FINISH CARPENTRY

PART ONE: GENERAL

1.1 Description

1.1.1 Work of this Section, as shown or specified, shall be provided by the Interior Contractor and shall be in accordance with the requirements of the Contract Documents and in accordance with the General Conditions of this Document.

1.1.2 Work includes coordination, fabrication, and installation of all interior exposed wood members shown on drawings and specified herein, including but not necessarily limited to the following:

a. Standing and Running Trim
b. Moldings
c. Wood Shelving
d. Wood Doors
e. Miscellaneous Items

1.1.3 Related work in other Sections:

a. Millwork - Section 06410

1.2 Submittals

1.2.1 All submittals shall be made according to Section 01300 and as described herein.

1.2.2 Submit the following for each item of Finish Carpentry:

a. Shop Drawings, indicating fabrication and installation methods, to include plans and elevations at not less than 1/2" = 1'-0" (1:20) scale and details at not less than 3" = 1'-0" (1:5) scale. Indicate required anchorage and blocking, accessory items, field dimensions, materials and finishes. Indicate compliance with specification requirements. Indicate weight of any materials or systems to be suspended or which require support from structure.

b. Manufacturer's Product Data for all specialty items not manufactured by the Finish Carpentry Fabricator.

c. Two samples of each species and finish of wood
specified. Samples shall be minimum 12" x 12" (300MM X 300MM) (or full member width and thickness) finished as specified on one face, one edge, and one end. Samples shall be fire-retardant treated wood where such has been specified or required by codes. Review will be for color and texture only; compliance with other requirements is the responsibility of Interior Contractor. Samples of finishes shall be applied on the appropriate wood or base material as will occur in the final Finish Carpentry item when installed.

d. A minimum of three different flitches of any and all veneers specified shall be submitted to the Consultant for approval unless veneers have been previously selected by Consultant and herein specified. Flitches shall indicate the color, grain, texture, and finish range to be expected in the Project.

e. Where variations in wood and finish may occur, a minimum of three variations showing the extremes which may be expected of any and all wood and finishes as specified shall be submitted to the Consultant for approval. Minimum size: 12" x 20" (300 x 500 mm).

f. Where required by the Owner or Consultant the Interior Contractor shall provide full size mock-up of panel or woodwork assembly.

g. Interior Contractor shall submit to the Consultant three samples 20" (500m) minimum length of all mouldings or moulding assemblies to be used for the Project. These shall be full size and finished as specified in the Contract Documents.

1.3 Quality Assurance

1.3.1 Comply with applicable provisions for Premium Grade as defined in the latest edition of the AWI Quality Standards for all materials, fabrication and workmanship for all work of this Section.

1.3.2 All work of this Section shall be performed by skilled mechanics of the trade and shall be of the highest quality. Comply with applicable Industry Standards for all work and materials as specified. Such Industry Standards are to include but not be limited to the applicable provisions or standards of the following:
   E-84-70 Test for Surface Burning Characteristics of Building Materials.

b. Federal Specifications (FedSpec):
   FF-N-105B(2) Nails, Brads, Staples and Spikes: Wire Cut and Wrout.
   FF-S-111C(1) Screws, Wood

c. U.S. Department of Commerce:
   Product Standard (PS) 1-66 Softwood Plywood, Construction and Industrial.

d. Architectural Woodwork Institute (AWI):


f. National Hardwood Lumber Associate (NHLA).

g. National Particleboard Association (NPA).

h. American Plywood Association (APA) plywood grades:
   1. for softwood plywood: Product standard PS-1.
   2. for hardwood plywood: Product standard PS-51

1.3.3 The Interior Contractor shall be responsible for obtaining and complying with all code and regulatory agency requirements for materials and methods.

1.3.4 The Interior Contractor shall be responsible for accurately obtaining all field dimensions related to his work prior to fabrication. Where discrepancies are found, he shall notify the Consultant immediately in writing.

