

SECTION 08 71 00  
DOOR HARDWARE

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
  - 1. Door hardware.
  - 2. Storefront and entrance door hardware.
  - 3. Cylinders for doors fabricated with locking hardware.
- B. Related Divisions:
  - 1. Division 06 – door hardware installation
  - 2. Division 07 – Section “Joint Sealants” for sealant requirements applicable to threshold installation specified in this section.
  - 3. Division 08 – metal doors and frames, wood doors, storefront and glazed curtainwall systems.
  - 4. Division 10 – operable partitions.
- C. Specific Omissions: Hardware for the following is specified or indicated elsewhere.
  - 1. Windows.
  - 2. Cabinets, including open wall shelving and locks.
  - 3. Signs.
  - 4. Toilet accessories, including grab bars.
  - 5. Installation.
  - 6. Rough hardware.
  - 7. Access doors and panels.

1.2 REFERENCES:

- A. Use date of standard in effect as of Bid date.
  - 1. American National Standards Institute
    - a) ANSI/BHMA A156.1 - A156.29, and ANSI/BHMA A156.31 - Standards for Hardware and Specialties.
  - 2. BHMA – Builders Hardware Manufacturers Association
  - 3. 2022 California Building Code.
    - a) Chapter 11B – Accessibility To Public Buildings, Public Accommodations, Commercial Buildings and Public Housing.
  - 4. DHI – Door and Hardware Institute.
  - 5. UL – Underwriters Laboratories
    - a) UL 305 – Panic Hardware
  - 6. WHI – Warnock Hersey Incorporated State of California Building Code
  - 7. Local applicable codes

8. SDI – Steel Door Institute
9. WI – Woodwork Institute
10. AWI – Architectural Woodwork Institute
11. NAAMM – National Association of Architectural Metal Manufacturers

**B. Abbreviations**

1. Manufacturers: see table at 2.1.A of this section.
2. Finishes: see 2.7 of this section.

**1.3 SUBMITTALS & SUBSTITUTIONS**

- A. SUBMITTALS:** Submit electronic copy of schedule. Organize vertically formatted schedule into “Hardware Sets” with index of doors and headings, indicating complete designations of every item required for each door or opening. Minimum 10pt font size. Include following information:
1. Type, style, function, size, quantity, and finish of hardware items.
  2. Use BHMA Finish codes per ANSI A156.18.
  3. Name, part number and manufacturer of each item.
  4. Fastenings and other pertinent information.
  5. Location of hardware set coordinated with floor plans and door schedule.
  6. Explanation of abbreviations, symbols, and codes contained in schedule.
  7. Mounting locations for hardware.
  8. Door and frame sizes, materials, and degrees of swing.
  9. List of manufacturers used and their nearest representative with address and phone number.
  10. Catalog cuts.
- B.** Bid and submit manufacturer’s updated/improved item if scheduled item is discontinued.
- C.** Deviations: Highlight, encircle or otherwise identify deviations from “Schedule of Finish Hardware” on submittal with notations clearly designating those portions as deviating from this section.
- D.** If discrepancy between drawings and scheduled material in this section, bid the more expensive of the two choices, note the discrepancy in the submittal and request direction from Architect for resolution.
- E.** Substitutions per Division 1. Include product data and indicate benefit to the Project. Furnish operating samples on request.
- F.** Items listed with no substitute manufacturers have been requested by Owner to meet existing standard.
- G.** Furnish as-built/as-installed schedule with closeout documents, including keying schedule, riser and point-to-point wiring diagrams, manufacturers’ installation, adjustment and maintenance information, and supplier’s final inspection report.

