

CATTLEGUARD DETAIL

NOTES:

SPECIFICATIONS: Materials and construction shall be in accordance with the STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS AND BRIDGES ON FEDERAL HIGHWAY PROJECTS (FP-03) U.S. Customary Units, or as otherwise specified.

DESIGN: The cattleguard is designed for AASHTO HS20-44 loading.

STRUCTURAL STEEL: Structural tube rails shall conform to ASTM A501 or ASTM A500, Grade B. Formed rail shall be either ASTM A36 or ASTM 572, Grade 50 as per drawing requirements. All other steel shall conform to ASTM A36.

CONCRETE: The concrete foundation (base) is designed as a precast foundation, utilizing a Forest Service owned concrete form. Concrete shall meet 3,000-psi minimum 28-day strength, and be cured for minimum 7 days prior to delivery. The Contractor is required to provide a 3-inch minimum depth aggregate leveling course upon which the precast units are set.

REINFORCING STEEL: Reinforcing steel shall be AASHTO M31 Grade 40 or 60 and shall have a minimum cover not less than 2 inches. Cutting and bending shall conform to ACI 315.

POSTS : Posts shall be rough sawn conforming to WWPA Grading Rules for Western Woods for West Coast Lumber for Posts and Timbers, No. 1 or No. 2 Grade.

TREATMENT: All posts and timbers shall be incised and shall be pressurer treated in accordance with AWPA C-2 for soil contact.

HARDWARE: Bolts shall be ASTM A307.

WELDING: All welding shall conform to AWS Specifications. Rails shall be welded to the understructure members the full width of the top member on both sides of the rails.

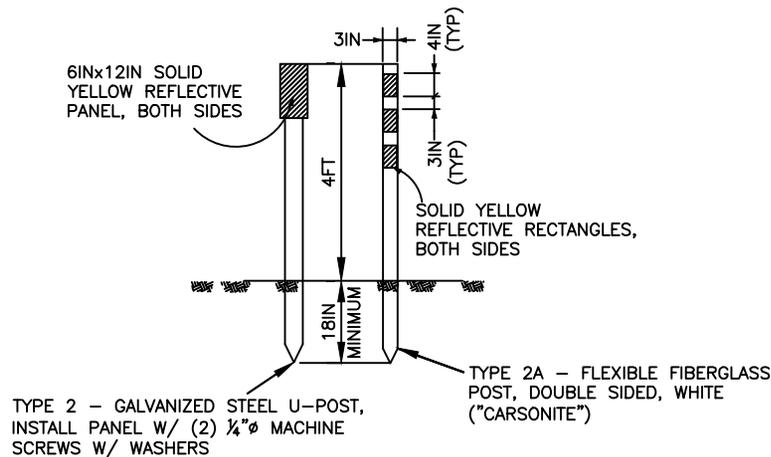
PAINTING: All steel shall have one shop coat of approved primer and one shop coat of aluminum paint.

CONSTRUCTION: Guards 16 feet or less in width shall be comprised of a single grid section for the full width.

Guards 16 feet or less in width shall be set on concrete foundations formed of single sections.

A bulkhead shall be provided along both sides of the guard.

Wings shall be constructed to fit inside the width of the foundations.



25
19

OBJECT MARKER DETAIL

Not to scale



U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
R-1
NORTHERN REGION

FOREST

CUSTER NATIONAL FOREST

SHEET

C12