DIVISION 02 – EXISTING CONDITIONS

SECTION 024119 - SELECTIVE DEMOLITION

A. SECTION INCLUDES: Demolition and removal of selected portions of building or structure. Salvage of existing items to be reused or recycled.

B. In occupied buildings, conduct selective demolition so Owner's and other building occupants' operations will not be disrupted.

C. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical. Coordinate with Owner's Representative for removal of existing items or equipment by Owner personnel or separate contractors.

D. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

E. HAZARDOUS MATERIALS: It is not expected that hazardous materials will be encountered in the Work. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.

F. Storage or sale of removed items or materials on-site is not permitted.

G. UTILITY SERVICE: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

1. Maintain fire-protection facilities in service during selective demolition operations.

H. EXISTING WARRANTIES: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.

I. PEFORMANCE REQUIREMENTS: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

1. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

J. EXAMINATION: Verify that utilities have been disconnected and capped before starting selective demolition operations.

1. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
2. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.

K. EXISTING SERVICES/SYSTEMS TO REMAIN: Maintain services/systems indicated to remain and protect them against damage.

L. EXISTING SERVICES/SYSTEMS TO BE REMOVED, RELOCATED, OR ABANDONED: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.

M. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

N. SELECTIVE DEMOLITION, GENERAL: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
3. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during flame-cutting operations.
4. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
5. Dispose of demolished items and materials promptly.

O. REMOVED AND SALVAGED ITEMS: Clean salvaged items.

1. Pack or crate items after cleaning. Identify contents of containers.
2. Store items in a secure area until delivery to Owner.
3. Transport items to Owner's storage area off-site.
4. Protect items from damage during transport and storage.

P. REMOVED AND REINSTALLED ITEMS: Clean and repair items to functional condition adequate for intended reuse.

1. Pack or crate items after cleaning and repairing. Identify contents of containers.
2. Protect items from damage during transport and storage.
3. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

Q. EXISTING ITEMS TO REMAIN: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

R. DISPOSAL OF DEMOLISHED MATERIALS: Except for items or materials indicated to be recycled, reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.

S. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 024119

DIVISION 03 – CONCRETE

SECTION 030130 - Non-Structural PATCHING OF CONCRETE SLABS

A. SECTION INCLUDES: Non-Structural patching, rebuilding, and repair of existing concrete surfaces where indicated on the Drawings, or where required to accommodate new work.

B. SUBMTTALS: Product Data for each type of product.

C. ENVIRONMENTAL REQUIREMENTS: Use product only when allowed by manufacturer for temperatures and general conditions at the time of application.

D. CEMENTITIOUS PATCHING MORTAR:

1. Basis of Design Product. Ardex CP – Concrete Patch.

E. Mix products, in clean containers, according to manufacturer's written instructions.

1. When practical, use manufacturer's premeasured packages to ensure that materials are mixed in proper proportions. When premeasured packages are not used, measure ingredients using graduated measuring containers; do not estimate quantities or use shovel or trowel as unit of measure.
2. Do not mix more materials than can be used within recommended open time. Discard materials that have begun to set.

F. Comply with manufacturer's written instructions and recommendations for application of products, including surface preparation.

END OF SECTION 030130

SECTION 033543 - POLISHED CONCRETE FINISHING

A. SECTION INCLUDES: Mechanically polished concrete finish – NO COLOR ADDED AND COLOR ADDED. Refer to Schedule of Finishes in the Drawings for level of polish and for color selected.

B. SUBMTTALS: Product Data for each type of product.

1. Polishing Schedule: Show polished concrete surfaces and schedule of polishing operations for each area of polished concrete before start of polishing operations

C. MOCKUPS: If directed by Architect, build mockups in the location and size directed by the Architect to verify selections made under Sample submittals and to demonstrate typical joints, surface finish, tolerances, and standard of workmanship. Build mockups using materials indicated for the completed Work.

D. ENVIRONMENTAL LIMITATIONS: Comply with manufacturer's written instructions for substrate temperature and moisture content, ambient temperature and humidity, ventilation, and other conditions affecting performance and finishing requirements.

E. SYSTEM MATERIALS - Polished Concrete WITHOUT COLOR ADDED.

1. Basis of Design Manufacturer: PROSOCO, Inc., (800) 255-4255.

2. Pre-Densifier Concrete Cleaner: To remove dirt, oil, grease, and other stains from existing slab surface.

    a. Basis of Design Product: Consolideck Cleaner/Degreaser.