**1.4 QUALITY ASSURANCE:**

- A. Qualifications:**

1. Hardware supplier: direct factory contract supplier who employs a hardware consultant, available at reasonable times during course of work for project hardware consultation to Owner, Architect and Contractor.
    - a) Responsible for detailing, scheduling, and ordering of finish hardware. Detailing implies that the submitted schedule of hardware is correct and complete for the intended function and performance of the openings.
  - B. Hardware: Free of defects, blemishes, and excessive play. Obtain each kind of hardware (latch and locksets, exit devices, hinges, and closers) from one manufacturer.
  - C. Exit Doors: Operable from inside with single motion without the use of a key or special knowledge or effort.
  - D. Furnish hardware items required to complete the work in accordance with specified performance level and design intent, complying with manufacturers' instructions and code requirements.
- 1.5 DELIVERY, STORAGE AND HANDLING:
- A. Delivery: coordinate delivery to appropriate locations (shop or field).
    1. Permanent keys and cores: secured delivery direct to Owner's representative.
  - B. Acceptance at Site: Items individually packaged in manufacturers' original containers, complete with proper fasteners and related pieces. Clearly mark packages to indicate contents, locations in hardware schedule and door numbers.
  - C. Storage: Provide securely locked storage area for hardware, protect from moisture, sunlight, paint, chemicals, dust, excessive heat and cold, etc.
- 1.6 PROJECT CONDITIONS AND COORDINATION:
- A. Where exact types of hardware specified are not adaptable to finished shape or size of members requiring hardware, provide suitable types having as nearly as practical the same operation and quality as type specified, subject to Architect's approval.
  - B. Coordination: Coordinate hardware with other work. Furnish hardware items of proper design for use on doors and frames of the thickness, profile, swing, security and similar requirements indicated, as necessary for proper installation and function, regardless of omissions or conflicts in the information on the Contract Documents. Furnish related trades with the following information:
    1. Location of embedded and attached items to concrete.
    2. Location of wall-mounted hardware, including wall stops. Note: Careful coordination required for reinforcement/blocking for wall stop support. If random inspection yields an unsupported wall stop, all locations will be rebuilt at no expense to the Owner or Architect.
    3. Location of finish floor materials and floor-mounted hardware.

4. At masonry construction, coordinate with the anchoring and hollow metal supplier prior to frame installation by placing a strip of insulation, wood, or foam, on the back of the hollow metal frame behind the rabbet section for continuous hinges, as well as at rim panic hardware strike locations, silencers, coordinators, and door closer arm locations. When the frame is grouted in place, the backing will allow drilling and tapping without dulling or breaking the installer's bits.
  5. Locations for conduit and raceways as needed for electrical, electronic, and electro-pneumatic hardware items. Fire/life-safety system interfacing. Point-to-point wiring diagrams plus riser diagrams to related trades.
  6. Coordinate: flush top rails of doors at out swinging exteriors, and throughout where adhesive-mounted seals occur.
  7. Manufacturers' templates to door and frame fabricators.
- C. Check Shop Drawings for doors and entrances to confirm that adequate provisions will be made for proper hardware installation.
- D. Environmental considerations: segregate unused recyclable paper and paper product packaging, uninstalled metals, and plastics, and have these sent to a recycling center.

1.7 WARRANTY:

- A. Part of respective manufacturers' regular terms of sale. Provide manufacturers' written warranties.
- B. Include factory order numbers with close-out documents to validate warranty information, required for Owner in making future warranty claims:
- C. Minimum warranties:
- |                      |                              |
|----------------------|------------------------------|
| 1. Mortise Locksets: | Ten years mechanical         |
| 2. Exit Devices:     | Ten years mechanical         |
| 3. Closers:          | Twenty five years mechanical |
| 4. Hinges:           | One year                     |
| 5. Other Hardware    | Two years                    |

1.8 COMMISSIONING:

- A. Conduct these tests prior to request for certificate of substantial completion:
1. With installer present, test door hardware operation with climate control system and stairwell pressurization system both at rest and while in full operation.

1.9 REGULATORY REQUIREMENTS:

- A. Locate latching hardware between 34 inches to 44 inches above the finished floor, per-2022 California Building Code, Section 11B-404.2.7.

1. Panic hardware: locate between 36 inches to 44 inches above the finished floor.
- B. Handles, pull, latches, locks, other operable parts:
  1. Readily openable from egress side with one hand and without tight grasping, tight pinching, or twisting of the wrist to operate. 2022 California Building Code Section 11B-309.4.
  2. Force required to activate the operable parts: 5.0 pounds maximum, per 2022 California Building Code Section 11B-309.4.
- C. Adjust doors to open with not more than 5.0-pounds pressure to open at exterior doors and 5.0-pounds at interior doors. As allowed per 2022 California Building Code Section 11B-404.2.9, local authority may increase the allowable pressure for fire doors to achieve positive latching, but not to exceed 15-pounds.
  1. Exception: exterior doors' pressure-to-open may be increased to 8.5-pounds if: at a single location, and one of a bank of eight leaves or fraction of eight, and one leaf of this bank is fitted with a low- or high-energy operator.
- D. Adjust door closer sweep periods so that from an open position of 90 degrees, the door will take at least 5 seconds to move to a point 12 degrees from the latch, measured to the landing side of the door, per 2022 California Building Code Section 11B-404.2.8.
- E. Smooth surfaces at bottom 10 inches of push sides of doors, facilitating push-open with wheelchair footrests, per 2022 California Building Code Section 11B-404.2.10.
  1. Applied kickplates and armor plates: bevel the left and right edges; free of sharp or abrasive edges. Cavities created by kickplates to be capped per 2022 California Building Code Section 11B-404.2.10.
  2. Tempered glass doors without stiles: bottom rail may be less than 10 inches if top leading edge is tapered 60 degrees minimum.
- F. Door opening clear width no less than 32 inches, measured from face of frame stop, or edge of inactive leaf of pair of doors, to door face with door opened to 90 degrees. Hardware projection not a factor in clear width if located above 30 inches and below 80 inches, and the hardware projects no more than 4 inches. 2022 California Building Code Section 11B-404.2.3.
  1. Exception: In alterations, a projection of 5/8 inch (15.9 mm) maximum into the required clear width shall be permitted for the latch side stop.
  2. Door closers and overhead stops: not less than 78 inches above the finished floor or ground, per 2022 California Building Code 11B-307.4.
- G. Thresholds: floor or landing no more than 0.50 inches below the top of the threshold of the doorway, per 2022 California Building Code Section 11B-404.2.5. Vertical rise no more than 0.25 inches, change in level between 0.25 inches and 0.50 inches: beveled to slope no greater than 1:2 (50 percent slope). 2022 California Building Code Section 11B-303.2 & ~.3.
- H. Floor stops: Do not locate in path of travel. Locate no more than 4 inches from walls, per DSA Policy #99-08 (Access).

