

**Part 1**

**General**

1.1

RELATED SECTIONS

- .1 Section 01 56 00 – Temporary Barriers and Enclosures
- .2 Section 03 10 00 – Concrete Formwork
- .3 Section 06 20 00 – Finish Carpentry
- .4 Section 06 40 00 – Architectural Woodwork
- .5 Section 07 21 00 – Thermal Insulation
- .6 Section 07 53 33 – EPDM Roofing
- .7 Section 07 62 00 – Sheet Metal Flashing and Trim
- .8 Section 07 84 00 – Firestopping
- .9 Section 07 92 00 – Joint Sealing
- .10 Section 08 11 00 – Steel Doors and Frames
- .11 Section 09 29 00 – Gypsum Board
- .12 Section 09 51 30 – Acoustic Ceiling Panels
- .13 Division 10 – Miscellaneous Specialties

1.2

REFERENCES

- .1 American National Standards Institute (ANSI)
  - .1 ANSI A208.1-1999, Particleboard, Mat Formed Wood or latest.
- .2 American Society for Testing and Materials (ASTM)
  - .1 ASTM A 36/A 36M-94, Specification for Structural Steel or latest.
  - .1 ASTM A 653/A 653M-94, Specification for Sheet Steel, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvanealed) by the Hot Dip Process or latest.
  - .1 ASTM D 1761-88, Standard Test Methods for Mechanical Fasteners in Wood or latest.
  - .1 ASTM D 5055-94a, Prefabricated Wood I-Joists or latest.
  - .1 ASTM D 5456-96, Evaluation of Structural Composite Lumber Products or latest.
- .3 Canadian General Standards Board (CGSB)
  - .1 CAN/CGSB-11.3-M87, Hardboard or latest.
  - .1 CAN/CGSB-51.32-M77, Sheathing, Membrane, Breather Type or latest.
  - .1 CAN/CGSB-51.34-M86, Vapour Barrier, Polyethylene Sheet for Use in Building Construction or latest.
  - .1 CAN/CGSB-71.26-M88, Adhesive for Field-Gluing Plywood to Lumber Framing for Floor Systems or latest.
- .4 Canadian Standards Association (CSA)
  - .1 CAN/CSA-A82.27-M91, Gypsum Board or latest.
  - .1 CSA-B111-1974, Wire Nails, Spikes and Staples or latest.

- .1 CAN/CSA-G164-M92, Hot Dip Galvanizing of Irregularly Shaped Articles or latest.
- .1 CSA-O112 Series-M1977, CSA Standards for Wood Adhesives or latest.
- .1 CSA O121-M1978, Douglas Fir Plywood or latest.
- .1 CAN/CSA-O122-M89, Structural Glued-Laminated Timber or latest.
- .1 CAN/CSA-O141-91, Softwood Lumber or latest.
- .1 CSA-O151-M1978, Canadian Softwood Plywood or latest.
- .1 CSA-O153-M1980, Poplar Plywood or latest.
- .1 CAN/CSA-O325.0-92, Construction Sheathing or latest.
- .1 CAN3-O437 Series-93, Standards on OSB and Waferboard or latest.
- .5 National Lumber Grades Authority (NLGA)
  - .1 Standard Grading Rules for Canadian Lumber 1991 or latest.
- .6 'Truss Design and Procedures for Light Metal Connected Wood Trusses', Truss Plate Institute of Canada
- .7 Forest Stewardship Council Canada (FSC)
  - .1 Forest Management Standards
  - .2 Controlled Wood Standards
- 1.3 QUALITY ASSURANCE
  - .1 Lumber identification: 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.
- 1.4 WASTE MANAGEMENT AND DISPOSAL
  - .1 Set aside damaged wood and dimensional lumber off-cuts for approved alternative uses (e.g. bracing, blocking, cripples, bridging). Store this separated reusable wood waste convenient to cutting station and area of Work.
  - .2 Separate metal, plastic, wood and corrugated cardboard-packaging in accordance with the Waste Management Plan and place in designated areas for recycling.
  - .3 Do not burn scrap at the project Site.
  - .4 Remove from Site and dispose of packaging Materials at appropriate recycling facilities.
  - .5 Divert unused wood Materials from landfill to recycling reuse composting facility approved by the Contract Administrator.
  - .6 Do not dispose of preservative treated wood through incineration.
  - .7 Do not dispose of preservative treated wood with Materials destined for recycling or reuse.
  - .8 Dispose of treated wood, end pieces, wood scraps and sawdust at sanitary landfill approved by the Contract Administrator.
  - .9 Dispose of unused wood preservative Material at official hazardous Materials collections Site.

- .10 Do not dispose of unused preservative Material into sewer system, into streams, lakes, onto ground or in other locations where they will pose health or environmental hazard.
- .11 Fold up metal banding, flatten, and place in designated area for recycling.

**Part 2 Products**

**2.1 FRAMING AND STRUCTURAL MATERIALS**

- .1 Lumber: unless specified otherwise, softwood, S4S, moisture content 19% (S-dry) or less in accordance with following standards:
  - .1 CAN/CSA-O141.
  - .1 NLGA Standard Grading Rules for Canadian Lumber.
- .2 Glued end-jointed (finger-jointed) lumber NLGA Special Products Standard.
- .3 Glulam in accordance with Structural Glued-Laminated Timber CAN/CSA-O122.
- .4 Wood I-Joists and I-Joist blocking in accordance with Prefabricated Wood I-Joists ASTM D 5055.
- .5 Structural Composite Lumber (SCL) in accordance with Evaluation of Structural Composite Lumber Products ASTM D 5456.
- .6 Framing and board lumber: in accordance with most current edition of the NBC and Drawings.
- .7 Furring, 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.

**2.2 PANEL MATERIALS**

- .1 Plywood, OSB and wood based composite panels: to CAN/CSA-O325.0.
- .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 mat-formed wood particleboard: to ANSI 208.1.
- .6 Mat-formed structural panelboards (OSB wafer): to CAN3-O437.0.