3. Penetrating Concrete Hardener/Densifier:

    a. Basis of Design Product: Consolideck LS.

4. Interior Concrete Protective Treatments:

    a. Basis of Design Product: Consolideck LSGuard .

5. Sealer:

    a. Basis of Design Product: Consolideck Concrete Protector.

F. SYSTEM MATERIALS - Polished Concrete WITH COLOR ADDED.

1. Basis of Design Product: Laticrete FGS PermaShine, level of polish as indicated on the Drawings.
2. Components:

    a. Hardener, Sealer, Densifier: FGS Hardener Plus.
    b. Joint Filler: Joint Tite 750.
    c. Crack Repair: PERK! Restore.
    d. Oil Repellent Sealer: Petrotex.
    e. Concrete Dyes: Vivid Concrete Dyes , color as indicated on the Drawings.

G. Comply with manufacturer's written recommendations product applications.

H. Diamond polish concrete floor surfaces with power disc machine recommended by floor finish manufacturer. Sequence with coarse to fine grit. Installer to determine the optimum starting grit in order to achieve the specified aggregate exposure.

END OF SECTION 033543

SECTION 033940 - CONCRETE SEALER-DENSIFIER

A. SECTION INCLUDES: Application of a sealer/densifier/hardener for exposed concrete floors where indicated and where no other concrete finish is scheduled.

B. ENVIRONMENTAL REQUIREMENTS: Use product only when allowed by manufacturer for temperatures and general conditions at the time of application.

C. CEMENTITIOUS PATCHING MORTAR: Packaged, dry mix, one-component polymer-modified portland cement-based trowel-grade cementitious topping for filling and repairing concrete.

1. Basis of Design Product. SEAL HARD, Laticrete.

D. Comply with manufacturer's written recommendations for sealer installation. Applied undiluted sealer to prepared surfaces at rate recommended by manufacturer in one coat.

E. Allow surfaces to remain wet with sealer a minimum of 30 minutes and a maximum of one hour. Remove excess sealer at end of application procedure by water flushing and then squeegee dry.

END OF SECTION 033940

DIVISION 05 – METALS

SECTION 055000 – METAL FABRICATIONS

A. SECTION INCLUDES: Miscellaneous steel framing and supports .

B. METAL SURFACES, GENERAL: Provide materials with smooth, flat surfaces without blemishes.

C. FERROUS METALS:

1. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
2. Stainless-Steel Bars and Shapes: ASTM A 276, Type 304.
3. Steel Tubing: ASTM A 500, cold-formed steel tubing.
4. Steel Pipe: ASTM A 53/A 53M, standard weight (Schedule 40) unless otherwise indicated.

D. NONFERROUS METALS:

1. Aluminum Extrusions: ASTM B 221, Alloy 6063-T6.
2. Aluminum-Alloy Rolled Tread Plate: ASTM B 632/B 632M, Alloy 6061-T6.
3. Aluminum Castings: ASTM B 26/B 26M, Alloy 443.0-F.

E. CAST-IN-PLACE ANCHORS IN CONCRETE: Either threaded type or wedge type unless otherwise indicated; galvanized ferrous castings, either ASTM A 47/A 47M malleable iron or ASTM A 27/A 27M cast steel. Provide bolts, washers, and shims as needed, all hot-dip galvanized per ASTM F 2329.

F. POST-INSTALLED ANCHORS: Torque-controlled expansion anchors. Carbon-steel components zinc plated to comply with ASTM B 633 or ASTM F 1941, Class Fe/Zn 5, unless otherwise indicated.

G. NON-SHRINK, NON-METALLIC GROUT: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107. Provide grout specifically recommended by manufacturer for interior and exterior applications.

H. FABRICATION: Preassemble items in the shop to greatest extent possible. Use connections that maintain structural value of joined pieces.

1. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges. Remove sharp or rough areas on exposed surfaces.
2. Weld corners and seams continuously to comply with the following: Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.

    a. Obtain fusion without undercut or overlap.
    b. Remove welding flux immediately.
    c. At exposed connections, finish exposed welds and surfaces smooth and blended.

3. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners or welds where possible. Locate joints where least conspicuous.
4. Where units are indicated to be cast into concrete or built into masonry, equip with integrally welded steel strap anchors not less than 24 inches o.c.

I. MISCELLANEOUS SUPPORTS: Provide steel framing and supports not specified in other Sections as needed to complete the Work.

1. Fabricate units from steel shapes, plates, and bars of welded construction unless otherwise indicated. Fabricate to sizes, shapes, and profiles indicated and as necessary to receive adjacent construction.

