

DIVISION 8 OPENINGS

08 40 00 ENTRANCES, STORE FRONTS, AND CURTAIN WALLS

- A. Access Control:** All exterior entrance doorways shall be provided with electrical conduit for security access control including sensors, latches, locksets and controls. **See 08 7400 for card access control specifications.**
- B. Exterior Entrances:** Primary entrance doors shall be swing doors. The doors shall have the following features:
1. A door hold-open device.
 2. The door must be able to be unlocked and locked opened with a cylinder key.
- C. Accessible Entrances:** At least one main entry door set shall be ADA accessible. In addition to the features in item B above, the ADA doors shall add the following features:
1. Doors shall be installed by American Association of Automatic Door Manufacturers (AAADM) certified installers.
 2. Doors shall be operated by radio controlled push button actuators in the 433 MHZ frequency range.
 3. Electrical power to doors shall be connected to the emergency power system. Doors shall remain operable during power outages.
 4. Provide NABCO Gyro Tech, GT710, door operator or approved equivalent. In order to be considered for acceptance as an equivalent, door operators must have the following minimum features:
 - a. Hardened steel gears shall be used in the drive train. No plastic or nylon gears accepted.
 - b. Hydraulic back check, operable whether door is opened manually or automatically.
 - c. Door close speed and back check adjustable without removing cover.
- D. Exterior Double Doors:** Exterior double doors shall have cylinder key removable center mullions, only where needed. All other double doors shall have permanent mullions.

08 51 00 METAL WINDOWS

- A. Maintenance:** All windows to be accessible for cleaning and glazing replacement in a simple manner.

08 70 00 HARDWARE, LOCKS & KEYS – GENERAL REQUIREMENTS

- A. General:** The University has a master key system on campus. All locks shall be Grade One. Any lockset, passage set, or exit device shall meet ADA specifications. Any lever is to have a full return at the end of the handle. The style shall match Schlage Sparta or Rhoads.
- B. Locks:** All locks shall be provided with construction cylinders that are Schlage Everest cylinders, zero bitted.
1. For any project, there shall be six percent (6%) extra locks left on the job for maintenance. These locks shall be as follows with one minimum of each type:
 - a. Two percent (2%) - Classroom function type (key to lock and unlock).
 - b. Four percent (4%) - Entry function.
 2. Remodels require hardware to match existing finish.
- C. Extra Locks:** Extra locks and keys shall be delivered to the FD&C office upon completion of the project. The Contractor shall verify quantities before delivery.
- D. Additions:** Where additions are built to existing buildings, the locks shall be of a matching type to be consistent with building master key.
- E. Exit Devices:** Exit devices must have dead latching feature. Install with sex-bolts or through bolts as required. These devices shall meet ADA specifications. In addition provide overhead door restrictors included. Fire exit devices shall be used on fire-rated doors as required.
- F. Keys:** Door keys and cylinders shall be part of the contract.
1. Where exit devices are installed, the Contractor shall supply at least one (1) dogging or lockdown key with each exit device that is not fire rated.

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2. All other keys for cabinets, lockers, panels, dogging, electrical operator, water valve and special purpose keys shall be identified and tagged. These shall be delivered to the Construction Coordinator at the time of final acceptance.

08 7100 DOOR HARDWARE – SPECIFIC REQUIRMENTS

In an effort to reduce long-term maintenance costs and to promote more consistent performance of our facilities, Utah State University standardized on the following door hardware products and applications to be used on any new construction or facility renovation project.

In addition, any specification sections and/or hardware sets for such projects shall be written and/or reviewed by our local Allegion specification team prior to finalizing to ensure compliance with our standards.

