SECTION 08 14 16
FLUSH WOOD DOORS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Flush wood doors; flush configuration; acoustical.

1.02 RELATED REQUIREMENTS

A. Section 06 20 01 - Finish Carpentry: Wood door frames.

B. Section 08 71 00 - Finish Hardware

C. Section 09 91 23 - Interior Painting: Field finishing of doors.

1.03 REFERENCE STANDARDS

A. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition; 2014, with Errata (2016).

B. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards; 2021, with Errata.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.

B. Product Data: Indicate door core materials and construction; veneer species, type and characteristics.

C. Shop Drawings: Show doors and frames, elevations, sizes, types, swings, undercuts, beveling, blocking for hardware, factory machining, factory finishing, cutouts for glazing and other details.
   1. Provide information as required by AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS).
   2. Shop drawings to also include door type, door design number, hardware types and locations, molding and sticking profile.

D. Manufacturer's Installation Instructions: Indicate special installation instructions.

E. Warranty, executed in Director's Representative's name.

1.05 QUALITY ASSURANCE

A. Maintain one copy of the specified door quality standard on site for review during installation and finishing.

B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section, with not less than three years of documented experience.
   1. Company with at least one project within past five years with value of woodwork within at least 20 percent of cost of woodwork for this project.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Package, deliver and store doors in accordance with specified quality standard.

B. Accept doors on site in manufacturer's packaging, and inspect for damage.

C. Protect doors with resilient packaging sealed with heat shrunk plastic; do not store in damp or wet areas or areas where sunlight might bleach veneer; seal top and bottom edges with tinted sealer if stored more than one week, and break seal on site to permit ventilation.

D. Within 7 days of delivery to job site, all six (6) edges (top, bottom, sides) and other unfinished surfaces of the wood doors must be sealed with at least 2 coats of finish coating

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Wood Veneer Faced Doors:
   1. Haley Brothers; ____: www.haleybros.com/#sle.
   2. Masonite Architectural; Aspiro Select Wood Veneer Doors: www.architectural.masonite.com/#sle.
   3. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 DOORS AND PANELS

A. Doors: See drawings for locations and additional requirements.
   1. Quality Standard: Custom Grade, Heavy Duty performance, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.
   2. Wood Veneer Faced Doors: 5-ply unless otherwise indicated.

B. Interior Doors: 1-3/4 inches (44 mm) thick unless otherwise indicated; flush construction.
   1. Provide solid core doors at each location.

2.03 DOOR AND PANEL CORES

A. Non-Rated Solid Core and 20 Minute Rated Doors: Type particleboard core (PC), plies and faces as indicated.

2.04 DOOR FACINGS

A. Veneer Facing for Transparent Finish: Maple, veneer grade in accordance with quality standard indicated, plain sliced (flat cut), with book match between leaves of veneer, running match of spliced veneer leaves assembled on door or panel face.
   1. Vertical Edges: Any option allowed by quality standard for grade.

2.05 DOOR CONSTRUCTION

A. Fabricate doors in accordance with door quality standard specified.

B. Cores Constructed with stiles and rails:

C. Factory machine doors for hardware other than surface-mounted hardware, in accordance with hardware requirements and dimensions.

D. Factory fit doors for frame opening dimensions identified on shop drawings, with edge clearances in accordance with specified quality standard.

E. Provide edge clearances in accordance with the quality standard specified.

2.06 FINISHES - WOOD VENEER DOORS

A. Finish work in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), Section 5 - Finishing for grade specified and as follows:
   1. Transparent:
      a. Finish per Specification 09 91 23 - Interior Painting

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that opening sizes and tolerances are acceptable.

C. Do not install doors in frame openings that are not plumb or are out-of-tolerance for size or alignment.

3.02 INSTALLATION

A. Within 7 days of delivery to a job site, all six (6) edges (top, bottom, sides) and other unfinished surfaces of these "interior" wood doors must be sealed with at least two (2) coats per Section 09 91 23 - Interior Painting.

B. Install doors in accordance with manufacturer's instructions and specified quality standard.

C. Factory-Finished Doors: Do not field cut or trim; if fit or clearance is not correct, replace door.

D. Use machine tools to cut or drill for hardware.

E. Coordinate installation of doors with installation of frames and hardware.

END OF SECTION

SECTION 08 14 33
STILE AND RAIL WOOD DOORS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Wood doors, stile and rail design; non-fire rated.

