SECTION 00910

ADDENDA

SONOMA CLEAN POWER AUTHORITY
ADVANCED ENERGY CENTER TENANT IMPORVEMENTS

NOTICE TO ALL BIDDERS: THE FOLLOWING MODIFICATIONS, ADDITIONS, DELETIONS, CLARIFICATIONS AND/OR INFORMATION ARE HEREBY MADE PART OF THE CONTRACT DOCUMENTS. ADDENDUM MUST BE ACKNOWLEGDED AS PART OF THE BIF FORM.

ARTICLE 1 – ADDENDUM #3

1.1 ITEM #1 – 040120 MASONRY RESTORATION AND CLEANING - SPECIFICATION CLARIFICATION

A. Reference Part 2.1A Materials
   1. Replace: "…add new masonry at infill openings to match existing and protect adjacent non-masonry surfaces."
   2. With: "…as necessary, contractor to assume ten (10) square feet, at various locations. Project adjacent non-masonry surfaces.

1.2 ITEM #2 – 260923 BUILDING LIGHTING CONTROL SYSTEMS - SPECIFICATION CLARIFICATION

A. Reference Part 1.3A Quality Assurance – Manufacturers
   1. Replace "…Lutron "QS" Quantum Total Management System"
   2. With: "Legrand/Wattstoppper LMCP Series or equal."

1.3 ITEM #3 – 087100 DOOR HARDWARE

A. Delete: Section 087100 (Door Hardware) in its entirety.
B. Add: Section 087100 (Door Hardware) attached.

1.4 ITEM #4 – 281300 ACCESS CONTROL AND ALARM MONITORING SYSTEM

A. Delete: Section 281300 (Access Control and Alarm Monitoring System) in its entirety.
B. Add: Section 281300 (Access Control and Alarm Monitoring) attached.

1.5 ITEM #5 – BID SET COMBINED DRAWINGS TLCD PROJECT NO: 18077.00

A. Add drawing ESK-002 (First Floor Plan – Power Demo) to the "Bid Set Combined" set of Construction Drawings for TLCD Project Number: 18077.00.
B. Add drawing ESK-003 (First Floor Plan – Power) to the "Bid Set Combined" set of Construction Drawings for TLCD Project Number: 18077.00.
C. Add drawing ESK-004 (First Floor Plan – Power) to the "Bid Set Combined" set of Construction Drawings for TLCD Project Number: 18077.00.

D. Add drawing ESK-005 (Roof Plan Electrical) to the "Bid Set Combined" set of Construction Drawings for TLCD Project Number: 18077.00.

E. Add drawing ESK-006 (First Floor Plan – Lighting) to the "Bid Set Combined" set of Construction Drawings for TLCD Project Number: 18077.00.

F. Add drawing ESK-007 (Second Floor Plan - Lighting) to the "Bid Set Combined" set of Construction Drawings for TLCD Project Number: 18077.00.

G. Add drawing ESK-008 (Details and Riser) to the "Bid Set Combined" set of Construction Drawings for TLCD Project Number: 18077.00.

H. Add drawing ESK-009 (Schedules – Panel) to the "Bid Set Combined" set of Construction Drawings for TLCD Project Number: 18077.00.

I. Add drawing ESK-010 (Lighting Fixture Schedule) to the "Bid Set Combined" set of Construction Drawings for TLCD Project Number: 18077.00.

J. Add drawing ESK-011 (Lighting Fixture Schedule) to the "Bid Set Combined" set of Construction Drawings for TLCD Project Number: 18077.00.

K. Add drawing ESK-012 (Site Plan Electrical) to the "Bid Set Combined" set of Construction Drawings for TLCD Project Number: 18077.00.

L. Add drawing MSK-001 (First Floor Plan – HVAC) to the "Bid Set Combined" set of Construction Drawings for TLCD Project Number: 18077.00.

M. Add drawing MSK-002 (Roof Plan) to the "Bid Set Combined" set of Construction Drawings for TLCD Project Number: 18077.00.

N. Add drawing MSK-003 (Schedules) to the "Bid Set Combined" set of Construction Drawings for TLCD Project Number: 18077.00.

O. Add drawing MSK-004 (Schedules) to the "Bid Set Combined" set of Construction Drawings for TLCD Project Number: 18077.00.

P. Add drawing PSK-001 (Legend Symbols, General Notes & Drawing List) to the "Bid Set Combined" set of Construction Drawings for TLCD Project Number: 18077.00.

Q. Add drawing PSK-002 (First Floor Plan - Plumbing) to the "Bid Set Combined" set of Construction Drawings for TLCD Project Number: 18077.00.

R. Add drawing PSK-003 (First Floor Plan - Plumbing) to the "Bid Set Combined" set of Construction Drawings for TLCD Project Number: 18077.00.

S. Add drawing TSK-01 (Security Cover Sheet Revision) to the "Bid Set Combined" set of Construction Drawings for TLCD Project Number: 18077.00.

T. Add drawing TSK-02 (Revised Security Diagram) to the "Bid Set Combined" set of Construction Drawings for TLCD Project Number: 18077.00.

U. Add drawing TSK-03 (Moved ACAMS Reader to Mullion) to the "Bid Set Combined" set of Construction Drawings for TLCD Project Number: 18077.00.

V. Add drawing TSK-04 (Added Wireless Hub) to the "Bid Set Combined" set of Construction Drawings for TLCD Project Number: 18077.00.

W. Add drawing TSK-05 (Security Tack Elevation) to the "Bid Set Combined" set of Construction Drawings for TLCD Project Number: 18077.00.

X. Add drawing TSK-06 (Security Wall Panel) to the "Bid Set Combined" set of Construction Drawings for TLCD Project Number: 18077.00.

Y. Add drawing TSK-07 (Security Installation) to the "Bid Set Combined" set of Construction Drawings for TLCD Project Number: 18077.00.

Z. Add drawing TSK-08 (Security Installation) to the "Bid Set Combined" set of Construction Drawings for TLCD Project Number: 18077.00.

1.6 ITEM #6 –RESPONSE TO WRITTEN QUESTIONS

15. The section 01330 states "Normally Submittals will be processed and returned to contractor within 30 days of receipt." Can this duration be shortened?
    a. *RESPONSE TO QUESTION 15: Date of submittal review has been adjuster per Addendum #2 refer to specification section 01330 of Addendum #2.*
16. It was mentioned at the job walk that there wouldn't be much room available for a traditional temporary trailer on site. The current field office spec requires a lot of item and ser ice agreements that don't appear to be necessary. Please update the specifications to remove the requirements of 01501 field offices.
    a. *RESPONSE TO QUESTION 16: This specification was removed via Addendum #1.*
17. Is a SWPPP required? The exterior impacted area is under an acre (less than 1000sf). Can this section be deleted?
    a. *RESPONSE TO QUESTION 17: This specification was removed via Addendum #1.*
18. This section requires monthly progress reports for the waste management log. Usually these logs are tracked by the waste removal company and submitted at the end of the project. Will monthly updates really be required?
    a. *RESPONSE TO QUESTION 18: Submission of monthly progress reports is a requirement of this project.*
19. Section 040120 asks us to power wash and repair mortar joints, rebuild damaged masonry work and add new masonry at infill openings to match existing. Where does this apply? The building appears to be cast in place concrete. I don't see the masonry work on the drawings. Please identify where repairing is required and where infill is required.
    a. *RESPONSE TO QUESITON 19: 04 01 20 Section 2.1.A shall be amended, replacing: "…add new masonry at infill openings to match existing, and protect adjacent non-masonry surfaces." with: "…as necessary, contractor to assume ten (10) square feet, at various locations. Protect adjacent non-masonry surfaces." See drawing sheet A-201 for more information.*
20. Please provide the hazardous materials survey and report.
    a. *RESPONSE TO QUESTION 20: This was provided via Addendum #1.*
21. NOT INCLUDED IN ADDENDUM 3. ANSWER TO COME VIA LATER ADDENDUM.
22. NOT INCLUDED IN ADDENDUM 3. ANSWER TO COME VIA LATER ADDENDUM.
23. Where does the cement plaster apply? I looked at the elevations, I don't see any call out, just paint. The spec section asks for 100sf mockup. That would be larger than any patching, if required. Please advise and clarify scope.
    a. *RESPONSE TO QUESTION 23: The scope is patch and repair only. Specifically, adjacent to exterior door #15, detail 12/A510 describes a floor level scupper cut into the exterior wall. No mockup will be required.*

24. On the provided survey it notes that there is ACM located in the water proofing behind concrete walls. Considering there will be drilling thorough these walls for furring out, how would you like to see this abatement handled? An allotment for (x) amount of holes or penetrations?
    a. *RESPONSE TO QUESTION 24: This was provided via Addendum #1. Refer to "Addendum 1 Hazardous Materials Specifications Bid Submittal" Produced by Sensible Environmental Solutions. The contractor must coordinate their work with the hazardous materials identified in Addendum #1.*
25. Please confirm no work is to be performed on the screen or perimeter flashing – parapet with regards to Hazardous Materials.
    a. *RESPONSE TO QUESTION 25: This was provided via Addendum #1. Refer to "Addendum 1 Hazardous Materials Specifications Bid Submittal" Produced by Sensible Environmental Solutions. The contractor must coordinate their work with the hazardous materials identified in Addendum #1.*
26. Does the quantities provided include what they will need if at all for trenching with regards to Hazardous Materials?
    a. *RESPONSE TO QUESTION 26: This was provided via Addendum #1. Refer to "Addendum 1 Hazardous Materials Specifications Bid Submittal" Produced by Sensible Environmental Solutions. The contractor must coordinate their work with the hazardous materials identified in Addendum #1.*

ARTICLE 2 – NOT USED

ARTICLE 3 – NOT USED

ARTICLE 4 – NOT USED

END OF SECTION

SECTION 08 71 00

DOOR HARDWARE

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes commercial door hardware for the following:

1. Swinging doors.
2. Sliding doors.
3. Other doors to the extent indicated.

B. Door hardware includes, but is not necessarily limited to, the following:

1. Mechanical door hardware.
2. Cylinders specified for doors in other sections.

C. Related Sections:

1. Division 08 Section “Door Hardware Schedule”.
2. Division 08 Section “Flush Wood Doors”.

D. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.

1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
2. ICC/IBC - International Building Code.
3. NFPA 70 - National Electrical Code.
4. NFPA 80 - Fire Doors and Windows.
5. NFPA 101 - Life Safety Code.
6. NFPA 105 - Installation of Smoke Door Assemblies.
7. State Building Codes, Local Amendments.

E. Standards: All hardware specified herein shall comply with the following industry standards:

1. ANSI/BHMA Certified Product Standards - A156 Series
2. UL10C – Positive Pressure Fire Tests of Door Assemblies

1.2 SUBMITTALS

A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes.

B. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.

1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."

2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening. Organize door hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals that do not follow the same format and order as the Door Hardware Sets will be rejected and subject to resubmission.

3. Content: Include the following information:

a. Type, style, function, size, label, hand, and finish of each door hardware item.
b. Manufacturer of each item.
c. Fastenings and other pertinent information.
d. Location of door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
e. Explanation of abbreviations, symbols, and codes contained in schedule.
f. Mounting locations for door hardware.
g. Door and frame sizes and materials.
h. Warranty information for each product.

4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.

C. Keying Schedule: After a keying meeting with the owner has taken place prepare a separate keying schedule detailing final instructions. Submit the keying schedule in electronic format. Include keying system explanation, door numbers, key set symbols, hardware set numbers and special instructions. Owner must approve submitted keying schedule prior to the ordering of permanent cylinders/cores.

D. Informational Submittals:

1. Product Test Reports: Indicating compliance with cycle testing requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified independent testing agency.

E. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door hardware installation in quantity as required in Division 01, Closeout Submittals.

1.3 QUALITY ASSURANCE

A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum 5 years of documented experience in producing hardware and equipment similar to that indicated for this Project and that have a proven record of successful in-service performance.

B. Installer Qualifications: A minimum 3 years documented experience installing both standard and electrified door hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.

C. Door Hardware Supplier Qualifications: Experienced commercial door hardware distributors with a minimum 5 years documented experience supplying both mechanical and electromechanical hardware installations comparable in material, design, and extent to that indicated for this Project. Supplier recognized as a factory direct distributor by the manufacturers of the primary materials with a warehousing facility in Project's vicinity. Supplier to have on staff a certified Architectural Hardware Consultant (AHC) available during the course of the Work to consult with Contractor, Architect, and Owner concerning both standard and electromechanical door hardware and keying.

D. Source Limitations: Obtain each type and variety of door hardware specified in this section from a single source unless otherwise indicated.

1. Electrified modifications or enhancements made to a source manufacturer's product line by a secondary or third party source will not be accepted.

E. Each unit to bear third party permanent label demonstrating compliance with the referenced standards.

F. Keying Conference: Conduct conference to comply with requirements in Division 01 Section "Project Meetings." Keying conference to incorporate the following criteria into the final keying schedule document:

1. Function of building, purpose of each area and degree of security required.
2. Plans for existing and future key system expansion.
3. Requirements for key control storage and software.
4. Installation of permanent keys, cylinder cores and software.
5. Address and requirements for delivery of keys.

G. Pre-Submittal Conference: Conduct coordination conference in compliance with requirements in Division 01 Section "Project Meetings" with attendance by representatives of Supplier(s), Installer(s), and Contractor(s) to review proper methods and the procedures for receiving, handling, and installing door hardware.

1. Prior to installation of door hardware, conduct a project specific training meeting to instruct the installing contractors' personnel on the proper installation and adjustment of their respective products. Product training to be attended by installers of door hardware (including electromechanical hardware) for aluminum, hollow metal and wood doors. Training will include the use of installation manuals, hardware schedules, templates and physical product samples as required.

2. Inspect and discuss electrical roughing-in, power supply connections, and other preparatory work performed by other trades.
3. Review sequence of operation narratives for each unique access controlled opening.
4. Review and finalize construction schedule and verify availability of materials.
5. Review the required inspecting, testing, commissioning, and demonstration procedures

H. At completion of installation, provide written documentation that components were applied to manufacturer's instructions and recommendations and according to approved schedule.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware delivered to Project site. Do not store electronic access control hardware, software or accessories at Project site without prior authorization.

B. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.

C. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to the Owner shall be established at the "Keying Conference".

1.5 COORDINATION

A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing standard and electrified hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing hardware to comply with indicated requirements.

B. Door and Frame Preparation: Doors and corresponding frames are to be prepared, reinforced and pre-wired (if applicable) to receive the installation of the specified electrified, monitoring, signaling and access control system hardware without additional in-field modifications.

1.6 WARRANTY

A. General Warranty: Reference Division 01, General Requirements. Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

B. Warranty Period: Written warranty, executed by manufacturer(s), agreeing to repair or replace components of standard and electrified door hardware that fails in materials or workmanship within specified warranty period after final acceptance by the Owner. Failures include, but are not limited to, the following:

1. Structural failures including excessive deflection, cracking, or breakage.
2. Faulty operation of the hardware.

3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
4. Electrical component defects and failures within the systems operation.

C. Standard Warranty Period: One year from date of Substantial Completion, unless otherwise indicated.

D. Special Warranty Periods:
1. Seven years for heavy duty cylindrical (bored) locks and latches.
2. Five years for exit hardware.
3. Twenty five years for manual surface door closer bodies.

1.7 MAINTENANCE SERVICE

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

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

A. General: Provide door hardware for each door to comply with requirements in Door Hardware Sets and each referenced section that products are to be supplied under.

B. Designations: Requirements for quantity, item, size, finish or color, grade, function, and other distinctive qualities of each type of door hardware are indicated in the Door Hardware Sets at the end of Part 3. Products are identified by using door hardware designations, as follows:

1. Named Manufacturer's Products: Product designation and manufacturer are listed for each door hardware type required for the purpose of establishing requirements. Manufacturers' names are abbreviated in the Door Hardware Schedule.

C. Substitutions: Requests for substitution and product approval for inclusive mechanical and electromechanical door hardware in compliance with the specifications must be submitted in writing and in accordance with the procedures and time frames outlined in Division 01, Substitution Procedures. Approval of requests is at the discretion of the architect, owner, and their designated consultants.

2.2 HANGING DEVICES

A. Hinges: ANSI/BHMA A156.1 certified butt hinges with number of hinge knuckles and other options as specified in the Door Hardware Sets.

1. Quantity: Provide the following hinge quantity:

a. Two Hinges: For doors with heights up to 60 inches.

b. Three Hinges: For doors with heights 61 to 90 inches.
c. Four Hinges: For doors with heights 91 to 120 inches.
d. For doors with heights more than 120 inches, provide 4 hinges, plus 1 hinge for every 30 inches of door height greater than 120 inches.

2. Hinge Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:

a. Widths up to 3'0": 4-1/2" standard or heavy weight as specified.
b. Sizes from 3'1" to 4'0": 5" standard or heavy weight as specified.

3. Hinge Weight and Base Material: Unless otherwise indicated, provide the following:

a. Exterior Doors: Heavy weight, non-ferrous, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate standard weight.
b. Interior Doors: Standard weight, steel, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate heavy weight.

4. Hinge Options: Comply with the following:

a. Non-removable Pins: Provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for the all out-swinging lockable doors.

5. Manufacturers:

a. Hager Companies (HA).
b. McKinney Products; ASSA ABLOY Architectural Door Accessories (MK).

B. Continuous Geared Hinges: ANSI/BHMA A156.26 Grade 1-600 certified continuous geared hinge. with minimum 0.120-inch thick extruded 6060 T6 aluminum alloy hinge leaves and a minimum overall width of 4 inches. Hinges are non-handed, reversible and fabricated to template screw locations. Factory trim hinges to suit door height and prepare for electrical cut-outs.

1. Manufacturers:

a. McKinney Products; ASSA ABLOY Architectural Door Accessories (MK).
b. Pemko Products; ASSA ABLOY Architectural Door Accessories (PE).

2.3 DOOR OPERATING TRIM

A. Flush Bolts and Surface Bolts: ANSI/BHMA A156.3 and A156.16, Grade 1, certified.

1. Flush bolts to be furnished with top rod of sufficient length to allow bolt retraction device location approximately six feet from the floor.
2. Furnish dust proof strikes for bottom bolts.
3. Surface bolts to be minimum 8" in length and U.L. listed for labeled fire doors and U.L. listed for windstorm components where applicable.

4. Provide related accessories (mounting brackets, strikes, coordinators, etc.) as required for appropriate installation and operation.

5. Manufacturers:

    a. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO).
    b. Trimco (TC).

2.4 CYLINDERS AND KEYING

A. General: Cylinder manufacturer to have minimum (10) years experience designing secured master key systems and have on record a published security keying system policy.

B. Source Limitations: Obtain each type of keyed cylinder and keys from the same source manufacturer as locksets and exit devices, unless otherwise indicated.

C. Cylinders: Original manufacturer cylinders complying with the following:

1. Mortise Type: Threaded cylinders with rings and cams to suit hardware application.
2. Rim Type: Cylinders with back plate, flat-type vertical or horizontal tailpiece, and raised trim ring.
3. Bored-Lock Type: Cylinders with tailpieces to suit locks.
4. Mortise and rim cylinder collars to be solid and recessed to allow the cylinder face to be flush and be free spinning with matching finishes.
5. Keyway: Manufacturer’s Standard.

D. Keying System:

1. Conduct specified "Keying Conference" to define and document keying system instructions and requirements.
2. Furnish cut, nickel-silver large bow permanently inscribed with a visual key control number as directed by Owner.

E. Key Quantity: Provide the following minimum number of keys:

1. Change Keys per Cylinder: Two (2)
2. Master Keys (per Master Key Level/Group): Five (5).

2.5 MECHANICAL LOCKS AND LATCHING DEVICES

A. Cylindrical Locksets, Grade 1 (Heavy Duty): ANSI/BHMA A156.2, Series 4000, Grade 1 certified.

1. Furnish with solid cast levers, standard 2 3/4” backset, and 1/2" (3/4" at rated paired openings) throw brass or stainless steel latchbolt.

2. Locks are to be non-handed and fully field reversible.

3. Manufacturers:

    a. Corbin Russwin Hardware (RU) – CL3300 Series.
    b. Sargent Manufacturing (SA) – 10 Line.

2.6 LOCK AND LATCH STRIKES

A. Strikes: Provide manufacturer's standard strike with strike box for each latch or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, unless otherwise indicated, and as follows:

1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
3. Aluminum-Frame Strike Box: Provide manufacturer's special strike box fabricated for aluminum framing.
4. Double-lipped strikes: For locks at double acting doors. Furnish with retractable stop for rescue hardware applications.

B. Standards: Comply with the following:

1. Strikes for Mortise Locks and Latches: BHMA A156.13.
2. Strikes for Bored Locks and Latches: BHMA A156.2.
3. Strikes for Auxiliary Deadlocks: BHMA A156.36.
4. Dustproof Strikes: BHMA A156.16.

2.7 CONVENTIONAL EXIT DEVICES

A. General Requirements: All exit devices specified herein shall meet or exceed the following criteria:

1. At doors not requiring a fire rating, provide devices complying with NFPA 101 and listed and labeled for "Panic Hardware" according to UL305. Provide proper fasteners as required by manufacturer including sex nuts and bolts at openings specified in the Hardware Sets.

