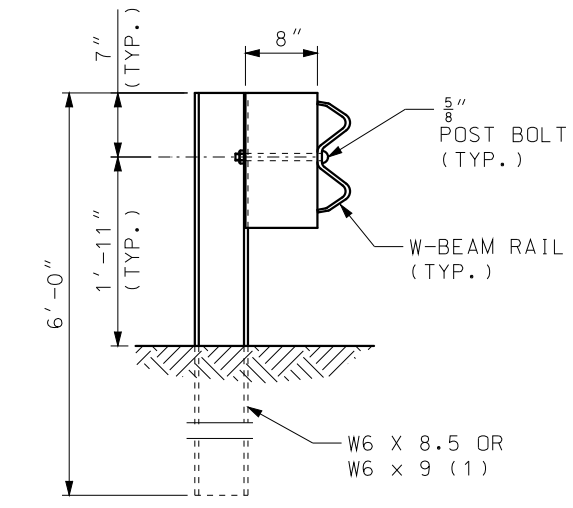
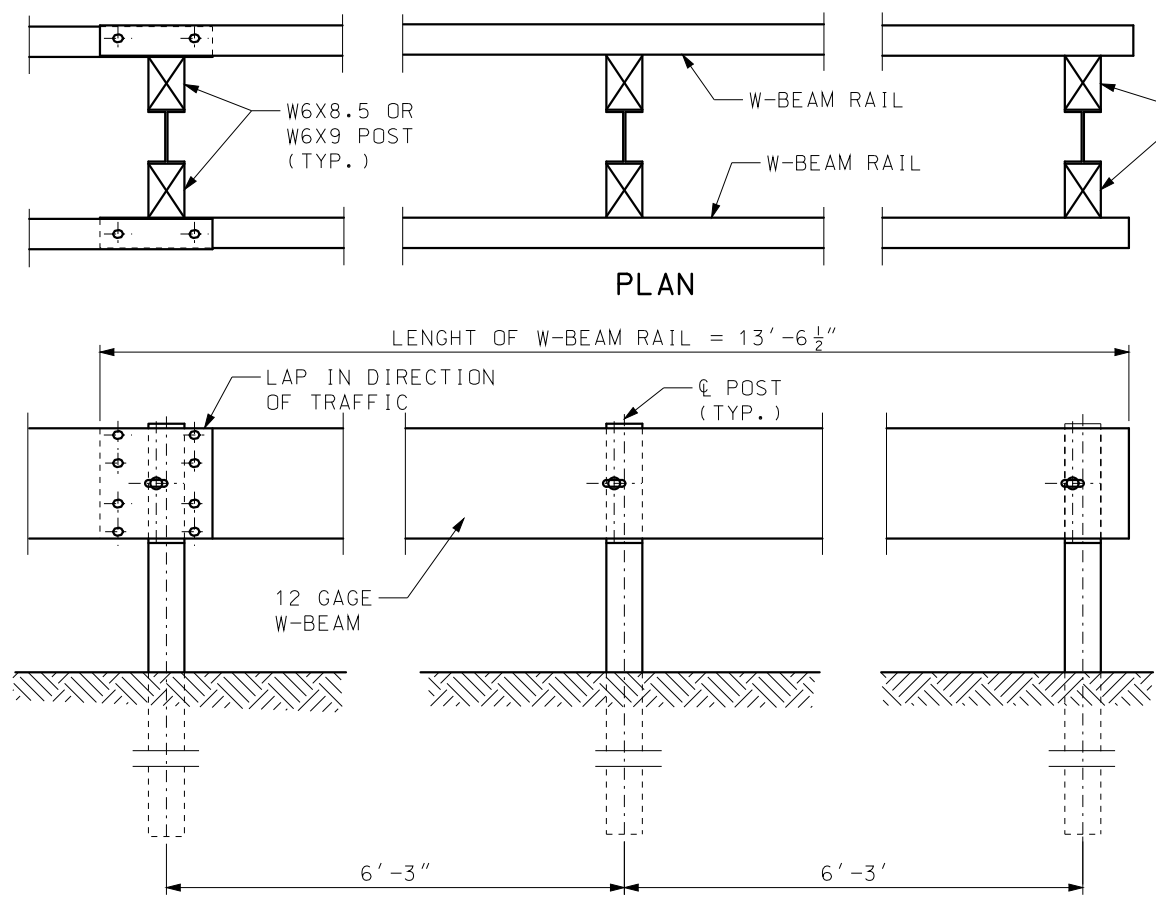


ELEVATION

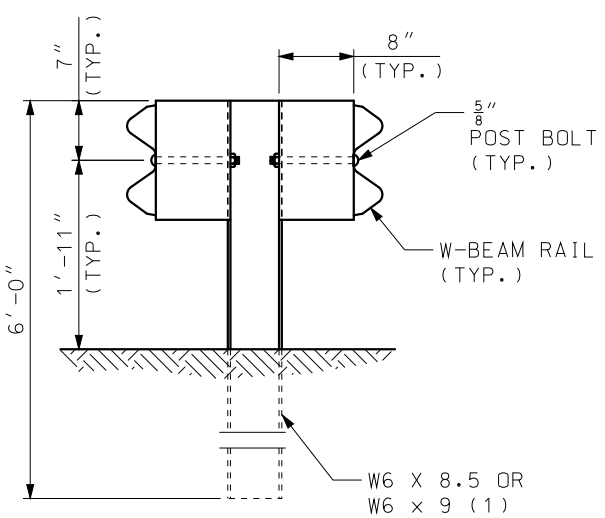


STEEL POST & WOOD OR PLASTIC BLOCK

TYPE A GUARDRAIL



ELEVATION



STEEL POST & WOOD OR PLASTIC BLOCKS

TYPE B GUARDRIAL

(1) THE CONTRACTOR MAY FURNISH EQUIVALENT SECTIONS FABRICATED FROM MATERIAL MEETING AND IN ACCORDANCE WITH SECTION 1040.

GENERAL NOTES:
SEE SHEET NO. 5 OF 7 FOR POST AND BLOCK DETAILS.

