

**Part 1 General**

**1.1 REFERENCES**

- .1 CSA International
  - .1 CSA B111-1974(R2003), Wire Nails, Spikes and Staples.
  - .2 CSA O121-08, Douglas Fir Plywood.
  - .3 CSA O141-05(R2009), Softwood Lumber.
  - .4 CSA O151-09, Canadian Softwood Plywood.
  - .5 CAN/CSA-O325.0-07, Construction Sheathing.
  - .6 CAN/CSA-Z809-08, Sustainable Forest Management.
- .2 National Lumber Grades Authority (NLGA)
  - .1 Standard Grading Rules for Canadian Lumber [2010].

**1.2 ACTION AND INFORMATIONAL 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 rough carpentry work and include product characteristics, performance criteria, physical size, finish and limitations.

**1.3 MAINTENANCE MATERIALS SUBMITTALS**

- .1 Extra Stock Materials:
  - .1 Provide electrical equipment backboards for mounting electrical equipment as indicated. Use 19 mm thick plywood on 19 x 38 mm furring around spacing, perimeter and at maximum 300 mm intermediate

**1.4 QUALITY ASSURANCE**

- .1 Lumber identification: by grade stamp of an agency certified by Canadian Lumber Standards Accreditation Board.
- .2 Plywood identification: by grade mark in accordance with applicable CSA standards.
- .3 Plywood, OSB and wood based composite panel construction sheathing identification: by grademark in accordance with applicable CSA standards.

**1.5 DELIVERY, STORAGE AND HANDLING**

- .1 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .2 Storage and Handling Requirements:
  - .1 Store materials off ground, indoors, in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.

- .2 Store and protect wood from nicks, scratches, and blemishes.
- .3 Replace defective or damaged materials with new.

## **Part 2 Products**

### **2.1 MATERIALS**

- .1 Lumber: unless specified otherwise, softwood, S4S, moisture content 19% or less in accordance with following standards:
  - .1 CAN/CSA-O141.
  - .2 NLGA Standard Grading Rules for Canadian Lumber.
- .2 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.
- .3 Panel Materials:
  - .1 Douglas fir plywood (DFP): to CSA O121, standard construction.
    - .1 Urea-formaldehyde free.
  - .2 Canadian softwood plywood (CSP): to CSA O151, standard construction.
    - .1 Urea-formaldehyde free.
  - .3 Plywood, OSB and wood based composite panels: to CAN/CSA-O325.
    - .1 Urea-formaldehyde free.
- .4 Wood Preservative:
  - .1 Surface-applied wood preservative: clear, copper naphthenate or 5% pentachlorophenol solution, water repellent preservative.
  - .2 Pentachlorophenol use is restricted to building components that are in ground contact and subject to decay or insect attack only. Where used, pentachlorophenol-treated wood must be covered with two coats of an appropriate sealer.
  - .3 Structures built with wood treated with pentachlorophenol and inorganic arsenicals must not be used for storing food nor should the wood come in contact with drinking water.

### **2.2 ACCESSORIES**

- .1 Fasteners: to CAN/CSA-G164, for exterior work, interior highly humid areas, pressure-preservative treated lumber.
- .2 Nails, spikes and staples: to CSA B111.
- .3 Bolts: 12.5 mm diameter unless indicated otherwise, complete with nuts and washers.

- .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.

### **Part 3 Execution**

#### **3.1 EXAMINATION**

- .1 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for rough carpentry 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 and after receipt of written approval to proceed from Departmental Representative.

#### **3.2 INSTALLATION**

- .1 Comply with requirements of NBC, supplemented by the following paragraphs.
- .2 Install furring and blocking as required to space-out and support casework, cabinets, wall and ceiling finishes, facings, fascia, soffit, siding and other work as required.
- .3 Align and plumb faces of furring and blocking to tolerance of 1:600.
- .4 Install rough bucks, nailers and linings to rough openings as required to provide backing for frames and other work.
- .5 Install wood cants, fascia backing, nailers, curbs and other wood supports as required and secure using galvanized steel fasteners.
- .6 Install wood backing, dressed, tapered and recessed slightly below top surface of roof insulation for roof hopper.
- .7 Install sleepers as indicated.
- .8 Use caution when working with particle board. Use dust collectors and high quality respirator masks.
- .9 Frame, anchor, fasten, tie and brace members to provide necessary strength and rigidity.
- .10 Countersink bolts where necessary to provide clearance for other work.