- I. Pairs of doors with independently activated hardware both leaves: limit swing of right-hand or right-hand-reverse leaf to 90 degrees to protect persons reading wall-mounted tactile signage, per 2022 California Building Code Section 11B-703.4.2.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS:

- A. Listed acceptable alternate manufacturers: these will be considered; submit for review products with equivalent function and features of scheduled products.

ITEM:	MANUFACTURER:	ACCEPTABLE ALTERNATE:
Hinges	(IVE) Ives	Stanley,
Key System	(BES) Best	Owner standard
Mechanical Locks	(BES) Best	Owner standard
Exit Devices	(VON) Von Duprin	Owner standard
Closers	(LCN) LCN	Owner standard
Auto Flush Bolts	(TRM) Trimco	DCI, Ives
Coordinators	(TRM) Trimco	DCI, Ives
Push & Pull Plates	(TRM) Trimco	DON, Ives
Kickplates	(TRM) Trimco	Ives, DON
Stops & Holders	(TRM) Trimco	Ives, ABH
Overhead Stops	(GLY) Glynn-Johnson	ABH
Thresholds	(ZER) Zero	NGP, Reese
Seals & Bottoms	(ZER) Zero	NGP, Reese

### 2.2 HINGING METHODS:

- A. Drawings typically depict doors at 90 degrees, doors will actually swing to maximum allowable. Use wide-throw conventional or continuous hinges as needed up to 8 inches in width to allow door to stand parallel to wall for true 180-degree opening. Advise architect if 8-inch width is insufficient.

- B. Conform to manufacturer's published hinge selection standard for door dimensions, weight and frequency, and to hinge selection as scheduled. Where manufacturer's standard exceeds the scheduled product, furnish the heavier of the two choices, notify Architect of deviation from scheduled hardware.
- C. Conventional Hinges: Steel or stainless-steel pins and approved bearings. Hinge open widths minimum, but of sufficient throw to permit maximum door swing.
  - 1. Out-swinging exterior doors: non-ferrous with non-removable (NRP) pins and security studs.
  - 2. Non-ferrous material exteriors and at doors subject to corrosive atmospheric conditions.

## 2.3 LOCKSETS, LATCHSETS, DEADBOLTS:

- A. Mortise Locksets and Latchsets: as scheduled.
  - 1. Chassis: cold-rolled steel, handing field-changeable without disassembly.
  - 2. Universal lock case – 10 functions in one case.
  - 3. Floating mounting tabs automatically adjusts to fit a beveled door edge.
  - 4. Latchbolts: 0.75 inch throw stainless steel anti-friction type.
  - 5. Lever Trim: through-bolted, accessible design, cast lever or solid extruded bar type levers as scheduled. Filled hollow tube design unacceptable.
    - a) Spindles: security design independent breakaway. Breakage of outside lever does not allow access to inside lever's hubworks to gain wrongful entry.
    - b) Inside lever applied by screwless shank mounting – no exposed trim mount screws.
    - c) Levers rotate up or down for ease of use.
  - 6. Furnish solid cylinder collars with wave springs. Wall of collar to cover rim of mortise cylinder.
  - 7. Turnpieces: accessible offset turn-lever design not requiring pinching or twisting motions to operate.
  - 8. Strikes: 16 gage curved steel, bronze or brass with 1-inch-deep box construction, lips of sufficient length to clear trim and protect clothing.
  - 9. Scheduled Lock Series and Design: Best 45 series, 3H design.
  - 10. Certifications:
    - a) ANSI A156.13, 1994, Grade 1 Operational.
    - b) ANSI/ASTM F476-84 Grade 31 UL Listed.
  - 11. Accessibility: Require not more than 5 lb to retract the latchbolt or deadbolt, or both, per CBC 2022 11B-404.2.7 and 11B-309.4.
  - 12. Accepted substitutions: None.