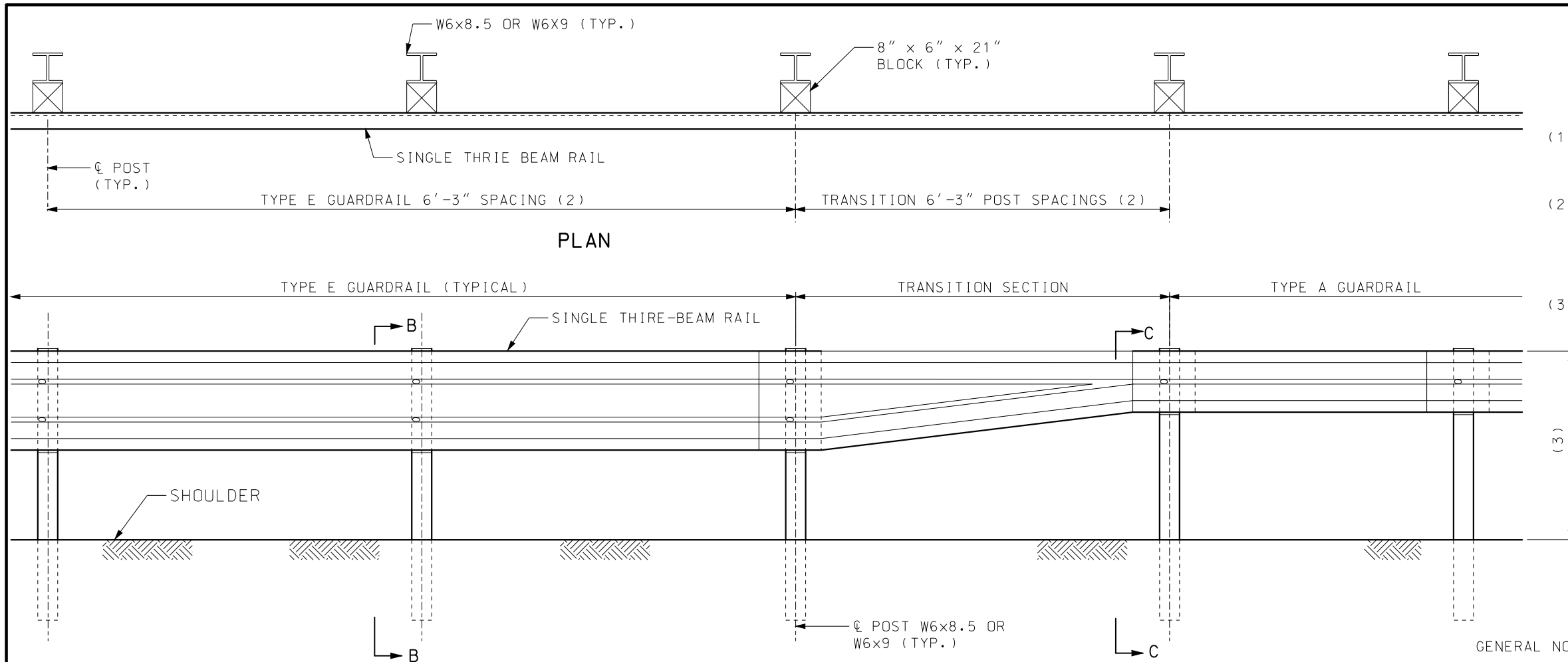
MoDOT MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

STATE OF MISSOURI
ERIC E. SCHROETER
NUMBER PE-28411
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED SEALED AND DATED ELECTRONICALLY.

GUARDRAIL
TYPE A AND TYPE B

DATE EFFECTIVE: 01/01/2017	606.00AY	SHEET NO. 1 OF 7
DATE PREPARED: 10/28/2016		

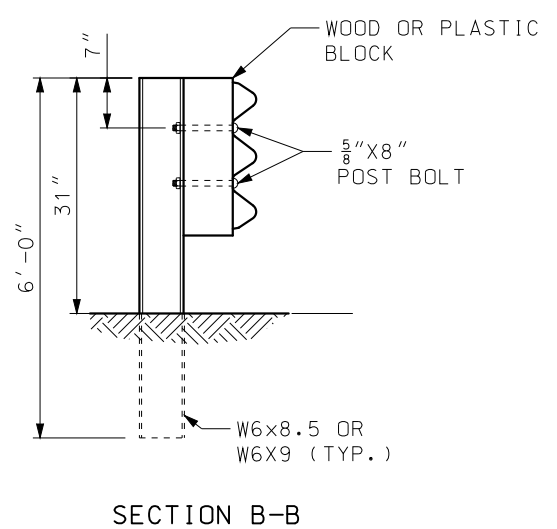
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



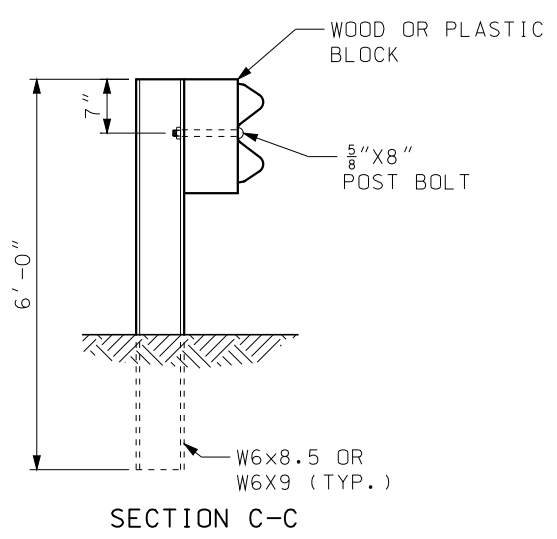
PLAN

PART SECTION SHOWING TYPE E TO TYPE A GUARDRAIL TRANSITION

THE OVERALL NOMINAL DIMENSIONS SHOWN SHALL BE MET, ALTHOUGH THE SHAPE OF THE PLASTIC BLOCKS MAY VARY FROM THE SHAPE SHOWN, EXCEPT THE $\frac{7}{8}'' \pm \frac{1}{4}''$ FLANGE AND THE OVERALL WIDTH DIMENSIONS MAY BE WAIVED IF APPROVED BY PROJECT OPERATIONS.



SECTION B-B



SECTION C-C

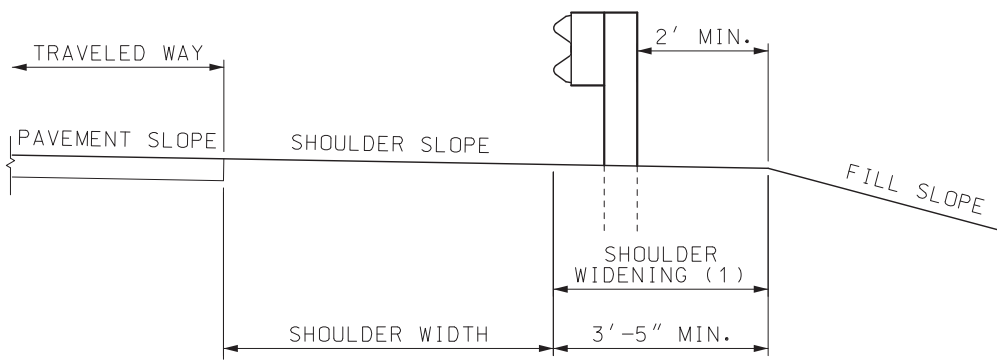
- (1) THE CONTRACTOR MAY FURNISH EQUIVALENT SECTIONS FABRICATED FROM MATERIAL MEETING AND IN ACCORDANCE WITH SEC 1040.
- (2) IF THE TRANSITION IS CONNECTED TO A BRIDGE ANCHOR SECTION, POST SPACING FOR TYPE E GUARDRAIL AND THE TRANSITION SECTION SHALL BE $3'-1\frac{1}{2}''$. FOR ALL OTHER CASES, POST SPACING SHALL BE 6'-3".
- (3) TRANSITION FROM 31" TO 29" HEIGHT OVER 2-12.5' W-BEAMS OR 25'.

GENERAL NOTES:

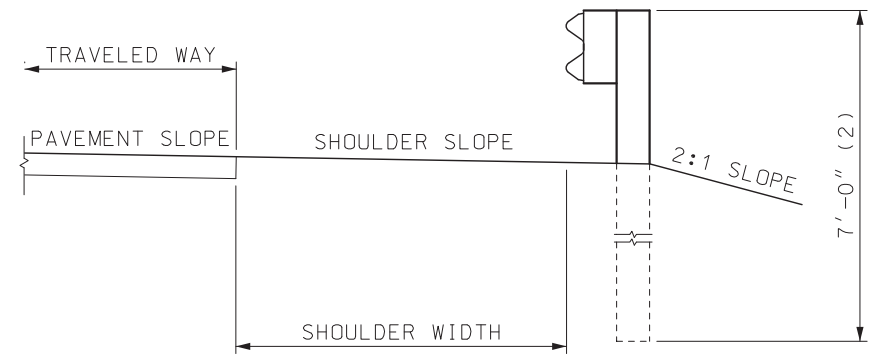
- TYPE E GUARDRAIL SHALL USE 6'-3" POST SPACING UNLESS $3'-1\frac{1}{2}''$ POST IS SPECIFIED.
- THE THRIE BEAM RAIL FOR THE TYPE E GUARDRAIL AND THE TRANSITION SECTION SHALL BE MADE OF STEEL AND SHALL BE 12 GAGE.
- FOR PROTECTIVE COATING AND MATERIAL REQUIREMENTS, SEE SEC 1040 OF THE STANDARD SPECIFICATIONS.
- SEE SHEET 7 OF 7 FOR REQUIREMENTS FOR SPECIAL INSTALLATIONS.
- ALL DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.
- FOR DETAILS NOT SHOWN, SEE OTHER SHEETS OF THIS DRAWING.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	<h2 style="margin: 0;">GUARDRAIL TYPE E</h2>
DATE EFFECTIVE: 01/01/2017 DATE PREPARED: 10/28/2016	606.00AY
SHEET NO. 2 OF 7	

