

## SECTION 061000 - ROUGH CARPENTRY

### PART 1 - GENERAL

#### 0.1 RELATED DOCUMENTS

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

#### 0.2 SUMMARY

A. Section Includes:

1. Framing with dimension lumber.
2. Framing with engineered wood products.
3. Rooftop equipment bases and support curbs.
4. Wood blocking, cants, and nailers.
5. Wood furring and grounds.
6. Wood sleepers.
7. Utility shelving.
8. Plywood backing panels.
9. Formwork.
10. Blocking for other trades.
11. Grounds, bucks, screens, ladders, runways, walls, etc.
12. Supply and installations of rough hardware.
13. Nailers at structural steel.

B. Related Requirements:

1. Division 07 Section "SBS Modified Bitumen Membrane Roofing"

#### 0.3 DEFINITIONS

- A. Exposed Framing: Framing not concealed by other construction.
- B. Dimension Lumber: Lumber of 2 inches nominal (38 mm actual) or greater but less than 5 inches nominal (114 mm actual) in least dimension.
- C. Timber: Lumber of 5 inches nominal (114 mm actual) or greater in least dimension.
- D. Lumber grading agencies, and the abbreviations used to reference them, include the following:
1. NeLMA: Northeastern Lumber Manufacturers' Association.
  2. NLGA: National Lumber Grades Authority.
  3. RIS: Redwood Inspection Service.
  4. SPIB: The Southern Pine Inspection Bureau.

5. WCLIB: West Coast Lumber Inspection Bureau.
6. WWPA: Western Wood Products Association.

#### 0.4 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 materials comply 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 materials comply with requirements. Include physical properties of treated materials based on testing by a qualified independent testing agency.
  3. For fire-retardant treatments, include physical properties of treated lumber both before and after exposure to elevated temperatures, based on testing by a qualified independent testing agency according to ASTM D 5664.
  4. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.
  5. Include copies of warranties from chemical treatment manufacturers for each type of treatment.
- B. NGBS Submittals (if NGBS Alternate is included in project scope):
1. Product Data: For adhesives, documentation including printed statement of VOC content.
  2. Product Data: For composite wood products, documentation indicating that product contains no urea formaldehyde.
  3. Laboratory Test Reports: For adhesives and composite-wood products, documentation indicating that products comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
  4. Recycled Content Materials- Provide a submittal demonstrating that the materials contains recycled content for major and minor building components.
  5. Biobased Materials- Provide a submittal for each material demonstrating that it contains bio-based materials. Provide the materials cost.
  6. Wood-based products. Provide submittals for each wood-based materials demonstrating certification by the American Tree Farm Systems (ATS), Canadian Standard Association (CAS), Forest Stewardship Council (FSC), Program for Endorsement of Forest Certification Systems (PEFC), Sustainable Forestry Initiative (SFI), or other recognized by PEFC.
  7. Manufacturing Energy- Provide documentation that major building components were manufactured with at least 33% renewable energy.
  8. Resource Efficient materials. Provide documentation that the proposed materials reduce materials in their manufacture by 25% in core or with a 3" depth (masonry) or thorough 35% for engineered production. Provide the material cost.
  9. Indigenous Materials. Provide documentation demonstrating that a major or minor building component's materials are manufactured or processed and harvested within 500 miles of the jobsite.

10. Environmental Certification. Provide documentation that a product manufacturer is certified with the ISO 14001. Provide the material cost.
11. Wood Materials. Provide documentation that panel product comply with the US Department of Commerce Product Standard PS1 and/or PS2. Compliance should indicate that the product is free from added urea formaldehyde.
12. Site applied architectural coatings. Provide documentation demonstrating that site applied architectural coatings are low VOC and are compliant with the CDPH 01350, SCS Indoor Advantage Gold Certification, or GreenGuard Certification for Children and Schools.
13. Site applied adhesives and sealants. Provide product documentation demonstrating compliance with CDPH -1350 or Green Seal-36 Standard for Commercial Adhesives, SCS Indoor Advantage Gold Certification, or GreenGuard Certification for Children and Schools.

