



ADDENDUM

JLG 17153 CHI Mental Health

RE: Addendum #2

Issued: February 9, 2026

ADDENDUM #: 2

NOTICE TO CONTRACTORS

This Addendum is prepared to supplement information presented in the Drawings and Project Manual dated January 19, 2026 for the above referenced project. All additions, changes, omissions and conditions listed herein shall become an integral part of the Contract Documents.

APPROVED EQUALS

The following products have been approved for use on this project. All approved products must still meet all product specifications as listed in the product specification section.

Section	Material ID or description	Basis of Design	Approved Equal
09 5100 ACOUSTICAL CEILINGS	ACT-1 ACOUSTICAL CEILING TILE	ARMSTRONG ULTIMA LAY-IN REGULAR 2X2, 15/16" GRID	USG MARS #86785, USG DONN DX GRID

SPECIFICATIONS

- Section 08 7100 – Door Hardware is added to the Specifications.
 - Hardware Set 03 has been updated as per the attached spec section.
 - Hardware Set 07 has been updated as per the attached spec section.

DRAWINGS

- G112 – FGI GUIDELINES REVIEW PLAN & SECURITY PROVISIONS PLAN
 - The security level at the Outpatient Suite has been updated.
- A201 – FLOOR PLAN & DIMENSION PLAN
 - At General Notes – Floor Plan, note C has been expanded for references to the partition types.
- A211 & A212 – ENLARGED PLANS AND ELEVATIONS
 - The General Notes – Floor Plan has been added to each sheet.
- A220 – DOOR SCHEDULE, DOOR/FRAME TYPES, DOOR DETAILS
 - The hardware group on opening T1213 is changed to 17.
- A601 – FIRST FLOOR FINISH PLAN
 - The location for the PT-5 accent paint is shown at the Patient Rooms.

OTHER

See attached narrative from CMTA Engineers.

ATTACHMENTS

Specification Sections 08 7100, 27 5223, 28 1643, 28 2300

Drawings G112, A201, A211, A212, A220, M502, E000, E201, E301

END OF ADDENDUM

ADDENDUM – #2 (MECHANICAL)

Date	02-09-26
Project #	2024247
Project Name	CHI Mental Health Remodel
Project Location	Williston, ND

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Drawings

ITEM NO. 1 M502 – MECHANICAL SCHEDULES

- A. Updated frame type on all security diffusers in GRD schedule.

END OF ADDENDUM

ADDENDUM – #2 (ELECTRICAL)

Date	02-09-26
Project #	2024247
Project Name	CHI Mental Health Remodel
Project Location	Williston, ND

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Specifications

ITEM NO. 1 Section 27 52 23 – Nurse Call/Code Blue Systems

- A. Add section in its entirety.

ITEM NO. 2 Section 28 16 43 – Access Control System

- A. Add section in its entirety.

ITEM NO. 3 Section 28 23 00 – Video Surveillance System

- A. Replace section 28 23 00 with the new revised attached section in its entirety.

Drawings

ITEM NO. 4 E201 - FIRST FLOOR PLAN - LIGHTING & POWER

- A. Add 120V connection to new Access Control Panel and nurse call panel.

ITEM NO. 5 E301 – FIRST FLOOR PLAN – TELECOM AND ELECT SAFETY AND SECURITY

- A. Add Access Control Panel in existing data closet. See new note.
- B. Add Nurse Call Control Panel in existing data closet. See new note.
- C. Add 2 Data to Access Control Panel. See new note.
- D. Revise keynotes S2 and S3 to reflect iPhone product numbers.
- E. Revised camera and device locations/details and quantities. Added camera type descriptions to match the specification section 28 23 00.
- F. Added General Note regarding dedicated patch panel for camera wiring.

END OF ADDENDUM

SECTION 08 71 00
DOOR HARDWARE



PART 1 - GENERAL

1.1 CONDITIONS

- A. Conditions of the contract (General and Supplementary Conditions) and Division 01 - General Requirements, govern the work of this section.
- B. This section includes all material and related service necessary to furnish all finish hardware indicated on the drawings or specified herein.
- C. Furnish UL listed hardware for all labeled and 20 min. openings in conformance with the requirements for the class of opening scheduled. Underwriters' requirements shall have precedence over specification where conflicts exist.
- D. All work shall be in accordance with all applicable state and local building codes. Code requirements shall have precedence over this specification where conflicts exist.

1.2 WORK INCLUDED

- A. This section includes the following:
 - 1. Furnish door hardware specified herein, listed in the hardware schedule, and/or required by the drawings.
 - 2. Cylinders for Aluminum Doors
 - 3. Thresholds and Weather-stripping (Aluminum frame seals to be provided by aluminum door supplier)
 - 4. Electro-Mechanical Devices
- B. Where items of hardware are not definitely or correctly specified and are required for the intended service, such omission, error or other discrepancy should be directed to the Architect prior to the bid date for clarification by addendum. Otherwise furnish such items in the type and quantity established by this specification for the appropriate service intended.

1.3 RELATED WORK IN OTHER SECTIONS

- A. This section includes coordination with related work in the following sections:
 - 1. Division 06 Section "Finish Carpentry".
 - 2. Division 08 Section "Hollow Metal Doors and Frames".
 - 3. Division 08 Section "Wood Doors"
 - 4. Division 08 Section "Aluminum Entrances and Storefronts"
 - 5. Division 26 Section "Electrical"
 - 6. Division 28 Section "Electronic Safety and Security".

1.4 REFERENCES

- A. Publications of agencies and organizations listed below form a part of this specification section to the extent referenced.
 - 1. DHI - Recommended Locations for Builders' Hardware.
 - 2. NFPA 80 - Standards for Fire Doors and Windows.
 - 3. NFPA 101 - Code for Safety to Life from Fire in Buildings and Structures.
 - 4. UL - Building Material Directory.
 - 5. DHI - Door and Hardware Institute
 - 6. WHI - Warnock Hersey
 - 7. BHMA - Builders Hardware Manufacturers Association
 - 8. ANSI – American National Standards Institute
 - 9. IBC- International Building Code (as adopted and amended by local building code)

1.5 SUBMITTALS

- A. Within ten days after award of contract, submit detailed hardware schedule in quantities as required by Division 01 - General Requirements.

- B. Schedule format shall be consistent with recommendations for a vertical format as set forth in the Door & Hardware Institute's (DHI) publication "Sequence and Format for the Hardware Schedule". Hardware sets shall be consolidated to group multiple door openings which share similar hardware requirements. Schedule shall include the following information:
1. Door number, location, size, handing, and rating.
 2. Door and frame material, handing.
 3. Degree of swing.
 4. Manufacturer
 5. Product name and catalog number
 6. Function, type and style
 7. Size and finish of each item
 8. Mounting heights
 9. Explanation of abbreviations, symbols, etc.
 10. Numerical door index, indicating the hardware set/ group number for each door.
- C. When universal-type door closers are to be provided, the schedule shall indicate the application method to be used for installation at each door: (regular arm, parallel arm, or top jamb).
- D. The schedule will be prepared under the direct supervision of a certified Architectural Hardware Consultant (AHC), or certified Door Hardware Consultant (DHC) employed by the hardware distributor. The hardware schedule shall be signed and embossed or stamped with the DHI certification seal of the supervising AHC or DHC. The supervising AHC or DHC shall attend any meetings related to the project when requested by the architect.
- E. Check the specified hardware for suitability and adaptability to the details and surrounding conditions.
- F. Review drawings from related trades as required to verify compatibility with specified hardware. Indicate unsuitable or incompatible items, and proposed substitutions in the hardware schedule.
- G. Provide documentation for all hardware to be furnished on labeled fire doors indicating compliance with positive pressure fire testing UL 10C.
- H. Furnish manufacturers' catalog data for each item of hardware in quantities as required by Division 01 - General Requirements.
- I. Submit a sample of each type of hardware requested by the architect. Samples shall be of the same finish, style, and function as specified herein. Tag each sample with its permanent location so that it may be used in the final work.
- J. Furnish with first submittal, a list of required lead times for all hardware items.
- K. After final approved schedule is returned, transmit corrected copies for distribution and field use in quantities as required by Division 01 - General Requirements.
- L. Furnish approved hardware schedules, template lists, and pertinent templates as requested by related trades.
- M. Furnish necessary diagrams, schematics, voltage and amperage requirements for all electro-mechanical devices or systems as required by related trades. Wiring diagrams shall be opening-specific and include both a riser diagram and point to point diagram showing all wiring terminations.
- N. After receipt of approved hardware schedule, Hardware supplier shall initiate a meeting including the owner's representative to determine keying requirements. Upon completion of initial key meeting, hardware supplier shall prepare a proposed key schedule with symbols and abbreviations as set forth in the door and hardware institute's publication "Keying Procedures, Systems, and Nomenclature". Submit copies of owner approved key schedule for review and field use in quantities as required by Division 01 - General Requirements. Wiring diagrams shall be included in final submittals transmitted for distribution of field use.

1.6 QUALITY ASSURANCE

- A. Manufacturers and model numbers listed are to establish a standard of function and quality. Similar items by approved manufacturers that are equal in design, function, and quality may be considered for prior approval of the architect, provided the required data and physical samples are submitted for approval as set forth in Division 01 - General Requirements.
- B. Where indicated in this specification, products shall be independently certified by ANSI for compliance with relevant ANSI/BHMA standards A156.1 - A156.36 – Standards for Hardware and Specialties. All products shall meet or exceed certification requirements for the respective grade indicated within this specification. Supplier shall provide evidence of certification when requested by the architect.
- C. Obtain each type of hardware (hinges, latch & locksets, exit devices, closers, etc.) from a single manufacturer, although several may be indicated as offering products complying with requirements.
- D. Electrical drawings and electrical specifications are based on the specific electrified hardware components specified in hardware sets. When electronic hardware components other than those indicated in hardware sets are provided, the supplier shall be responsible for all costs incurred by the design team and their consultants to review and revise electrical drawings and electrical specifications. Supplier shall also be responsible for any additional costs associated with required changes in related equipment, materials, installation, or final hook up to ensure the system will operate and function as indicated in the construction documents, including hardware set operational / functional descriptions.
- E. All hardware items shall be manufactured no earlier than 6 months prior to delivery to site.
- F. Installation of hardware shall be installed or directly supervised and inspected by a skilled installer certified by the manufacturer of locksets, door closers, and exit devices used on the project, or with not less than 3 years' experience in successful completion of projects similar in size and scope.
- G. Provide hardware for all labeled fire doors, which complies with positive pressure fire testing UL 10C.
- H. Comply with all applicable provisions of the standards referenced within section 1.4 of this specification.
- I. Hardware supplier shall participate when requested to meet with the contractor and or architect to inspect any claim for incorrect or non-functioning materials; following such inspection, the hardware supplier shall provide a written statement documenting the cause and proposed remedy for any unresolved items.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Hardware supplier shall deliver hardware to the job site unless otherwise specified.
- B. All hardware shall be delivered in manufacturers' original cartons and shall be clearly marked with set and door number.
- C. Contractor shall receive all hardware and provide secure and proper protection of all hardware items to avoid delays caused by lost or damaged hardware. Contractor shall report shortages to the Architect and hardware supplier immediately after receiving material at the job site.
- D. Coordinate with related trades under the direction of the contractor for delivery of hardware items necessary for factory installation.

1.8 PRE-INSTALLATION MEETING

- A. Schedule a hardware pre-installation meeting on site to review and discuss the installation of continuous hinges, locksets, door closers, exit devices, overhead stops, and electromechanical door hardware.

- B. Meeting attendees shall be notified 7 days in advance and shall include: Architect, Contractor, Door Hardware Installers (including low voltage hardware), Manufacturer's representatives for above hardware items, and any other affected subcontractors or suppliers.
- C. All attendees shall be prepared to distribute installation manuals, hardware schedules, templates, and physical hardware samples.

1.9 WARRANTY

- A. All hardware items shall be warranted against defects in material and workmanship as set forth in Division 01 - General Requirements.
- B. Repair, replace, or otherwise correct deficient materials and workmanship without additional cost to owner.

