

## **1 GENERAL**

### **1.01 RELATED REQUIREMENTS**

- .1 Section 06 17 53 - Prefabricated Wood Trusses.
- .2 Section 06 20 00 - Finish Carpentry
- .3 Section 07 31 29 - Wood Shingles and Shakes.
- .4 Section 07 62 00 - Sheet Metal Flashing and Trim.
- .5 Section 09 21 16 - Gypsum Board Assemblies.

### **1.02 REFERENCES**

- .1 Canadian Roofing Contractors' Association (CRCA)
  - .1 CRCA Roofing Specification Manual, 2012.
- .2 ASTM International
  - .1 ASTM A123/A123M-15, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
  - .2 ASTM A307-14, Standard Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength.
  - .3 ASTM A653/A653M-15e1, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
  - .4 ASTM C954-15, Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs from 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness
  - .5 ASTM D1165-13, Standard Nomenclature of Commercial Hardwoods and Softwoods.
  - .6 ASTM D1761 12, Standard Test Methods for Mechanical Fasteners in Wood.
  - .7 ASTM D3931-08(2015), Standard Test Method for Determining Strength of Gap-Filling Adhesive Bonds in Shear by Compression Loading.
  - .8 ASTM D5456-14b, Standard Specification for Evaluation of Structural Composite Lumber Products.
  - .9 ASTM E1333-14, Standard Test Method for Determining Formaldehyde Concentrations in Air and Emission Rates from Wood Products Using a Large Chamber.
  - .10 ASTM F1667-15, Standard Specification for Driven Fasteners: Nails, Spikes, and Staples.

- .3 CSA Group (CSA)
  - .1 CAN/CSA O80-Series-15, Wood Preservation.
  - .2 CSA O86-14, Engineering Design in Wood.
  - .3 CSA O112-Series M1977 (R2006), CSA Standards for Wood Adhesives.
  - .4 CSA O121-08(R2013), Douglas Fir Plywood.
  - .5 CSA O141-05(R2014), Softwood Lumber.
  - .6 CSA O151-09(R2014), Canadian Softwood Plywood.
  - .7 CAN/CSA O325-16, Construction Sheathing.
  - .8 CSA O325-16, Construction Sheathing.
  - .9 CSA O437 Series-93(R2011), Standards on OSB and Waferboard.
  - .10 CSA S16-14, Design of steel structures.
  - .11 CSA W47.1-09 (R2014), Certification of companies for fusion welding of steel.
- .4 Canadian Commission on Building and Fire Codes/National Research Council of Canada
  - .1 National Building Code of Canada (NBC), edition adopted and currently enforced by the Province of Prince Edward Island.
- .5 National Research Council Canada (NRC)
  - .1 National Building Code of Canada (NBC), edition adopted and currently enforced by the Province of Prince Edward Island.
- .6 South Coast Air Quality Management District (SCAQMD), California State, Regulation XI. Source Specific Standards
  - .1 SCAQMD Rule 1113-16, Architectural Coatings.
  - .2 SCAQMD Rule 1168-A2011, Adhesives and Sealants Applications.
- .7 The Truss Plate Institute of Canada
  - .1 TPIC 2014, Truss Design Procedures and Specifications for Light Metal Plate Connected Wood Trusses.
- .8 Underwriters' Laboratories of Canada (ULC)
  - .1 CAN/ULC S102-10, Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.

### **1.03 ACTION AND INFORMATION SUBMITTALS**

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
  - .1 Submit manufacturer's instructions, printed product literature and data sheets for wood products and accessories and include product characteristics, performance criteria, physical size, finish and limitations.

### **1.04 QUALITY ASSURANCE**

- .1 Lumber identification: Grade stamp of an agency certified by the Canadian Lumber Standards Accreditation Board.
- .2 Plywood identification: Grade mark in accordance with applicable CSA standards.
- .3 Each board of fire retardant treated material to shall bear the ULC label indicating 'Flame Spread Classification' (FSC), and smoke developed.
- .4 Construction shall be reviewed before covering by other materials. Notify Departmental Representative a week in advance of anticipated completion of an elevation, and make arrangements for a site review. Work is not to proceed that would impair a visual review at completed elevations and roofs until reviewed.