#### **3.3 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.

**END OF SECTION**

**Part 1 General**

**1.1 REFERENCES**

- .1 ASTM International
  - .1 ASTM A653/A653M-11, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- .2 CSA International
  - .1 CSA B111-74(R2003), Wire Nails, Spikes and Staples.
  - .2 CAN/CSA O80 Series-08, Wood Preservation.
  - .3 CSA O86 Consolidation-09, Engineering Design in Wood.
  - .4 CAN/CSA-Z809-08, Sustainable Forest Management.
- .3 Forest Stewardship Council (FSC)
  - .1 FSC-STD-01-001-2004, FSC Principle and Criteria for Forest Stewardship.
- .4 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
  - .1 Material Safety Data Sheets (MSDS).
- .5 National Lumber Grades Authority (NLGA)
  - .1 Standard Grading Rules for Canadian Lumber 2010.

**1.2 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Shop Drawings:
  - .1 Submit drawings stamped and signed by professional engineer registered or licensed in Province of Manitoba, Canada.

**1.3 QUALITY ASSURANCE**

- .1 Lumber identification: by grade stamp of an agency certified by Canadian Lumber Standards Accreditation Board.
- .2 **All decking to be designed and constructed to meet the requirements set by Eastern Interlake Planning District.**

**1.4 DELIVERY, STORAGE AND HANDLING**

- .1 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .2 Storage and Handling Requirements:
  - .1 Store materials off ground, indoors, in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
  - .2 Store and protect wood decking from nicks, scratches, and blemishes.
  - .3 Replace defective or damaged materials with new.

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**Part 2            Products**

**2.1                MATERIALS**

- .1    PVC Decking:
  - .1        Wolfleader composite decking or approved equal.
    - .1            Seaside Collection
    - .2            Color: Sandcastle
    - .3            Deck boards 24.5,, x 139.7mm PVC. Deck boards to run perpendicular to path of travel, typ.
    - .4            Rim board: 12.7mm x 298.45mm x 3657.6mm PVC.
    - .5            Hardware: Use concealed fasteners where possible. All mounting hardware to be supplied by PVC deck manufacturer.
  - .2        Deck Framing:
    - .1            Use pressure-treated lumber for deck framing.
    - .2            Refer to section 06 08 99 – Rough Carpentry for Minor Works.
    - .3            All pressure-treated deck joists to be capped with joist flashing tape.
    - .4            Decks to be free-standing. Do not fasten decks to building.
  - .3        Concrete pads:
    - .1            Precast or Site-cast concrete pads are acceptable.
    - .2            Refer to Eastern Interlake Planning District’s “Wood Decks & Ramps” booklet for recommended deck foundation pad sizes, subgrade preparation.
  - .4        Railings:
    - .1            Westbury Aluminum Railing or approved equal.
      - .1            Style: Tuscany C10
      - .2            Color: White
      - .3            Accessories: Post Flairs, flat caps.
      - .4            Handrails:
        - .1            Provide continuous handrails on both sides of all stairways and ramps.
        - .2            Provide handrail extensions as shown on drawings.
        - .3            Handrails to be mounted to aluminum railings.
        - .4            Handrails to match color and finish of aluminum railings.
  - .5        Detectable Surfaces:
    - .1            ADA Solutions Surface Applied Tactile Surface or approved equal.
      - .1            Style: 609.6mm x 1219.2mm with 59.69mm dome spacing.
      - .2            Color: yellow
    - .2            Detectable surfaces to be installed onto 19.05mm pressure treated plywood, and installed flush with PVC decking.
      - .1            Pressure treated plywood to be mechanical fastened to deck framing.

- .1 Refer to Section 06 08 99 – Tough Carpentry for Minor Works.
- .2 Attach detectable surface to pressure treated plywood with both adhesive and mechanical fasteners per manufacturer’s instructions.
- .3 Fully caulk around perimeter of detectable surface.

**Part 3 Execution**

**3.1 EXAMINATION**

- .1 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for wood decking 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 and after receipt of written approval to proceed from Departmental Representative.

**3.2 INSTALLATION**

- .1 Do wood deck work to CSA O86 except where specified otherwise.
- .2 Apply preservative to end cuts of pressure treated lumber.