B. Door screens

1.02 RELATED REQUIREMENTS

A. Section 08 71 00 - Finish Hardware.

B. Section 09 91 13 - Exterior Painting - Field Finishing

1.03 REFERENCE STANDARDS

A. AWI (QCP) - Quality Certification Program; Current Edition.

B. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition; 2014, with Errata (2016).

C. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards; 2021, with Errata.

D. ICC (IBC) - International Building Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

E. WDMA I.S. 6A - Interior Architectural Wood Stile and Rail Doors; 2013.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.

B. Product Data: Indicate stile and rail core materials and construction; veneer species, type and characteristics.

C. Shop Drawings: Illustrate door opening criteria, elevations, sizes, types, swings, undercuts required, special beveling, special blocking for hardware, factory machining criteria, factory finishing criteria, and cutouts for screens. Shop drawings to also include door type, door design number, hardware types and locations, molding and sticking profile.

D. Samples: Submit two samples of door construction, 4 by 4 inches (___ by ___ mm) in size cut from top corner of door.

E. Manufacturer's Installation Instructions: Indicate special installation instructions.

F. Manufacturer's qualification statement.

G. Warranty, executed in Director's Representative's name.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section, with not less than three years of documented experience.

1. Company with at least one project within past five years with value of woodwork within at least 20 percent of cost of woodwork for this project.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Package, deliver, and store doors in accordance with quality standard specified.

B. Accept doors on site in manufacturer's packaging, and inspect for damage.

C. Protect doors with resilient packaging sealed with heat shrunk plastic; do not store in damp or wet areas or areas where sunlight might bleach wood; seal top and bottom edges with tinted sealer if stored more than one week, and break seal on site to permit ventilation.

D. Within 7 days of delivery to job site, all six (6) edges (top, bottom, sides) and other unfinished surfaces of the wood doors must be sealed with at least 2 coats of finish coating.

1.07 WARRANTY

A. See Section 01 78 00 - Closeout Submittals for additional warranty requirements.

B. Include coverage for delamination of veneer, warping beyond specified installation tolerances, defective materials, telegraphing core construction, and _____.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Stile and Rail Wood Doors:
   1. Adams Architectural Millwork Co.: adamsarch.com
   2. Wood Products Manufacturers:
   3. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 DOORS

A. Exterior Doors: 1-3/4 inches (44.45 mm) thick unless otherwise indicated; solid Douglas Fir lumber construction; mortise and tenon joints; solid panels; water repellent treated. Transparent finish as indicated on drawings.

2.03 DOOR AND PANEL FACINGS

A. Adhesive: Type I - Waterproof.

2.04 DOOR CONSTRUCTION

A. Vertical Exposed Edge of Stiles: Of same species as panels..

B. Fit door edge trim to edge of stiles.

C. Panels: Flat.

D. At exterior doors, provide aluminum flashing at the top and bottom rail for full thickness and width of door.

E. Factory fit doors for frame opening dimensions identified on shop drawings, with edge clearances in accordance with specified quality standard.
   1. Exception: Doors to be field finished.

2.05 ACCESSORIES

A. Door screens:
   1. Insect screening: Aluminum wire mesh: .011" wire diameter; charcoal finish.
   2. Hardware Cloth: Galvanized steel wire mesh: 1/4" x 1/4"; 22 gauge; hot dip galvanized finish.
   3. Screen Stops (battens): 1/2" x 3/4" S4S; Species; Cedar; Grade: C and Better Clear.
   4. Fasteners for Screen Stops: Stainless Steel. 3d x 1-1/4 in. 316 Stainless Steel Nials - Ring Shank.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that opening sizes and tolerances are acceptable.

C. Do not install doors in frame openings that are not plumb or are out of tolerance for size or alignment.

3.02 INSTALLATION

A. Install doors in accordance with manufacturer's instructions and specified quality standards.

B. Field-Finished Doors: Trimming to fit is acceptable.
   1. Adjust width of non-rated doors by cutting equally on both jamb edges.
   2. Trim door height by cutting bottom edges to a maximum of 3/4 inch (19 mm).
   3. Re-seal cut edges as necessary to provide completely sealed and finished product.

C. Machine cut for hardware.

D. Coordinate installation of doors with installation of frames and hardware.

3.03 TOLERANCES

A. Comply with specified quality standard for fit, clearance, and joinery tolerances.

3.04 ADJUSTING

A. Adjust doors for smooth and balanced door movement.

END OF SECTION

SECTION 08 71 00
FINISH HARDWARE

PART 1 --GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.02 DESCRIPTION OF WORK

A. Definition: "Finish Hardware" includes items known commercially as finish hardware which are required for swing, sliding and folding doors, except special types of unique and non-matching hardware specified in the same section as the door and door frame.