1.3.5 All Finish Carpentry materials shall be stored in a dry, ventilated place, protected from the weather and complying with the temperature and humidity conditions specified by AWI Quality Standards.

1.3.6 Protect sanded and finished surfaces from soiling and damage during handling and installation.

1.3.7 Maintain requirements for heating, cooling and ventilation
in installation areas as required to reach relative humidity necessary to maintain optimum moisture content specified for Finish Carpentry by AWI quality standards

1.3.8 Provide temporary protection of all Finish Carpentry as required to protect work from damage.

PART TWO: PRODUCTS

2.1 Materials

2.1.1 All woodwork materials shall be new and shall conform to the Premium Grade requirements of the AWI Quality Standards, latest edition.

2.1.2 All lumber shall be kiln-dried to the average moisture content as recommended by the AWI Quality Standards, latest edition appropriate for the regional climatic conditions of the project site.

2.1.3 All solid wood elements shall be clear, straight-grain lumber of the best grade of specified species as listed by the NHLA. Lumber shall be free of any defects which might impair serviceability, aesthetics, and/or finish. Solid wood elements shall also be according to the following, unless indicated otherwise on drawings and/or specifications:

a. Specie of Face Woods receiving transparent finishes shall be as specified on the drawings and shall be selected for specified grain with uniform color and grain suitable for use with the finished plywood with which it is used.

b. Face Woods receiving opaque finishes shall be Birch, Poplar or custom grade but otherwise shall have same specification as solid stock for Face Woods above.

c. Unexposed woods shall be Custom grade Poplar, kiln dried.

2.1.4 All veneer core elements shall be clear straight-grain lumber of the best grade of the specified species as listed by the N.H.L.A. Lumber shall be free of any defects which might impair serviceability, aesthetics, and/or finish. Where veneer differs on two sides, veneers shall be of similar thickness, density, and characteristics to prevent any warpage. Veneer core elements shall also be
according to the following, unless indicated on drawings or specifications:

a. Adhesives shall be water-resistant resin or approved equal; process shall be hot plate method using the following number of plys to achieve specified thickness:

1. 1/4" (6 mm) overall thickness shall be of 3-ply veneer core construction.
2. 3/8" (9 mm) overall thickness shall be of 5-ply veneer core construction.
3. 1/2" (12 mm) overall thickness shall be of 5-ply veneer core construction.
4. 3/4" (20 mm) overall thickness shall be of 7-ply veneer core construction.
5. 1" (25 mm) overall thickness shall be of 9-ply veneer core construction.

b. Where burl paneling is specified core must be cross banded with poplar prior to applying burl veneer.

c. Provide Douglas Fir or Poplar V-type solid edge trim on all exposed edges of plywood not designated to be surfaced by plastic laminate.

d. For Face Woods receiving transparent finishes, Species shall be as specified on drawings; faces shall be selected and matched by the Interior Contractor with respect to cutting lengths, uniformity of color, figure, and grain character. Face veneers shall not contain open joints, face depressions, glue stain or other manufacturing irregularities.

e. Face Woods receiving opaque finishes shall have custom grade (face veneer) Birch or Poplar select, but otherwise shall have same specification as Plywood for Face Woods (Paragraph 2.1.4.a).

f. Unexposed woods shall be Birch, Poplar or Douglas Fir, rotary cut, Unselect, good one side, interior type plywood, one side Grade A and one side Grade B; Grade A faces shall not contain plugs, knots, pitch pockets, splits, rough grain or other open defects.
g. Wood for plastic lamination shall be minimum 3/4" (20 mm) Mahogany face core plywood, good one side.

2.1.5 All particle board shall be resin impregnated wood flakes of high density construction as manufactured by U. S. Plywood Corporation, Shasta Division, Redding, California or approved equal and shall be 3/4" (20 mm) minimum thickness, unless otherwise specified.

   a. For Enameled Face Woods: High density particle board may be substituted for plywood panels, unless specified otherwise on drawings.

   b. For Unexposed Woods: High density particle board may be substituted for plywood panels, unless specified otherwise on drawings.