J. CUTTING, FITTING, AND PLACEMENT: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.

1. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations. Do not weld, cut, or abrade surfaces of exterior units that have been hot-dip galvanized after fabrication and are for bolted or screwed field connections.

K. FIELD WELDING: Comply with the following requirements:

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
2. Obtain fusion without undercut or overlap.
3. Remove welding flux immediately.
4. At exposed connections, finish exposed welds and surfaces smooth and blended.

L. FASTENING TO IN-PLACE CONSTRUCTION: Provide anchorage devices and fasteners where metal fabrications are required to be fastened to in-place construction.

M. Provide temporary bracing or anchors in formwork for items that are to be built into concrete, masonry, or similar construction.

END OF SECTION 055000

DIVISION 06 – WOOD, PLASTICS, AND COMPOSITES

SECTION 061053 - MISCELLANEOUS ROUGH CARPENTRY

A. SECTION INCLUDES: Concealed non-structural carpentry.

B. Lumber: 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. Provide dressed lumber, S4S, unless otherwise indicated.

C. MAXIMUM MOISTURE CONTENT OF LUMBER: 15 percent for 2-inch nominal thickness or less, 19 percent for more than 2-inch nominal thickness unless otherwise indicated.

D. 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 beyond the centerline of the burners at any time during the test.

1. 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.
2. Identify fire-retardant-treated wood with appropriate classification marking of testing and inspecting agency acceptable to authorities having jurisdiction.

E. APPLICATION: Fire Treat all miscellaneous carpentry unless otherwise indicated.

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

1. Blocking.
2. Strip hangers for cabinets and other applications as indicated.
3. Utility shelving.

G. For items of dimension lumber size, provide Construction or No. 2 grade lumber of any species.

H. For concealed boards, provide lumber with 15 percent maximum moisture content and the following species and grades:

1. Western woods, Construction or No. 2 Common grade; WCLIB or WWPA.

I. EQUIPMENT BACKING PANELS: DOC PS 1, Exterior, AC, fire-retardant treated, in thickness indicated or, if not indicated, not less than 1/2-inch nominal thickness.

J. POWER-DRIVEN FASTENERS: NES NER-272.

K. SCREWS FOR FASTENING TO METAL FRAMING: ASTM C 1002 or ASTM C 954, as applicable, length as recommended by screw manufacturer for material being fastened.

L. INSTALLATION: Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry to other construction; scribe and cope as needed for accurate fit. Securely attach carpentry work to substrate by anchoring and fastening as indicated.

END OF SECTION 061053

SECTION 064216 – FLUSH WOOD PANELING

A. SECTION INCLUDES: Flush wood panels shop-fabricated and finished.

B. SUBMITTALS:

1. Product Data: For each type of product specified, including hardware.
2. Shop Drawings: Show location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components.
3. Samples: Panel products with transparent finish, 12 by 12 inches, for each species and cut.
4. Woodwork Quality Standard Compliance Certificates: At Contractor’s option, submit AWI Quality Certification Program certificates or WI Certified Compliance Program certificates.

C. ENVIRONMENTAL LIMITATIONS: Do not deliver or install paneling until building is enclosed, wet work is complete, and HVAC system is operating and will maintain temperature and relative humidity at occupancy levels during the remainder of the construction period

D. QUALITY ASSURANCE:

1. Fabricator Qualifications: Certified participant in AWI's Quality Certification Program or Licensee of WI's Certified Compliance Program.
2. Installer Qualifications: Fabricator of products.
3. Quality Standard: WI or AWI Grade: CUSTOM.
4. Provide labels or certificates from AWI or WI certification program indicating that woodwork, including installation, complies with requirements of grades specified.

E. FIRE-TEST-RESPONSE CHARACTERISTICS: Panels shall comply with "Surface-Burning Characteristics" or "Fire Growth Contribution" Subparagraph below, or both, as determined by testing identical products by UL or another testing and inspecting agency acceptable to authorities having jurisdiction:

1. SURFACE-BURNING CHARACTERISTICS: Comply with ASTM E 84 or UL 723; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

    a. Flame-Spread Index: 25 or less.
    b. Smoke-Developed Index: 450 or less.

2. FIRE GROWTH CONTRIBUTION: Comply with acceptance criteria of local code and authorities having jurisdiction when tested according to NFPA 265 Method B Protocol or NFPA 286.

