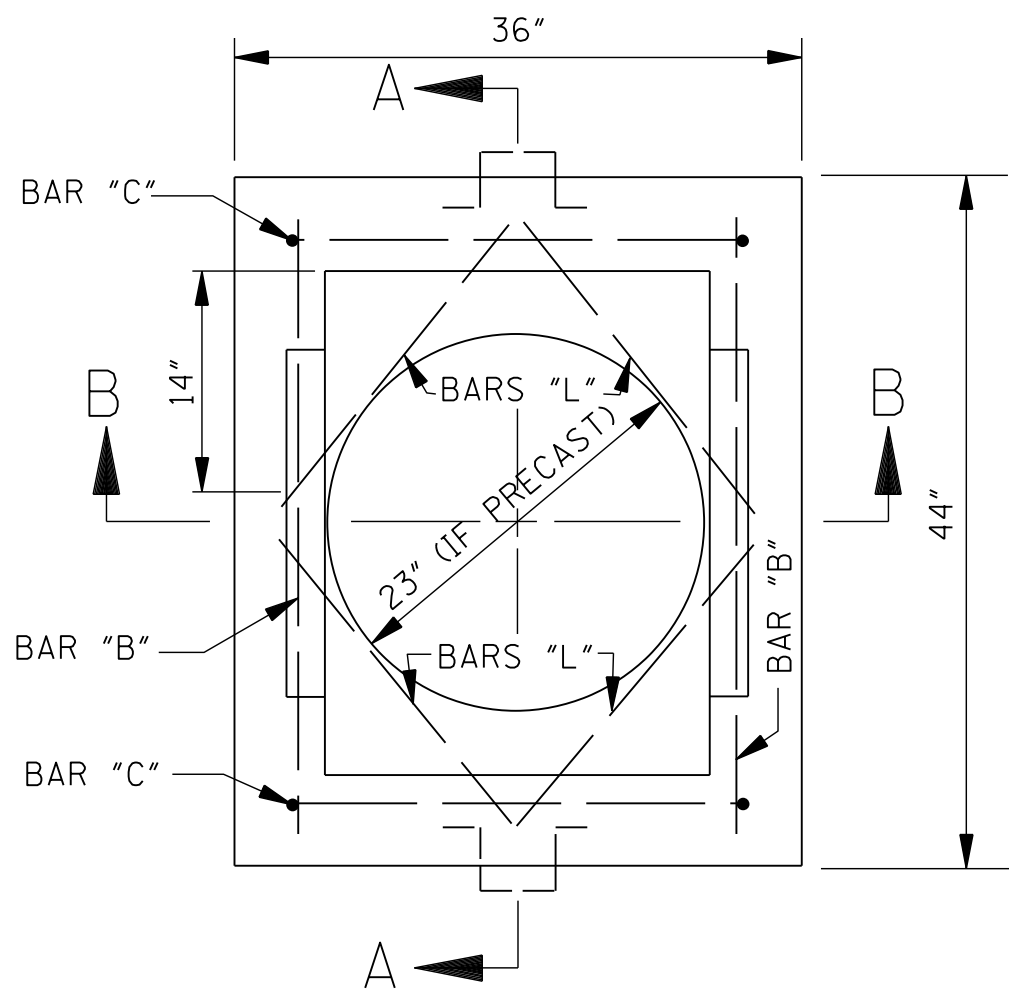
**MDOT**  
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

WORKING NUMBER  
MI-1B

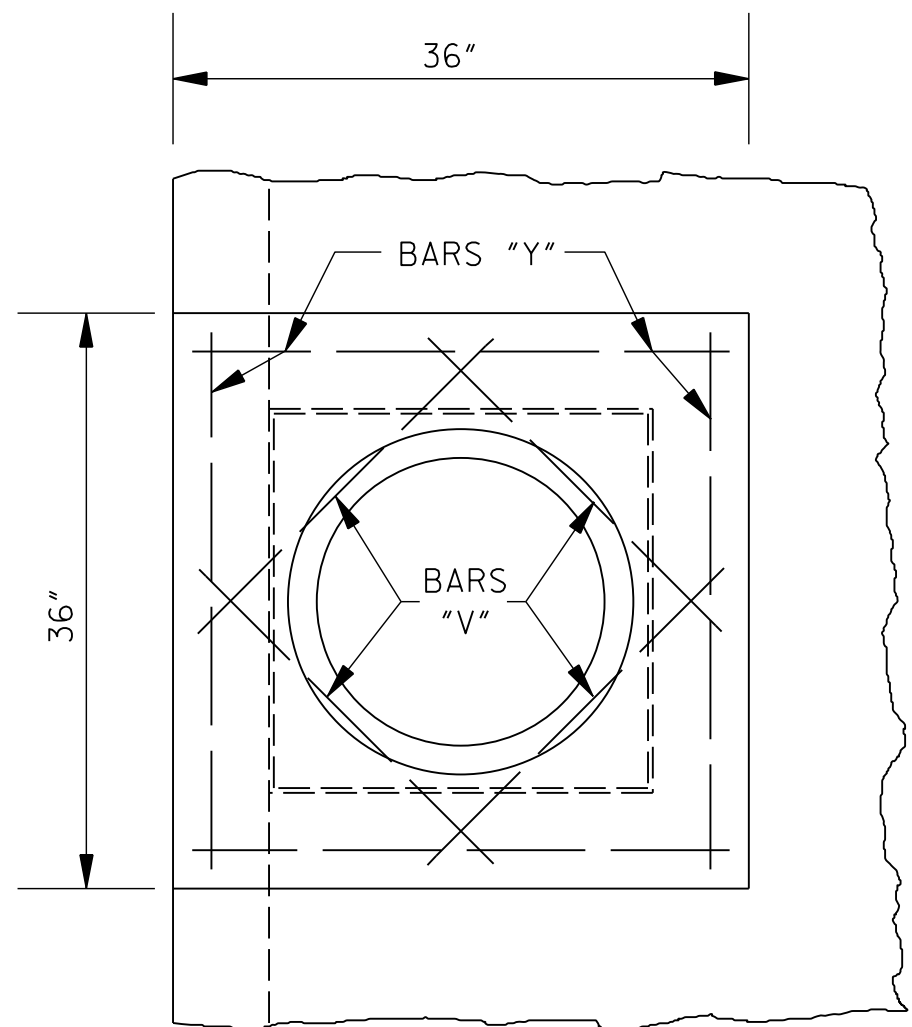
SHEET NUMBER  
6510



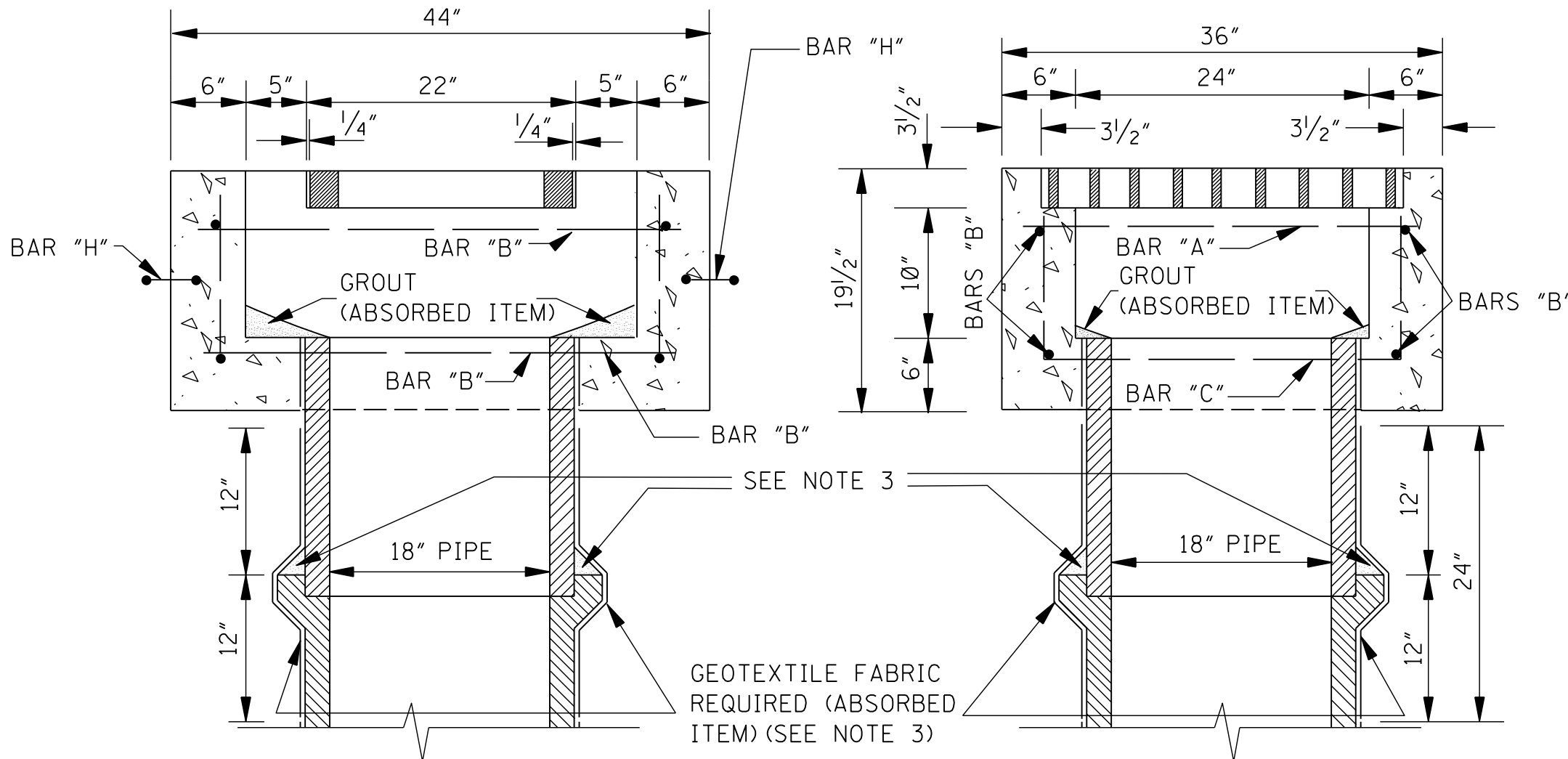




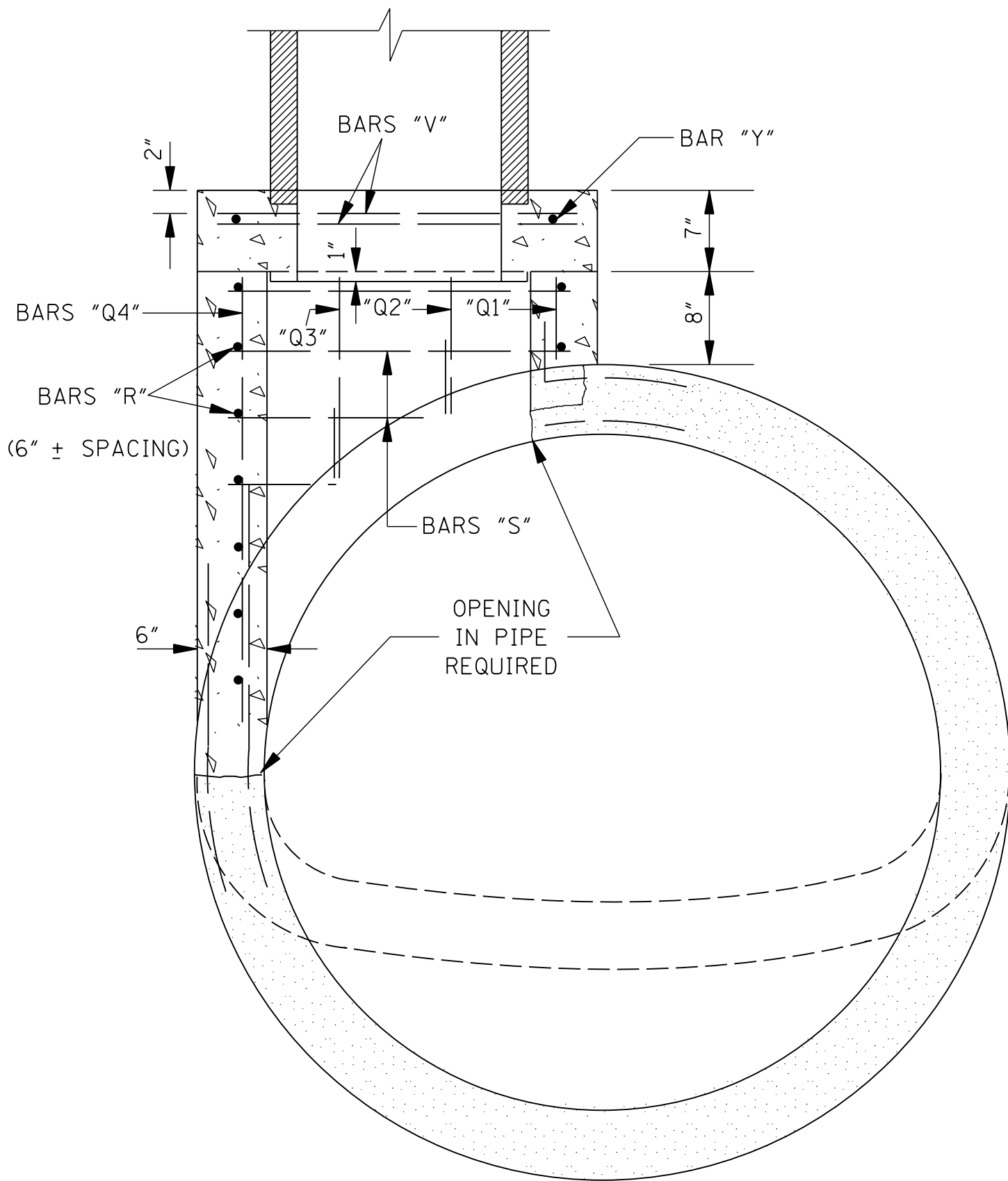
PLAN OF INLET



PLAN OF INLET BASE



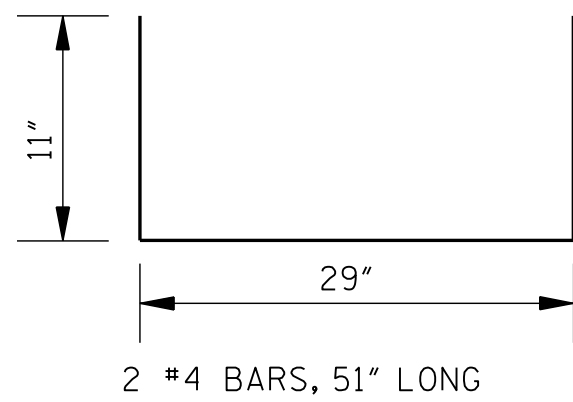
SECTION B-B



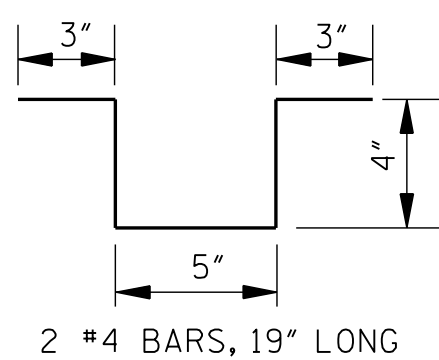
SECTION A-A

"A", 2 #4 BARS	30"
"B", 4 #4 BARS	36"
"L", 4 #4 BARS	22"
"V", 4 #4 BARS	22"
"Y", 4 #4 BARS	28"

BARS "A", "B", "L", "V" & "Y"



BARS "C"

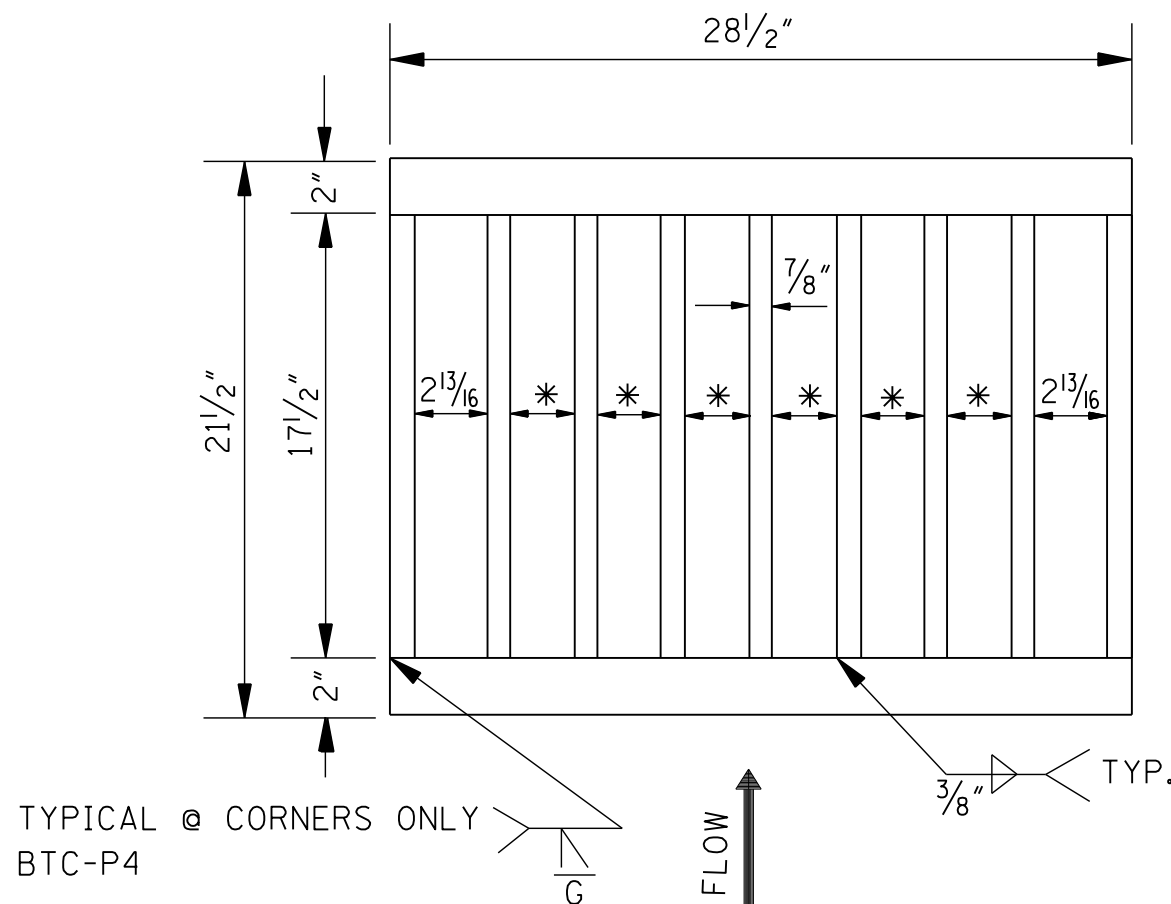


BARS "H", HANDLE  
(IF PRECAST)

BAR DETAILS

TYPE II INLET QUANTITIES									
PIPE SIZE	CONC. (yd <sup>3</sup> )	STEEL (lbs)	PARTIAL BAR LIST						
			"Q1"	"Q2"	"Q3"	"Q4"	"R"	"S"	
			NO. @ LGTH.	NO. @ LGTH.	NO. @ LGTH.	NO. @ LGTH.	NO. @ LGTH.	NO. @ LGTH.	
54"	0.838	72	4 @ 0'-7"	2 @ 0'-8"	2 @ 1'-1"	4 @ 3'-3"	9 @ 2'-6"	6 @ 2'-4"	
60"	0.862	75	4 @ 0'-7"	2 @ 0'-9"	2 @ 1'-2"	4 @ 3'-7"	10 @ 2'-6"	6 @ 2'-4"	
66"	0.887	76	4 @ 0'-7"	2 @ 0'-10"	2 @ 1'-4"	4 @ 3'-10"	10 @ 2'-6"	6 @ 2'-4"	
72"	0.913	79	4 @ 0'-8"	2 @ 0'-11"	2 @ 1'-5"	4 @ 4'-2"	11 @ 2'-6"	6 @ 2'-4"	
58" X 36"	0.816	70	4 @ 0'-7"	2 @ 0'-9"	2 @ 1'-2"	4 @ 2'-10"	8 @ 2'-6"	6 @ 2'-4"	
65" X 40"	0.839	72	4 @ 0'-7"	2 @ 0'-10"	2 @ 1'-3"	4 @ 3'-0"	9 @ 2'-6"	6 @ 2'-4"	
73" X 45"	0.864	73	4 @ 0'-8"	2 @ 0'-11"	2 @ 1'-5"	4 @ 3'-4"	9 @ 2'-6"	6 @ 2'-4"	
88" X 54"	0.925	77	4 @ 0'-9"	2 @ 1'-2"	2 @ 1'-8"	4 @ 3'-10"	10 @ 2'-6"	6 @ 2'-4"	

- NOTES:
- 0.378 yd<sup>3</sup> CLASS "B" CONCRETE AND 24 lbs. REINFORCING STEEL INCLUDED FOR INLET.
  - ALL REINFORCING BARS ARE #4 DEFORMED BARS.



PLAN OF GRATE NO. 1

\* NOTE: TYPICAL SPACING 2 1/2".

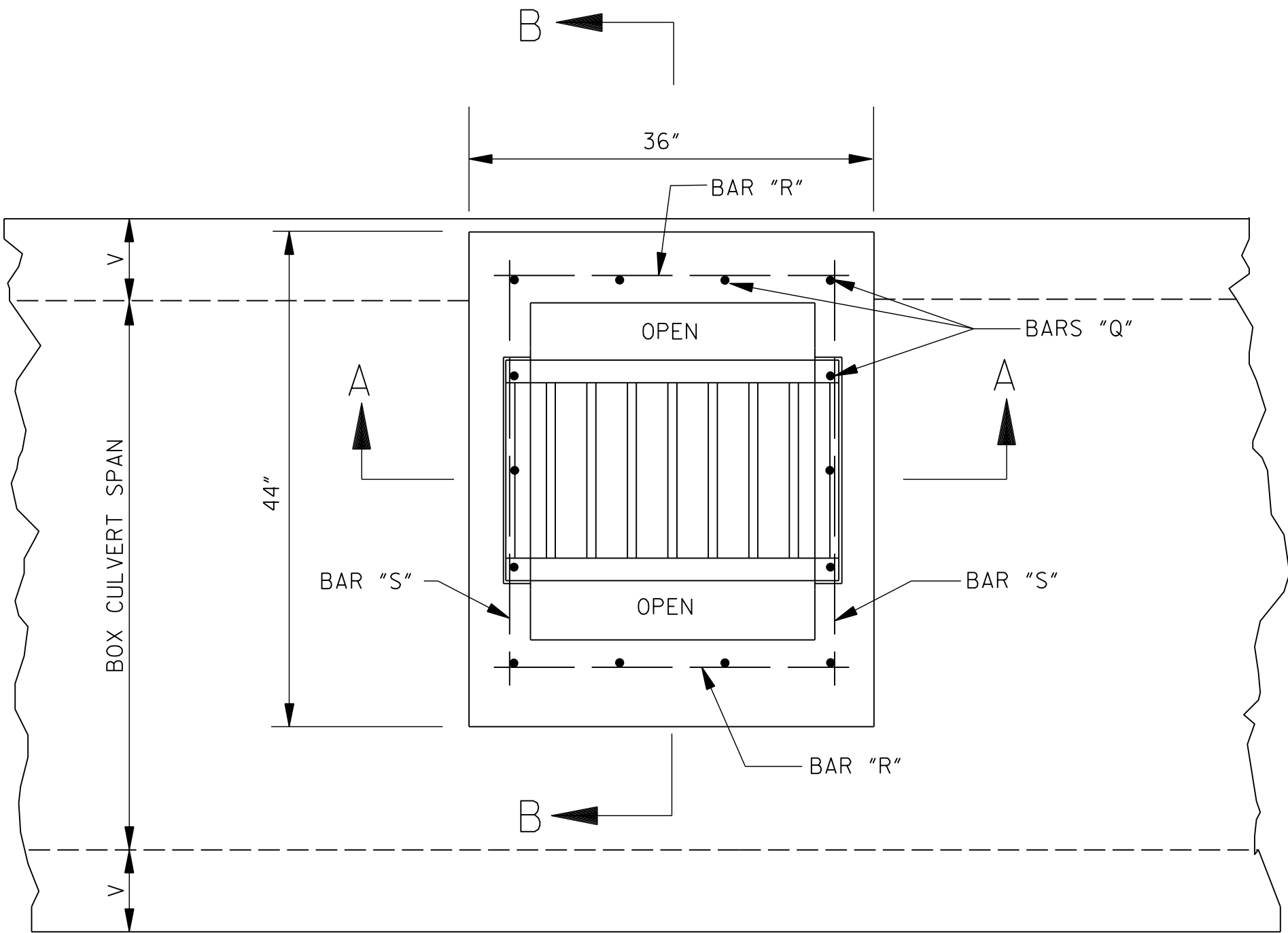
GENERAL NOTES:

- QUANTITIES SHOWN WILL BE THE BASIS OF PAYMENT UNLESS AUTHORIZED MODIFICATIONS ARE MADE.
- ANY STACK PIPE THAT MUST BE CUT OFF WILL BE PAID FOR AT FULL PIPE LENGTH AS THOUGH INSTALLED.
- EACH STACKED PIPE JOINT SHALL BE SEALED WITH BUTYL PER C990 OR RUBBER GASKET PER C443 AND C1619, THEN WRAPPED WITH GEOTEXTILE FABRIC, 24" WIDE, AASHTO M 288 EOS- 100+. THE FABRIC SHALL OVERLAP A MINIMUM OF 12" AT THE WRAP AND SHALL BE SECURED WITH STRING OR WIRE FOR BACKFILLING. THE COST SHALL BE ABSORBED IN OTHERS ITEMS BID.
- THE CONTRACTOR HAS THE OPTION TO PROVIDE GRATE NO. 1 OR GRATE NO. 2 AS SHOWN ON SHEET IG-1.
- CONCRETE SHALL BE CLASS "B" CONCRETE AND REINFORCING STEEL SHALL BE DEFORMED BARS.

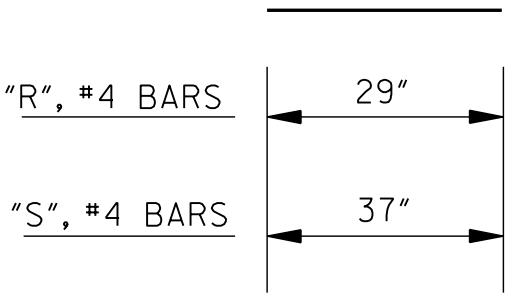
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN			
				REVISION	<b>TYPE II MEDIAN INLET (OVER 51" PIPE)</b>			
				DATE				
				ISSUE DATE:	AUGUST 01, 2017			

WORKING NUMBER  
MI-2A  
SHEET NUMBER  
6512

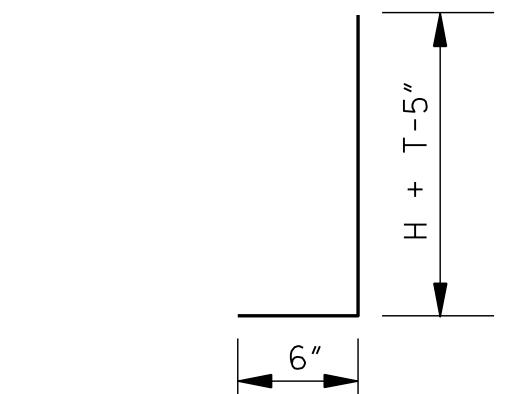
TYPE I INLET



PLAN



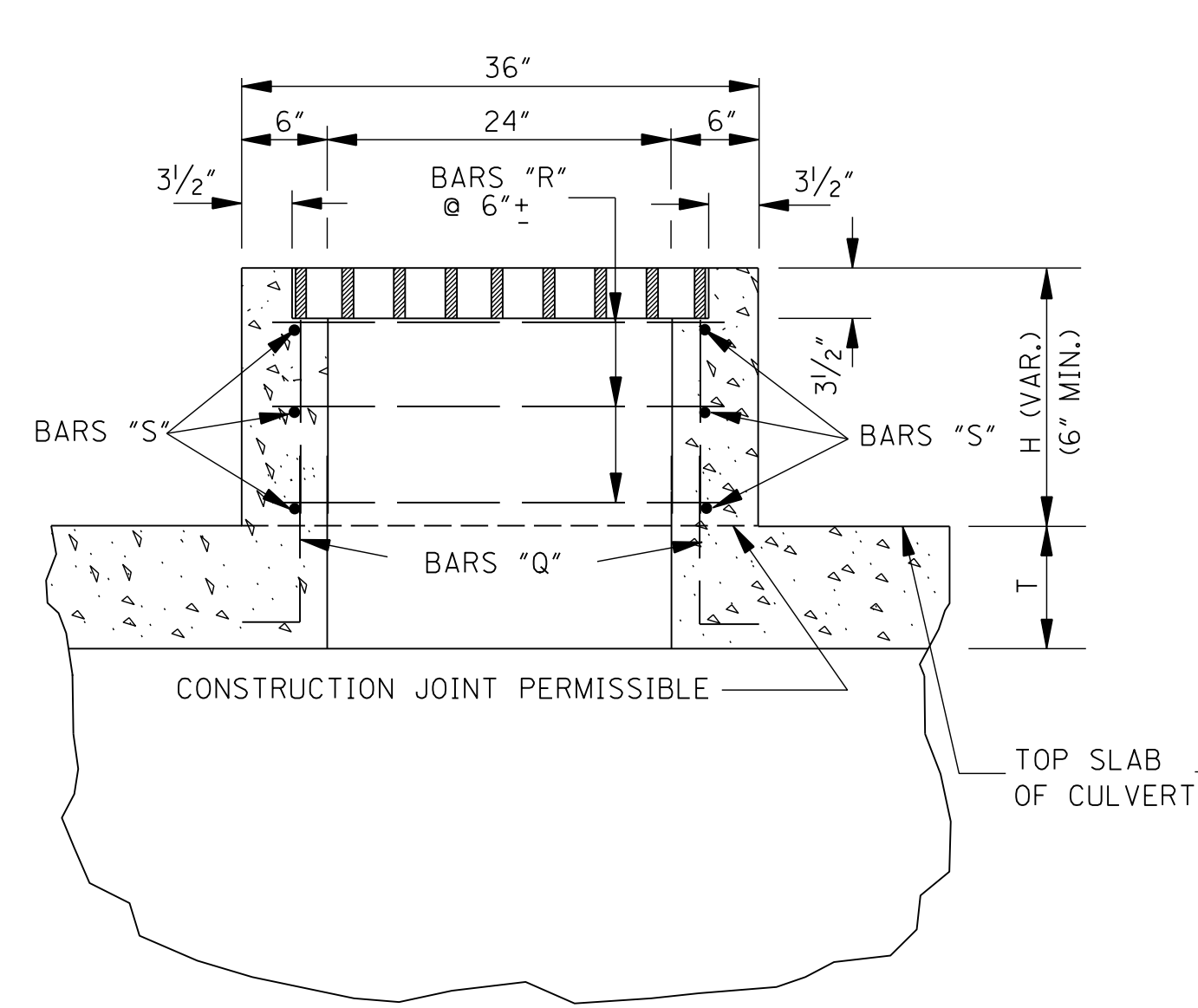
BARS "R" & "S"



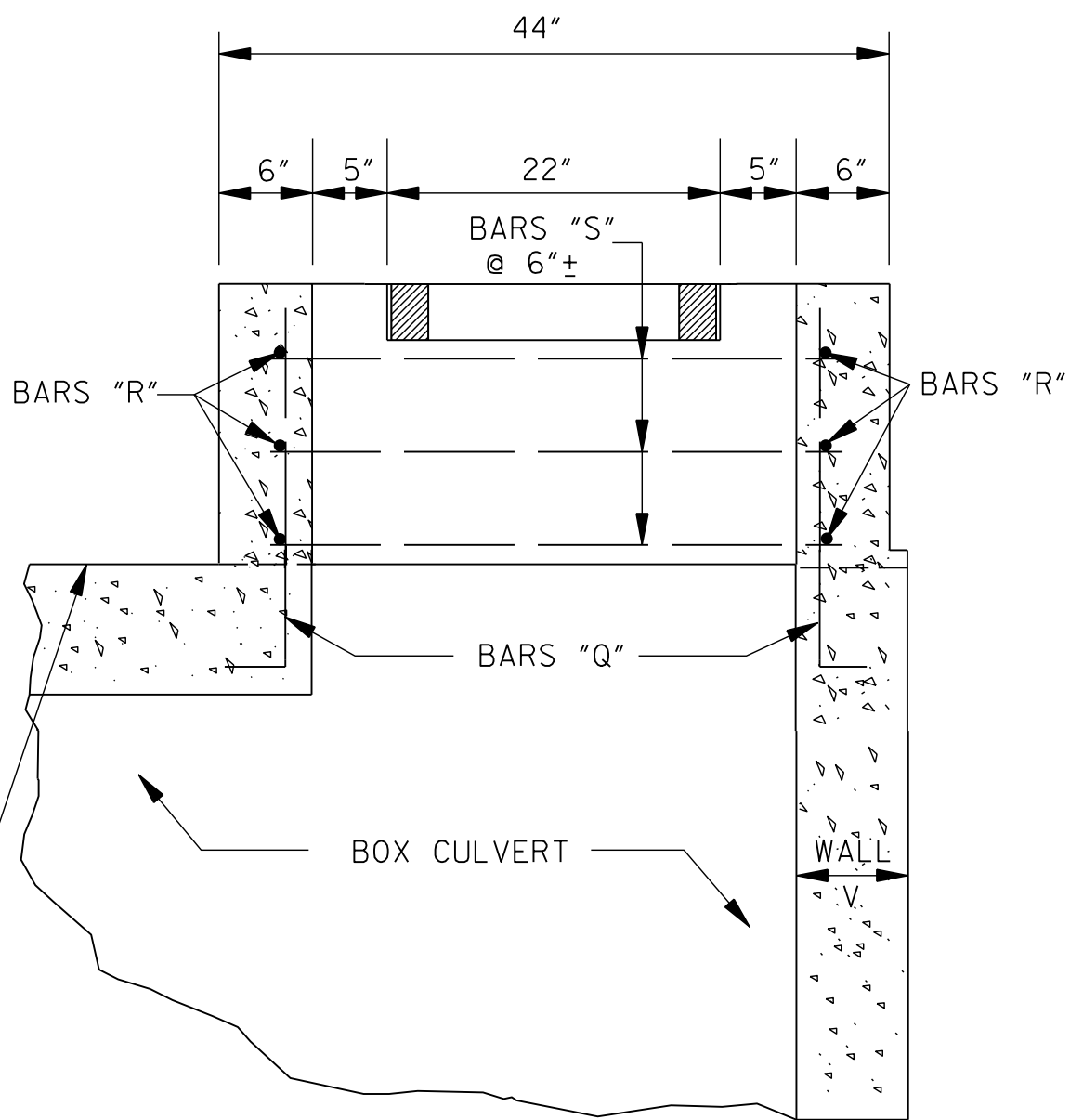
14 #4 BARS @ (H+T+1") LONG

BARS "Q"

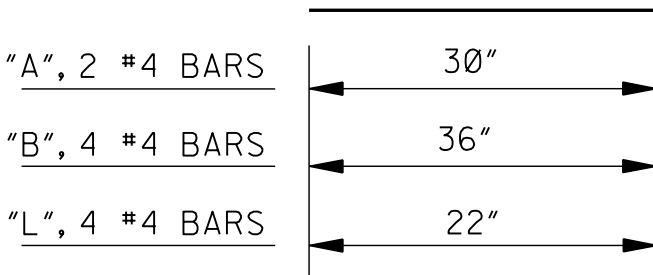
BAR DETAILS



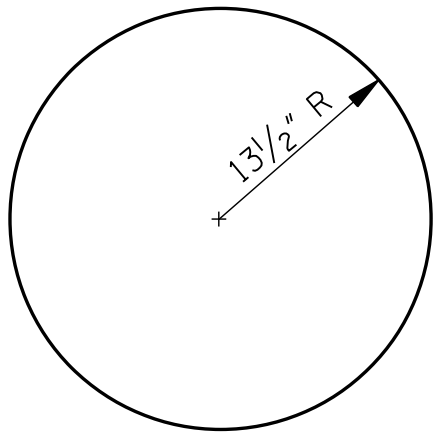
SECTION A-A



SECTION B-B

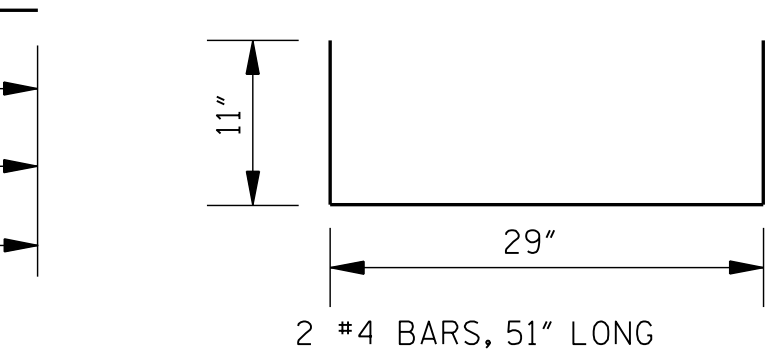


BARS "A", "B" & "L"

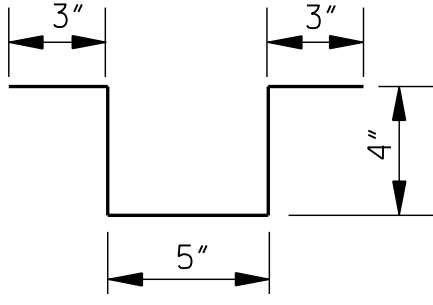


1 #4 BAR, 86" LONG

BAR "K"

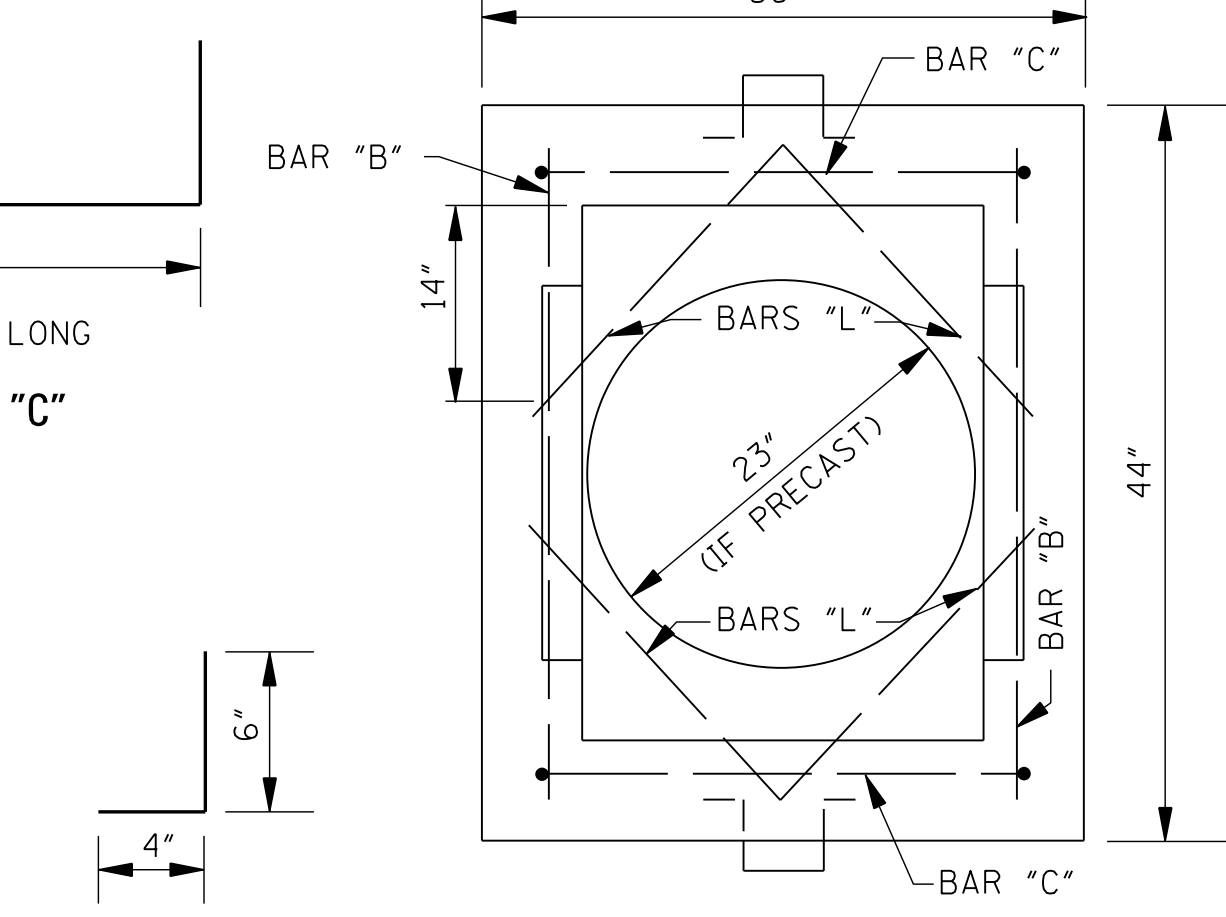


BARS "C"

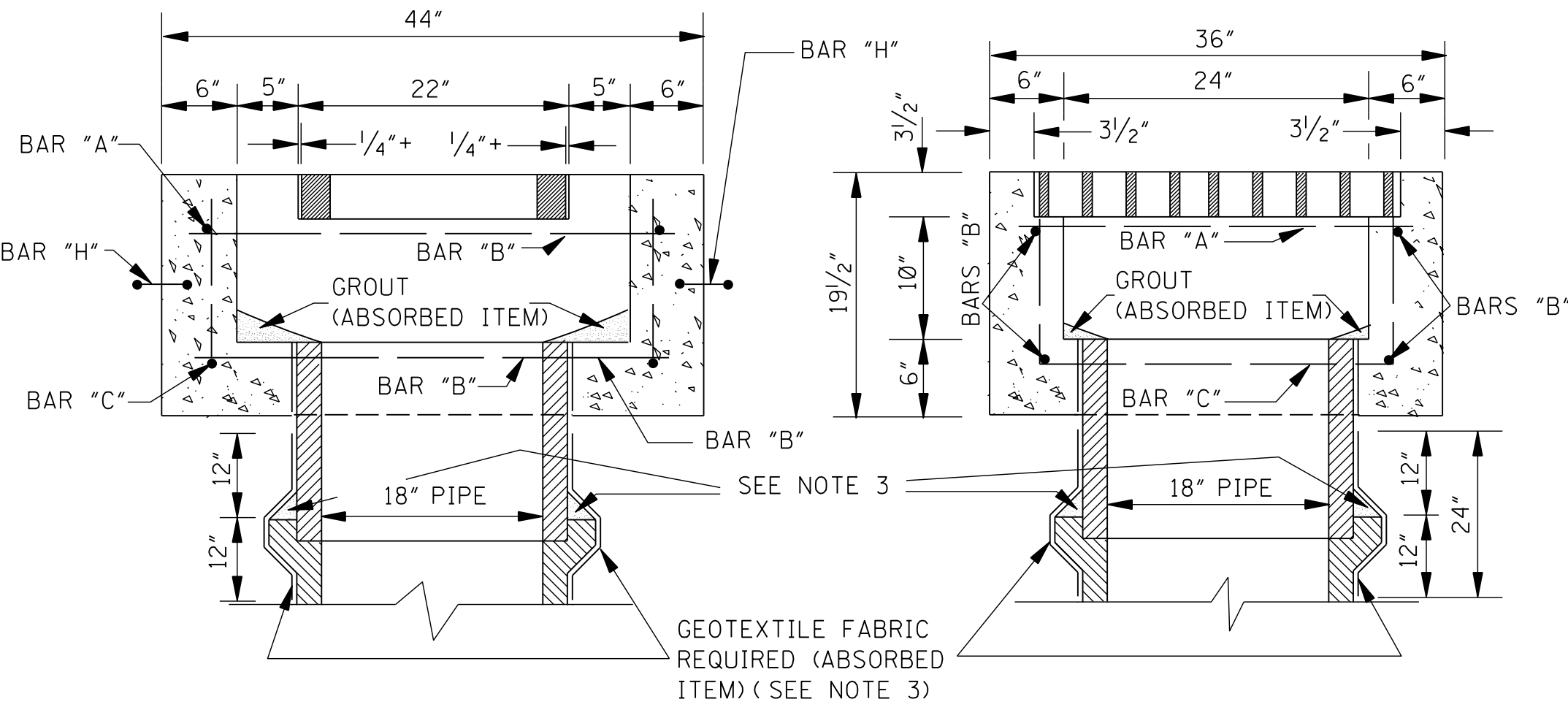


2 #4 BARS, 19" LONG  
BARS "H" (HANDLE)  
(IF PRECAST)

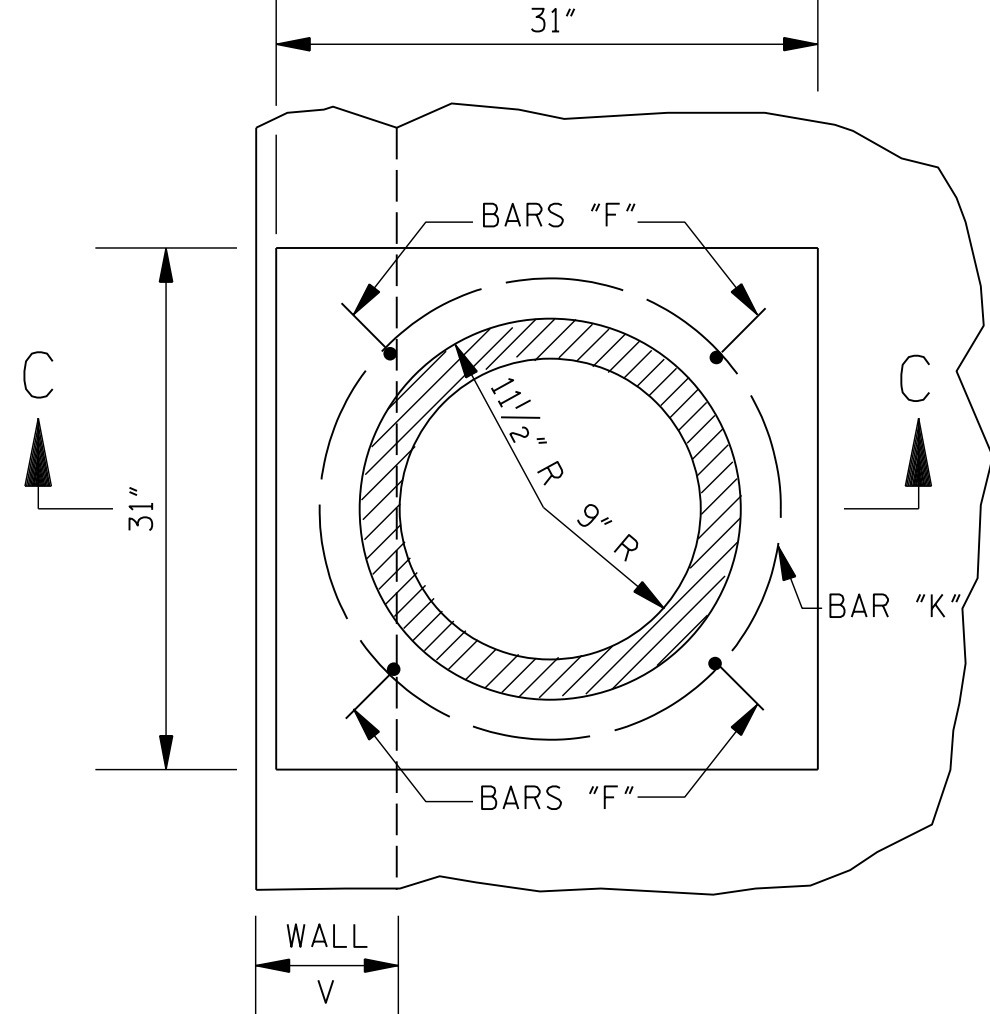
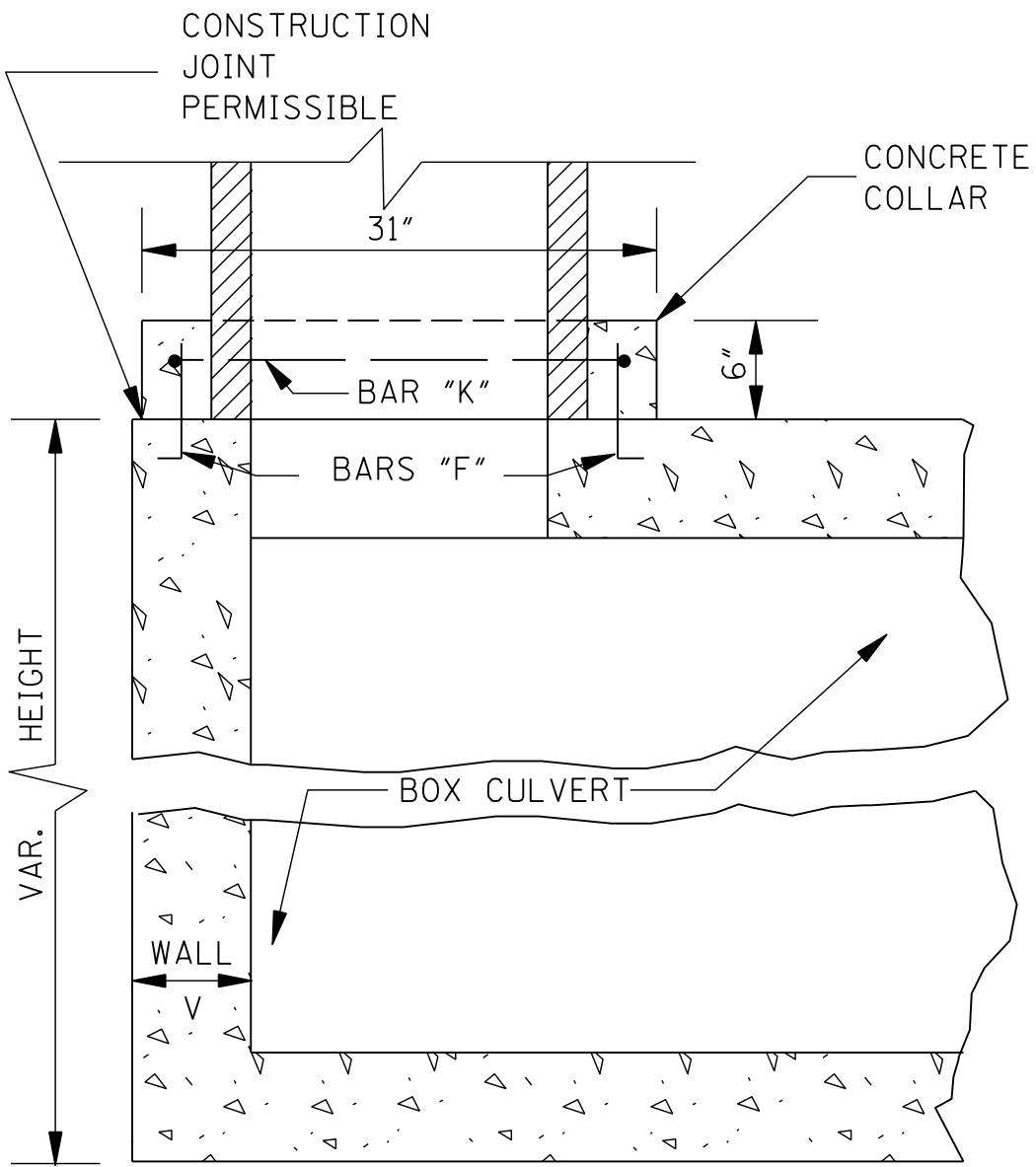
BAR DETAILS



PLAN OF INLET



SECTION C-C

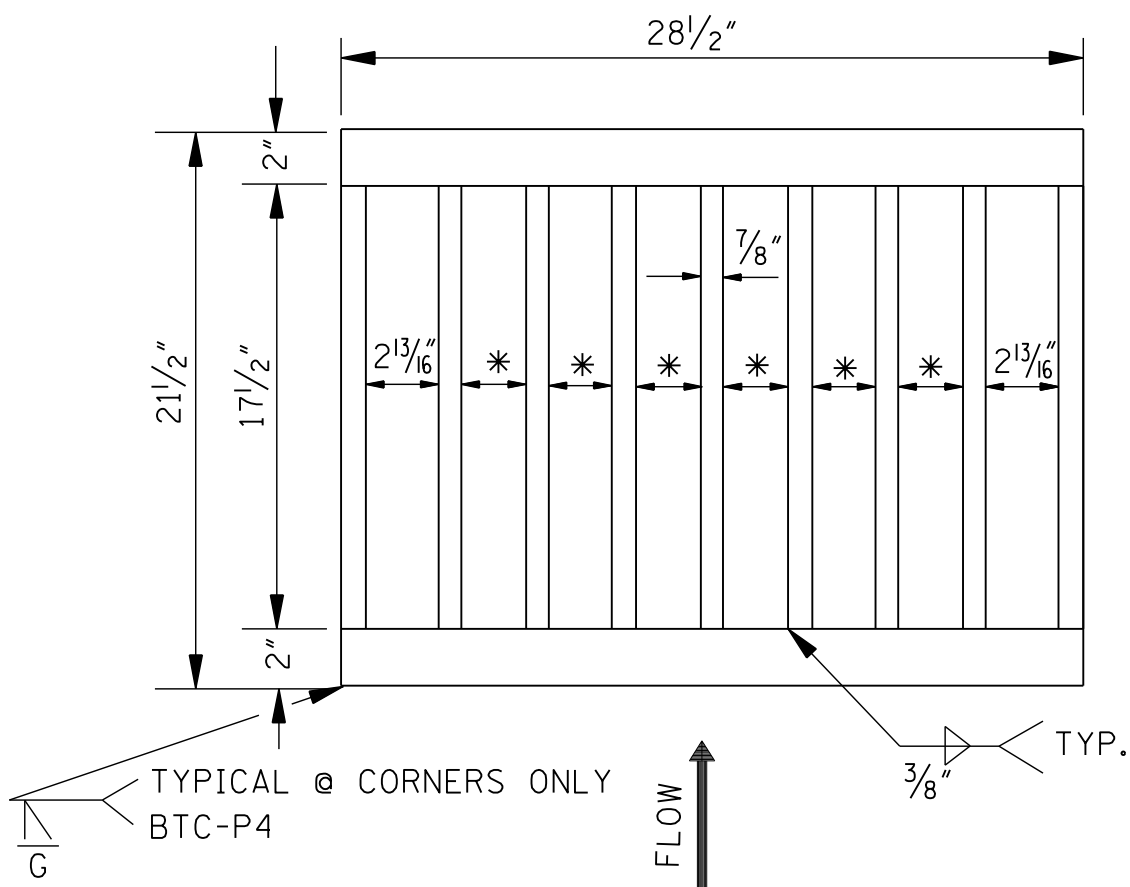


PLAN OF CONCRETE COLLAR

TYPE II INLET

INLET QUANTITIES				
INLET TYPE	CONC. (yd <sup>3</sup> )	STEEL (lbs)	EACH ADDED FOOT	
			CONC. (yd <sup>3</sup> )	STEEL (lbs)
I	0.097*	18*	0.210	24
II	0.448	30		

\*NOTE: 6" MINIMUM HEIGHT INLET WITH AN ASSUMED BOX CULVERT THICKNESS (T) OF 6".



PLAN OF GRATE NO.1

\*NOTE: TYPICAL SPACING 2 1/2".

GENERAL NOTES:

- QUANTITIES SHOWN WILL BE THE BASIS OF PAYMENT UNLESS AUTHORIZED MODIFICATIONS ARE MADE.
- ANY STACK PIPE THAT MUST BE CUT OFF WILL BE PAID FOR AT FULL PIPE LENGTH AS THOUGH INSTALLED.
- EACH STACKED PIPE JOINT SHALL BE SEALED WITH BUTYL PER C990 OR RUBBER GASKET PER C443 AND C1619, THEN WRAPPED WITH GEOTEXTILE FABRIC, 24" WIDE, AASHTO M 288 EOS= 100+. THE FABRIC SHALL OVERLAP A MINIMUM OF 12" AT THE WRAP AND SHALL BE SECURED WITH STRING OR WIRE FOR BACKFILLING. THE COST SHALL BE ABSORBED IN OTHERS ITEMS BID.
- THE CONTRACTOR HAS THE OPTION TO PROVIDE GRATE NO. 1 OR GRATE NO. 2 AS SHOWN ON SHEET IG-1.
- CONCRETE SHALL BE CLASS "B" CONCRETE AND REINFORCING STEEL SHALL BE DEFORMED BARS.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION  
ROADWAY DESIGN DIVISION  
STANDARD PLAN

MEDIAN INLETS  
FOR  
BOX CULVERTS  
(TYPE I AND II)

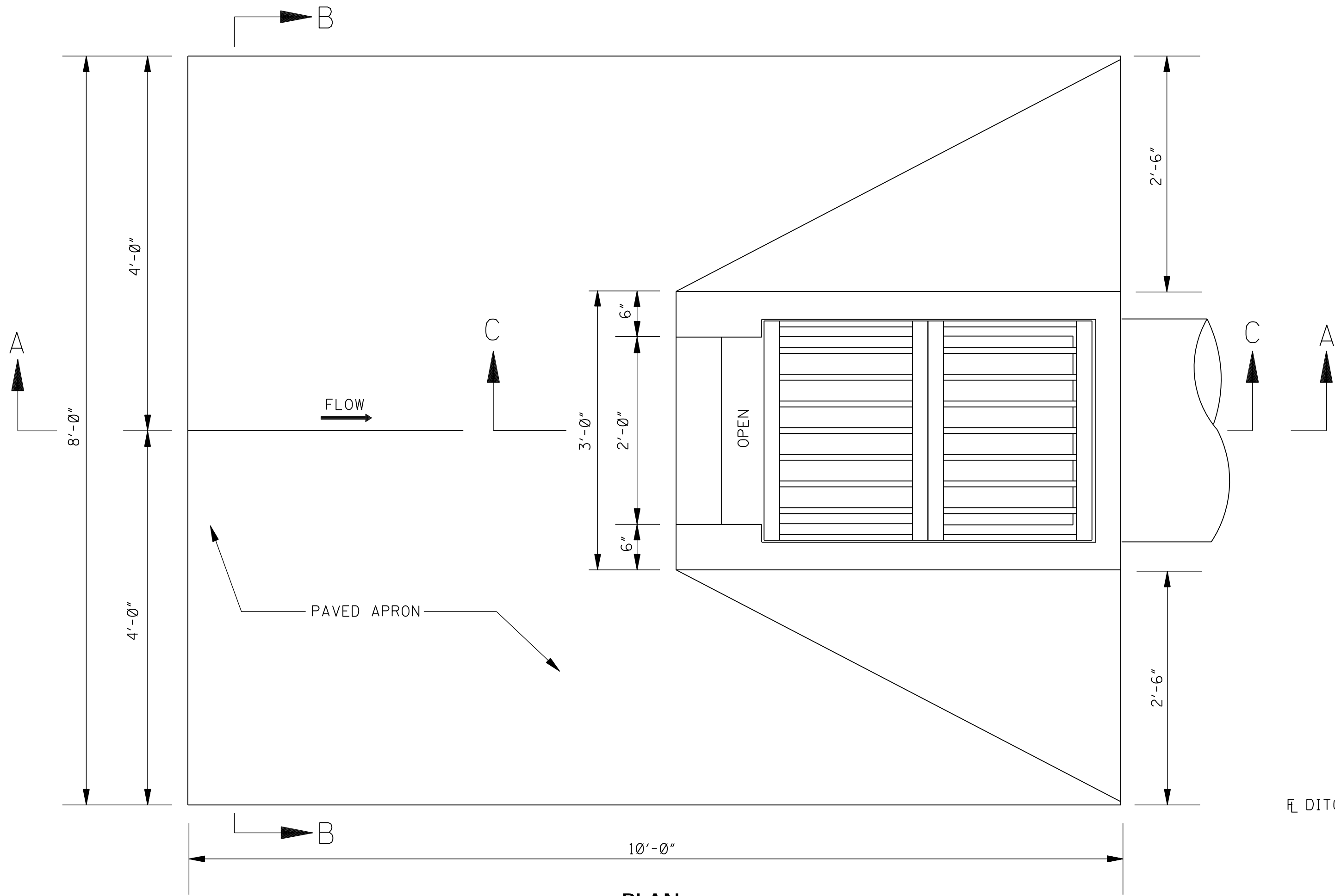


WORKING NUMBER  
MI-3

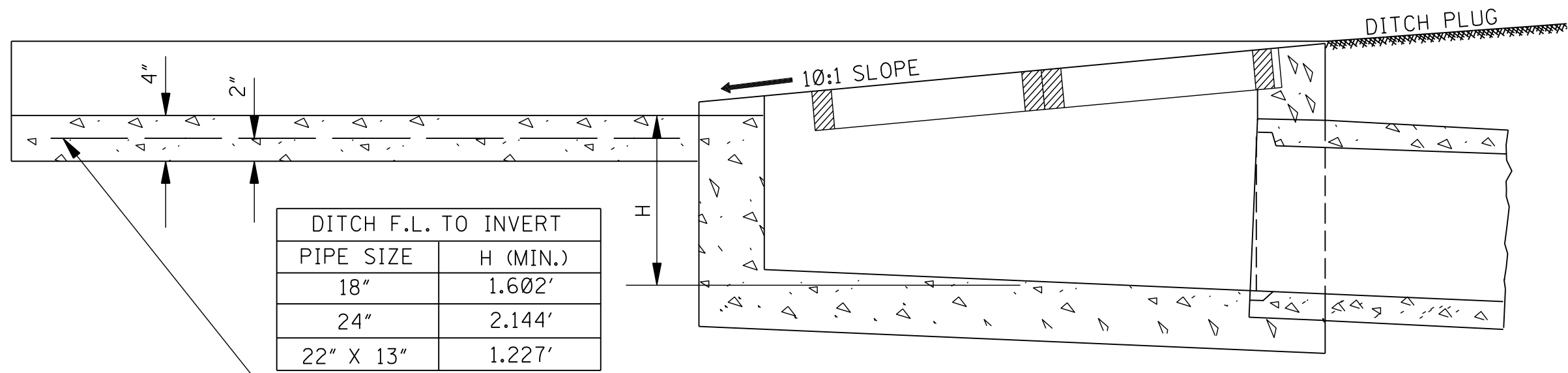
SHEET NUMBER  
6513

ISSUE DATE: AUGUST 01, 2017



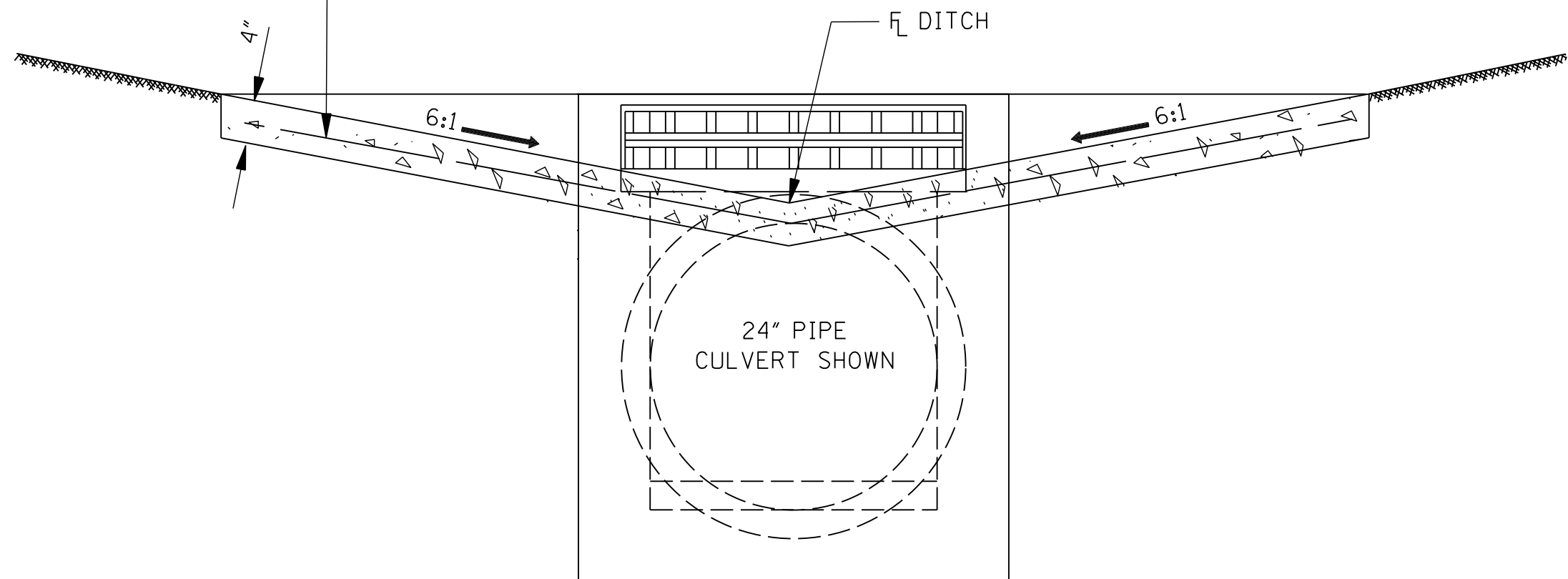


PLAN

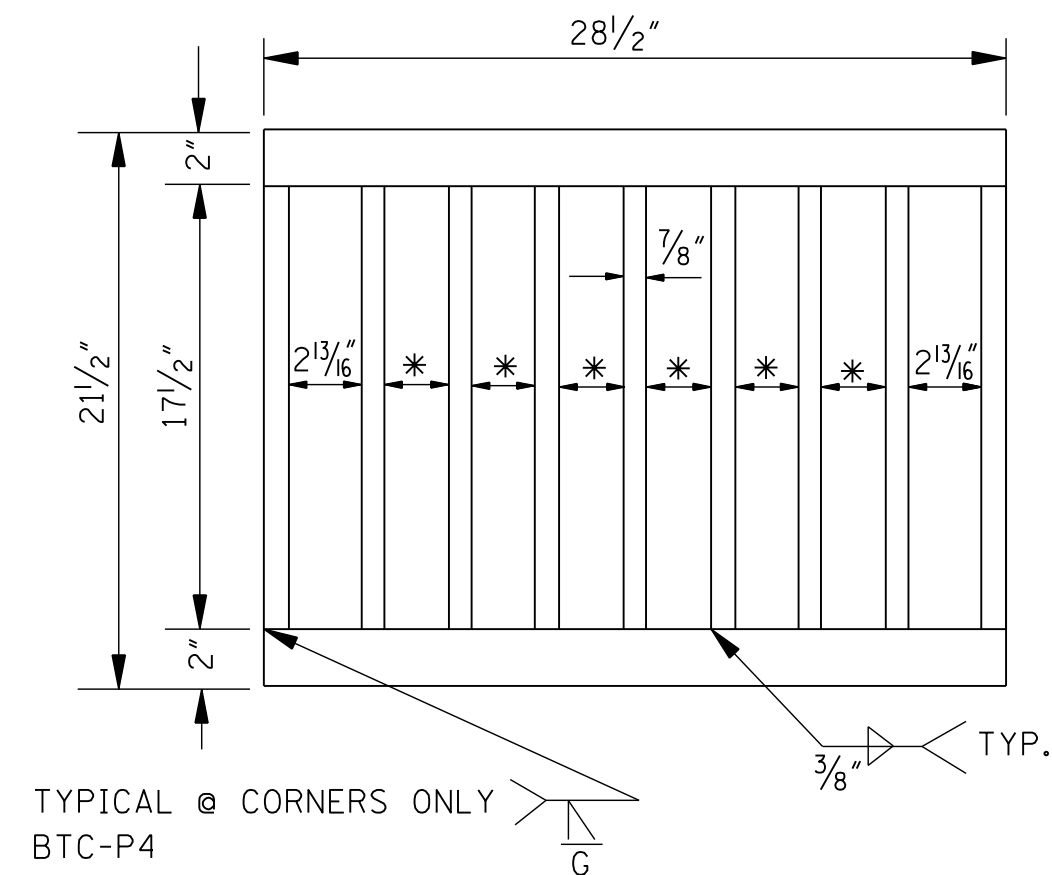


SECTION A-A

6 X 6 - W1.4 X W1.4 OR  
6 X 6 - D1.4 X D1.4 WIRE  
MESH (NOT A PAY ITEM)

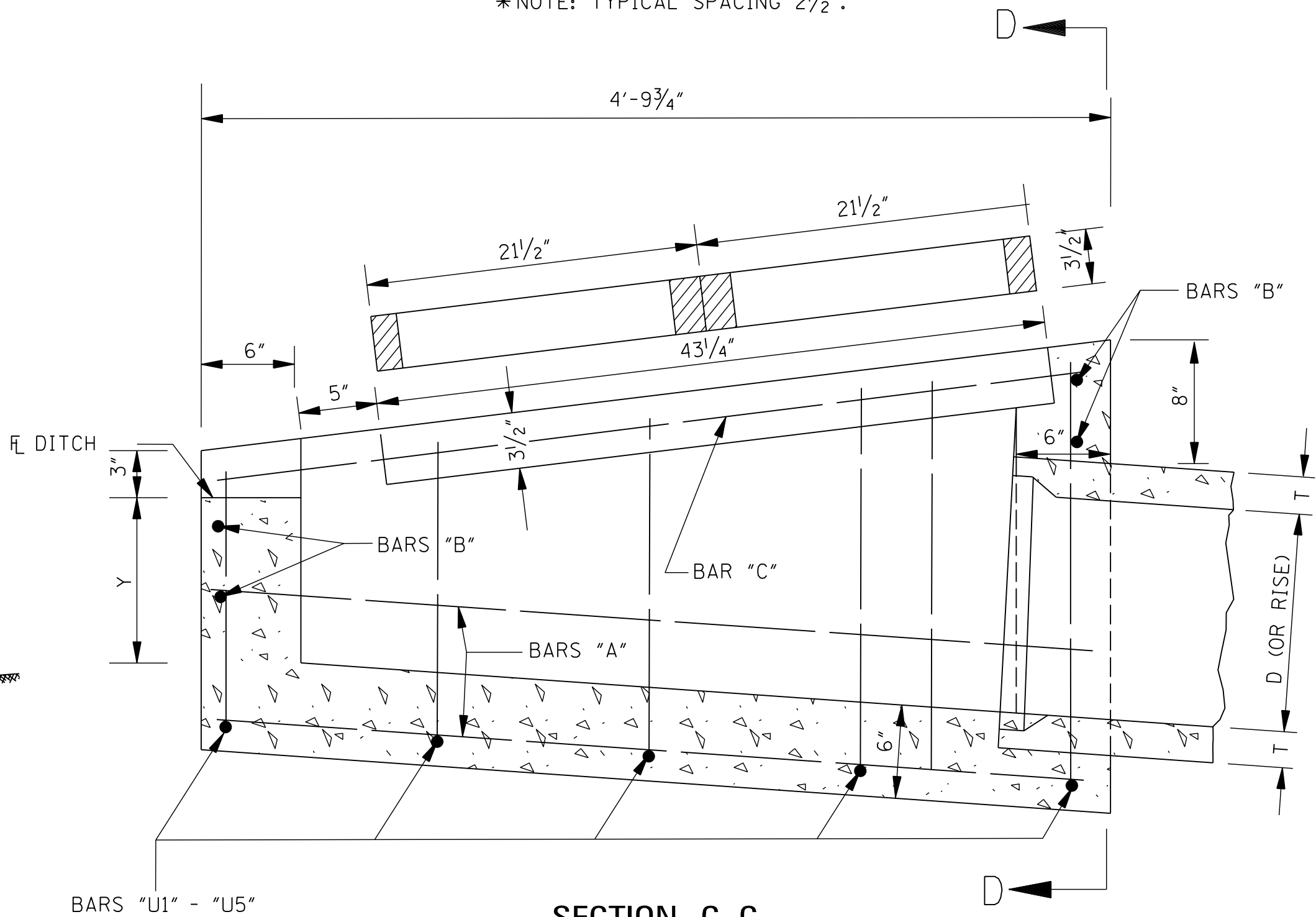


SECTION B-B

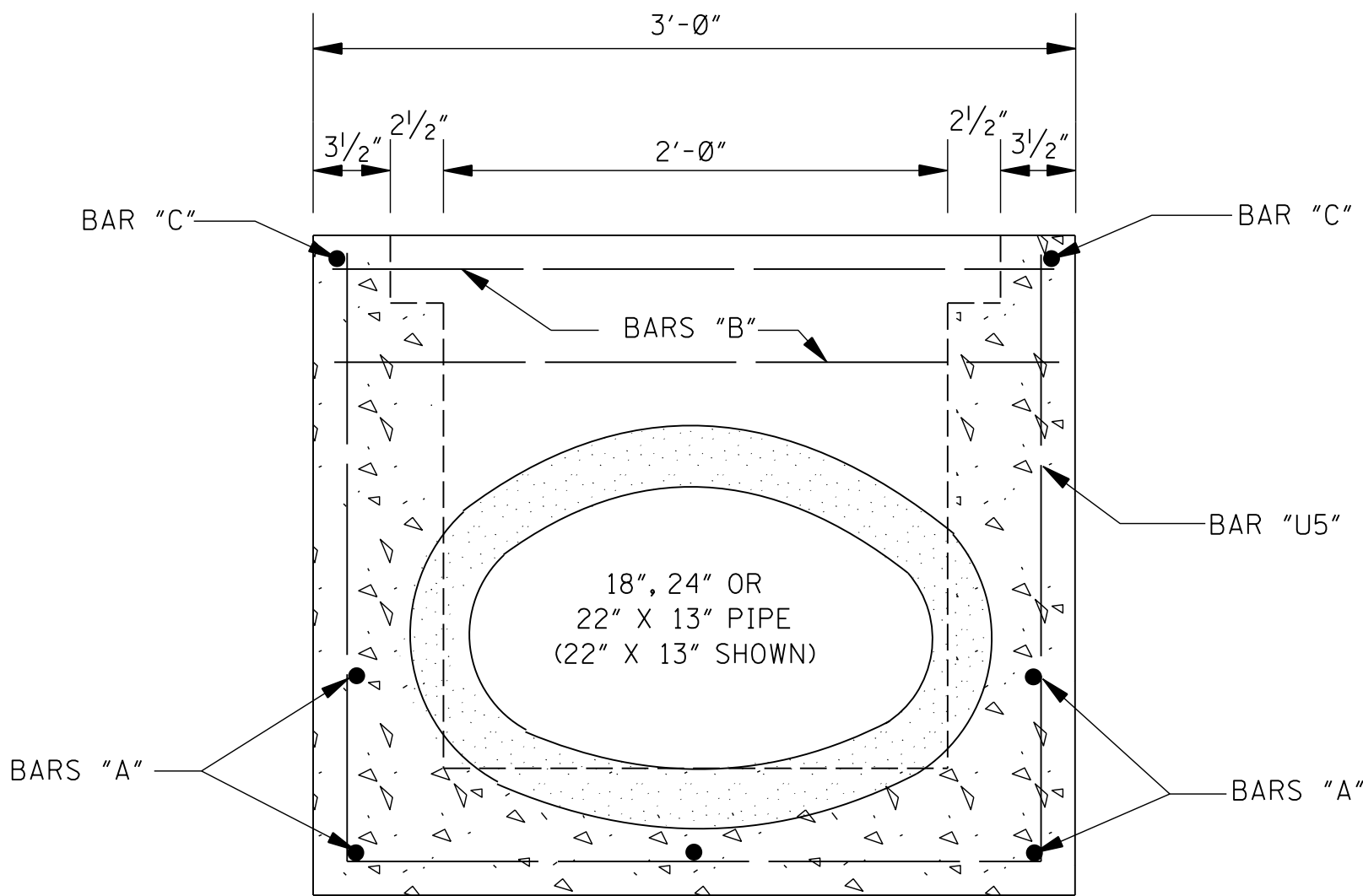


PLAN OF GRATE NO. 1

\*NOTE: TYPICAL SPACING 2 1/2".