C. Fastener Patterns: Full-size templates for fasteners in exposed framing.

#### 0.5 INFORMATIONAL SUBMITTALS

- A. Material Certificates: For dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the ALSC Board of Review.
- B. Evaluation Reports: For the following, from ICC-ES:
  1. Wood-preservative-treated wood.
  2. Fire-retardant-treated wood.
  3. Engineered wood products.
  4. Shear panels.
  5. Power-driven fasteners.
  6. Powder-actuated fasteners.
  7. Expansion anchors.
  8. Metal framing anchors.

#### 0.6 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

#### 0.1 WOOD PRODUCTS, GENERAL

- A. Certified Wood: Materials shall be produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship for the following:

1. Dimension lumber framing.
2. Timber.
3. Laminated-veneer lumber.
4. Parallel-strand lumber.
5. Prefabricated wood I-joists.
6. Rim boards.
7. Miscellaneous lumber.

B. 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. For exposed lumber indicated to receive a stained or natural finish, mark grade stamp on end or back of each piece or omit grade stamp and provide certificates of grade compliance issued by grading agency.
3. 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.
4. Provide dressed lumber, S4S, unless otherwise indicated.

C. Maximum Moisture Content of Lumber: 15 percent unless otherwise indicated.

D. Engineered Wood Products: Provide engineered wood products acceptable to authorities having jurisdiction and for which current model code research or evaluation reports exist that show compliance with building code in effect for Project.

1. Allowable Design Stresses: Provide engineered wood products with allowable design stresses, as published by manufacturer, that meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

## 0.2 WOOD-PRESERVATIVE-TREATED LUMBER

A. Preservative Treatment by Pressure Process: AWWPA U1; Use Category UC2 for interior construction not in contact with the ground, Use Category UC3b for exterior construction not in contact with the ground, and Use Category UC4a for items in contact with the ground.

1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
2. For exposed items indicated to receive a stained or natural finish, use chemical formulations that do not require incising, contain colorants, bleed through, or otherwise adversely affect finishes.

B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or that 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.
  - 1. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece or omit marking and provide certificates of treatment compliance issued by inspection agency.
- D. Application: Treat items indicated on Drawings, and the following:
  - 1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
  - 2. Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.
  - 3. Wood framing and furring attached directly to the interior of below-grade exterior masonry or concrete walls.
  - 4. Wood framing members that are less than 18 inches (460 mm) above the ground in crawlspaces or unexcavated areas.
  - 5. Wood floor plates that are installed over concrete slabs-on-grade.

### 0.3 FIRE-RETARDANT-TREATED MATERIALS

- A. General: Where fire-retardant-treated materials are indicated, use materials complying with requirements in this article, that are acceptable to authorities having jurisdiction, and with fire-test-response characteristics specified.
- B. Fire-Retardant-Treated Lumber and Plywood by Pressure Process: Products with a flame spread index of 25 or less when tested according to ASTM E 84, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet (3.2 m) beyond the centerline of the burners at any time during the test.
  - 1. Use treatment that does not promote corrosion of metal fasteners.
  - 2. Exterior Type: Treated materials shall comply with requirements specified above for fire-retardant-treated lumber and plywood by pressure process after being subjected to accelerated weathering according to ASTM D 2898. Use for exterior locations and where indicated.
  - 3. Interior Type A: Treated materials shall have a moisture content of 28 percent or less when tested according to ASTM D 3201 at 92 percent relative humidity. Use where exterior type is not indicated.
- C. Kiln-dry plywood after treatment to a maximum moisture content of 15 percent.
- D. Identify fire-retardant-treated wood with appropriate classification marking of qualified testing agency.
  - 1. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece or omit marking and provide certificates of treatment compliance issued by testing agency.

- E. For exposed items indicated to receive a stained or natural finish, use chemical formulations that do not bleed through, contain colorants, or otherwise adversely affect finishes.
- F. Application: Treat items indicated on Drawings, and the following:
  - 1. Framing for raised platforms.
  - 2. Framing for stages.
  - 3. Concealed blocking.
  - 4. Framing for non-load-bearing partitions.
  - 5. Framing for non-load-bearing exterior walls.
  - 6. Roof construction.
  - 7. Plywood backing panels.