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

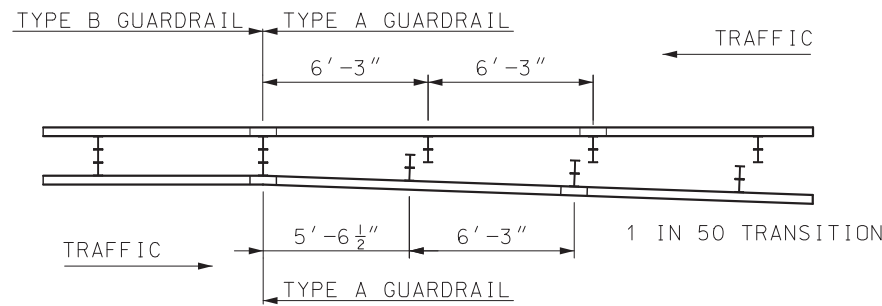


TYPICAL SECTION

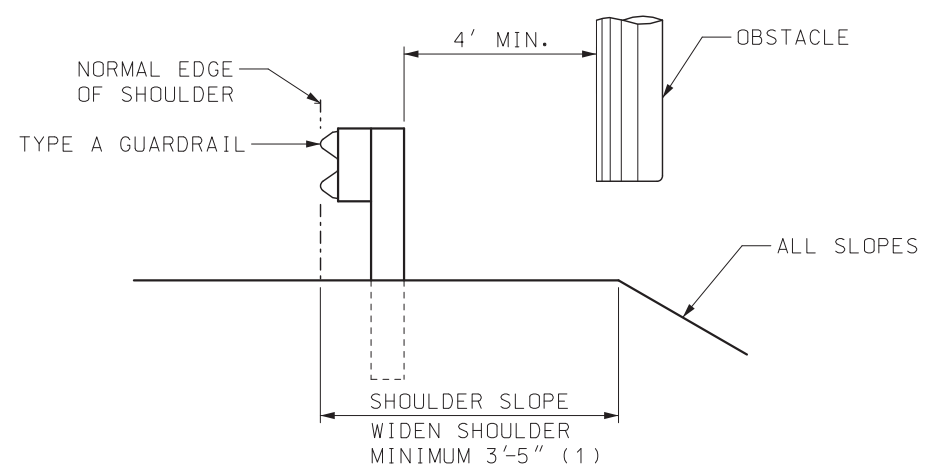


ALTERNATE TYPICAL SECTION AT SLOPE BREAKPOINT

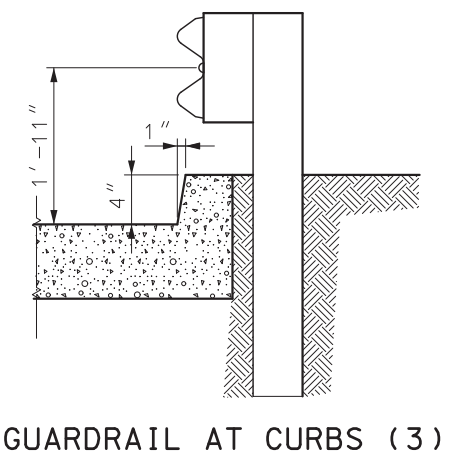
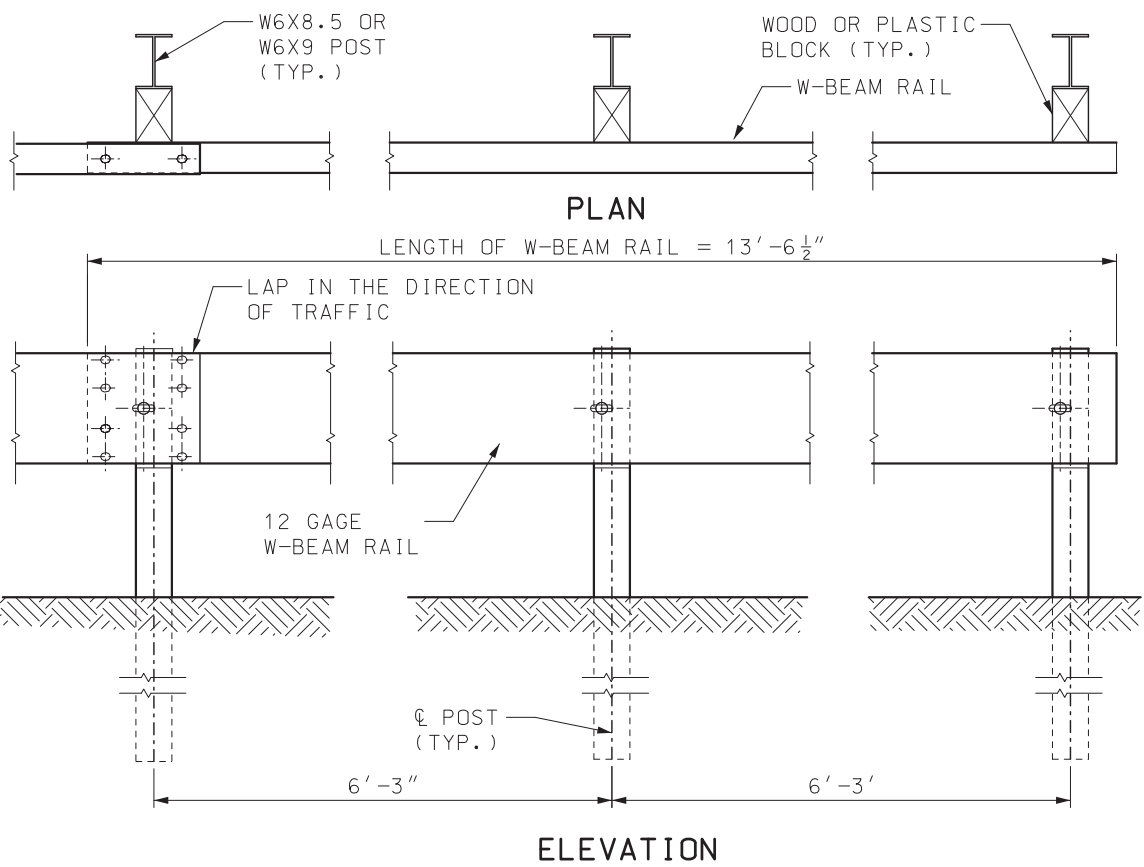
- (1) SHOULDER WIDENING SHALL CONSIST OF EMBANKMENT MATERIAL COMPACTED IN ACCORDANCE WITH SEC 203.4 OF THE STANDARD SPECIFICATIONS.
- (2) POST SHALL BE SPACED AT 3'-1 1/2" ON CENTER.
- (3) WHEN GUARDRAIL IS CONSTRUCTED OVER CURBS, THE CURBS SHALL BE CONSTRUCTED AS SHOWN.