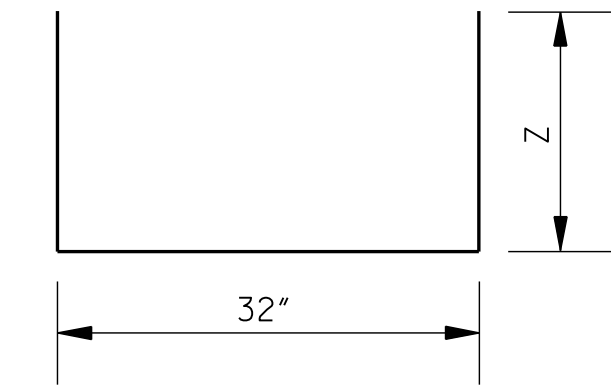


SECTION C-C



SECTION D-D

QUANTITIES				
PIPE SIZE	Y	T	CONC. (yd <sup>3</sup> )	STEEL (lbs)
18"	17 1/2"	2 1/2"	0.678	50
24"	24"	3"	0.722	53
22" X 13"	13 1/2"	2 1/2"	0.549	48



5 #4 BARS, (2Z + 32") LONG

BARS "U"

BAR DETAILS

BAR LIST						
BAR SIZE	PIPE SIZE					
	18"		24"		22" X 13"	
	Z	NO. @ LG.	Z	NO. @ LG.	Z	NO. @ LG.
"U1" #4	22½"	1 @ 6'-5"	29"	1 @ 7'-6"	18½"	1 @ 5'-9"
"U2" #4	24"	1 @ 6'-8"	31"	1 @ 7'-10"	20½"	1 @ 6'-1"
"U3" #4	26½"	1 @ 7'-1"	32½"	1 @ 8'-1"	22½"	1 @ 6'-5"
"U4" #4	28"	1 @ 7'-4"	34½"	1 @ 8'-5"	24"	1 @ 6'-8"
"U5" #4	30"	1 @ 7'-8"	36½"	1 @ 8'-9"	26"	1 @ 7'-0"
"A" #4	--	5 @ 4'-8"	--	5 @ 4'-8"	--	5 @ 4'-8"
"B" #4	--	4 @ 2'-9"	--	4 @ 2'-9"	--	4 @ 2'-9"
"C" #4	--	2 @ 4'-8"	--	2 @ 4'-8"	--	2 @ 4'-8"

NOTE: TWO (2) GRATES REQUIRED.

GENERAL NOTES:

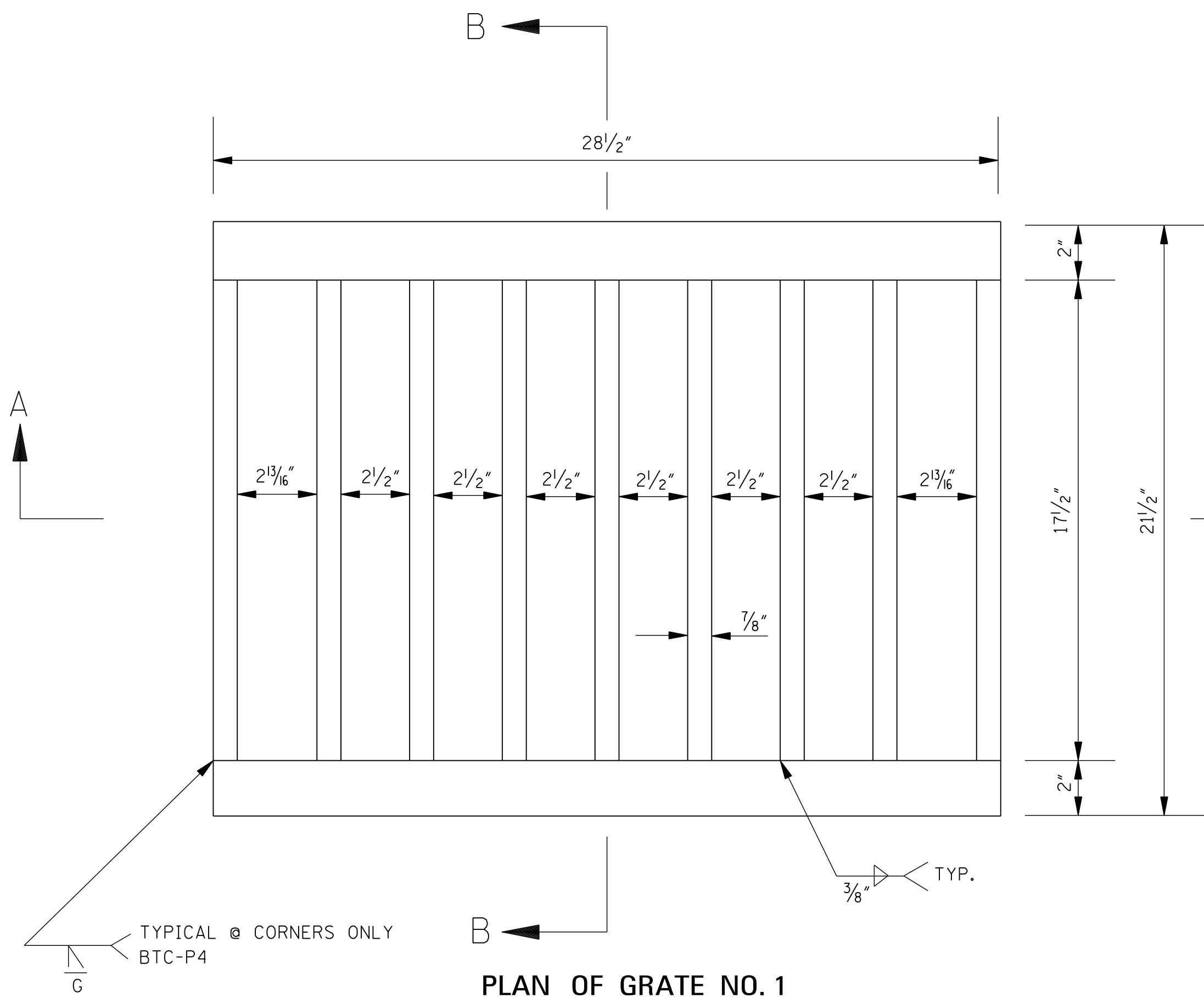
- QUANTITIES SHOWN WILL BE THE BASIS OF PAYMENT UNLESS AUTHORIZED MODIFICATIONS ARE MADE.
- THE CONCRETE SHALL BE CLASS "B" CONCRETE AND REINFORCING STEEL SHALL BE DEFORMED BARS.
- THE CONTRACTOR HAS THE OPTION TO PROVIDE GRATE NO. 1 OR GRATE NO. 2 AS SHOWN ON SHEET IG-1.
- 0.819 yd<sup>3</sup> CLASS "C" CONCRETE REQUIRED FOR PAVED APRON (PAID FOR UNDER THE APPROPRIATE PAY ITEM FOR CONCRETE PAVED DITCH).

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	ISSUE DATE: AUGUST 01, 2017

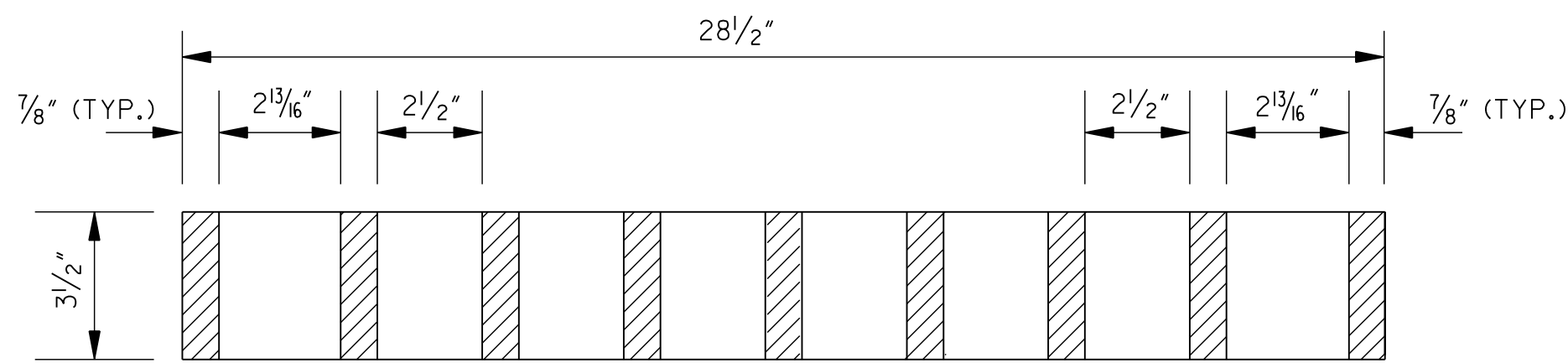
**MEDIAN INLET**  
(FLUSH WITH DITCH PLUG)



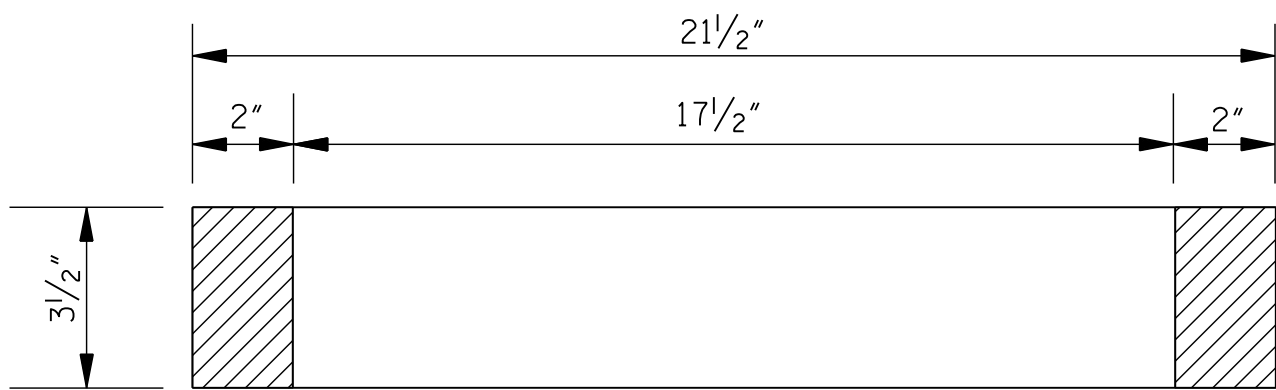
GRATE NO. 1



PLAN OF GRATE NO. 1

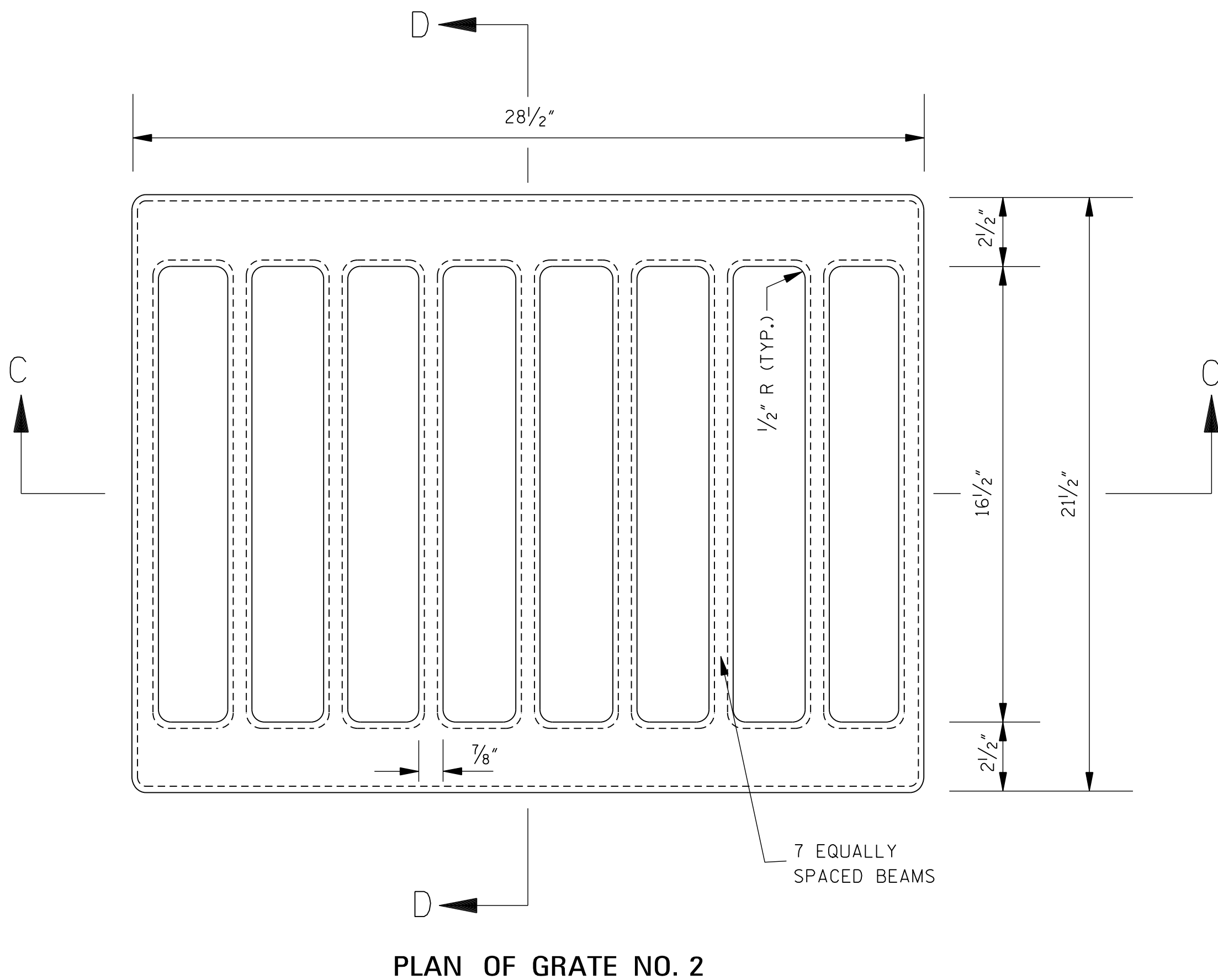


SECTION A-A

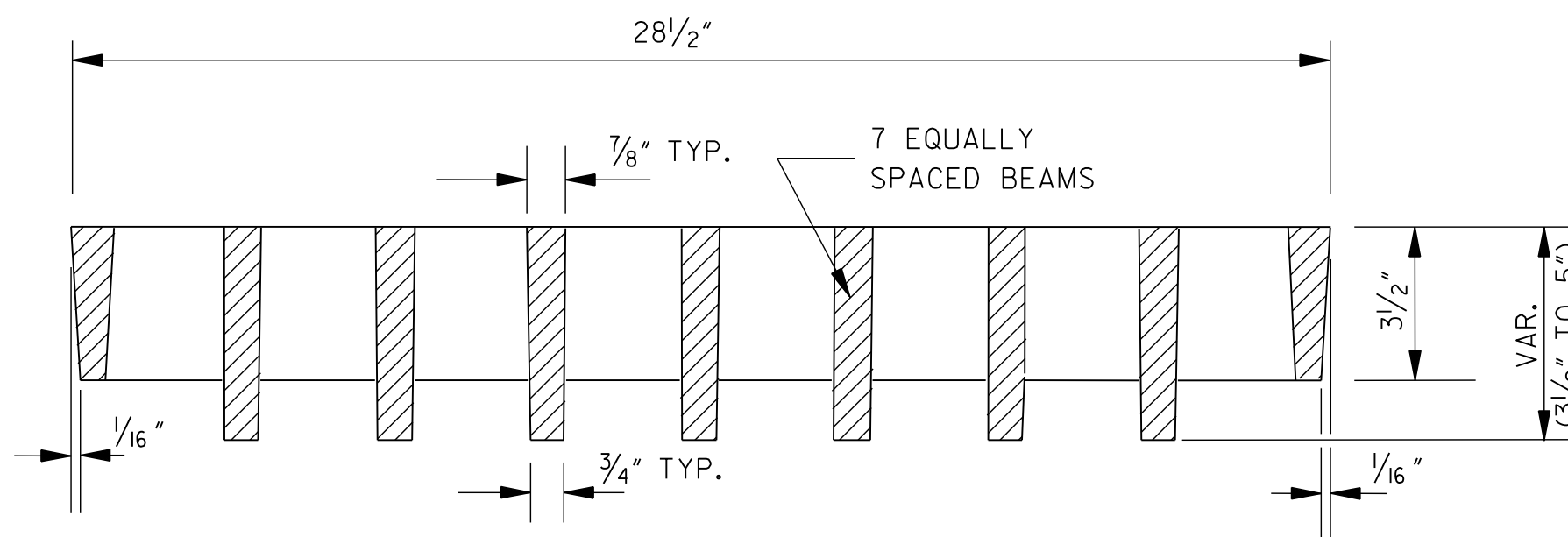


SECTION B-B

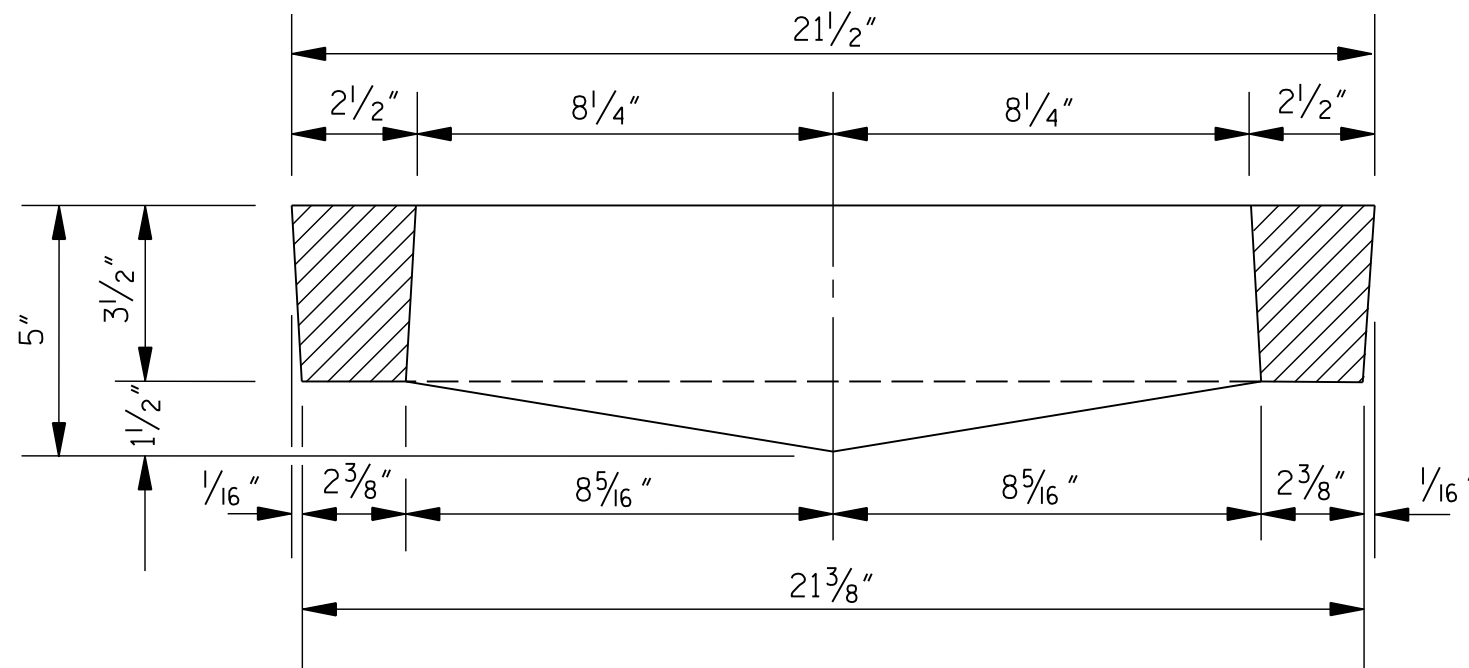
GRATE NO. 2



PLAN OF GRATE NO. 2



SECTION C-C

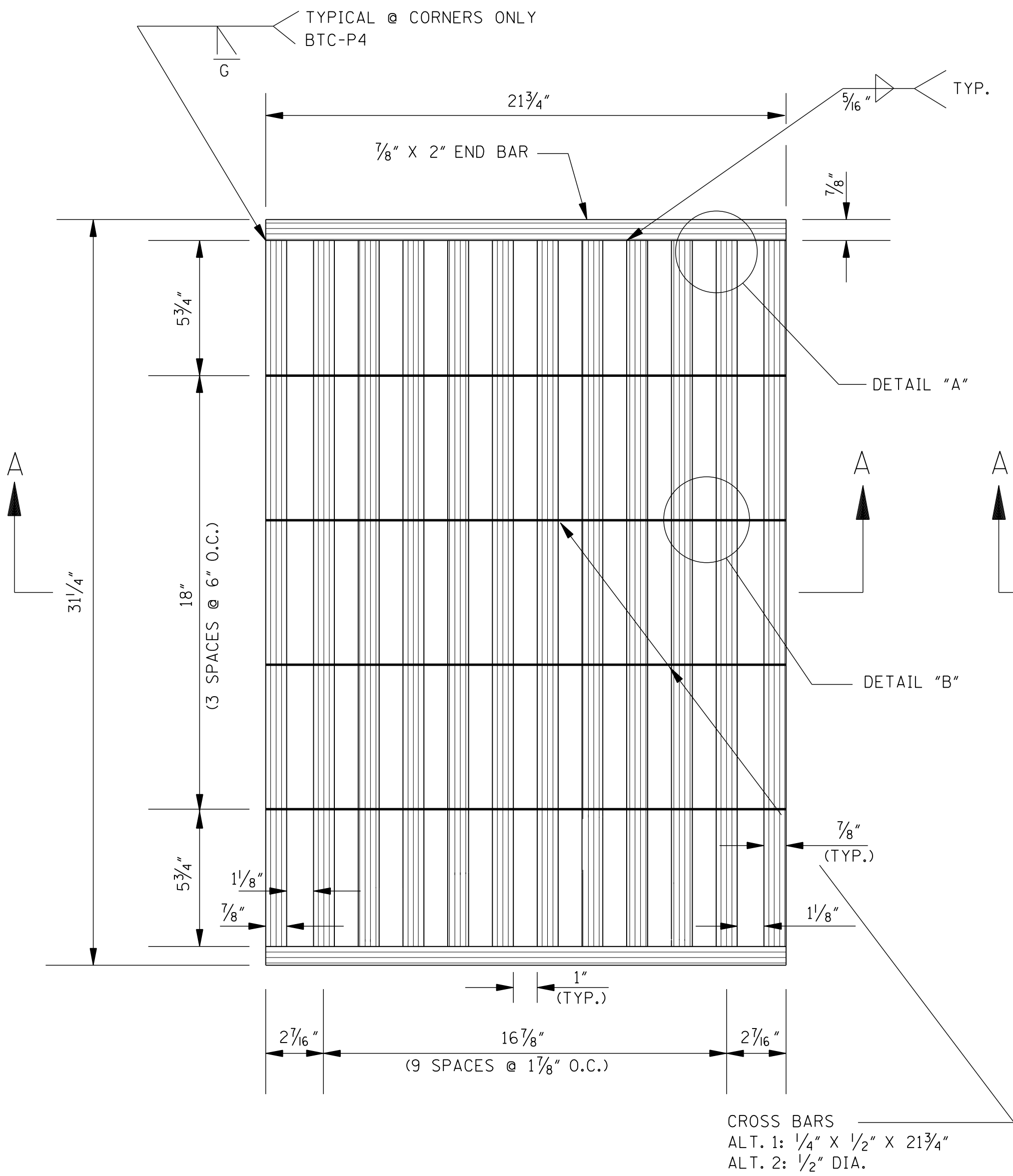


SECTION D-D

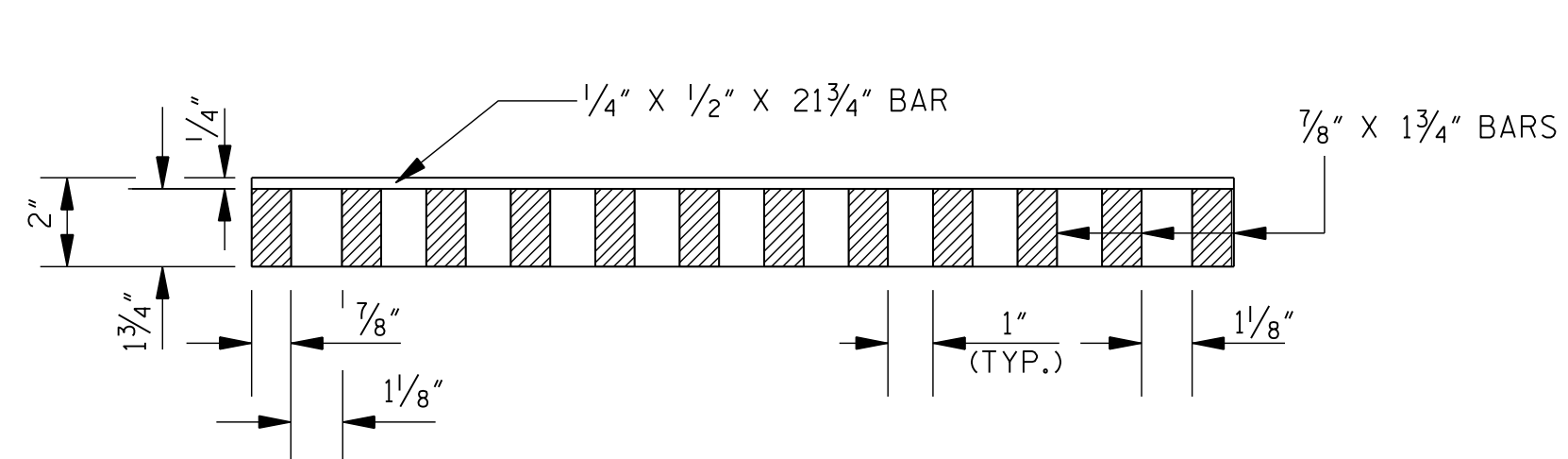
- GENERAL NOTES:
1. BASIS OF PAYMENT WILL BE 250 lbs OF GRATING FOR EITHER GRATE.
  2. GRATE NO.1  
THE GRATE SHALL BE WELDED STEEL (ASTM A 588).
  3. GRATE NO.2  
THE GRATE SHALL BE DUCTILE IRON (ASTM A 536, GRADE 80-55-06).

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>DETAILS OF GRATES FOR MEDIAN INLETS</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					WORKING NUMBER IG-1
					SHEET NUMBER 6516

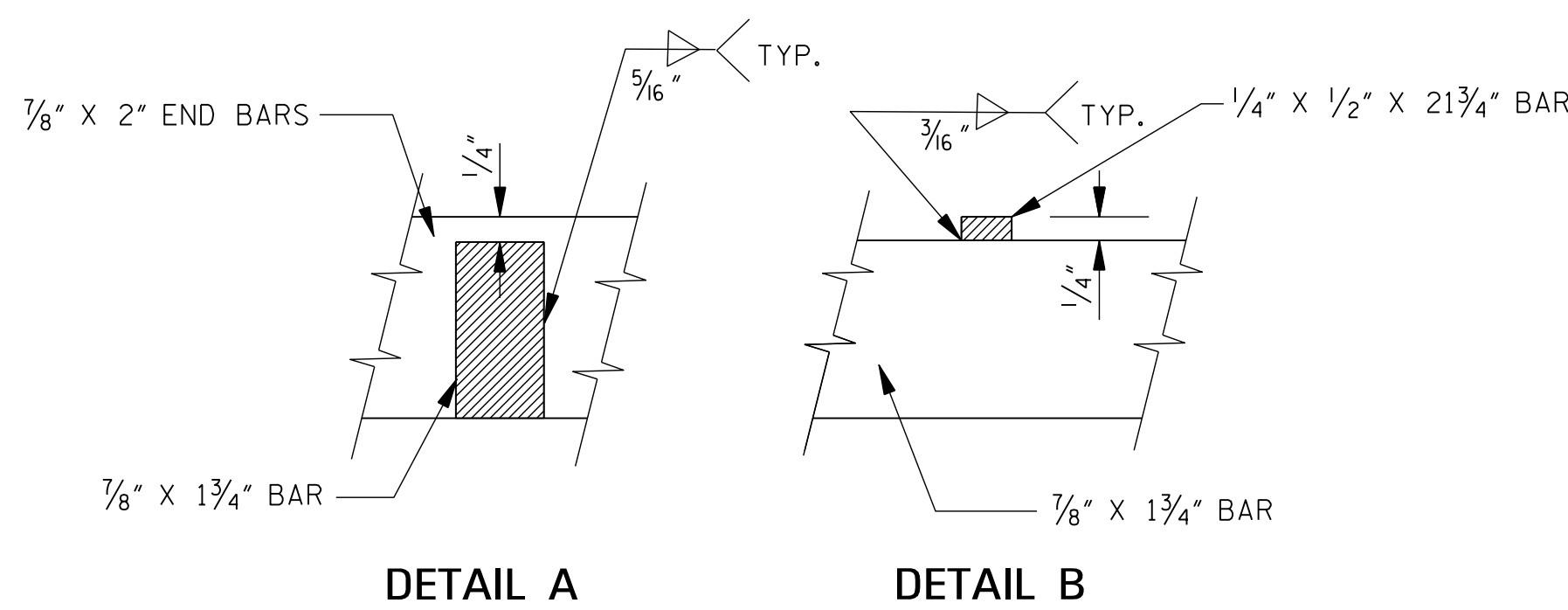
GRATE NO. 1 – ALTERNATE #1



PLAN



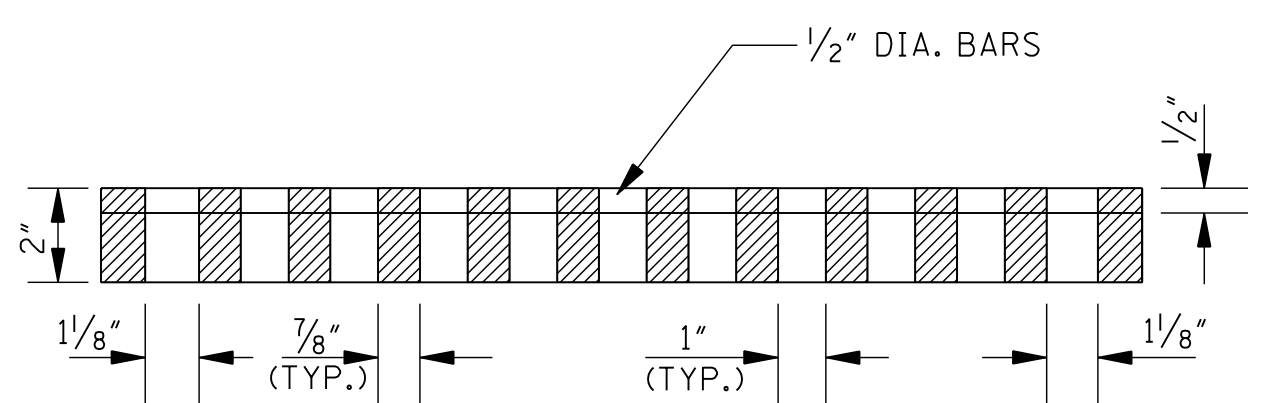
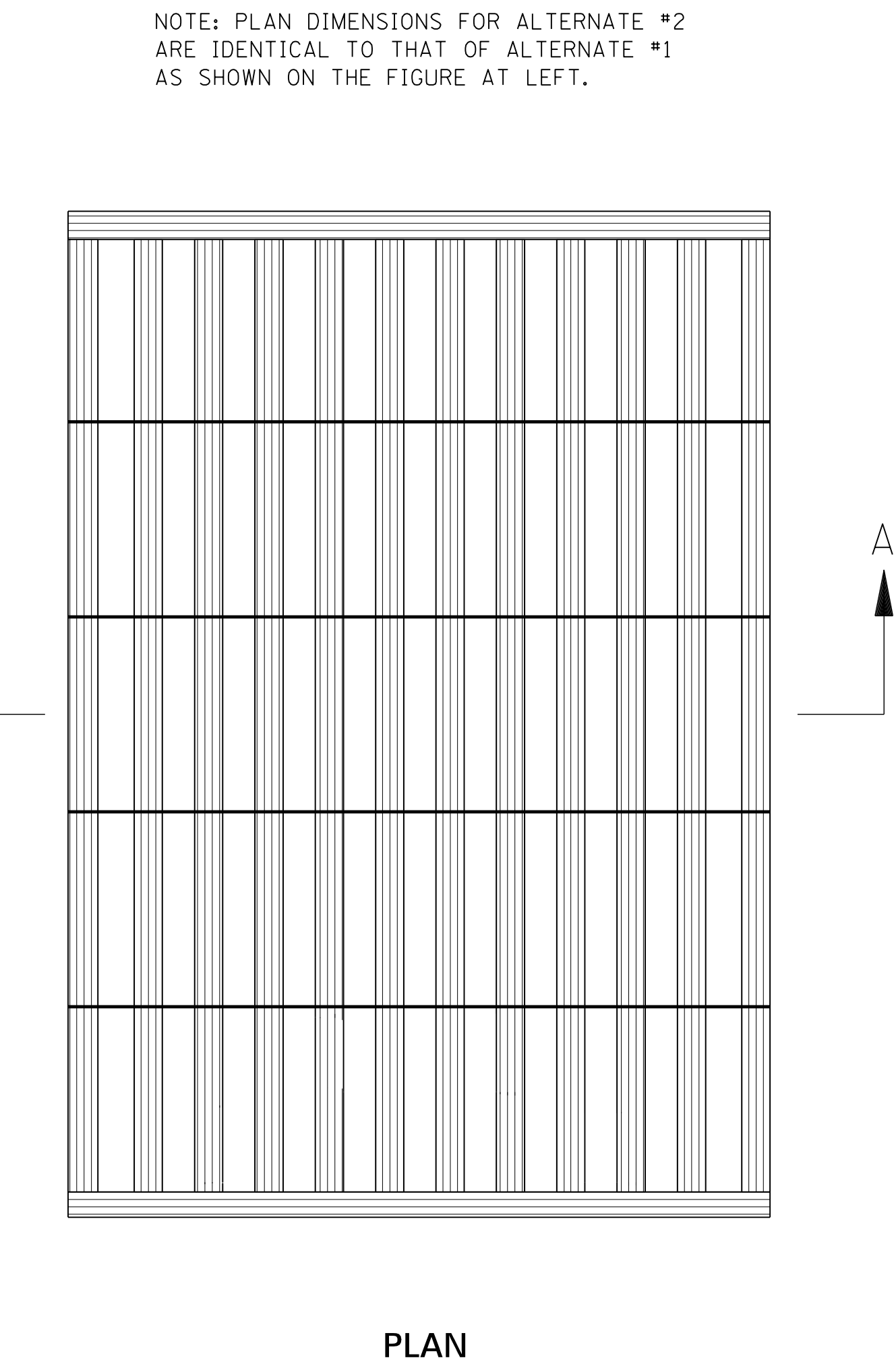
SECTION A-A



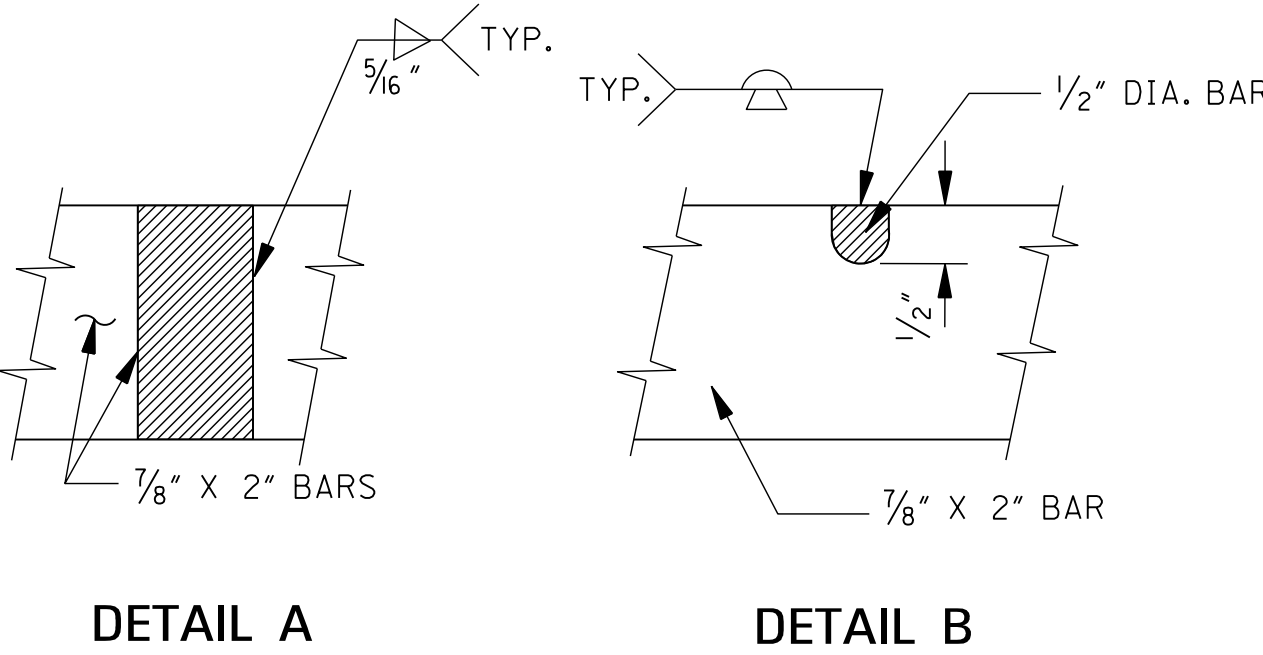
DETAIL A

DETAIL B

GRATE NO. 1 – ALTERNATE #2



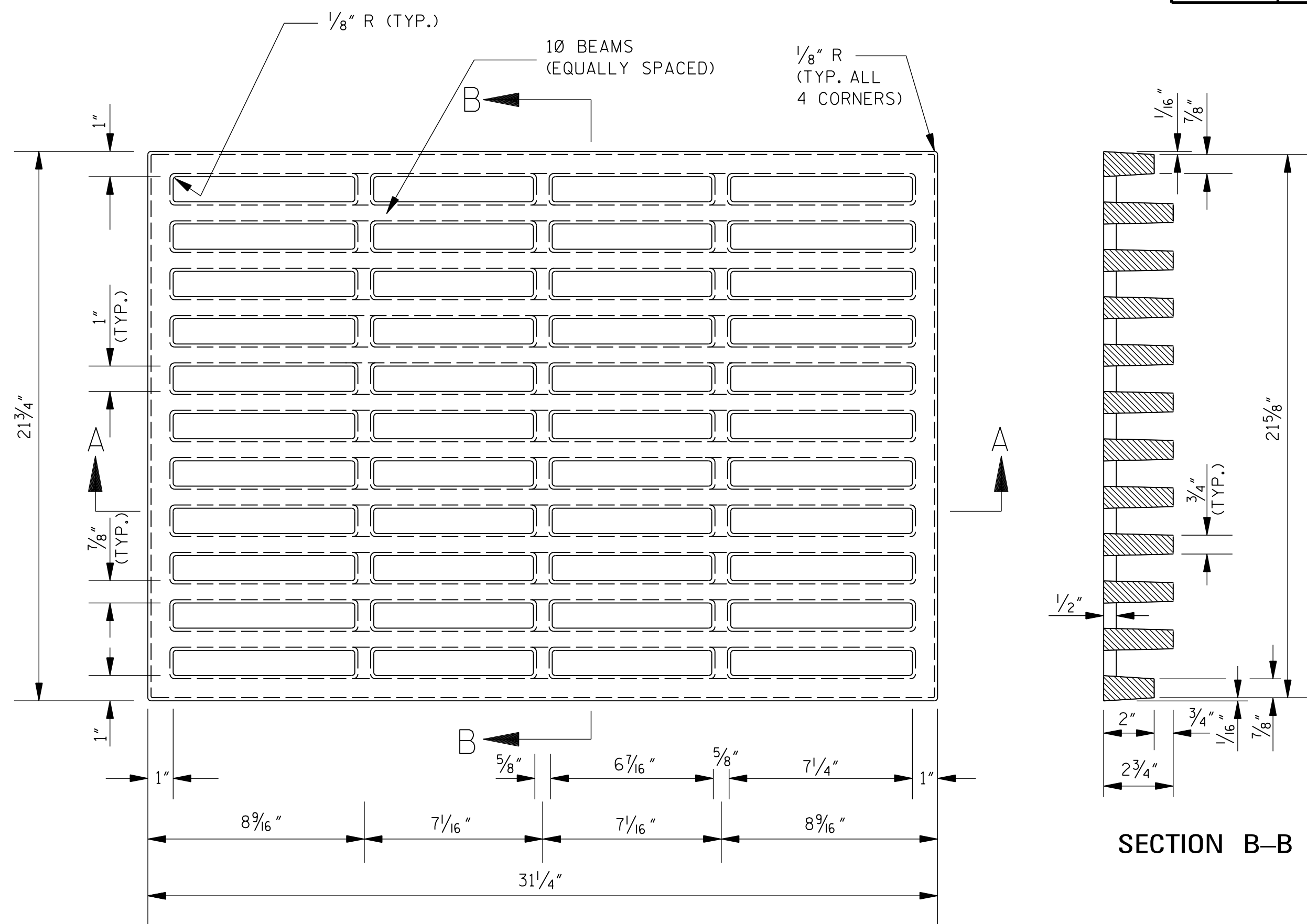
SECTION A-A



DETAIL A

DETAIL B

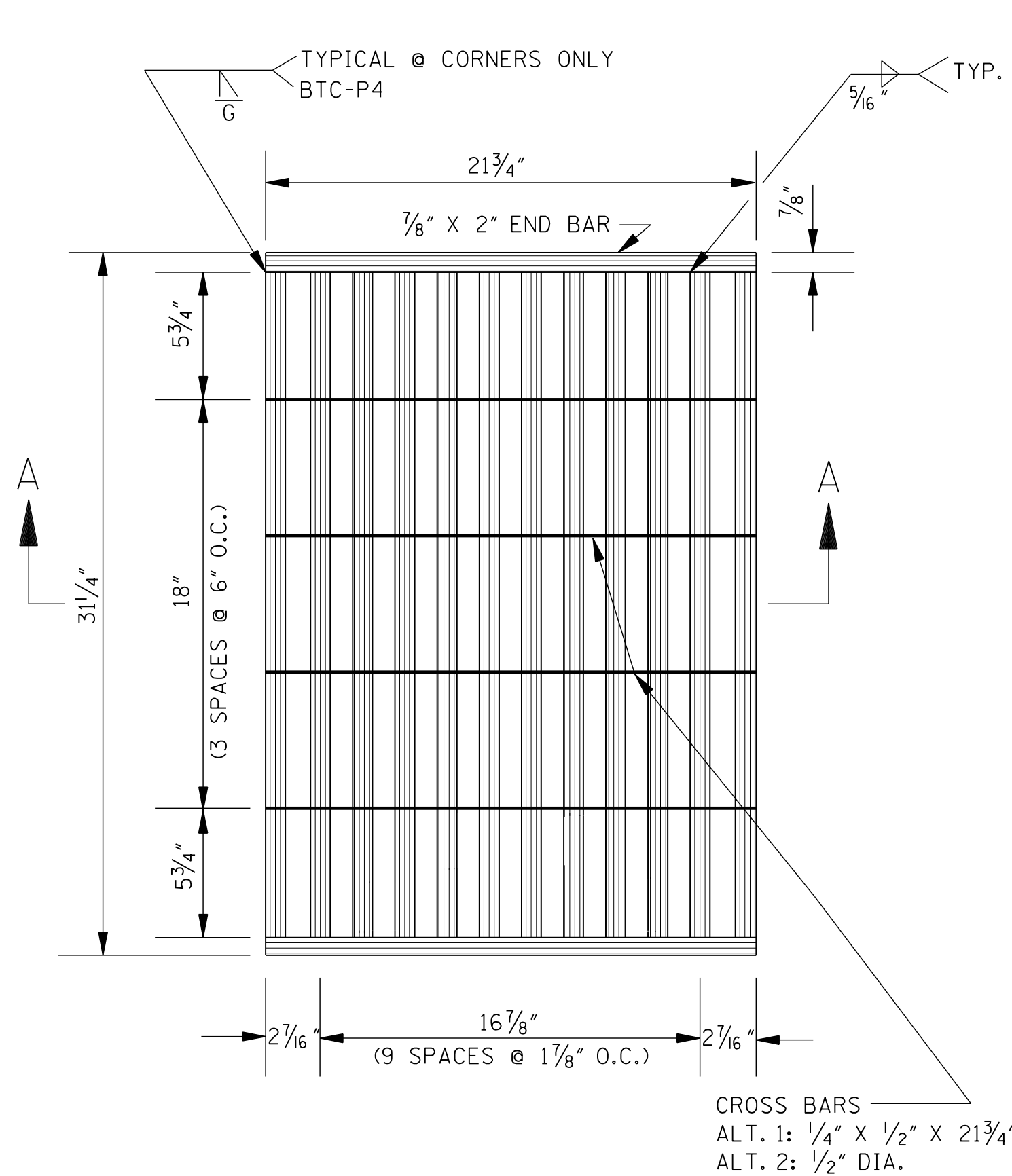
GRATE NO. 2



SECTION A-A

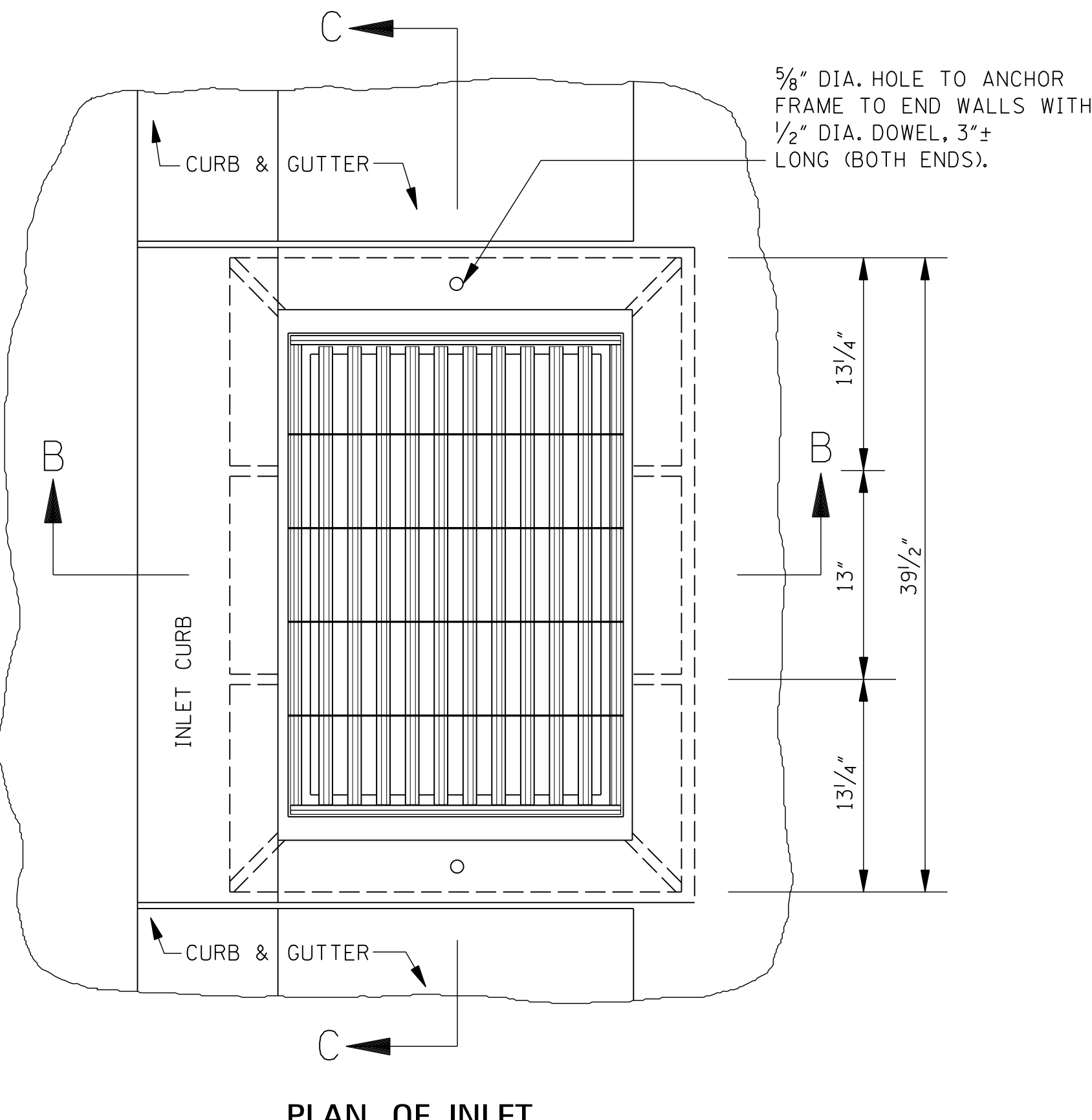
- GENERAL NOTES:
1. BASIS OF PAYMENT WILL BE 200 lbs OF GRATING FOR EITHER GRATE.
  2. GRATE NO. 1  
THE GRATE SHALL BE WELDED STEEL (ASTM A 588).
  3. GRATE NO. 2  
THE GRATE SHALL BE DUCTILE IRON (ASTM A 536, GRADE 80-55-06).

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>DETAILS OF GRATES FOR GUTTER INLETS</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					WORKING NUMBER IG-2
					SHEET NUMBER 6517



PLAN OF GRATE NO.1

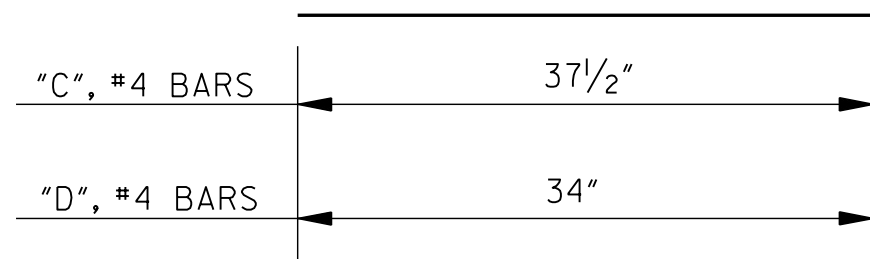
NOTE: FOR OTHER GRATE DETAILS SEE SHEET IG-2.



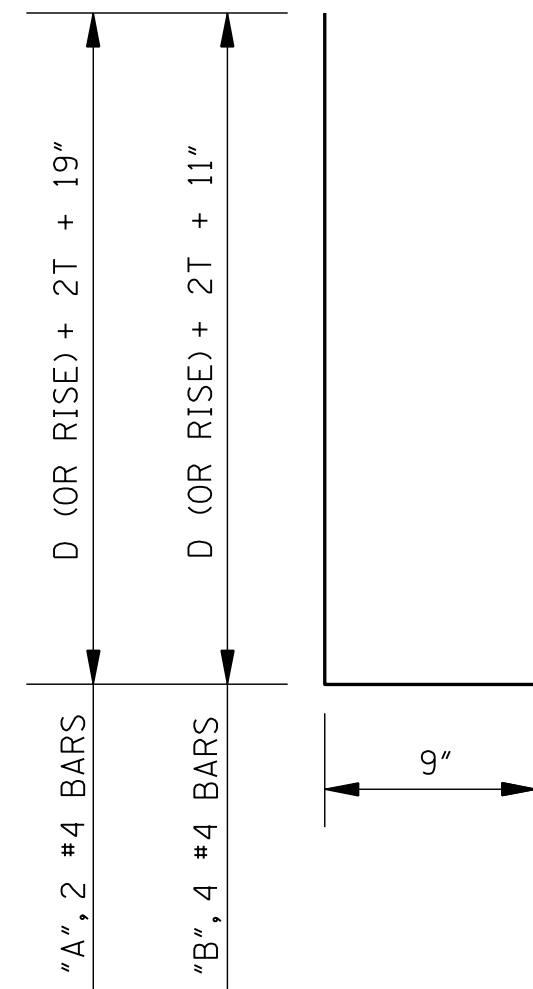
PLAN OF INLET

QUANTITIES									
PIPE SIZE	MIN. DEPTH TO F.L.	MIN. DEPTH INLET		PIPE OPENING DEDUCTION (yd <sup>3</sup> )	T	BAR LIST			
		CONC. (yd <sup>3</sup> )	STEEL (lbs)			BARS "A" #4	BARS "B" #4	BARS "C" #4	BARS "D" #4
18"	2.708'	0.763	55	0.053	2½"	2 @ 4'-3"	4 @ 3'-7"	10 @ 3'-1½"	10 @ 2'-10"
24"	3.250'	0.822	57	0.091	3"	2 @ 4'-10"	4 @ 4'-2"	10 @ 3'-1½"	10 @ 2'-10"
22" X 13"	2.333'	0.686	48	0.053	2½"	2 @ 3'-10½"	4 @ 3'-2½"	9 @ 3'-1½"	8 @ 2'-10"

- NOTES:
- ONE (1) PIPE OPENING HAS BEEN DEDUCTED FROM THE STRUCTURE.
  - FOR EACH ADDITIONAL FOOT OF INLET HEIGHT, ADD 0.238 yd<sup>3</sup> CLASS "B" CONCRETE AND 13 lbs REINFORCING STEEL.
  - 3 BARS "C" AND 2 BARS "D" REQUIRED PER EACH ADDITIONAL FOOT OF INLET HEIGHT. LENGTH OF BARS "A" & BARS "B" WILL BE INCREASED ACCORDING TO ADDITIONAL HEIGHT.
  - WEIGHT OF FRAME CASTING = 244 lbs.  
WEIGHT OF GRATE = SEE SHEET IG-2.



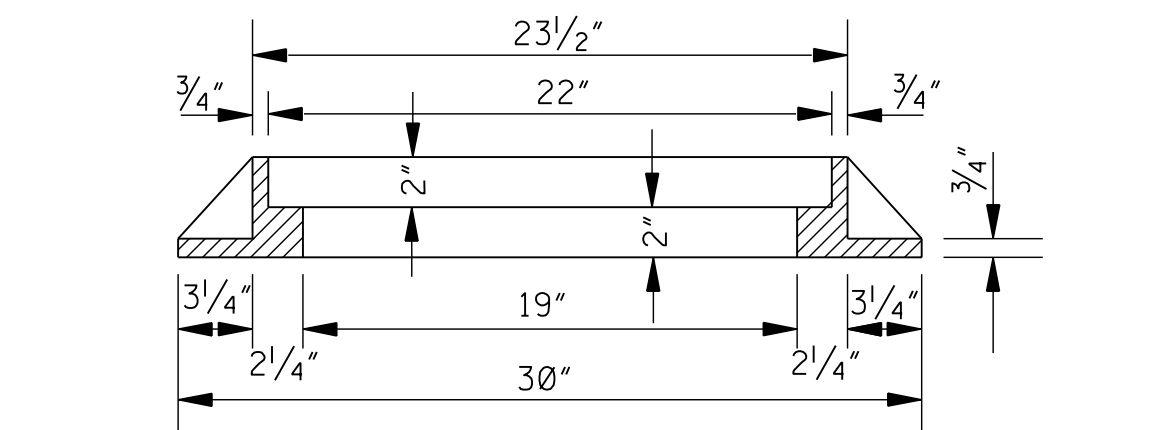
BARS "C" & "D"



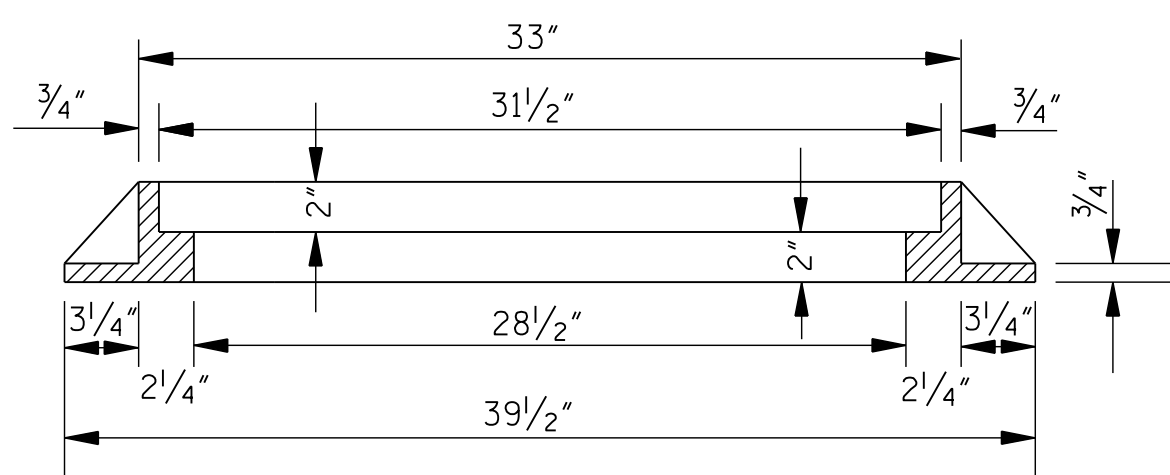
BARS "A" & "B"

BAR DETAILS

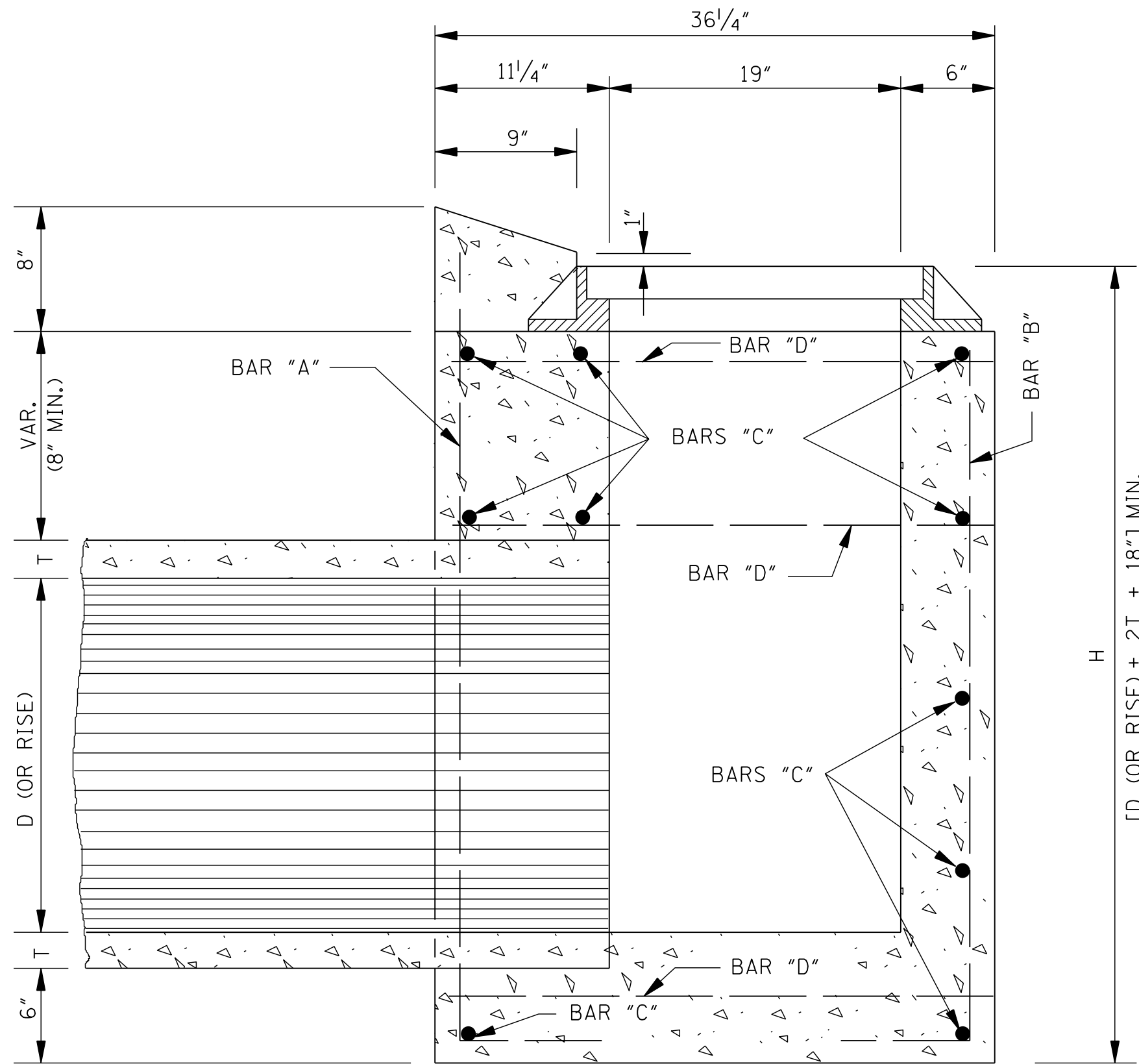
- GENERAL NOTES:
- QUANTITIES SHOWN WILL BE THE BASIS OF PAYMENT UNLESS AUTHORIZED MODIFICATIONS ARE MADE.
  - CONCRETE SHALL BE CLASS "B" CONCRETE AND REINFORCING STEEL SHALL BE DEFORMED BARS.
  - THE CONTRACTOR HAS THE OPTION TO PROVIDE GRATE NO. 1 OR GRATE NO. 2 AS SHOWN ON SHEET IG-2.
  - FRAME TO BE GRAY IRON CASTING, (AASHTO M 105, CLASS 30).



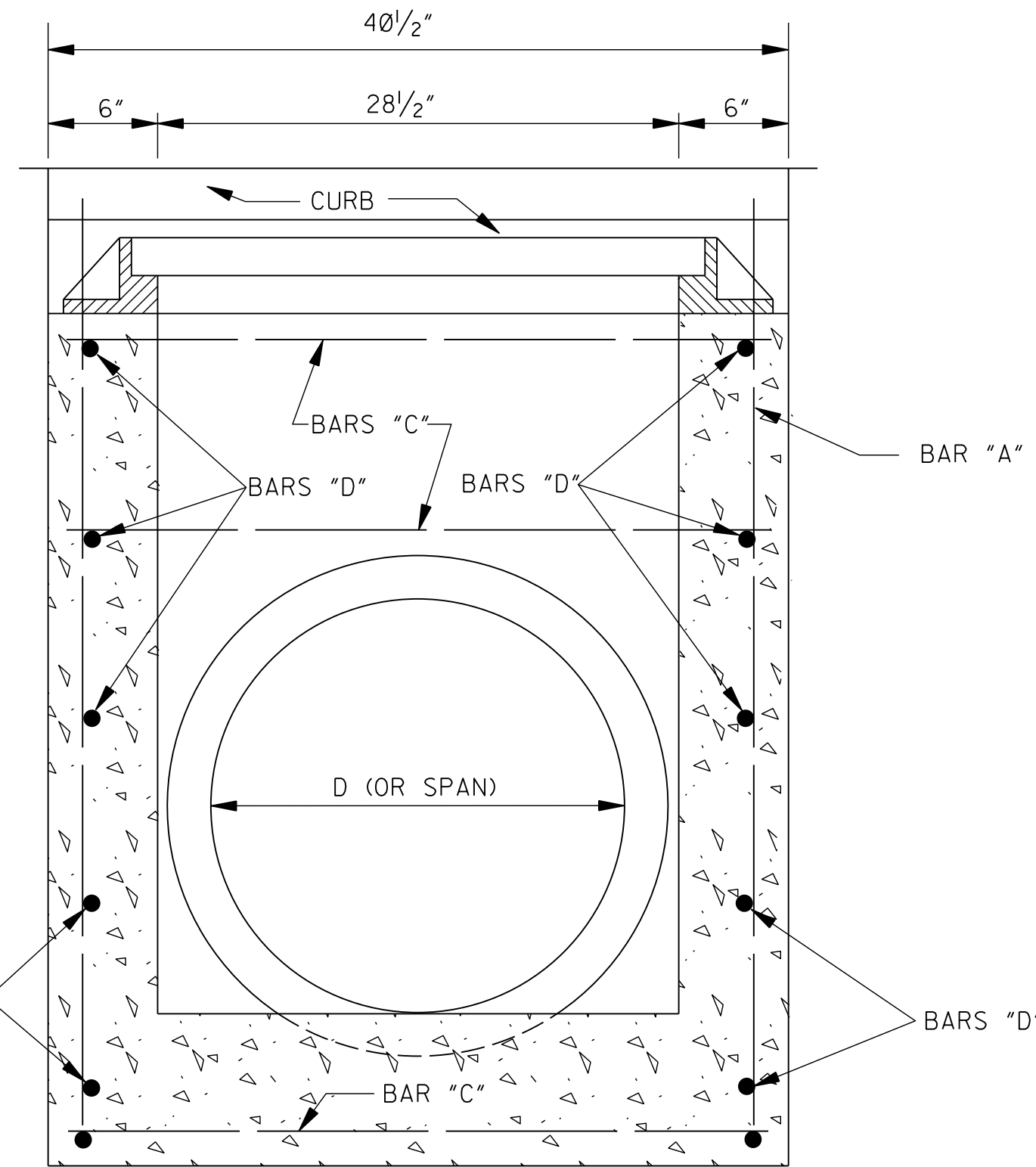
SECTION B-B (FRAME)



SECTION C-C (FRAME)



SECTION B-B



SECTION C-C

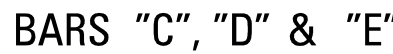
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	ISSUE DATE: AUGUST 01, 2017

**GUTTER INLET FOR  
TYPE 2 CURB  
(OUTLET 90° TO ROADWAY)**

**MDOT**  
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

WORKING NUMBER  
GI-1

SHEET NUMBER  
6518



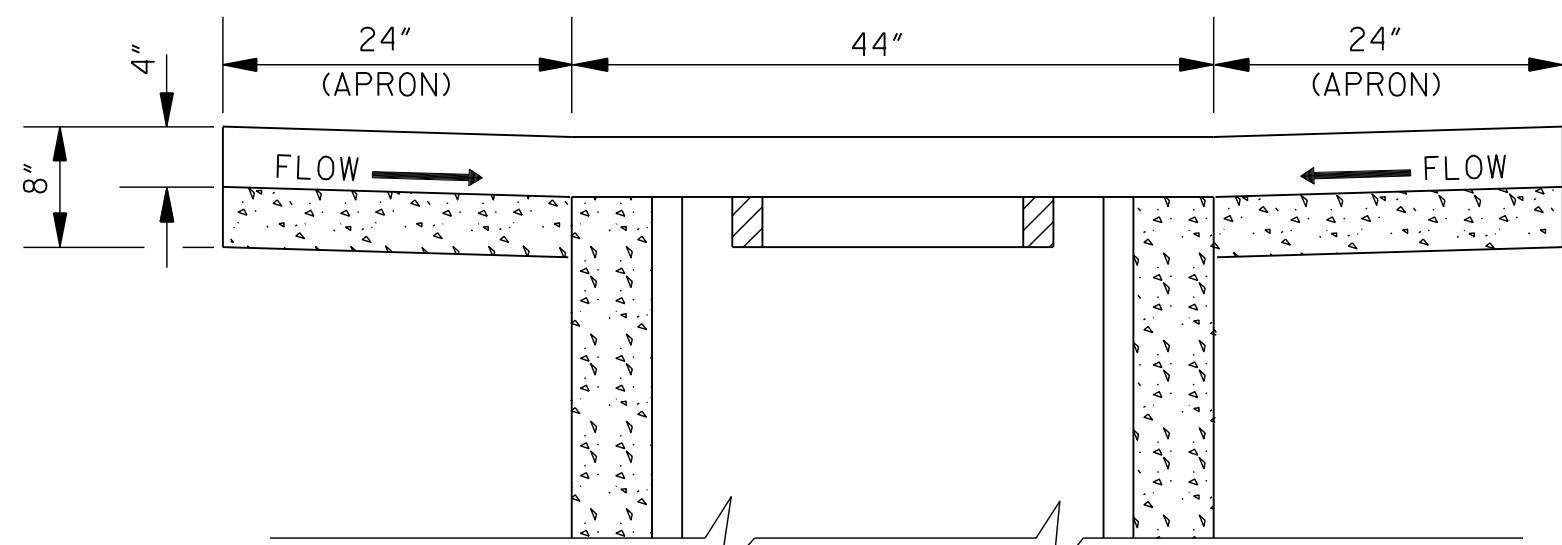
NOTES: 1. NO PIPE OPENINGS HAVE BEEN DEDUCTED FROM QUANTITY SHOWN.  
2. FOR EACH ADDITIONAL FOOT OF INLET HEIGHT, ADD 0.238 yd<sup>3</sup> CLASS "B" CONCRETE AND 13 lbs REINFORCING STEEL.  
3. 3 BARS "C" AND 2 BARS "D" REQUIRED PER EACH ADDITIONAL FOOT OF INLET HEIGHT. LENGTH OF BARS "B" WILL INCREASE WITH ADDITIONAL HEIGHT.  
4. WEIGHT OF FRAME CASTING = 244 lbs.  
WEIGHT OF GRATE = SEE SHEET IG-2.



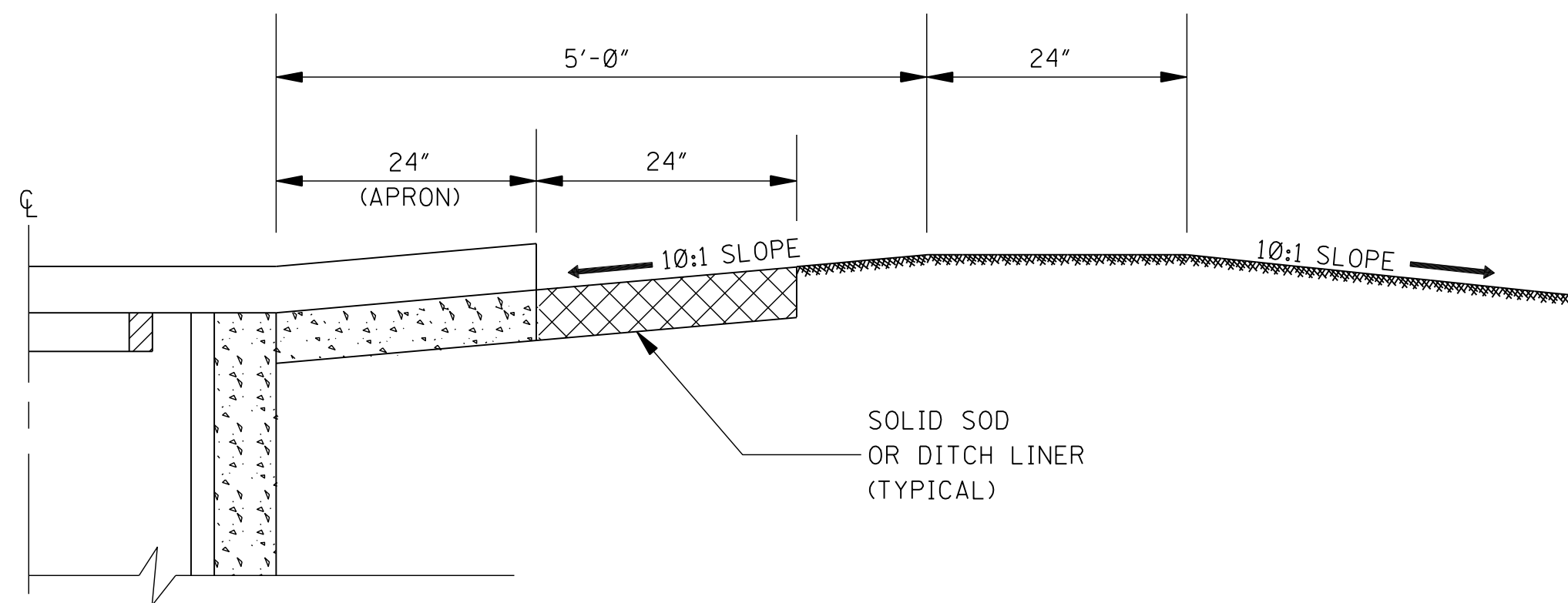
- GENERAL NOTES:
1. QUANTITIES SHOWN WILL BE THE BASIS OF PAYMENT UNLESS AUTHORIZED MODIFICATIONS ARE MADE.
  2. CONCRETE SHALL BE CLASS "B" CONCRETE AND REINFORCING STEEL SHALL BE DEFORMED BARS.
  3. THE CONTRACTOR HAS THE OPTION TO PROVIDE GRATE NO. 1 OR GRATE NO. 2 AS SHOWN ON SHEET IG-2.
  4. FRAME TO BE GRAY IRON CASTING, (AASHTO M 105, CLASS 30).

