



Cornelio Gonzalez, Ph.D.
Executive Director

Region One Education Service Center

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ADDENDUM #6

Date: March 27, 2019

Proposal Category: **Region One Education Service Center Edinburg Additions and Renovations**

Proposal Number: 19-AGENCY-000065

The Region One Education Service Center (ESC) is accepting proposals for **Region One Education Service Center Edinburg Additions and Renovations**.

Region One ESC is amending the following information to the Region One Education Service Center Edinburg Additions and Renovations Competitive Sealed Proposals (CSP) 19-AGENCY-000065 through this addendum:

- **Special Terms and Conditions** revised language
- **Clarification Items** – Items C-1 – C-4
- **Specification Items** – Item S-1
- **Plan Items** – Items P-1 – P-4

Item 11.20 was rewritten to clarify the requested document and requirements. The item now reads, "Provide complete responses for questions in the Contractor's Information Statement Form in the exact order requested. (Maximum Points 4.50)" The attached replaces page twenty-two (22) of the Project Manual.

Questions/clarifications regarding this RFP must be submitted in writing through the "Bid Q&A" option located within the solicitation available through the eBuyOne website: <https://esc1.buyspeed.com/bsol> no later than 4 PM, Friday, March 29, 2019. Questions/clarifications regarding this RFP will not be answered by phone. It is the Respondent's responsibility to view the webpage regularly, or prior to submitting a response, to view any response(s) to question(s) issued for this solicitation.


Region One ESC Purchasing Department will receive proposals for **Region One Education Service Center Edinburg Additions and Renovations CSP 19-AGENCY-000065** electronically through the eBuyOne website: <https://esc1.buyspeed.com/bsol> no later than 2 PM local time, Thursday, April 4, 2019. Late submittals will not be considered. *A paper/hardcopy is highly discouraged*; however, Region One ESC will be accepting sealed RFPs on USB or hardcopy through the mail or hand delivery to Region One ESC, 1900 W. Schunior St., Edinburg, Texas 78541 by the date and time specified, and it must be **clearly labeled** *Attention: Marc David Garcia, Purchasing Specialist – Region One Education Service Center Edinburg Additions and Renovations CSP 19-AGENCY-*

000065. All sealed proposals received after the specified deadline shall be retained sealed and unopened until after a final award is made. After a final award is made, the Region One ESC may open the "late" or "disqualified" proposal and retain it as a public record which will be subject to the Texas Public Information Act. A signed, submitted proposal constitutes an offer to perform work and/or deliver the services specified in the procurement solicitation.

The ESC has a critical need for the work to begin on **May 1, 2019** and be substantially complete by **August 31, 2020 OR as fixed in the Notice to Proceed.**

The awarding of the proposal will take place at a public Region One ESC board meeting. The Board of Region One ESC reserves the right to accept, reject any and/or all proposals, waive minor technicalities, to award contracts for individual items as they may appear advantageous to the Region One ESC and its members or to award the proposal to the most responsible offeror which best serves the interest of the Region One ESC.

Sincerely,



Dr. Cornelio Gonzalez
Executive Director



Connie Lopez, CPA
Deputy Director for Business Operations and Finance Support

ADDENDUM #6 must be acknowledged in eBuyOne for Region One Education Service Center Edinburg Additions and Renovations CSP 19-AGENCY-000065.

- 11.19 Provide documentation to assist compliance with laws and rules relating to Historically Underutilized Businesses (HUB). (Maximum Points 0.50)
- 11.20 Provide complete responses for questions in the Contractor's Information Statement Form in the exact order requested. (Maximum Points 4.50)

12.0 AWARD OF CONTRACT

- 12.1 The Awarded Proposer will be promptly notified. If a Proposer (a) withdraws his/her proposal within forty-five (45) days after the date of time fixed for the opening of proposals in the Request for Competitive Sealed Proposal, or (b) fails or refuses to execute the Agreement, or other required forms within ten (10) calendar days after the same are presented to him for signature, or (c) fails or refuses to furnish properly executed Performance Bond and required Insurance Certificates within ten (10) calendar days of Notice of Award, the Owner may award the work to another Proposer or Proposers or, if applicable, may call for new proposals.
- 12.2 The Proposer will be required to (a) submit his/her proposal and Bid Bond, (b) execute Contract and Performance and Payment Bonds, and (c) submit Certification of required insurances.
- 12.3 Bid Bond is forfeited if bid/proposal is withdrawn after the CSP opening, or contract documents are not executed in accordance with the above.

13.0 SUBMISSION OF POST COMPETITIVE SEALED COMPETITIVE INFORMATION

- 13.1 The Awarded Proposer shall within three (3) days after the Board of Directors approves the award submit the following:
 - 13.1.1 A designation of the work to be performed by the Proposer with his/her own forces.
 - 13.1.2 An experience profile of the selected Proposer's superintendent scheduled to work on this project. In addition, the apparent selected Proposer shall cooperate with the Owner, supplying requested information to substantiate the qualifications of the Superintendent. If, in the opinion of the Owner, the superintendent does not qualify, the Owner may request the submission of another Superintendent and more information. The Owner reserves the right to reject the apparent selected Proposer if an acceptable superintendent is not presented.
 - 13.1.3 A list of names of subcontractors or other persons or organizations (including those who are to furnish materials or equipment fabricated to a special design) proposed for such portions of the work as may be designated in the proposal documents or, if no portions are so designated, the names of the subcontractors proposed for the principal portions of the work.
 - 13.1.4 The selected Proposer shall within five (5) days thereafter submit a statement of costs for each major item of work included in the proposal. Each section of specifications will be considered a major item of work and shall be shown as a separate cost item.

14.0 NOTICE TO PROCEED

- 14.1 The Proposer shall not commence work under this Contract until he receives the written "Notice to Proceed," a Purchase Order, and the Contract is fully executed by all parties.

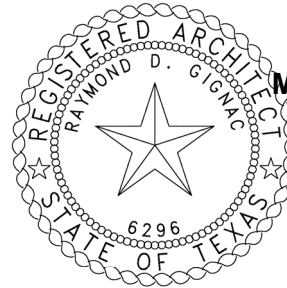
15.0 COMPLETION TIME

- 15.1 The Owner has a critical need for the work to begin on **April 1, 2019** and be substantially complete by **March 16, 2020 OR as fixed in the Notice to Proceed.**

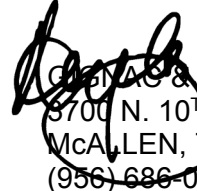
**ADDENDUM NUMBER SIX (6)
TO THE PLANS AND SPECIFICATIONS FOR:**

**REGION ONE EDUCATION SERVICE CENTER
EDINBURG ADDITIONS AND RENOVATIONS
1900 W. Schunior,
Edinburg, Texas 78541
Project No. 17.14**

GIGNAC & ASSOCIATES
416 STARR STREET
CORPUS CHRISTI, TEXAS 78401
(361) 884-2661



EXPIRATION DATE
11/30/2019


GIGNAC & ASSOCIATES
8700 N. 10TH STREET SUITE 205
McALLEN, TEXAS 78501
(956) 686-0100

March 29th, 2019

This addendum is generally separated into sections for convenience; however, all contractors, subcontractors, materialmen, and other parties shall be responsible for reading the entire addendum. The failure to list an item or items in all affected sections of this addendum does not relieve any party affected from performing as per instructions, provided that the information is set forth any time, any place in this addendum. These documents shall be attached to and become a part of the contract documents for this project.

CLARIFICATION ITEMS :

Item C-1

RFI- Geo Report references a root barrier to existing trees due to possible foundation damage. Please confirm or clarify as there is no spec for a root barrier. Please see attachments for detail.

- **Section 003132**

While Geo Tech Data are not part of the Contract Documents, and in the event the General Contractor is to use a Root Barrier, G.C shall use "NDS EP Series Root Barriers" or equal product.

