

**SECTION 08 71 0  
DOOR HARDWARE**

**PART 1.00 - GENERAL**

**1.01 REFERENCE STANDARDS**

- A. BHMA A156.1 - Standard for Butts and Hinges; 2021.
- B. BHMA A156.13 - Mortise Locks and Latches; 2022.
- C. BHMA A156.18 - Standard for Materials and Finishes; 2020.

**1.02 RELATED DOCUMENTS**

- A. The Contractor is referred to the "Bid Book"; the "Standard Agreement" between the Construction Manager (CM) and the Contractor(s); "Division 01 - General Requirements" of the Contract Specifications"; the "Contract Drawings" and all Amendments and Addenda thereto; all of which govern the Work of this Section

**1.03 SCOPE OF WORK**

- A. The Work of this Section includes all labor, materials, equipment and services necessary to complete the new finish hardware installation for new wood doors in existing/new frames in renovated/reconfigured apartments as indicated on the Drawings and/or specified herein including, but not limited to, the following:
  - 1. Bedroom Doors (existing/new frames).
  - 2. Bathroom/Toilet Doors (new slip-on frames).
  - 3. Closet Doors (existing/new frames, including slip-on type).
  - 4. Closet Doors – double/pairs (new frames).
    - a. Minor repairs/replacement as required of existing hinges/strikes at existing metal frames indicated to receive new doors (assume 5% repair/ replacement of existing hinges/strikes for bidding purposes).
      - 1) Provide all other labor and materials as may be reasonably inferred to be required to make the Work of this Section complete.

**1.04 RELATED WORK SPECIFIED ELSEWHERE**

- A. The following additional Sections contain requirements that relate to the Work of this Section:
  - 1. Section 02050 – Selective Demolition/Removals/Cutting/Patching
  - 2. Section 08110 – Metal Door Frames
  - 3. Section 08210 – Wood Doors

**1.05 SUBMITTALS**

- A. The following Shop Drawings, Catalog Cuts, Material Samples and other data pertaining to the Work of this Section shall be submitted in accordance with Division
- B. 01 – General Requirements, Section 01000.1.7 Submittals:
  - 1. Manufacturer's Catalog Cuts: For each item specified.
  - 2. Hardware Schedule

**1.06 GENERAL REQUIREMENTS / RESTRICTIONS**

- A. The Contractor shall assume full responsibility for the following:
  - 1. Examination of the Drawings/Specifications.
    - a. Verification of field dimensions and other existing conditions, including existing frames to remain.
  - 2. Preparation of Hardware Schedule.
  - 3. Door handing.
- B. Furnishing hardware templates to door/frame manufacturers.
- C. The Contractor shall bring to the CM's attention, any items of hardware which cannot be installed or will not function properly.

- D. Where finished shape or size of components receiving hardware make use of the types specified unsuitable, suitable types shall be furnished having, as nearly as practicable, the same operation and quality as the types specified, subject to approval by the Authority.
- E. Each item of hardware shall be packaged separately, complete with all trimmings, screws, bolts, washers, etc. Each item shall be clearly labeled, numbered and delivered ready for application. Provide machine bolts or screws as required.
- F. Delivery: When requested by the Contractor, hardware required for shop application shall be delivered to factories of the fabricator at the Contractor's expense and in ample time to not impede progress of work.
- G. Guarantee: The Contractor shall guarantee all hardware under this Section for a period of two (2) years from date of Certificate of Final Acceptance of the Work. The Contractor agrees to replace without additional cost items which prove defective due to improper materials, workmanship or installation.

### **1.07 QUALITY ASSURANCE**

- A. Hardware not designated by trade name and catalog number is subject to specific approval by the Authority. This is in addition to the requirement of submission of catalog cuts specified above.
- B. Single Source Responsibility: Obtain each type of hardware (latch/locksets, hinges, etc.), including materials, assemblies, equipment and services, from a single manufacturer.
- C. Supplier Qualifications: Shall be a recognized architectural door hardware supplier, with warehousing facilities in the Development's vicinity, that has a record of successful in-service performance for supplying door hardware similar in quantity, type, and quality to that indicated for this Project.
  - a. Require supplier to meet with the CM to confirm and finalize door hardware requirements.
    - 1) Inventory door hardware jointly with representatives of hardware supplier and hardware installer until each is satisfied that locations and quantities are correct.

