

PLAN VIEW
MGS GUARDRAIL

SECTION A-A

ELEVATION VIEW

(1) 2'-6" MINIMUM CLEARANCE TO THE FACE OF OBSTACLE WITH 6'-3" POST SPACINGS,
 2'-0" MINIMUM CLEARANCE TO THE FACE OF OBSTACLE WITH 3'-1 1/2" POST SPACINGS,
 OR 1'-6" MINIMUM CLEARANCE TO THE FACE OF OBSTACLE WITH 1'-6 3/4" POST SPACINGS.
 SEE SHEET 4 OF 8 FOR POST SPACING DETAILS.

GENERAL NOTES:
 FOR INITIAL INSTALLATION, CONSTRUCT THE GUARDRAIL WITHIN 1" OF THE STANDARD 31" HEIGHT TO THE TOP OF W-BEAM RAIL. WHEN SUBSEQUENT PROJECTS, SUCH AS RESURFACINGS, AFFECT THE HEIGHT OF EXISTING GUARDRAIL ADJUSTMENT IS NOT REQUIRED IF THE FINISHED HEIGHT IS WITHIN 3" OF THE STANDARD HEIGHT.

THE STANDARD POST LENGTH IS 6'-0" (+3", -0" TOLERANCE).

WHERE SITE CONSTRAINTS PROHIBIT THE POST FROM BEING PLACED AT LEAST TWO FEET IN FRONT OF THE SLOPE BREAK POINT, USE LONGER POSTS AS SHOWN ON SHEET 6 OF 11.

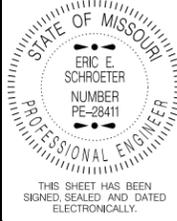
REFER TO AASHTO M 180 FOR DIMENSIONAL DETAILS OF W-BEAM, RELATED BUFFER AND END SECTIONS, BEAM SPLICES, POST AND SPLICE BOLTS, NUTS, AND TYPE 1 W-BEAM TO THRIE BEAM TRANSITION SECTIONS.

BEAM WASHERS ARE NOT TO BE USED. BOLT GRADE SHALL BE ASTM A307.

UNLESS OTHERWISE SPECIFIED, W-BEAM RAIL IS 12 GAUGE STEEL WITH AN EFFECTIVE LENGTH OF 12'-6" OR 25'-0", WITH 29/32" X 1 1/8" SPLICE BOLT SLOTS, AND 3/4" X 2 1/2" POST BOLT SLOTS ON 3'-1 1/2" CENTERS REGARDLESS OF POST SPACING.

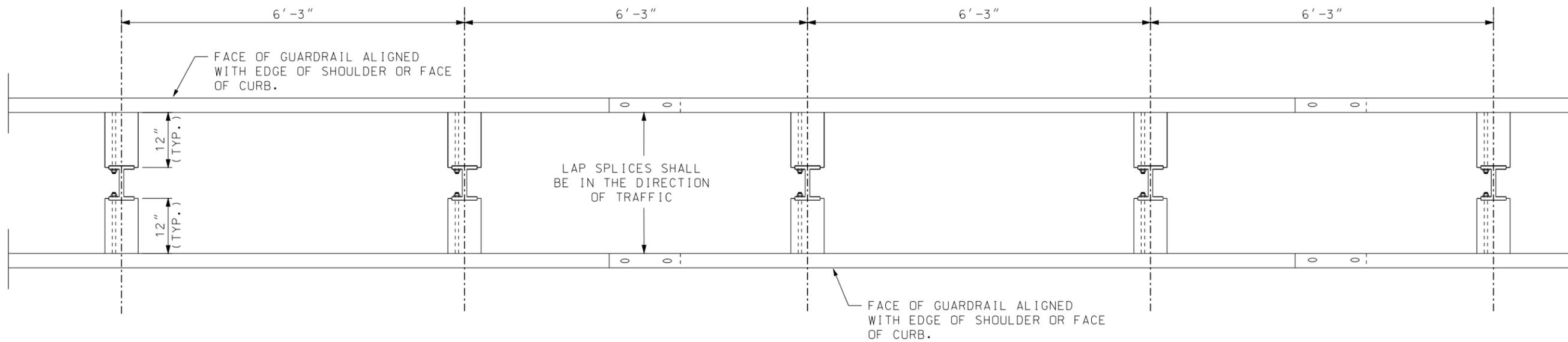
FOR PROTECTIVE COATING AND MATERIAL REQUIREMENTS, SEE SEC 1040 OF THE STANDARD SPECIFICATIONS.

LAP SPLICES BETWEEN TWO RAILS OR BETWEEN A RAIL AND TERMINAL CONNECTOR IN THE DIRECTION OF TRAFFIC. LAP THE FLARED END SECTIONS IN THE DIRECTION OF TRAFFIC.

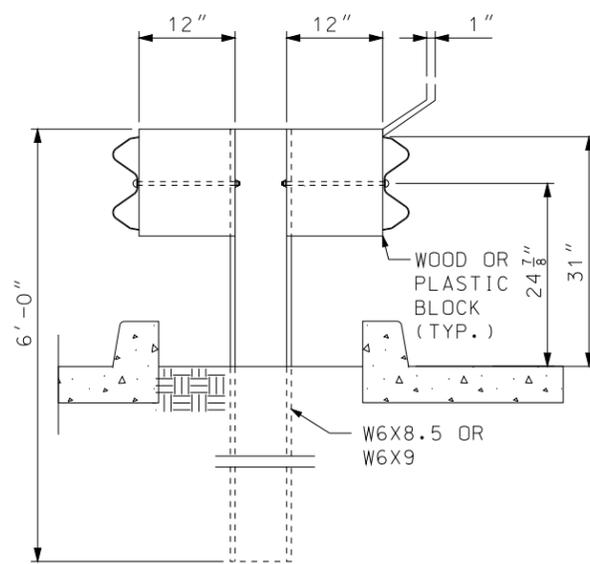
 MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
DATE EFFECTIVE: 01/01/2017 DATE PREPARED: 10/28/2016	SHEET NO. 1 OF 8 606.50B

