

Part 1 General

Part 1.1 RELATED SECTIONS

- .1 Section 01 33 00 Submittal Procedures.
- .2 Section 01 45 00 Quality Control.
- .3 Section 01 52 00 Construction Facilities.
- .4 Section 01 56 00 Temporary Barriers and Enclosures.
- .5 Section 01 61 00 Common Product Requirements.
- .6 Section 06 20 00 Finish Carpentry.
- .7 Section 06 41 11 Architectural Woodwork.
- .8 Section 01 74 11 Cleaning.

Part 1.2 REFERENCES

- .1 American National Standards Institute (ANSI)
 - .1 ANSI/NPA A208.1[1999], Particleboard, Mat Formed Wood.
- .2 American Society for Testing and Materials International (ASTM)
 - .1 ASTM A653/A653M[05a], Standard Specification for Steel Sheet, ZincCoated (Galvanized) or ZincIron AlloyCoated (Galvanealed) by the HotDip Process.
 - .2 ASTM C36/C36M[03], Standard Specification for Gypsum Wallboard.
 - .3 ASTM C578[05a], Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation.
 - .4 ASTM C1289[05a], Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.
 - .5 ASTM D1761[88(2000)], Standard Test Methods for Mechanical Fasteners in Wood.
 - .6 ASTM D5055[05], Standard Specification for Establishing and Monitoring Structural Capacities of Prefabricated Wood IJoists.
 - .7 ASTM D5456[05a], Standard Specification for Evaluation of Structural Composite Lumber Products.
- .3 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB11.3[M87], Hardboard.
 - .2 CAN/CGSB51.32[M77], Sheathing, Membrane, Breather Type.
 - .3 CAN/CGSB51.34[M86], Vapour Barrier, Polyethylene Sheet for Use in Building Construction.
 - .4 CAN/CGSB71.26[M88], Adhesive for FieldGluing Plywood to Lumber Framing for Floor Systems.
- .4 Canadian Standards Association (CSA International)
 - .1 CSA A123.2[03], Asphalt Coated Roofing Sheets.
 - .2 CAN/CSAA247[M86], Insulating Fiberboard.
 - .3 CSA B111[1974(R2003)], Wire Nails, Spikes and Staples.

- .4 CAN/CSAG164[M92(R2003)], Hot Dip Galvanizing of Irregularly Shaped Articles.
- .5 CSA O112 Series[M1977(R2006)], CSA Standards for Wood Adhesives.
- .6 CSA O121[M1978(R2003)], Douglas Fir Plywood.
- .7 CSA O122[06], Structural Glued Laminated Timber.
- .8 CSA O141[05], Softwood Lumber.
- .9 CSA O151[04], Canadian Softwood Plywood.
- .10 CSA O153[M1980(R2003)], Poplar Plywood.
- .11 CAN/CSAO325.0[92(R2003)], Construction Sheathing.
- .12 CSA O437 Series[93(R2006)], Standards on OSB and Waferboard.
- .5 National Lumber Grades Authority (NLGA)
 - .1 Standard Grading Rules for Canadian Lumber [2005].
- .6 Truss Design and Procedures for Light Metal Connected Wood Trusses, Truss Plate Institute of Canada.
- .7 Underwriters' Laboratories of Canada (ULC)
 - .1 CAN/ULC-S706-[97], Mineral Fibre Thermal Insulation for Buildings.

Part 1.3 SUBMITTALS

- .1 Submit Submittal submissions: in accordance with Section 01 33 00 Submittal Procedures.

Part 1.4 QUALITY ASSURANCE

- .1 Lumber by grade stamp of an agency certified by Canadian Lumber Standards Accreditation Board.
- .2 Plywood, particleboard, OSB and wood based composite panels in accordance with CSA and ANSI standards.

Part 2 Products

Part 2.1 FRAMING AND STRUCTURAL MATERIALS

- .1 Lumber: unless specified otherwise, softwood, S4S, moisture content 19% (Sdry) or less in accordance with following standards:
 - .1 CSA O141.
 - .2 NLGA Standard Grading Rules for Canadian Lumber.
- .2 Glued endjointed (fingerjointed) lumber to NLGA Special Products Standard.
- .3 Glulam in accordance with Structural Glued Laminated Timber CSAO122.
- .4 Wood I-joists in accordance with Prefabricated Wood I-Joists ASTM D5055.
- .5 Lightframe trusses in accordance with "Truss Design and Procedures for Light Metal Connected Wood Trusses", Truss Plate Institute of Canada.
- .6 Structural Composite Lumber (SCL) in accordance with ASTM D5456.
- .7 Framing and board lumber: in accordance with NBC.