PART 2 - PRODUCTS

2.1 FASTENERS

- A. All exposed fasteners shall be Phillips head or as otherwise specified and shall match the finish of adjacent hardware. All fasteners exposed to the weather shall be non-ferrous or stainless steel. Furnish correct fasteners to accommodate surrounding conditions.
- B. Coordinate required reinforcements for doors and frames. Seek architect approval prior to furnishing through-bolts. Furnish through-bolts as required for materials not readily reinforced.

2.2 BUTT HINGES

- A. Acceptable manufacturers and respective catalog numbers:

	<u>Ives</u>
1. Standard Weight, Plain Bearing	5PB1
2. Standard Weight, Ball Bearing	5BB1
3. Standard Weight, Ball Bearing, Non-Ferrous	5BB1
4. Heavy Weight, Ball Bearing	5BB1HW
5. Heavy Weight, Ball Bearing, Non-Ferrous	5BB1HW
- B. Hinges shall be independently certified by ANSI for compliance with ANSI A156.1 (2006). Hinges shall meet or exceed the following ANSI grade requirements as indicated below:
 - 1. Standard Weight, Plain Bearing Hinges: Grade 3
 - 2. Standard Weight, 2 Ball Bearing Hinges: Grade 2
 - 3. Heavy Weight, 4 Ball Bearing Hinges: Grade 1
- C. Unless otherwise specified, furnish the following hinge quantities for each door leaf.
 - 1. 3 hinges for doors up to 90 inches.
 - 2. 1 additional hinge for every 30 inches on doors over 90 inches.
 - 3. 4 hinges for Dutch door applications.
- D. Unless otherwise specified, top and bottom hinges shall be located as specified in Division 08 Section "Hollow Metal Doors and Frames". Intermediate hinges shall be located equidistant from others.
- E. Unless otherwise specified, furnish hinge weight and type as follows:
 - 1. Standard-weight plain-bearing hinges or ball-bearing hinges for interior openings up to 36 inches wide without a door closer.
 - 2. Standard weight ball bearing hinges for interior openings 36 to 40 inches wide without a door closer and for interior openings up to 40 inches wide with a door closer.
 - 3. Heavyweight, ball bearing hinges for interior openings over 40 inches wide with a door closer and for all interior vestibule doors.
 - 4. Heavyweight stainless steel ball bearing hinges for all exterior openings unless otherwise listed in groups.
 - 5. Heavyweight 5" height ball bearing hinges for all doors that have an automatic operator.

- F. Unless otherwise specified, furnish hinges for exterior doors, fabricated from brass, bronze, or stainless steel. Unless otherwise specified, hinges for interior doors may be fabricated from steel.
- G. Unless otherwise specified, furnish hinges in the following sizes:
 - 1. 5" x 5" 2-1/4" thick doors
 - 2. 4-1/2" x 4-1/2" 1-3/4" thick doors
 - 3. 3-1/2" x 3-1/2" 1-3/8" thick doors
- H. Furnish hinges with width to accommodate trim and allow for 180-degree swing.
- I. Unless otherwise specified, furnish hinges with flat button tips with non-rising pins. Furnish non-removable pin (NRP) hinges at all reverse-handed doors that are furnished with lockable hardware.
- J. Unless otherwise specified, furnish all hinges to template standards.

2.3 CONTINUOUS DOUBLE-ACTING HINGES

- A. Acceptable manufacturers and respective catalog numbers:

	<u>PEM</u>
1. Double-Swing Hinge	DSH1000
- B. Hinges shall be independently certified by ANSI for compliance with ANSI A156.26, Grade 1 (2012).
- C. Continuous hinges shall be double-acting geared type.
- D. Hinge shall be non-handed with factory-drilled hole pattern.
- E. Provide machine screws for doors which have been reinforced to accept machine screws.

2.4 FLUSH BOLTS AND DUST PROOF STRIKES

- A. Acceptable manufacturers and respective catalog numbers:

	<u>Ives</u>
1. Dust Proof Strike	DP2
2. Auto Flush Bolt (Metal Door)	FB31P
3. Auto Flush Bolt (Wood Door)	FB41P
- B. Unless otherwise specified, provide 12" rods for manual flush bolts for door 7'6" or less, 24" top rods for doors over 7'6" to 8'6".
- C. Unless otherwise specified, provide doors over 8'6" with automatic top bolts.
- D. Provide automatic flush bolts where required to maintain fire door listing and or egress requirements on pairs of doors.
- E. All flush-bolt applications shall be UL listed to be installed with top flush-bolt only. Provide auxiliary fire bolt as required for fire rated openings where less bottom bolt has been specified.
- F. Provide all bottom flush bolts with non-locking dust proof strikes.

2.5 LOCKS AND LATCHES

- A. Acceptable manufacturers and respective catalog numbers:

	<u>Schlage</u>
1. Grade 1 Mortise	L Series
2. Grade 1 Cylindrical	ND Series
3. Small Case Mortise Deadbolt	L400 Series
- A. Bored locks shall be independently certified by ANSI for compliance with ANSI A156.2 (2011).
- B. Mortise locks shall be independently certified by ANSI for compliance with ANSI A156.13 (2012).
- C. Provide HSLR anti-ligature trim as noted in hardware sets.

- D. Provide levers to match hardware in existing facility at remaining hardware sets.
- E. Unless otherwise specified, all locks and latches have:
 1. 2-3/4" Backset
 2. 1/2" minimum throw latchbolt
 3. 1" throw deadbolt
 4. ANSI A115.2 strikes
- F. Provide guarded latch bolts for all locksets and latch bolts with throw to maintain fire rating of both single and paired door assemblies.
- G. Provide strike with lip length adequate to clear surrounding trim.
- H. Provide wrought boxes for strikes at inactive doors, wood frames, and metal frames without integral mortar covers.
- I. Provide temperature control modules for electrified locks to limit transfer of heat to door lever.

2.6 CLOSERS

- A. Acceptable manufacturers and respective catalog numbers:
 - LCN
 - 1. 4040XP
 - 2. 4511T (High Security)
 - 3. 2210 (Concealed High Security)
 - 4. 6030 (Concealed double-acting)
- B. Door closers shall be independently certified by ANSI for compliance with ANSI A156.4, Grade 1 (2013).
- C. Obtain door closers from a single manufacturer, although several may be indicated as offering products complying with requirements.
- D. Provide extra heavy-duty arm (EDA / HD) when closer is to be installed using parallel arm mounting.
- E. Hardware supplier shall coordinate with related trades to ensure aluminum frame profiles will accommodate specified door closers.
- F. Provide "SPECIAL TEMPLATE - #1728 / #0723" closer arms as required to accommodate aluminum frame head details with "non-structural stops" when closers will be required to utilize parallel arm mounting positions. Frame mounting shoe shall be shortened, and pivot hub height shall be increased to permit frame mounted shoe to be positioned on frame rabbit (rather than the frame stop), and behind the frame stop rather than on top of the frame stop. Contact LCN Door Closers at: 877-671-7011 for pricing and design assistance.
- G. Closers shall use high strength cast iron cylinders, forged main arms, and one-piece forged steel pistons.
- H. Closers shall utilize a stable fluid withstanding temperature range of +120deg F to -30deg F without seasonal adjustment of closer speed to properly close the door. Closers for fire-rated doors shall be provided with temperature stabilizing fluid that complies with standards UL10C.
- I. Unless otherwise specified, all door closers shall have full covers and separate adjusting valves for sweeps, latch, and backcheck.
- J. Provide closers for all labeled doors. Provide closer series and type consistent with other closers for similar doors specified elsewhere on the project.
- K. Provide closers with adjustable spring power. Size closers to ensure exterior and fire rated doors will consistently close and latch doors under existing conditions. Size all other door closers to allow for reduced opening force not to exceed 5 lbs.

- L. Install closers on the room side of corridor doors, stair side of stairways and interior side of exterior doors.
- M. Closers shall be furnished with all mounting brackets and cover plates as required by door and frame conditions, and by adjacent hardware.
- N. Door closers shall be provided with a powder-coat finish to provide superior protection against the effects of weathering. Powder coat finish shall successfully pass a 100-hour salt spray test.
- O. Closers with pressure relief valve (PRV) shall not be acceptable.

2.7 KICK PLATES AND MOP PLATES

- A. Furnish protective plates as specified in hardware groups.
- B. Where specified, provide 10" kick plates, 34" armor plates, and 4" mop plates. Unless otherwise specified, metal protective plates shall be .050" thick; plastic plates shall be 1/8" thick.
- C. Protective plates shall be 2" less door width, or 1" less door width at pairs. All protective plates shall be beveled on 4 sides and counter sunk.
- D. Protection plates over 16" shall not be provided for labeled doors unless specifically approved by door manufacturers listing. When protection plates over 16" are provided for labeled doors, the plate shall be labeled.
- E. Where specified, provide surface mounted door edges. Edges shall butt to protective plates. Provide edges with cutouts as required adjacent hardware.
- F. Adjust dimensions of protection plates to accommodate stile and rail dimensions, lite and louver cutouts, and adjacent hardware. Where required by adjacent hardware, protection plates shall be factory drilled for cylinders or other mortised hardware.

2.8 OVERHEAD STOPS

- A. Acceptable manufacturers and respective catalog numbers:

	<u>Glynn-Johnson</u>
1. Heavy Duty Surface Mount	GJ900 Series
2. Heavy Duty Concealed Mount	GJ100 Series
- B. Unless otherwise specified, furnish GJ900 series overhead stop for hollow metal or 1-3/4" solid core doors equipped with regular arm surface type closers that swing more than 140 degrees before striking a wall, for hollow metal or 1-3/4" solid core doors that open against equipment, casework, sidelights, or other objects that would make wall bumpers inappropriate, and as specified in hardware groups.
- C. Furnish sex bolt attachments for wood and mineral core doors unless doors are supplied with proper reinforcing blocks.
- D. Provide special stop only ("SE" suffix) overhead stops when used in conjunction with electronic hold open closers.
- E. Do not provide holder function for labeled doors.

2.9 WALL STOPS AND HOLDERS

- A. Acceptable manufacturers and respective catalog numbers:

	<u>Ives</u>	<u>Kingsway</u>
1. Wrought Convex Wall Stop	WS406CVX	
2. Wrought Concave Wall Stop	WS406CCV	
3. Anti-ligature Wall Stop		KG182
- B. Furnish a stop or holder for all doors.
- C. Provide concave style wall stop at all adjacent integral push button locks; provide convex style wall stop at all other locations.

- D. Where wall stops are not applicable, furnish overhead stops.
- E. Furnish floor stops only where specified in hardware sets.
- F. Do not provide holder function for labeled doors.

2.10 WEATHERSTRIP, GASKETING

- A. Acceptable manufacturers and respective catalog numbers:

	<u>Zero</u>
1. Weatherstrip	429
2. Adhesive Gasket	188 ZAG
3. Sweep w/ drip	8198
4. Drip Cap	142
- B. Weatherstrip and gasketing shall be independently certified by ANSI for compliance with ANSI A156.22 (2005).
- C. Where specified in the hardware groups, furnish the above products unless otherwise detailed in groups.
- D. Provide weatherstripping all exterior doors and where specified in hardware sets.
- E. Provide intumescent and other required edge sealing systems as required by individual fire door listings to comply with positive pressure standards UL 10C.
- F. Provide Zero 188 smoke gaskets at all fire rated doors and smoke and draft control assemblies.
- G. Provide gasketing for all meeting edges on pairs of fire doors. Gasketing shall be compatible with astragal design provided by door supplier as required for specific fire door listings.

2.11 THRESHOLDS

- A. Acceptable manufacturers and respective catalog numbers:

	<u>Zero</u>
1. Saddle Threshold	8655
2. Thermal Break Saddle Threshold	625
3. Half Saddle Threshold	1675
- A. Thresholds shall be independently certified by ANSI for compliance with ANSI A156.21 (2001).
- B. Hardware supplier shall verify finish floor conditions and provide proper threshold as required to provide a smooth transition between finished floor surfaces.
- C. Unless otherwise specified or detailed, provide threshold as follows:
 - 1. Provide Zero 8655 or similar saddle threshold for exterior openings with finished floor height transition of ¼" or less.
 - 2. Provide Zero 1675 or similar half-saddle threshold for exterior openings with finished floor height transition of ¼" to ½".

