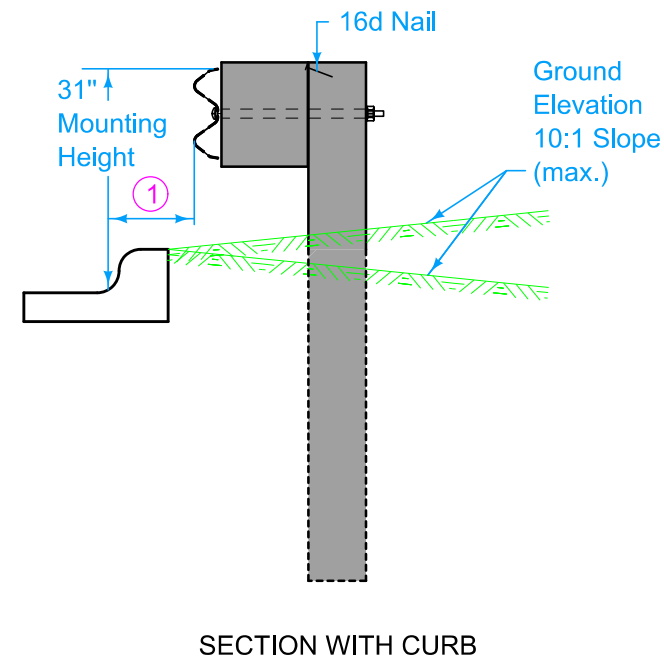
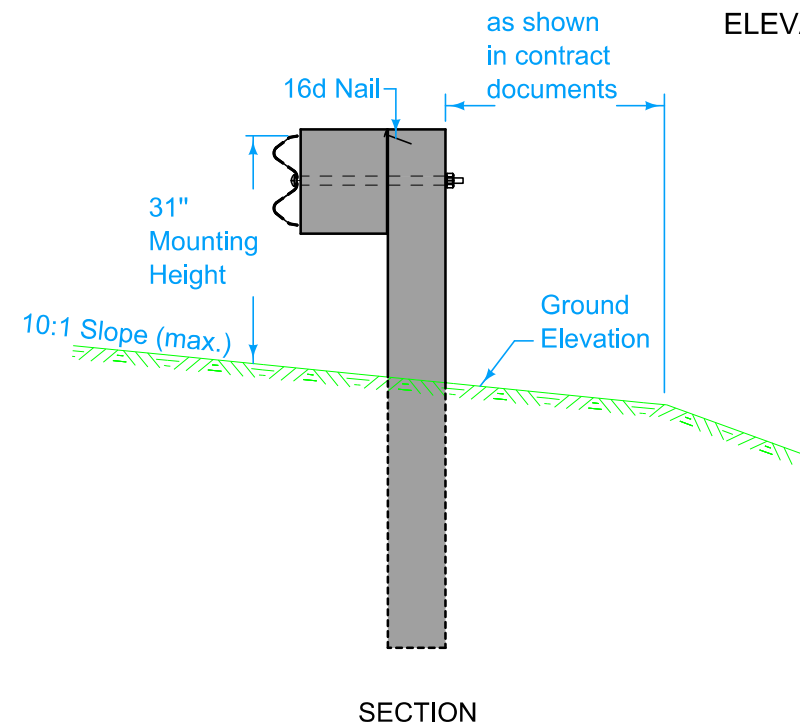
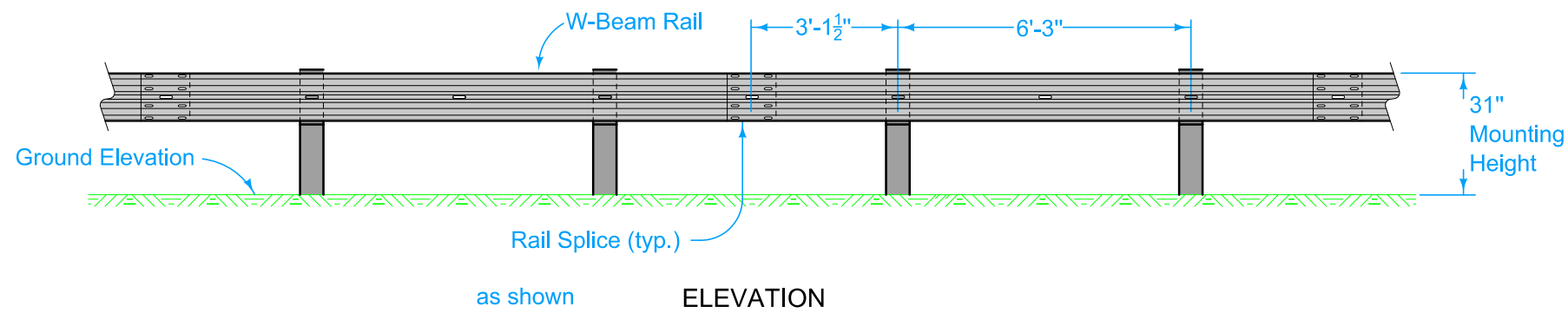
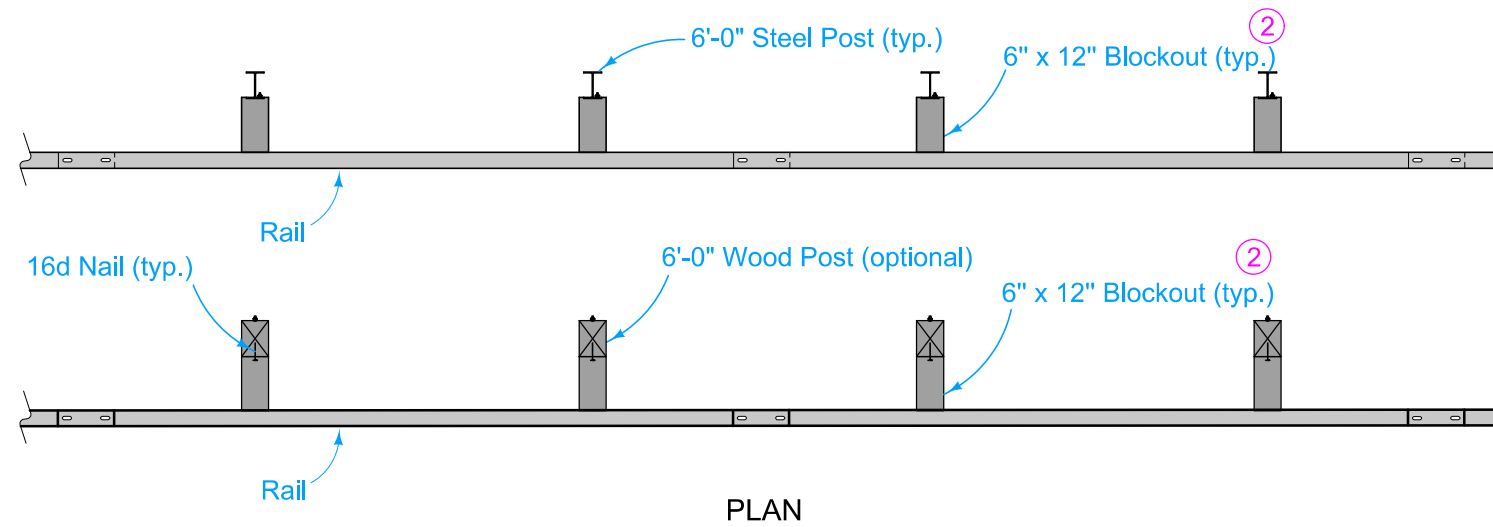