**2.4 ACCESSORIES**

- .1 Exterior wall sheathing paper: to CAN/CGSB-51.32 laminated type as indicated.
- .2 Refer to Section 07 25 00 – Air & Vapour Membrane.
- .3 Air seal: closed cell polyurethane or polyethylene.
- .4 Refer to Section 07 92 00 – Joint Sealers
- .5 Subflooring adhesive: to CGSB-71.26, cartridge loaded.
- .6 General purpose adhesive: to CSA-O112 Series.
- .7 Nails, spikes and staples: to CSA-B111.

2.5 FASTENER FINISHES

- .1 Galvanizing: to CAN/CSA-G164, use hot-dipped galvanized fasteners for exterior Work, interior highly humid areas, pressure-preservative, fire-retardant, treated lumber.

2.6 WOOD PRESERVATIVE

- .1 ACQ or Borate treated lumber only. No chromium or arsenic allowed, including CCA or ACA treated wood.

2.7 CEMENT BOARD

- .1 Wonder-Board glass-mesh mortar units, 11mm (7/16") thick, noncombustible in accordance with CAN4-S114.

**Part 3 Execution**

3.1 PREPARATION

- .1 Store wood products.

3.2 INSTALLATION

- .1 Comply with requirements of the most current NBC 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 grade-marks and other defacing marks are concealed or are removed by sanding where Materials are left exposed.
- .6 Install subflooring with panel end-joints located on solid bearing, staggered at least 600 mm.
- .7 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, single-bead on each joist and double-bead on joists where panel ends butt.
- .8 Install wall sheathing in accordance with manufacturer's printed instructions.
- .9 Install roof sheathing in accordance with requirements of NBC.
- .10 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.
- .11 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.
- .12 Install rough bucks, nailers and linings to rough openings as required to provide backing for frames and other Work.
- .13 Install wood cants, fascia backing, nailers, curbs and other wood supports as required and secure using galvanized fasteners.

- .14 Install sleepers as indicated.
- .15 Use caution when working with particle board. Use dust collectors and high quality respirator masks.

3.3 ELECTRICAL EQUIPMENT BACKBOARD

- .1 Provide backboards for mounting electrical equipment as indicated. Use 19mm (3/4") thick plywood on 19mm x 38mm (3/4" x 1-1/2") furring around perimeter and at maximum 300mm (12") intermediate spacing.

3.4 FIREWALL COPING

- .1 Install steel studs, insulation and cement board coping construction at firewalls.

**END OF SECTION**

**Part 1**

**General**

- 1.1 RELATED SECTIONS
  - .1 Section 01 33 00 – Submittal Procedures
  - .2 Section 06 10 11 – Rough Carpentry
  - .3 Section 06 40 00 – Architectural Woodwork
  - .4 Division 09 – Finishes
  - .5 Section 09 90 00 – Painting
  - .6 Section 10 99 90 – Miscellaneous Specialties
- 1.2 REFERENCES
  - .1 American National Standards Institute (ANSI)
    - .1 ANSI A208.1-1989, Particleboard, Matformed Wood or latest.
    - .2 ANSI A208.2-1994, Medium Density Fibreboard (MDF) or latest.
  - .2 Architectural Woodwork Manufacturers Association of Canada (AWMAC)
    - .1 AWMAC Quality Standards for Architectural Woodwork 2014 or latest.
  - .3 Canadian General Standards Board (CGSB)
    - .1 CAN/CGSB-11.3-M87, Hardboard or latest.
  - .4 Canadian Standards Association (CSA)
    - .1 CSA B111-1974, Wire Nails, Spikes and Staples or latest.
    - .2 CAN/CSA-G164-M92, Hot Dip Galvanizing of Irregularly Shaped Articles or latest.
    - .3 CSA O115-M1982, Hardwood and Decorative Plywood or latest.
  - .5 National Hardwood Lumber Association (NHLA)
    - .1 Rules for the Measurement and Inspection of Hardwood and Cypress January 1986 or latest.
  - .6 National Lumber Grades Authority (NLGA)
    - .1 Standard Grading Rules for Canadian Lumber 1996 or latest.
  - .7 South Coast Air Quality Management District
    - .1 SCAQMD Rule #1168, Adhesives & Sealants
- 1.3 SUBMITTALS
  - .1 Section 01 33 00 – Submittal Procedures.
  - .2 Shop Drawings: Indicate Materials, component profiles and elevations, assembly methods, surface graining elevations of sheet paneling, joint details, fastening methods, accessory listings, hardwood locations and schedule of finishes.
  - .3 Products must not contain formaldehydes.

- .4 Cut Sheets: Provide cutsheets, material safety data, signed attestations or other official literature clearly identifying product emission rates. All Materials must not exceed maximum VOC values listed in SCAQMD Rule #1168 for product type.
- 1.4 SAMPLES
  - .1 Submit samples in accordance with Section 01 33 00 – Submittal Procedures.
- 1.5 DELIVERY, STORAGE, AND HANDLING
  - .1 Deliver, handle, store and protect Materials in accordance with Section 01 60 00 – Basic Product Requirements.
  - .2 Protect Materials against dampness during and after delivery.
  - .3 Store Materials in ventilated areas, protected from extreme changes of temperature or humidity.
- 1.6 WASTE MANAGEMENT AND DISPOSAL
  - .1 Separate and recycle waste Materials to maximum extent economically possible.
  - .2 Separate wood waste and place in designated areas in categories as follows for recycling: Solid wood/softwood/hardwood, composite wood, treated, painted, or contaminated wood.
  - .3 Separate wood waste and place in designated areas in categories as follows for re-use on Site: sheet Materials larger than 1200x1200, framing members larger than 1200, multiple offcuts of any large size.
  - .4 Set aside damaged wood for acceptable alternative uses (e.g. bracing, blocking, cripples, bridging, finger-joining, or ties). Store separated reusable wood waste convenient to cutting station and area of Work.
  - .5 Separate corrugated cardboard and place in designated areas for recycling.
  - .6 Do not burn scrap at project Site.
  - .7 Fold up metal banding, flatten, and place in designated area for recycling.
- Part 2 Products**
- 2.1 LUMBER MATERIAL
  - .1 Hardwood lumber: moisture content 6 % or less in accordance with following standards:
    - .1 National Hardwood Lumber Association (NHLA).
    - .2 AWMAC custom grade, moisture content as specified.
  - .2 Manufacturing process must adhere to Lifecycle Assessment (LCA) Standards as per ISO 14040/14041 LCA Standards.
- 2.2 PANEL MATERIAL
  - .1 All panel Materials to be FSC Certified wood products.
  - .2 Hardwood plywood (oak veneer): to CSA O115 or latest.
  - .3 Manufacturing process must adhere to Lifecycle Assessment Standards as ISO 14040/14041 LCA Standards


2.3 INTERIOR TRIM

- .1 Miscellaneous wood trim, caps: white oak, custom grade, sizes and finishes as noted on Drawings.