2.12 ELECTRIC STRIKES

- A. Acceptable manufacturers and respective catalog numbers:

	<u>Von Duprin</u>	<u>HES</u>
1. Type 1	6200 Series	4500 Series
- B. Provide electric strikes compatible with the type of locks shown at each opening where specified.
- C. Electric strikes shall be UL listed as Burglary-Resistant Electric Door Strikes and where required shall be UL listed as Electric Strike for Fire Doors.
- D. Provide transformers and rectifiers for each strike as required. Verify voltage with electrical contractor.

2.13 DOOR POSITION SWITCHES

A. Acceptable manufacturers and respective catalog numbers:

	<u>Schlage Electronics</u>	<u>GEI</u>	<u>Sargent</u>
1. Concealed	679 Series	1076W	3287

2.14 FINISHES AND BASE MATERIALS

A. Unless otherwise indicated in the hardware groups or herein, hardware finishes shall be applied over base metals as specified in the following finish schedule:

<u>HARDWARE ITEM</u>	<u>BHMA FINISH</u>
1. Butt Hinges: Exterior	630 (US32D - Satin Stainless Steel)
2. Butt Hinges: Interior	652 (US26D - Satin Chromium)
3. Continuous Hinges	630 (US32D - Satin Stainless Steel)
4. Flush Bolts	626 (US26D - Satin Chromium)
5. Exit Devices	626 (US26D - Satin Chromium)
6. Locks and Latches	626 (US26D - Satin Chromium)
7. Pulls and Push Plates/Bars	630 (US32D - Satin Stainless Steel)
8. Coordinators	600 (Prime painted or mill alum.)
9. Closers	689 (Powder Coat Aluminum)
10. Protective Plates	630 (US32D - Satin Stainless Steel)
11. Overhead Stops	630 (US32D - Satin Stainless Steel)
12. Wall Stops	630 (US32D - Satin Stainless Steel)
13. Thresholds	719 (Mill Aluminum)
14. Weather-strip, Sweeps Drip Caps	Aluminum Anodized
15. Miscellaneous	626 (US26D - Satin Chromium)

2.15 KEYING

- A. Provide all cylinders in keyways as required to accommodate Owners existing key system.
- B. All locks under this section shall be keyed as directed by the owner to an existing Master Key System.
- C. Furnish a total of 2 keys per cylinder. Actual cut keys to be determined by owner.
- D. Master keys, control keys, and change keys shall be delivered by registered mail to the owner. Construction keys shall be delivered to the contractor.

2.16 KEY CABINETS

A. Acceptable manufacturers and respective catalog numbers:

	<u>Lund</u>	<u>Key Control</u>	<u>Telkee</u>
1.	1200-1205 AA	M228-2480	RWC-AWC

- B. Furnish 1 each model 1200 or 1205 AA key cabinet with a capacity 1.5 times the number of key sets.
- C. Provide one key cabinet with at least one hook for each key set, plus additional hooks for 50% expansion.
- D. Furnish key cabinet complete with cam lock, permanent key tags, and change key cards.
- E. Hardware supplier shall prepare all key change index records, tag all keys and place permanent file keys in cabinet.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Prior to installation of hardware, installer shall examine door frame installation to ensure frames have been set square and plumb. Installer shall examine doors, door frames, and adjacent wall, floor, and ceiling for conditions, which would adversely affect proper operation and function of

door assemblies. Do not proceed with hardware installation until such deficiencies have been corrected.

3.2 INSTALLATION

- A. Before hardware installation, general contractor/construction manager shall coordinate a hardware installation seminar with a 1 week notice to all parties involved. The seminar is to be conducted on the installation of hardware, specifically of locksets, closers, exit devices, continuous hinges and overhead stops. Manufacturer's representative of the above products to present seminar. Seminar to be held at the job site and attended by installers of hardware (including low voltage hardware) for aluminum, hollow metal and wood doors. Training to include use of installation manuals, hardware schedule, templates and physical products samples.
- B. Provide blocking or reinforcement for all hardware mounted to drywall construction, including wall mounted door stops and holders.
- C. Shim doors as required to maintain proper operating clearance between door and frame.
- D. Install all hardware in accordance with the approved hardware schedule and manufacturer's instructions for installation and adjustment.
- E. Set units level, plumb and true to the line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.
- F. Drill and countersink units which are not factory-prepared for anchorage fasteners. Space fasteners and anchors in accord with industry standards.
- G. Drill appropriate size pilot holes for all hardware attached to wood doors and frames.
- H. Unless otherwise specified, locate all hardware in accordance with the recommended locations for builders hardware for standard doors and frames as published by the Door and Hardware Institute.
- I. Use only fasteners supplied by or approved by the manufacturer for each respective item of hardware.
- J. Conceal push and pull bar fasteners where possible. Do not install through bolts through push plates.
- K. Install hardware on UL labeled openings in accordance with manufacturer's requirements to maintain the label.
- L. Apply self-adhesive gasketing on frame stop at head & latch side and on rabbet of frame at hinge side.
- M. Install hardware in accordance with supplemental "S" label instructions on all fire rated openings.
- N. Install wall stops to contact lever handles or pulls. Do not mount wall stops on casework, or equipment.
- O. Where necessary, adjust doors and hardware as required to eliminate binding between strike and latchbolt. Doors should not rattle.
- P. Overhead stops used in conjunction with electrified hold open closers shall be templated and installed to coincide with engagement of closer hold open position.
- Q. Install door closers on corridor side of lobby doors, room side of corridor doors, and stair side of stairways.
- R. Adjust spring power of door closers to the minimum force required to ensure exterior and fire rated doors will consistently close and latch doors under existing conditions. Adjust all other door closers to ensure opening force does not exceed 5 lbs.

- S. Adjust "sweep", "latch", & "back check" valves on all door closers to properly control door throughout the opening and closing cycle. Adjust total closing speed as required to comply with all applicable state and local building codes.
- T. Install "hardware compatible" (bar stock) type weatherstripping continuously for an uninterrupted seal. Adjust templating for parallel-arm door closers, exit devices, etc., as required to accommodate weatherstripping.
- U. Unless otherwise specified or detailed, install thresholds with the bevel in vertical alignment with the outside door face. Notch and closely fit thresholds to frame profile. Set thresholds in full bed of sealant.
- V. Compress sweep during installation as recommended by sweep manufacturer to facilitate a water-resistant seal.
- W. Deliver to the owner one complete set of installation and adjustment instructions, and tools as furnished with the hardware.

3.3 FIELD QUALITY CONTROL

- A. After installation has been completed, the hardware supplier for locksets, door closers, exit devices and overhead stops shall check the project and verify compliance with installation instructions, adjustment of all hardware items, and proper application according to the approved hardware schedule. Hardware supplier shall submit a list of all hardware that has not been installed correctly.
- B. After installation has been completed, the hardware supplier shall meet with the owner to explain the functions, uses, adjustment, and maintenance of each item of hardware. Hardware supplier shall provide the owner with a copy of all wiring diagrams. Wiring diagrams shall be opening-specific and include both a riser diagram and point to point diagram showing all wiring terminations.

3.4 ADJUSTMENT AND CLEANING

- A. At final completion, and when H.V.A.C. equipment is in operation, installer shall make final adjustments to and verify proper operation of all door closers and other items of hardware. Lubricate moving parts with type lubrication recommended by the manufacturer.
- B. All hardware shall be left clean and in good operation. Hardware found to be disfigured, defective, or inoperative shall be repaired or replaced.

3.5 HARDWARE SCHEDULE

- A. The following schedule of hardware groups is intended to describe opening function. The hardware supplier is cautioned to refer to the preamble of this specification for a complete description of all materials and services to be furnished under this section.

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HW SET: 01

QTY		DESCRIPTION	CATALOG NUMBER	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	IVE
1	EA	PASSAGE SET	ND10S	SCH
1	EA	WALL STOP	WS406	IVE

FUNCTION: (F75) PASSAGE LATCH. LATCH RETRACTED BY LEVER EITHER SIDE. BOTH LEVERS ALWAYS UNLOCKED.

HW SET: 02 - Not Used

2 HW SET: 03

QTY		DESCRIPTION	CATALOG NUMBER	MFR
1	EA	STOREROOM LOCK	ND80	SCH
1	EA	ELECTRIC STRIKE	6211 FSE	VON
1	EA	CREDENTIAL READER	BY SECURITY SUPPLIER	B/O
1	EA	DOOR POSITION SWITCH	679	SCE
1	EA	POWER SUPPLY	BY SECURITY SUPPLIER	
1	EA	WIRING DIAGRAMS	RISER AND POINT-TO-POINT	
	EA	REMAINING HARDWARE	EXISTING	

FUNCTION: (F86) STOREROOM LOCK. FIXED OUTSIDE TRIM - LATCH RETRACTED BY OUTSIDE KEY OR INSIDE LEVER. INSIDE LEVER ALWAYS UNLOCKED.
ELECTRIC STRIKE RELEASED BY ELECTRONIC ACCESS CONTROL SYSTEM FOR PUSH/PULL OPERATION.

HW SET: 04

QTY		DESCRIPTION	CATALOG NUMBER	MFR
2	EA	SPRING HINGE	3SP1 4.5 X 4.5	IVE
1	EA	EXIT X BLANK OUTSIDE	ND25	SCH

FUNCTION: EXIT LOCK. NO OUTSIDE TRIM. INSIDE LEVER ALWAYS UNLOCKED.

HW SET: 05

QTY		DESCRIPTION	CATALOG NUMBER	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	IVE
1	EA	ENTRANCE/OFFICE LOCK	ND50	SCH
1	EA	WALL STOP	WS406	IVE

FUNCTION: (F82) OFFICE LOCK. OUTSIDE LEVER LOCKED/UNLOCKED BY OUTSIDE KEY. INSIDE BUTTON LOCKS OUTSIDE LEVER UNTIL UNLOCKED BY OUTSIDE KEY OR BY TURNING INSIDE LEVER. INSIDE LEVER ALWAYS UNLOCKED.

HW SET: 06

QTY		DESCRIPTION	CATALOG NUMBER	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	IVE
1	EA	CLASSROOM LOCK	ND70	SCH
1	EA	SURFACE CLOSER	4040XP REG	LCN
1	EA	KICK PLATE	8400 10"	IVE
1	EA	WALL STOP	WS406	IVE
1	EA	PERIMETER SEAL	188S ZAG	ZER

FUNCTION: (F84) CLASSROOM LOCK. LATCH RETRACTED BY LEVER EITHER SIDE. OUTSIDE KEY LOCKS/UNLOCKS OUTSIDE LEVER. INSIDE LEVER ALWAYS UNLOCKED.

2 HW SET: 07

QTY		DESCRIPTION	CATALOG NUMBER	MFR
1	EA	DOUBLE-SWING HINGE	DSH1000	PEM
1	EA	CLASSROOM LOCK	ND70 HSLR	SCH
1	EA	KEY CYLINDER	AS REQUIRED (FOR ALARM KEYSWITCH)	
1	EA	KEYED EMERGENCY RELEASE STOP	ERSBH	PEM
1	EA	ANTI-LIG WALL STOP	KG182	KIN
1	EA	ANT-LIG ALARM SYSTEM	BY ALARM VENDOR	

FUNCTION: (F84) CLASSROOM LOCK. LATCH RETRACTED BY LEVER EITHER SIDE. OUTSIDE KEY LOCKS/UNLOCKS OUTSIDE LEVER. INSIDE LEVER ALWAYS UNLOCKED.

KEYED EMERGENCY RELEASE STOP UNLOCKED BY EMERGENCY KEY TO ALLOW DOOR TO SWING OUT IN THE EVENT OF AN EMERGENCY.

ANTI-LIGATURE ALARM SYSTEM INITIATED WHEN PRESENCE IS DETECTED AT TOP OF DOOR. KEYSWITCH AT DOOR RESETS ANTI-LIGATURE ALARM SYSTEM. COORDINATE DOOR SENSORS, KEY SWITCH, ALARM STROBE, ALERT SYSTEM, MASTER CONTROL PANEL, LOCAL DISPLAY PANEL, AND AUDIBLE ALARM HORN LOCATIONS AND REQUIREMENTS FOR COMPLETE ANTI-LIGATURE ALARM SYSTEM.

