

**Part 1        General**

**1.1        RELATED WORK**

- .1        Dimension Timber:                      Section 06 10 10

**1.2        REFERENCE STANDARDS**

- .1        CAN/CSA 080 Series-08; Wood Preservation.
- .2        CAN/CSA 056-10 Round Wood Piles.
- .3        NLGA standard grading rules for Canadian Lumber 1980 edition or most recent edition at time of tendering.

**1.3        SOURCE QUALITY CONTROL**

- .1        The Contractor shall submit for approval to the Departmental Representative the name of the person or company from whom he intends to purchase timber for use under this contract and if treated, the location of the plant at which it is to be treated. This submission shall be within 2 weeks after the award of contract.
- .2        The Contractor shall give fourteen days notice in writing to the Departmental Representative before any preservative treatment is done, naming the time and place of treatment; he shall facilitate the inspection of the process by the Departmental Representative and notwithstanding the Contractor's notice of treatment and whether or not the process is inspected by a representative of the Departmental Representative at the time and place of treatment, the Departmental Representative reserves the right to reject, at the point of delivery, any or all timber that does not meet the requirements of the specification.
- .3        Inspection and testing by the Departmental Representative will not augment the Contractor's quality control or relieve him of his contractual responsibilities.
- .4        All timber shall be delivered to the site in bundles, with each bundle clearly marked as to its charge number. Also to be included with each charge or partial charge delivered to the site will be the following information:
- Treatment plant identification
  - Date of treatment and date shipped
  - Charge number and number of bundles per charge
  - Species of timber
  - Dimensions of timber and N.L.G.A. grade
  - Name of testing and grading personnel.
  - Submit to Departmental Representative at each delivery to site a copy of the information required, certified by authorized signing officer of the supplier.

- .5 Ordering of material is to follow the requirements of the contract such that field cutting of treated material is essentially avoided and is used as a last resort only, and only if authorized by the Departmental Representative.

#### 1.4 MEASUREMENT FOR PAYMENT

- .1 No payment to be made under this Section. Include costs of work of this section in applicable sections where treatment required.

### Part 2 Products

#### 2.1 PRESERVATIVE TREATMENTS

- .1 Treat to CSA 080, commodity standard 080.18, Table 1 and its referenced standards for coastal waters. Treat according to following assay retention for material specified:

|    |   | CCA<br>kg/m <sup>3</sup> | ACA<br>kg/m <sup>3</sup> |
|----|---|--------------------------|--------------------------|
| .1 | Dimension Timber:<br>- Douglas Fir, Pacific Coast Hemlock,<br>Eastern Hemlock | 24                       | 24                       |
| .2 | Round Fender Piles:<br>- Red Pine, Jack Pine, Spruce<br>Coast Douglas Fir     | 24                       | 24                       |

#### 2.2 GRADING

- .1 All dimension timber shall be graded to the "National Lumber Grading Authority" (NLGA) or an equivalent "Canadian Lumber Standards Accreditation Board" approved grading authority.

### Part 3 Execution

#### 3.1 TREATMENT

- .1 All timbers to be treated are to be cut to required length prior to treatment. Cutting of treated timbers and field treating of cut surfaces to be done only as necessary to suit site conditions.
- .2 The Contractor is to obtain approval from the Departmental Representative for any cutting of treated timbers.

#### 3.2 FIELD TREATMENT

- .1 Apply three (3) liberal brush coats of same preservative used in original treatment to all bolt holes, saw cuts and exposed untreated wood in field to CSA 080. Treat exposed

ends or cuts with three (3) liberally brushed coats allowing sufficient interval between applications to permit total absorption and timber to dry.

- .2 All bored bolt holes shall be filled with preservative immediately after boring. A pressurized container with hose to apply preservative, or some alternate method acceptable to the Departmental Representative, shall be used.
- .3 Fill all unused bored holes with preservative and plug with treated wooden plugs.
- .4 Field cutting of timber after treatment is not permitted unless specifically approved by the Departmental Representative.

### **3.3 FIELD HANDLING**

- .1 Carefully handle material to prevent damage to treated wood.
- .2 Damaged material will be rejected and is to be replaced with new material.

### **3.4 DELIVERY AND STORAGE**

- .1 Store timber horizontally, evenly supported and piled to permit air circulation when stored for prolonged period.
- .2 When handling long timber, provide support at sufficient number of points, properly located to prevent damage due to excess bending.
- .3 Handle treated timber with hemp, manila or sisal rope slings or other approved means of support that will not damage surface.
- .4 Do not use sharp pointed tools to handle treated timber. Any timber so handled will be rejected.

### **3.5 FIELD QUALITY CONTROL**

- .1 Timbers which contain rot, splits exposing untreated wood, excessive wane or cross grain, or timbers which cannot be fastened in the work so as to be structurally sound are unacceptable and will be rejected by the Departmental Representative.
- .2 The Departmental Representative reserves the right to carry out field testing of treated timber for penetration and retention of preservative. Timber not meeting the requirements of the specification may be rejected.

**END OF SECTION**

**Part 1 General**

**1.1 DESCRIPTION**

- .1 This section specifies requirements for the supply and installation of dimension timber into the works including fasteners and connecting devices.

