SECTION 06 40 23 - INTERIOR ARCHITECTURAL WOODWORK

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Interior frames and jambs.
2. Wood veneered cabinets
3. Plastic-laminate cabinets.
4. Plastic-laminate countertops.
5. Solid-surfacing-material countertops.
6. Shop finishing of woodwork.

B. Interior Architectural woodwork includes wood furring, blocking, shims, and hanging strips unless concealed within other construction before woodwork installation.

C. Rough carriages for stairs are a part of interior Architectural woodwork. Platform framing, headers, partition framing, and other rough framing associated with stairwork are specified in Division 06 Section "Rough Carpentry."

1.2 SUBMITTALS

A. Product Data: For cabinet hardware and accessories and finishing materials and processes.

B. Shop Drawings: Show location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components.

C. Samples:

1. Lumber and panel products for transparent finish, for each species and cut, finished on one side and one edge.
2. Lumber and panel products with shop-applied opaque finish, for each finish system and color, with exposed surface finished.
3. Plastic-laminates, for each type, color, pattern, and surface finish.
4. Thermoset decorative panels, for each type, color, pattern, and surface finish.
5. Solid-surfacing materials.

D. LEED Submittals:

1. Credit EQ 4.4:

a. Composite wood manufacturer's product data for each composite wood product used indicating that the bonding agent contains no urea formaldehyde.
b. Adhesive manufacturer's product data for each adhesive used indicating that the adhesive contains no urea formaldehyde.

E. Woodwork Quality Standard Compliance Certificates: AWI Quality Certification Program certificates.

1.3 QUALITY ASSURANCE

A. Installer Qualifications: Fabricator of woodwork.

B. Quality Standard: Unless otherwise indicated, comply with AWI's "Architectural Woodwork Quality Standards."

1. Provide AWI Quality Certification Program labels and certificates for woodwork, including installation.

C. Forest Certification: Provide interior Architectural woodwork produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC 1.2, "Principles and Criteria."

1.4 PROJECT CONDITIONS

A. Environmental Limitations: Do not deliver or install woodwork until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.

PART 2 - PRODUCTS

2.1 WOODWORK FABRICATORS

A. Fabricators: Subject to compliance with requirements, provide interior Architectural woodwork by one of the following:

2.2 MATERIALS

A. Wood Species and Cut for Transparent Finish: [**Red oak, plain sawn or sliced**] [**White oak, rift sawn or cut**] **[maple, plain sawn]**

B. Wood Species for Opaque Finish: Any closed-grain hardwood.

C. Wood Products:

1. Hardboard: AHA A135.4.
2. Medium-Density Fiberboard: ANSI A208.2, Grade MD, made with binder containing no urea formaldehyde.
3. Particleboard: ANSI A208.1, Grade M-2.
4. Softwood Plywood: DOC PS 1, Medium Density Overlay.
5. Veneer-Faced Panel Products (Hardwood Plywood): HPVA HP-1, made with adhesive containing no urea formaldehyde.

D. Thermoset Decorative Panels: Particleboard or medium-density fiberboard finished with thermally fused, melamine-impregnated decorative paper complying with LMA SAT-1.

E. High-Pressure Decorative Laminate: NEMA LD 3, grades as indicated or, if not indicated, as required by woodwork quality standard.

F. Solid-Surfacing Material: Homogeneous solid sheets of filled plastic resin complying with ISSFA-2.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   a. Avonite, Inc.
   b. Formica Corporation.
   c. Meganite Inc.; a division of the Pyrochem Group.
   d. Nevamar Company, LLC; Decorative Products Div.
   e. Swan Corporation (The).
   f. Transolid, Inc.
   g. Wilsonart International; Div. of Premark International, Inc.
   h. Dovae by Chemchor Industries, Inc.
   i. Or approved equal

G. Tempered Float Glass for Cabinet Doors: ASTM C 1048, Kind FT, Condition A, Type I, Class 1 (clear), Quality-Q3, with exposed edges seamed before tempering, 6 mm thick, unless otherwise indicated.

2.3 FIRE-RETARDANT-TREATED MATERIALS

A. Fire-Retardant-Treated Lumber and Plywood by Pressure Process: Comply with performance requirements of AWPA C20 (lumber) and AWPA C27 (plywood). Use Exterior Type or Interior Type A. Use fire-retardant-treatment formulations that do not bleed through or otherwise adversely affect finishes. Kiln-dry material after treatment.

B. Fire-Retardant Particleboard: Panels made from softwood particles and fire-retardant chemicals mixed together at time of panel manufacture with flame-spread index of 25 or less and smoke-developed index of 25 or less per ASTM E 84.

C. Fire-Retardant Fiberboard: ANSI A208.2 medium-density fiberboard panels made from softwood fibers, synthetic resins, and fire-retardant chemicals mixed together at time of panel manufacture with flame-spread index of 25 or less and smoke-developed index of 200 or less per ASTM E 84.

