

PART 1 - General

- 1.1 Description .1 The work under this section will include the fabrication, supply and installation of all machine bolts, washers, nuts, plates and metal parts, angles, anchor bolts and any metal parts not specified elsewhere and required to complete the work.
- 1.2 Related Work Specified Elsewhere .1 Sitework, Demolition and Removal: Section 02 41 16.
.2 Timber Piles: Section 31 62 19.
- 1.3 Reference Standards .1 Do welding work to CSA W59-M1989 unless specified otherwise. Submit welder's certificate for review by Departmental Representative.
- 1.4 Measurement for Payment .1 No separate payment shall be made for machine bolts, lag screws, nuts, washers, and holdfasts, etc. Include cost of these items in items of work where applicable.
.2 Payment for ladder extensions will be made by the lump sum. Include cost of re-attaching existing ladders to the raised elevations shown on the drawings.

PART 2 - Products

- 2.1 Materials
- .1 Steel plates, angles, channels and washers: to CSA G40.21-M1981, Type 300W.
 - .2 Welding materials: to CSA W59-M1989.
 - .3 Machine bolts, lagscrews, nuts, washers, tie-rods, anchors: to ASTM A307-83a.
 - .4 Wire nails and spikes shall conform to B111-1974.
 - .5 Machine bolts:
 - .1 Machine bolts will have standard heads, nuts, and threads, and when in position will be of sufficient length to permit a full nut and two washers. Threads shall be the Coarse Thread Series as specified in the latest issue of ANSI B1-1 having a Class 2A tolerance.
 - .2 Standard cast iron washers suitable for the sizes of the bolts specified will be placed under the heads and nuts of all machine bolts bearing on timber surfaces unless noted otherwise on drawings. Ogee washers to Timber Design Manual 1980 issued by Laminated Timber Institute of Canada and as follows: ogee washers to be cast iron free from injurious defects or impurities.
 - .3 As an alteranate to ogee washers, standard plate washers can be used. The washer is to be three times bolt diameter and a minimum thickness of 8 mm unless noted otherwise.
 - .6 Galvanizing: hot dipped galvanizing with minimum zinc coating of 610 g/cu.m. to CSA G164-M1981. All bolts, spikes, nuts, and washers to be galvanized.
 - .7 Galvanized primer: to CGSB 1-GP-183M.
- 2.2 Fabrication
- .1 The fabrication of all structural steel shall conform to the requirements of CSA CAN3-S16.1-M78.
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2.2 Fabrication (Cont'd) .2 All steel members and assembled units for the ladders shall be hot dip galvanized to CSA G164-M81 (610 g/cu.m.). All welded units being hot dip galvanized. Pre-assembly of the framework shall be carried out to ensure no cutting, welding, or other fabrication will be necessary subsequent to hot dip galvanizing.

PART 3 - Execution

3.1 Installation of Machine Bolts, Spikes, Washers, Nuts, Lag Screws .1 Machine bolts will have standard heads, nuts and threads, and when in position will be of sufficient length to permit a full nut and two washers. Holes for machine bolts will be bored to the same diameter as that of the bolts.

.2 Machine bolts will be placed in the work with their heads on the outside. The heads of machine bolts that interfere with succeeding parts of the work being placed, or where directed by the Departmental Representative or shown on the drawings will be countersunk.

.3 Standard cast iron washers or steel washers of the sizes indicated will be placed under the heads and nuts of all machine bolts bearing on timber surfaces, except where specified otherwise.

.4 Where indicated, use steel washers of size shown.

3.2 Protection .1 Take necessary care in the handling, packing and shipping of all galvanized steel members to prevent damage to the galvanized coating. Evidence of damage to the galvanized members due to mishandling or lack of adequate protection shall be cause for rejection of the damaged members.