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USE IN CONJUNCTION WITH STORED SPECIFICATION 1002PNT

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**(1012GRDRL, 10/15/20)**

**SECTION 1012 GUARDRAIL MATERIALS:** of the Standard Specifications is revised to read:

**1012-1 General Requirements:**

Certificates of Compliance conforming to the requirements of Subsection 106.05 of the specifications shall be submitted.

**1012-2 Fasteners, Rail Elements, Posts, and Blockouts:**

Guardrail fasteners, rail elements, posts, blockouts, and other components shall conform to the requirements of Task Force 13 "Guide to Standardized Roadside Hardware". Rail elements shall be galvanized after fabrication, with fabrication to include forming, cutting, shearing, punching, drilling, bending, welding, and riveting.

Unless otherwise specified, all surfaces of guardrail elements which are exposed to traffic shall present a uniform, pleasing appearance and shall be free of scars, stains or corrosion.

**1012-3 Materials:**

**1012-3.01 Miscellaneous:**

Nails shall be 16-penny common, galvanized. Nails for retainer strap shall be 10-penny common, galvanized.

Nuts, bolts, and washers to be used in installations for which the details are not shown on the plans or in the Task Force 13 "Guide to Standardized Roadside Hardware" publication shall conform to the requirements of ASTM F568 or A307; be galvanized in accordance with the requirements of ASTM A153, Class C; and conform to the dimensional requirements of the American National Standards Institute.

Structural steel shapes, plates, bars and strips used in fabrication of hardware and all miscellaneous steel shall conform to the requirements of ASTM A36 and shall be galvanized in conformance with the appropriate requirements of AASHTO M 111 and M 232. They shall meet the dimensional requirements of The American Institute of Steel Construction.

Round and square structural steel tubing shall conform to the material requirements of either ASTM A500 or A501 and shall be galvanized in accordance with the requirements of AASHTO M 180, Type 1.

Where galvanizing has been damaged, the coating shall be repaired by applying two coats of zinc-rich primer conforming to the requirements of Section 1002 of the specifications.

**1012- 3.02 Timber Guardrail, Posts and Blockouts:**

Stress grading for timber posts and blockouts shall conform to the requirements of AASHTO M 168 and may be rough sawn (unplaned) or surfaced four sides (S4S) with the nominal dimensions indicated in the contract documents.

Only one type of post and blockout shall be used for any one continuous length of guardrail.

Timber shall be No. 1 or better, and the stress grade shall be 1,200 pounds per square inch or higher.

At the time of installation, the dimensions of timber posts and blockouts shall not vary more than  $\pm 1/4$  inch from the nominal dimensions as hereinbefore specified.

### **1012-3.03 Timber Preservation Treatment and Fabrication**

All timber shall have a preservative treatment and be marked in accordance with the requirements of AASHTO M 133, American Wood Protection Association (AWPA) Standard U1, UC4B "Commodity Specification A: Sawn Products", and AWPA Standard T1.

Drilling or fabrication should be done where possible before the preservation treatment process. In event of a mechanical injury or field cutting, field treatment shall be in accordance with AWPA Standard M4.

The inspection at the wood preservation plant for posts and blocks shall conform to the requirements of AWPA M2.

### **1012-4 Acceptance of Timber Guardrail Posts and Blockouts:**

In the absence of an American Lumber Standard Committee (ALSC) grade mark, the responsibility for acceptance of the posts and blocks for grade will be that of the Engineer.

The contractor shall submit to the Engineer the manufacturer's Certificate of Compliance conforming to the requirements of Subsection 106.05 of the specifications. The certificate shall be furnished by the post and block supplier and shall also include the following information:

- (a) The species or species group of timber and grade
- (b) Preservative treatment documentation including the quantities of each item furnished listed with date of treatment and retention analysis results by lot number.

When required by ADOT, third-party certificates of inspection shall be issued by an (ALSC) or an International Organization for Standardization/International Electrotechnical Commission (ISO/IEC) Standard 17020 accredited third-party inspection agency. Where certificates of treatment are required, third-party agency quality marks or certification marks shall be legibly applied to each piece of treated material and shall reference the

corresponding, applicable product descriptions, tally and minimum treatment requirements as specified in the project plans and be provided by the material supplier.