**3.3 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.

**3.4 PROTECTION**

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

**END OF SECTION**

**Part 1            General**

**1.1                REFERENCES**

- .1 American National Standards Institute (ANSI)
  - .1 ANSI A208.1-09, Particleboard.
  - .2 ANSI A208.2-09, Medium Density Fibreboard (MDF) for Interior Applications.
  - .3 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, 1st edition, 2009.
- .3 ASTM International
  - .1 ASTM A123/A123M-09, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
- .4 Canadian General Standards Board (CGSB)
  - .1 CAN/CGSB-11.3-M87, Hardboard.
- .5 CSA International
  - .1 CSA B111-74(R2003), Wire Nails, Spikes and Staples.
  - .2 CSA O121-08, Douglas Fir Plywood.
  - .3 CSA O141-05(R2009), Softwood Lumber.
  - .4 CSA O151-09, Canadian Softwood Plywood.
  - .5 CSA O153-M1980(R2008), Poplar Plywood.
  - .6 CAN/CSA-Z809-08, Sustainable Forest Management.
- .6 National Lumber Grades Authority (NLGA)
  - .1 Standard Grading Rules for Canadian Lumber [2010].
- .7 Underwriters Laboratories of Canada (ULC)
  - .1 CAN/ULC-S104-10, Standard Method for Fire Tests of Door Assemblies.
  - .2 CAN/ULC-S105-09, Standard Specification for Fire Door Frames.

**1.2                ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Shop Drawings:
  - .1 Submit drawings stamped and signed by professional engineer registered or licensed in Province of Manitoba, Canada.
  - .2 Indicate details of construction, profiles, jointing, fastening and other related details.
  - .3 Indicate materials, thicknesses, finishes and hardware.

### **1.3 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.

### **1.4 DELIVERY, STORAGE AND HANDLING**

- .1 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .2 Storage and Handling Requirements:
  - .1 Store materials off ground, indoors, in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
  - .2 Store and protect wood products from nicks, scratches, and blemishes.
  - .3 Replace defective or damaged materials with new.

## **Part 2 Products**

### **2.1 MATERIALS**

- .1 Softwood lumber: S4S, moisture content 19% or less in accordance with following standards:
  - .1 CSA O141.
  - .2 CAN/CSA-Z809 or FSC or SFI certified.
  - .3 NLGA Standard Grading Rules for Canadian Lumber.
  - .4 AWMAC custom grade, moisture content as specified.
  - .5 Machine stress-rated lumber is acceptable.
  - .6 Hardwood lumber: moisture content in accordance with:
    - .1 National Hardwood Lumber Association (NHLA).
    - .2 AWMAC custom grade, moisture content as specified.
    - .3 CAN/CSA-Z809 or FSC or SFI certified.
- .2 Douglas fir plywood (DFP): to CSA O121, standard construction.
- .3 Canadian softwood plywood (CSP): to CSA O151, standard construction.
- .4 Hardwood plywood: to ANSI/HPVA HP-1
- .5 Poplar plywood (PP): to CSA O153, standard construction.
- .6 Particleboard: Not accepted
- .7 Hardboard: to CAN/CGSB-11.3
- .8 Medium Density Fiberboard (MDF): to ANSI A208.2, density 640-800 kg/m<sup>3</sup>.

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**Part 3 Execution**

**3.1 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 and after receipt of written approval to proceed from Departmental Representative.

**3.2 INSTALLATION**

- .1 Do finish carpentry to Quality Standards of (AWMAC).
- .2 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 Form joints to conceal shrinkage.

**3.3 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 Interior and exterior frames:
  - .1 Set frames with plumb sides, level heads and sills and secure.
- .4 Shelving:

.1 Install shelving as indicated.

.5 Hardware:

.1 Refer to 06 40 00 Architectural Woodwork for cabinet hardware.

.2 Refer to hardware schedule for door hardware.

### **3.4 INSTALLATION OF TRIM**

.1 Standing and running trim:

.1 Interior:

.1 Solid stock: oak species.

### **3.5 INSTALLATION OF FRAMES**

.1 Interior frames:

.1 Frames to be solid wood oak species.

### **3.6 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.

### **3.7 PROTECTION**

.1 Protect installed products and components from damage during construction.

.2 Repair damage to adjacent materials caused by finish carpentry installation.