2. Where exit devices are required on fire rated doors, provide devices complying with NFPA 80 and with UL labeling indicating "Fire Exit Hardware". Provide devices with the proper fasteners for installation as tested and listed by UL. Consult manufacturer’s catalog and template book for specific requirements.

3. Except on fire rated doors, provide exit devices with hex key dogging device to hold the pushbar and latch in a retracted position. Provide optional keyed cylinder dogging on devices where specified in Hardware Sets.

4. Devices must fit flat against the door face with no gap that permits unauthorized dogging of the push bar. The addition of filler strips is required in any case where the door light extends behind the device as in a full glass configuration.

5. Lever Operating Trim: Where exit devices require lever trim, furnish manufacturer's heavy duty escutcheon trim with threaded studs for thru-bolts.

    a. Lock Trim Design: As indicated in Hardware Sets, provide finishes and designs to match that of the specified locksets.
    b. Where function of exit device requires a cylinder, provide a cylinder (Rim or Mortise) as specified in Hardware Sets.

6. Vertical Rod Exit Devices: Where surface or concealed vertical rod exit devices are used at interior openings, provide as less bottom rod (LBR) unless otherwise indicated. Provide dust proof strikes where thermal pins are required to project into the floor.

7. Narrow Stile Applications: At doors constructed with narrow stiles, or as specified in Hardware Sets, provide devices designed for maximum 2” wide stiles.

8. Dummy Push Bar: Nonfunctioning push bar matching functional push bar.

9. Rail Sizing: Provide exit device rails factory sized for proper door width application.

10. Through Bolt Installation: For exit devices and trim as indicated in Door Hardware Sets.

B. Conventional Push Rail Exit Devices (Heavy Duty): ANSI/BHMA A156.3, Grade 1 certified panic and fire exit hardware devices furnished in the functions specified in the Hardware Sets. Exit device latch to be stainless steel, pullman type, with deadlock feature.

1. Manufacturers:

    a. Corbin Russwin Hardware (RU) - ED4000 / ED5000 Series.
    b. Sargent Manufacturing (SA) - 80 Series.

2.8 DOOR CLOSERS

A. All door closers specified herein shall meet or exceed the following criteria:

1. General: Door closers to be from one manufacturer, matching in design and style, with the same type door preparations and templates regardless of application or spring size. Closers to be non-handed with full sized covers including installation and adjusting information on inside of cover.

2. Standards: Closers to comply with UL-10C for Positive Pressure Fire Test and be U.L. listed for use of fire rated doors.

3. Cycle Testing: Provide closers which have surpassed 15 million cycles in a test witnessed and verified by UL.

4. Size of Units: Comply with manufacturer's written recommendations for sizing of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Where closers are indicated for doors required to be accessible to the physically handicapped, provide units complying with ANSI ICC/A117.1.

5. Closer Arms: Provide heavy duty, forged steel closer arms unless otherwise indicated in Hardware Sets.

6. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics.

7. Closer Accessories: Provide door closer accessories including custom templates, special mounting brackets, spacers and drop plates as required for proper installation. Provide through-bolt and security type fasteners as specified in the hardware sets.

B. Door Closers, Surface Mounted (Heavy Duty): ANSI/BHMA A156.4, Grade 1 surface mounted, heavy duty door closers with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be rack and pinion type, one piece cast iron or aluminum alloy body construction, with adjustable backcheck and separate non-critical valves for closing sweep and latch speed control. Provide non-handed units standard.

1. Manufacturers:

a. Sargent Manufacturing (SA) - 351 Series.
b. Norton Door Controls (NO) - 7500 Series.

C. Door Closers, Surface Mounted (Commercial Duty): ANSI/BHMA 156.4, Grade 1 certified surface mounted, institutional grade door closers with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be rack and pinion type, one piece cast iron or aluminum alloy body construction, with adjustable backcheck, closing sweep, and latch speed control valves. Provide non-handed units standard.

1. Manufacturers:

a. Norton Door Controls (NO) - 8500 Series.
b. Sargent Manufacturing (SA) - 1431 Series.

2.9 ARCHITECTURAL TRIM

A. Door Protective Trim

1. General: Door protective trim units to be of type and design as specified below or in the Hardware Sets.

2. Size: Fabricate protection plates (kick, armor, or mop) not more than 2" less than door width (LDW) on stop side of single doors and 1” LDW on stop side of pairs of doors, and not more than 1" less than door width on pull side. Coordinate and provide proper width and height as required where conflicting hardware dictates. Height to be as specified in the Hardware Sets.

3. Where plates are applied to fire rated doors with the top of the plate more than 16” above the bottom of the door, provide plates complying with NFPA 80. Consult manufacturer’s catalog and template book for specific requirements for size and applications.

4. Protection Plates: ANSI/BHMA A156.6 certified protection plates (kick, armor, or mop), fabricated from the following:

    a. Stainless Steel: 300 grade, 050-inch thick.

5. Options and fasteners: Provide manufacturer's designated fastener type as specified in the Hardware Sets. Provide countersunk screw holes.

6. Manufacturers:

    a. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO).
    b. Trimco (TC).

2.10 DOOR STOPS AND HOLDERS

A. General: Door stops and holders to be of type and design as specified below or in the Hardware Sets.

B. Door Stops and Bumpers: ANSI/BHMA A156.16, Grade 1 certified door stops and wall bumpers. Provide wall bumpers, either convex or concave types with anchorage as indicated, unless floor or other types of door stops are specified in Hardware Sets. Do not mount floor stops where they will impede traffic. Where floor or wall bumpers are not appropriate, provide overhead type stops and holders.

1. Manufacturers:

    a. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO).
    b. Trimco (TC).

2.11 ARCHITECTURAL SEALS

A. General: Thresholds, weatherstripping, and gasket seals to be of type and design as specified below or in the Hardware Sets. Provide continuous weatherstrip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated. At exterior applications provide non-corrosive fasteners and elsewhere where indicated.

B. Smoke Labeled Gasketing: Assemblies complying with NFPA 105 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for smoke control ratings indicated, based on testing according to UL 1784.

1. Provide smoke labeled perimeter gasketing at all smoke labeled openings.

C. Fire Labeled Gasketing: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to UL-10C.

1. Provide intumescent seals as indicated to meet UL10C Standard for Positive Pressure Fire Tests of Door Assemblies, and NPFA 252, Standard Methods of Fire Tests of Door Assemblies.

D. Sound-Rated Gasketing: Assemblies that are listed and labeled by a testing and inspecting agency, for sound ratings indicated.

E. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.

F. Manufacturers:

1. National Guard Products (NG).
2. Pemko Products; ASSA ABLOY Architectural Door Accessories (PE).

2.12 FABRICATION

A. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to manufacturers recognized installation standards for application intended.

2.13 FINISHES

A. Standard: Designations used in the Hardware Sets and elsewhere indicate hardware finishes complying with ANSI/BHMA A156.18, including coordination with traditional U.S. finishes indicated by certain manufacturers for their products.

B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware

C. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine scheduled openings, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.

B. Notify architect of any discrepancies or conflicts between the door schedule, door types, drawings and scheduled hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.

3.2 PREPARATION

A. Hollow Metal Doors and Frames: Comply with ANSI/DHI A115 series.

B. Wood Doors: Comply with ANSI/DHI A115-W series.

3.3 INSTALLATION

A. Install each item of mechanical and electromechanical hardware and access control equipment to comply with manufacturer's written instructions and according to specifications.

1. Installers are to be trained and certified by the manufacturer on the proper installation and adjustment of fire, life safety, and security products including: hanging devices; locking devices; closing devices; and seals.

B. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically indicated or required to comply with governing regulations:

1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
2. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
3. Where indicated to comply with accessibility requirements, comply with ANSI A117.1 "Accessibility Guidelines for Buildings and Facilities."
4. Provide blocking in drywall partitions where wall stops or other wall mounted hardware is located.

C. Retrofitting: Install door hardware to comply with manufacturer's published templates and written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 9 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.

D. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 7 Section "Joint Sealants."

E. Storage: Provide a secure lock up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items so that the completion of the work will not be delayed by hardware losses before and after installation.

3.4 FIELD QUALITY CONTROL

A. Field Inspection: Supplier will perform a final inspection of installed door hardware and state in report whether work complies with or deviates from requirements, including whether door hardware is properly installed, operating and adjusted.

3.5 ADJUSTING

A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

3.6 CLEANING AND PROTECTION

A. Protect all hardware stored on construction site in a covered and dry place. Protect exposed hardware installed on doors during the construction phase. Install any and all hardware at the latest possible time frame.

B. Clean adjacent surfaces soiled by door hardware installation.

C. Clean operating items as necessary to restore proper finish. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of owner occupancy.

3.7 DEMONSTRATION

A. Instruct Owner's maintenance personnel to adjust, operate, and maintain mechanical and electromechanical door hardware.

3.8 DOOR HARDWARE SETS

A. The hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.

B. The supplier is responsible for handing and sizing all products and providing the correct option for the appropriate door type and material where more than one is presented in the hardware sets. Quantities listed are for each pair of doors, or for each single door.

C. Manufacturer's Abbreviations:

1. MK - McKinney
2. RO - Rockwood
3. SA - Sargent
4. PE – Pemko
5. SU – Securitron

Hardware Sets

Set: 1.0
Doors: 1, 10

Trim	See spec section 28 1300	
Door Contacts	See spec section 28 1300	
REX	See spec section 28 1300	
	Remove existing door stop	

Set: 1.1
Doors: 15

3	Hinge	MPB79	US26D MK
1	Storeroom Lock	28 10G04 LL MK	US26D SA
1	Door Closer	1431 O/P9	EN SA
1	Stop	406/409/441H (as required)	US32D RO
1	Threshold	271A	PE
1	Gasketing	294AV	PE
1	Sweep	57AV	PE

Set: 2.0
Doors: 14, 8

3	Hinge	MPB79	US26D MK
1	Storeroom Lock	28 10G04 LL MK	US26D SA
1	Stop	406/409/441H (as required)	US32D RO
3	Silencer	608	RO

Set: 3.0
Doors: 11, 12, 13

3	Hinge	MPB79	US26D MK
1	Office Lock	28 10G05 LL MK	US26D SA
1	Stop	406/409/441H (as required)	US32D RO
3	Silencer	608	RO

Set: 4.0

Doors: 4B

3	Hinge	MPB79	US26D	MK
1	Classroom Lock	28 10G37 LL MK	US26D	SA
1	Door Closer	1431 O/P9	EN	SA
1	Kick Plate	K1050 10"	US32D	RO
1	Stop	406/409/441H (as required)	US32D	RO
3	Silencer	608		RO
	Door Contacts	See spec section 28 1300		

Set: 4.1
Doors: 9

3	Hinge	MPB79	US26D	MK
1	Passage Lever	28 10G15 LL MK	US26D	SA
1	Door Closer	1431 O/P9	EN	SA
2	Kick Plate	K1050 10"	US32D	RO
1	Stop	406/409/441H (as required)	US32D	RO
3	Silencer	608		RO
	Door Contacts	See spec section 28 1300		

Set: 5.0
Doors: 6, 7

3	Hinge	MPB79	US26D	MK
1	Push Plate	70C	US32D	RO
1	Pull Plate	BF 111x70C	US32D	RO
1	Door Closer	1431 O/P9	EN	SA
1	Kick Plate	K1050 10"	US32D	RO
1	Stop	406/409/441H (as required)	US32D	RO

Set: 6.0
Doors: 4A

1	Hardware	by door mfg.

END OF SECTION

SECTION 281300

ACCESS CONTROL AND ALARM MONITORING SYSTEM

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes

1. ACAMS, including access control units, input/output units, and card readers
2. ACAMS server
3. ACAMS power supplies
4. Alarm initiating devices, including: magnetic switch contacts, request-to-exit sensors, motion detectors, and duress buttons
5. Power supplies
6. Local audible alarms/sounders
7. Security operations center fixtures and furnishings
8. Interface to electric door hardware
9. Interface to Fire/Life-Safety system
10. Interface to VSS and other security subsystems with bi-directional communication
11. Interface to intrusion detection system (IDS)

B. Products Furnished but not Installed under This Section

1. None

C. Products Furnished and Installed under Another Section

1. 120VAC power
2. Telecommunication pathways; refer to Section 270528 and/or 270532.

D. Related Sections

1. Consult other Divisions, determine the extent and character of related work and properly coordinate work specified herein with that specified elsewhere to produce a fully functional and completely operational system.
2. Section 087100, “Door Hardware”
3. Section 280000, “Basic Security Requirements”
4. Section 280513, “Security System Cabling”
5. Section 280553, “Security System Labeling”
6. Section 280800, “Security System Acceptance Testing”
7. Section 281600, “Intrusion Detection System”
8. Section 282300, “Video Surveillance System”

9. Section 282600, “Security Communications System”
10. Section 271513, “Communications Horizontal Twisted Pair Cabling”

1.02 REFERENCES

A. Comply with the References requirements of Section 280000.

1.03 DEFINITIONS

A. Definitions as described in Section 280000 shall apply to this Section.

B. In addition to those definitions in Section 280000, the following list of terms as used in this specification defined as follows:

1. “A” and “AMP”: amperes
2. “ACAMS”: access control and alarm monitoring
3. “IDS”: intrusion detection system
4. “KVM”: Keyboard, Monitor, Mouse (as in KVM drawer to access a server)
5. “LAN”: Local Area Network
6. “NC”: Normally closed
7. “NO”: Normally open
8. “REX”: request to exit
9. “SCS”: security communications system
10. “UPS”: uninterruptable power supply
11. “VAC”: volts alternating current
12. “VDC”: volts direct current
13. “VMS”: video management system
14. “VSS”: video surveillance system

1.04 SYSTEM DESCRIPTION

A. General: Provide engineering, labor, materials, apparatus, tools, equipment, transportation, temporary construction and special or occasional services as required to make a complete working Access Control and Alarm Monitoring system installation, as described in these specifications.

B. Access Control and Alarm Monitoring System (ACAMS) Overview

1. ACAMS is a distributed network of control panels connected to and programmed from a central server and client workstation(s). The ACAMS is utilized for electronically controlling access within the building for employees, visitors, delivery personnel, and persons.
2. ACAMS consists of an ACAMS server/host computer (located in the Telecom/AV Room), ACAMS client workstations/computers (located in the showroom and offsite), badging system (located at the front desk), field panels, card readers and alarm initiating devices (refer to the drawings for locations of field panels, card

readers, and other devices). The server will communicate with the control panels via the Owner's LAN and/or hardwire connections. The control panels control the electronic door hardware allowing or disallowing passage through a controlled door or gate.

3. The ACAMS includes badging software (loaded on the ACAMS client workstations and peripherals to process, print, and manage cardholder photo IDs. Coordinate final badging space with the Owner.
4. The ACAMS will provide secondary monitoring of the IDS.

C. ACAMS Server and Software

1. Server (to host ACAMS software): Provide one server to host ACAMS software package.
2. KVM Switch: Provide one rack-mounted sliding drawer type combination KVM/switch unit to control the ACAMS server.
3. Monitors/Displays: Client provided
4. ACAMS Software: Provide ACAMS software package and licenses in a quantity sufficient to support the project's client workstations and card readers +20% (minimum, round up to nearest whole number), including loading onto the ACAMS server, integrating into the network, programming the software system to meet the project requirements, and loading card readers, input points, output points, alarm notifications (email, pages, etc.), and other aspects of the system.
5. Provide software interface to the VSS platform. Program ACAMS software such that alarm events (e.g., door forced open, door held open, etc.) make the video associated with that alarm device call up onto the main monitor and to mark the video recording.
6. Provide interface to the IDS. Program ACAMS software to receive alarm events from the IDS for bi-directional monitoring.

D. ACAMS Client Workstation and Client Software

1. The Owner will provide a client workstation/computer.
2. ACAMS Client Software: Provide ACAMS client software, including loading onto the client workstation and configuring for monitoring and viewing capabilities.

E. Cards/Badges and Badge Production System

1. Provide 100 proximity cards/badges, including programming into ACAMS system.
2. Provide one badge printer, accessories, connectivity components (e.g., cords, etc.), and consumables in a quantity sufficient to support the project's access cards/badges.
3. Provide (load and configure) badging software onto the ACAMS client workstation (front desk) designated for badging

F. ACAMS Panels and Power Supplies

1. Provide access control panels, including enclosures, wireway, enclosures, wiring duct, panels, daughter boards, wiring, connectors, and other components for a complete system.

2. Provide input and output modules as required to fulfill the project's requirements.
3. Provide power supplies for power to ACAMS panels, field devices, door locks, motion detectors, indicator lamps, etc. Other devices such as REX's and alarm horns may be combined on common power supplies.
4. Provide battery backup for power supplies and system components.
5. Provide tamper switches within each security equipment enclosure and wireway, each security junction box, and each door junction box. Program ACAMS for monitoring and alarming (unsupervised inputs for this purpose).
6. Provide real-time monitoring of power supplies and batteries. Connect power supplies to ACAMS panel as an input. Program ACAMS for monitoring and alarming (unsupervised inputs for this purpose).

G. Card Readers / Door Devices

1. Provide proximity card readers, including rough-in, wiring, reader, and other components for a complete system and connect to the ACAMS. Provide tamper switches per card reader wired/connected to the ACAMS input module.
2. Provide door contacts and request-to-exit motion detectors for card reader-controlled doors and connect to the ACAMS. Refer to drawings for configurations and instances.
3. Provide double pole double throw contacts on doors controlled by card readers with associated IDS alarm monitoring keypads. Wire one contact to the serving ACAMS panel and connect to the ACAMS panel as an input.
4. Provide door contacts for non-card reader-controlled doors noted on drawings and connect to the ACAMS. ACAMS shall monitor these doors. Program the ACAMS to alarm should the monitored doors open when not authorized.

H. Provide end of line resistors as required (e.g., on supervised lines).

I. Fire/Life-Safety System Interface

1. Coordinate with Fire/Life-Safety system contractor to automatically drop power from doors within the path of egress upon alarm activation of the Fire/Life-Safety system.
2. Coordinate with Fire/Life-Safety system contractor for scheduled release of electromagnetic door holders on designated card reader doors or scheduled unlocked doors as indicated on project drawings. Provide ACAMS output modules as necessary to interface with Fire/Life-Safety system to release electromagnetic door holders on doors that are required to close and lock on scheduled events.

J. Extra Materials

1. Furnish 10% spare parts of total installed the following (round up to the next complete device):
   a. Access controller boards
   b. Input expansion modules
   c. Output expansion modules
   d. Reader interface modules

e. Card readers
f. Power supply boards
g. Relays

2. Fuses: 5 of each type of fuse

1.05 SUBMITTALS

A. Quantity: Furnish quantities of each submittal as noted in Section 280000.

B. Contractor Qualifications: Submit certification letters for the manufacturer of the ACAMS.

C. Product Data: Submit product information for components specified herein.

D. Shop Drawings: Include the following, minimum:

1. Device placement on floor plans and RCPs
2. Point-to-Point Diagrams: Include wiring, points of connection and interconnecting devices between the following:
   a. ACAMS control panel
   b. ACAMS card reader and input/output modules
   c. ACAMS power supplies
   d. Card Readers
   e. Door and lock position monitoring contact switches and request-to-exit sensors
   f. Motion sensors
   g. Local audible alarms
   h. Interface to electrified door hardware
   i. Interface to Fire/Life-Safety system
   j. Cable conductors (identify conductors on the point to point diagrams with the same tag as the installed conductor)
   k. Miscellaneous control relays
3. Block Diagram/Riser Diagram: Show ACAMS components, conduit, wire types, and sizes between them, including cabling interties between termination hardware.
4. Schedules: Include schedules for ACAMS control panels that show each point ID with a description of the connected devices
5. Include user interface graphics with floor plans reflecting graphic icons (for all security devices) and control buttons displayed.
6. Include custom mounting details.

E. Submittal Description: Training Submittal

1. Format: PDF
2. Contents:
   a. Cover sheet, showing:
      1) Owner Name
      2) Project Name and Address

3) Project Submittal Number
4) Submittal Name
5) System Name
6) Specification Section Number (e.g., “Section 281300”)
7) Date of Submittal. Format: Month Day, Year (e.g., “January 1, 2016”)
8) Contractor Name

b. Table of Contents
c. Training Schedule
d. Training Course outline/ agenda
e. Course materials and training manuals for the following users as applicable:
1) System Administrator
2) Security staff
3) Operator, and designated staff.

F. Submittal Requirements at Closeout:

1. As-Built Drawings: submit as-built drawings that includes approved block diagram, riser diagram, wiring diagram, security control room layout and elevations, floor plans, and reflected ceiling plans, and site plans showing device locations.
2. O&M Manual: submit O&M Manual as a binder or soft copy (bookmarked PDF) including the following, at a minimum:
a. Product data – approved submittals (‘cleaned up’) and electronic
b. As-built drawings, printed to 11x17 / tabloid landscape and electronic PDF files and native files (DWG or RVT) on storage media
c. Warranty statement and service protocol (guidelines, contact numbers, etc.)
d. Maintenance requirements
e. Station Matrix, printed to 11x17 / tabloid landscape and electronic PDF files and native XLSX file on storage media
f. Include information for the network switches and ports.

1.06 WARRANTY

A. Warrant work and the system to perform as described within this Section for a period of one year from the date of system acceptance. The warranty shall cover system operation/performance, parts, and labor. During the warranty period, respond within 4 hours and correct deficiencies within 24 hours of notification.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Access Control and Alarm Monitoring System
1. S2 Security Corporation

B. Card Readers
1. HID

2.02 ACAMS SERVER

A. The server hardware included herein is current only relative to the production date of this document and is used as a baseline. Verify the current model, specifications, etc., prior to procurement.

