

PART 1 - GENERAL

1.1 SUMMARY

- .1 Section Includes:
 - .1 Material and installation for prefabricated wood trusses.
 - .2 Sustainable requirements for construction and verification:
- .2 Related Sections:
 - .1 Section 01 33 00 - Submittal Procedures.
 - .2 Section 01 35 29 - Health and Safety Requirements.
 - .3 Section 01 61 00 - Common Product Requirements.
 - .4 Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

1.2 REFERENCES

- .1 Canadian Standards Association (CSA International)
 - .1 CSA O80 Series-97(R2002), Wood Preservation.
 - .2 CAN/CSA-086-14 (Series-15), Engineering Design in Wood.
 - .3 CAN/CSA-0141-05 (R2014), Softwood Lumber.
 - .4 CSA S307-M1980(R2001), Load Test Procedure for Wood Roof Trusses for Houses and Small Buildings.
 - .5 CSA S347-14, Method of Test for Evaluation of Truss Plates Used in Lumber Joints.
 - .6 CSA W47.1-09 (R2014), 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 - 2011, Truss Design Procedures and Specifications for Light Metal Plate Connected Wood Trusses (Limit States Design).
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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-086.
- .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 in accordance with CAN/CSA-086.1 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 plaster 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 01 35 29 - Health and Safety Requirements.

1.5 SUBMITTALS

- .1 Submittals in accordance with Section 01 33 00 - Submittal Procedures.
 - .2 Product Data:
 - .1 Submit manufacturer's printed product literature, specifications and datasheet in accordance with Section 01 33 00 - Submittal Procedures.
 - .3 Shop Drawings:
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1.5 SUBMITTALS
(Cont'd)

- .4 Each shop erection drawing submission showing connection details to be signed and stamped by professional engineer registered or licensed in province of NL, 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.
- .8 Indicate arrangement of webs or other members to accommodate ducts and other specialties.
- .9 Certificates: submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.
- .10 Instructions: submit manufacturer's installation instructions.

1.6 DELIVERY,
STORAGE AND
HANDLING

- .1 Deliver, handle, store and protect materials in accordance with Section 01 61 00 - Common 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 01 74 21 - Construction/Demolition Waste Management and Disposal.
 - .2 Remove from site and dispose of packaging materials at appropriate recycling facilities.
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1.6 DELIVERY,
STORAGE AND
HANDLING
(Cont'd)

- .3 (Cont'd)
- .3 Collect and separate for disposal paper plastic polystyrene corrugated cardboard 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 Steel, Metal, Plastic waste 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

2.1 MATERIALS

- .1 Lumber: species, grade, softwood, S4S, with maximum moisture content of 19% at time of fabrication and to following standards:
- .1 CAN/CSA-0141.
 - .2 NLGA (National Lumber Grading Association), Standard Grading Rules for Canadian Lumber.
- .2 Fastenings: to CAN/CSA-086.

2.2 FABRICATION

- .1 Fabricate wood trusses in accordance with approved shop drawings.
- .2 Provide for design camber and roof slopes when positioning truss members.
- .3 Connect members using metal connector plates.

2.3 SOURCE QUALITY
CONTROL

- .1 Identify lumber by grade stamp of an agency certified by Canadian Lumber Standards Administration Board.

PART 3 - EXECUTION

3.1 MANUFACTURER'S
INSTRUCTIONS

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

- .1 Erect wood trusses as indicated 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 Departmental Representative.

3.3 FIELD QUALITY CONTROL

- .1 Manufacturer's Field Services:
 - .1 Have manufacturer of products supplied under this Section review work involved in handling, installation/application, protection and cleaning of its products, and submit written reports, in acceptable format, to verify compliance of work with Contract.

3.4 CLEANING

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