F. WOOD PANELING GRADE: Custom.

1. Wood Species and Cut: As indicated on the Drawings.
2. Matching of Adjacent Veneer Leaves: As indicated on the Drawings.
3. Matching within Panel Face: As indicated on the Drawings.
4. Matching of Adjacent Veneer Leaves and within Panel Face: As indicated on the Drawings.
5. Panel-Matching Method: No matching is required between panels. Select and arrange panels for similarity of grain pattern and color between adjacent panels.
6. Vertical Panel-Matching Method: Architectural end slip match; veneer leaves are individually slip matched from lower panels to upper panels.
7. Panel Core Construction: Medium-density fiberboard fabricated without formaldehyde.
8. Thickness: 3/4 inch, unless otherwise indicated.
9. Exposed Panel Edges: As detailed.
10. Panel Reveals: As indicated on the Drawings.

G. SHOP APPLIED TRANSPARENT FINISH:

1. Grade: Custom.
2. Finish: System - 5, conversion varnish.
3. Wash Coat for Closed-Grain Woods: Apply wash-coat sealer to woodwork made from closed-grain wood before staining and finishing.
4. Staining: None required, unless approved samples are stained.
5. Sheen: Match Architectural Sample.
6. Finish paneling at fabrication shop. Defer only final touchup, cleaning, and polishing until after installation

H. Assemble panels by gluing and concealed fastening.

I. FURRING, BLOCKING, SHIMS, AND HANGING STRIPS: Fire-retardant-treated softwood lumber, kiln dried to less than 15 percent moisture content.

1. Wood Moisture Content: 5 to 10 percent.

J. 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.

K. INSTALLATION: Before installation, condition paneling to average prevailing humidity conditions in installation areas. Before installing paneling, examine shop-fabricated work for completion and complete work as required, including removal of packing and backpriming.

1. Install paneling to comply with same grade as paneling to be installed.

END OF SECTION 064216

SECTION 064219 - PLASTIC-LAMINATE-FACED ARCHITECTURAL CABINETS

A. SECTION INCLUDES: Plastic-laminate-faced wood paneling (decorative laminate surfacing).

B. SUBMITTALS:

1. Product Data: For each type of product specified, including hardware.
2. Shop Drawings: Show location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components.
3. Samples: Plastic laminates, for each color, pattern, and surface finish.
4. Woodwork Quality Standard Compliance Certificates: At Contractor’s option, submit AWI Quality Certification Program certificates or WI Certified Compliance Program certificates.

C. QUALITY ASSURANCE:

1. Fabricator Qualifications: Certified participant in AWI's Quality Certification Program or Licensee of WI's Certified Compliance Program.
2. Installer Qualifications: Fabricator of products.
3. Quality Standard: WI or AWI Grade: CUSTOM.

    a. Provide labels or certificates from AWI or WI certification program indicating that woodwork, including installation, complies with requirements of grades specified.

D. CABINETS:

1. Type of Construction: Frameless.
2. Cabinet, Door, and Drawer Front Interface Style: Flush overlay.
3. Reveal Dimension: As indicated.
4. High-Pressure Decorative Laminate: NEMA LD 3, grades as indicated or if not indicated, as required by woodwork quality standard.

    a. Products are indicated in the Finish Schedule.

5. Laminate Cladding for Exposed Surfaces:

    a. Horizontal Surfaces: Grade HGS.
    b. Postformed Surfaces: Grade HGP.
    c. Vertical Surfaces: Grade HGS.

6. Materials for Semiexposed Surfaces:

    a. Surfaces Other Than Drawer Bodies: High-pressure decorative laminate, NEMA LD 3, Grade VGS.
    b. Drawer Sides and Backs: Thermoset decorative panels with PVC or polyester edge banding.

c. Drawer Bottoms: Thermoset decorative panels.

E. WOOD PRODUCTS MOISTURE CONTENT: 5 to 10 percent.

F. COMPOSITE WOOD AND AGRIFIBER PRODUCTS:

1. Medium-Density Fiberboard: ANSI A208.2, Grade 130, made with binder containing no urea formaldehyde.
2. Thermoset Decorative Panels: Particleboard or medium-density fiberboard 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.