B. Server Hardware:

1. Wall-mountable
2. Processor: Intel Atom N2800
3. Memory: 4GB
4. Storage: 20 GB

C. Manufacturer, or equal:

1. S2 NetBox:
   a. PN: S2-NB4-E2R-WM

D. Operating System:

1. The most current version of Ubuntu Linux supported by the ACAMS manufacturer

2.03 RACK DRAWER (FOR ACAMS SERVER)

A. The KVM rack drawer shall be an integrated system including a keyboard, mouse, monitor, 1x* KVM switch, and connecting cords – all in a 1U slide-out drawer package.

B. Keyboard: 104-key keyboard with separate numeric keypad

C. Mouse: 2-button Trackball mouse

D. Monitor: 19” TFT/LCD high resolution (1280 x 1024, min) monitor, VGA or DVI

E. Integrated DVI/USB/audio 1x8 KVM switch

F. Manufacturer, or equal:

1. Dell # PowerEdge 180AS KVM with Dell # XT912 LCD monitor, keyboard, and touchpad
2. HP #336044-B21 KVM with HP # TFT7600 LCD monitor, keyboard, and touchpad
3. Rose #RV1-CSKVT19/KVM-8TDVI/A1 ‘RackView’ KWM drawer with switch

2.04 ACAMS CLIENT WORKSTATION

A. The local workstations to manage the ACAMs system are to be provided by the client. Contractor shall install ACAMS and other associated security software on owner-provided workstation. Coordinate workstation requirements with Owner.

2.05 ACAMS SOFTWARE PACKAGE AND CLIENT WORKSTATION SOFTWARE

A. Software Package shall integrate with the VSS (refer to 282300) and badging software.

B. Manufacturer and System:

1. S2 Security Corp.

2.06 BADGING SYSTEM PRINTER

A. Description / Features:
   1. Print Method: dye-sublimation / resin thermal transfer
   2. Resolution: 300 dpi (11.8 dots/mm) continuous tone
   3. Colors: Up to 16.7 million / 256 shades per pixel
   4. Accept card thickness from 0.010 inches to 0.060 inches
   5. Single sided
   6. Without magnetic stripe encoding
   7. Capable of utilizing custom watermarks for additional security

B. Badging Camera Kit:
   1. Camera Manufacturer, or equal:
      a. HID #DTC4250e; “FARGO” printer with printer cleaning kit
      b. Zebra #P430i card printer

C. Accessories:
   1. Ribbons
   2. Badge Stock
   3. Plastic badge holders
   4. Lanyards
   5. Spring-loaded clips
   6. Laminates

2.07 SECURITY EQUIPMENT ENCLOSURES AND DEMARCATION ENCLOSURES

A. Refer to 280000 for product requirements.

2.08 SLOTTED WIRING DUCT

A. Refer to 280000 for product requirements.

2.09 WIREWAYS

A. Refer to 280000 for product requirements.

2.10 POWER SUPPLIES/BATTERY CHARGERS

A. Power supplies shall be UL Listed and suitable for the purpose of powering ACAMS controllers, reader boards, intrusion detection panels, electric locks, and field devices (such as REXs, local alarms, etc.). Power supplies shall also be suitable for continuous charging of batteries (for power back up).

B. Description / Features:
   1. Input: 120 VAC, hard-wired

2. Output: sixteen 12 VDC and/or 24 VDC, 10 A continuous current, PTC Class 2 rated power limited
3. Fire alarm disconnect, individually selectable per output
4. Short circuit and thermal overload protection
5. Fail Safe and/or Fail Secure power outputs, individually selectable per output
6. LEDs indicate outputs triggered
7. Integrated battery charger
8. Monitor loss of input power and alarm in the Access Control System
9. Manufacturers, or equal:
   a. Altronix MAXIMAL Series; 12 VDC and 24 VDC dual power supply
   b. LifeSafety Power #FPO150-C8E1; 12 VDC power supply
   c. Securitron #AQD6-8F; “AccuPower” switching power supply, 8-output
   d. Securitron #AQD6-8F8R; “AccuPower” switching power supply, 8-output with relays

2.11 BATTERIES

A. Batteries shall be UL Listed and suitable for the purpose of backing up power to security system equipment, field devices, electric locks, etc.

B. Description / Features:
   1. Voltage: 12 VDC
   2. Amps: 12 A
   3. Chemistry: SLA or VRLA
   4. Termination: Spade protected terminals

C. Manufacturer, or equal:
   1. Interstate Batteries #SLA1105 sealed lead acid 12V 12Ah battery
   2. Yuasa Battery Inc #RE12-12 sealed lead acid 12V 12Ah battery

2.12 ACCESS CONTROLLERS

A. Description / Features:
   1. An intelligent controller with integrated battery backup, database, and communication ports that supports 8 card readers
   2. Supports HID multi-class card reader formats
   3. Expansion capacity/additional modules (e.g., for additional memory and/or for future feature enhancements)
   4. Supports flash upgrades for firmware updates
   5. Global input/output and anti-passback functionality
   6. Capable of utilizing keypad commands to activate/deactivate events
   7. Monitor Inputs: Station switch, tamper, power fail, and alarm

B. Functions:
   1. Central control for attached devices
   2. Makes decisions for access
   3. Responds to monitor activity
   4. Receives input to control its decision making
   5. Reports activity to other devices

C. Mounting: within wall mounted NEMA enclosure

D. Power:
   1. Main Power Source: controller shall be powered from the associated power supply unit
   2. Battery Backup: the controller board shall have an integrated low voltage battery (such as a lithium cell) to maintain internally stored database and setup in case main power is interrupted

E. Self-Protection: Controller shall detect power input failures and tampering

F. Communications
   1. TCP/IP via 10Base-T/100Base-TX
   2. Supports multiple communication channels to which a variety of devices can connect – RS-485, RS-422, or 20mA communications to addressable modules:
      a. Input Module: Supports 8 Class A supervised input points
      b. Output Module: Supports 8 Form C dry contact relays
      c. Reader Interface Module: Supports 4 card readers with associated alarm contacts, request-to-exit devices, and lock outputs

G. Manufacturer:
   1. S2 Security
      a. #S2-MR-52-S3
      b. #S2-LP-1502

2.13 MONITOR INPUT/RELAY OUTPUT BOARDS

A. Description
   1. Monitor Input: module that monitors inputs that occur over network and sends them via RS-485 protocol to the Controller.
   2. Relay Output: executes relay commands received from the Controller via RS-485 protocol.
   3. Monitor Inputs: 8, minimum, four-state monitor points
   4. Relay Outputs: 8, minimum, normally opened (NO) or normally closed (NC)

B. Manufacturer:
   1. S2 Security

a. Output Module:
   1) #S2-OUTP
b. Input Module:
   1) #S2-INP

2.14 ASSA ABLOY KEYLESS ENTRY CONTROL (WITH APERIO WIRELESS HUB)

A. Description / Features:
   1. Aperio wireless technology
   2. Capable of reading the following frequencies and card formats:
      a. 125 kHz and 13.56 MHz
   3. Utilize a Wiegand protocol for communication for compatibility with standard access control systems.
   4. Key override via mortise cylinder.
   5. Provide and install complete assembly including card reader and wireless hub

B. Functions:
   1. Card reader shall continuously emit radio radiation with a continuous sensing of an access card.
   2. Upon reading an access cord, the card reader shall initiate a single transmission to the ACAMS controller.
   3. Upon receiving status from the ACAMS controller, the card reader shall change the state of the LED to the programmed state.

C. Manufacturer:
   1. Assa Abloy: Adams Rite A100 Keyless Entry Control
      a. PN: A100-3090H

2.15 ACCESS CARDS

A. Cards
   1. Format: Wiegand 35-Bit
   2. Cards shall feature graphics-quality surface that supports direct-to-card printing
   3. Capable of being produced with holograms, ultra-violet fluorescent inks, or other anti-counterfeiting features

B. Manufacturer:
   1. HID #2002 iCLASS smart card

C. PVC Skins
   1. HID #UltraCard Eco™

2.16 MAGNETIC CONTACT SWITCHES

A. Wood, Steel, and Hollow Metal Doors

1. Description / Features
   a. Mounting: Recessed
   b. Switch Type: Double Pole, Double Throw
   c. Gap Distance: 0.5” maximum
2. Manufacturer, or equal:
   a. Interlogix #1078C; 3/4" dia., closed-loop contact switch, with leads
   b. Magnasphere #MSS-19CL; 3/4" dia., open loop contact switch, with leads
   c. Magnasphere #HSS-L2C; UL 264 Level 2 high security recessed contact switch, with leads

2.17 REQUEST-TO-EXIT SENSORS

A. Integrated Request to Exit to be included in the door hardware crash bar. See Door Hardware Schedule in Spec Section 080671

2.18 DURESS BUTTONS

A. Under-Counter

1. Description / Features
   a. Actuating lever, housing, and cover plate made of ABS fire-retardant plastic
   b. Latching circuit with integrated LED
   c. Switch Type: normally closed
   d. Operating Voltage: 12VDC
2. Manufacturer, or equal:
   a. Interlogix #3040; panic switch

2.19 DOOR RELEASE PULL STATION

A. General

1. Manual pull type device, painted blue die cast housing with the words: “Emergency Door Release” inscribed in white on the face. Confirm color with Fire Marshal.
2. Latching circuit with integrated LED
3. Key lock for test and reset
4. Switch Type: double post double throw, with terminal blocks

B. Manufacturer, or equal:

1. RGS Inc #RMS-6T-KL; - “DOOR RELEASE” – “EMERGENCY” pull station

2.20 TERMINAL BLOCKS

A. Terminal blocks/modular terminal strips shall be suitable for inside equipment enclosures/junction boxes for demarcation of elevator traveler and security cabling.

B. Description:
   1. Push-in style bridging system that utilizes the IDC termination method
   2. DIN rails mounting (standard 35mm)
   3. Feed through style, single level

C. Manufacturer, or equal:
   1. Phoenix Contact #QTC-1,5 terminal block and #NS-35/7,5 DIN rail
   2. ABB Entrelec feed through terminal blocks
   3. Weidmuller P-Series feed through terminal blocks

2.21 INTERFACE RELAYS

A. Refer to section 280000 for relay product requirements.

PART 3 - EXECUTION

3.01 INSTALLATION

A. General
   1. Install equipment per manufacturer's instructions.
   2. Install devices, stations, etc., square and plumb. Set flush-mounted units so that the face of the cover, bezel, or escutcheon matches the surrounding finished surface.
   3. Install so that there are no gaps, cracks, or obvious lines between the trim and the adjacent finished surface.
   4. Install to heights shown on drawings. Heights shall comply with applicable ADA requirements.
   5. Provide supervisory and end of line resistors as required.

B. Door release (S2 software)
   1. General
      a. Sonoma Clean Power will the ability to lock down all perimeter doors (Front and back) with a single button. This shall be accomplished via the S2 perimeter lock down function through the software.
      b. This feature will only be superseded by the fire alarm system override.
      c. This feature is to be enabled and accessible on the following platforms:
         1) S2 mobile client
         2) S2 workstation client

C. Perimiter lock down (S2 SOFTWARE)
   1. General
      a. Sonoma Clean Power requires local and remote lock down capabilities of all perimeter doors (Front and back). This shall be accomplished via the S2 perimeter lock down function through the software.

b. This feature will only be superseded by the fire alarm system override.
c. This feature is to be enabled and accessible on the following platforms:
   1) S2 mobile client
   2) S2 workstation client

D. ACAMS Server and KVM Switch
   1. Install server and KVM drawer in equipment cabinets designated as shown on the drawings. Connect the server and KVM switch.
   2. Provide extension cords, and line extenders if required, for keyboards, monitors, mice, etc. for equipment mounted in consoles.

E. ACAMS Software Package
   1. Install necessary client access licenses such as:
   2. Alarm Recording
      a. Recording Options
         1) Alarm condition via activation of an external alarm contact (ACAMS, IDS, etc)
         2) Intercom push to Talk at back entrance
         3) Internal video motion detection
      b. Recording programmable by camera and by time and date schedule.
      c. Allow a mix and match of continuous recording and alarm recording, based on camera input and capture card connection.
      d. Pre and post alarm recording
      e. S2 and DMP Intrusion Detection System shall be integrated for alarm states.
         1) DMP XR 500 Integration with S2 NetBox systems.
         2) Part Number: #S2-DMP
   3. Integrate the software onto the network. Coordinate with the Owner's IT department for network integration and other IP-related requirements.

F. Video Badging System
   1. Coordinate video badging camera installation with Architect and Engineer.
   2. Install badging printer at location per Owner's direction. Provide extension cords, ribbons, and other components as required. Connect printer to workstation. Calibrate the printer for thickness of card being used. Run print test confirming communications between workstation and printer, and for proper print quality.

G. ACAMS Control Panels (Reader Board, Input/Output Boards)
   1. Install security equipment enclosures and wireway to best suit the system layout and to properly manage wiring and connections.
   2. Ensure cuts, knock-outs, punches, etc. have no sharp edges.
   3. Install power supplies and associated hardware in same location.

H. Card Readers
   1. Connect readers directly to reader boards. Do not daisy chain readers together.

2. Install complete system including wireless hub.
3. Cable Requirements:
   a. 6-conductor 22 AWG stranded shielded cable for signal.
   b. 1-pair 22AWG stranded shielded cable for device power.
4. Wire the card reader‘s multi-color LED to indicate the following status of the door.
   a. Red = the door is secure (locked).
   b. Green = the door is unsecured (unlocked).
   c. Yellow = the card reader is not functioning (off-line/trouble), is processing a read request, or has denied access.
5. Wire/program the card reader to produce an audible beep tone to indicate to the user:
   a. The card was read and/or access was denied.
   b. Door is being held open and needs to be closed.
6. Enable optical tamper using configuration card. Wire the card reader’s optical tamper to spare input on the ACAMS reader module and jumper ground wire from door contact to provide a normally closed circuit.

I. Four-State End-of-Line (EOL) Supervision

1. Provide designated resistors at device end of line per manufacturer’s EOL recommendation to provide four-state supervision of security device and cabling.
2. Provide EOL supervision for alarm contacts, local alarm sounders, REXs, motion detectors, glass break detectors, help/duress buttons, and other designated security devices connected to the ACAMS and IDS.
3. Program ACAMS with the following states of supervision:
   a. Contact closed = Secure
   b. Contact open = Alarm
   c. Short circuit = Line fault
   d. Open circuit = Line fault
4. All NO/NC circuits shall be wired NC.

J. Door Hardware

1. Setup and conduct a door hardware coordination meeting.
2. Coordinate the installation and termination of the security cable with the installation of the electric door hardware and transfer hinge.
3. Route power to electrically controlled locks on Life-Safety doors through fire alarm output to automatically unlock the door upon activation of Fire/Life-Safety system. Connect fire alarm output to the disconnect relay on the associated 24VDC lock power supply.
4. Provide cable and terminate wires to delayed egress devices for monitoring activation of delayed egress by the ACAMS system.

K. Door Contacts

1. Install 6” from latch side of door.

L. Duress Buttons

1. Coordinate with architect and casework contractor to field determine exact placement of duress buttons prior to installation.

M. Request-To Exit Motion Detectors

1. Install motion detector on the secured (protected) side of door. Install so that its detection pattern is not obstructed by exit signs, light fixtures or other objects that would interfere with proper operation.
2. Adjust relay hold time and pattern to properly detect valid exit and allow shunting of door contact.
3. Adjust detection sensitivity to pulse.
4. Mask detector lens to provide a confined detection area limited to the door handle or push bar.

N. Low voltage transformers

1. Install low voltage transformer in security junction box to prevent tampering. Coordinate with Division 26 for location of outlet in junction box.

3.02 PROGRAMMING

A. Prior to the completion of construction, schedule a meeting with the Owner to determine the programming criteria. Document the results of the meeting and perform necessary programming to achieve the Owner's requests. During the meeting, discuss the following:

1. Access card levels and door groupings
2. Alarm priority levels
3. Schedules and time codes
4. Holidays and holiday types (priorities)
5. Action/responses from individual input points
6. Standard and custom (expanded) reports
7. Defining alarm messages and standard response messages applicable to site
8. Routing of alarm points to selected pagers
9. Routing of alarm points to operator's workstations, printers, and history files
10. Owner's graphics – develop sample graphic complete with icons and text. Alarms to appear on building floor plans depicting the nature and location of alarms. Review and revise graphic layout as required by Owner.
11. System database backup procedures
12. Video integration camera call-up

B. Program and setup the system such that no additional programming other than entering new access cards is required. Include setup of available features of the software.

C. Import Owner's cardholder database.

D. Using CAD drawing files of floor plans, perform the following relative to system graphics:

1. Delete non-applicable drawing layers and details to arrive at simple floor plans of the building as built.
2. Convert drawings to a graphic file format compatible with the Owner's access control and alarm monitoring system.
3. Load floor plan drawing files into the system.
4. Apply new and predefined graphic icons for each device type and other points on each graphic to indicate point and control status.
5. Link graphic images/icons to represent reader, cameras, monitor, alarm initiating devices, and control points.
6. Program device icons on plans with functionality.
7. Create camera call-up events.
8. The point names shown on the as-built drawings shall match the system point schedule.

E. Program ACAMS such that alarm events generate email notification to offsite addresses via the Internet. Also, as required by the Owner, program ACAMS such that alarm events generate pages.

F. Program customized client workstation log-ins (restrict functions by user privileges).

G. Program routing of monitor and control points. Route activations and restore messages to one or more of the following locations as directed by the Owner's Representative:

1. One or more system workstations
2. One or more system printers
3. One or more alphanumeric pagers
4. History files in addition to the above
5. History files only

H. Program the system such that reliance on a remote host for routine building operations, such as scheduled door commands and conditional events, are minimized to the greatest extent possible and decisions are made at the local building controller.

I. System Operation, Alarm and Reporting Function: Program door control panel tamper switches to immediately report as a separate "tamper" point to the system resulting in an alarm condition displayed in both text and graphic form on the applicable workstation(s) and an alarm message transmitted to the appropriate pager(s).

J. Program the system in a manner that minimizes the amount of time required for the users to make updates and maintain the system on a daily basis especially updates that impact card holder record updates. Nested programs, such as reader groupings used in access codes, shall be used to the greatest extent possible such that single actions are required to update an entire card data population. If there is a question

regarding the appropriate approach to programming, given the flexibility of most systems, contact the Engineer prior to any initial programming

K. Perform 2 full system back-ups at completion of initial programming and deliver one copy to owner with letter of Transmittal explaining information included in back-up and brief description of recovery procedures. Label the second removable storage device and store onsite. Perform back-ups on a regular bases through the remainder of the project.

L. Customize menus with the assistance of the factory to “gray-out” features not used on project (such as elevator control).

M. Perform field software changes after the initial programming session to "fine tune" operating parameters and sequence of operations based on revised operating requirements.

N. Password management – refer to Section 280000.

3.03 EXTRA MATERIALS

A. Furnish extra materials to Owner. Produce a transmittal with an itemized list including quantities, recipient, and receipt date. Submit copy of Owner-signed transmittal with project closeout documents.

B. Place fuses inside each equipment/panel and power supply enclosure.

C. Turn over keys (equipment enclosures, low voltage power supplies, security junction boxes, rack cabinets, etc.) to the Owner. Produce a transmittal with an itemized list of keys, recipient, and receipt date. Submit copy of Owner-signed transmittal with project closeout documents.

3.04 TRAINING

A. Combine training on the ACAMS with training on the IDS (Section 281600) and the VSS (Section 282300).

B. Training Requirements

1. Security Staff/System Operators:
   a. Prior to the first day of business at the new facility, provide 1 day of training, 4 hours per day.
   b. Two months later, provide 1 day of training, 2 hours per day.
2. Administrators:
   a. Prior to the first day of business at the new facility, provide 1 day of training, 2 hours per day.
   b. Two months later, provide 1 day of training, 2 hours per day.