## 2.4 EXIT DEVICES / PANIC HARDWARE

- A. General features:

1. Independent lab-tested 1,000,000 cycles.
2. Push-through push-pad design. No exposed push-pad fasteners, no exposed cavities when operated. Return stroke fluid dampeners and rubber bottoming dampeners, plus anti-rattle devices.
3. Deadlocking latchbolts, 0.75-inch projection.
4. End caps: impact-resistant, flush-mounted. No raised edges or lips to catch carts or other equipment.
5. No exposed screws to show through glass doors.
6. Non-handed basic device design with center case interchangeable with all functions, no extra parts required to effect change of function.
7. Accessibility: Require not more than 5 lb. to retract the latchbolt, per CBC 2022 11B-404.2.7 and 11B-309.4.
  - a) Mechanical method: Von Duprin "AX - feature", where touchpad directly retracts the latchbolt with 5 lb. or less of force. Provide testing lab certification confirming that the mechanical device is independent third-party tested to meet this 5 lb. requirement.

B. Specific features:

1. Non-Fire Rated Devices: cylinder dogging with security indicator.
2. Lever Trim: breakaway type, forged brass or bronze escutcheon min. 0.130-inch thickness, compression spring drive, match lockset lever design.
3. Removable Mullions: Removable with single turn of building key. Securely reinstalled without need for key. Furnish storage brackets for securely stowing the mullion away from the door when removed.
4. Accepted substitutions: None.

## 2.5 CLOSERS

A. Surface Closers: 4040XP

1. Provide door closers conforming to ANSI/BHMA A156.4 Grade 1 requirements by BHMA certified independent testing laboratory. ISO 9000 certify closers. Stamp units with date of manufacture code.
2. Provide door closers with fully hydraulic, full rack and pinion action with cast aluminum cylinder.
3. Closer Body: 1-1/2-inch (38 mm) diameter with 11/16-inch (17 mm) diameter heat-treated pinion journal and full complement bearings.
4. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and all weather requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
5. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards.
6. Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and back check.
7. Pressure Relief Valve (PRV) Technology: Not permitted.
8. Provide stick on templates, special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.



9. Accepted substitutions: None.

## 2.6 OTHER HARDWARE

- A. Automatic Flush Bolts: Low operating force design.
- B. Overhead Stops: Non-plastic mechanisms and finished metal end caps. Field-changeable hold-open, friction and stop-only functions.
- C. Kick Plates: Four beveled edges, .050 inches minimum thickness, height and width as scheduled. Sheet-metal screws of bronze or stainless steel to match other hardware.
- D. Door Stops: Provide stops to protect walls, casework, or other hardware.
  - 1. Unless otherwise noted in Hardware Sets, provide floor type with appropriate fasteners. Where floor type cannot be used, provide wall type. If neither can be used, provide overhead type.
  - 2. Locate overhead stops for maximum possible opening. Consult with Owner for furniture locations. Minimum: 90deg stop / 95deg dead stop. Note degree of opening in submittal.
- E. Seals: Four-fingered type at head & jambs. Inelastic, rigid back, not subject to stretching. Self-compensating for warp, thermal bow, door settling, and out-of-plumb. Adhesive warranted for life of installation.
  - 1. Proposed substitutions: submit for approval.
  - 2. Three-fingered type at hinge jambs of doors fitted with continuous hinges where jamb leaf of hinge is fastened to the frame reveal.
- F. Thresholds: As scheduled and per details. Comply with CBC 2022 11B-404.2.5. Substitute products: certify that the products equal or exceed specified material's thickness. Proposed substitutions: submit for approval.
  - 1. Saddle thresholds: 0.125 inches minimum thickness.
  - 2. Exteriors: Seal perimeter to exclude water and vermin. Use sealant complying with requirements in Division 7 "Thermal and Moisture Protection". Minimum 0.25-inch diameter fasteners and lead expansion shield anchors, or Red-Head #SFS-1420 (or approved equivalent) Flat Head Sleeve Anchors. National Guard Products' "COMBO" or Pemko Manufacturing's "FHSL".
  - 3. Plastic plugs with wood or sheet metal screws are not an acceptable substitute for specified fastening methods.
  - 4. Fasteners: Generally, exposed screws to be Phillips or Robertson drive. Pinned TORX drive at high security areas. Flat head sleeve anchors (FHSL) may be slotted drive. Sheet metal and wood screws: full thread. Sleeve nuts: full length to prevent door compression.
- G. Through-bolts: Do not use. Coordinate with wood doors; ensure provision of proper blocking to support wood screws for mounting panic hardware and door closers. Coordinate with metal doors and frames; ensure provision of proper reinforcement to support machine screws for mounting panic hardware and door closers.

