DIVISION 06 WOOD, PLASTICS AND COMPOSITES

Section 06 00 00 Wood, Plastics and Composites - General

1 Information relates to the Department's technical requirements for Rough and Finish Carpentry, Architectural Woodwork, Structural Plastics and Wood and Plastic Restoration.

2 LEED projects require FSC Chain of Custody Certificate for all applicable materials.

3 Wood Framing

3.1 Wood framing is acceptable for:

3.1.1 Trusses for sloped roofs.

3.1.2 Heavy timber construction

3.1.3 Prefabricated laminated wood post and beam systems with tongue and groove wood decks.

3.2 Wood stud framing systems are not permitted, in whole or in part, for any exterior structural wall system. Receive approval from the DTIR project leader, prior to incorporation into design, for such use or where other uses for wood framing is desired.

4 Use of Pressure Treated Wood.

4.1 Pressure treated wood shall be used, only in outdoor applications or where exposed to moisture, such as locations where the wood comes in contact with the ground or as substrate in membrane roofing assemblies.

4.2 Pressure treated wood shall not be used in any application where it will be in contact with human skin.

4.3 Pressure treated wood may be used for the construction of screens for outdoor garbage storage or for other applications, only if approved by TIR in writing prior to incorporation in the design, and provided they are not located where occupants will gather on the site.

5 Extended Warranty

5.1 Warranty to provided which guarantees the Finish Carpentry, Millwork, Custom Cabinetry, and all other Architectural Woodwork for a period of four (4) years extended beyond the expiration of the performance assurance requirements specified in the General Conditions.

Section 06 10 00 Rough Carpentry

1. Source Quality Control

1.1. Lumber Identification

1.1.1. By grade stamp of an agency certified by the Canadian Lumber Standards Accreditation Board.

1.2. Plywood Identification

1.2.1. By grade mark in accordance with applicable CSA Standard

2. Materials

2.1. Lumber Materials

2.1.1. Spruce, Pine, Fir Species Group Designation, framing lumber and boards in accordance with minimum lumber grades for specific end uses of the latest National Building Code, kiln dried.

2.1.2. Moisture content of lumber at time of building-in shall not exceed 19%.

2.2. Plywood

2.2.1. Douglas Fir Plywood (DFP)

2.2.1.1. To CSA O121-17 standard construction.

2.2.2. Canadian softwood Plywood (CSP):

2.2.2.1. To CSA O151-17 standard construction.

2.2.2.2. For utility use, use unsanded, sheathing grade.

2.2.2.3. For sub-flooring, use T&G unsanded, select sheathing grade.

2.3. Fasteners

2.3.1. Galvanizing

2.3.1.1. To CSA G164-18, use galvanized fasteners for exterior work and high humidity areas.

2.3.2. Nails, spikes and staples

2.3.2.1. To CSA B111-1974 (R2003)

2.3.3. Use Galvanized nails, spikes and staples for:

2.3.3.1. Exterior Work

2.3.3.2. Interior high humidity areas

2.3.3.3. Treated Lumber

2.3.3.4. Otherwise use plain finish.

2.3.4. Bolts

2.3.4.1. Galvanized unless indicated otherwise, complete with nuts and washers.

2.3.5. Propriety Fasteners

2.3.5.1. Toggle bolts, expansion shields and lag bolts, screws and lead or inorganic fibre plugs, recommended for the purpose by the manufacturer.

2.4. Wood Preservative

2.4.1. Surface Applied Wood Preservative

2.4.1.1. Use coloured, copper napthenate or 5 % pentachlorophenol solution, water repellent preservative to meet specified requirements of CAN/CSA O80 SERIES-15.

2.5. Damp Proof Membrane

2.5.1. Use 6 mil polyethylene film, unless otherwise required.

3. Construction

3.1. Comply with the requirements of the latest National Building Code, supplemented by the following.

3.1.1. Nailing Strips, Grounds and Rough Bucks

3.1.1.1. Install rough bucks, nailers and linings to rough openings as required to provide backing for frames and other work. Install wood blocking in drywall partitions for anchoring items, including but not limited to, counters, vanities, cupboards, blind supports, handrails and grab bars.

3.1.2. Fasteners

3.1.2.1. Frame, anchor, fasten, tie and brace members providing necessary strength and rigidity.

3.1.2.2. Countersink bolts where necessary to provide clearance for other work.

3.1.2.3. Damproofing

3.1.2.3.1. Install damproof membrane between wood members and concrete.

3.1.2.4. Ensure bolted fasteners are drawn tightly.

Section 06 20 00 Finish Carpentry

1 Materials

1.1 Moisture content at time of installation

1.1.1 For interior locations: 7%

1.1.2 For exterior locations: 12%

1.2 Use only adhesives and fastenings that develop sufficient strength for intended use, are non-staining, are unaffected by the environment to which exposed and are manufactured to applicable CSA standards.

