

## SECTION 061053 - MISCELLANEOUS ROUGH CARPENTRY

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section Includes:
  - 1. Wood blocking, cants, and nailers.
  - 2. Plywood backing panels.

#### 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
  - 1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
  - 2. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Evaluation Reports: For the following, from ICC-ES:
  - 1. Preservative-treated wood.
  - 2. Power-driven fasteners
  - 3. Powder-actuated fasteners.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Stack lumber flat with spacers beneath and between each bundle to provide air circulation. Protect lumber from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

### PART 2 - PRODUCTS

#### 2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.

1. Factory mark each piece of lumber with grade stamp of grading agency.
2. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
3. Provide dressed lumber, S4S, unless otherwise indicated.

B. Maximum Moisture Content of Lumber: 19 percent, unless otherwise required or indicated.

## 2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC3b for exterior roofing construction.

1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.

B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or does not comply with requirements for untreated material.

C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.

D. Application: Treat all miscellaneous carpentry unless otherwise indicated, and including the following:

1. Wood cants, nailers, curbs, blocking, stripping, and similar members in connection with roofing, flashing, etc.

## 2.3 MISCELLANEOUS LUMBER

A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:

1. Blocking.
2. Nailers.
3. Cants.

B. For items of dimension lumber size, provide Standard, Stud, or No. 3 grade lumber of any of the following species:

1. Hem-fir (north); NLGA.
2. Mixed southern pine; SPIB.
3. Spruce-pine-fir; NLGA.
4. Hem-fir; WCLIB or WWPA.
5. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.

C. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

## 2.4 PLYWOOD BACKING PANELS

A. Equipment Backing Panels: DOC PS 1, Exterior, AC fire-retardant treated, in thickness indicated or, if not indicated, not less than 3/4-inch nominal thickness.

## 2.5 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
  - 1. Where carpentry is exposed to weather, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153 or of Type 304 stainless steel. Verify compatibility with preservative treatment chemicals.
- B. Power-Driven Fasteners: NES NER-272.
- C. Wood Screws: ASME B18.6.1.
- D. Lag Bolts: ASME B18.6.1.
- E. Bolts: Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and, where indicated, flat washers.

## PART 3 - EXECUTION

### 3.1 INSTALLATION, GENERAL

- A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate furring, nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.
- B. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
  - 1. Provide metal clips for fastening gypsum board or lath at corners and intersections where framing or blocking does not provide a surface for fastening edges of panels. Space clips not more than 16 inches o.c.
- C. Sort and select lumber so that natural characteristics will not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- D. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
  - 1. Use inorganic boron for items that are continuously protected from liquid water.
  - 2. Use copper naphthenate for items not continuously protected from liquid water.
- E. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
  - 1. NES NER-272 for power-driven fasteners.
  - 2. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.
  - 3. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in ICC's International Residential Code for One- and Two-Family Dwellings.
- F. Use steel common nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials.

Make tight connections between members. Install fasteners without splitting wood. Drive nails snug but do not countersink nail heads unless otherwise indicated.

### 3.2 WOOD BLOCKING AND NAILER INSTALLATION

- A. Install where indicated and where required for attaching other work. Form to shapes indicated or required and cut as required for true line and level of attached work. Coordinate locations with other work involved.
- B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated.
- C. Provide permanent grounds of dressed, pressure-preservative-treated, key-beveled lumber not less than 1-1/2 inches wide and of thickness required to bring face of ground to exact thickness of finish material. Remove temporary grounds when no longer required.

### 3.3 WOOD FURRING INSTALLATION

- A. Install level and plumb with closure strips at edges and openings. Shim with wood as required for tolerance of finish work.

### 3.4 PROTECTION

- A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.
- B. Protect rough carpentry from weather. If, despite protection, rough carpentry becomes sufficiently wet that moisture content exceeds that specified, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 061053

## SECTION 061600 - SHEATHING

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section Includes:
  - 1. Wall sheathing.
  - 2. Fascia/Soffit sheathing.
  - 3. Sheathing joint and penetration treatment.
- B. Related Requirements:
  - 1. Section 072500 "Weather Barriers" for water-resistive barrier applied over wall sheathing.

#### 1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
  - 1. Review air-barrier and water-resistant glass-mat gypsum sheathing requirements and installation, special details, transitions, mockups, air-leakage testing, protection, and work scheduling that covers air-barrier and water-resistant glass-mat gypsum sheathing.