2.4 CABINET HARDWARE AND ACCESSORIES

A. General: Provide cabinet hardware and accessory materials associated with Architectural woodwork, except for items specified in Division 08 Section "Door Hardware (Scheduled by Describing Products)."

B. Butt Hinges: 2-3/4-inch, 5-knuckle steel hinges made from 0.095-inch- thick metal, and as follows:

1. Semiconcealed Hinges for Flush Doors: BHMA A156.9, B01361.

2. Semiconcealed Hinges for Overlay Doors: BHMA A156.9, B01521.

C. Frameless Concealed Hinges (European Type): BHMA A156.9, B01602, 125 degrees of opening, self-closing.

D. Back-Mounted Pulls: BHMA A156.9, B02011.

E. Wire Pulls: Back mounted, solid metal, 4 inches long, 5/16 inch in diameter.

F. Catches: Magnetic catches, BHMA A156.9, B03141.

G. Drawer Slides: BHMA A156.9, B05091.

1. Standard Duty (Grade 1, Grade 2, and Grade 3): Side mounted and extending under bottom edge of drawer; full-extension type; zinc-plated steel with polymer rollers.
2. Heavy Duty (Grade 1HD-100 and Grade 1HD-200): Side mounted; full-extension type; zinc-plated steel ball-bearing slides.
3. Box Drawer Slides: Grade 1; for drawers not more than 6 inches high and 24 inches wide.
4. File Drawer Slides: Grade 1HD-200; for drawers more than 6 inches high or 24 inches wide.
5. Pencil Drawer Slides: Grade 2; for drawers not more than 3 inches high and 24 inches wide.

H. Aluminum Slides for Sliding Glass Doors: BHMA A156.9, B07063.

I. Door Locks: BHMA A156.11, E07121.

J. Drawer Locks: BHMA A156.11, E07041.

K. Exposed Hardware Finishes: For exposed hardware, provide finish that complies with BHMA A156.18 for BHMA finish number indicated.

1. Bright Chromium Plated: BHMA 625 for brass or bronze base; BHMA 651 for steel base.
2. Satin Stainless Steel: BHMA 630.

2.5 MISCELLANEOUS MATERIALS

A. Furring, Blocking, Shims, and Hanging Strips: Softwood or hardwood lumber, fire-retardant-treated, kiln-dried to less than 15 percent moisture content.

B. Adhesives, General: Do not use adhesives that contain urea formaldehyde.

2.6 FABRICATION

A. General: Complete fabrication to maximum extent possible before shipment to Project site. Where necessary for fitting at site, provide allowance for scribing, trimming, and fitting.

1. Interior Woodwork Grade: Custom.
2. Shop cut openings to maximum extent possible. Sand edges of cutouts to remove splinters and burrs. Seal edges of openings in countertops with a coat of varnish.
3. Install glass to comply with applicable requirements in Division 08 Section "Glazing" and in GANA's "Glazing Manual." For glass in wood frames, secure glass with removable stops.

B. Interior Standing and Running Trim:

1. For transparent-finished trim items wider than available lumber, use veneered construction. Do not glue for width.
2. Backout or groove backs of flat trim members and kerf backs of other wide, flat members, except for members with ends exposed in finished work.
3. Assemble casings in plant except where limitations of access to place of installation require field assembly.

C. Fire-Rated Interior Frames and Jambs: Products fabricated from fire-retardant particleboard or fire-retardant medium-density fiberboard with veneered, exposed surfaces and listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to NFPA 252.

1. Fire Rating: 20 minutes.

D. Flush Wood Paneling and Wainscots:

1. Lumber Trim and Edges: At fabricator's option, trim and edges indicated as solid wood (except moldings) may be either lumber or veneered construction compatible with grain and color of veneered panels.
2. Matching of Adjacent Veneer Leaves: Book match.
3. Veneer Matching within Panel Face: Balance match.
4. Panel-Matching Method: In each separate area, use sequence-matched, uniform-size sets.
5. Fire-Retardant-Treated Paneling: Provide panels consisting of wood veneer and fire-retardant particleboard or fire-retardant medium-density fiberboard. Panels shall have flame-spread index of 75 or less and smoke-developed index of 450 or less per ASTM E 84.

E. Wood Cabinets for Transparent Finish:

1. AWI Type of Cabinet Construction: Flush overlay or as indicated.
2. Reveal Dimension: 1/2 inch.
3. Grain Direction: Vertically for drawer fronts, doors, and fixed panels.
4. Matching of Veneer Leaves: Book match.
5. Veneer Matching within Panel Face: Balance match.
6. Semiexposed Surfaces Other Than Drawer Bodies: Thermoset decorative panels.
7. Drawer Sides and Backs: Solid-hardwood lumber, stained to match species indicated for exposed surfaces.
8. Drawer Bottoms: Hardwood plywood.
9. Provide dust panels of 1/4-inch plywood or tempered hardboard above compartments and drawers, unless located directly under tops.