3.05 TESTING

A. Test ACAMS in accordance with Section 280800.

END OF SECTION

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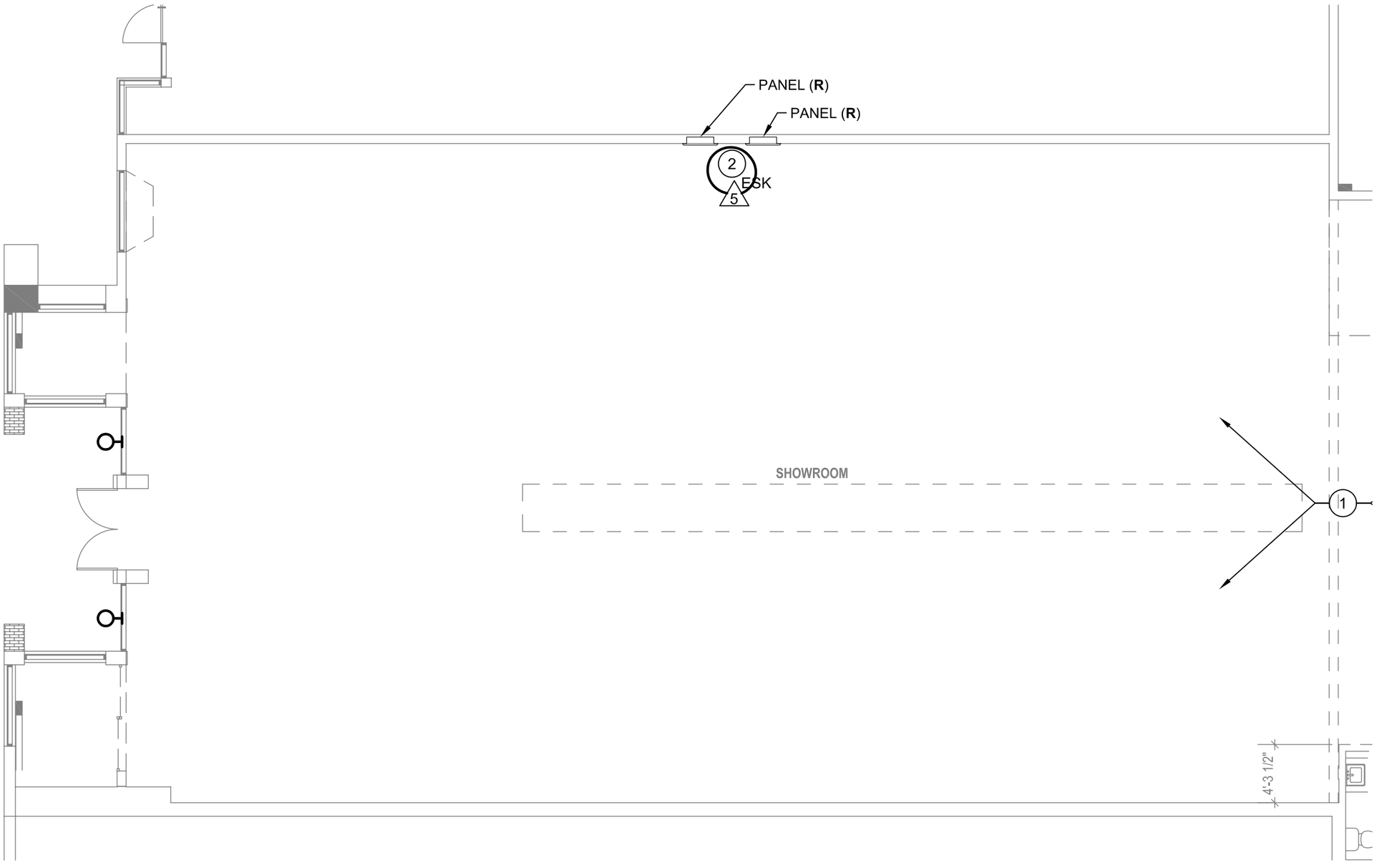
PROJECT NAME

ADVANCED ENERGY CENTER

PROJECT ADDRESS

741 4TH STREET, SANTA ROSA, CALIFORNIA 95404

NO.	DATE	DESCRIPTION
5	6/26/2019	Addendum 3



TLCD PROJECT NO:
18077.00

DATE:
06/26/19

BY:
JB

DESCRIPTION:
FIRST FLOOR PLAN-POWER DEMO
Ref. Sheet:E-111

1 FIRST FLOOR PLAN-POWER DEMO

1/8" = 1'-0"

TRUE NORTH

SHEET NOTES:

ESK 5

1. DEMOLISH, REMOVE, AND DISPOSE OF ALL DEVICES, EQUIPMENT, CONDUIT AND WIRING UNLESS OTHERWISE NOTED. FOR EXISTING JUNCTION BOXES, ON THE WALLS THAT ARE TO REMAIN, PROVIDE BLANK COVERPLATES.
2. MAINTAIN EXISTING UG FEEDER CONDUIT AS REQUIRED FOR RE-FEEDING NEW PANELS IN THE FINAL CONDITION. SEE ONE LINE DIAGRAM.

DRAWING NO:

ESK-002

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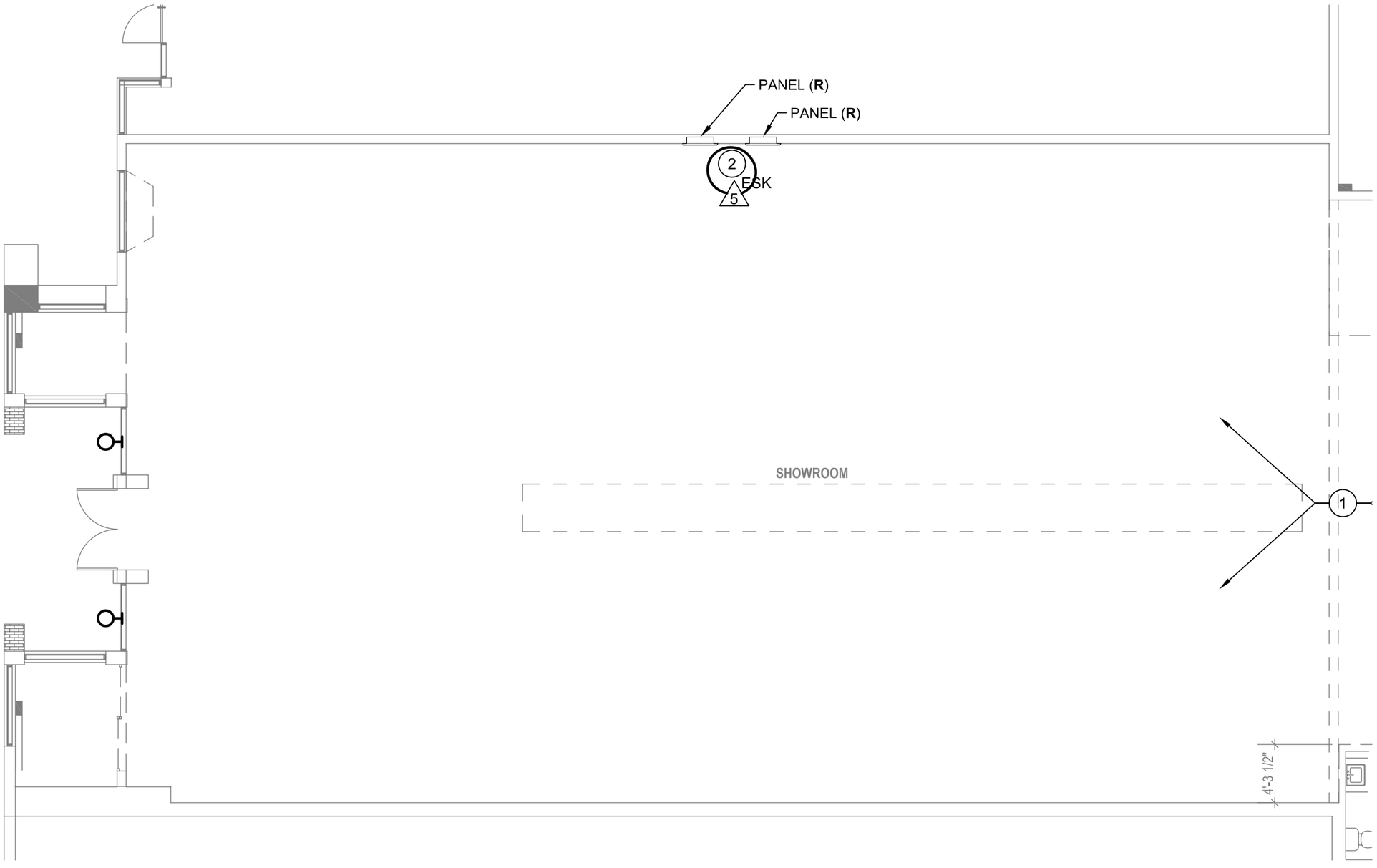

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18077.00

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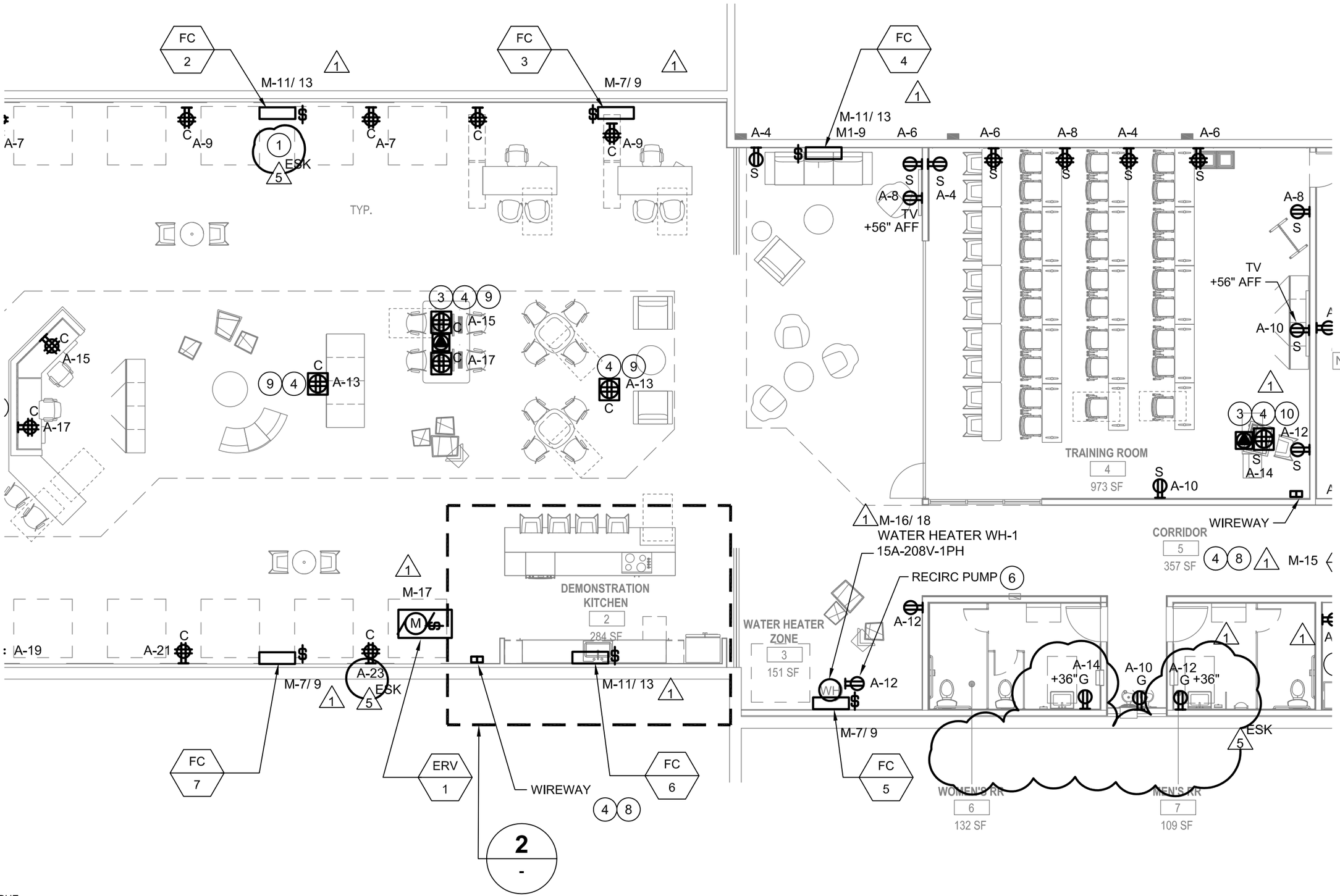

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DATE:
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BY:
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DESCRIPTION:
FIRST FLOOR PLAN-POWER
Ref. Sheet:E-121

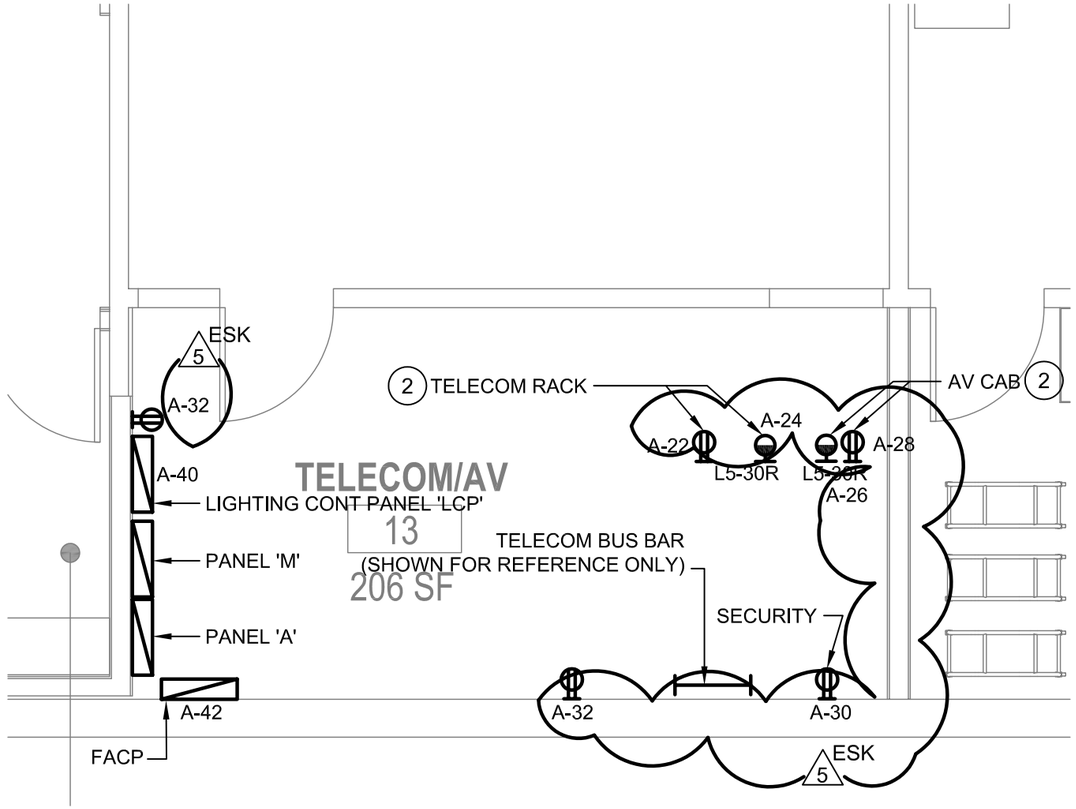
TRUE NORTH

1 FIRST FLOOR PLAN - POWER

1/8" = 1'-0"

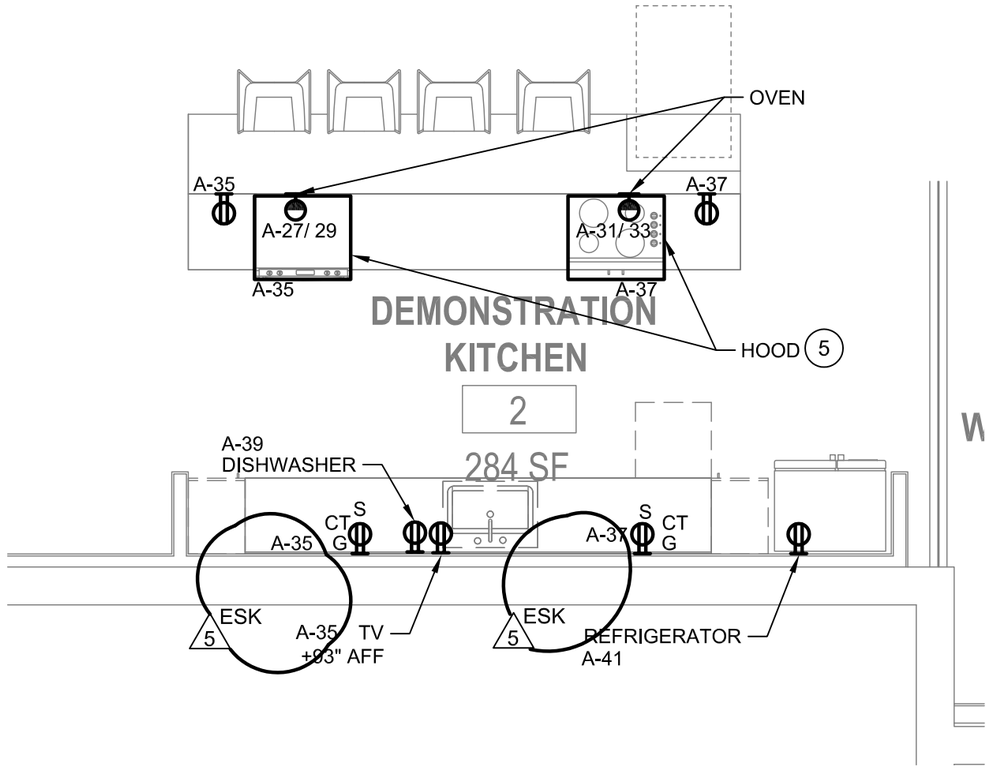
DRAWING NO:

ESK-003



3 ENLARGED PLAN - TELECOM /AV

1/4" = 1'-0"



2 ENLARGED PLAN - DEMONSTRATION KITCHEN

1/4" = 1'-0"

SHEET NOTES:

1. INTERCEPT EXISTING UG CONDUITS STUBUP AND EXTEND TO PANEL 'A' AND OR 'M'. PROVIDE PULLBOX AS REQUIRED.
2. PROVIDE DEDICATED CIRCUIT TO EACH WIRING DEVICE. MOUNT TO ASSOCIATED RACK. SEE TELECOM DRAWINGS FOR DETAILS.
3. COORDINATE WITH DIVISION 27 TO PROVIDE RECEPTACLES IN SHARED POWER/DATA FLOOR BOX. SEE TELECOM DRAWINGS.
4. CONDUITS TO FLOOR BOXES AND FURNITURE CASEWORK SHALL BE ROUTED WITHIN 4" CONCRETE SLAB. COORDINATE WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS AND SAWCUT AS REQUIRED. PATCHING PROVIDED BY STRUCTURAL.
5. PROVIDE CONNECTION TO KITCHEN HOOD. SEE ARCHITECTURAL DETAILS FOR THE LOCATION AND METHOD OF CONNECTION FOR THE KITCHEN HOOD.
6. MOUNT RECEPTACLE, FOR HOT WATER RECIRC PUMP, AS REQUIRED TO SERVE PUMP. COORDINATE IN THE FIELD WITH PUMP LOCATION.

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DESCRIPTION:
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Ref. Sheet:E-121

DRAWING NO:
ESK-004

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HP
1
M-1/ 3/ 5

M
WP

G
WP
A-34
ESK
5

M-8/ 10
HP
IT

HR
1
M-2/ 4/ 6

WP
G
WP
A-34
ESK
5

ROOF ACCESS HATCH (SHOWN FOR REFERENCE ONLY)

1"C DOWN TO FC-IT (1)
FOR COMMS.

TRUE
NORTH

1 ROOF PLAN-ELECTRICAL
1/8" = 1'-0"

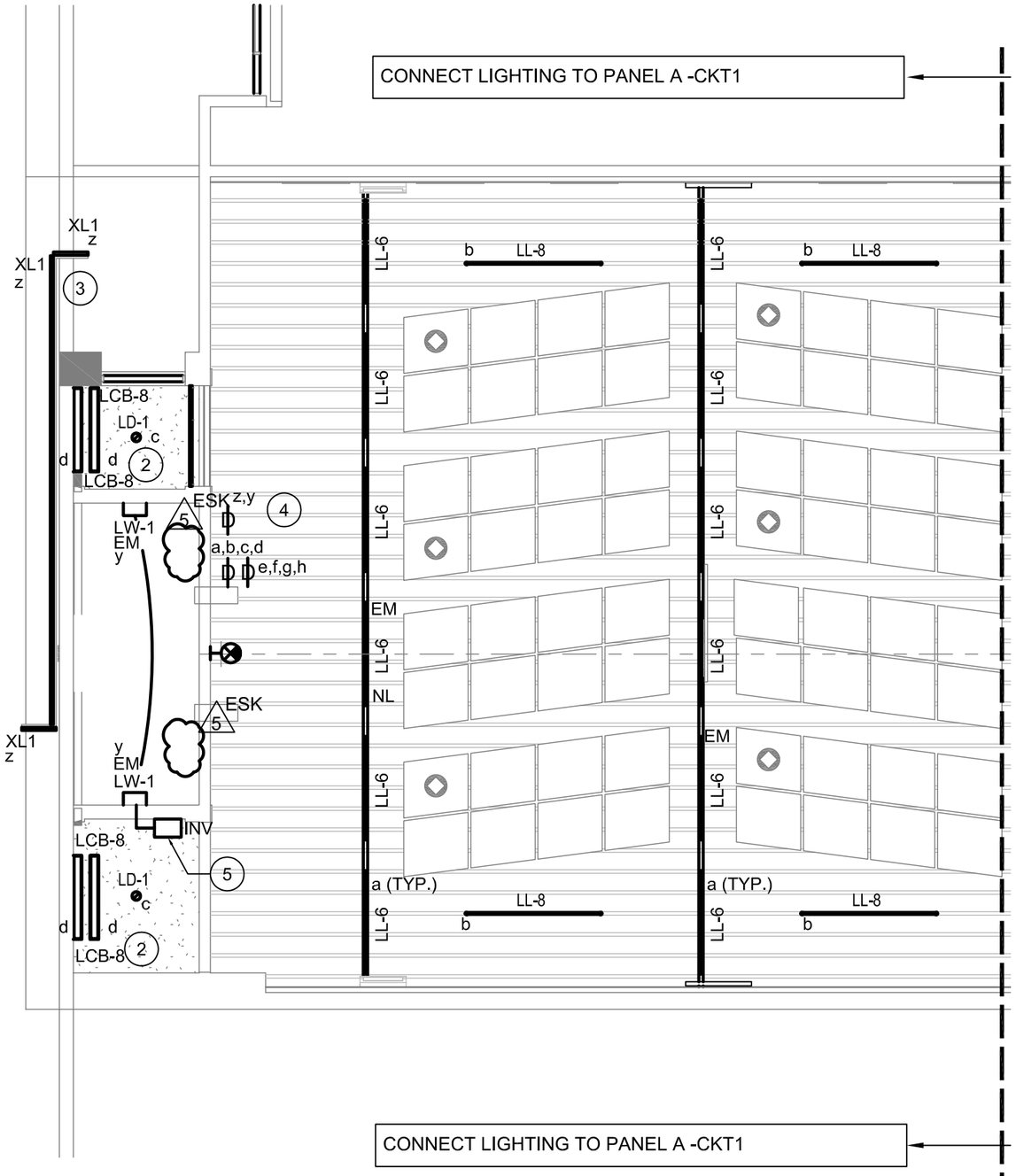
TLCD PROJECT NO:
18077.00

DATE:
06/26/19

BY:
JB

DESCRIPTION:
ROOF PLAN ELECTRICAL
Ref. Sheet:E-161

DRAWING NO:
ESK-005



1 **FIRST FLOOR PLAN - LIGHTING**

1/8" = 1'-0"

TRUE NORTH

SHEET NOTES:

A. ALL FIXTURES WITH "EM" SHALL BE PROVIDED WITH 90 MINUTE EMERGENCY BATTERY BACKUP.

B. ALL EXTERIOR LIGHTING AND SIGNAGE TO BE CIRCUITED TO PANEL 'A' CKT 38.

ESK 5

C. EXTERIOR SIGNAGE LIGHTING TO BE ON A SEPARATE TIME RELAY/CONTROL.

ESK 5

D. CONNECT ALL EXIT SIGN AND UNSWITCHED NIGHT LIGHT (NL) TO PANEL A - CKT 30.

E. CONTRACTOR TO PROVIDE SEISMIC BRACING TO ALL PENDANT MOUNTED FIXTURE PER STRUCTURAL CODE REQUIREMENTS (EXCEPT FOR FIXTURES THAT ARE FREE TO SWING AT 45 DEGREES IN ANY DIRECTION WITHOUT HITTING ANY OBJECT OR STRUCTURE).