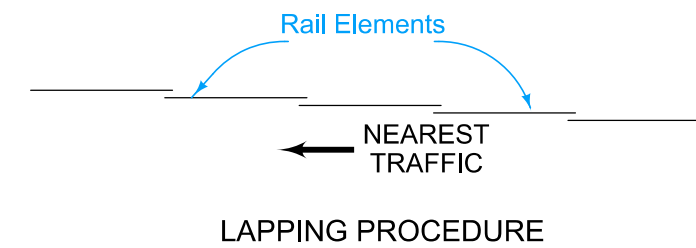
Standard W-Beam Guardrail



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).

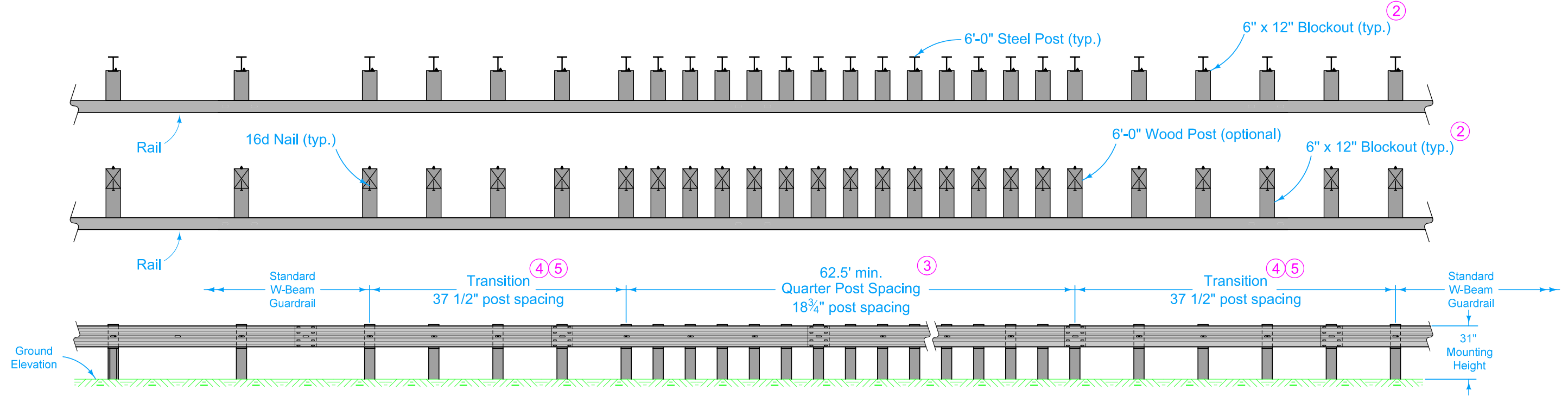
- ① 6" maximum for 6" Standard or 6" Sloped curbs and for non-standard curbs.
- ② Wood or composite only. Steel blockouts will not be allowed.