**END OF SECTION**

**Part 1      General**

**1.1          REFERENCES**

- .1 American National Standards Institute (ANSI)
  - .1 ANSI A208.1-09, Particleboard.
  - .2 ANSI A208.2-09, Medium Density Fiberboard (MDF) for Interior Applications.
  - .3 ANSI/HPVA HP-1-10, Standard for Hardwood and Decorative Plywood.
- .2 ASTM International
  - .1 ASTM E1333-10, Standard Test Method for Determining Formaldehyde Concentrations in Air and Emission Rates From Wood Products Using a Large Chamber.
  - .2 ASTM D2832-92(R2011), Standard Guide for Determining Volatile and Nonvolatile Content of Paint and Related Coatings.
  - .3 ASTM D5116-10, Standard Guide For Small-Scale Environmental Chamber Determinations of Organic Emissions From Indoor Materials/Products.
- .3 Architectural Woodwork Manufacturers Association of Canada (AWMAC) and Architectural Woodwork Institute (AWI)
  - .1 Architectural Woodwork Quality Standards Illustrated, 8th edition, Version 1.0 (2009).
- .4 Canadian General Standards Board (CGSB)
  - .1 CAN/CGSB-71.20-M88, Adhesive, Contact, Brushable.
- .5 CSA International
  - .1 CSA B111-74(R2003), Wire Nails, Spikes and Staples.
  - .2 CSA O112.10-08, Evaluation of Adhesives for Structural Wood Products (Limited Moisture Exposure).
  - .3 CSA O121-08, Douglas Fir Plywood.
  - .4 CSA O141-05(R2009), Softwood Lumber.
  - .5 CSA O151-09, Canadian Softwood Plywood.
  - .6 CSA O153-M1980(R2008), Poplar Plywood.
  - .7 CAN/CSA-Z809-08, Sustainable Forest Management.
- .6 Forest Stewardship Council (FSC)
  - .1 FSC-STD-01-001-[2004], FSC Principle and Criteria for Forest Stewardship.
- .7 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
  - .1 Material Safety Data Sheets (MSDS).
- .8 National Electrical Manufacturers Association (NEMA)
  - .1 ANSI/NEMA LD-3-05, High-Pressure Decorative Laminates (HPDL).
- .9 National Hardwood Lumber Association (NHLA)

- .1 Rules for the Measurement and Inspection of Hardwood and Cypress 2011.
- .10 National Lumber Grades Authority (NLGA)
  - .1 Standard Grading Rules for Canadian Lumber 2010.

## **1.2 ACTION AND INFORMATIONAL 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 architectural woodwork and include product characteristics, performance criteria, physical size, finish and limitations.
- .3 Shop Drawings:
  - .1 Submit drawings stamped and signed by professional engineer registered or licensed in Province of Manitoba, Canada.
  - .2 Indicate details of construction, profiles, jointing, fastening and other related details.
  - .3 Indicate materials, thicknesses, finishes and hardware.
  - .4 Indicate locations of service outlets in casework, typical and special installation conditions, and connections, attachments, anchorage and location of exposed fastenings.

## **1.3 QUALITY ASSURANCE**

- .1 Lumber by grade stamp of an agency certified by Canadian Lumber Standards Accreditation Board.

## **1.4 DELIVERY, STORAGE AND HANDLING**

- .1 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
  - .1 Protect millwork against dampness and damage during and after delivery.
  - .2 Store millwork in ventilated areas, protected from extreme changes of temperature or humidity.
- .2 Storage and Handling Requirements:
  - .1 Store materials off ground, indoors, in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
  - .2 Store and protect architectural woodwork from nicks, scratches, and blemishes.
  - .3 Replace defective or damaged materials with new.