1.3 Wood:

1.3.1 Grade mark softwood and hardwood lumber by the appropriate association under authority of the National Lumber Grades Authority.

1.3.2 Where not exposed to view, use wood of grades suitable for fabrication, utility and structural needs.

1.3.3 Where exposed to view, use wood to meet requirements of AWMAC Quality Grade Standard.

1.4 Plywood:

1.4.1 Hardwood Plywood:

1.4.1.1 To CSA O115-M1982 (R2001) of species and thickness indicated.

1.4.1.2 Rotary veneer.

1.4.1.3 Use veneer core with Type II bond.

1.4.1.4 Good grade, where exposed to view, sound grade otherwise.

1.4.2 Canadian Softwood Plywood (CSP)

1.4.2.1 To CSA O151-17

1.4.2.2 Sanded exterior grade, good two sides where both sides are exposed to view and good one side where only one side is exposed to view.

1.4.3 Douglas Fir Plywood (DFP)

1.4.3.1 To CSA O121-17.

1.4.3.2 Exterior grade, good two sides where both sides are exposed to view and good one side where only one side is exposed to view.

1.4.4 Poplar Plywood

1.4.4.1 To CSA O153-13 (R2017)

1.4.5 Composite Materials

1.4.5.1 Particle Board: to NPA A208.1-2009, Grade M3:

1.4.5.1.1 For postformed counter tops: 11/16" thick, 45 lb.cu.ft., built-up edge, front and back.

1.4.5.1.2 For Flat work and other work: medium density, 45 lb.cu.ft.

1.5 Adhesives and Sealers: tested for acceptable VOC emissions to meet applicable EcoLogo or MPI Extreme Green certifications or in accordance with ASTM D2832-92(2016) and the applicable ASTM standard for determining the composition of the volatile fraction.

1.6 Finishing:

1.6.1 sand edges before finishing.

1.6.2 spray undercoat.

1.6.3 sand (fine paper)

1.6.4 two coats sprayed lacquer, where no other finish is provided and material is exposed to view.

Section 06 22 00 Millwork

1 Materials

1.1 To requirements of Part 1, Section 2, Division 06, item 06 20 00.1 and as follows:

1.2 Where Standing and Running Trim is incorporated into design use Eastern White Pine or Clear Spruce.

2 Construction

2.1 To requirements of Part 1, Section 2, Division 06, item 06 20 00 and as follows.

2.2 Do millwork to Quality Standards of the Architectural Woodwork Manufacturers' Association of Canada.

3 Mock-ups are required for all millwork.

Section 06 25 00 Pre-finished Paneling

1 Where Architectural Woodwork Paneling is incorporated into design:

1.1 Flush Paneling:

1.1.1 decorative with a transparent finish.

1.1.2 AWMAC Custom grade.

1.1.3 specify matching (veneer pieces and between panels).

1.2 Stile and Rail Paneling:

1.2.1 decorative with a transparent finish.

1.2.2 AWMAC Premium grade.

1.2.3 provide scale elevations, panel mould details, specifications for material

species and panel matching.

Section 06 40 00 Architectural Woodwork

1 Architectural woodwork shall be manufactured and/or installed to current AWMAC Architectural Woodwork Standards, Edition Two (2014) Plus All Errata Through April 29, 2016 and shall be subject to an inspection at the plant and/or site by an appointed AWMAC Certified Inspector. Inspection costs shall be included in the tender price for the project.

1.1 Shop drawings shall be submitted to the AWMAC Chapter office for review before work commences Work that does not meet the AWMAC Architectural Woodwork Standards, Edition Two (2014) Plus All Errata Through April 29, 2016, as specified, shall be replaced, reworked and/or refinished by the architectural woodwork contractor, to the approval of AWMAC, at no additional cost to the owner.

2 Wood Panels and Melamine Component Panels (MCP)

2.1 Material to be manufactured to American Laminators Association Performance Standards and ANSI A208.1-2009, Grade M3 particleboard.

2.2 Construct laminated sandwich of melamine resin impregnated paper thermally fused to a particleboard core.

2.3 Finish Suede; colours chosen by Consultant from manufacturer's full range. No more than 4 colors per job.

2.4 Finish all sides to reduce emissions.

2.5 All MCPs to be edged on exposed or semi-exposed edges with:

2.5.1 Solid high impact, purified colour-thru PVC, 3mm thick, hot machine applied, and automatically trimmed face, back and corners for a uniform appearance.

