

Part 1 General

1.1 SECTION INCLUDES

- .1 Heavy structural timber, including refinished salvaged oak and new oak timbers, for wood trellis and benches.

1.2 RELATED SECTIONS

- .1 Structural Specifications
- .1 Section 01 33 00 Submittal Procedures.
- .2 Section 01 45 00 Quality Control.
- .3 Section 01 61 00 Common Product Requirements.
- .4 Section 01 73 00 Execution Requirements.
- .5 Section 01 74 11 Cleaning.
- .6 Section 01 78 00 Closeout Submittals.
- .7 Section 04 05 00 - Common Work Results for Masonry.
- .8 Section 05 50 00 - Metal Fabrications: Structural steel connectors.
- .9 Section 05 12 00 - Structural Steel
- .10 Section 05 50 00 - Metal Fabrications
- .11 Section 06 11 00 - Wood Framing: Structural dimension lumber framing.
- .12 Section 06 20 00 - Finish Carpentry
- .13 Section 07 92 00 - Joint Sealants.
- .14 Section 09 97 19 – Painting Exterior Metal Surfaces

1.3 REFERENCES

- .1 AWS (American Welding Society) D1.1/D1.1M-2008 - Structural Welding Code - Steel.
- .2 CSA-O80 Series-08 - Wood Preservation.
- .3 CAN/CSA-O86-01 (R2006) Consolidation - Engineering Design in Wood.
- .4 CSA-O141-05 - Softwood Lumber.
- .5 CSA W47.1-09 - Certification of Companies for Fusion Welding of Steel Structures.

- .6 CSA W59-03 (R2008) - Welded Steel Construction (Metal Arc Welding).
- .7 Canadian Lumber Standards Accreditation Board (CLSAB).
- .8 NLGA (National Lumber Grades Authority) - Standard Grading Rules for Canadian Lumber.

1.4 SUBMITTALS FOR REVIEW

- .1 Section 01 33 00: Submission procedures.
- .2 Shop Drawings: Indicate dimensions, wood species and grades, component profiles, drilled holes, fasteners, connectors, erection details. Indicate welded connections using standard AWS welding symbols. Indicate net weld lengths.

1.5 SUBMITTALS FOR INFORMATION

- .1 Section 01 33 00: Submission procedures.
- .2 Installation Data: Manufacturer's special installation requirements including erection sequence.

1.6 CLOSEOUT SUBMITTALS

- .1 Section 01 78 10: Submission procedures.

1.7 QUALITY ASSURANCE

- .1 Perform welding Work in accordance with CSA W59.
- .2 Lumber Grading Agency: NLGA.
- .3 Contractor Qualifications: Company specializing in manufacturing the Products specified in this section with minimum three (3) years documented experience.

1.8 MOCK-UP

- .1 Section 01 45 00: Requirements for mock-up.
- .2 Prior to start of wood restoration work, prepare two (2) mock-ups of a typical full length timbers to include:
 - .1 One Salvaged Oak Timber
 - .2 One New Oak Timber
- .3 Review with Departmental Representative to determine which sections to mock-up.
- .4 Prepare mock-up of timber indicative of planing, refinishing and epoxy patching work to demonstrate quality of workmanship and material.
- .5 Mock-ups to verify selections made under sample Submittals and to demonstrate aesthetic effects, and qualities of materials and execution, and set quality standards for fabrication and installation.

- .6 Obtain Departmental Representative's acceptance and approval of visual qualities of Mock-Up before proceeding with the final work.
- .7 Retain acceptable finished timber as a standard for judging completed work.
- .8 Approved mock-ups may remain as part of the Work.

Part 2 Products

2.1 MATERIALS

- .1 Lumber Grading Rules: [NLGA].