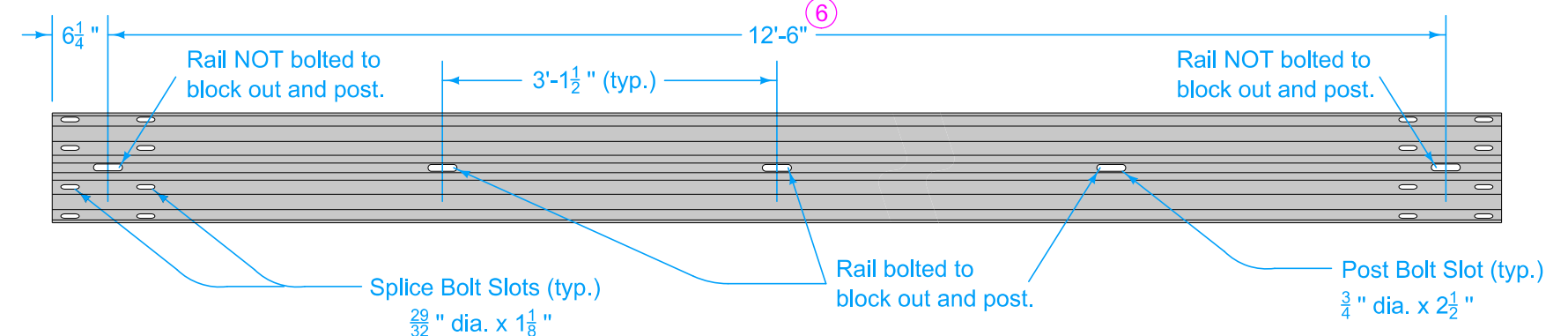
Possible Contract Item:
Steel Beam Guardrail

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STEEL BEAM GUARDRAIL COMPONENTS		