#### 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
  - 1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated plywood complies with requirements. Indicate type of preservative used and net amount of preservative retained.
  - 2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated plywood complies with requirements. Include physical properties of treated materials.
  - 3. For fire-retardant treatments, include physical properties of treated plywood both before and after exposure to elevated temperatures, based on testing by a qualified independent testing agency according to ASTM D5516.
  - 4. For products receiving waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.
  - 5. For air-barrier and water-resistant glass-mat gypsum sheathing, include manufacturer's technical data and tested physical and performance properties of products.
- B. Shop Drawings: For air-barrier and water-resistant glass-mat gypsum sheathing assemblies.
  - 1. Show locations and extent of sheathing, accessories, and assemblies specific to Project conditions.

2. Include details for sheathing joints and cracks, counterflashing strips, penetrations, inside and outside corners, terminations, and tie-ins with adjoining construction.
3. Include details of interfaces with other materials that form part of air barrier.

#### 1.5 INFORMATIONAL SUBMITTALS

- A. Product Certificates: From air-barrier and water-resistant glass-mat gypsum sheathing manufacturer, certifying compatibility of sheathing accessory materials with Project materials that connect to or that come in contact with the sheathing.
- B. Product Test Reports: For each air-barrier and water-resistant glass-mat gypsum sheathing assembly, indicating compliance with specified requirements, for tests performed by a qualified testing agency.
- C. Evaluation Reports: For the following, from ICC-ES:
  1. Wood-preservative-treated plywood.
  2. Fire-retardant-treated plywood.
  3. Air-barrier and water-resistant glass-mat gypsum sheathing.

#### 1.6 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer of air-barrier and water-resistant glass-mat gypsum sheathing.
- B. Mockups: Build mockups to set quality standards for materials and execution.
  1. Build integrated mockups of exterior wall assembly , 150 sq. ft., incorporating backup wall construction, window, storefront, door frame and sill, ties and other penetrations, and flashing to demonstrate crack and joint treatment and sealing of gaps, terminations, and penetrations of air-barrier sheathing assembly.
    - a. Coordinate construction of mockups to permit inspection of sheathing before external insulation and/or cladding are installed.
    - b. Include junction with roofing soffit membrane, building corner condition, and foundation wall intersection.
    - c. If Architect determines mockups do not comply with requirements, reconstruct mockups until mockups are approved.
  2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
  3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

#### 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Stack panels flat with spacers beneath and between each bundle to provide air circulation. Protect sheathing from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

## PART 2 - PRODUCTS

### 2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Resistance Ratings: As tested according to ASTM E119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
  - 1. Fire-Resistance Ratings: Indicated by design designations from UL's "Fire Resistance Directory" or from the listings of another qualified testing agency.
- B. Air-Barrier and Water-Resistant Glass-Mat Gypsum Sheathing Performance: Air-barrier and water-resistant glass-mat gypsum sheathing assembly, and seals with adjacent construction, shall be capable of performing as a continuous air barrier and as a liquid-water drainage plane flashed to discharge to the exterior incidental condensation or water penetration. Air-barrier assemblies shall be capable of accommodating substrate movement and of sealing substrate expansion and control joints, construction material changes, penetrations, tie-ins to installed waterproofing, tie-ins to other installed air barriers, and transitions at perimeter conditions without deterioration and air leakage exceeding specified limits.

### 2.2 WOOD PANEL PRODUCTS

- A. Emissions: Products shall meet the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
- B. Thickness: As needed to comply with requirements specified, but not less than thickness indicated.
- C. Factory mark panels to indicate compliance with applicable standard.

### 2.3 PRESERVATIVE-TREATED PLYWOOD

- A. Preservative Treatment by Pressure Process: AWWPA U1; Use Category UC3b for exterior construction not in contact with ground.
  - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
- B. Mark plywood with appropriate classification marking of an inspection agency acceptable to authorities having jurisdiction.
- C. Application: Treat all plywood items indicated on Drawings and plywood in contact with masonry or concrete or used with roofing, flashing, soffit, vapor barriers, and waterproofing.

### 2.4 WALL AND FASCIA/SOFFIT SHEATHING

- A. Plywood Fascia & Soffit Sheathing: Either DOC PS 1 or DOC PS 2, Exterior, Structural I or Exposure 1, Structural I sheathing, as required for situation.
  - 1. Span Rating: Not less than 24/0.
  - 2. Nominal Thickness: Not less than 1/2 inch.
- B. Glass-Mat Gypsum Wall Sheathing: ASTM C1177.
  - 1. Type and Thickness: Regular, 1/2 inch thick.