2.2 SALVAGED OAK TIMBERS

- .1 All oak existing oak timbers to be catalogued, then removed and transported to offsite facility for inspection and sorting.
- .2 It is estimated that 50% of existing timbers are salvageable. Contractor to site verify.
- .3 Timbers with significant cupping, fissures, cracks and rot greater than 5% rot to be discarded. Approval of salvageable timbers to be obtained by Departmental Representative.
- .4 Any timbers deemed acceptable by Departmental Representative, with equal to or less than 5% rot, are to be repaired by use of Marine Grade epoxy. Affected areas filled with a penetrating Marine grade epoxy.
 - .1 **Standard of Acceptance:** West System Epoxy
 - .2 Follow manufacturer written instructions.
 - .3 Rotted areas to be removed entirely and affected areas to be cleaned. Sawdust and dirt is to be removed from area by blowing vacuuming, or use of stiff bristle brushes.
 - .4 Cavities to be filled with epoxy mixed with fine sawdust of consistency of syrup. A second batch to be applied the following day thickened to the consistency of peanut butter. When applied correctly, the epoxy penetrates the pores of the wood providing a bond stronger than the wood itself. More than one application may be needed.
 - .5 Wipe off any excess epoxy or spills and cover the treated area to protect until cured as directed by epoxy manufacturer.
- .5 All non-structural cracks, knots (open or otherwise), and other character marks that do not interfere with the structure of each timber will be left as is.
- .6 Timbers will be planed down approximately 3mm per side. This will render the timber mostly clean, however, there still may be some silver/grey areas on some of the timbers. This is allowable and doesn't interfere with the integrity of the wood.
- .7 Any timbers, after planning, found to be in undesirable condition will be discarded.

2.3 NEW OAK TIMBERS

- .1 **Wood species:**
 - .1 Manitoba oak from ethical sources and is salvaged from trees destined for the landfill.
 - .2 Match species, grade, grain pattern, and other special characteristics of existing timbers.
 - .3 Allowable character in new oak includes knots, checks, non-structural cracks, discoloration, pith, and wane on 1 side.
 - .4 White rot or rotten knots are not allowed.
- .2 **Wood Timber Trellis Size:** New Oak timbers to be cut larger than finished size and planed to match:
 - .1 The existing masonry pockets on the south side of the washroom building
 - .2 The re-finished salvaged timbers in all other areas
 - .3 Refer to drawings for additional information as well as overall geometry.
- .3 **Wood Bench Timber Sizes:** Refer to drawings and site verify all existing conditions.

2.4 ACCESSORIES

- .1 Refer to structural drawings and specifications.

2.5 FINISHES

- .1 All exposed Timber Surfaces to be planed smooth. Refer to drawings.

2.6 WOOD TREATMENT

- .1 Wood timbers to be left exposed with no treatment.

Part 3 Execution

3.1 REMOVAL OF EXISTING TIMBERS

- .1 Carefully remove existing timbers and associated timbers at all locations indicated. Handle to avoid any further damage. Catalogue each timber's former location for reference.
- .2 All timbers to be removed and delivered to off-site location for inspection and sorting.

3.2 ERECTION

- .1 Set trellis members level and plumb, in correct position.
- .2 Ensure anchors align with timber holes.
- .3 Make provisions for erection loads, and for sufficient temporary bracing to maintain structure safe, plumb, and in true alignment until completion of erection.
- .4 Do not field cut or alter structural members without approval.

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 45 00 - Quality Control.
- .3 Section 01 61 00 - Common Product Requirements
- .4 Section 01 78 00 - Closeout Submittals.
- .5 Section 05 50 00 – Metal Fabrications.
- .6 Section 07 92 00 - Joint Sealants.
- .7 Section 06 40 00 - Architectural Woodwork.
- .8 Section 09 91 23.01 – Interior Re-painting.
- .9 Section 10 21 13 – Plastic Toilet Compartments
- .10 Section 10 28 14 – Toilet and Bath Accessories
- .11 Section 10 44 13 – Fire Extinguishers

1.2 REFERENCES

- .1 American National Standards Institute (ANSI)
 - .1 ANSI A208.2-09, Medium Density Fibreboard (MDF) for Interior Applications.
 - .2 ANSI/HPVA HP-1-2004, 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, 2nd edition, [2014].
- .3 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-11.3-M87, Hardboard.
- .4 CSA International
 - .1 CSA B111-74(R2003), Wire Nails, Spikes and Staples.
 - .2 CAN/CSA G164-M92(R2003), Hot Dip Galvanizing of Irregularly Shaped Articles.
 - .3 CSA O121-08, Douglas Fir Plywood.
 - .4 CSA O141-05, Softwood Lumber.
 - .5 CSA O151-09, Canadian Softwood Plywood.
 - .6 CSA O153-M1980(R2008), Poplar Plywood.

