

SECTION 087100 - DOOR HARDWARE

PART 1 -- GENERAL

1.01 SECTION INCLUDES:

- A. Securing and furnishing to the job site all Finish Hardware in accordance with this section and applicable drawings. It is intended that the following list of hardware cover all items required to complete the project. Omissions and/or discrepancies shall be brought to the Architects attention during the bidding period and, as needed, be corrected by addendum.
- B. Items covered in this section include, but are not necessarily limited to:

Hinges	Protection Plates
Pivots	Magnetic Hold Open Devices
Lock Cylinders and Keys	Power Supplies
Locks and Latches	Power Transfers
Closers	Junction Boxes
Exit Devices	Removable Mullions
Overhead Stops and Holders	Weatherstripping

1.02 SPECIFIC OMISSIONS

- A. Unless specifically noted otherwise in Hardware Groups hardware for the following is specified elsewhere.
 - 1. Windows
 - 2. Cabinets and casework including open wall shelving
 - 3. Signs
 - 4. Toilet Partitions and Rest Room accessories
 - 5. Rough Hardware
 - 6. Installation
 - 7. Card Readers
 - 8. Motion Detectors
 - 9. Monitor Switches

1.03 REFERENCES:

- A. State and Local Codes including Authority having jurisdiction.
- B. ANSI 117.1 - Specifications for making Buildings and Facilities usable by Physically Handicapped People.
- C. ANSI 156.18 - Materials and Finishes
- D. ADA - Americans with Disabilities Act of 1990
- E. BHMA - Builders Hardware Manufacturers Assoc.

- F. NFPA - National fire Protection Assoc.
 - 1. NFPA 80 - Fire Doors and Windows
 - 2. NFPA101 - Life Safety Code
- G. UL - Underwriters Laboratories
 - 1. UL10C - Fire Tests of Door Assemblies
 - 2. UL305 - Panic Hardware
- H. Warnock Hersey Inc.
- I. SDI - Steel Door Institute
- J. WDI - Wood Door Institute
- K. AWI - Architectural Woodwork Institute
- L. NAMM - National Assoc. of Architectural Metal Manufacturer's

1.04 QUALITY ASSURANCE:

- A. Supplier to be a directly franchised distributor of the products to be furnished and have in their employ an AHC, Architectural Hardware Consultant, or person of equivalent experience, who is available for consultation to the Architect, Owner and General Contractor at reasonable times during the course of work.
- B. Obtain each category of hardware; (lockset, latchset, deadbolt, cylinder); (hinges); (closers), etc: from a single manufacturer.
- C. Hardware for fire rated openings shall comply with NFPA80, State and Local Fires Safety Codes.
- D. Suppliers representative shall inspect completed project and certify, in writing to the Architect, that both hardware and installation is in accordance with manufacturer's instructions and reviewed shop drawings.

1.05 SUBMITTALS:

- A. Submit 6 copies of vertically formatted Hardware Schedule in accordance with Section 01300 requirements.
- B. Format Hardware Schedule into Hardware Groups to clearly identify each door and frame with the following.
 - 1. Unique number; Descriptive location; Size; Hand; Degree of swing.
- C. List within Hardware Groups all items required for each door or pair of doors, including the following.