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

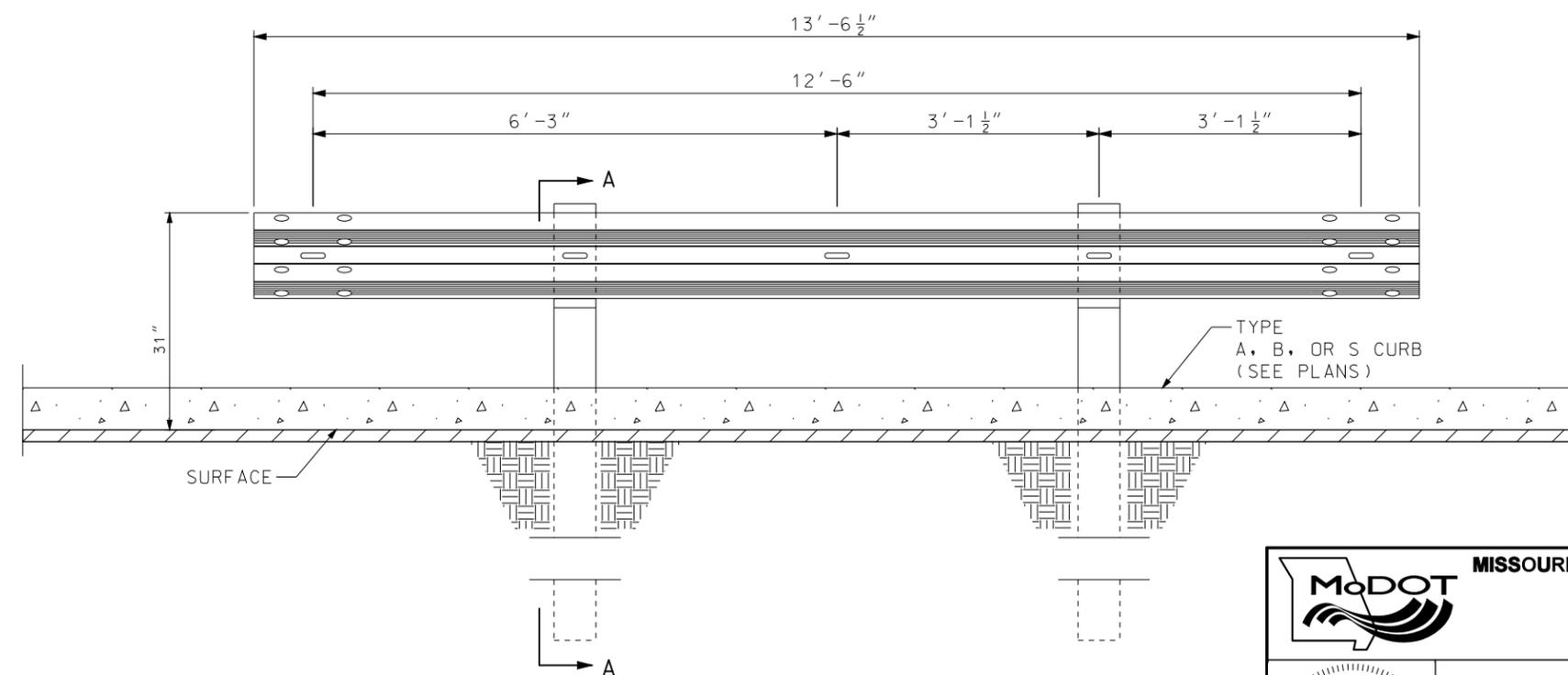
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