G. CABINET HARDWARE AND ACCESSORIES:

1. Frameless Concealed Hinges (European Type): BHMA A156.9, B01602, 135 degrees of opening, self-closing.
2. Back-Mounted Pulls: BHMA A156.9, B02011.
3. Wire Pulls: Back mounted, solid metal, 4 inches long, 5/16 inch in diameter.
4. Catches: Push-in magnetic catches, BHMA A156.9, B03131.
5. Adjustable Shelf Standards and Supports: BHMA A156.9, B04071; with shelf rests, B04081 BHMA A156.9, B04102; with shelf brackets, B04112.
6. Drawer Slides: BHMA A156.9.

    a. Grade 1 and Grade 2: Side mounted and extending under bottom edge of drawer; full-extension type; zinc-plated steel with polymer rollers.
    b. Grade 1HD-100 and Grade 1HD-200: Side mounted; full-extension type; zinc-plated-steel ball-bearing slides.
    c. Grade 2: Drawers not more than 3 inches high and not more than 24 inches wide.
    d. Grade 1: Drawers more than 3 inches high but not more than 6 inches high and not more than 24 inches wide.
    e. Grade 1HD-200: Drawers more than 6 inches high or more than 24 inches wide.
    f. Grade 1HD-100: Computer keyboard shelves.
    g. Grade 1HD-200: Trash bins not more than 20 inches high and 16 inches wide.

7. Door Locks: BHMA A156.11, E07121.
8. Drawer Locks: BHMA A156.11, E07041.
9. Door and Drawer Silencers: BHMA A156.16, L03011.
10. Exposed Hardware Finishes: For exposed hardware, provide finish that complies with BHMA A156.18 for BHMA finish number indicated.

    a. Satin Stainless Steel: BHMA 630, unless otherwise noted.

H. FURRING, BLOCKING, SHIMS, AND HANGING STRIPS: Fire-retardant-treated softwood lumber, kiln dried to less than 15 percent moisture content.

I. ANCHORS: 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.

J. ADHESIVES: Do not use adhesives that contain urea formaldehyde.

K. FABRICATION: 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. 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.

L. INSTALLATION: Before installation, condition cabinets to average prevailing humidity conditions in installation areas.

1. Install cabinets to comply with same grade as item to be installed.
2. Install cabinets level, plumb, true, and straight. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches.
3. Scribe and cut cabinets to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.
4. Anchor cabinets to anchors or blocking built in or directly attached to substrates. Secure with countersunk, concealed fasteners and blind nailing. Use fine finishing nails or finishing screws for exposed fastening, countersunk and filled flush with woodwork.
5. 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. Complete installation of hardware and accessory items as indicated.
6. Install cabinets with no more than 1/8 inch in 96-inch sag, bow, or other variation from a straight line.
7. Fasten wall cabinets through back, near top and bottom, and at ends not more than 16 inches o.c. with No. 10 wafer-head sheet metal screws through metal backing or metal framing behind wall finish or toggle bolts through metal backing or metal framing behind wall finish, as required for seismic restraint.

END OF SECTION 064219

SECTION 066413 - GLASS-FIBER REINFORCED PLASTIC (FRP) PANELING

A. SECTION INCLUDES: Glass-fiber reinforced plastic (FRP) wall paneling and trim accessories at utilitarian rooms.

B. SUBMITTALS:

1. Product Data: For each type of product.
2. Samples: For plastic paneling and trim accessories, in manufacturer's standard sizes.

C. SURFACE-BURNING CHARACTERISTICS: As determined by testing identical products according to ASTM E 84 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame-Spread Index: 200 or less.

2. Smoke-Developed Index: 450 or less.
3. Testing Agency: FM Approvals.

D. PLASTIC PANELS: Gelcoat-finished, glass-fiber reinforced plastic panels, ASTM D 5319.

1. Basis-of-Design Product: As indicated on the Drawings.

a. Nominal Thickness: Not less than 0.09 inch.
b. Surface Finish: As indicated by manufacturer's designations.
c. Color: As indicated by manufacturer's designations.

E. TRIM ACCESSORIES: Aluminum trim molding or PVC molding trim.

F. ADHESIVES: Do not use adhesives that contain urea formaldehyde.

G. Install plastic paneling according to manufacturer's written instructions in a full spread of adhesive.

END OF SECTION 066413

DIVISION 07 – THERMAL AND MOISTURE PROTECTION

SECTION 072100 - ACOUSTICAL BLANKET INSULATION

A. SECTION INCLUDES: Glass-fiber blanket acoustical insulation for interior partitions, suspended ceilings applications.

B. SUBMTTALS: Product Data for each type of product.

C. SURFACE-BURNING CHARACTERISTICS: As determined by testing identical products according to ASTM E 84 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

D. GLASS-FIBER BLANKET INSULATION

1. Basis of Design Product: JM Unfaced Formaldehyde-free™ fiberglass insulation.
   a. Thickness at Partitions: As indicated in the Partition Types scheduled in the Drawings.
   b. Thickness at Ceilings: 3 inches, unless otherwise indicated.

