

PART 1 - GENERAL

1.1 SUMMARY

- .1 Section Includes:
 - .1 Material and installation for prefabricated wood trusses.

1.2 REFERENCES

- .1 Canadian Standards Association (CSA International)
 - .1 CSA O80 Series-[97(R2002)], Wood Preservation.
 - .2 CAN/CSA-O86-01, Engineering Design in Wood.
 - .3 CAN/CSA-O141-91(R1999), Softwood Lumber.
 - .4 CSA S307-M1980(R2001), Load Test Procedure for Wood Roof Trusses for Houses and Small Buildings.
 - .5 CSA S347-99(R2004), Method of Test for Evaluation of Truss Plates Used in Lumber Joints.
 - .6 CSA W47.1-03, Certification of Companies for Fusion Welding of Steel.
- .2 Health Canada / Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .3 National Lumber Grades Authority (NLGA)
 - .1 NLGA-03, Standard Grading Rules for Canadian Lumber.
- .4 National Research Council (NRC)/Institute for Research in Construction (IRC) - Canadian Construction Materials Centre (CCMC)
 - .1 CCMC-2002, Registry of Product Evaluations.
- .5 Truss Plate Institute of Canada (TPIC)
 - .1 TPIC - 1996 (R2001), Truss Design Procedures and Specifications for Light Metal Plate Connected Wood Trusses (Limit States Design).

1.3 DESIGN REQUIREMENTS

- .1 Design light metal plate connected wood trusses in accordance with TPIC truss design procedures for wood truss chords and webs in accordance with engineering properties in CAN/CSA-O86.
- .2 Design light metal plate connected wood trusses in accordance with TPIC truss design procedures for truss joint designs to test engineering properties in accordance with CSA S347 and listed in CCMC Registry of Product Evaluations.
- .3 Design trusses, bracing, bridging in accordance with CAN/CSA-O86.1 for loads indicated,[for building locality as ascertained by NBC, Climatic Information for Building Design in Canada and minimum uniform and minimum concentrated loadings stipulated in NBC commentary.

- .4 Limit live load deflection to 1/360th of span where gypsum board ceilings are hung directly from trusses.
- .5 Limit live load deflections to 1/240th of span unless otherwise specified or indicated.
- .6 Provide camber for trusses as indicated.

1.4 QUALITY ASSURANCE

- .1 Qualifications:
 - .1 Fabricator for trusses to show evidence of quality control program such as provided by regional wood truss associations, or equivalent.
 - .2 Fabricator for welded steel connections to be certified in accordance with CSA W47.1.
- .2 Health and Safety:
 - .1 Do construction occupational health and safety in accordance with Section 01705 - Health and Safety.

1.5 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submittals in accordance with Section 01330 - Submittal Procedures].
- .2 Product Data:
 - .1 Submit manufacturer's printed product literature, specifications and datasheet in accordance with Section [01 33 00 - Submittal Procedures].
 - .2 Submit two copies of Workplace Hazardous Materials Information System WHMIS MSDS in accordance with Section 01357 - Hazardous Materials. Indicate VOCs during application and curing.
- .3 Shop Drawings: Submit one digital set, including all uplift anchors, joists and beam hangers and strap hangers to be installed for review prior to fabrication for approval.
- .4 Each shop drawing submission to be signed and stamped by professional engineer registered or licensed in Province of Nova Scotia, Canada.
- .5 Indicate TPIC Truss Design Procedure and CSA O86 Engineering Design in Wood and specific CCMC Product Registry number of the truss plates
- .6 Indicate species, sizes, and stress grades of lumber used as truss members. Show pitch, span, camber, configuration and spacing of trusses. Indicate connector types, thicknesses, sizes, locations and design value. Show bearing details. Indicate design load for members.
- .7 Submit stress diagram or print-out of computer design indicating design load for truss members. Indicate allowable load and stress increase.
- .10 Show location of lateral bracing for compression members.