2. Size: 48 by longest lengths practical to minimize joints for vertical installation.
- C. Air-Barrier and Water-Resistant Glass-Mat Gypsum Sheathing: ASTM C1177, Type X, coated fiberglass mat gypsum sheathing with integral weather-resistant barrier and air barrier complying with ASTM E2178.
1. Thickness: 5/8 inch thick.
  2. Size: 48 by longest lengths practical to minimize joints for vertical installation.
  3. Edges: Square.
  4. Flashing and Transitions Strips: As acceptable to sheathing manufacturer.
  5. Air Permeance: Maximum 0.004 cfm/sq. ft. of surface area at 1.57-lbf/sq. ft. pressure difference when tested according to ASTM E2178.
  6. Vapor Permeance: Minimum 20 perms when tested according to ASTM E96/E96M, Desiccant Method, Procedure A.
  7. Sheathing Assembly Air Leakage: Maximum 0.04 cfm/sq. ft. of surface area at 1.57 lbf/sq. ft. when tested according to ASTM E2357.
  8. Provide primers, transition strips, termination strips, joint reinforcing fabric and strips, joint sealants, counterflashing strips, flashing sheets and metal termination bars, termination mastic, substrate patching materials, adhesives, tapes, foam sealants, lap sealants, and other accessory materials that are recommended in writing by sheathing manufacturer to produce a complete air-barrier assembly and that are compatible with primary air-barrier material and adjacent construction to which they may seal.

## 2.5 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
1. For wall and fascia/soffit sheathing, provide fasteners with hot-dip zinc coating complying with ASTM A153 or of Type 304 stainless steel.
- B. Screws for Fastening Wood Structural Panels to Cold-Formed Metal Framing: ASTM C954, except with wafer heads and reamer wings, length as recommended by screw manufacturer for material being fastened.
- C. Screws for Fastening Gypsum Sheathing to Cold-Formed Metal Framing: Steel drill screws, in length recommended by sheathing manufacturer for thickness of sheathing to be attached.
1. For steel framing less than 0.0329 inch thick, use screws that comply with ASTM C1002.
  2. For steel framing from 0.033 to 0.112 inch thick, use screws that comply with ASTM C954.

## 2.6 SHEATHING JOINT-AND-PENETRATION TREATMENT MATERIALS

- A. Sealant for Glass-Mat Gypsum Sheathing: Elastomeric, medium-modulus, neutral-curing silicone joint sealant compatible with joint substrates formed by gypsum sheathing and other materials, recommended by sheathing manufacturer for application indicated and complying with requirements for elastomeric sealants specified in Section 079200 "Joint Sealants."
- B. Sealant for Glass-Mat Gypsum Sheathing: Silicone emulsion sealant complying with ASTM C834, compatible with sheathing tape and sheathing and recommended by tape and sheathing manufacturers for use with glass-fiber sheathing tape and for covering exposed fasteners.
1. Sheathing Tape: Self-adhering glass-fiber tape, minimum 2 inches wide, 10 by 10 or 10 by 20 threads/inch, of type recommended by sheathing and tape manufacturers for use

with silicone emulsion sealant in sealing joints in glass-mat gypsum sheathing and with a history of successful in-service use.

## PART 3 - EXECUTION

### 3.1 INSTALLATION, GENERAL

- A. Do not use materials with defects that impair quality of sheathing or pieces that are too small to use with minimum number of joints or optimum joint arrangement. Arrange joints so that pieces do not span between fewer than three support members.
- B. Cut panels at penetrations, edges, and other obstructions of work; fit tightly against abutting construction unless otherwise indicated.
- C. Securely attach to substrate by fastening as indicated, complying with the following:
  - 1. Table 2304.9.1, "Fastening Schedule," in the ICC's International Building Code.
  - 2. ICC-ES evaluation report for fastener.
- D. Coordinate wall and fascia/soffit sheathing installation with flashing and joint-sealant installation so these materials are installed in sequence and manner that prevent exterior moisture from passing through completed assembly.
- E. Do not bridge building expansion joints; cut and space edges of panels to match spacing of structural support elements.
- F. Coordinate sheathing installation with installation of materials installed over sheathing so sheathing is not exposed to precipitation or left exposed at end of the workday when rain is forecast.