- .8 Furring, blocking, nailing strips, grounds, rough bucks, cants, curbs, fascia backing and sleepers:
 - .1 Board sizes: "Standard" or better grade.
 - .2 Dimension sizes: "Standard" light framing or better grade.
 - .3 Post and timbers sizes: "Standard" or better grade.

Part 2.2 PANEL MATERIALS

- .1 Plywood, OSB and wood based composite panels: to CAN/CSAO325.0.
- .2 Douglas fir plywood (DFP): to CSA O121, standard construction.
- .3 Canadian softwood plywood (CSP): to CSA O151, standard construction.
- .4 Poplar plywood (PP): to CSA O153, standard construction.
- .5 Interior matformed wood particleboard: to ANSI 208.1.
- .6 Matformed structural panelboards (OSB wafer): to CAN3O437.0.
- .7 Insulating fiberboard sheathing: to [CAN/CSAA247] [CAN/ULC-S706].
- .8 Glass fibre board sheathing: nonstructural, rigid, faced, fiberglass, insulating exterior sheathing board.
- .9 Isocyanurate and Urethane sheathing: to ASTM C1289.
- .10 Expanded polystyrene sheathing: to ASTM C578.
- .11 Gypsum sheathing: to ASTM C36/C36M.

Part 2.3 ACCESSORIES

- .1 Exterior wall sheathing paper: to CAN/CGSB51.32 spunbonded olefin type, coated or impregnated as indicated.
- .2 Polyethylene film: to CAN/CGSB51.34, Type 1, 0.15 mm thick.
- .3 Air seal: closed cell polyurethane or polyethylene.
- .4 Sealants: in accordance with Section 07 92 10 - Joint Sealing
 - .1 Maximum allowable VOC limit 250 g/L.
- .5 Subflooring adhesive: to CGSB71.26, cartridge loaded.
 - .1 Maximum allowable VOC limit 30 g/L.
- .6 General purpose adhesive: to CSA O112 Series.
 - .1 Maximum allowable VOC limit 140 g/L.
- .7 Nails, spikes and staples: to CSA B111.
- .8 Bolts: 12.5 mm diameter unless indicated otherwise, complete with nuts and washers.
- .9 Proprietary fasteners: toggle bolts, expansion shields and lag bolts, screws and lead or inorganic fibre plugs, recommended for purpose by manufacturer.
- .10 Joist hangers: minimum 1 mm thick sheet steel, galvanized ZF001.
- .11 Nailing discs: flat caps, minimum 25 mm diameter, minimum 0.4 mm thick, sheet metal, formed to prevent dishing. Bell or cup shapes not acceptable.

Part 2.4 FASTENER FINISHES

- .1 Galvanizing: to CAN/CSAG164, ASTM A653, use galvanized fasteners for exterior work, interior highly humid areas, pressure preservative and fire retardant or treated lumber.
- .2 Stainless steel: use stainless steel as indicated on drawings for special purpose conditions.

Part 2.5 WOOD PRESERVATIVE

- .1 Maximum allowable VOC limit 350 g/L.

Part 3 Execution

Part 3.1 PREPARATION

- .1 Store wood products.

Part 3.2 INSTALLATION

- .1 Comply with requirements of NBC 2005 Part 9 supplemented by following paragraphs.
- .2 Install members true to line, levels and elevations, square and plumb.
- .3 Construct continuous members from pieces of longest practical length.
- .4 Install spanning members with "crown edge" up.
- .5 Select exposed framing for appearance. Install lumber and panel materials so that grademarks and other defacing marks are concealed or are removed by sanding where materials are left exposed.
- .6 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, floor panels secure floor subflooring to floor joists using glue and screws. Place continuous adhesive bead in accordance with manufacturer's instructions, singlebead on each joist and doublebead on joists where panel ends butt.
- .7 Install wall sheathing in accordance with manufacturer's printed instructions.
- .8 Install roof sheathing in accordance with requirements of NBC.
- .9 Install furring and blocking as required to space out and support casework, cabinets, wall and ceiling finishes, facings, fascia, soffit, siding, electrical equipment mounting boards, and other work as required.
- .10 Install furring to support siding applied vertically 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.
- .11 Install rough bucks, nailers and linings to rough openings as required to provide backing for frames and other work.
- .12 Install wood cants, fascia backing, nailers, curbs and other wood supports as required and secure using galvanized steel fasteners.
- .13 Install sleepers as indicated.
- .14 Use dust collectors and high quality respirator masks when cutting or sanding wood panels.

Part 3.3 ERECTION

- .1 Frame, anchor, fasten, tie and brace members to provide necessary strength and rigidity.
- .2 Countersink bolts where necessary to provide clearance for other work.
- .3 Use nailing disks for soft sheathing as recommended by sheathing manufacturer.

