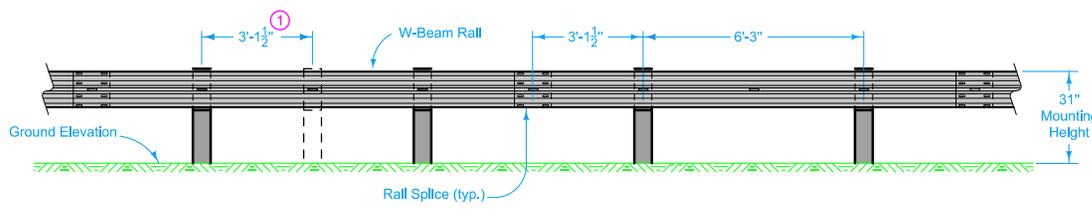
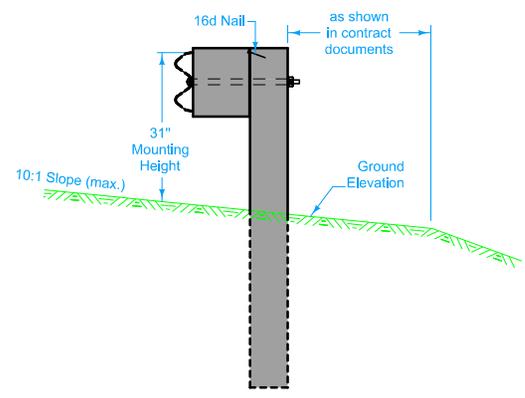


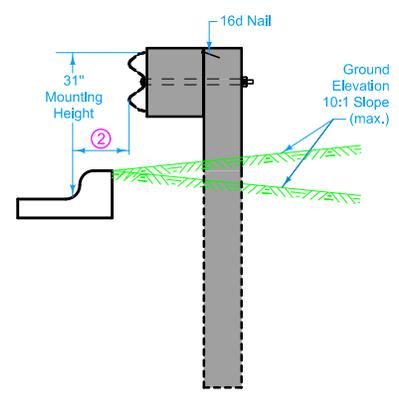
PLAN



ELEVATION



SECTION

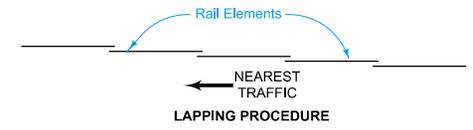


SECTION WITH CURB

W-BEAM INSTALLATION

At Bridge End Drains, cut Scour Protection (Transition Mat and Turf Reinforcement Mat) or remove rock as required to place post(s) such that Bridge End Drains abut post(s).

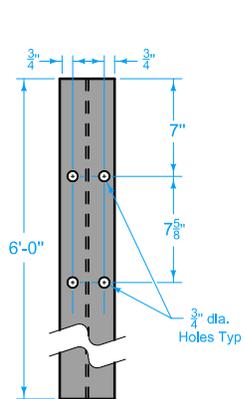
- ① When specified by the contract documents, install posts at 3'-1½" spacing.
- ② 6" maximum for 6" Standard or 6" Sloped curbs and for non-standard curbs.
- ③ Wood or composite only. Steel blockouts will not be allowed.



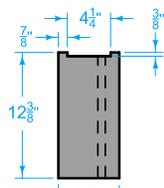
Possible Contract Item:
Steel Beam Guardrail

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<small>REVISIONS: Added new circle note 4 and renumbered remaining notes.</small>	
<small>APPROVED BY DESIGN METHODS ENGINEER</small>	
STEEL BEAM GUARDRAIL COMPONENTS	