Item C-2

Substitution Request for Elastophene FR GR

- **Substitution Request has been denied.**

Item C-3

Architectural plans

Plans or specs doesn't indicate if any part of roof deck will be painted or covered with gypsum board above suspended ceilings throughout building addition and renovation areas. Verify/clarify.

- **Clarification is attached to this addendum.**

Item C-4

Substitution Request for Yellow Guard

- **Substitution Request has been denied.**

SPECIFICATION ITEMS :

Item S-1

Section 26 55 61 – Event Lighting and Controls.

Section 26 55 61 – Event Lighting and Controls attached here with shall become part of the Contract Documents.

Plan ITEMS :

Item P-1

Sheet C-5.0 – Paving and Drainage Plan

Sheet C-5.0 – Paving and Drainage Plan included within this addendum shall be added to become part of the construction documents and substitute C-5.0 – Paving and Drainage Plan.

Item P-2

Sheet A-408-R2 Reflected Ceiling Plan – Training Facility

Sheet A-408-R2 Reflected Ceiling Plan – Training Facility included within this addendum shall be added to become part of the construction documents and substitute A-408-R1 Reflected Ceiling Plan – Training Facility.

Item P-3

Sheet A-408-R2 Reflected Ceiling Plan – Training Facility w/ Alternate

Sheet A-408-R2 Reflected Ceiling Plan – Training Facility w/ Alternate included within this addendum shall be added to become part of the construction documents and substitute A-408-R1 Reflected Ceiling Plan – Training Facility w/ Alternate.

Item P-4

Sheet A-410-R1 Reflected Ceiling Plan – Offices and Alternate #2

Sheet A-410-R1 Reflected Ceiling Plan – Offices and Alternate #2 included within this addendum shall be added to become part of the construction documents and substitute A-410 Reflected Ceiling Plan – Offices and Alternate #2.



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SECTION 26 55 61 - EVENT LIGHTING AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

- A. To provide and commission a control system for architectural and event lighting in the new Training Facility.
- B. To provide and integrate specialty event lighting fixtures with the new controls.

1.2 RELATED DOCUMENTS

- A. Architectural/Event Lighting Controls Drawings ("TL" Series) and general provisions of the contract including general and supplementary conditions and Division 1 Specification sections apply to this section.

1.3 SECTION INCLUDES

- A. Architectural/Event Lighting Wiring, Cable and Accessories
 - 1. Network and eDMX cabling
 - 2. DMX cabling and Back-up cabling
 - 3. Architectural Lighting control cabling
- B. Architectural/Event Lighting Control
 - 1. Control Distribution Panel
 - 2. Network Control Components
 - 3. Network Control Devices
 - 4. 0-10V architectural Control
 - 5. DMX Control Components
 - 6. DMX Devices
 - 7. Emergency Control Transfer
 - 8. Architectural Control Processor
 - 9. Architectural Control Devices
- C. Miscellaneous Equipment
 - 1. DMX controlled lighting track and fixtures
- D. Coordination, supply, installation, shipping, storage, inspection, commissioning, testing, instruction and warranties of the Lighting Controls. Plant, materials, equipment, transport and labor necessary to accomplish this and have a complete and fully functioning System.
- E. Also includes:
 - 1. Required licenses and permits including payment of charges and fees.
 - 2. Verification of dimensions and conditions at the job site.
 - 3. Provision of submissions.
 - 4. Installation in accordance with the contract document, manufacturer's recommendation, and in conformity with applicable codes and authority having jurisdiction.
 - 5. Extension of electrical service, including ground, to equipment locations.

1.4 RELATED WORK NOT IN THIS SECTION

- A. Section 27 41 16: Integrated Audio Video Systems and Equipment, drawings and documentation.
- B. Division 26: Electrical Work drawings and documentation.

1.5 REFERENCES

- A. Published specification standards, tests or recommended methods of trade, industry or governmental organizations apply to Work in this section where cited below:
 - 1. American National Safety Institute (ANSI),
 - 2. American Society of Testing and Materials (ASTM),
 - 3. Electronics Industries Association (EIA),
 - 4. Institute of Electrical and Electronic Engineers (IEEE),
 - 5. National Electrical Manufacturer's Association (NEMA),
 - 6. National Electrical Code (NEC),
 - 7. Underwriters Laboratories (UL),
 - 8. Occupational Safety and Health Administration (OSHA),



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9. Entertainment Services and Technology Association (ESTA)
 10. United States Institute of Theater Technology (USITT)
- 1.6 DEFINITIONS
- A. In addition to Division 1 definitions, the following list of terms as used in this Section shall be defined as:
1. Owner – Region One Education Service Center
 2. Project –Region One Education Service Center Edinburg Additions & Renovations
 3. Consultant – The Architect’s Technical Representative for this Section
 4. Architect – Gignac Architects (RSA)
 5. Contractor – The designer, engineer, and provider of all systems in this Section
 6. Lighting System – Architectural/Event lighting control system within meeting rooms
 7. Furnish/Supply – To purchase, procure, acquire and deliver Complete With All Necessary Accessories (CWANA)
 8. Install – To set in place, join, attach, link, set up or otherwise connect together and test until complete before turning over to the Owner, all parts, item or equipment supplied by the contractor.
 9. Provide – To furnish and install
- 1.7 DESCRIPTIONS AND REQUIREMENTS
- A. The following is intended to describe the design intent and Work of this Section. It should not be viewed solely for overall requirements for the Architectural/Event Lighting Systems. Refer to all of the Architectural/Event Lighting Systems (TL Series) documents for information relating to this Section.
- B. Training Room
1. The Meeting Room Lighting System shall be comprised of an architectural processor operating over a shared AV/Lighting network to communicate with 0-10V and DMX controlled devices within the facility. The processor shall also be capable of communication with the room divider system to enable System to work in all anticipated configurations (from one large room to as many as seven breakout spaces.)
 2. System shall control all permanently installed architectural lighting and specialty event lighting fixtures in the space.
 3. Architectural and Event lighting load circuits within the facility shall be served from a specialty relay panel (RP) directly compatible with and interfaced to the lighting controls. Relay panel control channels shall allow individual and group control of lighting fixture zones and indicated on the drawings.
 4. The Lighting System shall be directly compatible with and interfaced to the AV control system. The AV-system control panels (TP) shall be programmed to include lighting presets and zone control suit each room configuration and intended function.
 5. Lighting System control preset entry-stations (HLE) shall be located throughout the Training Room at entry points and shall be configured to support individual subdivided rooms as local switches, or in larger configurations, mirroring each TP station in the room to reflect appropriate control for the undivided room as a single space.
 6. System controls shall be routed through a specialty wall-mount Control Distribution Panel (CDP) containing all control and network devices.
 7. A TP device, as provided as part of the AV controls, shall be designated as the lighting system master control station. This station shall be used to set up, control and configure the room/s. The master controller shall also be used to control the lighting DMX track system to be used in large room Platform end-stage configuration.
 8. The system shall be capable of accepting input from occupancy sensors located throughout the space. System shall be programmed so that depending on the configuration, a signal from any given occupancy sensor will trigger the appropriate lighting levels in the appropriate areas as they correspond to the room set up. Coordinate code required levels with Electrical.



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9. DMX controlled tracks and fixtures shall be provided to illuminate a platform/head table area at one end of the room.
 - a. Tracks shall serve (1) or (2) dedicated circuit feeds from the RP device and be controlled via standard DMX signals from the CDP.
 - b. Suitable supplemental strut is required to suspend the tracks capable of supporting the weight of the track and the fixtures intended to be mounted upon it.
 - c. Contractor shall hang and patch fixtures; Contractor shall focus fixtures and develop lighting presets at the Owner's direction and in conjunction with the Consultant for this section.