1. Quantity; Item description; Manufacturers catalog number;
Size: BHMA finish; Name of Manufacturer.
 - D. Furnish numerically sorted cross reference of door numbers to Hardware Groups.
 - E. Furnish 2 copies of catalog cuts for each item of hardware.
 - F. Furnish index and explanation of abbreviations, symbols and/or codes contained in Hardware Schedule.
 - G. Furnish chart of mounting heights and locations.
 - H. Approval of Hardware Schedule will not relieve the suppliers responsibility of furnishing all hardware to complete the project.
- 1.07 COORDINATION:
- A. Furnish templates and accepted Hardware Schedule to respective material suppliers and trades to ensure accurate reinforcing and fitting of finish hardware.
- 1.08 DELIVERY, STORAGE AND IDENTIFICATION:
- A. Deliver, Store and Protect all items under provisions of Section 016000.
 - B. Inventory each delivery with hardware installer to assure accuracy of physical count against delivery documents.
 - C. Provide locked storage area protected from moisture, sunlight, paint, chemicals, etc.
 - D. Package hardware items individually in manufacturers original cartons, clearly marked to indicate contents and cross referenced to Hardware Schedule.
- 1.09 MAINTENANCE:
- A. Furnish any specialized tools and maintenance instruction manuals to Owner's Representative.
 - B. Approximately six months after the date of substantial completion, the installer and representatives of the lock, closer, and exit device manufacturers shall return to restore proper function of doors and hardware. Consult with and instruct the Owner's personnel in recommended additions to the maintenance procedures
- 1.10 WARRANTY:
- A. Provide a one (1) year warranty against defects in materials and workmanship, commencing with substantial completion of the project. Extended warranties are specifically mentioned in each product category.

PART 2 PRODUCTS:

2.01 MANUFACTURERS:

- A. Unless specifically noted otherwise in Hardware Groups the following manufacturers and product types have been selected for this project. Acceptable alternates are noted at the end of each section.

2.02 FINISHES:

- A. Dull Chrome: US26D, BHMA 626
- B. Aluminum painted: BHMA 689
- C. SRI, (Special Rust Inhibitor)

2.03 HINGES

- A. As manufactured by McKinney, five knuckle design.
- B. Provide three hinges on all doors up to and including 90 inches in height. Add one hinge for each additional 30 inches in height.
- C. All exterior doors to have non-removable pins.
- D. Types and sizes as noted in Hardware Groups.
- E. Where doors are oversized, non-standard thickness and/or have applied trims, furnish hinge size to satisfy clearance requirements.
- F. Provide shims and instructions for proper door adjustment
- G. Acceptable manufacturers: Bommer

2.04 LOCKSETS, LATCHSETS, DEADBOLTS:

A. CYLINDRICAL LOCKSETS (HEAVY DUTY)

- a. All locksets shall exceed the requirements of ANSI 156.2 Series 4000, Grade 1 with all standard trim. Locks shall comply with UL10C and UBC 7-2 positive pressure requirements. Furnished with standard 2 3/4" backset. Lock housing shall be fabricated of steel zinc dichromate and stainless steel. Latchbolt shall be brass or stainless steel with a minimum 1/2" throw. Locks shall be non-handed and fully field reversible.
 - 1) Specified Manufacturer: Sargent 10 Line x LL Levers
 - 2) Accepted Substitutes: Yale 5400LN Series x AU Levers

B. CYLINDRICAL LOCKSETS – (MEDIUM DUTY)

- a. All locksets shall exceed the requirements of ANSI 156.2 Series 4000, Grade 2 with all standard trim. Locks shall comply with UL10C and UBC 7-2 positive pressure requirements. Furnished with standard 2 3/4" backset. Lock housing shall be fabricated of steel zinc dichromate and stainless steel. Latchbolt shall be brass or stainless steel with a minimum 1/2" throw. Locks shall be non-handed and fully field reversible.
 - 1) Specified Manufacturer: Sargent 6500 Series x KL Levers
 - 2) Accepted Substitutes: Yale 5300LN Series x AU Levers

C. COMBINATION LOCKSETS – STANDARD DUTY (Unit Entry)

- a. Locks shall be non-handed with ability of being field reversible.
- b. Locks shall mount in a standard ANSI 161 door prep (2-1/8 inch dia.) with additional prep for integrated deadbolt.
- c. Lockset levers shall be made of solid material with no plastic fillers.
- d. Locks shall have a 2-3/4 inch (70mm) backset standard, with 2-3/8 inch (60mm) offered as an option.
- e. Strikes shall be non-handed with a curved lip.
- f. Locks shall have a one year limited warranty.
 - 1) Specified Manufacturer: Sargent 7500 series x KL lever
 - 2) Accepted Substitutes: Yale 4800LN series x AU