Our local Allegion specification team may be contacted via George Stromquist AIA, LEED AP BD+C, CSI, CDT

(801-389-7905) or Jason Gassaway (385-315-5134)

<p>Key System <i>(Provided by Owner)</i></p>	<p><u>Cylinder Types: (No Substitution)</u></p> <ul style="list-style-type: none"> - Assa Key In Lever (KIL) type where installed in levers - Assa Rim and Mortise Cylinders <p><u>Cylinder Provision & Installation:</u></p> <ul style="list-style-type: none"> - Owner will furnish and install permanent cylinders. - Contractor shall provide and install temporary cylinders. - Owner will remove temporary cylinders and install final keyed cylinders upon substantial completion. <p><i>Note: Specification to call out appropriate cylinder quantities, models, sizes, keyways, tailpieces, etc. for owner's reference when procuring.</i></p>
<p>Mechanical Locksets</p>	<p><u>Grade 1 Cylindrical Locks: (No Substitutions)</u></p> <ul style="list-style-type: none"> - Schlage ND Series with lever - Sargent 10 X Line Series with lever <p><u>Lock Functions:</u></p> <ul style="list-style-type: none"> - Storeroom function at utility, maintenance, storage and access control doors - Entrance function at office doors - Classroom function at classroom doors - Privacy function at restrooms (Where indicators are needed use mortise locks) <p><i>Note: Call out full lock details (Model, Trim, Cylinder Type, Function, etc)</i></p>

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Exit Devices	<p><u>Panic / Fire Exit Hardware: (No Substitutions)</u></p> <ul style="list-style-type: none"> - Von Duprin 98 Series. - Sargent 80 Series - Refer to Owner on dogging requirements (Hex, Cylinder, Thumbturn) - <u>ONLY Rim type</u> – any applications using vertical rods, vertical cables, or mortise type devices require specific University approval. <p><u>Mullions:</u></p> <ul style="list-style-type: none"> - Refer to owner on type of mullion to be used on pairs (removable or fixed) - Provide each bank of doors with only one keyed removable mullion - <u>Stabilizers and mounting kits are desired on any mullions.</u> <p><i>Note: Call out full exit device details (Model, Trim, Function, Fire Rating, etc.)</i></p>
Door Closers	<p><u>Mechanical Door Closers: (No Substitutions)</u></p> <ul style="list-style-type: none"> - LCN 4040XP Series, - Sargent 281 Series - Through Bolt Fasteners required on all wood doors. Self Reaming and Tapping fasteners are acceptable on HM and Aluminum. - Where required for closer installation, call out specific mounting brackets needed. <p><i>Note: Call out full closer details (Model, arm, brackets, fasteners, etc.)</i></p>
Automatic Operators	<p>Automatic Operator: (No Substitutions)</p> <ul style="list-style-type: none"> - Gyrotech 710 Series - LCN 4600 Series <p><i>Note: Call out full operator and actuator details (Model, actuator kits, switches, etc.)</i></p>
Door Release Devices	<p>Magnetic Holders:</p> <ul style="list-style-type: none"> - LCN SEM7850, similar by ABH and Rixson are acceptable. - Wall mount, 35lb hold force. - Tri-Voltage (24VDC, 12VDC, and 120VAC) compatible.
Door Protection	<p>Kick Plates:</p> <ul style="list-style-type: none"> - .050" thick stainless steel, beveled 4 edges. - 10" in height. - 2" Less Door Width (LDW) - Omit at aluminum storefront doors
Stops	<p><u>Wall Stops:</u></p> <ul style="list-style-type: none"> - Wrought Stainless steel with rubber bumper. - Concave where required by lock function, otherwise convex. <p><u>Overhead Stops:</u></p> <ul style="list-style-type: none"> - Heavy Duty, Concealed Overhead Stops with Adjustable bracket at exterior storefront doors. - Heavy Duty, Surface Mounted Stops where wall stop is not suitable, and door has no closer.