- .5 National Lumber Grades Authority (NLGA)
 - .1 NLGA Standard Grading Rules for Canadian Lumber 2008.
- .6 Underwriters Laboratories of Canada (ULC)
 - .1 CAN4-S104-80(R1985), Standard Method for Fire Tests of Door Assemblies.
 - .2 CAN/ULC-S105-09, Standard Specification for Fire Door Frames.

1.3 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 and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Submit two copies of WHMIS MSDS in accordance with Section 01 35 29.06 - Health and Safety Requirements and 01 35 43 - Environmental Procedures.
- .3 Shop Drawings:
 - .1 Indicate details of construction, profiles, jointing, fastening and other related details.
 - .2 Indicate materials, thicknesses, finishes and hardware.
- .4 Samples:
 - .1 Submit for review and acceptance of each unit.
 - .2 Samples will be returned for inclusion into work.
 - .3 Submit duplicate 300 x 300 mm samples of materials.
- .5 Certifications: submit certificates signed by manufacturer certifying materials comply with specified performance characteristics and physical properties.

1.4 QUALITY ASSURANCE

- .1 Lumber by grade stamp of agency certified by Canadian Lumber Standards Accreditation Board (CLSAB).
- .2 Plywood 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 CAN4-S104 and CAN/ULC-S105.

1.5 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 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 NLGA Standard Grading Rules for Canadian Lumber.
 - .3 AWMAC premium grade, moisture content as specified.
 - .4 Machine stress-rated lumber is acceptable.
 - .5 Hardwood lumber: moisture content 6% or less in accordance:
 - .1 National Hardwood Lumber Association (NHLA).
 - .2 AWMAC premium grade, moisture content as specified.
- .2 Panel Material: Urea-formaldehyde free
 - .1 Douglas fir plywood (DFP): to CSA O121, standard construction.
 - .2 Canadian softwood plywood (CSP): to CSA O151, standard construction.
 - .3 Hardwood plywood: to ANSI/HPVA HP-1.
 - .4 Poplar plywood (PP): to CSA O153, standard construction.
 - .5 Hardboard: to CAN/CGSB-11.3.
 - .6 Medium density fibreboard (MDF): to ANSI A208.2, density 640-800 kg/m³.
 - .7 Low density fibreboard: to CSA-A247M.

2.2 ACCESSORIES

- .1 Nails and staples: to CSA B111; galvanized to CAN/CSA-G164 for exterior work, interior humid areas and for treated lumber; plain stainless steel finish elsewhere.
- .2 Wood screws: plain steel, type and size to suit application.
- .3 Splines: wood.
- .4 Adhesive and Sealants: in accordance with Section 07 92 00 - Joint Sealants.

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 Ensure that the maximum permitted moisture content of wood members do not exceed limits specified.
- .3 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
- .4 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 Premium 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 Humidity within the destination building may not be controllable. Seal woodwork components including concealed locations to reduce or eliminate shrinkage.
- .4 Allow for shrinkage in all design and detailing. Form joints to conceal shrinkage.
- .5 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.
- .6 Hardware: Install hardware as indicated in drawings.

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 finish carpentry installation.

END OF SECTION

Part 1 General

1.1 SECTION INCLUDES

- .1 Finish carpentry items for Kitchenette and Office Space millwork.
- .2 Hardware and attachment accessories

1.2 RELATED REQUIREMENTS

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 01 45 00 - Quality Control.
- .3 Section 01 78 00 - Closeout Submittals.
- .4 Section 05 50 00 – Metal Fabrications
- .5 Section 06 20 00 - Finish Carpentry
- .6 Section 07 92 00 - Joint Sealing
- .7 Section 09 91 23.01 – Interior Re-Painting