### **1.05 DELIVERY, STORAGE AND HANDLING**

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Deliver wood products bundled or crated to provide adequate protection during transit. Inspect wood products for damage upon delivery and remove and replace damaged materials.

- .4 Store materials a minimum of 150 mm off the ground on blocking. Keep materials under cover and dry. Provide for air circulation within and around stacks and under temporary coverings.
- .5 Protect sheet materials to prevent breaking of corners and damage to surfaces.

## **2 PRODUCTS**

### **2.01 GRADES**

- .1 Use CLS grade marked lumber conforming to the Standard Grading Rules for Canadian Lumber published by the National Lumber Grades Authority.

### **2.02 MATERIALS**

- .1 Lumber: kiln-dried, to CAN/CSA O141, softwood, S-P-F, S4S, graded and stamped in accordance with National Lumber Grading Association (NLGA) Standard Grading Rules for Canadian Lumber and as follows:
  - .1 Moisture Content: maximum 8% at time of installation.
  - .2 Maximum moisture content when used for attachment of drywall: 8%.
  - .3 Grade: No. 2 or better, and having the following minimum properties:
    - .1 Sizes: 38 mm or 89 mm wide by depth as indicated on drawings.
    - .2 Bending at extreme fibre ( $F_b$ ): 11.8 MPa.
    - .3 Longitudinal shear ( $F_v$ ): 1.0 MPa.
    - .4 Compression parallel to grain ( $F_c$ ): 11.5 MPa.
    - .5 Compression perpendicular to grain ( $F_{cp}$ ): 4.6 MPa.
    - .6 Tension parallel to grain ( $F_t$ ): 5.5 MPa.
    - .7 Modulus of elasticity ( $E/E_{05}$ ): 9500/6500.

- .2 Exterior Sheathing:
  - .1 Douglas Fir (DFP) or Pine Plywood: FSC Certified, Exterior Grade, no added urea formaldehyde, complying with CSA 0121 or CSA 0151 respectively, thickness as indicated on drawings.
- .3 Other Panel Materials:
  - .1 Douglas Fir or Pine plywood, complying with CSA 0121 or CSA 0151 respectively, FSC Certified, thickness as indicated, no added urea formaldehyde. Use Exterior Grade materials at all exterior building enclosure locations (i.e., roof and walls).

### **2.03 MISCELLANEOUS LUMBER**

- .1 Provide lumber for support or attachment of other construction, including furring, blocking, nailing strips, ground, rough bucks, cants, curbs, fascia, backing sleepers, and similar members.
- .2 Fabricate miscellaneous lumber from dimension lumber of sizes indicated, and into shapes shown on drawings.
- .3 Moisture Content: 19% maximum for lumber items not specified to receive wood preservative treatment.
- .4 Grade: for dimension lumber sizes provide No. 2 or Standard grade lumber per NLGA. For board-sized lumber, provide sheathing grade, S2S.

### **2.04 ACCESSORIES**

- .1 Metal framing connectors and hangers: prefabricated steel products tested or designed in accordance with CSA 086.1 and CSA S16.1. Finish: hot dipped galvanized post-fabrication, all sides, to ASTM A123.
- .2 Sealants: in accordance with Section 07 92 00 - Joint Sealants.
- .3 General purpose adhesive: to CSA 0112 Series, moisture-resistant Type I. Maximum allowable VOC limit 70 g/L in accordance with SCAQMD Rule 1168.
- .4 Nails, spikes, and staples: to ASTM F1667, suited to construction application and conditions; double hot dipped at all exterior applications.