1.8 RESPONSIBILITY AND RELATED WORK

- A. The drawings included with this specification convey general system concepts. The plans do not show complete and accurate building details including existing and as-built conditions. The Contractor is responsible for making field measurements necessary to establish exact locations, relationships, load capacities necessary for the installation of these systems. Coordinate with the related work as stated in Part 1.4, and the scheduled work of other trades.
- B. Conduit infrastructure system, including wire for AC Power and grounding for the Lighting Systems, are provided as part of the contract. Coordination between different disciplines required to achieve a proper conduit system installation and power provisions for Lighting and Systems. All electrical installation shall be in accordance with Division 26 and the National Electric Code.
- C. Supply accessories and minor equipment items needed for a complete and fully operational system, even if not specifically mentioned in these Specifications or on the associated drawings, without claim for additional payment.
- D. Notwithstanding any detailed information in the Contract Documents, it is the responsibility of the Contractor to supply systems in full working order. Notify the Architect of any discrepancies in part numbers or quantities before bid. Failing to provide such notification requires Contractor to supply items and quantities according to the intent of the Specifications and associated Drawings without claim for additional payment.
- E. Obtain all permits necessary for the execution of any work pertaining to the installation, or any operation by the Owner including any associated charges or fees.
- F. Execute all work in accordance with the National Electrical Code, the National Electrical Safety Code, and all applicable State and Local codes, ordinances, and regulations. If a conflict develops between the contract document and the appropriate codes and is reported to the Architect prior to bid opening, the Architect will prepare the necessary clarification. Where a conflict is reported after contract award, propose a resolution of the conflict and, upon approval, perform work.
- G. Architectural Lighting Fixture Control
 1. Contractor shall be responsible for installation and termination of DMX and/or 0-10V to all controlled devices and Architectural fixtures.
 2. Contractor shall verify and coordinate the control requirements for each Architectural fixture type within the facility.
 3. Contractor shall verify operation on ground before fixtures are permanently installed.
 4. Any required DMX and/or 0-10V controlled interface shall be provided by the Contractor including equipment parts, labor and installation of equipment.

1.9 QUALITY ASSURANCE

- A. Contractor's Qualifications: Firm experienced in the provision of systems similar in complexity to those required for this project; and meet the following:
 1. No less than five years of experience with equipment and systems of the specified types.
 2. Experience with at least five comparable scale projects within the last two years.
 3. Be a franchised dealer and service facility for the manufacturer's products furnished.
 4. Maintain a fully staffed and equipped service facility.
 5. At the request of the Architect, demonstrate that:
 - a. Adequate plant and equipment is available to complete the work.



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- b. Adequate staff with commensurate technical experience is available.
 - B. Manufacturer's Qualifications:
 - 1. No less than 5 years continuous experience in the production of specified type of product.
 - 2. Production shall meet applicable NEMA standards.
 - C. Contractor shall attend pre-installation meetings to coordinate with other trades as required.
- 1.10 SUBMITTALS:
 - A. The submittal information required by the specification is to be presented complete and as submissions noted below. Submittals are a crucial and integral part of the construction process; as such the Consultant will not recommend payment to the Contractor above 25% of the scheduled value of this work until all submittal information has been approved. Cost for the Consultant to review secondary and re-submittals due to the Contractor's failure to include all required submittal information, or rejection of incomplete or improperly prepared submittal information will be the responsibility of the Contractor. The cost shall be based on the hourly rates of the Architect and their Consultant as published in their current professional fees schedules and shall also include reimbursable costs for delivery, mailing, and photocopies at direct cost plus ten percent (10%).
 - B. Project Submittal Part 1:
 - 1. Provide for approval not later than thirty (30) days after issuance of Notice to Proceed and prior to commencement of Work:
 - a. Section 1: A complete schedule of submittals.
 - b. Section 2: A chronological schedule of Work in bar chart form. Revise and resubmit schedule as required to reflect construction progress.
 - C. Project Submittal Part 2:
 - 1. Provide for approval no later than sixty (60) days after issuance of notice to proceed and in accordance with previously submitted submittal schedule.
 - a. Section 1: Complete list of products to be incorporated within the Work (Bill of Materials). With the list of products provide a written description of how the products function as a system.
 - b. Section 2: Manufacturer's data sheets for each product. Provide original manufacturer's data sheets in order as they appear in the specification. Provide data sheets on each type of dimmer, contactor, and relay module specified for use on this project. These data sheets are submitted for each product in sufficient detail to facilitate proper evaluation to the products suitability for incorporation within the Work.
 - c. Section 3: Provide a copy of the UL Listing Card for each dimmer, contactor, and relay module specified for use on this project. Provide UL Listing Card for each rack or assembly. Provide UL Listing Card for each wiring device specified for use on this project. Provide UL Listing Card for each type or module of lighting fixture to be provided on this project.
 - d. Section 4: Provide Architect and/or Consultant with samples of wall plate materials and colors as specified in this section.
 - e. Section 5: Submit Material Safety Data Sheets (MSDS) for each potentially hazardous material prior to use. Include information pertaining to the hazardous material with the MSDS.
 - 2. Drawings:
 - a. Provide computer software generated drawings using standard industry graphic standards. Hand or poorly drawn documents will not be accepted. All drawings shall be created on a computer aided drafting (CAD) system compatible with AutoCAD release 2010 or higher. Electronic files of Lighting Control contract documents shall not be distributed for use in generating submittal documents with the exception of architectural backgrounds.
 - b. Drawings that reproduce the Consultant's drawings in full or in part are not acceptable.



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- c. Drawings depicting attachment of equipment to structure or mechanical assemblies that support overhead loads must show the work has been reviewed and sealed by a structural engineer licensed to practice in the State of Texas.
 - d. Installation Drawings: Provide drawings showing special details depicting methods and means specific to each product and each product manufacturer's recommended installation methods and means. Provide assembly and attachment for each product.
 - e. Provide reviewed/stamped drawings for all components in the load path and connection details where load bearing elements (type R devices) are attached to structure. This review shall be performed by a licensed qualified engineer in the State of Texas.
 - f. Schematic Drawings. Provide drawings detailing inter- and intra-components or fabricated products, wiring, conduit and cabling diagram depicting cable types, designator and color codes. Give each component a unique designator and use this designator consistently throughout the project. All schematic/riser drawings shall be provided by the lighting control system manufacturer.
 - g. Floorplan and Section Drawings. Provide drawings showing the exact location of all installed equipment on floorplans and sections, including all walls, doors and rooms, showing exact locations of devices and equipment, including, but not limited to, dimmer racks and associated control equipment as coordinated with other electrical equipment.
 - h. Rack Elevations: provide a front elevation and dimmer schedule of each dimmer rack giving the circuit number and location of connected load.
 - i. Installation Drawings. Provide drawings showing special details depicting methods and means specific to each product, assembly and each product manufacturer's recommended installation methods and means.
 - j. Conduit and Electrical Drawings. Provide floor plan drawings, including all walls, doors and rooms, showing exact power requirements and conduit sizing/routing for each system with the location of all junction boxes.
 - k. Equipment Drawings. Provide drawings showing location of equipment in racks, consoles, or on tables, with dimensions; wire routing and cabling within housings; AC power outlet and terminal strip locations.
 - l. Custom Enclosures and Millwork Drawings. Provide full fabrication detail drawings indicating size, material, finish and openings for equipment.
 - m. Fabricated Plates and Panels Drawings. Provide complete drawings on custom fabricated plates or panels. Drawings to include dimensioned locations of components, component types, engraving information, plate material and color, and bill of material.
 - n. Schedule Drawings. Provide wiring schedule drawings showing source and destination of wiring and indicating which wiring is in conduit. Junction box schedule showing type of box, size, mounting and location.
 - o. Labeling Drawing. Provide representative equipment and cabling labeling scheme. Include font sizes and styles, explanation of scheme, and descriptor and designator schedule.
 - p. General Detail Drawings. Provide detail drawings depicting any unique installation methods specific to each product.
 - q. Template Drawings. Provide detail drawings for master house lighting touch screens stations. Note that some screens may be revised during Owner training to meet the needs of the End User.
 - r. Any other pertinent data generated which is necessary to provide the Work.
- D. Submittal Format:
- 1. Electronic PDF submittals are encouraged.