2.1.6 All masonite shall be 1/8" (3 mm) thick tempered, as manufactured by Masonite Corporation, Chicago, Illinois, or an approved equal.

2.1.7 All pegboard shall be 1/8" (3 mm) thick tempered as manufactured by Masonite Corporation, Chicago, Illinois, unless otherwise specified.

2.1.8 All Finish Carpentry shall be finished as indicated on drawings and specifications. Transparent and Opaque Finishes shall match approved samples submitted according to Section 01300 and Paragraph 1.2 above. All plastic laminate finishes shall be of the quality, color and finish as indicated on the drawings and specifications.

2.2 Hardware and Accessories

2.2.1 All required hardware and accessories shall be furnished and installed by Interior Contractor and shall be as indicated on drawings and specifications. Where specific products are not specified in the Contract Documents the Interior Contractor shall recommend hardware to provide the function or condition indicated in the Contract Documents. Hinges, screws, clips and other mounting, attachments or fasteners to be concealed unless otherwise noted on drawings.

2.2.2 Interior Contractor shall submit samples of each hardware item/type and accessory item/type to Consultant for approval according to Paragraph 1.2 above and Section 01300.

2.2.3 All Finish Carpentry hardware and accessories shall be
installed in accordance with manufacturer's recommendations.

2.3 Other Materials

2.3.1 Interior Contractor shall be responsible for providing and installing all items and materials as indicated on drawings and specifications comprising all or part of the Finish Carpentry shown. Such items and materials shall be fabricated and/or installed according to manufacturer's recommendations and comply with applicable AWI Quality Standards and Industry Standards.

2.3.2 All paint and other finish material shall be pure, unadulterated and best quality from specified manufacturer as indicated on the drawings and specifications. (See Section 09920).

2.3.3 All finish materials shall be flame retardant or treated with flame-retardant process where required by local code. Should flame-retardant process cause change in color and effect on finish material, Interior Contractor shall notify the Consultant.

2.3.4 All finishes and processes shall be in compliance with code requirements for the location of installation.

2.3.5 All transparent finishes shall be alcohol, water and burn resistant.

PART THREE: EXECUTION

3.1 Examination of Conditions

3.1.1 The Interior Contractor shall be responsible for examination of the substrate and the conditions under which the work under this section is to be performed, and notify the Consultant in writing of unsatisfactory conditions. Do not proceed with the work under this section until unsatisfactory conditions have been corrected.

3.2 Fabrication

3.2.1 All work shall be performed in such manner as to fulfill the intent of the drawings and specifications.

3.2.2 All items to be mill fabricated per AWI Premium Grade specifications and according to the sizes and designs indicated on the drawings and
specifications, and assembled in single and complete units insofar as the dimensions thereof will permit shipment to and installation at the building. Large pieces requiring sectional construction shall have their several parts accurately fitted and aligned with each other and be provided with ample screws, glue and bolt blocks, tongues, grooves and splines, dowels, mortises and tenons, screws, bolts, or suitable means of concealed fastening, as required to render the work substantial, rigid and permanently secured in proper position to each related section.

3.2.3 Where necessary to fit at site provide ample allowance for cutting and fitting. Sufficient additional material shall be allowed to permit accurate scribing to walls, floors and related work; and due allowance made wherever possible for such shrinkage as may develop after installation. All single and sectional units shall be provided with adequate cleating, blocking, crating and other forms of protection as required to preclude damages thereto during shipping and handling and installation.

3.2.4 Framing and blocking members shall be assembled with bolted and screwed connections, and shall be secured to the structural backings with expansion screws, or toggle bolts, as required, spaced and installed so as to insure ample strength and rigidity. Rails and stiles shall be mortised and tenoned, work neatly mitered and membered, all butt joints made flush and smooth, and all permanent joints made up with water-resistant glue. All fixtures shall be assembled without face screws or nails, except where it may be necessary to attach trim items. All face screws or nails which are necessary to attach trim items shall be countersunk and plastic wood or wood plugs used to cover heads, and the plug neatly touched up to match finish. The heads of all screws used in any assembly shall be countersunk below the surface.

