NOTES

GENERAL: Components shown on this drawing are used in a variety of guardrail systems. See individual guardrail drawing for specific applications.

See OMS 606 for guardrail specifications not covered on these drawings.

Refer to AASHTO M 180-12 for dimensional details of W-beam and Thrie-beam rail elements, related buffer rod and sections, head splices, post and splice bolts, nuts, and Type 1 Splice Bolt and Type 1 Splice Bolt with Type 1 Splice Bolt Slotted washers.

RAIL ELEMENTS: Unless otherwise specified, W-Beam is 12 gauge steel with an effective length of 12'-6" or 25'-0", with ½" x 2½" splice bolt slots and ½" x 2½" post bolt slots on 0'-6" centers regardless of post spacing. Field punch or drill bolt holes or slots for irregularly spaced posts as specified in OMS 606.04.

Substituting one 12 gauge steel beam element where two nested 12 gauge steel beams are specified is permitted both W-beam and Thrie-beam.

RAIL SPLICES: Lap splices between two rail elements or between a rail and terminal connector in the direction of traffic, lap the flared end sections in the direction of traffic.

REFER TO AASHTO M 180-12 FOR DIMENSIONAL DETAILS OF W-BEAM AND THRIE-BEAM RAIL ELEMENTS, RELATED BUFFER ROD AND SECTIONS, HEAD SPLICING, POST AND SPlice BOLTS, NUTS, AND TYPE 1 SPlICE BOLT AND TYPE 1 SPlICE BOLT WITH TYPE 1 SPlICE BOLT SLOTTED WASHERS.

SUBSTITUTING ONE 12 GAUGE STEEL BEAM ELEMENT WHERE TWO NESTED 12 GAUGE STEEL BEAMS ARE SPECIFIED IS PERMITTED BOTH W-BEAM AND THRIE-BEAM.

RAIL SPLICES: LAP SPlices BETWEEN TWO RAIL ELEMENTS OR BETWEEN A RAIL AND TERMINAL CONNECTOR IN THE DIRECTION OF TRAFFIC, LAP THE FLARED END SECTIONS IN THE DIRECTION OF TRAFFIC.
MEASURING GUARDRAIL HEIGHT

GUARDRAIL POST LENGTH AND POSITION

GUARDRAIL POSTS

Type 1 Breakaway CRT Post

Type 2 Breakaway BCT Timber Post

GUARDRAIL BEAM POSTS

Steel Beam Posts

Steel Ground Foundation Tube

NOTES

GUARDRAIL HEIGHT: For initial installation, construct the guardrail within ± 1" of the standard 31" height to the top of W-beam rail. When subsequent projects, such as resurfacing, affect the height of existing guardrail, adjustment is not required if the finished height is within ± 1" of the standard height.

POSTS: The standard post length is 6'-0" (±3", 0" tolerance). Wood posts are permitted instead of standard steel posts per CMS 710.11.

POST EMBEDMENT DEPTH: Standard embedment depth is 3'-4" minimum. Embedment depth to be 37" when using the round wooden post option, do not drive posts located over a culvert with less than 4'-3" of cover, instead set in drilled or dug holes. Where site constraints prohibit the post from being placed at least one foot in front of the slope break point, use longer posts as shown in the Guardrail Post Length and Position Detail. The face of the rail may not be beyond the slope break point.

SPECIAL POST MOUNTINGS: Install posts located over a drainage inlet or structure with a cover of less than 3'-4" as shown in the FOOTING ANCHOR DETAIL.

ANCHORS: Holes shall comply with CMS 500. Use non-shrink, non-metallic grout per CMS 705.20.

PROTECTIVE COATING: In lieu of the complying with CMS 710.06, cost expansion shields, anchors and concrete inserts, anchor assemblies embedded in concrete in accordance with ASTM A 153 or be of stainless steel. Any bolts screwed into these devices shall meet CMS 700.06.

PAYMENT: Payment for standard guardrail is measured in feet as Item 606 Guardrail of the type specified in the plans. Item 606 - Guardrail, Type MGS With Long Posts, also measured in feet. All costs associated with special post mountings are included in the unit price bid of Item 606 Guardrail of the type specified in the plans.
**Anchor Bracket Assembly Details**

- **End Plate**
  - Neutral Axis
  - Eight 5/8" dia. holes, center, nuts and washers
  - Rail shown in position

- **Anchor Bracket**
  - 1" x 1/4"
  - Swaged fitting and stud
  - Washer shown
  - Hole shown in position

- **Strut**
  - 6" x 6" x 3/4" Standard Swaged Fitting and Stud
  - Cable Anchor

- **Bearings Plate**
  - Neutral Axis
  - 6" dia.

- **End Plate**
  - 6" x 6" x 3/4" Plate

- **Yoke**
  - 5/8" radius
  - 3/4" dia.

**Strut and Yoke Assembly**

Channel legs shown down. For opposite hand, install channel legs up.