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2. Where non-electronic submittals are required, these shall be bound in a three-ring D style binder sized for 150% of the material with a maximum size being a three inch spine. Use multiple volumes if necessary.
 3. Provide each submittal with a unique number and be numbered in consecutive order.
 4. Provide each submittal binder with a cover and a spine reflecting the project title and submittal number. Submittals shall not be issued with other disciplines.
 5. Provide each submittal with a complete table of contents with the following information:
 - a. Project title and number.
 - b. Submittal number. In the case of a resubmittal, use the original submittal number immediately followed by the suffix "R" immediately followed by a unique number and be numbered in consecutive order.
 - c. Date of submission.
 - d. Referenced addendum or change-order number as applicable.
 - e. Referenced specification Section, Part, Article, Paragraph and page number or drawing reference as applicable.
 - f. Index Product Data sheets by manufacturer and model or part number.
 6. Separate major grouping with labeled binder tabs.
 7. Arrange product data list in alpha-numeric order when applicable followed by unspecified product arrange by manufacturer and model or part number. Follow list by manufacturer's data sheets, arranged in the same order. If a data sheet shows more than one product, indicate the model being proposed with an arrow or other appropriate symbol.
 8. Drawings executed at an appropriate scale, not smaller than $\frac{1}{8}" = 1'-0"$.
- E. Submittal Copies:
1. These requirements represent minimum project requirements; a project's general conditions may require additional copies for project distribution.
 2. Submit (3) bound prints of all drawings.
 3. Submit (3) binders of bound materials (e.g. product submittals).
 4. Submit (2) copies of product or sample finishes as required within this specification.
- F. Resubmission Requirements:
1. Make any requested corrections or change in submittals required. Resubmit for review until no exceptions are taken.
 2. Indicate any changes that have been made other than those requested.
- G. Approval of Submittals: The submittal information will be reviewed by the general contractor, owner, architects, engineers, and consultant. Each submittal package will be returned, stamped as follows:
1. *"No Exceptions Taken"* proceed with construction; all job site coordination will be at the direction of the general contractor.
 2. *"Make Corrections Noted: No Resubmission Required"* submittals have been returned with conditional approval. Corrections, as indicated on the returned drawings and/or specifications, must be made before construction can begin.
 3. *"Make Corrections Noted: Submit Corrected Copy"* submittals have been returned with conditional approval. Corrections, as indicated on the returned drawings and/or specifications, must be made in writing and returned to the Consultant before construction can begin.
 4. *"REJECTED, Submit Specified Item"* a specified item in the submittal has been rejected for the reasons noted. Re-submit in compliance with the specifications.
 5. *"REJECTED, Revise and Re-submit"* submittal has been rejected for the reasons noted. Re-submit in compliance with the specifications.
 6. *"No Review Action Required"* all information provided was for information or coordination purposes only. Review is not required.
- 1.11 PROJECT RECORD MANUAL



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- A. Submit three bound original sets (this is a minimum of two for the Owner and one for the Consultant; additional copies may be required by the project's general conditions) after substantial completion and prior to final inspection.
 - B. The Project Record Manual shall be segregated into three separate bindings as follows:
 - 1. Operations Manual:
 - a. Product Data: Product actually incorporated within the Work:
 - 1) Manufacturer's data for each type of product conforming to the scheme above. The list shall include manufacturer's serial numbers.
 - 2) Each product's Owner/Instruction Manual.
 - 3) For custom circuits or modifications, a description of the purpose, capabilities, and operation of each item.
 - 4) Manufacturer's wiring diagram for each type of product actually incorporated.
 - 5) Separately bound list by manufacturer and model or part number of all products incorporated within the Work arranged in alphanumeric order.
 - b. Record drawings: Final rendition of that specified depicting what is actually incorporated within the Work. Provide a one (1) full size set of reproducible drawings and one (1) DVD containing all CAD generated drawings prepared in conjunction with this project. Drawing files shall be in AutoCAD Release 2010 DWG format.
 - c. Test Reports: Recorded findings of testing specification of this specification.
 - d. System Operation and Instructions: Prepare a complete and typical procedure for the operation of the equipment as a system, organized by subsystem or activity.
 - 1) This procedure should describe the operation of all system capabilities.
 - 2) Assume the intended reader of the manual to be technically experienced but unfamiliar with the components and the facility.
 - 2. Service & Maintenance Manual:
 - a. Provide an original copy of the service manual on every piece of equipment for which the manufacturer offers a service manual. Arrange manuals in the same order as the operations manual.
 - b. Manufacturer's maintenance and care instructions.
 - c. Provided certification of fluorescent lamp "burn-in" with dates and times clearly detailed. Provide information on faulty lamps and/or fixtures noted during "burn-in."
 - d. Maintenance Instructions: including maintenance phone number(s) and hours; maintenance schedule; description of products recommended or provided for maintenance purposes, and instructions for the proper use of these products.
 - 3. Warranty Manual:
 - a. Manufacturer's warranty statements on each product.
 - b. Date of substantial completion and ending dates for warranties for each group of products.
 - c. Software registration and licenses.
 - 4. Include any other pertinent data generated during the Project or required for future service.
 - 5. Appropriately duplicate data within the separate bindings when it will reasonably clarify procedures, e.g., operational data in maintenance binding.
- 1.12 DELIVERY, STORAGE, AND HANDLING
- A. Ship product in its original container, to prevent damaging or entrance of foreign matter.
 - B. Handling and shipping in accordance with manufacturer's recommendation.
 - C. Provide protective covering during construction, to prevent damaging or entrance of foreign matter.
 - D. Replace at no expense to Owner, product damaged during storage, handling or the course of construction.
- 1.13 PROJECT CONDITIONS



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- A. Verify conditions on the job site applicable to this work. Notify Architect in writing of discrepancies, conflicts, or omissions promptly upon discovery.
 - B. The Drawings diagrammatically show cabling and arrangements of equipment fitting the space available without interference. If conditions exist which make it impossible to install work as shown, recommend solutions and/or submit drawings to the Architect for approval, showing how the work may be installed.
- 1.14 ACCEPTANCE TESTING
- A. Upon completion of installation and initial tests and adjustments specified in Part 3, acceptance testing shall be performed by the Owner's Representative.
 - B. Provide two representatives familiar with all aspects of the system to assist the Owner's Representative during acceptance testing.
 - C. The process of acceptance testing the System may necessitate moving and adjusting certain component parts; perform such adjustments without claim for additional payment.
- 1.15 WARRANTY
- A. Warrant labor and product for two (2) years following the date of substantial completion to be free of defects and deficiencies, and to conform to the drawings and specifications as to kind, quality, function, and characteristics. Repair or replace defects occurring in labor or product within the Warranty period without charge. Any cost required to complete this warranty repair is the responsibility of the contractor.
 - B. All lighting control network components (i.e. routers, switches, nodes, etc.) will be covered under warranty by the lighting control systems' manufacturer for a minimum of two (2) years following the date of substantial completion. These warranties are in addition to any specific warranties issued by manufacturers for greater periods of time.
 - C. During the warranty period, the manufacturer shall provide a toll-free 24-hour-per-day number for telephone technical support and service request. If callback is required, calls shall be answered within thirty (30) minutes.
 - D. Within the warranty period, contractor and/or manufacturer shall correct the deficiency within twenty four (24) hours.
- PART 2 - PRODUCTS
- 2.1 ACCEPTABLE MANUFACTURERS
- A. Model numbers and manufacturers included in this specification are listed to establish a standard of product quality.
 - B. Substitution of specified products with other qualified manufacturers and products will be considered providing:
 - 1. Proper substitution procedures outline under Division 1 is adhered to.
 - 2. A request for substitution of each specific product must be made in writing by a bidding Contractor not more than (15) business days following the bid date.
 - 3. Sufficient data for each product is presented for prior approval including technical data, UL approval, manufacturer's specifications, samples, and, if requested, results of independent testing laboratory tests.
 - 4. Written permission is obtained for the substitution from the Owner or Owner's Representative.
 - C. If proposed System includes equipment other than specified model numbers, submit a list of major items and their quantities, with a generated one-line schematic diagram for review. Include a list of previously installed projects using proposed substitute equipment that are similar in nature to the specified System.
 - D. Providing product not specifically specified without prior written approval by the Owner, Architect and/or Consultant shall not be accepted.
- 2.2 GENERAL
- A. Products shall be new, free from defects and listed by UL when an applicable UL Standard exists. Provide product of a given type from one manufacturer.
 - B. Regardless of the length or completeness of the descriptive paragraph herein, provide product complying with the specified manufacturers' published specifications.