B. Extent of finish hardware required is indicated on drawings and in schedules.

C. Types of finish hardware required include the following:
   1. Butt Hinges
   2. Continuous Hinges
   3. Lock cylinders and keys
   4. Lock and latch sets
   5. Door trim units

D. Exclusions: Unless specifically listed in hardware sets, hardware is not specified in this section for:
   1. Windows
   2. Signage

1.03 RELATED SECTIONS

A. Division 08 - Stile and Rail Wood Doors.

B. Division 09 - Interior and Exterior Painting.

1.04 REFERENCES

A. DHI - Door and Hardware Institute
   1. Sequence and Format for the Hardware Schedule
   2. Recommended Locations for Builders Hardware
   3. Key Systems and Nomenclature

B. ANSI - American National Standards Institute
   1. ANSI/BHMA A156.1 - A156.29, and ANSI/BHMA A156.31 - Standards for Hardware and Specialties

1.05 QUALITY ASSURANCE

A. Manufacturer: Obtain each type of hardware (latch and lock sets, etc.) from a single manufacturer.

B. Supplier: Shall be an established firm dealing in contract builder’s hardware, with adequate inventory and warehousing facilities, who has been furnishing hardware in the project's vicinity for a period of not less than 2 years, has qualified personnel on staff, located within 100 miles and who is, or who employs an experienced architectural hardware consultant who is available, at reasonable times during the course of the work, for consultation about project's hardware requirements, to Owner, Architect and Contractor. The supplier must be a factory authorized dealer for all materials required.

C. Pre-installation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Meetings." The hardware manufacturers are to supply the pre-installation conference as well as a post-installation walk-thru. This is to insure proper installation and provide for any adjustments or replacements of hardware as required. Review methods and procedures related to electrified door hardware including, but not limited to, the following:

1. Inspect and discuss electrical roughing-in and other preparatory work performed by other trades.
2. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
3. Review required testing, inspecting, and certifying procedures.
4. Review sequence of operation or each type of electrified door hardware.

D. Where emergency exit devices are required on fire rated doors (with supplementary marking on doors with labels indicating "Fire Door to be Equipped with Fire Exit Hardware") provide labels on exit devices indicating "Fire Exit Hardware.

E. Hardware on doors from spaces of pupil occupancy shall be a type which will always permit the door to be opened from the inside of the room without direct manipulation of any type locking device. Doors between the Pool and the Locker Room are the only exception.

F. The supplier shall be responsible for field checking existing openings for proper application and sizes of strikes, hinges, locksets, closers, exit devices, etc. for all openings.

1.06 REGULATORY REQUIREMENTS

A. Comply with accessibility requirements, comply with Americans with Disabilities Act (ADA), “Accessibility Guidelines for Buildings and Facilities (ADAAG),” ANSI A117.1, FED-STD-795, “Uniform Federal Accessibility Standards.”

B. Fire Rated Openings: Provide hardware for fire rated openings in compliance with NFPA Standard No. 80 and local building code requirements. Provide only hardware which has been tested and listed by UL or an approved testing agency for types and sizes of doors required and complies with requirements of door and door frame labels.

C. Fire-Rated Assemblies: Upon completion of the installation, all fire door assemblies shall be tested to confirm proper operation of the closing device and that it meets all criteria of a fire door assembly as per NFPA 80 2007 Edition. At completion of the project, written record shall be furnished by the door hardware supplier and given to the owner to be made available to the Authority Having Jurisdiction, “AHJ”. The record shall show all fire rated openings, door number and location, along with hardware supplied and installed for the opening. The inspection of the fire doors that are swinging doors with builders hardware type to be performed by individuals with knowledge and understanding of the operating components of the type of door being subjected to testing as required by the AHJ.

1.07 SUBMITTALS

A. Product Data: Submit manufacturer’s technical product data for each item of hardware in accordance with Division-1 section "Submittals". Include whatever information may be necessary to show compliance with requirements, and include instructions for installation and for maintenance of operating parts and finish.

B. Hardware Schedule: Submit final hardware schedule in a vertical format as recognized by the Door and Hardware Institute (DHI). Horizontal schedule format will not be accepted. Coordinate hardware with doors, frames and related work to ensure proper size, thickness, hand, function and finish of hardware.