#### 0.4 ENGINEERED WOOD PRODUCTS

- A. Engineered Wood Products, General: Products shall contain no urea formaldehyde if NGBS alternate is included in project scope.
- B. Source Limitations: Obtain each type of engineered wood product from single source from a single manufacturer if NGBS alternate is included in project scope.
- C. Laminated-Veneer Lumber: Structural composite lumber made from wood veneers with grain primarily parallel to member lengths, evaluated and monitored according to ASTM D 5456 and manufactured with an exterior-type adhesive complying with ASTM D 2559.
- D. Parallel-Strand Lumber: Structural composite lumber made from wood strand elements with grain primarily parallel to member lengths, evaluated and monitored according to ASTM D 5456 and manufactured with an exterior-type adhesive complying with ASTM D 2559.

#### 0.5 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. Rooftop equipment bases and support curbs.
  - 4. Cants.
  - 5. Furring.
  - 6. Grounds.
  - 7. Utility shelving.
- B. For items of dimension lumber size, provide Construction or No. 2 grade lumber and 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.
  6. Western woods; WCLIB or WWPA.
  7. Northern species; NLGA.
  8. Eastern softwoods; NeLMA.
- C. For utility shelving, provide lumber with 15 percent maximum moisture content and any of the following species and grades:
1. Eastern white pine, Idaho white, lodgepole, ponderosa, or sugar pine; Premium or No. 2 Common (Sterling) grade; NeLMA, NLGA, WCLIB, or WWPA.
  2. Mixed southern pine; No. 1 grade; SPIB.
  3. Hem-fir or hem-fir (north); Select Merchantable or No. 1 Common grade; NLGA, WCLIB, or WWPA.
  4. Spruce-pine-fir (south) or spruce-pine-fir; Select Merchantable or No. 1 Common grade; NeLMA, NLGA, WCLIB, or WWPA.
- D. For concealed boards, provide lumber with 15 percent maximum moisture content and any of the following species and grades:
1. Mixed southern pine; No. 2 grade; SPIB.
  2. Hem-fir or hem-fir (north); Construction or No. 2 Common grade; NLGA, WCLIB, or WWPA.
  3. Spruce-pine-fir (south) or spruce-pine-fir; Construction or No. 2 Common grade; NeLMA, NLGA, WCLIB, or WWPA.
  4. Eastern softwoods; No. 2 Common grade; NeLMA.
  5. Northern species; No. 2 Common grade; NLGA.
  6. Western woods; Construction or No. 2 Common grade; WCLIB or WWPA.
- E. For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.
- F. 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.
- G. For furring strips for installing plywood or hardboard paneling, select boards with no knots capable of producing bent-over nails and damage to paneling.
- 0.6 PLYWOOD BACKING PANELS
- A. Equipment Backing Panels: DOC PS 1, Exterior, C-C Plugged, fire-retardant treated, in thickness indicated or, if not indicated, not less than **1/2-inch (13-mm)** nominal thickness.
1. If NGBS Alternate is included in project scope, plywood shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

0.7 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
  - 1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners of Type 304 stainless steel or hot dip galvanized.
- B. Nails, Brads, and Staples: ASTM F 1667.
- C. Power-Driven Fasteners: NES NER-272.
- D. Wood Screws: ASME B18.6.1.
- E. Lag Bolts: **ASME B18.2.1** (**ASME B18.2.3.8M**).
- F. Bolts: Steel bolts complying with **ASTM A 307, Grade A** (**ASTM F 568M, Property Class 4.6**); with **ASTM A 563** (**ASTM A 563M**) hex nuts and, where indicated, flat washers.
- G. Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to six times the load imposed when installed in unit masonry assemblies and equal to four times the load imposed when installed in concrete as determined by testing per ASTM E 488 conducted by a qualified independent testing and inspecting agency.
  - 1. Material: Carbon-steel components, zinc plated to comply with ASTM B 633, Class Fe/Zn 5.
  - 2. Material: Stainless steel with bolts and nuts complying with **ASTM F 593 and ASTM F 594, Alloy Group 1 or 2** (**ASTM F 738M and ASTM F 836M, Grade A1 or A4**).