END OF SECTION

Part 1 General

1.1 SECTION INCLUDES

- .1 Concealed wood blocking for support of toilet and bath accessories, wall cabinets, wood trim and all other wall mounted equipment or furnishings shown on Drawings or Schedules.
- .2 Preservative treatment of wood.

1.2 RELATED SECTIONS

- .1 Section 06 20 00 – Finish Carpentry.
- .2 Section 06 41 11 – Architectural Woodwork.
- .3 Section 08 11 00 - Metal Doors and Frames.
- .4 Section 08 41 13 – Aluminum Framed Entrances and Storefronts.
- .5 Section 08 44 13 – Glazed Aluminum Curtain Walls.
- .6 Section 09 21 16 – Gypsum Board Assemblies.
- .7 Section 10 28 14 – Toilet and Bath Accessories.
- .8 Structural, Mechanical and Electrical Specifications.

1.3 REFERENCES

- .1 CSA-O80 Series-08 - Wood Preservation.
- .2 CSA-O121-08 - Douglas Fir Plywood
- .3 CAN/CSA-O141-05 (R2009) - Softwood Lumber.
- .4 CSA-O151-09 - Canadian Softwood Plywood.
- .5 CSA-O153-M1980 (R2008) - Poplar Plywood.
- .6 CSA-O437-93 (R2006) - OSB and Waferboard.
- .7 NPA A208.1-2009 - Particleboard.
- .8 APA (American Plywood Association) - Grades and Specifications.
- .9 CANPLY (Canadian Plywood Association) - Canadian Plywood Handbook.
- .10 National Lumber Grades Authority (NLGA) - Standard Grading Rules for Canadian Lumber, 2007 Edition.

1.4 QUALITY ASSURANCE

- .1 Lumber Products: Graded and stamped to NLGA requirements.
- .2 Plywood Products: Certified and graded to CANPLY requirements.

Part 2 Products

2.1 MATERIALS

- .1 Lumber: NLGA (Standard Grading Rules for Canadian Lumber).
 - .1 CAN/CSA-O141, softwood, SPF species, Select grade.
 - .2 19% maximum moisture content, pressure preservative treat.
- .2 Plywood: CSA-O121 (DFP).
- .3 Particleboard: NPA A208.1; sanded.
- .4 Mat-Formed Panelboards: CSA-O437, OSB.

2.2 ACCESSORIES

- .1 Fasteners and Anchors:
 - .1 Fasteners: Hot dipped galvanized steel for high humidity and treated wood locations, unfinished steel elsewhere.
 - .2 Anchors: Toggle bolt type for anchorage to hollow masonry, expansion shield and lag bolt type for anchorage to solid masonry or concrete, and bolt or ballistic fastener for anchorages to steel, as required.

2.3 FACTORY WOOD TREATMENT

- .1 Wood Preservative (Pressure Treatment): CSA-O80 Series using water borne preservative with 0.25% retainage.
- .2 Wood Preservative (Surface Application): Clear type.

Part 3 Execution

3.1 FRAMING

- .1 Set members level and plumb, in correct position.
- .2 Place horizontal members, crown side up.
- .3 Construct curb members of single pieces.
- .4 Space framing as indicated on Drawings.
- .5 Curb roof openings except where prefabricated curbs are provided. Form corners by alternating lapping side members.

- .6 Coordinate curb installation with installation of decking and support of deck openings and roofing vapour retardant.

3.2 SHEATHING

- .1 Secure sheathing to framing members with ends over firm bearing and staggered.
- .2 Install telephone and electrical panel back boards with plywood sheathing material where required. Size the back board as indicated on Electrical Drawings and specifications.

3.3 SITE APPLIED WOOD TREATMENT

- .1 Apply preservative treatment in accordance with manufacturer's written instructions.
- .2 Brush apply two (2) coats of preservative treatment on wood in contact with cementitious materials or roofing and related metal flashings. Treat Site-sawn cuts.
- .3 Allow preservative to dry prior to erecting members.

3.4 DOOR FRAME INSTALLATION

- .1 Install door frames in rough openings square and level.
- .2 For exterior door, install a 300mm (12") wide strip of vapour barrier to window and door frames prior to installation.

3.5 SURFACE-APPLIED WOOD PRESERVATIVE

- .1 Before installation, treat surfaces of material with wood preservative. Apply preservative after materials have been cut and fit to size.
- .2 Apply preservative by dipping, brush, or spray to completely saturate and maintain a wet film on the surface for a minimum of 3 minutes.
- .3 Re treat surfaces exposed by cutting, trimming, or boring with liberal brush application of preservative before installation.
- .4 Touch-up all material as follows:
 - .1 Wood backing, curbs, nailers, sleepers on roof deck or below grade.
 - .2 Blocking for windows and exterior door frames.

END OF SECTION

Part 1 General

1.1 SECTION INCLUDES

- .1 Finish carpentry items.
- .2 Hardware and attachment accessories.