1. Final Hardware Schedule Content: Based on finish hardware indicated, organize hardware schedule into "hardware sets" indicating complete designations of every item required for each door or opening. Include the following information:
   a. Type, style, function, size and finish of each hardware item.
   b. Name and manufacturer of each item.
   c. Fastenings and other pertinent information.
   d. Index to include location of hardware set cross referenced to indications on drawings both on floor plans and in door and frame schedule.
   e. Explanation of all abbreviations, symbols, codes, etc., contained in schedule.
   f. Mounting locations for hardware.
   g. Door and frame sizes and materials.
   h. Keying information.

i. Wiring diagrams with theory of operation.

C. Submittal Sequence: Submit schedule in accordance to Division 1, particularly where acceptance of hardware schedule must precede fabrication of other work (e.g., hollow metal frames) which is critical in the project construction schedule. Include with schedule the product data, samples, shop drawings of other work affected by finish hardware, and other information essential to the coordinated review of hardware schedule.

D. Keying Schedule: Submit separate detailed schedule indicating clearly how the Owner's final instructions on keying of locks has been fulfilled.

E. Samples if Requested: Prior to submittal of the final hardware schedule and prior to final ordering of finish hardware, submit one sample of each type of exposed hardware unit, finish as required, and tagged with full description for coordination with schedule.

F. Templates: Furnish hardware templates to each fabricator of doors, frames and other work to be factory prepared for the installation of hardware. Upon request, check shop drawings of such other work, to confirm that adequate provisions are made for proper location and installation of hardware.

G. Notify the Director's Representative prior to submission of the required schedule, of any apparent discrepancies between the Hardware Specification, details or contract drawings.

H. Review of the schedule by the Architect is for compliance with design intent only and shall not relieve this supplier from his responsibility to furnish all finish hardware required by the Contract Documents, whether included in the reviewed schedules or not. After the schedule has been reviewed, no items therein shall be changed without written approval of the Architect.

I. Submit to General Contractor/Construction Manager, the factory order acknowledgement numbers for the various hardware items to be used on the project. The factory order acknowledgement numbers shall help to facilitate and expedite any service or warranty issues that may be required on a particular hardware item. General Contractor/Construction Manager shall keep these order acknowledgement numbers on file in the construction trailer.

1.08 PRODUCT HANDLING

A. Tag each item or package separately, with identification related to final hardware schedule, and include basic installation instructions with each item or package.

B. Inventory hardware jointly with representatives of hardware supplier and hardware installer until each is satisfied that count is correct.

C. Deliver individually packaged hardware items at the proper times to the proper locations (shop or project site) for installation.

D. Provide secure lock-up for hardware delivered to the project, but not yet installed. Control handling and installation of hardware items which are not immediately replaceable, so that completion of the work will not be delayed by hardware losses, both before and after installation.

PART 2 PRODUCTS

2.01 SCHEDULED HARDWARE

A. Requirements for design, grade, function, finish, size and other distinctive qualities of each type of finish hardware are indicated in the Hardware Schedule at the end of this section. Products are identified by using hardware designation numbers of the following.

B. Manufacturer's Product Designations:

1.	Butt Hinges:	Ives
2.	Tee Hinges:	Grainger
3.	Continuous Hinges:	Ives
4.	Locksets:	Falcon
5.	Cylinders:	Best
6.	Kickplates:	Ives

2.02 MATERIALS AND FABRICATION

A. General:

1. Hand of door: Drawings show direction of slide, swing or hand of each door leaf. Furnish each item of hardware for proper installation and operation of door movement as shown.
2. Manufacturer's Name Plate: Do not use manufacturer's products which have manufacturer's name or trade name displayed in a visible location (omit removable nameplates), except in conjunction with required UL labels and as otherwise acceptable to Architect.
3. Manufacturer's identification will be permitted on rim of lock cylinders only.
4. Finish: All hardware finish shall match US26D unless otherwise indicated. Closer bodies, covers and arms shall be painted to match.
5. Lockset Design: Lever handle design shall be similar to Dane as manufactured by Falcon Lock Co.
6. Fasteners: Provide hardware manufactured to conform to published templates, generally prepared for machine screw installation. Do not provide hardware which has been prepared for self-tapping sheet metal screws, except as specifically indicated.
7. Furnish screws for installation, with each hardware item. Provide Phillips flat-head screws except as otherwise indicated. Finish exposed (exposed under any condition) screws to match hardware finish or, if exposed in surfaces of other work, to match finish of such other work as closely as possible, including "prepared for paint" in surfaces to receive painted finish.
8. Provide concealed fasteners for hardware units which are exposed when door is closed, except to extent no standard units of type specified are available with concealed fasteners. Do not use thru-bolts for installation where bolt head or nut on opposite face is exposed in other work, except where it is not feasible to adequately reinforce the work. In such cases, provide sleeves for each thru-bolt or use sex screw fasteners.
9. Tools and Maintenance Instructions for Maintenance: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of finish hardware.