HW SET: 08

QTY		DESCRIPTION	CATALOG NUMBER	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	IVE
1	EA	CLASSROOM LOCK	ND70	SCH
1	EA	KICK PLATE	8400 10"	IVE
1	EA	WALL STOP	WS406	IVE

FUNCTION: (F84) CLASSROOM LOCK. LATCH RETRACTED BY LEVER EITHER SIDE. OUTSIDE KEY LOCKS/UNLOCKS OUTSIDE LEVER. INSIDE LEVER ALWAYS UNLOCKED.

HW SET: 09

QTY		DESCRIPTION	CATALOG NUMBER	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	IVE
1	EA	CORRIDOR LOCK W/ OUTSIDE INDICATOR	ND73 OS-OCC	SCH
1	EA	OH STOP	90S	GLY

FUNCTION: (F90) CORRIDOR LOCK. OUTSIDE KEY LOCKS/UNLOCKS OUTSIDE LEVER. INSIDE PUSH BUTTON LOCKS OUTSIDE LEVER UNTIL INSIDE LEVER IS TURNED OR DOOR IS CLOSED. INSIDE LEVER ALWAYS UNLOCKED. OUTSIDE INDICATOR DISPLAYS OCCUPIED/VACANT STATUS.

HW SET: 10

QTY		DESCRIPTION	CATALOG NUMBER	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	IVE
1	EA	STOREROOM LOCK	ND80	SCH
1	EA	WALL STOP	WS406	IVE

FUNCTION: (F86) STOREROOM LOCK. FIXED OUTSIDE TRIM - OUTSIDE KEY OR INSIDE LEVER RETRACTS LATCH. INSIDE LEVER ALWAYS UNLOCKED.

HW SET: 11

QTY		DESCRIPTION	CATALOG NUMBER	MFR
1	EA	STOREROOM LOCK	ND80	SCH
1	EA	WELDABLE GATE BOX	K-BXRHO	KEE
	EA	REMAINING HARDWARE	BY GATE SUPPLIER	

FUNCTION: (F86) STOREROOM LOCK. FIXED OUTSIDE TRIM - OUTSIDE KEY OR INSIDE LEVER RETRACTS LATCH. INSIDE LEVER ALWAYS UNLOCKED.

NOTE: PROVIDE WELDED STEEL SECURITY PLATE OR MESH BARRIER WITH NO OPENING GREATER THAN 1/2 INCH WITHIN 18 INCHES OF LATCH TO PREVENT UNAUTHORIZED ENTRY.

HW SET: 12 - Not Used**HW SET: 13**

QTY		DESCRIPTION	CATALOG NUMBER	MFR
1	EA	DOUBLE-SWING HINGE	DSH1000	PEM
1	EA	STOREROOM LOCK	ND80 HSLR	SCH
1	EA	KEYED EMERGENCY RELEASE STOP	ERSBH	PEM
1	EA	ANTI-LIG WALL STOP	KG182	KIN

FUNCTION: (F86) STOREROOM LOCK. FIXED OUTSIDE TRIM - OUTSIDE KEY OR INSIDE LEVER RETRACTS LATCH. INSIDE LEVER ALWAYS UNLOCKED.

KEYED EMERGENCY RELEASE STOP UNLOCKED BY EMERGENCY KEY TO ALLOW DOOR TO SWING OUT IN THE EVENT OF AN EMERGENCY.

HW SET: 14

QTY		DESCRIPTION	CATALOG NUMBER	MFR
6	EA	HOSPITAL-TIP HINGE	5BB1 HT 4.5 X 4.5	IVE
1	SET	FLUSH BOLT	AUTOMATIC (LESS BOTTOM BOLT)	IVE
1	EA	STOREROOM LOCK	ND80 HSLR	SCH
1	EA	ANTI-LIG WALL STOP	KG182	KIN

FUNCTION: (F86) STOREROOM LOCK. FIXED OUTSIDE TRIM - OUTSIDE KEY OR INSIDE LEVER RETRACTS LATCH. INSIDE LEVER ALWAYS UNLOCKED.

HW SET: 15

QTY		DESCRIPTION	CATALOG NUMBER	MFR
6	EA	HINGE	5BB1 4.5 X 4.5	IVE
2	EA	ROLLER LATCH	RL36	IVE
2	EA	SINGLE DUMMY TRIM	ND170	SCH
2	EA	OH STOP	90S	GLY

FUNCTION: DUMMY TRIM W/ ROLLER LATCH.

HW SET: 16

QTY		DESCRIPTION	CATALOG NUMBER	MFR
3	EA	HOSPITAL-TIP HINGE	5BB1 HT 4.5 X 4.5	IVE
1	EA	STOREROOM W/DEADBOLT	L9480 HSLR XL13-439	SCH
1	EA	KICK PLATE	8400 10"	IVE
1	EA	ANTI-LIG WALL STOP	KG182	KIN

FUNCTION: STOREROOM LOCK WITH DEADBOLT. FIXED OUTSIDE TRIM - OUTSIDE KEY RETRACTS LATCHBOLT AND DEADBOLT. INSIDE LEVER ALWAYS UNLOCKED. INSIDE LEVER RETRACTS LATCHBOLT AND DEADBOLT.

HW SET: 17

QTY		DESCRIPTION	CATALOG NUMBER	MFR
2	EA	HINGE	5BB1 4.5 X 4.5	IVE
1	EA	ELECTRIC HINGE	5BB1 4.5 X 4.5 TW8	IVE
1	EA	EU STOREROOM LOCK	ND80EU RX	SCH
1	EA	SURFACE CLOSER	4040XP REG	LCN
1	EA	KICK PLATE	8400 10"	IVE
1	EA	WALL STOP	WS406	IVE
1	EA	CREDENTIAL READER	BY SECURITY SUPPLIER	B/O
1	EA	DOOR POSITION SWITCH	679	SCE
1	EA	POWER SUPPLY	BY SECURITY SUPPLIER	
1	EA	WIRING DIAGRAMS	RISER AND POINT-TO-POINT	

FUNCTION: ELECTRIFIED STOREROOM LOCK - FAIL SECURE. LATCH BOLT RETRACTED BY KEY. INSIDE LEVER ALWAYS UNLOCKED. OUTSIDE LEVER UNLOCKED BY ELECTRONIC ACCESS CONTROL SYSTEM. UPON LOSS OF POWER, OUTSIDE LEVER REMAINS LOCKED.

HW SET: 18

QTY		DESCRIPTION	CATALOG NUMBER	MFR
2	EA	HINGE	5BB1 4.5 X 4.5	IVE
1	EA	ELECTRIC HINGE	5BB1 4.5 X 4.5 TW8	IVE
1	EA	EU STOREROOM LOCK	ND80EU RX	SCH
1	EA	SURFACE CLOSER	4040XP EDA	LCN
1	EA	KICK PLATE	8400 10"	IVE
1	EA	WALL STOP	WS406	IVE
1	EA	CREDENTIAL READER	BY SECURITY SUPPLIER	B/O
1	EA	DOOR POSITION SWITCH	679	SCE
1	EA	POWER SUPPLY	BY SECURITY SUPPLIER	
1	EA	WIRING DIAGRAMS	RISER AND POINT-TO-POINT	

FUNCTION: ELECTRIFIED STOREROOM LOCK - FAIL SECURE. LATCH BOLT RETRACTED BY KEY. INSIDE LEVER ALWAYS UNLOCKED. OUTSIDE LEVER UNLOCKED BY ELECTRONIC ACCESS CONTROL SYSTEM. UPON LOSS OF POWER, OUTSIDE LEVER REMAINS LOCKED.

HW SET: 19

QTY		DESCRIPTION	CATALOG NUMBER	MFR
2	EA	HOSPITAL-TIP HINGE	5BB1 HT 4.5 X 4.5	IVE
1	EA	HOSPITAL-TIP ELECTRIC HINGE	5BB1 HT 4.5 X 4.5 TW8	IVE
1	EA	EU STOREROOM LOCK	ND80EU HSLR RX	SCH
1	EA	ANTI-LIG WALL STOP	KG182	KIN
1	EA	CREDENTIAL READER	BY SECURITY SUPPLIER	B/O
1	EA	DOOR POSITION SWITCH	679	SCE
1	EA	POWER SUPPLY	BY SECURITY SUPPLIER	
1	EA	WIRING DIAGRAMS	RISER AND POINT-TO-POINT	

FUNCTION: ELECTRIFIED STOREROOM LOCK - FAIL SECURE. LATCH BOLT RETRACTED BY KEY. INSIDE LEVER ALWAYS UNLOCKED. OUTSIDE LEVER UNLOCKED BY ELECTRONIC ACCESS CONTROL SYSTEM. UPON LOSS OF POWER, OUTSIDE LEVER REMAINS LOCKED.

HW SET: 20

QTY		DESCRIPTION	CATALOG NUMBER	MFR
2	EA	HOSPITAL-TIP HINGE	5BB1 HT 4.5 X 4.5	IVE
1	EA	HOSPITAL-TIP ELECTRIC HINGE	5BB1 HT 4.5 X 4.5 TW8	IVE
1	EA	EU STOREROOM LOCK	ND80EU HSLR RX	SCH
1	EA	OH STOP	90S SOC	GLY
1	EA	CREDENTIAL READER	BY SECURITY SUPPLIER	B/O
1	EA	DOOR POSITION SWITCH	679	SCE
1	EA	POWER SUPPLY	BY SECURITY SUPPLIER	
1	EA	WIRING DIAGRAMS	RISER AND POINT-TO-POINT	

FUNCTION: ELECTRIFIED STOREROOM LOCK - FAIL SECURE. LATCH BOLT RETRACTED BY KEY. INSIDE LEVER ALWAYS UNLOCKED. OUTSIDE LEVER UNLOCKED BY ELECTRONIC ACCESS CONTROL SYSTEM. UPON LOSS OF POWER, OUTSIDE LEVER REMAINS LOCKED.

HW SET: 21

QTY		DESCRIPTION	CATALOG NUMBER	MFR
2	EA	HOSPITAL-TIP HINGE	5BB1 HT 4.5 X 4.5	IVE
1	EA	HOSPITAL-TIP ELECTRIC HINGE	5BB1 HT 4.5 X 4.5 TW8	IVE
1	EA	EU STOREROOM LOCK	ND80EU HSLR RX	SCH
1	EA	H-SEC SURFACE CLOSER	4511T	LCN
1	EA	KICK PLATE	8400 10"	IVE
1	EA	ANTI-LIG WALL STOP	KG182	KIN
1	EA	PERIMETER SEAL	188S ZAG	ZER
1	EA	CREDENTIAL READER	BY SECURITY SUPPLIER	B/O
1	EA	DOOR POSITION SWITCH	679	SCE
1	EA	POWER SUPPLY	BY SECURITY SUPPLIER	
1	EA	WIRING DIAGRAMS	RISER AND POINT-TO-POINT	

FUNCTION: ELECTRIFIED STOREROOM LOCK - FAIL SECURE. LATCH BOLT RETRACTED BY KEY. INSIDE LEVER ALWAYS UNLOCKED. OUTSIDE LEVER UNLOCKED BY ELECTRONIC ACCESS CONTROL SYSTEM. UPON LOSS OF POWER, OUTSIDE LEVER REMAINS LOCKED.

HW SET: 22

QTY		DESCRIPTION	CATALOG NUMBER	MFR
1	EA	DOUBLE-SWING HINGE WITH POWER TRANSFER	DSH1000 SER	PEM
1	EA	EU STOREROOM LOCK	ND80EU HSLR RX	SCH
1	EA	KEYED EMERGENCY STOP	ADL-CEK	ACC
1	EA	CONCEALED CLOSER	6031 BUMP TORX	LCN
1	EA	KICK PLATE	8400 10"	IVE
1	EA	ANTI-LIG WALL STOP	KG182	KIN
1	EA	CREDENTIAL READER	BY SECURITY SUPPLIER	B/O
1	EA	DOOR POSITION SWITCH	679	SCE
1	EA	POWER SUPPLY	BY SECURITY SUPPLIER	
1	EA	WIRING DIAGRAMS	RISER AND POINT-TO-POINT	

FUNCTION: ELECTRIFIED STOREROOM LOCK - FAIL SECURE. LATCH BOLT RETRACTED BY KEY. INSIDE LEVER ALWAYS UNLOCKED.

OUTSIDE LEVER UNLOCKED BY ELECTRONIC ACCESS CONTROL SYSTEM. UPON LOSS OF POWER, OUTSIDE LEVER REMAINS LOCKED.

