1. The following information is intended to provide guidelines for all door hardware. Cabinetry doors, shelving, and folding partition hardware are covered in other parts of these standards. Temporary facilities and controls are covered in other parts of these standards or are available from the Facilities Management (FM) project representative.

2. Selection of materials, colors, finishes and sizes must be approved by FM project representative. Unless otherwise approved, the design intent would be to select materials that blend with existing or adjacent campus building features.

3. Require consultation with Western Washington University (WWU) Lockshop for selection of locking hardware and other devices requiring a key. Coordination conference shall be initiated and conducted by the finish hardware supplier and/or WWU Lockshop to determine security requirements, confirm all locking functions, and verify final count of Owner installed key cylinders.

4. Templates shall be provided for all hardware that requires machining or preparation to doors and frames.

5. Require coordination with electrical designers for power and control wiring for devices including automatic door operators, electromagnetic door holders, smoke detector hold open/closers, and access control systems. Contractor’s hardware supplier shall submit 6 copies of wiring diagrams for all electrified hardware. Indicate voltage and amperage requirements. Provide riser, sequence of operation, point to point wiring diagrams, and a description of system operation.

6. Hardware supplier shall be a direct factory contract supplier who employs a certified architectural hardware consultant (AHC) available at all reasonable times during the course of the work for project hardware consultation to owner, architect, and contractor. Design teams are encouraged to contact Allegion at the Bothell Office for technical assistance prior to bidding. Point of contact is Eric Miles---Eric.Miles@allegion.com 360-553-9034.

7. Submit 6 copies of the Finish Hardware Schedule. Organize vertical formatted schedule into hardware sets with index of doors and headings. Indicate complete designation of every item required for each door or opening. Schedule shall include the following:
   a. Type, style, function, size, quantity, and finish of hardware items.
   b. Name, part number, and manufacturer of each item.
   c. Fastenings and other pertinent information.
   d. Explanation of abbreviations, symbols, and codes contained with the schedule.
   e. Door and frame size, materials, and hand and degree of swing.
   f. List any components furnished by other trades so that doors, frames, and hardware are fully coordinated and have the proper preparation.

8. Verify project specific requirements for entry keying, access control system, security system, and automatic door operation.
   a. Require all lockset and exit device key cylinders to be removable and compatible with University proprietary systems.
   b. All permanent cores and keys will be furnished and installed by the WWU Lockshop (“Owner”). Construction keys and temporary cores (Black “T Series with Housings”) shall be furnished by the contractor and returned to the contractor after the WWU Lockshop exchanges them with permanent cores. Provide two construction keys to the WWU Lockshop in case emergency, after-hours access is required.
   c. Require card-access systems to be integrated with campus wide Lenel-OnGuard system. See DIVISION 28 Electronic Safety Systems design standard for access control.
requirements.

d. Key by-pass capability is required for key-less (prox card style) operational locks.

9. Avoid the following hardware:
   b. Floor stops.
   c. Flush bolts.
   d. Spring hinges (If replacing in-kind, provide Stanley model with ratcheted hex key tension adjustment).
   e. Floor-mounted closers (prohibited).

10. All levers on hardware at hazardous areas to be knurled.

11. Provide low to medium locking strength fastener adhesive such as Loctite Dri-Loc, 3M Scotch Grip, or Bradley Epoxy at threaded fasteners on door hardware.

12. Western has approved the following products and/or suppliers:
   a. Hardware locksets: Schlage, no substitutions.
      ii. Provide D Series cylinder lock, Rhodes (Rho) lever handle trim.
      iii. Verify latch retraction type for electrified locks. Prefer low voltage modified locksets which simply unlock electrically to allow manual lever operation in lieu of higher power demand latch retraction. Coordinate power supply distribution and wiring with access control system.
      iv. Low power modification available from Architectural Control Systems Incorporated (ACSI) or Command Access Technologies (CAT). Verify any UL listings for the lockset are retained by the modification.
         • Voltage: 24V (Maximum 29V, Minimum 20V)
         • Peak Current: Maximum 1.3 Amps at 5 to 10 second intervals
         • Holding Current: Maximum .135 Amps between peak current intervals
         • Required Operating Temperature: Maximum 151°F, Minimum -31°F
      v. If hatches have locking hardware, provide hatches with full size interchangeable core mortise housings and construction keyed.
   b. Deadbolts: Schlage, no substitutions.
      i. Recommend B 660 Series.
   c. Hinges: Prefer Stanley which is basis for product numbering; other acceptable Hager, McKinney, Ives.
      i. Recommend FBB179 full ball bearing, 4½” x 4½” for standard butt hinges.
      ii. Provide 3½” x 3½”, no ball bearing hinges for 1¾” doors.
      iii. Provide 4½” x 4½” on doors up to 36”. Provide 5 x 4½” on doors over 36”
      iv. Provide 3 each per door for doors up to 7’- 0”.
      v. Provide 4 each per door for doors over 7’- 0”.
      vi. Provide non-removable pin at out swinging doors.
      vii. Avoid continuous hinges in new construction. They may be necessary for retrofit situations.
      viii. Provide electric power transfer Von Duprin EPT 2 with electric locksets and standard exit devices. Coordinate alternate Von Duprin power transfer with manufacturer’s instructions for any other unique devices.
   d. Door closers: Norton; LCN.
      i. Provide Norton 7500 series, or LCN 4041 or 4040 parallel arm.
      ii. Provide Norton 7200 series for smoke detector hold-open type on exit doors. Avoid
combination hold open type closers with smoke detectors at other locations.