- .5 Screws for Fastening to Cold-Formed Metal Framing:  
ASTM C954, except with wafer heads and reamer wings, length  
as recommended by screw manufacturer for material being  
fastened.
- .6 Rough Hardware (bolts, nuts, washers, etc.): hot dip  
galvanized in conformity to CSA G164 or Grade A low carbon  
steel, conforming to ASTM A307.
  - .1 Bolts: 13 mm diameter unless indicated otherwise,  
complete with nuts and washers
- .7 Joist hangers: minimum 1 mm thick sheet steel, galvanized  
ZF001 coating designation.
- .8 Nailing discs: flat caps, minimum 25 mm diameter, minimum  
0.4 mm thick, fibre, formed to prevent dishing. Bell or cup  
shapes not acceptable.
- .9 Proprietary fasteners: toggle bolts, expansion shields and  
lag bolts, screws and lead plugs, recommended for purpose  
by manufacturer.
- .10 Subflooring Adhesive: moisture-resistant Type I.
- .11 Roof sheathing H-Clips: formed "H" shape, thickness to suit  
panel material, extruded 6063-T6 aluminum alloy or hot  
dipped galvanized steel.
- .12 Acceptable wood sheathing auxiliary subfloor fasteners:
  - .1 Flat head #8 wood screws, Robertson square drive,  
straight roots, 5/8 inch (16 mm) long, sufficient to  
penetrate through 3/8-inch (9.5 mm) thick top layer of  
sheathing into bottom layer of sheathing approximately  
1/4-inch (6 mm), countersunk flush with surface (but  
no deeper); ensure screws do not penetrate through  
bottom layer of sheathing into acoustic underlayment.
- .13 Sill Gaskets: rubberized, moisture-resistant, 3 mm thick  
closed cell neoprene strip, or 8 mm thick open cellular  
rubber reinforced with solid rubber particles bonded to  
cellulose, full width of sill plate (separating all  
horizontal board members from direct contact with  
concrete), with self-sticking permanent adhesive on one  
face, lengths as required.

## 2.05 CHEMICAL PRESSURE TREATMENTS

- .1 Where lumber or plywood is indicated as preservative treated or is specified to be treated, treated in accordance with CAN/CSA O80.9M.
- .2 Wood preservatives containing arsenic or chromium are not permitted.
- .3 Pressure treat above ground items with waterborne preservatives to minimum retention of 4.0 kg/m<sup>3</sup>. After treatment, kiln-dry lumber and plywood to maximum moisture content of 19% and 15% respectively. Treat indicated items and the following:
  - .1 Wood cants, nailing strips, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapour barriers, and waterproofing.
  - .2 Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry and concrete.
  - .3 Wood framing members less than 460 mm above grade.
  - .4 Wood floor plates installed over concrete slabs directly in contact with earth.
- .4 Pressure treat wood members in contact with ground or freshwater with waterborne preservatives to minimum of 6.4kg/m<sup>3</sup>.
- .5 Fire-Retardant Treatment: to CAN/SCA O80.9M, CAN/CSA O80.20M and CAN/CSA O80.27M, pressure impregnated, and as follows:
  - .1 Flame Spread Classification: FSC 25 maximum.
  - .2 Smoke developed of not more than: 75.
- .6 Complete fabrication of treated items before treatment where possible. If cut after treatment apply field treatment to cut surfaces.
- .7 Wood Preservatives: Maximum allowable VOC limit 350 g/L in accordance with SCAQMD Rule #1113 - Architectural Coatings.

## **2.06 FASTENER FINISHES**

- .1 All Fastener Finishes, including but not limited to nails, spikes, staples, screws, nailing discs, and proprietary fasteners shall be either double hot dipped galvanized or stainless steel:
  - .1 Galvanizing: to ASTM A653, double hot dipped galvanized for pressure preservative and fire retardant treated materials; hot dipped galvanized for all other purposes.
  - .2 Stainless steel: use stainless steel Type 316 alloy for fasteners that penetrate or are in contact with cedar shingles or are in the watershed path of cedar shingle rain runoff.