- .11 Test reports: submit certified test reports for prefabricated wood trusses from approved independent testing laboratories, indicating compliance with specifications for specified performance characteristics and physical properties.
- .12 Certificates: submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.
- .13 Instructions: submit manufacturer's installation instructions.

1.6 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, handle, store and protect materials in accordance with Section 01610 - Basic Product Requirements].
- .2 Storage and Protection:
 - .1 Store trusses on job site in accordance with manufacturer's instructions. Provide bearing supports and bracings. Prevent bending, warping and overturning of trusses.
- .3 Waste Management and Disposal:
 - .1 Separate waste materials for reuse and recycling in accordance with Section 01355 - Waste Management and Disposal.
 - .2 Remove from site and dispose of packaging materials at appropriate recycling facilities.
 - .3 Collect and separate for disposal packaging material in appropriate on-site bins for recycling in accordance with Waste Management Plan (WMP).
 - .4 Separate for reuse and recycling and place in designated containers in accordance with Waste Management Plan (WMP).
 - .5 Fold up metal and plastic banding, flatten and place in designated area for recycling.

PART 2 - PRODUCTS

2.7 MATERIALS

- .1 Materials and products in accordance with Section 01362 - Sustainable Requirements: Construction.
- .2 Lumber: softwood species, structural grade No.1, No 2, seasoned and to following standards:
 - .1 CAN/CSA-O141.
 - .2 NLGA (National Lumber Grading Association), Standard Grading Rules for Canadian Lumber.
- .3 Fastenings: to CAN/CSA-O86.

2.8 FABRICATION

- .1 Fabricate wood trusses in accordance with approved shop drawings.
- .2 Provide for design camber and roof slopes when positioning truss members.
- .3 Connectors: Metal connectors shall be an approved variety attached to structural trusses under factory conditions
- .4 Apply preservative and fire retardant in accordance with CSA O80 Series.

2.9 SOURCE QUALITY CONTROL

- .1 Identify lumber by grade stamp of an agency certified by Canadian Lumber Standards Administration Board.
- .2 Certify by agency accredited by Standards Council of Canada that preservative and fire retardant treated wood in accordance with CSA O80 Series.

PART 3 - EXECUTION

3.10 MANUFACTURER'S INSTRUCTIONS

- .1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheet.

3.11 ERECTION

- .1 Erect wood trusses in accordance with approved shop drawings.
- .2 Handling, installation, erection, bracing and lifting in accordance with manufacturers instructions.
- .3 Make adequate provisions for handling and erection stresses.
- .4 Exercise care to prevent out-of-plane bending of trusses.
- .5 Install temporary horizontal and cross bracing to hold trusses plumb and in safe condition until permanent bracing and decking are installed.
- .6 Install permanent bracing in accordance with approved shop drawings, prior to application of loads to trusses.
- .7 Do not cut or remove any truss material without approval of Consultant.
- .8 Remove chemical and other surface deposits on treated wood, in preparation for applied finishes.

3.12 FIELD QUALITY .1 Manufacturer's Field Services:

CONTROL

- .1 Have manufacturer of products supplied under this Section review work involved in handling, installation/application, protection and cleaning of its product[s], and submit written reports, in acceptable format, to verify compliance of work with Contract.
- .2 Manufacturer's field services: provide manufacturer's field services, consisting of product use recommendations and periodic site visits for inspection of product installation, in accordance with manufacturer's instructions.
- .3 Schedule site visits to review work at stages listed twice] during progress of work at 25% and 60%] complete.
- .2 Upon completion of work, after cleaning is carried out.
- .3 Obtain reports within three days of review and submit immediately to Consultant.
- .4 Verification requirements in accordance with Section 01363 - Sustainable Requirements: Contractor's Verification, include:
 - .1 Materials and resources.
 - .2 Storage and collection of recyclables.
 - .3 Construction waste management.
 - .4 Resource reuse.
 - .5 Recycled content.
 - .6 Local/regional materials.
 - .7 Certified Wood.
 - .8 Low-emitting materials.

3.13 CLEANING

- .1 Remove surplus materials, excess materials, rubbish, tools and equipment on completion of installation.