1. Use this standard when posts cannot be embedded to the minimum depth shown on Details C617-10, C617-11, C617-31, or C617-32.

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.

**NOTE:**

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

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

**POST EMBEDMENT DIMENSIONS**

<table>
<thead>
<tr>
<th>HOLE TYPE</th>
<th>EMBEDMENT DEPTH</th>
<th>OVERLYING MATERIAL (A)</th>
<th>DRILLING DEPTH (B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case 1</td>
<td>24&quot; to 42&quot;</td>
<td>0 to 18&quot;</td>
<td>24&quot;</td>
</tr>
<tr>
<td>Case 2</td>
<td>30&quot; to 42&quot;</td>
<td>&gt; 18&quot; to 30&quot;</td>
<td>12&quot;</td>
</tr>
<tr>
<td></td>
<td>42&quot;</td>
<td>&gt; 30&quot;</td>
<td>42&quot; - A</td>
</tr>
</tbody>
</table>

**ELEVATION**

**PLAN VIEW**

- **Steel Post**
- **Wood Post**

**ELEVATION**

- **Steel Post**
- **Wood Post**

**ELEVATION**

- **Steel Post**
- **Wood Post**
Notes to the Designer

Updated August 2021

G4 and MGS W-Beam Guardrail Installation in Rock

General Information
- Printing should be done from the [Sheet] View model

- Appropriate Applications.
M4S 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.

- Limitations.
This drawing is included in the plans for all projects with G4 or M4S guardrail in case bedrock or boulders are encountered during post installation.

- Layout Guidance.
  See AASHTO Roadside Design Guide Section 5.6.7.1

Applicable SCRs
- See Designer Notes in Detail Drawings C617-10, C617-11, C617-31, or C617-32 as applicable

Typical Pay Item Used
- Typically, there is no direct payment for this work.

Updates
- February 2019
  - New Detail drawing
- April 2020
  - Updated Designer Notes
- August 2021
  - Updated for OpenRoads Designer