1. Exception: surface-mounted overhead stops, holders, and friction stays.

2.7 FINISH:

- A. Generally: BHMA 626 Satin Chromium.
  1. Areas using BHMA 626: furnish push-plates, pulls and protection plates of BHMA 630, Satin Stainless Steel, unless otherwise scheduled.
- B. Door closers: factory powder coated to match other hardware, unless otherwise noted.

2.8 KEYING REQUIREMENTS:

- A. Key System: (Best key system). Key blanks available only from factory-direct sources, not available from after-market key blank manufacturers. For estimate use factory GMK charge. Initiate and conduct meeting(s) with Owner to determine system keyway(s). Furnish Owner's written approval of the system; do not order keys or cylinders without written confirmation of actual requirements from the Owner. Contractor will install permanent cylinders/cores.
- B. Keys
  1. Existing factory registered master key system.
  2. Construction keying: furnish temporary keyed-alike cores. Remove at substantial completion and install permanent cylinders/cores in Owner's presence. Demonstrate that construction key no longer operates.
  3. Furnish 10 construction keys.
  4. Furnish 2 construction control keys.
  5. Furnish 2 Emergency keys per each L9485 Faculty Restroom Lock
- C. Key Cylinders: Best, 7-pin solid brass construction.
- D. Cylinder cores: furnish keyed at factory of lock manufacturer where permanent records are maintained. Locks and cylinders same manufacturer.
- E. Permanent keys: use secured shipment direct from point of origination to Owner.
  1. For estimate: 3 keys per change combination, 5 master keys per group, 5 grand-master keys, 3 control keys.
  2. For estimate: VKC stamping plus "DO NOT DUPLICATE".
  3. Bitting List: use secured shipment direct from point of origination to Owner upon completion.

PART 3 - EXECUTION

3.1 ACCEPTABLE INSTALLERS:

- A. Can read and understand manufacturers' templates, suppliers' hardware schedule and printed installation instructions. Can readily distinguish drywall screws from manufacturers' furnished fasteners. Available to meet with manufacturers' representatives and related trades to discuss installation of hardware.

**3.2 PREPARATION:**

- A. Ensure that walls and frames are square and plumb before hardware installation. Make corrections before commencing hardware installation. Installation denotes acceptance of wall/frame condition.
- B. Locate hardware per SDI-100 and applicable building, fire, life-safety, accessibility, and security codes.
  - 1. Notify Architect of code conflicts before ordering material.
  - 1. Locate latching hardware between 34 inches to 44 inches above the finished floor, per California Building Code, Section 1008.1.9.2 and 11B-404.2.7.
  - 2. Locate panic hardware between 36 inches to 44 inches above the finished floor.
- C. Overhead stops: before installing, determine proposed locations of furniture items, fixtures, and other items to be protected by the overhead stop's action.

**3.3 INSTALLATION**

- A. Install hardware per manufacturer's instructions and recommendations. Do not install surface-mounted items until finishes have been completed on substrate. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate for proper installation and operation. Remove and reinstall or replace work deemed defective by Architect.
  - 1. Gaskets: install jamb-applied gaskets before closers, overhead stops, rim strikes, etc; fasten hardware over and through these seals. Install sweeps across bottoms of doors before astragals, cope sweeps around bottom pivots, trim astragals to tops of sweeps.
  - 2. Use manufacturers' fasteners furnished with hardware items or submit Request for Substitution with Architect.
  - 3. Replace fasteners damaged by power-driven tools.
- B. Locate floor stops no more than 4 inches from walls and not within paths of travel. See paragraph 2.2 regarding hinge widths, door should be well clear of point of wall reveal. Point of door contact no closer to the hinge edge than half the door width. Where situation is questionable or difficult, contact Architect for direction.
- C. Door Closers: Mount closers on room side of corridor doors, inside of exterior doors, and stair side of stairway doors from corridors. Closers shall not be visible in corridors, lobbies and other public spaces unless approved by Architect.
- D. Closer/Holders: Mount closer/holders on room side of corridor doors, inside of exterior doors, and stair side of stairway doors.
- E. Locate overhead stops for minimum 90 degrees at rest and for maximum allowable degree of swing.
- F. Thresholds: Set thresholds in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants".