KEYED EMERGENCY RELEASE STOP UNLOCKED BY EMERGENCY KEY TO ALLOW DOOR TO SWING OUT IN THE EVENT OF AN EMERGENCY.

HW SET: 23

QTY		DESCRIPTION	CATALOG NUMBER	MFR
2	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	IVE
1	EA	ELECTRIC HINGE	5BB1HW 4.5 X 4.5 TW8	IVE
1	EA	EU MORTISE LOCK	L9095EU HSLR	SCH
1	EA	H-SEC CONC CLOSER	2210	LCN
1	EA	KICK PLATE	8400 10"	IVE
1	EA	FLOOR STOP	FS444	IVE
1	EA	RAIN DRIP	142	ZER
1	SET	GASKETING	429	ZER
1	EA	DOOR SWEEP	8198	ZER
1	EA	THRESHOLD	AS REQUIRED	ZER
1	EA	CREDENTIAL READER	BY SECURITY SUPPLIER	B/O
1	EA	DOOR POSITION SWITCH	679	SCE
1	EA	POWER SUPPLY	BY SECURITY SUPPLIER	
1	EA	WIRING DIAGRAMS	RISER AND POINT-TO-POINT	

FUNCTION: ELECTRIFIED INSTITUTION LOCK - FAIL SECURE. INSIDE OR OUTSIDE KEY RETRACTS LATCH. INSIDE OR OUTSIDE LEVER UNLOCKED BY CREDENTIAL READER. UPON LOSS OF POWER, BOTH LEVERS REMAIN LOCKED.

HW SET: 24

QTY		DESCRIPTION	CATALOG NUMBER	MFR
2	EA	HINGE	5BB1 4.5 X 4.5 NRP	IVE
1	EA	ELECTRIC HINGE	5BB1 4.5 X 4.5 TW8	IVE
1	EA	EU MORTISE LOCK	L9095EU HSLR	SCH
1	EA	H-SEC SURFACE CLOSER	4511T	LCN
1	EA	KICK PLATE	8400 10"	IVE
1	EA	ANTI-LIG WALL STOP	KG182	KIN
1	EA	INTERCOM/REMOTE RELEASE SWITCH	BY SECURITY SUPPLIER	
2	EA	CREDENTIAL READER	BY SECURITY SUPPLIER	B/O
1	EA	DOOR POSITION SWITCH	679	SCE
1	EA	POWER SUPPLY	BY SECURITY SUPPLIER	
1	EA	WIRING DIAGRAMS	RISER AND POINT-TO-POINT	

FUNCTION: ELECTRIFIED INSTITUTION LOCK - FAIL SECURE. INSIDE OR OUTSIDE KEY RETRACTS LATCH. INSIDE AND OUTSIDE LEVER MOMENTARILY UNLOCKED BY ELECTRONIC ACCESS CONTROL SYSTEM. UPON LOSS OF POWER, BOTH LEVERS REMAIN LOCKED.

HW SET: 25

QTY		DESCRIPTION	CATALOG NUMBER	MFR
3	EA	HOSPITAL-TIP HINGE	5BB1 HT 4.5 X 4.5	IVE
1	EA	STOREROOM W/DEADBOLT	L9480 HSLR XL13-439	SCH
1	EA	ELECTRIC STRIKE	6216 FSE	VON
1	EA	KICK PLATE	8400 10"	IVE
1	EA	ANTI-LIG WALL STOP	KG182	KIN
1	EA	CREDENTIAL READER	BY SECURITY SUPPLIER	B/O
1	EA	POWER SUPPLY	BY SECURITY SUPPLIER	
1	EA	WIRING DIAGRAMS	RISER AND POINT-TO-POINT	

FUNCTION: STOREROOM LOCK WITH DEADBOLT. LATCH RETRACTED BY OUTSIDE KEY OR INSIDE LEVER. OUTSIDE LEVER FIXED. DEADBOLT THROWN/RETRACTED BY OUTSIDE KEY OR INSIDE THUMB TURN. TURNING INSIDE LEVER RETRACTS DEADBOLT AND LATCH. INSIDE LEVER ALWAYS UNLOCKED FOR FREE EGRESS. ELECTRIC STRIKE RELEASED BY ELECTRONIC ACCESS CONTROL SYSTEM. ELECTRIC STRIKE RELEASES LATCHBOLT ONLY - DEADBOLT IS MANUALLY THROWN OR RETRACTED TO MAINTAIN PRIVACY.

HW SET: 26

QTY		DESCRIPTION	CATALOG NUMBER	MFR
3	EA	HOSPITAL-TIP HINGE	5BB1HW HT 4.5 X 4.5	IVE
2	EA	1-SIDED LIG TURN DEADBOLT	L480 09-158 (VERIFY MTG HEIGHT)	SCH
1	EA	ANTI-LIG WALL STOP	KG182	KIN

THUMBTURN THROWN OR RETRACTED BY OUTSIDE TURN.

END OF SECTION

SECTION 27 52 23 - NURSE CALL/CODE BLUE SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Nurse call master station.
- B. Central control and power supply equipment.
- C. Call stations.
- D. Dome Lights.
- E. Accessories.

1.02 RELATED REQUIREMENTS

- A. Section 26 05 19 - Low-Voltage Electrical Power Conductors and Cables.

1.03 REFERENCE STANDARDS

- A. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate electrical characteristics and connection requirements; cable routing; connection diagrams; and equipment arrangement.
- C. Product Data: Provide showing electrical characteristics and connection requirements.
- D. Project Record Documents: Record actual locations of each item of equipment, and show interconnecting wiring.
- E. Operation Data: Operator instructions for each required mode of operation.
- F. Maintenance Data: Routine troubleshooting procedures, manufacturer's operation and maintenance manual for each item of equipment and accessory, and routine cleaning methods and materials.

1.05 QUALITY ASSURANCE

- A. Comply with requirements of NFPA 70.
- B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience with service facilities within 100 miles of Project.
- C. Products: Listed, classified, and labeled as suitable for the purpose intended.
- D. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. West-Com
- B. No Substitutions

2.02 NURSE CALL SYSTEM

- A. System Features:
 - 1. Audible and visual annunciation of calls to master station.
- B. System Capacity:
 - 1. See plans for device quantities. Include minimum of 25% spare capacity.
 - 2. Call stations on each master may call simultaneously, without interference.
- C. Calling Sequence of Operation:
 - 1. Duty station Calls: Initiate staff status call manually with call switch.
 - 2. Emergency Station Calls: Initiate emergency status call manually with call switch.
 - 3. Code Blue Calls: Initiate code blue status call manually with call switch.
- D. Annunciation Sequence of Operation:
 - 1. Call Annunciation at Master Station: Indicate each call and its medical status from other master station and patient, staff-assist, emergency, staff, CODE BLUE, and duty call stations visually with individual annunciator lamp and audibly with tone.
 - 2. Call Annunciation at Duty Station: Indicate each call and its status from patient, staff-assist, emergency, staff, and duty stations visually with single annunciator lamp and audibly with tone.
 - 3. Patient Signal Lights: Indicate each patient station call and its status. Indicate reminder status by lighting corridor signal light outside selected room.
- E. Call Status Annunciation:
 - 1. Normal Status Calls: Use steady white lamps and slow-rate repeating tones until answered; cancel call automatically when answered from master station, or manually from calling station.
 - 2. Priority Status Calls: Use flashing lamps and fast-rate repeating tones until answered; cancel call manually from calling station.
 - 3. Emergency Status Calls: Use flashing red lamps, and fast-rate repetitive tone until answered; cancel call manually from calling station.
 - 4. Staff-Assist Calls: Use flashing _____ lamps, and fast-rate repetitive tone until answered; cancel call manually from calling station.
 - 5. Staff Status Calls: Provide two levels. Use steady lamps and slow-rate repeating tones until answered; cancel call automatically when answered from master station, or manually from calling station.
 - 6. CODE BLUE Calls: Use flashing red lamp and high-rate repetitive tone; cancel call manually from calling station.

2.03 MASTER STATION

- A. Description: Desk-mounted master nurse call unit/annunciator.
- B. Provide a dedicated light for each call station with a minimum of 25% spare.
- C. Lamp test feature.
- D. Accommodates slow repeating tone as well as rapid repeating tone depending on the signal type.

- E. Handset: Standard molded plastic telephone handset with 4 feet long permanently coiled cord.
- F. Controls and Indicators: Mark each control and indicator with legible and permanent plastic nameplates. Provide the following minimum controls and indicators:
 - 1. Lighted annunciator integral with each selector switch for each call station. Use lamps replaceable from front of unit.
 - 2. RESET switch.
 - 3. Audible tone signal for incoming calls.

2.04 SYSTEM CONTROL UNIT

- A. Description: Surface wall-mounted intercom control unit.
- B. Surface wall-mounted control unit.
- C. Produce tones for all call types. Manage and prioritize all inputs and outputs for the system.

2.05 SYSTEM POWER SUPPLY

- A. Description: Surface wall-mounted power supply unit.
- B. Input Rating: 120 volts, 60 Hz, single phase. Provide input fuse.
- C. Output Ratings: Provide output power at voltage, regulation, and noise level to meet requirements of nurse system switching and control unit. Limit output during overload or short circuit conditions to less than 100 volt-amperes, with automatic restoration to normal operation after overload or short circuit conditions are cleared.
- D. Standby Operation: Provide integral batteries and battery charger to provide uninterrupted operation of nurse call system for a minimum of 15 minutes during an input power outage.
- E. Provide output contacts for remote power supply monitor and alarm.
- F. Provide terminal blocks for external wiring connections.

2.06 CALL STATIONS

- A. Emergency Station: Recessed wall-mounted call station, suitable for use in wet locations, and with the following features:
 - 1. Push Actuated Station: Red pushbutton pad with engraved legend PUSH FOR HELP.
 - 2. CANCEL switch.
- B. CODE BLUE station: Recessed wall-mounted call station, with the following features:
 - 1. Red pushbutton pad with engraved legend CODE BLUE.
 - 2. CANCEL switch.
 - 3. CALL ASSURANCE light to indicate station call.
- C. Duty Station: Recessed wall-mounted call station with the following features:
 - 1. INCOMING CALL indicator light.
 - 2. INCOMING CALL tone.

2.07 ACCESSORIES

- A. Corridor Light: Wall or ceiling mounted indicating light units, with the following features:
 - 1. Single lamp units: Red lens.

2.08 NURSE CALL SYSTEM CABLE

- A. As required by manufacturer.
- B. Cabling shall be plenum rated.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install lavatory emergency stations at 48" inches above finished floor unless noted otherwise.
- C. Ground cable shields and equipment to eliminate shock hazards.
- D. Provide connection from the telecom room ground bus to the equipment controller signal ground terminal.
- E. Identification of Conductors and Cables: Retain color-coding of conductors, and apply wire and cable marking tape to designate wires and cables so all media are identified in coordination with system wiring diagrams
- F. Label stations, controls, and indications using approved consistent nomenclature.

3.02 FIELD QUALITY CONTROL

- A. See Section 01 40 00 - Quality Requirements, for additional requirements.
- B. Perform operational test on each item of equipment and on system.

3.03 ADJUSTING

- A. Adjust controls to achieve proper operation.
- B. Set medical status of each patient and staff station as directed.

3.04 CLOSEOUT ACTIVITIES

- A. Allow minimum of 4 hours for demonstration of system.
- B. Demonstrate system operation to designated Owner personnel.
- C. Conduct walking tour of project and briefly describe function, operation, and maintenance of each component.
- D. Use submitted operation and maintenance manual as reference during demonstration and training.

END OF SECTION

SECTION 28 16 43 - ACCESS CONTROL SYSTEM

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. SMS Software
- B. Access Control System Enclosure
- C. Access Control System Controller
- D. Access Control System Expansion Module
- E. Card Readers
- F. Door Contacts
- G. Request-to-Exits
- H. Power Supplies
- I. Alarm Strobes
- J. Cabling

1.02 SCOPE

- A. This section details product and execution requirements for the Access Control System also referred to as the Security Management System (SMS) for the project.
- B. Work includes furnishing all labor, materials, tools and equipment, and documentation required for a complete turnkey working system as specified in this Section. SMS shall consist of but not be limited to Door Controllers, Card Readers, Sensors, Switches, Conduit, Boxes, Cable and Wired Devices. Programming and cardholder enrolling are also considered as part of installation as well as coordination with Owners existing systems and Credentials.
- C. Unless noted otherwise, "Contractor" shall refer to SMS Integrator & Installer.
- D. Communications routing from SMS to door controllers shall be via Owner LAN.