### 3.2 WOOD STRUCTURAL PANEL INSTALLATION

- A. General: Comply with applicable recommendations in APA Form No. E30, "Engineered Wood Construction Guide," for types of structural-use panels and applications indicated.
- B. Fastening Methods: Fasten panels as indicated below:
  - 1. Sheathing:
    - a. Screw to cold-formed metal framing.
    - b. Space panels 1/8 inch apart at edges and ends.

### 3.3 GYPSUM SHEATHING INSTALLATION

- A. Comply with GA-253 and with manufacturer's written instructions.
  - 1. Fasten gypsum sheathing to cold-formed metal framing with screws.
  - 2. Install panels with a 3/8-inch gap where non-load-bearing construction abuts structural elements.
  - 3. Install panels with a 1/4-inch gap where they abut masonry or similar materials that might retain moisture, to prevent wicking.
- B. Apply fasteners so heads bear tightly against face of sheathing, but do not cut into facing.
- C. Vertical Installation: Install vertical edges centered over studs. Abut ends and edges with those of adjacent panels. Attach at perimeter and within field of panel to each stud.

1. Space fasteners approximately 8 inches o.c. and set back a minimum of 3/8 inch from edges and ends of panels.
- D. Seal sheathing joints according to sheathing manufacturer's written instructions.
1. Apply elastomeric sealant to joints and fasteners and trowel flat. Apply sufficient amount of sealant to completely cover joints and fasteners after troweling. Seal other penetrations and openings.
  2. Apply glass-fiber sheathing tape to glass-mat gypsum sheathing joints and apply and trowel sealant to embed entire face of tape in sealant. Apply sealant to exposed fasteners with a trowel so fasteners are completely covered. Seal other penetrations and openings.
- E. Air-Barrier and Water-Resistant Glass-Mat Gypsum Sheathing:
1. Install accessory materials according to sheathing manufacturer's written instructions and details to form a seal with adjacent construction, to seal fasteners, and ensure continuity of air and water barrier.
    - a. Coordinate the installation of sheathing with installation of fascia/soffit to ensure continuity of air barrier with roofing membrane.
    - b. Install transition strip at roofing membrane or base flashing, so that a minimum of 3 inches of coverage is achieved over each substrate.
  2. Connect and seal sheathing material continuously to air barriers specified under other Sections as well as to concrete below-grade structures, floor-to-floor construction, exterior glazing and window systems, storefront systems, exterior door framing, and other construction used in exterior wall openings, using accessory materials.
  3. Apply joint sealants forming part of air-barrier assembly within manufacturer's recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.
  4. Wall Openings: Prime concealed, perimeter frame surfaces of windows, storefronts, and doors. Apply transition strip or preformed silicone extrusion, so that a minimum of 3 inches of coverage is achieved over each substrate. Maintain 3 inches of full contact over firm bearing to perimeter frames, with not less than 1 inch of full contact.
    - a. Transition Strip: Roll firmly to enhance adhesion.
    - b. Preformed Silicone Extrusion: Set in full bed of silicone sealant applied to walls, frame, and air-barrier material.
  5. Fill gaps in perimeter frame surfaces of windows, storefronts, doors, and miscellaneous penetrations of sheathing material with foam sealant.
  6. Seal strips and transition strips around masonry reinforcing or ties and penetrations with termination mastic.
  7. Seal top of through-wall flashings to sheathing with an additional 6-inch- wide, transition strip.
  8. Seal exposed edges of strips at seams, cuts, penetrations, and terminations not concealed by metal counterflashings or ending in reglets with termination mastic.
  9. Repair punctures, voids, and deficient lapped seams in strips and transition strips extending 6 inches beyond repaired areas in strip direction.

END OF SECTION 061600

## SECTION 062023 - INTERIOR FINISH CARPENTRY

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

##### A. Section Includes:

1. Interior trim, wall cap.
2. Interior MDF core, wood veneered paneling.

##### B. Related Requirements:

1. Section 061053 "Miscellaneous Rough Carpentry" for furring, blocking, and other carpentry work not exposed to view.
2. Section 099123 "Painting" for furring, blocking, and other carpentry work not exposed to view.
3. Section 099123 "Interior Painting" for paneling or trim to receive transparent finish.

#### 1.3 DEFINITIONS

- A. MDF: Medium-density fiberboard.

#### 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials, dimensions, profiles, textures, and colors and include construction and application details.

1. Include data for wood-preservative treatment from chemical-treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained. Include chemical-treatment manufacturer's written instructions for finishing treated material.
2. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced before shipment to Project site to levels specified.