- G. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.
- H. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.
- I. Drill pilot holes for fasteners in wood doors and/or frames.

### **3.4. ADJUSTING**

- A. Adjust and check for proper operation and function. Replace units, which cannot be adjusted to operate freely and smoothly.
  - 1. Hardware damaged by improper installation or adjustment methods: repair or replace to Owner's satisfaction.
  - 2. Adjust doors to fully latch with no more than 1 pound of pressure.
    - a) Door closer valves: turn valves clockwise until at bottom – do not force. Turn valves back out one and one-half turns and begin adjustment process from that point. Do not force valves beyond three full turns counterclockwise.
  - 3. Adjust door closers per 1.9 this section.
- B. Final inspection: Installer to provide letter to Owner that upon completion installer has visited the Project and has accomplished the following:
  - 1. Has re-adjusted hardware.
  - 2. Has evaluated maintenance procedures and recommend changes or additions and instructed Owner's personnel.
  - 3. Has identified items that have deteriorated or failed.
  - 4. Has submitted written report identifying problems.

### **3.5 DEMONSTRATION:**

- A. Demonstrate mechanical hardware and electrical, electronic, and pneumatic hardware systems, including adjustment and maintenance procedures.

### **3.6 PROTECTION/CLEANING:**

- A. Cover installed hardware, protect from paint, cleaning agents, weathering, carts/barrows, etc. Remove covering materials and clean hardware just prior to substantial completion.
- B. Clean adjacent wall, frame and door surfaces soiled from installation / reinstallation process.

### **3.7 SCHEDULE OF FINISH HARDWARE**

- A. See door schedule in drawings for hardware set assignments.
- B. Do not order material until submittal has been reviewed, stamped, and signed by Architect's door hardware consultant.

- C. The hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.

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Legend:

⚡ Electrified Opening

Hardware Group No. 1.0

For use on Door #(s):

102

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	112XY EPT	628	IVE
1	EA	POWER TRANSFER	EPT10 CON	⚡ 689	VON
1	EA	RIM CYLINDER	1E72	626	BES
1	EA	ELEC PANIC HARDWARE	RX-QEL-98-L-NL-4'-03 24 VDC	⚡ 626	VON
1	EA	LOCKDOWN SWITCHES	432KLDUR	630	SDC
1	EA	OH STOP	100S	630	GLY
1	EA	SURFACE CLOSER	4040XP EDA	689	LCN
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	547A OR DETAILED	A	ZER
1	EA	DOOR CONTACT	679 SERIES	⚡ BLK	SCE
1	EA	POWER SUPPLY	PS902 900-2RS	⚡	VON

WEATHER SEAL BY ALUMINUM DOOR AND FRAME MANUFACTURER  
CARD READER AND WIRING BY ACCESS CONTROL SYSTEM  
LOCKDOWN KEY SWITCH

**GREAT PARK MAINTENANCE AND OPERATIONS FACILITY  
CITY OF IRVINE**

**1/9/2026**

Hardware Group No. 2.0

For use on Door #(s):

109

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	630	IVE
1	EA	RIM CYLINDER	1E72	626	BES
1	EA	PANIC HARDWARE	LD-PA-AX-98-NL-OP-110MD	626	VON
1	EA	ANTI VANDAL PULL	1097 VD98-99 (NL-OP)	630	TRM
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	KICK PLATE	K0050 10" X 2" LDW	630	TRM
1	SET	SET SEAL	429AA-S (@ HEAD & JAMBS)	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	547A OR DETAILED	A	ZER

Hardware Group No. 3.2

For use on Door #(s):

111A

113A

114

128

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	630	IVE
1	EA	CLASSROOM -INTRUDER LOCK W/INDICATOR	45H7INL3H	✎ 626	BES
2	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	CYLINDER GUARD	K-24	626	KEE
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	KICK PLATE	K0050 10" X 2" LDW	630	TRM
1	SET	SET SEAL	429AA-S (@ HEAD & JAMBS)	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	547A OR DETAILED	A	ZER

**GREAT PARK MAINTENANCE AND OPERATIONS FACILITY  
CITY OF IRVINE**

**1/9/2026**

Hardware Group No. 3.CR

For use on Door #(s):