2.4 INTERIOR WOOD CEILINGS & EXTERIOR SOFFITS

- .1 Clear, Grade A White Oak for transparent finish
- .2 Size: 19mm x 57mm (3/4" x 2 1/4")
- .3 Hardwood adhered to plywood

2.6 ACCESSORIES

- .1 Nails and staples: to CSA B111 or latest; galvanized to CAN/CSA-G164 or latest for exterior Work, interior humid areas and for treated lumber; plain finish elsewhere.
- .2 Wood screws: to CSA B35.4 or latest plain, type and size to suit application.
- .3 Splines: wood.
- .4 Adhesive: recommended by manufacturer such that formaldehyde emissions do not exceed 0.05 ppm 180 /m3.
- .5 Use least toxic sealants, adhesives, sealers, and finishes necessary to comply with requirements of this section.

**Part 3 Execution**

3.1 INSTALLATION

- .1 Do finish carpentry to Quality Standards of the Architectural Wood Manufacturers Association of Canada (AWMAC), except where specified otherwise.
- .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.

3.2 CONSTRUCTION

- .1 Fastening
  - .1 Position items of finished carpentry Work accurately, level, plumb, true and fasten or anchor securely.
  - .1 Design and select fasteners to suit size and nature of components being joined. Use proprietary devices as recommended by manufacturer.
  - .2 Set finishing nails to receive filler. Where screws are used to secure members, countersink screw in round cleanly cut hole and plug with wood plug to match Material being secured.
  - .3 Replace items of finish carpentry with damage to wood surfaces including hammer and other bruises.
- .2 Hardware
  - .1 Verify that door and frame components are ready to receive Work and dimensions are as indicated on Shop Drawings.
  - .2 Verify that appropriate power supply is available to power operated devices.



- .3 Beginning of installation means acceptance of existing conditions.
- .4 Install hardware in accordance with manufacture's instructions and requirements of Canadian Steel Door and Frame Manufacturers Association.
- .5 Use the templates provided by hardware item manufacturer.

**END OF SECTION**

**Part 1            General**

1.1            RELATED DOCUMENTS

- .1            Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specifications, apply to this Section.

1.2            WORK INCLUDED

- .1            Provide labor, Materials and equipment necessary to complete the Work of this Section including, but not limited to the following:
  - .1            Removal of exterior finish systems at areas of wood restoration or repair
  - .2            Removal of decayed and contaminated wood
  - .3            Installation of wood repair compound Materials
- .2            Extent of wood restoration Work is as indicated on the Drawings and as specified herein.

1.3            RELATED SECTIONS

- .1            Section 06 10 00 – Rough Carpentry
- .2            Section 06 20 00 – Finish Carpentry
- .3            Division 9 – Finishes

1.4            SUBMITTALS

- .1            General Submit the following according to Conditions of Contract and Division I Specification Sections
- .2            Product data, installation instructions, and general recommendations from manufacturer for types of repair required including technical data sheets defining performance properties.
- .3            Restoration Schedule: Submit schedule for each window, door, cornice, or area of wood trim to be restored, outlining in detail proposed restoration Work to be performed on each component. Obtain written approval from Contract Administrator prior to commencement of repair Work.

1.5            QUALITY ASSURANCE

- .1            Restorations Specialist: Work must be performed by a firm having not less than (5) years successful experience in comparable wood restoration Work including work on at least three (3) buildings listed in the National Register of Historic Places under the direction of federal and state preservation agencies in the last five (5) years and employing personnel skilled in the restoration process and operations indicated.
  - .1            Restoration Specialist firm must be acceptable to, or certified by, manufacturer of primary restoration Materials.
  - .2            Work associated with Work of this Section, including (but limited to) paint removal and substrate preparation, is to be performed by Installer of the Work.
  - .3            Only skilled workers who are thoroughly trained and experienced in wood repairs and restoration Work at areas as noted, have the skills required for the Work of this Section, and are completely familiar with the Materials and methods specified shall be used for wood restoration Work.
  - .4            At least one skilled worker shall be present at all times during the execution of the Work and shall personally direct the wood repairs and restoration Work.
  - .5            In acceptance or rejection of the wood restoration Work, no allowance will be made for lack of skill on the part of the workers.
- .2            Field Mock Ups