### **1.08 DELIVERY / STORAGE / HANDLING**

### **1.09 HANDLE, STORE, DISTRIBUTE AND PROTECT HARDWARE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.**

- A. Deliver individually packaged or tagged door hardware items promptly to place of installation (shop or job site). Each item shall be properly identified as related to the final approved Hardware Schedule and include basic installation instructions in the package.
- B. Provide secure lock-up for door hardware delivered to the Project, but not yet installed. Control handling and installation of hardware items that are not immediately replaceable so that completion of the work will not be delayed by hardware losses, both before and after installation.

### **1.10 MAINTENANCE**

- A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as required for the Authority's continued adjustment, maintenance, removal and replacement of door hardware.

## **PART 2.00 - PRODUCTS**

### **2.01 GENERAL REQUIREMENTS**

- A. All hardware shall conform to the applicable requirements of the Federal Specifications cited, except as modified herein. Where no Federal reference is available, description of physical characteristics is provided.
  - 1. FF-H-106a,c – Builders Hardware, for locks and door trim, ANSI A156.2.
  - 2. FF-H-111a – Builders Hardware, for hinges ANSI A156.
  - 3. FF-111c – Builders Hardware, for floor door stops.

## 2.02 SCHEDULED HARDWARE

- A. Requirements for design, function, material, grade, 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 as follows:
  - 1. Manufacturer's Product Designations: The product designation and name of one manufacturer are listed for each hardware type required for the purpose of establishing minimum requirements. Provide either the product designated or a comparable product by another manufacturer that complies with the requirements.
  - 2. ANSI/BHMA (Builders' Hardware Manufacturers Association) designations used in this Section to describe hardware items or to define quality or function.
  - 3. Hardware not designated by trade name and catalog number herein is subject to specific approval by the Authority. This is in addition to the requirement of submission of catalog cuts specified.

## 2.03 MATERIALS / FABRICATION (GENERAL)

- A. Manufacturers Name Plate: Do not use manufacturer's products that have manufacturer's name or trade name displayed in a visible location (omit removable nameplates) except as otherwise acceptable to the Owner.
  - 1. Manufacturer's identification will be permitted on rim of lock cylinders only.
- B. Base Metals: Produce hardware units of base metal and forming method indicated, using manufacturer's standard metal alloy, composition, temper and hardness, but in no case of lesser commercially recognized quality than specified for applicable hardware, and by applicable ANSI/BHMA A156 series standards for each type of hardware item, and with ANSI/BHMA A156.18 for finish designations indicated. Do not furnish "optional" materials or forming methods for indicated items, except as otherwise specified.
- C. Fasteners: At new door/frame installations, provide hardware manufactured to conform to published templates, generally prepared for machine screw installation. Do not provide hardware that has been prepared for self-tapping sheet metal screws, except as specifically indicated.
- D. Furnish appropriate screws for installation with each hardware item in accordance with manufacturer's recommendations. Provide Phillips flat-head screws except as otherwise indicated. Finish exposed (under any condition) screws to match hardware finish or, if exposed in surfaces of other work, to match finish of this other work as closely as possible including "prepared for paint" surfaces to receive painted finish.
- E. Provide concealed fasteners for hardware units that are exposed when door is closed except to the 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. Where thru-bolts are used as a means of reinforcing the work, provide sleeves for each thru-bolt or use sex screw fasteners.