112A

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	630	IVE
1	EA	POWER TRANSFER	EPT10 CON	✓ 689	VON
1	EA	ELECTRIFIED MORTISE LOCK	45HW 7DEU3H RX	✓ 626	BES
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	CYLINDER GUARD	K-24	626	KEE
1	EA	LOCKDOWN SWITCHES	432KLDUR	630	SDC
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	KICK PLATE	K0050 10" X 2" LDW	630	TRM
1	SET	SET SEAL	429AA-S (@ HEAD & JAMBS)	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	547A OR DETAILED	A	ZER
1	EA	WIRE HARNESS	CON X LENGTH AS REQ'D	✓	SCH
1	EA	WIRE HARNESS	CON-6W	✓	SCH
1	EA	DOOR CONTACT	679 SERIES	✓ BLK	SCE
1	EA	POWER SUPPLY	PS902 120/240 VAC	✓	VON

CARD READER AND WIRING BY ACCESS CONTROL SYSTEM  
LOCKDOWN KEY SWITCH

Hardware Group No. 4.0

For use on Door #(s):

115

Provide each PR door(s) with the following:

Stainless steel hasp lock and tamper-resistant lock per owner.

MANUAL FLUSH BOLT - TOP - 24" DOWN

MANUAL FLUSH BOLT - BOTTOM - 12"

Hardware Group No. 5.0

For use on Door #(s):

118

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	630	IVE
1	EA	STOREROOM LOCK	45H7D3H	✓ 626	BES
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	CYLINDER GUARD	K-24	626	KEE
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	KICK PLATE	K0050 10" X 2" LDW	630	TRM
1	SET	SET SEAL	429AA-S (@ HEAD & JAMBS)	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	547A OR DETAILED	A	ZER

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Hardware Group No. 6.0

For use on Door #(s):

116 117

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	630	IVE
1	EA	KEY PRIVACY LOCK WITH INDICATOR	45H7T3H VIN	✓ 626	BES
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	CYLINDER GUARD	K-24	626	KEE
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	KICK PLATE	K0050 10" X 2" LDW	630	TRM
1	SET	SET SEAL	429AA-S (@ HEAD & JAMBS)	AA	ZER
1	EA	DOOR SWEEP	39A	A	ZER
1	EA	THRESHOLD	103A OR AS DETAILED	A	ZER

DORMITORY (T) TO FUNCTION AS KEYED PRIVACY LOCK LOCK.  
TURN INSIDE THUMBTURN AND OUTSIDE INDICATION TO SHOW LOCKED.  
BEST LOCK VISUAL INDICATOR (LOCKED AND UNLOCKED SYMBOL)

Hardware Group No. 7.0

For use on Door #(s):

110

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	630	IVE
1	EA	POWER TRANSFER	EPT10 CON	✓ 689	VON
1	EA	ELECTRIFIED MORTISE LOCK	45HW 7DEU3H RX	✓ 626	BES
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	LOCKDOWN SWITCHES	432KLDUR	630	SDC
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	KICK PLATE	K0050 10" X 2" LDW	630	TRM
1	EA	GASKETING	188FSBK PSA	BK	ZER
1	EA	WIRE HARNESS	CON X LENGTH AS REQ'D	✓	SCH
1	EA	WIRE HARNESS	CON-6W	✓	SCH
1	EA	DOOR CONTACT	679 SERIES	✓ BLK	SCE
1	EA	POWER SUPPLY	PS902 120/240 VAC	✓	VON

CARD READER AND WIRING BY ACCESS CONTROL SYSTEM



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Hardware Group No. 8.0

For use on Door #(s):

106

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	45H7D3H	✎ 626	BES
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	SURFACE CLOSER	4040XP	689	LCN
1	EA	KICK PLATE	K0050 10" X 2" LDW	630	TRM
1	EA	WALL BUMPER	1270CV	626	TRM
1	EA	GASKETING	188FSBK PSA	BK	ZER

Hardware Group No. 9.0

For use on Door #(s):

113B

Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1HW SH 4.5 X 4.5 NRP	630	IVE
1	SET	AUTO FLUSH BOLT	3800 SERIES	626	TRM
1	EA	STOREROOM LOCK	45H7D3H	✎ 626	BES
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	DUST PROOF STRIKE	3910/3910N /3911	630	TRM
1	EA	COORDINATOR X FILLER BAR X BRACKETS	3094 SERIES	600	TRM
2	EA	MOUNTING BRACKET	3095/3096	689	TRM
2	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
2	EA	KICK PLATE	K0050 10" X 1" LDW	630	TRM
2	EA	SILENCER	1229		TRM
1	EA	OVERLAPPING ASTRAGAL	44STST 188SBK PSA	STST	ZER

Hardware Group No. 10.0

For use on Door #(s):

103

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	OFFICE LOCK	45H7A3H	✎ 626	BES
1	EA	MORTISE CYLINDER	1E74	626	BES
1	EA	WALL BUMPER	1270CV	626	TRM
1	EA	GASKETING	188FSBK PSA	BK	ZER