##### B. Samples for Verification:

1. For each species and cut of lumber and panel products with nonfactory-applied finish, with half of exposed surface finished; 12 linear in. for lumber and 8 by 10 inches for panels.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Stack lumber, plywood, and other panels flat with spacers between each bundle to provide air circulation.

1. Protect materials from weather by covering with waterproof sheeting, securely anchored.
  2. Provide for air circulation around stacks and under coverings.
- B. Deliver interior finish carpentry materials only when environmental conditions comply with requirements specified for installation areas. If interior finish carpentry materials must be stored in other than installation areas, store only where environmental conditions comply with requirements specified for installation areas.

## 1.6 FIELD CONDITIONS

- A. Environmental Limitations: Do not deliver or install interior finish carpentry materials until building is enclosed and weatherproof, wet-work in space is completed and nominally dry, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.
- B. Do not install finish carpentry materials that are wet, moisture damaged, or mold damaged.
1. Indications that materials are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
  2. Indications that materials are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

## PART 2 - PRODUCTS

### 2.1 MATERIALS, GENERAL

- A. MDF: ANSI A208.2, Grade 130.

### 2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

- A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC1.
1. Kiln dry lumber and plywood after treatment to a maximum moisture content of 19 and 18 percent, respectively.
  2. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
  3. For exposed items indicated to receive transparent finish, do not use chemical formulations that contain colorants or that bleed through or otherwise adversely affect finishes.
  4. Do not use material that is warped or does not comply with requirements for untreated material.
  5. Mark plywood with appropriate classification marking of an inspection agency acceptable to authorities having jurisdiction.
    - a. For exposed plywood indicated to receive a stained or natural finish, mark back of each piece.
  6. Application: All interior lumber and plywood.

### 2.3 INTERIOR TRIM

- A. Hardwood Lumber Trim for Transparent Finish (Clear Finish):

1. Species and Grade: Hard White Maple; NHLA grade: FAS.
2. Maximum Moisture Content: 10 percent.
3. Finger Jointing: Not allowed.
4. Gluing for Width: Not allowed.
5. Veneered Material: Use for lumber trim wider than 6 inches (150 mm).
6. Face Surface: Surfaced (smooth).
7. Matching: Selected for compatible grain and color.

## 2.4 PANELING

- A. Hardwood Veneer MDF core Paneling: Manufacturer's stock panels complying with HPVA HP-1.
  1. Face Veneer Species and Cut: Rotary-cut white maple.
  2. Veneer Matching: Selected for similar color and grain.
  3. Construction: MDF core.
  4. Thickness: as indicated on drawings.
  5. Panel Size: 48 by 96 inches (1219 by 2438 mm).
  6. Glue Bond: Type II (interior).
  7. Finish: as noted on drawings.

## 2.5 MISCELLANEOUS MATERIALS

- A. Fasteners for Interior Finish Carpentry: Nails, screws, and other anchoring devices of type, size, material, and finish required for application indicated to provide secure attachment, concealed where possible.
- B. Glue: Aliphatic-resin, polyurethane, or resorcinol wood glue recommended by manufacturer for general carpentry use.
- C. Paneling Adhesive: Comply with paneling manufacturer's written instructions for adhesives.
- D. Multipurpose Construction Adhesive: Formulation, complying with ASTM D 3498, that is recommended for indicated use by adhesive manufacturer.

## 2.6 FABRICATION

- A. Ease edges of lumber less than 1 inch (25 mm) in nominal thickness to 1/16-inch (1.5-mm) radius.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Examine finish carpentry materials before installation. Reject materials that are wet, moisture damaged, and mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Clean substrates of projections and substances detrimental to application.
- B. Before installing interior finish carpentry, condition materials to average prevailing humidity in installation areas for a minimum of 24 hours unless longer conditioning is recommended by manufacturer.

### 3.3 INSTALLATION, GENERAL

- A. Do not use materials that are unsound; warped; improperly treated or finished; inadequately seasoned; too small to fabricate with proper jointing arrangements; or with defective surfaces, sizes, or patterns.
- B. Install interior finish carpentry level, plumb, true, and aligned with adjacent materials.
  - 1. Use concealed shims where necessary for alignment.
  - 2. Scribe and cut interior finish carpentry to fit adjoining work. Refinish and seal cuts as recommended by manufacturer.
  - 3. Where face fastening is unavoidable, countersink fasteners, fill surface flush, and sand unless otherwise indicated.
  - 4. Install to tolerance of 1/8 inch in 96 inches (3 mm in 2438 mm) for level and plumb. Install adjoining interior finish carpentry with 1/32-inch (0.8-mm) maximum offset for flush installation and 1/16-inch (1.5-mm) maximum offset for reveal installation.
  - 5. Coordinate interior finish carpentry with materials and systems in or adjacent to it. Provide cutouts for mechanical and electrical items that penetrate interior finish carpentry.

