

## **General**

### **1.1 Part 1**

#### **WORK INCLUDED**

- .1 To complete miscellaneous sitework construction as shown, specified or required, and summarized but not restricted, to:
  - .1 Construction of new timber deck, bridge and railings.
  - .2 Construction of new granular pathways.

### **1.2**

#### **RELATED WORK**

- .1 Section 01 35 43 Environmental Procedures

### **1.3**

#### **REFERENCE STANDARDS**

- .1 CSA A23.1-14 - Concrete Materials and Methods of Concrete Construction.
- .2 CSA O86 (2009) - Engineering Design in Wood
- .3 CAN/CSA 080 Series-15 - Wood Preservation
- .4 CSA B111-1974 (R2003) - Wire Nails, Spikes and Staples
- .5 ASTM A325-14 - Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength
- .6 CAN/CSA-080 Series-15 - Wood Preservation
- .7 ASTM D698-07e1 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft<sup>3</sup> (600 kN-m/m<sup>3</sup>))
- .8 ASTM D1761-12 - Standard Test Methods for Mechanical Fasteners in Wood
- .9 ASTM F1667-11a<sup>1</sup> - Standard Specification for Driven Fasteners: Nails, Spikes, and Staples
- .10 AWPA M4-11 - American Wood Preserver's Association – Standard for the Care of Preservation – Treated Wood Products.
- .11 National Lumber Grades Authority (NLGA) Standard Grading Rules for Canadian Lumber 2014 Edition.

### **1.4**

#### **ALLOWABLE TOLERANCES**

- .1 Finish work within 12mm of specified lengths and dimensions and location.

## 1.5 WARRANTY

- .1 Guarantee work for a period of one year after installation against workmanship, heaving, settlement and other product failure.

## 1.6 SUBMITTALS

- .1 Submit information for deck and step work, including connectors.

### Products

## 2.1 Part 2

### WOOD AND TIMBER

- .1 Wood Types for posts, beams, joists and railings: Pressure-treated S-P-F #2 or better. Grading shall conform to current Standard Grading Rules for Canadian Lumber by the National Lumber Grades Authority, grade- stamped by certified lumber association.
- .2 Pressure-treated Wood: pressure-treated with water-borne inorganic preservatives, conforming to CSA 080. Use for all timber.
  - .1 CSA 080.18 using ACA or ACQ water borne preservative treatment.
  - .2 Use preservative to a net retention of 2.8kg/m<sup>3</sup> of timber to approval of Departmental Representative.
  - .3 Use only one preservative for all pressure-treated wood in order to maintain colour uniformity. Use liquid form of clear preservative to treat cut ends of lumber and timber sections. DO NOT USE green Pentox or other similar green or brown dyed preservative for this purpose. Acceptable products: "Wolmanized" or "Sunwood" clear preservative.
  - .4 Treated wood shall be kiln-dried to average moisture content of 12%, maximum 15%, and minimum 10%.
- .3 Fasteners: All fasteners to be appropriate for the wood and wood treatment for which they are used.
  - .1 Bolts, nuts, washers: Carriage bolts with nuts and washers to ASTM A325.
  - .2 Wood to CSA B35.4.
  - .3 Spikes: to CSA B111 with spiral shank.
  - .4 Galvanizing: steel fasteners to be hot dip galvanized after manufacture with 40 g minimum weight of zinc coating, to CSA G164.

## 2.2 GRANULARS

- .1 Granular base course: Newfoundland Dept. of Transportation and Works: Type A granular.
- .2 Crusher Dust: 6mm crushed stone screening and crusher dust free from clay lumps, cementation, organic or frozen material and other deleterious materials.

## 2.3 GENERAL

- .1 Concrete Deck Post Foundations: Strength: to CSA A 23.1 and CSA A23.2; 25 MPa at 28 days. Mixtures must meet the minimum cement content but may exceed the minimum strength requirements. Exposure Class C-1.
- .2 Galvanized column base with stand-off: 12 ga. galvanized steel with 25mm standoff and 2 – 15mm (5/8”) thru bolts, cast-in-place. Standard of acceptance: Simpson Strong Tie CBS66.
- .3 Galvanized joist hangers: 18 ga. galvanized steel double-shear joist hanger. Sized to connect header and joist members. Standard of acceptance: Simpson Strong Tie LUS28.

### Execution

## Part 3 WOOD AND TIMBER - GENERAL

- .1 Do work in accordance with CSA O86 except where specified otherwise.
- .2 Build work square, straight, plumb and level, accurately aligned and fitted with tight joints and connections, rigid, securely fastened to prevent movement. Use single piece full-length lumber pieces of longest practical length.
- .3 All exposed surfaces to be smooth, free of splinters and sharp edges. Exposed edges to be rounded or chamfered as shown on Drawings.
- .4 Liberally coat all wood surfaces exposed by cutting, trimming, notching, and boring with brush application of concentrated solution of clear preservative before installation. Provide minimum 2 brush coats, applying second coat after first coat has completely dried. Do **NOT** use green Pentox or any other similar dyed product for this purpose.
- .5 Prepare and clean surfaces prior to and between coatings. Surfaces to be dry, sound and free from contamination and other defects detrimental to appearance and durability of finish.
- .6 All nails to penetrate material by minimum 2 times thickness of top board. All spikes to penetrate material by minimum 1.5 times thickness of top timber.
- .7 Construct concrete post foundations in accordance with CSA A23.1 and set posts plumb within 12mm in 3000mm.
- .8 Select fasteners to suit size and nature of components being joined and in compliance with National Building Code of Canada.
- .9 Pre-drill fastener holes within 150mm of end grain to avoid splitting.
- .10 Finish bottoms, edges, tops, projections and cutouts above and below sight lines as specified for surrounding surfaces.
- .11 For handrails: Sand exposed edges of work.

- .12 Provide minimum of one bearing support for each board.

### **3.2 GRANULAR WALKWAYS**

- .1 Verify that grading and backfilling has been completed in accordance with the Specifications and Drawings before commencing construction of new pathways. Notify Departmental Representative of unsatisfactory conditions.
- .2 Spread and compact specified crushed stone granular base course to bring prepared subgrade up to levels required and as shown on Drawings. Spread in uniform layers not exceeding 150mm compacted thickness.
- .3 Compact to a density of not less than 100% Standard Proctor Density in accordance with ASTM D698.
- .4 Shape and roll alternately to obtain a smooth, even and uniformly compacted granular base and ensure conformity of grades with finish surface.
- .5 Apply water as necessary during compaction to obtain specified density. If granular base is excessively moist, aerate by scarifying with suitable equipment until moisture content is corrected.
- .6 Ensure top of granular base does not exceed plus or minus 12 mm when measured under a 3m long straightedge of finished grade less combined thickness of granular laying course plus surface course.
- .7 Place specified pathway surface material to compacted thickness indicated.
- .8 Finish grade/slope of pathway to be installed to allow natural surface drainage to a minimum 2% slope – cross slope and/or longitudinally.
- .9 Ensure that drainage is effected from all areas without the formation of puddles.
- .10 Protect and maintain work of this Section including accessories, until acceptance of project work.

### **3.3 PROTECTION**

- .1 Protect and maintain work of this Section including accessories, until acceptance of project work.
- .2 Immediately remove from the site damaged furnishings and accessories. Replace, repair, re-finish, or otherwise make good to the approval of Departmental Representative.

**END OF SECTION**