- .1 Wood Restoration: following the requirements of the Section, perform a mock-up of each type of wood repair system specified to demonstrate Materials and methods intended to be used in the finished Work.
    - .1 Perform mock-ups in areas indicated by the Contract Administrator.
    - .2 Obtain the Contract Administrator's written approval of each mock-up before proceeding with the Work of the Section
    - .3 Protect the approved mock-ups until the completion of all the Work
    - .4 Approved mock-up shall represent the minimum acceptable standard for each type and detail of the restoration Work.
  - .3 Manufacturer: Obtain primary repair Materials from a single manufacturer. Provide secondary Materials as recommended by the manufacturer of the primary Materials.
- 1.6 DELIVERY STORAGE AND HANDLING
- .1 Deliver all Materials in original unopened containers labeled with the manufacturer's name, brand name, item name and installation instructions.
  - .2 Store Materials in compliance with the manufacturer's requirements for temperature, maximum and minimum, and other conditions. Keep all Materials under cover and dry. Protect against exposure to the weather.
  - .3 Discard and remove from the job Site any Materials damaged in handling or storage and any Materials that have been subjected to conditions contrary to the manufacturer's recommendations or whose maximum shelf life has expired.
- 1.7 PROJECT CONDITIONS
- .1 Lead: Existing paint may contain lead. Take all necessary precautions to ensure the safety of all Persons engaged in removing lead-based paint and dispose of all residues generated from lead-based paint stripping in a legal manner in accordance with all local, state and federal codes.
  - .2 Coordination: Coordinate wood repair with paint stripping so that the effected surfaces are exposed for a minimal time to avoid further damage to bare wood. Coordinate with painting so that all restored surfaces are primed as soon as possible after repair.
  - .3 Weather: Proceed with the Work of this Section only when existing and foreseen weather conditions permit the Work to be performed in accordance with the manufacturer's recommendations for temperature and humidity range, minimum and maximum.
  - .4 Substrate Conditions: Do not proceed with product applications until substrates have been inspected and are determined to be in satisfactory conditions. Substrate moisture content shall not be in excess of 18% during preparation and application
    - .1 Remove all decayed wood to a clean, sound, unaffected substrate
    - .2 Remove all built up paints, and other debris to a clean sound substrate.
    - .3 Remove all wood sawdust to a clean sound substrate.
  - .5 Protection:
    - .1 Use all necessary means to protect interior of building from all damage caused by precipitation and other environmental conditions during the Work of the Section
    - .2 Protect all adjacent building surfaces from damage, staining or deterioration resulting from wood restoration Work.
    - .3 Protect the restoration Work in progress to prevent further deterioration exposed wood surfaces. Protect the completed Work until the time of final inspection and acceptance by the Contract Administrator.
  - .6 Safety: Contractor shall use all means necessary to ensure that no Person (whether involved in the Work of the Section or not) is harmed or injured due to the Work of this Section. Comply with all applicable laws codes and regulations.

- .7 Security: Coordinate Work with the City's project manager to ensure that the building is secured at the end of each Work Period. Review security procedures with the City prior to proceeding with the Work in this Section.

**Part 2 Products**

2.1 GENERAL

- .1 Compatibility: provide products recommended by the manufacturers to be fully compatible with indicated substrate.

2.2 EPOXY REPAIR PRODUCTS

- .1 Epoxy repair Materials shall consist of 2 separate systems, a 2 part low viscosity epoxy primer/coupling agent and a 2 part thixotropic paste meeting the criteria of Table A and B.

2.3 MANUFACTURER OF REPAIR PRODUCTS AND EQUIPMENT

- .1 Manufacturer: Subject to compliance with the requirements, provide product of the following:
  - .1 Advanced Repair Technology, Cherry Valley, NY
  - .2 Window Care Systems, Pembroke, MA
  - .3 or approved equal in accordance with B7.

2.5 REPAIR PRODUCTS

- .1 Low viscosity epoxy coupling/bonding agent
- .2 Epoxy repair compound
- .3 Injectable Borate gel
- .4 Borate rods

2.4 PAINT STRIPPERS

- .1 Chemical Stripping Agent. Methylene chloride based, Thixotropic stripper
- .2 Products: Subject to compliance with requirements, provide the following:
  - .1 509 Stripper
  - .2 ProSoCo
  - .3 or approved equal in accordance with B7.
- .3 Low Temperature heat gun or heat plate, no open flame.

**Part 3 Execution**

3.1 INSPECTION

- .1 Inspect all wood surfaces in conjunction with the Contract Administrator to determine the extent of restoration and methods to be used.
  - 1. The Contract Administrator's decision regarding the extent of required repair, and extent of profile replication Work shall be final.
  - 2. In wood surfaces where decay is present, determine the methods and treatment of repair.
  - 3. Areas that do not attach existing profiles, determine the level of restoration and replication to be achieved.
- .2 Joints, Joinery and edges: Check wood members at joints, seams and edges for:
  - .1 Any open seams or failed conditions.

- .2 Wood moisture content.
- .3 The presence of wood decay, by probing surfaces.
- .3 Sills and Trim
  - .1 Inspect wood surfaces for natural defects (knots) cracks and checks.
  - .2 Determine wood moisture content.
  - .3 Probe for the presence for wood decay.
- 3.2 REMOVAL
  - .1 Removal of Finishes:
    - .1 Remove all peeling and loose paint by scraping. Taking care not to damage sound wood and profiles.
    - .2 Strip all painted wood surface to bare wood, taking care not to damage sound wood and profiles by the application of stripping paste or by the use of a heat gun or plate
      - .1 Remove stripper and finishes as directed by manufacturer.
      - .2 Dispose of debris in accordance with approved methods.
      - .3 Wash all surfaces with recommended neutralizing agents to remove any foreign particle, dust and chemical residue, allow surface to thoroughly dry.
- 3.3 PREVENTATIVE SYSTEMS
  - .1 Preservation and Sealing of seams and joints. Repair of wood "checking" due to weathering.
    - .1 Open or failed seams and checks shall be dilated to a width of 3/16" and depth of 1/2"
    - .2 Remove all decayed, soft and weathered wood.
    - .3 Check the moisture content and hardness of wood at and around the repair, maximum allowable moisture content 18°/0.
    - .4 Sand bare wood to remove all loose fibers, paint, compounds. Remove all sawdust and dirt.
    - .5 Pre-treat bare and sanded wood thoroughly with low viscosity epoxy coupling/bonding agent
    - .6 Allow coupling agent to penetrate wood surface for a minimum of 10 minutes and maximum of 30 minutes, or as recommended by the manufacturer. Avoid applying in direct sunlight
    - .7 Remove any excess bonding agent with absorbing paper
    - .8 Apply epoxy repair compound over epoxy bonding agent while still tacky.
    - .9 Epoxy compound shall have optimal contact with wood
    - .10 Avoid inclusion of air pockets during application
    - .11 Fill joints fill, even and smooth in one application
    - .12 Allow full cure time as specified by manufacturer before application of paint or varnish.
    - .13 After curing, sand surface even and smooth. Transitions and irregularities between wood and epoxy shall not be visible after sanding
    - .14 If required, smooth any remaining irregularities with an additional application of epoxy repair compound. Always sand between coats.
- 3.4 SCOPE OF WORK FOR DOORS IN FAIR CONDITION
  - .1 Dismantle existing doors from the frames and number according to the window opening

