**GENERAL NOTES**

Guardrail posts attached to the top of a concrete culvert are steel posts only. Use wood or steel posts for the remaining posts except where a specific material is required for features shown on other standard drawings such as end terminals or guardrail at intersecting roadways.

Drill or form holes in culvert top slab as approved by the Engineer. When holes are drilled be careful to avoid excess breakage of the concrete around the hole.

See Standard Drawings RD611 for guardrail post and blockout details.

(Use Standard W-Beam guardrail throughout)

Guardrail contractor shall furnish and install the attachment assembly to the culvert. The installation and attachment assembly are subject to the bid item "Steel Plate Guardrail".

Fabricate posts and steel plates from steel meeting the requirements of the standard specifications.

Galvanize all steel parts after fabrication, see standard specifications. All references to culverts on this sheet refer to reinforced concrete culverts.

Locate guardrail post to concrete culvert connections symmetrical about center line of the culvert.

**DETAIL OF BASE PLATE**

- **PL 1/8 x 10 x 6**
- **6" x 4" diameter holes**
- **1/8" x 4" diameter holes**
- **3/16" x 6" diameter holes**
- **3'-0" post spacing for Alt. #1**
- **3'-11" post spacing for Alt. #2**

**DETAIL OF STEEL PLATE**

- **PL 1/8 x 10 x 6**
- **6" x 4" diameter holes**
- **1/8" x 4" diameter holes**
- **3/16" x 6" diameter holes**
- **3'-0" post spacing for Alt. #1**
- **3'-11" post spacing for Alt. #2**

**TYPICAL ALIGNMENT**

- Post length is determined by the Engineer in the field during installation.

- Post length is determined by the Engineer in the field during installation.

**TYPICAL ELEVATIONS**

- Post length is determined by the Engineer in the field during installation.

- Post length is determined by the Engineer in the field during installation.

**TYPICAL W-BEAM RAIL**

- **1/2" x 4 x 10" threaded rod**
- **to be grouted with an approved epoxy or polymer resin in accordance with standard specifications.**

- **1/2" x 4 x 10" threaded rod**
- **to be grouted with an approved epoxy or polymer resin in accordance with standard specifications.**

**ALTERNATE POST ATTACHMENT**

(This attachment to be used only when bolting through the top slab is not practical.)

- **1/2" x 4 x 10" threaded rod**
- **to be grouted with an approved epoxy or polymer resin in accordance with standard specifications.**

**GROUND LINE**

- All references to culverts on this sheet refer to reinforced concrete culverts.

- Galvanize all steel parts after fabrication, see standard specifications. All references to culverts on this sheet refer to reinforced concrete culverts.