D. CYLINDRICAL LOCKSETS – STANDARD DUTY

- a. All locksets shall exceed the requirements of ANSI 156.2 Series 4000, Grade 3 with all standard trim. Locks shall mount in a standard ANSI 161 Door Prep (2-1/8" inch dia.). Locks shall be non-handed and fully field reversible.
 - 1) Specified Manufacturer: Sargent GX Series – 3Line x OL
 - 2) Accepted Substitutes: Yale Residential Series – YH x Citadel

2.05 KEYING:

- a. Provide cylinders and keys protected from unauthorized manufacture and distribution by manufacturer's United States patents. The key design and tolerances shall permit the cutting of keys with standard code or duplicating machines. The requirement for a single-purpose or keyway-specific cutting or duplicating machine shall not be allowed. The key design and tolerances shall permit the use of keys and cylinders in existing key systems having similar keyways and sections.
 - 1) Specified Manufacturer: Sargent
 - 2) Accepted Substitutes: Yale

- A. Final keying to be determined by the owner and architect.
- B. Keys required:
 - 1. 2 keys ea. individually keyed cylinder.
 - 2. 6 Masterkeys.
- C. Provide Key Cabinet for storage of 150% capacity of keys required for this project, as manufactured by Lund or equal.

2.06 EXIT DEVICES:

- A. Functions as noted in hardware Groups.
- B. Doors with glass lites and/or applied moldings will require spacers to accommodate installation.
- C. All exit devices and trim, including electrified items, to be of one manufacturer as hereafter listed and in the hardware sets for continuity of design and consideration of warranty; electrified devices and trim to be the same series and design as mechanical devices and trim.
- D. Exit Devices to be "UL" listed for life safety. All exit devices for labeled doors shall have "UL" label for "Fire Exit Hardware". All devices mounted on labeled wood doors are to be thru-bolted or per the manufacturer's listing requirements. All devices to conform to NFPA 80 and NFPA 101 requirements.
- E. All exit devices to be of a heavy duty, chassis mounted design, with one piece removable covers, eliminating necessity of removing the device from the door for standard maintenance and keying requirements.
- F. All trim to be thru-bolted to the lock stile case. Lever design to be the same as specified with locksets.
- G. All Exit device lever operating trim to be rated for a minimum of 1,000 inch pounds of pressure without allowing access.
- H. Rail assemblies of all exit devices to be solid stainless steel, brass or bronze base material, plated to standard architectural finishes as required in the hardware sets. Painted or anodized aluminum finishes will not be considered acceptable for the heavy duty usage required on this project.
- I. All metal end caps to be standard with all exit devices.
- J. All exit devices are to be by the same manufacturer.
- K. Accepted Manufacturer: Sargent 30 Series
Yale 2100 Series

2.07 CLOSERS:

A. SURFACE MOUNTED CLOSERS – STANDARD DUTY

- a. All closers shall have non-ferrous covers, aluminum alloy bodies, forged steel arms, and separate valves for adjusting backcheck, closing and latching cycles and adjustable spring to provide up to 50% increase in spring power. Closers shall be constructed with a one-piece body. Closers shall be furnished with parallel arms mounting on all doors opening into corridors or other public spaces and shall be mounted to permit 180 degrees door swing wherever wall conditions permit. Furnish with non-hold open arms unless otherwise

indicated. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics.

1. Specified Manufacturer: Sargent 1431 Series
2. Accepted Substitutes: Yale 3501 Series

2.08 WALL AND FLOOR STOPS:

- A. Types as noted in Hardware Groups
- B. Contractor to provide solid blocking within stud space to receive wall stop attachment.
- C. Acceptable manufacturers: McKinney, Trimco

2.09 FLUSH AND SURFACE BOLTS;

- A. As noted in Hardware Groups.
- B. Acceptable manufacturers: McKinney, Trimco

2.10 THRESHOLDS AND WEATHERSTRIPPING:

- A. As noted in Hardware Groups.
- B. Provide McKinney type MCK-S88D on all exterior doors unless otherwise specified.
- C. Acceptable manufacturers: McKinney, Pemko

2.11 SILENCERS:

- A. As noted in Hardware Groups.