0.8 MISCELLANEOUS MATERIALS

- A. Sill-Sealer Gaskets: Glass-fiber-resilient insulation, fabricated in strip form, for use as a sill sealer; **1-inch (25-mm)** nominal thickness, compressible to **1/32 inch (0.8 mm)**; selected from manufacturer's standard widths to suit width of sill members indicated.
- B. Sill-Sealer Gaskets: Closed-cell neoprene foam, **1/4 inch (6.4 mm)** thick, selected from manufacturer's standard widths to suit width of sill members indicated.
- C. Flexible Flashing: Composite, self-adhesive, flashing product consisting of a pliable, rubberized-asphalt compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than **0.025 inch (0.6 mm)**.
- D. Adhesives for Gluing Furring and Sleepers to Concrete or Masonry: Formulation complying with ASTM D 3498 that is approved for use indicated by adhesive manufacturer.

1. Adhesives shall have a VOC content of 70 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
  2. Adhesives shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
- E. Water-Repellent Preservative: NWWDA-tested and -accepted formulation containing 3-iodo-2-propynyl butyl carbamate, combined with an insecticide containing chlorpyrifos as its active ingredient.

### PART 3 - EXECUTION

#### 0.1 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. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- C. Framing with Engineered Wood Products: Install engineered wood products to comply with manufacturer's written instructions.
- D. Install plywood backing panels by fastening to studs; coordinate locations with utilities requiring backing panels. Install fire-retardant treated plywood backing panels with classification marking of testing agency exposed to view.
- E. Shear Wall Panels: Install shear wall panels to comply with manufacturer's written instructions.
- F. Metal Framing Anchors: Install metal framing anchors to comply with manufacturer's written instructions. Install fasteners through each fastener hole.
- G. Install sill sealer gasket to form continuous seal between sill plates and foundation walls.
- H. Do not splice structural members between supports unless otherwise indicated.
- I. 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 (406 mm) o.c.
- J. 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.

- K. If NGBS alternate is included in project scope, comply with AWPAM4 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.
- L. 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.
- M. Use steel common nails or screws 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.
- N. For exposed work, arrange screw fasteners in straight rows parallel with edges of members, with fasteners evenly spaced, and with adjacent rows staggered.
  - 1. Comply with approved fastener patterns where applicable. Before fastening, mark fastener locations, using a template made of sheet metal, plastic, or cardboard.
  - 2. Use finishing nails unless otherwise indicated. Countersink nail heads and fill holes with wood filler.
  - 3. Use common nails unless otherwise indicated. Drive nails snug but do not countersink nail heads.

## 0.2 WOOD GROUND, SLEEPER, BLOCKING, AND NAILER INSTALLATION

- A. Install where indicated and where required for attaching other work. Form to shapes indicated 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. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.
- D. Provide permanent grounds of dressed, pressure-preservative-treated, key-beveled lumber not less than 1-1/2 inches (38 mm) wide and of thickness required to bring face of ground to exact thickness of finish material. Remove temporary grounds when no longer required.

0.3 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.
- B. Furring to Receive Plywood or Hardboard Paneling: Install **1-by-3-inch nominal-** (19-by-63-mm actual-) size furring horizontally and vertically at **24 inches (610 mm)** o.c.
- C. Furring to Receive Gypsum Board: Install **1-by-2-inch nominal-** (19-by-38-mm actual-) size furring vertically at **16 inches (406 mm)** o.c.

0.4 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 061000

SECTION 062023 - INTERIOR FINISH CARPENTRY

PART 1 GENERAL

1.1 SUMMARY

- A. Related Documents: General and Supplementary Conditions of the Contract, Division 1 - General Requirements, and Drawings are applicable to this Section.
- B. Section Includes:
  - 1. Interior Finish Carpentry Work.
    - a. Moldings, bases, casings, and chair rails.
    - b. Loose shelving with standards and brackets.
    - c. On-site constructed millwork and finish hardware.
- C. Related Sections:
  - 1. Section 123213 "Manufactured Wood Casework" for residential unit cabinets.
  - 2. Section 061000 "Rough Carpentry".