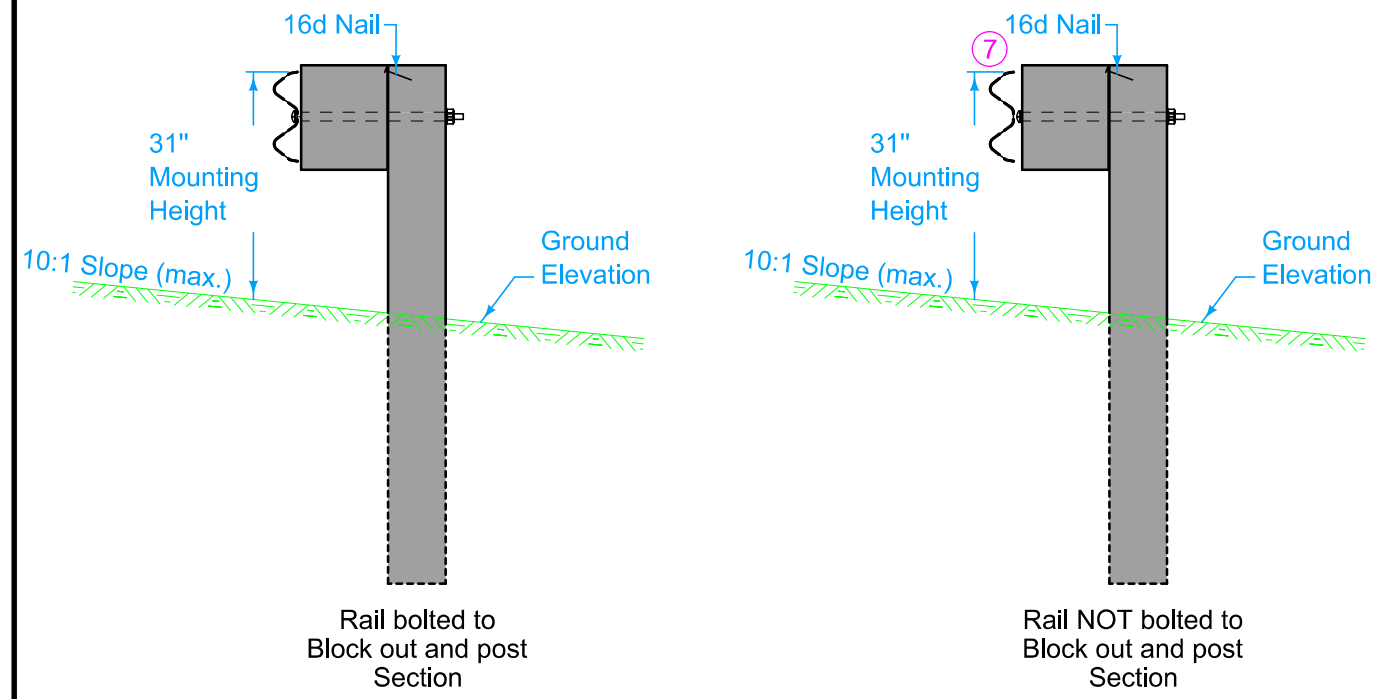
Quarter Post Spacing W-Beam Guardrail



Elevation



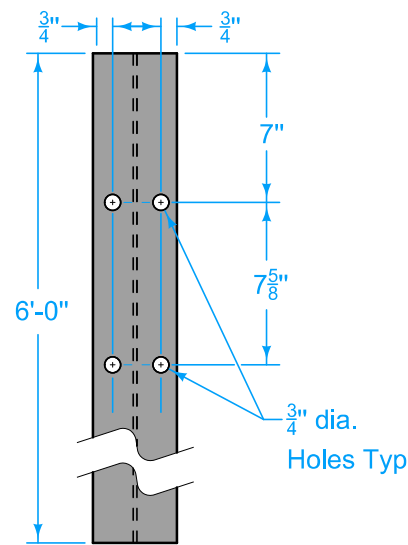
ELEVATION
W-BEAM RAIL



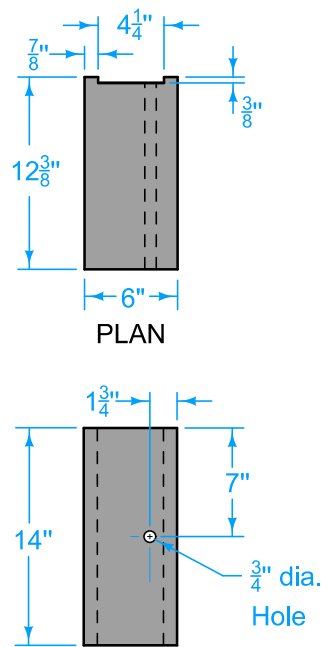
- ③ Posts and blockouts connect to rail at 37 1/2 inch spacing. Rail to not be bolted to post and blockouts at splice location.
- ② Wood or composite only. Steel blockouts will not be allowed.
- ④ Transition length minimum of 12 feet 6 inches.
- ⑤ Transition required at both ends of quarter post spacing.
- ⑥ 25 foot long section will not be allowed. Additional holes in rail will not be allowed.
- ⑦ At locations where the rail is not bolted to the post and block out the post and block out shall be bolted together.

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<p><i>Shawn Miller</i></p> <p>APPROVED BY DESIGN METHODS ENGINEER</p>		
<p>STEEL BEAM GUARDRAIL COMPONENTS</p>		