- on the floor plan.
- .2 Install OSB plywood and insulation (if required) to cover the openings during the renovation.
  - .3 Remove all existing hardware including hinges, cabin hooks, slide latches, weather-stripping and miscellaneous hardware.
  - .4 Transport existing doors to off Site facility for chemical dipping in neutral PH stripper for the removal of paint and glazing compounds. Approved lead paint handling procedures required.
  - .5 Salvage historic glass for re-use in doors. Where only minor repairs to sash rails and stiles are required do not remove historic glass so as to limit the potential for breaking.
  - .6 Perform repairs to each door. Patch all cosmetic damage (including dents, holes, pits, gouges, cracks etc.) and ensure joints between wood elements are tight using approved wood putty filler. It is expected that the bulk of cosmetic damage to sashes, sills and frames will be restored in this fashion.
  - .7 Replace cracked glass.
  - .8 Sand all door sections and seal end grain.
  - .9 Apply one coat of approved latex primer to all components.
  - .10 Re-install historic glass in window sashes and replace any broken or missing glass.
  - .11 Glaze door using oil based glazing compound.
  - .12 Apply two coats of approved finish paint to all components.
  - .13 Transport restored doors back to jobsite for installation.
  - .14 Provide each door with full complement of hardware and fasteners matching that on original doors.
  - .15 Install restored upper and lower window sashes in door frames. Each restored unit to be tested for operation and adjusted to ensure trouble free operation.
  - .16 Clean window glass.
  - .17 Wood Door Frame Restoration Approach
    - .1 Remove the brick molding from outside perimeter of jambs and number to prevent mix up.
    - .2 Strip paint from brickmolding on Site or off Site at shop.
    - .3 Consolidate damaged wood with penetration and impregnation epoxy repairs to brickmold.
    - .4 Remove caulking or paint from perimeter masonry.
    - .5 Remove worn weather stripping from frame; remove temporary wood stops and anchoring hardware.
    - .6 Strip paint from doorjambs on Site with chemical paint stripper. Mask and remove Materials for proper disposal. Approved lead paint handling procedures required.
    - .7 Install spring bronze weather stripping.
    - .8 Re-install salvaged brick molding and caulk all wood to wood joints and all exterior surround joints of brick molding and sill to masonry.
    - .9 Repair using recognized conservation techniques.
    - .10 Patch, prep and sand all doorjamb components prior to painting. Patch all cosmetic damage (including dints, holes, pits, gouges, cracks etc.) at interior components (jamb extension/stools, aprons, and casing) and ensure joints between wood elements are tight using approved wood filler.
    - .11 Prime all doorjamb components and paint two coats.
    - .12 Prepare and epoxy consolidate exterior wood sill. Prime and paint two coats.

3.5 SCOPE OF WORK FOR DOORS IN DEFICIENT CONDITION

- .1 Same as the approach described in FAIR CONDITION with the following additional scope of Work:
  - .1 Perform repair of damage or decay to rails and stiles using recognized conservation techniques "splicing in" or Dutchmen repair. Assume a maximum of 3 Dutchmen repairs per door. Note: Only salvaged historic doors and salvaged doors are to be restored.
  - .2 Sills are typically severely deteriorated or experienced heavy weather checking. Typically epoxy consolidate will not work and the sill should be replaced entirely or spiced with a Dutchman repair.

3.6 ADJUSTMENTS

- .1 Repair or replace all defective Work at no additional cost to the City.

**END OF SECTION**

**Part 1            General**

1.1            WORK INCLUDED

- .1            The Work included under this Section shall conform to the industry standard and be accepted by the local construction and trade associations.

1.2            RELATED SECTIONS

- .1            Section 01 33 00 – Submittal Procedures
- .2            Section 05 50 00 – Miscellaneous Metal
- .3            Section 06 10 00 – Rough Carpentry
- .4            Section 06 20 00 – Finish Carpentry
- .5            Section 06 61 16 – Solid Surface Fabrications
- .6            Section 09 90 00 – Painting
- .7            Section 10 99 90 – Miscellaneous Specialties
- .8            Division 21 – Mechanical General Requirements
- .9            Division 26 – Electrical

1.3            REFERENCES

- .1            AWMAC (Architectural Woodwork Manufacturers' Association of Canada) - Quality Standards for Architectural Woodwork.
- .2            South Coast Air Quality Management District
  - .1            SCAQMD Rule #1168, Adhesives & Sealants

1.4            QUALITY ASSURANCE – AWMAC GUARANTEE & INSPECTION SERVICES (GIS)

- .1            Perform Work to "Custom" quality standards as set out by AWMAC.
- .2            Lumber Grading: NLGA.
- .3            Architectural woodwork shall be manufactured and installed to the current AWMAC Architectural Woodwork Standards and shall be subject to an inspection at the factory and Site by an appointed AWMAC Certified Inspector. Inspection costs shall be included in the tender price for this project. (Contact the Manitoba AWMAC Chapter for details of inspection costs). Shop Drawings shall be submitted to the AWMAC Chapter office for review before Work commences. Work that does not meet the AWMAC Architectural Woodwork Standards, as specified, shall be replaced, reworked and/or refinished by the architectural woodwork Subcontractor, to the approval of AWMAC, at no additional cost to the City.
- .4            If the woodwork Subcontractor is an AWMAC Manufacturer member in good standing, a two (2) year AWMAC Guarantee Certificate will be issued. The AWMAC Guarantee shall cover replacing, reworking and/or refinishing deficient architectural woodwork due to faulty workmanship or defective Materials supplied and/or installed by the woodwork Subcontractor, which may appear during a two (2) year period following the date of issuance.
- .5            If the woodwork Subcontractor is *not* an AWMAC Manufacturer member they shall provide the City with a two (2) year maintenance bond, in lieu of the AWMAC Guarantee Certificate, to the full value of the architectural woodwork Contract. Costs for the bond are to be included in the Contract Price for this project.
- .6            Laminated plastic Work shall include a three (3) year warranty against warpage or delamination from substrate.