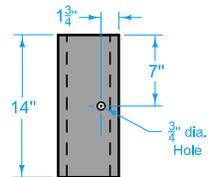
STEEL POST AND BLOCKOUT DETAILS



6'-0" STEEL POST
W6x9 or W6x8.5

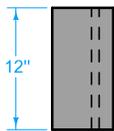


PLAN

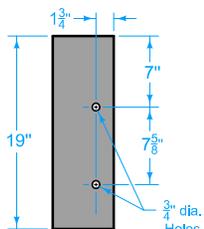


ELEVATION

W-BEAM BLOCKOUT ③

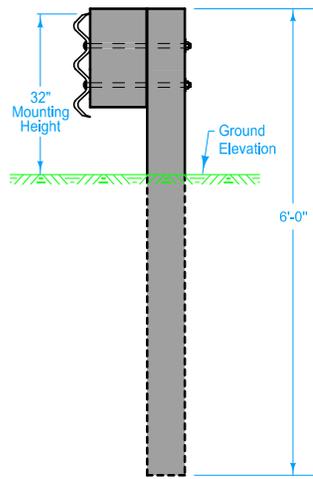


PLAN



ELEVATION

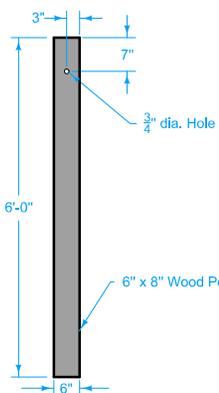
THRIE-BEAM BLOCKOUT ③



THRIE-BEAM INSTALLATION

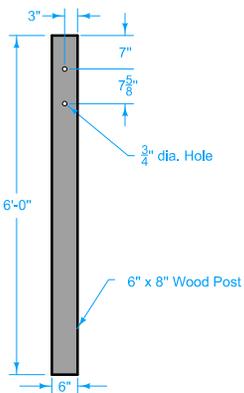
- ③ Wood or composite only. Steel blockouts will not be allowed.
- ④ Thrie-beam post may be substituted for W-beam post.

WOOD POST AND BLOCKOUT DETAILS

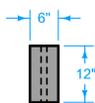


W-BEAM

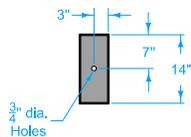
POSTS ④



THRIE-BEAM

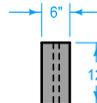


PLAN

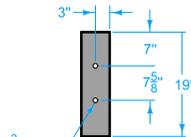


ELEVATION

W-BEAM BLOCKOUT ③



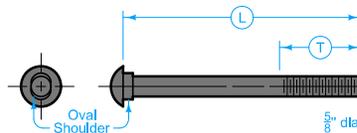
PLAN



ELEVATION

THRIE-BEAM BLOCKOUT ③

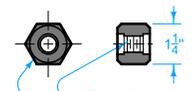
BOLT DETAILS



BOLT

APPLICATION	T	L
Splice Bolt	1 1/16"	1 1/4"
Bolt for Steel Post with 8" Blockout	2 1/2"	10"
Bolt for Steel Post with 12" Blockout	2 1/2"	14"
Bolt for Wood Post with 8" Blockout	2 1/2"	18"
Bolt for Wood Post with 12" Blockout	2 1/2"	22"