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- C. All cable shall be compliant with NEC as applicable, and UL listed or CSA certified. UL listing must be available at the time of bid.
- 2.3 CABLING AND CABLING ACCESSORIES
- A. E-DMX / NET distribution cable:
1. Provide 23AWG four twisted pair data cable.
 2. Pair Color Code Chart:
 - a. 1-White/Blue Stripe & Blue
 - b. 2-White/Orange Stripe & Orange
 - c. 3-White/Green Stripe & Green
 - d. 4-White/Brown Stripe & Brown
 3. Insulation: Polyolefin
 4. Inner/Outer Jacket Material: PVC - Polyvinyl Chloride
 5. Nominal Impedance: 100 ohms.
 6. Nominal Velocity of Prop.: 72%.
 7. Capacitance between conductors: 15.0 pF/ft.
 8. Acceptable product:
 - a. Belden 11872A (Category 6)
 - b. or, as approved.
- B. DMX512 (E-DMX) distribution cable:
1. Cable to be 4-pair, double shielded, low-capacitance.
 2. Conductors: 26 AWG tinned, annealed copper stranded 7 x 0.16.
 3. Connector: Provide with EtherCon connector by Neutrik
 4. Assembly: pairs cabled with Kevlar strength member.
 5. Shield: (inner) aluminum/Mylar, 100% coverage (outer) tinned copper braid, 80% coverage.
 6. Conductivity: 15ohms per 100 meters @ 20C.
 7. Impedance: 100 \pm 15 ohms 1-100 MHz
 8. Acceptable product:
 - a. TMB & Associates ProPlex or equivalent
 - b. or, as approved.
- C. Architectural Lighting DMX Cable:
1. Provide 24AWG two twisted pair cable.
 2. Insulation: Foam polyethylene.
 3. Shield: aluminum foil/polyester tape
 4. Capacitance between conductors: 12.5 pF/ft.
 5. Acceptable product:
 - a. Belden 9842
 - b. or, as approved.
- D. AV Control Distribution Cable:
1. Data Pair
 - a. Colors: blue/white
 - b. Conductors: (2) 22 AWG (0.33 mm²) stranded bare copper, twisted
 - c. Insulation: Foam Polyolefin
 - d. Shield: Aluminum/Polyester (100% coverage)
 - e. Drain: (1) 24 AWG (0.20 mm²) stranded tinned copper
 - f. Capacitance: 12.5 pF/ft (41 pF/m), nominal
 - g. Impedance: 100 Ohms, nominal
 2. Power Pair
 - a. Colors: red/black
 - b. Conductor: (2) 18 AWG (0.82 mm²) stranded bare copper
 - c. Insulation: PVC
 - d. Shield: none
 3. Outer Jacket



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- a. Material: PVC
 - b. Thickness: 0.032 inch (0.813 mm) nominal
 - c. Outer Diameter: 0.250 inch (6.35 mm) nominal
 - d. Color Options: teal w/yellow stripe, orange w/black stripe, black w/yellow stripe, or white w/gray stripe
 4. Compliance NEC Article 800; UL Subject 13, Type CM; CSA Type CMG; RoHS
 5. Acceptable product:
 - a. Cresnet Control Cable (P-series, plenum-rated; or NP-series non-plenum)
 - b. or, as approved.
- 2.4 SYSTEM CONTROL EQUIPMENT
 - A. Control Distribution Panel (CDP):
 1. Provide a low profile, wall mounted enclosure constructed of 16ga steel.
 2. Enclosure shall have a hinged, locking door of same construction
 3. Enclosure shall be properly vented to maintain acceptable equipment operating temperatures
 4. Enclosure shall be sized to house all necessary components for the Lighting System.
 5. Provide an integrated rail system to accommodate adjustable and easy mounting of System components.
 - a. Rails shall be constructed of 11ga steel with tapped 10-32 mounting holes in universal EIA spacing.
 6. Enclosure shall have cable management features including pass-through on back pan, sufficient cable tie points and knockouts on top bottom and sides.
 7. Enclosure shall have a powder coat finish. Color per manufacturer's standard.
 8. Enclosure shall be UL listed.
 9. Acceptable Product:
 - a. Crestron DIN-EN series
 - b. or, as approved.
 - B. UPS Backup Power / Surge Protection
 1. Provide a UPS backup to support Architectural Processor and equipment located in the control distribution panel (provide with one (1) spare battery).
 2. Output Power Capacity as required for system components
 3. Input 120V/ Output 120V
 4. Interface Port: DB-9 RS-232
 5. Extended runtime model
 6. Filtering: Full time multi-pole noise - filtering: 0.3% IEEE surge let-through: zero clamping response time: meets UL 1449
 7. The UPS shall be provided by the lighting control system manufacturer.
 8. Quantity: As shown on drawings
 9. Provide product as manufactured by:
 - a. Crestron
 - b. or, as approved.
 - C. Network Control Components
 1. Provide DIN rail mounted network components (switches, patch panels, patch cables, cable management, nodes/gateways, etc.) to comprise a fully-functioning network lighting system.
 2. Provide Ethernet Switches as shown on the drawings. The switch shall route DMX-512 control signals. The Switch shall be a fast Ethernet repeater that supports integrated hub stacking ports.
 - a. Network Protocol and Standards Compatibility:
 - 1) IEEE 802.3x full duplex on 10Base-T, 100Base-TX, and 1000Base-X ports
 - 2) IEEE 802.1D Spanning-Tree Protocol
 - 3) IEEE 802.1p CoS prioritization
 - 4) IEEE 802.1Q VLAN