iii. Provide through bolting for all closers.

iv. Provide 10-year warranty.

v. Install closers on room side of opening to minimize closer vandalism.

e. Exit device: Von Duprin, no substitutions.

i. Provide Von Duprin XP99 series at exterior doors, no substitutions.

ii. Provide Von Duprin 99 series for standard doors, no substitutions.

iii. Provide Von Duprin 33 series for narrow stile doors, no substitutions.

iv. Provide Von Duprin QEL electronic latch retraction feature for automatic and operator assisted doors, no substitutions.

v. Provide keyed removable mullion at double doors. Avoid vertical rod exit devices.

f. Push plates and pulls: Ives, Rockwood; Trimco.

g. Kick plates: Ives, Rockwood; Trimco.

i. Provide width to be 2" less than door width X 12" vertical.

h. Door stops: Rixon; Trimco; Ives, Glynn Johnson

i. Provide wall mount type Trimco 1270CX single screw mount or equivalent or overhead stops.

i. Thresholds, seals and weather-stripping: Pemko; National Guard; Reese.

ii. Provide weather stripping at all exterior doors.

iii. Provide aluminum thresholds with thermal break at exterior doors.

iv. Provide sealant under all thresholds at exterior doors.

v. Provide retractable type door bottom for sound seal at interior door.

vi. Provide sweep type weather seal at exterior door with threshold.

j. Automatic door operators: Prefer Norton; LCN.

i. Require coordination with project representative for system lockdown.

ii. Provide hydraulic type operators in lieu of electro-magnetic type.

iii. Provide Power Supply module for auxiliary power. Include time delay relay function and transformer function. For openings that include access control, see Electronic Safety Systems design standard for integrated sequence of operations.

- Electric Latch Retraction and Electrical Power Transfer: Von Duprin, no substitutions.
  - Recommend electric latch retraction lockset. Verify strike release is compatible with lockset and coordinate with electrical.
  - Recommend concealed electrical power transfer (EPT) device located midway between middle hinge and top hinge.

iv. Provide ADA approved power assisted operator push pads with stainless steel push plates: BEA Inc.; Larco, LCN.

iv. 4¾ square pad: BEA 10PBS with flush mounting box.
  - Recommend BEA 10 Box SQ475 SM for surface mounted box.
  - Recommend BEA 10 Box SQ475 FM for flush mounted box.

vi. 4½" or 6" square pad: Larco with flush mounting adapter plate and box.

k. Key switch: Camden, Schlage.

i. Provide 1½" removable cylinder compatible with Schlage keying. Coordinate electrical availability and options for project specific application.

l. Padlock: Master.

i. All padlocks to be supplied by University Lockshop.

m. Coordinator: Ives; Door Control.

n. Flush bolts: Avoid if possible, if required at paired closet doors, or similar: Ives, McKinney, Rockwood.

o. Door viewer: Ives.

i. Ives # 174 190 degree view. UL listed, for fire rated doors up to 1 hour.

ii. Provide 2nd at X’0” height (ADA) at ADA designated rooms.


i. Provide wall mounted electromagnetic door holders in lieu of combination holder/closer at office/classrooms.
13. Hardware finishes: Match existing finishes within a building (not all hardware items use these finishes). Coordinate with University Lockshop.
      i. BH-Bond Hall, CH-College Hall, EN-Edens Hall and EH-Edens South, HS-High Street Hall, HU-Humanities, MA-Mathes Hall, NA-Nash Hall, PA-Performing Arts Center, PP-
         Physical Plant (verify, see below), RK-Ridgeway Kappa
   b. Finish: 613 (US10B) – Antique Bronze, oiled.
      i. AA-Arts Annex, AR-Armory, BK-Bookstore, BT- Buchanan Tower, CA-Canada House, CM-
         Commissary, FA-Fairhaven College, FC-Fairhaven Housing/Dining, LW-Lakewood, OM-
         Old Main, PP-Physical Plant, RB-Ridgeway Beta, RC-Ridgeway Commons, RD-Ridgeway
         Delta, RG-Ridgeway Gamma, RO-Ridgeway Omega, RS- Ridgeway Sigma, SP-Steam
         Plant (verify, see above), VC-Viking Commons, VU-Viking Union, WL-Wilson Library.
   c. Finish: 626 (US26D). – Satin Chrome
      i. AB-Archive Building, AC-Administrative Services, AE-Administrative Services B, AH-
         Arntzen Hall, AI & AW-Academic Instruction Center, AL-Alumni House, AS-Armory Motor
         Pool shed, BG-Biology Greenhouse, BI-Biology Building, BW-Birnam Wood, CB-Morse
         Hall, CF-Communications Facility, CS-Campus Services Facility, CV- Carver, ES-
         Environmental Studies, ET-Ross Engineering Technology, FI-Fine Arts, HG-Higgins
         son Hall, HH-Haggard Hall, HR-Hannegan Road Lab, MC-Shannon Point Marine Center, ME-
         Undergraduate Marine Education Center, MH-Miller Hall, PH-Parks Hall, RE-Recycling
         Center, SD-Shannon Point Dorm, SL-SMATE, WT-Varsity Weight Training Facility.

End