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<p align="center"><b>GUTTER INLET FOR TYPE 2 CURB (STORM SEWER ALONG ROADWAY)</b></p>
				DATE	<div>  <div> <div>WORKING NUMBER</div> <div>GI-1A</div> </div> <div> <div>SHEET NUMBER</div> <div>6519</div> </div> </div>
					ISSUE DATE: <u>          AUGUST 01, 2017          </u>

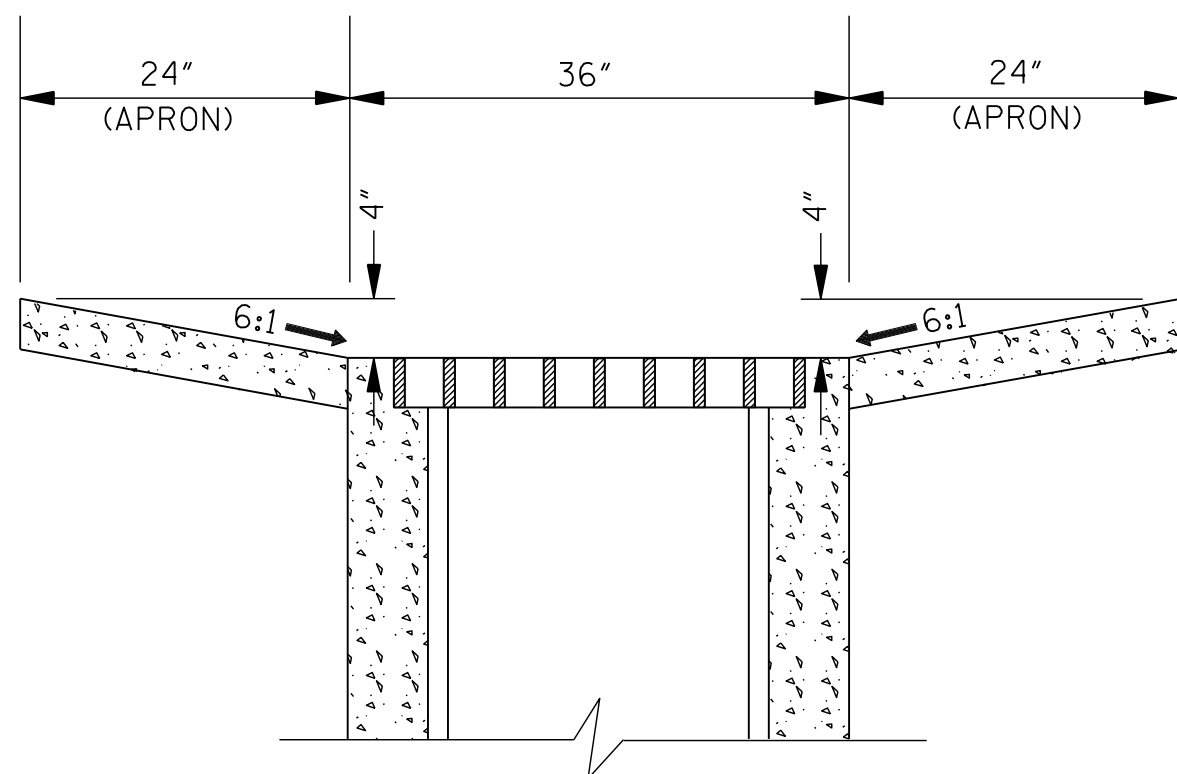




**SECTION A-A**  
NOTE: APRON REINFORCEMENT & SOLID  
SOD NOT SHOWN (SEE SECTION C-C).

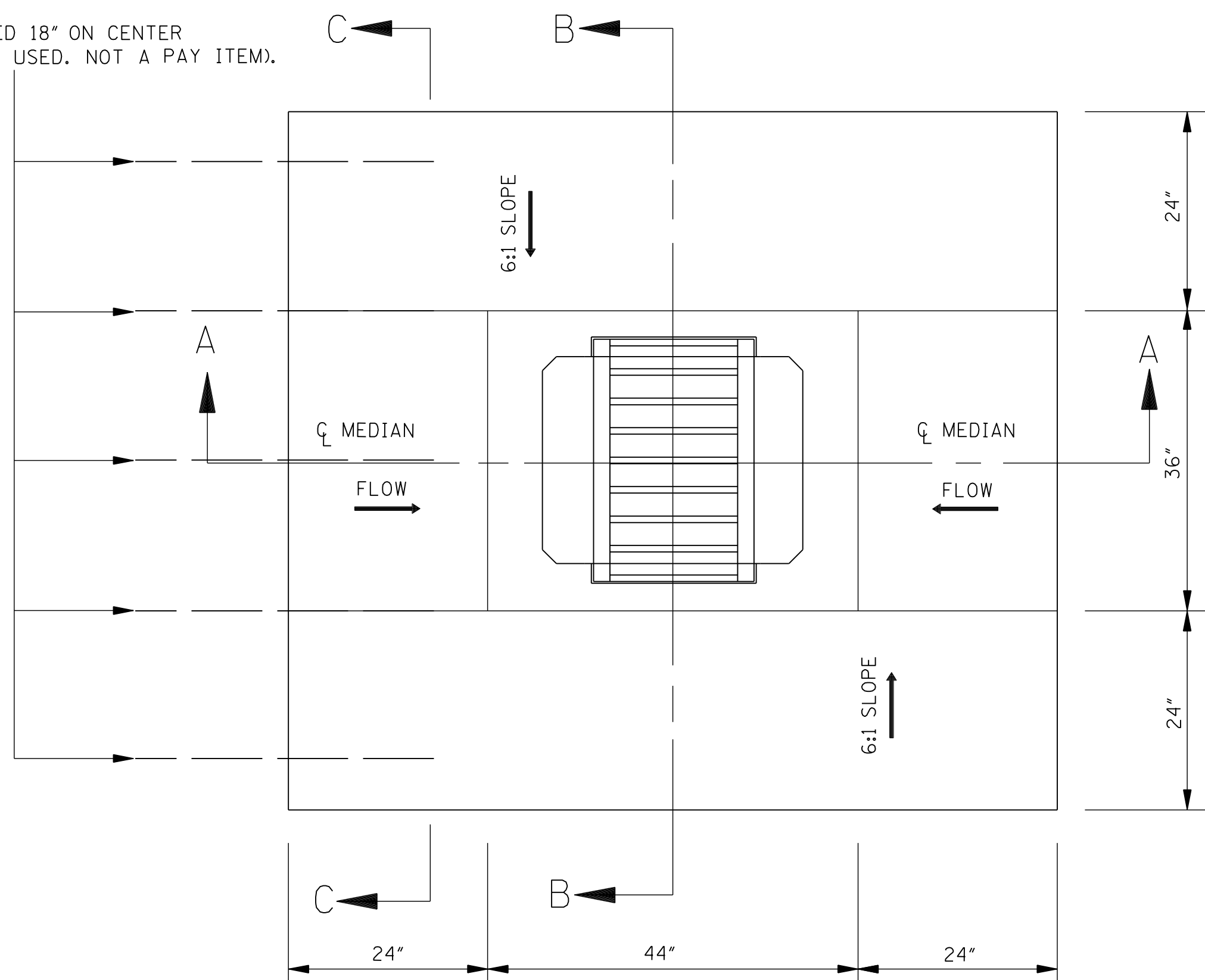


**HALF SECTION A-A SHOWING DITCH PLUG**



**SECTION B-B**  
NOTE: APRON REINFORCEMENT & SOLID  
SOD NOT SHOWN (SEE SECTION C-C).

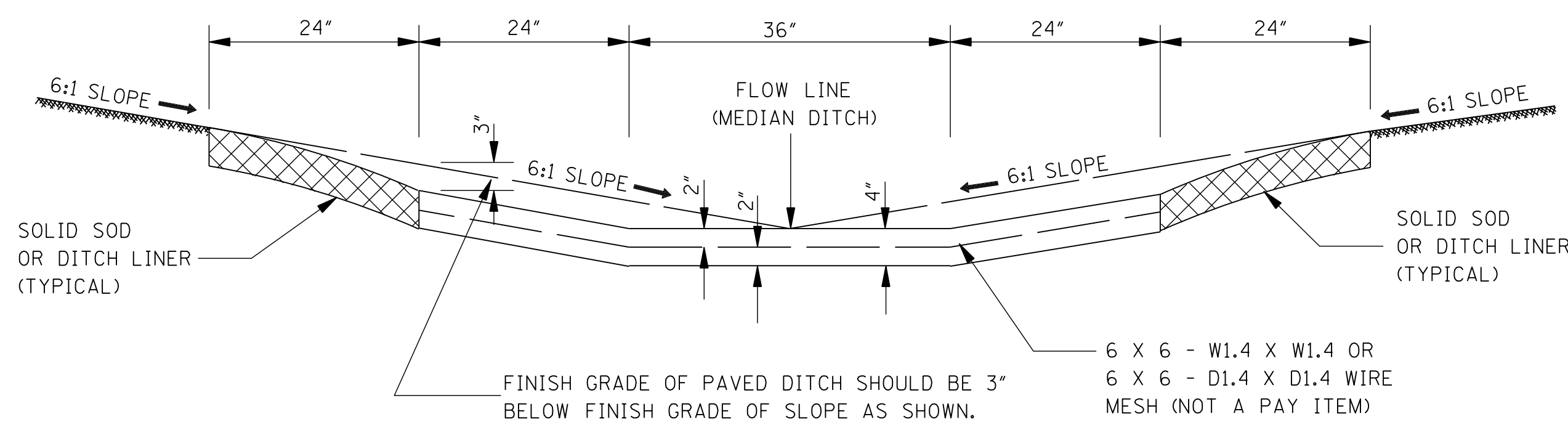
TYPICAL #4 BARS, 30" LONG, SPACED 18" ON CENTER  
(REQUIRED WHERE PAVED DITCH IS USED. NOT A PAY ITEM).



**PLAN OF INLET & PAVED APRON**

GENERAL NOTES:

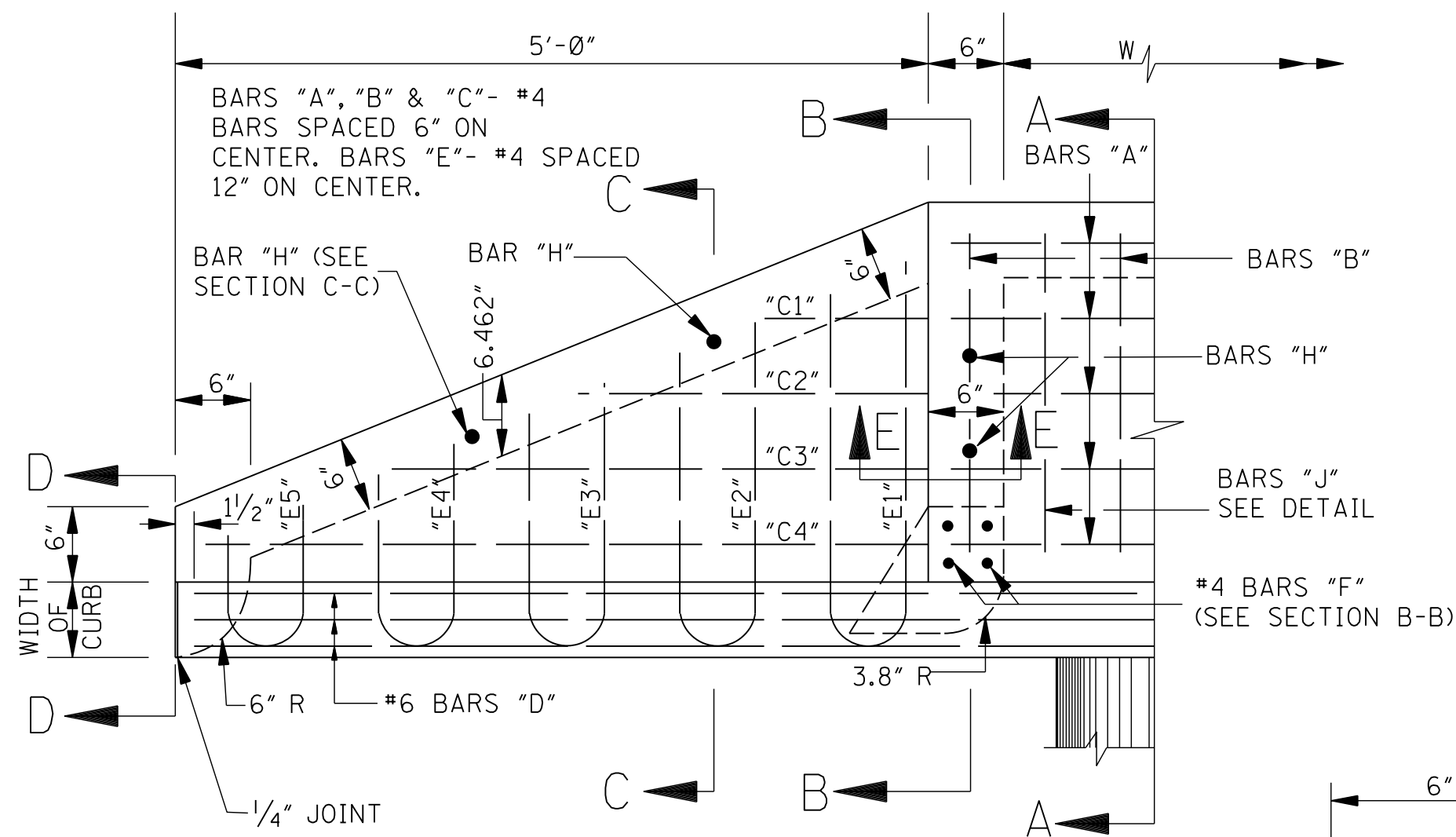
- CONSTRUCTION JOINTS TO BE TIED WITH 5 #4 BARS, 30" LONG, SPACED 18" ON CENTER. EXPANSION JOINT WILL NOT BE USED. CHAIR SUPPORTS FOR THE WIRE MESH WILL NOT BE REQUIRED. HOWEVER, THE CONTRACTOR SHALL PLACE THE WIRE MESH IN A SATISFACTORY AND WORKMANLIKE MANNER TO ENSURE THAT THE FINAL POSITION IS REASONABLY NEAR THE POSITION INDICATED.
- PAVED APRON TO BE CONSTRUCTED AND PAID FOR IN ACCORDANCE WITH THE REQUIREMENTS FOR PAVED DITCHES.
- 0.532 yd<sup>3</sup> CLASS "C" CONCRETE REQUIRED.
- QUANTITY SHOWN WILL BE USED AS THE BASIS FOR FINAL PAYMENT UNLESS AUTHORIZED MODIFICATIONS ARE MADE.



**SECTION C-C**

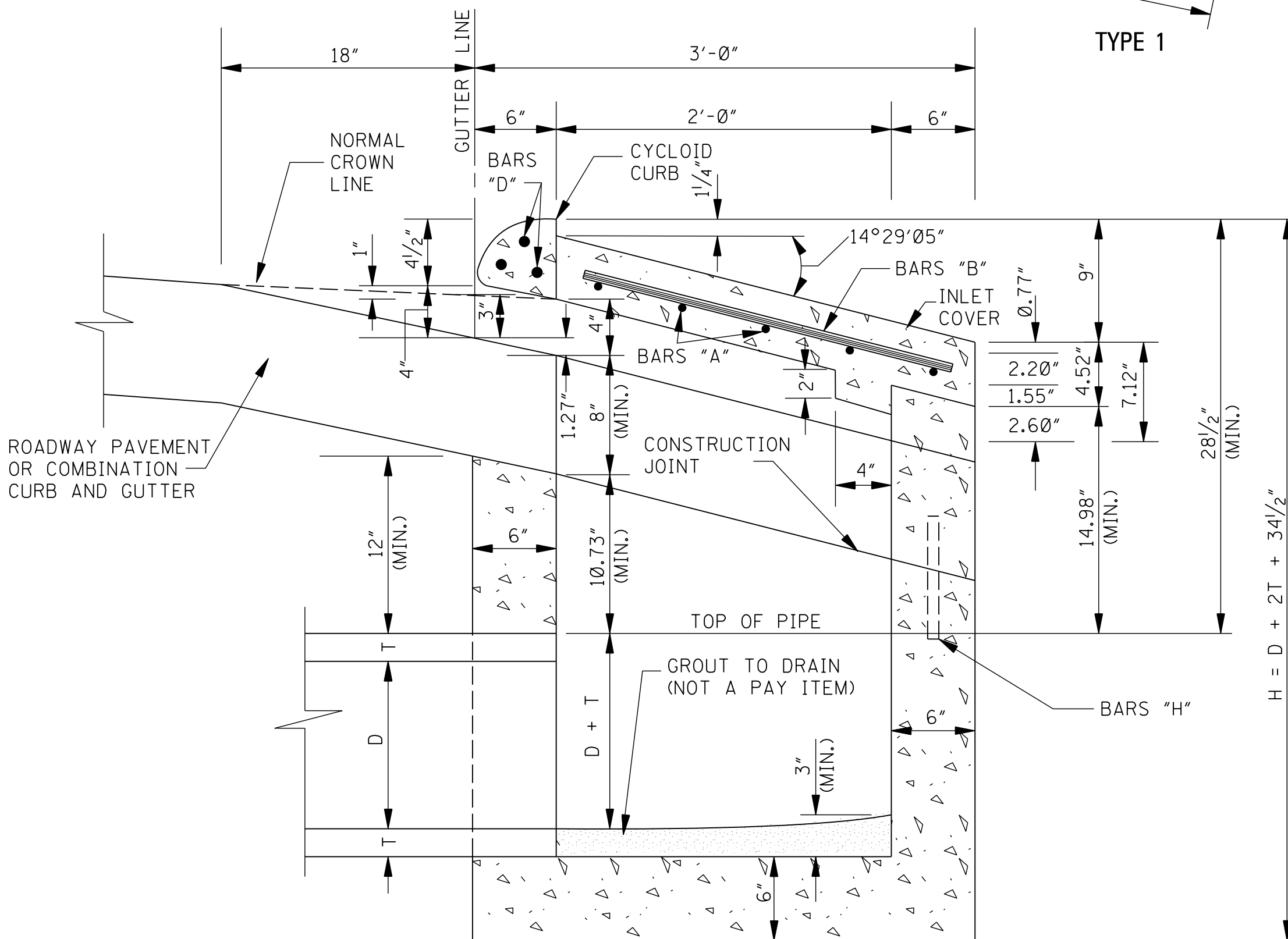
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>PAVED INLET APRON AND MEDIAN DITCH PLUG</b>
				DATE	ISSUE DATE: AUGUST 01, 2017

WORKING NUMBER PA-1
SHEET NUMBER 6520



HALF PLAN

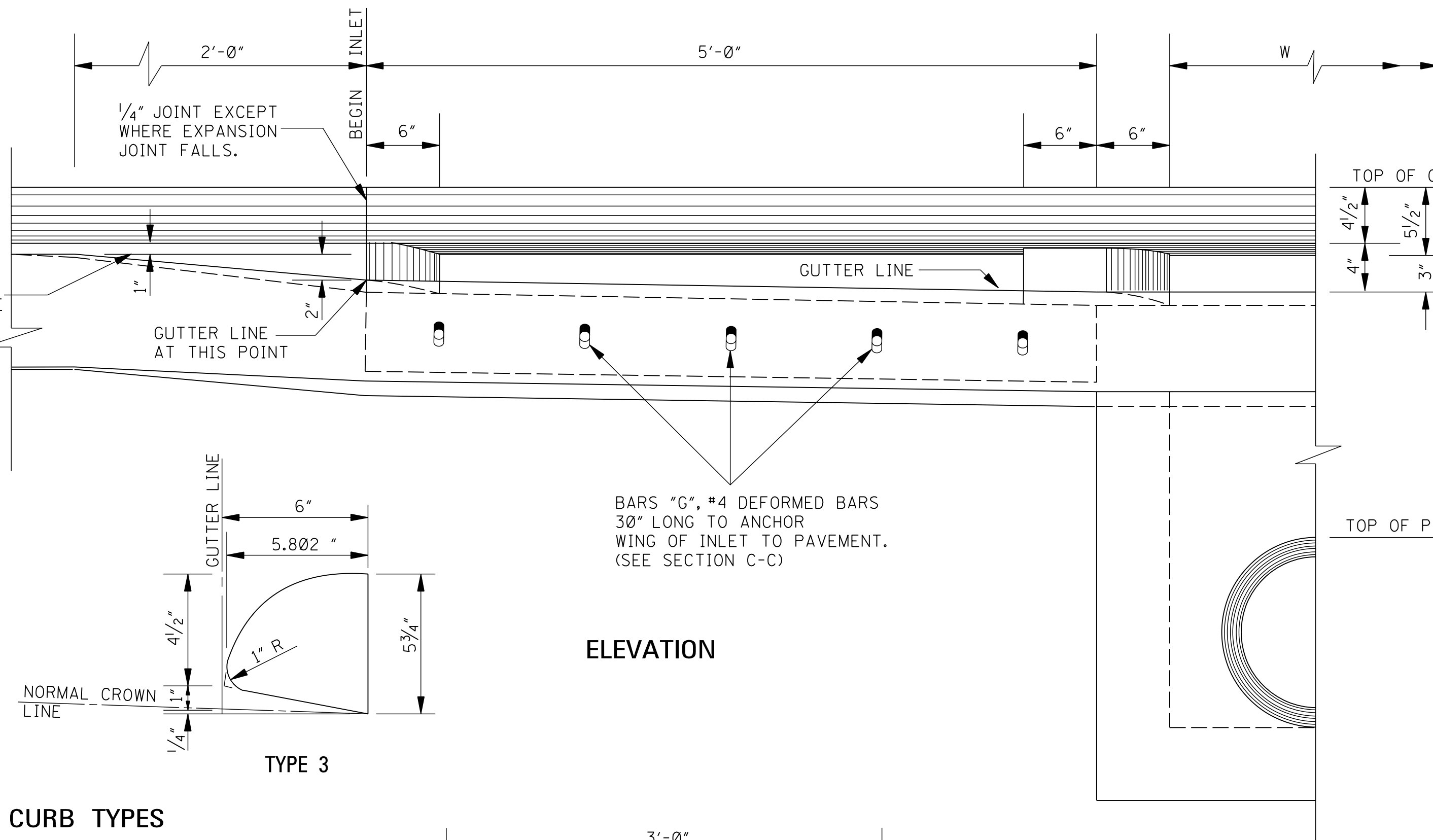
NOTE: SHOWS STEEL IN BOTH INLET & WING COVER. FOR METHOD OF ANCHORING INLET WINGS TO PAVEMENT, SEE SECTION C-C.



SECTION A-A

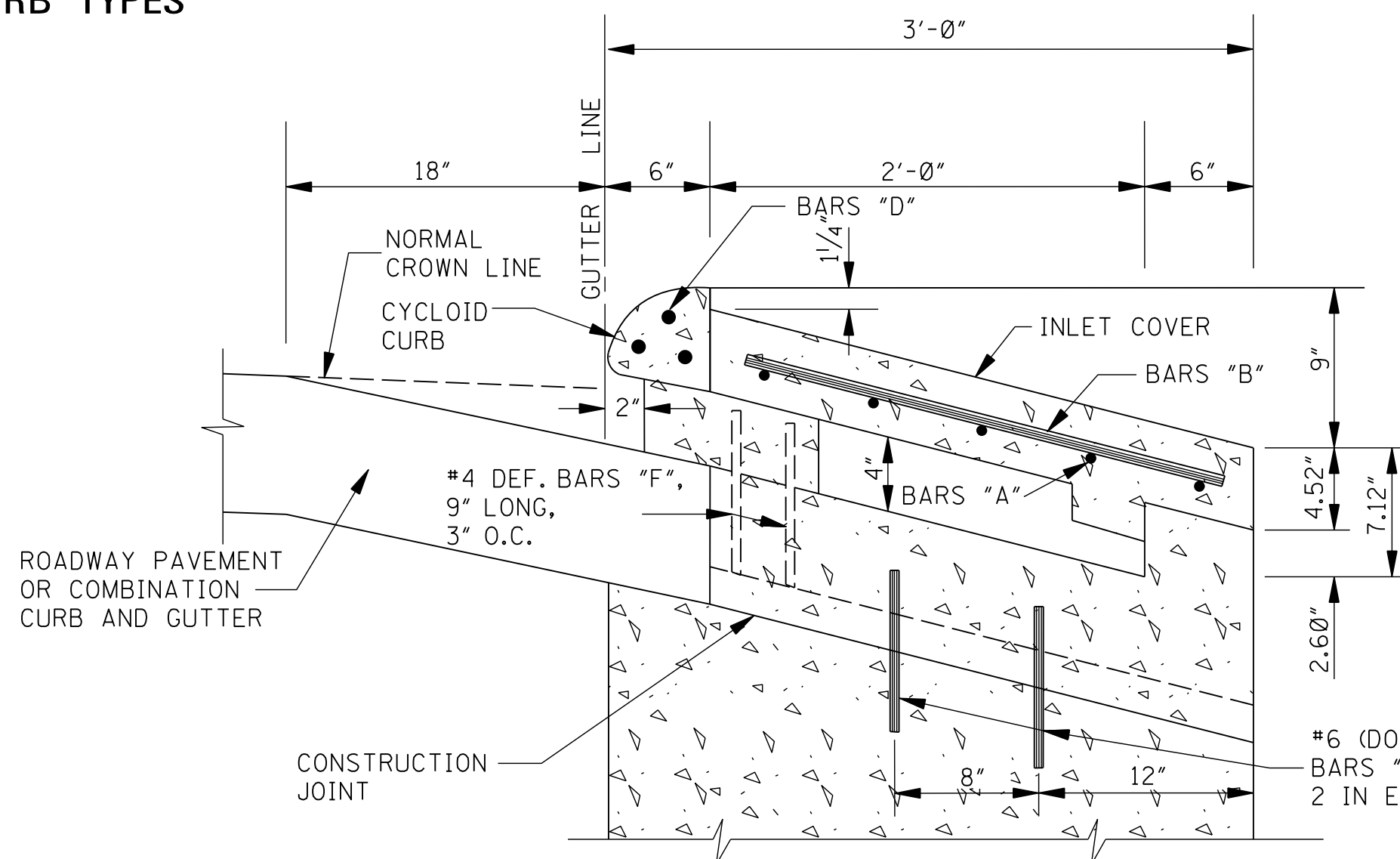
TYPE 1

CURB TYPES



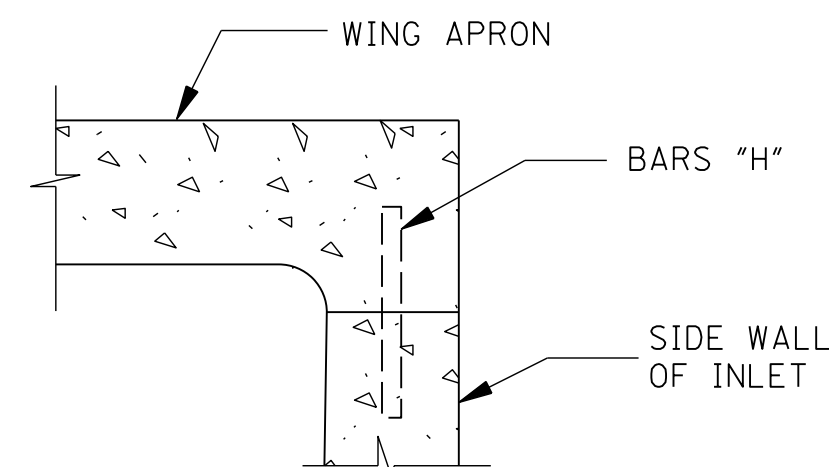
ELEVATION

TYPE 3



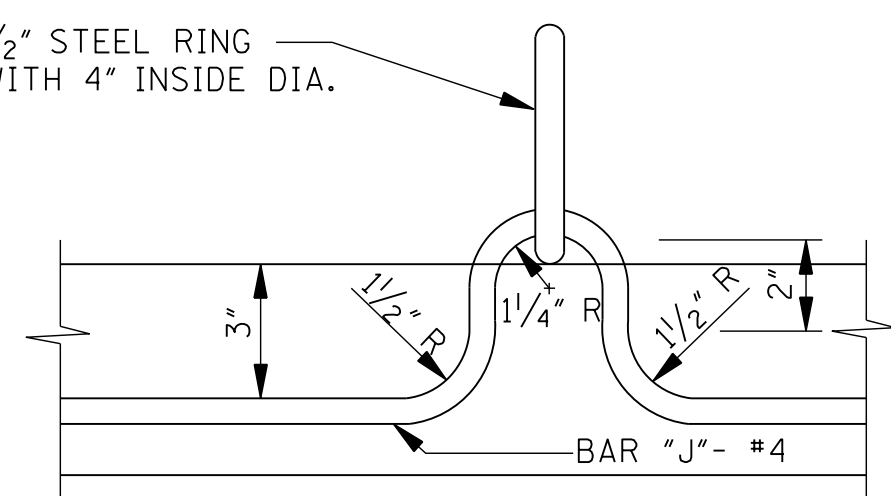
SECTION B-B

NOTE: SHOWS METHOD OF ANCHORING SUPPORTS FOR CURB AND INLET COVER TO WALL OF INLET.



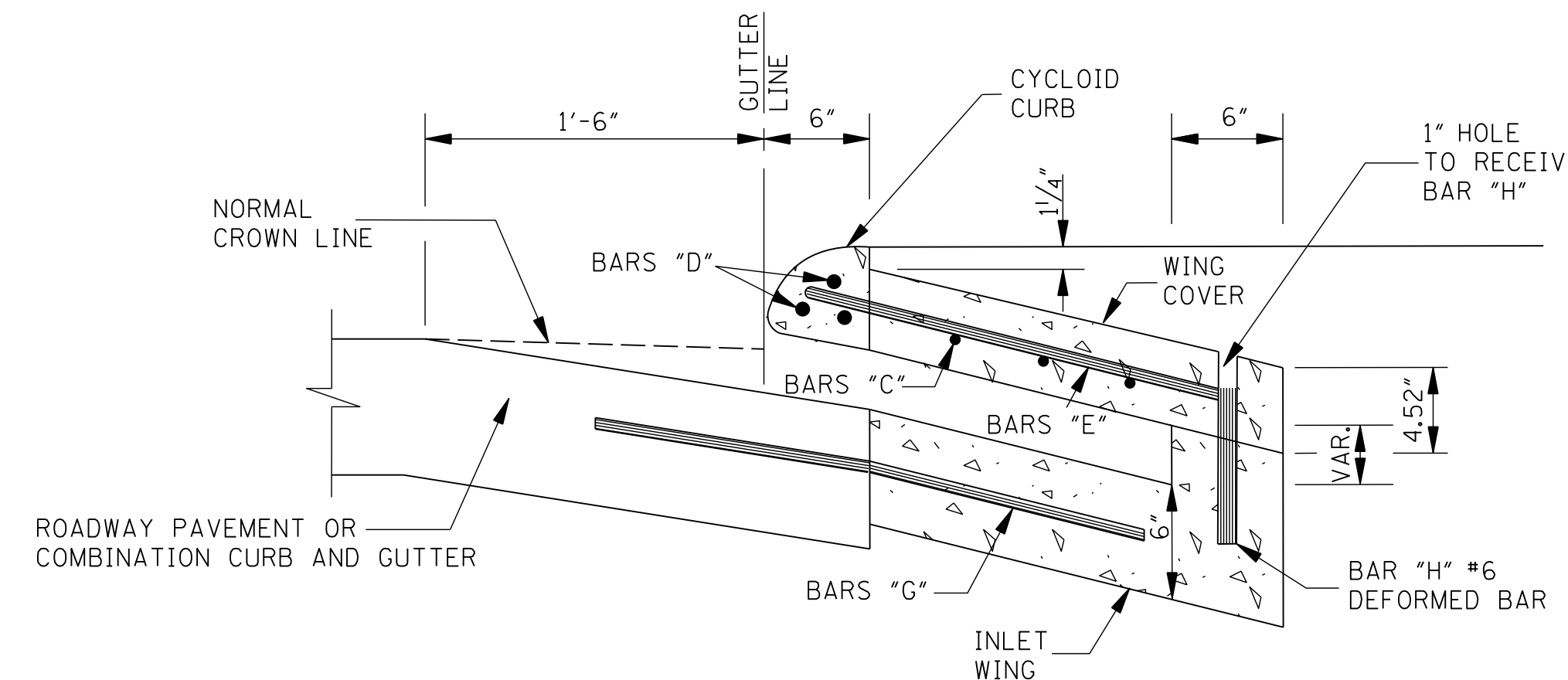
SECTION E-E

NOTE: SHOWS CONNECTION BETWEEN SIDE WALL OF INLET AND WING WALL.



DETAIL OF HANDLE FOR INLET COVER

NOTE: TWO REQUIRED FOR INLET COVER.



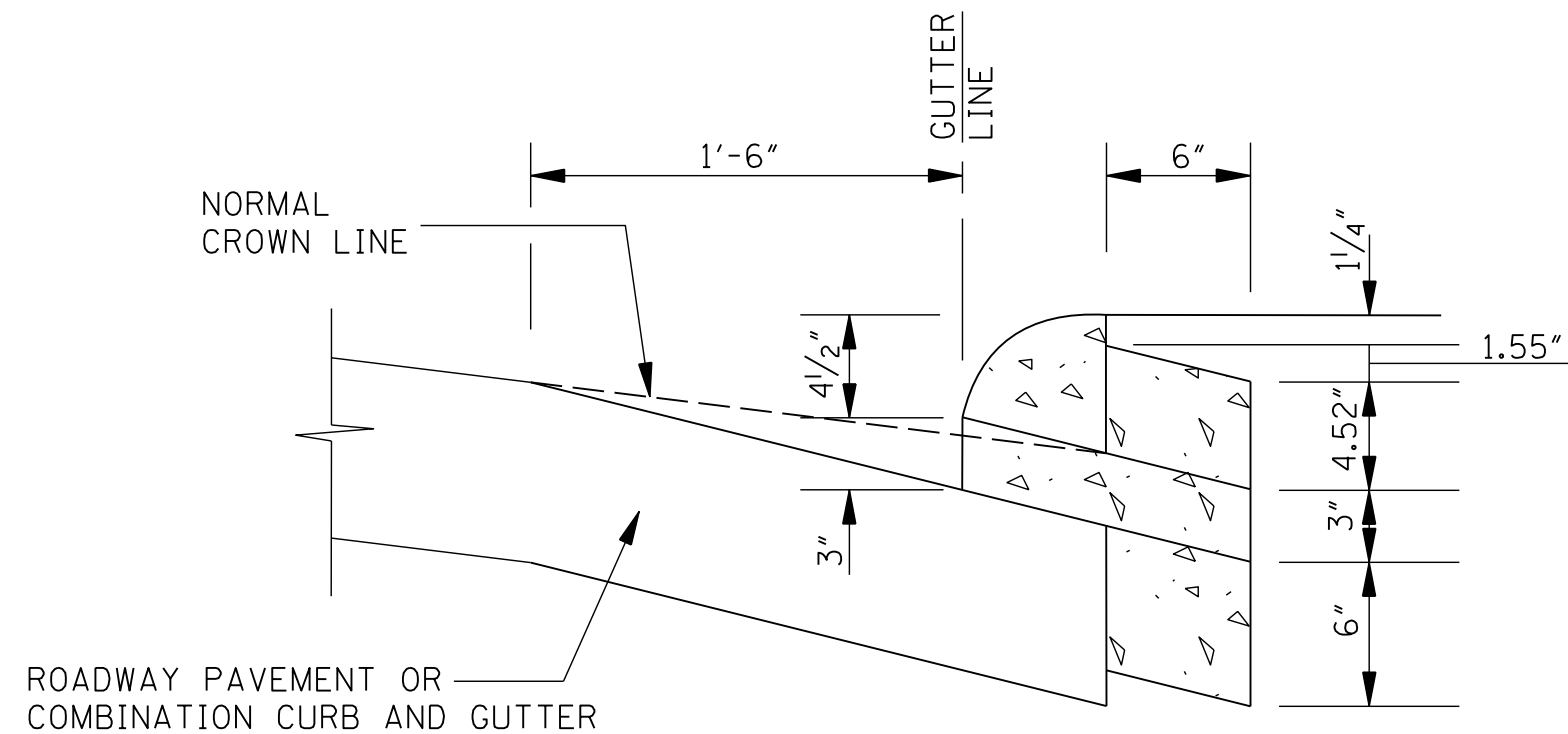
SECTION C-C

NOTE: WING COVERS MAY BE PRECAST.

GENERAL NOTES:

1. THE QUANTITIES SHOWN WILL BE USED AS THE BASIS FOR FINAL PAYMENT UNLESS AUTHORIZED MODIFICATIONS ARE MADE.

DIMENSIONS				QUANTITIES						STEEL IN INLET, CURB AND INLET COVER												STEEL IN BOTH WING COVERS			
MIN. HEIGHT H (ft)	WALL THICK T (in)	DIA. OF PIPE D (in)	W (ft-in)	MINIMUM DEPTH		EACH ADDED FOOT		DEDUCT FOR EACH OPENING (yd <sup>3</sup> )	BARS "A" #4		BARS "B" #4		BARS "D" #6		BARS "F" #4		BARS "G" #4		BARS "H" #6		BARS "J" #4				
				CONCRETE (yd <sup>3</sup> )	STEEL (lbs)	CONCRETE (yd <sup>3</sup> )	STEEL (lbs)		NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	NO.	LGTH.	BAR
4.21'	2"	12"	2'-0"	1.40	151	0.185	NONE	0.026	5	2'-8"	4	2'-2"	3	12'-9"	8	0'-9"	10	2'-6"	10	0'-9"	2	2'-9"	C1	2	1'-3"
4.50'	2 1/4"	15"	2'-0"	1.45	151	0.185	NONE	0.038	5	2'-8"	4	2'-2"	3	12'-9"	8	0'-9"	10	2'-6"	10	0'-9"	2	2'-9"	C2	2	2'-6"
4.79'	2 1/2"	18"	2'-3"	1.50	151	0.185	NONE	0.053	5	2'-11"	4	2'-2"	3	12'-9"	8	0'-9"	10	2'-6"	10	0'-9"	2	2'-9"	C3	2	3'-9"
5.08'	2 3/4"	21"	2'-6"	1.66	156	0.204	NONE	0.069	5	3'-2"	5	2'-2"	3	13'-3"	8	0'-9"	10	2'-6"	10	0'-9"	2	2'-9"	C4	2	4'-8"
5.38'	3"	24"	2'-10"	1.78	158	0.213	NONE	0.091	5	3'-6"	5	2'-2"	3	13'-6"	8	0'-9"	10	2'-6"	10	0'-9"	2	2'-9"	E1	2	5'-8"
5.67'	3 1/4"	27"	3'-1"	1.91	162	0.222	NONE	0.113	5	3'-9"	6	2'-2"	3	13'-9"	8	0'-9"	10	2'-6"	10	0'-9"	2	2'-9"	E2	2	4'-10"
5.96'	3 1/2"	30"	3'-5"	2.04	163	0.231	NONE	0.138	5	4'-1"	6	2'-2"	3	14'-0"	8	0'-9"	10	2'-6"	10	0'-9"	2	2'-9"	E3	2	4'-0"
6.54'	4"	36"	4'-0"	2.32	169	0.253	NONE	0.196	5	4'-8"	7	2'-2"	3	14'-6"	8	0'-9"	10	2'-6"	10	0'-9"	2	2'-9"	E4	2	3'-2"
7.71'	5"	48"	5'-2"	2.99	183	0.296	NONE	0.340	5	5'-10"	10	2'-2"	3	15'-9"	8	0'-9"	10	2'-6"	10	0'-9"	2	2'-9"	E5	2	2'-4"



SECTION D-D

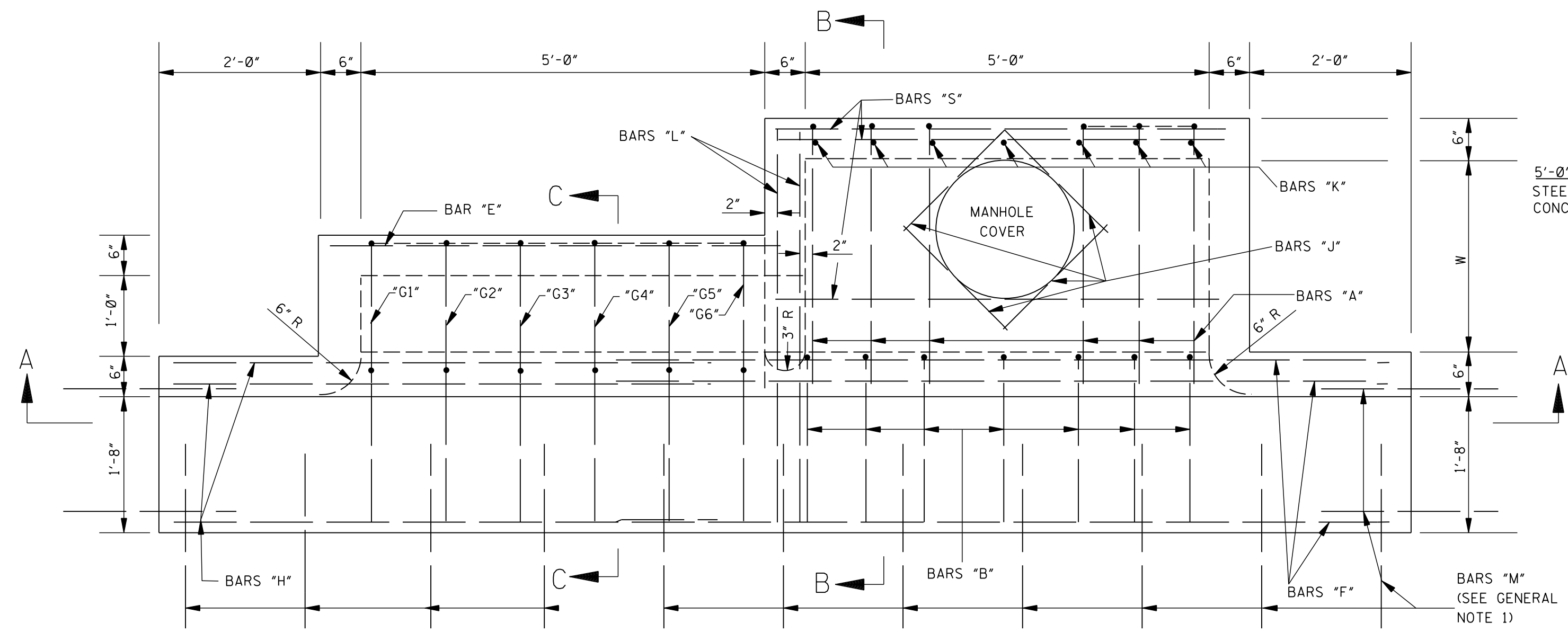
MISSISSIPPI DEPARTMENT OF TRANSPORTATION  
ROADWAY DESIGN DIVISION  
STANDARD PLAN

**STORM SEWER INLET  
TYPE SS-1**

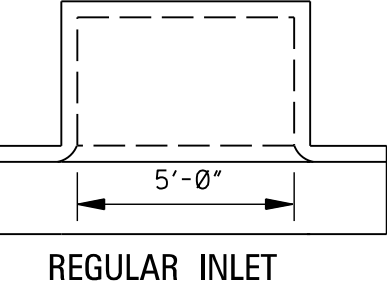




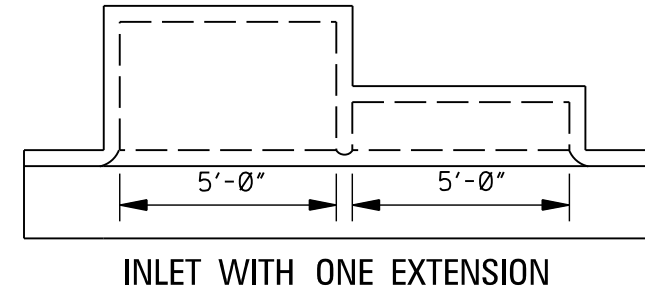




5'-0" INLET  
STEEL = 8.68W + 9.35Y + 3.79W' + 7.57H' + 121  
CONC. = (WY + 5.5W + 6Y + 14.611)/27

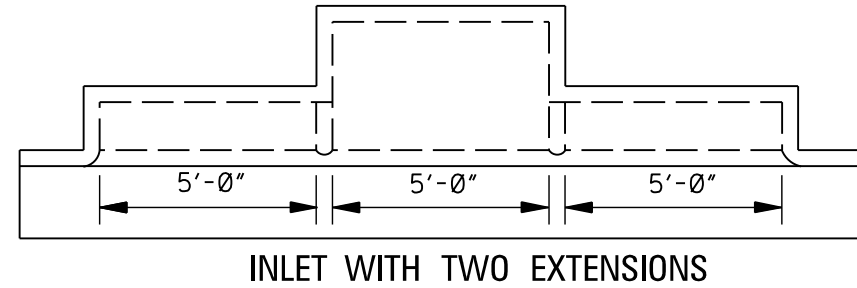


REGULAR INLET



INLET WITH ONE EXTENSION

10'-0" INLET  
STEEL = 8.68W + 9.35Y + 3.79W' + 7.57H' + 231  
CONC. = (WY + 5.5W + 6Y + 38.641)/27



INLET WITH TWO EXTENSIONS

15'-0" INLET  
STEEL = 8.68W + 9.35Y + 3.79W' + 7.57H' + 341  
CONC. = (WY + 5.5W + 6Y + 62.671)/27

- NOTES:
1. W AND H ARE EXPRESSED IN DECIMAL FEET.
  2. W' = W ROUNDED TO NEAREST WHOLE FOOT.
  3. Y = (H-0.5).
  4. H' = (H - 2.08) ROUNDED TO NEAREST WHOLE FOOT.
  5. NO DEDUCTIONS ARE MADE FOR PIPE OPENINGS IN FORMULAS.

PLAN OF INLET AND EXTENSIONS

ADD. CONCRETE PER FOOT OF H			ADD. CONCRETE PER FOOT OF W		
W	yd <sup>3</sup> /ft	H	yd <sup>3</sup> /ft	W	yd <sup>3</sup> /ft
2'-6"	0.315	3'-6"	0.315		
3'-0"	0.333	4'-0"	0.333		
3'-6"	0.352	4'-6"	0.352		
4'-0"	0.371	5'-0"	0.370		
4'-6"	0.389	5'-6"	0.389		
5'-0"	0.408	6'-0"	0.408		
5'-6"	0.426	6'-6"	0.426		
6'-0"	0.445	7'-0"	0.445		
6'-6"	0.463	7'-6"	0.463		
7'-0"	0.481	8'-0"	0.482		
		8'-6"	0.500		

QUANTITIES FOR ONE EXTENSION					
BAR	SIZE	LENGTH	SPACING	NUMBER	WEIGHT
"E"	#4	5'-8"	AS SHOWN	3	11
"G"	#4	SEE SCHEDULE	0'-11"	6	34
"H"	#6	6'-9"	AS SHOWN	5	51
"L"	#6	4'-9"	AS SHOWN	2	14
TOTAL STEEL FOR ONE EXTENSION = 110 lbs					
TOTAL CONCRETE FOR ONE EXTENSION = 0.89 yd <sup>3</sup>					
NOTE: WHERE EXTENSION IS USED WITH CONCRETE PAVEMENT, ADD 27 lbs OF STEEL FOR BARS "M".					

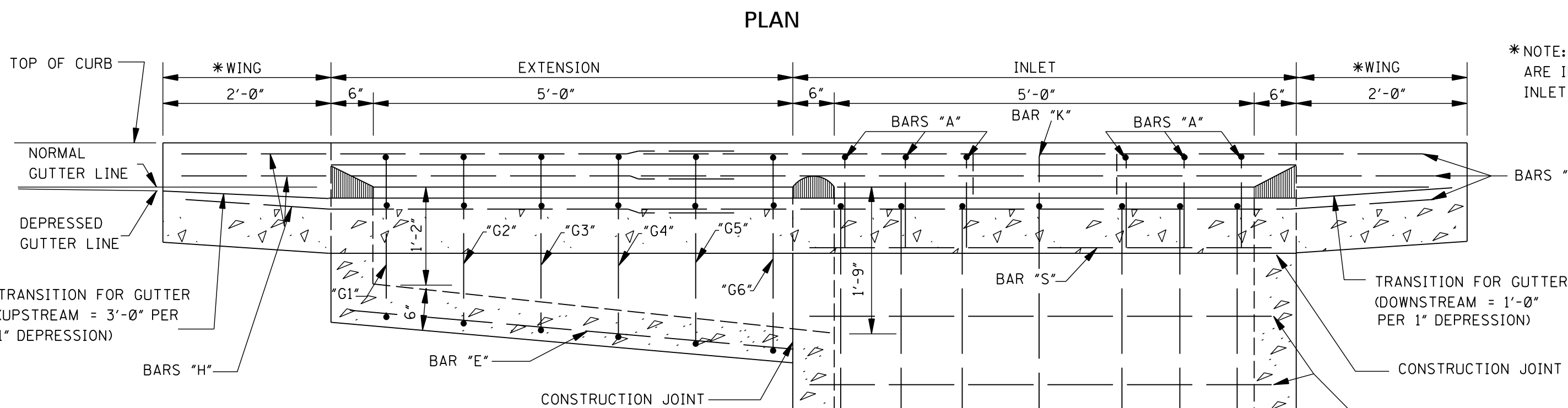
BAR "G" SCHEDULE	
BAR "G"	LENGTH
"G1"	7'-10"
"G2"	8'-0"
"G3"	8'-2"
"G4"	8'-5"
"G5"	8'-8"
"G6"	8'-10"

W=2'-6"		BILL OF REINFORCING STEEL FOR 1-5'-0" INLET														* TOTAL STEEL	TOTAL CONC.
H	BAR "A" L = 4'-2" #4 @ 9"	BAR "C" L = 5'-8" #4 @ 9"	BAR "S" L = 5'-8" #4 @ 12"	BAR "D" L = 5'-8" #4 @ 12"	BAR "F" L=9'-8" #6	BAR "J" L=2'-3" #4	BAR "B" #4 @ 9"	BAR "K" #4 @ 9"	LGTH.	NO.	lbs	LGTH.	NO.	lbs	lbs		
3'-6"	6 17	7 27	5 19	5 19	5 73	4 6	3'-10"	7 18	2'-7"	7 12	190	2'-7"	7 12	190	202	2.15	1.99
4'-0"	6 17	7 27	5 19	7 26	5 73	4 6	4'-4"	7 20	3'-1"	7 14	202	3'-1"	7 14	202	215	2.15	2.15
4'-6"	6 17	7 27	5 19	7 26	5 73	4 6	4'-10"	7 23	3'-7"	7 17	207	3'-7"	7 17	207	215	2.15	2.15
5'-0"	6 17	7 27	5 19	9 34	5 73	4 6	5'-4"	7 25	4'-1"	7 19	219	4'-1"	7 19	219	224	2.47	2.47
5'-6"	6 17	7 27	5 19	9 34	5 73	4 6	5'-10"	7 27	4'-7"	7 21	224	4'-7"	7 21	224	238	2.62	2.62
6'-0"	6 17	7 27	5 19	11 42	5 73	4 6	6'-4"	7 30	5'-1"	7 24	238	5'-1"	7 24	238	248	2.78	2.78
6'-6"	6 17	7 27	5 19	11 42	5 73	4 6	6'-10"	7 32	5'-7"	7 26	240	5'-7"	7 26	240	253	2.94	2.94
7'-0"	6 17	7 27	5 19	13 49	5 73	4 6	7'-4"	7 34	6'-1"	7 28	253	6'-1"	7 28	253	265	3.10	3.10
7'-6"	6 17	7 27	5 19	13 49	5 73	4 6	7'-10"	7 37	6'-7"	7 31	257	6'-7"	7 31	257	270	3.25	3.25

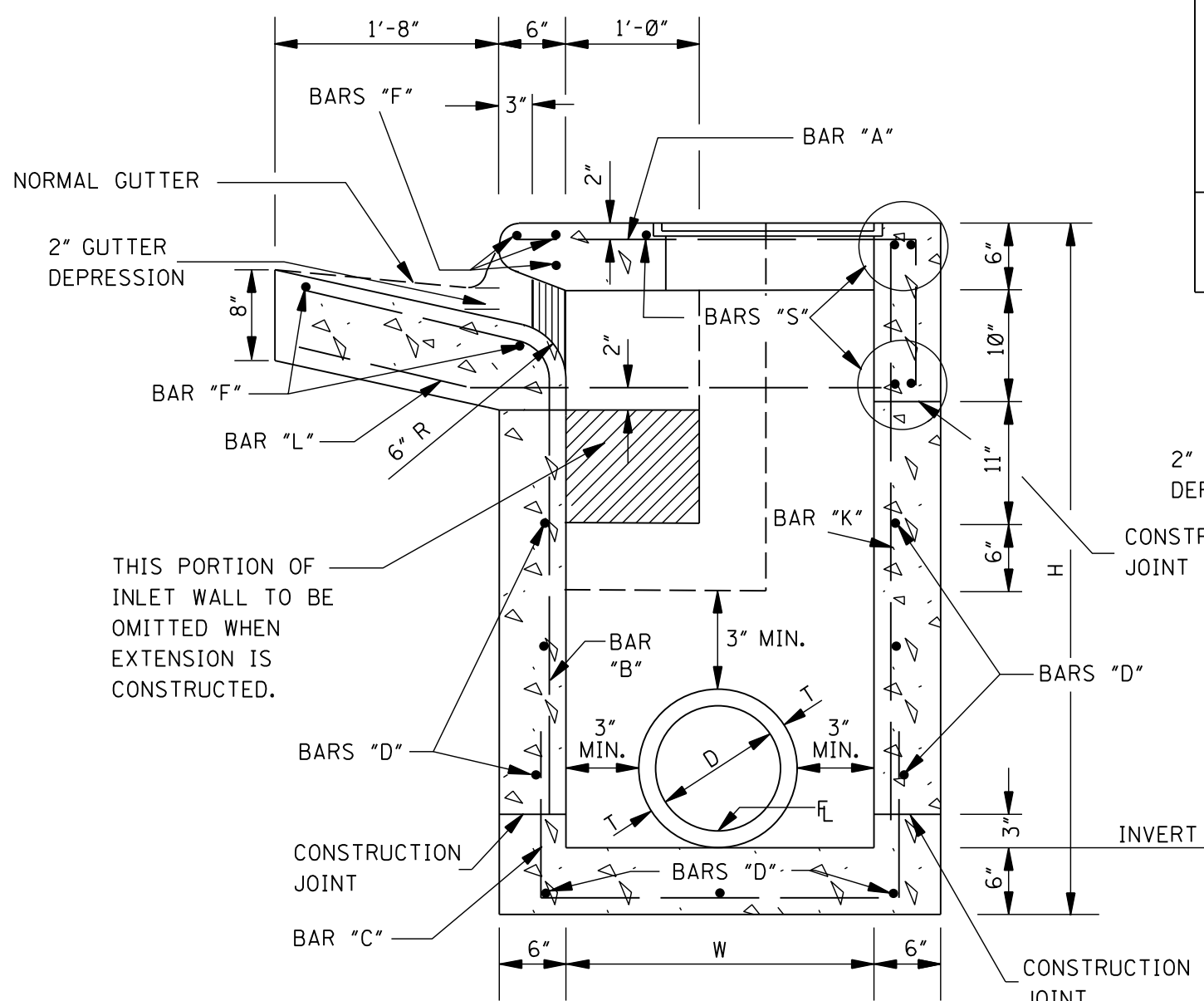
W=3'-0"		BILL OF REINFORCING STEEL FOR 1-5'-0" INLET														* TOTAL STEEL	TOTAL CONC.
H	BAR "A" L = 4'-8" #4 @ 9"	BAR "C" L = 6'-2" #4 @ 9"	BAR "S" L = 5'-8" #4 @ 12"	BAR "D" L = 5'-8" #4 @ 12"	BAR "F" L=9'-8" #6	BAR "J" L=2'-3" #4	BAR "B" #4 @ 9"	BAR "K" #4 @ 9"	LGTH.	NO.	lbs	LGTH.	NO.	lbs	lbs		
3'-6"	6 19	7 29	5 19	5 19	5 73	4 6	3'-10"	7 18	2'-7"	7 12	194	2'-7"	7 12	194	206	2.15	2.15
4'-0"	6 19	7 29	5 19	7 26	5 73	4 6	4'-4"	7 20	3'-1"	7 14	206	3'-1"	7 14	206	211	2.32	2.32
4'-6"	6 19	7 29	5 19	7 26	5 73	4 6	4'-10"	7 23	3'-7"	7 17	211	3'-7"	7 17	211	219	2.49	2.49
5'-0"	6 19	7 29	5 19	9 34	5 73	4 6	5'-4"	7 25	4'-1"	7 19	223	4'-1"	7 19	223	231	2.65	2.65
5'-6"	6 19	7 29	5 19	9 34	5 73	4 6	5'-10"	7 27	4'-7"	7 21	228	4'-7"	7 21	228	236	2.82	2.82
6'-0"	6 19	7 29	5 19	11 42	5 73	4 6	6'-4"	7 30	5'-1"	7 24	240	5'-1"	7 24	240	248	2.99	2.99
6'-6"	6 19	7 29	5 19	11 42	5 73	4 6	6'-10"	7 32	5'-7"	7 26	245	5'-7"	7 26	245	253	3.15	3.15
7'-0"	6 19	7 29	5 19	13 49	5 73	4 6	7'-4"	7 34	6'-1"	7 28	257	6'-1"	7 28	257	265	3.32	3.32
7'-6"	6 19	7 29	5 19	13 49	5 73	4 6	7'-10"	7 37	6'-7"	7 31	262	6'-7"	7 31	262	270	3.49	3.49

W=3'-6"		BILL OF REINFORCING STEEL FOR 1-5'-0" INLET														* TOTAL STEEL	TOTAL CONC.
H	BAR "A" L = 5'-2" #4 @ 9"	BAR "C" L = 6'-8" #4 @ 9"	BAR "S" L = 5'-8" #4 @ 12"	BAR "D" L = 5'-8" #4 @ 12"	BAR "F" L=9'-8" #6	BAR "J" L=2'-3" #4	BAR "B" #4 @ 9"	BAR "K" #4 @ 9"	LGTH.	NO.	lbs	LGTH.	NO.	lbs	lbs		
3'-6"	6 21	7 31	5 19	6 23	5 73	4 6	3'-10"	7 18	2'-7"	7 12	202	2'-7"	7 12	202	214	2.31	2.31
4'-0"	6 21	7 31	5 19	8 30	5 73	4 6	4'-4"	7 20	3'-1"	7 14	214	3'-1"	7 14	214	219	2.49	2.49
4'-6"	6 21	7 31	5 19	8 30	5 73	4 6	4'-10"	7 23	3'-7"	7 17	219	3'-7"	7 17	219	224	2.66	2.66
5'-0"	6 21	7 31	5 19	10 38	5 73	4 6	5'-4"	7 25	4'-1"	7 19	231	4'-1"	7 19	231	236	2.84	2.84
5'-6"	6 21	7 31	5 19	10 38	5 73	4 6	5'-10"	7 27	4'-7"	7 21	236	4'-7"	7 21	236	241	3.01	3.01
6'-0"	6 21	7 31	5 19	12 45	5 73	4 6	6'-4"	7 30	5'-1"	7 24	248	5'-1"	7 24	248	253	3.19	3.19
6'-6"	6 21	7 31	5 19	12 45	5 73	4 6	6'-10"	7 32	5'-7"	7 26	253	5'-7"	7 26	253	265	3.37	3.37
7'-0"	6 21	7 31	5 19	14 53	5 73	4 6	7'-4"	7 34	6'-1"	7 28	265	6'-1"	7 28	265	270	3.54	3.54
7'-6"	6 21	7 31	5 19	14 53	5 73	4 6	7'-10"	7 37	6'-7"	7 31	270	6'-7"	7 31	270	270	3.72	3.72

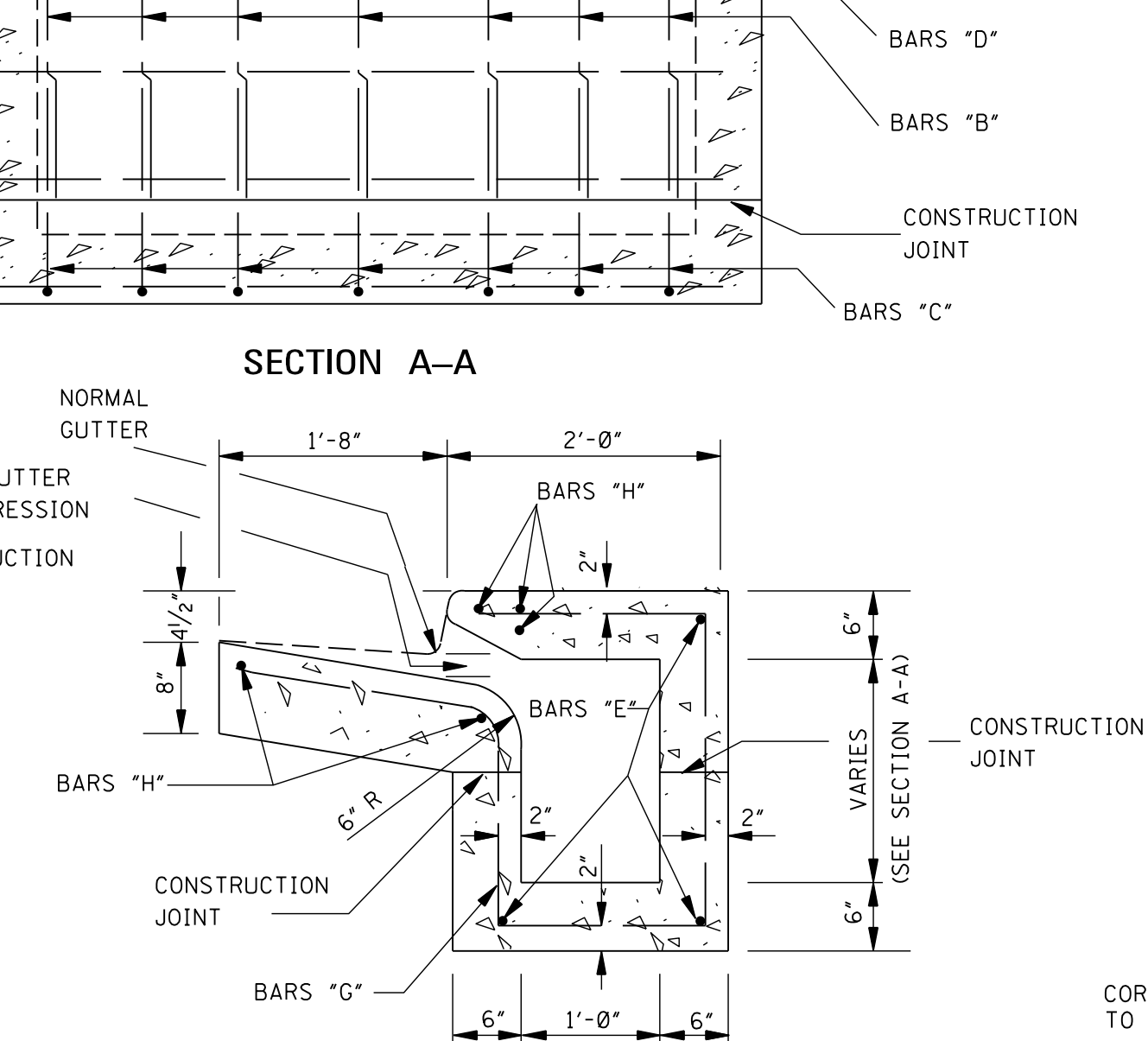
- \* NOTE: WHERE INLET IS USED WITH CONCRETE PAVEMENT, ADD 73 lbs OF STEEL FOR BARS "M".
- GENERAL NOTES:
1. WHERE INLET OR INLET WITH EXTENSION(S) IS USED WITH CONCRETE PAVEMENT WITH INTERGRAL CURB, THE PAVEMENT SHALL BE BLOCKED OUT TO THE DIMENSIONS AS SHOWN FOR THE GUTTER PORTION OF THE INLET OR INLET WITH EXTENSIONS(S). THE PORTION BLOCKED OUT SHALL BE PLACED INTEGRAL WITH THE TOP OF THE INLET OR INLET WITH EXTENSIONS(S). #8 DEFORMED BARS 30" LONG SHALL BE PLACED ON 18" CENTERS AT THE CENTER OF THE PAVEMENT. THESE BARS SHALL EXTEND INTO THE GUTTER PORTION OF THE INLET OR INLET WITH EXTENSIONS(S) 15". THE CONSTRUCTION JOINT BETWEEN THE CONCRETE PAVEMENT AND THE INLET OR INLET WITH EXTENSION(S) SHALL BE A KEYED JOINT AS SHOWN. A SMOOTH CONSTRUCTION JOINT WILL NOT BE PERMITTED. QUANTITIES FOR BLOCKED OUT AREA OF PAVEMENT SHALL BE INCLUDED IN QUANTITIES FOR INLET OR INLET WITH EXTENSIONS(S).
  2. THE QUANTITIES SHOWN, MINUS VOLUMETRIC DISPLACEMENT OF CONCRETE BY PIPE CULVERTS THROUGH INLET WALLS, WILL BE USED AS THE BASIS OF FINAL PAYMENT UNLESS THIS PLAN IS MODIFIED.
  3. FOR CONVENIENCE, DEPTHS OF INLETS SHOWN IN ABOVE TABLE ARE INCREMENTS OF 6". BUT ANY DEPTHS OTHER THAN THESE SHOWN MAY BE USED WHEREVER DEEMED NECESSARY. QUANTITIES FOR OTHER DEPTHS, FALLING WITHIN THE LIMITS OF THE TABLE, MAY BE FOUND BY INTERPOLATION.
  4. FIELD CUT AND BEND BARS AS NECESSARY TO ACCOMMODATE STORM SEWER. NO DEDUCTIONS ARE TO BE MADE IN STEEL QUANTITIES.
  5. WHERE INLET IS BEING USED ADJACENT TO SIDEWALK, REFER TO OTHER SHEETS FOR TOP DETAIL.



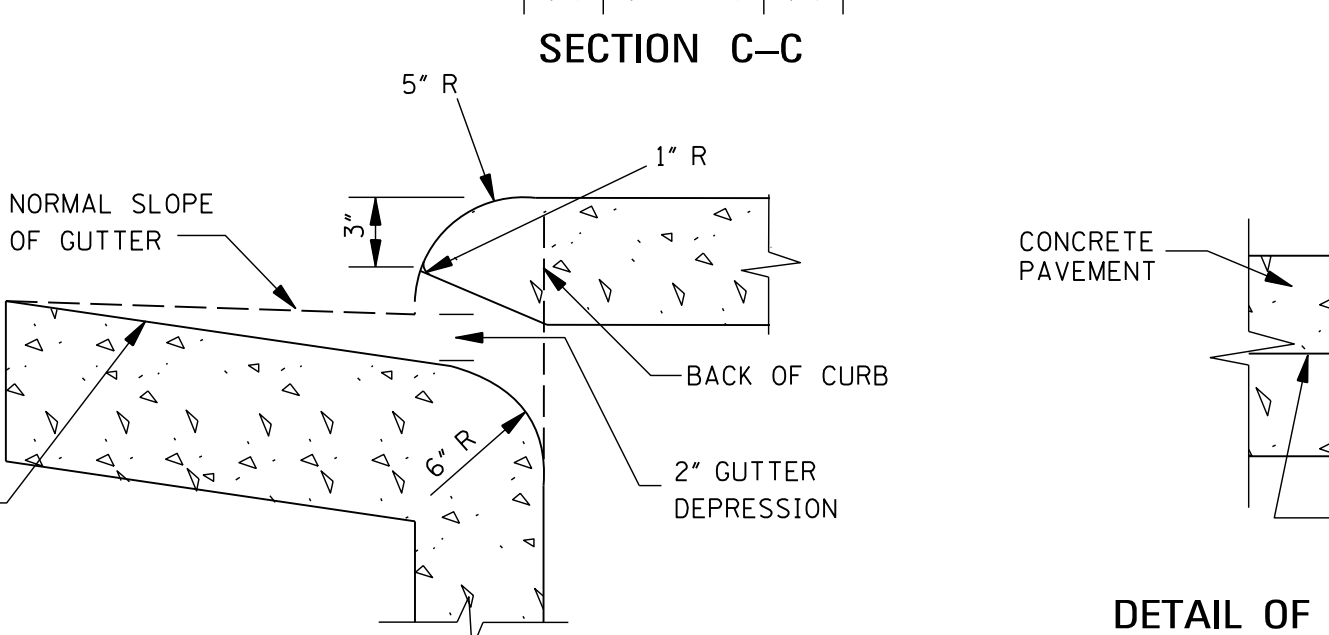
\* NOTE: WING QUANTITIES ARE INCLUDED IN INLET QUANTITIES.