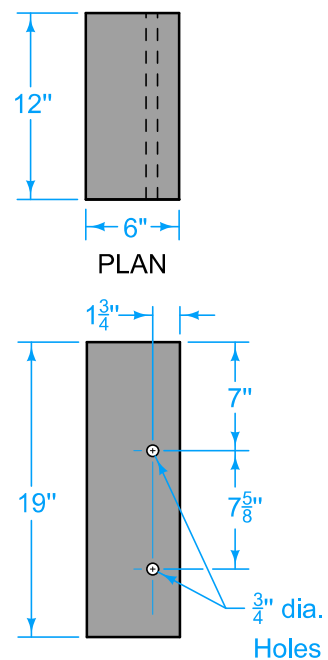
STEEL POST AND BLOCKOUT DETAILS



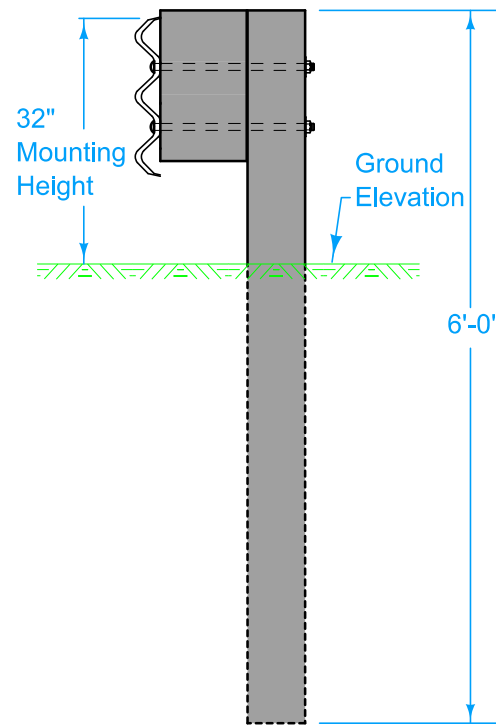
6'-0" STEEL POST
W6x9 or W6x8.5



W-BEAM BLOCKOUT ^②



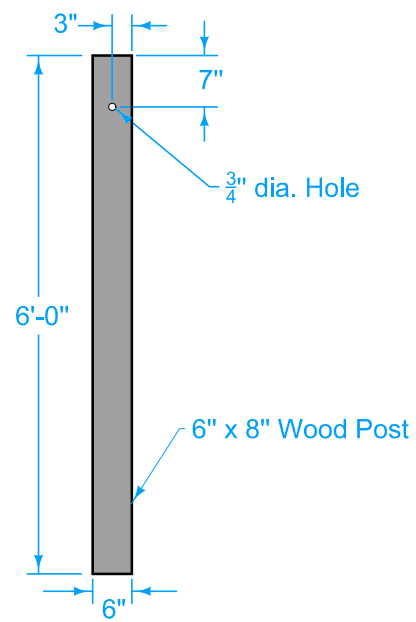
THRIE-BEAM BLOCKOUT ^②



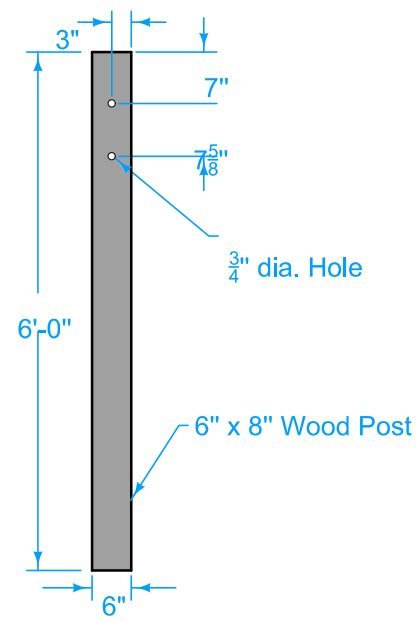
THRIE-BEAM INSTALLATION

- ② Wood or composite only. Steel blockouts will not be allowed.
- ⑧ Thrie-beam post may be substituted for W-beam post.