## **3 EXECUTION**

### **3.01 EXAMINATION**

- .1 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for product installation in accordance with manufacturer's written instructions.
  - .1 Visually inspect substrate in presence of Departmental Representative.
  - .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
  - .3 Proceed with installation only after unacceptable conditions have been remedied.

### **3.02 PREPARATION**

- .1 Treat surfaces of material with wood preservative before installation.
- .2 Apply preservative by dipping or by brush to completely saturate and maintain wet film on surface for minimum 3 minute soak on lumber and one minute soak on plywood.
- .3 Re-treat surfaces exposed by cutting, trimming or boring with liberal brush application of preservative before installation.
- .4 Preservative treat material as follows:
  - .1 Wood cants, fascia backing, curbs, nailers, and sleepers on roof deck.

- .2 Wood sleepers supporting wood subflooring over concrete slabs in contact with ground or fill.
- .5 Fire-retardant treat electrical equipment mounting boards and panels and as additionally or otherwise indicated.

### **3.03 INSTALLATION**

- .1 Comply with requirements of National Building Code of Canada (NBC) supplemented by the requirements of this Section. Use dust collectors and high quality respirator masks when cutting or sanding wood panels, and lumber or panels treated with preservative or fire-retardant treated materials.
- .2 Install members true to line, with levels and elevations square and plumb.
- .3 Install Sill Gaskets, full width of wood member, at all concrete-to-wood interfaces to prevent direct contact between wood and concrete.
- .4 Construct continuous members from pieces of longest practical length.
- .5 Install spanning members with crown-edge up.
- .6 Select exposed framing for appearance. Install lumber and panel materials so that grade-marks and other defacing marks are concealed or are removed by sanding where materials are left exposed.
- .7 Install subflooring and combined subfloor and underlay with panel end-joints located on solid bearing, staggered at least 800 mm.
  - .1 In addition to mechanical fasteners, secure floor subflooring to floor joists using glue and screws. Place continuous adhesive bead in accordance with manufacturer's instructions, single-bead on each joist and double-bead on joists where panel ends butt.
  - .2 Allow for a 1/32 inch gap between subflooring panels when installing wood board flooring to accommodate swelling with increased moisture content.
  - .3 Install subflooring with the strength axis perpendicular to the flooring joists.
  - .4 Do not use sealer or drywall compound to fill cracks and dents in the subfloor.

- .5 Ensure that the subflooring panels are flat. Sand any joints that have raised edges because of edge swell.
- .6 Use a moisture-vapour retarder between the subflooring and the finish wood flooring to prevent moisture from leaching through the joists and subfloor to negatively affect the finish wood floor above.
- .8 Install wall sheathing in accordance with manufacturer's printed instructions.
- .9 Install roof sheathing in accordance with requirements of National Building Code of Canada (NBC).
- .10 Install blocking at locations indicated to support washroom accessories and sliding door hardware.
- .11 Install furring and blocking as required to space-out and support other work as required.
- .12 Install furring to support board wall finishes where there is no blocking and where sheathing is not suitable for direct nailing.
  - .1 Align and plumb faces of furring and blocking to tolerance of 1:600.
- .13 Install wood cants, fascia backing, nailers, curbs and other wood supports as required and secure using fasteners with finish as specified in this Section.
- .14 Frame, anchor, fasten, tie and brace members to provide necessary strength and rigidity.
- .15 Countersink bolts where necessary to provide clearance for other work.
- .16 Use nailing disks for soft sheathing as recommended by sheathing manufacturer.

### **3.04 POWER, TELECOMMUNICATIONS AND DATA PANEL BOARDS**

- .1 Install 19 mm fire rated fir plywood boards on all walls in electrical rooms receiving wiring and equipment; minimum 1220 mm x 2440 mm panels on periphery walls over 300 mm wide, mounted 150 mm off of finished floor.