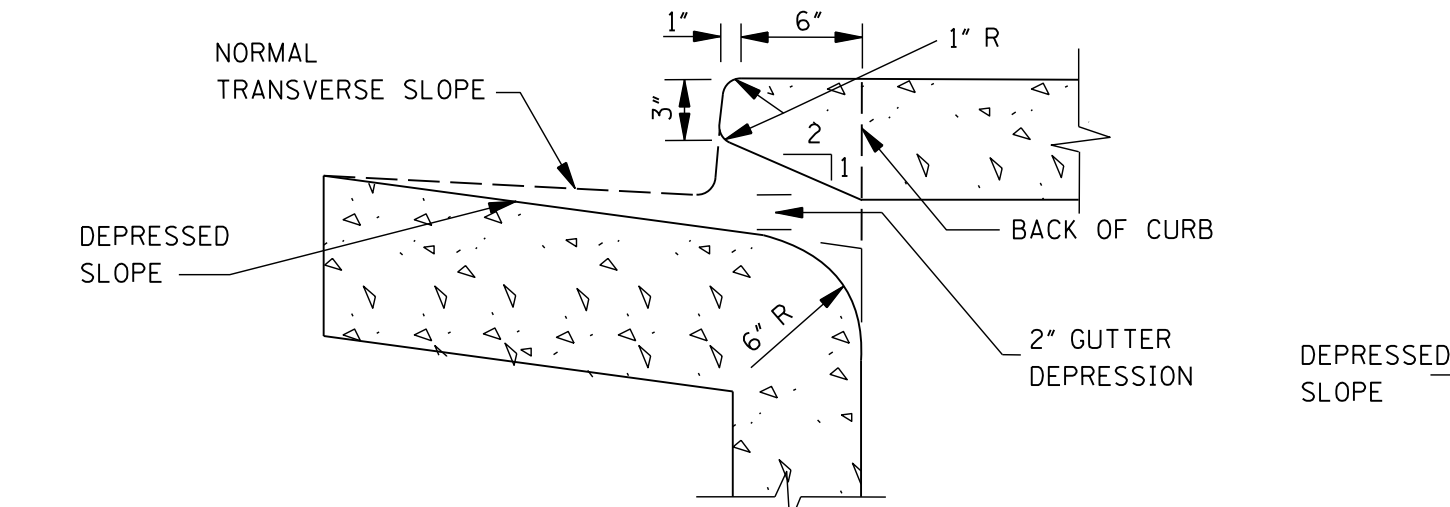
SECTION B-B



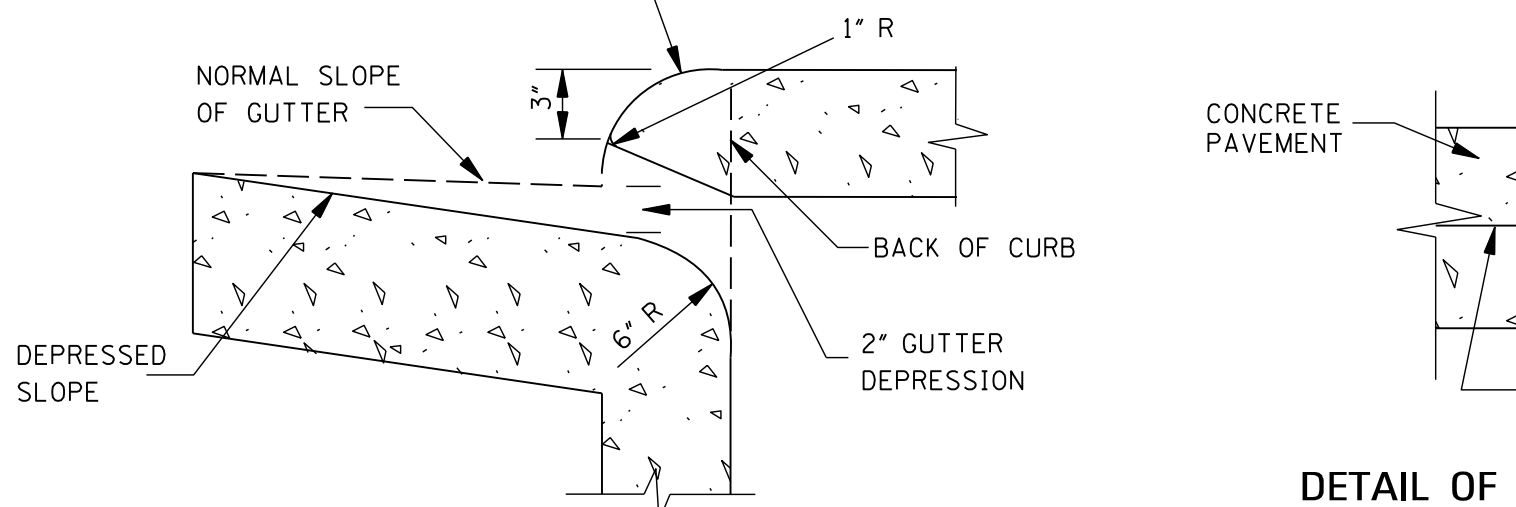
SECTION A-A



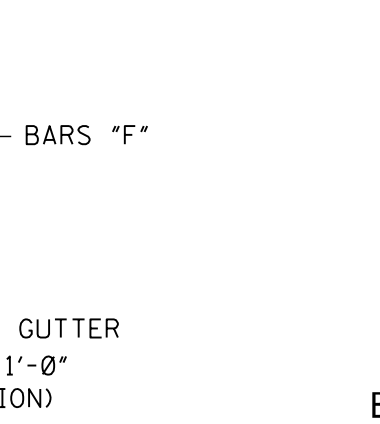
SECTION C-C



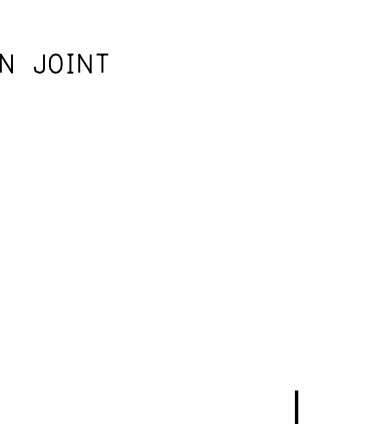
THROAT DETAIL OF BARRIER CURB



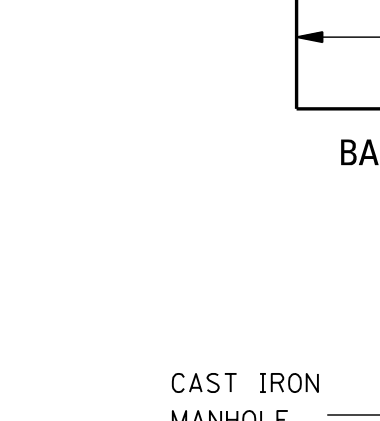
THROAT DETAIL OF ROLLED CURB



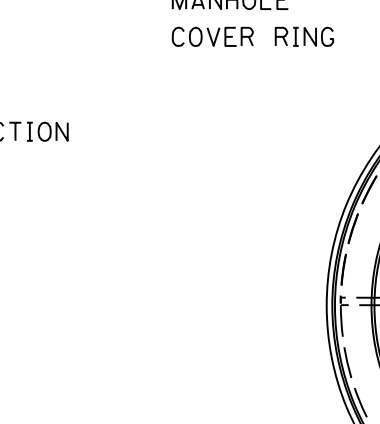
BAR "A"



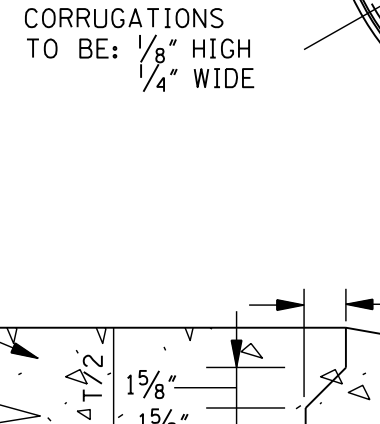
BAR "B"



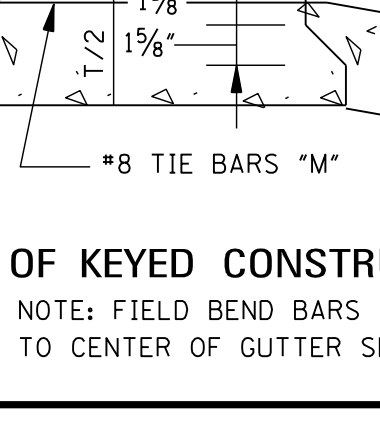
BAR "C"



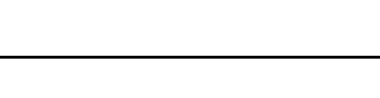
BAR "D"



BAR "E"



BAR "F"



BAR "G"



BAR "H"



BAR "I"



BAR "J"



BAR "K"



BAR "L"



BAR "M"



BAR "N"



BAR "O"



BAR "P"



BAR "Q"



BAR "R"



BAR "S"



BAR "T"



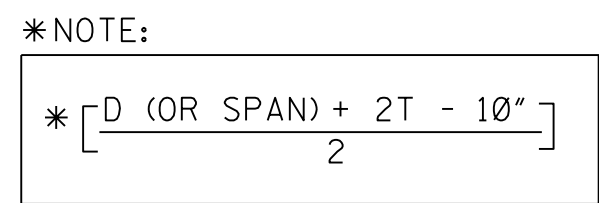
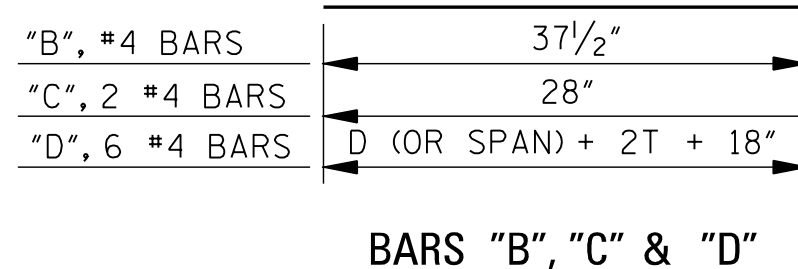
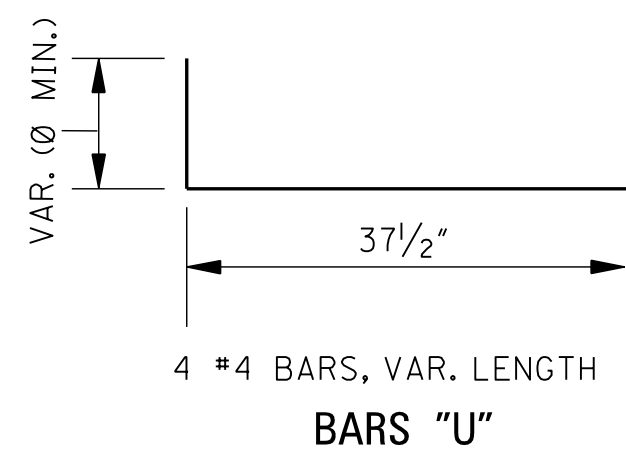
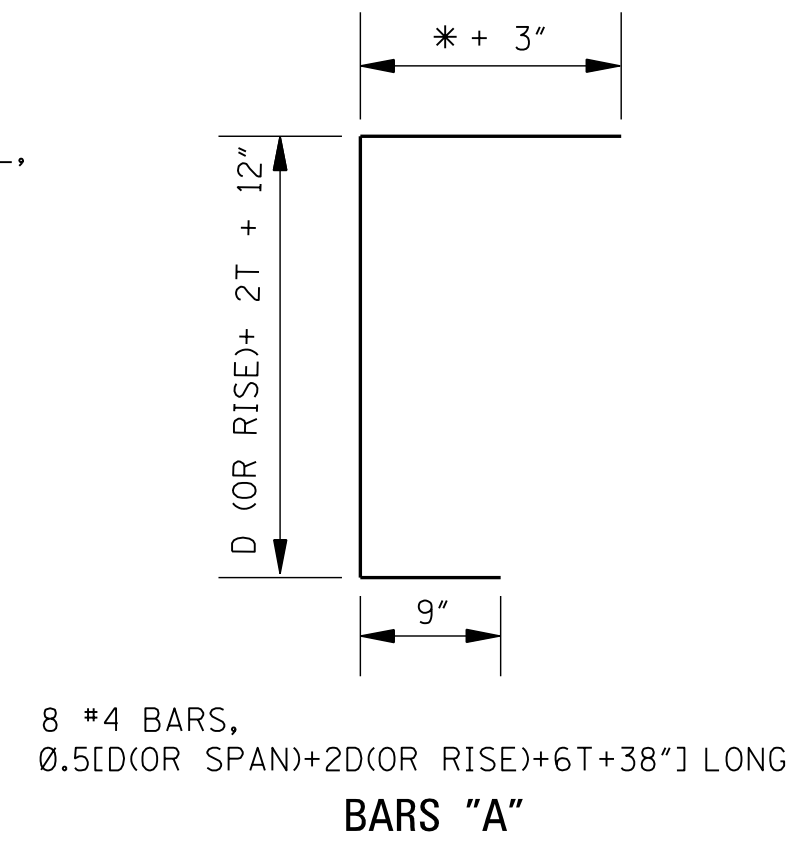
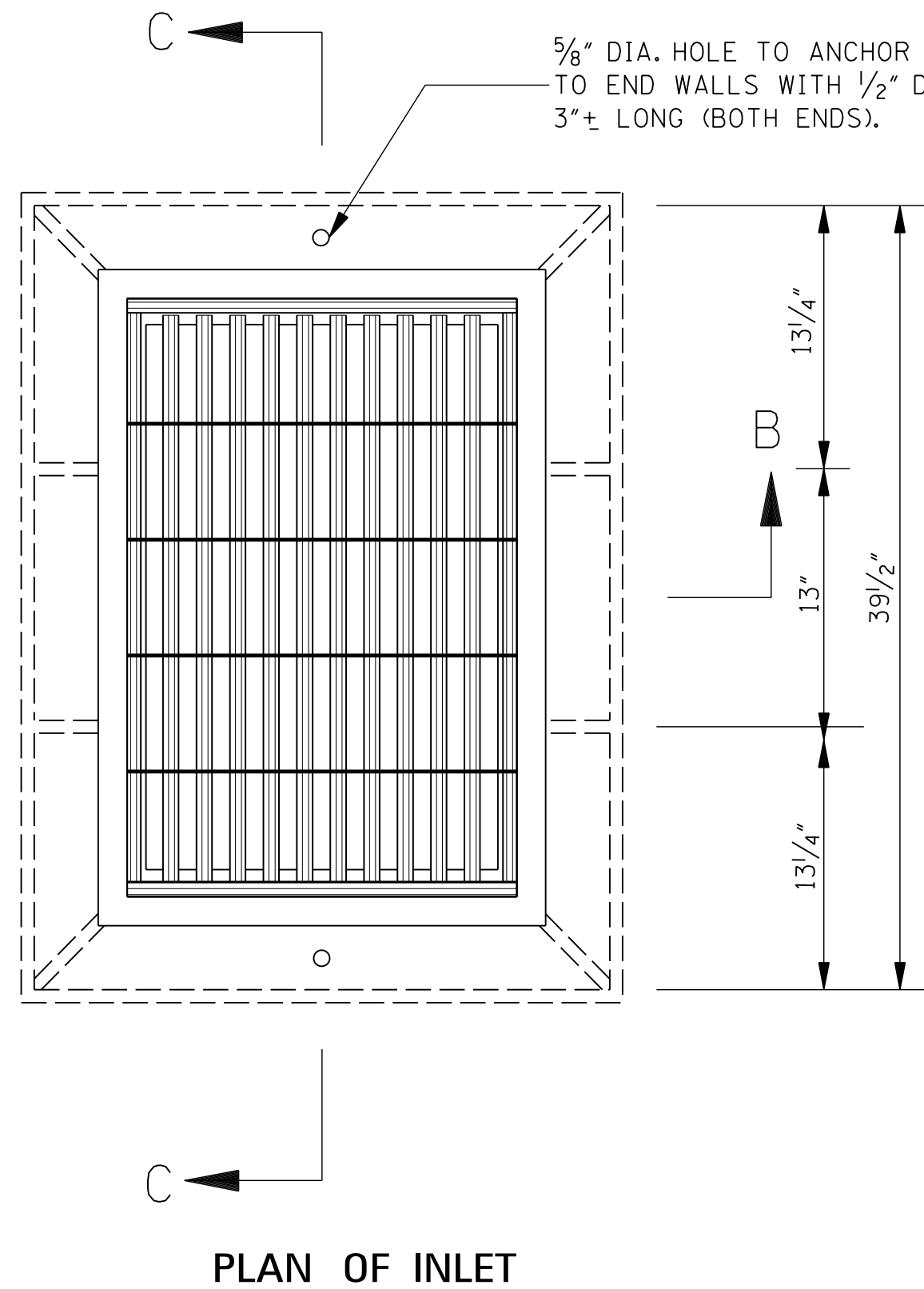
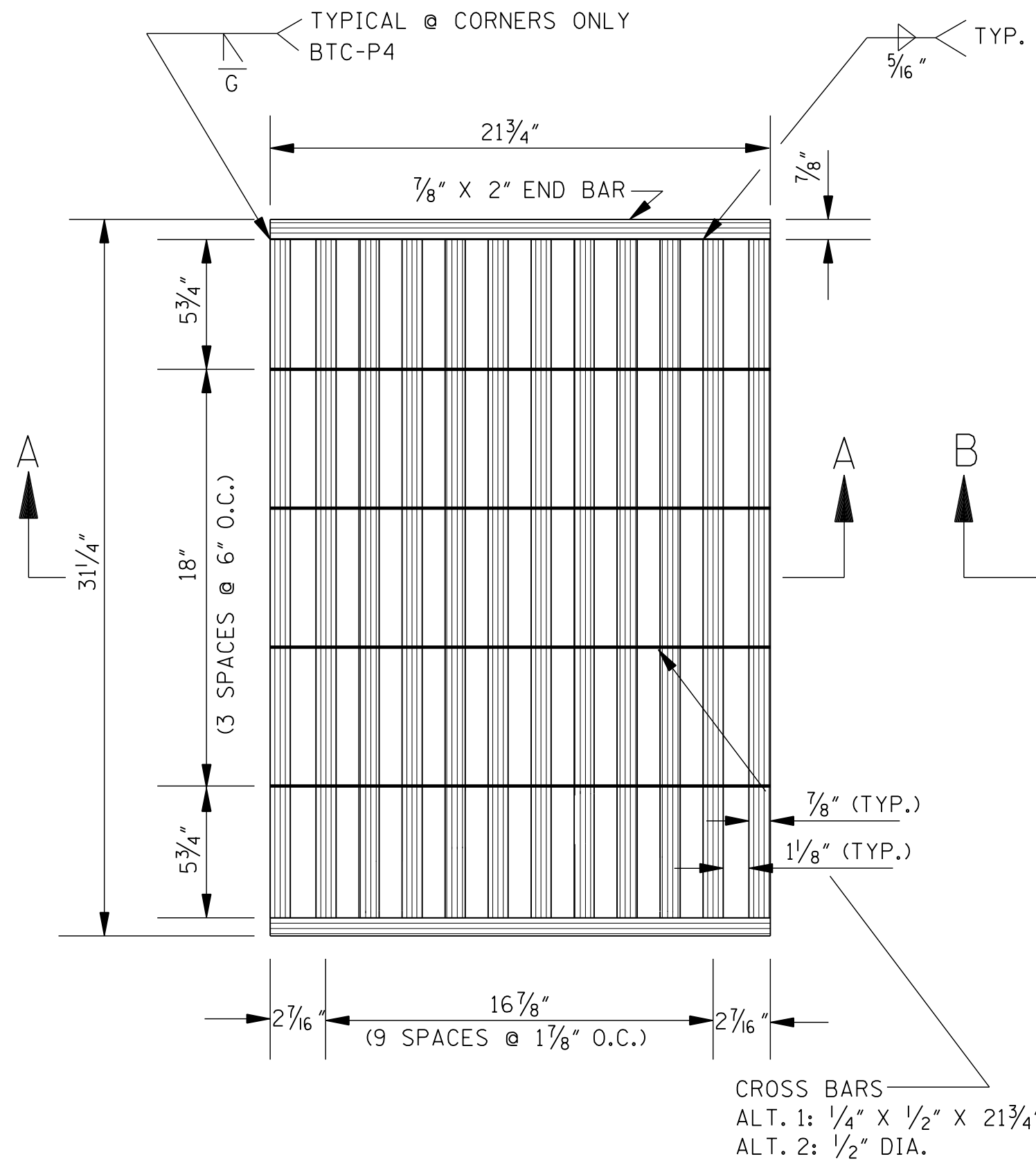
BAR "U"



BAR "V"



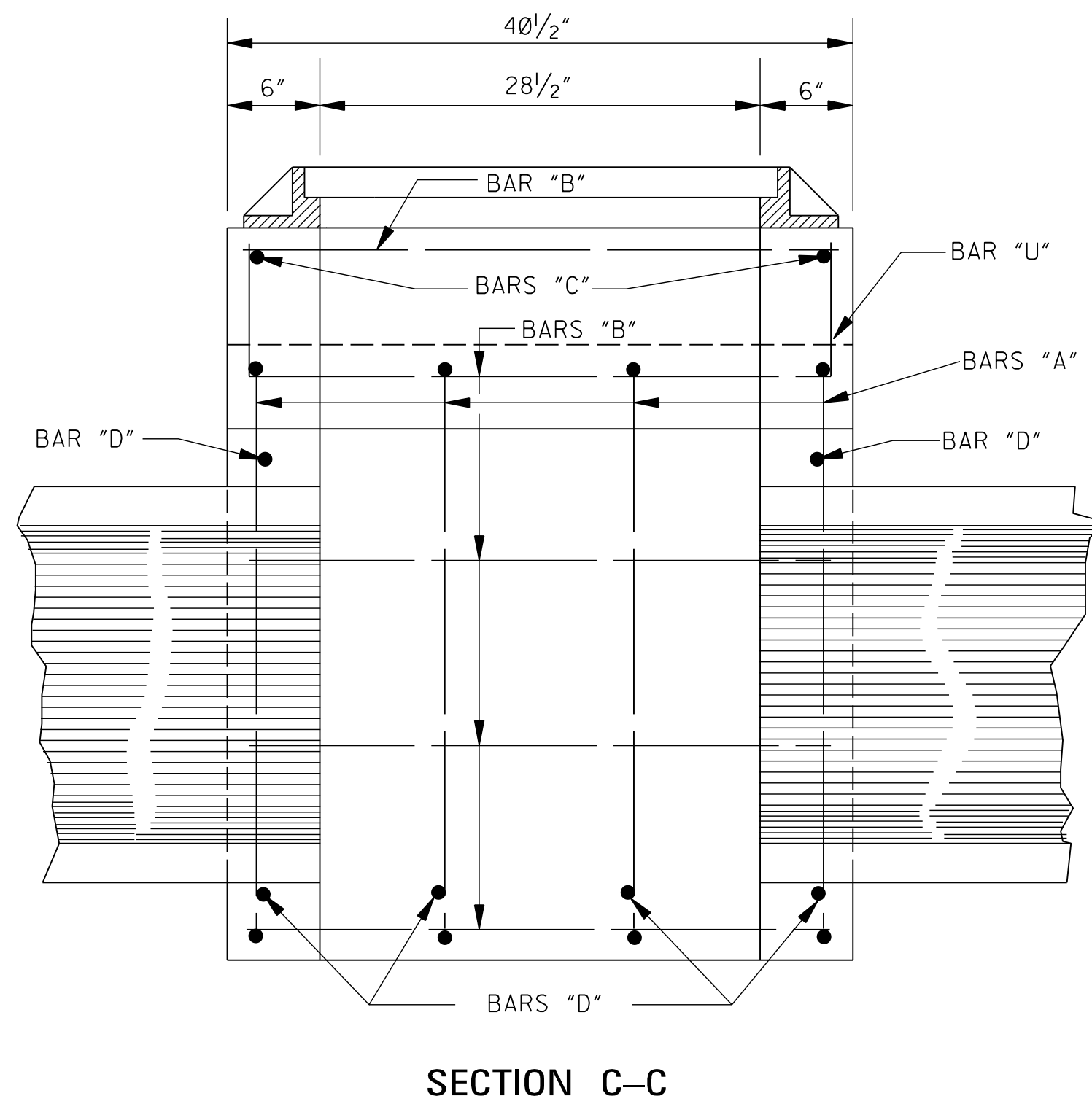
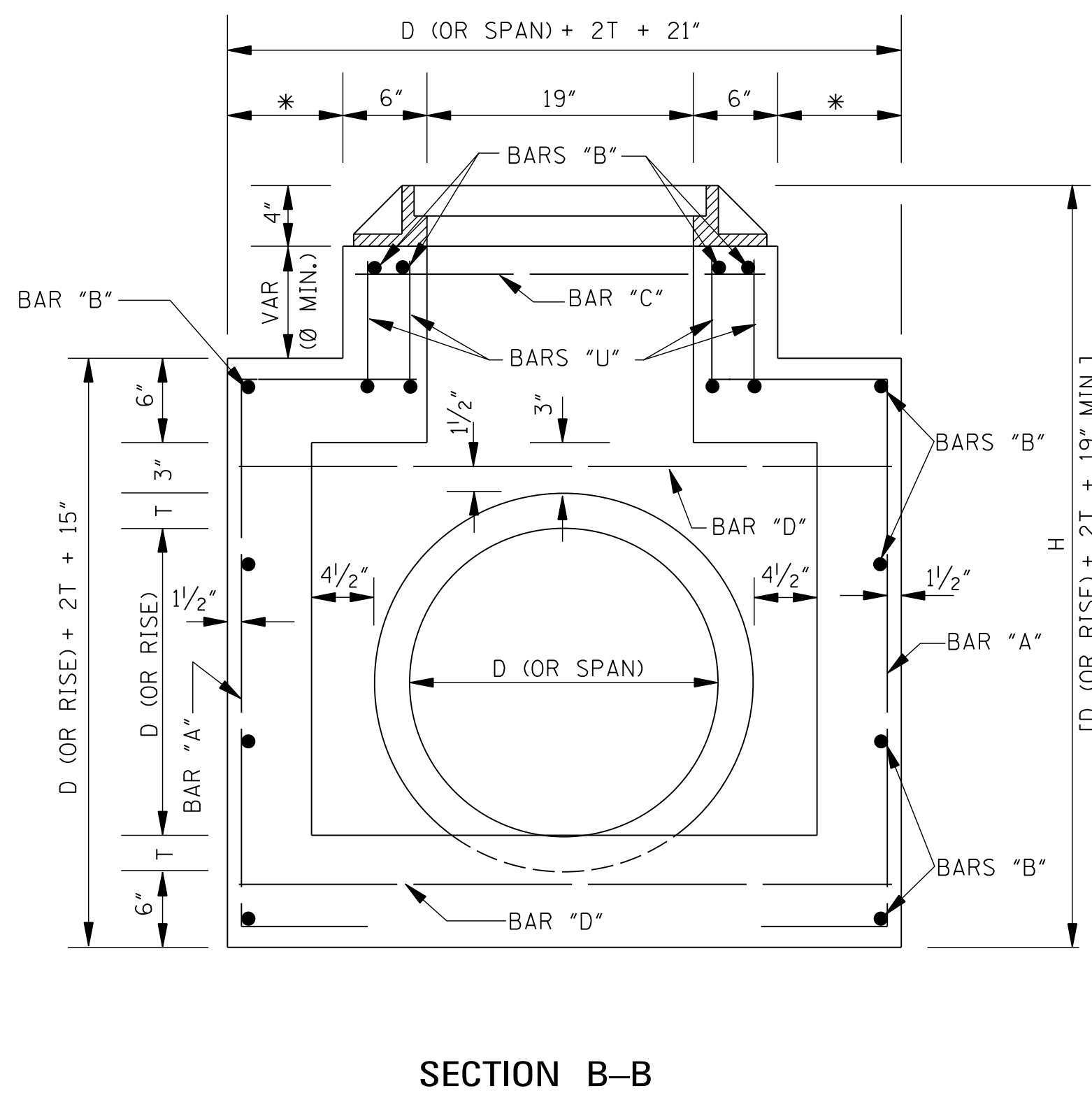
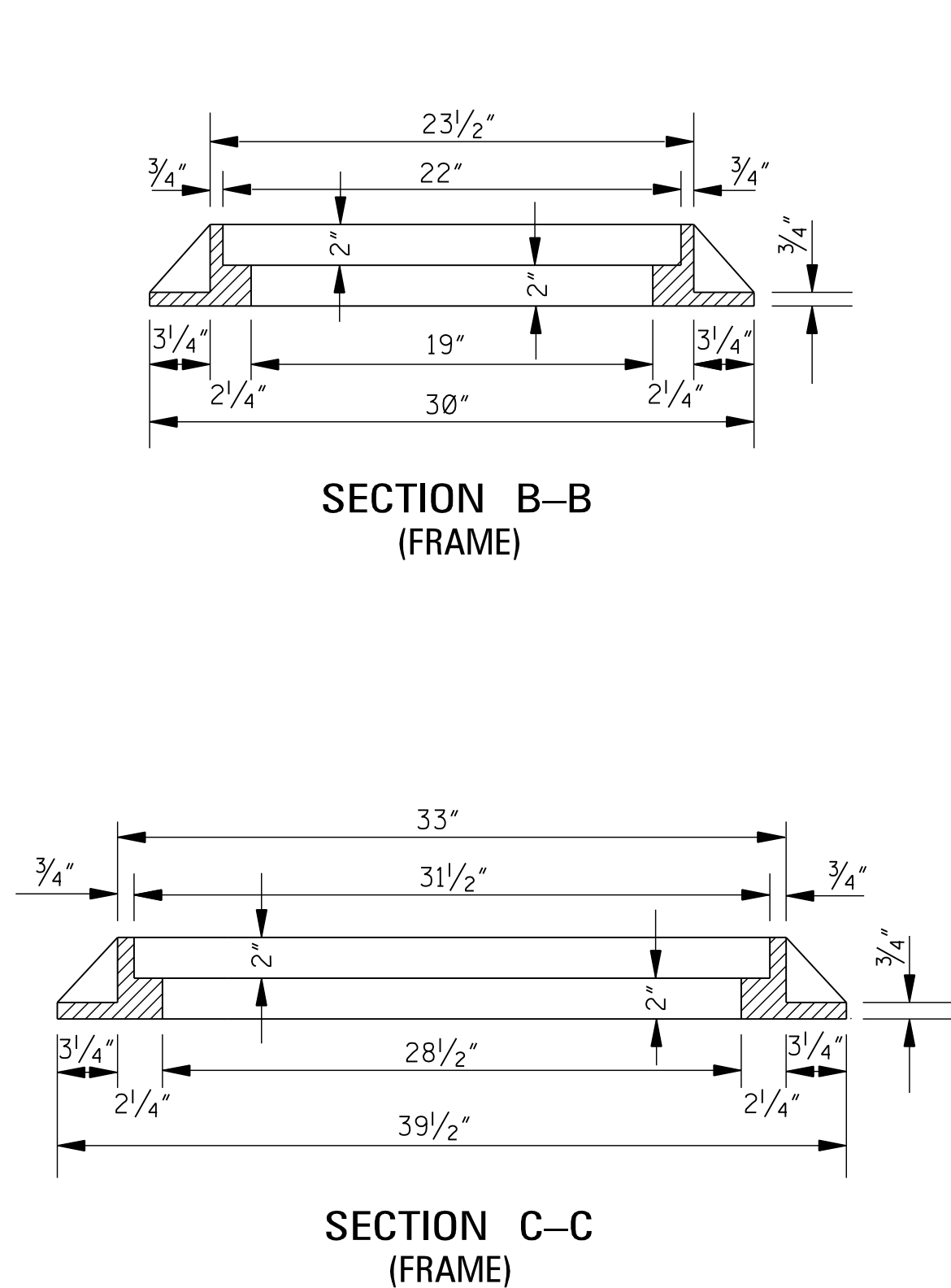
BAR "W"



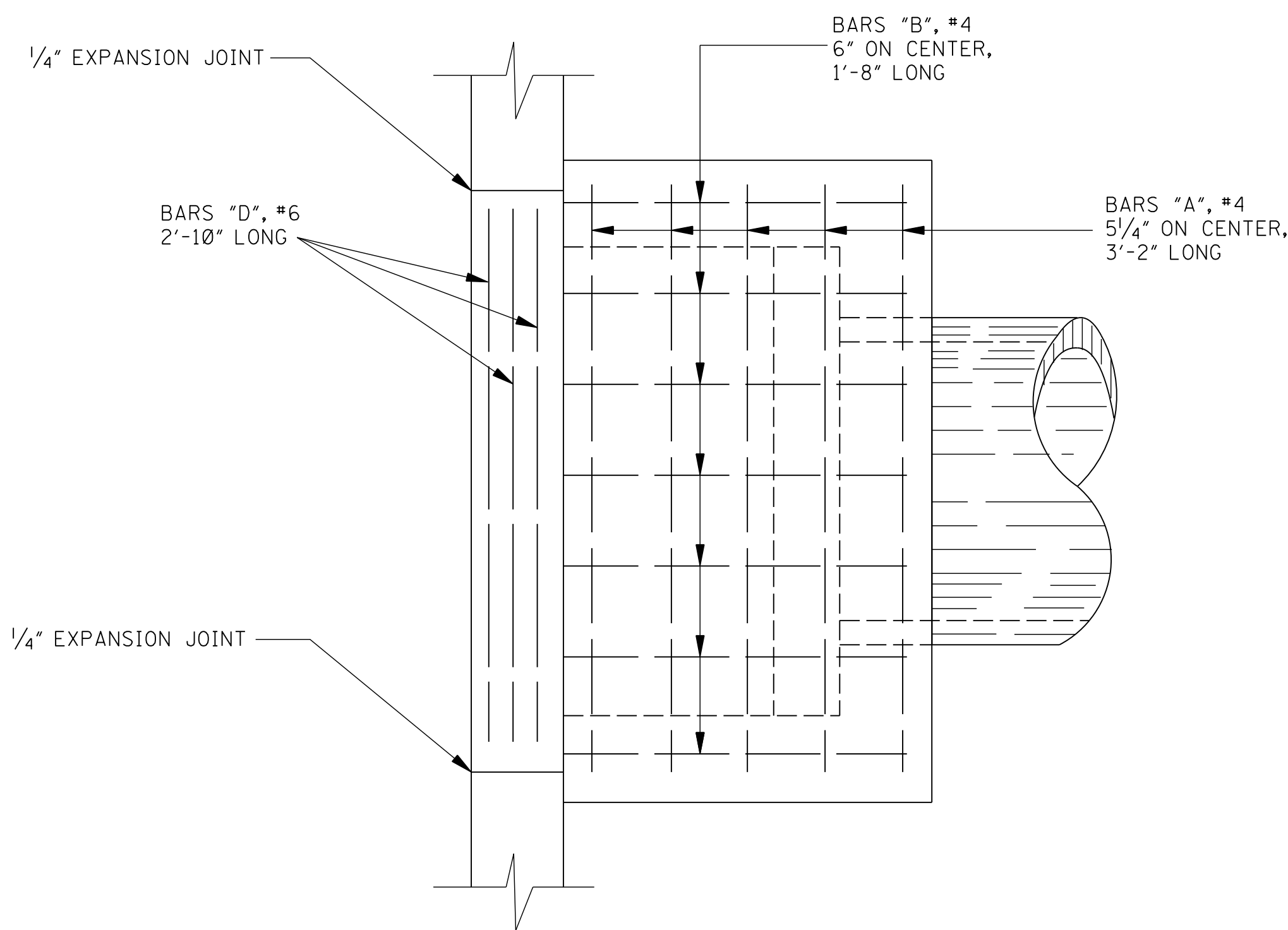
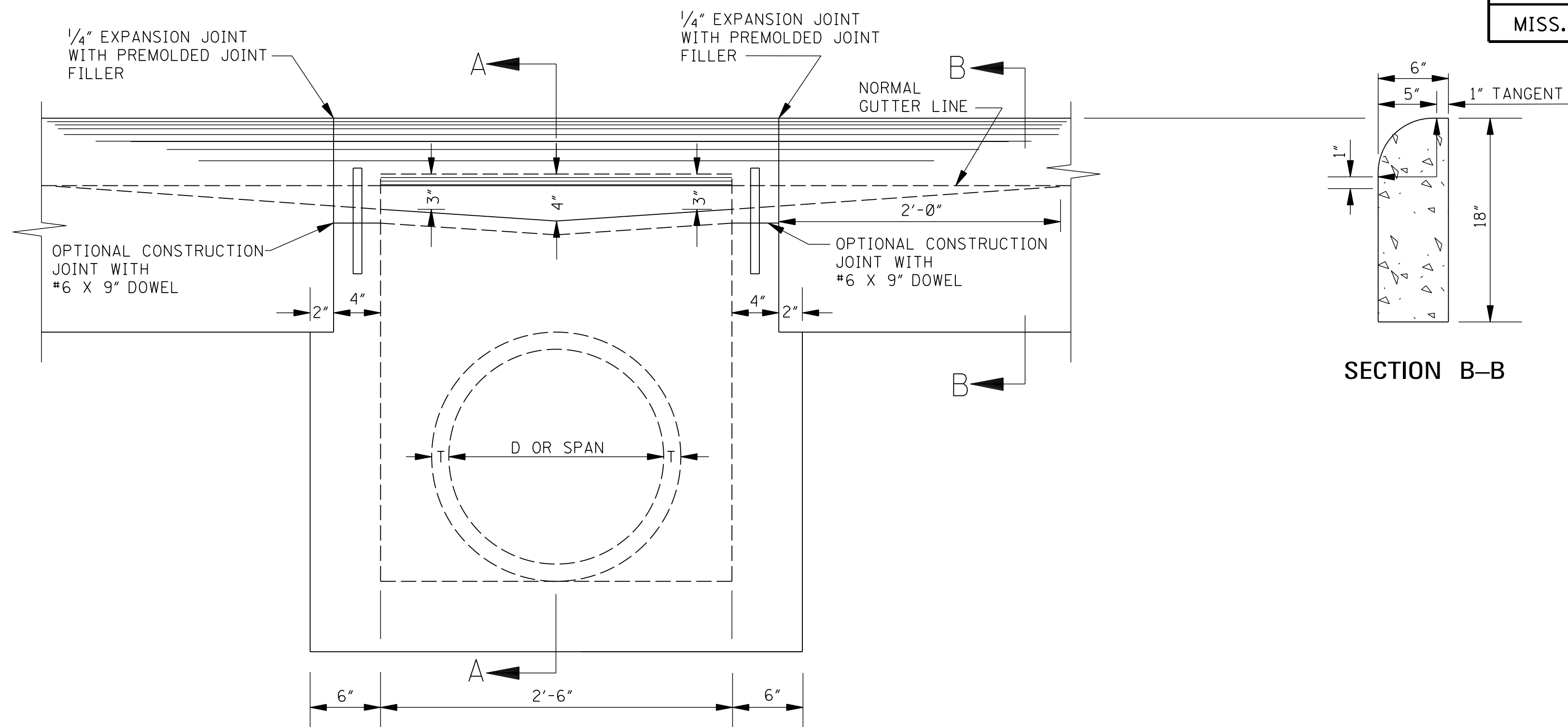
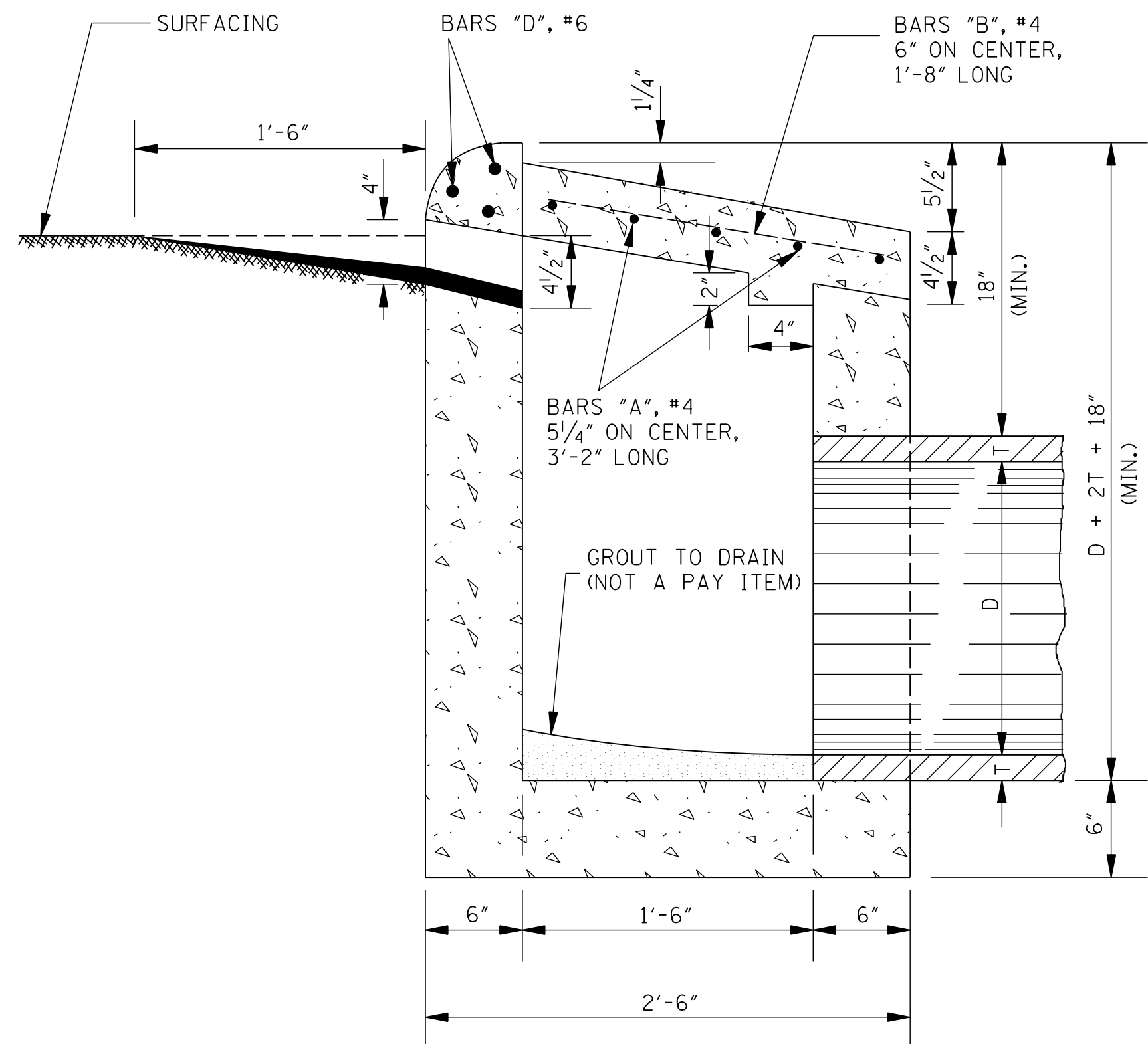
QUANTITIES										
PIPE SIZE	MIN. DEPTH TO F.L.	MIN. DEPTH INLET		PIPE OPENING DEDUCTION (yd <sup>3</sup> )	T	BARS/SIZES				
		CONC. (yd <sup>3</sup> )	STEEL (lbs)			"A" #4	"B" #4	"C" #4	"D" #4	"U" #4
						NO. @ LGTH.	NO. @ LGTH.	NO. @ LGTH.	NO. @ LGTH.	NO. @ LGTH.
18"	2.792'	0.869	76	0.053	2½"	8 @ 4'-5½"	12 @ 3'- 1½"	2 @ 2'-4"	6 @ 3'-5"	4 @ 3'-9½"
24"	3.334'	1.117	87	0.091	3"	8 @ 5'-4"	14 @ 3'- 1½"	2 @ 2'-4"	6 @ 4'-0"	4 @ 3'-9½"
30"	3.875'	1.385	94	0.138	3½"	8 @ 6'-2½"	14 @ 3'- 1½"	2 @ 2'-4"	6 @ 4'-7"	4 @ 3'-9½"
36"	4.417'	1.671	105	0.196	4"	8 @ 7'-1"	16 @ 3'- 1½"	2 @ 2'-4"	6 @ 5'-2"	4 @ 3'-9½"
42"	4.959'	1.978	116	0.263	4½"	8 @ 7'-11½"	18 @ 3'- 1½"	2 @ 2'-4"	6 @ 5'-9"	4 @ 3'-9½"
48"	5.500'	2.305	123	0.340	5"	8 @ 8'-10"	18 @ 3'- 1½"	2 @ 2'-4"	6 @ 6'-4"	4 @ 3'-9½"
54"	6.042'	2.650	135	0.427	5½"	8 @ 9'-8½"	20 @ 3'- 1½"	2 @ 2'-4"	6 @ 6'-11"	4 @ 3'-9½"
60"	6.583'	3.016	146	0.524	6"	8 @ 10'-7"	22 @ 3'- 1½"	2 @ 2'-4"	6 @ 7'-6"	4 @ 3'-9½"
66"	7.125'	3.402	153	0.630	6½"	8 @ 11'-5½"	22 @ 3'- 1½"	2 @ 2'-4"	6 @ 8'-1"	4 @ 3'-9½"
72"	7.667'	3.806	164	0.747	7"	8 @ 12'-4"	24 @ 3'- 1½"	2 @ 2'-4"	6 @ 8'-8"	4 @ 3'-9½"
22" X 13"	2.417'	0.855	76	0.053	2½"	8 @ 4'-3"	12 @ 3'- 1½"	2 @ 2'-4"	6 @ 3'-9"	4 @ 3'-9½"
29" X 18"	2.833'	1.085	83	0.087	3"	8 @ 5'-0¼"	12 @ 3'- 1½"	2 @ 2'-4"	6 @ 4'-4½"	4 @ 3'-9½"
36" X 23"	3.250'	1.358	94	0.129	3½"	8 @ 5'-10"	14 @ 3'- 1½"	2 @ 2'-4"	6 @ 5'-1"	4 @ 3'-9½"
44" X 27"	3.635'	1.631	101	0.185	4"	8 @ 6'-7½"	14 @ 3'- 1½"	2 @ 2'-4"	6 @ 5'-10"	4 @ 3'-9½"
51" X 31"	4.068'	1.942	113	0.245	4½"	8 @ 7'-5½"	16 @ 3'- 1½"	2 @ 2'-4"	6 @ 6'-6"	4 @ 3'-9½"
58" X 36"	4.500'	2.269	120	0.318	5"	8 @ 8'-3"	16 @ 3'- 1½"	2 @ 2'-4"	6 @ 7'-2½"	4 @ 3'-9½"
65" X 40"	4.875'	2.575	130	0.394	5½"	8 @ 9'-0"	18 @ 3'- 1½"	2 @ 2'-4"	6 @ 7'-10"	4 @ 3'-9½"
73" X 45"	5.333'	2.966	139	0.489	6"	8 @ 9'-10½"	18 @ 3'- 1½"	2 @ 2'-4"	6 @ 8'-7"	4 @ 3'-9½"
88" X 54"	6.167'	3.765	156	0.688	7"	8 @ 11'-6"	20 @ 3'- 1½"	2 @ 2'-4"	6 @ 10'-0"	4 @ 3'-9½"

- NOTES: 1. ONE (1) PIPE OPENING HAS BEEN DEDUCTED FROM THE STRUCTURE.
2. FOR EACH ADDITIONAL FOOT OF INLET HEIGHT, ADD 0.184 yd<sup>3</sup> CLASS "B" CONCRETE AND 17 lbs REINFORCING STEEL.
3. 4 BARS "B" AND 2 BARS "C" REQUIRED PER EACH ADDITIONAL FOOT OF INLET HEIGHT.
4. WEIGHT OF FRAME CASTING = 244 lbs.  
WEIGHT OF GRATE = SEE SHEET IG-2.

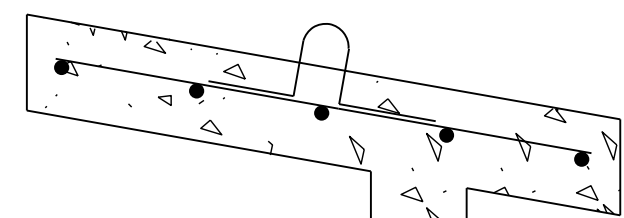
- GENERAL NOTES:
- QUANTITIES SHOWN WILL BE THE BASIS OF PAYMENT UNLESS AUTHORIZED MODIFICATIONS ARE MADE.
  - CONCRETE SHALL BE CLASS "B" CONCRETE AND REINFORCING STEEL SHALL BE DEFORMED BARS.
  - THE CONTRACTOR HAS THE OPTION TO PROVIDE GRATE NO. 1 OR GRATE NO. 2 AS SHOWN ON SHEET IG-2.
  - FRAME TO BE GRAY IRON CASTING, (AASHTO M 105, CLASS 30).



			BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
			REVISION	<b>STORM SEWER INLET TYPE SS-3</b>
			DATE	ISSUE DATE: AUGUST 01, 2017
				WORKING NUMBER SS-3 SHEET NUMBER 6525



PIPE SIZE	CLASS "B" CONCRETE (yd <sup>3</sup> )	REINF. STEEL (bs)	EXTRA CONC. EACH ADDED FOOT OF DEPTH (yd <sup>3</sup> )
15"	0.64	31	0.185
18"	0.67	31	0.185
24"	0.74	31	0.185
22" X 13"	0.62	31	0.185



LIFT BAR - #4  
OVERALL LENGTH = 26"  
1 REQUIRED  
COST OF LIFT BAR TO BE ABSORBED

DETAIL SHOWING METHOD OF LIFTING INLET COVER

GENERAL NOTES:

1. QUANTITIES SHOWN SHALL BE THE BASIS FOR PAYMENT UNLESS AUTHORIZED MODIFICATIONS ARE MADE.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	ISSUE DATE: AUGUST 01, 2017

**STORM SEWER INLET  
TYPE SS-4  
(HEADER CURB)**

**MDOT**  
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

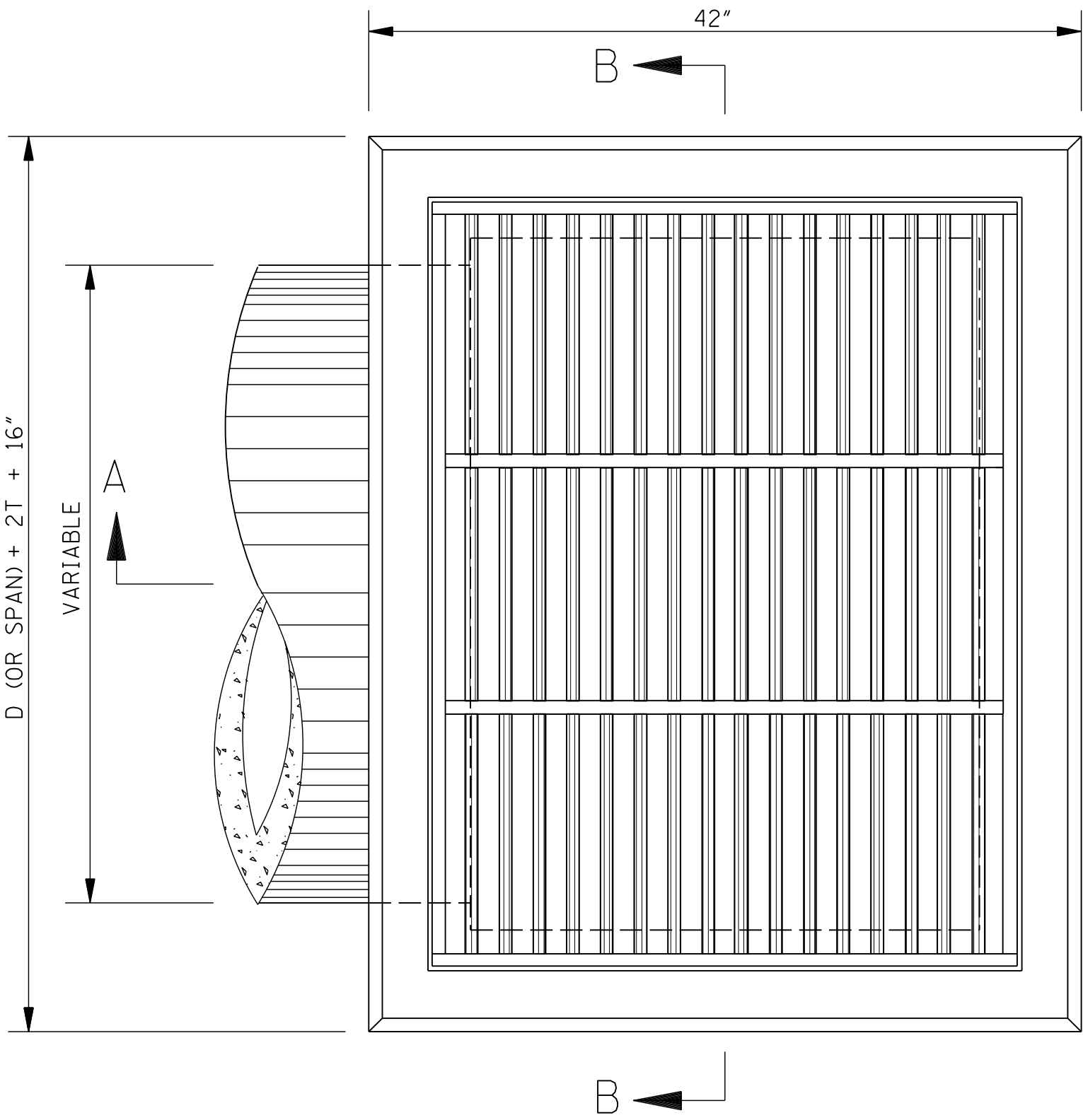
WORKING NUMBER  
SS-4

SHEET NUMBER  
6526

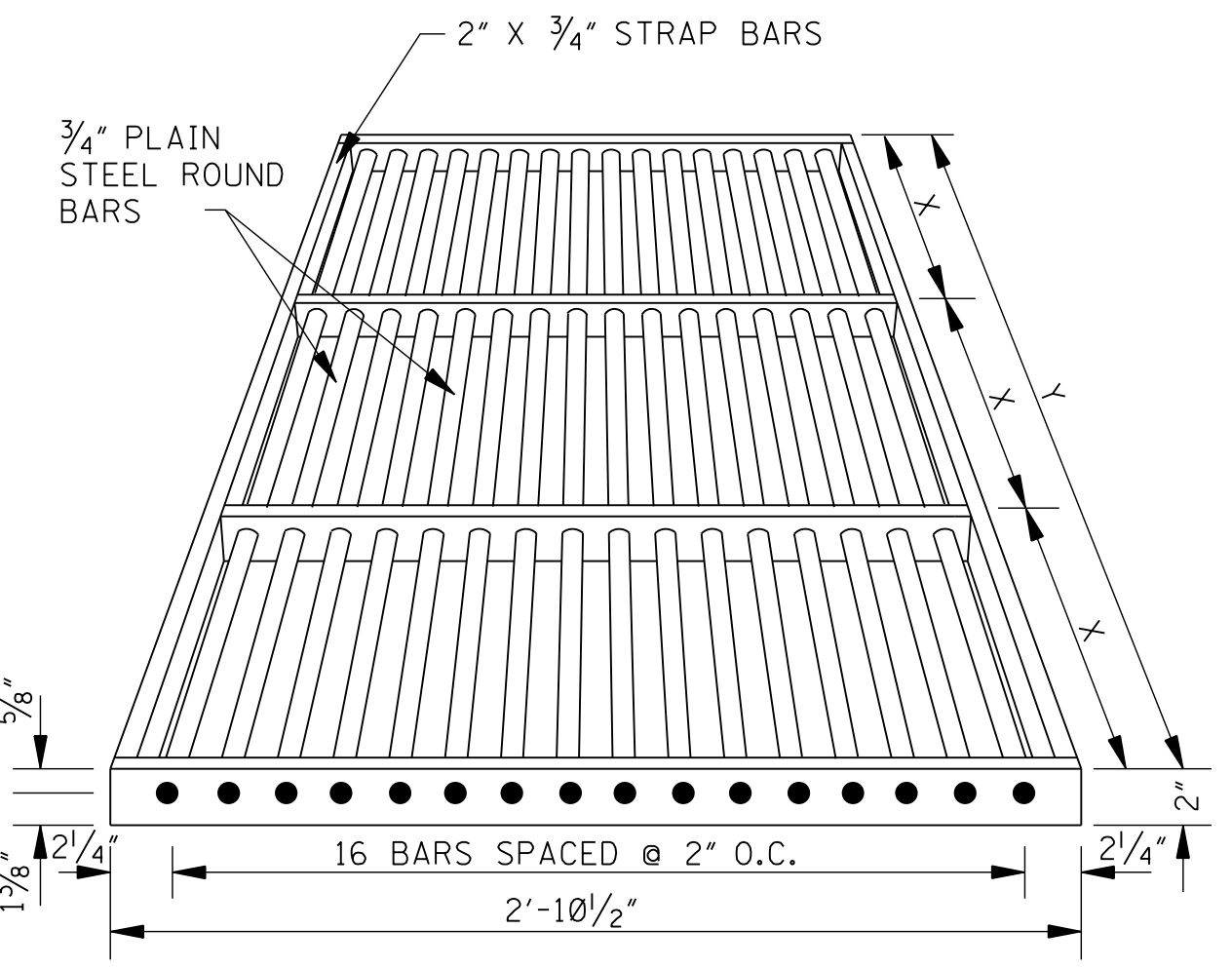


"A", #4 BARS	AS PER TABLE
"B", #4 BARS	D (OR SPAN) + 2T + 9"
"C", #4 BARS	34"
"D", #4 BARS	D (OR RISE) + T + 4"

BARS "A", "B", "C" & "D"

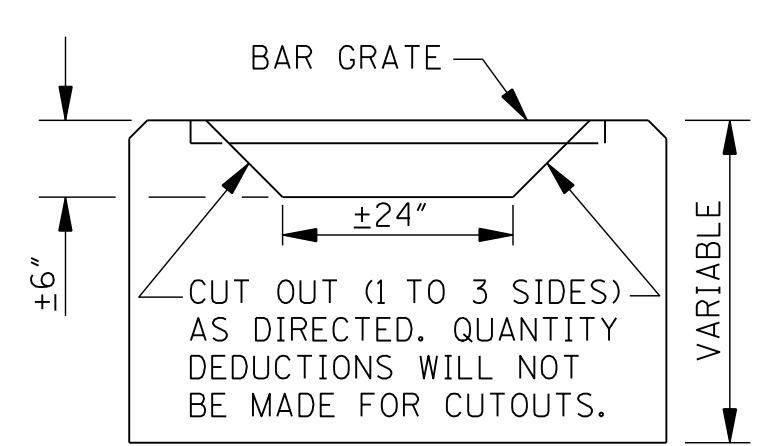


PLAN

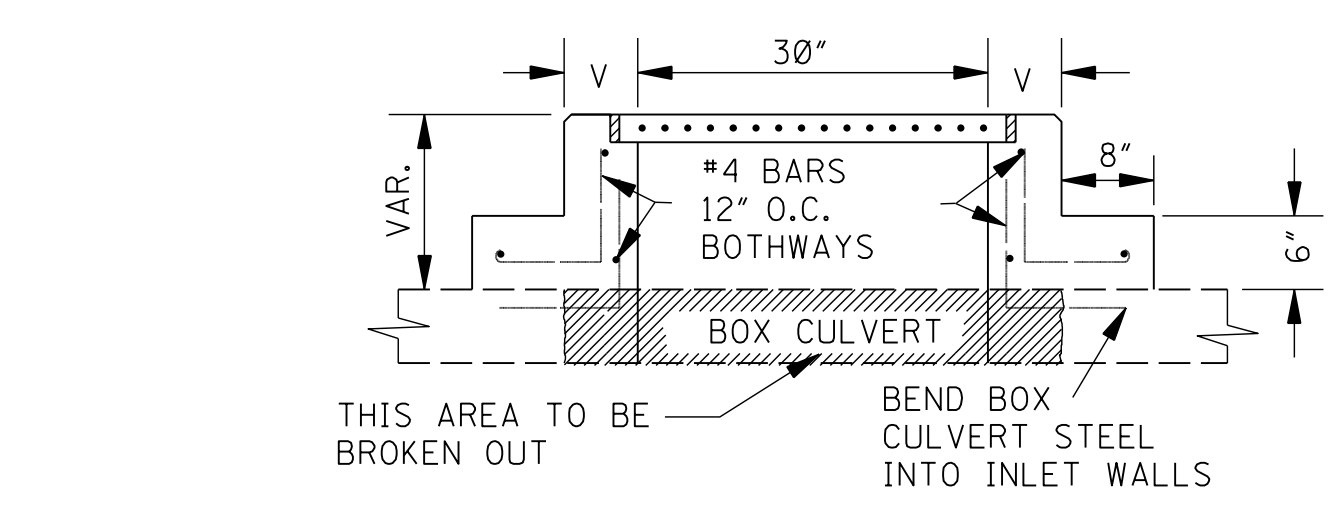


BAR GRATE DETAILS

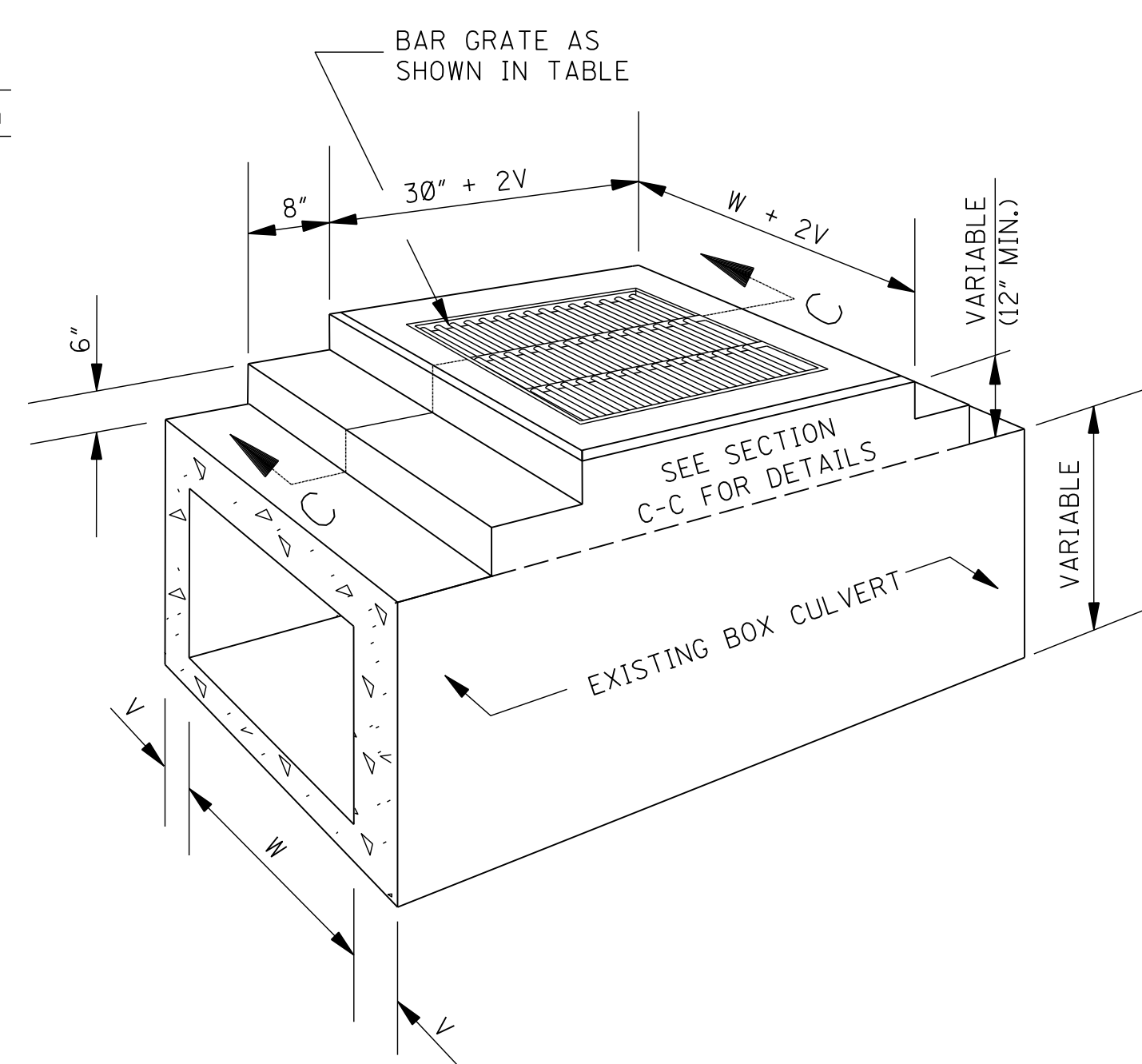
NOTE: JUNCTIONS OF ROUND AND STRAP BARS SHALL BE WELDED. GRATE SHALL BE SHOP COATED, REFER TO SECTION 716.14 OF THE MISSISSIPPI STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.



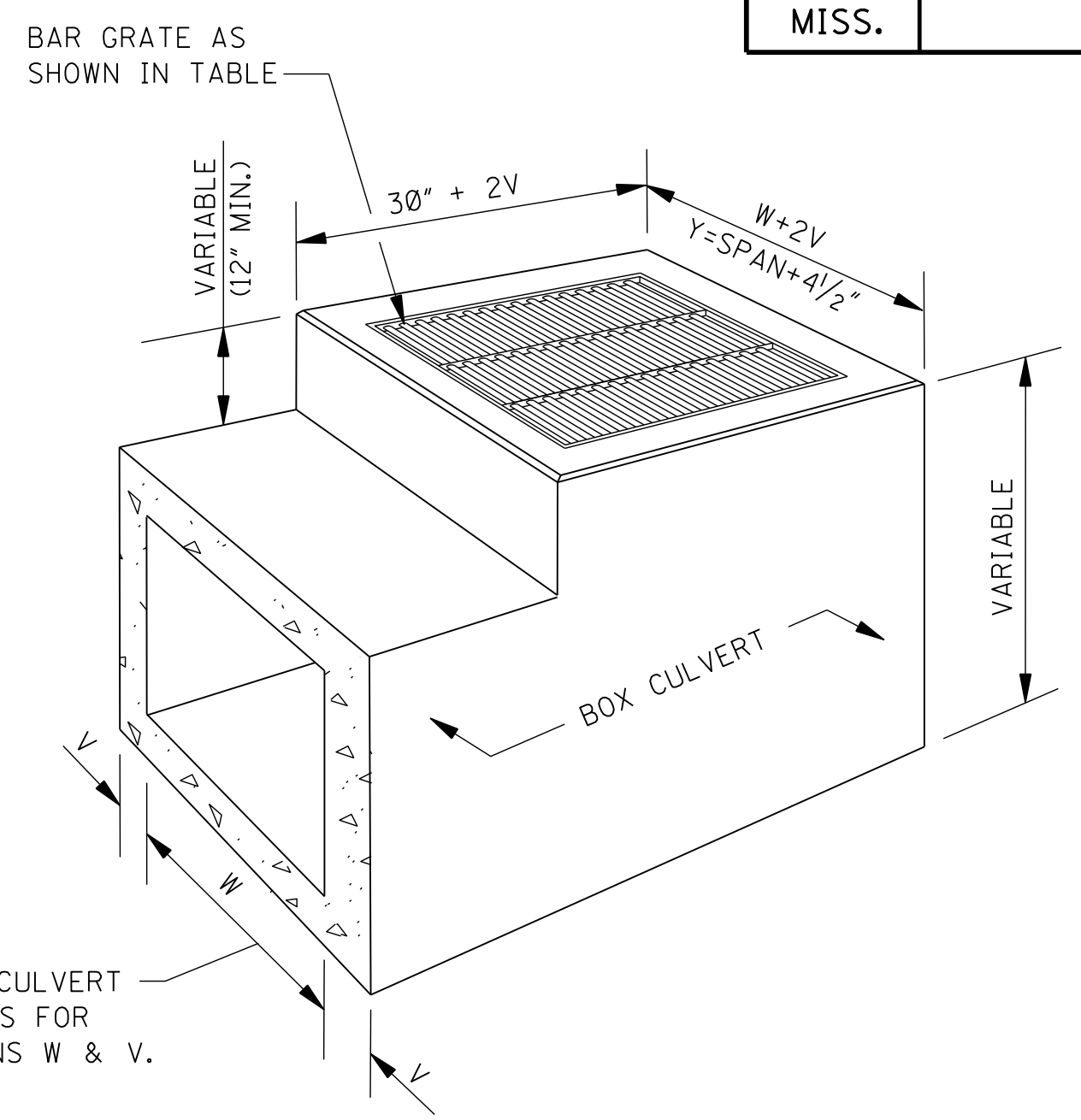
ELEVATION  
MODIFIED PIPE OR  
BOX CULVERT INLET



SECTION C-C



SECTIONAL PERSPECTIVE  
INLET ON EXISTING BOX CULVERT

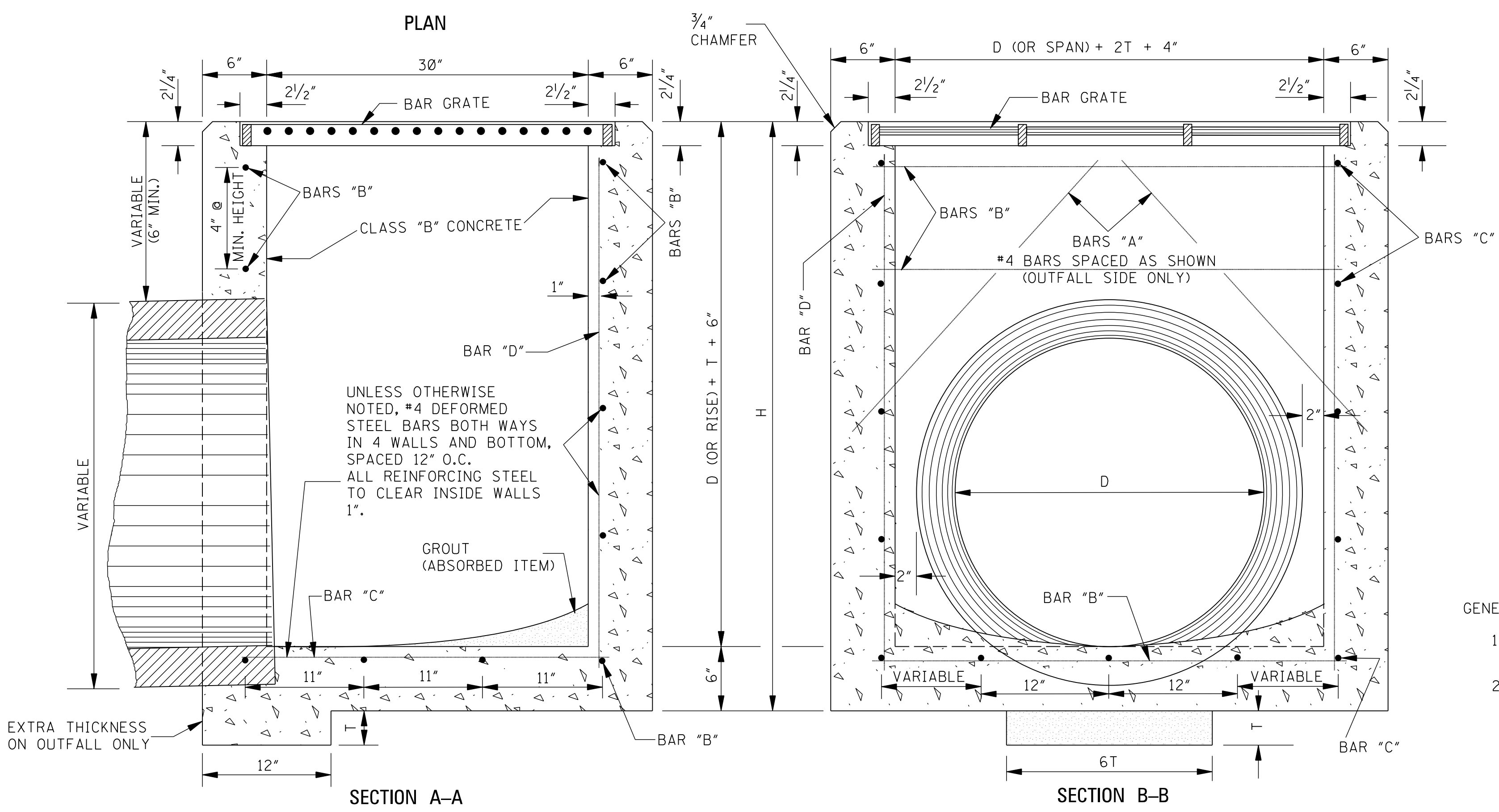


SECTIONAL PERSPECTIVE  
INLET USED IN LIEU OF HEADWALLS

LENGTH AND WEIGHT OF GRATING									
PIPE INLETS					BOX CULVERT INLETS				
PIPE SIZE	Y	X	NO. X-SPANS	WEIGHT (lbs)	BOX CULVERT SIZE	Y	X	NO. X-SPANS	WEIGHT (lbs)
18"	2'-7 1/2"	1'-3 3/4"	2	127	2' X 2'	2'-4 1/2"	1'-2 1/4"	2	119
22" X 13"	2'-11 1/2"	1'-5 3/4"	2	139	3' X 2'	3'-4 1/2"	1'-1 1/2"	3	166
24"	3'-2 1/2"	1'-7 1/4"	2	147	4' X 2'	4'-4 1/2"	1'-5 1/2"	3	200
29" X 18"	3'-7"	1'-2 1/2"	3	173	5' X 2'	5'-4 1/2"	1'-4 1/8"	4	247
30"	3'-9 1/2"	1'-3 5/8"	3	180	6' X 2'	6'-4 1/2"	1'-3 3/4"	5	293
36"	4'-4 1/2"	1'-5 1/2"	3	200	7' X 2'	7'-4 1/2"	1'-5 1/8"	5	328
42"	4'-11 1/2"	1'-2 7/8"	4	232	8' X 2'	8'-4 3/4"	1'-4 3/4"	6	374
48"	5'-6 1/2"	1'-4 5/8"	4	252	3' X 3'	3'-4 1/2"	1'-1 1/2"	3	166
54"	6'-1 1/2"	1'-6 3/8"	4	272	4' X 3'	4'-4 1/2"	1'-5 1/2"	3	200
60"	6'-8 1/2"	1'-4 3/8"	5	305	5' X 3'	5'-4 1/2"	1'-4 1/8"	4	247
					6' X 3'	6'-4 1/2"	1'-3 3/4"	5	293

QUANTITIES															
PIPE SIZE	MIN. DEPTH TO F.L.	MIN. DEPTH INLET		EACH ADDED FOOT		PIPE OPENING DEDUCTION (yd <sup>3</sup> )	T	BARS/SIZES							
		CONC * (yd <sup>3</sup> )	STEEL (lbs)	CONC (yd <sup>3</sup> )	STEEL (lbs)			"A"		"B"		"C"		"D"	
								#4	#4	#4	#4	#4	#4	#4	#4
								NO. @ LGTH.	NO. @ LGTH.	NO. @ LGTH.	NO. @ LGTH.	NO. @ LGTH.	NO. @ LGTH.		
18"	2.209'	0.623	42	0.213	13	0.053	2 1/2"	2 @ 21"	8 @ 32"	7 @ 34"	9 @ 24 1/2"				
22" X 13"	1.833'	0.586	42	0.225	14	0.053	2 1/2"	2 @ 25"	8 @ 36"	7 @ 34"	9 @ 20"				
24"	2.750'	0.800	55	0.235	14	0.091	3"	2 @ 25"	9 @ 39"	9 @ 34"	9 @ 31"				
29" X 18"	2.250'	0.742	57	0.248	16	0.087	3"	2 @ 30"	9 @ 43 1/2"	9 @ 34"	11 @ 25"				
30"	3.292'	0.992	70	0.256	16	0.138	3 1/2"	2 @ 30"	9 @ 46"	11 @ 34"	11 @ 37 1/2"				
36"	3.834'	1.198	85	0.278	17	0.196	4"	2 @ 33"	10 @ 53"	13 @ 34"	11 @ 44"				
42"	4.375'	1.418	93	0.299	18	0.263	4 1/2"	2 @ 36"	10 @ 60"	13 @ 34"	11 @ 50 1/2"				
48"	4.917'	1.653	109	0.321	19	0.340	5"	2 @ 39"	11 @ 67"	15 @ 34"	11 @ 57"				
54"	5.458'	1.902	136	0.343	21	0.427	5 1/2"	2 @ 42"	12 @ 74"	19 @ 34"	13 @ 63 1/2"				
60"	6.000'	2.165	146	0.364	21	0.524	6"	2 @ 47"	12 @ 81"	19 @ 34"	13 @ 70"				

\*NOTE: ONE (1) PIPE OPENING HAS BEEN DEDUCTED FROM THE STRUCTURE.



SECTION A-A

PIPE CULVERT INLET

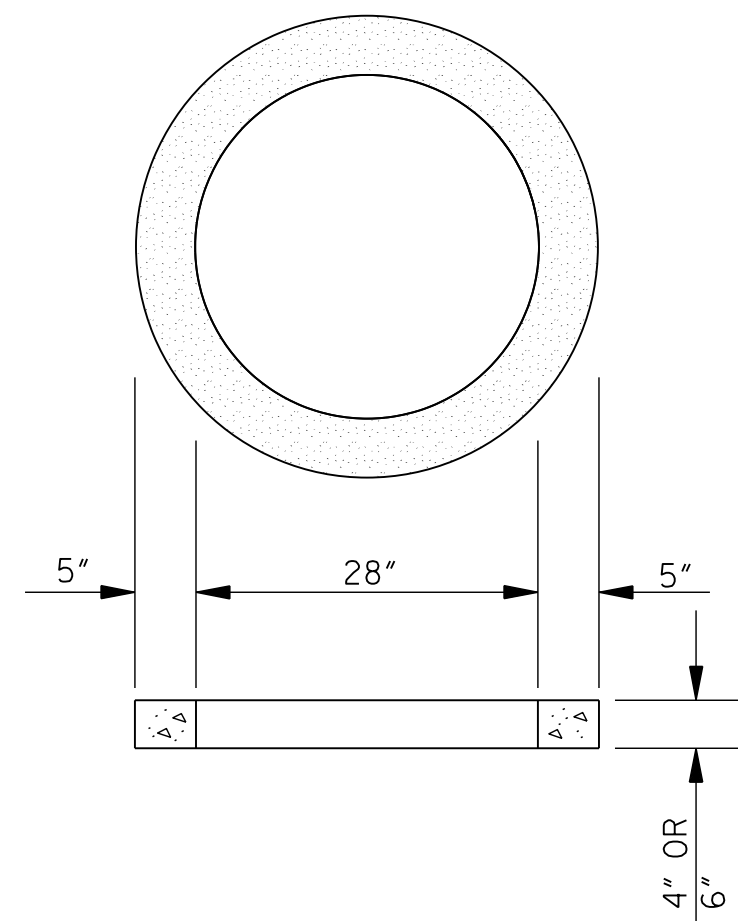
SECTION B-B

GENERAL NOTES:

- QUANTITIES SHOWN WILL BE THE BASIS OF PAYMENT UNLESS AUTHORIZED MODIFICATIONS ARE MADE.
- BOX CULVERTS:
  - UNLESS OTHERWISE SHOWN, THE DETAILS OF THE BOX CULVERT INLETS SHALL CONFORM TO THOSE SHOWN FOR THE PIPE INLETS.
  - BOX CULVERT REINFORCEMENT SHALL BE CONTINUED AND RESHAPED TO ACCOMMODATE THE INLET BOX. ADDITIONAL BARS SHALL BE THE SAME DIAMETER AS THOSE IN THE BOX CULVERT AND THE CONCRETE SHALL BE THE SAME. QUANTITIES SHALL BE COMPUTED IN CONJUNCTION WITH QUANTITIES FOR BOX CULVERT.

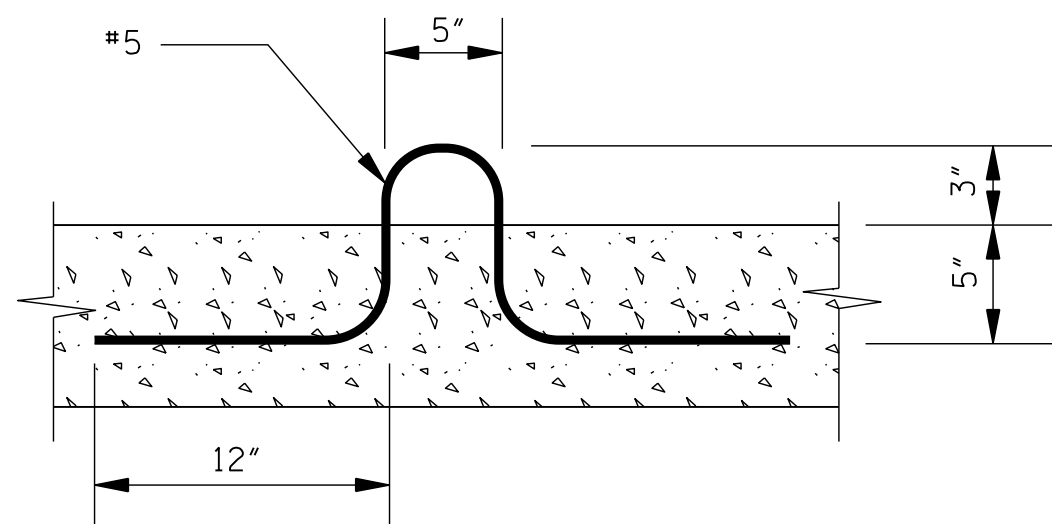
BY		MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN	
REVISION		<b>DROP INLET AND GRATE DETAILS FOR PIPE AND BOX CULVERTS</b>	
DATE		ISSUE DATE: AUGUST 01, 2017	
		WORKING NUMBER B-9	
		SHEET NUMBER 6527	



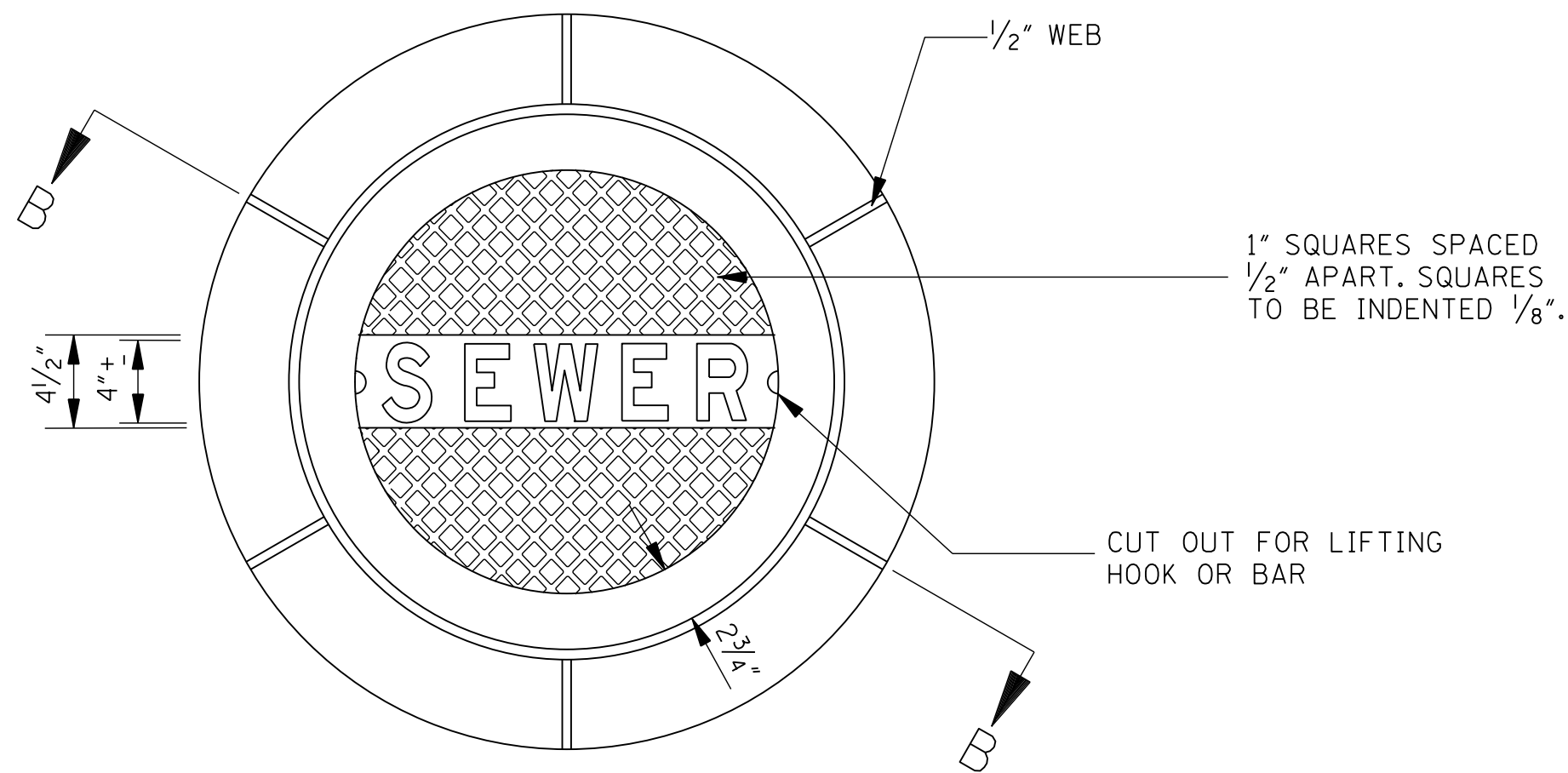


ADJUSTING RING

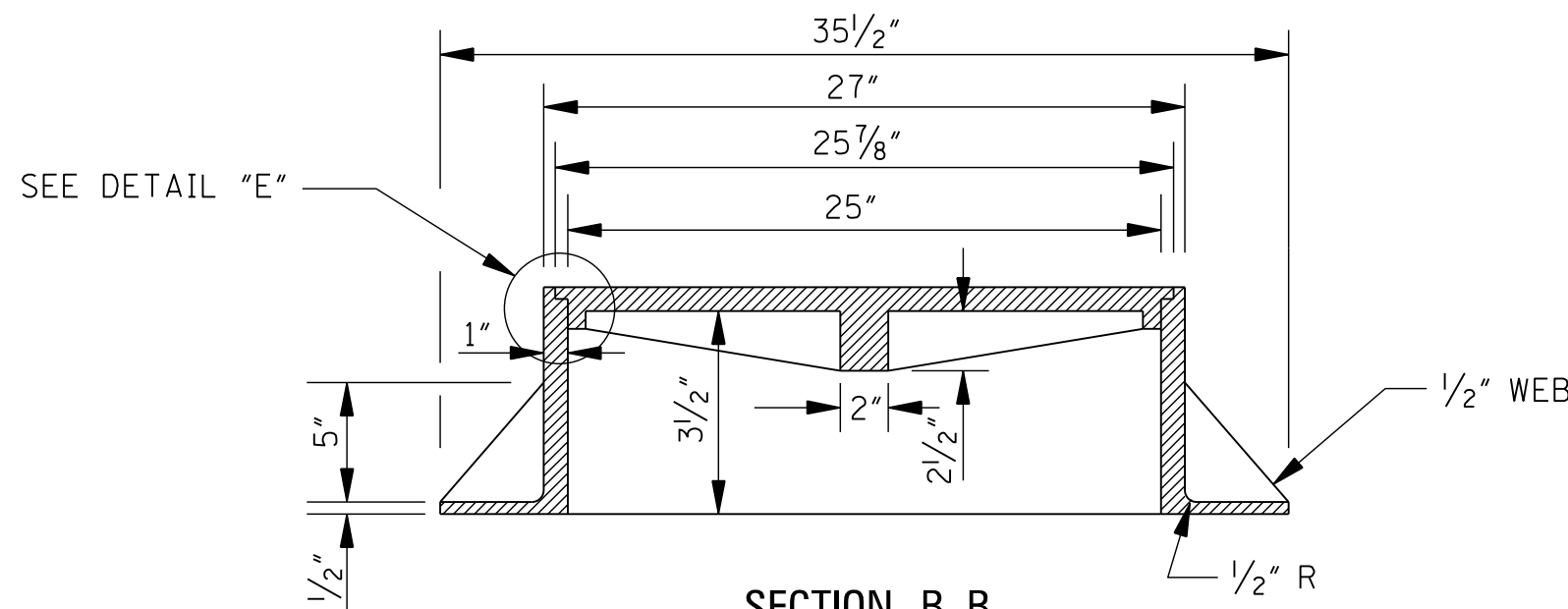
NOTE: ADJUSTING RING IS NOT A PAY ITEM. IF USED TO ADJUST MANHOLE HEIGHT, COST TO BE ABSORBED IN UNIT PRICE BID FOR ADJUSTMENT OF CASTING.