## 2.04 HINGES (NEW)

- A. Type: Shall be full-mortise, plain-bearing, swaged, #304 stainless steel.
- B. Templates: Provide only template produced units.
- C. Hinge Pins: Provide hinge pins as follows:
  - a. Fixed, non-rising type.
  - b. Tips: Flat button with matching plug, finished to match leaves.
- D. Number of Hinges: One pair to match existing installations to remain.
- E. Size of Hinges: 3-1/2" x 3-1/2" to match existing installations to remain (Contractor to verify in field).
- F. Detail hinge sizes so that the least amount of projection is visible from the frame.
  - (a) Hinges shall comply with ANSI/BHMA A156.1.
    - (1) LOCKSETS / LATCHSETS

- (2) Type: Shall be Residential Grade 3 cylindrical with 2-3/8" backset.
- G. Strikes: Provide wrought steel box strike for each latch/lock bolt at all new metal door frames (2-3/4") and as required at existing metal door frames to remain (size to match existing – verify in field). Strikes shall have curved lip extended to protect frame, finished to match hardware set, unless otherwise indicated.
- (a) Lock Throw: Shall be 3/8".
  - (b) Locks shall have beveled, rounded or rabbeted faces where required.
- H. Knobs/Trim: Shall be stainless steel, with 2" dia. knob and 2-5/8" dia. rose.
- (a) Locks shall comply with ANSI/BHMA A156.13.

## **2.05 LOCK CYLINDERS**

- A. Metals: Lock cylinder parts shall be fabricated from zinc-plated wrought steel or other approved material.

## **2.06 SCREWS / FASTENERS**

- A. Provide Phillips flat-head stainless steel screws complying with the following requirements:
- (a) Secure jamb leaf of new hinges to new metal frames with machine screws into drilled and tapped holes, 3 per leaf.
  - (b) Secure existing/new hinges to new wood doors with Phillips stainless steel flat head wood screws, three (3) per leaf. Size shall be 1" x #9 at new hinges and to match existing at existing hinges to be reused (Contractor to verify in field).

## **2.07 DOOR STOPS**

- A. Type: Shall be floor-mounted, solid brass, 2" dia. base.
- B. Provide low-dome, Type FF-H-11B-1130E, 1" high w/ min. 1/8" under door clearance or high-dome, Type FF-H-111B-1330AE, 1-3/8" high w/ min. 1/2" under door clearance as required.
- C. At bedroom and single closet doors, provide low-dome stops to restrict swing to 90 deg. where doors open against existing/new walls. At bathroom/toilet doors, provide high-dome stops at raised saddle locations and low-dome stops at flush saddle locations to restrict swing to 90 deg. (Contractor to verify in field). For double closet doors, provide low-dome stops for each door at the closed position (align with magnetic catches at head of frame) and to restrict swing to 90 deg. where door(s) open against existing/new walls.

## **2.08 SILENCERS**

- A. Rubber silencers, three (3) per strike jamb, shall be factory installed by the frame manufacturer at each single-door frame as specified in Section 08100 – Metal Door Frames.

## **2.09 MAGNETIC CATCHES**

- A. Type: Shall be heavy-duty using three (3) self-aligning magnets with 35 lbs. of holding power.
- B. Provide magnetic catches at all double (pairs) closet doors/frame.

## **2.10 HARDWARE FINISHES**

- A. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable items of hardware.
- B. The designations used in this Section to indicate hardware finishes are those listed in ANSI/BHMA A156.18, "Materials and Finishes," including coordination with the traditional U.S. finishes shown by certain manufacturers for their products.
- C. Exposed surfaces of hardware shall have the following US Standard finishes except as otherwise specified:
- a. Door knobs/roses/etc. for latchsets/locksets: Satin stainless steel finish, US32D/BHMA 630.
    - 1) Hinges: Satin stainless steel finish, US32D/BHMA 630.

- b. Door Stops: Dull Chrome finish.
  - c. Magnetic Catches: Brass plated finish.
- D. All hardware shall be furnished with proper and compatible screws finished to match the items for which they are intended.

