

PART 1 - GENERAL

1.1 SCOPE OF WORK

This section of the contract shall include furnishing of all labour, materials, equipment , services and supervision for the completion of the modifications to the glulam beam end connections, anchor devices, etc. plus all miscellaneous metal Work. Note some adjustments to various details may be required due to “as found: conditions, all within the contract sum. The Work shall include, but is not limited to the following:

- .1 Cutting the side plates to the inverted saddle connections and temporary removal of same. Cuts to be made in a manner which facilitates re-welding after beam end repair.
- .2 Removal of through bolts attaching the side plates to the beam end and other locations.
- .3 Cleaning of inverted saddles ready for welding and painting.
- .4 Re-attachment of saddles, etc. and welding to side plates which remained in place during repairs.
- .5 Provision and installation of new galvanized/stainless steel bolts as variously identified and/or required.
- .6 Removal of all caulking between steel and wood members and checking all welds for structural adequacy as originally installed.
- .7 Painting inside/concealed faces of saddle and side plats with “Zinga” cold galvanization anti-rust protection, or equivalent 95% plus zinc rich paint before re-installation.

1.2 REFERENCE STANDARDS

- .1 ASTM 36/A36M-89 – Specification for Structural Steel.
- .2 ASTM A307-89 – Specification for Carbon Steel Bolts and Studs, 6,000 psi tensile.
- .3 ASTM A325M-89 – Specification for High-strength Bolts for Structural Steel Joists.
- .4 CGSB 85-GP-14M78 – Painting Steel Surfaces Exposed to Normally Dry Weather.
- .5 CAN/CGSB-1.40 – M89 – Primer Structural Steel, Oil Alkyd Type.
- .6 CAN/CSA-G40.20/04/G40.21-04 – General Requirements for Rolled or Welded Structural Quality Steel.
- .7 CAN/CSA-S136-01 – Cold Formed Steel Structural Members.
- .8 CSA W47.1-03 – Certification of Companies for Fusion Welding of Steel Structures.

- .9 CSA W55.3-1965 (R2003) – Resistance Welding Qualification Code for Fabricators of Structural Members Used in Buildings.
- .10 CSA W59-03 – Welded Steel Construction (Metal Arc Welding).
- .11 CISC/CPMA 2-75 – Quick Drying, Primer for Use on Structural Steel.

1.3 DESIGN OF DETAILS AND CONNECTIONS

- .1 Design details and connections in accordance with requirements of respective CSA Standards and/or details to resist required forces, moments and shears.
- .2 No bolted connection shall have less than 4 – 19 \emptyset bolts unless shown otherwise.

1.4 SHOP DRAWINGS

- .1 Submit shop detail, erection drawings and materials list.
- .2 On erection drawings, include all details and information necessary such as description of methods, sequence of erection, type of equipment used in erection, temporary bracings, etc.
- .3 Reproduction of contract drawings for use as erection drawings is not permitted unless first approved in writing by Contract Administrator.
- .4 Each shop drawing submission shall bear signature and stamp of qualified professional engineer registered or licensed in the Province of Manitoba, for all fabricator designed assemblies, components and connections.

PART 2 – PRODUCTS

2.1 MATERIALS

- .1 Structural Steel: to CAN/CSA-G40.21, Grade 350 W and/or CAN/CSA-S136.
- .2 Bolts, nuts and washers: to ASTM A307 and ASTM A325M.
- .3 Welding materials: to CSA W48 Series and CSA W59 and certified by Canadian Welding Bureau.
- .4 Shop paint primer: to CISC/CPMA 2 of “Zinc Rich” material.
- .5 Screws: # 14 – 11 x 1 $\frac{5}{8}$ Insulfixx screws c/w $\frac{5}{8}$ “ \emptyset – 18/8 stainless steel bonded washer.

2.2 FABRICATION

- .1 Fabricate structural steel, as indicated, in accordance with CAN/CSA-S16.6 and CAN/CSA-136 and in accordance with reviewed shop drawings.

2.3 SHOP PAINTING

- .1 Clean, prepare surfaces and shop prime structural steel in accordance with CAN/CSA S16.1 and these documents.

PART 3 – EXECUTION

3.1 GENERAL

- .1 Do structural Work in accordance with CAN/CSA S136.
- .2 Do welding in accordance with CSA W59.
- .3 Companies to be certified under Division 1 or 2.1 of CSA W47.1 for fusion welding of steel structures and/or CSA W55.3 for resistance welding of structural components.

3.2 MARKING

- .1 Mark materials in accordance with CAN/CSA-G40.2. Do not use die stamping. If steel is to be left in unpainted condition, place marking at locations not visible after erection.
- .2 Match marking: site mark assemblies and splices for fit and match after beam repair.

3.3 ERECTION

- .1 Erect structural steel, as indicated and in accordance with CAN/CSA-S16.1 and CAN/CSA-S136 in accordance with reviewed erection drawings, and job requirements.
- .2 Obtain written approval of Contract Administrator prior to field cutting or altering of structural members.
- .3 Clean with mechanical brush and touch-up shop primer to bolts, rivets, welds and burned or scratched surfaces at completion of erection.

3.4 QUALITY CONTROL

- .1 Inspection and testing of materials and workmanship will be carried out by testing laboratory designated by Contract Administrator.
- .2 Provide safe access and working areas for testing on site, as required by testing agency and authorized by Contract Administrator.
- .3 Submit test reports to Contract Administrator within one week of completion of inspection.
- .4 The City will pay costs of tests as specified in Bid Opportunity documents.

3.5 FIELD PAINTING

- .1 Paint in accordance with Section 09900 - Painting.
- .2 "Touch-up" all damaged new and existing surfaces and surfaces without shop coat with primer to CAN/CGSB-1.40. Apply in accordance with CGSB 85-GP-14M.
- .3 Note requirement for "Zinc Rich" painting to concealed surfaces and other locations.

END OF SECTION