- .2 Paint panels with 2 coats of light coloured fire retardant intumescent paint finish; coat all sides of panels (back, front and sides) to meet the intent of fire rated panel requirements listed in CSA T530 and ANSI/TIA/EIA 569-B requirements.

### **3.05 CLEANING**

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
  - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
- .3 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
  - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

### **3.06 PROTECTION**

- .1 Protect installed products and components from damage during construction.
- .2 Repair damage to adjacent materials caused by rough carpentry installation.

**END OF SECTION**

## **1 GENERAL**

### **1.01 WORK INCLUDED**

- .1 This Section specifies requirements for design, supply, transporting and erecting pre-fabricated wood roof trusses, braces and bridging where shown on the Drawings and as specified herein.

### **1.02 RELATED WORK**

- .1 Section 06 10 00 - Rough carpentry:

### **1.03 REFERENCES**

- .1 CSA-O86-14, Engineering Design in Wood.
- .2 CAN/CSA-O141-05 (R2014), Softwood Lumber.
- .3 CSA W47.1-09(R2014), Certification of Companies for Fusion Welding of Steel Structures.
- .4 ASTM E1333-14, Standard Test Method for Determining Formaldehyde Concentrations in Air and Emission Rates from Wood Products Using a Large Chamber.
- .5 NLGA, Standard Grading Rules for Canadian Lumber, 2014.

### **1.04 DESIGN CRITERIA**

- .1 Design trusses, bracing and bridging in accordance with CSA-O86 and NBC 2010, Part 4 requirements, normal building designation. Internal wind uplift pressures will be determined in accordance with NBC 2010, Part 4 requirements, Category 3 building designation.
- .2 Dead load and snow loads are indicated on the design drawings. Design trusses for point loads from suspended mechanical/electrical equipment as noted on plans.
- .3 Limit combined live load and dead load deflections to 1/240th of span unless otherwise specified or indicated. Limit live load

deflection to 1/360th of span unless otherwise specified or indicated.

- .4 Design and supply all truss uplift anchors (truss tie downs), in accordance with CSA-086, to withstand the wind uplift loads shown on Drawings.
- .5 At truss bearing points, where allowable compression perpendicular to the grain is exceeded, the truss manufacturer must provide bearing plates.

#### **1.05 SOURCE QUALITY CONTROL**

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

#### **1.06 QUALIFICATION OF MANUFACTURERS**

- .1 Fabricator for welded steel connections to be certified in accordance with CSA W47.1.

#### **1.07 SHOP DRAWINGS**

- .1 Submit shop drawings and erection drawings in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Each shop drawing submission showing connection details must bear signature and stamp of professional engineer registered or licensed in Prince Edward Island.
- .3 Indicate species, sizes, and stress grades of all lumber used as structural members. Show pitch, span, camber, design heel height, configuration and spacing of members. Indicate connector types, thicknesses, sizes, locations and design value. Show bearing details. Indicate design load for each member.
- .4 Submit stress diagram or print-out of computer design indicating design load for each member. Indicate allowable load and stress increase.
- .5 Indicate arrangement of webs or other members to accommodate ducts and other specialties.
- .6 Show lifting points for storage, handling and erection.
- .7 Show location of lateral bracing for compression members.

## **1.08 DELIVERY AND STORAGE**

- .1 Store members on job site in accordance with manufacturer's instructions. Provide bearing supports and bracings. Prevent bending, warping and overturning of members.

## **2 PRODUCTS**

### **2.01 MATERIALS**

- .1 Lumber: SPF species, No. 1 grade, softwood, S4S, with maximum moisture content of 19% at time of fabrication and to following standards:
  - .1 CAN/CSA-O141.
  - .2 NLGA (National Lumber Grading Association), Standard Grading Rules for Canadian Lumber.
- .2 Fastenings: to CSA-O86.
- .3 Tie-down anchors: prefabricated wood truss to top plate uplift anchors, galvanized, to resist uplift force calculated as per the National Building Code of Canada and indicated on the design drawings.