1.1 REFERENCES

- .1 American National Standards Institute (ANSI)
 - .1 ANSI/NPA A208.2[09], Medium Density Fiberboard (MDF) for Interior Applications.
 - .2 ANSI/HPVA HP-1-[04], 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 D5116-86, (R2011)], Standard Guide For SmallScale 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 Standards, 2ND edition, (2014).
- .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 O112.4 SERIES[M1977(R2006)], Standards for Wood Adhesives.
- .3 CSA O121-08, Douglas Fir Plywood.
- .4 CSA O141-05, Softwood Lumber.
- .5 CSA O151-09, Canadian Softwood Plywood.
- .6 CSA O153-M1980(R2008)], Poplar Plywood.
- .6 Health Canada / Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .7 International Organization for Standardization (ISO)
 - .1 ISO 14040(2006), Environmental ManagementLife Cycle Assessment Principles and Framework.
 - .2 ISO 14041(1998), Environmental ManagementLife Cycle Assessment Goal and Scope Definition and Inventory Analysis.
- .8 National Electrical Manufacturers Association (NEMA)
 - .1 ANSI/NEMA LD3[05], High-Pressure Decorative Laminates (HPDL).
- .9 National Hardwood Lumber Association (NHLA)
 - .1 Rules for the Measurement and Inspection of Hardwood and Cypress [1998].
- .10 National Lumber Grades Authority (NLGA)
 - .1 Standard Grading Rules for Canadian Lumber [2003(R2007)].

1.3 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 related hardware and include product characteristics, performance criteria, physical size, finish and limitations.
- .3 Shop Drawings:
 - .1 Indicate details of construction, profiles, jointing, fastening and other related details.
 - .1 Scales: profiles [full size], details [half full size].
 - .2 Indicate materials, thicknesses, finishes and hardware.
 - .3 Indicate locations of service outlets in casework, typical and special installation conditions, and connections, attachments, anchorage and location of exposed fastenings.
- .4 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.
- .5 Certifications: submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.

1.4 QUALITY ASSURANCE

- .1 Lumber by grade stamp of an agency certified by Canadian Lumber Standards Accreditation Board.
- .2 Plywood and wood based composite panels to CSA and ANSI standards.
- .3 Mock-ups:
 - .1 Construct mock-ups in accordance with Section 01 45 00 - Quality Control.
 - .1 Shop prepare one reception desk base cabinet unit counter top, complete with hardware and shop applied finishes, and install where directed by Departmental Representative
 - .2 Allow 48 hours for inspection of mock-up by Departmental Representative before proceeding with Work.
 - .3 When accepted, mock-up will demonstrate minimum standard of acceptance for Work.
 - .4 Do not proceed with work prior to receipt of written acceptance of mock-up by Departmental Representative.
 - .5 Mock-up may remain as part of finished work.

1.5 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.
 - .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.
- .3 Storage and Handling Requirements:
 - .1 Store materials 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 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 Birch plywood: to AWMAC Natural, Select White or as indicated.
 - .1 Plywood resin to contain no added urea-formaldehyde.
- .9 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.
- .10 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.
- .11 **Solid Plastic Laminate (L1):** 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 Colour and pattern as selected from manufacturer's full range .
 - .3 **Schedule:**
 - .1 Location: Refer to Drawings
- .12 **Solid Plastic Laminate (L2):** basic high pressure laminate for horizontal countertop 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 Colour and pattern as selected from manufacturer's full range .

.3 Schedule:

- .1 Location: Refer to Drawings

- .13 Laminated plastic backing sheet: Grade BK, Type HD, same thickness as face laminate.
- .14 Thermofused Melamine: to NEMA LD3 Grade VGL.
 - .1 High wear resistant thermofused melamine: equal or exceed 400 cycles (Minimum standard for HPL abrasion test).
- .15 Nails and staples: to CSA B111.
- .16 Wood screws: copper, brass, stainless steel, steel or plain, type and size to suit application.
- .17 Splines: wood, plastic or metal to suit application.
- .18 Sealant: in accordance with Section 07 92 00 - Joint Sealants.
 - .1 Sealants: VOC limit 250 g/L maximum to SCAQMD Rule 1168.
- .19 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].
- .20 Finishes:
 - .1 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.
 - .5 Backs:
 - .1 Softwood and poplar plywood DFP or CSP or PP custom grade, square edge, 12 mm thick.
 - .6 Fronts:
 - .1 MDF medium density fibreboard core, square edge, 19mm thick. All surfaces to receive plastic laminate c/w matching 3mm PVC edge.

