1. When encountering impenetrable material, one post may be omitted in locations where the typical guardrail cross section includes 2-foot (min.) between the back of the guardrail post and the hinge point. For all other locations, see Section 617 and Details C617-13 or C617-37.

2. Size of block shown elsewhere on the plans. Modified block may be wood, plastic, or composite material. Use consistent material throughout the length of guardrail run.

3. Dimensional tolerances not shown or implied are intended to be those consistent with the proper functioning of the part, including its appearance, and accepted manufacturing practices.

4. Install a flexible hinged delineator every fourth post. Fasten delineator to the web of the steel post using either an adhesive or mechanical means according to the manufacturer’s recommendations.

NOTE:

- 1 V :1 0 H  or flatter slope
- 1 V :2 H  or flatter slope

Subgrade shoulder. Widening required for approach and departure terminal sections

- Aggregate base as shown on Typical Section
- Hinge point

- 2 " recess nut
- 4 " recess nut
- " dia. (typ.)
- 4 " dia. (typ.)

*Note 2: See MGS W-BEAM GUARDRAIL and Details C617-13 or C617-37.

- Mid-span splice
- Traffic
- Edge of pavement or ground line at face of rail
- Edge of pavement or groundline at face of rail
- Aggregate base or as shown on Typical Section
- Aggregate base or as shown on Typical Section

- 8" or 12" block
- 8" or 12" block
- 8" or 12" block
- 8" or 12" block

- 6" or 12" block
- 6" or 12" block
- 6" or 12" block

- 6" or 12" block
- 6" or 12" block
- 6" or 12" block

- 8" or 12" block
- 8" or 12" block
- 8" or 12" block

- 8" x 9 or 8" x 8.5
- 8" x 9 or 8" x 8.5
- 8" x 9 or 8" x 8.5
MGS W-Beam Guardrail, Steel Posts

General Information

**Appropriate Applications.**
- The Midwest Guardrail System (MGS) is a non-proprietary w-beam guardrail system that meets the current crash testing requirements. MGS is used when w-beam guardrail is selected for barrier installation.

<table>
<thead>
<tr>
<th>Crash Test Criteria</th>
<th>MASH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Level</td>
<td>TL-3</td>
</tr>
<tr>
<td>FHWA Eligibility Letter</td>
<td>B-212, B-240, B-261</td>
</tr>
<tr>
<td>TF 13 Designator</td>
<td>SGR20a-b</td>
</tr>
<tr>
<td>Crash Test Report</td>
<td>Multiple MwRSF reports available at <a href="https://mwrsf.unl.edu/mgs.php">https://mwrsf.unl.edu/mgs.php</a></td>
</tr>
<tr>
<td></td>
<td>Multiple TTI reports available at <a href="https://www.roadsidedooledfund.org/mash-implementation/search/">https://www.roadsidedooledfund.org/mash-implementation/search/</a></td>
</tr>
</tbody>
</table>

**Limitations**
- The drawing shows the various options for guardrail near slopes. The preferred option is to use 6’ post with 2’ between the back of post and the slope hinge point.

**Layout Guidance.**
- See AASHTO Roadside Design Guide
- Use the FLH Barrier Length of Need Calculator available at [https://flh.fhwa.dot.gov/resources/design/tools/Barrier-LON.xlsx](https://flh.fhwa.dot.gov/resources/design/tools/Barrier-LON.xlsx)
- See the FLH Midwest Guardrail System FAQ document for more information.

**Applicable SCRs**
- Section 563 (if weathering agent applied to galvanized elements)
- Section 617
- Section 710
- Section 725 (if weathering agent applied to galvanized elements)

**Typical Pay Item Used**
- 61701-4500 Guardrail system MGS, type 2, class A steel posts [LNFT] for galvanized steel
- 61701-5100 Guardrail system MGS, type 4, class B steel posts [LNFT] for weathering steel

**Updates**
- February 2019
  - New Detail drawing