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NO.	DATE	DESCRIPTION
5	6/26/2019	Addendum 3

TLCD PROJECT NO:
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DATE:
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DESCRIPTION:
FIRST FLOOR PLAN - LIGHTING
Ref. Sheet:E-171

DRAWING NO:

ESK-006

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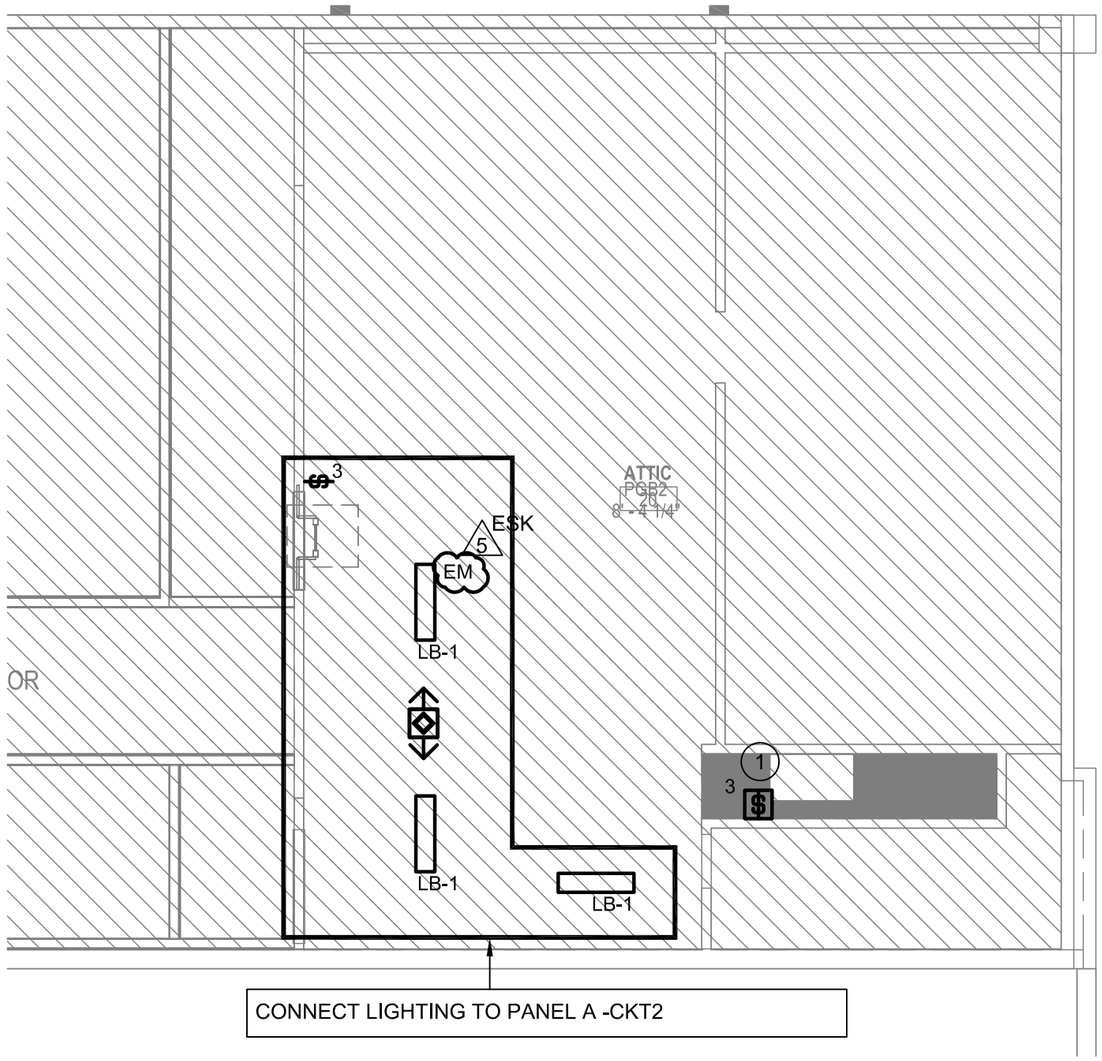

TRUE NORTH

1 SECOND FLOOR PLAN - LIGHTING

1/8" = 1'-0"

TLCD PROJECT NO:
18077.00

DATE:
06/26/19

BY:
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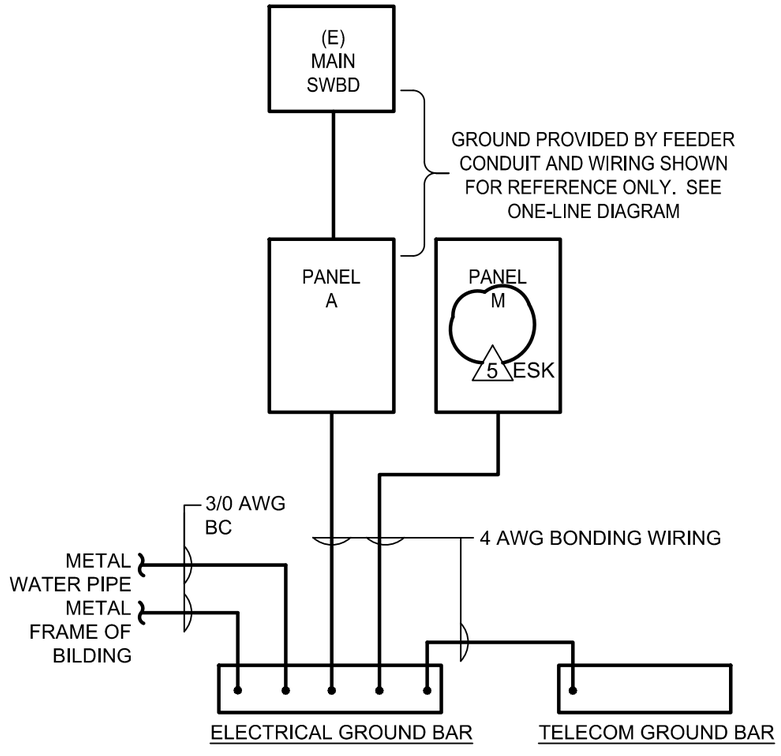
DESCRIPTION:
SECOND FLOOR PLAN - LIGHTING
Ref. Sheet:E-172

DRAWING NO:

ESK-007



4 GROUNDING DETAIL

NO SCALE

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TLCD PROJECT NO:
18077.00

DATE:
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DESCRIPTION:
DETAILS AND RISER
Ref. Sheet:E-500

DRAWING NO:

ESK-008

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PANEL: 'A'

MIN. AIC = 22,000

ENCLOSURE: NEMA 1 | VOLT: 120/208 | BUS SIZE: 200 A | MLO: NO | LOCATION: TELECOM/AV
MOUNTING: SURFACE | PHASE/WIRE: 3/4 | MCB SIZE: 200 A | FEED THRU: NO | SERVED FROM: MAIN SWBD 'MSB'

NOTE	DESCRIPTION	KEY	LOAD VA	BKR / POLE	CKT. NO.	CKT. NO.	BKR / POLE	LOAD VA	KEY	DESCRIPTION	NOTE
	LTG - ENTRANCE/FRONT SHOW	L	1291	20/1	1	2	20/1	873	L	LTG - HALLWAY/MECHRM/OFFICES	
	LTG - BACK SHOW/ KITCHEN	L	1216	20/1	3	4	20/1	720	R	REC TRA RM 4	
	LTG - CLSSRM & CLSSRM ENTR	L	1052	20/1	5	6	20/1	900	R	REC TRA RM 4	
	REC SHOWROOM WEST	R	900	20/1	7	8	20/1	900	R	TV, REC TRA 4	
	REC SHOWROOM WEST	R	900	20/1	9	10	20/1	900	R	TV, REC TRA 4, CORR	
	REC SHOWROOM WEST	R	720	20/1	11	12	20/1	890	R	REC, RECIRC SINK, TRA, CORR, WHZ, MEN'S	
	REC SHOWROOM FLOORBOX	R	720	20/1	13	14	20/1	1220	R	REC TRA, CORR, WOMEN'S	
	REC SHOWROOM FLOORBOX	R	720	20/1	15	16	20/1	540	R	REC OFFICE 11, 12	
	REC SHOWROOM FLOORBOX	R	720	20/1	17	18	20/1	720	R	REC OFFICE 11, 12, ATTIC 20	
	REC SHOWROOM SCREEN/EAST	R	720	20/1	19	20	20/1	720	R	REC OFFICE 11, 12, STOR 14, ATTIC 20	
	REC SHOWROOM EAST	R	540	20/1	21	22	20/1	360	R	REC TELECOM RACK	
	REC SHOWROOM EAST	R	720	20/1	23	24	20/1	2400	R	REC TELECOM RACK	
	SPARE			20/1	25	26	20/1	2000	R	REC AV RACK	
	OVEN	K	1500	20/2	27	28	20/1	360	R	REC AV RACK	
	"	K	1500		29	30	20/1	240	R	REC SECURITY	
	OVEN	K	1500	20/2	31	32	20/1	360	R	REC AV 13	
	"	K	1500		33	34	20/1	360	R	REC AV ROOF	
	REC, HOOD, KITCHEN	R	860	20/1	35	36	20/1	250	L	LTG-EXIT SIGNS AND NL'S	
	REC, HOOD, KITCHEN	R	860	20/1	37	38	20/1	150	L	LTG - EXTERIOR	
	DISHWASHER	K	1440	20/1	39	40	20/1	500	P	LCP	
	REFRIGERATOR	K	1140	20/1	41	42	20/1	360	R	FACP	
	SPARE			20/1	43	44	20/1			SPARE	
	SPARE			20/1	45	46	20/1			SPARE	
	SPARE			20/1	47	48	20/1			SPARE	
SUB-TOTAL (CONNECTED LOAD)			20519	VA			VA	15723		SUB-TOTAL (CONNECTED LOAD)	

NOTES:				
1	PROVIDE PANEL WITH PROVISIONS FOR TITLE 24 REQUIRED BRANCH CIRCUIT METERING	PHASE "A" =	12.2	KVA
2		PHASE "B" =	11.6	KVA
3		PHASE "C" =	12.5	KVA
4		TOTAL CONN. LOADS	36.2	KVA
5			100.7	AMPS
6		DEMAND LOADS (LINK)	28.3	KVA
			78.6	AMPS

MAIN SWITCHBOARD (E) PARTIAL: 'MSB'

MIN. AIC =30,000

ENCLOSURE: NEMA 3R | VOLT: 120/208V | BUS SIZE: 600A | MLO: | LOCATION: REAR OF UNIT 739
MOUNTING: FLOOR | PHASE/WIRE: 3/4 | MCB SIZE: 600A | FEED THRU: | SERVED FROM: UTILITY XFMR

NOTE	DESCRIPTION	KEY	LOAD VA	BKR / POLE	CKT. NO.	CKT. NO.	BKR / POLE	LOAD VA	KEY	DESCRIPTION	NOT
	PNL '(E) LOAD'	P		200/3	1	2	200/3	18385	M	PANEL 'M'	
		P			3	4		16563	M		
		P			5	6		17501	M		
	PNL 'A'	R	12214	200/3	7	8					
		R	11556		9	10					
		R	12472		11	12					
SUB-TOTAL (CONNECTED LOAD)			36242	VA			VA	52449		SUB-TOTAL (CONNECTED LOAD)	

NOTES:				
1	HIGHEST COMBINED BUILDING LOAD IN LAST 12 MONTHS WAS 55 AMPS @ 208V (19.8 kVA)	PHASE "A" =	30.6	KVA
2		PHASE "B" =	28.1	KVA
3		PHASE "C" =	30.0	KVA
4		EXISTING METERED LOAD + ADDED CONNECTED LOADS	108.4	KVA
5			301.1	AMPS
6		EXISTING METERED LOAD + ADDED DEMAND LOADS	100.5	KVA
			279.2	AMPS

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TLCD PROJECT NO:
18077.00

DATE:
06/26/19

BY:
JB

DESCRIPTION:
SCHEDULES - PANEL
Ref. Sheet:E-601

DRAWING NO:
ESK-009

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MOUNTING	MANUFACTURER/ CATALOG #	LAMP LUMEN	DRIVER	VOLTS	INPUT WATTS	LOCATION	NOTES
LB-1	1'x4' RECESSED LED	RECESSED (GYP. BOARD)	REFER TO LUMINAIRE SPECS 26 50 00 FOR LIGHT CUTSHEETS INFORMATION (SEE LUMINAIRE SPECS FOR CATALOG #)	LED 3500K CCT (2,053 LUMENS)	INTEGRAL DIMMABLE	120	17	VARIOUS	COORDINATE WITH ARCHT. FOR EXACT MOUNTING HEIGHT.
LB-1-EM	SAME AS FIXTURE TYPE LB-1 EXCEPT WITH 90 MIN EM BATTERY BACKUP.	RECESSED (GYP. BOARD)	REFER TO LUMINAIRE SPECS 26 50 00 FOR LIGHT CUTSHEETS INFORMATION (SEE LUMINAIRE SPECS FOR CATALOG #)	LED 3500K CCT (2,053 LUMENS)	INTEGRAL DIMMABLE	120	17	VARIOUS	COORDINATE WITH ARCHT. FOR EXACT MOUNTING HEIGHT.
LB-1A	1'x4' LED WITH DRYWALL MOUNTING KIT	RECESSED (GYP. BOARD)	REFER TO LUMINAIRE SPECS 26 50 00 FOR LIGHT CUTSHEETS INFORMATION (SEE LUMINAIRE SPECS FOR CATALOG #)	LED 3500K CCT (4,577 LUMENS)	INTEGRAL DIMMABLE	120	40	VARIOUS	COORDINATE WITH ARCHT. FOR EXACT MOUNTING HEIGHT.
LB-1A-EM	SAME AS FIXTURE TYPE LB-1A EXCEPT WITH 90 MIN EM BATTERY BACKUP.	RECESSED (GYP. BOARD)	REFER TO LUMINAIRE SPECS 26 50 00 FOR LIGHT CUTSHEETS INFORMATION (SEE LUMINAIRE SPECS FOR CATALOG #)	LED 3500K CCT (4,577 LUMENS)	INTEGRAL DIMMABLE	120	40	VARIOUS	COORDINATE WITH ARCHT. FOR EXACT MOUNTING HEIGHT.
LC-5	60" DIAMETER LED ROUND PENDANT FIXTURE	WIRE MOUNT (TRUSS)	REFER TO LUMINAIRE SPECS 26 50 00 FOR LIGHT CUTSHEETS INFORMATION (SEE LUMINAIRE SPECS FOR CATALOG #)	LED 3500K CCT (18,441LUMENS)	INTEGRAL DIMMABLE	120	186	WATER HEATER ZONE	COORDINATE WITH ARCHT. FOR EXACT MOUNTING HEIGHT.
LC-5-EM	SAME AS FIXTURE TYPE LC-5 EXCEPT WITH REMOTE 90 MIN EM BATTERY BACKUP/INVERTER.	WIRE MOUNT (TRUSS)	REFER TO LUMINAIRE SPECS 26 50 00 FOR LIGHT CUTSHEETS INFORMATION (SEE LUMINAIRE SPECS FOR CATALOG #)	LED 3500K CCT (18,441LUMENS)	INTEGRAL DIMMABLE	120	186	WATER HEATER ZONE	COORDINATE WITH ARCHT. FOR EXACT MOUNTING HEIGHT.
LCB-8	LED 8' STRIPS	CHANNEL MOUNT	REFER TO LUMINAIRE SPECS 26 50 00 FOR LIGHT CUTSHEETS INFORMATION (SEE LUMINAIRE SPECS FOR CATALOG #)	LED 3500K CCT (357 LUMENS/FT)	DIMMABLE SWITCH WITH INTEGRAL DRIVER	120	30	SHOWROOM	COORDINATE WITH ARCHT. FOR EXACT MOUNTING HEIGHT.
LD-1	4" ROUND DOWNLIGHT	RECESSED (GYP. BOARD)	REFER TO LUMINAIRE SPECS 26 50 00 FOR LIGHT CUTSHEETS INFORMATION (SEE LUMINAIRE SPECS FOR CATALOG #)	LED 3500K CCT (2,000 LUMENS)	INTEGRAL DIMMABLE	120	21	FRONT AND RESTROOMS	COORDINATE WITH ARCHT. FOR EXACT MOUNTING HEIGHT.
LK-6	6' LENGTH LED COVE LIGHT	RECESSED	REFER TO LUMINAIRE SPECS 26 50 00 FOR LIGHT CUTSHEETS INFORMATION (SEE LUMINAIRE SPECS FOR CATALOG #)	LED 3000K CCT (2,300 LUMENS)	INTEGRAL DIMMABLE	120	29	KITCHEN	COORDINATE WITH ARCHT. FOR EXACT MOUNTING HEIGHT.
LL-4	4' LENGTH X 2"W	WIRE MOUNT (TRUSS)	REFER TO LUMINAIRE SPECS 26 50 00 FOR LIGHT CUTSHEETS INFORMATION (SEE LUMINAIRE SPECS FOR CATALOG #)	LED 3500K CCT (3,300 LUMENS)	INTEGRAL DIMMABLE	120	29	KITCHEN	COORDINATE WITH ARCHT. FOR EXACT MOUNTING HEIGHT.
LL-6	SAME AS LL-4 BUT 6' LENGTH	WIRE MOUNT (TRUSS)	REFER TO LUMINAIRE SPECS 26 50 00 FOR LIGHT CUTSHEETS INFORMATION (SEE LUMINAIRE SPECS FOR CATALOG #)	LED 3500K CCT (5,000 LUMENS)	INTEGRAL DIMMABLE	120	44	SHOWROOM	COORDINATE WITH ARCHT. FOR EXACT MOUNTING HEIGHT.
LL-6-EM	SAME AS FIXTURE TYPE LL-6 EXCEPT WITH 90 MIN EM BATTERY BACKUP.	WIRE MOUNT (TRUSS)	REFER TO LUMINAIRE SPECS 26 50 00 FOR LIGHT CUTSHEETS INFORMATION (SEE LUMINAIRE SPECS FOR CATALOG #)	LED 3500K CCT (5,000 LUMENS)	INTEGRAL DIMMABLE	120	44	SHOWROOM	COORDINATE WITH ARCHT. FOR EXACT MOUNTING HEIGHT.
			REFER TO LUMINAIRE SPECS 26 50 00	LED					COORDINATE WITH ARCHT

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NO.	DATE	DESCRIPTION
5	6/26/2019	Addendum 3