PLAN VIEW
DOUBLE FACED
MGS GUARDRAIL



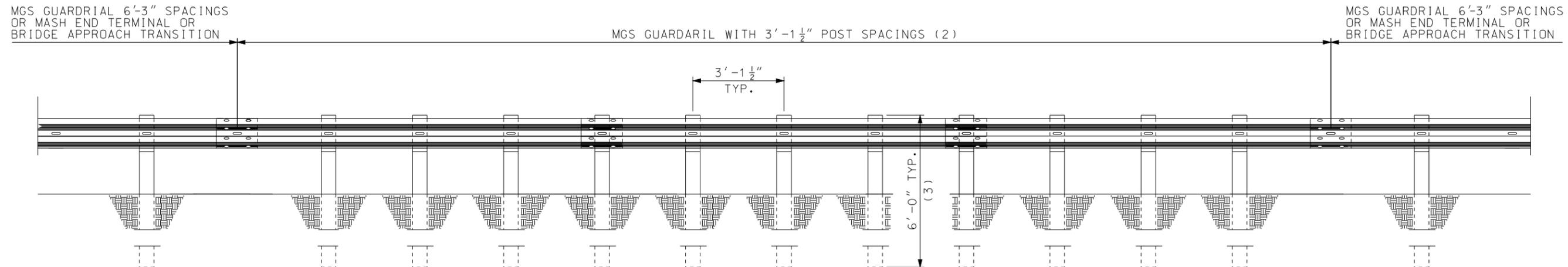
SECTION A-A
DOUBLE FACED
MGS GUARDRAIL



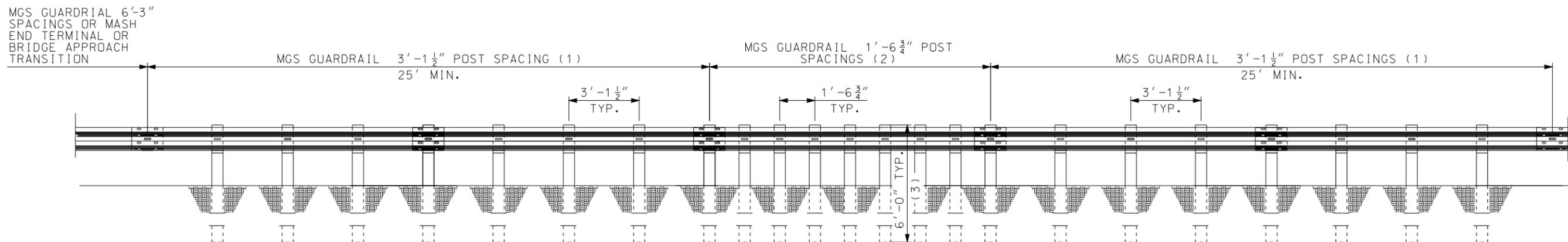
ELEVATION VIEW

	MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	
		MIDWEST GUARDRAIL SYSTEM (MGS) DOUBLE FACED GUARDRAIL
DATE EFFECTIVE: 01/01/2017 DATE PREPARED: 10/28/2016	606.50B	SHEET NO. 2 OF 8

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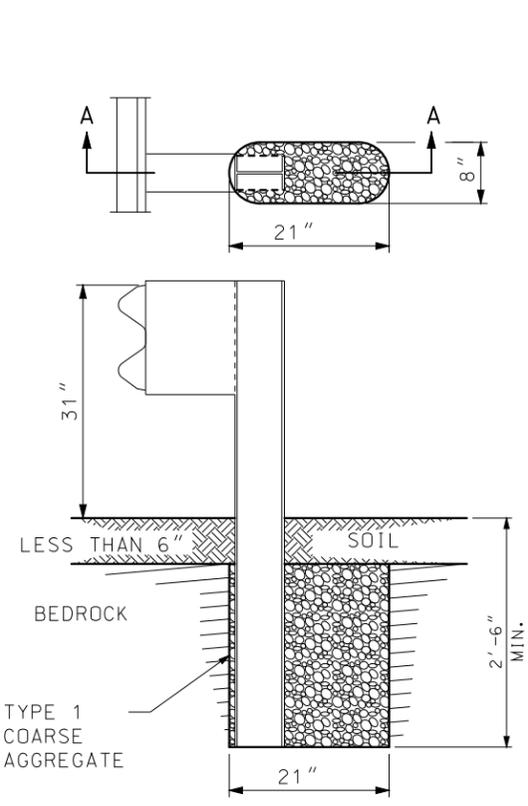
MGS GUARDRAIL WITH 3'-1 1/2" POST SPACING



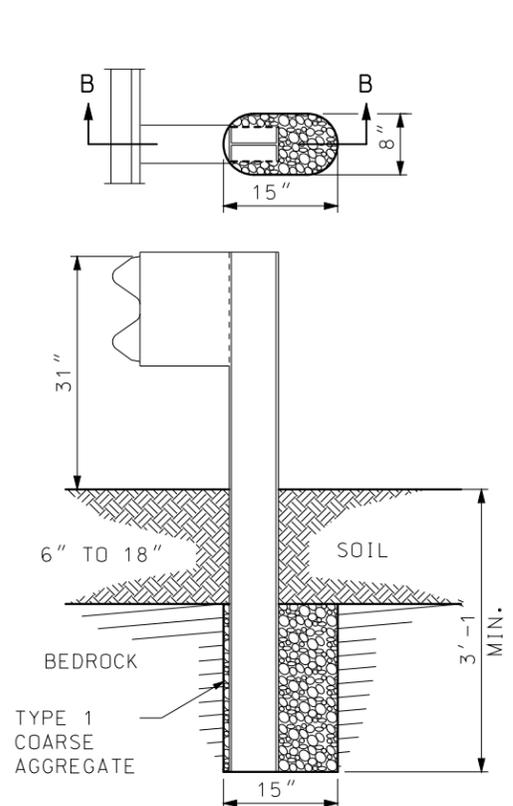
MGS GUARDRAIL WITH 1'-6 3/4" POST SPACING

- (1) 25 FEET OF MGS 3'-1 1/2" POST SPACING GUARDRAIL IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF 1'-6 3/4" POST SPACING MGS GUARDRAIL.
- (2) USE AS MANY SEGMENTS AS NECESSARY TO SHIELD THE AREA OF CONCERN.
- (3) REDUCED POST SPACING SHALL USE 6'-0" POSTS MAX. ANY DEVIATION OF 6'-0" POSTS WILL ONLY BE ALLOWED IN ACCORDANCE WITH SPECIAL INSTALLATIONS AS SHOWN ON SHEET 5 OF 8.

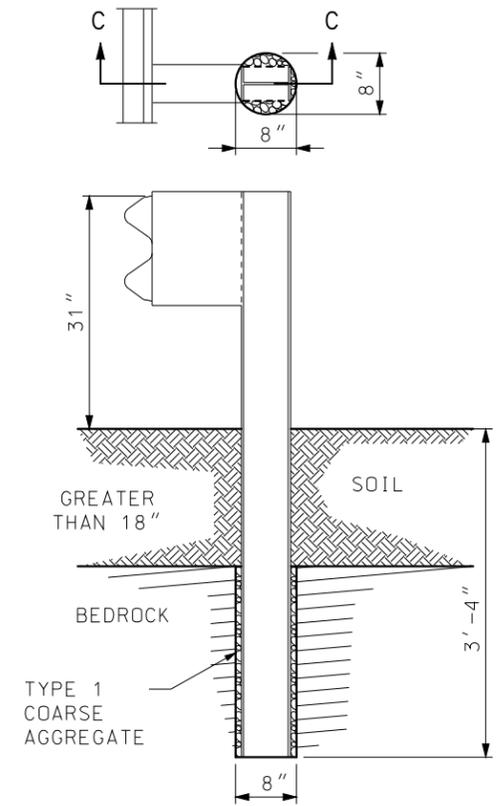
 MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	MIDWEST GUARDRAIL SYSTEM (MGS) REDUCED POST SPACINGS	
		THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.
DATE EFFECTIVE: 01/01/2017	DATE PREPARED: 10/28/2016	SHEET NO. 4 OF 8
606.50B		