2.5.2 Acceptable products: Wood-tape, Canplast and Polyplast.

2.6 Adhesives and Sealers: tested for acceptable VOC emissions to meet applicable EcoLogo or MPI Extreme Green certifications or in accordance with ASTM D2832-92(2016) and the applicable ASTM standard for determining the composition of the volatile fraction.

2.7 Construction of Wood Material Cabinetry

2.7.1 Fasten work with nails generally, but use screws or special fasteners at critical joints, and where required by specified quality grade standards.

2.7.2 Glue built-up work, as well as nailing or screwing.

2.7.3 Blind nail where practical.

2.7.4 Set finishing nails below finished surfaces receiving filler.

2.7.5 Ensure each surface of Work, where exposed or semi-exposed, is finished appropriately.

2.7.6 3mm hardwood edge on exposed and semi-exposed edges of plywood construction cupboards. Hot machine applied and automatically trimmed face, back and corners for a uniform appearance.

2.7.7 Fine sand exposed surfaces level and smooth after fabrication.

2.7.8 Construct cabinetry sections that are square, plumb and true.

2.8 Construction of Melamine Composite Cabinetry

2.8.1 Drawer fronts to be the same color as doors; securely fastened to drawer box unit.

2.8.2 Exposed or semi-exposed edges to be covered with 3 mm PVC, as identified above for MCPs, radiused and rounded on all doors and drawer fronts, or sealed where not exposed.

2.8.3 Toekicks to be 3/4" Douglas fir plywood.

2.8.4 Any required wood members to be hardwood.

2.8.5 Wooden dowels at all glued connections.

2.8.6 Plastic anchor inserts or bolt through construction for all hardware.

2.8.7 Bolt through connection for side to side connections.

2.8.8 Shop fabricated pre-finished cupboard sections that are self supporting, square, plumb and true.

3 LEED projects require FSC Chain of Custody Certificate FSC-STD-40-004 (V3-0).

Section 06 41 00 Architectural Wood Casework

1 Custom Cabinets

1.1 Mock-ups are required of all casework.

1.2 Materials

1.2.1 To requirements of Part 1, Section 2, Division 06, item 06 20 00, 06 40 00 and as follows.

1.2.2 Construct cabinets of either solid wood (plywood), Medium Density Fibreboard (MDF) or Melamine Composite Panels (MCP). Other materials will not be acceptable unless approved in writing by DTIR.

1.2.3 Refer to PART 2, Section 2 for client specific requirements regarding acceptable materials.

1.3 Construction of Plastic Laminate-Clad Architectural Cabinets

1.3.1 To requirements of Part 1, Section 2, Division 06, item 06 20 00, 06 40 00 and as follows.

1.3.2 Do millwork to Custom Quality Standards of the Architectural Woodwork Manufacturers' Association of Canada.

1.3.3 For case bodies, shelving, doors, drawer fronts; plywood, MDF or MCP are accepted unless noted otherwise.

1.3.4 Case Construction:

1.3.4.1 bodies, ends, divisions and bottoms not less than 3/4" thick.

1.3.4.2 shelves up to 36" wide, 3/4" thick.

1.3.4.3 shelves greater than 36", up to 42" wide, 1" thick.

1.3.4.4 no shelves over 42" unsupported.

1.3.4.5 backs min. 1/4" thick and may be of plywood or tempered hardboard.

1.3.4.6 adjustable shelves supported by flush set metal standards.

1.3.5 Drawers:

1.3.5.1 Provide metal guides.

1.3.6 Doors:

1.3.6.1 Provide flush with eased edges.

1.3.7 Hardware:

1.3.7.1 concealed, self-closing hinges 110^{o} opening.

1.3.7.2 drawer slides - captive guide rail, side mounted, heavy duty, steel, minimum capacity 150 lbs per pair.

1.3.7.3 pulls back mounted, 4" long rod type.

1.3.7.4 locks half mortised into back.

1.3.7.5 schedule hardware by cabinet groups.

1.3.7.6 specify bumpers on doors.

1.4 Finishing:

1.4.1 sand edges before finishing.

1.4.2 spray undercoat.

1.4.3 sand (fine paper)

1.4.4 two coats sprayed lacquer, where no other finish is provided and material is exposed to view.

2 Refer to 12 36 00 for Countertops and Back splash requirements.

Section 06 46 00 Wood Trim

1 Where Architectural Woodwork Standing and Running Trim is incorporated into design use Eastern White Pine or Clear Spruce.

2 Ensure warranty is provided which guarantees the millwork for a period of four (4) years beyond the date of performance assurance.

END