LIFT BAR DETAIL



PLAN

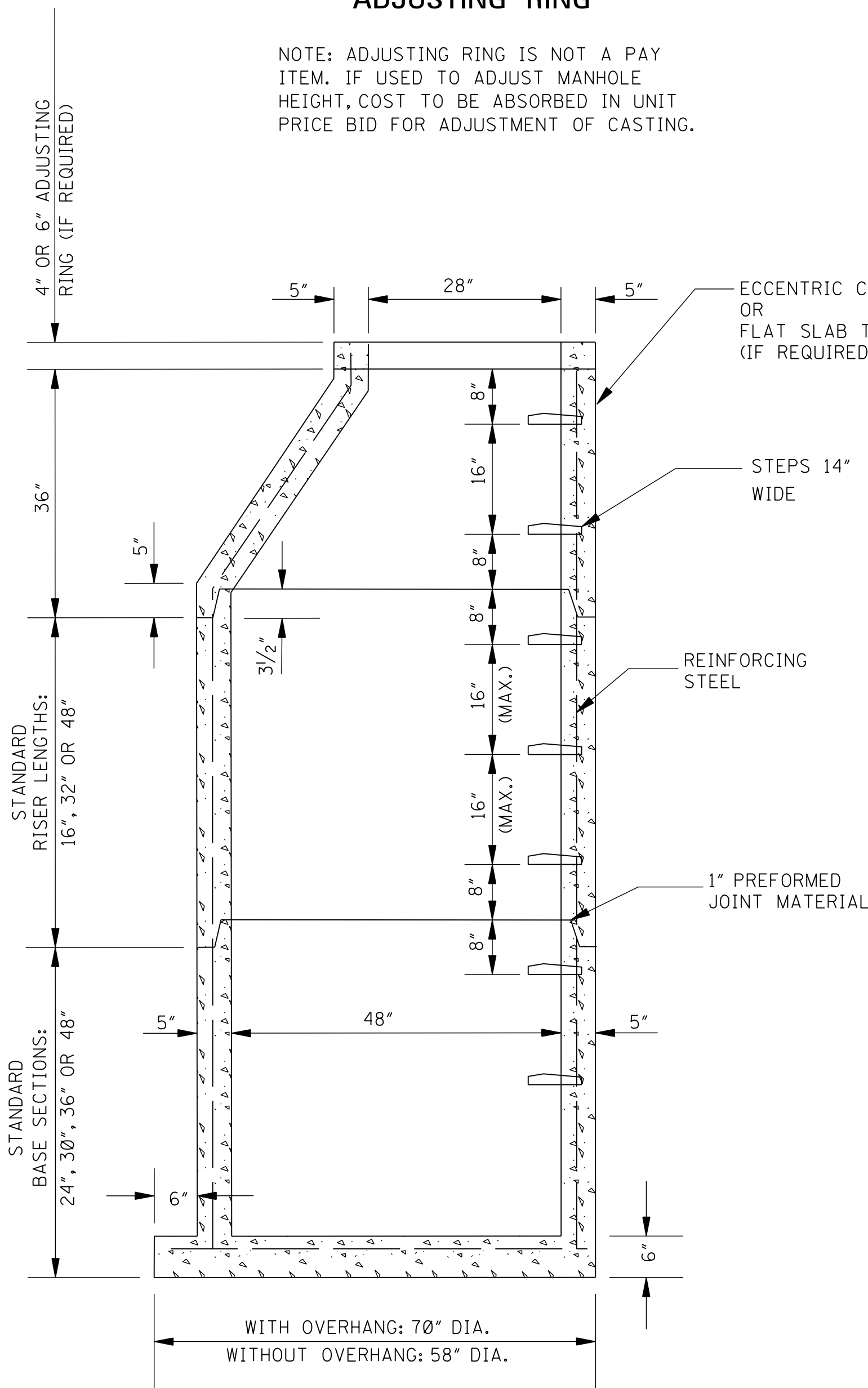


SECTION B-B  
FRAME AND COVER CASTING

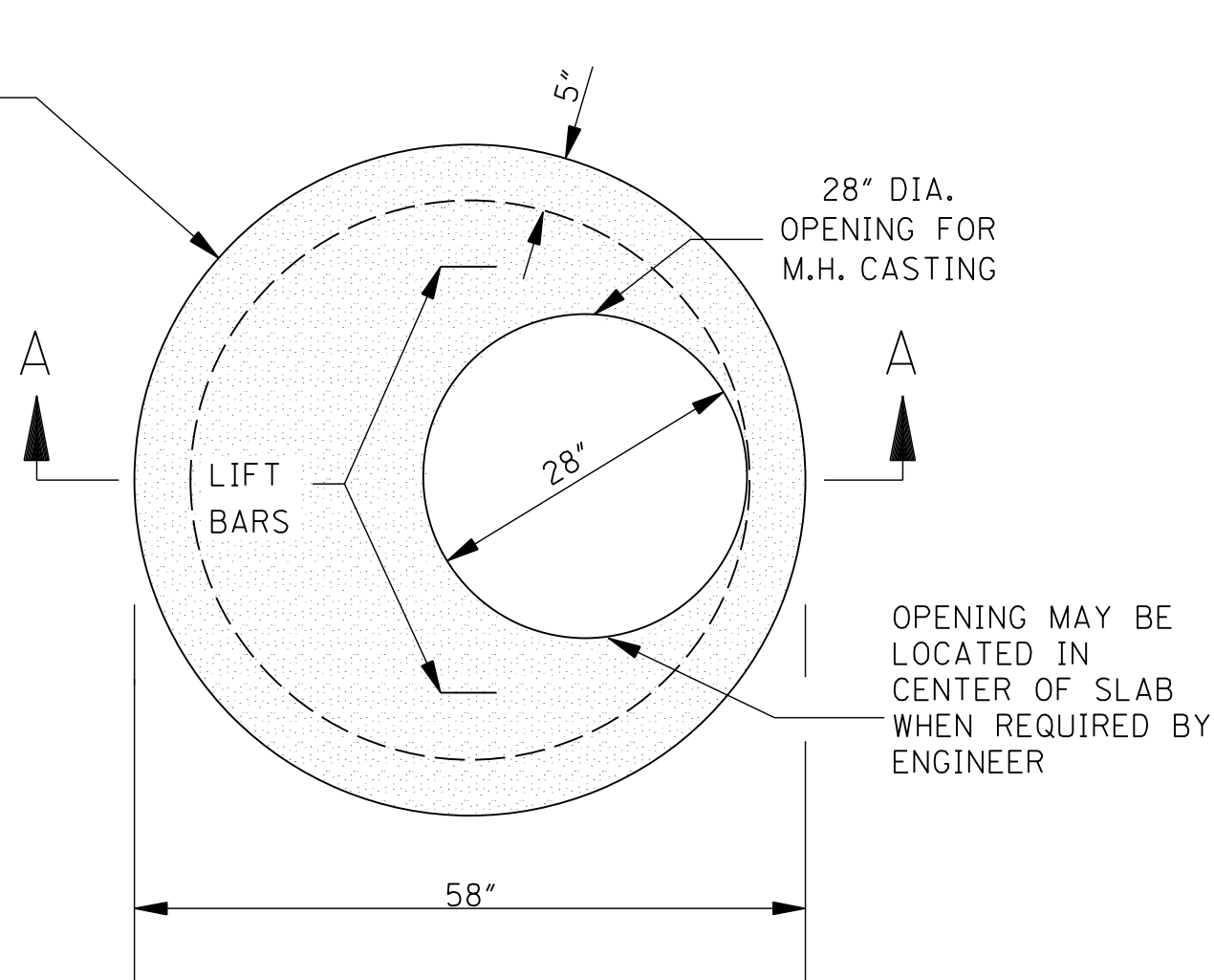
- GENERAL NOTES:
- ALL CONCRETE MANHOLE COMPONENTS SHALL COMPLY WITH ASTM C-478.
  - CASTINGS SHALL BE PLACED ON A MORTAR SEAT THAT IS 1/2" THICK.
  - THE FOLLOWING TABLE DEPICTS THE WEIGHT OF INDIVIDUAL MANHOLE COMPONENTS:

WEIGHT OF MANHOLE COMPONENTS				
*FRAME AND COVER CASTING = 550 lbs				
ADJUSTING RING				
THICKNESS OF RING (in)	4"		6"	
WEIGHT (lbs)	180		270	
ECCENTRIC CONE SECTION = 2025 lbs				
FLAT SLAB TOP = 1057 lbs				
RISER SECTION = 888 lbs/ft				
BASE SECTION				
LENGTH OF BASE SECTION (in)	24"	32"	40"	48"
WEIGHT W/ OVERHANG (lbs)	3354	3946	4538	5130
WEIGHT W/O OVERHANG (lbs)	2726	3321	3910	4502

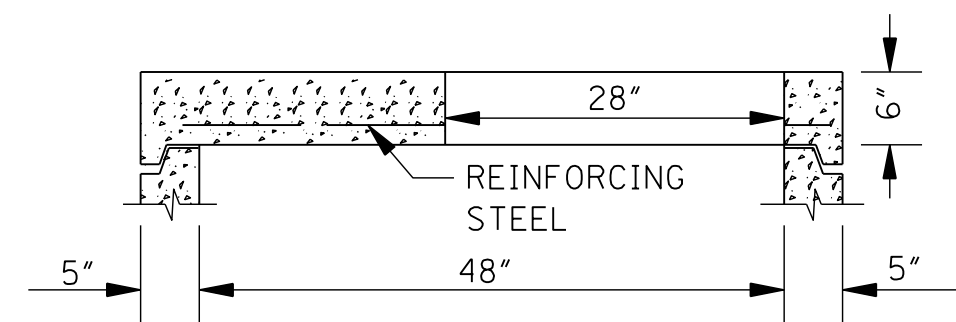
\*NOTE: THIS WEIGHT IS THE COMPUTED WEIGHT OF THE CASTING PLUS THE 5% ALLOWED FOR FILLETS AND OVERRUNS AND SHALL BE THE BASIS FOR PAYMENT.



48" PRECAST CONCRETE MANHOLE

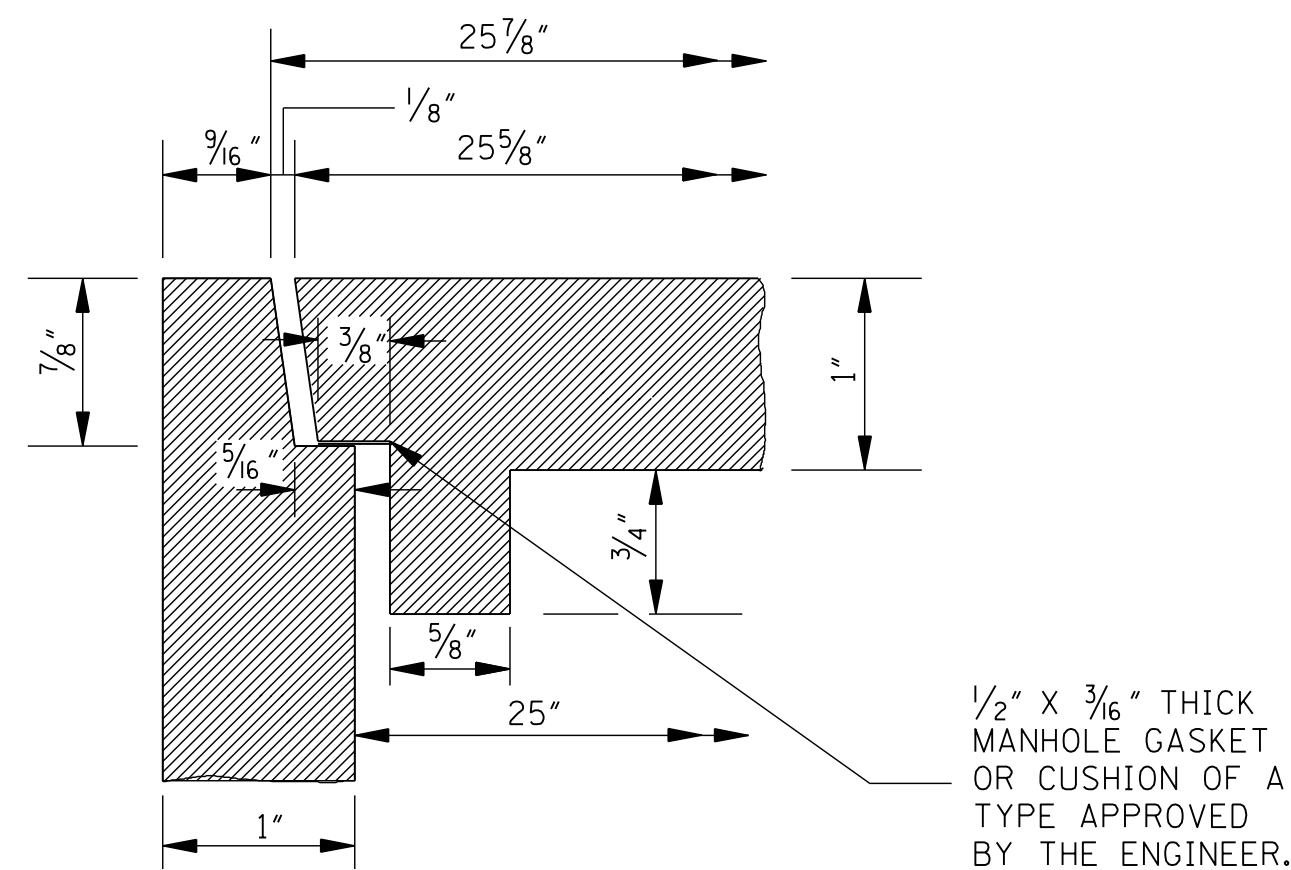


PLAN




SECTION A-A

FLAT SLAB MANHOLE TOP



DETAIL "E"

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN			
				REVISION	<b>STORM SEWER STRUCTURE, PRECAST MANHOLE</b>			
				DATE				
				ISSUE DATE:	AUGUST 01, 2017			



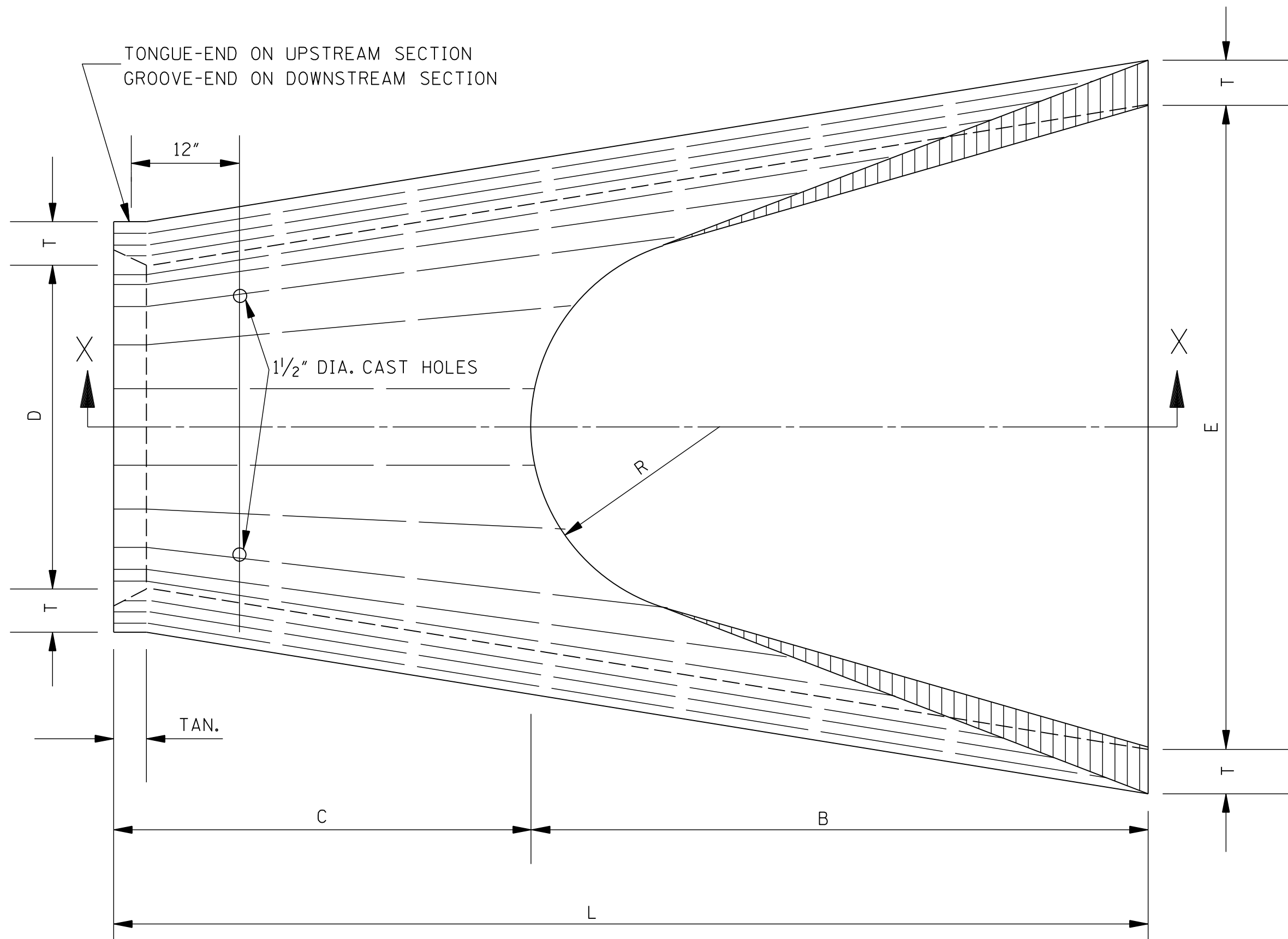
WORKING NUMBER  
MH-1

SHEET NUMBER  
6528

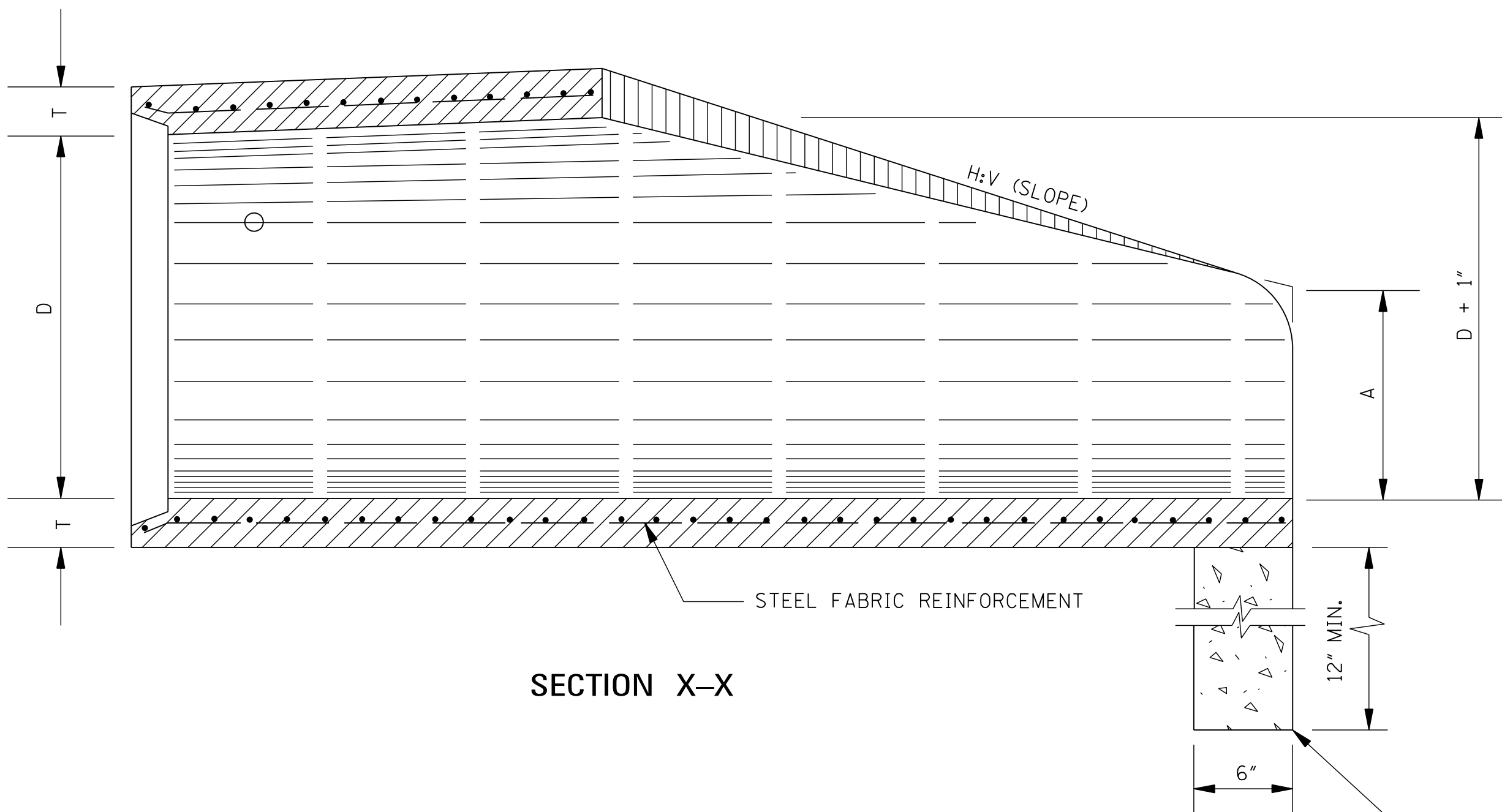


BELL AND SPIGOT END OPTION

NOTE: BELL-END ON DOWNSTREAM SECTION  
SPIGOT-END ON UPSTREAM SECTION.



PLAN OF DOWNSTREAM END



SECTION X-X

TOE WALL REQUIRED ON ALL FLARED END SECTIONS. TO BE PAID FOR AS CLASS "B" STRUCTURAL CONCRETE - MINOR STRUCTURES.

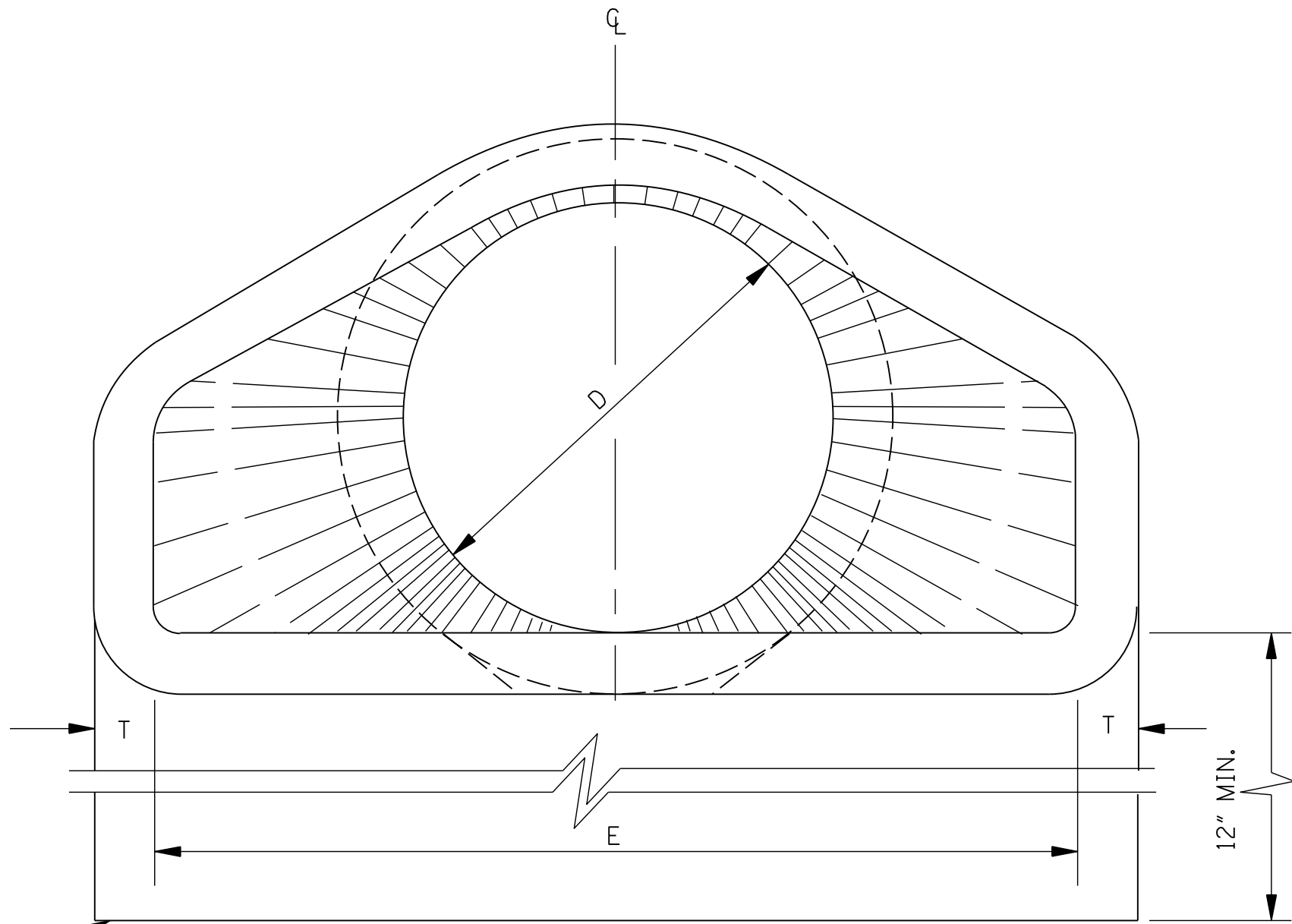
TABLE OF DIMENSIONS							
D	T	H:V	A	B	C	E	L
15"	2/4"	3:1	6"	2'-3"	4'-1"	2'-8"	6'-1"
18"	2/2"	3:1	9"	2'-3"	3'-10"	3'-0"	6'-1"
24"	3"	3:1	10"	3'-8"	2'-6"	4'-0"	6'-2"
30"	3/2"	3:1	1'-0"	4'-6"	1'-8"	5'-0"	6'-2"
36"	4"	3:1	1'-3"	5'-3"	2'-11"	6'-0"	8'-2"
42"	4/2"	3:1	1'-9"	5'-3"	2'-11"	6'-6"	8'-2"
48"	5"	3:1	2'-0"	6'-0"	2'-2"	7'-0"	8'-2"
54"	5/2"	3:1	2'-4"	6'-6"	1'-10"	7'-6"	8'-4"
* 60"	6"	3:1	2'-10"	6'-6"	1'-10"	8'-0"	8'-4"
* 66"	6/2"	3:1	3'-4"	6'-6"	1'-10"	8'-6"	8'-4"
* 72"	7"	3:1	3'-10"	6'-6"	1'-10"	9'-0"	8'-4"

\* NOTE: SEE GENERAL NOTE 2.

TOE WALL CONC. QUANTITY (yd <sup>3</sup> )
0.056
0.063
0.083
0.102
0.123
0.134
0.145
0.156
0.167
0.177
0.188

GENERAL NOTES:

- REINFORCEMENT SHALL CONFORM TO THE REQUIREMENTS OF REINFORCED CONCRETE PIPE OF LIKE DIAMETER PER AASHTO M 170, TABLE 2, WALL B.
- 2 - 1 1/2" DIA. CAST HOLES REQUIRED AS SHOWN TO ACCOMMODATE 2 - 1" DIA. TIE BOLTS, USED IN TIEING SECTION TO PIPE CULVERT.
- LENGTH (L) OF A BELL-END OPTION MAY VARY BY A NOMINAL EXTENSION ON THE BELL END.
- FLARED END SECTIONS SHOULD BE REGARDED AS OBSTACLES UNDER THE BELOW CONDITIONS AND AS SUCH SHOULD BE LOCATED OUTSIDE OF THE CLEAR ZONE:
  - CROSS DRAINS WITH SINGLE ROUND PIPES OF DIAMETER GREATER THAN 36" OR EQUIVALENT FOR ARCH PIPES.
  - CROSS DRAINS WITH MULTIPLE ROUND PIPES OF DIAMETER GREATER THAN 30" OR EQUIVALENT FOR ARCH PIPES.
  - PARALLEL SIDE DRAINS WITH SINGLE ROUND PIPES OF DIAMETER GREATER THAN 24" OR EQUIVALENT FOR ARCH PIPES.
- ALL SIZES OF FLARED END SECTIONS FOR CIRCULAR CONCRETE PIPE MAY BE FURNISHED WITH EITHER BELL AND SPIGOT OR TONGUE AND GROOVE ENDS.



END ELEVATION

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	ISSUE DATE: AUGUST 01, 2017

**FLARED END SECTION  
FOR CONCRETE PIPE**

**MDOT**  
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

WORKING NUMBER  
FE-1

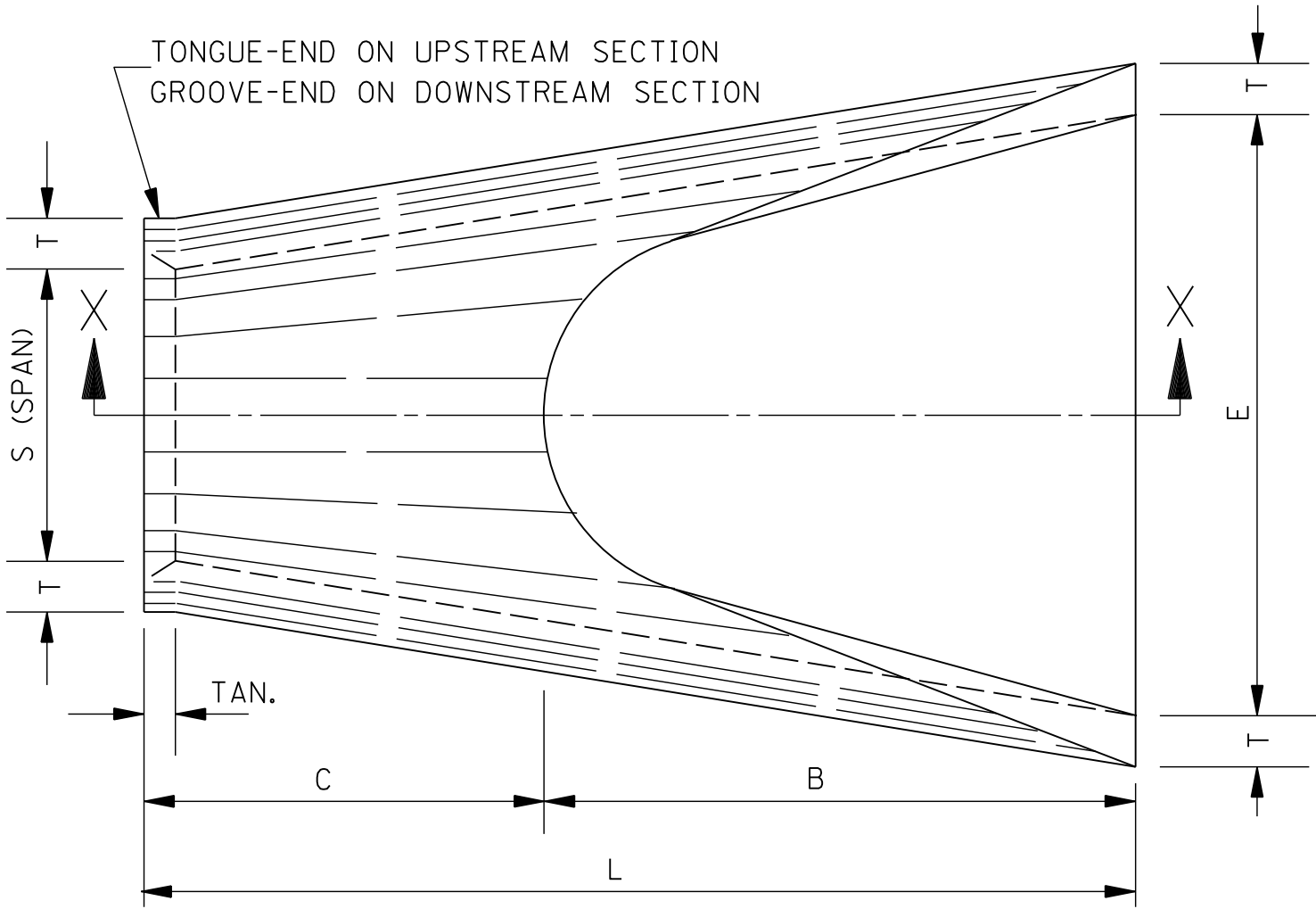
SHEET NUMBER  
6530

BELL AND SPIGOT END OPTION TYPE I

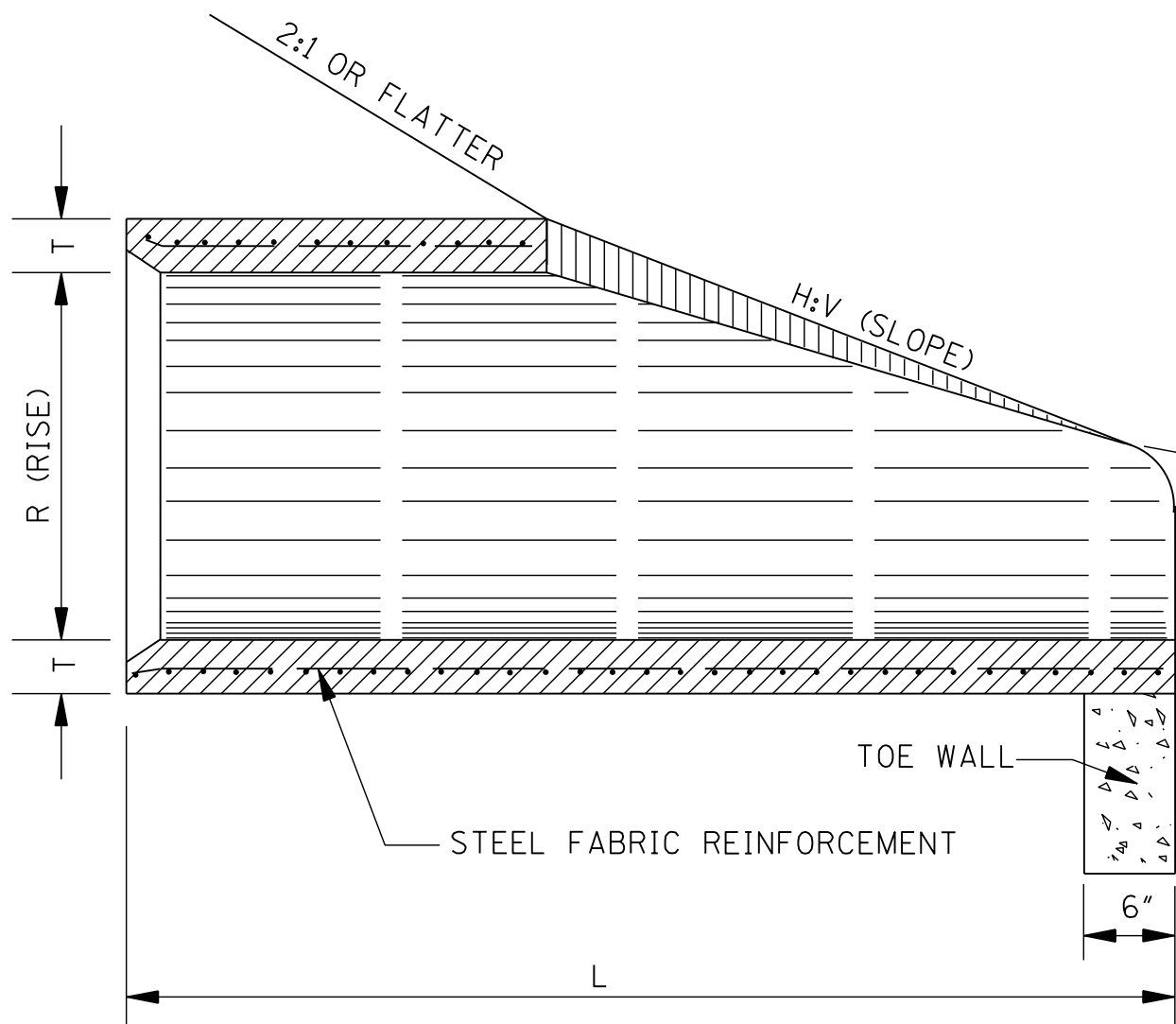
NOTE: BELL-END ON DOWNSTREAM SECTION  
SPIGOT-END ON UPSTREAM SECTION.

FLARED END SECTION FOR CONCRETE ARCH PIPE									
EQUIV. SIZE	R	S	T	H:V	A	B	C	E	L
18"	13½"	22"	2½"	3:1	7"	2'-3"	3'-9"	3'-0"	6'-0"
24"	18"	28½"	3"	3:1	8"	3'-3"	2'-9"	4'-0"	6'-0"
30"	22½"	36¼"	3½"	3:1	10"	4'-0"	2'-0"	5'-0"	6'-0"
36"	26⅝"	43¾"	4"	3:1	10⅝"	5'-0"	3'-0"	6'-0"	8'-0"
42"	31⅙"	51⅛"	4½"	3:1	1'-3⅙"	5'-0"	3'-0"	6'-6"	8'-0"
48"	36"	58½"	5"	3:1	1'-9"	5'-0"	3'-0"	7'-0"	8'-0"
54"	40"	65"	5½"	3:1	2'-1½"	5'-0"	3'-0"	7'-6"	8'-0"
60"	45"	73"	6"	3:1	2'-2"	6'-3"	1'-9"	8'-0"	8'-0"
72"	54"	88"	7"	3:1	2'-11"	6'-6"	1'-10"	10'-0"	8'-4"

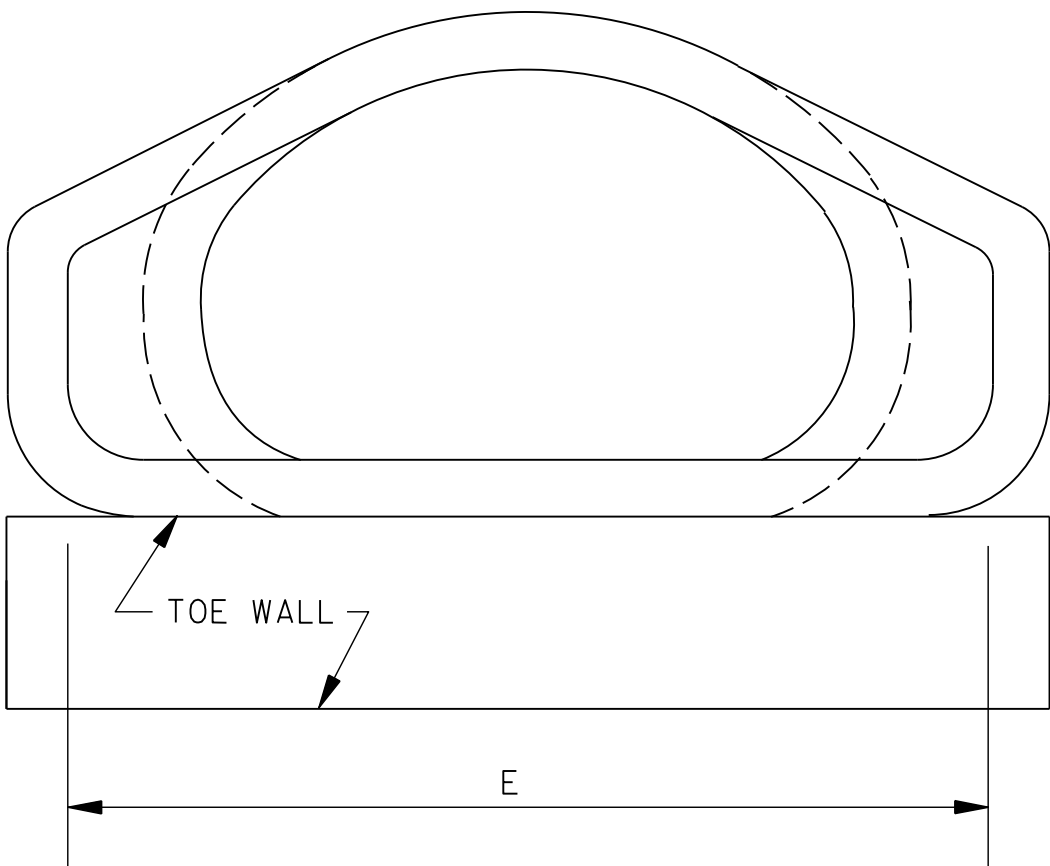
TOE WALL CONC. QUANTITY (yd³)
0.063
0.083
0.102
0.123
0.134
0.145
0.156
0.167
0.207



PLAN OF DOWNSTREAM END



SECTION X-X



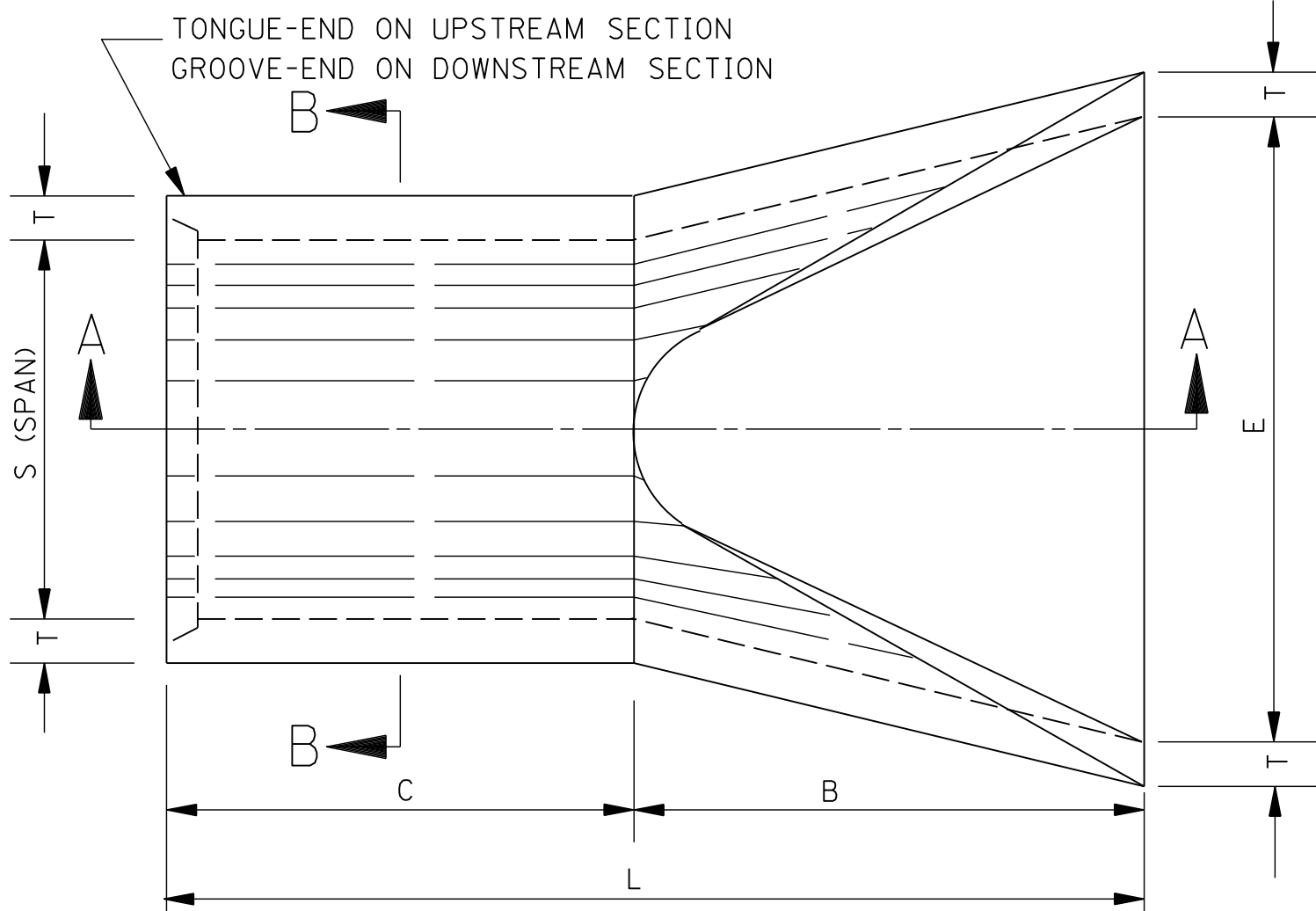
FRONT ELEVATION

BELL AND SPIGOT END OPTION TYPE II

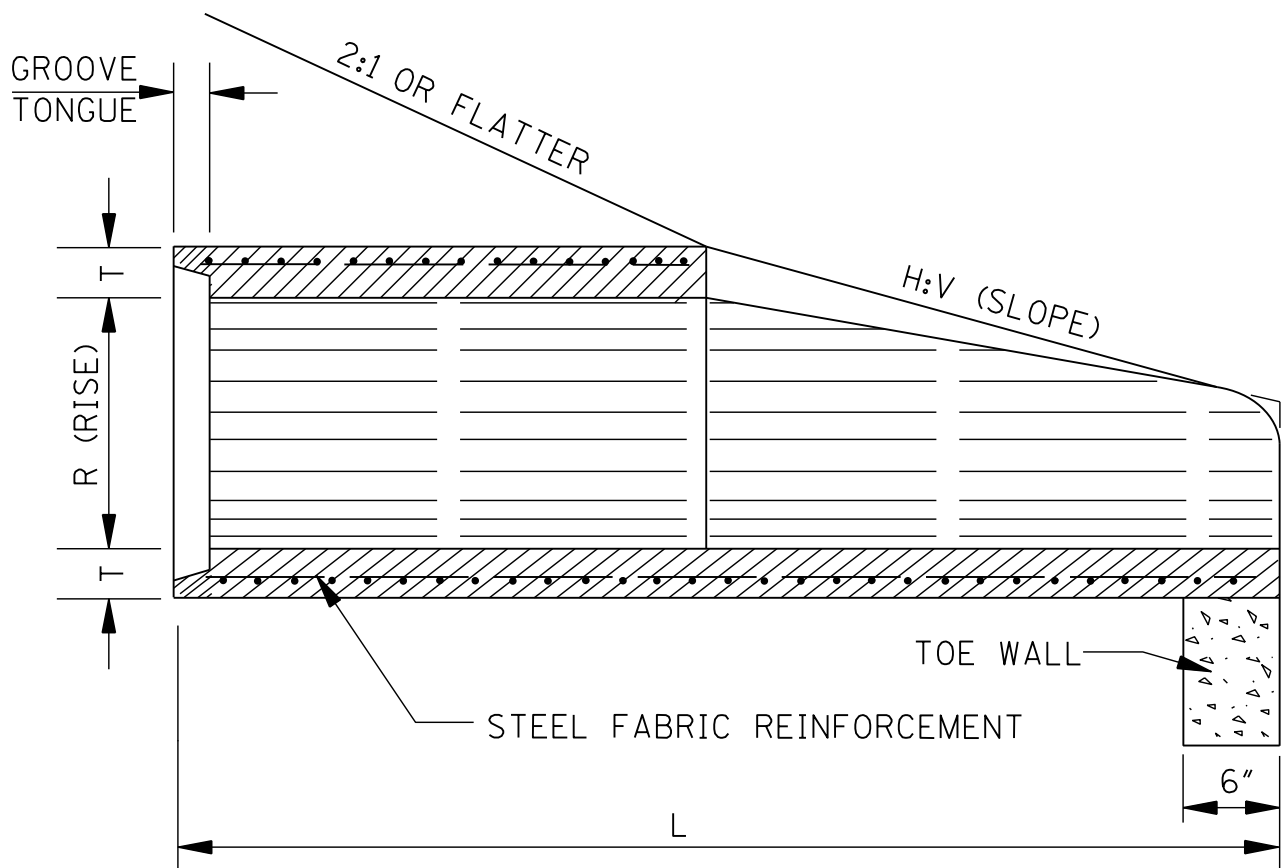
NOTE: BELL-END ON DOWNSTREAM SECTION  
SPIGOT-END ON UPSTREAM SECTION.

FLARED END SECTION FOR CONC. ARCH PIPE-SHORT FLARE										
EQUIV. SIZE	R	S	T	H:V	A	B	C	E	L	GROOVE TONGUE
* 18"	13½"	22"	2½"	3:1	7"	2'-3"	3'-9"	3'-0"	6'-0"	2¼"
24"	18"	28½"	3½"	3.12:1	9"	3'-3"	2'-9½"	4'-0"	6'-0½"	3"
30"	22½"	36¼"	4"	2.94:1	9½"	4'-2"	3'-10½"	5'-0"	8'-0½"	3½"
36"	26⅝"	43¾"	4½"	3.08:1	11⅝"	5'-0"	3'-0½"	6'-0"	8'-0½"	4"
42"	31⅙"	51⅛"	4½"	3.08:1	1'-4⅝"	5'-0"	3'-0½"	6'-6"	8'-0½"	4"
48"	36"	58½"	5"	3.16:1	1'-10"	5'-0"	3'-0½"	7'-0"	8'-0½"	5"
54"	40"	65"	5½"	3.24:1	2'-3"	5'-0"	3'-0⅝"	7'-6"	8'-0⅝"	5"
60"	45"	73"	6"	3.33:1	2'-9"	5'-0"	3'-0⅝"	8'-0"	8'-0⅝"	5"

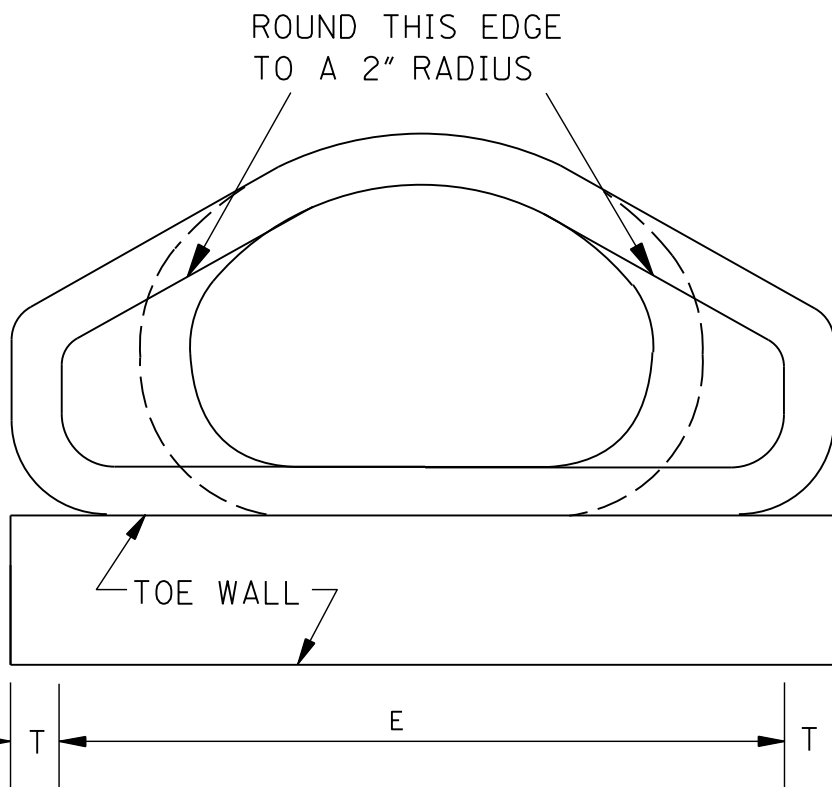
NOTES: \*1. EQUIVALENT 18" FLARED END SECTION SIMILAR TO TYPE I.  
2. DIMENSIONS A, B, C, E AND L MAY VARY 1"±.



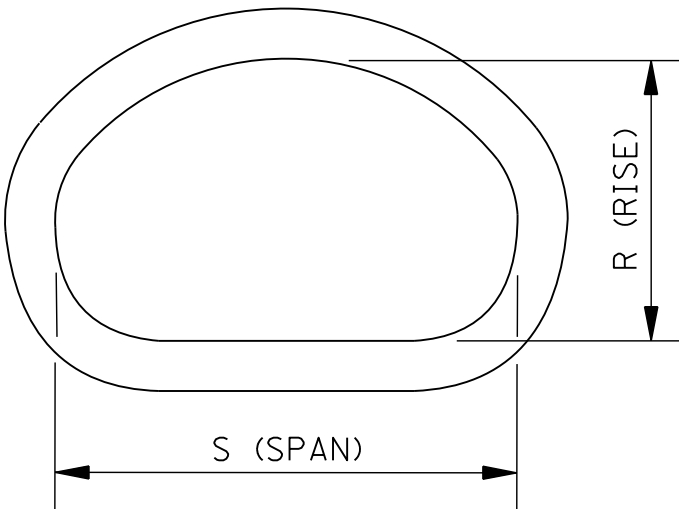
PLAN OF DOWNSTREAM END



SECTION A-A



FRONT ELEVATION



SECTION B-B

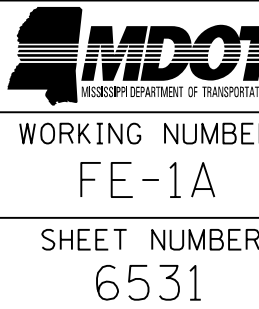
GENERAL NOTES:

- FLARED END SECTIONS SHOULD BE REGARDED AS OBSTACLES UNDER THE BELOW CONDITIONS AND AS SUCH SHOULD BE LOCATED OUTSIDE OF THE CLEAR ZONE.
  - CROSS DRAINS WITH SINGLE ROUND PIPES OF DIAMETER GREATER THAN 36" OR EQUIVALENT FOR ARCH PIPES.
  - CROSS DRAINS WITH MULTIPLE ROUND PIPES OF DIAMETER GREATER THAN 30" OR EQUIVALENT FOR ARCH PIPES.
  - PARALLEL SIDE DRAINS WITH SINGLE ROUND PIPES OF DIAMETER GREATER THAN 24" OR EQUIVALENT FOR ARCH PIPES.
- UNLESS OTHERWISE DESIGNATED, EITHER TYPE I OR TYPE II MAY BE USED, PROVIDED THE SELECTED TYPE IS COMPATIBLE WITH THE CONFIGURATION OF THE PIPE TO WHICH IT SHALL BE ATTACHED.

- ALL SIZES OF TYPE I AND TYPE II FLARED END SECTIONS FOR CONCRETE ARCH PIPE MAY BE FURNISHED WITH EITHER BELL AND SPIGOT OR TONGUE AND GROOVE ENDS.
- REINFORCEMENT (SINGLE LINE) FOR FLARED END SECTION SHALL CONFORM TO REQUIREMENTS OF AASHTO M 206 FOR CLASS II ARCH PIPE.
- TOE WALL REQUIRED ON ALL FLARED END SECTIONS. TO BE PAID FOR AS CLASS "B" STRUCTURAL CONCRETE - MINOR STRUCTURES.
- FLARED END SECTIONS MUST MEET THE REQUIREMENTS FOR ARCH PIPE OF EITHER AASHTO M 206 OR ASTM C 506.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION  
ROADWAY DESIGN DIVISION  
STANDARD PLAN

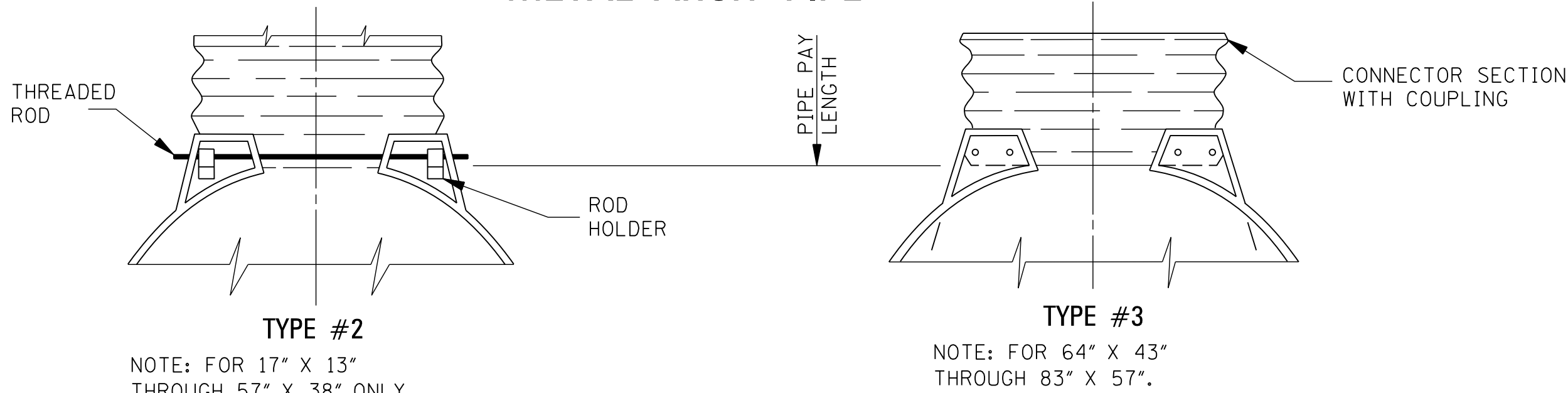
**FLARED END SECTION  
FOR CONCRETE ARCH PIPE**



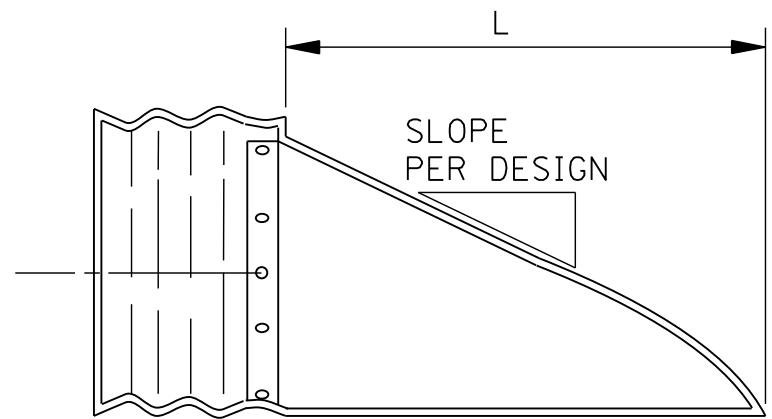
ISSUE DATE: AUGUST 01, 2017



METAL ARCH PIPE

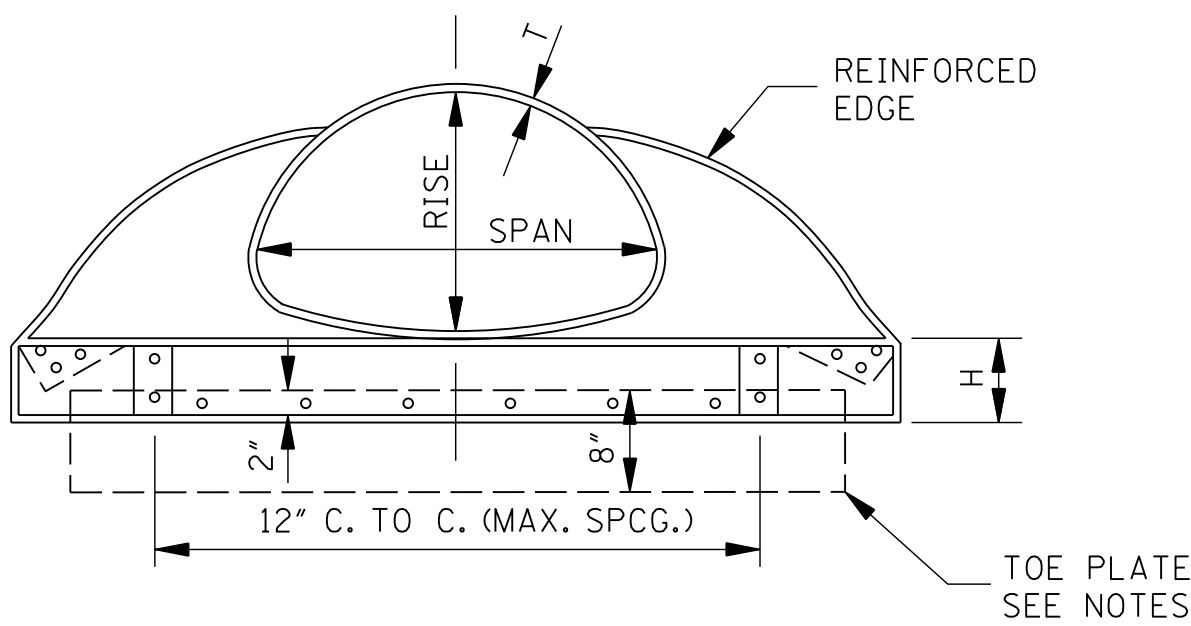


STANDARD CONNECTIONS

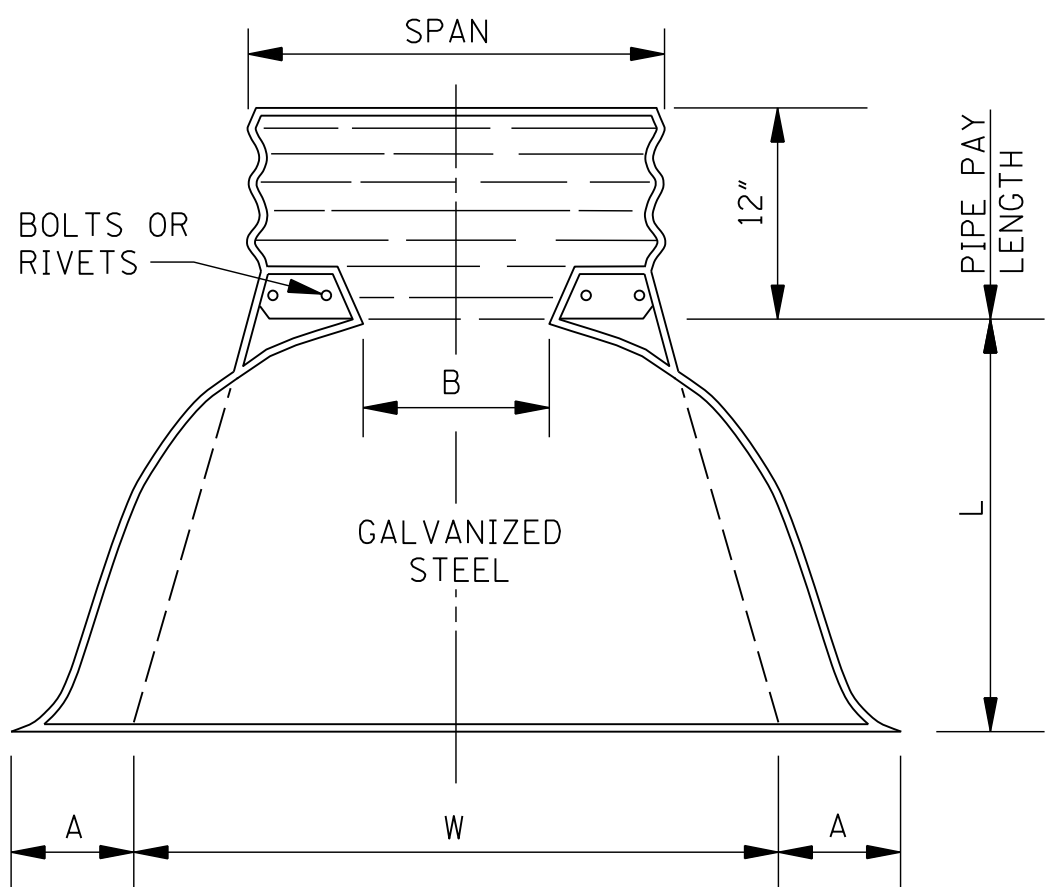


CROSS-SECTION

NOTE: TYPICAL CROSS SECTION WITH #3 CONNECTION.



FRONT  
TYPICAL ELEVATION



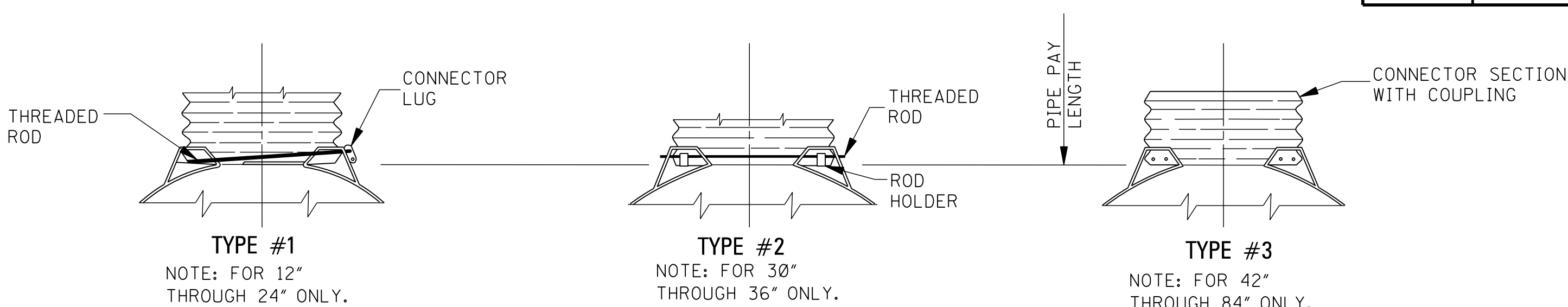
TYPICAL PLAN

DESIGN I									
PIPE ARCH (in)		T GAGE	DIMENSIONS (in)					APPROX. SLOPE	BODY
SPAN	RISE		A±1"	B (MAX.)	H±1"	L±1½"	W±2"		
17"	13"	16	7"	9"	6"	19"	30"	2.50	1 PC.
21"	15"	16	7"	10"	6"	23"	36"	2.50	1 PC.
24"	18"	16	8"	12"	6"	28"	42"	2.50	1 PC.
28"	20"	16	9"	14"	6"	32"	48"	2.50	1 PC.
35"	24"	14	10"	16"	6"	39"	60"	2.50	1 PC.
42"	29"	14	12"	18"	8"	46"	75"	2.50	1 PC.
49"	33"	12	13"	21"	9"	53"	85"	2.50	2 PC.
57"	38"	12	18"	26"	12"	63"	90"	2.50	2 PC.
64"	43"	12	18"	30"	12"	70"	102"	2.25	2 PC.
71"	47"	12 *	18"	33"	12"	77"	114"	2.25	3 PC.
77"	52"	12 *	18"	36"	12"	77"	126"	2.00	3 PC.
83"	57"	12 *	18"	39"	12"	77"	138"	2.00	3 PC.

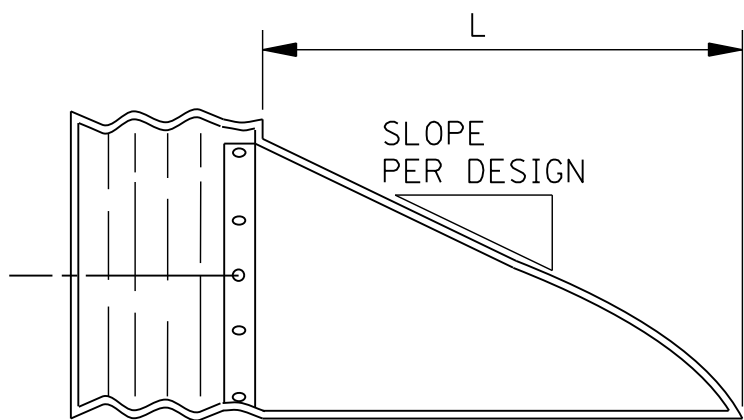
\* NOTE: CENTER PANEL TO BE 10 GAGE.

DESIGN II									
PIPE ARCH (in)		T GAGE	DIMENSIONS (in)					APPROX. SLOPE	
SPAN	RISE		A±1"	B(MAX.)	H±1"	L±1½"	W±2"		
17"	13"	16	4½"	9"	6"	19"	30"	2.50	
21"	15"	16	5¼"	10"	6"	23"	36"	2.50	
24"	18"	16	6¼"	11½"	6"	28"	42"	2.50	
28"	20"	16	7"	14"	6"	31½"	48"	2.50	
35"	24"	14	8¾"	16"	6"	38½"	60"	2.50	
42"	29"	14	10¾"	17½"	7⅝"	47"	75"	2.50	
49"	33"	12	12¼"	20"	9⅞"	54"	85"	2.50	
57"	38"	12	14"	26"	10⅞"	63"	96"	2.50	
64"	43"	12	15¾"	27"	10⅝"	70"	112"	2.50	
71"	47"	12	17¼"	28"	12⅛"	77"	128"	2.50	

METAL PIPE

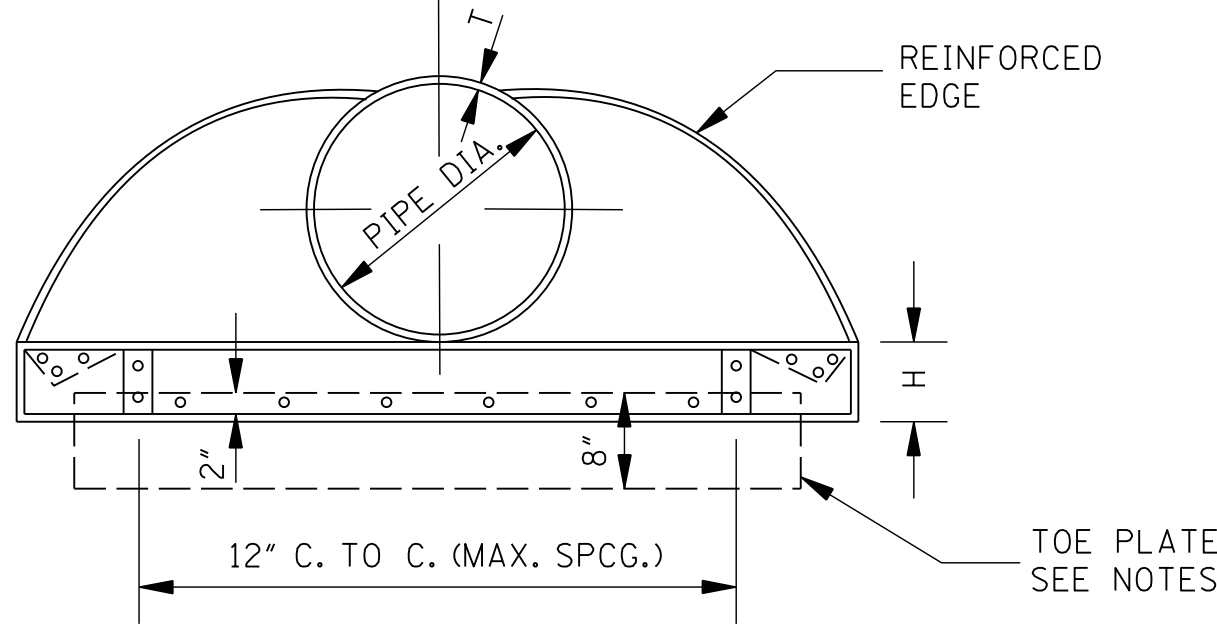


STANDARD CONNECTIONS

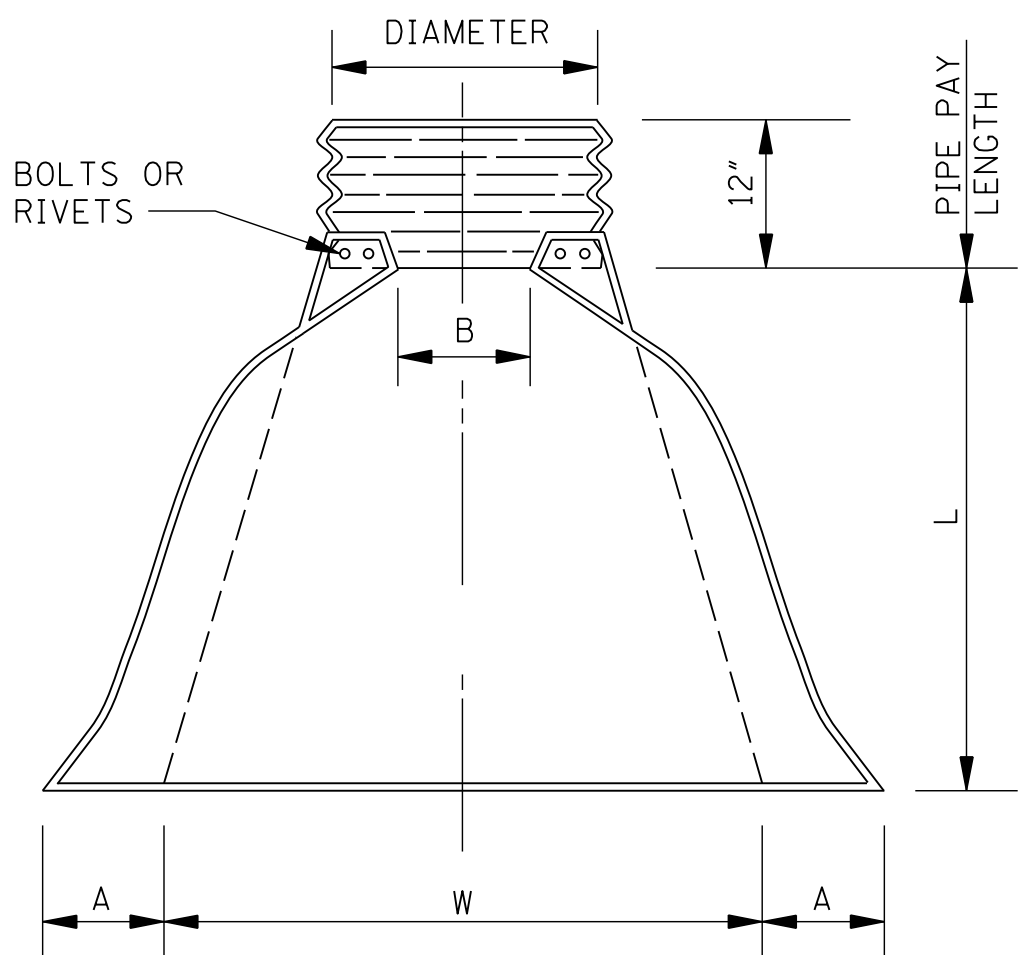


CROSS-SECTION

NOTE: TYPICAL CROSS SECTION WITH #3 CONNECTION.