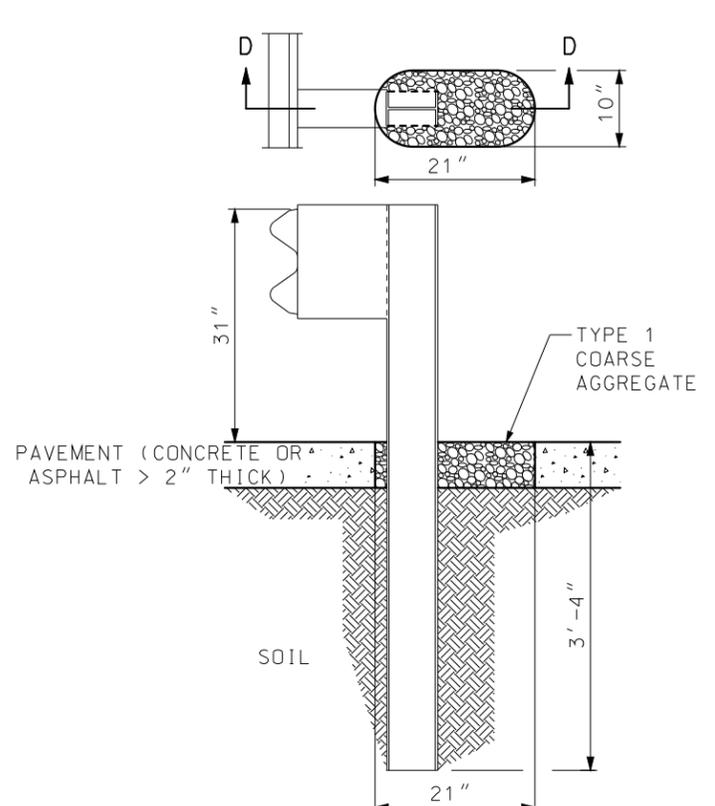
SECTION A-A
ROCK ENCOUNTERED
UP TO 6" BENEATH SURFACE



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

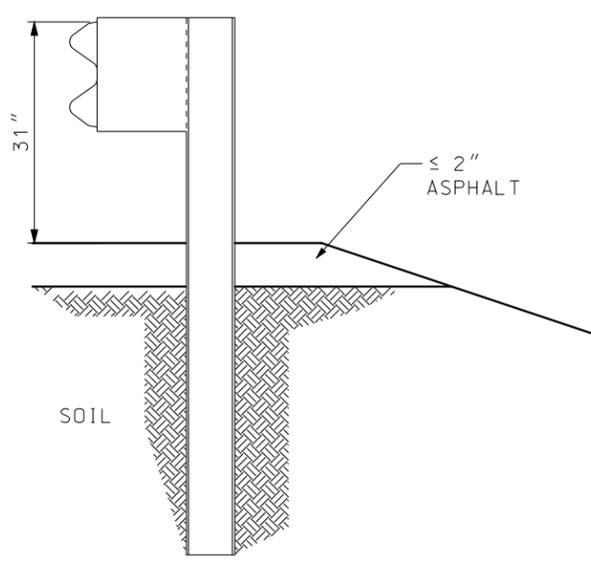


SECTION C-C
ROCK ENCOUNTERED MORE
THAN 18" BENEATH SURFACE



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

SETTING POST IN SOLID ROCK



SETTING POST THROUGH ASPHALT ≤ 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 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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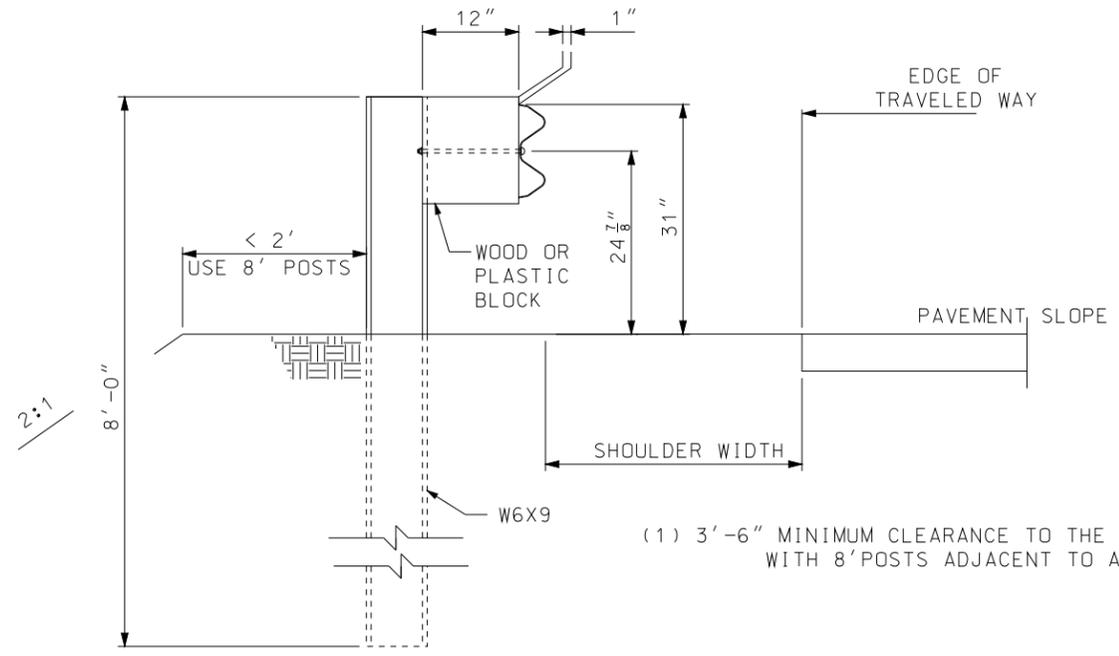
STATE OF MISSOURI
ERIC E. SCHROETER
NUMBER PE-28411
PROFESSIONAL ENGINEER
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MGS GUARDRAIL SYSTEM (MGS) SPECIAL INSTALLATIONS

