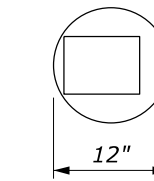
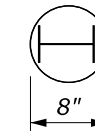


**PLAN VIEW**



Wood Post

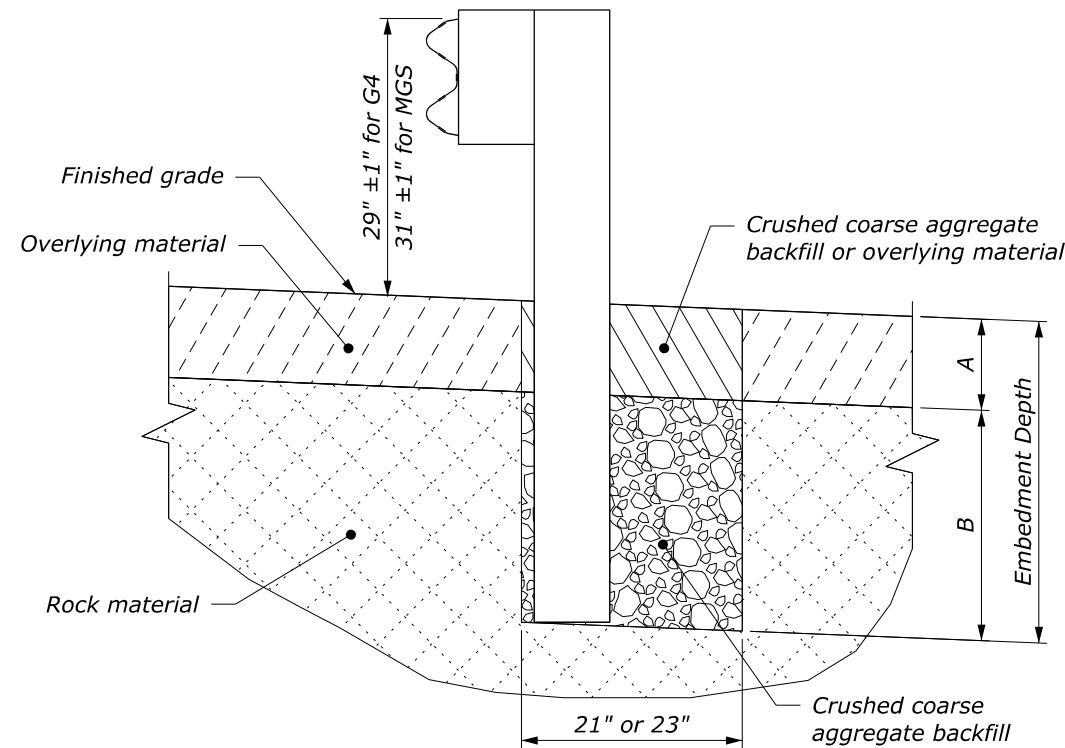


Steel Post

**PLAN VIEW**

**NOTE:**

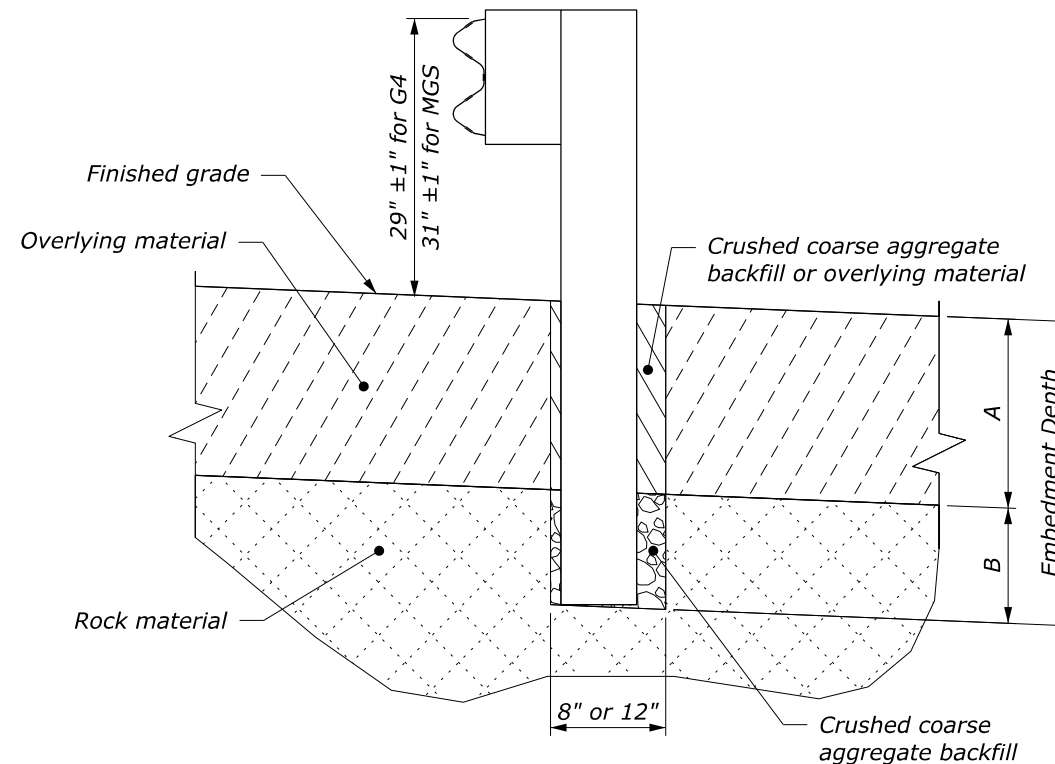
1. Use this standard when posts cannot be embedded to the minimum depth shown on Standard 617-10, 617-11, 617-31 or 617-32.
2. Unless otherwise specified, use either the circular or the oblong hole configuration for Case 1 conditions.
3. Use crushed coarse aggregate backfill that conforms to "coarse aggregate for concrete" or "granular backfill for underdrain pipe with geotextile" in Section 703.
4. Place crushed coarse aggregate according to the post requirements in Section 617.
5. Treat field cut galvanized steel post surfaces that expose the base metal with two coats of zinc-oxide paint.



**ELEVATION**

Case 1: Overlying material depth (A) is 18" or less

POST EMBEDMENT DIMENSIONS			
HOLE TYPE	EMBEDMENT DEPTH	OVERLYING MATERIAL (A)	DRILLING DEPTH (B)
Case 1	24" to 42"	0 to 18"	24"
Case 2	30" to 42"	> 18" to 30"	12"
	42"	> 30"	42" - A



**ELEVATION**

Case 2: Overlying material depth (A) is greater than 18"

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION  
OFFICE OF FEDERAL LANDS HIGHWAY

**FLH STANDARD  
MGS AND G4  
W-BEAM GUARDRAIL  
INSTALLATION IN ROCK**

STANDARD APPROVED FOR USE 6/2022  