## **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 CAN/CSA-Z809 or FSC or SFI certified.
- .3 NLGA Standard Grading Rules for Canadian Lumber.
- .4 AWMAC custom grade, moisture content as specified.
- .2 Hardwood lumber: moisture content in accordance with following standards:
  - .1 National Hardwood Lumber Association (NHLA).
  - .2 CAN/CSA-Z809 or FSC or SFI certified.
  - .3 AWMAC custom grade, moisture content as specified.
- .3 MDF (medium density fibreboard) core: to ANSI A208.2, 19 mm thick, density 769 kg/m<sup>2</sup>, CAN/CSA-Z809 or FSC or SFI certified.
  - .1 Medium density fibreboard performance requirements to: ANSI A208.2.
  - .2 MDF resin to contain no added urea-formaldehyde.
- .4 Laminated plastic for flatwork: to NEMA LD3, Grade VGL; based on woodgrain colour range with matt finish.
- .5 Laminated plastic for postforming work: to NEMA LD3, Grade VGL, based on woodgrain colour range with matt finish.
- .6 Laminated plastic backing sheet: Grade BK, minimum of 0.5 mm thick or same thickness and colour as face laminate.
- .7 Laminated plastic liner sheet: Grade GP, white colour.
- .8 Thermofused Melamine: not accepted.
- .9 Nails and staples: to CSA B111.
- .10 Wood screws: type and size to suit application.
- .11 Splines: metal.
- .12 Sealant: in accordance with Section 07 92 00 - Joint Sealants.
- .13 Laminated plastic adhesive:
  - .1 Adhesive: polyvinyl adhesive to CSA O112.10.

## 2.2 MANUFACTURED UNITS

- .1 Casework:
  - .1 Fabricate caseworks to AWMAC custom 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: spruce species, NLGA grade.
  - .4 Case bodies (ends, divisions and bottoms).
    - .1 Softwood and poplar plywood, square edge, 19 mm thick.

- .2 Plastic laminate finish on all exposed and semi-exposed surfaces c/w matching 3mm PVC edge banding.
- .5 Backs:
  - .1 Hardboard, Type 6 mm thick].
- .6 Shelving:
  - .1 Softwood and poplar plywood, square edge, 19 mm thick.
  - .2 Plastic laminate finish on all exposed and semi-exposed surfaces c/w matching 3mm PVC edge banding.
- .2 Drawers:
  - .1 Fabricate drawers to AWMAC custom grade supplemented as follows:
  - .2 Sides and Backs.
    - .1 Softwood and poplar plywood, square edge, 13 mm thick.
    - .2 Plastic laminate finish on all exposed and semi-exposed surfaces, white color.
  - .3 Bottoms:
    - .1 Hardboard: type Standard 6 mm thick.
  - .4 Fronts:
    - .1 MDF, square edge, 19 mm thick.
    - .2 Plastic laminate finish on all exposed and semi-exposed surfaces c/w matching 3mm PVC edge banding.
- .3 Casework Doors:
  - .1 Fabricate doors to AWMAC custom grade supplemented as follows:
  - .2 MDF, square edge, 19 mm thick.
  - .3 Plastic laminate finish on all exposed and semi-exposed surfaces c/w matching PVC edge banding.
  - .4 Cabinet style: Flush overlay.
- .4 Casework Countertops:
  - .1 Fabricate counters to AWMAC custom grade supplemented as follows:
    - .1 Veneer core moisture resistant plywood, square edge, 19mm thick. One piece, factory laminated.
    - .2 Backsplash: of same material and finish as tops unless otherwise noted, heights as indicated on elevations. Provide backsplash returns where counters abut sidewalls.
    - .3 Solid surface countertop finish.
- .5 Edge banding:
  - .1 All edges, including edges of shelves, doors, drawers and cabinets to have 3mm PVC edge banding matching corresponding laminate.

## 2.3 CABINET HARDWARE

- .1 Hinges: Concealed hinges, self-closing, 110 degree minimum opening.

- .1 Provide 2 hinges for 0-890mm door height, 3 hinges for 890-1600 door height, 4 hinges for 1600 – 1980mm door height and 5 hinges for anything greater.
- .2 Drawer Slides (Typical): side mounted, full extension, soft close feature, 100lbs per pair minimum, steel ball bearing.
  - .1 Accuride 3832 or equal.
- .3 Door and Drawer bumpers:
  - .1 Silent bumper 100% polyurethane. Provide a minimum of 2 bumpers per door and per drawer.
  - .2 Hafele 356.25.434 or equal
- .4 Adjustable Shelf Supports:
  - .1 Galvanized steel 4877mm x 1829mm
  - .2 Hafele 283.07.011
- .5 Grommets:
  - .1 Hafele metal Grommet 429.94.448 63mm, matt nickel finish
- .6 Door & Drawer Lock: Cam lock with outward – cranked lever, 180 degree rotation, include strike plate.
- .7 Pulls: back mounted pull, 160mm c.c. 216 x 35 mm overall, stainless steel finish.
  - .1 Acceptable Product: Richelieu 2102160170
- .8 Double action Spring Hinge
  - .1 Location: Reception Desk
  - .2 Acceptable Product: Richelieu 810SCB
  - .3 Color: Satin Chrome
  - .4 Provide number of hinges required for weight of door.
- .9 Hasp Lock:
  - .1 Location: Change Room Lockers
  - .2 Acceptable Product: Richelieu 1973022100
  - .3 Color: Grey.