1.5            MOCK-UP



- .1 Construct mock-ups in accordance with Section 01 45 00 – Quality Control.
  - .2 Allow 48 hours for inspection of mock-up by Contract Administrator before proceeding with this Work.
  - .4 When accepted, mock-up will demonstrate minimum standard for this Work.
- 1.6 SUBMITTALS
- .1 Submit Shop Drawings to requirements of Section 01 33 00 – Submittal Procedures.
  - .2 Indicate on Shop Drawings Materials, component profiles, fastening methods, assembly methods, joint details, accessory listings, and schedule of finishes.
  - .3 Submit samples to requirements of Section 01 33 00 – Submittal Procedures.
- Part 2 Products**
- 2.1 WOOD MATERIALS
- .1 Hardwood Lumber: 'Custom' grade in accordance with AWMAC; max. moisture content of 6 percent.
- 2.2 SHEET MATERIALS
- .1 Hardwood Plywood: CSA O115; 'Good' grade in accordance with AWMAC; G1S where not exposed or where one side is exposed to view; G2S where both sides are exposed to view. Where oak veneer plywood is noted or specified, a 'Natural' appearance designation is required with 0% formaldehyde content refers to added content in addition to naturally occurring formaldehydes in these Materials.
  - .2 Medium Density Fibreboard (MDP) ANSI A-208.2 2-198, minimum density 700 kg/m<sup>3</sup> (84 psf), factory pre-sanded faces of thickness indicated – with 0% formaldehyde content refers to added content in addition to naturally occurring formaldehydes in these Materials.
  - .3 Melamine Panels: Melamine resin impregnated decorative sheet thermally fused to a rigid particle board substrate. Standard of Acceptance: cabinet grade, standard white colour with 0% formaldehyde content refers to added content in addition to naturally occurring formaldehydes in these Materials.
  - .4 Hardboard: CGSB 11-GP-3M; Type 2, Tempered grade with 0% formaldehyde content refers to added content in addition to naturally occurring formaldehydes in these Materials.
- 2.3 LAMINATE MATERIALS
- .1 Plastic Laminate to CAN3-A172 or latest: Commercial Grade to suit application. 1.1m thickness for countertop and .75m for vertical surfaces. Standard of Acceptance: Wilsonart, Formica, Arborite, Pionite, Nevamar, or approved equal in accordance with B7. Colour to be selected from full range available. Sparkle or Crystal finish for horizontal surfaces, matt finish for vertical surfaces.
  - .2 Laminate Backing Sheet to CAN3-A172-M79 or latest; undecorated plastic laminate to same thickness as facing sheet. Colour to be selected from range available.
- 2.4 ACCESSORIES
- .1 Adhesive: Water base contact type.
  - .2 Fasteners: Size and type to suit application.
  - .3 Bolts, Nuts, Washers, Lags, Pins, and Screws: Of size and type to suit application.
  - .4 Door Bumpers: self-stick rubber bumpers at back of cabinet doors typical.

- .5 Wall Bumpers: wall-mounted self-stick rubber bumpers typical on door handles where they open against a wall.
  - .6 Edge Banding: 0.5mm PVC as manufactured by Canada woodtape hc in standard stock colour range.
- 2.5 HARDWARE - CASEWORK
- .1 Finish: All hardware to have dull chrome finish unless otherwise noted.
  - .2 Pilaster supports: pre-drilled at 32mm (1-1/4") o.c. with 5mm diameter steel support w/ block pin with non-tip feature. Richelieu #2282G dual pin shelf support.
  - .3 Door Pulls: by Mockett DP212B. Finish: by Contract Administrator from standard range.
  - .4 Hinges: 110° opening, heavy duty, concealed hinge, full overlay type. Hettich Internat 9943 110° self-closing (c/w steel cover cap), Blum Clip Top +110°, Hafele 200 Series 120° Model C2P9A99, or acceptable "as Equal" in accordance with B7. Nickel finish, steel construction. Use 3 hinges on doors over 500mm x 810mm (20" x 32").
  - .5 Cabinet Locks: removable core, disk tumbler, cam style with strike. Standard of acceptance: CCL cabinet lock 02066 x 26D for drawer, 02067 x 26D for door or similar. Keyed alike or differently as required. Provide each lock with two (2) keys. 180 key changes.
  - .6 Elbow Cabinet Catch: Ives 2MB 26D/Richelieu 3675-26.
  - .7 Case door silencers: 3M model SJ5032 bump-ons rubber, clear/Richelieu HP 303-11 supply to mechanical room.
- 2.6 FABRICATION - CASEWORK
- .1 Fabricate casework to AWMAC 'Custom' grade designation.
  - .2 Shop assembles casework for delivery to Site in units easily handled and to permit passage through building openings.
  - .3 Fit shelves, doors, and exposed edges with matching veneer edging unless otherwise noted.
  - .4 Cabinet toe spaces shall be finished same as cabinet faces. All toe spaces to have rubber base as specified unless otherwise noted.
  - .5 Door and Drawer Fronts, Gables, Shelves: 19mm (3/4") thick.
  - .6 When necessary to cut and fit on Site, provide Materials with ample allowance for cutting. Provide trim for scribing and Site cutting.
  - .7 Apply plastic laminate finish in full, uninterrupted sheets consistent with manufactured sizes. Make corners and joints hairline. Locate counter butt joints minimum 600mm from sink cutouts.
  - .8 Apply laminate backing sheet to reverse side of plastic laminate finished surfaced.
  - .9 Fabricate countertops to sizes required for base cabinets. At right angle corners provide 45 degree joint in counter top. At end walls, return backsplash to front of counter.
  - .10 Provide cutouts for plumbing fixtures, inserts, appliances, outlet boxes and other fixtures and fittings. Verify locations of cutouts from On-Site dimensions.
  - .11 Sand Work smooth and set exposed nails and screws. Apply wood filler in exposed nail and screw indentations. On items to receive transparent finishes, use wood filler which matches surrounding surfaces and of types recommended for applied finishes. Install rubber bumpers on doors.
  - .12 Seal surfaces in contact with cementitious Materials.
  - .13 Install millwork with open gables to the floor on top of finished flooring – coordinate installation with Contractor.
  - .14 Secure all backsplashes to the countertop and leave side splashes loose.