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- 5) IEEE 802.3u 100Base-TX specification
 - 6) IEEE 802.3 10Base-T specification
 - 7) IEEE 802.3af Power over Ethernet
 - b. Inline power 48-volt DC power is provided over Category 5e UTP cable up to 100 meters
 - c. 10 and 100 Mbps peak and aggregate throughput for high-performance data transfer.
 - d. 10/100 auto-sensing on each port detects the speed of the attached device to configure the port for 10 or 100 Mbps operation.
 - e. Switch shall be equipped with LED indicators for power status, port status, bandwidth utilization, collision detection, and speed indication.
 - f. Switch shall be equipped with 5, 10 or 12-ports with linking available to other switches within the same rack.
 - g. Built-in Web-based management interface provides easy-to-use management through a standard browser such as Firefox, Chrome, or Internet Explorer (provide all required software management tools)
 - h. Each network location shall have a dedicated input point on the network switch. Patching shall not be required.
 - i. The Ethernet switch shall be provided by the lighting control system manufacturer.
 - j. Quantity: As required by design.
 - k. Acceptable product:
 - 1) Crestron
 - 2) Pathway VIA (with integrated inline power)
 - 3) or, as approved.
- D. DMX Ethernet Gateway (D-NODE)
 - 1. Provide DIN mountable 4-input DMX node as required.
 - 2. Nodes shall have four (4) DMX universes for distribution over the Ethernet system.
 - 3. DMX Node shall have LEDs for indication of power, network activity, and DMX port configuration.
 - 4. Each input shall route directly to the Ethernet Switch located in the assigned Dimmer Rooms without the need for patching.
 - 5. Acceptable Product:
 - a. Crestron DIN-SACN-DMX
 - b. Pathway DIN mountable 1014
 - c. or, as approved.
- E. DMX Input
 - 1. Provide wall-mounted receptacle to facilitate commissioning of RDM fixtures and for future Owner use.
 - 2. Connectors: Neutrik 5 conductor XLR-type, flush mounted.
- F. DMX512 Splitter
 - 1. Provide DIN mountable DMX 512 distribution to architectural lighting fixtures.
 - 2. Module shall provide one optically isolated DMX512 signal output capable of driving thirty two (32) receiving devices on a single DMX line.
 - 3. DMX device drivers shall have maintained outputs; however, the ability to program individual outputs as momentary on/off signals through a soft patch shall be built-in.
 - 4. Isolation: input to output signal isolation is provided by an opto-isolator designed for data use.
 - 5. Provide quantity as required by design.
 - 6. Acceptable product:
 - a. Crestron
 - b. Pathway DIN mountable DMX 512 opto-splitter
 - c. As approved
- G. Architectural Processor (ACP)



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1. Provide a rack-mounted control processor compatible with eth AV and lighting controls.
 2. The processor shall receive output data from a lighting control console and/or architectural control stations, process the information it receives and distribute the information DMX controlled devices.
 3. Coordinate integration of audio visual system with contractor and program system as directed by the end user.
 4. Provide additional contact closure interface panel/s to support input from room occupancy sensors. Reference Electrical drawings for quantity and locations.
 5. Acceptable product:
 - a. Crestron 3-Series
 - b. or, as approved.
- H. Configuration – Configure architectural/AV control system screens (TP) in conjunction with User prior to commissioning. Base configuration shall accommodate but not be limited to the following basic layouts:
1. Main Navigation
 2. Room Configuration (one page each config)
 3. User configurable named presets (6 pages to be programmed at training)
 4. Architectural Downlight zones control
 5. Platform Lighting fixture individual and group control
 6. Large event presets
- I. Stations - General
1. Stations shall be located at the platform and main room as located on the contract documents.
 2. AV control TP devices shall serve as lighting master stations.
 3. Provide preset stations as described below and shown in drawings.
 4. All audience exposed devices shall be finished a custom color as determined by the Architect.
- J. Push Button Preset Stations (HLE)
1. Provide 5-button stations as described on the drawings and compatible with the AV control system.
 2. Stations shall be mounted within a one-gang back box. Confirm all mounting conditions in the field prior to fabrication. If due to existing condition, box cannot be flush-mounted, a surface mount box shall be provided and faceplate sized as to have no overhanging edges. Over hanging edges on surface mount devices shall not be accepted.
 3. Station finish:
 - a. Color selected by Architect for public spaces.
 - b. Engraving:
 - 1) Front Raise/Lower
 - 2) Rear Raise/Lower
 - 3) All On
 - 4) All Off
 - 5) AV Power
 4. Preset programming shall be developed for approval as part of the submittal process.
 5. Acceptable product:
 - a. Crestron HZ-KPCN
 - b. or, as approved.
- K. Occupancy Sensor
1. Provide an occupancy sensor compatible with the control system and project electrical and energy management requirements.
 2. Sensing
 - a. Sensor Technology: Passive infrared and ultrasonic (40 kHz)
 - b. Ambient Light Recognition: Built-in photosensor (0-1000 lux)
 - c. Coverage Area: 2,000 sq. ft



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- d. Coverage Pattern: 360 degrees
 - 3. Enclosure: Plastic, white
 - 4. Acceptable product:
 - a. Crestron GLS-ODT-C-CN
 - b. or, as approved.
 - L. Architectural Lighting Fixture Control
 - 1. Contractor shall be responsible for installation and termination of DMX and/or 0-10V to all Architectural fixtures. It is the contractor's responsibility to verify operation on ground before fixtures are permanently installed. Any required DMX and/or 0-10V controlled interface shall be provided by the Contractor including equipment parts, labor and installation of equipment.
- 2.5 DISTRIBUTION EQUIPMENT
- A. Relay Panels (RP)
 - 1. Provide a wall-mount feed-through relay panel to operate and switch architectural and track lighting LED fixture loads.
 - 2. Enclosure shall be NEMA Type 1, IP20 rated protection; 16-gauge galvanized steel.
 - 3. Panel shall have the following features:
 - a. Switch Channels: (8) per 20A sub-module at up to (4) sub-modules.
 - b. Per Channel: 16 A at 100 to 277 Volts AC, 50/60 Hz;
 - c. Load Types: incandescent, magnetic low-voltage, electronic low-voltage, neon/cold cathode, fluorescent ballast, high-intensity, discharge, LED, motor.
 - d. Relay Lifetime: 1,000,000 on/off operations at full electronic ballast load.
 - 4. Minimum sub-module qty. required: (3)
 - 5. Acceptable Product:
 - a. Crestron GLXP-DIMFLV8
 - b. or, as approved.
- 2.6 TRACK LIGHTING, FIXTURES, AND ACCESSORIES
- A. DMX controlled Event Lighting Track (TR)
 - 1. Provide a high quality lighting track
 - 2. Data: Integral DMX distribution.
 - 3. Construction: extruded aluminum.
 - 4. Integrated wiring terminations for power and control.
 - 5. Circuits: (2) 20A-120VAC, (2) Neutral
 - 6. Provide intermediate coupler accessories to electrically and mechanically join sub-segments as required to match the dimensions of tracks as described in the drawings.
 - 7. Provide DMX termination accessories as required.
 - 8. Finish: Black, White or Silver- as selected by Architect.
 - 9. Acceptable product:
 - a. Altman Lighting Smart Track
 - b. ETC Data Track
 - c. Times Square ControlTrac
 - d. or, as approved.
 - B. Track mounted LED Lighting Wash Fixtures
 - a. Unit shall be integrally designed, LED wash fixture.
 - b. Unit shall utilize (40) Luxeon® Rebel LED emitters rated at 50,000 hr. LED life
 - c. Unit shall be ETL rated for indoor dry location use.
 - d. Construction: Rugged all-metal extruded housing with advanced thermal management systems for long LED life
 - e. Unit shall allow for easy access slots for secondary lenses; combine secondary lenses for desired beam spread
 - f. Color: Per Architect
 - g. Provide track mount hardware
 - h. Unit shall operate at 100V to 240V 50/60 Hz and utilize an internal power supply.



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- i. Color: x7 Color System™ 7-color LED array
- j. Control: DMX in through track DMX buss; 8 channel control.
- k. Unit shall operate at 100V to 240V 50/60 Hz and utilize an internal power supply.
- l. Provide (1) lens accessory for each fixture to be selected prior to installation, hang, and focus.
- m. Provide ETC D22
- n. Quantities:
 - 1) Training Room # D115: (18)
 - 2) Platform #D115: (10)

PART 3 - EXECUTION

3.1 GENERAL

- A. Coordinate incorporation of the Work specified herein with other project work so as to facilitate a cohesive final product.
- B. Mount equipment and enclosures plumb and level.
- C. Permanently installed equipment to be firmly and safely held in place.