WOOD POST AND BLOCKOUT DETAILS

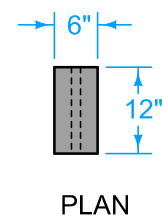


W-BEAM

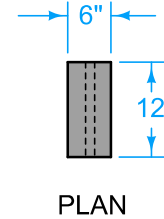


THRIE-BEAM

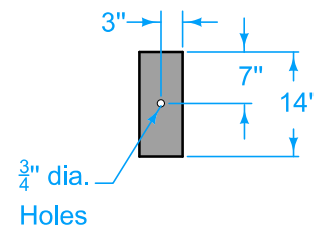
POSTS ^⑧



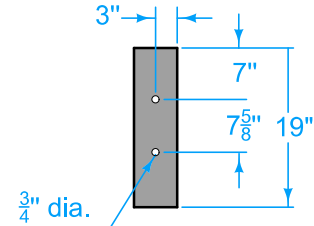
PLAN



PLAN



ELEVATION

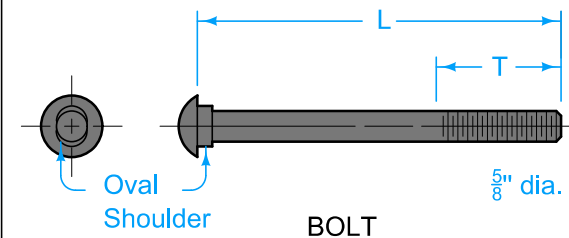


ELEVATION

W-BEAM BLOCKOUT ^②

THRIE-BEAM BLOCKOUT ^②

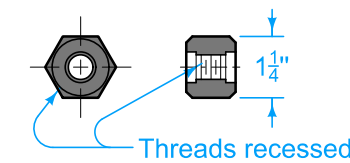
BOLT DETAILS



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

IOWA DOT

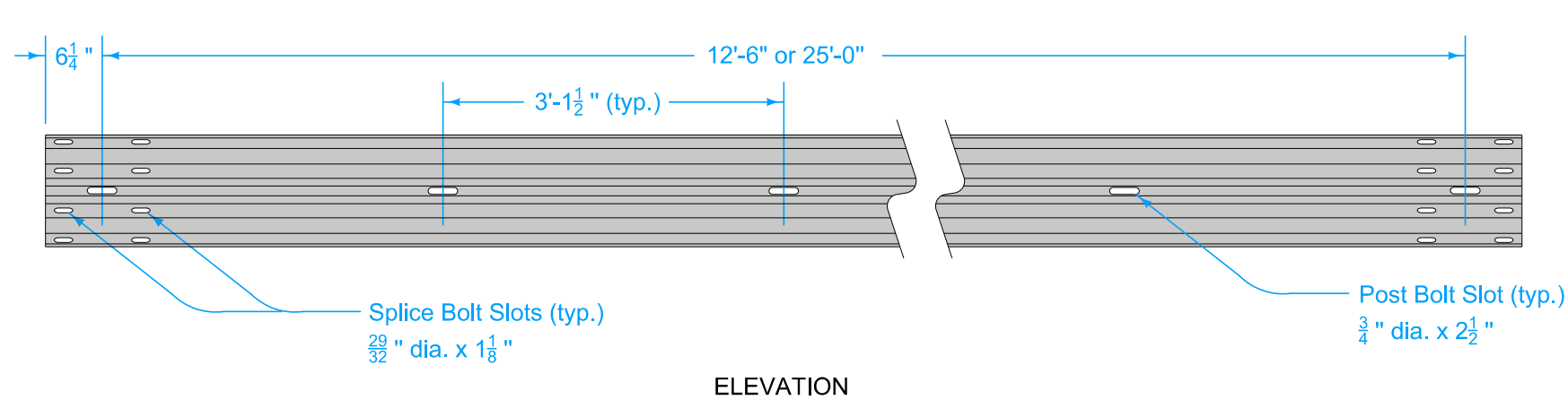
STANDARD ROAD PLAN

REVISIONS: Removed half post spacing, added quarter post spacing

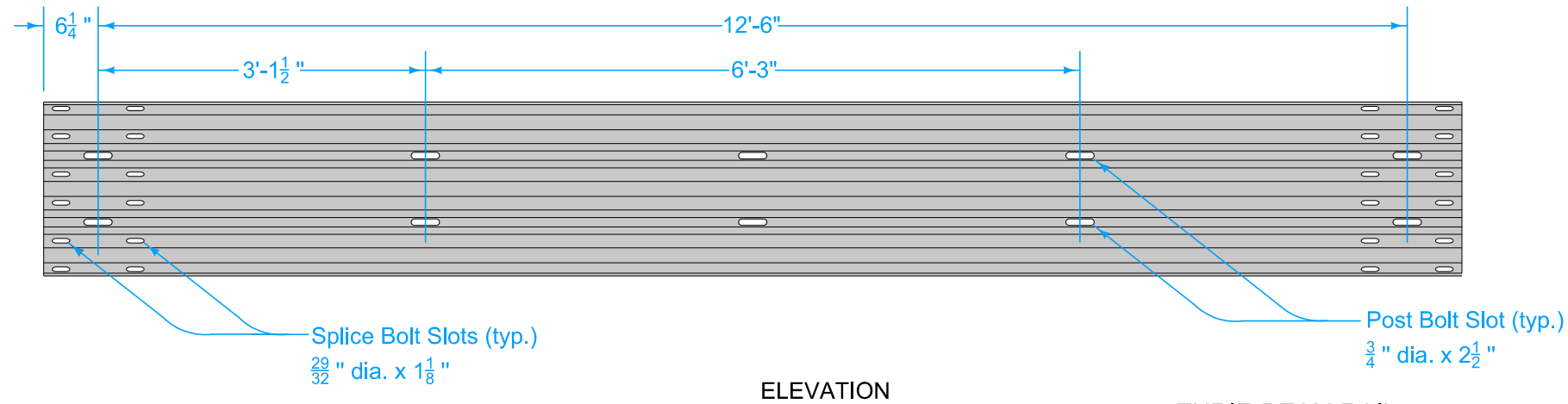
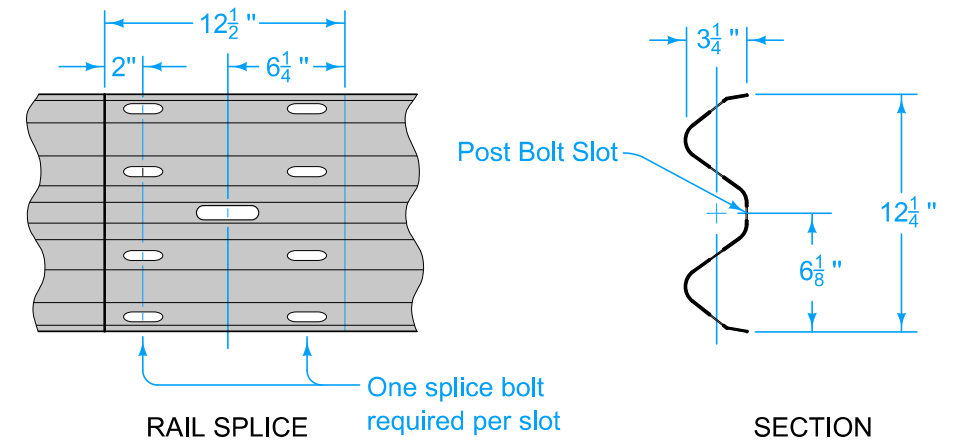
APPROVED BY DESIGN METHODS ENGINEER