1.2 SUBMITTALS

- A. General: Submit following items in accordance with Section 01330.
- B. Product Data: Manufacturer's technical literature for factory fabricated items and components.
- C. Samples
  - 1. Three samples of each type and species of plywood and finish lumber specified, complete with applied finish.
  - 2. Each type of hardware and fastening device required in the construction of the work specified herein.

PART 2 PRODUCTS

2.1 MATERIALS

- A. General
  - 1. Comply with quality and grading standards contained herein for each material.
  - 2. Sizes noted on drawings or indicated herein for lumber are nominal unless detailed by specific dimensions of actual size.
  - 3. Plywood and particleboard 3/4 inch thickness unless noted or detailed otherwise.
  - 4. Products surfaced four sides, unless noted otherwise.
- B. Softwood Lumber
  - 1. Quality standard: PS 20.
  - 2. Grading Standard: AWI custom grade.
  - 3. Maximum moisture content: 6 percent for interior work; 10 percent for exterior work.
  - 4. Species: Idaho white pine or Douglas fir.
  - 5. Grain: Rift.
- C. Hardwood Lumber

1. Quality standard: FS MM-L-736C.
2. Grading standard: AWI custom grade.
3. Maximum moisture content: 6 percent.
4. Species and Grain: Color: Refer to Finish Legend.

D. Softwood Plywood

1. Quality standard: PS 1.
2. Grading standard: AWI custom.
3. Core material: C-D Plugged INT-APA.
4. Face quality: A-B INT-APA.
5. Species: Southern yellow pine or Douglas fir.
6. Ply construction:
  - a. 3 ply: 3/8 inch.

E. Hardwood Plywood

1. Quality standard: PS51.
2. Grading standard: AWI custom.
3. Core material: Lumber.
4. Face veneer and grain: Color: Refer to Finish Legend.
5. Ply Construction:
  - a. 3 ply: 3/8 inch

F. Particleboard:

1. ANSI A208.1, Grade M-2.

G. Medium Density Fiberboard:

1. ANSI A208.2, Product Grade MD.

H. Hardboard

1. Quality standard: PS 58.
2. Grade: Tempered.
3. Face: One face sanded.
4. Thickness: 1/4 inch.

2.2 TRIM PROFILES

A. Common Areas

1. Base: WM445, medium density fiberboard; by Bison

B. Units

1. Base: B13MDF, medium density fiberboard; by Bison
2. Casing: C-322, medium density fiberboard; by Bison

2.3 ACCESSORIES AND TREATMENT

- A. Contact Adhesive: FS MMM-A-130B, of type recommended by millwork manufacturer to suit application.
- B. Wall Adhesive: Solvent release cartridge type, compatible with substrate, capable of achieving durable bond.
- C. Bolts, Nuts, Washers, Lags, Pins, Nails, and Screws: Size and type to suit application.

- D. Nails: Size and type to suit application, plain finish.
- E. Hardware
  - 1. Shelf Standards:
    - a. Standard Duty: K&V no. 80 and 180, in bright zinc plated finish.
- F. Wood Filler: Solvent base, tinted to match surface finish color.

## 2.4 SHOP FABRICATION

- A. Shop fabricate assemblies in accordance with AWI custom standards.
- B. Shop prepare and identify components for book match grain matching during site erection.
- C. Sanding/Filling
  - 1. Perform work in accordance with AWI.
  - 2. Sand work smooth and set exposed nails and screws.
  - 3. Apply wood filler in exposed nail and screw indentations and leave ready to receive applied finishes.
  - 4. On items to receive transparent finishes, use wood filler which matches surrounding surfaces and of types recommended for applied finishes.
- D. Prime seal concealed and semiconcealed surfaces. Brush apply only.
- E. Provide cutouts for plumbing fixtures, inserts, appliances, outlet boxes, and other fixtures. Verify locations of cutouts from site dimensions. Seal edge surfaces of cutouts.
- F. Before proceeding with millwork required to be fitted to other construction, obtain measurements and verify dimensions of shop drawings details for accurate fit.
- G. Fabricate woodwork to dimensions, profiles, and details shown.
- H. Route and groove back of flat trim members, kerf backs of other wide flat members except plywood or veneered members.
- I. Assemble in mill in as large of units as practicable to minimize field cutting and fitting.
- J. Miter joints, where required, by joining, splining, and gluing to comply with requirements for specified grade.
- K. Cap exposed plywood with hardwood trim, 3/8 inch by width of sheet, unless noted or shown otherwise to use plastic or aluminum trim.
- L. On countertops, perform the following
  - 1. Apply laminate finish in full, uninterrupted sheets of maximum practical lengths.
  - 2. Form corners and butt joints with hairline joints.
  - 3. Do not locate joints within 2 feet of sink cutout.
  - 4. Cap exposed edges with laminate.
- M. Mill wood moldings to stock shapes, patterns, and sizes using WMMPA guidelines for transparent "N" finishes using white birch species material

