Part 1 GENERAL

1.1 GENERAL REQUIREMENTS

1 Division One - General Requirements is part of this section and shall apply as if repeated here.

1.2 WORK OF SEPARATE SECTIONS

1. Installation of wood doors: Section 06 41 00, Carpentry and Millwork

2. Hardware installed by Section Section 06 41 00, Carpentry and Millwork

3. Glazing: Section 08 81 00, Glass and Glazing.

4. Metal louvres supplied by Section 08 91 00, Aluminum Louvres and installed by Section Section 06 41 00, Carpentry and Millwork

5. Painting of Doors: Section 09 91 00, Painting & Finishing.

1.3 SUBMITTALS

1. Shop Drawings: Indicate each type of door, cut-outs and materials being supplied. Manufacturer's numbering system shall correspond to consultant's numbering system.

2. Samples:

   1. Submit samples measuring 6" x 6" (150 mm x 150 mm) of each wood species.

   2. Submit samples showing full range of variation in wood.

   3. Submit samples of door panels in specified finish.

   4. Submit cut-away corner samples minimum 1'-0" (300 mm) square to clearly indicate construction, joinery and finish characteristics of each type of stile and rail door.

   5. Contractor shall provide preparations in the manufacture's shop to allow consultants and owner to review laid-up stile and rail doors with panels prior to prime finishing.

1.4 PRODUCT HANDLING

1. Protect materials on site to eliminate damage, warping, shrinkage, twisting, making and exposure to moisture. Store all fabricated items under conditions which will ensure that moisture content will be limited to not less than 5% and not more than 15%.

2. Store doors in vertical position. Separate face surfaces by blocking to permit air circulation.

1.5 WARRANTY

1. Contractor hereby warrants in accordance with the General Conditions, for a period of 2 years, that all Work and materials except as otherwise indicated shall remain free of any defects, and that any defects attributable to any faulty or inadequate materials, or faulty or poor quality of work shall be promptly corrected without cost to Owner.

2. Warranty shall include complete re-hanging and redecorating costs.

3. Warping, shrinking, twisting, showing of ghost lines, splitting, delaminating, or sagging under normal use will be considered as defects. Warpage and shrinkage shall not exceed ¼" (6 mm) clearance over height or width.

1.6 REFERENCE STANDARDS

1. Standard of finished carpentry and door work in accordance with the "Millwork Standards" (latest issue) of the Architectural Woodwork Manufacturers Association of Canada (AWMAC) (lattes issue).

2. Manufacture doors in accordance with CAN/CSA 0132.2-M90 for solid doors.

3. Details, connections and all installation procedures shall be in conformance with the best practise as set forth in the previously cited industry standard and historical method that may differ from today's modern practice.

4. Provide dressed finish lumber surface four (4) sides.

5. All structural lumber and plywood shall bear the grade and mark of the association under whose rules it is produced.

1.7 WORK INCLUDED

1. This Section includes the manufacturing, supply and installation of new wood doors and hardware.

Part 2 PRODUCTS

2.1 MATERIALS

1. Lumber:

    1. Solid Wood Cores, Wood Rails and Stiles: Red Oak, (no knots), paint doors to match existing. Kiln dried to minimum of 5% and maximum 7% moisture content.

2. Putty: Oil based.

3. Linseed Oil: Premium double boiled.

4. Turpentine: Premium grade.

5. Stainless Steel Fasteners: By Hilti or approved equal.

6. Painting:

   1. Primer by this Section: premium Exterior Primer by Pratt & Lambert or Benjamin Moore.
   2. One Finish Coat by this Section: Accolade exterior paint by Pratt & Lambert or Aura Grand Entrance by Benjamin Moore. Custom tinted to Architect's selection.

7. Gaskets (at Perimeter of Panels): Rubber neoprene, submit sample for Architect's approval.

8. Adhesive: Resorcinal ™ resin adhesive (CSA 0112.7-M1977) Class II Type 1 or 2 Part Epoxy G @ by Industrial Formulators of Canada Ltd.

9. Glass: Tempered, CAN/CGSB-12.1-M90, thickness shall conform to the Ontario Building Code, colour: clear.

2.2 FABRICATION – GENERAL

1. Provide doors of size to suit frame opening ensuring 1/16" (1.5 mm) clearance of jambs and head and maximum ¼" (6 mm) clearance at floor unless indicated to be undercut. Adjust undercut at shaped thresholds.

2. Provide ¾" (20 mm) undercutting in carpeted areas.

3. Bevel strike edges of single leaf doors 1/16" (1.5 mm) maximum in 2" (50 mm) unless indicated otherwise. Slightly crown meeting edges of pairs of doors from centre to each face edge.

4. Prepare doors and frames required to be sound and light tight for gaskets. Install integral core blocking for scheduled hardware attachments and mounting. Grommet and through bolt attachments are not permitted.

5. Sanding of door faces shall exceed the requirements of CSA 0115, and shall be suitable for direct application of finishes.

6. Shop seal all exposed edges of natural finish doors using approved clear non-staining sealer. Provide factory applied white paint primer to all surfaces of paint grade doors.

7. Incorporate cutouts and stops for glass, louvers and weatherstripping.

8. Radius vertical edges of double acting doors to 60 mm radius.

9. Affix ULC or WH labels to doors required to be 20 min. or 45 min. fire rated (20MFR, 45 MFR).

10. Seal top and bottom edges with two coats urethane finish or lacquer applied in door manufacturer's plant.

2.3 FABRICATION – SOLID WOOD PANELIZED DOORS

1. In addition to Architectural Woodwork Manufacturers Association of Canada and CSA 0132.2, Clause 4, doors shall be constructed only of solid construction without finger jointing of stiles and rails.