DETAIL FOR TRANSITIONING BETWEEN TYPE A AND TYPE B GUARDRAIL



LOCATION OTHER THAN ϕ MEDIAN
LATERAL PLACEMENT OF GUARDRAIL FOR SHOULDER INSTALLATION



GUARDRAIL AT CURBS (3)

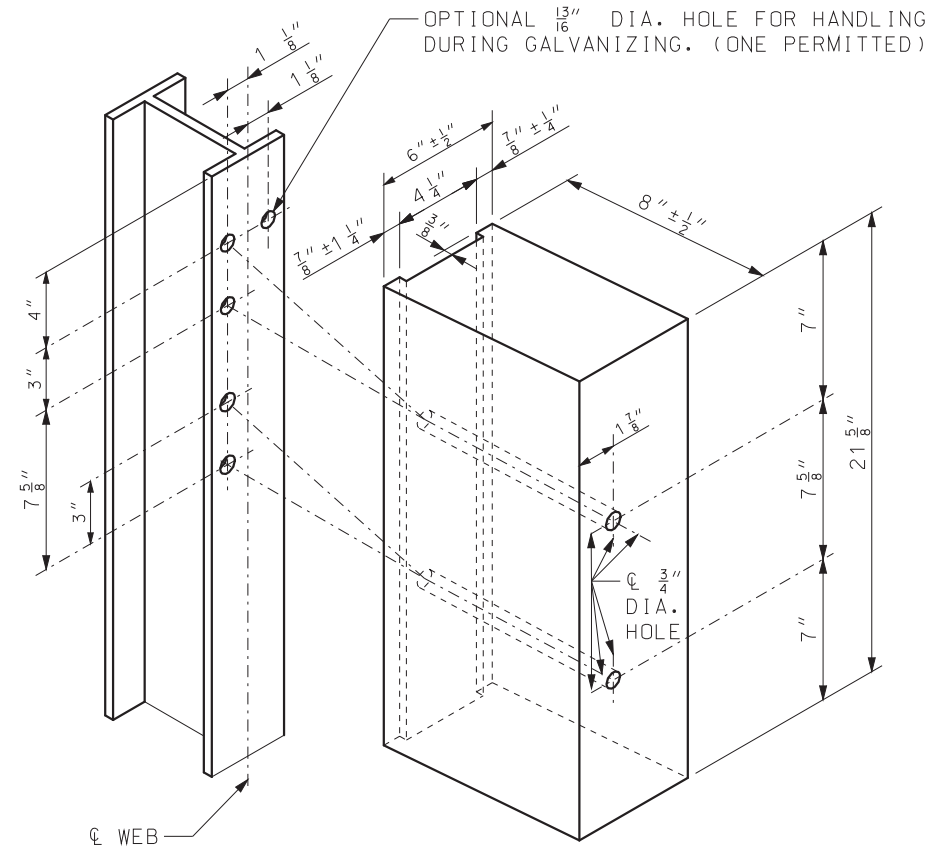
MoDOT MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
 105 WEST CAPITOL
 JEFFERSON CITY, MO 65102
 1-888-ASK-MODOT (1-888-275-6636)

STATE OF MISSOURI
 TRAVIS D. KOESTNER
 NUMBER PE-30042
 PROFESSIONAL ENGINEER
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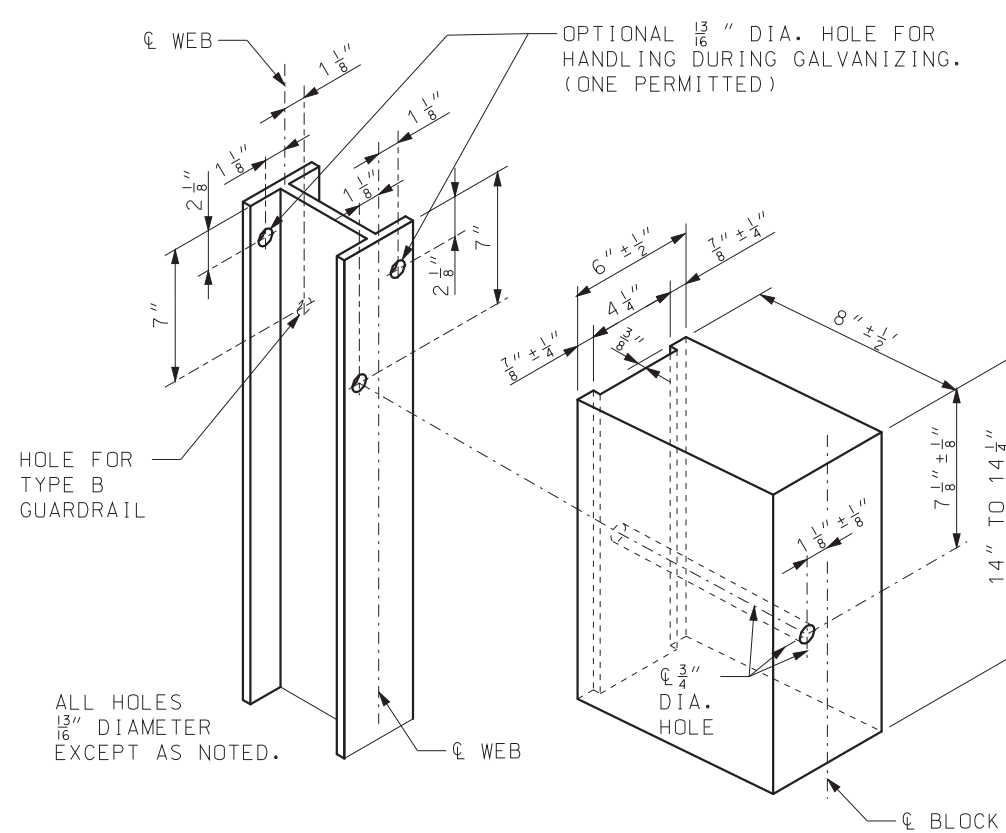
GUARDRAIL LAYOUT

DATE EFFECTIVE: 01/01/2020	606.00AY	SHEET NO. 3 OF 7
DATE PREPARED: 10/21/2019		

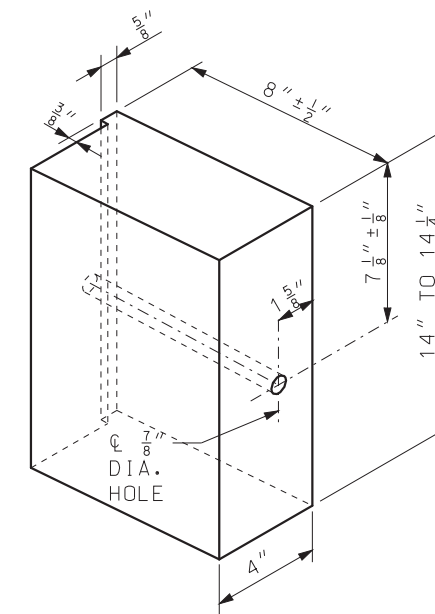
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



TYPE E
FOR STEEL POST & WOOD OR PLASTIC BLOCKS (1)