1.03 REFERENCES AND STANDARDS

- A. Work under this Section is subject to requirements of General Requirements.
- B. Other applicable standards are as follows:
 - 1. UL 294 - Access Control System Units.
 - 2. UL 1076 - Proprietary Burglar Alarm Units and Systems.
 - 3. FCC Rules and Regulations Part 15, Radio Frequency Devices
- C. All work and materials shall conform in every detail to rules and requirements of National Fire Protection Association, State and Local Codes, and Industry Standards, and all Industry and BICSI Standards related to DATA Cabling.

- D. All materials shall be listed by UL and shall bear UL label. If UL has no published standards for a particular item, then other national independent testing standards shall apply and such items shall bear those labels. Where UL has, an applicable system listing and label entire system shall be so labeled.

1.04 ABBREVIATIONS

- A. ACS – Access Control System
- B. SMS – Security Management System

1.05 WORK BY OWNER

- A. Owner shall:
 - 1. Provide list of cardholders for initial SMS programming by Contractor.
 - 2. Provide scheduling of each door, including:
 - a. Alarm activations and distribution.
 - b. Door lock and unlock.
 - c. Cardholder validation by day and time.
 - d. Delay time of door open alarm.
 - e. Duration of lock activation upon credential authorization.

1.06 SUBMITTALS

- A. Bill of Materials (BOM):
 - 1. Itemized List indicating products to be provided as well as quantities of each product.
- B. Product Data Sheets:
 - 1. For each type of product indicated.
- C. System Design drawings with cable routing, device location and labeling.
- D. Operation statements for all SMS doors.
- E. Communication Closet layout drawings.
- F. Certifications for BICSI and any Industry Organizations.
- G. Owner Operation Manuals for all installed equipment as well as documentation of all programming.
- H. As built drawings showing cable pathways and routing. As built drawings to also show any changes made to original ESS drawings.

1.07 QUALITY ASSURANCE

- A. Security Management System Contractor shall:
 - 1. Have successfully completed two (2) Security Systems projects in equal magnitude of the system specified in following sections. Contractor shall be an Authorized Integrator in good standing. Proper proof of certifications will be submitted at time of Bid. Comply with all certification requirements set out as it relates to the installation of DATA cabling. Specifically, contractor will certify DATA cabling is being installed by BICSI certified installers and installation supervised by a registered in good standing RCDD in the full-time employee of the project contractor.

1.08 WARRANTY

- A. Warranty requirements for Security Management System (SMS) shall be one (1) year(s) on all parts and labor commencing on Date of Substantial Completion. Those requirements apply to all components covered in this section

PART 2 - PRODUCTS

- A. Door/reader licencing fees shall be included.

2.02 MANUFACTURERS

- A. This specification, the functionality, the products and the system capabilities that are represented herein are based upon capabilities achievable through integration of products from a variety of listed product manufacturers. It is however the responsibility of the Contractor to provide such combination that meets and exceeds all expressed and implied requirements of these project documents.
- B. Commercial Security Products from the following manufacturers will be considered acceptable
 - 1. Access Control System
 - a. Lenel S2
 - b. No-Substitutions
 - 2. All products - manufacturers shall be as listed. Substitutions will not be accepted.
 - 3. Accessories
 - a. Altronix
 - b. Life Safety Power
- C. SMS shall provide ability to:
 - 1. Unlock electrified door locks upon authentication of submitted credential to local card readers.
- D. Monitor Security Management System
 - 1. Security Management System shall provide ability to:
 - a. Unlock electrified door locks upon authentication of submitted credential to local card readers.
 - b. Monitor door alarms and remotely unlock.
 - c. Lock doors on an automated schedule from central system.
 - d. Unlock doors as required by code via fire alarm relays.
 - e. Annunciate intrusion alarms from remote sensors.
 - f. Unlock individual doors manually via operator interface.
 - g. Lock doors from central Operations Center.
 - 2. System must support the HID iClass, MultiClass Card Readers and Credentials.

2.03 SMS SOFTWARE AND DATABASE MANAGEMENT

- A. Upgrades or expansion of the SMS to a larger size system in scale shall not require installation of a different and or new SMS application or require the administrator / operator to learn a different and or new interface from the previous version.
- B. The SMS shall be written using recognized standard software coding techniques. The SMS shall be written to support multiple languages without re-engineering. The SMS software shall be written to Microsoft's published standards for User Interface Design, Secure Coding Practices and Database Implementation Guidelines.
- C. The SMS architecture shall support Microsoft Windows Clustering, Hot-Standby, Fault Tolerant Servers, Fault Tolerant Hot Standby Servers, and Virtual Servers.
- D. The SMS shall be capable of importing or updating Cardholder data using the following source types:

1. Microsoft Access
 2. Microsoft Excel
 3. Microsoft SQL Server
 4. ASCII Text (delimited file)
- E. The SMS or equal shall support:
1. Multiple Sites, (Partitioning, or Segmenting)
 2. 1000 System Control Panels (SCP)
 3. Support for 256 Tasks per SCP
 4. 64,000 Access Control Readers, 64 readers per SCP.
 5. 512,000 Inputs, 512 per SCP
 6. 512,000 Outputs 512 per SCP
 7. Supports multi-drop OSDP readers with EP/LP SIO devices.
 8. Unlimited Cardholders
 9. Multiple Cards per Cardholder
 10. 32,737 Access Levels
 11. 128 Access Levels per Card
 12. 255 Time zones, with 12 start/stop intervals each
 13. 255 Holidays, across 8 Holiday Groups/Types
 14. Support for KONE destination dispatch elevator control.
 15. Support for OTIS destination dispatch elevator control
 16. Support for Schindler destination dispatch elevator control.
 17. Anti-Passback with Occupancy Counting
 18. Virtualization Support
 19. Video Integration Support
 20. Zenitel Intercom integration support.
 21. Biometric Integration Support
 22. Web Client / Thin Client Support
 23. Fully Integrated Graphical Mapping (Floor Plans with Active ICONs)
 24. Definable Report Support, with the ability to Hyperlink recorded video directly from within a Report to play back recorded video in a single step operation.
 25. Unlimited User Definable Macro Support per site.
 26. Lock Integration support for:
 - a. ASSA ABLOY
 - b. Allegion
 - c. Salto Sallis, SX4 & SVN

2.04 SMS SOFTWARE AND FIELD HARDWARE WARRANTY

- A. The SMS Software shall be warranted for a period of 1 year from the date of shipment from the manufacturer to be free of defects and will function in substantial accordance with the published specification.
- B. SMS Field Hardware shall be warranted for a period of three (3) years from the date of shipment from the manufacturer, will be free from defects and will function in general accordance with the product specifications.
- C. SMS Third Party Device warranties are transferred from the manufacturer to the contractor, which may then transfer third party warranties to the owner. Specific third-party warranty details, terms and conditions, remedies, and procedures, are either expressly stated on, or packaged with, or accompany such products. The warranty period may vary from product to product. These products include but are not limited to devices that are directly interconnected to the SMS field hardware or computers and are

purchased directly from the SMS manufacturer. Examples may include but not be limited to; Credential Printers, Reader Heads, Biometric Devices, Computers etc.

- D. The SMS shall use Microsoft SQL Server Express 2008 R2 or higher as the database engine.
- E. The SMS shall be capable of utilizing a Web client. The Web client shall be capable of being utilized via any standard Browser to include but not limited to Microsoft Internet Explorer, Mozilla Firefox, Google Chrome, Opera, Apple Safari, IOS Browser, and Android Browser. The Web client shall be device aware such that it shall display according to the device it is being used from with larger buttons on a mobile device such as a Tablet or Phone. The Web client shall require the User to log in and shall utilize User Groups to allow commands / functions available to the User if at a Desktop (i.e. change reader mode, find, a cardholder/card, interact with cardholder/card, execute a Macro, change an Access Level.

2.05 SMS SOFTWARE INTERFACE

- A. The SMS Software shall be Microsoft Windows compliant having a Microsoft "Outlook" type structure
- B. The SMS shall be capable of tracking Cardholders, Cards, or Readers in a separate tracking ScreenWindow for those items being Tracked (watched).
- C. The SMS shall be capable of permitting a User to set the number of historical Tracking events to search for and display when the workstation is started (signed in/logged in) allowing the User to immediately view Tracked / Watched item events without creating and running a report.
- D. The SMS shall be capable of having Digital Video Recording / Network Video Recording integrations.

2.06 ACCESS CONTROL PANEL ENCLOSURE / POWER SUPPLY

- A. Manufacturer: LifeSafety Power
- B. Model: FPO250/250-8M8PNLCE12M/P24-A
- C. 120V input.

2.07 ACS CONTROLLER

- A. Intelligent Dual Reader Controller
- B. Manufacturer: Lenel S2
- C. Model: LNL-M2220
- D. Provide 1 new controller for the project. Mount in the panel enclosure.

2.08 ACS EXPANSION MODULE

- A. Dual Reader Interface Module
- B. Manufacturer: Lenel S2
- C. Model: LNL-1320-Series 3/Series 3B
- D. Provide quantity as necessary for the devices shown on drawings. Mount in the panel enclosure.

2.09 PROXIMITY CARD READERS

- A. Card Reader with PINpad
 - 1. Manufacturer: Lenel S2
 - 2. Model: LNL-R11325-05TB
- B. Card Reader
 - 1. Manufacturer: Lenel S2
 - 2. Model: LNL-R11320-05TB
- C. Mini-Mullion Card Reader
 - 1. Manufacturer: Lenel S2
 - 2. Model: LNL-R11330-05TB

2.10 DOOR POSITION SWITCH

- A. Button type door position switch for mounting in steel and wood doors / frames. designed for wide gap door compatibility.
- B. Manufacturer: NasCom
- C. Model: N78C Series

2.11 REQUEST TO EXIT SENSORS

- A. Motion type door position switch for mounting above the door. Integral sounder capability. Light gray color.
- B. Manufacturer: Bosch
- C. Model: DS-160

2.12 ALARM STROBE

- A. Security Sounder / Strobe
- B. Manufacturer: System Sensor
- C. Model: SPSWL-ALERT

2.13 POWER SUPPLIES

- A. As required to support Card Reader(s), Door Controller(s), Strike(s), Sensor(s), and other components for fully operational turnkey system. Each component connected to power supplies shall be independently fused with rated fuses to match the manufacturer requirements for each specific device. Power supply cabinets shall have door locks included and keys shall be turned over to Owner at substantial completion.

2.14 CABLING

- A. General
 - 1. Cable shall be:
 - a. Plenum Rated.
 - 2. Provide and install as required for door hardware. Refer to Architectural Door Schedule and Door Hardware documents.
- B. Access Control Bundled Cable
 - 1. Manufacture: Belden

2. Model: 658HMS
 3. Description:
 - a. OSDP Access Control Cable.
 - b. Plenum - CMP
 - c. 14C
 - d. #24-1PR OSDP Reader
 - e. #18-4
 - f. #18-2
 - g. #22-6
 - h. OSDP reader composite cable
 - i. Only Card Reader Data Pairs have overall Beldfoil shield.
 - j. Banana Peel outer jacketed (no overall jacket)
- C. Access Control Bundled Cable (Dual)
1. Provide dual cable where Card Readers with PINPad are used.
 2. Manufacture: Belden
 3. Model: 668AMD
 4. Description:
 - a. 16C Dual OSDP Access Control Cable.
 - b. Plenum - CMP
 - c. #24-2PR
 - d. 8-18 AWG conductors
 - e. 4-22 AWG conductors
 - f. OSDP reader composite cable with foam FEP and Flamarrest insulation
 - g. Only Card Reader Data Pairs have overall Beldfoil shield.
 - h. Banana Peel outer jacketed (no overall jacket)

PART 3 - EXECUTION

3.01 PRE-INSTALLATION COORDINATION

- A. Coordinate with Electrical Contractor (Division 260000) that:
 1. Section 280000 provided pathways and equipment back boxes are completed and are coordinated with no conflicts for system installation.
 2. Adequate power has been provided and properly located for security system equipment.
 3. Code-complying fire alarm relays will be installed for cable termination. Fire Alarm contractor will provide relay contacts in Com Closet for connection to Access control panels. Contractor is responsible for coordination with Fire Alarm Contractor. Access control Contractor shall provide all parts and pieces including all cabling from Access control panel to Fire Alarm Contact point.
 4. Coordinate scheduling of work to make sure there are no conflicts.
- B. Coordinate with Door Frame supplier (Division 8):
 1. Doors and door frames are properly prepared for electric locking hardware and door position switches are furnished by door type.
 2. Locations of all devices prior to installation.
 3. Electric door power supply locations and connections requirements.
- C. At a minimum, coordinate the following with Owner:
 1. Owner-provided IP addresses for SMS devices.
 2. Network infrastructure requirements at SMS head-end.
- D. Initial database programming.
 1. Planned system downtime.