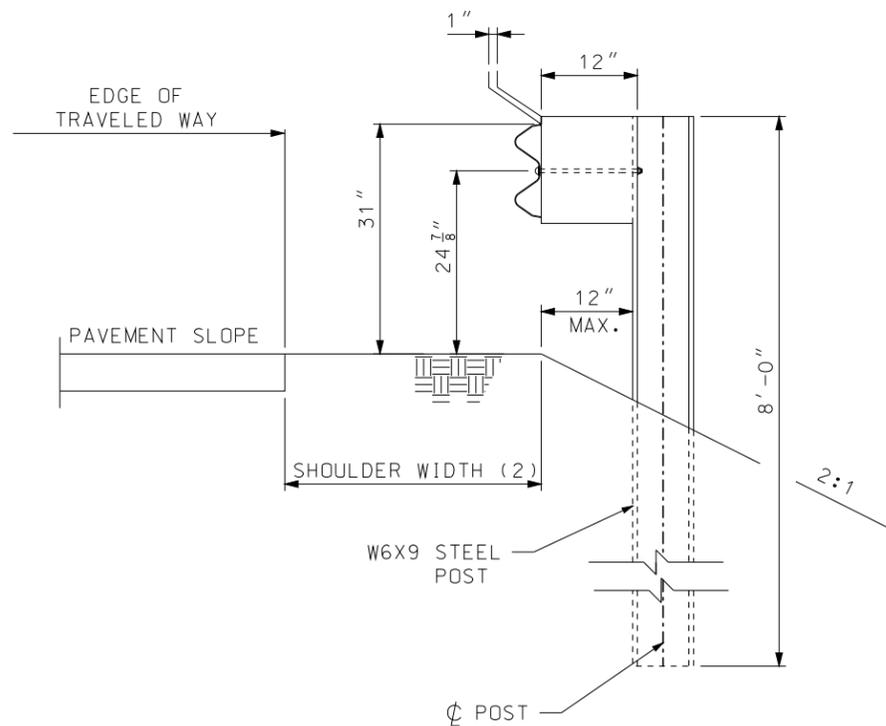
DATE EFFECTIVE: 01/01/2017	606.50B	SHEET NO. 5 OF 8
DATE PREPARED: 10/28/2016		

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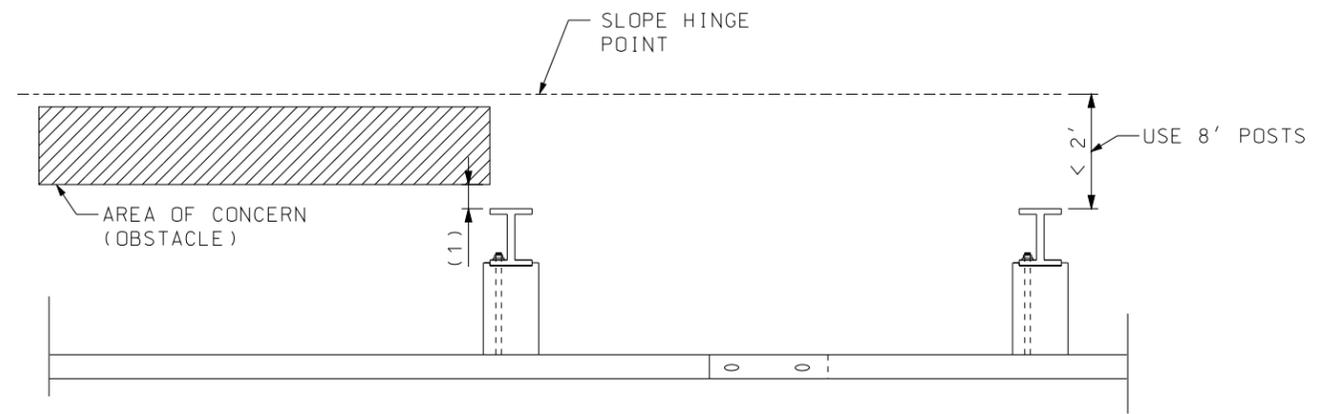
SECTION A-A
8' STEEL POST



