

INCLUDE IN ALL PROJECTS SPECIFYING THRIE BEAM AND/OR W-BEAM GUARDRAIL

AMENDMENTS TO SPECIFICATION 5.25, SUPPLY OF THRIE BEAM AND W-BEAM GUARDRAIL MATERIAL, RE: MATERIAL STANDARDS

i) Subsection 5.25.2, STANDARDS OF REFERENCE, is revised as follows:

a) The second paragraph is replaced with the following:

All materials supplied by the Contractor shall be in compliance with the latest versions of the following standards, specifications or publications, as applicable:

b) The referenced Canadian Standards Association (CSA) and American Society for Testing and Materials (ASTM) standards are replaced in their entirety with the following:

Canadian Standards Association (CSA):

CSAG40.20/G40.21 – General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel
 CSA W59 – Welded Steel Construction (Metal Arc Welding)
 CSA O80 – Wood Preservation

American Society for Testing and Materials (ASTM):

ASTM A36M – Carbon Structural Steel
 ASTM A123M – Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
 ASTM A307 – Carbon Steel Bolts, Studs, and Threaded Rod 60,000 PSI Tensile Strength
 ASTM A653 – Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
 ASTM A780 – Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings
 ASTM D4956 – Retro-reflective Sheeting for Traffic Control
 ASTM E376 – Measuring Coating Thickness by Magnetic-Field or Eddy-Current (Electromagnetic) Test Methods
 ASTM F2329 – Zinc Coating, Hot-Dip, Requirements for Application to Carbon and Alloy Steel Bolts, Screws, Washers, Nuts, and Special Threaded Fasteners

ii) The first paragraph of Subsection 5.25.3, MATERIALS, is replaced with the following:

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The Contractor shall supply all materials necessary to complete the Work. All materials shall be new; previously used materials will be rejected.

Prior to installing any guardrail, the Contractor shall supply the Consultant with the Manufacturer's certification that the materials conform to the Specifications.

iii) Subsection 5.25.3.1, **Rails and Terminal Elements**, is revised as follows:

a) The fourth paragraph is replaced with the following:

Rails and terminal elements shall be manufactured from open hearth, electric furnace or basic oxygen semi-spring steel sheet, galvanized either before or after fabrication, all in general accordance with the AASHTO Standard Designation M-180, and as shown on the applicable TEB and RDG Drawings.

b) The following is added to the end of the fifth paragraph:

When directed by the Consultant, repairs to damaged galvanizing on rails or terminal elements shall be in accordance with ASTM A780 Method A2 "Repair Using Paints Containing Zinc Dust".

c) The last paragraph of the Subsection is deleted.

iv) The second sentence of Subsection 5.25.3.4, **Guardrail Reflectors**, is replaced with the following:

Reflectors shall have minimum dimensions of 102 mm x 76 mm.

v) The reference to "CSA-G164M" in the first paragraph of Subsection 5.25.3.2, **Bolts, Nuts and Washers**, is revised to "ASTM A123M and ASTM F2329".

vi) The following is added to Subsection 5.25.3.3, **Posts**:

5.25.3.3.3 Steel Posts

Steel for posts, spacers and hardware shall conform to CSA Standard G40.21 Grade 350W or ASTM Standard A36; and shall be hot dip galvanized after the section is fabricated, cut, and all holes are drilled or punched, in accordance with ASTM A123M Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.

vii) The reference to "ASTM Standard E316.3(c)" in the first paragraph of Subsection 5.25.4.2, **Inspection of W-Beam Guardrail Material**, is revised to "ASTM Standard E376".