FRONT  
TYPICAL ELEVATION



TYPICAL PLAN

DESIGN I									
PIPE DIA. (in)	T GAGE	DIMENSIONS (in)					APPROX. SLOPE	BODY	
		A±1"	B (MAX.)	H±1"	L±1½"	W±2"			
12"	16	6"	6"	6"	21"	24"	2.50	1 PC.	
15"	16	7"	8"	6"	26"	30"	2.50	1 PC.	
18"	16	8"	10"	6"	31"	36"	2.50	1 PC.	
21"	16	9"	12"	6"	36"	42"	2.50	1 PC.	
24"	16	10"	13"	6"	41"	48"	2.50	1 PC.	
30"	14	12"	16"	8"	51"	60"	2.50	1 PC.	
36"	14	14"	19"	9"	60"	72"	2.50	2 PC.	
42"	12	16"	22"	11"	69"	84"	2.50	2 PC.	
48"	12	18"	27"	12"	78"	90"	2.25	2 PC.	
54"	12	18"	30"	12"	84"	102"	2.00	2 PC.	
60"	12 *	18"	33"	12"	87"	114"	1.75	3 PC.	
66"	12 *	18"	36"	12"	87"	120"	1.50	3 PC.	
72"	12 *	18"	39"	12"	87"	126"	1.33	3 PC.	
78"	12 *	18"	42"	12"	87"	132"	1.25	3 PC.	
84"	12 *	18"	45"	12"	87"	138"	1.17	3 PC.	

\* NOTE: CENTER PANEL TO BE 10 GAGE.

DESIGN II									
PIPE DIA. (in)	T GAGE	DIMENSIONS (in)					APPROX. SLOPE		
		A±1"	B(MAX.)	H±1"	L±1½"	W±2"			
12"	16	4¾"	6"	6"	21"	24"	2.50		
15"	16	6"	8"	6"	26"	30"	2.50		
18"	16	7"	9"	6"	31"	36"	2.50		
21"	16	8¼"	11"	6"	36"	42"	2.50		
24"	16	9½"	12"	6"	42"	48"	2.50		
30"	14	12"	15"	7½"	52½"	60"	2.50		
36"	14	14"	18"	9"	63"	72"	2.50		
42"	12	16"	21"	10½"	73½"	84"	2.50		
48"	12	18"	27"	12"	84"	90"	2.50		

GENERAL NOTES:

- FLARED END SECTIONS SHOULD BE REGARDED AS OBSTACLES UNDER THE BELOW CONDITIONS AND AS SUCH SHOULD BE LOCATED OUTSIDE OF THE CLEAR ZONE.
  - CROSS DRAINS WITH SINGLE ROUND PIPES OF DIAMETER GREATER THAN 36" OR EQUIVALENT FOR ARCH PIPES.
  - CROSS DRAINS WITH MULTIPLE ROUND PIPES OF DIAMETER GREATER THAN 30" OR EQUIVALENT FOR ARCH PIPES.
  - PARALLEL SIDE DRAINS WITH SINGLE ROUND PIPES OF DIAMETER GREATER THAN 24" OR EQUIVALENT FOR ARCH PIPES.

- ILLUSTRATION SHOWN FOR PIPE OR PIPE-ARCH END SECTION ARE DIAGRAMMATIC. END SECTIONS SHALL CONFORM TO DESIGN I, DESIGN II OR OTHER APPROVED DESIGN.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION  
ROADWAY DESIGN DIVISION  
STANDARD PLAN

**FLARED END SECTION  
FOR METAL PIPE  
& ARCH PIPE**

ISSUE DATE: AUGUST 01, 2017



1. QUANTITIES SHOWN WILL BE THE BASIS FOR PAYMENT UNLESS AUTHORIZED MODIFICATIONS ARE MADE.
2. TYPE I UNDERDRAIN IS GENERALLY USED WHEN UNDERDRAIN IS REQUIRED UNDER THE ROADWAY SUBGRADE.
3. TYPE II UNDERDRAIN IS USED AS REQUIRED OUTSIDE THE ROADWAY.
4. 6" OVERLAP SHALL BE REQUIRED AT THE END OF EACH ROLL OF TYPE III GEOTEXTILE. BOTH THE 6" AND 12" OVERLAP SHALL BE INCLUDED FOR PAYMENT UNDER GEOTEXTILE FOR SUBSURFACE DRAINAGE, TYPE III, PER SQUARE YARD).
5. (J + K) SHALL BE 12" MINIMUM OR VARIABLE DEPTH UNLESS SPECIFIED ELSEWHERE ON THE PLANS.

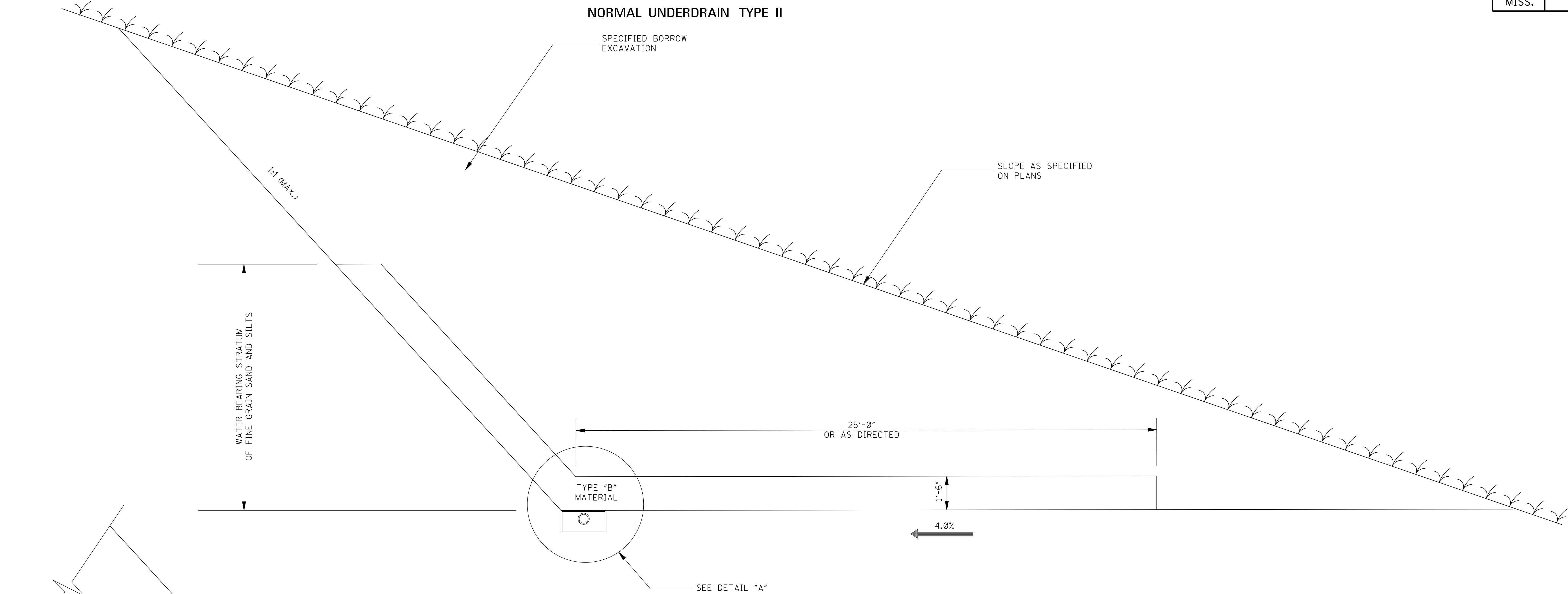
PIPE SIZE	T	K	TYPE "A" MATERIAL (yd <sup>3</sup> /ft)	TYPE "B" MATERIAL* (yd <sup>3</sup> /ft/ft)	TYPE III GEOTEXTILE (yd <sup>2</sup> /ft)	IMPERVIOUS MATERIAL (yd <sup>3</sup> /ft)
6"	--	--	0.0638	0.0694	0.7593	0.0694
18"	2½"	4"	0.099	0.130	1.193	--
24"	3"	2"	0.100	0.148	1.334	--
30"	3½"	2"	0.124	0.167	1.513	--
36"	4"	2"	0.149	0.185	1.691	--
42"	4½"	2"	0.176	0.204	1.869	--
48"	5"	2"	0.204	0.222	2.048	--
54"	5½"	2"	0.233	0.241	2.226	--
60"	6"	2"	0.264	0.259	2.404	--
66"	6½"	2"	0.296	0.278	2.583	--
72"	7"	2"	0.330	0.296	2.761	--
84"	8"	2"	0.401	0.333	3.118	--
96"	9"	2"	0.477	0.370	3.474	--

\*NOTE:  $\text{yd}^3/\text{ft}/\text{ft}$  = CUBIC YARD PER FOOT  
DEPTH OF MATERIAL PER FOOT LENGTH OF PIPE.

PIPE SIZE	T	K	TYPE "A" MATERIAL (yd <sup>3</sup> /ft)	TYPE "B" MATERIAL* (yd <sup>3</sup> /ft/ft)	TYPE III GEOTEXTILE (yd <sup>2</sup> /ft)
22" X 13"	2½"	5"	0.109	0.142	1.231
29" X 18"	3"	2.92"	0.113	0.162	1.383
36" X 23"	3½"	2"	0.124	0.186	1.537
44" X 27"	4"	2"	0.154	0.209	1.734
51" X 31"	4½"	2"	0.184	0.232	1.913
58" X 36"	5"	2"	0.217	0.255	2.098
65" X 40"	5½"	2"	0.248	0.275	2.158
73" X 45"	6"	2"	0.289	0.299	2.471
88" X 54"	7"	2"	0.374	0.346	2.849

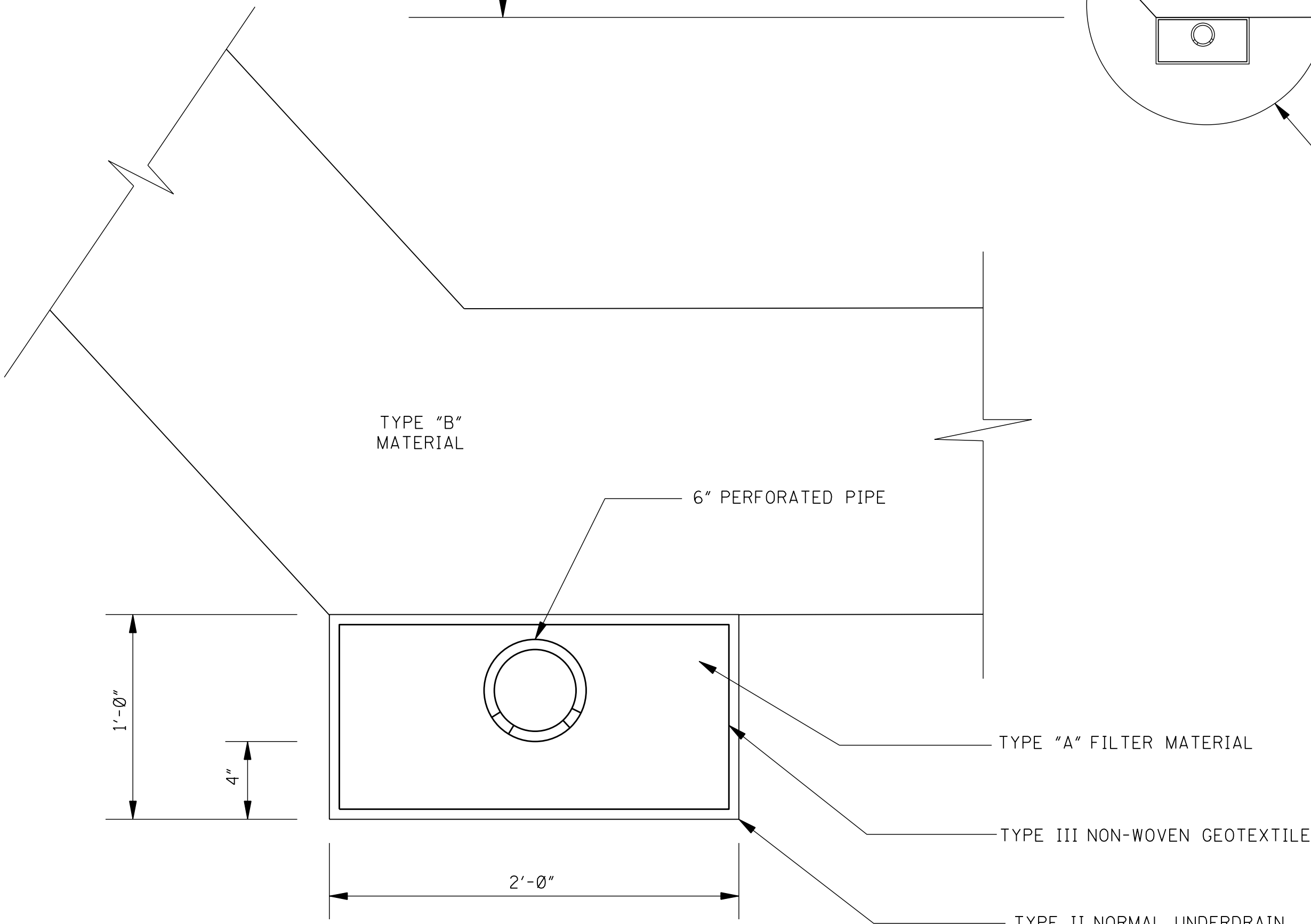
\*NOTE:  $\text{yd}^3/\text{ft}/\text{ft}$  = CUBIC YARD PER FOOT  
DEPTH OF MATERIAL PER FOOT LENGTH OF PIPE.

				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<p align="center"><b><i>DETAILS OF NORMAL UNDERDRAIN AND STORM DRAIN USED AS UNDERDRAIN</i></b></p>
				DATE	<div>  <p>MISSISSIPPI DEPARTMENT OF TRANSPORTATION</p> <p>WORKING NUMBER UD-1</p> <p>SHEET NUMBER 6533</p> </div>
ISSUE DATE: _____					AUGUST 01, 2017



GENERAL NOTE:

1. SEE SHEET UD-1 FOR OTHER DETAILS AND RATES.



				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	<b>NORMAL UNDERDRAIN TYPE II</b>
				DATE	ISSUE DATE: AUGUST 01, 2017
					WORKING NUMBER UD-2 SHEET NUMBER 6534

HOLE OPENING									
ROUND RCP		OPENING			ARCH RCP		OPENING		
		INCHES		CONCRETE DEDUCTION PER OPENING (C.Y.)			INCHES		CONCRETE DEDUCTION PER OPENING (C.Y.)
SIZE	T	HO	OP		SIZE	T	HO	OP	
12	2.00	20	4.0	0.017	-	-	-	-	-
15	2.25	24	4.5	0.032	18X11	2.25	25.5X18.5	1.5	0.015
18	2.50	26	4.0	0.045	22X13	2.50	30X21	1.5	0.045
21	2.75	28	3.5	0.060	-	-	-	-	-
24	3.00	32	4.0	0.076	29X18	3.00	38X27	1.5	0.073
27	3.25	40	6.5	0.095	-	-	-	-	-
30	3.50	40	5.0	0.116	36X23	3.50	46X33	1.5	0.108

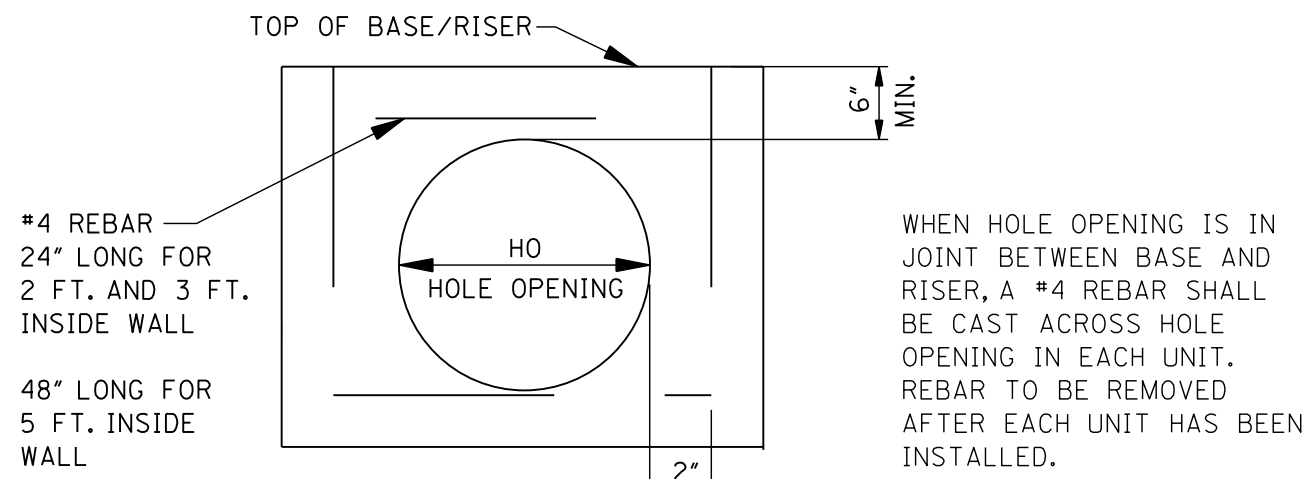
•BASED ON 5" WALL THICKNESS; FOR 3½" WALL, MULTIPLY BY 0.694

MINIMUM PIPE DEPTH TOP OF COVER TO PIPE INVERT			
ROUND RCP SIZE	DEPTH (INCHES)	ARCH RCP SIZE	DEPTH (INCHES)
12	27.0	-	-
15	30.5	18X11	23.5
18	33.0	22X13	25.5
21	35.5	-	-
24	40.0	29X18	30.5
27	44.5	-	-
30	46.0	36X23	35.5

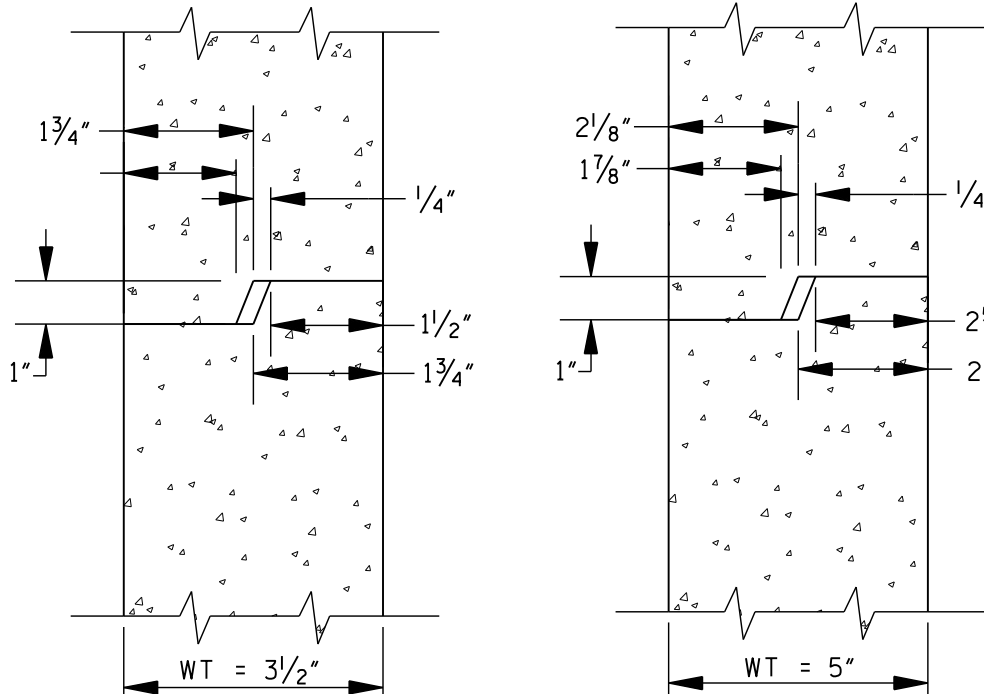
MAXIMUM PIPE SIZE				
INLET OR JUNCTION BOX	ROUND RCP		ARCH RCP	
	1W SIDE	1L SIDE	1W SIDE	1L SIDE
2X2	12	18	NONE	18X11
2X3	12	24	NONE	22X13
3X5	24	30	22X13	36X23

CONCRETE QUANTITIES			
INLET OR JUNCTION BOX	BOTTOM C.Y.	RISER C.Y./FT	COVER C.Y.
2X2	0.074	0.099	0.123
2X3	0.111	0.181	0.201
3X5	0.279	0.275	0.266

NOTE: CONCRETE CUBIC YARDS PER INLET/JUNCTION BOX = BOTTOM + (TOTAL RISER HEIGHT (FT) X C.Y./FT) + (COVER - GRATE OPENING) - ANY HOLE OPENINGS

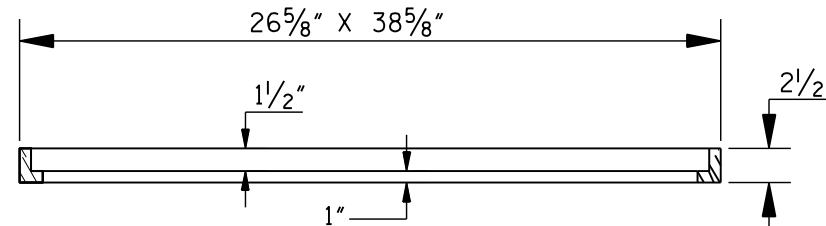
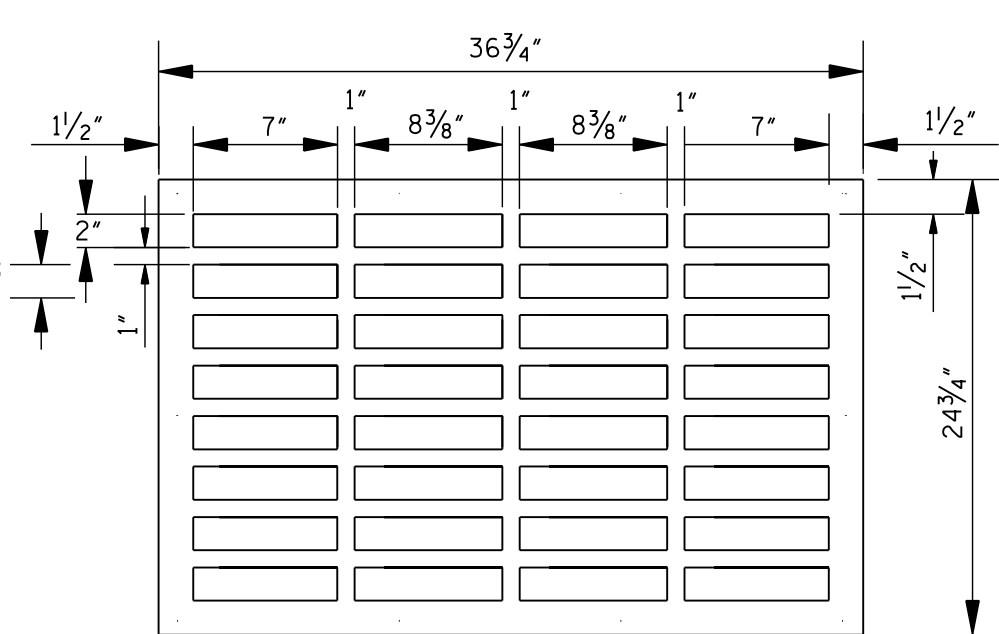


DETAIL FOR HOLE OPENING



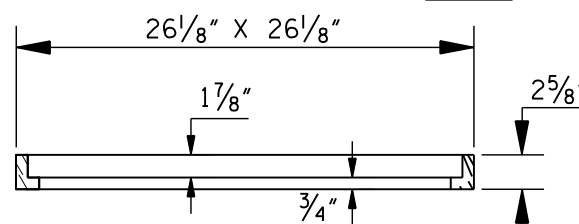
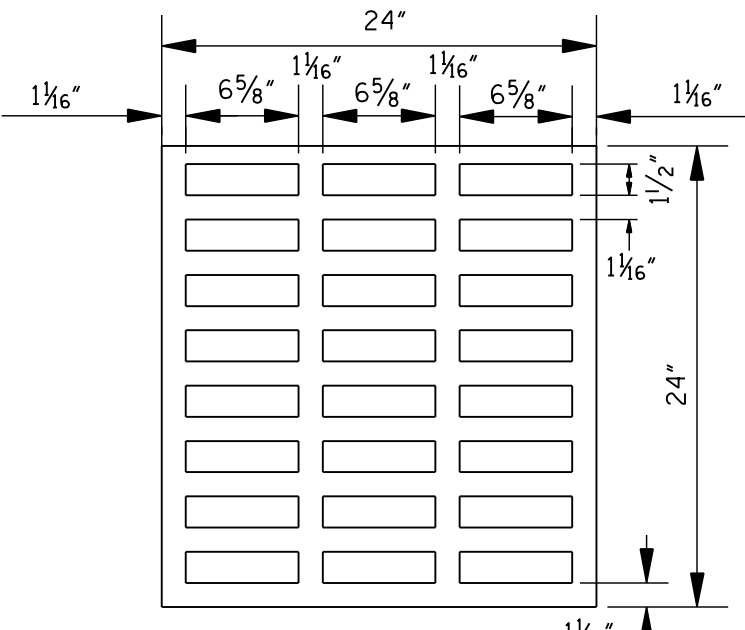
2 X 2  
JOINT DETAIL

2 X 3 & 3 X 5  
JOINT DETAIL



2'X3' FRAME AND GRATE  
VULCAN V-4873  
HEAVY DUTY LOAD RATING  
WEIGHT: 340 LBS.  
OPEN AREA: 453 SQ. IN.

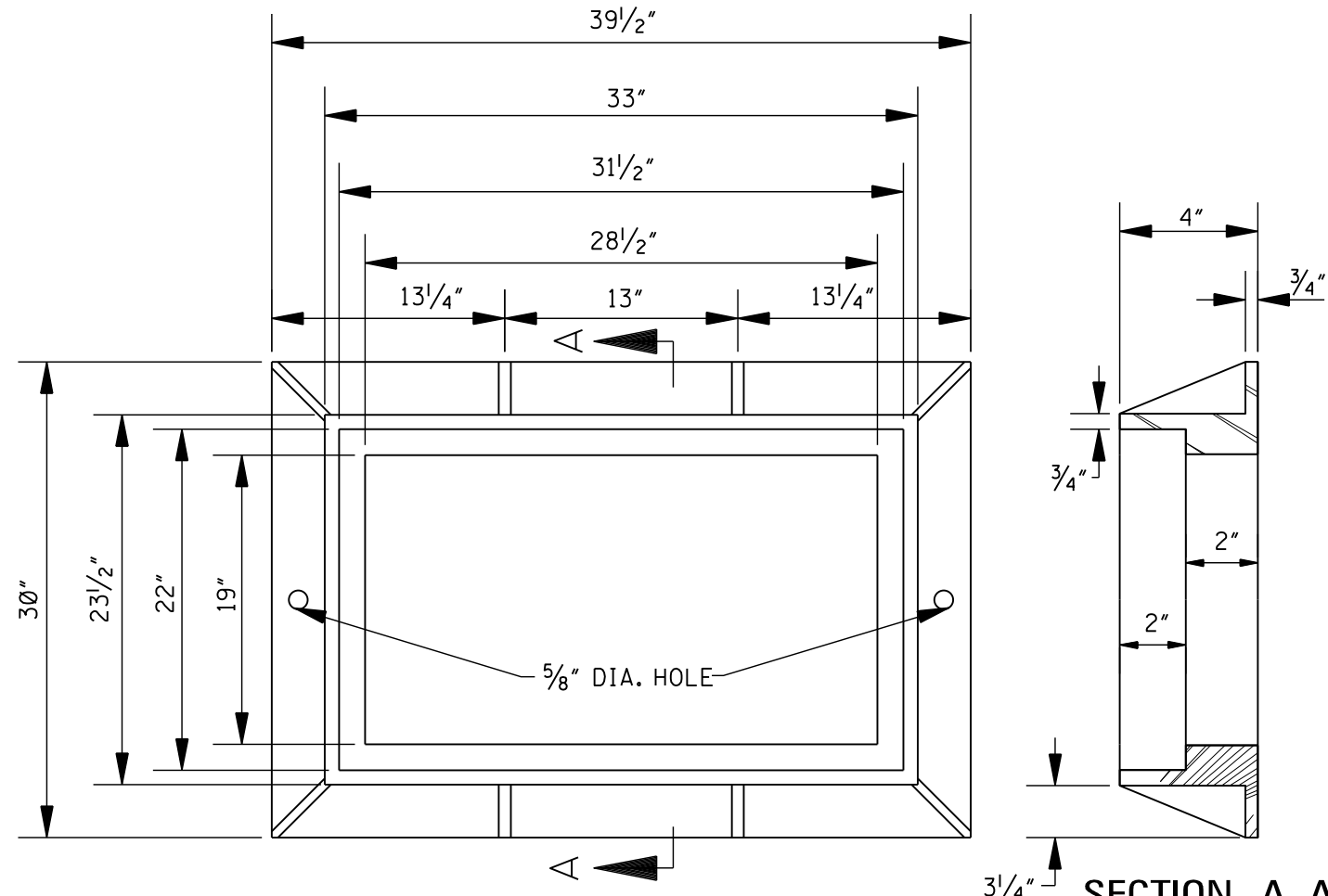
CONCRETE DEDUCT FOR  
GRATE OPENING: 1.32 C.Y.



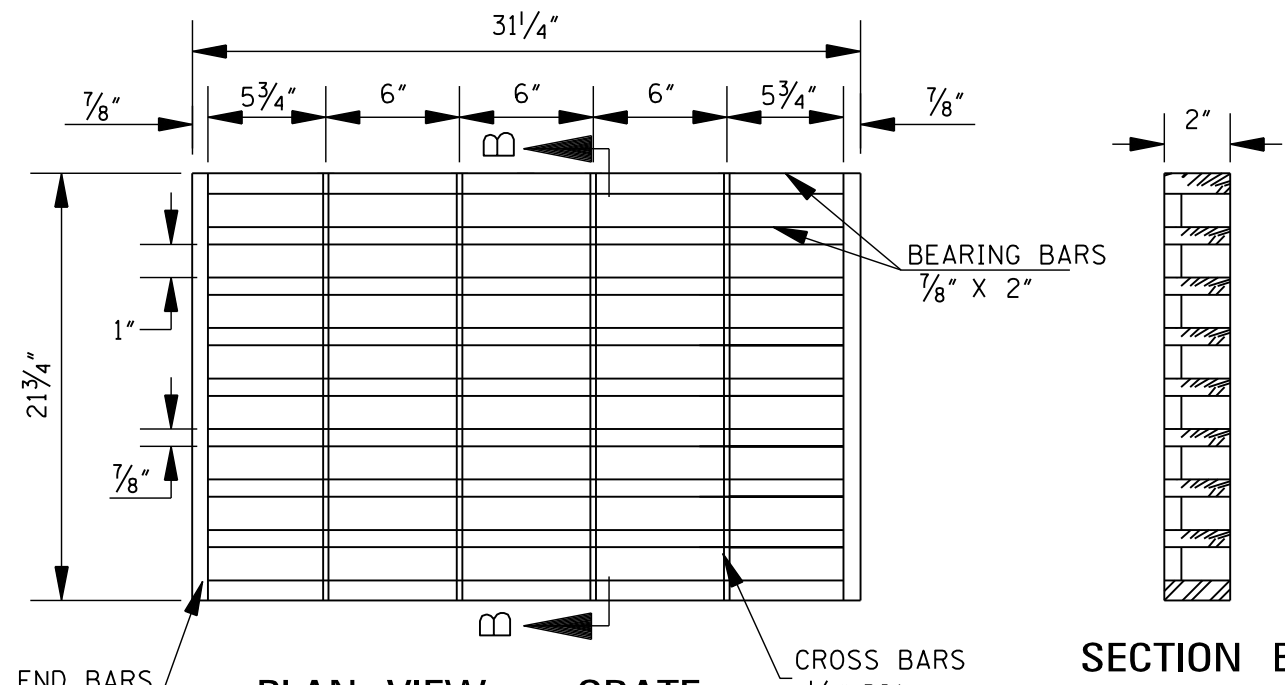
2'X2' FRAME AND GRATE  
VULCAN V-5724-3  
HEAVY DUTY LOAD RATING  
WEIGHT: 212 LBS.  
OPEN AREA: 268 SQ. IN.

CONCRETE DEDUCT FOR  
GRATE OPENING: 0.88 C.Y.

GRATE DETAILS



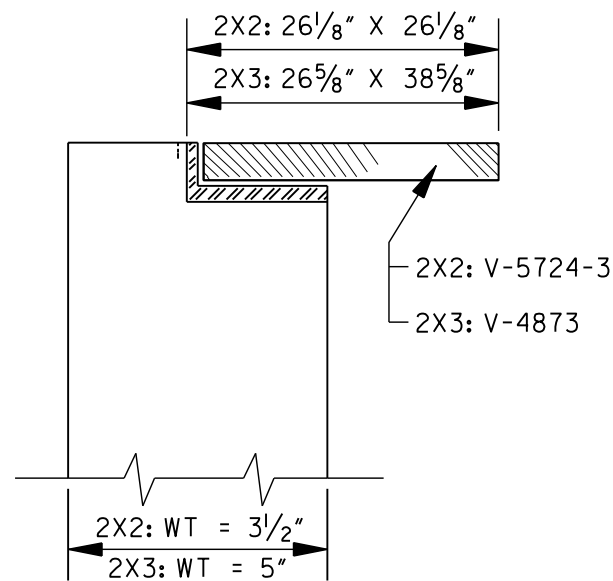
PLAN VIEW – FRAME  
CAST IRON



PLAN VIEW – GRATE  
ASTM A588 STEEL

MDOT SS-3 GRATE  
HEAVY DUTY LOAD RATING  
FRAME WEIGHT: 244 LBS.  
GRATE WEIGHT: 200 LBS  
OPEN AREA: 324.5 SQ. IN.

CONCRETE DEDUCT FOR  
GRATE OPENING: 0.070 C.Y.



2 X 2 & 2 X 3 DROP INLET  
WALL DETAIL WHEN FRAME  
AND GRATE IS USED  
WITHOUT COVER

GENERAL DATA									
	WALL THICKNESS WT	INSIDE DIMENSION		OUTSIDE DIMENSION		BASE HEIGHT B	RISER HEIGHT R	WEIGHTS	
		1W	1L	OW	OL			BOTTOM	BASE / RISER COVER
FEET	INCHES	INCHES		INCHES		3" INCREMENTS		LB	LB/FT
2 X 2	3½	24	24	31	31	24 - 54	18 - 48	300	401
2 X 3	5	24	36	34	46	24 - 54	18 - 48	450	735
3 X 5	5	36	60	46	70	24 - 54	18 - 48	1125	1114

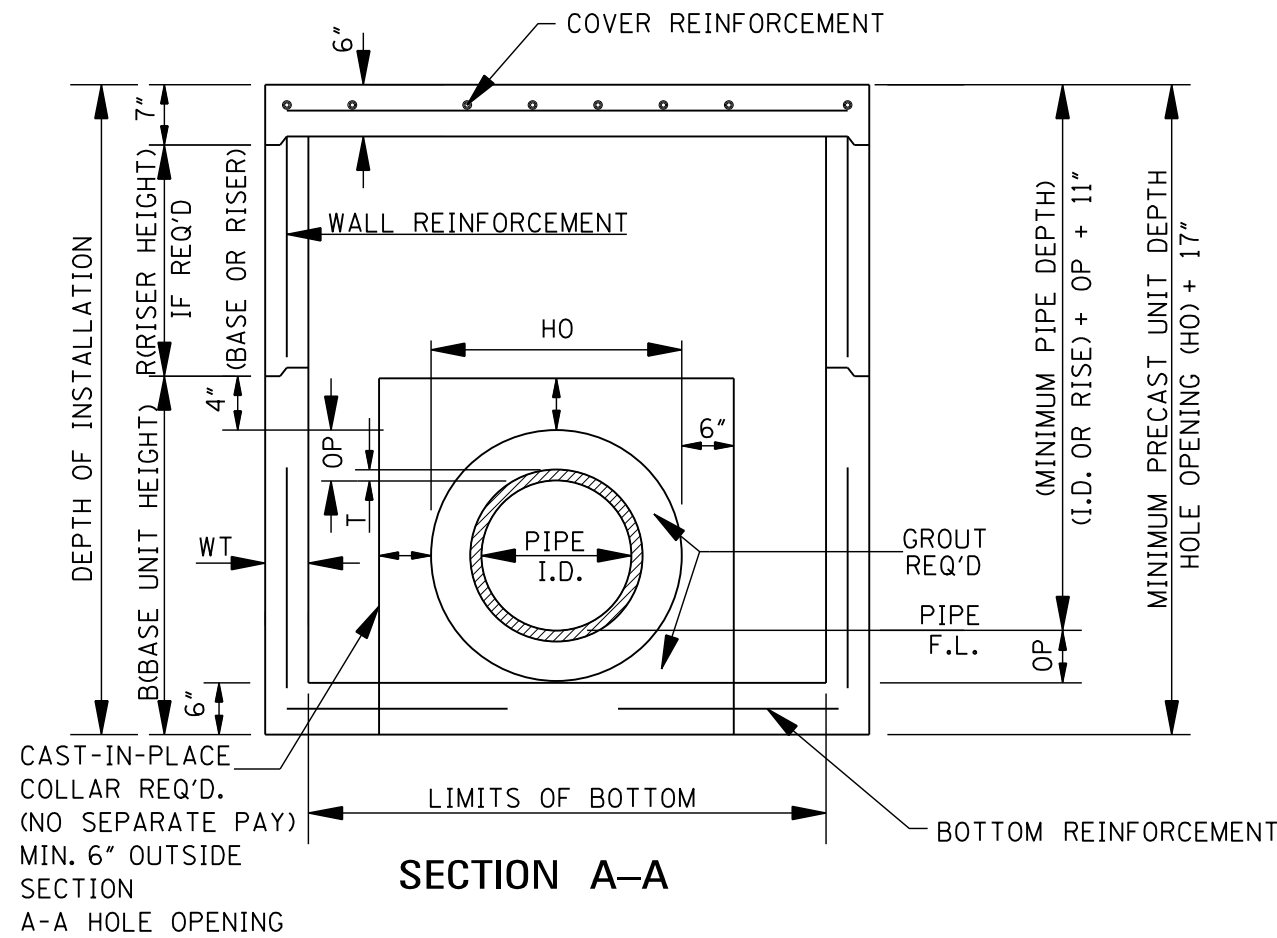
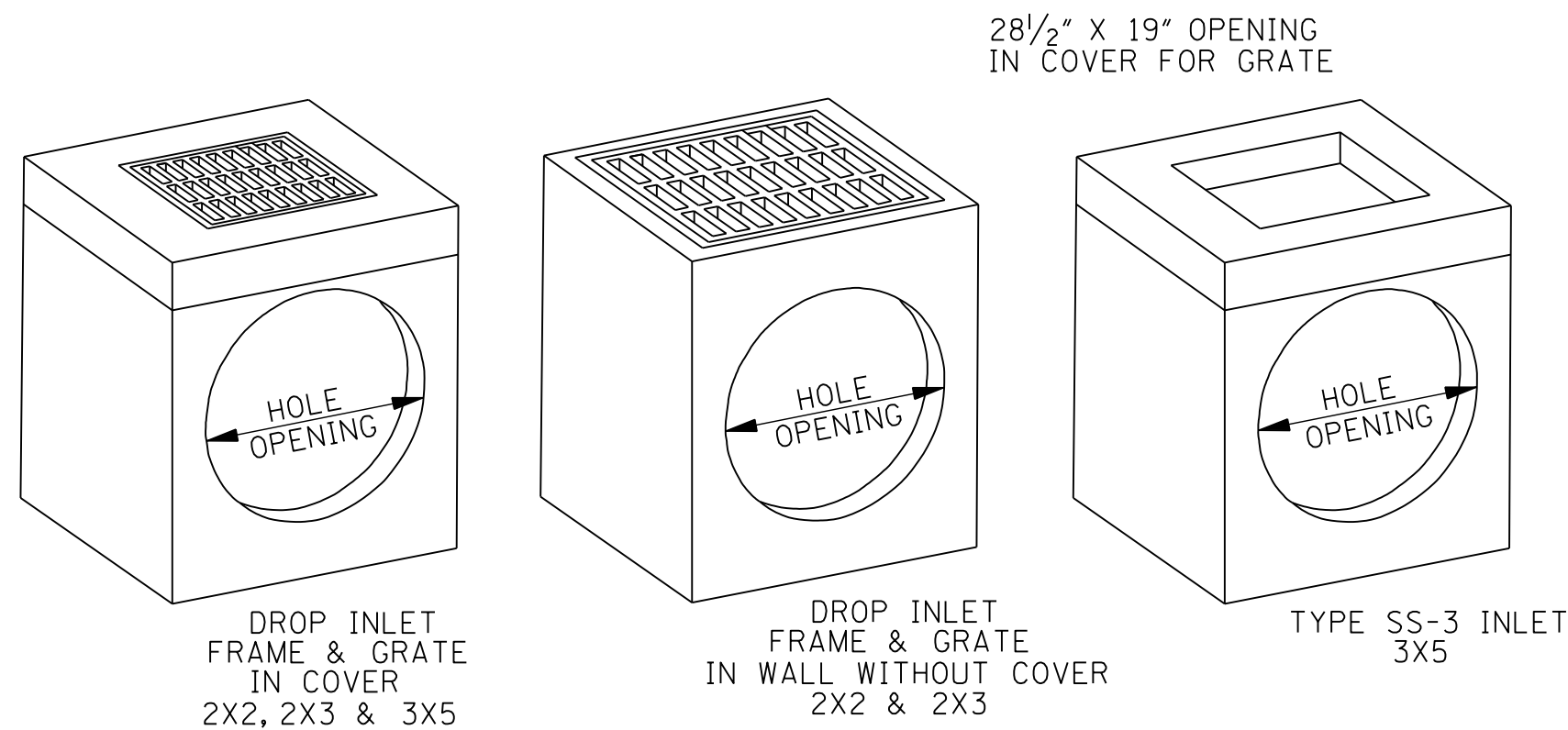
2' X 2' WALL REINFORCEMENT (SQ. IN. PER LIN. FT.)											
DEPTH OF INSTALLATION FT	BASE		TOP RISER		INTERIOR RISER #1		INTERIOR RISER #2		INTERIOR RISER #3		INTERIOR RISER #4
	AREA	LB/FT	AREA	LB/FT	AREA	LB/FT	AREA	LB/FT	AREA	LB/FT	AREA
0 - 4	0.07	3.942	-	-	-	-	-	-	-	-	-
0 - 8	0.13	5.862	0.07	3.942	-	-	-	-	-	-	-
0 - 12	0.20	7.786	0.07	3.942	0.13	5.862	-	-	-	-	-

2' X 3' WALL REINFORCEMENT (SQ. IN. PER LIN. FT.)											
DEPTH OF INSTALLATION FT	BASE		TOP RISER		INTERIOR RISER #1		INTERIOR RISER #2		INTERIOR RISER #3		INTERIOR RISER #4
	AREA	LB/FT	AREA	LB/FT	AREA	LB/FT	AREA	LB/FT	AREA	LB/FT	AREA
0 - 4	0.10	5.840	-	-	-	-	-	-	-	-	-
0 - 8	0.20	9.928	0.10	5.840	-	-	-	-	-	-	-
0 - 12	0.25	5.545	0.10	5.840	0.20	9.928	-	-	-	-	-

3' X 5' WALL REINFORCEMENT (SQ. IN. PER LIN. FT.)											
DEPTH OF INSTALLATION FT	BASE		TOP RISER		INTERIOR RISER #1		INTERIOR RISER #2		INTERIOR RISER #3		INTERIOR RISER #4
	AREA	LB/FT	AREA	LB/FT	AREA	LB/FT	AREA	LB/FT	AREA	LB/FT	AREA
0 - 8	0.30	21.039	0.24	17.3264	-	-	-	-	-	-	-
0 - 12	0.74	53.570	0.24	17.3264	0.60	43.316	-	-	-	-	-
0 - 16	0.88	61.526	0.24	17.3264	0.60	43.316	0.74	53.570	-	-	-
0 - 20	1.14	78.146	0.24	17.3264	0.60	43.316	0.74	53.570	1.02	70.013	-
0 - 24	1.44	98.654	0.24	17.3264	0.60	43.316	0.74	53.570	1.02	70.013	1.20

COVER / BOTTOM REINFORCEMENT				
INLET OR JUNCTION BOX	COVER	LBS. OF STEEL	BOTTOM	LBS. OF STEEL
2 X 2	#4 @ 9" EW	12.247	WWF-W6.0 X W6.0 - 3 X 3	10.559
2 X 3	#4 @ 9" EW	17.869	WWF-W6.0 X W6.0 - 3 X 3	16.602
3 X 5	#4 @ 9" EW	36.741	WWF-W6.0 X W6.0 - 3 X 3	37.208

NOTE: REINFORCEMENT STEEL (LBS PER INLET/JUNCTION BOX) = BOTTOM + TOTAL FOR EACH RISER (TOP PLUS ANY INTERIOR RISERS) (BASE HEIGHT + TOTAL HEIGHT OF RISERS) + COVER; HOLE AND GRATE OPENINGS NOT DEDUCTED



SECTION A-A

GENERAL NOTES:

- CONCRETE SHALL HAVE COMPRESSIVE STRENGTH OF 4000 PSI MINIMUM AT 28 DAYS.
- REINFORCING FOR BOTTOM AND WALLS SHALL BE WELDED WIRE FABRIC, ASTM A-185, AND OF THE AREA AS SHOWN IN THE TABLE.
- REINFORCING FOR COVER SHALL BE ASTM A615/A, AND OF THE SIZE AS SHOWN IN THE TABLE AND DRAWINGS.
- JOINT TO BE SEALED WITH FLEXIBLE PLASTIC GASKET FOR JOINT CONDUIT, AASHTO SPECIFICATION M-198 OR MDOT SPECIFICATION.
- 2½" LIFTING HOLES TO BE LOCATED ON EACH SIDE OF BOX SECTIONS FOR HANDLING.
- GROUT FOR JOINING PIPE TO PRECAST UNITS WILL BE A COMMERCIAL MASONRY GROUT MEETING MDOT SPECIFICATIONS.
- WHEN INTERIOR RISER UNITS ARE REQUIRED, UNITS SHALL BE MARKED TO IDENTIFY EACH UNIT.
- CONCRETE & REINFORCING STEEL FOR PRECAST INLETS AND JUNCTION BOXES SHALL BE PAID FOR AS THE CALCULATED QUANTITY SHOWN ON THE RECAP SHEET FOR CAST-IN-PLACE INLETS & JUNCTION BOXES.

BY	REVISION	DATE	ISSUE DATE:	AUGUST 01, 2017

MISSISSIPPI DEPARTMENT OF TRANSPORTATION  
ROADWAY DESIGN DIVISION  
STANDARD PLAN

PRECAST UNITS  
(JUNCTION BOX, SS-3 INLET, &  
DROP INLET) (30" CONC. ROUND  
PIPE & UNDER) (36"X23" CONC.  
ARCH PIPE & UNDER)

MDOT  
WORKING NUMBER  
PCU-1  
SHEET NUMBER  
6535



GENERAL DATA											
	WALL THICKNESS	INSIDE DIMENSION		OUTSIDE DIMENSION		BASE HEIGHT	RISER HEIGHT	WEIGHTS			
	WT	IW	IL	OW	OL	B	R	BOTTOM	BASE / RISER	INLET TOP	EXTENSION TOP
FEET	INCHES	INCHES		INCHES		3" INCREMENTS		LB	LB/FT	LB	LB
3 X 5	5	36	60	46	70	24 - 54	18 - 48	1125	1114	1880	1865
										1070	

3' X 5' WALL REINFORCEMENT (SQ. IN. PER LIN. FT.)											
DEPTH OF INSTALLATION	BASE		TOP RISER		INTERIOR RISER #1		INTERIOR RISER #2		INTERIOR RISER #3		INTERIOR RISER #4
	AREA	LB/FT	AREA	LB/FT	AREA	LB/FT	AREA	LB/FT	AREA	LB/FT	AREA
0 - 8	0.30	36.969	0.24	29.575	-	-	-	-	-	-	-
0 - 12	0.60	78.867	0.24	29.575	0.60	78.867	-	-	-	-	-
0 - 16	0.88	110.005	0.24	29.575	0.60	78.867	0.74	95.338	-	-	-
0 - 20	1.18	139.340	0.24	29.575	0.60	78.867	0.74	95.338	1.06	124.672	-
0 - 24	1.44	176.008	0.24	29.575	0.60	78.867	0.74	95.338	1.06	124.672	1.20
											146.673

CONCRETE QUANTITIES				
SS-2 INLET SIZE	BOTTOM C.Y.	RISER C.Y./FT	TOP C.Y.	EXTENSION C.Y.
3 X 5	0.279	0.275	0.464	0.724

NOTE: CONCRETE C.Y./INLET = BOTTOM + (TOTAL RISER HEIGHT (FT) X C.Y./FT) + TOP EXTENSION (INCLUDES CURB INLET UNIT) + TOP + EXTENSIONS - ANY HOLE OPENINGS OR EXTENSION BLOCKOUT OPENINGS

BOTTOM / EXTENSION REINFORCEMENT				
SS-2 INLET SIZE	BOTTOM REINFORCEMENT	BOTTOM LB / STEEL	TOP LB / STEEL	EXTENSION LB / STEEL
3 X 5	#4 @ 9" EW	38.550	116.496	38.305

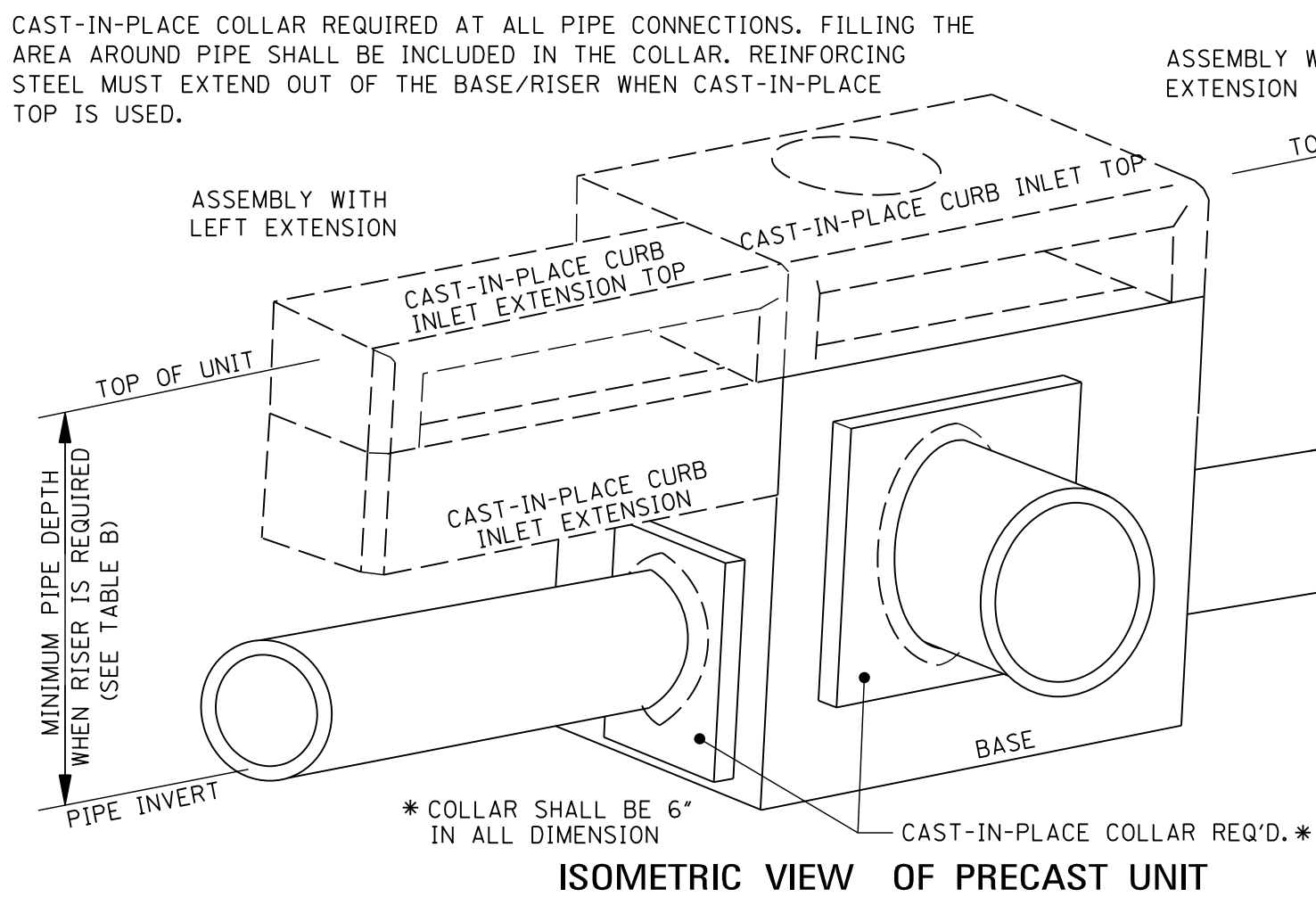
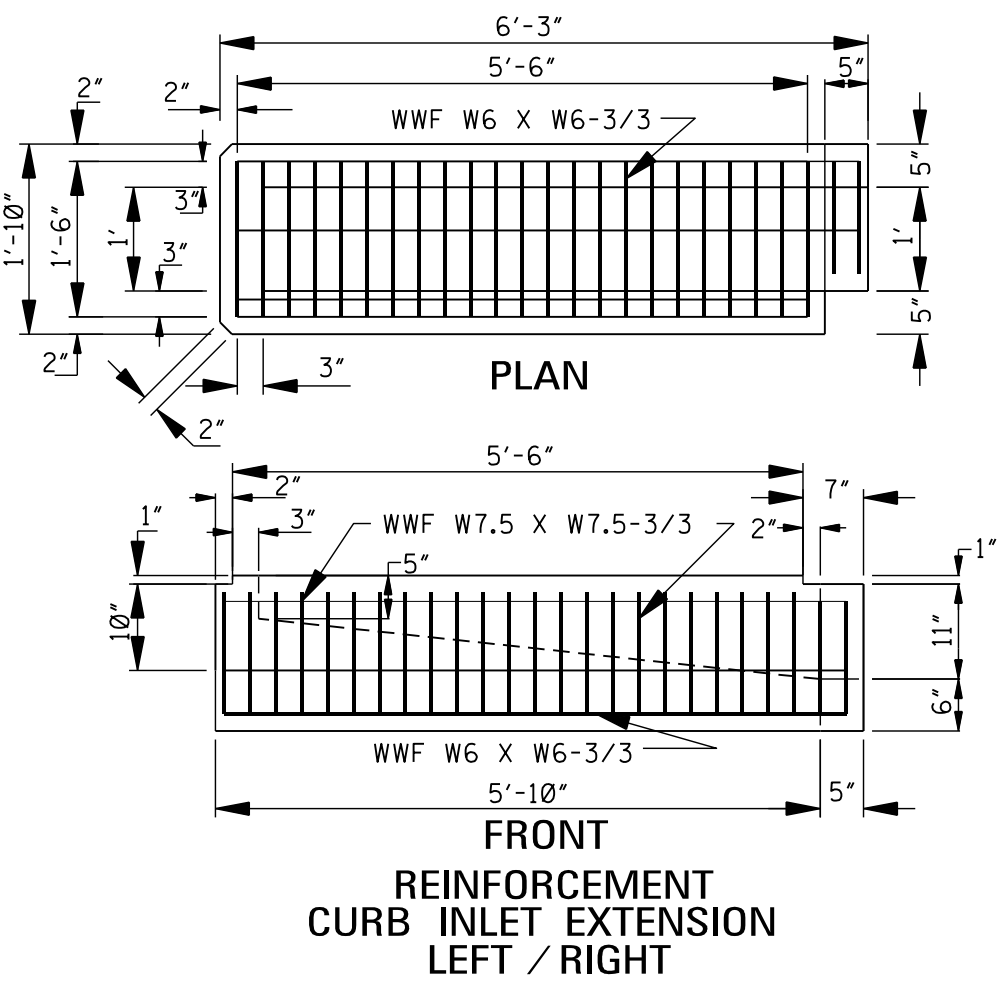
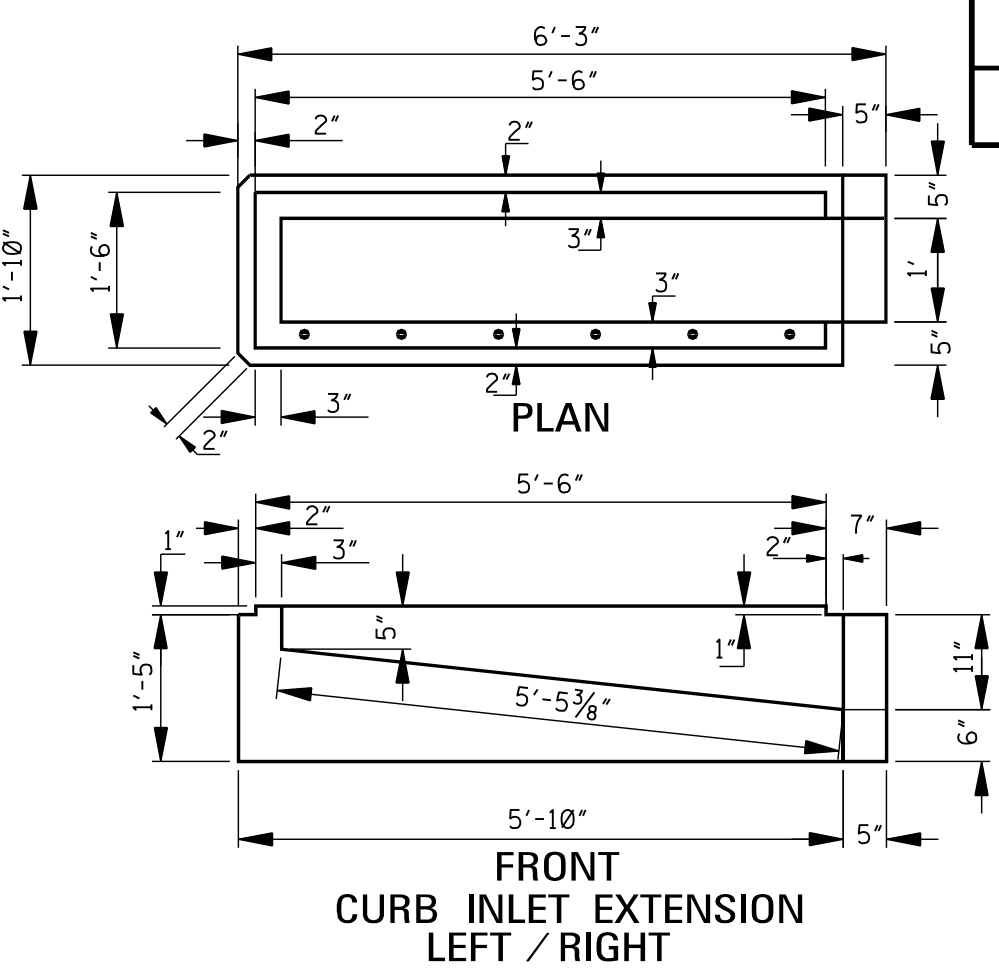
NOTE: EXTENSION INCLUDES CURB INLET UNIT PLUS TOP

MINIMUM PIPE DEPTH WITHOUT EXTENSION TOP OF CURB UNIT TO PIPE INVERT			
TABLE A			
ROUND RCP SIZE	DEPTH (INCHES)	ARCH RCP SIZE	DEPTH (INCHES)
12	36.0	-	-
15	39.5	18X11	32.5
18	42.0	22X13	34.5
21	44.5	-	-
24	49.0	29X18	39.5
27	53.5	-	-
30	55.0	36X23	44.5

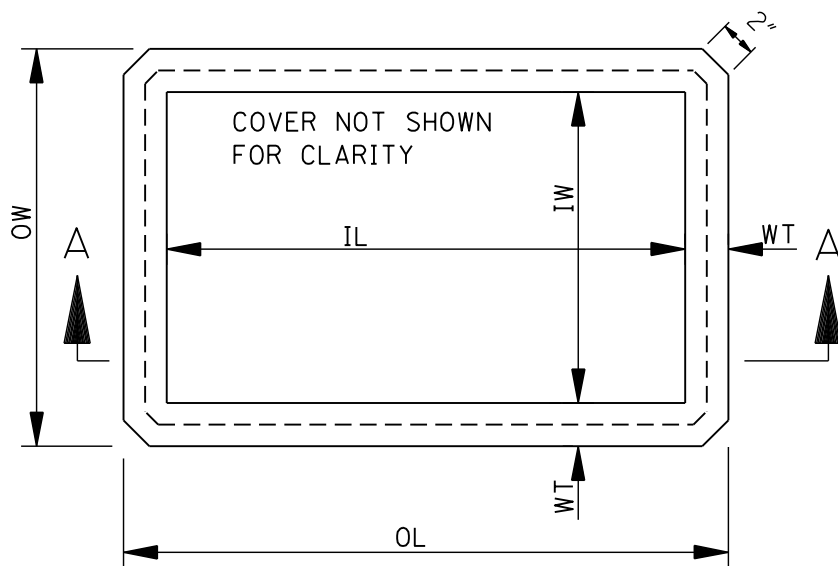
MINIMUM PIPE DEPTH WITH EXTENSION TOP OF CURB UNIT TO PIPE INVERT			
TABLE B			
ROUND RCP SIZE	DEPTH (INCHES)	ARCH RCP SIZE	DEPTH (INCHES)
12	55	-	-
15	58	18X11	55
18	61	22X13	58
21	64	-	-
24	67	-	-
27	72	-	-
30	-	-	-

NOTE: BLANK SPACES IN TABLE INDICATE PIPE NOT FIT INTO SIDE OF BOX OR PIPE SIZE IS NOT AVAILABLE

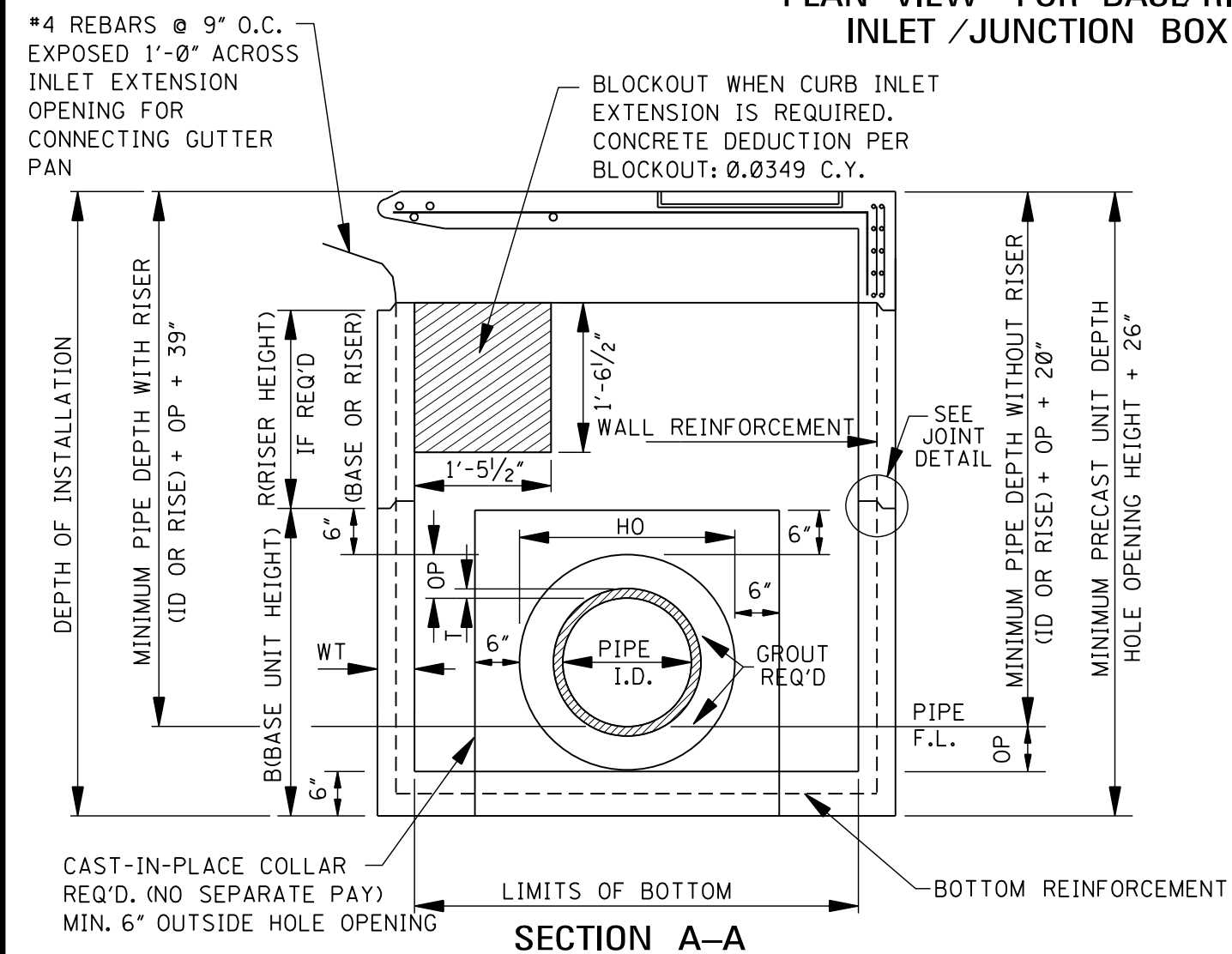
HOLE OPENING									
ROUND RCP	OPENING				ARCH RCP	OPENING			
	SIZE	T	INCHES	CONCRETE DEDUCTION PER OPENING (C.Y.)		SIZE	T	INCHES	CONCRETE DEDUCTION PER OPENING (C.Y.)
12	2.00	20	4.0	0.017	-	-	-	-	-
15	2.25	24	4.5	0.032	18X11	2.25	25.5X18.5	1.5	0.015
18	2.50	26	4.0	0.045	22X13	2.50	30X21	1.5	0.045
21	2.75	28	3.5	0.060	-	-	-	-	-
24	3.00	32	4.0	0.076	29X18	3.00	38X27	1.5	0.073
27	3.25	40	6.5	0.095	-	-	-	-	-
30	3.50	40	5.0	0.116	36X23	3.50	46X33	1.5	0.108



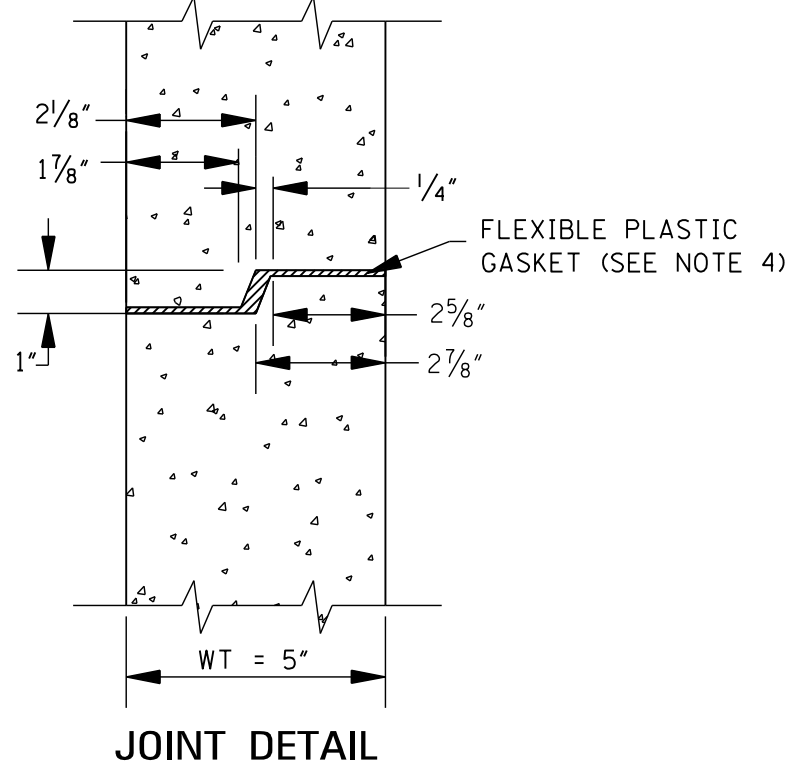
ISOMETRIC VIEW OF PRECAST UNIT



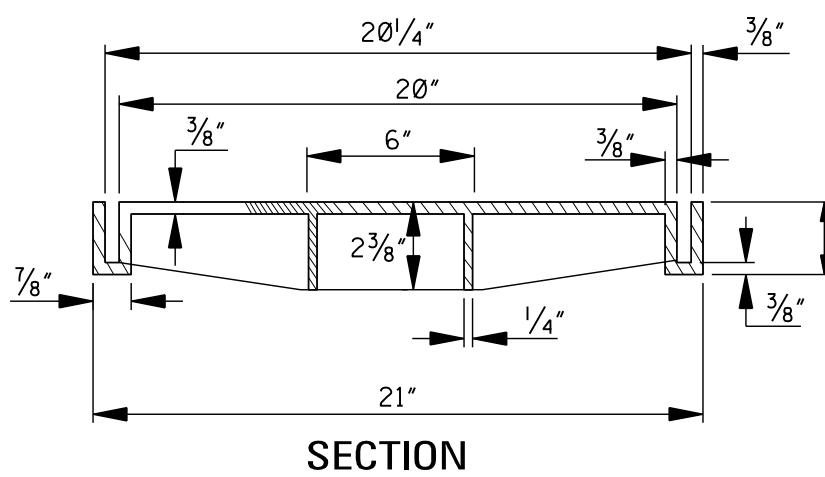
PLAN VIEW FOR BASE/RISER INLET /JUNCTION BOX



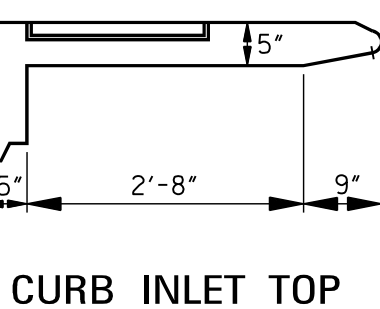
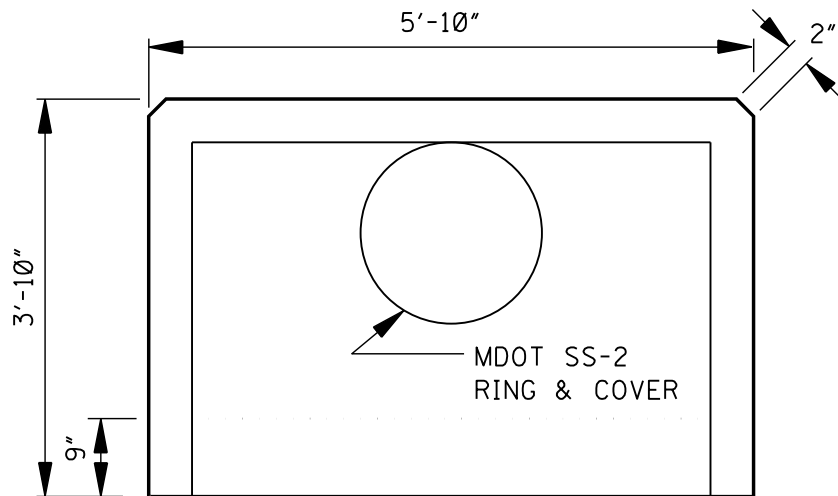
SECTION A-A



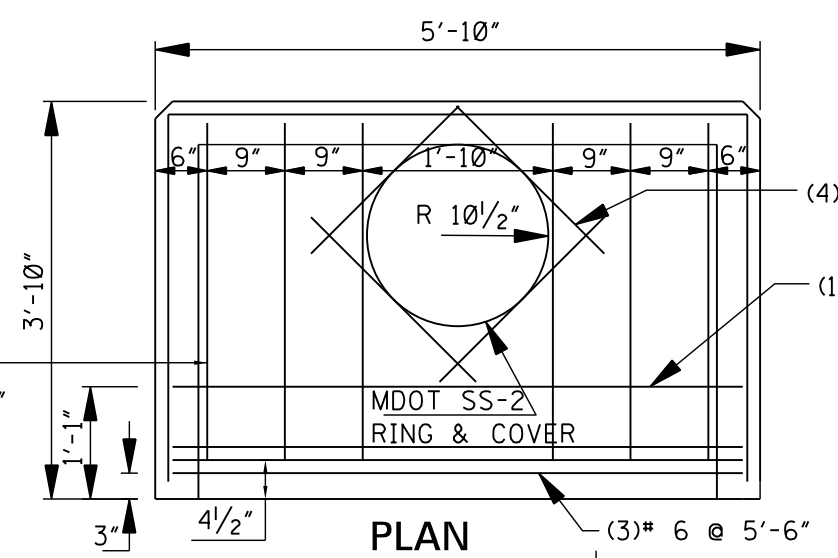
JOINT DETAIL



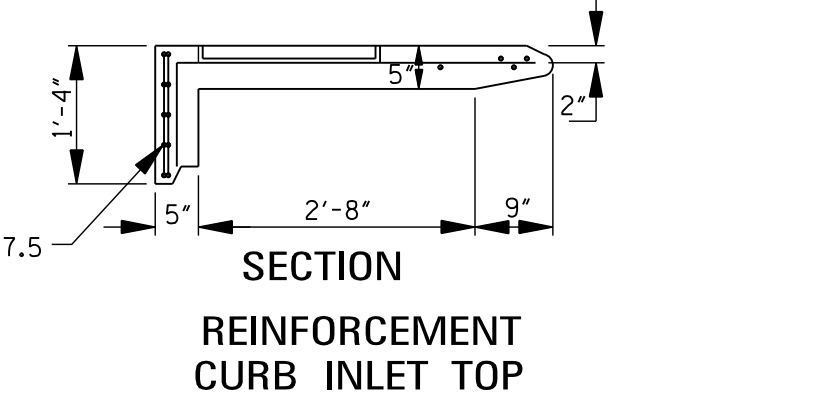
MDOT SS-2 RING AND COVER 79 LBS



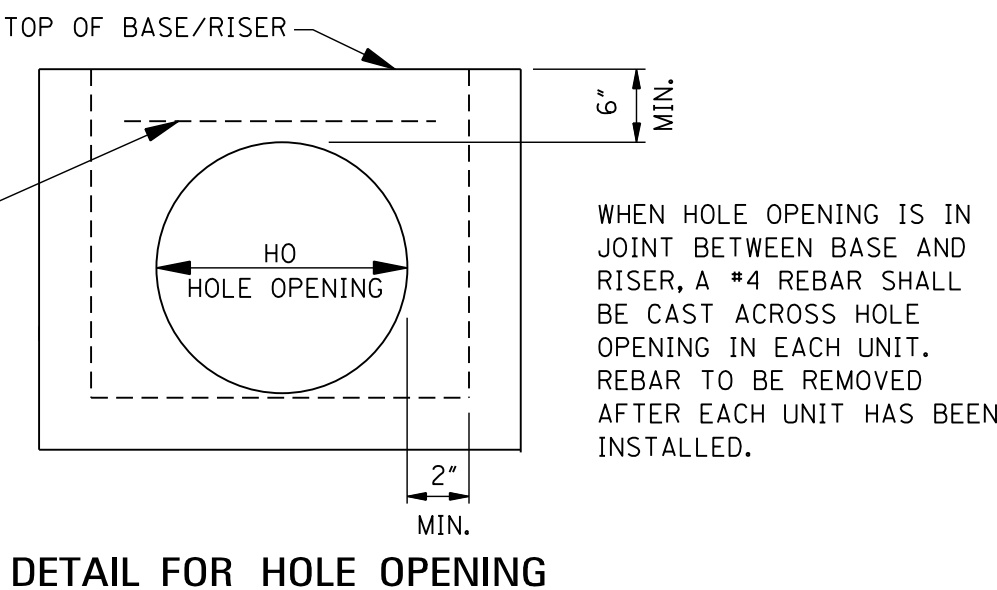
CURB INLET TOP



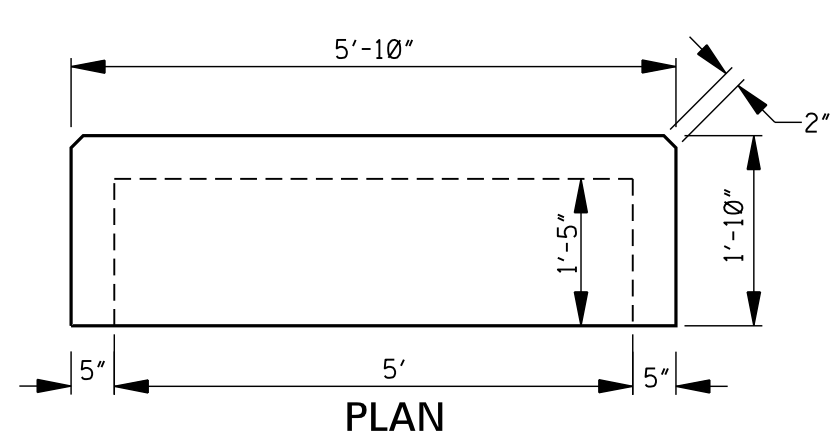
PLAN



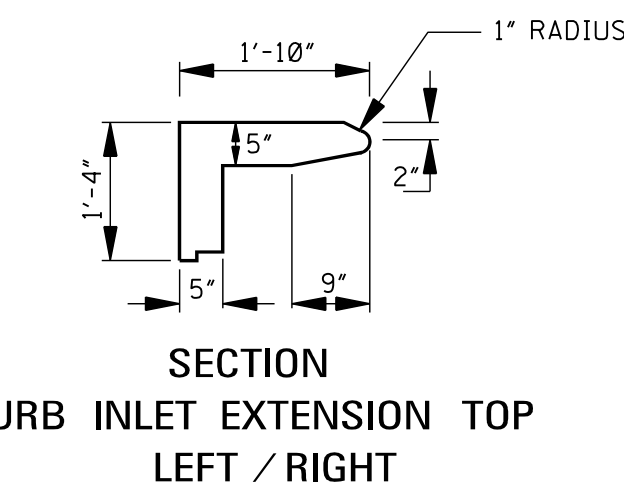
SECTION REINFORCEMENT CURB INLET TOP



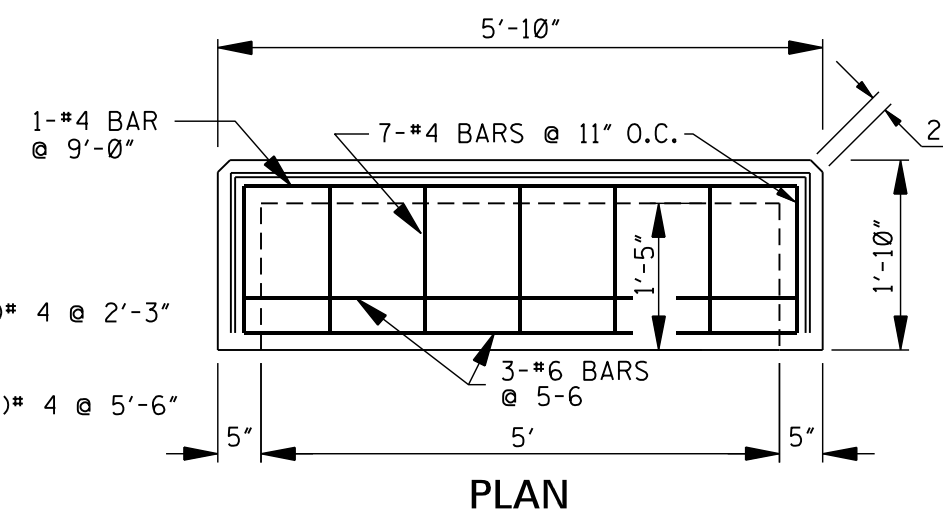
DETAIL FOR HOLE OPENING



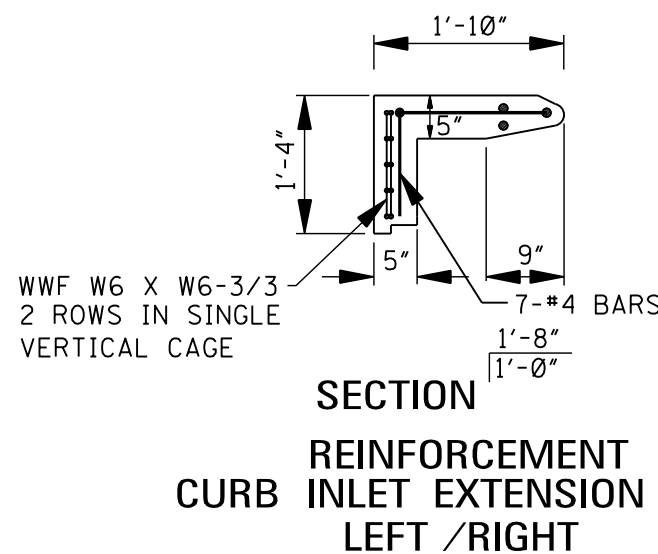
PLAN



SECTION CURB INLET EXTENSION TOP LEFT / RIGHT



PLAN



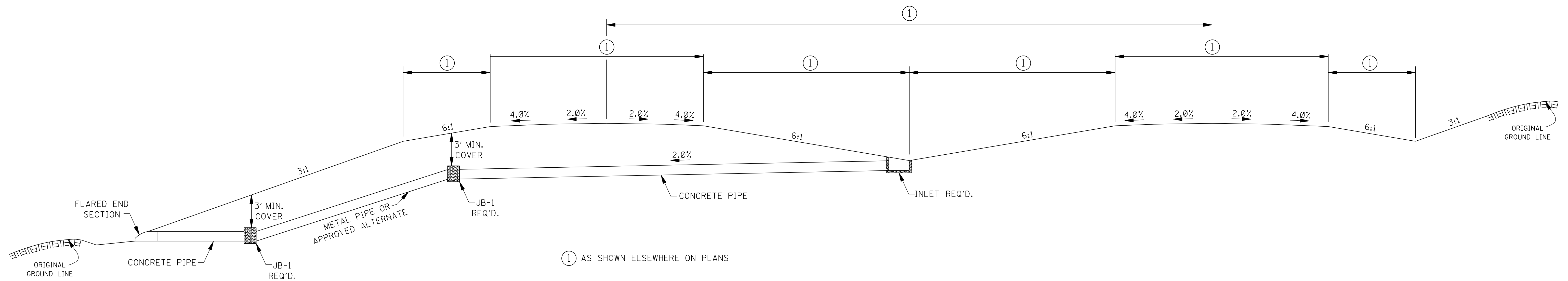
SECTION REINFORCEMENT CURB INLET EXTENSION TOP LEFT / RIGHT

GENERAL NOTES:

1. CONCRETE SHALL HAVE COMPRESSIVE STRENGTH OF 4000 PSI MINIMUM AT 28 DAYS.
2. REINFORCING FOR BOTTOM AND WALLS SHALL BE WELDED WIRE FABRIC, ASTM A-185, AND OF THE AREA AS SHOWN IN THE TABLE.
3. REINFORCING FOR COVER SHALL BE ASTM A615/A, AND OF THE SIZE AS SHOWN IN THE TABLE AND DRAWINGS.
4. JOINT TO BE SEALED WITH FLEXIBLE PLASTIC GASKET FOR JOINT CONDUIT, AASHTO SPECIFICATION M-198 OR MDOT SPECIFICATION.
5. 2 1/2" LIFTING HOLES TO BE LOCATED ON EACH SIDE OF BOX SECTIONS FOR HANDLING.
6. GROUT FOR JOINING PIPE TO PRECAST UNITS WILL BE A COMMERCIAL MASONRY GROUT MEETING MDOT SPECIFICATIONS.
7. WHEN INTERIOR RISER UNITS ARE REQUIRED, UNITS SHALL BE MARKED TO IDENTIFY EACH UNIT.
8. CONCRETE & REINFORCING STEEL FOR PRECAST INLETS AND JUNCTION BOXES SHALL BE PAID FOR AS THE CALCULATED QUANTITY SHOWN ON THE RECAP SHEET FOR CAST-IN-PLACE INLETS & JUNCTION BOXES.
9. CURB INLET TOP & CURB INLET EXTENSION TOP SHALL BE PLACED AT THE SAME GRADE AND CROSS SLOPE REQUIRED ON THE ROADWAY PLANS.
10. CAST-IN-PLACE INLET TOP MAY BE SHOWN ON THIS DRAWING OR AS PER SHEET NO. SS-2.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION			
ROADWAY DESIGN DIVISION			
STANDARD PLAN			
PRECAST UNITS			
(SS-2 INLET)			
(30" CONC. ROUND PIPE & UNDER) (36"X23" CONC. ARCH PIPE & UNDER)			
WORKING NUMBER			
PCU-2			
SHEET NUMBER			
6536			

STATE	PROJECT NO.
MISS.	