TLCD PROJECT NO:
18077.00

DATE:
06/26/19

BY:
JB

DESCRIPTION:
LIGHTING FIXTURE SCHEDULE
Ref. Sheet:E-603

DRAWING NO:
ESK-010

LL-6	SAME AS LL-4 BUT 6' LENGTH	WIRE MOUNT (TRUSS)	REFER TO LUMINAIRE SPECS 26 50 00 FOR LIGHT CUTSHEETS INFORMATION (SEE LUMINAIRE SPECS FOR CATALOG #)	LED 3500K CCT (5,000 LUMENS)	INTEGRAL DIMMABLE	120	44	SHOWROOM	COORDINATE WITH ARCHT. FOR EXACT MOUNTING HEIGHT.
LL-6-EM	SAME AS FIXTURE TYPE LL-6 EXCEPT WITH 90 MIN EM BATTERY BACKUP.	WIRE MOUNT (TRUSS)	REFER TO LUMINAIRE SPECS 26 50 00 FOR LIGHT CUTSHEETS INFORMATION (SEE LUMINAIRE SPECS FOR CATALOG #)	LED 3500K CCT (5,000 LUMENS)	INTEGRAL DIMMABLE	120	44	SHOWROOM	COORDINATE WITH ARCHT. FOR EXACT MOUNTING HEIGHT.
LL-8	SAME AS LL-4 BUT 8' LENGTH	WIRE MOUNT (TRUSS)	REFER TO LUMINAIRE SPECS 26 50 00 FOR LIGHT CUTSHEETS INFORMATION (SEE LUMINAIRE SPECS FOR CATALOG #)	LED 3500K CCT (6,600 LUMENS)	INTEGRAL DIMMABLE	120	58	VARIOUS	COORDINATE WITH ARCHT. FOR EXACT MOUNTING HEIGHT.
LL-8-EM	SAME AS FIXTURE TYPE LL-8 EXCEPT WITH 90 MIN EM BATTERY BACKUP.	WIRE MOUNT (TRUSS)	REFER TO LUMINAIRE SPECS 26 50 00 FOR LIGHT CUTSHEETS INFORMATION (SEE LUMINAIRE SPECS FOR CATALOG #)	LED 3500K CCT (6,600 LUMENS)	INTEGRAL DIMMABLE	120	58	VARIOUS	COORDINATE WITH ARCHT. FOR EXACT MOUNTING HEIGHT.
LR-1	2'x4' LED TROFFER	RECESSED (ACOUSTICAL PANEL)	REFER TO LUMINAIRE SPECS 26 50 00 FOR LIGHT CUTSHEETS INFORMATION (SEE LUMINAIRE SPECS FOR CATALOG #)	LED 3500K CCT (4,500 LUMENS)	INTEGRAL DIMMABLE	120	47	CLASSROOM	COORDINATE WITH ARCHT. FOR EXACT MOUNTING HEIGHT.
LW-1-EM	LED WALL SCONE WITH REMOTE 90 MINUTE EM BATTERY BACKUP/INVERTER.	SURFACE WALL (MOUNT)	REFER TO LUMINAIRE SPECS 26 50 00 FOR LIGHT CUTSHEETS INFORMATION (SEE LUMINAIRE SPECS FOR CATALOG #)	LED 3500K CCT (5,700 LUMENS)	INTEGRAL DIMMABLE	120	47	ENTRANCE	COORDINATE WITH ARCHT. FOR EXACT MOUNTING HEIGHT.
LW-2-EM	ABOVE DOOR EXTERIOR WALL PAK WITH 90 MIN. EM BATTERY BACKUP.	SURFACE WALL (MOUNT)	REFER TO LUMINAIRE SPECS 26 50 00 FOR LIGHT CUTSHEETS INFORMATION (SEE LUMINAIRE SPECS FOR CATALOG #)	LED 3500K CCT (3,458 LUMENS)	INTEGRAL DIMMABLE	120	37	ENTRANCE	COORDINATE WITH ARCHT. FOR EXACT MOUNTING HEIGHT.
XL1	LED SIGNAGE LIGHTING WITH 96W, 24V, DIMMABLE POWER SUPPLY	SEE ARCHITECT FOR SPECIAL MOUNTING	REFER TO LUMINAIRE SPECS 26 50 00 FOR LIGHT CUTSHEETS INFORMATION (SEE LUMINAIRE SPECS FOR CATALOG #)	LED 3000K CCT (LUMENS/FT)	REMOTE DIMMABLE	120	96W 1.44 W/LF FOR LIGHTING	ENTRANCE	COORDINATE WITH ARCHT. FOR EXACT MOUNTING HEIGHT AND POWER SUPPLY LOCATION.
⊗	WALL OR SIDE WALL MOUNTED LED EDGE LIT EXIT SIGN WITH GREEN LETTERS. SINGLE OR DOUBLE. AC ONLY. PROVIDE ARROWS AS SHOWN - SEE PLANS.	WALL MOUNT (WALL OR SIDE)	REFER TO LUMINAIRE SPECS 26 50 00 FOR LIGHT CUTSHEETS INFORMATION (SEE LUMINAIRE SPECS FOR CATALOG #)	LED LAMPS PROVIDED WITH FIXTURE	INTEGRAL STANDARD	120/277	4.5	THROUGHOUT	SEE PLANS FOR LOCATIONS

FIXTURE SCHEDULE NOTES:

REFER TO SPEC SECTION 26 50 00 LUMINAIRES AND ACCESSORIES FOR COMPLETE FIXTURE CUTSHEETS.

1. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION, MOUNTING HEIGHT AND MOUNTING REQUIREMENTS OF ALL LUMINAIRES.
2. ALL INTERIOR LIGHTING FIXTURES SHALL BE 3500K COLOR TEMPERATURE, TYP. UNLESS NOTED OTHERWISE.
3. ALL EXTERIOR LIGHTING FIXTURES SHALL BE 5000K COLOR TEMPERATURE, TYP. UNLESS NOTED OTHERWISE.
4. PROVIDE COMPLETE MOUNTING ACCESSORIES, SUPPORT BRACKETS, CLIPS, ETC. AS APPLICABLE TO THE FINISH CEILING OR CEILING STRUCTURE AS REQUIRED.
5. **FIXTURES WITH "EM" ON PLANS TO BE PROVIDED WITH 90 MIN EMERGENCY BATTERY BACKUP.**
6. ALL EXTERIOR MOUNTED LIGHT FIXTURES SHALL BE UL WET LISTED EXCEPT FOR COVERED DOWNLIGHTS WHICH SHALL BE UL DAMP LISTED.

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18077.00

DATE:
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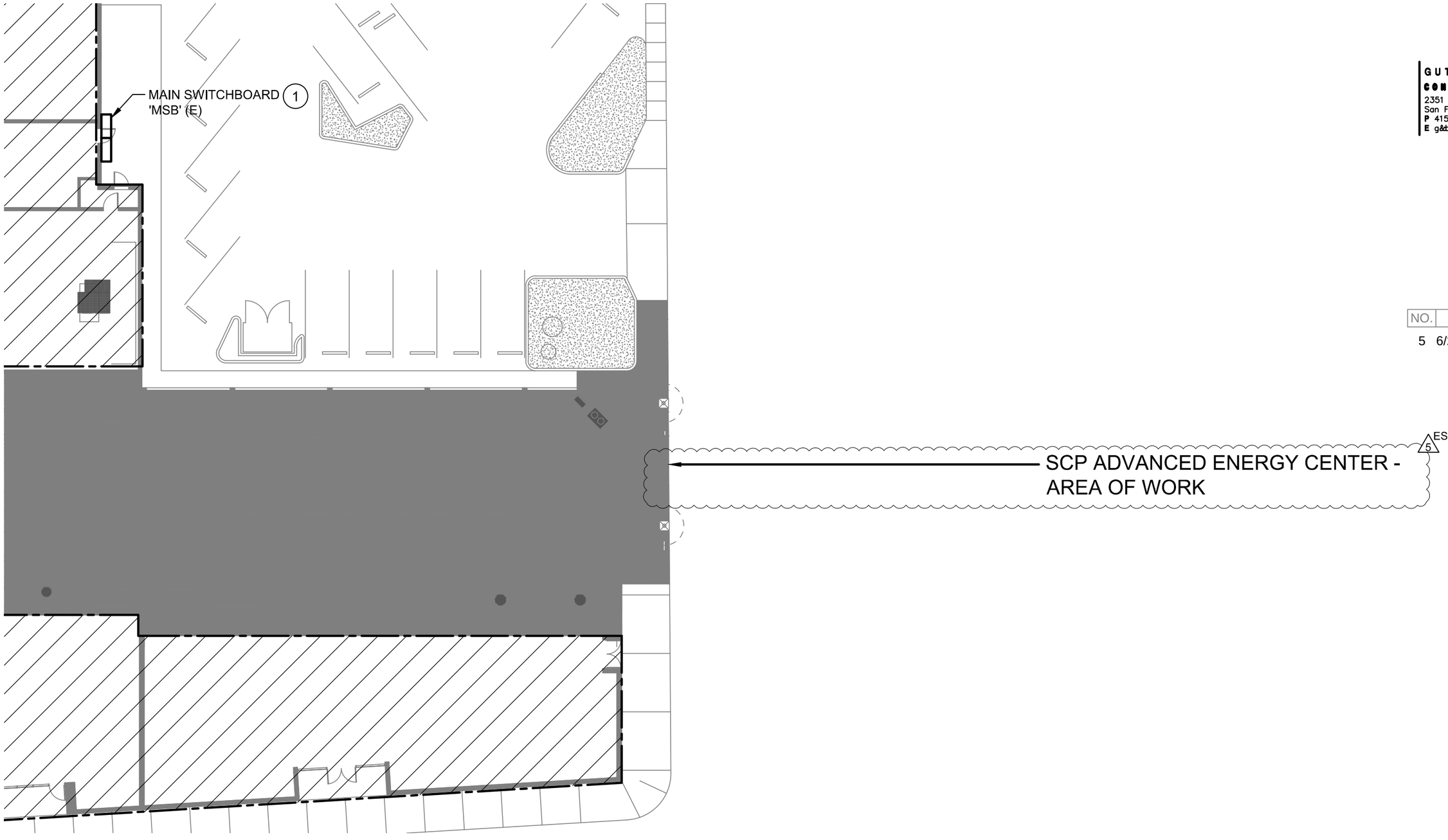
JB

DESCRIPTION:
LIGHTING FIXTURE SCHEDULE
Ref. Sheet:E-603

DRAWING NO:
ESK-011



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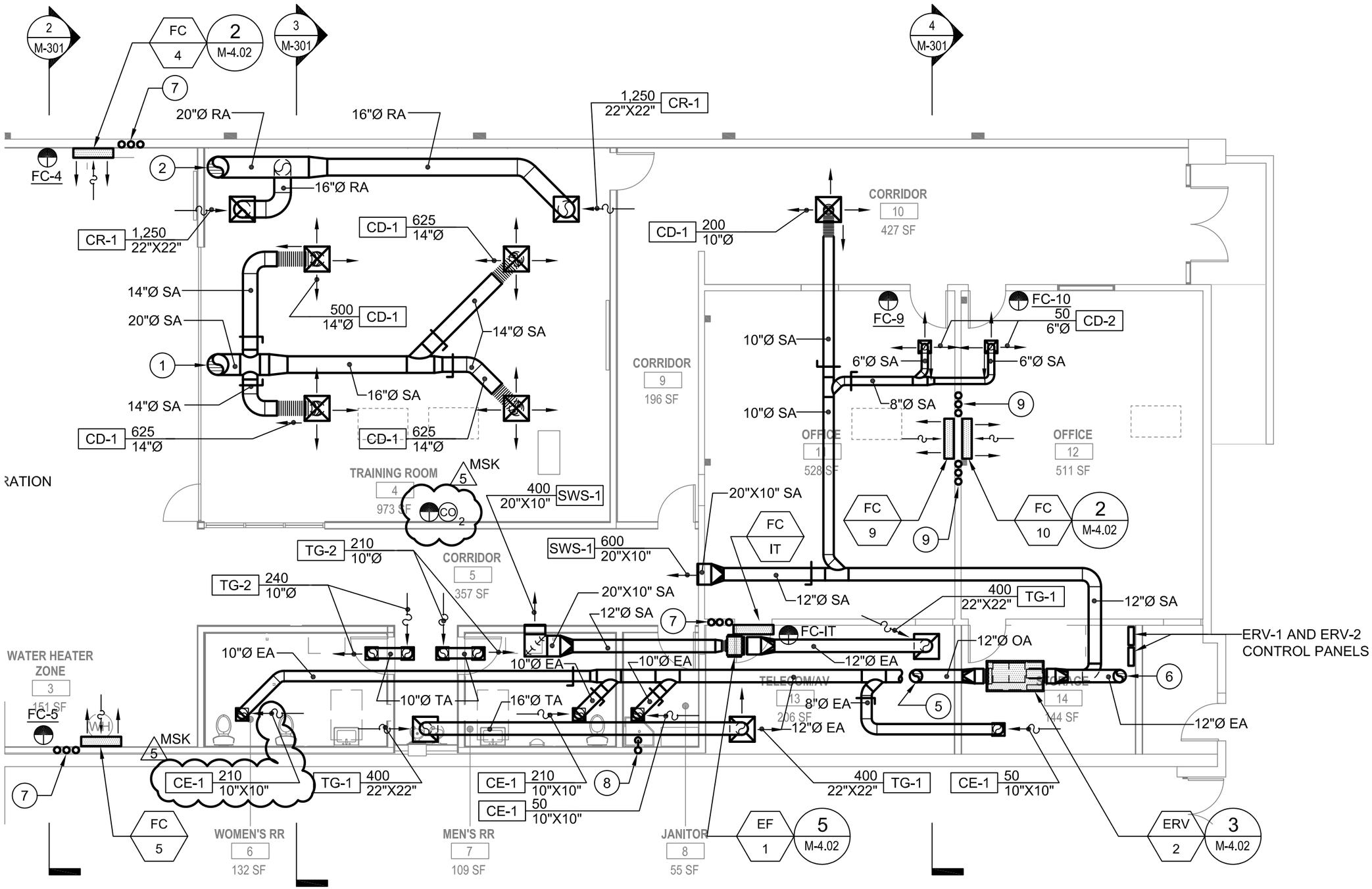
DESCRIPTION:
SITE PLAN ELECTRICAL
Ref. Sheet:E-101

TRUE NORTH

1 SITE PLAN-ELECTRICAL

1" = 20'-0"

DRAWING NO:
ESK-012



TRUE NORTH

1 FIRST FLOOR PLAN - HVAC

1/8" = 1'-0"

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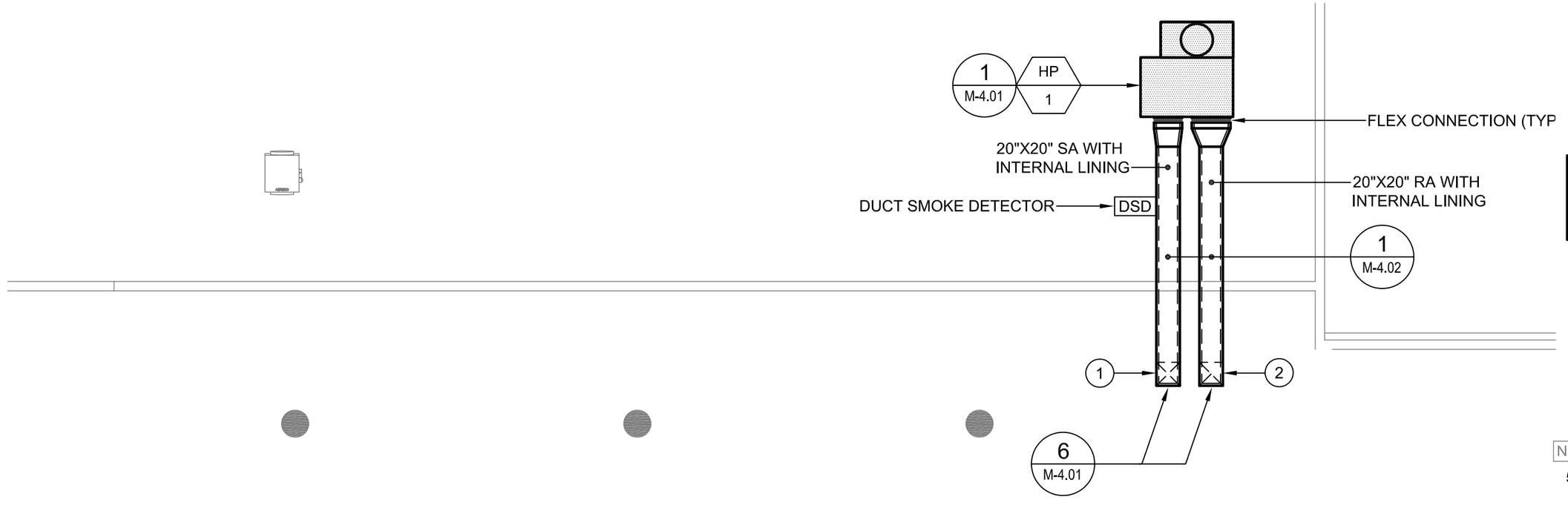
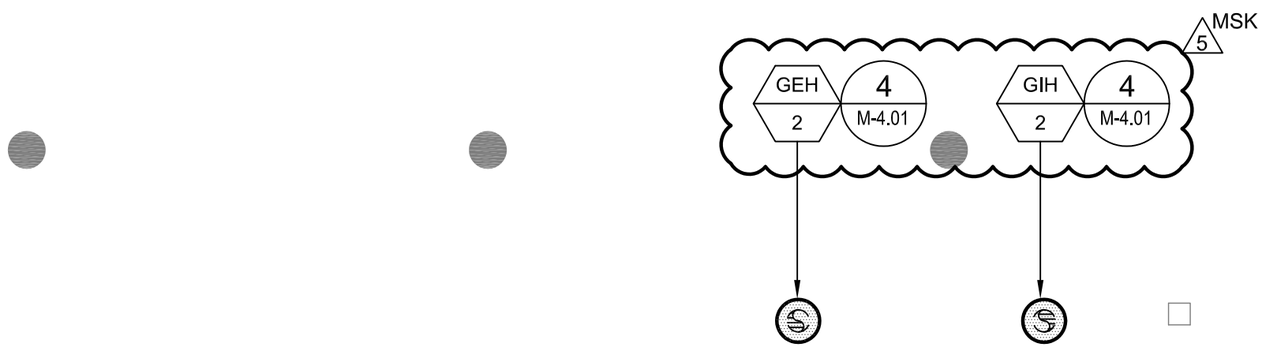
DESCRIPTION:
FIRST FLOOR PLAN - HVAC
Ref. Sheet:M-121

DRAWING NO:

MSK-001





TRUE
NORTH

1 ROOF PLAN - HVAC

1/8" = 1'-0"

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DESCRIPTION:
ROOF PLAN - HVAC
Ref. Sheet:M-161

DRAWING NO:

MSK-002

PACKAGED HEAT PUMP UNIT SCHEDULE

TAG	MANUFACTURER	MODEL	SUPPLY & RETURN DUCT CONNECTION CONFIGURATION	NOMINAL CAPACITY (TONS)	SERVICE	POWER EXHAUST & ECONOMIZER	ACOUSTICAL PERFORMANCE	DESIGN OUTSIDE AIR (CFM)	SUPPLY FAN		
									CFM	ESP " W.C.	BHP
HP-1	DAIKIN	REBEL DPS-006A	HORIZONTAL	6	TRAINING ROOM 4	PE-HP-1	AP-HP-1	600	2,500	1.5	2.24

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PACKAGED HEAT PUMP UNIT COOLING

TAG	OUTSIDE DESIGN DATA			MINIMUM OUTSIDE AIR (CFM)	NET TOTAL CAPACITY (MBH)
	SUMMER DB (°F.)	SUMMER WB (°F.)	WINTER DB (°F.)		
DX-HP-1	100.0	66.0	26.0	600	76.3

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NOTES:

1. ELECTRIC STRIP HEATER TO OPERATE ONLY DURING DEFROST MODE

GRAVITY INTAKE CAP SCHEDULE

TAG	MANUFACTURER	MODEL	THROAT	SP (IN. W.C.)	AIR FLOW (CFM)	NOTES
GIH-1	GREENHECK	GRSR-15	14"Ø	0.05	800	1, 2
GIH-2	GREENHECK	GRSR-15	14"Ø	0.05	800	1, 2

MSK 5

NOTES:

1. PROVIDE WITH ROOF CURB.
2. PROVIDE WITH INSECT SCREEN.

GRAVITY EXHAUST CAP SCHEDULE

TAG	MANUFACTURER	MODEL	THROAT (SQ. FT.)	SP (IN. W.C.)	AIR FLOW (CFM)	NOTES
GEH-1	GREENHECK	GRSR-15	14"Ø	0.05	800	1, 2
GEH-2	GREENHECK	GRSR-15	14"Ø	0.05	800	1, 2

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NOTES:

1. PROVIDE WITH ROOF CURB.
2. PROVIDE WITH INSECT SCREEN.

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DESCRIPTION:
SCHEDULES
Ref. Sheet:M-502

DRAWING NO:
MSK-003

ENERGY RECOVERY VENTILATOR SCHEDULE

TAG	MANUFACTURER	MODEL	SUPPLY FAN			EXHAUST FAN			UNIT ELECTRICAL			OPERATING WEIGHT (LBS.)	NOTES
			CFM	RPM	HP	CFM	RPM	HP	MCA	MOCP	VOLTS - PHASE - HZ		
ERV-1	GREENHECK	ECV-10-VG	800	1,385	1/2	800	1,425	1/2	14.4	20	115 - 1 - 60	420	1, 2, 3, 4, 5
ERV-2	GREENHECK	ECV-10-VG	800	1,060	1/2	800	1,100	1/2	14.4	20	115 - 1 - 60	420	1, 2, 3, 4, 5

MSK 5

NOTES:

1. PROVIDE WITH FAN SPEED CONTROLLER.
2. PROVIDE WITH FAN MOTOR STARTERS.
3. PROVIDE WITH 24 VOLT ELECTRICAL CONTROL PANEL.
4. END CONNECTIONS.
5. PROVIDE REMOTE CONTROL PANEL.