### **2.02 FABRICATION**

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

## **3 EXECUTION**

### **3.01 ERECTION**

- .1 Erect wood trusses in accordance with reviewed erection drawings.
- .2 Indicated lifting points to be used to hoist trusses into position.
- .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.

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- .6 Install permanent bracing in accordance with reviewed shop drawings, prior to application of loads to trusses. .7 Do not cut or remove any truss material without approval of the Departmental Representative.
- .7 Provide galvanized uplift anchor(s), at each truss bearing point, to resist uplift force, calculated as per National Building Code of Canada and indicated on the design drawings.
- .8 Have all truss tie downs (uplift anchors), designed, supplied and installed by the truss supplier.

**END OF SECTION**

## **1 GENERAL**

### **1.01 RELATED REQUIREMENTS**

- .1 Section 06 10 00 - Rough Carpentry.

### **1.02 REFERENCES**

- .1 American National Standards Institute (ANSI)
  - .1 ANSI/HPVA HP-1-10, American National Standard for Hardwood and Decorative Plywood.
- .2 Architectural Woodwork Manufacturers Association of Canada (AWMAC) and Architectural Woodwork Institute (AWI)
  - .1 Architectural Woodwork Quality Standards, 2<sup>nd</sup> edition.
- .3 ASTM International
  - .1 ASTM A123/A123M-15, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
  - .2 ASTM E1333-14, Standard Test Method for Determining Formaldehyde Concentrations in Air and Emissions Rates from Wood Products Using a Large Chamber.
  - .3 ASTM F593-17, Standard Specification for Stainless Steel Bolts, Hex Cap Screws, and Studs.
  - .4 ASTM F594-09(2015) Standard Specification for Stainless Steel Nuts.
  - .5 ASTM F1667-17, Standard Specification for Driven Fasteners: Nails, Spikes, and Staples.
- .4 CSA Group (CSA)
  - .1 CSA O86-14, Engineering Design in Wood.
  - .2 CSA O141-05(R2014), Softwood Lumber.
- .5 National Lumber Grades Authority (NLGA)
  - .1 Standard Grading Rules for Canadian Lumber, January 2014.
- .6 Underwriters Laboratories of Canada (ULC)
  - .1 CAN/ULC S104-15, Standard Method for Fire Tests of Door Assemblies.
  - .2 CAN/ULC S105-16, Standard Specification for Fire Door Frames Meeting the Performance Required by CAN/ULC S104.

### **1.03 ACTION AND INFORMATION SUBMITTALS**

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
  - .1 Submit two copies of WHMIS MSDS in accordance with Section 01 35 29.06 - Health and Safety Requirements.
- .3 Certifications: submit certificates signed by manufacturer certifying materials comply with specified performance characteristics and physical properties.

### **1.04 QUALITY ASSURANCE**

- .1 Lumber by grade stamp of agency certified by Canadian Lumber Standards Accreditation Board (CLSAB).
- .2 Plywood, particleboard, OSB and wood based composite panels to CSA and ANSI standards.
- .3 Wood fire rated frames and panels: listed and labelled by an organization accredited by Standards Council of Canada to CAN/ULC S104 and CAN/ULC S105.

### **1.05 DELIVERY, STORAGE AND HANDLING**

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
  - .1 Store materials off ground, in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
  - .2 Store and protect wood products from deterioration, warpage or deformation, and damage.
  - .3 Replace defective or damaged materials with new.

### **1.06 WARRANTY**

- .1 For the work of this Section, the 12 month warranty period prescribed in Subsection GC 32.1 of General Conditions "C" is extended to 24 months.