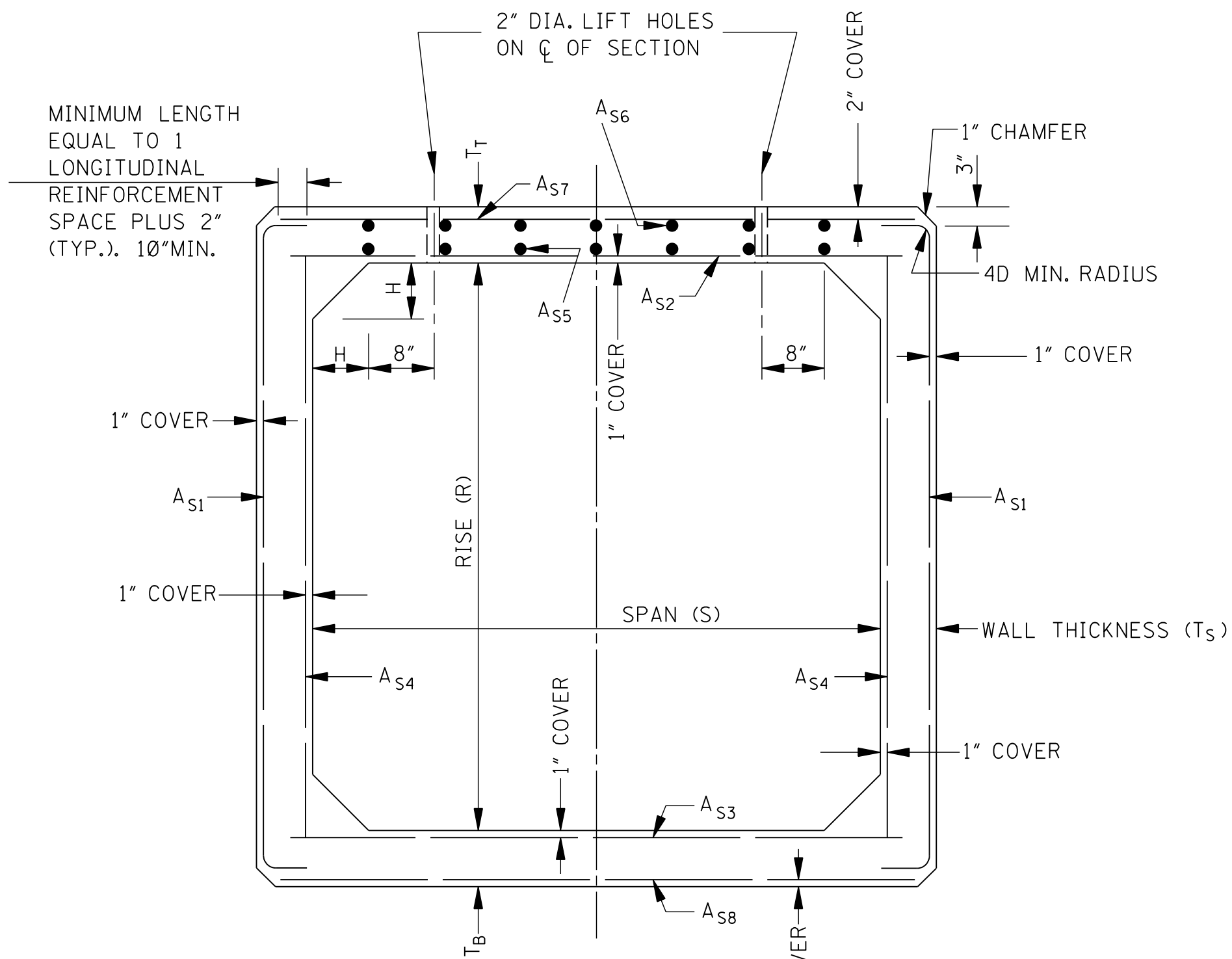


TYPICAL SECTION FOR  
INSTALLATION OF MEDIAN DRAINS  
WITH DOWNSPOUTS

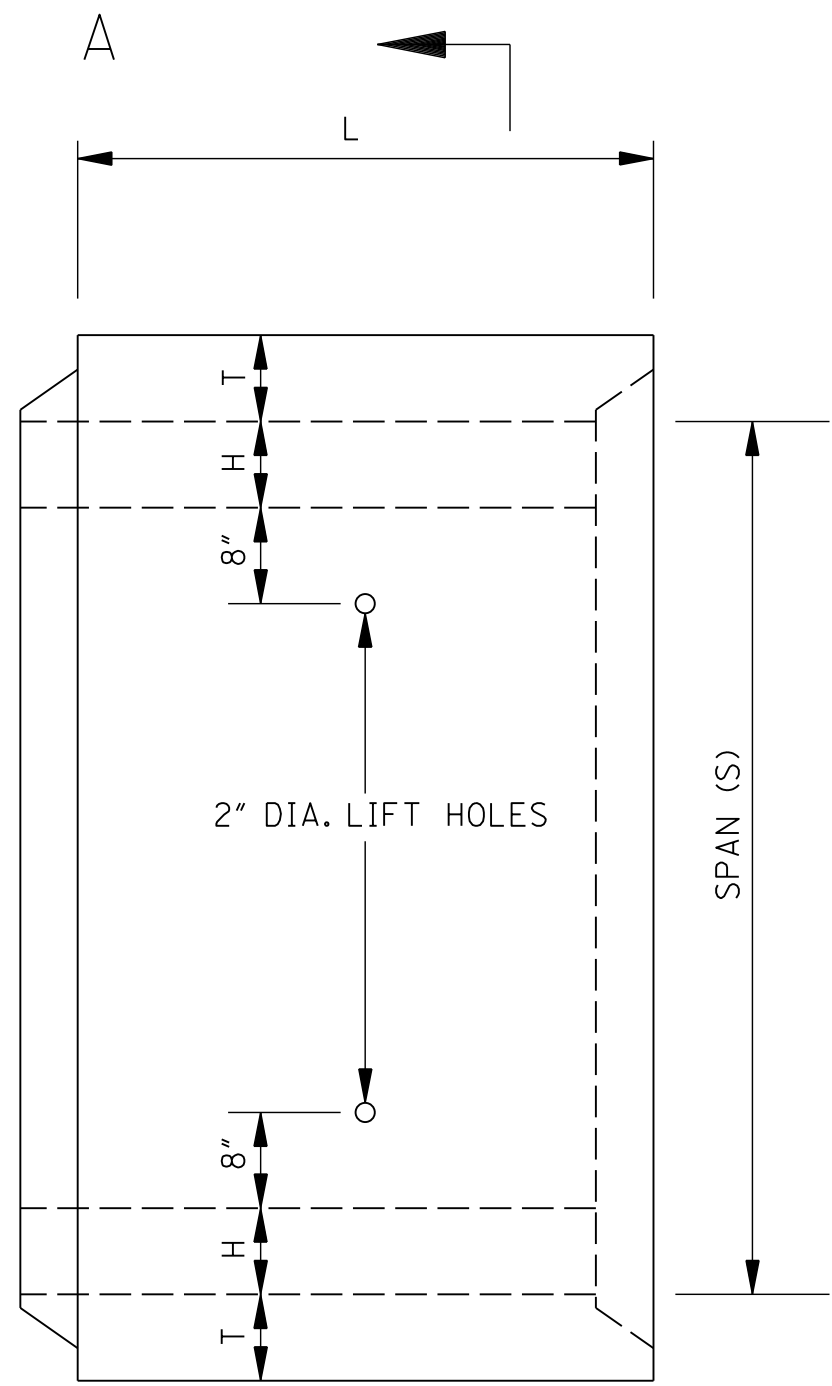
GENERAL NOTES:

1. MEDIAN DRAINS WITH DOWNSPOUTS TO BE UTILIZED IN LIEU OF STACKED PIPE INLET WHEN STACK PIPE EXCEEDS 16 FEET.
2. SEE SPECIFIC LOCATION FOR PIPE SIZE AND LENGTH.
3. HEIGHT OF JUNCTION BOXES TO BE ADJUSTED TO FIT VERTICAL SKEW OF PIPE.

[illegible]



SECTION A-A

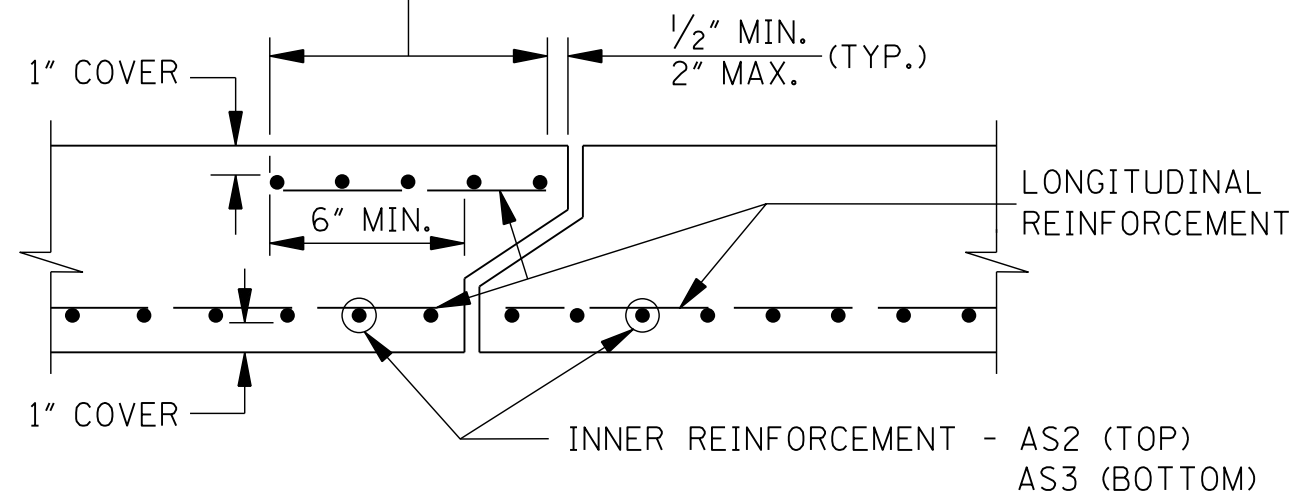


PLAN

ASTM C 1577 DESIGN FOR LESS THAN 2' OF COVER

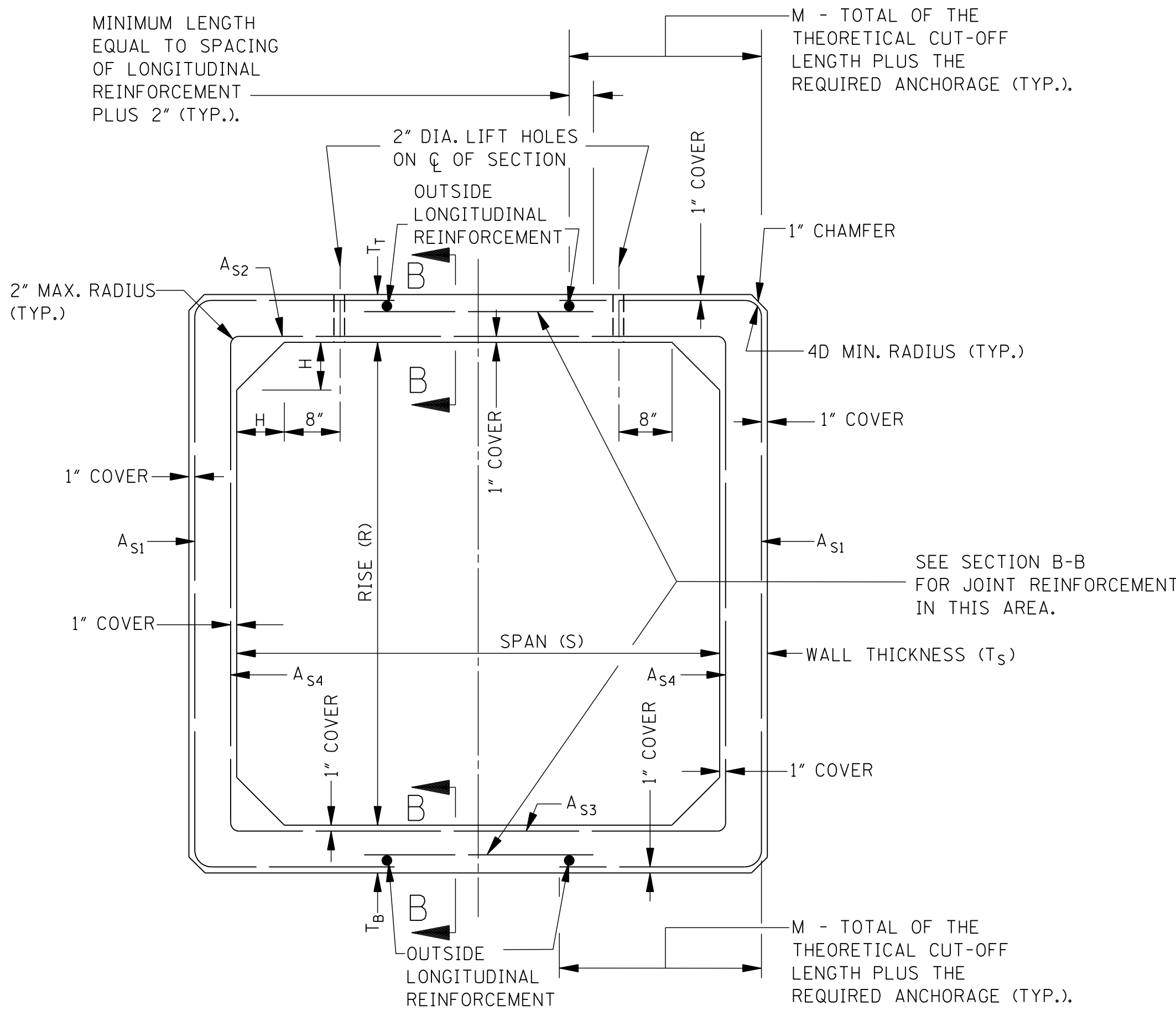
SPAN (FT.)	RISE (FT.)	COVER EQUAL TO OR LESS THAN 2 FEET ASTM C 1577 DESIGN TABLE 1			COVER OF 2 FEET TO MAXIMUM AS SHOWN ASTM C 1577 TABLE 1	
		MINIMUM THICKNESS (INCHES)			TOP, BOTTOM & WALL THICKNESS (T) (INCHES)	MAXIMUM FILL HEIGHT TO TOP OF BOX (FEET)
		TOP SLAB (T <sub>T</sub> )	BOTTOM SLAB (T <sub>B</sub> )	WALL (T <sub>S</sub> )		
4	2	7 1/2	6	5	5	30
6	4	8	7	7	7	30
8	4	8	8	8	8	20
10	4	10	10	10	10	25
6	5	8	7	7	7	30
8	5	8	8	8	8	20
10	5	10	10	10	10	25
6	6	8	7	7	7	30
8	6	8	8	8	8	20
10	6	10	10	10	10	25
8	8	8	8	8	8	20
10	8	10	10	10	10	20

OUTER CIRCUMFERENTIAL  
REINFORCEMENT AT GROOVE END.

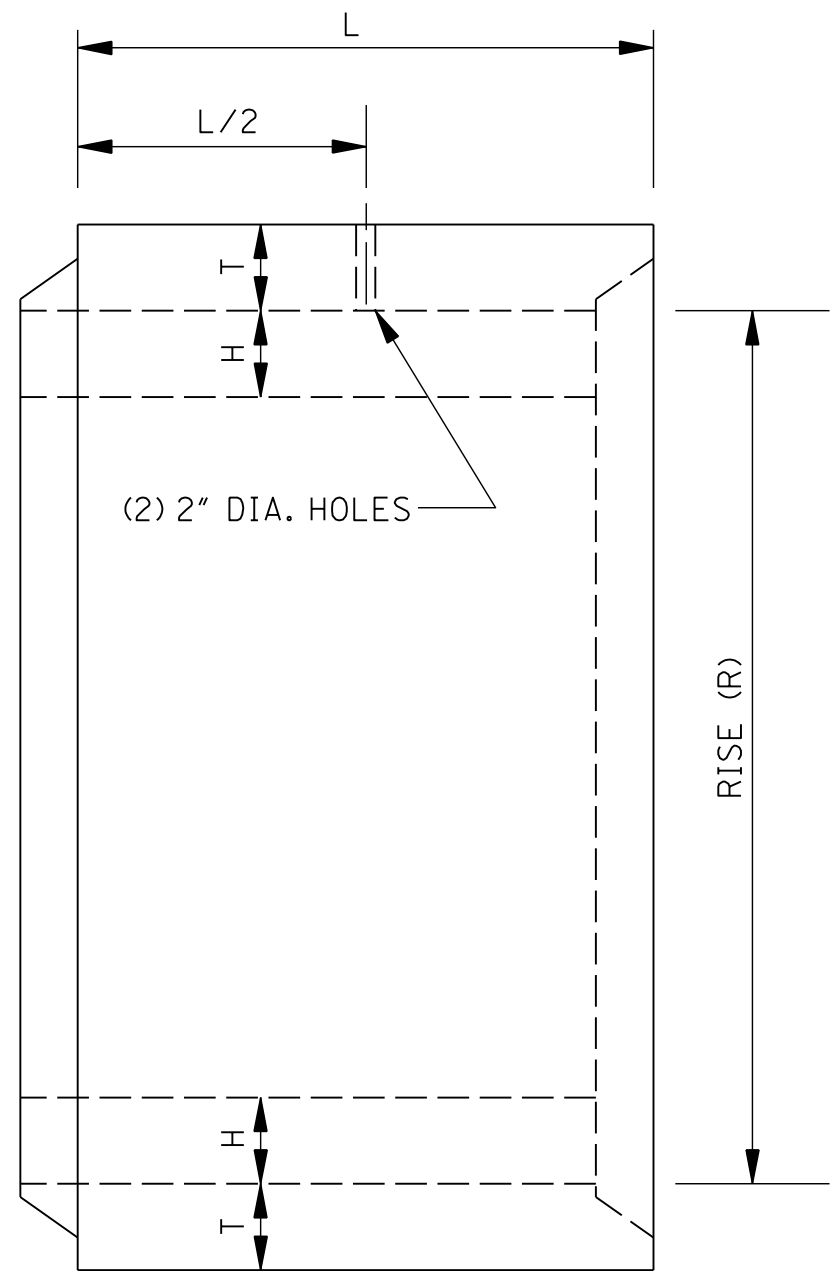


SECTION B-B

NOTE: TOP SLAB REINFORCEMENT SHOWN.  
BOTTOM SLAB REINFORCEMENT SIMILAR.



SECTION A-A



ELEVATION

ASTM C 1577 DESIGN FOR 2' OR MORE COVER

GENERAL NOTES:

1. THE PRECAST REINFORCED CONCRETE BOX SECTION, EXCLUDING SPECIAL DESIGNS, SHALL BE DESIGNED AND MANUFACTURED IN ACCORDANCE WITH THE SPECIFICATION OF ASTM C 1577 (TABLE 1).
2. THE HAUNCH DIMENSION ("H") IS EQUAL TO THE WALL THICKNESS.
3. CONCRETE BOXES THAT ARE INDICATED AS SPECIAL DESIGNS HAVE BEEN APPROVED AND ARE ON FILE AT THE ROADWAY DESIGN AND BRIDGE DIVISIONS OF THE MISSISSIPPI DEPARTMENT OF TRANSPORTATION, AND SHALL BE MANUFACTURED IN ACCORDANCE WITH THE SPECIFICATIONS OF ASTM C 1577 (TABLE 1).

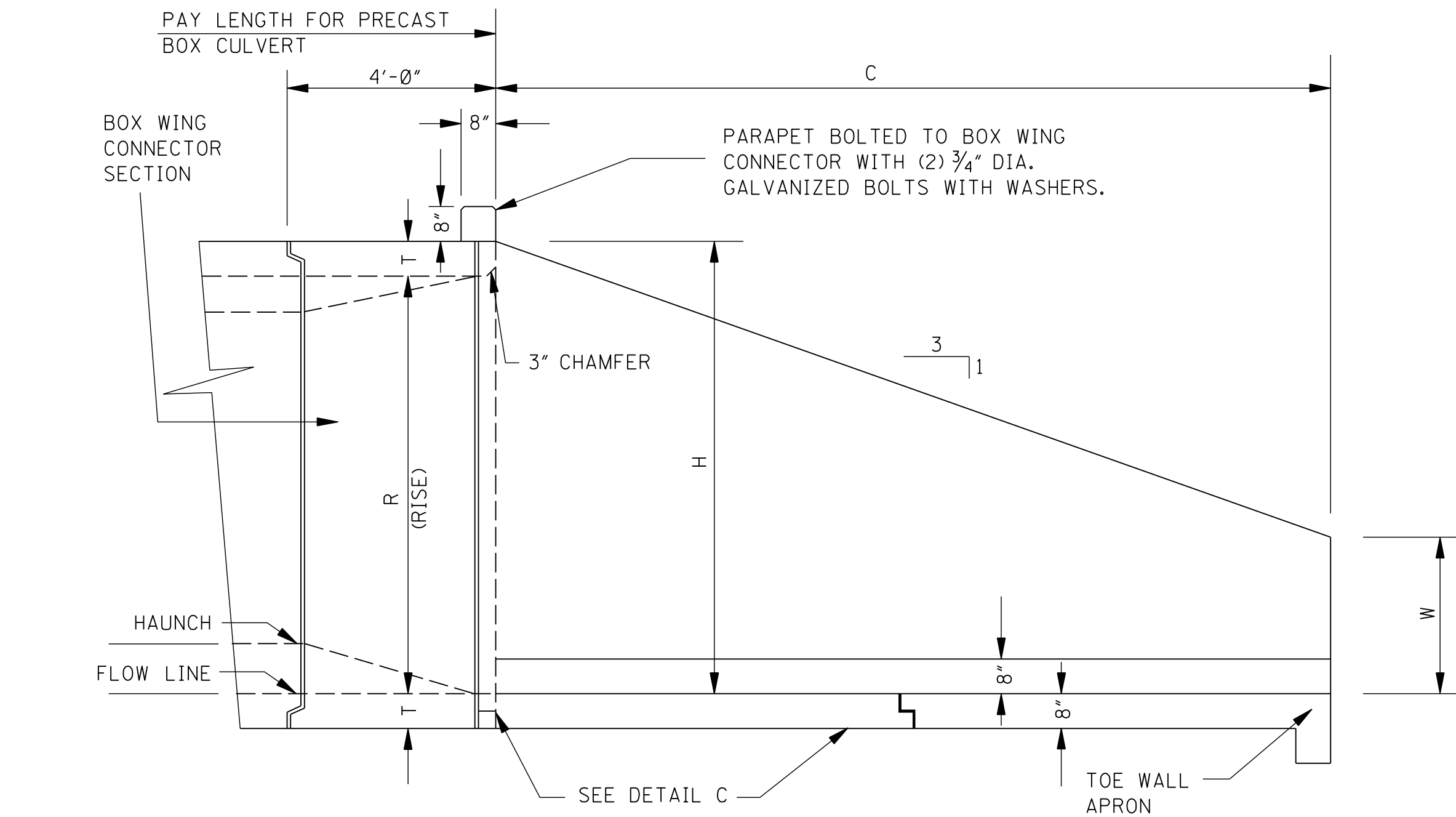
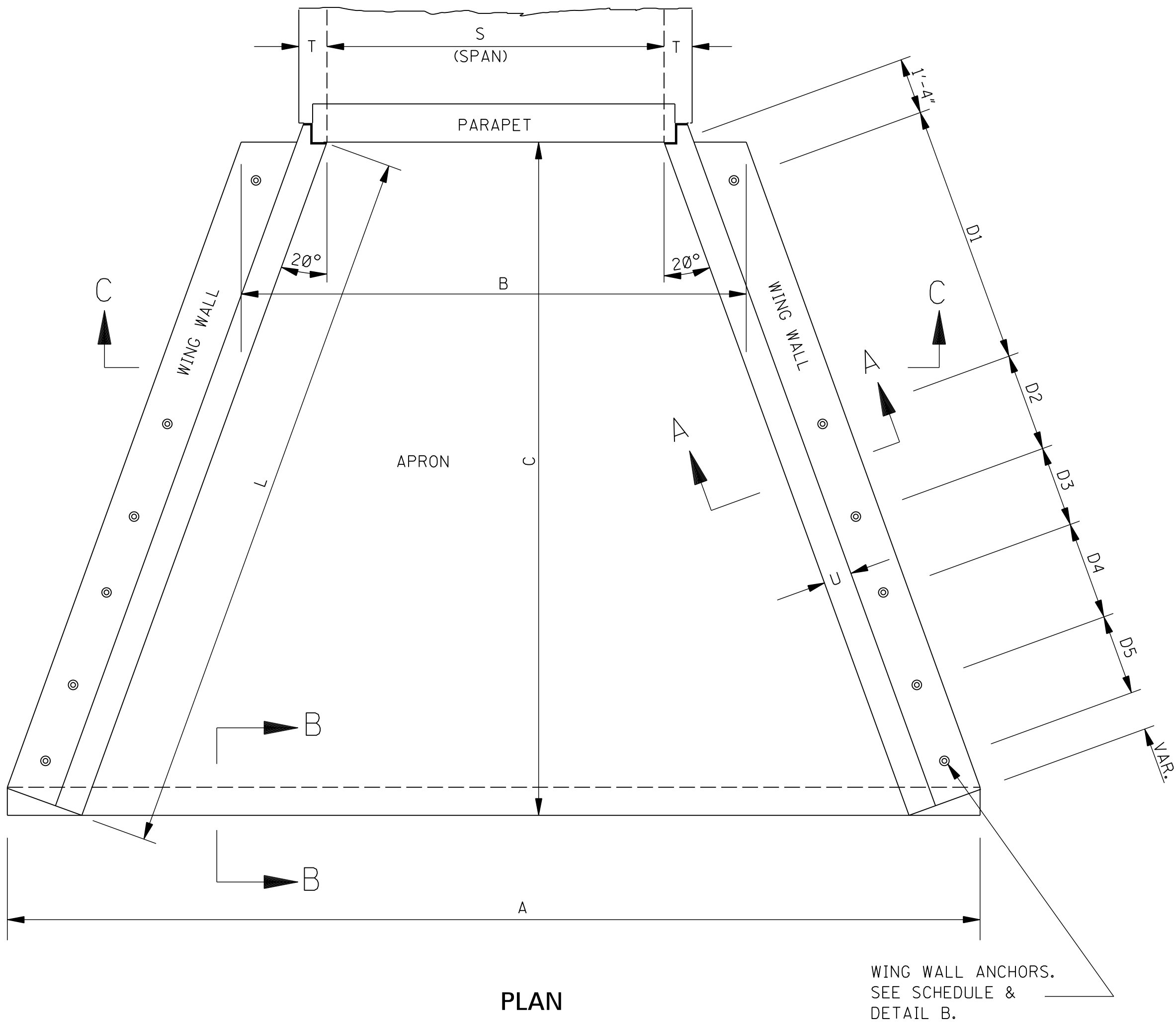
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	ISSUE DATE: AUGUST 01, 2017

**PRECAST CONCRETE  
BOX CULVERT**

MDOT  
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

WORKING NUMBER  
PBC-1

SHEET NUMBER  
6538

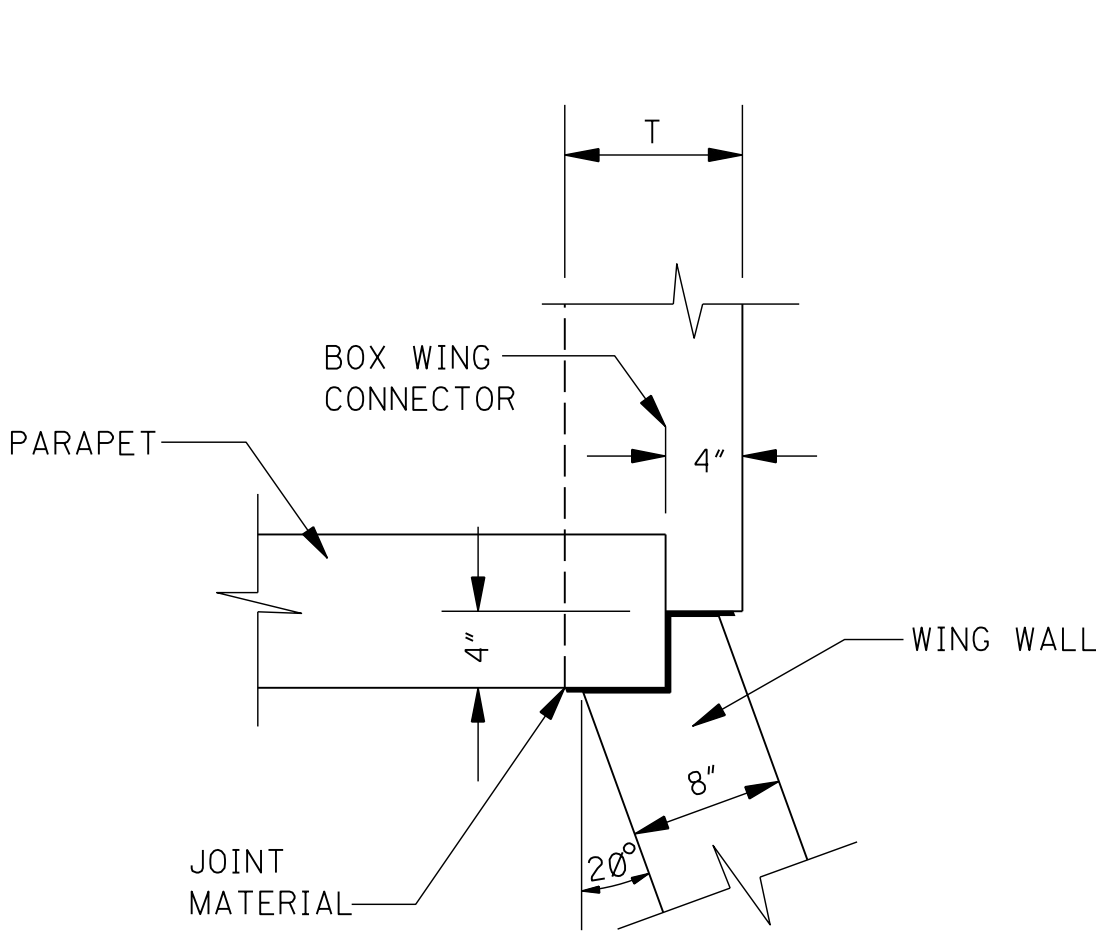


SIDE ELEVATION

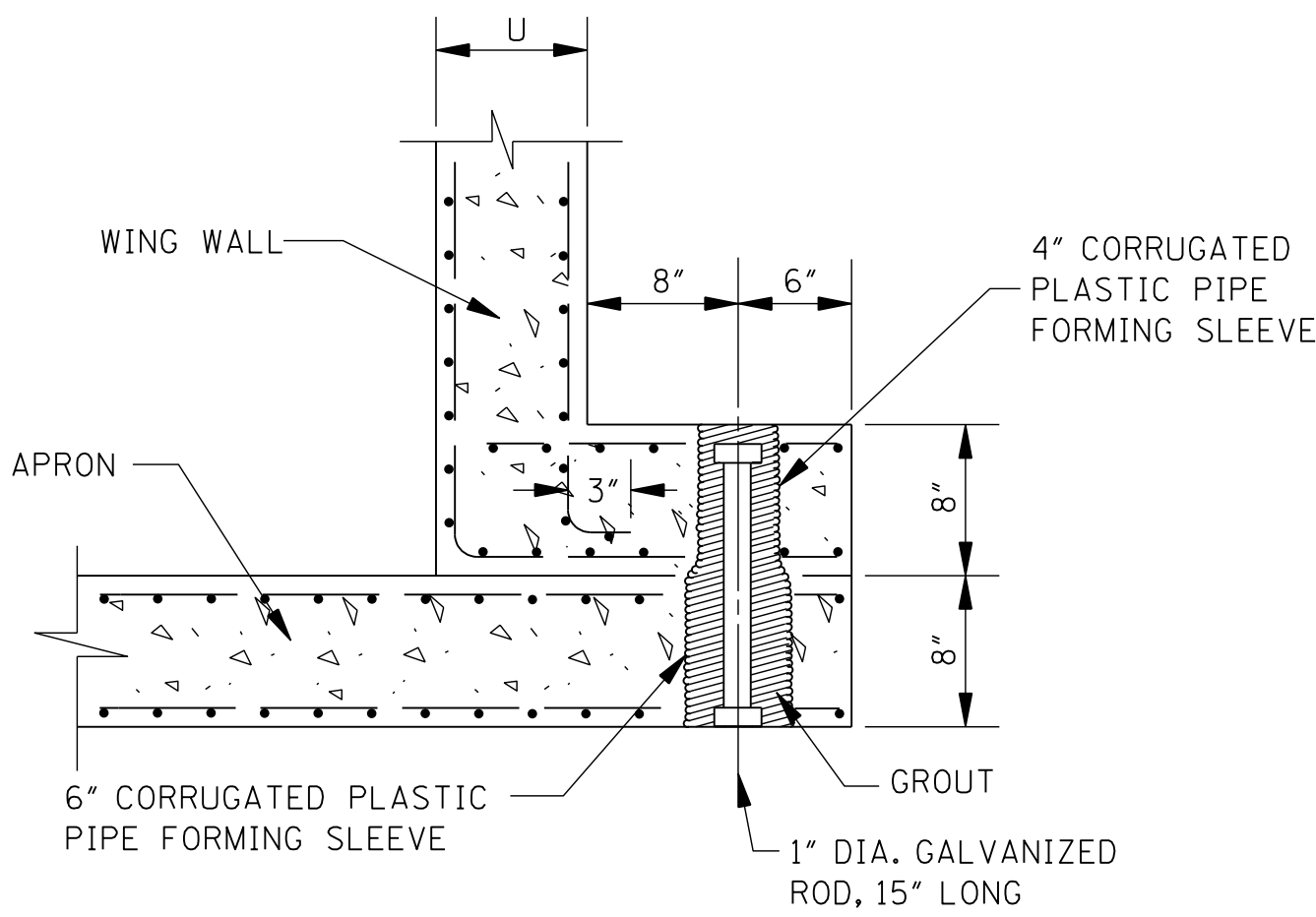
APRONS: FOR 4' & 5' RISE (ONE APRON UNIT REQUIRED): TOE WALL APRON LENGTH = 8'-0";  
INSIDE APRON UNIT NOT REQUIRED.  
FOR 6' RISE (TWO APRON UNITS REQUIRED): INSIDE APRON LENGTH = 8'-0";  
TOE WALL APRON LENGTH = 4'-0".  
FOR 8' RISE (THREE APRON UNITS REQUIRED): INSIDE APRON LENGTH = 8'-0";  
MIDDLE APRON LENGTH = 4'-0"; TOE WALL APRON LENGTH = 4'-0".

TABLE OF DIMENSIONS																								
SPAN S	RISE R	WALL THICKNESS T	APRON WIDTH A	APRON WIDTH B	APRON LENGTH C	WEIGHTS			WING HEIGHT H	WING LENGTH L	WING HEIGHT W	WING THICKNESS U	WEIGHT TONS	WING WALL ANCHORS					REINFORCING STEEL *					
						INSIDE APRON TONS	MIDDLE APRON TONS	TOE WALL APRON TONS						D1	D2	D3	D4	D5	S1	S2	S3	S4	S5	S6
4'	2'					NOT AVAILABLE																		
4'	4'					NOT AVAILABLE																		
6'	4'	8"	15'-3 1/4"	9'-11"	8'-0"	-	-	5.7	4'-8"	8'-4"	1'-10"	8"	1.8	6'-2"	-	-	-	-	.20	.10	.10	.10	.10	.10
8'	4'	8"	17'-3 1/4"	11'-11"	8'-0"	-	-	6.5	4'-8"	8'-4"	1'-10"	8"	1.8	6'-2"	-	-	-	-	.20	.10	.10	.10	.10	.10
10'	4'	10"	19'-3 1/4"	13'-11"	8'-0"	-	-	7.3	4'-8"	8'-4"	1'-10"	8"	1.8	6'-2"	-	-	-	-	.20	.10	.10	.10	.10	.10
6'	5'	8"	15'-3 1/4"	9'-11"	8'-0"	-	-	5.7	5'-8"	8'-4"	2'-10"	8"	2.3	6'-2"	-	-	-	-	.40	.10	.10	.10	.10	.10
8'	5'	8"	17'-3 1/4"	11'-11"	8'-0"	-	-	6.5	5'-8"	8'-4"	2'-10"	8"	2.3	6'-2"	-	-	-	-	.40	.10	.10	.10	.10	.10
10'	5'	10"	19'-3 1/4"	13'-11"	8'-0"	-	-	7.3	5'-8"	8'-4"	2'-10"	8"	2.3	6'-2"	-	-	-	-	.40	.10	.10	.10	.10	.10
6'	6'	8"	18'-2"	9'-11"	12'-0"	5.1	-	4.0	6'-8"	12'-7"	2'-5"	9"	3.9	6'-2"	2'-4"	1'-11"	-	-	.54	.10	.10	.10	.10	.10
8'	6'	8"	20'-2"	11'-11"	12'-0"	5.9	-	4.5	6'-8"	12'-7"	2'-5"	9"	3.9	6'-2"	2'-4"	1'-11"	-	-	.54	.10	.10	.10	.10	.10
10'	6'	10"	22'-2"	13'-11"	12'-0"	6.7	-	5.0	6'-8"	12'-7"	2'-5"	9"	3.9	6'-2"	2'-4"	1'-11"	-	-	.54	.10	.10	.10	.10	.10
8'	8'	8"	23'-1"	11'-11"	16'-0"	5.9	3.8	5.2	8'-8"	16'-11"	3'-0"	9"	6.5	6'-2"	2'-4"	1'-11"	2'-4"	1'-11"	.90	.10	.10	.10	.10	.10
10'	8'	10"	25'-1"	13'-11"	16'-0"	6.7	4.2	5.6	8'-8"	16'-11"	3'-0"	9"	6.5	6'-2"	2'-4"	1'-11"	2'-4"	1'-11"	.90	.10	.10	.10	.10	.10

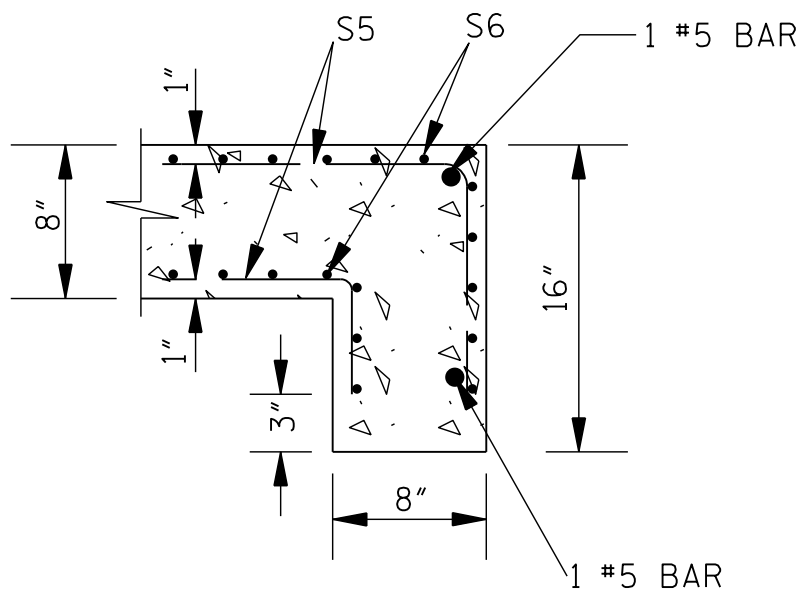
\* REINFORCING STEEL SCHEDULE - SQUARE INCHES OF STEEL PER LINEAR FOOT OF WING.



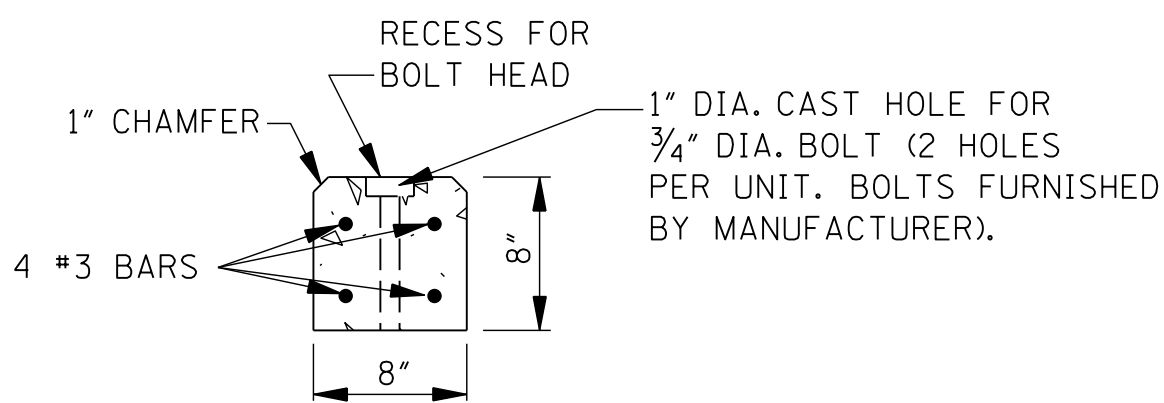
DETAIL A



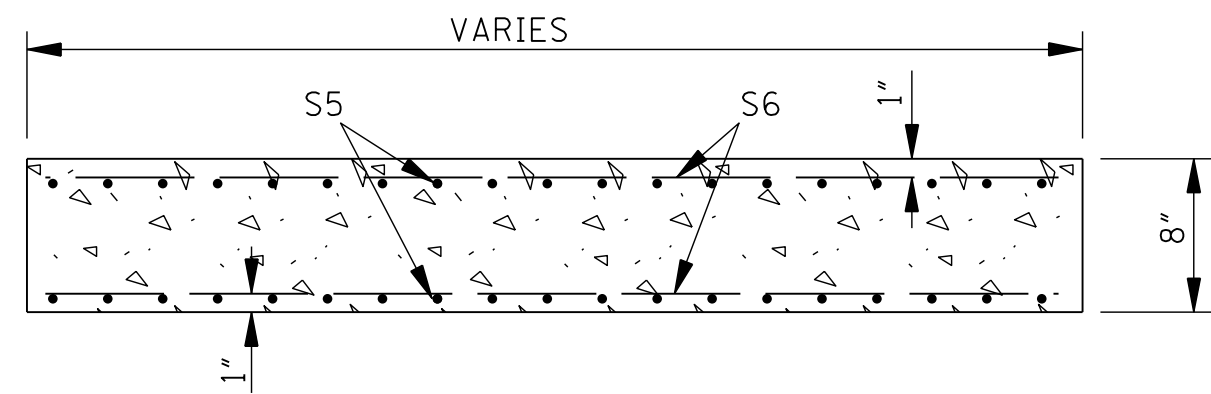
DETAIL B



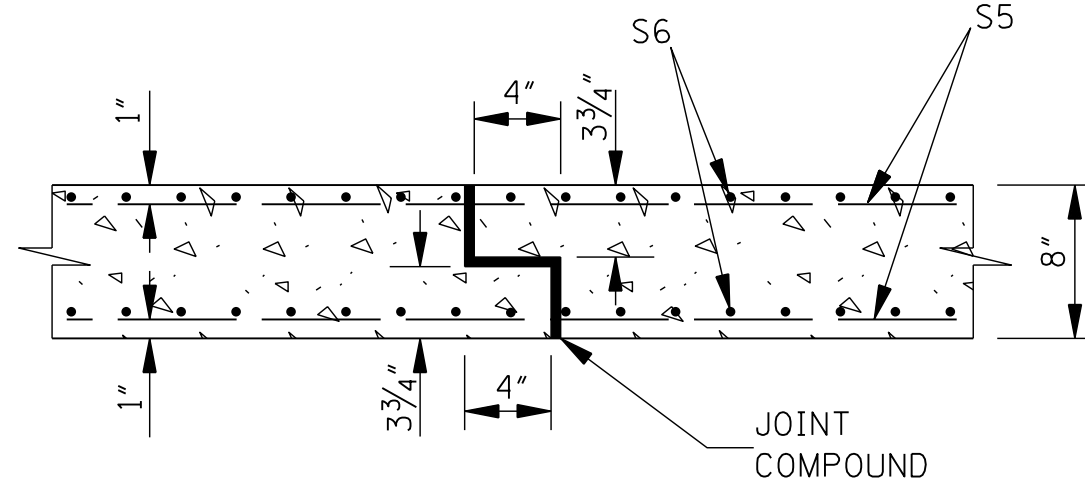
TOE WALL  
SECTION B-B



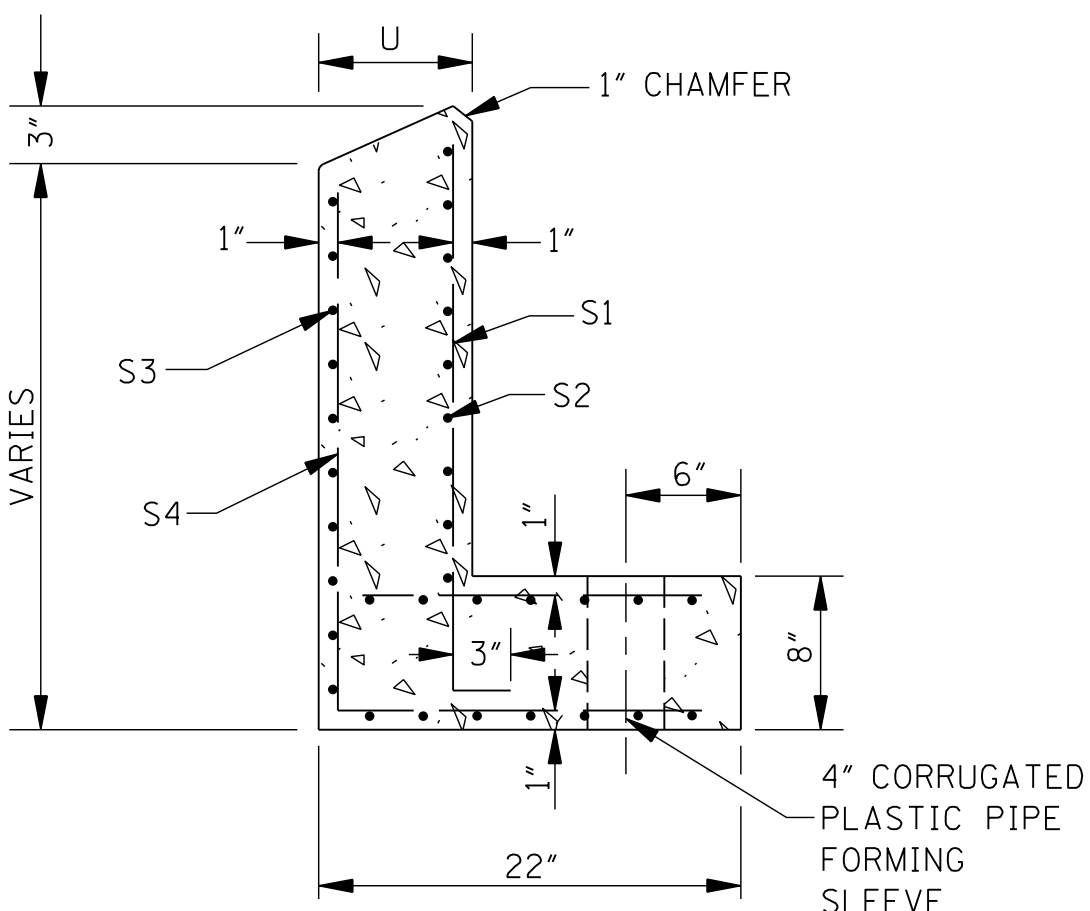
PARAPET DETAIL



APRON  
SECTION C-C



TYPICAL APRON JOINT  
DETAIL C



WING WALL  
SECTION A-A

GENERAL NOTES:

- THE BOX WING CONNECTOR SECTION SHALL MEET THE DESIGN REQUIREMENT OF THE PRECAST CONCRETE BOX CULVERT TO WHICH IT IS ATTACHED. SEE SHEET PBC-1 FOR BOX CULVERT DETAILS.
- CONCRETE DESIGN STRENGTH: 5000 PSI
- REINFORCED STEEL: 75,000 LBS. YIELD STRENGTH.
- GALVANIZATION FOR REQUIRED HARDWARE SHALL MEET THE REQUIREMENTS OF AASHTO M 111.

BY

REVISION

DATE

MISSISSIPPI DEPARTMENT OF TRANSPORTATION  
ROADWAY DESIGN DIVISION  
STANDARD PLAN

PRECAST CONCRETE BOX  
CULVERT END SECTIONS

ISSUE DATE: AUGUST 01, 2017

WORKING NUMBER  
PBC-2  
SHEET NUMBER  
6539



NOTE: WHENEVER THE COMPUTED LENGTH OF BARS EXCEEDS 30', THE SCHEDULED LENGTH INCLUDES A 12" LAP. ALL BARS ARE #4 EXCEPT BARS "W". SEE SCHEDULE FOR SIZE OF BARS "W".

[illegible]

STATE	PROJECT NO.
MISS.	

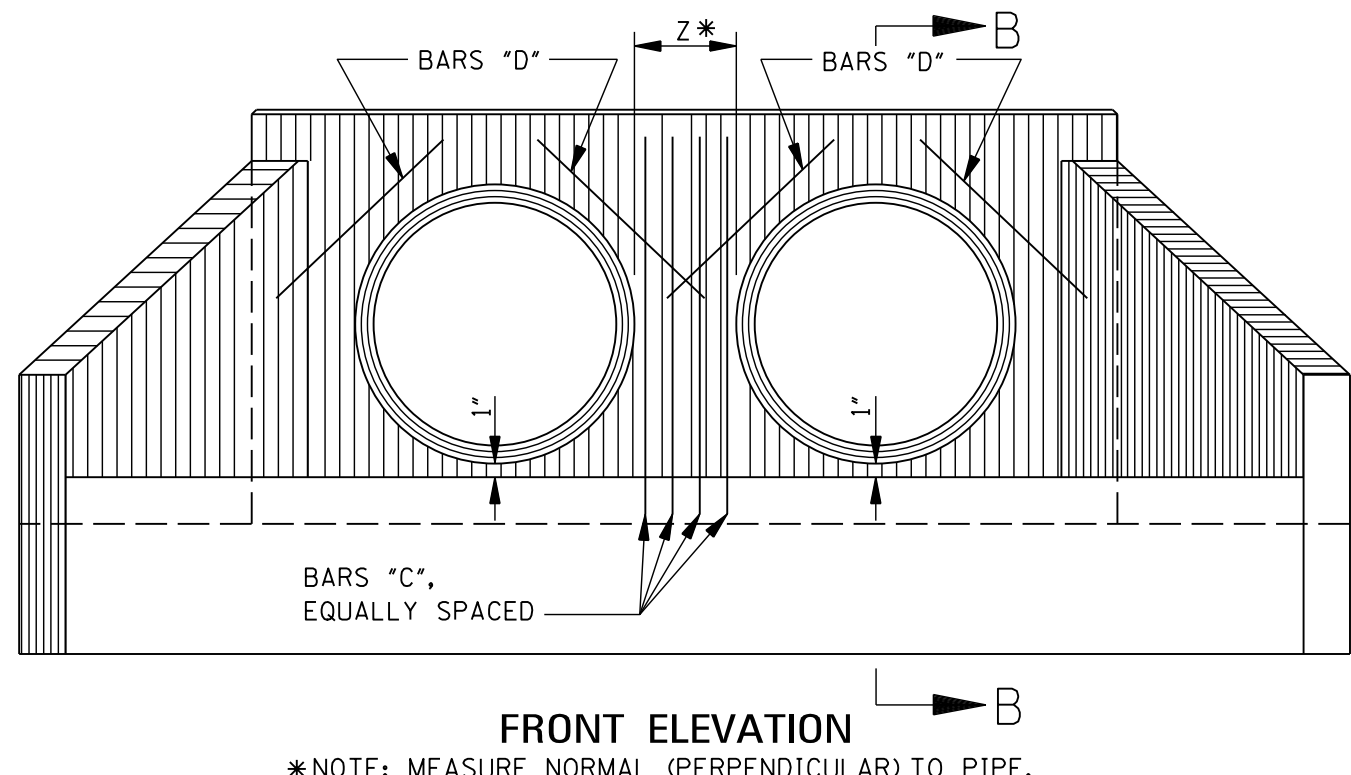
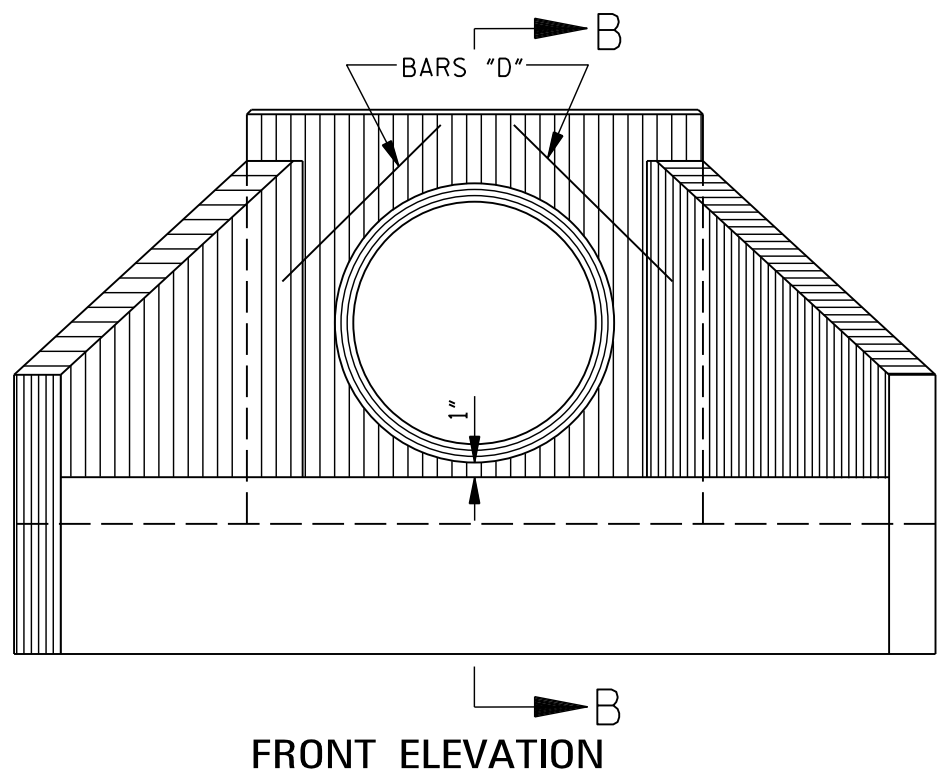
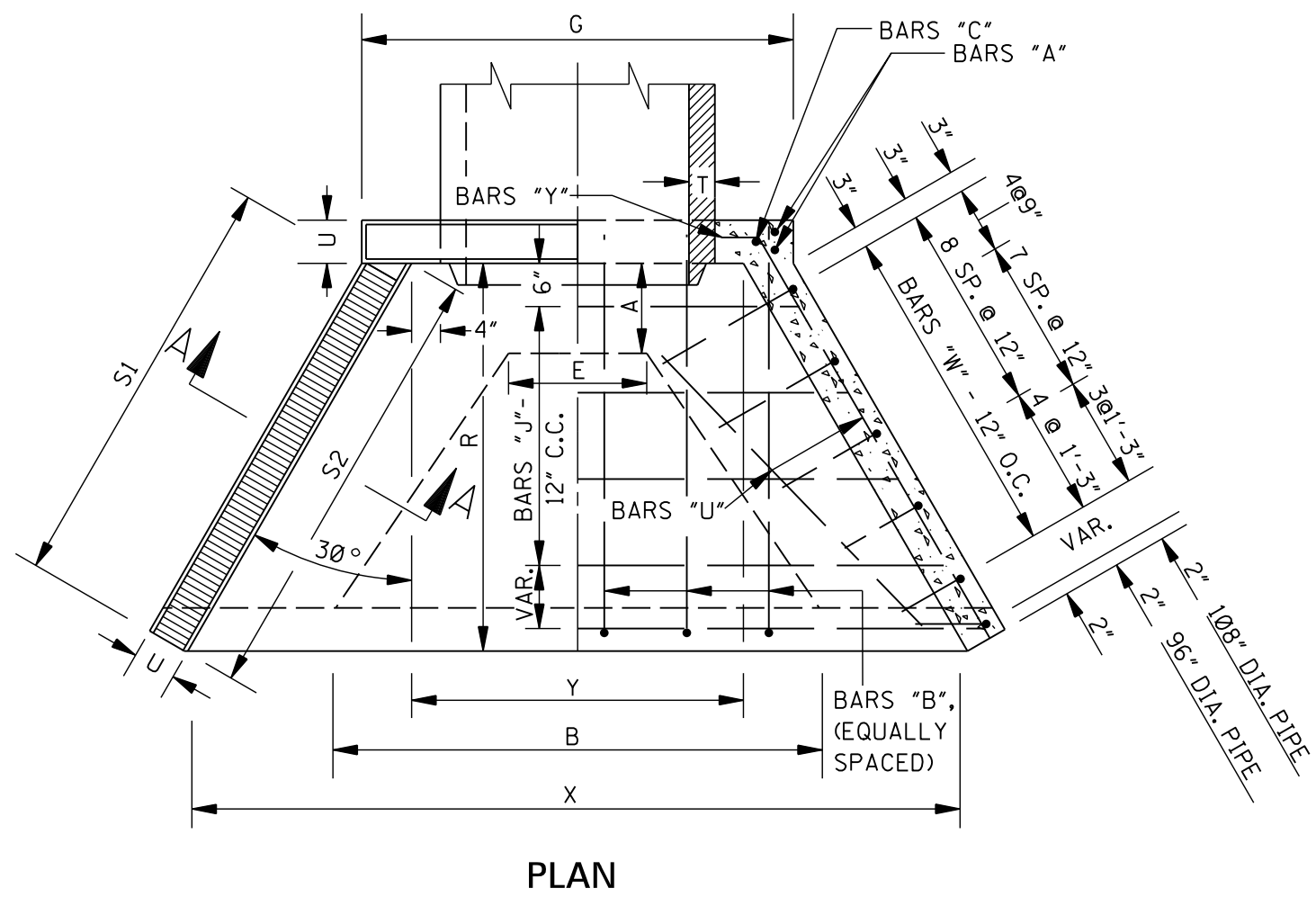
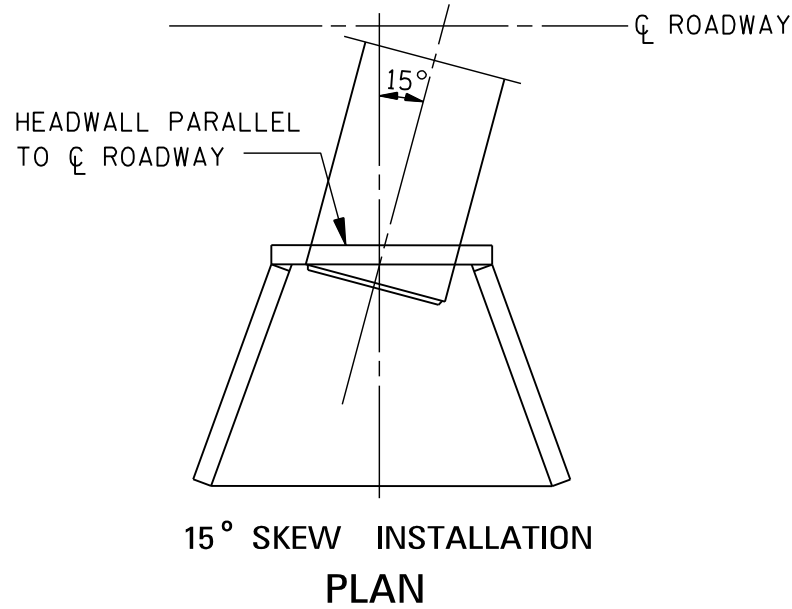
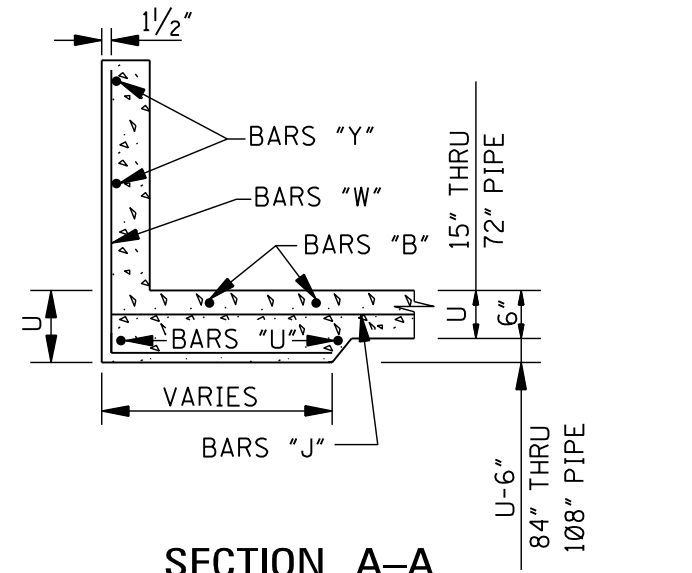
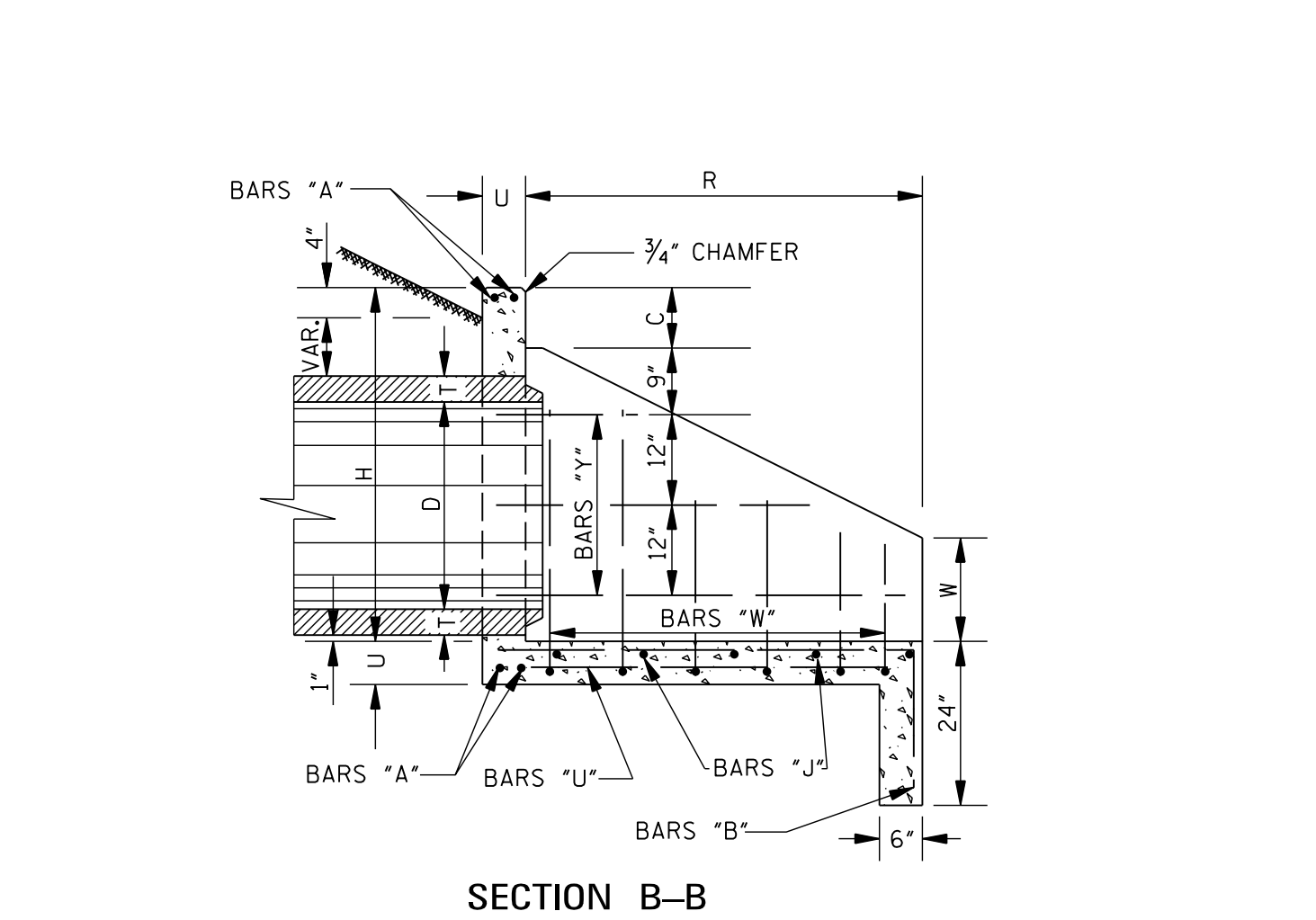
Y6		Y7		Y8	
LGTH	NO	LGTH	NO	LGTH	NO
0-7					
1-7					
1-9	4	12-4			
1-9	8	13-10			
2-0	2	13-9	6	15-7	
1-11	2	14-5	2	15-8	17-2


[illegible]

PIPE DIA	DIMENSIONS							DIMENSIONS AND REINFORCING FOR FLARED HEADWALL FOR DOUBLE LINE PIPE CULVERT																												PAY QTY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
	A	B	E	G	X	Y	Z	REINFORCING STEEL																												CONC	STEE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
								N	A	N	B	N	C	N	D	N	J1	N	J2	N	J3	N	J4	N	J5	N	J6	N	J7	N	J8	N	J9	N	J10			N	J11	N	J12	N	J13	N	J14																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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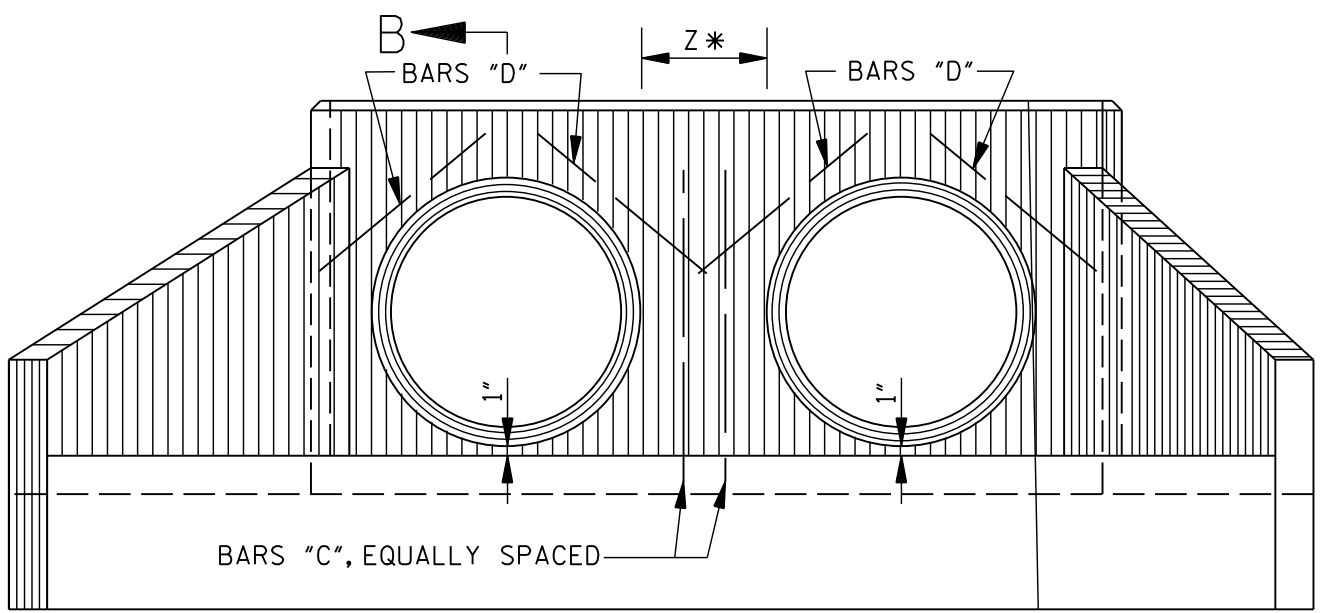
[illegible]

DIMENSIONS								DIMENSIONS AND REINFORCING FOR FLARED HEADWALL FOR QUADRUPLER LINE PIPE CULVERT																								PAY QTY	
								REINFORCING STEEL																								1-HEADWALL	
DIA PIPE	A	B	E	G	X	Y	Z	N A	N B	N C	N D	N J1	N J2	N J3	N J4	N J5	N J6	N J7	N J8	N J9	N J10	N J11	N J12	N J13	N J14	CONC CU YDS	STBL LBS						
								LGTH	LGTH	LGTH	LGTH	LGTH	LGTH	LGTH	LGTH	LGTH	LGTH	LGTH	LGTH	LGTH	LGTH	LGTH	LGTH	LGTH	LGTH								
18	-	-	-	12-6/2	14-5/8	11-0	1-0	4	16-2	14	4-10	5	3-2	8	2-0	1	12-10	1	14-0	1	15-2	1	15-2				2.44	182					
24	-	-	-	14-10/2	17-9/8	13-4	1-0	4	19-1	17	5-8	5	3-9	8	2-3	1	15-2	1	16-4	1	17-6	1	18-8	1	18-5		3.45	243					
30	-	-	-	18-1/2	21-9/8	16-7	1-3	4	23-0	18	6-4	8	4-4	8	2-6	1	18-5	1	20-9	1	21-11	1	22-2				4.74	307					
36	-	-	-	21-0/2	25-6/8	19-6	1-6	4	26-5	22	7-1	8	4-11	8	2-9	1	21-4	1	22-5	1	23-8	1	24-10	1	25-11	1	26-1	5.79	401				
42	-	-	-	24-1/2	29-5	22-7	1-9	4	30-1	25	7-9	8	5-6	8	3-0	1	24-5	1	25-7	1	26-9	1	27-11	1	29-0	1	31-2	7.79	479				
48	-	-	-	27-2/2	33-4/8	25-8	2-0	4	34-9	29	8-6	8	6-1	8	3-3	1	27-6	1	28-8	1	29-10	1	31-0	1	32-1	1	33-3	9.69	566				
54	-	-	-	30-10/8	37-6/8	29-1	2-3	4	39-0	32	9-4	11	6-10	8	3-6	1	32-2	1	33-4	1	34-6	1	35-9	1	36-9	1	37-11	13.94	702				
60	-	-	-	33-11/8	41-7/8	32-2	2-6	4	43-8	33	10-1	11	7-4	8	3-9	1	35-3	1	36-5	1	37-7	1	38-9	1	39-10	1	41-0	16.77	840				
66	-	-	-	37-4/8	45-10	35-3	2-9	4	47-9	36	11-2	11	8-2	8	4-3	1	38-8	1	39-10	1	41-0	1	42-2	1	43-3	1	44-5	23.62	1043				
72	-	-	-	40-5/8	49-8/8	38-4	3-0	4	51-5	40	11-10	11	8-10	8	4-7	1	41-8	1	42-10	1	44-0	1	45-2	1	46-3	1	47-5	27.19	1355				
84	3-0	52-6	37-6	46-9/8	57-4/8	43-6	3-6	4	56-11	47	13-2	14	10-1	8	5-3	1	44-0	1	44-10	1	49-2	1	50-4	1	51-6	1	52-7	31.98	1705				
96	3-0	58-8	42-6	53-7/8	65-2/8	50-8	4-0	4	65-11	52	14-11	17	11-5	8	5-9	1	55-0	1	56-2	1	57-4	1	58-6	1	59-7	1	61-9	50.54	2081				
108	3-0	66-4	47-6	59-9/8	73-1/8	56-10	4-6	4	73-3	59	16-4	17	12-7	8	6-4	1	62-0	1	63-2	1	64-4	1	65-6	1	66-7	1	67-9	61.56	2622				



								BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN					
								REVISION	<b>HEADWALLS</b> <b>FOR CONCRETE PIPE</b> <b>2:1 SLOPE – 0°– 15°SKEW</b>					
								DATE	ISSUE DATE: _____ AUGUST 01, 2017 _____					
									<div> WORKING NUMBER HW-2100  SHEET NUMBER 6571</div>					

DIMENSIONS AND REINFORCING COMMON TO FLARED HEADWALLS FOR SINGLE, DOUBLE, TRIPLE AND QUADRUPLE LINE PIPE CULVERTS

[illegible]

**MDOT**  
MICHIGAN DEPARTMENT OF TRANSPORTATION  
 WORKING NUMBER  
 HW-2130  
 SHEET NUMBER  
 6572



<p><b>BARS "B"</b></p>	<p><b>BARS "W"</b></p>	<p>NOTE: FOR BARS "YL" &amp; "YS", SCHEDULED LENGTH INCLUDES BENT SECTION.</p>	<p><b>BAR BENDING DETAILS</b></p> <p>NOTE: WHENEVER THE COMPUTED LENGTH OF BAR EXCEEDS 30', THE SCHEDULED LENGTH INCLUDES A 12" LAP. ALL BARS ARE #4 EXCEPT BARS "W". SEE SCHEDULE FOR SIZE OF BARS "W". IN BAR DESIGNATIONS (e.g., "YS" &amp; "YL"), S DENOTES SHORT WING AND L DENOTES LONG WING.</p>
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GENERAL NOTES:			
1.	ALL CONCRETE SHALL BE CLASS "B".		
2.	ALL EXPOSED EDGES SHALL BE CHAMFERED ¾".		
3.	EXPOSED CONCRETE SURFACES SHALL BE FINISHED IN ACCORDANCE WITH THE APPLICABLE SECTION OF THE MDOT SPECIFICATIONS.		
4.	ALL LENGTHS AND QUANTITIES IN THE TABLES HEREON ARE BASED ON CONCRETE PIPE.		
5.	QUANTITIES SHOWN SHALL BE THE BASIS FOR FINAL PAYMENT UNLESS AUTHORIZED MODIFICATIONS ARE MADE.		