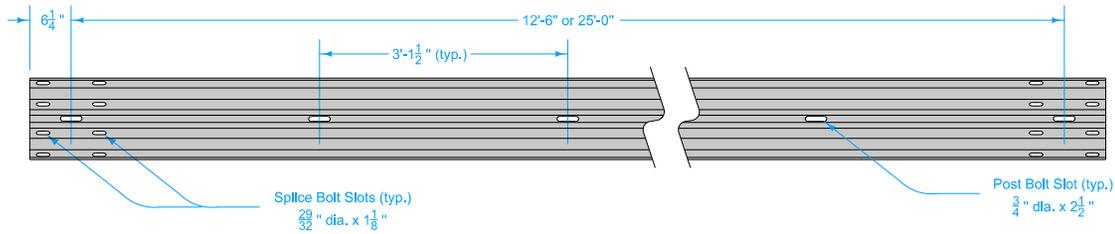
T = Min. Thread Length L = Bolt Length



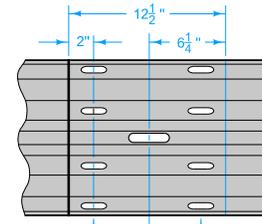
NUT

HARDWARE

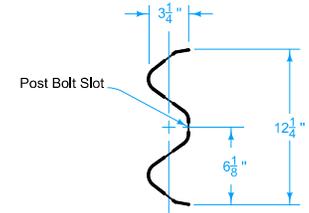
<p>STANDARD ROAD PLAN</p> <p>REVISIONS: Added new circle note 4 and renumbered remaining notes.</p> <p>APPROVED BY DESIGN METHODS ENGINEER</p>	REVISION 6 04-20-21
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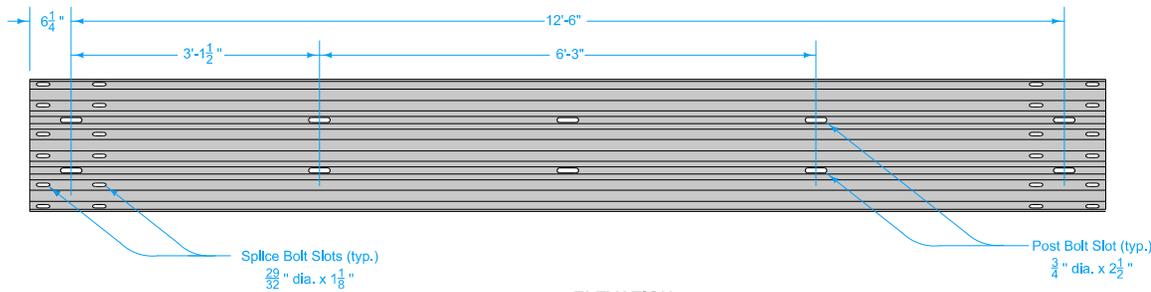