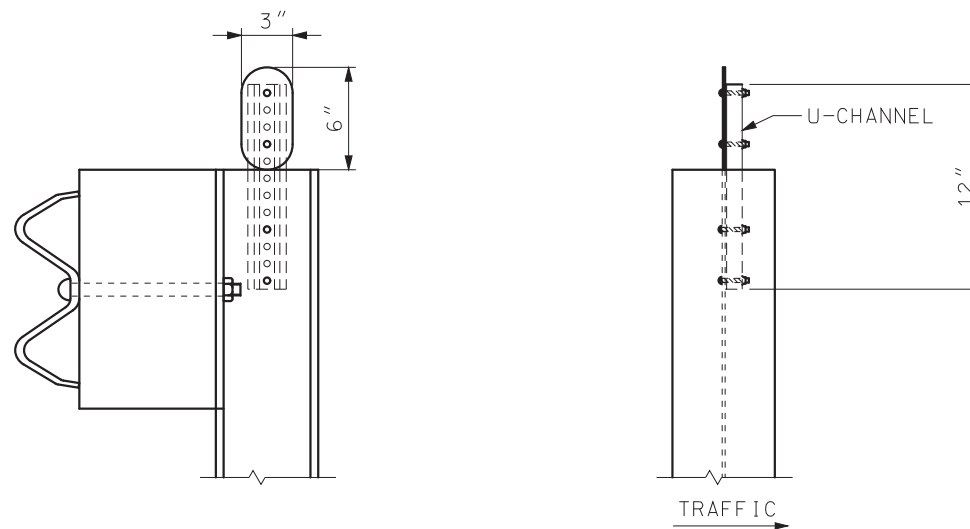
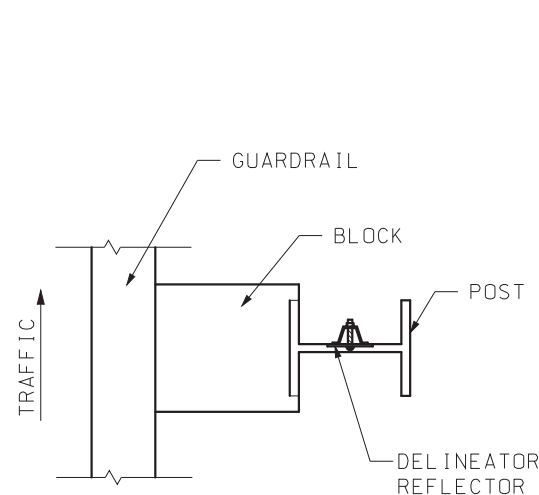


TYPE A AND TYPE B
FOR STEEL POST AND WOOD OR PLASTIC BLOCKS (1)



ALTERNATE DESIGN
FOR WOOD BLOCK


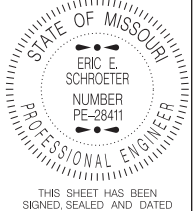
(1) THE OVERALL NOMINAL DIMENSIONS SHOWN SHALL BE MET, ALTHOUGH THE SHAPE OF THE PLASTIC BLOCKS MAY VARY FROM THE SHAPE SHOWN, EXCEPT THE $\frac{1}{8} \pm \frac{1}{4}$ FLANGE AND THE OVERALL WIDTH DIMENSIONS MAY BE WAIVED IF APPROVED BY PROJECT OPERATIONS.



DELINEATORS ON NEW GUARDRAIL

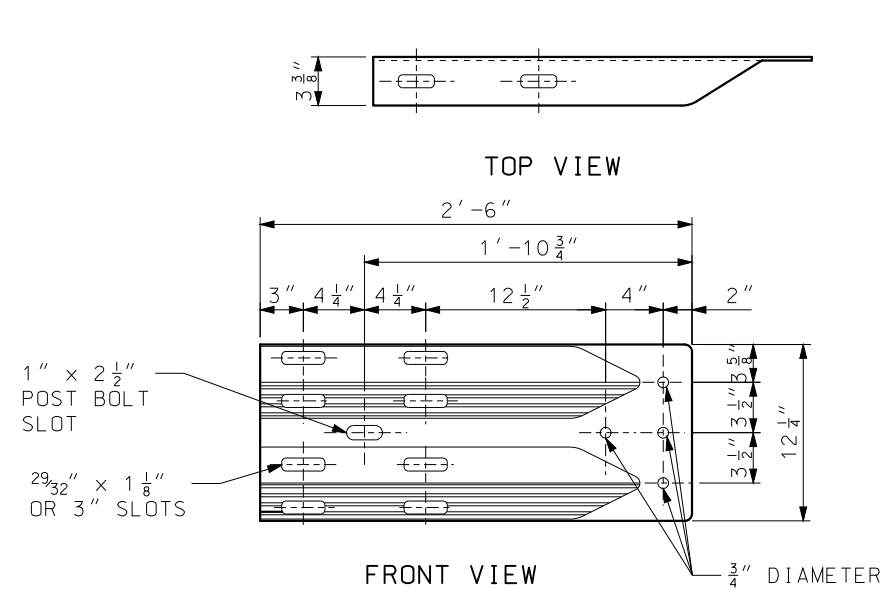
GENERAL NOTES:

FOR GUARDRAIL DELINEATION DETAILS SEE STD PLAN 903.03.

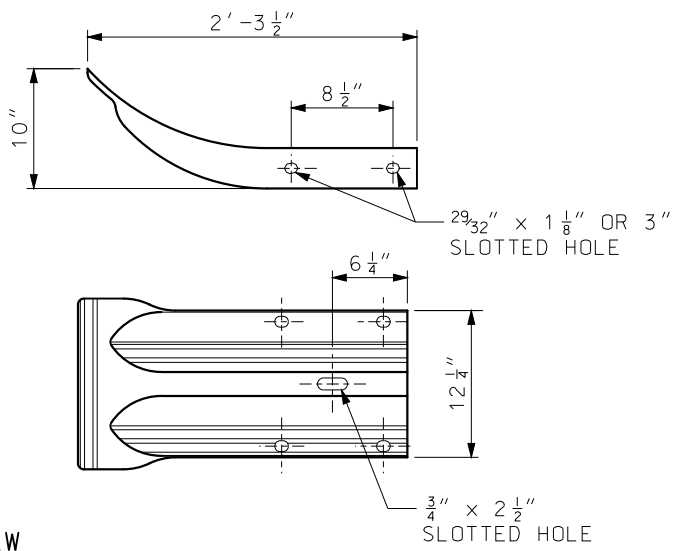
 MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	GUARDRAIL POST AND BLOCK
DATE EFFECTIVE: 04/01/2018 DATE PREPARED: 2/9/2018	SHEET NO. 606.00AY 4 OF 7

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

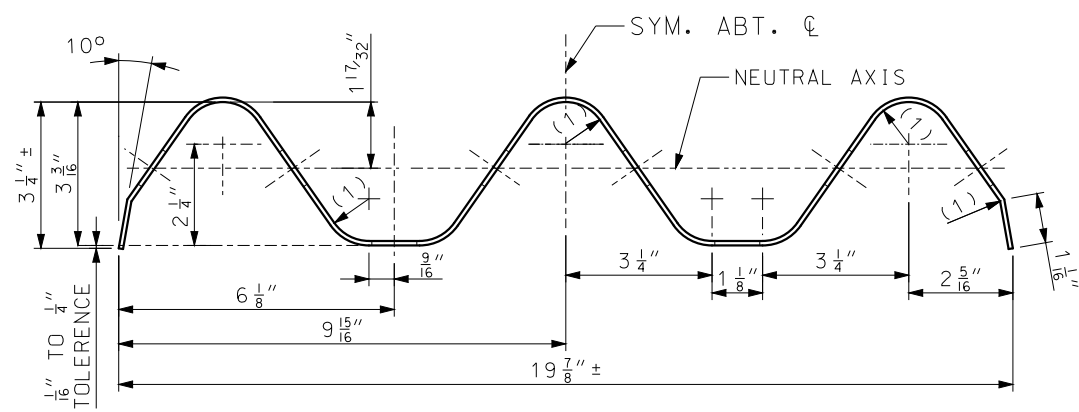
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