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Thresholds & Gasketing	<p>No preferences.</p> <p><i>Note: Specification to note that gasket shall be installed such that door is able to close and latch without binding on gasket.</i></p>
Flush Bolts / Astragals	<p><u>Flush Bolts:</u></p> <ul style="list-style-type: none"> - Manual flush bolts preferred on inactive doors <p><u>Auto Flush Bolts / Constant Latching Bolts:</u></p> <ul style="list-style-type: none"> - Provide only where specifically required by egress or fire code. - Provide dust proof strike anywhere bottom bolt is specified. <p><u>Closers @ Pairs with Inactive Leaf:</u></p> <ul style="list-style-type: none"> - It is preferred to have closers on <u>BOTH leaves of pairs</u>, even when one is inactive. <p><u>Astragals @ Pairs with Inactive Leaf</u></p> <ul style="list-style-type: none"> - All lockset pairs to have overlapping astragal mounted to the keyed side of door (active leaf pull side mount @ RHRA or LHRA doors and inactive leaf push side mount @ RHA / LHA doors). - Provide flat steel astragal to be through-bolted. Lock strikes to be flat so that astragal is not notched around strike. - Acceptable Products: Zero 44ST, NGP 139SP, Pemko 357SP <p><u>Coordinators:</u></p> <ul style="list-style-type: none"> - Provide only where required by fire and/or egress code. - Provide flat bar type with filler strips with any necessary mounting brackets

These standards are to be provided “No Substitution”, except where specific written approval is given by the **University Facilities Lock Department**. Replacement of any hardware provided that does not adhere to these standards may be required at no additional cost to the University.

08 74 00 CARD ACCESS CONTROL SPECIFICATIONS

1.0 Qualifications

- 1.01 Pre-qualified vendors for card access on the USU campus are: Stone Security, Avtec (Division of CVE) Additional vendors may be qualified upon approval.
- 1.02 All integrators and their employees working on the Utah State University (USU) campus shall meet the following qualifications and must submit evidence accordingly:
 - a) Achieved the status of Integrator or higher certification from S2 Security approved training venues. Photocopies of certification should be submitted with package response. Certification must be current.
 - b) Provide detailed customer references for projects performed within 2 years of purchase order date that reflect similar scope and size of USU project.

2.0 General Requirements and Notes

- 2.00 USU requires that all exterior doors (including each operable leaf) have active electronic card access. The only exception to this is emergency exits or exit only doors, which will have, at a minimum, a door position switch for monitoring. One leaf in a set of doors connected to a reader is acceptable when the remaining doors have electronic locks that are integrated with S2.
- 2.01 USU has purchased and installed the S2 security management software, database and licensing. The University has completed installation of door access hardware components at existing campus locations.
- 2.02 It is the intent of USU to maintain consistent and standardize access control installations throughout all USU campus' by dictating design, door hardware, wiring, and electronic devices/controllers used in construction. USU will have final approval of the fore mentioned components in construction where work has been subcontracted to 3rd parties.
- 2.03 It is the responsibility of the access control integrator or company to generate an exceptions list prior to bidding or installation that itemizes exceptions taken with door hardware schedules, components or

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designs being used which may hamper their ability to provide a secure and compliant access control product.

- 2.04 The USU Physical Security shop in the University Risk Management Department and or the Locksmith shop reserves the right to approve or reject final design and/or scope of work for access control on new construction and existing structures.
- 2.05 When any project or work is declared fully complete, a final walkthrough will take place with the integrator (and general contractor where applicable). A USU representative, project manager(s) and customer must participate in a final walk thru prior to acceptance of any access control work. All doors must be functioning properly in the field as well as within the access control software.
- 2.06 Coordination and hardware review meetings will be held with the integrator and the USU Physical Security or Locksmith personnel prior to start-up of any access control project.
- 2.07 USU has a naming convention to use in identifying doors and buildings. The naming convention will be adhered to when programming new doors and buildings into S2.
 - a) Buildings all have a number designation and an official name, for example, Old Main is the official name and the number designation is 001.

3.0 Base Specifications

- 3.01 The system must fully and completely integrate with the most current version of S2 door access system purchased from Stone Security.
- 3.02 Allow or deny the unlocking of a locked entrance based on criteria established in the software for individual cardholders.
- 3.03 Record a log file of all system activity, including door access granted, access denied, portal forced, portal held, alarms, system messages, and data maintenance.
- 3.04 Allow monitoring of the overall system for functionality and alarms from multiple points. System will require and record alarm acknowledgments by operator.