### 3.4 TRIM INSTALLATION

- A. Install trim with minimum number of joints as is practical, using full-length pieces from maximum lengths of lumber available.
  - 1. Do not use pieces less than 24 inches (610 mm) long, except where necessary.
  - 2. Stagger joints in adjacent and related standing and running trim.
  - 3. Miter at returns, miter at outside corners, and cope at inside corners to produce tight-fitting joints with full-surface contact throughout length of joint.
  - 4. Use scarf joints for end-to-end joints.
  - 5. Install trim after gypsum-board joint finishing operations are completed.
  - 6. Install without splitting; drill pilot holes before fastening where necessary to prevent splitting.
  - 7. Fasten to prevent movement or warping.
  - 8. Countersink fastener heads on exposed carpentry work and fill holes.

### 3.5 PANELING INSTALLATION

- A. Paneling: Select and arrange panels on each wall to minimize noticeable variations in grain character and color between adjacent panels.
  - 1. See drawings for reveal details.
  - 2. Install with uniform tight joints between panels.
  - 3. Attach panels to supports with manufacturer's recommended panel adhesive and fasteners.
  - 4. Space fasteners and adhesive as recommended by panel manufacturer.
  - 5. Conceal fasteners to greatest practical extent.

6. Arrange panels with grooves and joints over supports.
  - a. Fasten to supports with nails of type and at spacing recommended by panel manufacturer.
  - b. Use fasteners with prefinished heads matching groove color.

### 3.6 ADJUSTING

- A. Replace interior finish carpentry that is damaged or does not comply with requirements.
  1. Interior finish carpentry may be repaired or refinished if work complies with requirements and shows no evidence of repair or refinishing.
- B. Adjust joinery for uniform appearance.

### 3.7 CLEANING

- A. Clean interior finish carpentry on exposed and semi-exposed surfaces.
- B. Restore damaged or soiled areas and touch up finishes if any.

### 3.8 PROTECTION

- A. Protect installed products from damage from weather and other causes during construction.
- B. Remove and replace finish carpentry materials that are wet, moisture damaged, and mold damaged.
  1. Indications that materials are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
  2. Indications that materials are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 062023

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## SECTION 064116 - PLASTIC-LAMINATE-CLAD ARCHITECTURAL CABINETS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Specification section 123623 Plastic Laminate Clad Countertops

#### 1.2 SUMMARY

- A. Section Includes:
  - 1. Plastic-laminate-clad architectural cabinets.
  - 2. Wood furring, blocking, shims, and hanging strips for installing plastic-laminate-clad architectural cabinets that are not concealed within other construction.
- B. Related Requirements:
  - 1. Section 061053 "Miscellaneous Rough Carpentry" for wood furring, blocking, shims, and hanging strips required for installing cabinets that are concealed within other construction before cabinet installation.
  - 2. Section 123623.13 "Plastic-Laminate-Clad Countertops."

#### 1.3 COORDINATION

- A. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of Work specified in other Sections to support loads imposed by installed and fully loaded cabinets.

#### 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
  - 1. Include data for fire-retardant treatment from chemical-treatment manufacturer and certification by treating plant that treated materials comply with requirements.
- B. Shop Drawings:
  - 1. Include plans, elevations, sections, and attachment details.
  - 2. Show large-scale details for unique conditions.
  - 3. Show locations and sizes of furring, blocking, and hanging strips, including concealed blocking and reinforcement specified in other Sections.
  - 4. Show locations and sizes of cutouts and holes for items installed in plastic-laminate architectural cabinets.
- C. Samples for initial selection: For each exposed product and for each color and texture specified, in manufacturer's standard size.
- D. Samples for Verification: For the following:

1. Plastic Laminates: 8 by 10 inches (200 by 250 mm) for each type, color, pattern, and surface finish required.
  - a. Provide one sample applied to core material with specified edge material applied to one edge.
2. Thermoset Decorative Panels: 8 by 10 inches (200 by 250 mm) for each color, pattern, and surface finish.
  - a. Provide edge banding on one edge.
3. Exposed Cabinet Hardware and Accessories: One full-size unit for each type and finish.