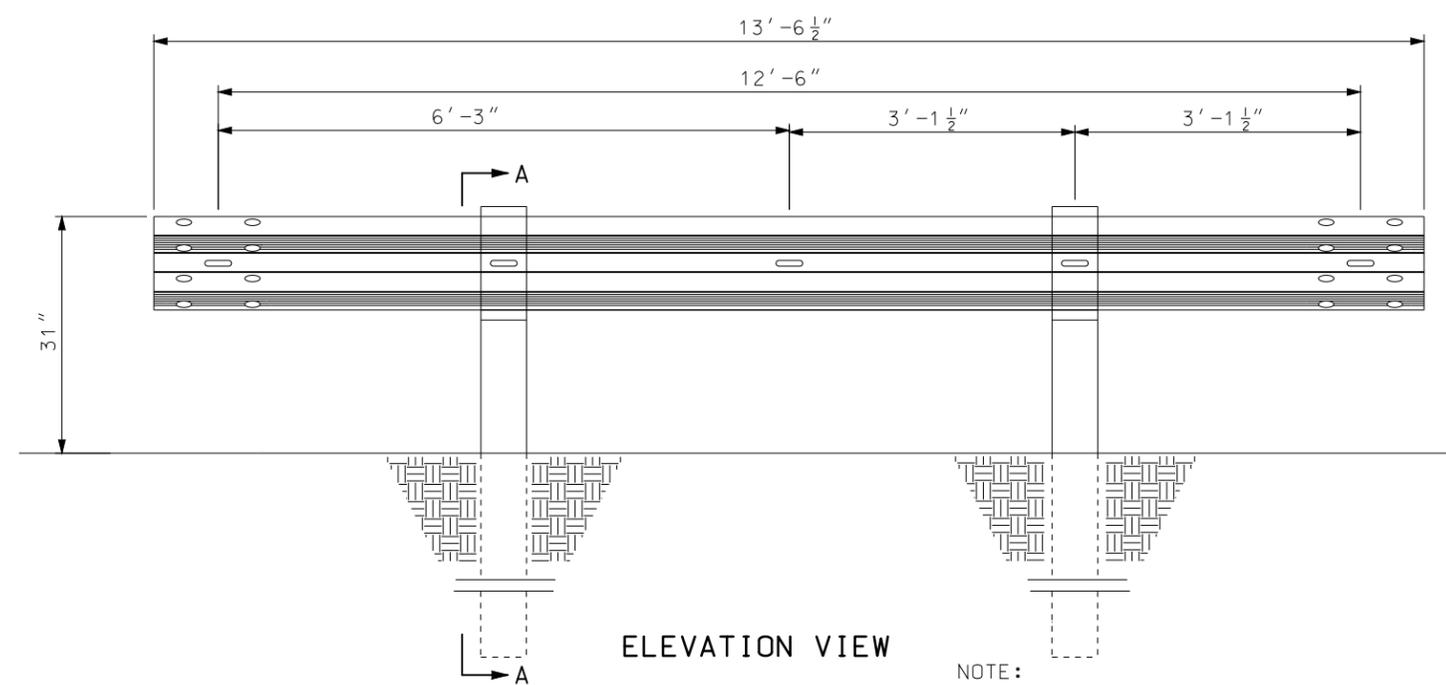
ALTERNATE SECTION A-A
MAXIMUM LATERAL PLACEMENT OF
8' STEEL POSTS ADJACENT TO
SLOPES

(1) 3'-6" MINIMUM CLEARANCE TO THE FACE OF OBSTACLE
WITH 8' POSTS ADJACENT TO A 2:1 SLOPE.

(2) WHEN THERE IS NOT SUFFICIENT GRADING BEYOND
THE SHOULDER TO PLACE THE GUARDRAIL AND POSTS,
THE POSTS MAY BE PLACED A MAXIMUM OF 12" BEYOND THE
SLOPE BREAK POINT OF A 2:1 MAXIMUM SLOPE.



PLAN VIEW



ELEVATION VIEW

NOTE:
SEE STD. PLAN 606.81 FOR SITE GRADING REQUIREMENTS
FOR CRASHWORTHY END TERMINALS.

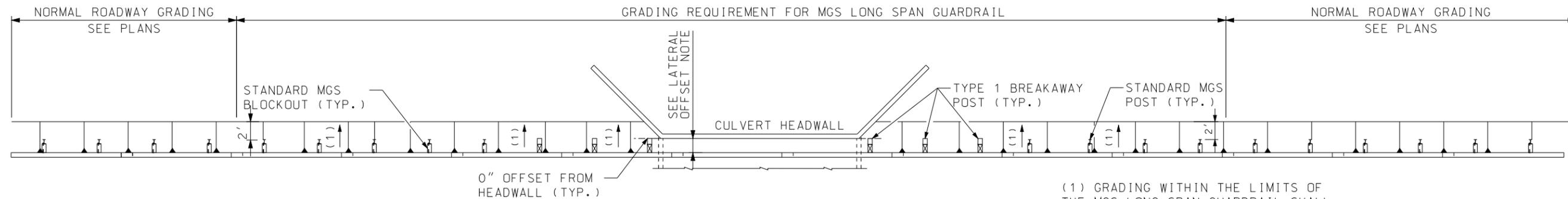
8 FOOT POSTS SHALL BE USED WHEN LESS THAN 2 FEET OF
EMBANKMENT IS PRESENT BEHIND THE GUARDRAIL POSTS.

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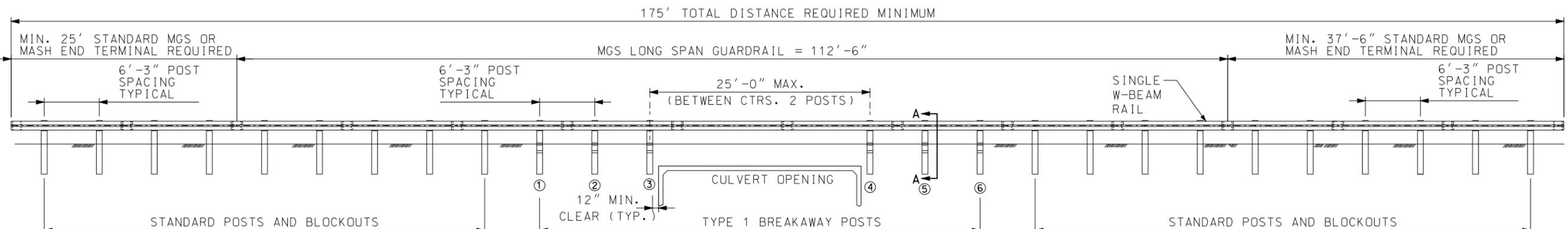
STATE OF MISSOURI
ERIC E. SCHROETER
NUMBER PE-28411
PROFESSIONAL ENGINEER
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MIDWEST GUARDRAIL SYSTEM
(MGS)
8 FT. POST