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verify that surfaces openings and conditions are ready to receive work of this section. Notify Architect of any existing condition which will adversely affect execution. Beginning of execution will constitute acceptance of existing conditions.

- B. Verify that field measurements are as shown on shop drawings.
- C. Verify that mechanical, electrical, and other items affecting work of this section are in place and ready to receive the work.
  
- D. Beginning of installation indicates acceptance of existing conditions.

### 3.2 PREPARATION

- A. Prime paint or seal concealed surfaces and items or assemblies which will be in contact with cementitious materials or surfaces.
- B. Make field cuts with extreme care to avoid splintering.

### 3.3 INSTALLATION

- A. Install using skilled workmen in accordance with manufacturer's printed instructions and recommendations.
- B. Install work in accordance with AWI Custom Quality Standards. Handle materials to avoid dents and other damages.
- C. Set and secure materials and components, rigid, plumb, and square.
- D. Shim as required using concealed shims.
- E. Cut to fit to exact size. Where woodwork abuts other finished work, scribe and cut for accurate fit. Where necessary to fit at site, provide ample allowance for cutting and fitting.
- F. Before making cutouts, drill pilot holes at corners.
- G. Distribute defects allowed in quality grade to best overall advantage when installing job assembled woodwork items.
- H. Install trim and molding in 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 straight run. Allow no joints closer than 12 feet apart.
- I. Stagger joints in adjacent members.
- J. Cope moldings at returns and miter at corners.
- K. Attach woodwork securely in place with uniform joints providing for thermal and building movements; blind nail where possible.
- L. Use finishing nails where exposed.
- M. Set exposed heads for filling, except for exterior wood to receive natural finish.
- N. Secure woodwork to anchors, built-in blocking, or directly attach to substrates.
- O. Preparing for Finish
  - 1. Clean woodwork and fill nail holes. Sand to smooth finish.
  - 2. Where woodwork is to receive transparent finish, use matching wood filler.
  
- P. Install hardware in accordance with manufacturer's recommendations.
- Q. Install paneling with fasteners at 12 inches on center at perimeter, 16 inches on center in field. Butt edges and ends tightly.
- R. Cover exposed edges of sheet goods used for shelving and other items with 3/8 inch thick hardwood edging unless otherwise shown or noted to use aluminum or plastic edging. Width of edging to match thickness of shelving.
- S. On field applied wood laminate work
  - 1. Apply laminate finishes where indicated.
  - 2. Adhere with adhesive over entire surface. Make joints and corners hairline.
  - 3. Match patterns. Slightly bevel joints.

4. Cap exposed edges with laminate of same finish and pattern.
5. Apply laminate backing sheet on reverse side of laminate finished surfaces.

3.4 TOLERANCES FOR FIELD ASSEMBLIES/JOINED ITEMS

- A. Maximum Variation from True Position: 1/16 inch.
- B. Maximum Offset from True Alignment with Abutting Materials: 1/32 inch.

3.5 ADJUSTING

- A. Adjust work under provisions of Section 01770.
- B. Adjust moving or operating parts to function smoothly and correctly.

3.6 CLEANING AND PROTECTION

- A. Protect installed millwork from marring defacement or other damage until final completion.
- B. Clean spaces of debris, vacuum and dust all millwork. Leave in condition ready for use.

END OF SECTION