**1.2 RELATED WORK**

- .1 Cast-in-Place Concrete: Section 03 30 00
- .2 Metal Fabrications: Section 05 50 00
- .3 Preservative Treatment of Timber: Section 06 05 73

**1.3 DIMENSIONS**

- .1 Construct and install dimension timber, to dimensions indicated on drawings.
- .2 Check dimensions before commencing work and report discrepancies to Departmental Representative in writing.

**1.4 MEASUREMENT FOR PAYMENT**

- .1 Dimension Timber: New treated dimension timber supplied, placed and secured in place in the work including all fastenings as specified in Section 05 50 00 and preservative treatment will be measured by the cubic metre (m<sup>3</sup>). Included in the item will be the fender, ladder and sheathing wales, and vertical sheathing.
- .2 Timber Ladders: Measurement for payment will be by the number of units fabricated and installed including all dimension timber, preservative treatment, metal fastenings, rungs, holdfasts, and ladder extension.
- .3 Timber Fender Piles: Measurement for payment will be by the number of units fabricated and installed including all saddle supports, metal fastenings and preservative treatment.
- .4 In computing volume of dimension timber for measurement for payment, the nominal timber dimensions will be used times the length placed into the work.

**Part 2 Materials**

**2.1 SQUARE SAWN TIMBER**

- .1 Species: (to CSA-086):
  - .1 Dimension Timber (treated): Douglas Fir, Pacific Coast Hemlock, or Eastern Hemlock.
- .2 Grade: No. 1 Structural.

- .3 Grading Authority: NLGA.
- .4 Preservative Treatment: to Section 06 05 73.

## **2.2 ROUND FENDER PILES**

- .1 Round fender piles: to CAN/CSA 056-10, clean, peeled piles, machine turned, preservative treated, size and species as indicated below.
  - .1 Fender Piles:
    - Machine turned.
    - Red Pine, Jack Pine, Spruce, Coast Douglas Fir.
    - Minimum butt size 305 mm.
    - Minimum tip size 178 mm.
  - .2 Department Representative will be sole judge as to the quality and dimensions of piles. Remove rejected piles from site of work.

## **2.3 MISCELLANEOUS METALS**

- .1 Miscellaneous metals to Section 05 50 00.

## **Part 3 Execution**

### **3.1 GENERAL**

- .1 Install fasteners in accordance with Section 05 50 00.
- .2 Do installation of dimension timber to CSA 086.
- .3 Precut timber prior to preservative treatment.
- .4 Ensure that all timber, including any blocking fillers are straight, true, square and fit neatly to abutting surfaces.

### **3.2 TIMBER LADDER, SHEATHING AND FENDER PILE WALES**

- .1 Wales to be 250 mm x 250 mm and long enough to span at least three fender piles as shown.
- .2 Wales to be fastened to each fender pile crossed with 25 mm machine bolts complete with nut and washers, and as indicated.
- .3 Wales will lap past each other at least 200 mm at joints and be fastened to each fender pile crossed with 25 mm machine bolts complete with nut and washers.
- .4 All bolts to be counter sunk.

### **3.3 LADDERS**

- .1 The Contractor shall fabricate and install new ladders as shown on plans, complete with all hardware, rungs and holdfasts.
- .2 Each ladder will be composed of two 250 x 250 mm vertical timber uprights, spaced 460 mm apart having rungs of 32 mm diameter and 710 mm long, spaced 305 mm apart and a ladder extension secured to the upright as indicated on the drawings.
- .3 Supply and install holdfasts at the wheel guard and install a holdfast on the ladder extension all as indicated on drawing.
- .4 The ladders will be secured to the wheel guard and to the timber and steel wales with 25 mm machine bolts, complete with nut and two washers as detailed on drawings. All bolts to be counter sunk.
- .5 The exact location of the ladders may vary from that indicated on the drawings as directed by the Departmental Representative.

### **3.4 SHEATHING**

- .1 New treated sheathing to be 100 mm thick and in lengths as shown on the drawings with one horizontal joint located at the timber wale. Sheathing to extend from elevation -0.30 to the top of the wheel guard.
- .2 The sheathing to be installed along the face of the wharf as shown.
- .3 The sheathing is to be secured to the timber wales using 127 mm  $\varnothing$  lag screws as shown.
- .4 New 250 x 250 continuous timber wales will be secured to the fender piles using 25 mm countersunk machine bolts.
- .5 The sheathing will be secured to the concrete wheel guard and steel wale with 25 mm  $\varnothing$  machine bolts as shown on Plan.
- .6 All bolts and lag screws to be counter sunk.

### **3.5 TOLERANCES**

- .1 Install square sawn timber to tolerance of 1 in 300.

### **3.6 FIELD QUALITY CONTROL**

- .1 Timbers which contain rot, splits exposing untreated wood, excessive wane or cross grain, or timbers which cannot be fastened in the work so as to be structurally sound are unacceptable and will be rejected by the Departmental Representative.

- .2 The Departmental Representative reserves the right to carry out field testing of treated timber for penetration and retention of preservative. Timber not meeting the requirements of the specification may be rejected.

**END OF SECTION**