## 2.4 FABRICATION

- .1 All interiors to match exteriors unless otherwise noted.
- .2 All woodgrain to be applied with grain running vertically unless otherwise noted.
- .3 Finish all exposed and semi-exposed surfaces, including ledgers, brackets under counters, wood cleats/blocking, and miscellaneous supports with plastic laminate on all sides.
- .4 Set nails and countersink screws apply [stained] [plain] wood filler to indentations, sand smooth and leave ready to receive finish.
- .5 Shop install cabinet hardware for doors, shelves and drawers. Recess shelf standards unless noted otherwise.
- .6 Shelving to cabinetwork to be adjustable unless otherwise noted.

- .7 Provide cut-outs for plumbing fixtures, inserts, appliances, outlet boxes and other fixtures.
- .8 Shop assemble work for delivery to site in size easily handled and to ensure passage through building openings.
- .9 Obtain governing dimensions before fabricating items which are to accommodate or abut appliances, equipment and other materials.
- .10 Ensure adjacent parts of continuous laminate work match in colour and pattern.
- .11 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 [2400] [3000] mm. Keep joints 600 mm from sink cut-outs.
- .12 Finish underside of wall/upper cabinets in plastic laminate to match door face.
- .13 Shelves exceeding 900mm length are to be 25mm thick.
- .14 Finish all 6 sides of adjustable shelves to match case bodies.
- .15 Form shaped profiles and bends as indicated, using post forming grade laminate to laminate manufacturer's instructions.
- .16 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.
- .17 Apply laminate backing sheet to reverse side of core of plastic laminate work.
- .18 Apply laminated plastic liner sheet [to interior of cabinetry] [where indicated].

### **Part 3 Execution**

#### **3.1 EXAMINATION**

- .1 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for architectural woodwork installation in accordance with manufacturer's instructions.

#### **3.2 INSTALLATION**

- .1 Do architectural woodwork to Quality Standards of AWMAC.
- .2 Install prefinished millwork at locations shown on drawings.
  - .1 Position accurately, level, plumb straight.
- .3 Fasten and anchor millwork securely.
  - .1 Supply and install heavy duty fixture attachments for wall mounted cabinets.
- .4 Use draw bolts in countertop joints.
- .5 Scribe and cut as required to fit abutting walls and to fit properly into recesses and to accommodate piping, columns, fixtures, outlets or other projecting, intersecting or penetrating objects.

- .6 At junction of plastic laminate counter back splash and adjacent wall finish, apply small bead of sealant.
- .7 Fit hardware accurately and securely in accordance with manufacturer's written instructions.

### **3.3 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.
  - .1 Clean millwork, cabinet work, outside surfaces, inside cupboards and drawers.
  - .2 Remove excess glue from surfaces.

### **3.4 PROTECTION**

- .1 Protect millwork from damage until final inspection.
- .2 Protect installed products and components from damage during construction.
- .3 Repair damage to adjacent materials caused by architectural woodwork installation.

**END OF SECTION**

**Part 1            General**

**1.1                REFERENCES**

- .1 American National Standards Institute (ANSI)
  - .1 ANSI 208.1-09, Particleboard.
- .2 ASTM International
  - .1 ASTM D2832-92(R2011), Standard Guide for Determining Volatile and Nonvolatile Content of Paint and Related Coatings.
  - .2 ASTM D2369-10e1, Standard Test Method for Volatile Content of Coatings.
- .3 Canadian General Standards Board (CGSB)
  - .1 CAN/CGSB-71.20-M88, Adhesive, Contact, Brushable.
- .4 CSA International
  - .1 CSA O112.10-08, Evaluation of Adhesives for Structural Wood Products (Limited Moisture Exposure).
  - .2 CSA O121-08, Douglas Fir Plywood.
  - .3 CSA O151-09, Canadian Softwood Plywood.
  - .4 CSA O153-M1980(R2008), Poplar Plywood.
  - .5 CAN/CSA-Z809-08, Sustainable Forest Management.
- .5 Forest Stewardship Council (FSC)
  - .1 FSC-STD-01-001-[2004], FSC Principle and Criteria for Forest Stewardship.
- .6 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
  - .1 Material Safety Data Sheets (MSDS).
- .7 National Electrical Manufacturers Association (NEMA)
  - .1 ANSI/NEMA LD-3-05, High Pressure Decorative Laminates (HPDL).