## **2 PRODUCTS**

### **2.01 MATERIALS**

- .1 Hardwood lumber: Clear White Maple, S4S, average moisture content of 6% and maximum of 9% for interior work, an average moisture content of 12% and maximum of 15% for exterior work, in accordance with following standards:
  - .1 National Hardwood Lumber Association (NHLA), select or better grade; white wood only; for transparent finish.
  - .2 AWMAC premium grade, moisture content as specified.
- .2 Softwood lumber (planks, boards, battens, trim, etc.): Eastern White Pine, Grade No. 1 or better, kiln-dried (KD) and heat treated (HT), S4S (rough sawn where indicated; smooth and sanded if not otherwise indicated), moisture content 16% or less in accordance with following standards:
  - .1 CSA O141.
  - .2 NLGA Standard Grading Rules for Canadian Lumber.
  - .3 AWMAC premium grade, moisture content as specified.
  - .4 Machine stress-rated lumber is acceptable.
  - .5 Sizes: as indicated, and in accordance with reviewed shop drawings

### **2.02 ACCESSORIES**

- .1 Nails: to ASTM F1667; galvanized to ASTM A123/A123M.
- .2 Fasteners at Roof Deck, to ASTM F1667 and ASTM F593, Type 304 stainless steel, sized as required.
  - .1 Stainless steel splitless ring shanked flooring nails.
  - .2 Stainless steel screws.
- .3 Wood screws, to ASTM F593: galvanized to ASTM A123/A123M, size, type and lengths as required to suit application.
- .4 Splines: wood.
- .5 Joint Sealants: in accordance with Section 07 92 00 - Joint Sealants.

### **2.03 SITE FABRICATION**

- .1 Fabricate items rigid, plumb and square, as detailed, with tight, bevelled, hairline joints. Sand work smooth, set all nails and screws. Countersink bolts and washers, fill holes with matching wood plugs.

## **2.04 FINISHES**

- .1 Opaque Finishes: to Section 09 91 00 - Painting, and as indicated. For paint finishes, confirm finish and colour with Departmental Representative prior to ordering materials and applying finishes.
- .2 Clear Finishes (Maple and Pine): AWMAC Premium Grade, water-based oil-modified polyurethane, amber tone, minimum 3-coat application system.
  - .1 Sand between coats per finish manufacturer's printed directions.

## **3 EXECUTION**

### **3.01 EXAMINATION**

- .1 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for wood products installation in accordance with manufacturer's written instructions.
  - .1 Visually inspect substrate in presence of Departmental Representative.
  - .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
  - .3 Proceed with installation only after unacceptable conditions have been remedied. Proceeding with work means acceptance of conditions.

### **3.02 COMPLIANCE**

- .1 Minimum Requirements: work shall meet or exceed requirements of CSA O86 and Part 9 of the National Building Code.

### **3.03 INSTALLATION**

- .1 Discard materials that are warped, twisted, bowed, crooked or otherwise defective.
- .2 Execute finish carpentry work to AWMAC Quality Standards: premium grade. Form joints to conceal shrinkage.
- .3 Scribe and cut as required, fit to abutting walls, and surfaces, fit properly into recesses and to accommodate piping, columns, fixtures, outlets, or other projecting, intersecting or penetrating objects.

### **3.04 CONSTRUCTION**

- .1 Fastening:
  - .1 Position items of finished carpentry work accurately, level, plumb, true and fasten or anchor securely.
  - .2 Design and select fasteners to suit size and nature of components being joined. Use proprietary devices as recommended by manufacturer.
  - .3 Set finishing nails to receive filler. Where screws are used to secure members, countersink screw in round smooth cut hole and plug with wood plug to match material being secured.
  - .4 Replace items of finish carpentry with damage to wood surfaces including hammer and other bruises.
- .2 Standing and running trim:
  - .1 Butt and cope internal joints of baseboards to make snug, tight, joint. Cut right angle joints of casing and base with mitred joints.
  - .2 Fit backs of baseboards and casing snugly to wall surfaces to eliminate cracks at junction of base and casing with walls.
  - .3 Make joints in baseboard, where necessary using a 45 degrees scarf type joint.
  - .4 Install door and window trim in single lengths without splicing.
- .3 Frames:
  - .1 Set frames square and secure, with plumb sides and level heads and sills.

**END OF SECTION**