1.0 GENERAL

1.1 Related UBC Guidelines

.1 Division 26
.2 Division 28
.3 Section 08 00 10 Openings – General Requirements
.4 Section 28 05 00 Access Services: General Standards
.5 Section 28 13 00 Access Control

1.2 Coordination Requirements

.1 Electrical Consultant (EC)
.2 Architectural Hardware Consultant (AHC)
.3 UBC Information Technology (UBC IT)
.4 UBC Access Services (Locksmith Shop inclusive)
.5 Architectural Consultant (AC)
.6 UBC Building Operations Electrical Technical Support

1.3 Description

.1 Door hardware including electrified hardware.

1.4 Performance Standards

.1 CSA for Heavy Duty.
.2 All hardware to be Grade 1.

1.5 Design Requirements

.1 Buildings are to be designed with card access in general accordance with Sections 28 05 00 and 28 13 00. The design team must employ an Architectural Hardware Consultant (AHC) with a minimum of five (5) years of experience in the design of electrified hardware systems solutions.

.2 Access Services systems and hardware must be scalable for future changes and additions. Provide a design solution which meets the immediate project requirements and has the ability to meet the long term requirements in accordance with Sections 28 05 00 and 28 13 00.

.3 The access control design requirements are defined by the Technical Guidelines and the project specific requirements provided by UBC Access Services and the Project Manager, but the door hardware design and compatibility of function are the responsibility of the AC and the AHC.

.4 A package complete with a detailed Sequence of Operation for the electrified hardware, Riser Diagram, Point to Point Wiring Schematic and Plan depicting layout is to be provided by the AHC for acceptance by the Project Manager, UBC Locksmith Shop, UBC Access Services, UBC Building Operations Electrical Technical Support and Technical Services prior to finalizing the hardware schedule. This package shall include the function of the Access Control system, any fire alarm activated hardware, handicap access functions, tie in to the ventilation system etc.

.5 Exterior doors are subject to very high usage, inclement weather, wind driven rain, ice buildup, building air pressure, temperature fluctuations, and wind forces. The Designer must
ensure that all exterior door hardware is selected to accommodate these variable conditions and be corrosion resistant. The Designer is responsible to coordinate with the door suppliers that provide hardware with their doors to ensure that the factory supplied hardware is appropriate.

.6 Door numbering for the hardware schedules must be coordinated with the final design drawings to ensure that the final door hardware schedules match the architectural room and door numbering system. The coordination must be made early in the design process to ensure that UBC can program internal documentation for keys, access control, etc. that will match the record drawings.

.7 Door pivots are not acceptable.

.8 Avoid offset pulls due to maintenance problems resulting from torsion forces. If unavoidable, offset pulls must be through bolted.

.9 Keyed cylinder dogging is required on all panic devices unless prohibited by code.

.10 Keyed entry cylinders required on all doors equipped with Card Readers.

.11 Each building requires a Key and card Tube Deposit. (See 3. Materials below).

.12 No spring loaded hinges to be used.

.13 Kick plates are to be installed on all high use facilities.

.14 Where door closers are required by code surface mounted door closers shall be used.

1.6 Quality Control and Assurance

.1 Submittals

.1 Submit shop drawings to UBC Access Services (Locksmith Shop inclusive) for review. Hardware schedule to be in accordance with the DHI technical publication “Sequence and format for the hardware schedule”.

.2 Door schedule.

.3 The detailed keying schedule shall be completed by the owner.

.4 Sequence of Operation is to be submitted for review by UBC Access Services (Locksmith Shop inclusive).

.5 Testing and Commissioning schedule is required for all electrified hardware.

.6 As-Built drawings are required including the door hardware system wiring diagram, shop drawings of the electrified door hardware components, supplier and installer contact information, and warranty information for the installer and extended manufacturer warranties. This should be a dedicated section of the Architectural Building Operations Manual required at the time of building turnover to UBC Building Operations.

.7 Requests for product substitutions must be made to the UBC Project Manager prior to closing of the Contract tender submission for review by the AHC and UBC Building Operations.
.2 Quality Assurance

.1 AHC to prepare detailed schedule of hardware and review for field compliance.

.2 A hardware schedule to be prepared and hardware to be procured from a source of supply approved by the Consultant. Supplier to be a British Columbia distributor who is authorized by the manufacturer of the equipment. Supplier to employ one or more Architectural Hardware Consultants (AHC) who are in good standing with the Door and Hardware Institute (DHI) — the AHC must be responsible for the complete hardware subcontracts.

2.0 MATERIALS

2.1 Prescriptive Requirements

.1 UBC Facilities require specific lock cylinders; which are currently Abloy.

.2 Materials

.1 Lock Cylinders
  .1 Abloy of Canada Cylinders – no substitutions allowed.

.2 Hinges
  .1 Stanley/ Monthard/ Hager/ McKinney.