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- 3.05 Utilize the campus TCP/IP network for communications between controllers and the central database.
- 3.06 Provide interfaces with other systems, including intrusion alarm, panic alarm, fire alarm, and CCTV systems.
- 3.07 Provide security of the door, even in the event communication is lost to the main database, allowing the door to continue to recognize which cards to grant access to, and continuing to record access transactions.
- 3.08 Allow proper egress in emergency situations such that no special knowledge or card is required to exit a space.
- 3.09 Must comply with ADA standards.
- 3.10 Allow for central administration of the access control database for purposes of populating and maintaining the overall database, while allowing numerous secured users to grant or deny access for individuals from multiple workstations around the campus.
- 3.11 Allow for unattended scheduled unlocking of individual doors for a sustained period of public access.
- 3.12 All hardware mounted in exterior locations must be weather resistant and designed to maintain the aesthetic beauty of the campus. The finish of the access control hardware should match the finish of the other door hardware.
- 3.13 Hardware must be durable enough to withstand high traffic locations without frequent failure.
- 3.14 Hardware must continue to fully function in the event that communication to the central database is lost.
- 3.15 All access control system equipment (controllers and readers) must be fully warranted against defects in workmanship for a minimum of one year from date of installation, with an optional four-year extended warranty quote. All hardware must be fully supported for a minimum of five years from date of installation (non-obsolescent), or replaced at no cost to USU with supported hardware.
- 3.16 Request to exit devices will be included on all external doors with electronic locking devices, where possible they will be integrated into the door hardware. Motion request to exit devices will only be used where no other device is possible.

4.0 Standardized Hardware

4.00 The following hardware is specified hardware for access control integrations. **Compatible substitutions are allowed with approval.**

4.01 Controllers

Mercury Intelligent Network Controllers

S2 Mercury EP1502 Intelligent Controller, 16M, 2 Readers, 8 Inputs, 4 Outputs

S2 Mercury MR52 Reader Interface Module 2 Readers, 8 Inputs, 6 Outputs

4.02 Readers

iClass SE RP40E (Elite Key Required), Wall Switch, Contactless, Black, with SIO

iClass SE RK40E (Elite Key Required), Wall Switch, Keypad, Contactless, Black, with SIO

iClass SE R15E (Elite Key Required), Mullion (lg), Contactless, Black, with SIO

iClass SE R10E (Elite Key Required), Mullion (Rg), Contactless, Black, with SIO

4.03 Exit Devices (Mechanical)

Von Duprin 98/99 Series

4.04 Electric Strikes

Von Duprin Series 6000 24 Volt

HES 1006 Strike

HES 9600, or 9400 RIM Strike or HES 9500 RIM for fire-rated applications

Adams Rite Strike

SLP-UL-M-KIT – Sargent ELR with REX built in (Exit Device)

VLP-UL-M-KIT – Von Duprin ELR with REX (Exit Device)

4.05 Electric Power Transfer

Von Duprin EPT-10 EPT-5

Power Transfer Hinge – Electrified Hinge, minimum 6 wires, max of 12 wires. Must be from approved, reputable, manufacture. Assa Abloy or Allegian.

Armored cable door loops – used on pivot hinge doors in place of GVUX power transfer.

Alarm Lock AL271

Keedex K-DLA12

4.06 Power Supplies and Batteries

Access Power Supply/Charger for Mercury

Batteries 12V, 7AH

Life Safety Power will be used for all electronic access control.
Power Output (D8) for auxiliary door components (REX motion detector, sounders, etc.)

Depending on space requirements preference is given to FPO250-2C83D8PE6M1-16 Door Power Distribution Enclosure with Aux Power Output for auxiliary door components (REX motion detector, sounders, etc.)

4.07 **Relays**

Altronix Relay

Altronix 6062 – Time delay relay (for ADA doors.)