E. INSTALLATION, GENERAL: Clean substrates of substances that are harmful to insulation or that interfere with insulation attachment.

1. Comply with insulation manufacturer's written instructions applicable to products and applications indicated.

F. MISCELLANEOUS VOIDS: Install insulation in miscellaneous voids and cavity spaces where required to prevent gaps in insulation using the following materials:

1. Loose-Fill Insulation: Compact to approximately 40 percent of normal maximum volume equaling a density of approximately 2.5 lb/cu. ft..
2. Spray Polyurethane Insulation: Apply according to manufacturer's written instructions.

G. Where glass-fiber blankets are indicated for sound attenuation above ceilings, install blanket insulation over entire ceiling area in thicknesses indicated. Extend insulation 48 inches up either side of partitions.

1. Maintain 3-inch clearance of insulation around recessed lighting fixtures not rated for or protected from contact with insulation.

H. Protect installed insulation from damage due to harmful weather exposures, physical abuse, and other causes. Provide temporary coverings or enclosures where insulation is subject to abuse and cannot be concealed and protected by permanent construction immediately after installation.

END OF SECTION 072100

SECTION 078413 - PENETRATION FIRESTOPPING

A. SECTION INCLUDES: Penetrations in fire-resistance-rated walls, horizontal assemblies, and smoke barriers.

B. SUBMITTALS: Product Data for each product specified.

1. Product Schedule: For each penetration firestopping system. Include location and design designation of qualified testing and inspecting agency.

C. Fire-Test-Response Characteristics: Penetration firestopping tests are performed by a qualified testing agency acceptable to authorities having jurisdiction.

1. Penetration firestopping is identical to those tested per testing standard referenced in "Penetration Firestopping" Article. Provide rated systems complying with the following requirements:
2. Penetration firestopping products bear classification marking of qualified testing and inspecting agency.
3. Classification markings on penetration firestopping correspond to designations listed by the following:

a. UL in its "Fire Resistance Directory."
b. Intertek ETL SEMKO in its "Directory of Listed Building Products."
c. FM Global in its "Building Materials Approval Guide."

D. MATERIALS: Provide penetration firestopping that is produced and installed to resist spread of fire according to requirements indicated, resist passage of smoke and other gases, and maintain original fire-resistance rating of construction penetrated. Penetration firestopping systems shall be compatible with one another, with the substrates forming openings, and with penetrating items if any.

1. Basis of Design Manufacturer: Hilti.

a. Comparable Products by 3M and Tremco, Inc.

2. Accessories and Other Materials: As indicated in the testing company reports.

E. INSTALLATION: Install penetration firestopping to comply with manufacturer's written installation instructions and published drawings for products and applications indicated.

F. FIELD QUALITY CONTROL: Owner will engage a qualified testing agency to perform tests and inspections.

1. Where deficiencies are found or penetration firestopping is damaged or removed because of testing, repair or replace penetration firestopping to comply with requirements. Proceed with enclosing penetration firestopping with other construction only after inspection reports are issued and installations comply with requirements.

G. IDENTIFICATION: Identify penetration firestopping with preprinted metal or plastic labels. Attach labels permanently to surfaces adjacent to and within 6 inches of firestopping edge so labels will be visible to anyone seeking to remove penetrating items or firestopping. Use mechanical fasteners or self-adhering-type labels with adhesives capable of permanently bonding labels to surfaces on which labels are placed.

END OF SECTION 078413

SECTION 079220 - BUILDING INTERIOR JOINT SEALANTS

A. SECTION INCLUDES: Interior joint sealants, paintable and for wet conditions.

B. SUBMITTALS: Product Data for each product specified.

C. INSTALLATION: Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.

1. Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

D. ACOUSTICAL SEALANT INSTALLATION: At sound-rated assemblies and elsewhere as indicated, seal construction at perimeters, behind control joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C 919 and with manufacturer's written recommendations.

E. GENERAL: Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

F. Schedule of interior sealants:

1. Acoustical Sealant: USG Corporation; SHEETROCK Acoustical Sealant.
2. General Use Sealant, paintable: Sikaflex - 1a; Sika Corporation.

3. Mildew Resistant: Tremco Incorporated; Tremsil 200 Sanitary.
4. Glass at butt joints: Tremco Incorporated; Tremsil 600, clear.