## **PART 3.00 - EXECUTION**

### **3.01 PREPARATION**

- A. Existing Hardware (Verify in Field):
- (1) Existing painted steel hinges welded and recessed into jambs of existing hollow metal frames indicated to receive new doors shall remain and be reused. Contractor shall make all necessary minor repairs and remove excess paint from hinge pins, door leaves, etc. to permit proper installation and functioning of new doors.
  - (2) Existing metal strike plates (2-<sup>3</sup>/<sub>4</sub>" – verify in field) installed at lock jambs of existing hollow metal frames indicated to remain and receive new doors shall be repaired or replaced as required where defective, missing or incompatible with new locksets/latchsets (new strikes shall be installed in existing mortise cutouts in frames – surface-mounted strikes are unacceptable).
    - (b) Hardware Mounting Heights:
      - b. Hinges: New hinge locations at new hollow metal door frames shall match mounting heights of hinges to remain at existing door frames (Contractor to verify in field).
      - c. Locksets/Latchsets: Mounting heights for all units shall be compatible with existing strike locations at existing door frames as per Para. 3.01. A.2 (Contractor to verify in field).
        - 1) Based on the aforementioned criteria, furnish suitable templates, together with the final approved finish hardware schedule, to the respective trades as required, to insure the accurate setting and fitting of finish hardware.

### **3.02 INSTALLATION**

- A. 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 finish work specified. Do not install surface-mounted items until finishes have been completed on the substrate.
- B. Set units level, plumb and true to line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.
- C. Drill and countersink units which are not factory-prepared for anchorage fasteners. Space fasteners and anchors in accordance with industry standards.

### **3.03 ADJUSTMENT / CLEANING / PROTECTION**

- A. Adjust and check each operating item of hardware and each door to ensure proper operation or function of every unit. Replace hardware units which cannot be adjusted to operate freely and smoothly as intended for the application made.
- B. Demonstrate to the CM that each item is in perfect working order. Correct items of hardware not acceptable to the CM.
- C. In vacant/reconfigured apartments, furnish protective wrappings for all knobs, etc. until job completion.

### **3.04 HARDWARE SCHEDULE**

- A. All item numbers indicated below refer to hardware as manufactured by S. Parker Hardware Mfg. Corp. unless otherwise noted (comparable hardware by other manufacturers will be acceptable as approved):
  - 1. HARDWARE SET NO. 1 – BEDROOM/CLOSET DOORS (EXISTING FRAMES TO

- (a) REMAIN
  - 2. (1 Pair Hinges 3-1/2" x 3-1/2" half mortise – existing to remain –
- B. verify in field).
  - 1. 1 Latch Set Type 160N, #92641 SS.
  - 2. (Passage)
  - 3. 1 Door Stop Floor-mounted low-dome type, #13S DCH (where
  - 4. Required)
  - 5. HARDWARE SET NO. 2 – BEDROOM/CLOSET DOORS (NEW FRAMES, INCLUDING SLIP-ON TYPE)
  - 6. 1 Pair Hinges 3-1/2" x 3-1/2" full mortise template, #2279 3HN
  - 7. 1 Latch Set Type 160N, #92641 SS.
  - 8. (Passage)
  - 9. 1 Door Stop Floor-mounted low-dome type, #13S DCH (where
- C. required).
  - 1. (3) Silencers Factory installed by frame manufacturer.)
  - 2. HARDWARE SET NO. 3 – BATHROOM/TOILET DOORS (NEW SLIP-ON
    - (a) FRAMES
    - 3. 1 Pair Hinges 3-1/2" x 3-1/2" full mortise template, #2279 3HN
    - 4. 1 Lock Set Type 160L, inside push-button lock, #92642 SS.
- D. (Passage)
  - 1. 1 Door Stop Floor-mounted high-dome, #13H DCH, or low-
  - 2. dome, #13S DCH (type as required).
  - 3. HARDWARE SET NO. 4 – CLOSET DOORS - DOUBLE/PAIRS (NEW FRAMES)
  - 4. Hardware for each door shall consist of the following:
  - 5. 1 Pair Hinges 3-1/2" x 3-1/2" full mortise template, #2279 3HN.
  - 6. 1 Door Knob "Dummy" type, #93912, to match other new door
  - 7. knobs.
  - 8. Magnetic "Heavy Duty" type, # 54303.
- E. Catch
  - a. 1 or 2 Door Stop Floor-mounted low-dome type, #13S DCH.

**END OF SECTION 08 71 0**