RAIL SPLICE

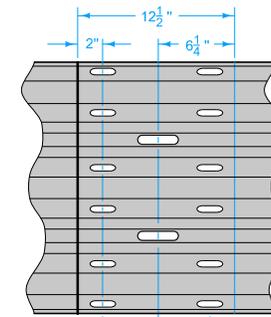


SECTION

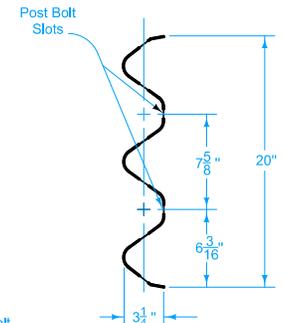
W-BEAM RAIL



ELEVATION

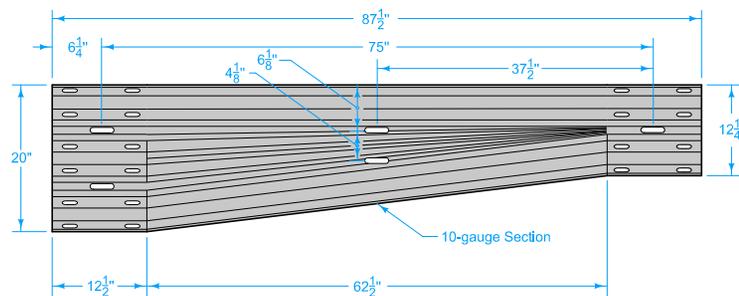


RAIL SPLICE



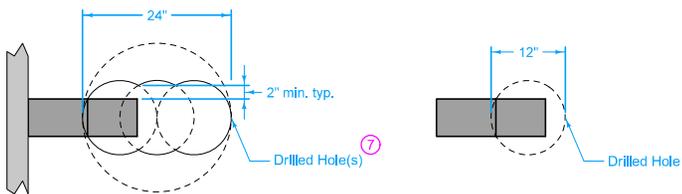
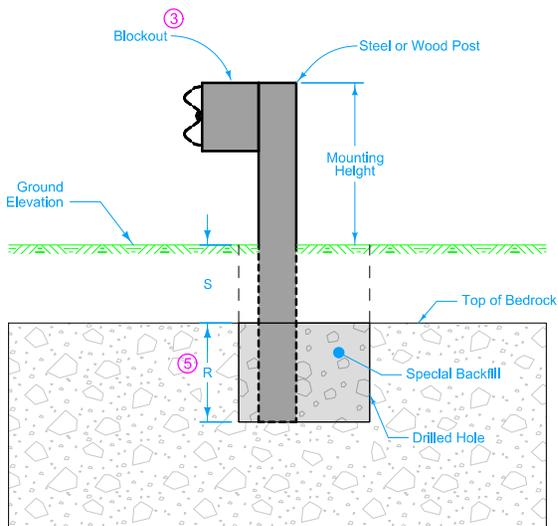
SECTION

THREE-BEAM RAIL



ASYMMETRICAL TRANSITION SECTION

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<small>REVISIONS: Added new circle note 4 and renumbered remaining notes.</small>	
<small>APPROVED BY DESIGN METHODS ENGINEER</small>	
STEEL BEAM GUARDRAIL COMPONENTS	

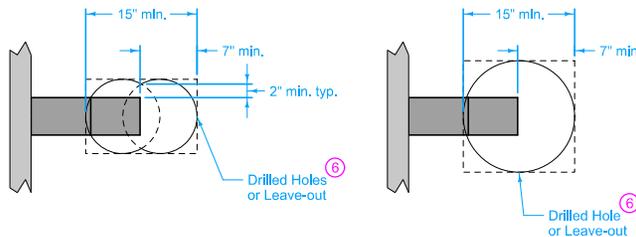
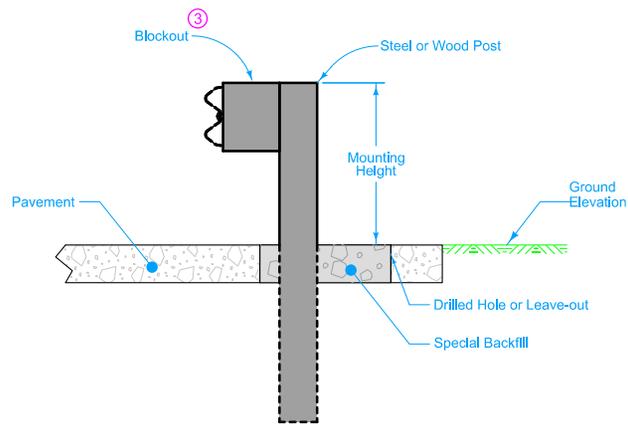


PLAN - CASE A

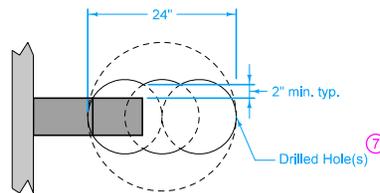
PLAN - CASE B

Post Embedment (5)		
Case	Depth to Bedrock	Minimum Depth to Drill into Bedrock
A	S = 0" to 16"	R = 24"
B	S = 16" to 52"	R = Post Length - Mounting Height - S

POST INSTALLED IN BEDROCK



PLAN - PAVEMENT THICKNESS <= 8"
Either approach is acceptable.



PLAN - PAVEMENT THICKNESS > 8"

POST INSTALLED IN PAVEMENT

Installation information applies to both wood and steel posts.

- (3) Wood or composite only. Steel blockouts will not be allowed.
- (5) Post extends to bottom of hole in all cases. Trim top of post as required and treat with preservative according to Section 4161 of the Standard Specifications.
- (6) Use a 12 inch bit with two drills or a 15 inch bit with one drill. If placing post before paving, provide required leave-out area. If placing post after paving, drill or cut required area. Leave-out may be round or square.
- (7) Use a 12 inch bit with three drills or a 24 inch bit with one drill.

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REVISIONS: Added new circle note 4 and renumbered remaining notes.

APPROVED BY DESIGN METHODS ENGINEER

STEEL BEAM GUARDRAIL COMPONENTS