.3 Pivots – (Not UBC preferred hardware).
  .1 Dorma.
  .2 Yale - Corbin (Rixson).

.4 Door Stops, Swing Stops, and Holders
  .2 Install overhead stops, wall stops, or floor stops where required to prevent damage from door contacting a wall or another door; and provide controlled swing/stop.

.5 Flush Bolts
  .1 Trimco/ Ivies/ Glynn-Johnson/ Gallery/ Rockwood.
  .2 Automatic flush bolts are not to be used due to maintenance problems.

.6 Mortise Locks and Trim
  .1 Corbin ML2000 series with LWA lever.
  .2 Schlage L9000 series with 03B lever.
  .3 Sargent 8200 series with LNJ lever.

.7 Cylindrical Locks
  .1 Corbin CL3300 series
  .2 Schlage ND series with Vandlguard
  .3 Sargent 10 line

.8 Push Button Code Locks
  .1 Schlage CO 100 x less cylinder x KP x 626
  .2 Sargent KP Series
.9 Alarm Locks
  .1 Stand alone systems: Detex EAX500 or Alarm Lock Pilfergard PG21
  .2 Panic Bar Style (must re-latch): Sargent, Von Duprin, Corbin, Alarm Lock, Detex

.10 Dead Bolt Locks
  .1 Mortise: Corbin DL4000 series, Sargent 4800 series, Schlage L600 series.
  .2 Cylindrical: ILCO 4514.25.1.04.04.5

.11 Magnetic Locks
  .1 Magnetic locks are not acceptable and should only be used when required by code.
  .2 Securitron M Series (if required)

.12 Exit Devices
  .1 Von Duprin 98XP and 99XP series, and 33A series.
  .2 Sargent 8000 series.
  .3 Corbin ED5000 series

.13 Door Closers
  .1 LCN 4040XP Series x 689 finish.
  .2 Sargent 351
  .3 Corbin 6200 / Norton 7700
  .4 Floor closers are "not" acceptable at UBC.

.14 Power Operators and Electrified Closers
  .1 LCN 4630/4640 Series - "Auto Equalizer" x 689 finish. No substitutions allowed.

.15 Push Plates, Pulls and Protective Plates
  .1 Trimco/CBH/Gallery.

.16 Thresholds and Weather-Stripping
  .1 Pemko/Crowder/Zero.

.17 Station Controls and Key Switches
  .1 Von Duprin/ LCN/ RCI/ Securitron
  .2 Camden CM-1030-7224 SPDT with red & green LED

.18 Power Supplies,
  .1 Use power supplies to match manufacturers’ equipment when required.
  .2 Power supplies require battery backup.
  .3 Locknetic / Folger-Adams, Securitron, Von Duprin, Yale / Corbin

.19 Electrified Strikes
  .1 HES/ RCI/ Von Duprin 6100 & 6200 series

.20 Transfer Hinges –12 wire standard
  .1 McKinney with electro lynx, Stanley, Hager

.21 Hard Wired Electrified Locksets
  .1 Manufacturers: Schlage, Corbin, Sargent [Manufacturers are currently under review]
  .2 Integral magnetic position indicator.
  .3 Handle integrated request to exit function
.4 Integrated card / FOB reader (I-Class compatible)

.22 Wireless Electrictrified Locksets
.1 [Manufacturers are currently under review]
.2 Non-proprietary battery supply only
.3 Minimum 50,000 cycles per battery supply
.4 Hard-wired power source option preferred
.5 Dedicated Wireless network hardware or encrypted Wi-Fi

.23 Electrified Exit Devices
.1 Corbin/ Sargent / Von Duprin (QEL series)
.2 Electrified dogging required unless prohibited by code.

.24 Electrified Hold Open Devices
.1 Simplex RSG series or Edwards 1500 series.
.2 Install hold open devices for fire separation doors in corridors and other high use areas where occupants will likely use door stops to hold the doors open, thereby compromising the fire rating of the opening.

.25 Electrified Lock Boxes
.1 ProxSafe flex key management system

.26 Electrified Hardware Communications Equipment Infrastructure
.1 Supplied and installed by UBC Access Services.
.2 Contractor to supply and install power, pathways, and cabling as indicated on the drawings.
.3 Open source communication protocol only.

.27 Request to Exit Device
.1 Supplied and installed by UBC Access Services where not integrated into the lockset.

.28 Card Strikes / FOB Readers
.1 Supplied and installed by UBC Access Services where not integrated into the lockset.
.2 Contractor to supply and install pathway installation only as indicated on drawings.
.3 I-Class compatible

.29 Key and Card Tube Deposit Lockbox – Abloy # 6047 (See .6 "Execution", below...).
.1 All new buildings to have a tube-shaped Fire Department lockbox installed so that the exterior surface of the lid is mounted flush with the exterior wall surface by the main address entrance.
.2 Construction of key-deposit housing to be steel.
.3 Construction of cylinder housing to be hardened steel.
.4 Sleeve size to be: 180 mm long x 63 mm diameter or 7 inches long x 2.5 inches diameter.
.5 Manufacturer to be Abloy Key and Card Tube Deposit Lockbox – Abloy # 6047.