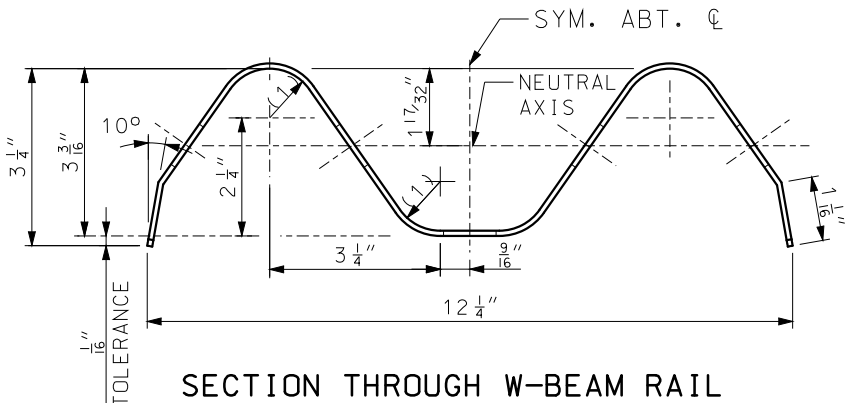
TERMIANL CONNECTOR



END SECTION
12 GAGE

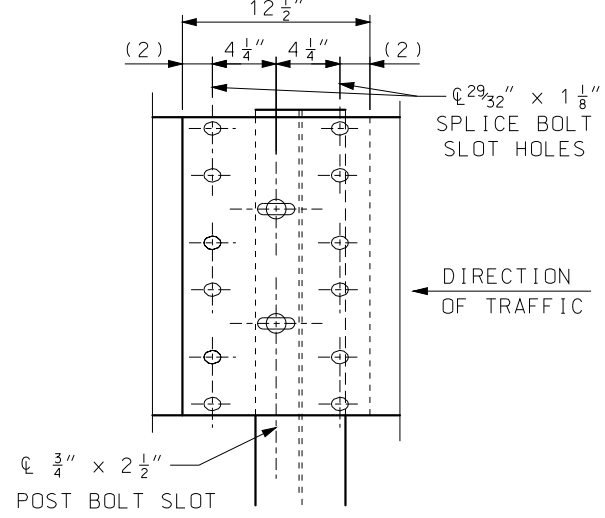


SECTION THROUGH THRIE BEAM RAIL

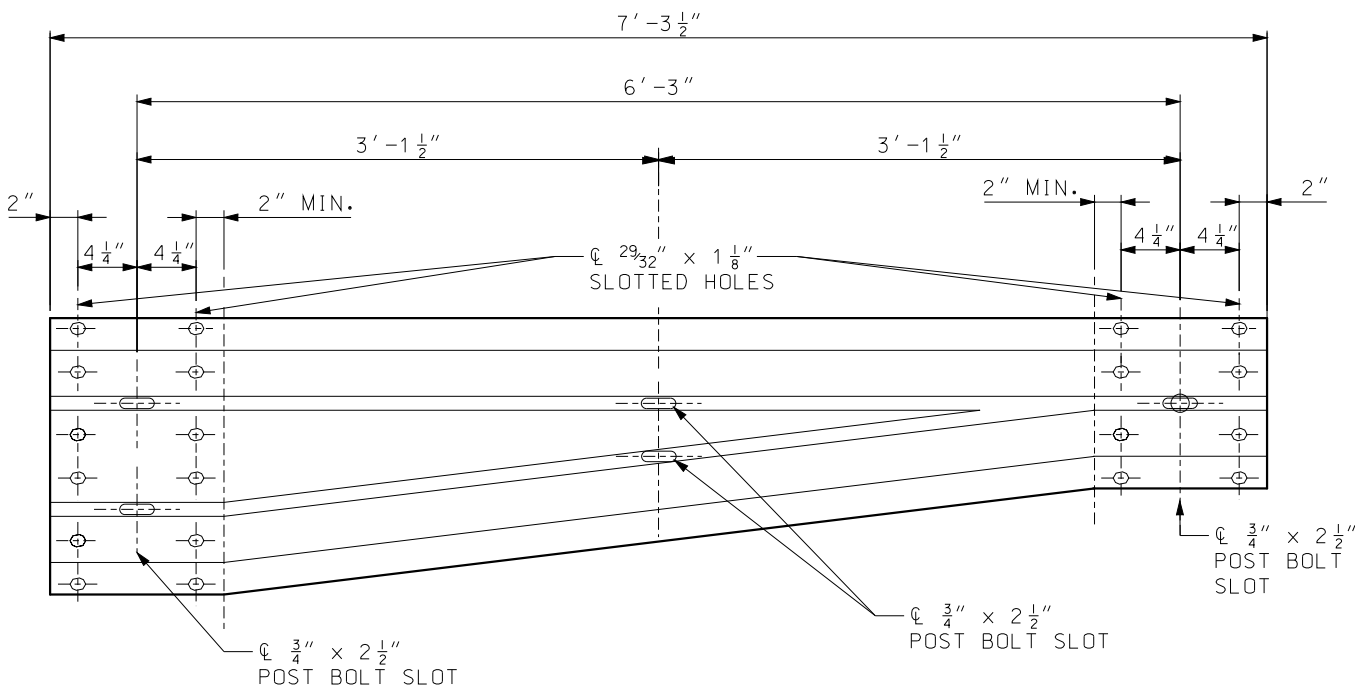


SECTION THROUGH W-BEAM RAIL

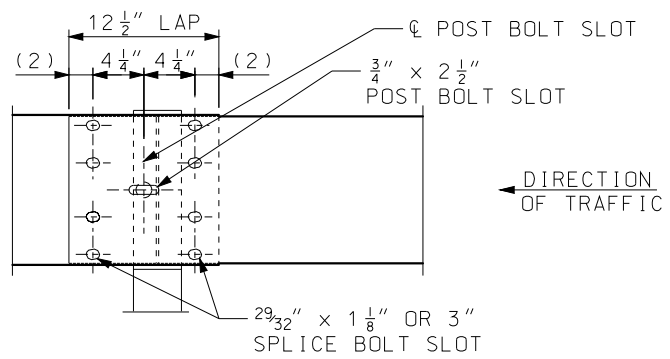
- (1) 1 5/16" RADIUS
- (2) 2" (TOLERANCE +1/4", -1/4")



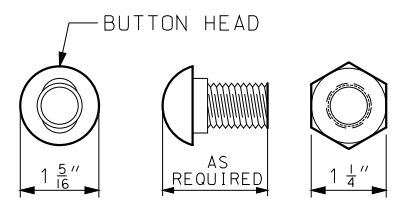
THRIE-BEAM SPLICE AT POST



ELEVATION OF ASYMMETRICAL TRANSITION SECTION

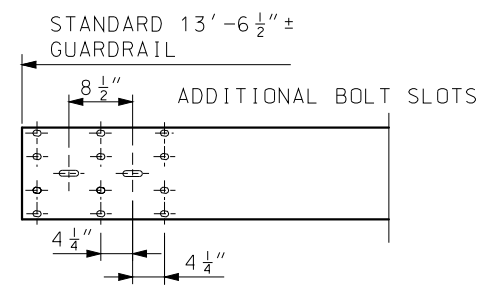


W-BEAM RAIL SPLICE AT POST



5/8" POST OR SPLICE BOLT

OVAL SHOULDER SHALL BE OF ADEQUATE HEIGHT, LENGTH & SHAPE TO PREVENT TURNING DURING INSTALLATION OR REMOVAL OF BOLT.



NOTE: PORTIONS OF BEAM WITH UNUSED BOLT SLOTS TO BE LAPPED BEHIND.

BEAM DETAILS SHOWING LOCATION OF ADDITIONAL BOLT SLOTS NECESSARY TO OBTAIN GUARDRAIL OFFSET.