2. Programming and training for new system.
- E. Coordinate with Construction Manager as required providing a fully functioning turnkey Security system.
- F. Coordinate with all trades on the operation and installation of ADA entrance doors with relation to Card Readers and interconnection with door actuator plates, motor units, Fire Alarm System. Contractor will supply any and all associated timer boards or additional parts required for complete operating doors system.

3.02 INSTALLATION

- A. General
 1. Verify acceptance of each type of specified request-to-exit hardware for each application with local life safety code officials.
 2. Provide tamper proof fasteners for all equipment in public areas. Fastener finish shall match equipment finish.
 3. Maintain minimum three feet of access in front of class 1 electrical equipment.
- B. Delivery, Storage, and Handling
 1. Deliver products to and receive products at site under provisions of General Requirements.
 2. Materials shall be stored according to manufacturer's recommendations at minimum.

3.03 EQUIPMENT

- A. Provide equipment as indicated on Drawings and specified herein. Additional specific installation requirements are as follows:
 1. Door Controllers
 - a. Provide Door Controllers in Data Closets.
 - b. Provide connection to 120 VAC via hardwire conduit. Coordination with Division 260000.
 - c. Separate 24 VDC and 120 VAC, wire, cable, and devices by 12" minimum space.
 - d. Enclose wire and cable in wire ways or bundle with wire exiting wire ways to terminal strips or panel mounted devices.
 - e. Space controllers according to manufacturer's requirements. Ensure adequate space is allowed for device heat dissipation.
 - f. Do not place controller or control devices on enclosure sides.
 2. Card Readers
 - a. Provide card readers and card reader devices as shown on Drawings.
 - b. Wire card reader LEDs to indicate valid and invalid card reads, and door locked and unlocked conditions. All card reader LED indicators shall operate identically throughout Project. LED shall be red in normal, secured state, and shall be green on valid card read and while door is unlocked.
 3. Electric Locking Mechanics
 - a. Interface with electric locking mechanics as required by the door hardware.
 - b. Provide lock control of electrified locking mechanics through output contacts activated by Door Controller.
 4. Electrified Panic Devices
 - a. Interface with electrified panic devices as indicated on Drawings. Provide all low-voltage wire and connections between SMS power transfer device and electric locking mechanics.
 - b. Provide lock control of electrified panic devices through output contacts activated by Door Controller.
 - c. Provide all 120VAC if required for Device operation per hardware specifications. Provide Connection to Fire Alarm connection points as required by Code. Fire Alarm Contractor to provide relay contacts in Com closets for this purpose. Contractor is responsible for all parts

and pieces including cable from Access control panel to the Fire Alarm relay contract.
Contractor is responsible for coordination with Fire Alarm contractor.

5. Door Position Switches
 - a. Install at doors as shown on drawings.
 - b. Coordinate pathways.
6. Request-to-Exit Motion Sensors
 - a. Install at doors as shown on drawings.
 - b. Coordinate pathways.
7. Fire Alarm Interface (If required per local codes)
 - a. Connect (hard wire) door controller to building fire alarm system for fail-safe release upon any fire alarm.
 - b. Interface with low voltage / low current normally closed dry contact from fire alarm system provided by fire alarm Contractor (verify exact location in Data Closet for connection with FA). Contact shall open on any fire alarm condition.
 - c. Provide all additional UL listed fail-safe relays and power supplies necessary to interface to this contact and unlock all fail-secure doors.
 - d. Coordination Meetings with Fire Alarm Contractor shall be scheduled and coordinated with construction team.
8. Cable Installation
 - a. Visually inspect all wire and cable for faulty insulation prior to installation.
 - b. Furnish and install all specified wire and cable as required for functioning SMS system.
 - c. Neatly lace, dress and support cabling.
 - d. Pull cables in accordance with cable manufacturer's recommendations and ANSI/IEEE C2 Standards.
 - e. Do not exceed manufacturer's recommended pulling tensions.
 - f. Do not install bruised, kinked, scored, deformed, or abraded cable.
 - g. Do not splice cable between indicated termination, tap, or junction points.
 - h. Remove and discard cable where damaged during installation and replace it with new cable.
 - i. Pull all cable by hand unless installation conditions require mechanical assistance.
 - j. Run all wire and cable continuous from device location to final point of termination. No mid-run cable splices shall be allowed.
 - k. Cables shall not be attached to existing cabling, plumbing or steam piping, ductwork, ceiling supports, or electrical or communications conduit.
 - l. Cable shall never be laid directly on a ceiling grid or attached in any manner to ceiling grid wires.
 - m. Furnish and install all cable such that ample slack is supplied at device terminating end of cable to compensate for any final field modifications at install locations.
 - n. Loosely coil slack in "Figure-eight" in a manner that prevents kinking.
 - o. Loop radius shall be at least 4X minimum bend radius for cable. BBB. Slack length of cable shall be 4 feet.
 - p. Provide code-compliant fire proofing techniques for all penetrations of fire rated partitions and slabs, where penetrations are made by or used for installation of SMS System.
 - q. Coordinate routing of wire and cable requiring isolation from power, radio frequency (RF), electromagnetic interference (EMI), telephone, etc. with General Contractor.
 - r. At no time, shall any cable be subjected to a bend less than manufacturer's specified minimum radius.
 - s. Provide grommets and strain relief material where necessary to avoid abrasion of wire and excess tension on Wire and Cable.
 - t. Make connections with solder-less devices, mechanically and electrically secured in accordance with manufacturers' recommendations. Wire nuts shall not be an acceptable means of connecting wire and cable.

- u. Utilize conduit and cable trays and or pathways to route SMS cables from each door or device to Door Controller.
9. System Programming and Data Entry
- B. Collect all data required to make the Security Management System operational. Deliver data to Owner on data entry forms, utilizing data from Contract Documents, Contractor's field surveys and all or pertinent information in Contractor's possession required for complete installation database. Identify and request from Owner any additional data needed to make SMS System fully operational and integrated. Completed forms shall be delivered to Owner for review and approval at least 30 days prior to Contractor's scheduled needed date. Provide all initial system information for SMS setup including, but not limited to following:
- 1) SMS Card Reader Information
 - b. Coordinate all card reader values and text, including descriptors, alarm messages, map call up and identification.
 - c. Input and output points for SMS. Coordinate all input and output priorities and text, including descriptors, alarm messages, and identification.
 - d. Initial system users, including levels of access. This shall include designation of Owner's representative at "Super User" level immediately upon SMS initialization.
 - 2. Furnish and install all SMS wire and cable including DATA cabling.
 - a. Provide code-compliant fire proofing techniques for all penetrations of fire rated partitions and slabs, where penetrations are made by or used for installation of SMS.
 - b. 120 VAC power dedicated to security system shall be on provided Emergency Generator Power. Servers shall be on properly sized UPS units on Emergency Generator backup circuits.
 - c. Connect to AC power with provided UL listed power supplies and transformers to distribute low voltage power to system components as required.
 - d. Provide hinged cover UL listed terminal cabinets with tamper switches for all power supplies, transformers and power distribution terminal strips. Provide all conduit and wiring from AC power facilities to terminal cabinets.
 - e. Provide protection against spikes, surges, noise, and or line problems for all system equipment and components.
 - f. Provide protection on all exterior, control, power, signal cables and conductors against power surges. Each surge protector shall be UL Listed.
 - 3. Labeling and Tags
 - a. In no instance, shall any UL labeled door or frame be drilled, cut, penetrated, or modified in any way.
 - b. Contractor shall be responsible for replacing any labeled door or frame that is modified without written approval from project Engineer.
 - c. Label all controls as necessary to agree with their function.
 - d. Label all Wire and Cable in common at both ends using a permanent method such as self-laminating cable marking tape.
 - e. Tags shall be attached to wire and cable nylon cable ties in an accessible location so that they can easily be read.
 - f. Tags shall be installed when wire and cables are installed.
 - g. Labeling shall be consistent with existing cable labeling system and agree with Record Documentation.
 - h. Place wire identification numbers at each end of conductor involved by using sleeve type, heat shrinkable markers. Markers shall be installed so as to be readable from left to right or top to bottom.
 - i. Mark all connectors with common designations for mating connectors. Connector designations shall be indicated on record drawings.

3.04 ACCESS CONTROL SYSTEM

- A. Coil all spare conductors in device back box, panel wire way, or top of panel where wire way is not provided. Conductors shall be neatly bundled and tagged.
- B. Install integrated security and communication system in accordance with manufacturer's instructions at locations indicated on the Drawings.
- C. Mount equipment plumb, level, square, and secure.

3.05 DEMONSTRATION AND TRAINING

- A. Coordinate with Owner to establish schedule for required training. Provide at least four (4) hours training.
- B. Contractor shall be on call during Warranty period to answer any questions Owner might have. The Owner reserves the right to use any excess training hours, not used by time of system completion, for future training as requested by Owner until total number of training hours has been used.
- C. Training location: On Site.

3.06 DEMONSTRATION

- A. Demonstrate that integrated security and communication system functions properly.
- B. Perform demonstration at final system inspection by qualified representative of manufacturer working with contractor.

3.07 SYSTEM START-UP

- A. Start-up includes all Contractor-Furnished, Contractor-Installed (CFI) systems and equipment.
- B. Work shall be complete and ready to operate prior to final acceptance.
- C. All database programming for systems up to inaugural day of beneficial use of Security System shall be coordinated thru Owner.
- D. Adjust integrated security and communication system for proper operation in accordance with manufacturer's instructions.

3.08 SYSTEM ACCEPTANCE

- A. Final acceptance testing of Work will be coordinated and observed by Owner and or Owner representatives.
- B. Prior to testing, Contractor shall submit two sets of preliminary (draft) Record Drawings to Owner. Preliminary Record Drawings are to be used by Owner to conduct system final test.
- C. At completion of Work, remove all waste materials, rubbish, Contractor's and subcontractors' tools, construction equipment, machinery and all surplus materials.

3.09 PROTECTION

- A. Protect installed integrated security and communication system from damage during construction.

END OF SECTION

SECTION 28 23 00 - VIDEO SURVEILLANCE SYSTEM

PART 1 - GENERAL

1.01 SCOPE

- A. This section details product and execution requirements for a new Video Surveillance System for the project.
- B. Work includes furnishing all labor, materials, tools and equipment, and documentation required for a complete working system as specified in this Section. The video surveillance system shall consist of but not be limited to, Cameras, Conduit, Boxes, Cable and Wired Devices. Programming and camera view setup are considered part of installation as well as coordination with the Owner and Designer.
 - 1. The Owner shall provide the network video recording device(s), network switches, and Video Management Software (Milestone).
 - 2. Contractor shall provide and install all cameras, wiring, and associated patch panels. All camera wiring shall be terminated and fully tested. Cameras shall be tested, aimed, and focused per the Owner's requirements. Include patch cords for connection from the Camera terminations at the patch panels to the Owner supplied network switches/network video recorders.
- C. Coordinate with any and all trade contractors as required to provide a fully functioning system.
- D. Unless noted otherwise, "Contractor" shall refer to security system integrator & installer.
- E. Applicable provisions of Division 1 shall govern all work under this section.
- F. Video surveillance can be restricted or prohibited by law. This document details technical considerations only. It is assumed that registration, licensing, policies regarding disclosure and privacy (notification, processing of images, time and date stamping, recording of sound, etc.), and or legal obligations are responsibility of Owner.