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Hardware Group No. 10.2

For use on Door #(s):

104

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PASSAGE	45H0N3H	626	BES
1	EA	WALL BUMPER	1270CV	626	TRM
1	EA	GASKETING	188FSBK PSA	BK	ZER

Hardware Group No. 11.0

For use on Door #(s):

111B

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PASSAGE	45H0N3H	626	BES
1	EA	SURFACE CLOSER	4040XP	689	LCN
1	EA	KICK PLATE	K0050 10" X 2" LDW	630	TRM
1	EA	FLOOR STOP	1211	626	TRM
1	EA	GASKETING	188FSBK PSA	BK	ZER
1	EA	DOOR BOTTOM	355AA	AA	ZER
1	EA	THRESHOLD	547A OR DETAILED	A	ZER

Hardware Group No. 11.2

For use on Door #(s):

112B

112D

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PASSAGE	45H0N3H	626	BES
1	EA	SURFACE CLOSER	4040XP EDA	689	LCN
1	EA	KICK PLATE	K0050 10" X 2" LDW	630	TRM
1	EA	WALL BUMPER	1270CV	626	TRM
1	EA	GASKETING	188FSBK PSA	BK	ZER
1	EA	DOOR BOTTOM	355AA	AA	ZER
1	EA	THRESHOLD	547A OR DETAILED	A	ZER

180 DEGREE SWING

DOOR CLOSER TO BE MOUNTED ON PUSH SIDE MOUNTING

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Hardware Group No. 11.3

For use on Door #(s):

112C

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PASSAGE	45H0N3H	626	BES
1	EA	SURFACE CLOSER	4040XP	689	LCN
1	EA	KICK PLATE	K0050 10" X 2" LDW	630	TRM
1	EA	FLOOR STOP	1211	626	TRM
1	EA	GASKETING	188FSBK PSA	BK	ZER

Hardware Group No. 12.0

For use on Door #(s):

105

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PRIVACY	45H0LN3H	✓ 626	BES
1	EA	SURFACE CLOSER	4040XP	689	LCN
1	EA	KICK PLATE	K0050 10" X 2" LDW	630	TRM
1	EA	MOP PLATE	K0050 4" X 1" LDW	630	TRM
1	EA	WALL BUMPER	1270CV	626	TRM
1	EA	GASKETING	188FSBK PSA	BK	ZER

Hardware Group No. 13.0

For use on Door #(s):

108

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PASSAGE	45H0N3H	626	BES
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	KICK PLATE	K0050 10" X 2" LDW	630	TRM
1	EA	GASKETING	188FSBK PSA	BK	ZER

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Hardware Group No. 14.0

For use on Door #(s):

G2                      G3

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CORE (COMBINATED)	1C72	626	BES
1	EA	STOREROOM LOCK	45H7D3H (LESS OUTSIDE LEVER)	✍ 626	BES
1	EA	ANTI VANDAL PULL	1097 (CYLINDER PREP)	630	TRM
1	EA	GATE CLOSER/HINGE	MAMOTH180-ZILV		LOX
1	EA	KICK PLATE	K0050 10" X 2" LDW	630	TRM
1	EA	FLOOR STOP	7280	630	TRM

EMERGENCY ACCESS GATE - EXTERIOR DOOR PULL FOR FIRE DEPARTMENT USE  
GATE FABRICATOR TO PROVIDE HINGE REINFORCEMENT FOR HINGE CLOSER AND LOCK BOX  
AND REINFORCEMENT AND MOUNTING PLATE

Hardware Group No. 14.2

For use on Door #(s):

G1

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CORE (COMBINATED)	1C72	626	BES
1	EA	STOREROOM LOCK	45H7D3H (LESS OUTSIDE LEVER)	✍ 626	BES
1	EA	ANTI VANDAL PULL	1097 (CYLINDER PREP)	630	TRM
1	EA	GATE CLOSER/HINGE	MAMOTH180-ZILV		LOX
1	EA	KICK PLATE	K0050 10" X 2" LDW	630	TRM
1	EA	FLOOR STOP	7280	630	TRM

PEDESRIAN GATE  
GATE FABRICATOR TO PROVIDE HINGE REINFORCEMENT FOR HINGE CLOSER AND LOCK BOX  
AND REINFORCEMENT AND MOUNTING PLATE

Hardware Group No. 15.0

For use on Door #(s):

111R                      113R                      114R

Provide each RU door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
ALL HARDWARE BY ROLL UP DOOR MANUFACTURER					

END OF SECTION