IDEC

IDEC RHU1B and RHU2B Relays (in Base Power Distribution Enclosures)

4.08 **NOT USED**

4.09 **Request to Exit (REX)** Request to exit

Detection Systems: BOSCH DS 150i Request to Exit Motion Detector or similar (Note: Motion detector REX will only be used where approved by USU)

Push to Exit REX: Push to exit will only be used where required as a physical interrupt to Mag Lock type locking devices.

4.10 **Cabling:** Composite Cabling

4.11 **Device Servers**

4.12 **Personality Module and Housing**

RM4 Reader Module

4.13 **Door Switches**

Sentrol (GE)

Sentrol 1078C – Flush Mounted Door Position Switch (Color Match)

Sentrol AL2505 – Surface Mounted switch with Armored Cable

4.14 **Input/Output Module**

S2 – Mercury Board

S2 Mercury Board – MR51

S2 Mercury Board – MR50

4.15 **Horns/Alarms:** Detect Systems DS-4200KI – Door Prop Alarm

4.16 **Emergency Push Button Covers w/Horn:**
SDC 491 – Break Glass Station with Horn

5.0 Network Topography

5.01 USU uses a star configuration with each access/alarm point being a 'home run' back to the access control panel from the personality module located above the door or the card reader. The cabling between the personality module (RM Reader) and the access control panel will be the composite cabling outlined in the section 4.10. All communication and power to the individual doors will come from the access control panel location. Exceptions to this will be made when specific hardware requires a localized power supply or power over Ethernet (POE) connected to a network server. When possible a trunk conduit/raceway should be established in common hallways to accommodate multiple 'home run' composite cables.

6.0 Installation Requirements

- 6.01 Power supply installation shall also include wiring A/C Fail Fault relay to input 8 on 1502 or first addressed MR52 and labeled/programed as A/C Fail notification. Each power supply in consecutive panels shall also be wired, labeled and programed for A/C fail notification.
- 6.02 Panel and any network device server will be wired through a dedicated power supply with battery backup. Batteries must be installed upon final completion of installation.
- 6.03 Power to access control panels is to be hardwired utilizing EMT or rigid conduit in accordance with section 6.10 of this specification.
- 6.04 Card readers will be mounted within a two foot (24") radius of the door to which it is assigned, any deviation must be specifically requested in writing with an explanation of the necessity to place the card reader farther away than two feet (24").
- 6.05 A circuit from Fire Alarm panel must be installed to each Lock Power Distribution panel. In applications that include mag-locks, contractor will connect to a Fire Alarm circuit provided at the controller backboard by the Fire Alarm Contractor.

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- 6.06 Access control panels are to be installed in network or electrical closets as approved by the USU Access Control Shop or Planning and Design. All panels and boards must be installed in NEMA 4 enclosure(s) (within the electrical closet) that are of sufficient size and orientation to include all card access system components. All enclosures must be lockable and located in a manner that the enclosures will be accessible by maintenance personnel.
- 6.07 Each panel will be labeled accordance with USU standards. The label for each panel will be posted on the interior of the panel door.
- 6.08 Each panel will have a list of readers (university door numbers) connected to it located on the inside cover, or clearly labeled on the wiring for each door.
- 6.09 Installation of network connection drop is to be coordinated through USU IT office. Drop termination is to be inside of access control panel to prevent tampering. The MAC address and IP address for each panel/device will be posted on the inside panel door. All panel boxes are to have functioning locking hardware with keys. Keys will be submitted to the USU Physical Security Office or Locksmith Shop upon completion of install.
- 6.10 Wiring and Conduit
- 6.10.1 All communication and power to the individual doors will come from the access control panel location. An exception to this will be made when specific hardware requires a localized power supply or POE.
- 6.10.2 A trunk conduit/raceway should be established in common hallways to accommodate multiple 'home run' composite cables.
- 6.10.3 All wiring runs will be in a star configuration or home run from RM board to the panel box. **Daisy-Chain reader communication loops are not permitted.** Each door will have an RM Reader board for inputs/outputs and future expansion of door devices.
- 6.10.4 All devices must be hardwired. Unless approved by the USU Physical Security Office or Locksmith Shop, all wiring must be installed in Electrical Metallic Tubing, cable tray or rigid conduit. Conduit must be installed square and plumb to building structure in a manner consistent with good