1.2 RELATED SECTIONS

- .1 Section 01 45 00 – Quality Control
- .2 Section 05 50 00 - Metal Fabrications.
- .3 Section 06 10 13 - Wood Blocking and Curbing.
- .4 Section 06 41 11 - Architectural Woodwork.
- .5 Section 09 91 99 – Painting for Minor Works.

1.3 REFERENCES

- .1 AHA A135.4-2004 – Basic Hardboard.
- .2 ASTM E84-09c - Test Method for Surface Burning Characteristics of Building Materials.
- .3 BHMA A156.9-2003 - Cabinet Hardware.
- .4 CAN/CGSB-11.3-M87 - Hardboard.
- .5 CSA-O80 Series-08 - Wood Preservation.
- .6 CSA-O121-08 - Douglas Fir Plywood
- .7 CSA-O141-05 - Softwood Lumber.
- .8 CSA-O151-09 - Canadian Softwood Plywood.
- .9 CSA-O153-M1980 (R2008) - Poplar Plywood.
- .10 NPA A208.1-2009 - Particleboard.
- .11 NPA A208.2-2009 - Medium Density Fibreboard (MDF) for Interior Applications.
- .12 AWS (AWMAC Architectural Woodwork Standards) – 1st Edition, 2009.
- .13 CHPVA (Canadian Hardwood Plywood and Veneer Association) - Official Grading Rules for Canadian Hardwood Plywood.
- .14 NEMA (National Electric Manufacturers Association) LD3-2000 - High Pressure Decorative Laminates.

- .15 NLGA (National Lumber Grades Authority) - Standard Grading Rules for Canadian Lumber, 2007 Edition.
- .16 NHLA (National Hardwood Lumber Association).

1.4 ADMINISTRATIVE REQUIREMENTS

- .1 Coordination:
 - .1 Coordinate with other work having a direct bearing on work of this section.
 - .2 Coordinate the work with mechanical and electrical rough-in, installation of associated and adjacent components.

1.5 SCOPE OF WORK

- .1 Section 06 41 11 - Architectural Cabinetwork to supply custom fabricated architectural woodwork for installation by this Section. Miscellaneous material to be supplied by this Section to facilitate a complete installation.
- .2 Ensure that blocking has been provided by Section 06 10 13.
- .3 Countersink all nail fasteners and fill ready for specified finish.
- .4 Exposed fasteners: Refer to Drawings.
- .5 Finish hardware to be supplied by others unless specified in this Section.

1.6 SUBMITTALS FOR REVIEW

- .1 Section 01 33 00: Submission procedures.
- .2 Product Data: Provide data on fire retardant treatment materials and application instructions.
- .3 Shop Drawings:
 - .1 Indicate materials, component profiles, fastening methods, jointing details, and accessories.
 - .2 Indicate materials, surface graining elevations of sheet paneling, fastening methods, joining methods, and interruptions to other work for Alternate No.2 Plywood Ceiling Panels.
 - .3 Provide instructions for attachment hardware and finish hardware.

1.7 SUBMITTALS FOR INFORMATION

- .1 Section 01 33 00: Submission procedures.
- .2 Installation Data: Provide application instructions.

1.8 QUALITY ASSURANCE

- .1 Perform work to AWMAC Premium quality.

- .2 Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum three (3) years experience.
- .3 Installer Qualifications: Company specializing in performing the work of this section with minimum three (3) years.

1.9 REGULATORY REQUIREMENTS

- .1 Conform to applicable code for fire retardant requirements.

1.10 DELIVERY, STORAGE, AND PROTECTION

- .1 Section 01 61 00: Transport, handle, store, and protect products.
- .2 Protect work from moisture damage.

1.11 MOCKUPS

- .1 Not Used

1.12 ENVIRONMENTAL REQUIREMENTS

- .1 Do not install paneling when temperature or humidity conditions may have a detrimental effect on paneling.

Part 2 Products

2.1 MATERIALS

- .1 Softwood Plywood: CSA-O121; Graded to AWMAC Economy installation; veneer lumber core; Douglas Fir face species, square cut.

2.2 WOOD CANOPY (EXTERIOR)

- .1 Softwood Lumber: to CSA 0141 1970.
 - .1 Clear Cedar species, maximum moisture content of 6%; with grain, of quality suitable for transparent stained finish; to AWMAC premium grade
 - .2 Material must conform to “No. 2 Clear and Better “ grading
 - .3 Board size: 2 x10 (refer to structural for lengths and installation details); 2x4. Refer to drawings

2.3 ADHESIVE

- .1 Adhesive: Type recommended by AWMAC to suit application.

2.4 FASTENERS

- .1 Fasteners: Of size and type to suit application; zinc finish in concealed locations and stainless steel in exposed locations.
- .2 Concealed Joint Fasteners: Threaded steel.