END OF SECTION 079220

DIVISION 08 – OPENINGS

SECTION 081216 - ALUMINUM FRAMES

A. SECTION INCLUDES: Aluminum frames for doors and borrowed lights, non-rated and rated, clear anodized. Glass and glazing materials.

B. SUBMTTALS: Product Data for each type of product.

C. QUALITY ASSURANCE: Obtain interior aluminum frames from single source from single manufacturer.

1. Fire-Rated Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure according to NFPA 252 or UL 10C.
2. Smoke- and Draft-Control Assemblies: At corridors, smoke barriers, and smoke partitions, provide assemblies tested according to UL 1784 and installed in compliance with NFPA 105.

D. BASIS OF DESIGN MANUFACTURER: Western Integrated Materials.

E. COMPONENTS:

1. Aluminum Framing: ASTM B 221, Alloy 6063-T5 or alloy and temper required to suit structural and finish requirements, not less than 0.062 inch thick.
2. Door Frames: Extruded aluminum, reinforced for hinges, strikes, and closers.
3. Ceiling Tracks: Extruded aluminum.
4. Trim: Extruded aluminum, not less than 0.062 inch thick, with removable snap-in glazing stops and door stops without exposed fasteners.
5. Trim Style: As indicated on the Drawings.
6. Fasteners: Aluminum, nonmagnetic, stainless-steel or other noncorrosive metal fasteners compatible with frames, stops, panels, reinforcement plates, hardware, anchors, and other items being fastened.
7. Door Silencers: Manufacturer's standard continuous mohair, wool pile, or vinyl seals, black, unless otherwise indicated.
8. Smoke Seals: Intumescent strip or fire-rated gaskets; black, unless otherwise indicated.
9. Hardware: Comply with requirements in Division 08 Section - Door Hardware.

F. FA BRICATION: Provide concealed corner reinforcements and alignment clips for accurately fitted hairline joints at butted or mitered connections.

1. Factory prepare interior aluminum frames to receive templated mortised hardware; include cutouts, reinforcements, mortising, drilling, and tapping, according to the Door Hardware Schedule and templates furnished as specified in Division 08 Section - Door Hardware.
2. Locate hardware as required by fire-rated label for assembly.

G. FINISH: Clear anodic finish AAMA 611, AA-M12C22A31, Class II, 0.010 mm or thicker.

H. GLASS: ASTM C 1048, Kind FT (fully tempered), Condition A (uncoated surfaces), Type I (transparent), tested for surface and edge compression per ASTM C 1048 and for impact strength per 16 CFR 1201 for Category II materials.

1. Class 1: Clear monolithic.
2. Thickness: MINIMUM 1/2 inch. Final thickness as required for structural performance.
3. Exposed Edges: Machine ground and flat polished.
4. Butt Edges: Flat ground.
5. Corner Edges: Lap-joint corners with exposed edges polished.
6. Provide film or graphics where indicated on the Drawings.

I. INSTALLATION: Install interior aluminum frames plumb, rigid, properly aligned, and securely fastened in place; comply with manufacturer's written instructions. Set frames accurately in position and plumbed, aligned, and securely anchored to substrates.

1. At fire-protection-rated openings, install interior aluminum frames according to NFPA 80 and NFPA 105.
2. Assembly of Frames: Install frame components in the longest possible lengths; components up to 96 inches long must be one piece.
3. Use concealed installation clips to produce tightly fitted and aligned splices and connections.
4. Secure clips to extruded main-frame components and not to snap-in or trim members.
5. Do not leave screws or other fasteners exposed to view when installation is complete.

END OF SECTION 081416

SECTION 081216 - FLUSH WOOD DOORS

J. SECTION INCLUDES: Interior flush wood doors, veneered faces, shop finished and machined.

K. SUBMTTALS: Product Data for each type of product.
1. Samples for Verification: Factory finishes applied to actual door face materials, approximately 8 by 8 inches, for each material and finish.

L. Warranty: Sample of special warranty.

M. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace doors that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Warping (bow, cup, or twist) more than 1/4 inch in a 42-by-84-inch section.
b. Telegraphing of core construction in face veneers exceeding 0.01 inch in a 3-inch span.

2. Warranty shall also include installation and finishing that may be required due to repair or replacement of defective doors.
3. Warranty Period for Solid-Core Interior Doors: "Full Life of Original Installation" including hanging and finishing if doors do not comply with warranty tolerance standards.