**FRONT ELEVATION**

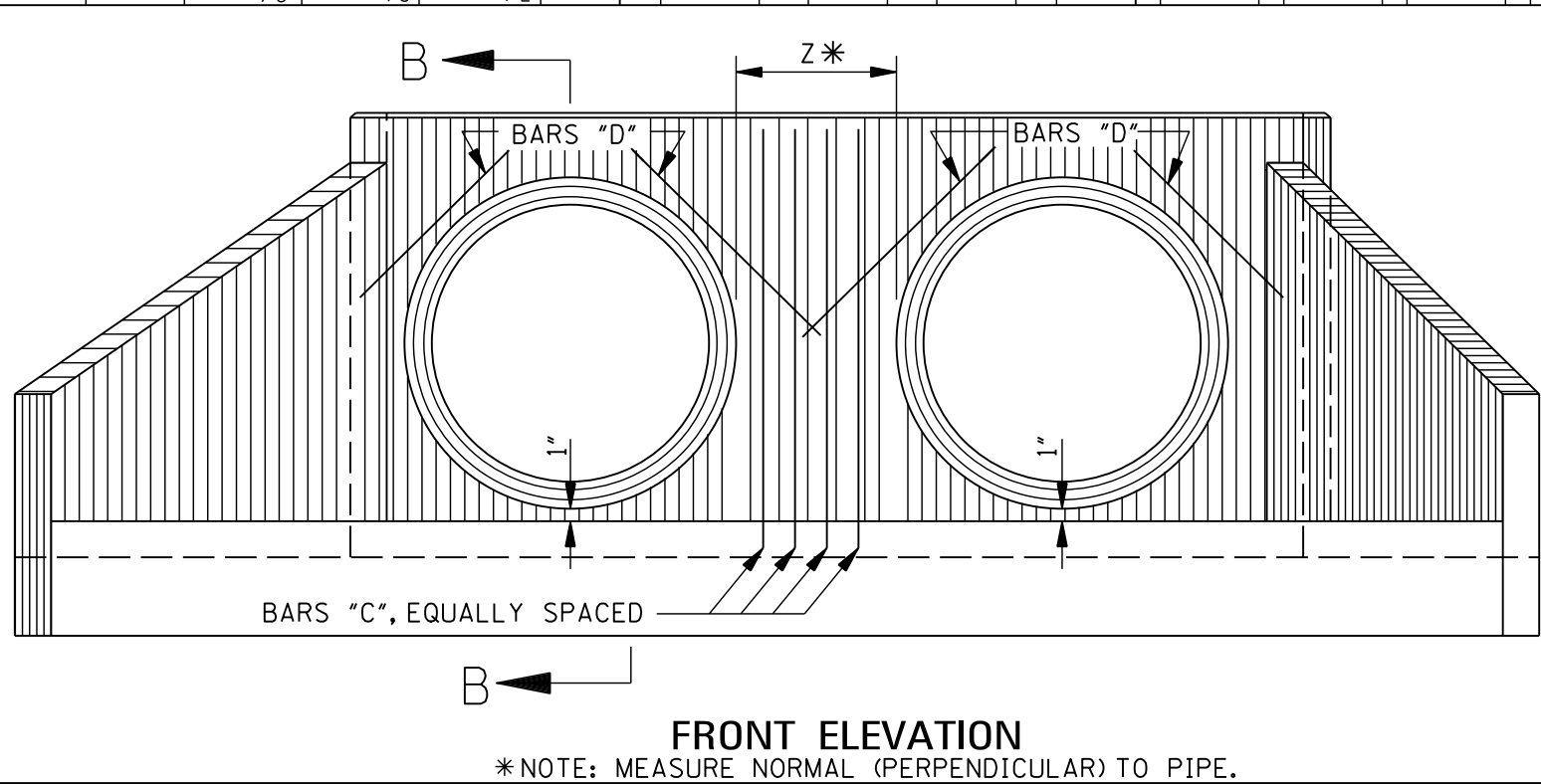
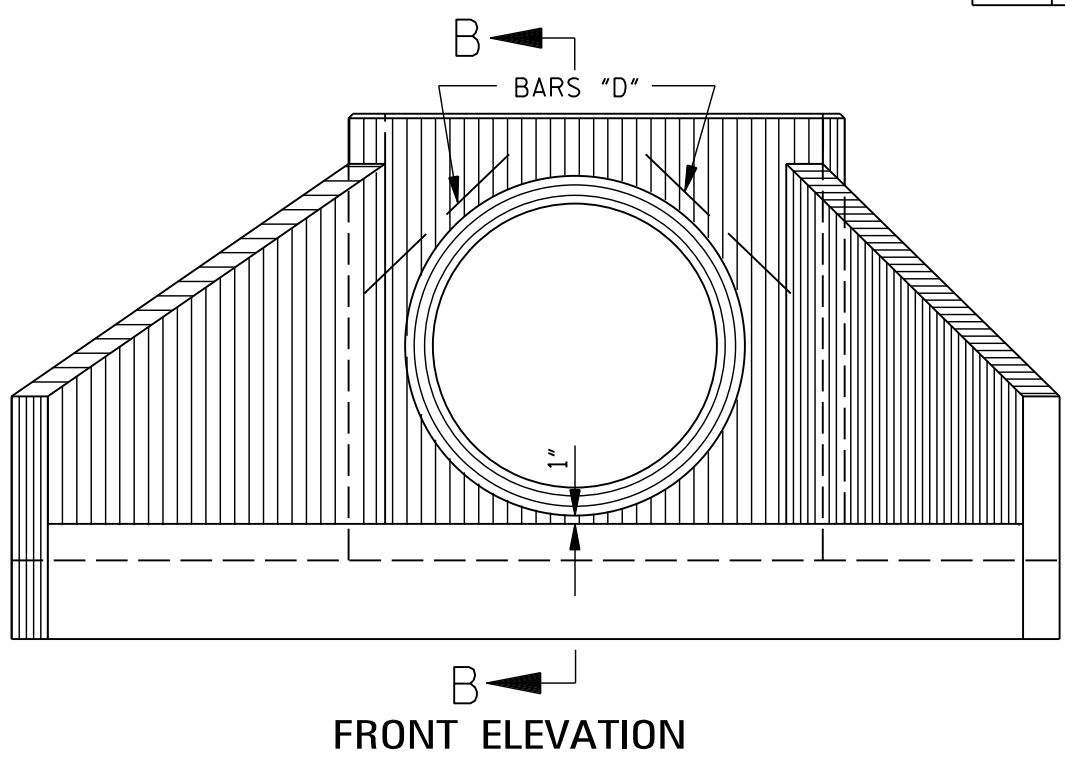
**FRONT ELEVATION**


\* NOTE: MEASURE NORMAL (PERPENDICULAR) TO PIPE.

		BY	<b>MISSISSIPPI DEPARTMENT OF TRANSPORTATION</b> ROADWAY DESIGN DIVISION STANDARD PLAN
		REVISION	
		DATE	
			<b>HEADWALLS FOR CONCRETE PIPE 2:1 SLOPE – 45° SKEW</b>
			<div style="display: flex; align-items: center;"> <div>             WORKING NUMBER: <b>HW-2145</b>              SHEET NUMBER: <b>6573</b> </div> </div>

1. ALL CONCRETE SHALL BE CLASS "B".
2. ALL EXPOSED EDGES SHALL BE CHAMFERED  $\frac{3}{4}$ ".
3. EXPOSED CONCRETE SURFACES SHALL BE FINISHED IN ACCORDANCE WITH THE APPLICABLE SECTION OF THE MDOT SPECIFICATIONS.
4. ALL LENGTHS AND QUANTITIES IN THE TABLES HEREON ARE BASED ON CONCRETE PIPE.
5. QUANTITIES SHOWN SHALL BE THE BASIS FOR FINAL PAYMENT UNLESS AUTHORIZED MODIFICATIONS ARE MADE.



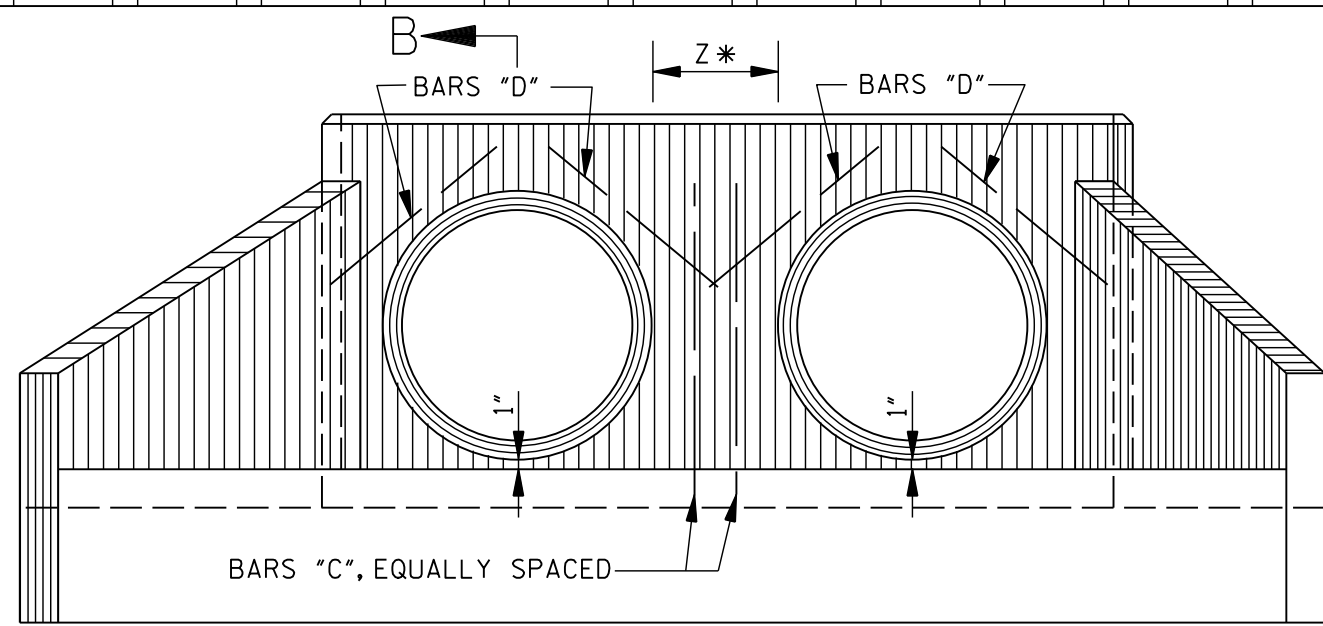
						BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
						REVISION	<b>HEADWALLS FOR CONCRETE PIPE 2:1 SLOPE – 45° SKEW</b>
						DATE	ISSUE DATE: AUGUST 01, 2017
							 <div>WORKING NUMBER HW-2145</div> <div>SHEET NUMBER 6573</div>





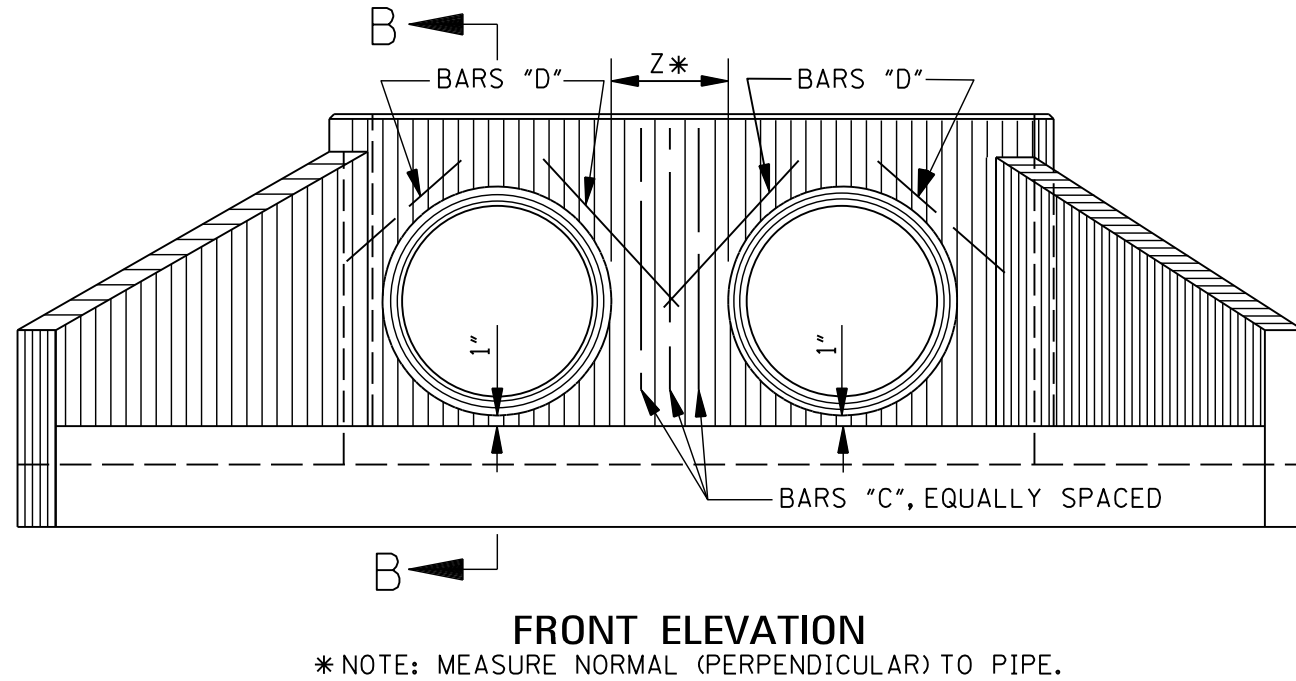
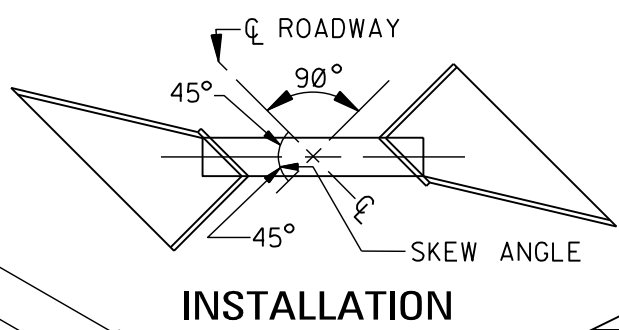
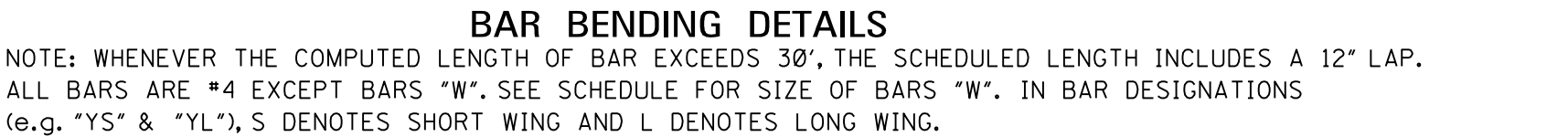
[illegible]


PIPE DIA	DIMENSIONS							DIMENSIONS AND REINFORCING FOR FLARED HEADWALL FOR QUADRUPLE LINE PIPE CULVERT																																												PAY QTY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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								N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O			LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH	N	O	LGTH



					BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
					REVISION	<p style="text-align: center;"><b>HEADWALLS FOR CONCRETE PIPE 3:1 SLOPE – 30° SKEW</b></p>
					DATE	<div style="display: flex; align-items: center;"> <div> <p>WORKING NUMBER HW-3130</p> <p>SHEET NUMBER 6575</p> </div> </div>
					ISSUE DATE:	AUGUST 01, 2017

STATE	PROJECT NO.
MISS.	

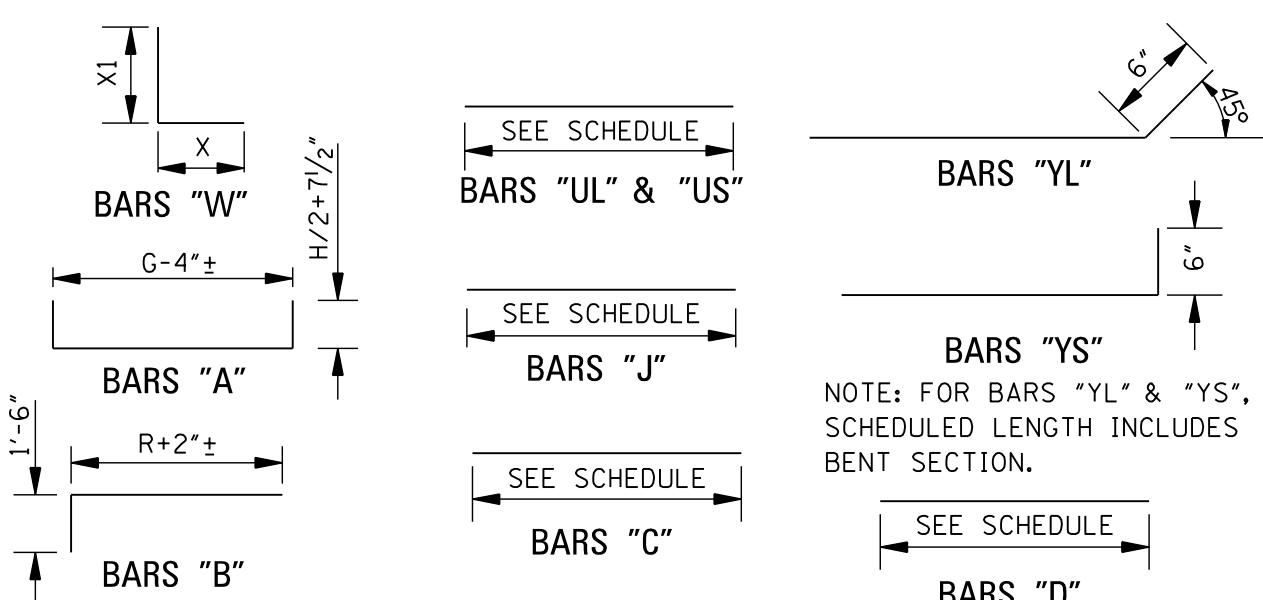


				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
					<p align="center"><b>HEADWALLS</b>  <b>FOR CONCRETE PIPE</b>  <b>3:1 SLOPE – 45° SKEW</b></p>
				DATE	<div style="display: flex; justify-content: space-between; align-items: center;">  <div> <p>MISSISSIPPI DEPARTMENT OF TRANSPORTATION</p> <p>WORKING NUMBER HW-3145</p> <p>SHEET NUMBER 6576</p> </div> </div>
				ISSUE DATE:	AUGUST 01, 2017



6577

STATE	PROJECT NO.
MISS.	

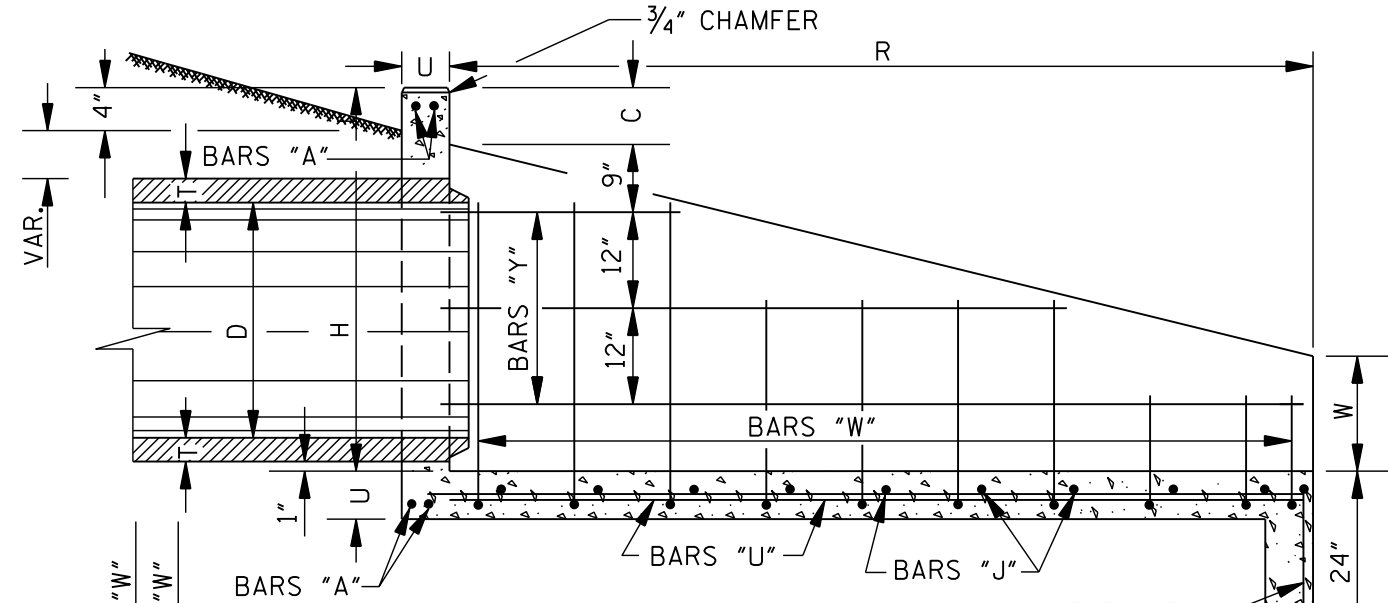
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## BAR BENDING DETAILS

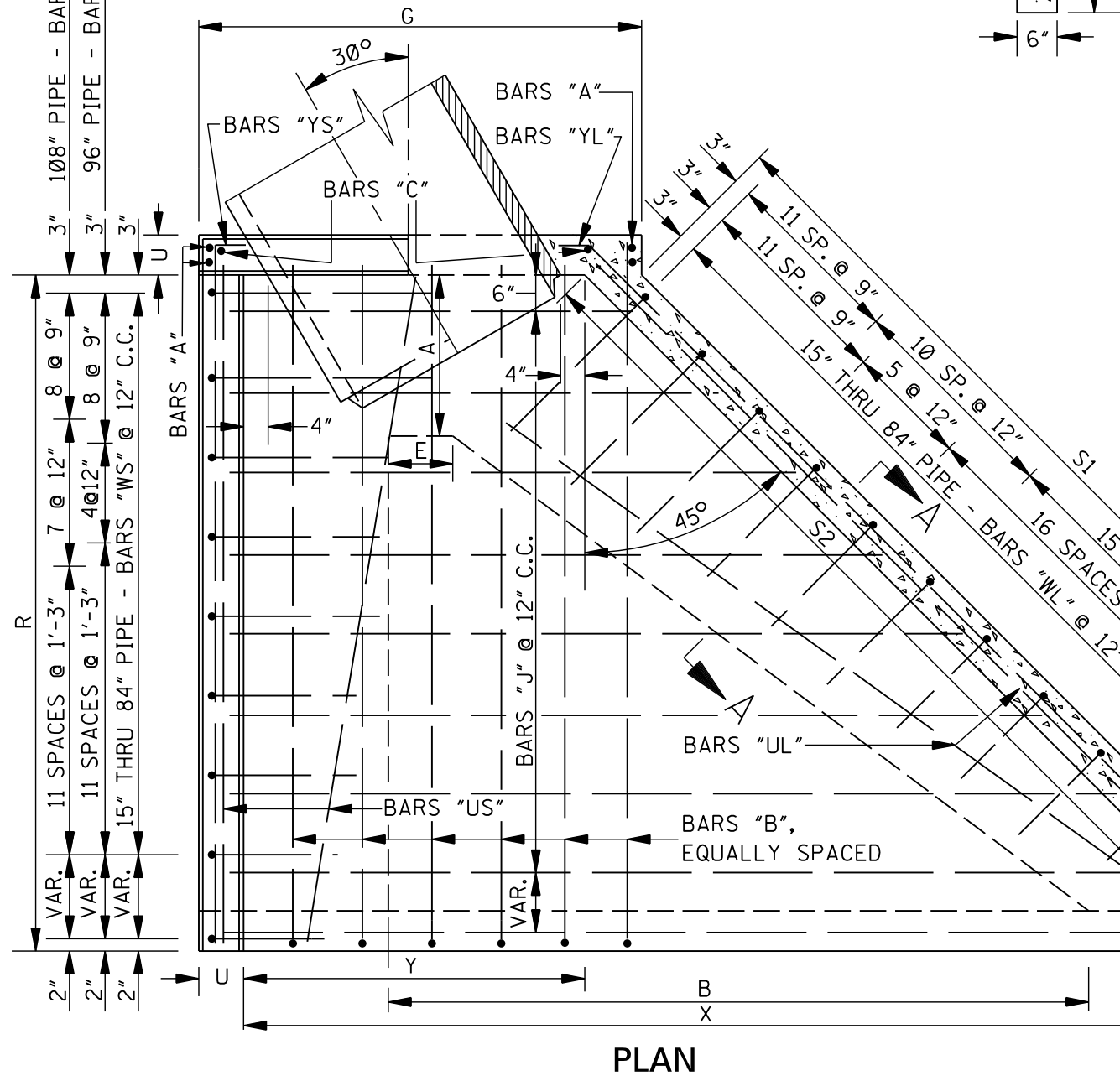
NOTE: WHENEVER THE COMPUTED LENGTH OF BAR EXCEEDS 30', THE SCHEDULED LENGTH INCLUDES A 12" LAP. ALL BARS ARE #4 EXCEPT BARS "W". SEE SCHEDULE FOR SIZE OF BARS "W". IN BAR DESIGNATIONS (e.g. "YS" & "YL"), S DENOTES SHORT WING AND L DENOTES LONG WING.

GENERAL NOTES:

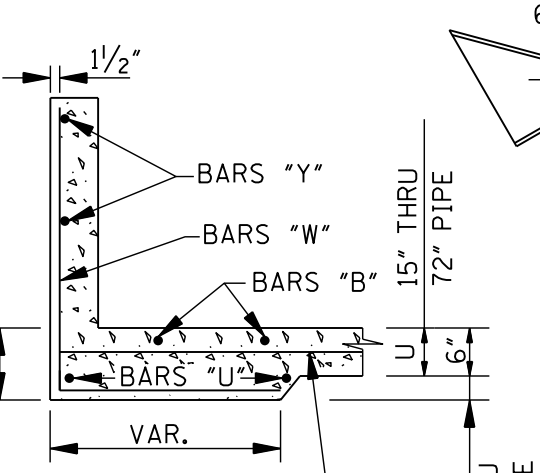
1. ALL CONCRETE SHALL BE CLASS "B".
2. ALL EXPOSED EDGES SHALL BE CHAMFERED  $\frac{3}{4}$ ".
3. EXPOSED CONCRETE SURFACES SHALL BE FINISHED IN ACCORDANCE WITH THE APPLICABLE SECTION OF THE MDOT SPECIFICATIONS.
4. ALL LENGTHS AND QUANTITIES IN THE TABLES HEREON ARE BASED ON CONCRETE PIPE.
5. QUANTITIES SHOWN SHALL BE THE BASIS FOR FINAL PAYMENT UNLESS AUTHORIZED MODIFICATIONS ARE MADE.



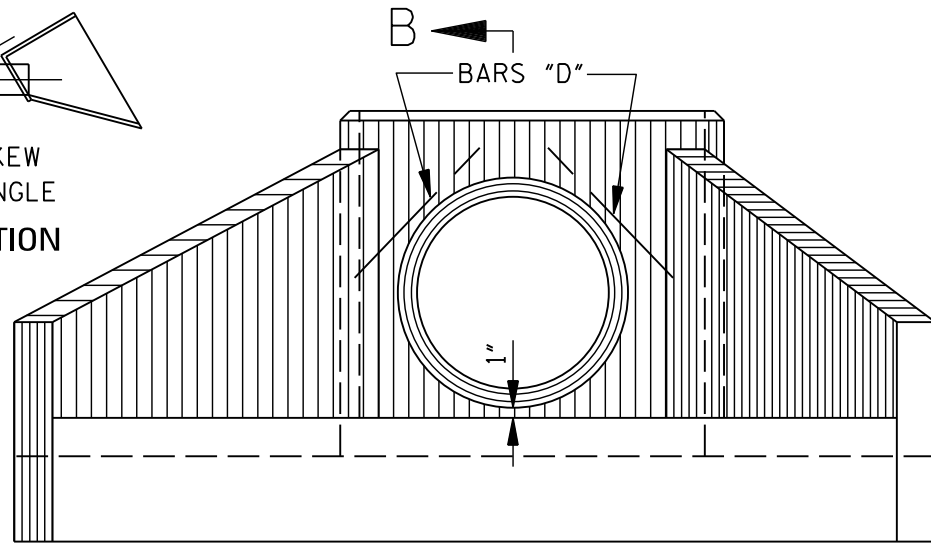
SECTION B-B



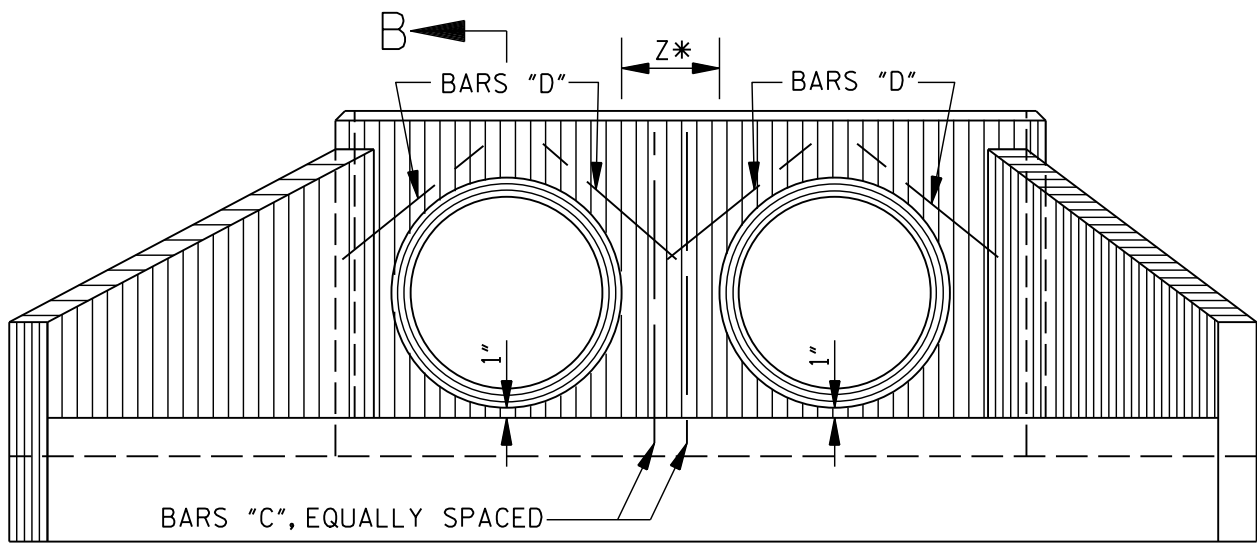
SECTION A-A




### FRONT ELEVATION




FRONT ELEVATION



\*NOTE: MEASURE NORMAL (PERPENDICULAR) TO PIPE.

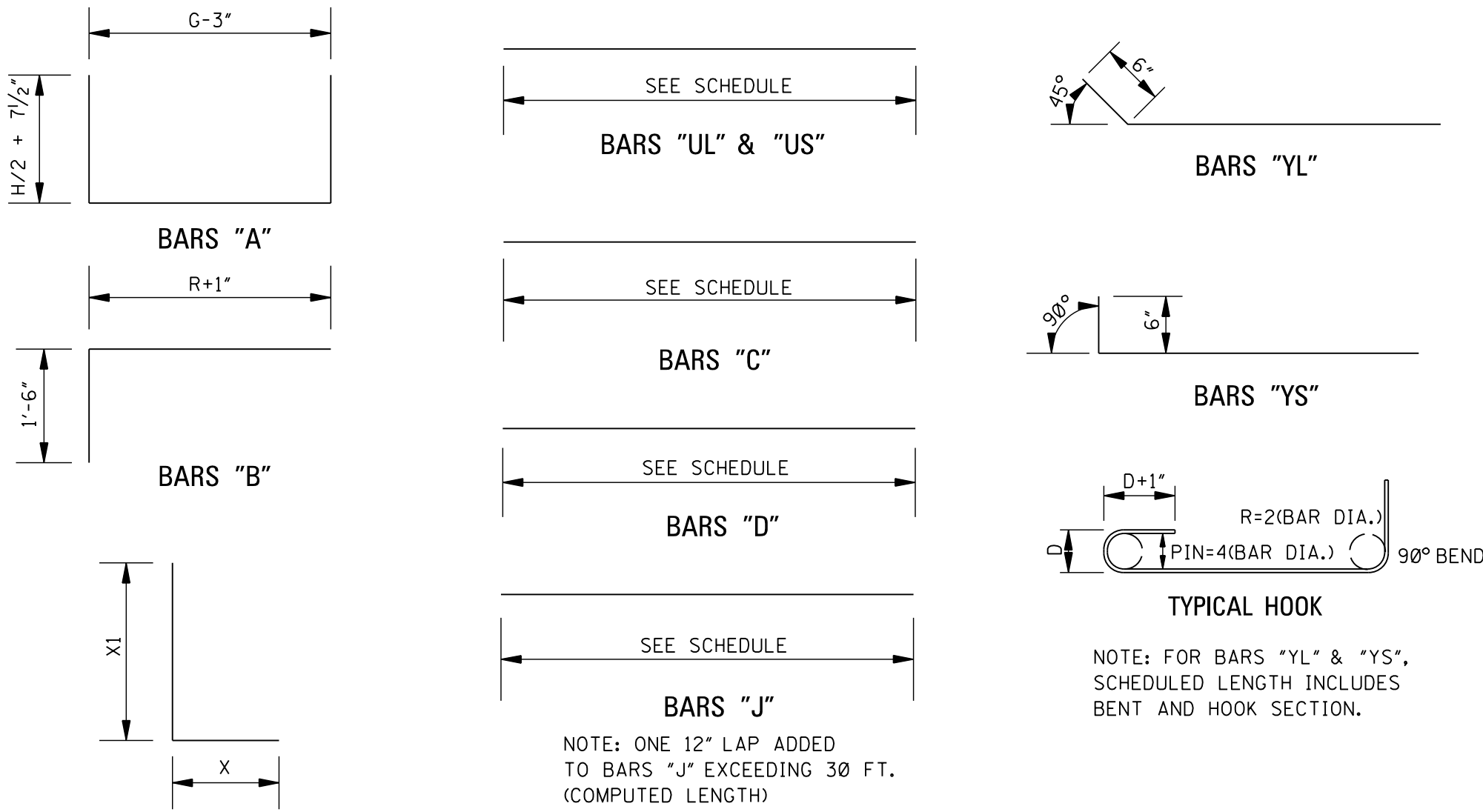
				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
			DAT	<div style="text-align: center;"> <b>HEADWALLS</b>  <b>FOR CONCRETE PIPE</b>  <b>4:1 SLOPE – 30° SKEW</b> </div>	
				 WORKING NUMBER HW-4130	
				SHEET NUMBER 6578	
				ISSUE DATE: AUGUST 01, 2017	



				BY	MISSISSIPPI DEPARTMENT OF TRANSPORTATION ROADWAY DESIGN DIVISION STANDARD PLAN
				REVISION	
				DATE	<div style="text-align: center;"> <b>HEADWALLS</b>  <b>FOR CONCRETE PIPE</b>  <b>4:1 SLOPE – 45° SKEW</b> </div> <div style="display: flex; justify-content: space-between; align-items: center;"> <div> ISSUE DATE: <u>          AUGUST 01, 2017          </u> </div> <div style="text-align: right;">   WORKING NUMBER  HW-4145   SHEET NUMBER  6579 </div> </div>

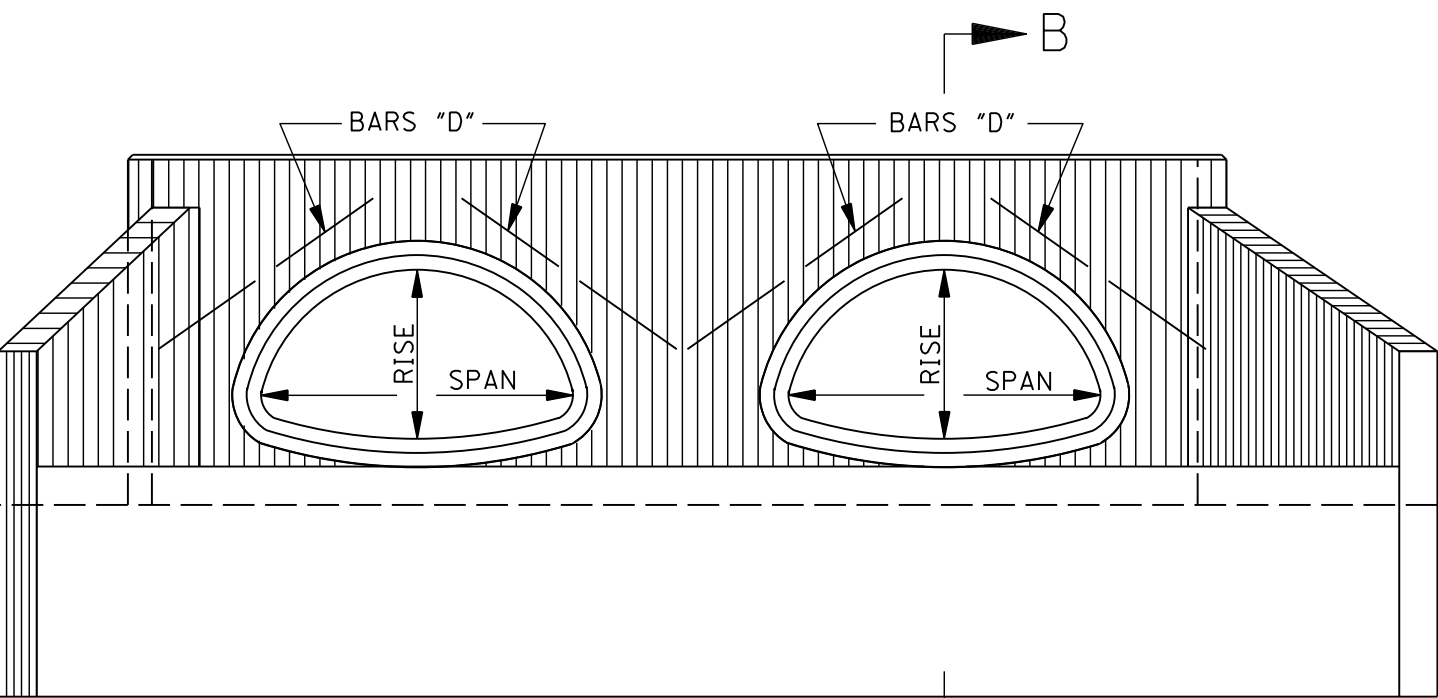




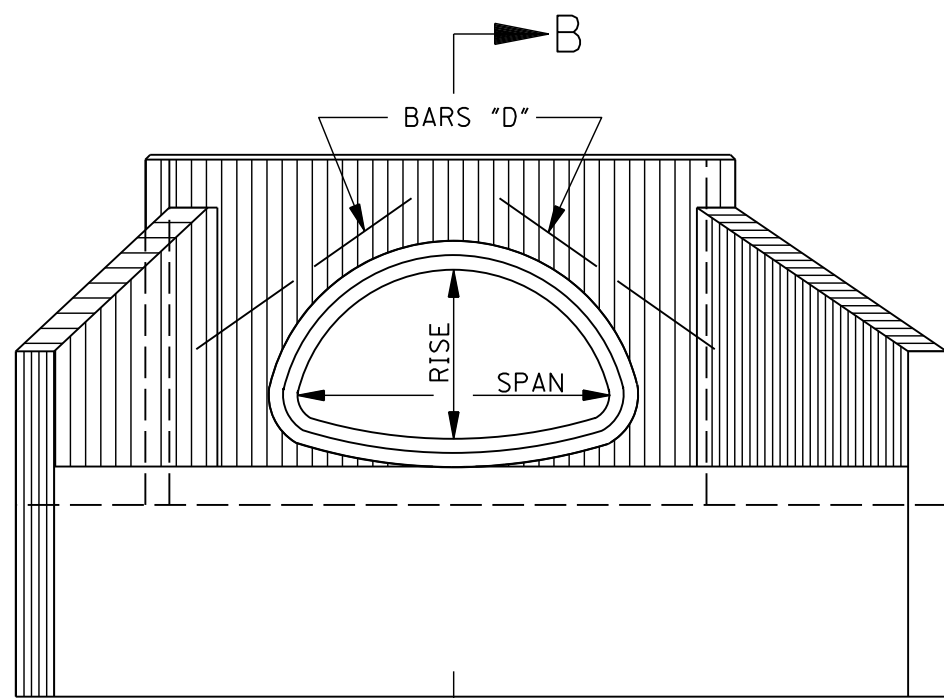


BAR BENDING DETAILS

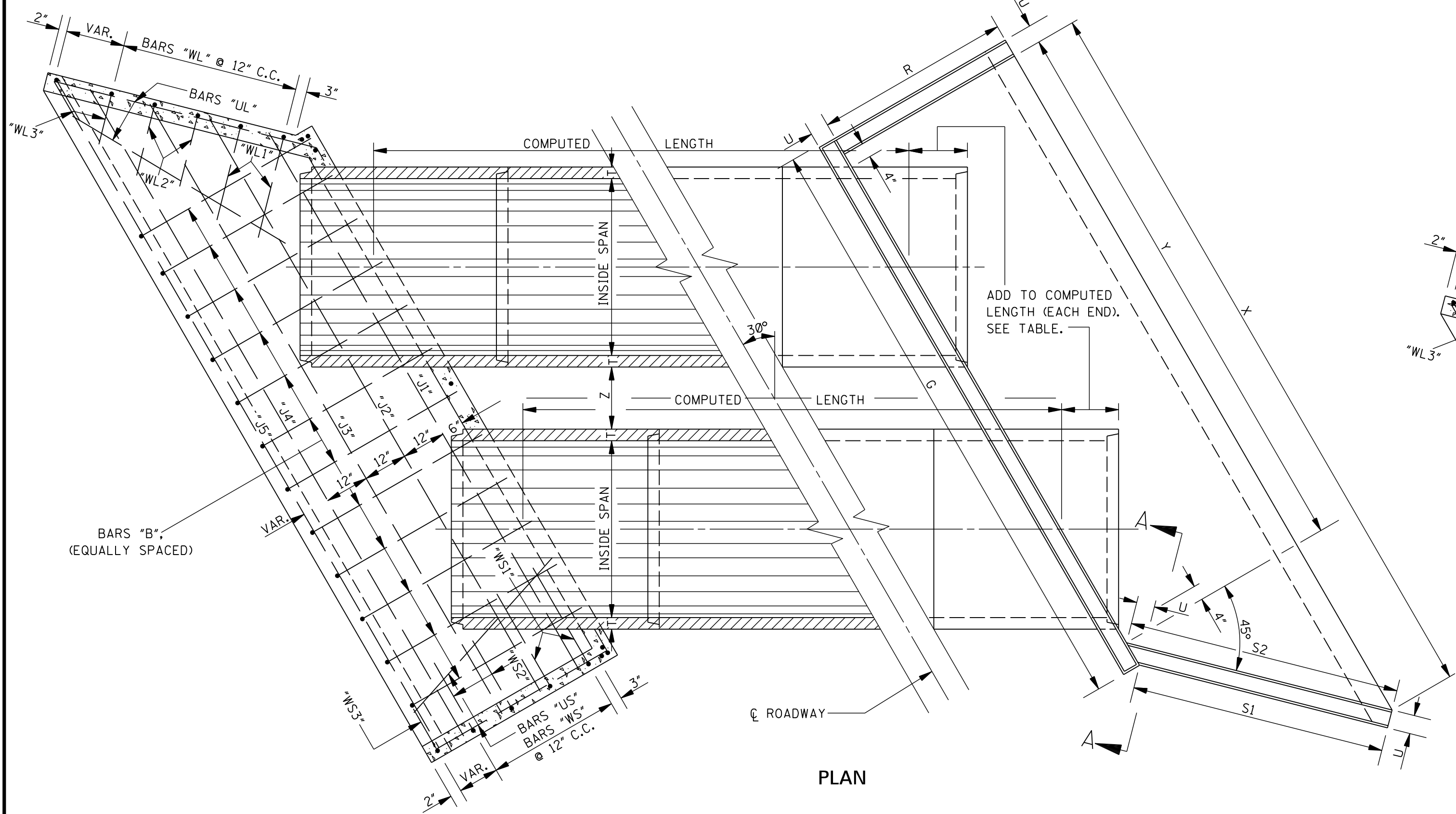
NOTE: ALL BARS ARE #4, IN BAR DESIGNATIONS (e.g. "YS" & "YL"), S DENOTES SHORT WING AND L DENOTES LONG WING.



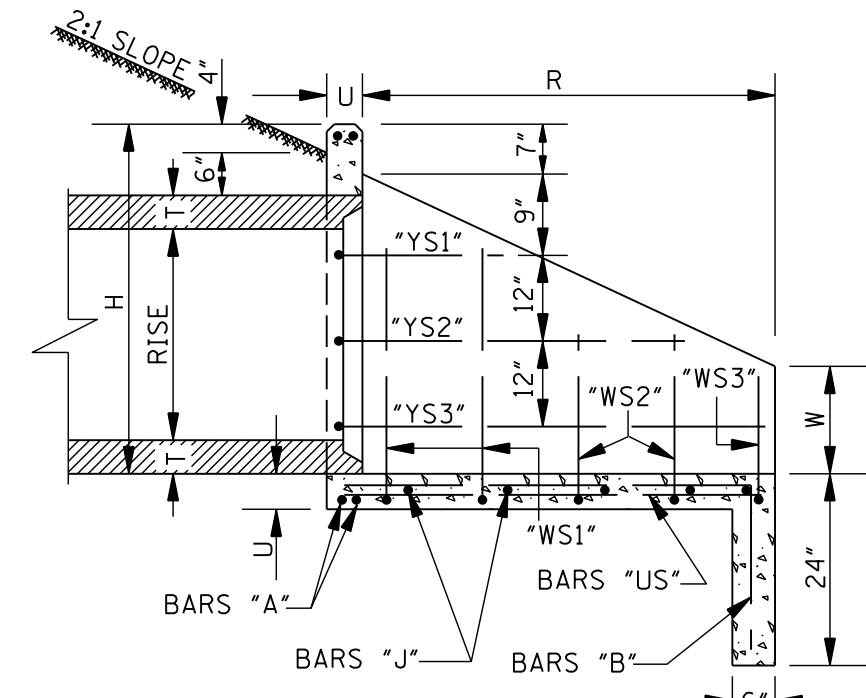
FRONT ELEVATION



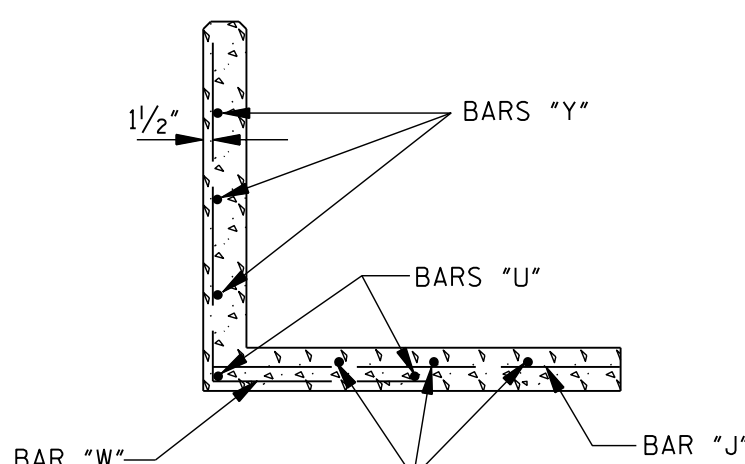
FRONT ELEVATION



PLAN



SECTION B-B



SECTION A-A

FLARED HEADWALL FOR SINGLE, DOUBLE AND TRIPLE LINE PIPE CULVERTS																																																						
REINFORCING STEEL REQUIRED FOR ONE HEADWALL ON SINGLE OR DOUBLE LINE PIPE CULVERTS																																																						
EQUAL PIPE SIZE	UL		US		YL1		YL2		YL3		YL4		YL5		YL6		YS1		YS2		YS3		YS4		YS5		YS6		WL1		WL2		WL3		WL4		WL5		WL6		WS1		WS2		WS3		WS4							
	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH										
18	2	3-5	2	2-8	1	2-8	1	4-0									1	2-4	1	3-5									2	3-1	2	2-0							2	2-10	1	2-0												
24	2	4-3	2	3-3	1	2-7	1	4-9									1	2-4	1	4-0									2	4-2	2	2-8	1	2-3							2	3-10	2	2-1										
30	2	5-0	2	3-10	1	2-8	1	5-6	1	5-7							1	2-4	1	4-6	1	4-7							2	4-9	2	3-6	2	2-6							2	4-5	2	2-4										
36	2	5-10	2	4-5	1	2-9	1	5-7	1	6-5							1	2-4	1	4-6	1	5-2							2	5-5	2	4-3	2	2-10							2	5-2	2	3-2	1	2-10								
42	2	6-7	2	4-11	1	2-9	1	5-6	1	7-2							1	2-4	1	4-5	1	5-8							2	6-4	2	5-2	2	3-8	1	3-1						2	6-0	2	4-1	2	3-1							
48	2	7-6	2	5-7	1	2-9	1	5-7	1	8-1	1	8-1					1	2-4	1	4-5	1	6-4	1	6-4		6-4			2	7-0	2	5-11	2	4-7	2	3-4						2	6-8	2	4-10	2	3-4							
54	2	8-3	2	6-1	1	2-9	1	5-6	1	8-4	1	8-10					1	2-4	1	4-6	1	6-7	1	6-11				2	8-0	2	6-10	2	5-5	2	4-3	1	3-8					2	7-8	2	5-9	2	4-2	1	3-8					
60	2	9-2	2	6-9	1	2-9	1	5-6	1	8-4	1	9-10	1	9-10			1	2-5	1	4-6	1	6-7	1	7-8	1	7-8		7-8		2	9-2	2	8-0	2	6-8	2	5-6	2	4-4					2	8-10	2	6-8	2	5-4	1	4-4			
72	2	10-8	2	7-10	1	2-11	1	5-7	1	8-5	1	11-2	1	11-5	1	11-5	1	2-8	1	4-8	1	6-9	1	8-9	1	9-0	1	9-0		2	11-2	2	10-0	2	8-9	2	7-6	2	6-2	1	5-5			2	10-11	2	8-7	2	7-5	2	5-5			

EQUAL PIPE SIZE		FLARED HEADWALL FOR SINGLE LINE PIPE CULVERT																				PAY QUANTITIES FOR ONE HEADWALL							
		DIMENSIONS			ADDITIONAL STEEL REQUIRED FOR ONE HEADWALL																								
		A	B	C	D	J1	J2	J3	J4	J5	J6	J7	J8																
G	X	Y	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	CONCRETE (CU. YDS.)	STEEL (LBS.)	
18	4-10 <sup>3</sup> / <sub>4</sub>	5-9 <sup>1</sup> / <sub>2</sub>	3-3 <sup>1</sup> / <sub>2</sub>	4	8-3	3	4-4	2	2-9	2	2-3	1	5-0	1	6-0	1	6-9										1.03	74	
24	5-7 <sup>1</sup> / <sub>2</sub>	7-1 <sup>1</sup> / <sub>4</sub>	4-0 <sup>1</sup> / <sub>4</sub>	4	9-7	4	4-11	2	3-4	2	2-6	1	5-9	1	6-9	1	7-9	1	8-1								1.43	99	
30	6-4 <sup>3</sup> / <sub>4</sub>	8-5 <sup>1</sup> / <sub>2</sub>	4-9 <sup>1</sup> / <sub>2</sub>	4	10-8	5	5-6	2	3-8	2	2-9	1	6-7	1	7-7	1	8-7	1	9-5								1.83	124	
36	7-3 <sup>1</sup> / <sub>2</sub>	9-11	5-8	4	12-0	6	6-1	2	4-2	2	3-0	1	7-6	1	8-6	1	9-6	1	10-6	1	10-11						2.33	153	
42	8-0 <sup>3</sup> / <sub>4</sub>	11-2 <sup>1</sup> / <sub>2</sub>	6-5 <sup>1</sup> / <sub>2</sub>	4	13-3	7	6-7	2	4-7	2	3-5	1	8-3	1	9-3	1	10-3	1	11-3	1	12-2						2.83	179	
48	8-10 <sup>1</sup> / <sub>2</sub>	12-8 <sup>1</sup> / <sub>4</sub>	7-3 <sup>1</sup> / <sub>4</sub>	4	14-6	8	7-3	2	5-1	2	3-10	1	9-0	1	10-0	1	11-0	1	12-0	1	13-0	1	13-8				3.49	223	
54	9-8 <sup>3</sup> / <sub>6</sub>	13-11 <sup>1</sup> / <sub>4</sub>	8-0 <sup>1</sup> / <sub>4</sub>	4	15-10	8	7-10	2	5-7	2	4-3	1	9-10	1	10-10	1	11-10	1	12-10	1	13-10	1	15-0				4.34	250	
60	10-10 <sup>3</sup> / <sub>6</sub>	15-5 <sup>1</sup> / <sub>2</sub>	8-10 <sup>1</sup> / <sub>2</sub>	4	17-6	9	8-7	2	6-2	2	4-8	1	11-1	1	12-1	1	13-1	1	14-1	1	15-1	1	16-1	1	16-10		6.16	308	
72	13-0 <sup>3</sup> / <sub>6</sub>	18-1 <sup>1</sup> / <sub>2</sub>	10-5 <sup>1</sup> / <sub>2</sub>	4	20-7	11	9-11	2	7-4	2	5-3	1	13-3	1	14-3	1	15-3	1	16-3	1	17-3	1	18-3	1	19-3	1	20-1	10.79	423

PAY QUANTITIES FOR ONE HEADWALL	
CONCRETE (CU. YDS.)	STEEL (LBS.)
1.03	74
1.43	99
1.83	124
2.33	153
2.83	179
3.49	223
4.34	250
6.16	308
10.79	423

EQUAL PIPE SIZE		DIMENSIONS				FLARED HEADWALL FOR DOUBLE LINE PIPE CULVERT																				PAY QUANTITIES FOR ONE HEADWALL						
						ADDITIONAL STEEL REQUIRED FOR ONE HEADWALL																										
		G	X	Y	Z	A		B		C		D		J1		J2		J3		J4		J5		J6		J7		J8		CONCRETE (CU. YDS.)	STEEL (LBS.)	
18	8-8	9-6 3/4	7-0 3/4	1-0	4	12-0	7	4-4	3	2-9	4	2-3	1	8-9	1	9-9	1	10-6													1.56	112
24	10-1 1/4	11-7 1/2	8-6 1/2	1-0	4	14-1	9	4-11	3	3-4	4	2-6	1	10-3	1	11-3	1	12-3	1	12-7											2.15	149
30	11-8 3/4	13-8 3/4	10-0 3/4	1-0	4	15-11	10	5-6	3	3-8	4	2-9	1	11-11	1	12-11	1	13-11	1	14-8											2.74	182
36	13-9	16-4 1/4	12-1 1/4	1-3	4	18-5	12	6-1	4	4-2	4	3-0	1	14-0	1	15-0	1	16-0	1	17-0	1	17-4									3.57	231
42	14-11 1/2	18-5	13-8	1-3	4	20-5	14	6-7	4	4-7	4	3-5	1	15-6	1	16-6	1	17-6	1	18-6	1	19-5									4.26	270
48	17-2 1/2	21-0 1/4	15-7 1/4	1-6	4	22-10	16	7-3	4	5-1	4	3-10	1	17-4	1	18-4	1	19-4	1	20-4	1	21-4	1	22-0							5.39	336
54	19-1 1/6	23-4	17-5	1-9	4	25-2	18	7-10	4	5-7	4	4-3	1	19-3	1	20-3	1	21-3	1	22-3	1	23-3	1	24-5							6.76	386
60	21-4 1/6	25-11 1/2	19-4 1/2	2-0	4	28-0	20	8-7	4	6-2	4	4-8	1	21-7	1	22-7	1	23-7	1	24-7	1	25-7	1	26-7					1	27-4	9.61	471
72	25-5 1/6	30-6	22-10	2-3	4	32-11	23	9-11	5	7-4	4	5-3	1	25-8	1	26-8	1	27-8	1	28-8	1	29-8	1	31-8	1	31-8	1	32-6			16.72	634

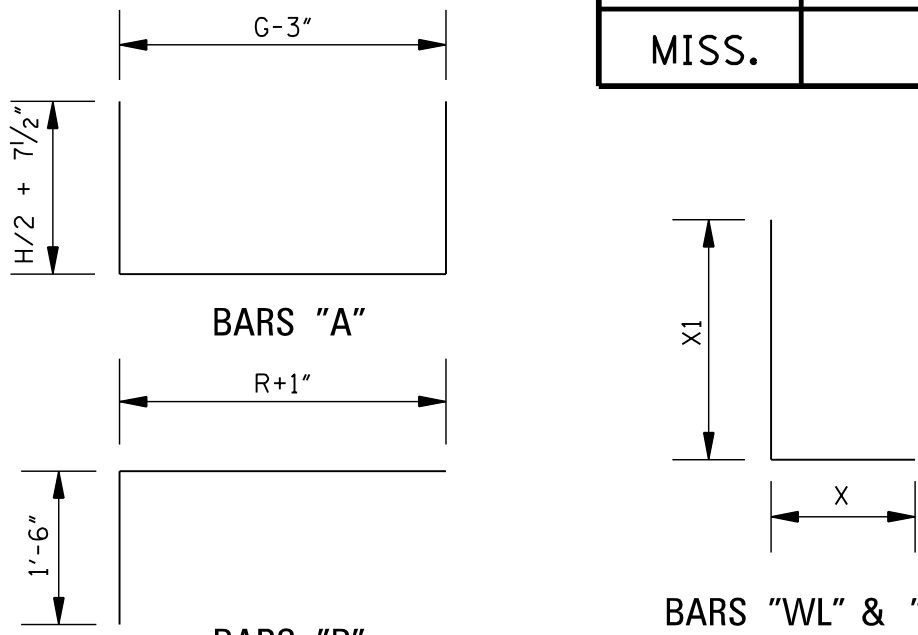
PAY QUANTITIES FOR ONE HEADWALL	
CONCRETE (CU. YDS.)	STEEL (LBS.)
1.56	112
2.15	149
2.74	182
3.57	231
4.26	270
5.39	336
6.76	386
9.61	471
16.72	634

EQUAL PIPE SIZE		DIMENSIONS				FLARED HEADWALL FOR TRIPLE LINE PIPE CULVERT																								PAY QUANTITIES FOR ONE HEADWALL			
						ADDITIONAL STEEL REQUIRED FOR ONE HEADWALL																											
		A	B	C	D	J1	J2	J3	J4	J5	J6	J7	J8	CONCRETE (CU. YDS.)	STEEL (LBS.)																		
G	X	Y	Z	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH	NO	LGTH		
18	12-5/4	13-4	10-9/4	1-0	4	15-9	11	4-4	4	2-9	6	2-3	1	12-6	1	13-6	1	14-3														2.09	146
24	14-8	16-13/4	12-11/4	1-0	4	18-5	14	4-11	4	3-4	6	2-6	1	14-9	1	15-9	1	16-9	1	17-1												2.87	192
30	16-113/4	19-0	15-53/4	1-0	4	19-4	15	5-6	4	3-8	6	2-9	1	17-3	1	18-3	1	19-3	1	19-11												3.65	233
36	20-21/2	22-10/2	18-6	1-3	4	24-0	18	6-1	6	4-2	6	3-0	1	20-6	1	21-6	1	22-6	1	23-6	1	23-9										4.81	306
42	21-10/4	25-71/2	20-11	1-3	4	26-9	21	6-7	6	4-7	6	3-5	1	22-9	1	23-9	1	24-9	1	25-9	1	26-9										5.69	351
48	25-61/2	29-41/4	23-11	1-6	4	29-6	24	7-3	6	5-1	6	3-10	1	25-8	1	26-8	1	27-8	1	28-8	1	29-8										7.29	439
54	28-51/6	32-83/4	26-73/4	1-9	4	34-2	28	7-10	6	5-7	6	4-3	1	28-8	1	29-8	1	31-8	1	32-8	1	33-8	1	34-10								9.18	511
60	31-111/6	36-51/2	29-10	2-0	4	38-6	31	8-7	6	6-2	6	4-8	1	33-1	1	34-1	1	35-1	1	36-1	1	37-1	1	38-1	1	38-10						13.06	628
72	37-101/6	42-101/2	35-33/4	2-3	4	41-5	35	9-11	8	7-4	6	5-3	1	39-1	1	40-1	1	41-1	1	42-1	1	43-1	1	44-1	1	45-1	1	45-11				22.65	821





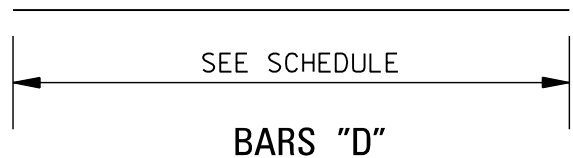
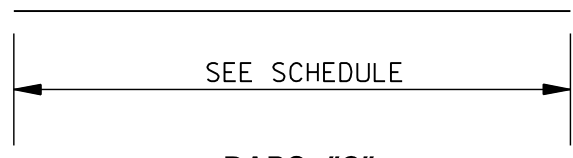
TABLE OF ADDED LENGTHS FOR 30° SKEWED PIPE	
EQUAL PIPE SIZE	ADDED LENGTH (FT.) EACH END
18	.66
24	.84
30	1.03
36	1.26
42	1.45
48	1.65
54	1.84
60	2.05



A diagram of a wedge with a 45-degree angle and a height of 6 inches. The wedge is shown in profile, with the 45-degree angle at the base and the 6-inch height indicated by a vertical line from the base to the top edge.



A diagram showing a corner formed by two perpendicular lines. An arc indicates a  $90^\circ$  angle. A dimension line indicates a distance of 6" from the corner to a vertical line.



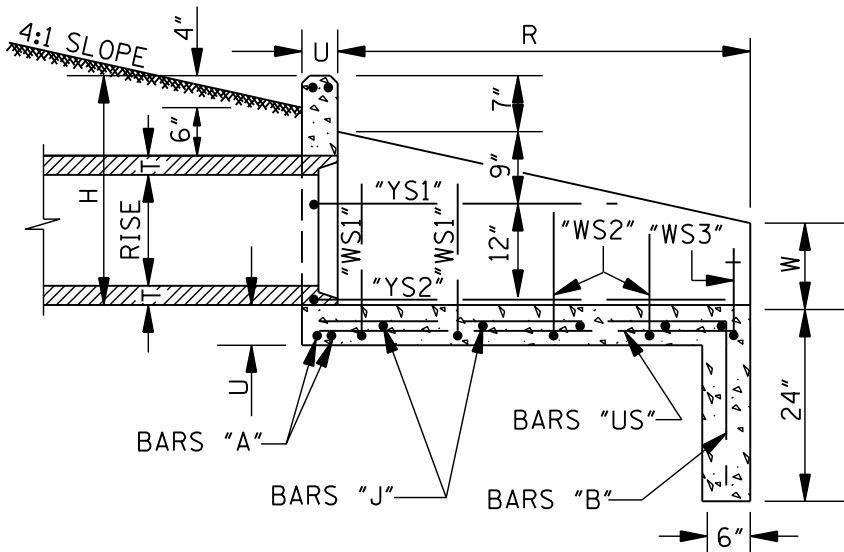
NOTE: FOR BARS "YL" & "YS",  
SCHEDULED LENGTH INCLUDES  
BENT AND HOOK SECTION.

SEE SCHEDULE

**BARS "J"**

NOTE: ONE 12" LAP ADDED  
TO BARS "J" EXCEEDING 30 FT.  
(COMPUTED LENGTH).

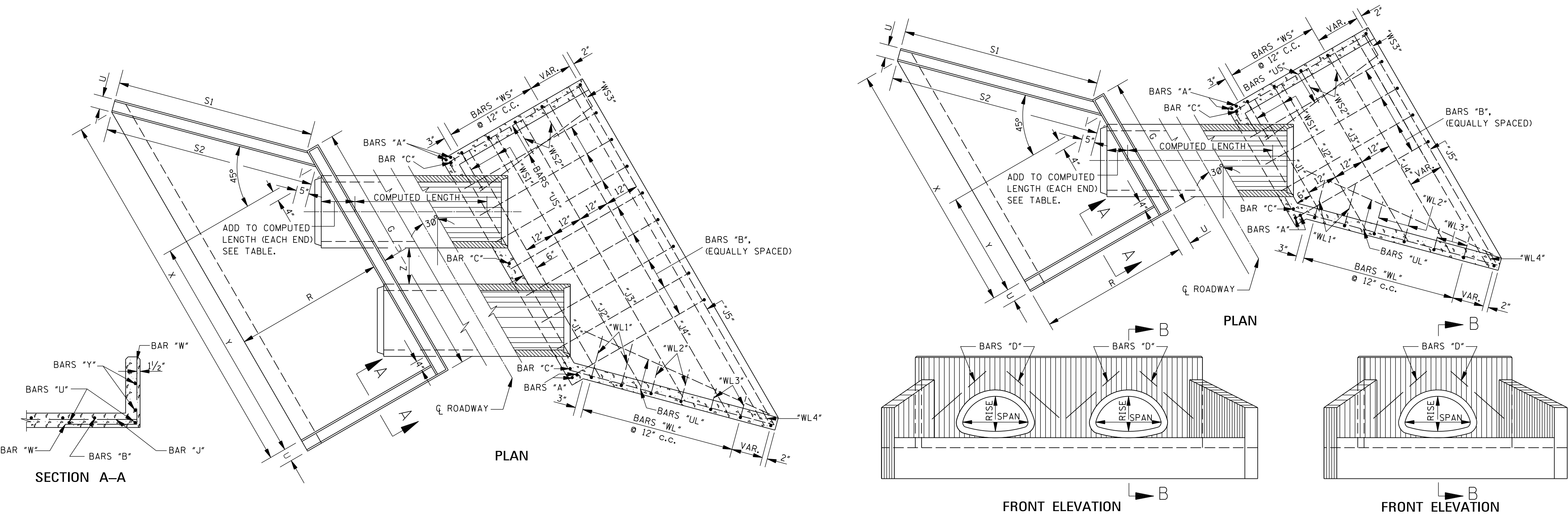
NOTE: ALL BARS ARE #4. IN BAR DESIGNATIONS (e.g. "YS" & "YL"), S DENOTES SHORT WING AND L DENOTES LONG WING.



SECTION B-B

GENERAL NOTES:

1. ALL CONCRETE SHALL BE CLASS "B".
2. ALL EXPOSED EDGES SHALL BE CHAMFERED  $\frac{3}{4}$ ".
3. EXPOSED CONCRETE SURFACES SHALL BE FINISHED IN ACCORDANCE WITH THE APPLICABLE SECTION OF THE MDOT SPECIFICATIONS.
4. ALL LENGTHS AND QUANTITIES IN THE TABLES HEREON ARE BASED ON CONCRETE TONGUE & GROOVE PIPE.
5. DIMENSIONS SHOWN FOR BAR SPACING ARE TO  $\phi$  BARS.
6. ARCH PIPE SHALL CONFORM TO REQUIREMENTS OF AASHTO M 206 FOR CLASS OF PIPE SHOWN ON PLANS.
7. QUANTITIES SHOWN SHALL BE THE BASIS FOR FINAL PAYMENT UNLESS AUTHORIZED MODIFICATIONS ARE MADE.

[illegible]