2.5 ACCESSORIES

- .1 Lumber for Shimming, Blocking: Softwood lumber of SPF species.

2.6 HARDWARE

- .1 Door Hardware to be supplied by Section 08 71 00 - Door Hardware - Common Requirements. Install finish hardware on all doors.
- .2 Refer to Section 06 41 11 – Architectural Woodwork.

2.7 FABRICATION

- .1 Fabricate to AWMAC Premium standards.
- .2 Shop assemble work for delivery to Site, permitting passage through building openings.
- .3 When necessary to cut and fit on Site, provide materials with ample allowance for cutting.

2.8 SHOP FINISHING

- .1 Sand work smooth and set exposed nails or screws – refer to Drawings.
- .2 Apply wood filler in exposed nail and screw indentations.
- .3 On items to receive transparent finishes, use wood filler which matches surrounding surfaces and of types recommended for applied finishes.
- .4 Seal stain and varnish clear exposed to view surfaces.

Part 3 Execution

3.1 EXAMINATION

- .1 Section 01 71 00: Verify existing conditions before starting work.
- .2 Verify that field measurements are as indicated on Shop Drawings.
- .3 Verify adequacy of backing and support framing.
- .4 Verify mechanical, electrical, and building items affecting work of this section are placed and ready to receive this work.

3.2 INSTALLATION

- .1 Install work to AWMAC Premium Quality Standard.
- .2 Set and secure materials and components in place, plumb and level.
- .3 Carefully scribe work abutting other components, with maximum gaps of 1 mm (1/32 inch). Do not use additional overlay trim to conceal larger gaps.

- .4 Install components with nails or screws as detailed.
- .5 Install components with wall adhesive by gun application where adhesive is indicated.

3.3 ERECTION TOLERANCES

- .1 Maximum Variation from True Position: 1.5 mm (1/16 inch).
- .2 Maximum Offset from True Alignment with Abutting Materials: 1 mm (1/32 inch).

END OF SECTION

Part 1 General

1.1 SECTION INCLUDES

- .1 Finish Carpentry items for Canteen and Change Rooms
- .2 Hardware and attachment accessories

1.2 RELATED SECTIONS

- .1 Section 01 45 00 – Quality Control
- .2 Section 06 10 13 - Wood Blocking and Curbing: Grounds and support framing.
- .3 Section 06 20 00 - Finish Carpentry.
- .4 Section 09 91 99 – Painting for Minor Works.
- .5 Mechanical Specifications.
- .6 Electrical Specifications.

1.3 REFERENCES

- .1 ASTM E84-09c - Test Method for Surface Burning Characteristics of Building Materials.
- .2 ASTM C97/C97M-09 - Standard Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone.
- .3 ASTM D3884-09 - Standard Guide for Abrasion Resistance of Textile Fabrics (Rotary Platform, Double-Head Method).
- .4 ASTM D4705-00(2010) - Standard Test Method for Stitch Tear Strength of Leather, Double Hole.
- .5 BHMA A156.9-2003 - Cabinet Hardware.
- .6 CAN/CGSB-11.3-M87 - Hardboard.
- .7 CSA-O141-05 - Softwood Lumber.
- .8 CSA-O121-08 - Douglas Fir Plywood.
- .9 CSA-O80 Series-08 - Wood Preservation.
- .10 CSA O112.4 Series, Standards for Wood Adhesives.
- .11 CSA O112.5 Series, Urea Resin Adhesives for Wood (Room and High Temperature Curing).

- .12 CSA O112.7 Series, Resorcinol and Phenol Resorcinol Resin Adhesives for Wood (Room and Intermediate Temperature Curing).
- .13 CSA O151, Canadian Softwood Plywood.
- .14 CSA O153, Poplar Plywood.
- .15 HPVA HP-1, Standard for Hardwood and Decorative Plywood.
- .16 NPA A208.1-2009 - Particleboard.
- .17 NPA A208.2-2009 - Medium Density Fibreboard (MDF) for Interior Applications.
- .18 National Hardwood Lumber Association (NHLA) - Rules for the Measurement and Inspection of Hardwood and Cypress.
- .19 National Lumber Grades Authority (NLGA) - Standard Grading Rules for Canadian Lumber.
- .20 AWS (AWMAC Architectural Woodwork Standards) – 1st Edition, 2009.
- .21 NEMA (National Electrical Manufacturers Association) LD3-2005 - High-Pressure Decorative Laminates.

1.4 ADMINISTRATIVE REQUIREMENTS

- .1 Section 01 31 00: Project management and coordination procedures.
- .2 Pre-installation Meetings: Convene one (1) week before starting work of this section.
- .3 Site installation to be quoted to the General Contractor separately on the same bid form. The Architectural Woodwork Subcontractor is to supply, fabricate and Site install the work specified in this Section.

