

PART 1 - GENERAL

1.1 SCORCE QUALITY

- .1 Lumber identification: by grade stamp of an agency certified by Canadian Lumber Standards.
- .2 Plywood identification: by grade mark in accordance with applicable CSA standards.

1.2 CERTIFICATES

- .1 For products treated with preservative by pressure impregnation, when requested submit the following information certified by authorized signing officer of treatment plant:
 - 1. Information listed in AWWPA.M2-81 applicable to specified treatment.
 - 2. Moisture content after drying following treatment.

1.3 REFERENCE STANDARDS

- .1 Pressure treat wood in accordance with CSA 080- Series 97 (R2002).
- .2 Douglas Fir Plywood – CSA/CAN 0121-M1978 (R2003).
- .3 Softwood Lumber – CSA/CAN 0141-05.
- .4 Canadian Softwood Plywood – CSA/CAN -151-04.

PART 2 – PRODUCTS

2.1 LUMBER MATERIALS

- .1 Lumber: unless specified otherwise, softwood, S4S, moisture content 15% or less in accordance with following standards:
 - 1. CSA 0141 – 05.
 - 2. NLGA Standard Grading Rules for Canadian Lumber, 1987 edition.
- .2 Machine stress-rated lumber is acceptable for all purposes.
- .3 Glued end-jointed (finger jointed) lumber is **not** acceptable.
- .4 Framing and board lumber: in accordance with NBC 2005 with Manitoba amendments, Sub-section 9.3.1, except as indicated or specified elsewhere.
 - 1. Rough carpentry: S.P.F. species, NLGA select structural grade, S4S, 15% moisture content.

2. All materials to be “Structural Light Framing” or “Structural Joists and Planks”.
- .5 Furring, cants, blocking, nailing strips, grounds, rough bucks:
 1. Board sizes: “Standard” light framing or better grade.
 2. Dimension sizes: “Standard” light framing or better grade.
- .6 Material used as “fillets” to be inserted into glulam materials shall be “clear”, free from knots and match parent material species in member.

2.2 PANEL STANDARDS

- .1 Panel standards: type, grade and thickness as indicated, in accordance with following standards:
 1. Douglas Fir Plywood (DFP): to CSA 0121, G1S, standard construction.
 2. Canadian Softwood Plywood (CSP): to CSA 0151, G1S, standard construction.

2.3 PANEL MATERIAL END USES

- .1 Tie Down Base Enclosures: $\frac{3}{4}$ ” pressure treated Douglas Fir plywood with pressure treated sub-framing.

2.4 VAPOUR BARRIER

- .1 Polyethylene film: to CAN/CGSB-51.33-M80, Type 1, 6 mil thick.

2.5 FASTENERS

- .1 Nails, spikes and staples: to CSA B111-1974 (R2003).
- .2 Bolts: galvanized unless indicated otherwise, complete with nuts and washers.
- .3 Screws: to CSA A82.31-M1980.
- .4 Proprietary fasteners: toggle bolts, expansion shields and lag bolts, screws and lead or inorganic fibre plugs, explosive actuated fastening devices, recommended for purpose by manufacturer.
- .5 Galvanizing: to CSA G164-M92 (R2003), use galvanized fasteners for exterior Work, and for interior humid areas such as arena common wall, etc.

2.6 INSULATION

- .1 Batt and blanket mineral fibre: to CSA A101, Type 1, thickness to suit individual applications.

- .2 Rigid, expanded polystyrene: to Can/CGSB-51-20M, thickness as specified on drawings.
- .3 Polyurethane foam: Instafoam, or approved equal in accordance with B6..
- .4 Board Insulation: Polyisocyanurate Foil Faced.

2.7 FRAMING ACCESSORIES

- .1 Fasteners: hot dipped galvanized for all wood. Use spiral threaded (Ardox) or “coated” nails unless specified otherwise.
- .2 Joist Hangers & Connectors: minimum 18 ga., galvanized, sized to suit joists and framing conditions.