PART 3 EXECUTION:

3.01 INSPECTION:

- A. Verify that doors and frames are ready to receive work and dimensions are as indicated on shop drawings.
- B. Beginning of installation means acceptance of existing conditions.

3.02 INSTALLATION:

- A. Utilize instructions and templates provided with each item of hardware.
- B. Set all thresholds in a full bed of butyl-rubber.

3.03 ADJUST AND CLEAN:

- A. Check and adjust the operation of each door and item of hardware to ensure their proper function.
- B. Final adjustments are to be made after all ventilating systems are in operation.
- C. Clean all hardware and adjacent surfaces after installation.
Instruct Owners personnel in adjustment and maintenance of hardware and hardware finishes.

3.04 HARDWARE SETS:

- A. The following schedule is furnished for whatever assistance it may afford the Contractor; do not consider it as entirely inclusive. Should any particular door or item be omitted in any scheduled hardware group, provide door or item with hardware same as required for similar purposes. Provide proper hardware for fire rated openings. Quantities listed are for each pair of doors, or for each single door. Examine Drawings and Specifications and furnish proper hardware for door openings.

Residential Building Types 1, 2, 3, 4, and 5.

Hardware Set #01 – Unit Entry

Opening Number: U 01, 02

Each to have:

1	Set Spring Hinges	1522 4.5 x 4.5	US26D	MCK
1	Entry Lockset	75G05-KL	US26D	SAR
1	Door Guard	DG03 x Edge Guard	US26D	MCK
1	Door Viewer	DV3	US26D	MCK
1	Stop	FS02	US26D	MCK
1	Set Door Seals	MCK S88D x LAR		MCK
1	Door Sweep	MCK 315CN-36"	AL	MCK
1	Threshold	MCK 171A x LAR	AL	MCK

Hardware Set #02 – Exterior Patio

Opening Number: U 10

Each to have:

3	Hinges	TA2314 4.5 x 4.5 NRP	US32D	MCK
1	Latchset	65U15-KL	US26D	SAR
1	Deadlock	465	US26D	SAR
1	Door Sweep	MCK 315 CN-36	AL	MCK
1	Set Door Seals	MCK S88D x LAR		MCK
1	Threshold	MCK 2005AV x LAR	AL	MCK
1	Spring Retaining Chain	Pamex	DD09-10	PAM

Hardware Set #03 – Bedroom/Bathroom

Opening Number: U 03

Each door to have:

3	Hinges	By Prehung Door Supplier		
1	Privacy	3U65-OL	US26D	SAR
1	Door Stop	DS36 or DS37 (as required)	US26D	MCK
3	Silencers	S1M		MCK

Hardware Set #04 – Closet

Opening Number: U 04, U08, U09, U11

Each door to have:

3	Hinges	By Prehung Door Supplier		
1	Latchset	3U15-OL	US26D	SAR

Hardware Set #05 - Utility

Opening Number: U 02, U05

Each door opening to have:

6	Hinges	By Prehung Supplier		
2	Dummy Trim	3U93-OL	US26D	SAR
2	Roller Latch	RL1	US26D	MCK
2	Silencers	S1M		MCK

Hardware Set #06 – Not Used

Hardware Set #07 – Bypass Closet Door

Opening Number: U 06

Each door to have:

1	Bypass Hardware	ED624DE		LAW
---	-----------------	---------	--	-----

Hardware Set #08 - Not Used

Hardware Set #09 – Utility, Storage Closet, Garage Entry

Opening Number: 01, 03, 04

Provide Knox Box for Fire Riser Room Door access as accepted and located by authorities having jurisdiction.