DATE EFFECTIVE: 01/01/2017	606.50B	SHEET NO. 6 OF 8
DATE PREPARED: 10/28/2016		



PLAN VIEW



ELEVATION VIEW

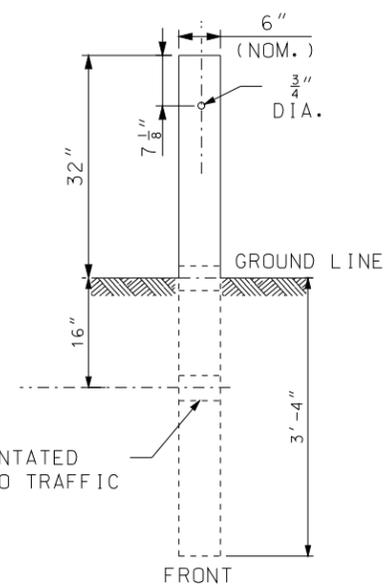
NOTES:
 A MINIMUM LENGTH OF STANDARD MGS GUARDRAIL OR AN END TERMINAL IS REQUIRED BEFORE THE 112'-6" OF MGS LONG SPAN AND AFTER TO MAINTAIN STABILITY IN THE SYSTEM. 8' POSTS MAY BE USED OUTSIDE THE GRADING LIMITS SHOWN.

USE TYPE 1 BREAKAWAY WOOD POST FOR POSTS NO. 1-6. ALL OTHER POSTS SHALL BE W6X8.5 OR W6X9 STEEL POSTS.

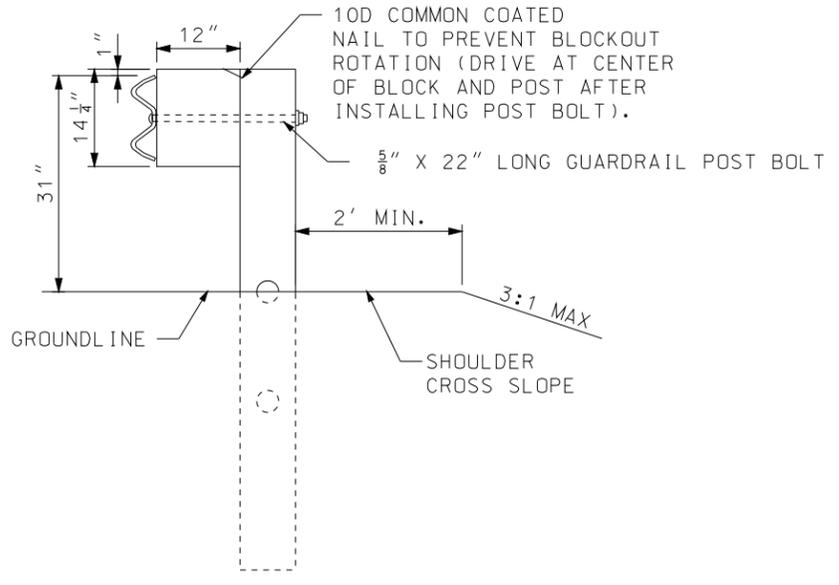
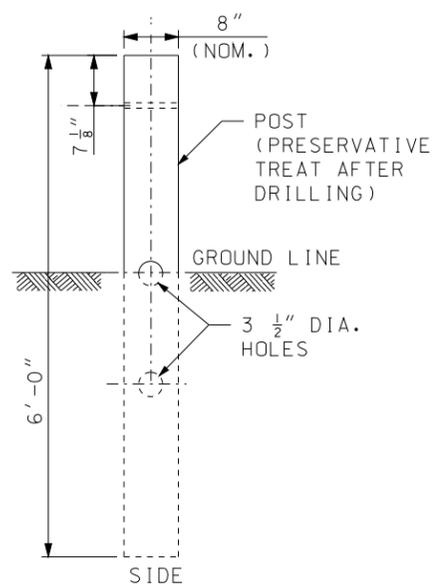
WHEN THE HEADWALL IS FLUSH WITH THE GRADE, THE BACK OF THE POST CAN BE ALIGNED WITH THE NEAR SIDE OF THE HEADWALL. BUT IF THE HEADWALL CONTINUES ABOVE GRADE, THE SYSTEM SHOULD BE OFFSET 8' FROM THE FIXED OBJECT.

FOR LOCATIONS WHERE A GUARDRAIL FLARE IS DESIRED, THE SYSTEM SHOULD REMAIN TANGENT FOR 50'-0" BEFORE POST 1 OR AFTER POST 6, AT WHICH POINT THE GUARDRAIL MAY FLARE AT A MAXIMUM TAPER RATE OF 7:1.

ALL POSTS, BLOCK, RAILS, AND HARDWARE SHALL COMPLY WITH SEC 606, MGS GUARDRAIL AND AS DETAILED ON THIS STANDARD.