2.7 FABRICATION DETAILS:

All cabinetry to AWMAC standards, custom quality, flush overlay construction:

- .1 Door and drawer fronts: 19mm (3/4") particle board core with high gloss enamel veneer finish on fronts and backs, and 6mm (1/4") edging to match or approved equal in accordance with B7.
- .2 Drawer box: 13mm (1/2") birch plywood veneer core, sanded with clear shop finish. Drawer bottoms shall be 6mm (1/4") birch or maple plywood veneer core.
- .3 Cabinet carcass: 19mm (3/4") birch veneer on plywood core, sanded 2 sides. Finish any exposed edges with same wood veneer as doors.
- .4 Cabinet backs: 13mm (1/2") birch veneer on plywood core, sanded 1 side, set into case body 16mm (5/8").
- .5 Cabinet base and blocking: 19mm (3/4") high gloss enamel veneer to match doors and drawers.
- .6 Exposed and enclosed Shelves: 19mm (3/4") birch plywood veneer core, sanded 2 sides, with solid wood edge banding. Where shelf span exceeds 900 (36"), provide 25mm thick Material, to prevent sagging.
- .7 Valences: (where indicated on details and Drawings) – 19mm (3/4") particle board core with high gloss enamel veneer finish to match doors and drawers and veneer bottom edge.
- .8 Clear shop finish: shop applied high durability, clear lacquer finish on all exposed wood surfaces and edges.

**Part 3 Execution**

3.1 INSPECTION

- .1 Verify that surfaces are ready to receive Work and field measurements are as shown on Shop Drawings.
- .2 Verify mechanical, electrical and building items affecting Work of this Section are placed and ready to receive this Work.
- .3 Beginning of installation means acceptance of existing conditions.

3.2 PREPARATION

- .1 Before installation, prime pain surfaces of items or assemblies to be in contact with cementitious Materials.

3.3 INSTALLATION

- .1 Install Work in accordance with AWMAC 'Custom' quality standard.
- .2 Set and secure all Materials and components in place, rigid plumb and square.
- .3 Provide heavy-duty fixture attachments for wall mounted cabinets.
- .4 Use draw bolts in countertop joints.
- .5 Carefully scribe cabinetwork which is against other building components leaving gaps of 1.5mm (0.06") maximum.
- .6 Apply small beads of sealant at junction of plastic laminate counter, backsplash, gables and shelves to adjacent wall finish.
- .7 Apply water resistant building paper or bituminous coating over wood framing members in contact with masonry or cementitious construction.
- .8 Apply cutouts for plumbing fixtures, inserts, appliances, outlet boxes and other fixtures.

- .9 After installation, fit and adjust operating hardware for wood and laminated plastic cabinet doors, drawers, and shelves.
  - .10 Touch up paint and/or stain once installation is complete for mouldings, paneling and veneer.
  - .11 Install banding with countersunk finishing screws; fill all holes and sand.
- 3.4 PROTECTION
- .1 Protect finish installation under provisions of Section 01 60 00 – Basic Product Requirements.

**END OF SECTION**

**Part 1**

**General**

1.1

REFERENCES

- .1 ISSFA-2, "Classification And Standards Publication of Solid Surfacing Material".
- .2 ANSI Z124-3 for vanities and Z124-6 for kitchen sinks.
- .3 NSF Standard 51 for use in both splash and food service areas.
- .4 Canadian Standards Association (CSA).
- .5 ASTM G21 "Fungal Resistance", Method [A] [B], no growth.
- .6 ASTM G22 "Bacterial Resistance", no growth.
- .7 Stain Resistance, ANSI Z124-6-5.2 19

1.2

DESIGN REQUIREMENTS

- .1 Design Load: Deflection limited to 1/360.
- .2 Design items with sufficient strength for handling stresses.

1.3

SUMMARY

- .1 This Section includes the following horizontal and trim solid surface product types:
  - .1 Countertops as indicated, including trim and Material needed for a complete installation.

1.4

DEFINITION

- .1 Solid surface is defined as nonporous, homogeneous Material maintaining the same composition throughout the part with a composition of acrylic polymer, aluminum trihydrate filler and pigment.

1.5

SUBMITTALS

- .1 In accordance with 01 33 00 – Submittal Procedures
- .2 Shop Drawings: Indicate design parameters, adjacent construction, Materials, dimensions, thickness, fabrication details, tolerances, jointing methods, method of support, anchorages, integration with plumbing fixtures and connections, and colors.
- .3 Samples: Submit two, 50mm x 50mm (2" x 2") samples representative of colors, patterns, textures, finishes and edge treatments. Approved samples will be retained as a standard for the Work.

1.6

DELIVERY, STORAGE AND HANDLING

- .1 Protect against dampness and damage during and after delivery.
- .2 Store in ventilated areas, protected from extreme changes of temperature or humidity.

1.7

QUALITY ASSURANCE

- .1 Fabricator/Installer Qualifications: Company specializing in fabricating and installing solid surfacing fabrications similar in complexity to those required in this project, including specific requirements indicated.
- .2 Source Limitations: Obtain solid surfacing fabrications through one source.
- .3 Fire-Test-Response Characteristics: Provide solid surfacing fabrications with the following surface-burning characteristics as determined by testing identical products per ASTM E 84 by UL 723 or another testing and inspecting agency acceptable to authorities having jurisdiction:
- .4 Flame-Spread Index: 25 or less.