**1.2                ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Samples:
  - .1 Submit duplicate samples of each plastic laminate and solid surface finish specified.

**1.3                CLOSEOUT SUBMITTALS**

- .1 Provide maintenance data for laminate work for incorporation into manual specified in Section 01 78 00 - Closeout Submittals.

## **1.4 DELIVERY, STORAGE AND HANDLING**

- .1 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .2 Storage and Handling Requirements:
  - .1 Store materials off ground, indoors, in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
  - .2 Store and protect laminate, adhesive, and core materials from nicks, scratches, and blemishes.
  - .3 Replace defective or damaged materials with new.

## **Part 2 Products**

### **2.1 MATERIALS**

- .1 Plastic Laminate (PL):
  - .1 PL-1 – Wilsonart Monticello maple 1925-38 Fine Velvet Texture Finish
  - .2 Location: all cabinetry
- .2 Solid Surface Finish (SSF):
  - .1 SSF-1 – Avonite Foundations Solid Surface, Avalance F1-7502 Satin 10/16, thickness 12.7mm.
  - .2 Location: All countertops.
- .3 Laminated plastic adhesive: polyvinyl adhesive to CSA O112.10.
- .4 SealerL water resistant sealer or glue acceptable to laminate manufacturer.
- .5 Draw bolts and splines: as recommended by fabricator.

### **2.2 FABRICATION**

- .1 Comply with NEMA LD3, Annex A.
- .2 Obtain governing dimensions before fabricating items which are to accommodate or abut appliances, equipment and other materials.
- .3 Ensure adjacent parts of continuous laminate work match in colour and pattern.
- .4 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 [2400] [3000] mm. Keep joints 600 mm from sink cutouts.
- .5 Form shaped profiles and bends as indicated, using postforming grade laminate to laminate manufacturer's instructions.
- .6 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.
- .7 Apply laminate backing sheet to reverse side of core of plastic laminate work.

- .8 Apply laminated plastic liner sheet to interior of cabinetry where indicated.
- .9 All millwork shall be manufactured and/or installed to the specified AWMAC Custom Quality Standards.

### **Part 3 Execution**

#### **3.1 EXAMINATION**

- .1 Verification of Conditions: verify conditions of substrates previously installed under other Sections or Contracts are acceptable for laminate, adhesive, and core materials installation in accordance with manufacturer's written instructions.

#### **3.2 MANUFACTURER'S INSTRUCTIONS**

- .1 Compliance: comply with manufacturer's written recommendations, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheets.

#### **3.3 INSTALLATION**

- .1 Install work plumb, true and square, neatly scribed to adjoining surfaces.
- .2 Make allowances around perimeter where fixed objects pass through or project into laminated plastic work to permit normal movement without restriction.
- .3 Use draw bolts and splines in countertop joints. Maximum spacing 450 mm on centre, 75 mm from edge. Make flush hairline joints.
- .4 Provide cutouts for inserts, grilles, appliances, outlet boxes and other penetrations. Round internal corners, chamfer edges and seal exposed core.
- .5 At junction of laminated plastic counter back splash and adjacent wall finish, apply small bead of sealant.

#### **3.4 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.
  - .1 Remove traces of primer, caulking, epoxy and filler materials and clean doors and frames.

#### **3.5 PROTECTION**

- .1 Cover finished laminated plastic and solid surfaces with heavy kraft paper or put in cartons during shipment.
- .2 Protect installed laminated surfaces in accordance with manufacturer's written recommendations.
  - .1 Remove protection only immediately before final inspection.

- .3 Protect installed products and components from damage during construction.
- .4 Repair damage to adjacent materials caused by laminate, adhesive, and core materials installation.

**END OF SECTION**