TYPE 1 BREAKAWAY WOOD POST



SECTION A-A

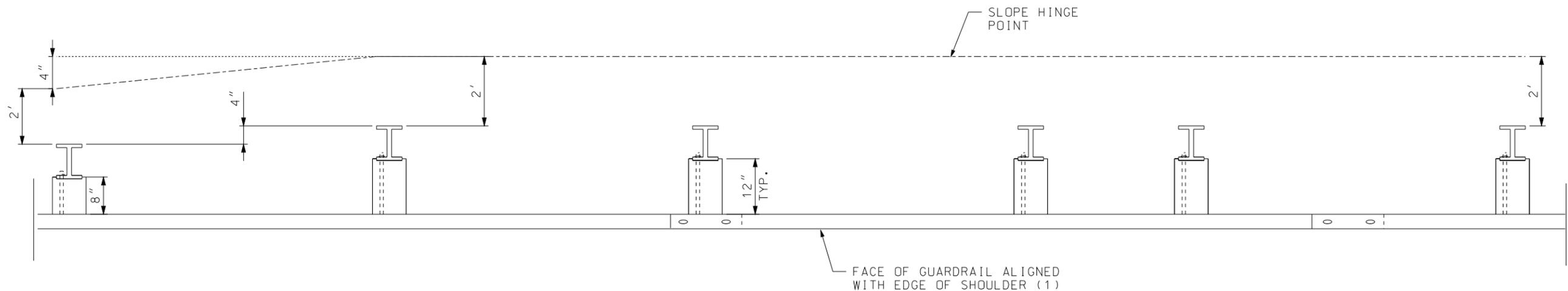
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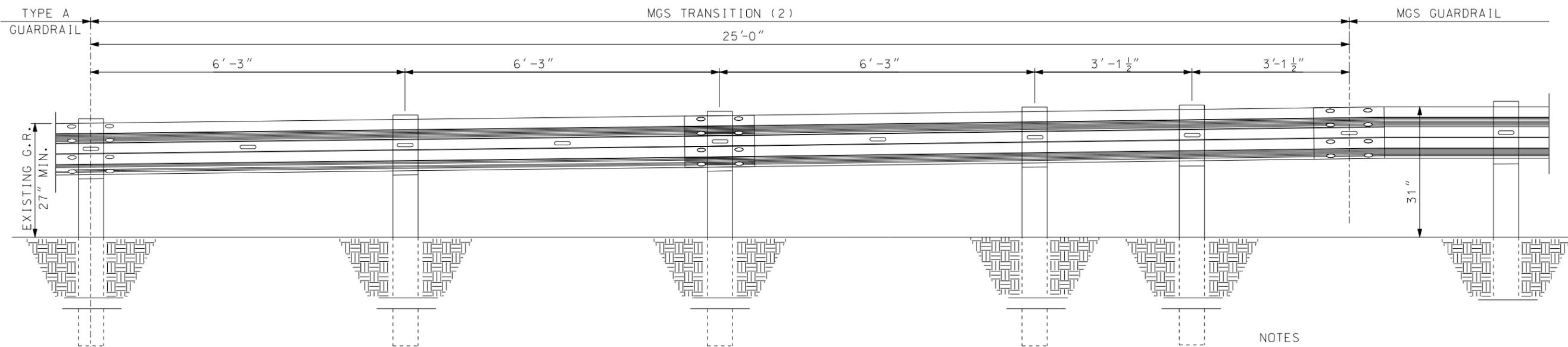
MIDWEST GUARDRAIL SYSTEM (MGS) LONG SPAN GUARDRAIL

DATE EFFECTIVE: 01/01/2017	606.50B	SHEET NO. 7 OF 8
DATE PREPARED: 10/28/2016		

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PLAN VIEW

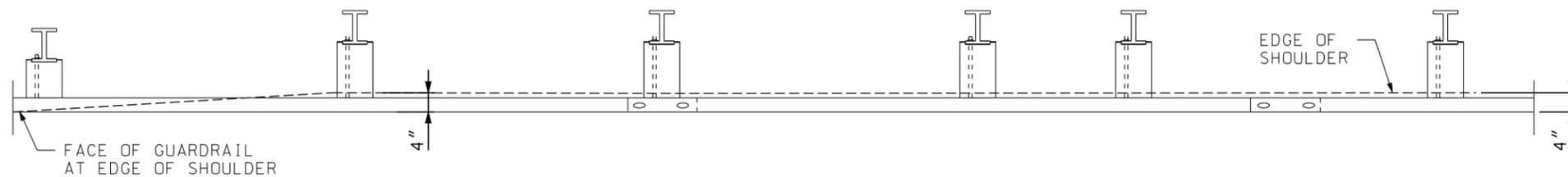


MGS BLOCK AND HEIGHT TRANSITION FROM TYPE A GUARDRAIL TO MGS GUARDRAIL

NOTES

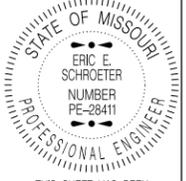
(1) WHERE POST OFFSET IS CONSTRAINED, AND WHEN THE EXISTING SHOULDER IS WIDER THAN 4 FEET, THE EXISTING SHOULDER MAY BE REDUCED UP TO 4 INCHES TO ACCOMMODATE THE 12 INCH BLOCKS OF THE MGS GUARDRAIL OR 9 FOOT POSTS SHALL BE USED. (SEE PLAN VIEW - ALIGNMENT TAPER)

(2) MGS TRANSITION FROM TYPE A GUARDRAIL SHALL BE COMPLETED OUTSIDE THE 50' MGS END TERMINAL LIMITS.



ALTERNATE PLAN VIEW - ALIGNMENT TAPER

SEE NOTE (1)

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	MIDWEST GUARDRAIL SYSTEM (MGS) BLOCK AND HEIGHT TRANSITION
DATE EFFECTIVE: 01/01/2017 DATE PREPARED: 10/28/2016	SHEET NO. 606.50B 8 OF 8

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