- .5 Smoke-Developed Index: 450 or less.
- 1.8 DELIVERY, STORAGE AND HANDLING
  - .1 A. Deliver, store, handle, and protect Materials in accordance with manufacturer's written instructions.
    - .1 Provide protective coverings of suitable Material. Take special precautions at corners.
- 1.9 PROJECT CONDITIONS
  - .1 Environmental Limitations: Do not deliver or install solid surfacing fabrications until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature and relative humidity at design levels during the remainder of the construction period.
  - .2 Field Measurements: Verify that field measurements are as indicated on Shop Drawings.
- 1.10 SEQUENCING
  - .1 Sequence Work to permit installation of adjacent affected construction, plumbing rough-in.
  - .2 Coordinate sizes and locations of plumbing, cut-outs and other related Work specified in other Sections to ensure that interior architectural woodwork can be supported and installed as indicated
- 1.11 WARRANTY
  - .1 Warranty: Provide manufacturer's 10 year limited warranty covering replacement of the Material except for non-covered conditions as follows:
    - .1 Minor stains, scratches, water spots, and burns which may be corrected by techniques covered in the manufacturer's Use and Care Guide.
    - .2 Failure of solid surfacing joint Material.
    - .3 Failure due to structural failure of base cabinets or other solid surfacing substrate construction.
    - .4 Use for purposes other than indoor finish Material.
    - .5 See manufacturer's warranty for complete details.
- Part 2 Products**
- 2.1 ACCEPTABLE MANUFACTURER AND PRODUCTS
  - .1 Acceptable Manufacturer
    - .1 Dupont Canada, P.O. Box 2200, Streetsville, Mississauga, Ontario, Canada L5M 2H3, Tel: 1 (800) 387-2122
    - .2 Acceptable Product
      - .1 Corian® solid surfaces by DuPon
- 2.2 SUBSTITUTIONS:
  - .1 Approved equal in accordance with B7. Refer to Section 01 33 00 – Submittal Procedure
- 2.3 MATERIALS
  - .1 Solid polymer components
    - .1 Cast, nonporous, filled polymer, not coated, laminated or of composite construction with through body colors meeting ANSI Z124.3 or ANSI Z124.6, having minimum physical and performance properties specified.

- .2 Superficial damage to a depth of .25mm (0.010") shall be repairable by sanding and/or polishing.
- .2 Thickness: 13mm ( ½")
- .3 Edge treatment: As indicated.
- .4 Backsplash: Coved
- 2.4 ACCESSORIES
  - .1 Joint adhesive:
    - .1 Manufacturer's standard one- or two-part adhesive kit to create inconspicuous, nonporous joints
    - .2 Sealants
      - .1 Manufacturer's standard mildew-resistant, UL-listed silicone sealant in colors matching components.
    - .3 Sink/lavatory mounting hardware:
      - .1 Manufacturer's standard bowl clips, panel inserts and fasteners for attachment of undermount sinks/lavatories.
    - .4 Conductive tape:
      - .1 Manufacturer's standard aluminum foil tape, with required thickness, for use with cutouts near heat sources.
    - .5 Insulating felt tape:
      - .1 Manufacturer's standard for use with conductive tape in insulating solid surface Material from adjacent heat source.
- 2.5 FABRICATION
  - .1 Assemble Work at shop following manufacturer's printed fabrication instructions and deliver to job ready for installation. Manufacture in largest practical pieces for handling and shipping without seams.
  - .2 Shop assembly
    - .1 Fabricate components to greatest extent practical to sizes and shapes indicated, in accordance with approved Shop Drawings and manufacturer's printed instructions and technical bulletins.
    - .2 Form joints between components using manufacturer's standard joint adhesive without conspicuous joints.
      - .1 Reinforce with strip of solid polymer Material, 50mm (2") wide.
    - .3 Provide factory cutouts for plumbing fittings and bath accessories as indicated on the Drawings.
    - .4 Rout and finish component edges with clean, sharp returns.
      - .1 Rout cutouts, radii and contours to template.
      - .2 Smooth edges.
      - .3 Repair or reject defective and inaccurate Work.
- 2.6 FINISHES
  - .1 Color: Glacier White
  - .2 Finish:
    - .1 Provide surfaces with a uniform finish.
    - .2 To be determined by Contract Administrator from standard range of finishes.

### Part 3 Execution

- 3.1 EXAMINATION AND PREPARATION
  - .1 Examine substrates and conditions, with fabricator present for compliance with requirements for installation tolerances and other conditions affecting performance of Work.
  - .2 Proceed with installation only after unsatisfactory conditions have been corrected.
  - .3 Preparation: Take field measurements
- 3.2 INSTALLATION
  - .1 Install components plumb, level and rigid, scribed to adjacent finishes, in accordance with approved Shop Drawings and product data.
    - .1 Provide product in the largest pieces available.
    - .2 Form field joints using manufacturer's recommended adhesive, with joints inconspicuous in finished Work.
      - .1 Exposed joints/seams shall not be allowed.
    - .3 Reinforce field joints with solid surface strips extending a minimum of 25mm (1") on either side of the seam with the strip being the same thickness as the top.
    - .4 Cut and finish component edges with clean, sharp returns.
    - .5 Rout radii and contours to template.
    - .6 Anchor securely to base cabinets or other supports.
    - .7 Align adjacent countertops and form seams to comply with manufacturer's written recommendations using adhesive in color to match countertop.
    - .8 Carefully dress joints smooth, remove surface scratches and clean entire surface.
    - .9 Install countertops with no more than 3mm (1/8") sag, bow or other variation from a straight line.
  - .2 Coved backsplashes and applied sidesplashes:
    - .1 Install applied sidesplashes using manufacturer's standard color-matched silicone sealant.
    - .2 Adhere applied sidesplashes to countertops using manufacturer's standard color-matched silicone sealant.
    - .3 Coved backsplashes and sidesplashes:
      - .1 Provide coved backsplashes and sidesplashes at all walls and adjacent millwork.
      - .2 Fabricate radius cove at intersection of counters with backsplashes to dimensions shown on the Drawings.
      - .3 Adhere to countertops using manufacturer's standard color-matched Joint Adhesive.
- 3.3 REPAIR
  - .1 Repair or replace damaged Work which cannot be repaired to Contract Administrator's satisfaction.
- 3.4 CLEANING AND PROTECTION
  - .1 Cleaning:
    - .1 Clean and polish fabrications in accordance with manufacturer's instructions.
    - .2 Promptly remove excessive mastic and seam adhesive.
    - .3 Clean tops and splashes in accordance with manufacturer's recommendations.



- .2 Protection:
  - .1 Do not permit construction near unprotected surfaces.

**END OF SECTION**