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workmanship. Installation of conduit must be in accordance with the National Electrical Code and USU written standards for 110-120 VAC circuits. NOTE: When approved by the USU Physical Security Office or Locksmith Shop, only plenum rated low cable wiring may be run without conduit provided the cable is run square and plumb with the building structure. Plenum cable must be supported by an USU approved means on 4 ft. centers.

- 6.10.5 Power to the access control panel power supplies will be concealed hard wired, on a dedicated circuit with a proper ground. This circuit will be on emergency power where available.
- 6.10.6 All wire terminations in the panel and field devices must be clearly labeled. All labels must be manufactured for low voltage wiring and the information on the labels must include both source and designation terminal information.
 - A. All wires are to include the following information
 - i A number to correspond to what panel wire is connected to
 - ii A number on the wire to correspond to panel schedule
 - iii A location of final destination of the wire termination in relation to true north
 - iv Door number assigned to the door as designated by the card reader addressed and which in turn will be assigned in the software and designated on the door by the assigned number (label)
 - B. All panels are to include a panel schedule which will include the following information
 - i. The terminal block number at which the wire is terminated followed by the above mentioned information
- 6.10.7 Wiring which contacts metal edges will be buffered with bushings or rubber grommets to prevent damaged wires and shorts. Examples include wiring meeting conduit ends, panel and junction box holes.
- 6.10.8 Conduit must be strapped within 24" of junction boxes.
- 6.10.9 All junction boxes must be covered and labeled with destination and source. Contents shall be included on the label

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when appropriate (ex. junction box with relay for handicap button).

- 6.10.10 Gang boxes must match device being mounted (ex. double gang reader mounted on a double gang box).
- 6.10.11 Setscrew conduit fittings are allowed where water tight fittings are not necessary. Compression fitting must be used in all areas outdoors or in an area that has the possibility of water intrusion. Compression fittings are recommended in conduit runs that are greater than 80 feet.
- 6.10.12 Maximum usage for conduit will be 40% of total square inch internal capacity. Minimum conduit size is $\frac{3}{4}$ inch.
- 6.10.13 The card access-conduit system and cabling installed must be distinct and separate from the wire way/conduit system housing voice/data cables in campus buildings. Exception to this is POE cabling may be run concurrently.
- 6.10.14 Connections to devices must be secured, so that no cords may be easily disconnected from the devices and no cords are left exposed to unauthorized tampering.
- 6.10.15 Wiring will be done in strict accordance with manufacturer's guidelines exceptions must be approved by the USU Electrical Shop or IT physical infrastructure.
- 6.10.16 Low voltage shields will be terminated in accordance with manufacturer's guidelines. Should "noise" in the building ground reference interfere with or prevent the device from operating properly, the Contractor will install a dedicated ground for the card access system in that particular building. FLOATING SHIELDS WILL NOT BE ALLOWED.
- 6.10.17 Isolation relays will be used for all outputs to field devices.
- 6.10.18 Field wiring must be one piece from source terminal to destination terminal. Splices in field wiring will NOT be allowed.
- 6.10.19 The construction procedure for wiring routed thru door mullion will be submitted to USU for approval. All wiring in and around door mold will be done in a good workmanship type manner to

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minimize the visual impact on the appearance of the door. All holes drilled in the door mullion will be concealed using plastic manufactured hole caps. The color of the hole-caps will be suitable for the application.

- 6.10.20 All externally mounted hardware will be installed in a manner consistent with good workmanship and match the existing color and material whenever possible.

6.11 Door Switches

6.11.1 Door switches will be surface mounted or flush mounted on the opposing side of the door from the hinges. The switch will be mounted on the top of the door and will be no further than three inches from the interior portion of the doorframe.