2.03 HINGES, BUTTS AND PIVOTS

A. Templates: Except for hinges and pivots to be installed entirely (both leaves) into wood doors and frames, provide only template-produced units.

B. Screws: Furnish Phillips flat-head or machine screws for installation of units, except furnish Phillips flat-head or wood screws for installation of units into wood. Finish screw heads to match surface of hinges or pivots.

C. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:
   1. Steel Hinges: Steel pins.
   2. Non-ferrous Hinges: Stainless steel pins.
   3. Out-swing Corridor Doors: Non-removable pins.
   4. Interior Doors: Non-rising pins.
   5. Tips: Flat button and matching plug, finished to match leaves.
   6. Number of hinges: Provide number of hinges indicated but not less than 3 hinges per door leaf for doors 90" or less in height and one additional hinge for each 30" of additional height.

D. Acceptable Manufacturers:
   1. Ives
   2. Grainger
   3. McKinney
   4. Hager

E. Supplier shall be responsible for the correct hinge size to fit any existing frames or doors.

F. Furnish hinges in sizes and types as required by architect’s details to achieve maximum degree of opening.

2.04 LOCK CYLINDERS AND KEYING

A. General: Supplier will meet with Owner to finalize keying requirements and obtain final instructions in writing.

B. Review the keying system with the Owner and provide the type required (master, grandmaster or great-grandmaster), integrated with Owner's existing Best system. If key pinning charts are required, owner to furnish charts to hardware supplier.

C. Furnish temporary keyed cores for the construction period. Contractor shall void the construction keying in the presence of the owner's representative.

D. Metals: Construct lock cylinder parts from brass/bronze, stainless steel or nickel silver.

E. Comply with Owner's instructions for masterkeying and, except as otherwise indicated, provide individual change key for each lock which is not designated to be keyed alike with a group of related locks.

F. Permanently inscribe each key and cylinder with Visual Key Control that identifies cylinder manufacturer key symbol, and inscribe key with the notation "DO NOT DUPLICATE".

G. Key Material: Provide keys of nickel silver only.

H. Key Quantity:
   1. Furnish 3 change keys for each lock.
   2. 5 master keys for each master system.
   3. 5 grandmaster keys for each grandmaster system.
   4. One extra blank for each lock.
   5. 6 Construction master keys.
   6. 6 Control Keys - Construction and Permanent.

I. Deliver keys as directed by the owner.

2.05 LOCKS, LATCHES AND BOLTS

A. Locks shall meet these certifications:
   1. Cylindrical Locks - ANSI A156.2 Series 4000, Grade 1 Strength and Operational requirements. Meets A117.1 Accessibility Codes. Latch bolts shall be steel with minimum ½" throw, deadlocking on keyed and exterior functions. ¾" throw anti-friction latchbolt on pairs of fire doors. Strikes: Provide manufacturer's standard wrought box strike for each latch or lock bolt, with curved lip extended to protect frame. Provide 5/8" minimum throw of latch and deadbolt used on pairs of doors.
      a. Lock design shall be Falcon "T" Series Dane design - Finish to be 626
   2. 2. Mortise Locks - ANSI A156.13, 1994, Grade 1 Operational, ANSI/ASTM F476-76 Grade 30, UL listed. Levers shall be forged brass or bronze, cast stainless steel. Meets A117.1 Accessibility Codes. Steel Case with ¾" throw brass or stainless steel anti-friction latchbolt and a 1" throw brass or stainless steel deadbolt. Lock trim shall incorporate individual lever support springs in each rose or escutcheon. Lever connection by attaching threaded bushings tightened by a spanner wrench. Threaded set screws will not be accepted. Lock spindles shall be two independent inside and outside spindles to prevent manipulation of lock. Strikes: Provide manufacturer's standard wrought box strike for each latch or lock bolt, with curved lip extended to protect frame.
      a. Lock design shall be Falcon "MA" series "DG" design - Finish to be 626.