1.5 SUBMITTALS FOR REVIEW

- .1 Section 01 33 00: Submission procedures.
- .2 Submittals of manufacturer's data, installation instructions, and samples are required upon Contract Administrator's request.
- .3 Shop Drawings: Indicate materials, component profiles and elevations, layout, ends, cross sections, service run spaces, and location of services assembly methods, joint and anchorage details and locations, fastening methods, accessory listings, hardware location and schedule of finishes.
 - .1 Include layout of units with relation to surrounding walls, doors, windows and other building components. Site confirm and indicate on the drawings critical dimensions.
 - .2 Co-ordinate shop drawings with other work involved.
 - .3 Scales: profiles full size, details half full size.

- .4 Indicate locations of service outlets in casework, typical and special installation conditions, and connections, attachments, anchorage and location of exposed fastenings.
- .4 Product Data: Provide data for hardware accessories.
- .5 Samples:
 - .1 Submit for review and acceptance of each unit.
 - .2 Samples will be returned for inclusion into work.
 - .3 Submit duplicate samples of hardwood, softwood, plywood: sample size 300 x 300 mm or 600 mm long.
 - .4 Submit duplicate samples of laminated plastic for colour selection.
 - .5 Submit duplicate samples of laminated plastic joints, edging, cutouts and postformed profiles.
 - .6 Samples will be reviewed by Contract Administrator for colour, texture, and pattern only. Compliance with other specified requirements is the exclusive responsibility of the Contractor.

1.6 CLOSEOUT SUBMITTALS

- .1 Section 01 78 00: Closeout Submittals.

1.7 QUALITY ASSURANCE

- .1 Products of This Section: Manufactured to ISO 9000 certification requirements.
- .2 Perform work to AWMAC/AWS Premium quality.
- .3 Maintain one copy of AWMAC/AWS Manual on Site.
- .4 Fabricator Qualifications: Company in good standing with AWMAC/AWS and specializing in fabricating Products specified in this section with minimum five (5) years documented experience.
- .5 Installer Qualifications: Company specializing in performing the work of this section with minimum five (5) years documented experience.

1.8 DELIVERY, STORAGE, AND PROTECTION

- .1 Section 01 61 00: Transport, handle, store, and protect products.
- .2 Protect units from moisture damage as specified in AWMAC/AWS QSI Section 1700.

1.9 ENVIRONMENTAL REQUIREMENTS

- .1 During and after installation of work of this section, maintain the same temperature and humidity conditions in building spaces as will occur after occupancy.

1.10 WARRANTY

- .1 All materials and workmanship covered by this Section will carry a one (1) year warranty from date of acceptance.

Part 2 Products

2.1 MATERIALS

- .1 Softwood lumber: unless specified otherwise, S4S, moisture content 15% 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.
- .2 Machine stress rated lumber is acceptable for all purposes.
- .3 Hardwood lumber: moisture content in accordance with following standards:
 - .1 National Hardwood Lumber Association (NHLA).
 - .2 AWMAC premium grade, moisture content as specified.
- .4 Douglas fir plywood (DFP): to CSA O121, standard construction.
 - .1 Plywood resin to contain no added urea-formaldehyde.
- .5 Canadian softwood plywood (CSP): to CSA O151, standard construction.
 - .1 Plywood resin to contain no added urea-formaldehyde.
- .6 Hardwood plywood: to ANSI/HPVA HP-1.
 - .1 Plywood resin to contain no added urea-formaldehyde.
- .7 Poplar plywood (PP): to CSA O153, standard construction.
 - .1 Plywood resin to contain no added urea-formaldehyde.
- .8 Interior mat formed wood particleboard: to ANSI/NPA A208.1.
 - .1 Particleboard resin to contain no added urea-formaldehyde.
- .9 Birch plywood: to AWMAC Natural, Select White or as indicated.
 - .1 Plywood resin to contain no added urea-formaldehyde.
- .10 Fibreboard must contain less than 10% roundwood by weight, using weighted average over three month period at manufacturing locations.
 - .1 Fibreboard resin to contain no added urea-formaldehyde.
- .11 MDF medium density fibreboard core: to ANSI/NPA A208.2, Grade and thickness indicated, density 769 kg/m².
 - .1 Medium density fibreboard performance requirements to: ANSI/NPA A208.2.
 - .2 MDF resin to contain no added urea-formaldehyde.