2.8 PRESERVATIVE TREATMENTS

- .1 Treat lumber to CSA 080.2-M1997 using indicated preservative.
- .2 Treat lumber to CSA 080.1-M1997 using CCA preservative to obtain minimum net retention of 4.0 kb/cubic metre of wood.
- .3 Treat plywood to CSA 080.9-1997 using CCA preservative to obtain minimum net retention of 6.4 kg/cubic metre of plywood.
- .4 Following water-borne preservative treatment, dry material to maximum moisture content of 15%.

PART 3 – EXECUTION

3.1 CONSTRUCTION

- .1 Comply with requirements of National Building Code 2005, Part 9 supplemented by the following paragraphs.

3.2 FRAMING

- .1 Erect wood framing members level and plumb.
- .2 Place horizontal members laid flat, crown side up.
- .3 Construct framing members full length without splices.
- .4 Double members at openings over 1 sq. ft. Space short studs over and under opening to stud spacing.
- .5 Place sill gasket directly on cementitious foundation. Puncture gasket clean and fit tight to protruding foundation anchor bolts.

3.3 SHEATHING

- .1 Secure plywood sheathing perpendicular to minimum 2" x 4" pressure treated to framing members. Plywood sheathing forming "box" enclosure at tie down base shall be a single piece for each side.

3.4 BLOCKING, FURRING, STRAPPING AND CURBS

- .1 Erect wood framing members level and plumb.
- .2 Refer to drawings for locations of pressure treated material used as blocking, furring, strapping, curbs, cants, etc.

3.5 SHORING AND STRUTTING

- .1 Provide temporary shoring and strutting where required to properly support Work during demolition, after and until it is made safe by virtue of following trades so that it does not create a hazard from weather, wind, or any other cause. All such protective devices, etc., shall be left in place until general Contractor advises that permanent Work is completed and the building safe from all such hazards.
- .2 At the centre of the arena shore and support each glulam beam under repair; support to be for both beam spans.
- .3 Co-ordinate demolition Work with Work of this and other trades.

3.6 REMOVAL OR MODIFICATION OF SERVICES

- .1 Where demolition Work is affected by, or affects existing services, the necessary modifications shall be made after consultation with the general Contractor and the Contract Administrator. If necessary, special provisions of a temporary nature shall be made to accommodate the Contract Administrator's requirements, all at no additional cost to the Contract.
- .2 Contractor is responsible for locating and protecting all existing services, utilities, etc.

3.7 REPAIR PREPARATION OF GLULAM BEAMS

- .1 Contractor shall note that deterioration of the glulam beam faces and ends is generally different on each face and at the beam ends. Each beam shall be individually assessed and before starting to remove damaged material the Contract Administrator shall be advised of the prevailing conditions. The Contractor shall anticipate having to Work on one beam face at a time, in some cases with a delay between operations while resin materials and repairs achieve satisfactory strength.
- .2 The majority of the repair methodology will require careful cutting out of damaged laminations or areas of wood including previously executed repairs where blocks of material were essentially "stacked" at the ends of some beams. The prime tool for removal of wood shall be a router or similar device. Chain saws and heavy equipment shall not be used; skill saws and reciprocating saws shall only be used with special permission on each occasion from the Contract Administrator.

- .3 Where individual or several laminations are to be prepared and infilled with new materials, the preparation of the “slot” and “fillets” shall be done carefully and in a precise manner so that the fillet when coated with resin fits precisely into the slot.
- .4 Note that “clear” material matching the lumber type or better is to be used for the fillets.
- .5 Where wood around bolts has deteriorated it will be necessary to either insert an oversized wood “plug”, or cut out a section right through the beam and insert a rectangular laminated “plug” in either case using the approved resin.

3.6 CLEAN UP

- .1 On completion of any item of Work and on a daily basis, the affected area shall be left clean and safe, ready for the following trades. All debris shall be removed from the Site by the end of each Work Day.
- .2 Any spillage on grassed areas, walkways, roads, parking lots, etc. shall be cleaned up to the satisfaction of the Contract Administrator at no additional cost to the Contract.
- .3 Any damage to property, roads, etc. shall be repaired to the Contract Administrator’s satisfaction at the Contractor’s expense.

END OF SECTION