B. Comply with UL requirements for throw of bolts and latch bolts on rated fire openings.

C. Acceptable Manufacturers and Products:
   1. Corbin-Russwin "ML2000/CL3300" Series
   2. Sargent Lock Co. "8200/10 Line"
   3. Falcon Lock Co. "MA /T Series"

2.06 DOOR TRIM UNITS

A. Fasteners: Provide manufacturer's standard exposed fasteners for door trim units (kick plates, edge trim, viewers, knockers, mail drops and similar units); either machine screws or self-tapping screws.

B. Fabricate protection plates (armor, kick or mop) not more than 1-1/2" less than door width on stop side and not more than 1/2" less than door width on pull side, x the height indicated. All protection plates shall have all edges beveled (B4E).

C. Metal Plates: Stainless steel, .050" (U.S. 18 ga.).

D. All pull plates and handles to be thru-bolted. Install pull plate prior to push plate to conceal thru-bolts. Provide concealed fasteners for all push/pull applications.

E. Acceptable Manufacturers:
   1. Ives
   2. Rockwood
   3. Quality

PART 3--EXECUTION

3.01 HARDWARE SCHEDULE

HW Set 01 -

For use on Door #(s): 01, 02, 03, 05

3	EA	HINGE	1WBE5 TEE HINGE 6" DOOR LEAF, GALV. STEEL	613	GRAINGER
1	EA	DOOR CATCH	Stock # N236-035 NATIONAL MANU. CO.		
1	EA	DOOR PULL	8103HD 8" STD	630	IVE
1	EA	PUSH PLATE			
1	EA	LOCKING HASP	4PE49 STEEL LOCKING HASP		GRAINGER

HW Set 02 -

For use on Door #(s): 04

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	T581HD7 DANE	626	FAL
1	EA	PERMANENT CORE	AS REQUIRED	626	BES
1	EA	LOCKING HASP	4PE49 STEEL LOCKING HASP		GRAINGER

3.02 INSTALLATION

A. Mount hardware units at heights indicated in "Recommended Locations for Builders Hardware for Standard Steel Doors and Frames" by the Door and Hardware Institute, except as specifically indicated or required to comply with governing regulations, and except as may be otherwise directed by Architect.

B. Install each hardware item in compliance with the manufacturer's instructions and recommendations. Wherever cutting and fitting is required to install hardware onto or into surfaces which are later to be painted or finished in another way, coordinate removal, storage

and reinstallation or application of surface protections with finishing work specified in the Division-9 sections. Do not install surface-mounted items until finishes have been completed on the substrate.

C. Set units level, plumb and true to line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.

D. Drill and countersink units which are not factory-prepared for anchorage fasteners. Space fasteners and anchors in accordance with industry standards.

E. Set thresholds for exterior doors in full bed of butyl-rubber or polyisobutylene mastic sealant.

F. Technical and Warranty Information:
   1. At the completion of the project, the technical and warranty information coalesced and kept on file by the General Contractor/Construction Manager shall be given to the Owner or Owner's Agent. In addition to both the technical and warranty information, all factory order acknowledgement numbers supplied to the General Contractor/Construction Manager during the construction period shall be given to the Owner or Owner's Agent. The warranty information and factory order acknowledgement numbers shall serve to both expedite and properly execute any warranty work that may be required on the various hardware items supplied on the project.
   2. Submit to General Contractor/Construction Manager, two copies each of parts and service manuals and two each of any special installation or adjustment tools. Include for locksets, exit devices, door closers and any electrical products.

3.03 ALTERATION NOTES

A. Remove existing interfering hardware. All removed hardware shall remain the property of the Owner, unless otherwise directed.

B. Remove all mechanical hold open devices from existing corridor and fire rated doors. Manual hold open closers shall be replaced or modified accordingly.

C. This supplier shall be responsible to verify all existing condition and advise the architect of any discrepancies with scheduled hardware.

D. Patch, repair and modify all doors, frames and hardware affected by scheduled replacement hardware.

E. Install all surface mounted hardware on existting doors with thru bolts.

3.04 ADJUST AND CLEAN

A. Adjust and check each operating item of hardware and each door, to ensure proper operation or function of every unit. Replace units which cannot be adjusted to operate freely and smoothly as intended for the application made.