#### 1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For manufacturer and installer.

#### 1.6 QUALITY ASSURANCE

- A. Manufacturer and Installer Qualifications: Employs skilled workers who custom fabricate products similar to those required for this Project and whose products have a record of successful in-service performance.

#### 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Do not deliver cabinets until painting and similar finish operations that might damage architectural cabinets have been completed in installation areas. Store cabinets in installation areas or in areas where environmental conditions comply with requirements specified in "Field Conditions" Article.

#### 1.8 FIELD CONDITIONS

- A. Environmental Limitations: Do not deliver or install cabinets until building is enclosed, wet-work is complete, and HVAC system is operating and maintaining temperature and relative humidity at levels planned for building occupants during the remainder of the construction period.
- B. Field Measurements: Where cabinets are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication, and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
  1. Locate concealed framing, blocking, and reinforcements that support cabinets by field measurements before being enclosed/concealed by construction, and indicate measurements on Shop Drawings.
- C. Established Dimensions: Where cabinets are indicated to fit to other construction, establish dimensions for areas where cabinets are to fit. Provide allowance for trimming at site, and coordinate construction to ensure that actual dimensions correspond to established dimensions.

## PART 2 - PRODUCTS

### 2.1 PLASTIC-LAMINATE-CLAD ARCHITECTURAL CABINETS

- A. Quality Standard: Unless otherwise indicated, comply with the Architectural Woodwork Standards for grades of cabinets indicated for construction, finishes, installation, and other requirements.
- B. Architectural Woodwork Standards Grade: Premium.
- C. Type of Construction: Frameless.
- D. Door and Drawer-Front Style: Reveal overlay.
  - 1. Reveal Dimension: 1/8 inch (3 mm)
- E. Laminate Cladding for Exposed Surfaces:
  - 1. Horizontal Surfaces: Grade HGP.
  - 2. Vertical Surfaces: Grade VGS.
  - 3. Edges:
    - a. Cabinet faces: PVC edge banding, 0.04 inch (3 mm) minimum thickness, matching laminate in color, pattern, and finish.
    - b. Door and drawer edges: PVC edge banding, 0.12 inch (3 mm) thick, matching laminate in color, pattern, and finish.
  - 4. Pattern Direction: Vertically for drawer fronts, doors, and fixed panels.
- F. Materials for Semiexposed Surfaces:
  - 1. Surfaces Other Than Drawer Bodies: Thermoset decorative panels.
    - a. Edges of Plastic-Laminate Shelves: PVC edge banding, 0.018 inch (0.460 mm) minimum thickness, matching shelf in color, pattern, and finish.
  - 2. Drawer Sides and Backs: Thermoset decorative panels with PVC edge banding.
  - 3. Drawer Bottoms: Thermoset decorative panels.
- G. Drawer Construction: see section 2.3.D
- H. Colors, Patterns, and Finishes: Provide materials and products that result in colors and textures of exposed laminate surfaces complying with the following requirements:
  - 1. As selected by Architect from laminate manufacturer's premium and standard range in the following categories:
    - a. Solid colors, patterns, and wood grains, matte finish.

### 2.2 WOOD MATERIALS

- A. Wood Products: Provide materials that comply with requirements of referenced quality standard for each type of architectural cabinet and quality grade specified unless otherwise indicated.
  - 1. Wood Moisture Content: 4 to 13 percent.
- B. Composite Wood and Agrifiber Products: Provide materials that comply with requirements of referenced quality standard for each type of architectural cabinet and quality grade specified unless otherwise indicated.

1. Medium-Density Fiberboard (MDF): ANSI A208.2, Grade 130.
2. Particleboard: ANSI A208.1, Grade M-2
3. Softwood Plywood: DOC PS 1.
4. Thermoset Decorative Panels: Particleboard or MDF finished with thermally fused, melamine-impregnated decorative paper and complying with requirements of NEMA LD 3, Grade VGL, for Test Methods 3.3, 3.4, 3.6, 3.8, and 3.10.