- .7 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.
- .8 Mail Slots:
 - .1 MDF medium density fibreboard core, 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 MDF medium density fibreboard core, square edge, 17mm thick. All surfaces to receive plastic laminate c/w matching 3mm PVC edge.
 - .5 Casework Doors:
 - .1 MDF, 17mm thick. All surfaces to receive plastic laminate c/w matching 3mm PVC edge.
- .3 Plastic Laminate Countertops:
 - .1 MDF, 38mm thick.
 - .2 Kitchen countertops to receive plastic laminate and plastic laminate "D" edge.
 - .3 All other countertops to receive plastic laminate and plastic laminate square edge to match.

2.3 FABRICATION

- .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 Ensure that the maximum permitted moisture content of wood members do not exceed limits specified.
- .7 Humidity within the destination building may not be controllable. Seal woodwork components including concealed locations to reduce or eliminate shrinkage.
- .8 Obtain governing dimensions before fabricating items which are to accommodate or abut appliances, equipment and other materials.
- .9 Ensure adjacent parts of continuous laminate work match in colour and pattern.
- .10 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.
- .11 Form shaped profiles and bends as indicated, using postforming grade laminate to laminate manufacturer's instructions.
- .12 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.
- .13 Apply laminate backing sheet to reverse side of core of plastic laminate work.

2.4 FINISHING

- .1 Finish in accordance with Section 09 91 99 – Painting for Minor Works.

2.5 MISCELLANEOUS MILLWORK HARDWARE

- .1 NOTE: Hardware substitutions are acceptable on written request and approval by Departmental Representative. Confirm prior to shop drawing submission. This is a broadscope hardware specification and some items may not be used on this project. Unless otherwise noted on the drawings, fabricate casework with the hardware noted in this subsection.
- .2 Hinges: 110 degree semi concealed complete with spring closure, mounting, 3 way adjustment and lifetime warranty.
 - .1 Doors 800-1500mm to have three hinges.
 - .2 Doors 1500-2000mm to have four hinges
- .3 Pulls: 103 x 28 mm (4" x 1 ¼") nickel plated matte "D" handle.
- .4 Drawer Slides: Size as required to suit drawer:
 - .1 File drawers (Heavy Duty)
 - .1 200lb. load capacity
 - .2 Side mount

- .3 Slide Member and ball retainers: Cold Rolled Steel
 - .4 Ball Bearing: Carburized Steel
 - .5 Size: As indicated on drawings
 - .6 Colour as selected from manufacturer's full range .
- .2 Pencil drawers:
- .1 45lb. load capacity
 - .2 Slide Member and ball retainers: Cold Rolled Steel
 - .3 Ball Bearing: Carburized Steel
 - .4 Size: As indicated on drawings
 - .5 Colour as selected from manufacturer's full range .
- .5 Drawer/Cabinet Lock: 22 x 22mm (1" x 1") barrel dia. with two keys. Nickel finish. (or approved equal)
- .6 File Suspension Frames: where indicated on drawings as file drawers supply and install metal hanging folder frame adjustable to suit letter and legal files. Construct drawer to suit width of system: Reversaflex F7-450. (or approved equal)
- .7 Closet Hardware: where indicated to receive rod and shelf support: K&V 1195 (or approved equal) secured to wall.
- .8 Keyboard Tray: Hafele 429.80.512. (or approved equal)
- .9 Countertop/Worksurface Support Bracket: K&V 208 BLK. (or approved equal)
- .10 CPU holder: Hafele 639.72.300 (or approved equal)
- .11 Cable Entries (Grommets): 80mm diameter, plastic, grey with flexible brush seal.

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.
 - .1 Visually inspect substrate in presence of Departmental Representative.
 - .2 Ensure that the maximum permitted moisture content of wood members do not exceed limits specified.
 - .3 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
 - .4 Proceed with installation only after unacceptable conditions have been remedied.

3.2 INSTALLATION

- .1 Do architectural woodwork to Premium grade 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 in accordance with Section 07 92 00 - Joint Sealants.
- .7 Apply bituminous coating over wood framing members in contact with masonry or cementitious construction.
- .8 Fit hardware accurately and securely in accordance with manufacturer's written instructions.
- .9 Allow for shrinkage in all design and detailing. Form joints to conceal shrinkage.

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 and cabinet work inside cupboards and drawers and outside surfaces.
 - .2 Remove excess glue from surfaces.

3.4 PROTECTION

- .1 Protect millwork and cabinet work 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