B. Clean adjacent surfaces soiled by hardware installation.

C. Final Adjustment: Wherever hardware installation is made more than one month prior to acceptance or occupancy of a space or area, return to the work during the week prior to acceptance or occupancy, and make final check and adjustment of all hardware items in such space or area. Clean operating items as necessary to restore proper function and finish of hardware and doors. Adjust door control devices to compensate for final operation of heating and ventilating equipment.

D. Instruct Owner's Personnel in proper adjustment and maintenance of hardware and hardware finishes, during the final adjustment of hardware.

E. Continued Maintenance Service: Approximately six months after the acceptance of hardware in each area, the Installer, accompanied by the representative of the latch and lock manufacturer, shall return to the project and re-adjust every item of hardware to restore proper function of doors and hardware. Consult with and instruct Owner's personnel in recommended additions to the maintenance procedures. Replace hardware items which have deteriorated or failed due to faulty design, materials or installation of hardware units. Prepare a written report of current and predictable problems (of substantial nature) in the performance of the hardware.

END OF SECTION

SECTION 08 84 00
PLASTIC GLAZING

PART 1 - GENERAL

1.01 SUMMARY

A. This Section specifies the following types of plastic glazing:
   1. Polycarbonate glazing.

1.02 RELATED SECTIONS

A. Section 06 2000 - Finish Carpentry

1.03 REFERENCES

A. ANSI Z97.1 - American National Standard for Glazing Materials Used in Buildings -- Safety Performance Specifications and Methods of Test.

B. CPSC 16 CFR 1201 - Safety Standard for Architectural Glazing Materials

C. ASTM C 297 - Standard Test Method for Tensile. Strength on Flat Sandwich Constructions in. Flatwise Plane.

D. ASTM D 256 - Standard Test Method for Determining the Pendulum Impact Resistance of Notched Specimens of Plastics.

E. ASTM D 790 - Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.

F. ASTM D 792 - Standard Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement.

G. ASTM D1003 Standard Test Method for Haze and Luminous Transmittance of Transparent Plastics.

H. ASTM D 1929 - Standard Test Method for Ignition Properties of Plastics.

I. ASTM F 1233 - Standard Test Method for Security Glazing Materials and Systems.

J. ASTM F 1915 - Standard Test Method for Glazing for Detention Facilities.

K. UL 752 - Standard for Bullet-Resisting Equipment.

L. ASTM F 1233 - Standard Test Method for Security Glazing Materials and Systems

M. ASTM F 1642-04 - Standard Test Method for Glazing and Glazing Systems Subject to Airblast Loading

N. H.P.WHITE TP-0050.03 - Transparent Materials for Use in Forced Entry or Containment Barriers

O. US General Services Administration (GSA) Test Protocol GSA-TS01-2003 “Standard Test Method for Glazing and Window Systems Subject to Dynamic Overpressure Loadings”,

P. Department of Defense (DoD) Antiterrorism / Force Protection Construction Standards UFC 4-010-01 “United Facilities Criteria (UFC) DoD Minimum Antiterrorism Standards for Buildings”,

1.04 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Physical properties including data on material weight, windload capacity, light transmission, shading coefficient, and thermal expansion
   2. Preparation instructions and recommendations.
   3. Storage and handling requirements and recommendations.
   4. Installation methods and glazing procedures, including edge engagement guidelines.

C. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.

D. Verification Samples: Submit samples for each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product and framed on two adjacent sides to show glazing system.

E. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver polycarbonate sheets on enclosed pallets.

B. Store products in manufacturer's unopened packaging until ready for installation.

C. Store in dry, well-ventilated and covered areas at temperatures below 80 degrees F

D. Handle polycarbonate sheets carefully to prevent damage; do not drop, slide, or drag

1.06 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.07 WARRANTY

A. Provide manufacturer's written warranty covering breakage.

B. Provide manufacturer's written warranty covering breakage, loss of light transmission, and yellowing.

C. Provide manufacturer's written warranty covering breakage, abrasion resistance, coating failure, loss of light transmission, and yellowing.

PART 2 - PRODUCTS

2.01 MANUFACTURER

A. Plastic Glazing: Provide products of Palram Industries, Address: 9735 Commerce Cir, Kutztown, PA 19530; Telephone: (610) 285-9918; Email: projects@palram.com; Website: http://www.palramprojects.com/

2.02 MATERIALS

A. Plastic Corrugated Glazing:
   1. Material: Polycarbonate glazing; Basis of Design - Palsun by Palram or approved equal.
   2. Thickness: 2-1/2" x 1/2" inch corrugation
   3. Color: Provide samples of translucent white and green. To be selected by the Director's Representative.
   4. Non-hardening putty:
      a. 100% silicone per manufacturer's recommendation, to be compatible with glazing.