3.2.5 All items where paint is required shall be shop spray finished, except where impractical or otherwise specified.

3.2.6 Backsides of all Finish Carpentry concealed by the building shall be given a prime coat of paint, color to closely approximate the value and hue of
the face finish.

3.2.7 All shelving shall be adjustable unless indicated otherwise on drawings and specifications. Shelving standards shall be concealed unless otherwise noted.

3.2.8 Plastic Laminate edges shall be square, self-edged, or postformed as indicated on drawings. Metal trim is not acceptable. Edges shall be neatly beveled, joints shall be minimized in quantity and be made to a smooth hairline and puttied. Appearance of unsightly or excessive joints will be cause for rejection.

3.3 Installation

3.3.1 Installation at the Project shall be by skilled mechanics supervised by the Interior Contractor in accordance with accepted standards.

3.3.2 Install all Finish Carpentry straight, plumb, level and in true alignment except where otherwise indicated. Fit all joints closely and fasten all pieces rigidly in place. Nails shall be finish or casing nails. Countersink nail heads and leave ready for putty. Joints shall be neatly matched and mitered. Fill exposed joints prior to jointing.

a. Finished size shall be as indicated on the drawings.

b. Surfaces shall be left free from hammer marks, free from warp, twist, open joints or other defects and shall be cleaned, scraped and sanded ready for finishing.

c. Lengths of all running trim shall be as long as practical.

d. Shim as required using concealed shims.

3.3.3 Cut Finish Carpentry to fit unless specified to be shop-fabricated or shop-cut to exact size. Where Finish Carpentry abuts other finished work, scribe and cut for accurate fit. Before making cutouts, drill pilot holes at corners.

3.3.4 Distribute defects allowed in the quality grade specified to the best overall advantage, when installing job assembled items.
3.3.5 Install trim and moldings in single, unjointed lengths for openings and for runs less than maximum length of lumber available. For longer runs, use only one piece less than maximum length available in any straight run. Stagger joints in adjacent members.

3.3.6 Cope mouldings at returns, mitre interior angles and corners.

3.3.7 Attach Finish Carpentry securely in place with uniform joints providing for thermal and building movements. Attach to substrates by anchoring and fastening as shown, as required by recognized standards, and as follows:

a. Nailing: Blind nail where possible. Use fine finishing nails where exposed. Set exposed nail heads for filling except for exterior wood which is to receive a natural finish (if any).

b. Anchoring: Secure Finish Carpentry to anchors or blocking built-in or directly attached to substrates.

3.3.8 Where finishes are applied at job site, clean items and fill nail holes in preparation for finishes application. Where work is to receive a transparent finish, use matching wood filler.

3.3.9 For Fire-Retardant Finish Carpentry, handle, store and install in accordance with manufacturer's direction and as required to meet the required classification or rating. Provide special fasteners, adhesives and other accessories as tested and listed for the type of fire-retardant work indicated. Re-coat any and all cut surfaces with a heavy brush coating of the same compound used for wood treatment.

3.3.10 Fit Finish Carpentry to other work; scribe and cope as required for accurate fit. Correlate location of furring, nailers, blocking, grounds and similar supports to allow proper support.

3.3.11 Adjust all hardware for smooth operation.

3.4 Cleaning and Protection

3.4.1 Clean shop finished work, touch-up finish as required and remove and refinish damaged or soiled areas of finish.
3.4.2 Protect installed Finish Carpentry from damage by work of other trades until Owner's acceptance of the work. Subcontractor to advise Interior Contractor of procedures and precautions for protection of materials and installed work from damage and of the required temperature/humidity conditions which must be maintained during the remainder of the construction period in areas of Finish Carpentry installations.

END OF SECTION