.3 Electrified Hardware

.1 Electrified hardware is an evolving technology which requires close coordination with Divisions 26 and 28. Please review Divisions 26 and 28 for further specifics regarding their respective components relating to electronic access equipment and standards.
.2 Division 28 includes diagrams showing “typical door installations”, the associated equipment, and a responsibility matrix indicating who is responsible for the various components of the installation. The Architectural Consultant must ensure that the tender documents clearly identify the contractors work, and what work will be performed by UBC Access Services.

.3 AHC is to coordinate with UBC Access Services to identify pathway installation requirements for their equipment installation.

.4 Standard Pressed Steel & Aluminum Frames: Through hole for Door Contact (DC) shall be 25mm (1”) diameter and 38mm (1 ½”) minimum depth. Through hole for Power Transfer Hinge (PTH) shall be 13mm (1/2”) in diameter and 38mm (1 ½”) minimum depth. Both DC and PTH holes shall allow for concealed, non-abrasive pathways clear of frame fill materials from said device to Div 16 pathways.

.5 Standard Metal, Aluminum & Wood Doors: Top of door shall be prepped as such to allow for UBC SA installation of 25 mm (1”) wide by 38mm (1 ½”) deep magnet assembly without affecting door rating. Pathway (wire chase) within the door for Electrified Hardware shall be 13mm (1/2”) cored hole and shall allow for concealed, non-abrasive pathway clear of door fill material, from the PTH to the electrified lockset device, without affecting the door rating. Wire chase shall allow for free and easy removal and reinstallation of cable without affecting door structure.

.4 Finishes

.1 Brushed stainless steel.

.5 Fabrication

.1 The hardware schedule to be submitted to the Project Manager for keying and hardware approval before ordering materials.

.2 A separate Keying Schedule to be submitted which indicates each lock/core, hardware heading and door number—allow sufficient type line spacing to allow the Owner (UBC) to insert keying information after each lock or cylinder.

.3 Final keyway selection and detailed keying will be determined between the Owner/User, Locksmith Shop, UBC Project Manager, and Abloy Canada Ltd.

.4 Permanent lock cylinders shall be keyed according to UBC requirements. Keying details shall be determined between the User, UBC Locksmith Shop and Abloy Canada Ltd.

2.2 Warranty Requirements

.1 Manufacturers’ warranties shall be from the date of occupancy by the owner.

.2 The following minimum warranty periods are required:

.1 Installation labour warranty: years from Substantial Performance to allow time for building occupant fit out, and occupant general use to identify defects.

.2 Door closers: 10 years.

.3 Exit Devices: 5 years.

.4 Mortise Locksets: 10 years.

.5 Cylindrical Locksets: 7 years.
3.0 **EXECUTION**

3.1 Prescriptive Requirements

.1 Only UBC Locksmith’s Shop shall install permanent cylinders to ensure precise coordination of lock cylinder locations with the User’s requirements.

.2 All locks and cylinders shall be supplied with temporary construction cylinders. The Contractor is to supply and install temporary construction cylinders complete with keys for all construction locks; until UBC Locksmiths’ Shop can supply and install permanent cylinders on the UBC key system. This will ensure that equipment and furniture is secured behind a locked door at all times.

.3 Temporary construction cylinders shall be returned to the distributor. If the Contractor has pre-ordered and supplied keyed-alike construction cylinders, the UBC Locksmiths’ Shop shall return construction cylinders to the Contractor at the time of the permanent cylinder installation.

.4 Fire Department Abloy Tube Lockboxes shall be cored into concrete, installed horizontally and epoxied into place. Consider also a free-standing externally-located square-faced concrete post, if there is no adequate location on the building.

.5 The Division 08 Subcontractor is responsible for the installation of all door hardware, electrified door hardware control panels, power supplies, low voltage cables, and low voltage raceways. The Division 08 subcontractor is also responsible for all 110 volt supply raceways, wiring, and dedicated circuit breakers unless they are specifically indicated on the electrical design drawings as being done by Division 26 (example: power supply required as part of a design build electrified door hardware system installation).

.6 All electrified openings must have a dedicated power supply circuit, and the circuit number shall be identified on the door hardware power supply and as-built drawings.

3.2 Turnover

.1 Provide formal and proper training to UBC Access Services (Locksmith Shop inclusive) staff for the new equipment provided including: sequence of operation, troubleshooting, maintenance manual review, preventative maintenance requirements, and critical parts list.

.2 Provide a commissioning certificate for the purpose of identifying the start of the warranty period.

.3 Provide details of the Manufacturer’s extended warranties.

.4 Provide As-Built drawings for all electrified door hardware and shop drawings / cut sheets for all equipment and sensors that have been installed.

***END OF SECTION***