ENERGY RECOVERY VENTILATOR PERFORMANCE SCHEDULE

TAG	TYPE	SUMMER											
		OUTSIDE AIR (ENTERING)		SUPPLY AIR (LEAVING)		CFM	RETURN AIR (ENTERING)		EXHAUST AIR (LEAVING)		CFM	TOTAL EFFECTIVENESS (%)	TOTAL ENERGY RECOVERED (MBH)	NOTES
		OAT DB (°F.)	OAT WB (°F.)	LAT DB (°F.)	LAT WB (°F.)		RAT DB (°F.)	RAT WB (°F.)	LAT DB (°F.)	LAT WB (°F.)				
ERV-1	PLATE FRAME	100.0	66.0	84.3	62.6	800	75.0	62.5	90.7	66.0	800	62.6	26.0	1
ERV-2	PLATE FRAME	100.0	66.0	81.1	61.9	500	75.0	62.5	93.9	66.6	500	70.7	17.8	1

NOTES:

1. PROVIDE MERV8 FILTERS.

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DESCRIPTION:
SCHEDULES
Ref. Sheet:M-503

DRAWING NO:
MSK-004

PLUMBING FIXTURE FINAL PIPING CONNECTION SCHEDULE

FIXTURE	DESCRIPTION	MINIMUM PIPING CONNECTION IN WALL TO SINGLE FIXTURE CONNECTION					REMARKS	FIXTURE UNITS	
		W	V	C	H			WATER FU	WASTE FU
WC	WATER CLOSET FLUSH TANK	4"	2"	1/2"	-			2.5	4 PSK 5
UR	URINAL FLUSH VALVE	2	2"	1/2"	-		PROVIDE WCO ABOVE UR IN VENT LINE	5	2 PSK 5
LV	LAVATORY	2"	1-1/2"	1/2"	1/2"			1	1
DF	DRINKING FOUNTAIN	2"	1-1/2"	1/2"	-			0.5	0.5
SK	SINK	2"	1-1/2"	1/2"	1/2"		①	1.5	2

NOTE :
① EXCEPT WHERE NOTED OTHERWISE
PROVIDE CLEANOUT BELOW WASTE CONNECTION

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PROJECT NAME
ADVANCED ENERGY CENTER

PROJECT ADDRESS
741 4TH STREET, SANTA ROSA, CALIFORNIA 95404

NO.	DATE	DESCRIPTION
5	6/26/2019	Addendum 3

TLCD PROJECT NO:
18077.00

DATE:
06/26/19

BY:
JB

DESCRIPTION:
LEGEND, SYMBOLS, GENERAL NOTES & DRAWING LIST
Ref. Sheet:P-001

DRAWING NO:

PSK-001

PLUMBING FIXTURE SCHEDULE

FIXTURE NUMBER	TYPE	FIXTURE MFG. & MODEL NO.	FAUCET OR VALVE (2) MANUFACTURER MODEL NO.	STRAINER & TAILPIECE MFG. & MODEL NO.	REMARKS
WC-1	WATER CLOSET FLOOR MOUNTED	AMERICAN STANDARD "VORMAX", UHET, 16.5" HEIGHT, MODEL 238AA.114 LEFT HANDLE .115 RIGHT HANDLE, ELONGATED BOWL, 1.0 GPF.	INTEGRAL	--	OLSONITE # 95 SEAT, OPEN FRONT, LESS COVER - WHITE (4)
WC-2	WATER CLOSET FLOOR MOUNTED ADA	AMERICAN STANDARD "VORMAX", UHET, 16.5" HEIGHT, MODEL 238AA.115 RIGHT HANDLE, ELONGATED BOWL, 1.0 GPF.	INTEGRAL	–	OLSONITE # 95 SEAT, OPEN FRONT, LESS COVER - WHITE (4) (7) PSK 5
UR-2	URINAL WALL MOUNTED ADA	AMERICAN STANDARD "DECORUM", UHET, EVERCLEAN, MODEL 6042.001EC 0.125 GPF.	KOHLER, #K-7531, 1.28 GPF, 30 YEAR HYBRID BATTERY ENERGY CELL, PISTON TYPE.	–	(4) (5)
LV-2	LAVATORY ADA	TOTO "COMMERCIAL LAVATORY" # LT307.4#01, 4"CENTER HOLES WITH OVERFLOW, WITH 0059.020EC SHROUD / KNEE GUARD, WALL HUNG, 21-1/4" x 20.5" x 5"	MOEN FAUCETS #8938, LEAD-FREE, 4" CENTERS, 4" WRISTBLADES, 0.35 GPM, NON-AERATING OUTLET PRESSURE COMPENSATING ECONO-FLOW E38VPJKABCP.	ZURN # Z-8746-S FLAT GRID STRAINER DRAIN 1-1/4" OFFSET TAILPIECE IF NEEDED	SET HIGH TEMP LIMIT TO 110F PROVIDE UNDERCOUNTER MIXING VALVE ASSE 1070 (3) (4) (5)
DF-2	DRINKING FOUNTAIN ADA	ELKAY #LZWS-EDFPBM117K BI-LEVEL VANDAL RESISTANT, W/ IN-WALLL CARRIER #MPW200,ACCESS PANEL FOR P-TRAP #AP99, FILTER KIT # EWF172., WITH EZH20 BOTTLE FILLING STATION.	INTEGRAL	INTEGRAL	115V 60HZ, 5 AMP ON A 20 AMP BREAKER PSK 5
BSK-1	SINK, UNDERMOUNT KITCHEN ADA	JUST # ELUHAD281655 18 GA., TYPE 304 STAINLESS STEEL, UNDER COUNTER, SINGLE BASIN, 30.5"X18.5"X5-3/8" OVERALL, CENTER REAR DRAIN.	PEERLESS #P188152LF-SS SINGLE HANDLE PULL-DOWN KITCHEN FAUCET	JUST #J-35-GS-STP CRUMB-CUP & STRAINER W/ TAILPIECE	-- (6)
HB-1	HOSE BIBB	–	HOSE BIBB, WOODFORD MODEL 44-PC-VB, LOOSE KEY, VACUUM BREAKER		IN TOILET ROOMS, UNDER LAVATORY
MSK-1	MOP SINK	AMERICAN STANDARD "FLORWELL" C.I., CORNER, 28" x 28" x 13" #7741.000 w/7721.038 & 7745.811 3" STRAINER & RIM GUARD	CHICAGO # 897 FAUCET w/ VACUUM BREAKER 3/4" HOSE THREAD OUTLET, PAIL HOOK & WALL BRACE, ADJUSTABLE R, INTEGRAL STOP, SUPPLY ARMS CHROME PLATED. MOUNT FAUCET @ 36" HEIGHT.	AMERICAN STANDARD # 7721.038 3" NPTF OUTLET	--
REF-1	REFRIGERATOR WATER SUPPLY PSK 5	OATEY ROUND ICE MAKER SUPPLY BOX , QUARTER TURN, LOW LEAD #39207	-	-	--
WH-1	WATER HEATER	RHEEM #PROPH50 T2 RH350 D, 50 GALLON, 208V, 15 AMPS. 16 GPH@90F, HIGH 3.55 - 3.70 USF-US, W/ VACATION SETTING,	-	-	PIPE P&T VALVE TO MOP SINK
RP-1	RECIRCULATION PUMP HOT WATER	AO. GRUNDFOS, UP 10-16 BU/ATLC, 3 GPM 5 FT HEAD, UNION CHECK VALVE, TIMER, LINE CORD AQUA-STAT , 115V/ 60Hz/ 0.23A/ 25W	-	-	--

PLUMBING FIXTURE SCHEDULE NOTES:

1. ALL TRAPS SHALL BE IAPMO APPROVED. ALL FIXTURE TRAPS SHALL BE APPROVED BY THE CODE AUTHORITY HAVING JURISDICTION.
2. ALL WATER FLOW RESTRICTORS SHALL HAVE TITLE-24 CERTIFICATION.
3. PROVIDE PROWRAP SEAMLESS INSULATOR COVERS FOR DRAIN AND SUPPLY LINE, WHERE EXPOSED.
4. MOUNT TO MEET ACCESSIBILITY REQUIRED IN ACCORDANCE WITH AMERICAN DISABILITIES ACT (ADA).
5. ZURN OR JR SMITH FLOOR MOUNTED CARRIER TO SUIT, RATINGS LISTED ABOVE.
6. PROVIDE AIR GAP FITTING FOR DISHWASHER
7. PROVIDE TRAP PRIMER PPP #PR500 IN WALL. PSK 5

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TLCD PROJECT NO:
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JB

DESCRIPTION:
FIRST FLOOR PLAN - PLUMBING
Ref. Sheet:P-121

DRAWING NO:
PSK-002

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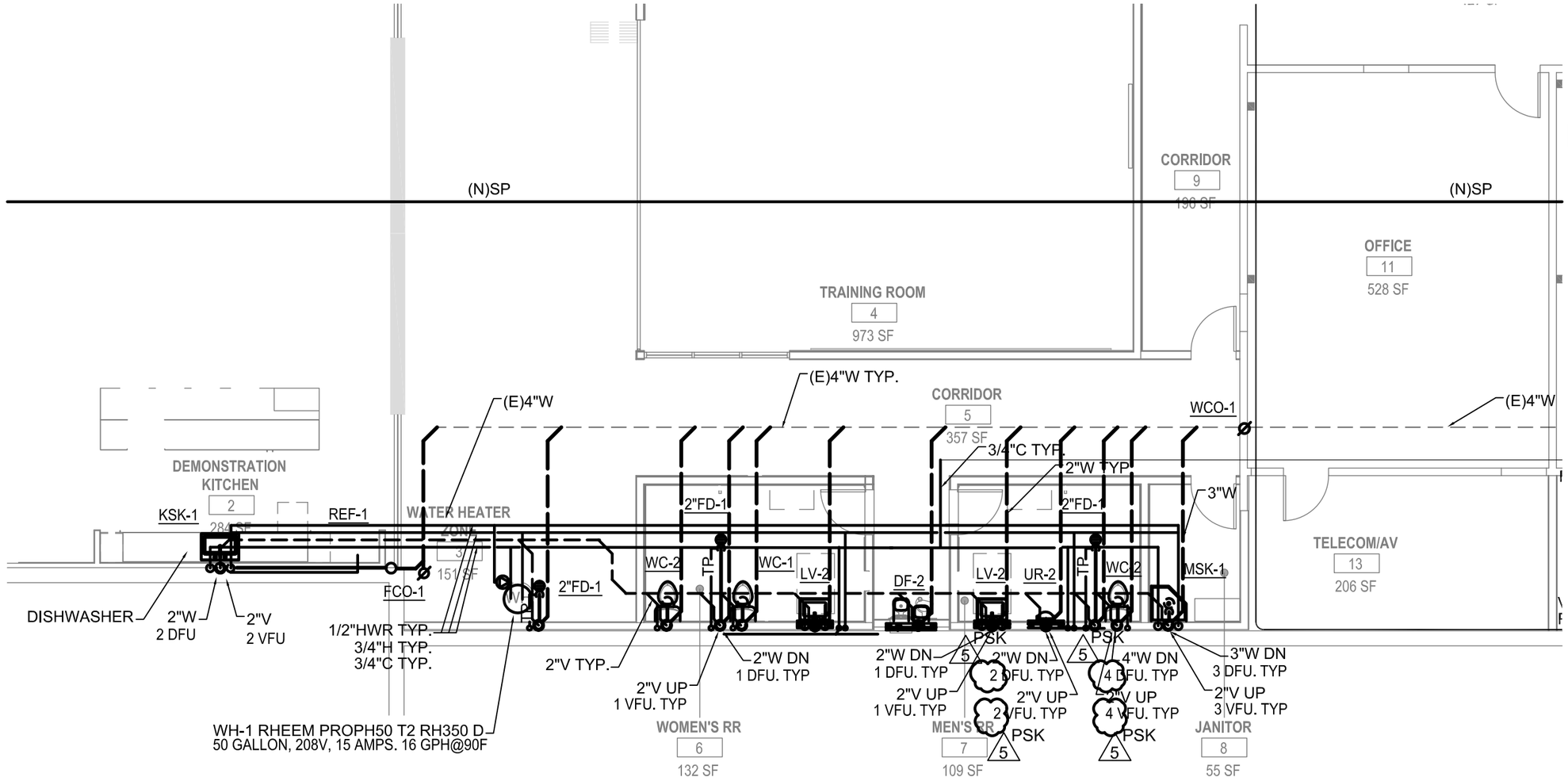

TRUE NORTH

1 FIRST FLOOR PLAN - PLUMBING

1/8" = 1'-0"

TLCD PROJECT NO:
18077.00

DATE:
06/26/19

BY:
JB

DESCRIPTION:
FIRST FLOOR PLAN - PLUMBING
Ref. Sheet:P-121

DRAWING NO:

PSK-003

SECURITY SYSTEMS

NOT ALL SYMBOLS MAY BE USED

CR — CARD READER
(BLANK) = STANDARD
M = MULLION MOUNT (WIRELESS)
5

C — MAGNETIC DOOR CONTACT
(BLANK) = STANDARD

RX — REX MOTION DETECTOR, WALL MOUNTED

DR — DOOR RELEASE
(BLANK) = UNDER COUNTER PUSH BUTTON

CLIENT PROVIDED WORKSTATION

SECURITY ENCLOSURE, WALL MOUNT

ED — ELECTRIC EXIT DEVICE

INTERCOM, WALL MOUNTED
5

W — WIRELESS HUB FOR APERIO CARD READER, CEILING MOUNTED

DB — DURESS BUTTON
(BLANK) = UNDER DESK MOUNT

MD — MOTION DETECTOR, WALL MOUNT

MD — MOTION DETECTOR, CEILING MOUNT

CHIME — AUDIBLE CHIME FOR DOOR(S) 4B AND 9, WALL MOUNT

KP — KEYPAD, WALL MOUNT

XXX — VIDEO CAMERA 180 - FIXED
XXX = MOUNTING DETAIL IDENTIFIER (IF USED)
A = WALL MOUNTED
B = CEILING MOUNTED

XXX — VIDEO CAMERA (SINGLE SENSOR) - FIXED
XXX = MOUNTING DETAIL IDENTIFIER (IF USED)
A = WALL MOUNTED
B = CEILING MOUNTED

01 — NUMBERED NOTE (SPECIFIC TO THE SHEET WHERE SHOWN)

X01 — EQUIPMENT IDENTIFICATION TAG
X = "T" TELECOMMUNICATIONS
X = "A" AUDIOVISUAL
X = "S" SECURITY

001 — DOOR NUMBER

XX — COMMUNICATIONS CONDUIT BANK TAG - REFER TO SCHEDULE

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NO.	DATE	DESCRIPTION
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TLCD PROJECT NO:
18077.00

DATE:
06/26/19

BY:
MA

SHEET REFERENCE:
T0.01

DESCRIPTION:
SECURITY COVER SHEET REVISION

DRAWING NO:
TSK-01

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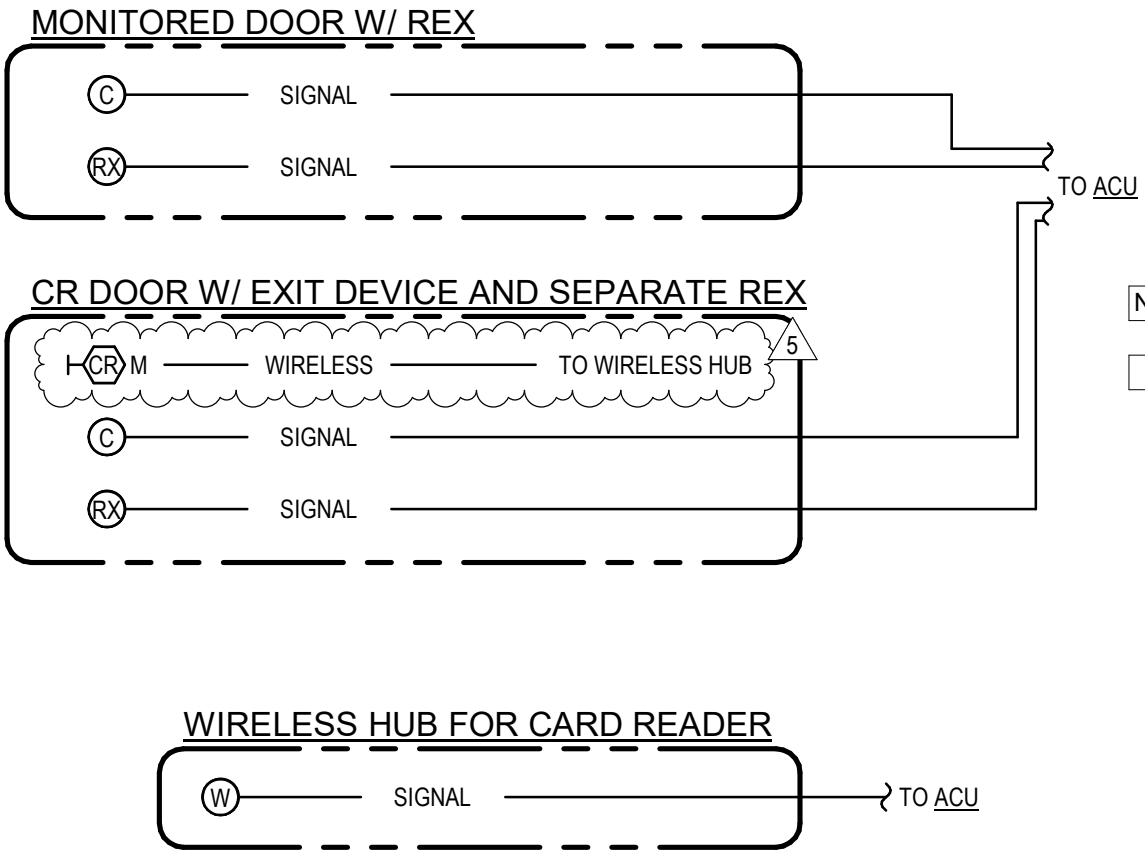
SCP DATA LAN (NIC)



PROJECT NAME

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TLCD PROJECT NO:

18077.00

DATE:

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BY:

MA

SHEET REFERENCE:

T0.14

DESCRIPTION:

REVISED SECURITY DIAGRAM - ACAMS

DRAWING NO:

TSK-02

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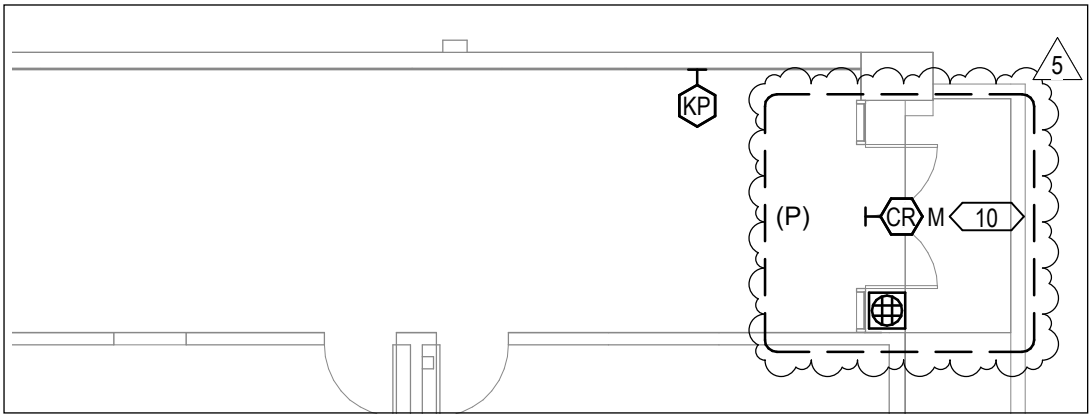

