

PART 1 - GENERAL

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| <u>1.1 Description</u> | .1 | This section describes the supply and installation of wood post and steel beam guide rail. |
| <u>1.2 Related Section</u> | .1 | Section 06 30 00 Dimensioned Timber. |
| <u>1.3 Measurement Procedures</u> | .1 | <u>Steel W-Beam Guide Rail</u> , including posts, blocks, termination sections, and necessary hardware will be measured in lineal metre of guide rail installed and measured from outer tips of steel W-beam guide rail, including guide rail used in anchorages and terminal sections. Length measured does not include laps. |
| <u>1.4 References</u> | .1 | American Society for Testing and Materials International (ASTM). |
| | .1 | ASTM A123/A123M-12, Standard Specification for Zinc, (Hot-Dip Galvanized) Coatings on Iron and Steel Products. |
| | .2 | ASTM A307-12 Standard Specification for Carbon Steel Bolts and Studs, 60 000 PSI Tensile Strength. |
| | .2 | American Wood-Protection Association (AWPA) |
| | .1 | Book of Standards (2011). |
| | .2 | AWPA M2-11, Standard for Inspection of Treated Wood Products. |
| | .3 | Canadian Standards Association (CSA) |
| | .1 | CSA-0141-05 (R2009), Softwood Lumber. |

.2 CSA 080 SERIES-08 (2012), Wood
Preservation.

.4 National Lumber Grading Authority
(NLGA)

.1 Standard Grading Rules for
Canadian Lumber 2010.

1.5 Submittals

.1 Submit samples in accordance with
Section 01 33 00 Submittal Procedures

.2 Submit manufacturer's instructions,
printed product literature and data
sheets for guide rail, wood, and
coatings and include product
characteristics, performance criteria,
physical size, finish and limitations

.3 Submit drawings stamped and signed by
professional engineer registered or
licensed in New Brunswick, Canada.

1.6 Deliver Storage
and Handling

.1 Deliver, store and handle materials in
accordance with manufacturer's written
instructions.

.2 Delivery and Acceptance Requirements:
deliver materials to site in original
factory packaging, labelled with
manufacturer's name and address.

.3 Storage and Handling Requirements:

.1 Store materials off ground in dry
location and in accordance with
manufacturer's recommendations in
clean, dry, well-ventilated area.

.2 Store and protect guide rails from
nicks, scratches, and blemishes.

.3 Replace defective or damaged
materials with new.

- 1.7 Waste Management and Disposal .1 Divert unused metal materials from landfill to an approved metal recycling facility approved by Departmental Representative.
- .2 Packaging Waste Management: remove for reuse of pallets, crates, padding, and packaging materials as specified in Construction Waste Management Plan.

PART 2 - PRODUCTS

- 2.1 Materials .1 Steel W-beam guide rail as indicated and as follows:
- .1 Steel beam and terminal sections: to AASHTO M180, class A, Type 2 W- Section zinc coated.
- .2 Bolts, nuts and washers: to ASTM A 307, hot dip galvanized to ASTM A 123/A 123M.
- .2 Galvanizing: Hot Dip to ASTM A123/A123M. (610g/m²).
- .3 Galvanizing Touch-Up/Repair:
- .1 Touch-up galvanizing for repair to damaged galvanized surfaces shall be with an organic zinc compound for cold galvanizing on iron and steel, containing 97% pure zinc metal.
- .4 Sawn timber posts and offset blocks:
- .1 Species: Hemlock, Douglas Fir.
- .2 Pressure treated in accordance with CAN/CSA-080 Series.
- .3 Grade: No.1.
- .4 Dimensions: as indicated.

- .5 Guide posts may be pre-cut and drilled prior to pressure treating.

PART 3 - EXECUTION

3.1 Installation

- .1 The guide rail is to be installed early in the project as safety mitigation of crossing the causeway.
- .2 Set posts by instrument for alignment, and locations as indicated and as directed by Departmental Representative.
- .3 Excavate post holes to depths as indicated and to diameter of 360 mm plus or minus 20 mm.
 - .1 Compact bottom to provide firm foundation.
 - .2 Set post plumb and square in hole.
- .4 Backfill with granular materials around posts using excavated material and compact in uniform layers not exceeding 150 mm compacted thickness.
- .5 Cut off tops of posts as indicated, with tops parallel to grade of pavement edge
- .6 Worker protection: ensure workers wear gloves and avoid skin contact when handling, drilling, sawing, cutting or sanding preservative treated wood and applying preservative materials.
- .7 Treat cut tops with two coats of end cut preservative, green. An acceptable product is Wolman.
- .8 Construct anchorages to details as indicated.

- .9 Place and compact backfill for anchors as directed by Departmental Representative.
- .10 Erect steel W-beam components to details as indicated. Lap joints in direction of traffic.
 - .1 Tighten nuts to 100 N.m torque.
 - .2 Maximum protrusion of bolt 12 mm beyond nut.

3.2 Touch up

- .1 Galvanized steel-touch up:
 - .1 Clean damaged surfaces with wire brush removing loose and cracked coatings.
 - .2 Apply 2 coats of organic zinc-rich paint to damaged areas.
- .2 Pre-treat damaged surfaces in accordance with manufacturer's written recommendations for zinc-rich paint.

3.3 Cleaning

- .1 Clean in accordance with Section 01 74 10 - Cleaning.
 - .1 Leave work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 10 - Cleaning.
- .3 Waste Management: separate waste in accordance with Section 01 74 21 - Construction/Demolition, Waste Management and Disposal.

Dredging and Rock
Protection
Shippagan Gully, NB
R.076592.003

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END OF SECTION