Each to have:

1	Set Spring Hinges	1522 4.5 x 4.5	US26D	MCK
1	Latchset	65U15-KL	US26D	SAR
1	Deadlock	465	US26D	SAR
1	Door Sweep	MCK 315 CN-36	AL	MCK
1	Set Door Seals	MCK S88D x LAR		MCK
1	Threshold	MCK 2005AV x LAR	AL	MCK
1	Spring Retaining Chain	Pamex	DD09-10	PAM

CLUBHOUSE, MAIL KIOSK, TRASH ENCLOSURE

Hardware Set #C 1 – Pair Exterior Opening - Clubhouse

Opening Number: C 03

Each door to have:

8	Hinges	By Door Provider		
2	Exit Devices	By Door Provider		
2	Door Closers	By Door Provider		
2	Door Stops	FS02	US32D	MCK
1	Threshold	By Door Provider		
1	Set Gasket	By Door Provider		
1	Astragal	By Door Provider		

Hardware Set #C2 – Single Exterior Opening - Clubhouse

Opening Number: C 01, C 16

Each door to have:

4	Hinges	By Door Provider		
1	Exit Device	By Door Provider		
1	Door Closer	By Door Provider		
1	Door Stop	FS02	US32D	MCK
1	Threshold	By Door Provider		

- | | | | | |
|---|------------|------------------|--|--|
| 1 | Set Gasket | By Door Provider | | |
|---|------------|------------------|--|--|

Hardware Set #C3 – Single Interior Opening - Clubhouse

Opening Numbers: C 04, C 10, C 13.

Each door to have:

- | | | | | |
|---|--------------|------------------|-------|-----|
| 4 | Hinges | By Door Provider | | |
| 1 | Door Closer | 1431-PS | EN | SAR |
| 1 | Push / Pull | By Door Provider | | |
| 1 | Deadlock set | Keyed outside | US26D | SAR |
| 1 | Stop | WS02 | US32D | MCK |
| 3 | Silencers | S1M | | |

Hardware Set #C4 – Single Interior Opening - Clubhouse

Opening Numbers: C 06

Each door to have:

- | | | | | |
|---|-----------|------------------|-------|-----|
| 4 | Hinges | By Door Provider | | |
| 1 | Lockset | 10G05 – LL | US26D | SAR |
| 1 | Stop | WS02 | US32D | MCK |
| 3 | Silencers | S1M | | |

Hardware Set #C5 – Pair Bifold - Clubhouse

Opening Number: C 08

Each door pair to have:

- | | | | | |
|---|-----------------|-----------------------|--|--|
| 6 | Bifold Hardware | Carton Packed Mfr Std | | |
|---|-----------------|-----------------------|--|--|

Hardware Set #C6 – Pair – Maintenance Building

Each door pair to have:

- | | | | | |
|---|--|------------------|---------|-----|
| 8 | Hinges | By Door Provider | | |
| 1 | Lockset (active leaf) | 10G05 – LL | US26D | SAR |
| 1 | Door Closer (active leaf) | 1431-PS | EN | SAR |
| 1 | set Flush bolts (inactive leaf) | | | |
| 1 | Set Gaskets | By Door Provider | | |
| 1 | Threshold | By Door Provider | | |
| 1 | Spring Retaining Chain (inactive leaf) | Pamex | DD09-10 | PAM |

Hardware Set #C7 – Single Exterior Opening – Mail Kiosk

Opening Number: C 09

Each door to have:

- | | | | | |
|---|---------------------------------|------------------|---------|-----|
| 3 | Hinges | By Door Provider | | |
| 1 | Deadlock w/ dummy interior trim | 10G04 – LL | US26D | SAR |
| 1 | Set Gasket | By Door Provider | | |
| 1 | Spring Retaining Chain | Pamex | DD09-10 | PAM |

End of Clubhouse, Mail Kiosk & Trash Enclosure

END OF SECTION 087100