MoDOT MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

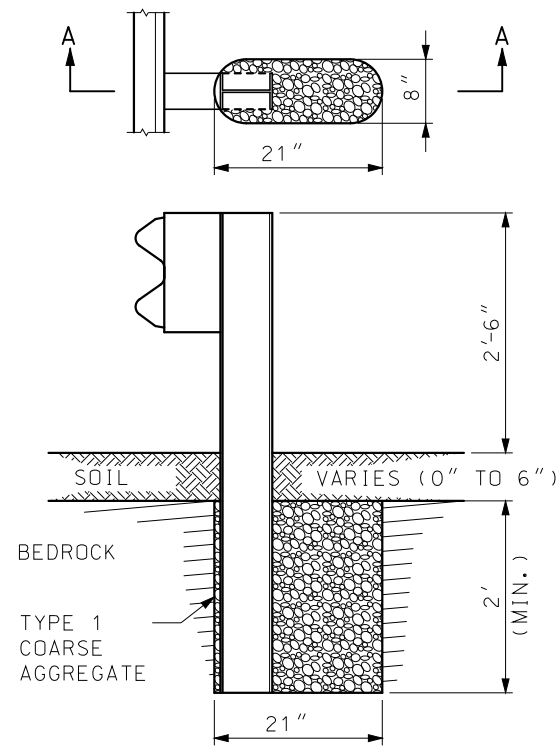
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

STATE OF MISSOURI
ERIC E. SCHROETER
NUMBER PE-28411
PROFESSIONAL ENGINEER

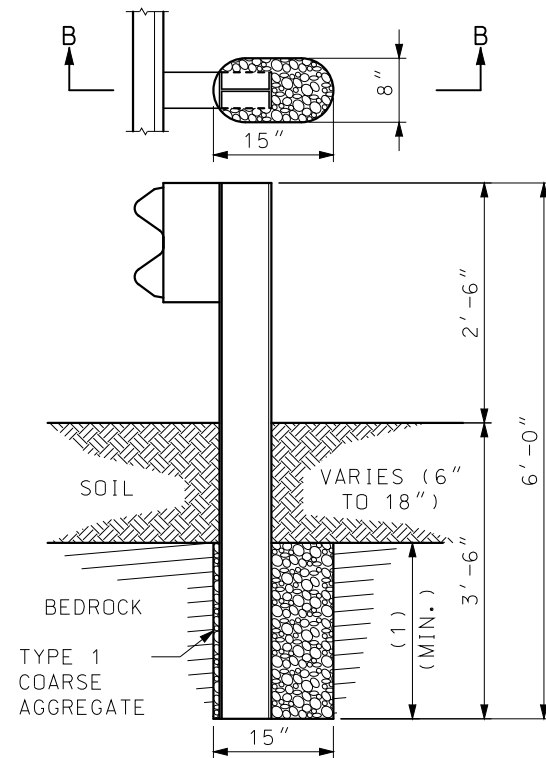
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GUARDRAIL RAIL ELEMENTS

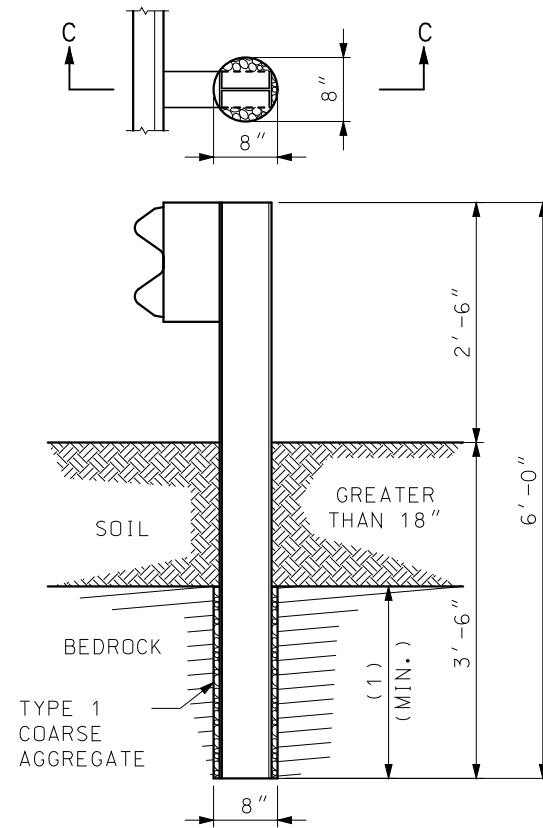
DATE EFFECTIVE: 01/01/2017	606.00AY	SHEET NO. 5 OF 7
DATE PREPARED: 10/28/2016		



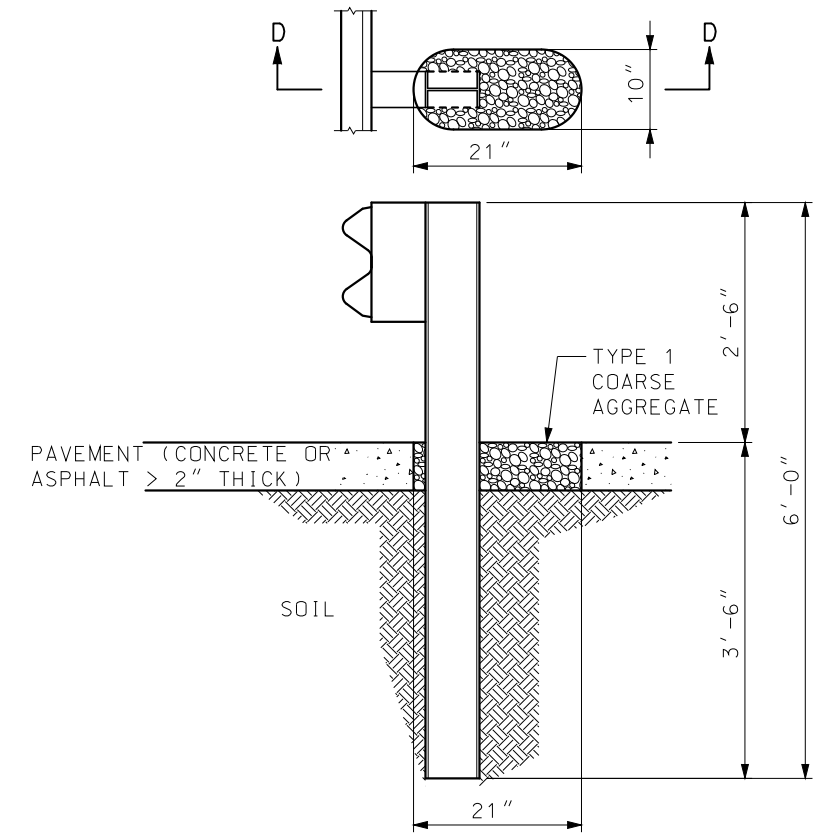
SECTION A-A
ROCK ENCOUNTERED
UP TO 6" BENEATH SURFACE



SECTION B-B
ROCK ENCOUNTERED
6" TO 18" BENEATH SURFACE



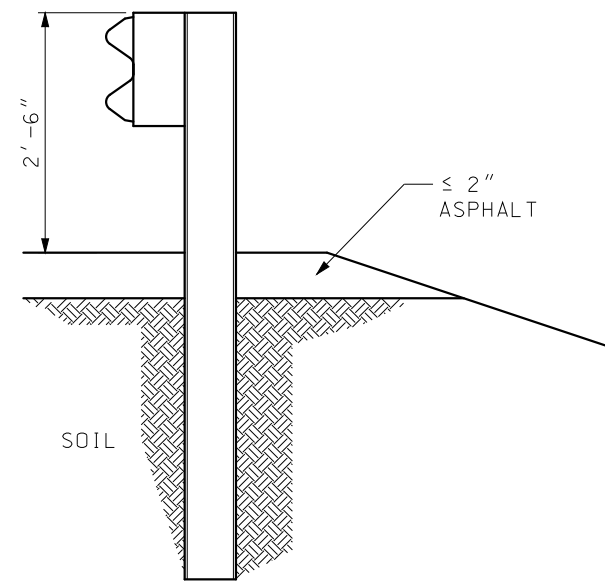
SECTION C-C
ROCK ENCOUNTERED MORE
THAN 18" BENEATH SURFACE



SECTION D-D
SETTING POST THROUGH PAVEMENT
(CONCRETE OR ASPHALT > 2" THICK)

SETTING POST IN SOLID ROCK

(1) MINIMUM ROCK EMBEDMENT IS EQUAL TO FULL DEPTH POST EMBEDMENT MINUS SOIL DEPTH.