3.2 INSTALLATION OF CABLE AND WIRING

- A. Coordinate all electrical work with the Electrical Contractor. Provide all necessary equipment including hardware and apparatus for complete connection of power system wiring.
- B. Coordinate installation of power and ground wiring to equipment. Power and ground wiring will terminate inside of equipment and/or junction boxes, and hardwired to ground buss and circuit breaker to ensure uninterrupted operation.
- C. All control wiring will be executed in adherence to USITT standard control systems practices including the following:
 - 1. Isolate cables carrying signals at different levels and separate to restrict interaction.
 - 2. Keep wiring separated into three groups of conduit provided for control circuits, power circuits (up to 50 amps), and feeder circuits (above 50 amps).
 - 3. Isolate all wiring, except for safety ground wiring, from conduit ground.
 - 4. Take such precautions as are necessary to prevent and guard against electromagnetic and electrostatic interference in other technical systems (such as sound and communications systems) in the facility. Where possible all devices and wiring will be enclosed in a shielded environment. Take care not to use shields (conduits) and grounds as current carrying return paths for lamp and relay coil commons. All ground references are to be made to the building electrical system ground.
 - 5. Label unused wiring provided for spares or future systems and terminate at screw terminal strips.
 - 6. All joints and connections will be made with resin-core solder or with ratchet jaw crimp type mechanical connectors. Connect all circuits electrically in phase using same wire color code for similar circuits throughout the project.

3.3 INSTALLATION OF CONNECTORS, PLATES AND PANELS

- A. Install panel mounted connectors rigidly attached to panels, plumb and level.
- B. Custom connector plates are typically stainless steel, unless otherwise noted or specified. However, it is the Contractor's responsibility to verify plate finish with the Architect.

3.4 INSTALLATION OF EQUIPMENT HOUSING

- A. Prewire and test equipment cabinets before delivery to job site.
- B. Provide adequate ventilation in cabinet mounted equipment to keep temperature in the cabinet below 110° F. Install additional ventilation fans if necessary to attain a temperature below 110° F.

3.5 INSTALLATION OF EQUIPMENT

- A. Take appropriate precautions against electrostatic discharge (ESD) when installing electronic equipment. Establish a personal ground before handling electronic equipment through the use of a grounded wrist wrap and/or an anti-static floor pad.
- B. Take appropriate precautions to protect the equipment from damage during installation. Equipment to be installed free of damages, scratches, dents, etc.



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- C. Mount equipment plumb and level, firmly, and safely held in place.
 - D. All equipment will be installed in compliance with applicable Local and National codes and regulations. Equipment will also be installed in accordance with Manufacturer's recommendations and specifications. Prior to initial energizing, the system will be inspected by a representative of the Manufacturer as outlined under Contractor Commissioning.
 - E. Install mounting and support systems for track-lighting system according to manufacturer's recommendations.
 - F. Install portable track-lighting lighting fixtures using standard stage-industry practices. Do not use bare hands when handling lamps; keep lamps free of body oil. All lamps, lenses and reflectors will be installed free of dirt, dust, and finger smudges. Ensure that a safety cable is properly used with each fixture.
 - G. Install and focus portable track-lighting lighting:
 - 1. Use the "standard house hang" as directed by Owner and/or Consultant.
 - 2. Complete and document location of each type of fixture, its circuiting and control channel patch prior to system test acceptance.
 - 3. Schedule and complete final fixture focus as directed by Owner and/or Consultant.
- 3.6 CONTRACTOR COMMISSIONING
- A. Prior to energizing or testing the System ensure the following:
 - 1. Products are installed in proper and safe manner according to manufacturer's instructions.
 - 2. Dust, debris, solder splatter, etc. is removed.
 - 3. Cable is dressed, routed, and labeled; connections are consistent with regard to polarity.
 - 4. Labeling has been provided in compliance with specification and/or Owner.
 - 5. Temporary facilities and utilities have been properly disconnected, removed and disposed of off-site.
 - 6. Products are neat, clean and unmarred and parts securely attached.
 - 7. Broken work, including glass, raised flooring and supports, ceiling tiles and supports, walls, doors, etc. have been replaced or properly repaired, and debris cleaned up and discarded. The jobsite shall be broom clean.
 - 8. Retain the services of a qualified engineer regularly employed by the System Manufacturer to check the installation and ensure its proper operation. No part of the Lighting Control System may be energized before this engineer has checked and approved the System installation. Failure to observe this provision will automatically relieve the manufacturer of any responsibility concerning the proper operation of the system or any part thereof and the replacement of parts which may have been damaged by the premature energizing. The engineer will be promptly available at the job site within (14) days of written notice by the Contractor to the Manufacturer.
 - 9. All dimmers and associated load switching devices are to be tested. Each dimmer shall be tested with a load equal to at least 50% of the capacity of the dimmer.
 - 10. The entire dimmer/relay bank shall be tested with a minimum of 50% capacity of the dimmer bank for not less than thirty minutes operating at full output. A representative of the Owner or Architect shall be present to observe the dimmer load tests.
 - 11. Contractor shall provide circuit tester with the appropriate type of connector so that circuits can be tested at random.
 - 12. Contractor shall have available three UHF or VHF walk-talkies for use by the Consultant during the inspection and testing of the lighting control system.
- 3.7 ACCEPTANCE
- A. Upon completion of installation, initial adjustments, tests and measurements specified in Part 3, and submission and review of the results, a final inspection and test will be observed by the Consultant no earlier than two weeks after receipt of the written results.
 - B. Acceptance testing will include operation of each major system and any other components deemed necessary. Contractor will assist in this testing and provide any test equipment required specified herein. Contractor shall provide at least two (2) technicians available for the



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entire testing period (day and night), to assist in tests, adjustments, and final modifications. Tools and material required to make any necessary repairs, corrections, or adjustments shall be furnished by the Contractor. Testing process is estimated to take a minimum of 1 day.

- C. Provide the following test gear:
 - 1. Stage Pin Circuit Tester
 - 2. DMX Tester
 - 3. LinkCheck Ethernet Tester
 - 4. Ethernet Length Meter
- D. The process of testing the System may necessitate moving and adjusting certain components such as signal processors.
- E. Perform tests and provide required test equipment, tools and material required to make any necessary repairs, corrections, or adjustments.
- F. The following procedures will be performed on each System:
 - 1. Inspection of the methods and means employed to incorporate the System within the facility.
 - 2. Verification of proper operation, from controlling devices to controlled devices.
 - 3. Verification of proper adjustment, balance, and alignment of equipment for optimum quality and to meet the manufacturer's published specifications. Establish and mark normal settings for each level control, and appropriately record these settings within the Record Documents.
 - 4. Other tests on equipment or systems deemed appropriate.
- G. In the event the need for further adjustment or work becomes evident during testing, the Contractor is to continue work until the System is acceptable at no addition to the contract price. If approval is delayed because of defective equipment, failure of equipment or installation to meet the requirements of these specifications and any extension of the inspection and testing period is required, the contract price will be reduced for the additional time and expenses of the Owner, Architect and Consultant, at the standard rate in effect at that time plus all reimbursable expenses.

3.8 INSTRUCTION OF OWNER PERSONNEL

- A. Provide operations and service training on the following major equipment components and subject matter:
 - 1. Architectural Control (8 hours)
 - a. Training shall consist of three types:
 - 1) Operational training
 - 2) Programming.
 - 3) Upgrades
 - b. Training time shall consist of a minimum of two (2) four (4) hour days in separate sessions separated by some weeks, in accordance with owner's schedule. It is essential that the trainer be able to discuss interfacing to the audio visual system.
 - c. Normal operations (e.g. track fixture hanging, addressing, etc.)
- B. Training will not be required where the item of equipment is owner furnished, part of an option that is not selected, or an item of equipment that is not actually purchased.
- C. Training Schedules
 - 1. Training should be assumed to take place on the project site, unless agreed to by the Owner.
 - 2. Training should be scheduled to be non-overlapping.
 - 3. Actual training schedule shall be by agreement with Owner. Do not assume that training will occur over 8 hour days. It is more likely that training will be scheduled in 4 to 6 hour increments; perhaps over a period of weeks (or even months).
 - 4. In the event that a portion of the training time is occupied in troubleshooting the equipment installation, then the training time shall be extended an equal amount of time.
- D. The following is a general idea of the training "curriculum":
 - 1. A general familiarization of the device(s).