6.11.2 Surface mount switches will have armored cable between the switch and the cable entrance hole in the door. Affix armored cabling firmly within the conduit or electrical box i.e. (cable clamp) as to prevent tampering of DPS wires.

6.11.3 Surface mount switches will have tamper resistant screws to attach switch to door and doorframe.

6.11.4 A screw-locking adhesive such as 'Loctite' thread locker will be used to secure all screws. 'Loctite' thread locker #222MS or #242 only

6.11.5 Flush mount switches are to be mounted in the top portion (header) of the doorframe and in the adjoining portion of the door.

6.11.6 The holes for flush mounted door switches must be drilled the exact size for the switch being used. A tight friction fit must be achieved.

6.11.7 No hinge mounted door contacts are to be used.

6.12 Door Hardware

6.12.1 Door hardware will be fail-secure with mechanical manual egress from the secured side. Hardware shall also match USU

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standard Sergeant or Schlage format within electronic locking systems.

- 6.12.2 All electronic hardware will be 24V and powered via independent 24V power supply for door hardware.
- 6.12.3 Door switching and power will reside in the access control panel location.
- 6.12.4 Not Used
- 6.12.5 Power supply will be connected to building emergency circuits when possible.
- 6.12.6 Power supplies will have a 7amp hour battery backup or higher.
- 6.12.7 The location of power supplies when located away from access control panel will be fully documented via As-Built drawings.
- 6.12.8 No more than 2 doors with exit devices per independent 24v power supply.
- 6.12.9 The REX signals egress from the secured side. Unlocking will be a manual mechanical function following valid request to exit. The REX will electronically unlock hardware ONLY when used in conjunction with a handicap pushbutton/opener or magnetic locking hardware. Where possible a REX will be used with electrified handles and crash bars.
- 6.12.10 Door hardware is to be set so that 'dogging' functionality is not possible.
- 6.12.11 Door hardware will have blank cylinder or key override and capable of accepting Schlage, or Sargent (where appropriate) lock full size interchangeable core.
- 6.12.12 Door hardware power supplies will have a locking junction box

7.0 Plans

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7.01 Drawings and Specifications for the Access Control System shall have dedicated detail drawings in the construction plans. The detail drawings shall be provided electronically in a version of AutoCAD acceptable to the University on CD and shall include;

- a) a floor plan with a separate security layer (for each level) indicating the location and door label for all field devices,
- b) a detailed wiring plan showing termination to termination wiring,
- c) a complete set of manuals for all manufactured items provided as part of this project, d) control panel elevation,
- e) power wiring and conduit elevations,
- f) Security door matrix which includes door number, door size, hardware set/schedule, location, and drawing no. See following example;

Item#	Door #	Sheet#	Floor#	Swing Direction	Size	Existing Hardware	Hardware Schedule Heading#	Fire System Connection	Alternates	Comments
1	E100	E-10	B	Unprotected	Single	exit device	#2	Requirec	21 & 22	
2	E102	E-10	B	Unprotected	Double	exit device, mullion	#8		21	Biometric reader
3	G200	E-10	G	Unprotected	Double	exit device, mullion	#8		21	stair door
4	G201	E-10	G	Unprotected	Single	n/a	#7C	Requirec	21	existing hardware
5	102A	E-11	1	Unprotected	Single	n/a	#7C	Requirec	22	new hardware -doors need to be ccred
6	105B	E-11	1	Unprotected	Single	n/a	#70B		21 & 22	new hardware -doors need to be ccred
7	201	E-11	2	Protected	Single	n/a	#70B	Requirec	22	new hardware -doors need to be ccred
8	E2C2	E-11	2	Unprotected	Double	n/a	#8		22	new hardware -doors need to be ccred

- g) Door detail and elevation for each security door.
- h) Detailed control wiring diagrams for all readers and devices
- i) USU will review the plans for compliance to standards and functional requirements. When approved, USU will return a signed copy of the plans to the contractor for construction.

END OF SECTION