1.02 REFERENCES AND STANDARDS

- A. Work under this Section is subject to requirements of Contract Documents including General Conditions, Supplementary Conditions, and sections under Division 1 General Requirements.
- B. All work and materials shall conform in every detail to rules and requirements of National Fire Protection Association, State and Local Electrical Code, Industry Standards. Any and all DATA cabling for VMS system shall adhere to Division 270000 specifications.
- C. All materials shall be listed by UL and shall bear UL label. If UL has no published standards for a particular item, then other national independent testing standards shall apply and such items shall bear those labels. Where UL has an applicable system listing and label entire system shall be so labeled.
- D. Other applicable standards are as follows:
 - 1. ANSI/IEEE C2 - National Electrical Safety Code
 - 2. NFPA 70-1999 - National Electrical Code
 - 3. IEEE/ANSI 142-1982 – Recommendations for Grounding of Industrial & Commercial Power Systems.
 - 4. NTSC/EIA RS-170A Video Standard
 - 5. IEEE 802.3 standards for CSMA/CD (Ethernet) based LANs
 - 6. Emissions: FCC 15, Class A; CE: EN55022 (Emissions)
 - 7. CE: EN50082-01 (Immunity)
 - 8. CE, UL 1950; CUL 1950 CE: EN60950 (Safety)

9. NDAA - National Defense Authorization Act

1.03 GUARANTEE

- A. Warranty requirements for Video Surveillance System shall be one (1) years on all parts and labor commencing on Date of Substantial Completion. Those requirements apply to all components covered in this section.

PART 2 - PRODUCTS

2.01 GENERAL PRODUCT REQUIREMENTS

- A. Surveillance cameras must be NDAA compliant.

2.02 MANUFACTURERS

- A. All products - manufacturers shall be as listed. Substitutions will not be accepted.

2.03 VIDEO MANAGEMENT SYSTEM (VMS) - OWNER PROVIDED

- A. VMS to be installed and programmed by the Owner.
B. System will be Milestone.

2.04 CAMERAS, MOUNTS & ACCESSORIES

- A. Reference the drawings for locations and quantities of the following camera types:
1. Type A - Dual Lens Multi-Directional Camera
 - a. Manufacturer: Hanwha Vision
 - b. Model: PNM-C12083RVD
 - c. 2 lens, 6MP each, multi-directional camera.
 - d. AI engine.
 - e. 15fps@6MP
 - f. Lens: 3.54~6.69mm motorized varifocal, 78° tilt angle
 - g. IR capable
 - h. IP66, IK10, NEMA4X
 2. Type B - Quad Lens Multi-Directional Camera
 - a. Manufacturer: Hanwha Vision
 - b. Model: PNM-C16013RVQ
 - c. 4 lens, each 4MP, multi-directional camera.
 - d. AI engine.
 - e. 15fps@4MP
 - f. Lens: 3.19mm fixed focal
 - g. IR capable
 - h. IP66, IK09, NEMA4X
 3. Type C - Anti-Ligature Corner Mount Camera
 - a. Manufacturer: AXIS
 - b. Model: Q9227-SLV
 - c. 5MP, impage-resistant, anti-ligature camera.
 - d. AI powered video and audio analytics.
 - e. Hidden speaker and microphone for two-way communication.
 - f. IR illumination.
 - g. IK11 rated.
 4. Type D - Fixed Dome Camera

- a. Manufacturer: AXIS
 - b. Model: M4228-LVE
 - c. 8MP, compact varifocal dome camera.
 - d. Lens: 3.2-7.2mm, F1.6-2.7
 - e. Remote zoom and focus.
 - f. Adjustable pan, tilt, and rotation.
 - g. AI powered video and audio analytics.
 - h. IR illumination.
 - i. IP66, IK10 rated.
- B. Mounts
- 1. Provide commercial grade mounts heavy duty mounts and mounting hardware for cameras.
 - 2. Outdoor mounts shall be designed for outdoor mounting and exposure to the elements
 - 3. All outdoor hardware shall be stainless steel (screws, nuts, bolts, straps, etc).
 - 4. Refer to drawings for mounting locations and provide appropriate mounting hardware as necessary. See the architectural RCP for ceiling types.

2.05 MONITOR DECODER

- A. Manufacturer: Hanwha
- B. Model: SPD-152
- C. Remote monitor decoder
- D. Embedded CPU.
- E. Video output: Dual HDMI
- F. Ethernet port
- G. (2) USB ports.

2.06 MASS STORAGE

- A. Mass storage devices, including hard-disk-drives and Network Video Recorder (NVR) are provided and installed by the Owner.

2.07 WIRE AND CABLE

- A. General
 - 1. Wiring for Cameras shall be CAT6A.
 - 2. Provide and install all device DATA cables as per DATA requirements. DATA cabling for Security cameras shall be terminated in DATA Closets. Camera cabling should be terminated in jacks at the camera device. Contractor to provide all patch cables. All exterior camera cables shall be provided with Surge protection units on each cable. Proper cable types must be must as per Industry standards and requirements.
 - 3. Provide all interconnecting system cabling at Closets as well at security device end points.
 - 4. Bond metallic system components in all Closets and Security Closets to existing in-room ground bar.

2.08 PATCH PANEL

- A. See Div. 27 specifications.

- B. Provide a dedicated patch panel for camera wiring. Size for camera quantities shown plus 25% spare capacity.

PART 3 - EXECUTION

3.01 GENERAL

- A. Work performed for installation of video surveillance system shall be performed by Security System Integrator – “Contractor”.
- B. Provide equipment as indicated on Drawings and specified herein.
- C. Provide all labor and materials necessary to construct systems as described herein to include furnishing and installing all system equipment, interconnecting cabling, programming and start- up, software (including software upgrades and reprogramming as necessary), termination components, mounting hardware, incidentals, accessories, testing, labeling, documentation and training as detailed in following sections.
 - 1. Neatly lace, dress and support cabling.
 - 2. Coordinate any downtime with Owner.
- D. Prior to installation:
 - 1. Conduit and equipment back boxes are as required. Contractor is responsible for coordination with all trades to ensure that conduit and back boxes are correctly placed for video surveillance system use. Contractor is responsible for coordinating installation of conduit and boxes to make sure they are installed on schedule with other trades and are coordinated as to not interfere with other systems or pathways.
 - 2. 120V AC Power is as required and is properly located.
 - 3. LAN structured cabling is as required and properly located and installation has been coordinated with other trades.
 - 4. Coordinate all devices and locations prior to equipment installation with owner.
 - 5. Coordinate Owner-desired camera views, providing camera modeling prior to installation.
 - 6. Coordinate Camera housing and mount finishes with Architect and Owner.
- E. Install and wire equipment in accordance with Industry Standards, manufacturer’s recommendations, and accepted engineering and installation practices.
- F. Mount system components as recommended by manufacturer. All equipment mounting in Communication Closets must coordinated with Owner prior to installation.
 - 1. Arrange equipment to facilitate permanent access for use and maintenance.

3.02 CABLE INSTALLATION

- A. Neatly lace, dress and support cabling.
- B. Pull cables in accordance with cable manufacturer's recommendations and ANSI/EEE C2 Standards as well as Industry Standards and all Division 270000 requirements.
 - 1. Do not exceed manufacturer's recommended pulling tensions.
 - 2. Do not install bruised, kinked, scored, deformed, or abraded cable.
 - 3. Do not splice cable between indicated termination, tap, or junction points.
 - 4. Remove and discard cable where damaged during installation and replace it with new cable.
 - 5. Pull all cable by hand unless installation conditions require mechanical assistance.
- C. Run all wire and cable continuous from device location to final point of termination. No mid-run cable splices shall be allowed.

- D. Furnish and install all cable such that ample slack is supplied at device terminating end of cable to compensate for any final field modifications in camera location.
 - 1. Loosely coil slack in "Figure-eight" in a manner that prevents kinking.
 - 2. Loop radius shall be at least 4X minimum bend radius for cable.
 - 3. Slack length of cable shall be 4 feet.
- E. Provide code compliant fire proofing techniques for all penetrations of fire rated partitions and slabs, where penetrations are made by or used for installation of Video System.
- F. Coordinate routing of wire and cable requiring isolation from power, radio frequency (RF), electromagnetic interference (EMI), telephone, etc. with Engineer.
- G. At no time shall any cable be subjected to a bend less than manufacturer's specified minimum radius.
- H. Provide grommets and strain relief material where necessary to avoid abrasion of wire and excess tension on Wire and Cable.
- I. Make connections with solder-less devices, mechanically and electrically secured in accordance with manufacturers' recommendations. Wire nuts shall not be an acceptable means of connecting wire and cable.
- J. Terminate all camera wiring at a dedicated patch panel for only camera wiring terminations. Provide patch panels per Division 27 specifications.

3.03 IP VIDEO CAMERAS

- A. Mount Video Cameras per project drawings.
- B. Field-verify exact locations and field-of-views with Owner prior to installation.
- C. Provide video camera lenses to accommodate Owner-coordinated field-of-view per camera.
 - 1. Field verify and confirm views with Owner prior to procurement and final installation and adjust camera positions and lens sizes as required upon installation.
- D. Configure resolution, frame rate, password, etc. in system installation, and coordinate with Owner.
- E. Coordinate with Owner prior to installation to confirm required parameters.
- F. Wire interface(s) to external alarms as required.

3.04 NETWORK CONNECTION

- 1. Security Cameras will be part of the owner LAN. Connection to the Owner LAN shall be made by Owner IT staff or appointed personnel.

3.05 LABELING AND IDENTIFICATION

- A. Labeling protocols to match all Owner Security System installations.
 - 1. Cabling, Hardware and Equipment shall be clearly labeled using a Code identifying each piece as unique throughout Video Camera System. This code will aid in identifying hardware for servicing and maintenance.
 - 2. Labels and Tags shall be machine-generated using English character set in black ink on white background labels and Tags.
 - a. Self-laminating permanent labels are required on cables; permanent non-marring labels are required on all other hardware/cabinets.
 - b. No hand-written Labels or Tags shall be allowed.

- c. Dymo or Kroy type adhesive backed lettering is not acceptable.
- B. Identify and tag all cables to denote function.
 - 1. Tag shall indicate:
 - a. System of which cable is a part,
 - b. Indication of cable destination (e.g. room or component), and
 - c. Unique alpha-numeric identifier that distinguishes cable from all others in system.
- C. All labels shall be machine generated. Handwritten labeling is not acceptable.
- D. Label all front panel controls used in normal operation of system using plastic laminate engraved labels or approved equal.
 - 1. Firmly affix to panel or device.
- E. Labeling Formats
 - 1. To be defined by Owner prior to construction following practice for all campus Security System installations.

3.06 SYSTEM TESTING AND ACCEPTANCE

- A. System shall be complete and fully operational before requesting final acceptance and scheduling system testing. This testing is coordinated through the Owner and Owner representative.
- B. Installation of all field devices will be inspected by Owner or Owner's representative. Inspection will consider overall neatness and quality of installation, functionality of each individual device, mounting, wiring and labeling.
- C. Conduct a seven-day burn-in test. Intent of burn-in test shall be to prove System by placing it in near real operating conditions prior to system acceptance.
 - 1. During this period System shall be fully functional and programmed so that all points, controls, messages, prompts, etc. can be exercised and validated.
- D. Provide written notification to Owner that system is completely installed, integrated, burn-in testing completed and is fully functional as specified herein.
 - 1. Submit schedule for acceptance testing. Representatives of Owner, and/or Engineering representatives may witness test procedures.
 - 2. Notify Owner and the representative in writing a minimum of two weeks in advance to allow for such participation.
 - 3. Describe test procedures prior to testing and submit sample test form to Owner / Representative.
- E. Prior to final acceptance test, equipment rooms and similar areas should be free of accumulation of waste materials or rubbish caused by operations under Contract.
- F. Equipment shall be on and fully operational during any and all testing procedures.
 - 1. Provide all personnel, equipment, and supplies necessary to perform site testing.
 - 2. Supply a form of communication with remote parties in the team for use during test.
 - 3. A manufacturer's representative shall be present on site to answer any questions that may be beyond technical capability of Contractor's employees, if Contractor so elects or by specific
- G. Testing shall include but not be limited to:
 - 1. Continuity and conductor/connector integrity on all cables.
 - 2. Demonstrate functionality of all cameras including:
 - a. Owner-acceptable field of view.