## 2.3 CABINET HARDWARE AND ACCESSORIES

- A. Frameless Concealed Hinges (European Type): BHMA A156.9, B01602, 120 degrees of opening, self-closing.
- B. Pulls: Back mounted, solid metal, Amerock BP53003-G10 or approved equal.
- C. Shelf Rests: BHMA A156.9, B04013; metal.
- D. Drawer Slides: BHMA A156.9.
  1. Grade 1: Side mounted, partial extension, Zinc-plated or Epoxy-coated steel with polymer rollers.
    - a. Blum Metabox 320 series or approved equal.
    - b. Drawer construction: 5/8" thermoset decorative panels
  2. Grade 2: Side mounted; full-extension type; zinc-plated-steel ball-bearing slides.
    - a. Accuride 2632 series or approved equal.
    - b. Drawer construction: 1/2" Baltic Birch with rabbeted or dovetailed assembly, 1/4" Luan bottoms.
  3. For drawers not more than 6 inches (150 mm) high and not more than 24 inches (600 mm) wide, provide Grade 1.
  4. For drawers more than 6 inches (150 mm) high or more than 24 inches (600 mm) wide, provide Grade 2.
  5. For computer keyboard shelves, provide Grade 2.
  6. For trash bins not more than 20 inches (500 mm) high and 16 inches (400 mm) wide, provide Grade 2.
- E. Door Locks: BHMA A156.11, E07121.
- F. Drawer Locks: BHMA A156.11, E07041.
- G. Door and Drawer Silencers: BHMA A156.16, L03011.
- H. Grommets for Cable Passage: 2-inch (51-mm) OD, molded-plastic grommets and matching plastic caps with slot for wire passage.
  1. Color: Black.
- I. Exposed Hardware Finishes: For exposed hardware, provide finish that complies with BHMA A156.18 for BHMA finish number indicated.
  1. Satin Chromium Plated: BHMA 626 for brass or bronze base; BHMA 652 for steel base.
- J. For concealed hardware, provide manufacturer's standard finish that complies with product class requirements in BHMA A156.9.

## 2.4 MISCELLANEOUS MATERIALS

- A. Furring, Blocking, Shims, and Hanging Strips: softwood or hardwood lumber, kiln-dried to less than 15 percent moisture content.
- B. Anchors: Select material, type, size, and finish required for each substrate for secure anchorage. Provide metal expansion sleeves or expansion bolts for post-installed anchors. Use nonferrous-metal or hot-dip galvanized anchors and inserts at inside face of exterior walls and at floors.
- C. Adhesive for Bonding Plastic Laminate: Contact cement.
  - 1. Adhesive for Bonding Edges: Hot-melt adhesive.

## 2.5 FABRICATION

- A. Fabricate architectural cabinets to dimensions, profiles, and details indicated.
- B. Complete fabrication, including assembly and hardware application, to maximum extent possible before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.
  - 1. Trial fit assemblies at manufacturer's shop that cannot be shipped completely assembled. Install dowels, screws, bolted connectors, and other fastening devices that can be removed after trial fitting. Verify that various parts fit as intended and check measurements of assemblies against field measurements before disassembling for shipment.
- C. Shop-cut openings to maximum extent possible to receive hardware, appliances, electrical work, and similar items. Locate openings accurately and use templates or roughing-in diagrams to produce accurately sized and shaped openings. Sand edges of cutouts to remove splinters and burrs.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Architectural Woodwork Standards Grade: Install cabinets to comply with quality standard grade of item to be installed.
- B. Assemble cabinets and complete fabrication at Project site to extent that it was not completed in the shop.
- C. Anchor cabinets to anchors or blocking built in or directly attached to substrates. Secure with wafer-head cabinet installation screws.
- D. Install cabinets level, plumb, and true in line to a tolerance of 1/8 inch in 96 inches (3 mm in 2400 mm) using concealed shims.
  - 1. Scribe and cut cabinets to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.
  - 2. Install cabinets without distortion so doors and drawers fit openings and are accurately aligned. Adjust hardware to center doors and drawers in openings and to provide

unencumbered operation. Complete installation of hardware and accessory items as indicated.

3. Fasten wall cabinets through back, near top and bottom, and at ends not more than 16 inches (400 mm) o.c. with
  - a. No. 10 wafer-head screws sized for not less than 1-1/2-inch (38-mm) penetration into wood framing, blocking, or hanging strips]
  - b. No. 10 wafer-head sheet metal screws through metal backing or metal framing behind wall finish.

### 3.2 ADJUSTING AND CLEANING

- A. Repair damaged and defective cabinets, where possible, to eliminate functional and visual defects. Where not possible to repair, replace architectural cabinets. Adjust joinery for uniform appearance.
- B. Clean, lubricate, and adjust hardware.
- C. Clean cabinets on exposed and semiexposed surfaces.

END OF SECTION 064116