PART 1 - GENERAL

1.1 RELATED SECTIONS

.1 Section 01 33 00 - Submittal Procedures.

.2 Section 31 23 33.01 - Excavating, Trenching and Backfilling.

1.2 REFERENCES

.1 American Association of State Highway and Transportation Officials (AASHTO)
- .1 AASHTO M180-2011, Corrugated Sheet Steel Beams for Highway Guardrails.

.2 American Society for Testing and Materials (ASTM International)
- .1 ASTM A 307-10, Specification for Carbon Steel Bolts and Studs, 60 000 PSI Tensile Strength.

.3 Canadian General Standards Board (CGSB)
- .1 CAN/CGSB-1.181-99, Ready-Mixed Organic Zinc-Rich Coating.

.4 Canadian Standards Association (CSA International)
- .1 CAN/CSA-O80 Series-97(February 2000), Wood Preservation.

.5 CAN/CSA-G164-M92(R1998), Hot Dip Galvanizing of Irregularly Shaped Articles.

.6 Nova Scotia Department of Transportation and Infrastructure Renewal (NSTIR)
- .1 Standard Specification - Highway Construction and Maintenance (2011).

1.3 SAMPLES

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

.2 Inform Departmental Representative at least 4 weeks prior to beginning Work, of proposed sources of guide rail and components.

PART 2 - PRODUCTS

2.1 MATERIALS

.1 Steel W-beam guide rail as indicated and to following requirements:
- .1 Steel rail, channel, terminal sections and installation hardware (all galvanized): to Division 5, Section 6 of NSTIR Standard Specification - Highway Construction and Maintenance (latest edition).
- .2 Treated wooden posts and treated wooden off-set blocks:
  - .1 Species, type and grade: to Division 5, Section 6 of NSTIR Standard Specification - Highway Construction and Maintenance (latest edition).
  - .2 Dimensions: as indicated.

PART 3 - EXECUTION

3.1 ERECTION

.1 Erect guide rail in accordance with following NSTIR Standard Drawings, attached in Appendix C.
- .1 Standard Drawing HS518 - Guard Rail and Post Details.
- .2 Standard Drawing HS519 - Guard Rail Post Details.
- .3 Standard Drawing HS520 - Steel Beam Guard Rail Buried End Treatment.
- .4 Standard Drawing HS525 - Guard Rail Anchor Base on Concrete.

.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. Compact bottom to provide firm foundation. Set post plumb and square in hole.

.4 Backfill 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: workers must wear appropriate breathing, eye, and clothing protection when handling, drilling, sawing, cutting or sanding preservative treated wood and applying preservative materials.

.7 Treat cut tops with two coats of same type of wood preservative used to pressure treat posts.

.8 Construct anchorages to details as indicated. Place and compact backfill for anchors as directed by Departmental Representative.

.9 Erect steel W-beam components to details as indicated. Lap joints in direction of traffic. Tighten nuts to 100 N.m torque. Maximum protrusion of bolt 12 mm beyond nut.

3.2 PAINT TOUCH UP

.1 Galvanized steel-touch up:

.1 Clean damaged surfaces with wire brush removing loose and cracked coatings. Apply two coats of organic zinc-rich paint to damaged areas. Pre-treat damaged surfaces according to manufacturer's instructions for zinc-rich paint.

.2 Major abrasions shall be repaired by re-galvanizing

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END