F. Plastic-Laminate Cabinets:

1. AWI Type of Cabinet Construction: Flush overlay.
   a. Reveal Dimension: 1/2 inch.
2. Laminate Cladding for Exposed Surfaces: High-pressure decorative laminate as follows:
   a. Horizontal Surfaces Other Than Tops: Grade HGS.
   b. Postformed Surfaces: Grade HGP.
   c. Vertical Surfaces: Grade HGS.

d. Edges: PVC Edge banding. .012 inch thick, matching laminate in color, pattern and finish.

3. Materials for Semiexposed Surfaces Other Than Drawer Bodies: Thermoset decorative panels.
4. Drawer Sides and Backs: Thermoset decorative panels.
5. Drawer Bottoms: Thermoset decorative panels.
6. Colors, Patterns, and Finishes: As selected by Owner from laminate manufacturer's full range of solid colors and wood grains, matte finish.
7. Provide dust panels of 1/4-inch plywood or tempered hardboard above compartments and drawers, unless located directly under tops.

G. Plastic-Laminate Countertops:

1. High-Pressure Decorative Laminate Grade: HGS.
2. Colors, Patterns, and Finishes: As indicated by manufacturer's designations.
3. Colors, Patterns, and Finishes: As selected by Owner from laminate manufacturer's full range of solid colors and wood grains, matte finish.
4. Edge Treatment: Same as laminate cladding on horizontal surfaces.
5. Core Material at Sinks: Exterior-grade plywood.

H. Solid-Surfacing-Material Countertops:

1. Solid-Surfacing-Material Thickness: 1/2 inch.
2. Colors, Patterns, and Finishes: As indicated by manufacturer's designations.
3. Fabricate tops in one piece with shop-applied backsplashes. Comply with solid-surfacing-material manufacturer's written recommendations for adhesives, sealers, fabrication, and finishing.
4. Install integral sink bowls in countertops in shop.

2.7 SHOP FINISHING

A. Finish Architectural woodwork at fabrication shop. Defer only final touchup, cleaning, and polishing until after installation.

B. Backpriming: Apply one coat of sealer or primer, compatible with finish coats, to concealed surfaces of woodwork. Apply two coats to back of paneling.

C. Transparent Finish:

1. Grade: Premium.
2. AWI Finish System: Catalyzed polyurethane..
3. Staining: Match approved sample for color.
4. Wash Coat for Stained Finish: Apply a wash-coat sealer to woodwork made from closed-grain wood before staining and finishing.
5. Open-Grain Woods: After staining (if any), apply paste wood filler to open-grain woods and wipe off excess. Tint filler to match stained wood.
6. Sheen: Satin, 31-45 gloss units measured on 60-degree gloss meter per ASTM D 523.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Before installation, condition woodwork to average prevailing humidity conditions in installation areas. Examine shop-fabricated work for completion and complete work as required, including removal of packing and backpriming.

B. Grade: Install woodwork to comply with requirements for the same grade specified in Part 2 for fabrication of type of woodwork involved.

C. Install woodwork level, plumb, true, and straight to a tolerance of 1/8 inch in 96 inches. Shim as required with concealed shims.

D. Scribe and cut woodwork to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.

E. Anchor woodwork to anchors or blocking built in or directly attached to substrates. Secure with countersunk, concealed fasteners and blind nailing as required for complete installation. Use fine finishing nails or finishing screws for exposed fastening, countersunk and filled flush with woodwork and matching final finish if transparent finish is indicated.

F. Standing and Running Trim: Install with minimum number of joints possible, using full-length pieces (from maximum length of lumber available) to greatest extent possible. Scarf running joints and stagger in adjacent and related members. Fill gaps, if any, between top of base and wall with plastic wood filler, sand smooth, and finish same as wood base if finished.

G. Paneling: Anchor paneling to supporting substrate with concealed panel-hanger clips. Do not use face fastening, unless covered by trim.

H. Stairs: Securely anchor carriages to supporting substrates. Install stairs with treads and risers no more than 1/8 inch from indicated position.

I. Railings: Install rails with no more than 1/8 inch in 96-inch variation from a straight line.

1. Stair Rails: Glue and dowel or pin balusters to treads and railings, and railings to newel posts.
2. Wall Rails: Support rails on indicated metal brackets securely fastened to wall framing.

J. Cabinets: Install without distortion so doors and drawers fit openings properly and are accurately aligned. Adjust hardware to center doors and drawers in openings and to provide unencumbered operation.

1. Fasten wall cabinets through back, near top and bottom, at ends and not more than 16 inches o.c. with No. 10 wafer-head screws sized for 1-inch penetration into wood framing, blocking, or hanging strips or No. 10 wafer-head sheet metal screws through metal backing or metal framing behind wall finish

K. Countertops: Anchor securely by screwing through corner blocks of base cabinets or other supports into underside of countertop. Calk space between backsplash and wall with sealant specified in Division 07 Section "Joint Sealants."

END OF SECTION 06 40 23