B. Accessories:
   1. Stainless steel EPDM gasketed screws.
   2. Corrugated panel closure strips, to be fastened at panel high points 2.5 inches OC.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Prior to start of installation, inspect existing conditions to ensure surfaces are suitable for installation of plastic glazing. Starting work indicates installers' acceptance of existing conditions.

3.02 INSTALLATION

A. Installation: Comply with manufacturer's installation instructions including but not limited to the following:
   1. Clean contact surfaces with material recommended by manufacturer.
   2. Remove factory-applied protective masking to allow engagement at edges.
   3. Cut material as recommended by manufacturer; sand edges smooth after cutting.

4. Fasten with stainless steel EPDM gasketed screws in conjunction with the corrugated panel closure strips. Fasteners to be installed at 2.5 inches OC through the high points of the corrugated panels.
5. Remove protective masking after glazing work is complete.

3.03 CLEANING AND PROTECTION

A. Cleaning: Use non-abrasive materials and methods acceptable to the manufacturer.

B. Protection: Protect from damage during construction operations. Promptly repair any damaged or deteriorated surfaces.

END OF SECTION

SECTION 08 91 00
LOUVERS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Louvers, frames, and accessories.

1.02 RELATED REQUIREMENTS

A. Section 07 92 00 - Joint Sealants: Sealing joints between frames and adjacent construction.

B. Section 09 91 13 - Exterior Painting: Field painting.

1.03 REFERENCE STANDARDS

A. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2022.

B. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2022.

C. AMCA 500-L - Laboratory Methods of Testing Louvers for Rating; 2012 (Reapproved 2015).

D. AMCA 511 - Certified Ratings Program Product Rating Manual for Air Control Devices; 2021.

E. ASTM E330-02 - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.

1.04 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.

B. Product Data: Provide data describing design characteristics, maximum recommended air velocity, design free area, materials and finishes.

C. Shop Drawings: Indicate louver layout plan and elevations, opening and clearance dimensions, and tolerances; head, jamb and sill details; blade configuration, screens, blank-off areas required, and frames.

D. Test Reports: Independent agency reports showing compliance with specified performance criteria.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products of the type specified in this section, with minimum three years of documented experience.

1.06 WARRANTY

A. See Section 01 78 00 - Closeout Submittals for additional warranty requirements.

B. Provide five year manufacturer's warranty against distortion, metal degradation, and connection failures of louver components.
   1. Finish: Include twenty year coverage against degradation of exterior finish.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Louvers:
   1. Ruskin Company; Louvers: www.ruskin.com/#sle.
   2. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 LOUVERS

A. Louvers: Factory fabricated and assembled, complete with frame, mullions, and accessories; AMCA Certified in accordance with AMCA 511.
   1. Wind Load Resistance: Design to resist positive and negative wind load of 50 psf (____ kPa) without damage or permanent deformation.

2. Drainable Blades: Continuous rain stop at front or rear of blade aligned with vertical gutter recessed into both jambs of frame.
3. Screens: Provide insect screens at intake louvers and bird screens at exhaust louvers.

B. Stationary Louvers, Type A: Horizontal blade, formed galvanized steel sheet construction.
1. Blades: Straight. Extruded aluminum with .081" nominal wall thickness. Drainable Blades are positioned at 37.5 degree angle and spaced approximately 5-3/32" center to center.
2. Frame: 4 inches (100 mm) deep, channel profile; corner joints mitered and, with continuous recessed caulking channel each side.
3. Steel Thickness, Galvanized: Frame 16 gauge, 0.0598 inch (1.52 mm) minimum base metal; blades 16 gauge, 0.0598 inch (1.52 mm) minimum base metal.
4. Steel Finish: Superior performing organic coating, finished after fabrication.
5. Size: 12" x 12"
6. Screen: 5/8" x .040" expanded, flattened aluminum bird screen in removalbe frame.
7. 50% Free Area minimum.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that prepared openings and flashings are ready to receive this work and opening dimensions are as indicated on shop drawings.

3.02 INSTALLATION

A. Install louver assembly in accordance with manufacturer's instructions.

B. Install louvers level and plumb.

C. Align louver assembly to ensure moisture shed from flashings and diversion of moisture to exterior.

D. Secure louver frames in openings with concealed fasteners.

END OF SECTION