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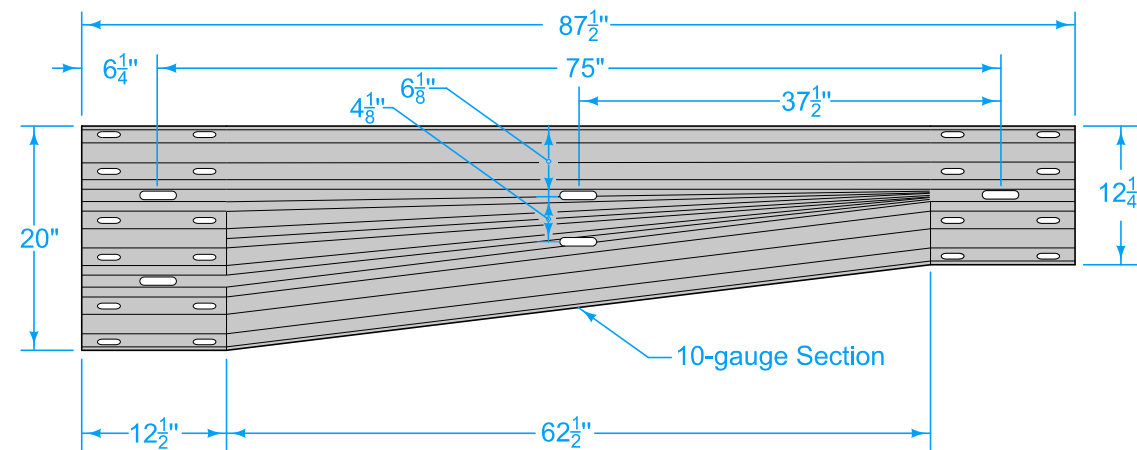
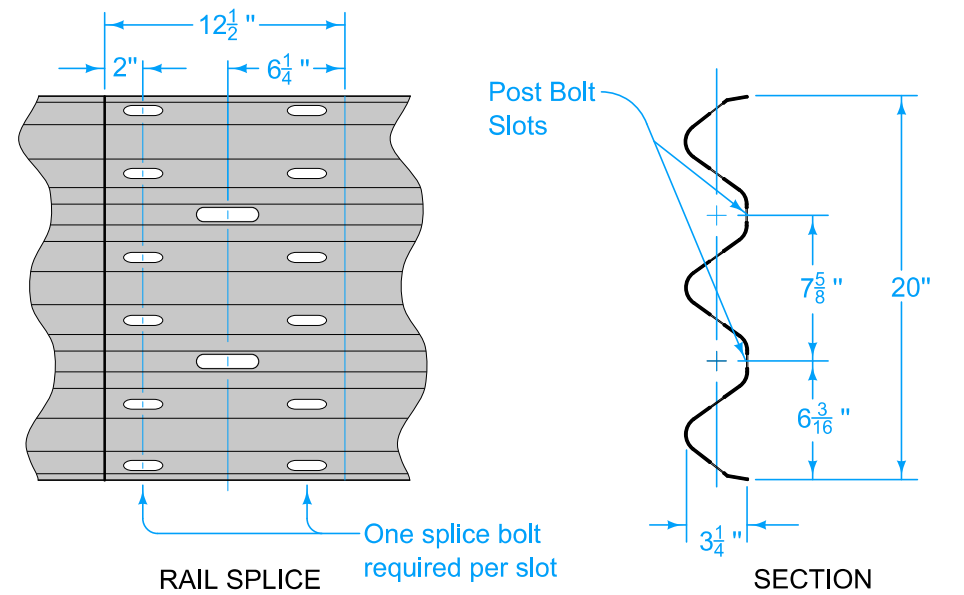
STEEL BEAM GUARDRAIL COMPONENTS



W-BEAM RAIL

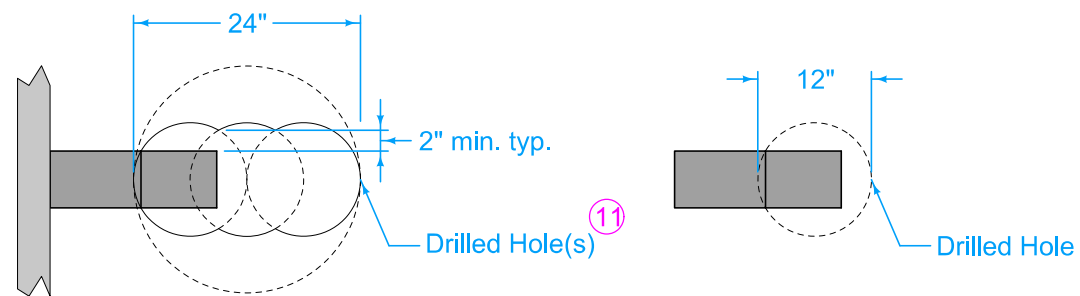
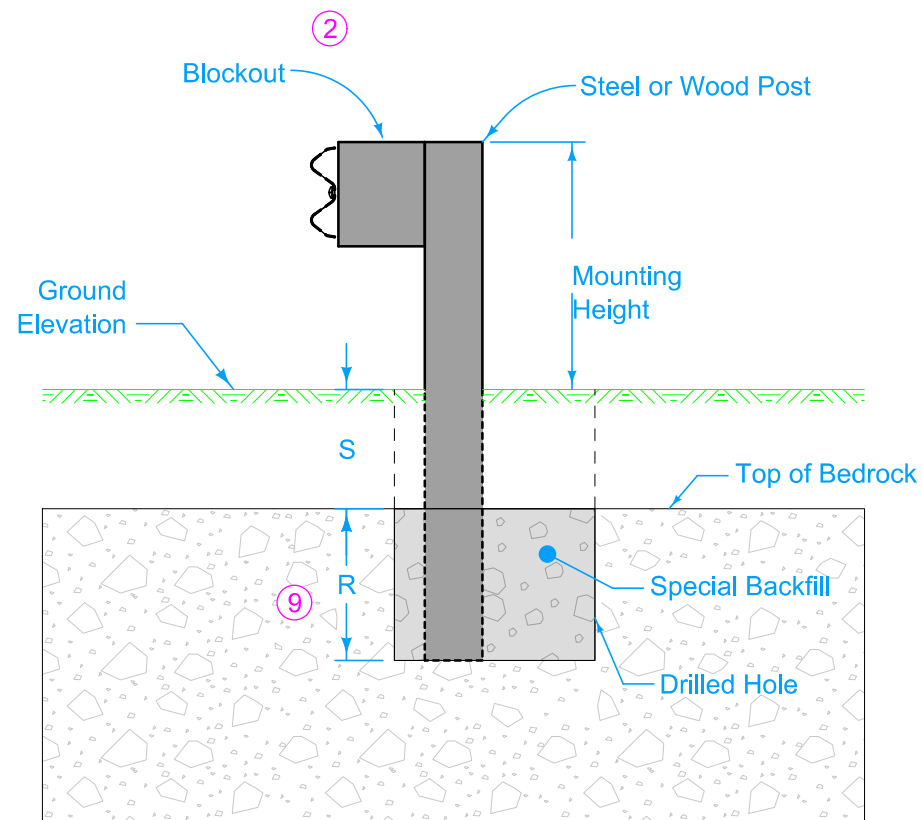