N. Source Limitations: Obtain flush wood doors from single manufacturer.

1. BASIS OF DESIGN PRODUCTS: Signature Series EPCUF by Marshfield Door Systems, Inc., FSC-Certified, UF Free, Particleboard.

a. Door Thickness: 1-3/4 inch.
b. Comparable Products by Eggers.

2. WDMA I.S.1-A Performance Grade: Heavy Duty.

a. Particleboard-Core Doors:
b. Particleboard: ANSI A208.1, 1-LD-2 Particleboard, DPC-1.
c. Provide doors with structural-composite-lumber cores instead of particleboard cores for doors indicated to receive exit devices.

3. Doors (Non Rated): EPCUF (FSC particleboard with no added urea formaldehyde).
4. Interior Doors (Rated): EPCUF-20 (no added urea formaldehyde). 20 Minute Particleboard core door.

a. Positive Pressure for aluminum frames rated by ITS-WH or UL.

O. VENEERED FACES:

1. Grade: Custom (Grade A faces).
2. Species and Cut: As indicated in the Schedule of Finishes on the Drawings.
3. Matching: As indicated in the Schedule of Finishes on the Drawings.
4. Exposed Vertical Edges: Same species as faces.
5. Core: FSC Particleboard.
6. Construction: Five plies. Stiles and rails are bonded to core, then entire unit abrasive planed before veneering. Faces are bonded to core using a hot press.
7. Framing for Vision Panels: Match existing.

P. Factory fit doors to suit frame-opening sizes indicated. Comply with clearance requirements of referenced quality standard for fitting unless otherwise indicated.

1. Comply with requirements in NFPA 80 for fire-rated doors.

Q. Factory machine doors for hardware that is not surface applied. Locate hardware to comply with DHI-WDHS-3. Comply with final hardware schedules, door frame Shop Drawings, DHI A115-W series standards, and hardware templates.

R. Comply with referenced quality standard for factory finishing. Complete fabrication, including fitting doors for openings and machining for hardware that is not surface applied, before finishing.

1. Finish exposed faces and stile edges. Stains and fillers may be omitted on top and bottom edges, edges of cutouts, and mortises.
2. Seal top and bottom edges.
3. Finish doors at factory.

S. Finish: Factory finish to be water based stain and ultraviolet (UV) cured polyurethane to comply with EPA Title 5 guidelines for Volatile Organic Compound (VOC) emissions limitations

1. Grade: Custom.
2. Finish: AWI TR-6 catalyzed polyurethane.

a. Basis of Design Product: Marshfield Door Systems Enviroclad UV™.

3. Staining and Sheen: As indicated in the Door Schedule.

T. INSTALLATION : Examine doors and installed door frames before hanging doors. Verify that frames comply with indicated requirements for type, size, location, and swing characteristics and have been installed with level heads and plumb jambs.

1. Reject doors with defects.
2. Proceed with installation only after unsatisfactory conditions have been corrected.
3. Install doors to comply with manufacturer's written instructions and the referenced quality standard, and as indicated. Install fire-rated doors in corresponding fire-rated frames according to NFPA 80.
4. Factory-Fitted Doors: Align in frames for uniform clearance at each edge.
5. Factory-Finished Doors: Restore finish before installation if fitting or machining is required at Project site.
6. Rehang or replace doors that do not swing or operate freely. Replace doors that are damaged or that do not comply with requirements. Doors may be repaired or refinished if work complies with requirements and shows no evidence of repair or refinishing.

END OF SECTION 081216

SECTION 087110 – DOOR HARDWARE

A. SECTION INCLUDES: Mechanical door hardware for swinging doors.

B. SUBMITTALS:

1. Product Data: For each type of product indicated. Include construction and installation details, material descriptions, dimensions of individual components and profiles, and finishes.

2. Samples for Verification: For exposed door hardware of each type required, in each finish specified, prepared on Samples of size indicated below. Tag Samples with full description for coordination with the door hardware schedule. Submit Samples before, or concurrent with, submission of door hardware schedule.

    a. Sample Size: Full-size units or minimum 2-by-4-inch Samples for sheet and 4-inch long Samples for other products.

C. Door Hardware Schedule: As indicated on the Drawings.

D. SOURCE LIMITATIONS: Obtain each type of door hardware from a single manufacturer.

E. INSTALLATION, GENERAL: Install each door hardware item to comply with manufacturer's written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing. Do not install surface-mounted items until finishes have been completed on substrates involved.

1. Set units level, plumb, and true to line and location. Adjust and reinforce attachment substrates as necessary for proper installation and operation.
2. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.

END OF SECTION 087110