2. Use hardwood dowelled jointing techniques as per Clause 4.1.8.3 of CSA 0132.2., or mortise and tenon joints as per Architectural Woodwork Institute, Section 1000-2, Premium Grade, except only blind shoulder dadoes are acceptable. Mortise and Tenon Construction: The blind mortise and tenon shall be sized for a drive fit. The tenon shall be set adhesive or all joints shall be pinned. The pins, stainless steel, shall be barbed and countersunk and shall be no more than 3/8" shorter than the thickness of the door.

3. All doors shall match existing doors of same type in details, construction, profiles and thickness.

4. Stiles and rails shall be constructed of two pieces of wood and laminated together. Panels shall be made of wood laminated together with edge grain exposed.

5. Once stiles and rails have been fabricated together treat all wood surfaces with primer. Apply one coat of finish.

6. Install panels into stile rail frames allowing panels to float. Install rubber gasket at edges of panels to allow them to float but maintain weather seal.

7. All finish carpentry shall produce joints true, tight and well nailed. No hammer mars or ragged saw kerfs will be allowed. All work must be of a first class nature. Make all joints to conceal shrinkage. Mitre all exterior corners, cope all interior corners and mitre or scarf ends to end joinery. Fasten all finish carpentry securely, straight, level, true and plumb.

8. At exposed interior finish work, set nails and cover their heads with plastic wood filler.

9. At exterior finish work use stainless steel finishing nails, making all joints watertight, using waterproof glue or caulking. Any butt joints on exterior work that are exposed during the course of this work are to be primed before covered up.

2.4 PREPARATION FOR HARDWARE

1. Factory prepare and reinforce doors for site mounting of hardware including butt hinges, locksets, latch sets, and other hardware as required.

2.5 SHOP FINISHING OF DOORS

1. Include shop finishing of paint and stain finish doors supplied under this section.

2. All faces and edges of stain grade doors and transom panels shall receive factory finish equivalent to Architectural Woodwork Institute, Architectural

Woodwork Quality Standards, Premium Grade, "furniture finish", for open grain woods, unfilled finish, consisting of the following:

Hand sand and seal wood
1 coat Pratt & Lambert or Benjamin Moore Stain
Impervo Enamel thinned with varsol, wiped on and off to give uniform coat
1 coat sanding sealer Pratt and Lambert
Sanding (200 grit searated paper)
1 Intermediate coat non-catalyzed lacquer
1 top coat non-catalyzed lacquer, spray applied.

3. Apply coatings evenly, free of runs, sags, or similar defects. Shop apply final coats at connection of fabrication, hardware machining, and unless otherwise accepted, at completion of site fitting.

4. Work of this section includes the non-site touch-up of finished surfaces after woodwork has been installed by finishing specialists having applied finishes of this work.

5. All faces and edges of paint grade doors and transom panels shall be factory finished consisting of the following: Install primer after doors have been treated with water-based sanding sealer. Install 1 coat of finish.

Part 3 EXECUTION

3.1 INSTALLATION

1. Special Protection:

   1. Deliver doors to site in protective scuff-resistant wrapping. Do not remove wrapping until doors are installed.

   2. Print door identification on wrapping.

   3. Doors to be stored in a dry, secure area until installed.

2. Door Installation:

   1. Hang doors to swing shut with 1.6 mm (1/16") clearance at heads, 2 mm (3/32") at jambs and 6 mm (1/4") clearance over finished floor surfaces. Install doors so face on opening side is kept 1.6 mm (1/16") shy (recessed) from rebate even after bumpers are installed. (Check and comply with Door Schedule for conditions requiring greater clearance from floor for air movement and in areas to be carpeted.)

   2. Adjust operable parts for correct clearance and function.

   3. Secure transom and side panels by means of concealed fasteners or countersunk screws concealed by means of wood plugs matching panel.

   4. Trim non-rated door width by cutting equally on both jamb edges. Trim

door height by cutting bottom edges to maximum of 19 mm (3/4"). Trim fire-rated door height at bottom edge in accordance to ULC requirements. After trimming door, have painter seal top and bottom edges of door under Section 09 91 00, Painting and Finishing.

3. Finish Hardware:

1. Supply and install, except hardware specified as part of work of another Section. Check each item as received.

2. Set, fit and adjust hardware according to manufacturer's templates and instructions. Hardware shall operate freely. Protect installed hardware from damage and paint spotting.

3. Install all hardware for doors, including: hinges, closers, weatherstrip, exiting devices, latches, pulls, kickplates and locks.

4. Pre-drill kickplates and doors before attachment of plates. Apply with water resistant adhesive and countersunk stainless-steel screws.

5. Maintain integrity of weather seal at head of doors fitted with closers. Adapt weatherstripping as required to achieve specified performance and provide any necessary accessories.

6. Where door stop contacts door pulls, mount stop to strike bottom of pull.

1. Barrier Free Access: Mount all locksets, panics, latches, etc., in full conformity with the Ontario Building Code – Barrier Free Access and in accordance with dimensions indicated in the Contract Documents. Confirm mounting heights with Architect prior to commencement of frame and door preparation.

3.2 FIELD QUALITY CONTROL

1. Owner may engage services of independent recognized Architectural Hardware Consultant (AHC) to review hardware supplied upon delivery to Site and to review installation to assess proper application of finish hardware in accordance with reviewed hardware and keying schedules.

2. Notify Architect 2 weeks in advance of delivery of finish hardware to Site and 2 weeks in advance of Substantial Performance of the Contract and allow AHC with free access. Obtain and coordinate services of competent mechanic from Section 08 71 00, Finishing Hardware to assist with verification of hardware received and operation and adjustment of operating hardware items.

3.3 CLEANING

1. On completion, remove manufacturer's identification markings and clean all surfaces.

End of Section 08 14 33