THREE-BEAM RAIL



ASYMMETRICAL TRANSITION SECTION

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STEEL BEAM GUARDRAIL COMPONENTS		

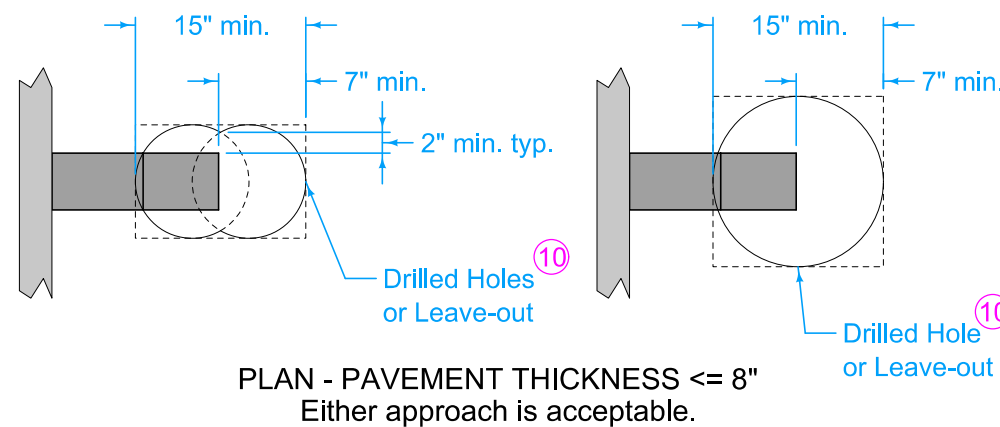
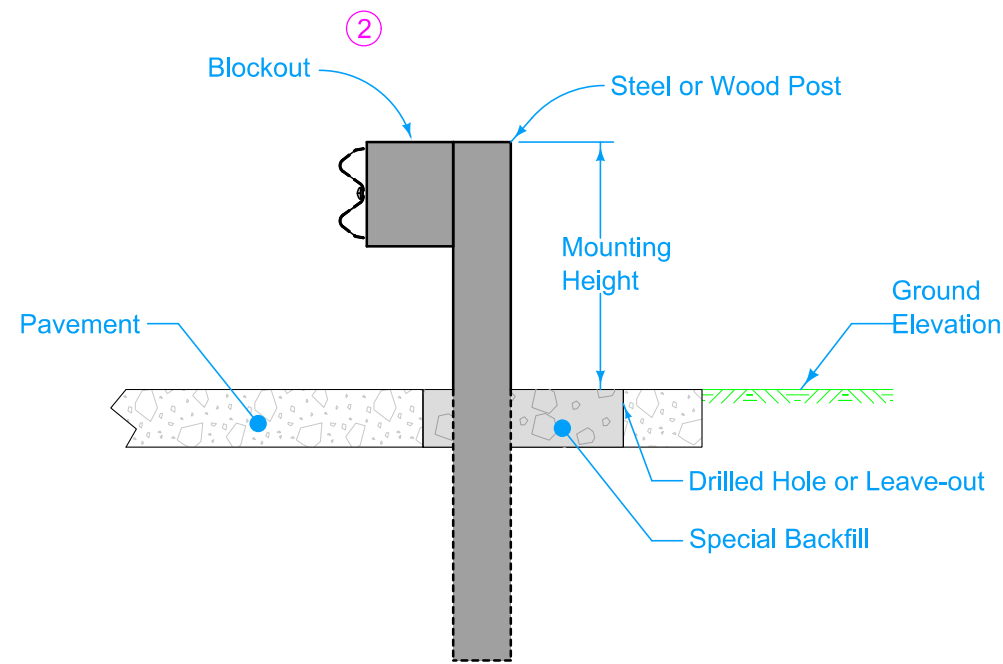


PLAN - CASE A

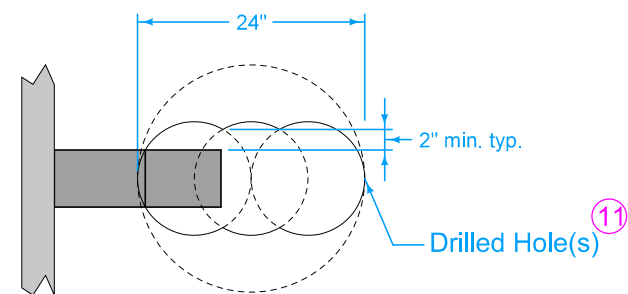
PLAN - CASE B

Post Embedment ⁹		
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"

Installation information applies to both wood and steel posts.

- ² Wood or composite only. Steel blockouts will not be allowed.
- ⁹ 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.
- ¹⁰ 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.
- ¹¹ Use a 12 inch bit with three drills or a 24 inch bit with one drill.

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REVISIONS: Removed half post spacing, added quarter post spacing

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STEEL BEAM GUARDRAIL COMPONENTS