PART 1 - GENERAL

1.1 WORK INCLUDED

.1 This Section specifies requirements for supplying and installing wood guide rail and wooden posts.

1.2 RELATED REQUIREMENTS

.1 Section 01 33 00 - Submittal Procedures.

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

1.3 REFERENCES

.1 ASTM International
- .1 ASTM A 123/A 123M-09, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
- .2 ASTM A 307-07b, Standard Specification for Carbon Steel Bolts and Studs, 60 000 PSI Tensile Strength.

.2 CSA International
- .1 CAN/CSA O80 Series-08, Wood Preservation.

.3 Master Painters Institute (MPI)
- .1 Architectural Painting Specification Manual - current edition.

.4 Reference Documents
- .1 Newfoundland and Labrador Department of Transportation (NLDOT) Standard Specifications (latest edition)
- .2 Newfoundland and Labrador Department of the Environment (NLDOE) Watercourse and Wetland Alteration Technical Guidelines (2012)
- .3 Transportation Association of Canada (TAC) National Guide to Sediment and Erosion Control on roadway Projects (2005)

1.4 ACTION AND INFORMATIONAL SUBMITTALS

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

.2 Product Data:
- .1 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.

1.5 QUALITY ASSURANCE

.1 Pre-installation Meeting: Conduct pre-installation meeting to verify project requirements, manufacturer's installation instructions and manufacturer's warranty requirements.

1.6 DELIVERY, 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 MEASUREMENT FOR PAYMENT

.1 Wood Guide Rail System: The supply of all labour, materials, plant and equipment for the installation of the wood guide rail system, as indicated on the drawings, will be measured by the Lineal Metre (LM) calculated from actual field measurements.

.2 Include incidental to the unit price the costs of all posts, hardware, etc. as required.

PART 2 - PRODUCTS

2.1 MATERIALS

.1 Sawn timber posts and rails:
- .1 Species: Maple, Birch or beech species of hardwood.
- .2 Type: pressure treated in accordance with CAN/CSA-O80 Series.
- .3 Grade: The posts and rails shall be sound and rot-free and shall meet or exceed the requirements for No. 1 Structural Posts and Timbers, graded in accordance with the National Lumber Grading Authority (NLGA) Standard Grading Rules for Canadian Lumber.
- .4 Dimensions: As indicated.
- .5 Prior to pressure treating posts shall be incised on all four sides and dried

to their Fibre saturation point of 25 to 30% at 25 mm depth.

.6 The preservative shall be chromated copper arsenate (CCA); for pressure treating and for field cut surfaces.

PART 3 - EXECUTION

3.1 EXAMINATION

.1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for guide rail installation in accordance with manufacturer's written instructions.

.1 Visually inspect substrate in presence of Departmental Representative.

.2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.

.3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.

3.2 PREPARATION

.1 Temporary Erosion and Sedimentation Control:

.1 Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to requirements of authorities having jurisdiction and sediment and erosion control drawings.

.2 Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.

.3 Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.3 ERECTION

.1 Set posts by instrument for alignment, and locations as indicated and as directed by Departmental Representative.

.2 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.

.3 Backfill around posts using excavated material and compact in uniform layers not exceeding 150 mm compacted thickness.

.4 Cut off tops of posts as indicated, with tops parallel to grade of pavement edge.

.5 Worker protection: ensure workers wear gloves respirators dust masks long sleeved clothing eye protection and protective clothing as required when handling, drilling, sawing, cutting or sanding preservative treated wood and applying preservative materials.

.6 Treat cut tops with two (2) coats of same type of wood preservative used to pressure treat posts.

.7 Construct anchorages to details as indicated.

.1 Place and compact backfill for anchors as directed by Departmental Representative.

.8 Install wood as directed by Departmental Representative.

.9 Install delineators in accordance with Newfoundland Department of Transportation Standard Specifications and Drawings.

3.4 CLEANING

.1 Progress Cleaning: Leave Work area clean at end of each day.

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment.

.3 Waste Management: separate waste materials for reuse and recycling.

3.5 PROTECTION

.1 Protect installed products and components from damage during construction.

.2 Repair damage to adjacent materials caused by guide rail installation.

END