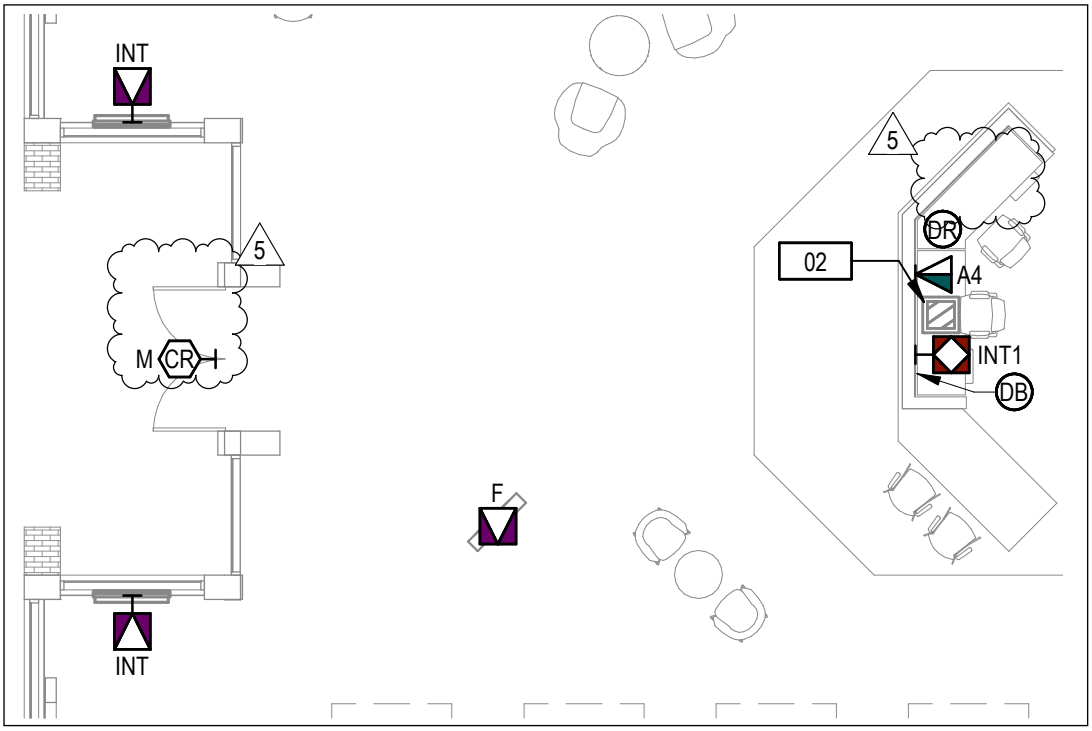

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NO.	DATE	DESCRIPTION
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18077.00

DATE:
06/26/19

BY:
MA

SHEET REFERENCE:
T2.01

DESCRIPTION:
MOVED ACAMS READER TO MULLION OF EXISTING DOOR AND DELETED INTERCOM MASTER STATION

DRAWING NO:

TSK-03

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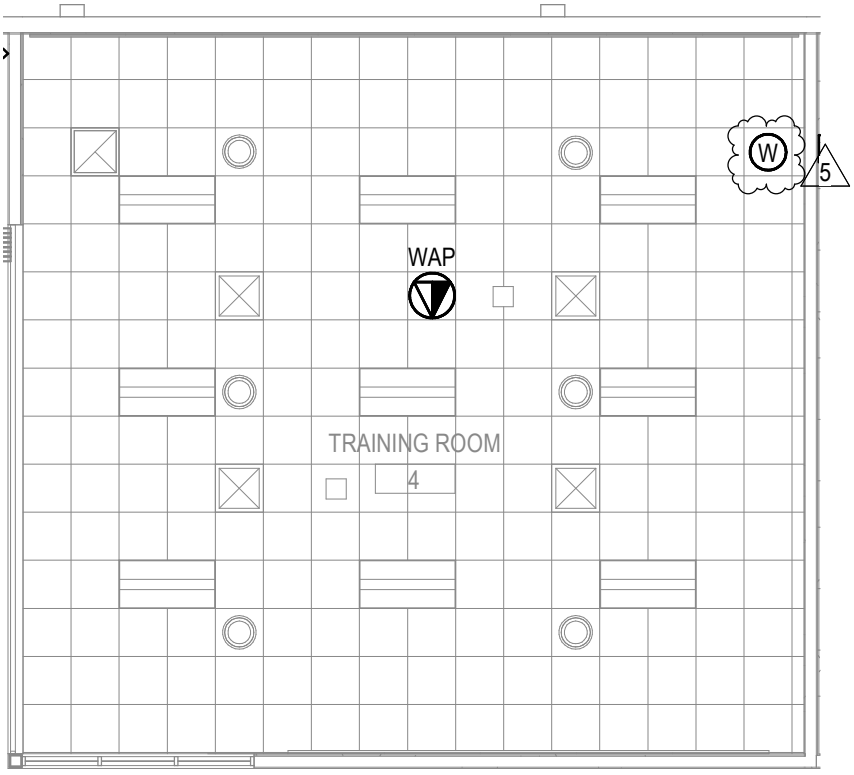

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5	06/26/19	ADDENDUM 3

TLCD PROJECT NO:

18077.00

DATE:

06/26/19

BY:

MA

SHEET REFERENCE:

T3.01

DESCRIPTION:

ADDED WIRELESS HUB

DRAWING NO:

TSK-04

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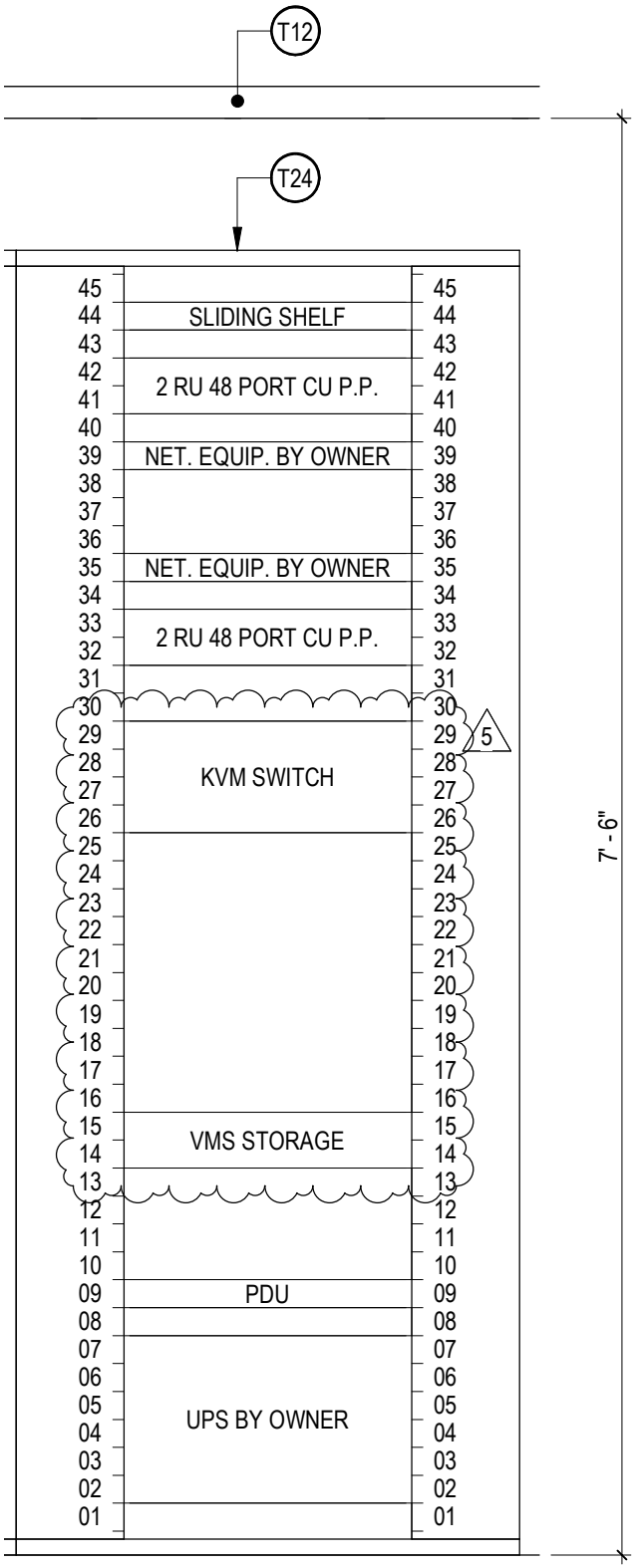

PROJECT NAME

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5	06/26/19	ADDENDUM 3

TLCD PROJECT NO:
18077.00

DATE:
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BY:
MA

SHEET REFERENCE:
T4.01

DESCRIPTION:
SECURITY RACK ELEVATION REVISION

TR EQUIPMENT LIST	
ID	DESCRIPTION
T12	12"W LADDER TYPE CABLE TRAY
T24	45 RU TELECOM CABINET

DRAWING NO:

TSK-05

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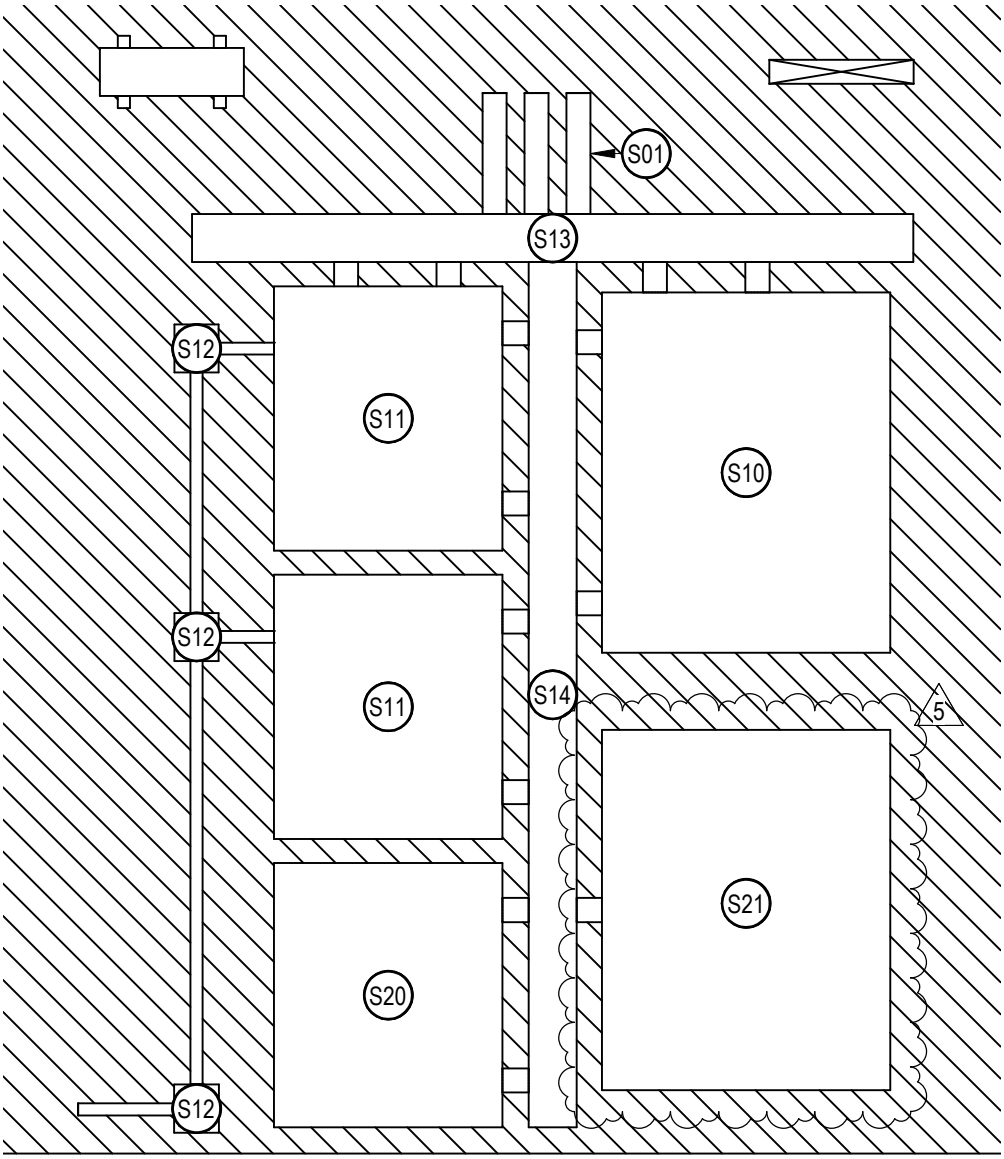

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NO.	DATE	DESCRIPTION
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TLCD PROJECT NO:
18077.00

DATE:
06/26/19

BY:
MA

SHEET REFERENCE:
T4.02

DESCRIPTION:
SECURITY WALL PANEL ELEVATION REVISION

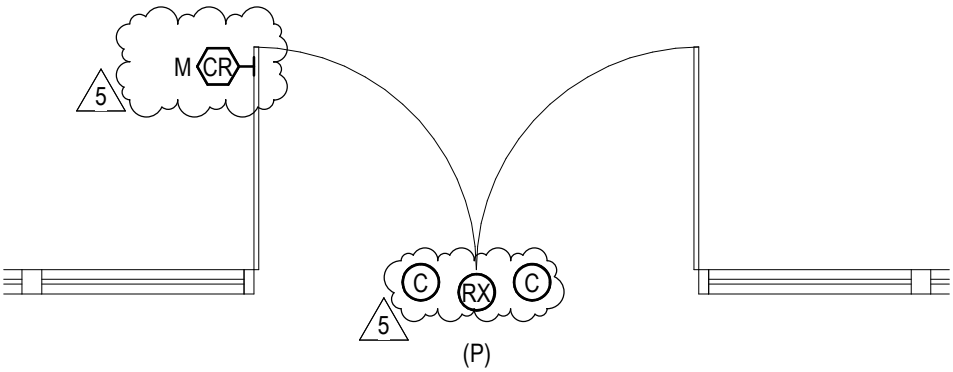
SECURITY EQUIPMENT LIST

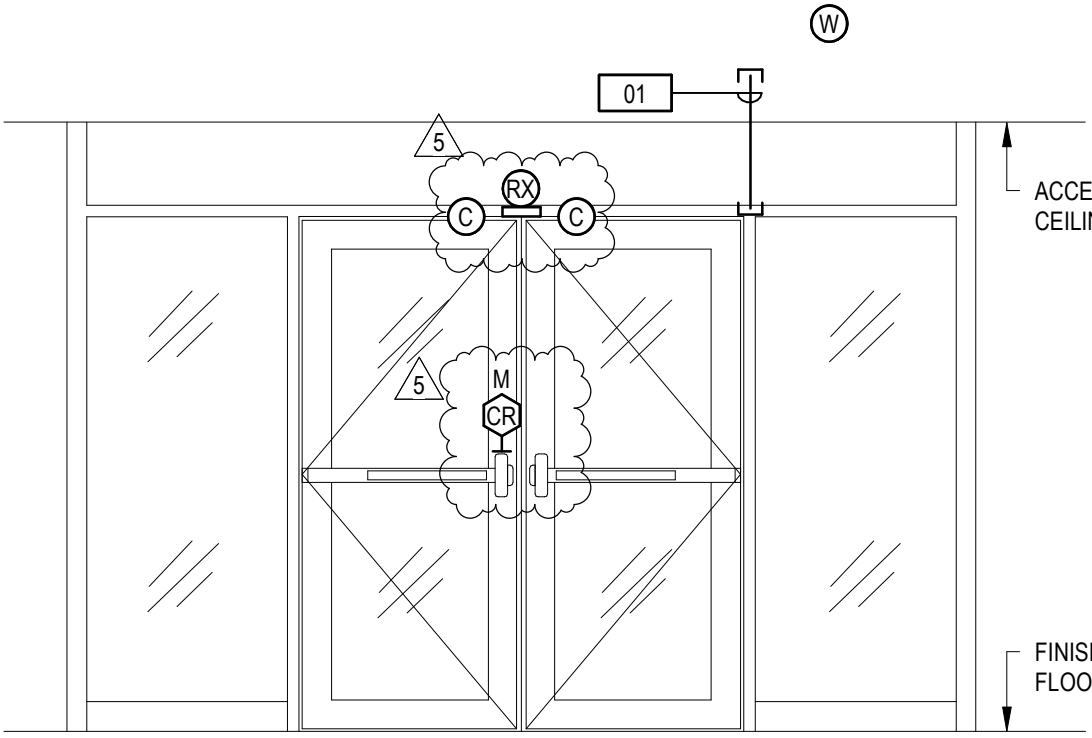
ID	DESCRIPTION
S01	2" CONDUIT STUBBED UP TO THE CABLE RUNWAY
S10	ACCESS CONTROL SYSTEM ENCLOSURE
S11	POWER SUPPLY
S12	DEDICATED HARDWARE CIRCUITS. REFER AND COORDINATE WITH ELECTRICAL
S13	4"X4"X60" SCREW COVER GUTTER
S14	4"X4"X72" SCREW COVER GUTTER
S20	INTRUSION DETECTION PANEL
S21	ACCESS CONTROL SERVER APPLIANCE

5

DRAWING NO:

TSK-06





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MA

SHEET REFERENCE:
T5.10

DESCRIPTION:
SECURITY INSTALLATION REVISION

THEORY OF OPERATION:

- BOTH LEAFS ARE SCHEDULED UNLOCKED DURING BUSINESS HOURS AND ALARM MONITORING IS BYPASSED.
- AFTER HOURS DOOR IS SCHEDULED LOCKED AND ALARM IS ENABLED.

REFERENCE SYMBOLS

(W) WIRELESS HUB FOR APERIO CARD READER

M (CR) MULLION MOUNTABLE CARD READER

(C) CONTACT SWITCH. INSTALL CONTACT RECESS MOUNTED AT THE TOP OF THE DOOR 6" FROM SWING EDGE OF DOOR, UON.

NUMBERED NOTES

01 STUB PATHWAY TO HOLLOW METAL DOOR FRAME. 5

DRAWING NO:

TSK-07

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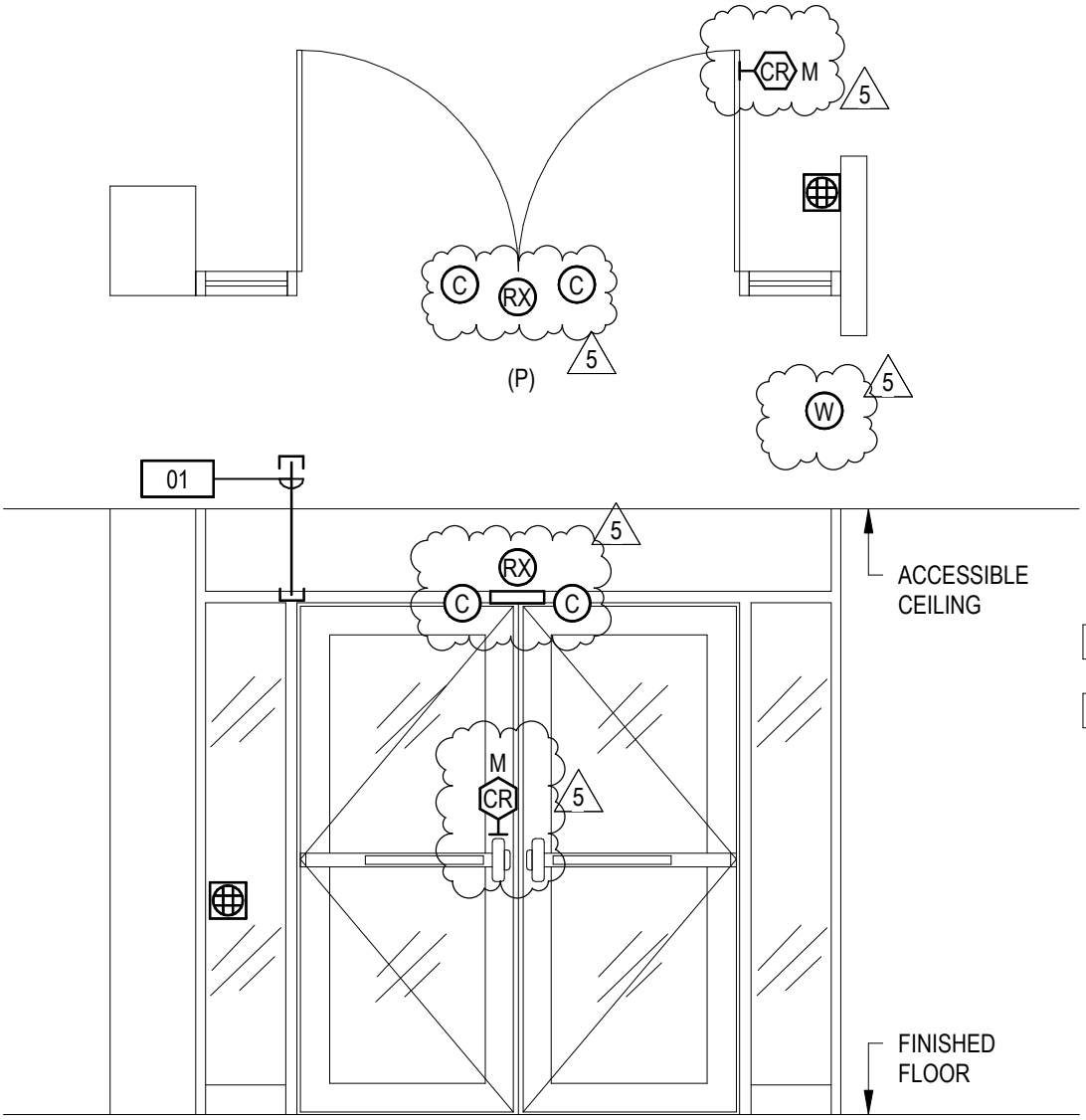

THEORY OF OPERATION:

- NORMAL DOOR STATE IS CLOSED AT ALL TIMES.
- DOOR IS LOCKED ON THE NON-PROTECTED SIDE AND UNLOCKED ON THE PROTECTED SIDE.
- TO OPEN DOOR FROM NON-PROTECTED SIDE, CARD MUST BE PRESENTED TO UNLOCK DOOR.

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18077.00

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MA

SHEET REFERENCE:
T5.10

DESCRIPTION:
SECURITY INSTALLATION REVISION

DRAWING NO:

TSK-08