- .12 **Wood Veneer** for Wood Veneer Faced Cabinets. Maple, prefinished with transparent finish. Provide ¼" Maple Hardwood Edge to match.
 - .1 Location: Canteen and Change Areas

 - .13 **Solid plastic laminate:** basic high pressure laminate for cabinets and vertical applications to ANSI/NEMA LD3 and SEFA 8, multi layers of kraft (core) papers impregnated with phenolic resins, covered by a melamine impregnated decorative surface.
 - .1 Thickness: 1.00 mm.
 - .2 **Standard of Acceptance:**
 - .1 Formica:
 - .1 Color to be selected by Contract Administrator from Standard Range of colors
 - .2 Location: Canteen

 - .14 Laminated plastic backing sheet: Grade BK, Type HD, same thickness as face laminate.

 - .15 Thermofused Melamine: to NEMA LD3 Grade VGL.
 - .1 High wear resistant thermofused melamine: equal or exceed 400 cycles (Minimum standard for HPL abrasion test).

 - .16 Nails and staples: to CSA B111.

 - .17 Wood screws: copper, brass, stainless steel, steel or plain, type and size to suit application.

 - .18 Splines: wood, plastic or metal to suit application.

 - .19 Sealant: in accordance with Section 07 92 00 - Joint Sealants.
 - .1 Sealants: VOC limit 250 g/L maximum to SCAQMD Rule 1168.

 - .20 Laminated plastic adhesive:
 - .1 Adhesive: urea resin adhesive to CSA O112.5, contact adhesive to CAN/CGSB71.20, resorcinol resin adhesive to CSA O112.7, polyvinyl adhesive to CSA O112.4, two component epoxy thermosetting adhesive or other as recommended by laminated plastic manufacturer.
 - .2 Adhesives: VOC limit 120 g/L maximum to SCAQMD Rule 1168] [GS-36].

 - .21 Finishes:
 - .1 Clear Wood Finishes: VOC limit 550 g/L maximum to GS-11 SCAQMD Rule 1113
 - .2 Paints: VOC limit 100 g/L maximum to GS-11 SCAQMD Rule 1113.
- 2.2 MANUFACTURED UNITS**
- .1 Casework:
 - .1 Fabricate caseworks to AWMAC premium quality grade.
 - .2 Furring, blocking, nailing strips, grounds and rough bucks and sleepers.
 - .1 Board sizes: "standard" or better grade.

- .2 Dimension sizes: "standard" light framing or better grade.
- .3 Urea-formaldehyde free.
- .3 Framing SPF, NLGA or NHLA grade.
- .4 Case bodies (ends, divisions and bottoms).
 - .1 Softwood and poplar plywood DFP or CSP or PP grade A, square edge, 17 mm thick. All surfaces to receive plastic laminate c/w matching plastic laminate edge. Wood veneer faced cabinets edged with 1/4" solid wood to match.
- .5 Backs:
 - .1 Softwood and poplar plywood DFP or CSP or PP custom grade, square edge, 12 mm thick.
- .6 Shelving:
 - .1 Softwood and poplar plywood DFP or CSP or PP grade A, square edge, 17 mm thick. All surfaces to receive plastic laminate c/w matching 3mm PVC edge.
- .2 Drawers:
 - .1 Fabricate drawers to AWMAC premium grade supplemented as follows:
 - .2 Sides and Backs.
 - .1 Softwood and poplar plywood DFP or CSP or PP grade A, square edge, 13 mm thick. All surfaces to receive plastic laminate c/w matching 3mm PVC edge.
 - .3 Bottoms:
 - .1 Softwood and poplar plywood DFP or CSP or PP grade A, square edge, 13 mm thick. All surfaces to receive plastic laminate.
 - .4 Fronts:
 - .1 Particleboard, 17mm thick. All surfaces to receive plastic laminate c/w matching 3mm PVC edge.
 - .2 Wood veneer faced cabinets edged with 1/4" solid wood edge to match.
 - .5 Casework Doors:
 - .1 Particleboard, 17mm thick. All surfaces to receive plastic laminate c/w matching 3mm PVC edge.
 - .1 Wood veneer faced cabinets edged with 1/4" solid wood edge to match.
- .3 Plastic Laminate Countertops:
 - .1 Particleboard, 38mm thick. All surfaces to receive plastic laminate and 3mm PVC edge to match.

2.3 FABRICATIONS

- .1 Set nails and countersink screws apply wood filler to indentations, sand smooth and leave ready to receive finish.
- .2 Shop install cabinet hardware for doors, shelves and drawers. Recess shelf standards unless noted otherwise.