REVISED:

STANDARD  
617-13

**Designer Notes: FLH Standard Drawing 617-13**  
**Last Updated: August 2021**

## MGS and G4 W-Beam Guardrail Installation in Rock

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### General Information

***Appropriate Applications.***

- MGS and G4 W-beam guardrail is designed so that the posts can rotate back in the soil. The rotation in the soil absorbs a significant amount of the impact energy. If the posts are installed in a rigid foundation, such as bedrock, the posts fail to rotate, and less energy is absorbed.

<b><i>Crash Test Criteria</i></b>	NCHRP Report 350
<b><i>Test Level</i></b>	TL-3
<b><i>FHWA Eligibility Letter</i></b>	B-64B
<b><i>TF 13 Designator</i></b>	SGR27a-b
<b><i>Crash Test Report</i></b>	MwRSF report No. TRP-03-119-03

***Limitations.*** Include this drawing with the plans for all projects with G4 or MGS guardrail in case bedrock or boulders are encountered during post installation.

***Layout Guidance.***

- See AASHTO *Roadside Design Guide* Section 5.6.7.1

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### Typical Pay Item Used

Typically, there is no direct payment for this work.

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### Updates

February 2019

- New Detail drawing

April 2020

- Updated Designer Notes

August 2021

- Converted from CFL Detail to FLH Standard