SETTING POST THROUGH ASPHALT \leq 2" THICK

GENERAL NOTES:

HOLES IN SOLID ROCK SHALL PROVIDE A DIAMETER OF NOT LESS THAN 4 INCHES GREATER THAN THE MAXIMUM TRANSVERSE DIMENSION OF THE POST SECTION.

POST MAY BE SHORTER WHERE PLACED IN A MINIMUM 2 FEET OF SOLID ROCK. STEEL POSTS MAY BE FLAME OR SAW CUT. REPAIR OF CUT SHALL BE IN ACCORDANCE WITH SEC 712 OF THE STANDARD SPECIFICATIONS.

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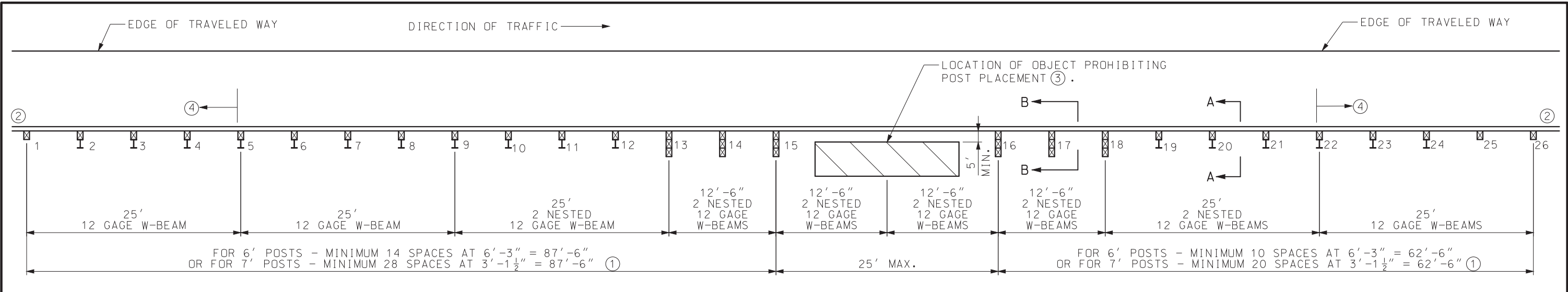
STATE OF MISSOURI
ERIC E. SCHROETER
NUMBER PE-28411
PROFESSIONAL ENGINEER
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GUARDRAIL
SPECIAL INSTALLATIONS

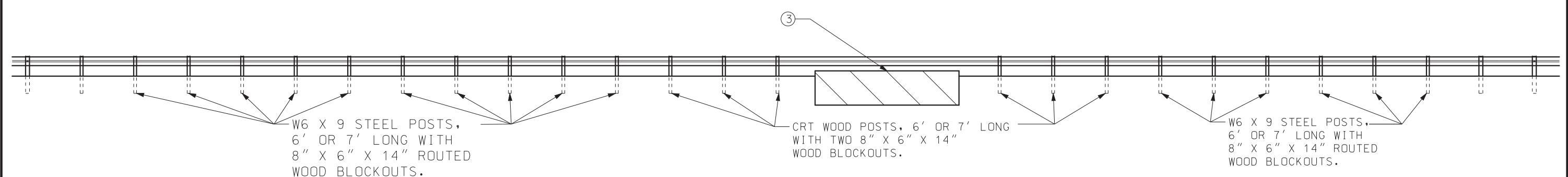
DATE EFFECTIVE: 01/01/2017
DATE PREPARED: 10/28/2016

606.00AY

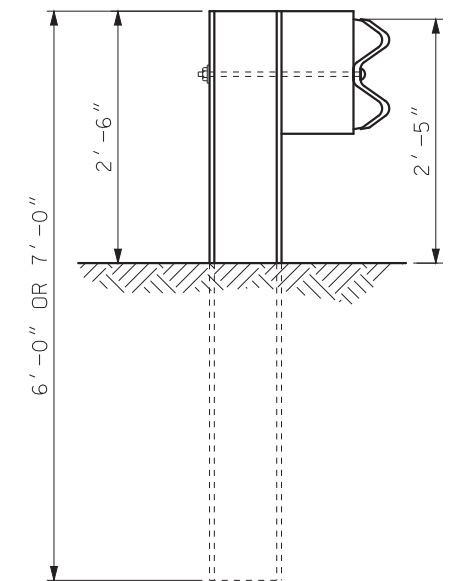
SHEET NO.
6 OF 7



PLAN

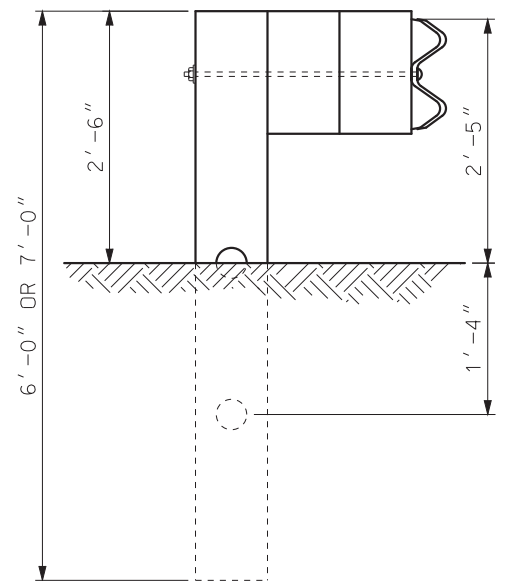


ELEVATION



SECTION A-A

W6 X 9 STEEL POSTS, 6' OR 7' LONG WITH 8" X 6" X 14" ROUTED WOOD BLOCKOUTS POSTS 3 THROUGH 12 AND 19 THROUGH 24.



SECTION B-B

CRT WOOD POSTS, 6' OR 7' LONG WITH TWO 8" X 6" X 14" WOOD BLOCKOUTS POSTS 13 THROUGH 18.

- ① IF LOCATED WITHIN THE CLEAR ZONE OF A TWO-WAY ROADWAY, THE MINIMUM LENGTH IS 87'-6".
- ② ADDITIONAL GUARDRAIL AS REQUIRED, INCLUDING END TREATMENT.
- ③ THE POST MAY BE SKIPPED DUE TO THE PRESENCE OF AN OBSTACLE SUCH AS A CULVERT.
- ④ PLACE END TREATMENT NO CLOSER TO THE SKIPPED POST THAN POSTS 5 AND 22.

<p>MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION</p> <p>105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)</p>	
<p>STATE OF MISSOURI ERIC E. SCHROETER NUMBER PE-28411 PROFESSIONAL ENGINEER</p> <p>THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.</p>	<p>GUARDRAIL LONG-SPAN NESTED W-BEAM</p>
<p>DATE EFFECTIVE: 10/01/2017 DATE PREPARED: 8/8/2017</p>	<p>606.00AY</p> <p>SHEET NO. 7 OF 7</p>

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.