- .3 Shelving to cabinetwork to be adjustable unless otherwise noted.
- .4 Provide cutouts for plumbing fixtures, inserts, appliances, outlet boxes and other fixtures.
- .5 Shop assemble work for delivery to site in size easily handled and to ensure passage through building openings.
- .6 Obtain governing dimensions before fabricating items which are to accommodate or abut appliances, equipment and other materials.
- .7 Ensure adjacent parts of continuous laminate work match in colour and pattern.
- .8 Veneer laminated plastic to core material in accordance with adhesive manufacturer's instructions. Ensure core and laminate profiles coincide to provide continuous support and bond over entire surface. Use continuous lengths up to 3000 mm. Keep joints 600 mm from sink cutouts.
- .9 Form shaped profiles and bends as indicated, using postforming grade laminate to laminate manufacturer's instructions.
- .10 Use straight self-edging laminate strip for flatwork to cover exposed edge of core material. Chamfer exposed edges uniformly at approximately 20 degrees. Do not mitre laminate edges.
- .11 Apply laminate backing sheet to reverse side of core of plastic laminate work.
- .12 Shop assemble work where applicable in sizes that can be easily transportable to the Site. Custom cabinetry integrated with building walls and structure to be Site constructed.
- .13 Provide cutouts for plumbing fixtures, electrical services, kitchen appliances and other equipment and fixtures built.

2.4 ACCESSORIES

- .1 Adhesive Type recommended by AWMAC/AWS to suit application
- .2 Fasteners: Size and type to suit application as recommended by AWMAC/AWS.
- .3 Bolts, Nuts, Washers, Lags, Pins, and Screws: Of size and type to suit application; zinc finish in concealed locations and stainless steel finish in exposed locations.
- .4 Concealed Joint Fasteners: Threaded steel.
- .5 Tape: Aluminum foil, insulating and heat dissipating tape.
- .6 Adhesive: To manufactures recommendations.

2.5 MISCELLANEOUS MILLWORK HARDWARE

- .1 Hinges: 110 degree semi concealed complete with spring closure, mounting, Blum 90-200 plate, 3 way adjustment and lifetime warranty.
 - .1 Doors 800-1500mm to have three hinges.

- .2 Doors 1500-2000mm to have four hinges
- .2 Pulls: 103 x 28 mm (4" x 1 ¼") nickel plated matte "D" handle.
- .3 Drawer Slides: Size as required to suit drawer:
 - .1 Kitchen drawers: 100lb. load capacity: Accuride 3832A
- .4 Drawer/Cabinet Lock: 22 x 22mm (1" x 1") barrel dia. Complete K&V 986 NP with two keys. Nickel finish.
- .5 Heavy-duty swivel casters: Hettich Amar drive adaptor stainless steel finish 9 080 814 and 125mmØ caster Durai stainless steel finish 9 078 465
- .6 Heavy-duty swivel casters with brake: Hettich Amar drive adapter 9 080 815
- .7 Provide metal inserts in maple slatwall for merchandise display

2.6 FABRICATION

- .1 Shop prepare and identify components for matching during Site assembly.
- .2 Shop assemble for delivery to Site in units easily handled and to permit passage through building openings.
- .3 When necessary to cut and fit on Site, provide materials with ample allowance for Site cutting and scribing.
- .4 Inspect material for defects prior to fabrication.
- .5 Obtain governing dimensions before fabricating items which are to accommodate or abut appliances, equipment and other materials.
- .6 Ensure adjacent parts of continuous work match in colour and pattern.
- .7 Provide cutouts for service penetrations. Verify locations of cutouts from on-Site dimensions. Finish cut edges as indicated.

Part 3 Execution

3.1 EXAMINATION

- .1 Section 01 71 00: Verify existing conditions before starting work.
- .2 Verify adequacy of backing, substrates, and support framing.
- .3 Verify location and sizes of utility rough-in associated with work of this section.

3.2 INSTALLATION

- .1 Install Work to AWMAC/AWS Premium Grade.
- .2 Install to manufactures recommendations.

- .3 Set and secure casework in place; rigid, plumb, and level.
- .4 Use attachments in concealed locations for wall mounted components.
 - .1 Attachments to fasten into structural wall elements. Use coarse threaded screw with minimum 25mm (1inch) penetration through studs. Fasteners to be located at 400mm (16inch) o.c. horizontally and 300mm (1') o.c. vertically.
- .5 Countersink anchorage devices at exposed locations. Conceal with solid wood plugs of species to match surrounding wood; finish flush with surrounding surfaces.
- .6 Co-ordinate painting requirements with 09 99 10.

3.3 ADJUSTING

- .1 Test installed work for rigidity and ability to support loads.
- .2 Adjust moving or operating parts to function smoothly and correctly.
- .3 Fill and retouch nicks, chips, and scratches. Replace damaged items that cannot be repaired.

3.4 PROTECTION AND CLEANING

- .1 Section 01 74 11: Cleaning installed work.
- .2 Protect finished surfaces as per manufactures recommendations.
- .3 Protect woodwork from damage until final inspection.
- .4 Remove excess glue from surfaces.
- .5 Remove masking and excessive adhesives and sealants. Clean exposed surfaces.

3.5 SCHEDULES

- .1 Refer to Drawings.

END OF SECTION