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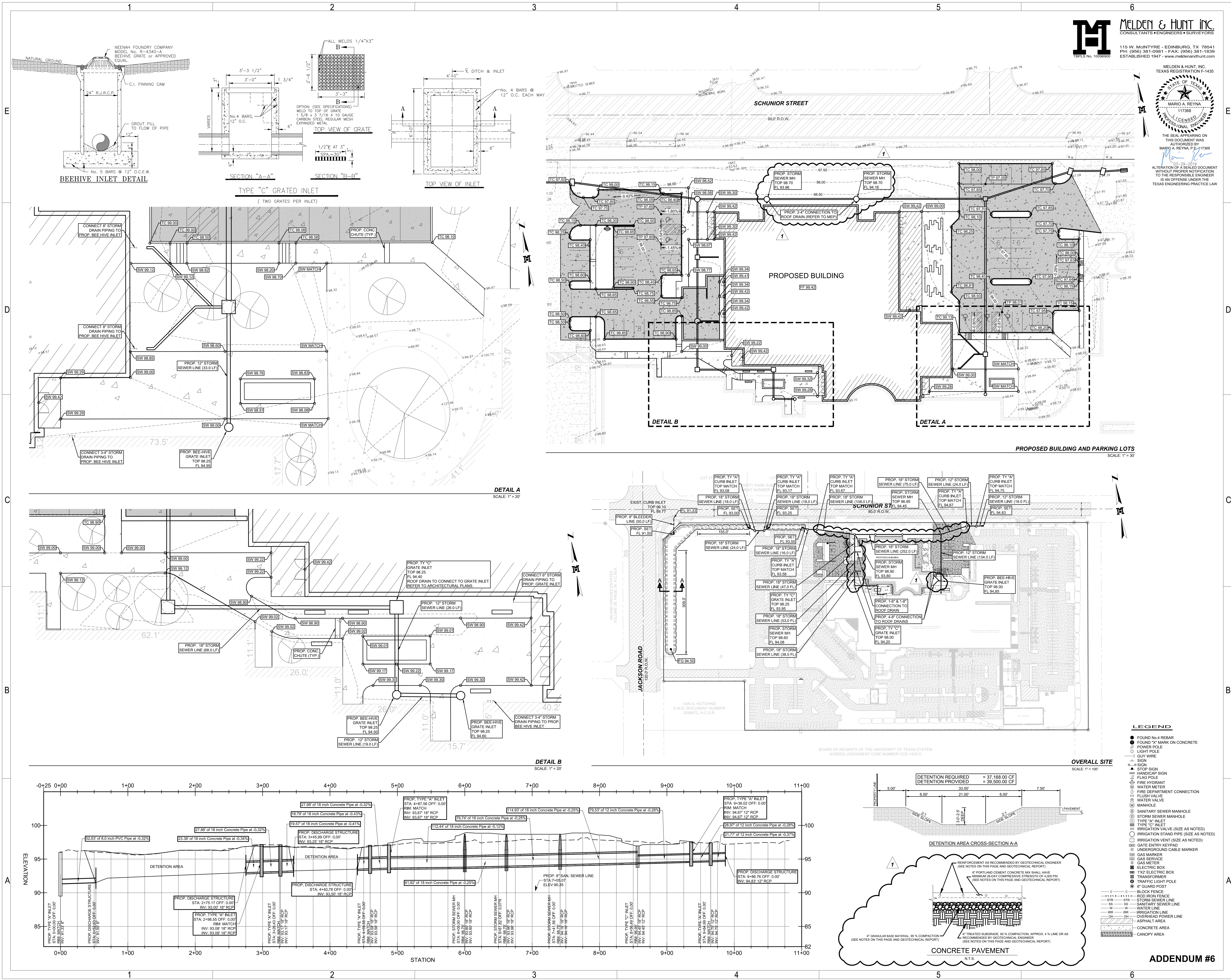
2. An explanation of how the device(s) interfaces to the rest of the lighting control system.
 3. General training on operating the device(s).
 4. Specific training on device(s) operation.
 5. Saving information; backing information up.
 6. Basic troubleshooting
 7. Specific troubleshooting (this information may be conveyed to personnel other than the device's "operators").
 8. How to upgrade software; precautions taken while doing (e.g. backing-up existing software).
- E. Submit an outline of the course with sample instructional aides for approval thirty (30) days prior to scheduled instruction sessions to Architect and Consultant.
- F. In addition, Provide no less than eight (8) hours of "systems operation and maintenance" instruction to Owner designated personnel on the use and operation of the System. This instruction will consist of:
1. A minimum of two (2) separate sessions, by an instructor fully knowledgeable and qualified in system operation. The System Reference Manuals should be complete and on site at the time of this instruction. It is anticipated that these sessions will break down into:
 - a. A general system familiarization for all control room operators.
 - b. A detailed system operational training.
 - c. An Engineering training focusing on the system's configuration and maintenance.
- G. Video record all training sessions and compile a high quality training video to be provided to the Owner on DVD or portable hard drive.
- H. Lighting system Contractor shall attend events of the facility.
1. Event Attendance includes the following requirements:
 - a. Be present at the first (2) event/uses where each component of the system will be used.
 - b. During these events, attendance shall begin at the first call of technical personnel and conclude when those personnel are released. During these events perform such tasks (e.g. assistance with patching, programming, troubleshooting cabling problems, etc.) as requested by user. Tasks shall be strictly assistance, not operation.
 - c. In the event that the system is used prior to final acceptance, attendance in support of system usage shall not be construed as acceptance, or as event attendance.
 2. Coordinate these schedules with the owner.
- I. Following discussions with Owner, formally submit a Training and Event Attendance submittal 2-4 weeks prior to first training. Submittal shall:
1. Include a separate page/entry for every training session.
 2. Indicate date, time, and approximate length of training session.
 3. Indicate person(s) conducting training.
 4. Indicate whether training will be videotaped.
 5. Intended curriculum and most appropriate attendees (e.g. engineer, operations, IT, etc.)
 6. Include signature and title lines for
 - a. Owner acknowledging and accepting training schedule. Include both an accepted and rejected box. An alternate schedule time should be suggested by the Owner in the event the schedule is rejected.
 - b. Countersigning by trainer indicating that training actually occurred.
 - c. All persons attending training. Where attendees do not stay for the entire session, this should be noted on the form and initialed by Owner's representative attending training.
 - d. Owner's representative attending training at the end of the session shall initial that:
 - 1) Training Occurred.
 - 2) Training Materials were provided and left with owner



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- 3) Training was not interrupted or shortened by equipment or system troubleshooting. If it is, then there should be a line where Owner and Contractor can indicate when make-up training will be provided and how long it should be.
 - 4) Training was generally sufficient for the proposed curriculum.
- 7. Include Notes section for Owner and Contractor to note any issues during training (areas requiring further development, etc.)
- J. Following training occurrence, submit completed training records no later than 5 days following end of training. When training is conducted over a period of weeks, completed training submittals shall be consolidated into a single submittal and submitted every 2 weeks.

END OF SECTION 26 55 61



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03-23-2019
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MELDEN & HUNT ENGINEERING
STRUCTURAL:
GREEN RUBIANO & ASSOCIATES
MEP:
SIGMA ENGINEERING

REGION ONE ESC
REGION ONE
1900 W. SCHUNIOR
EDINBURG, TEXAS 78541

PLAN
NORTH
TRUE
NORTH

100% PERMIT SET

Project Number:
Drawing Date:
Drawn:
Checked:

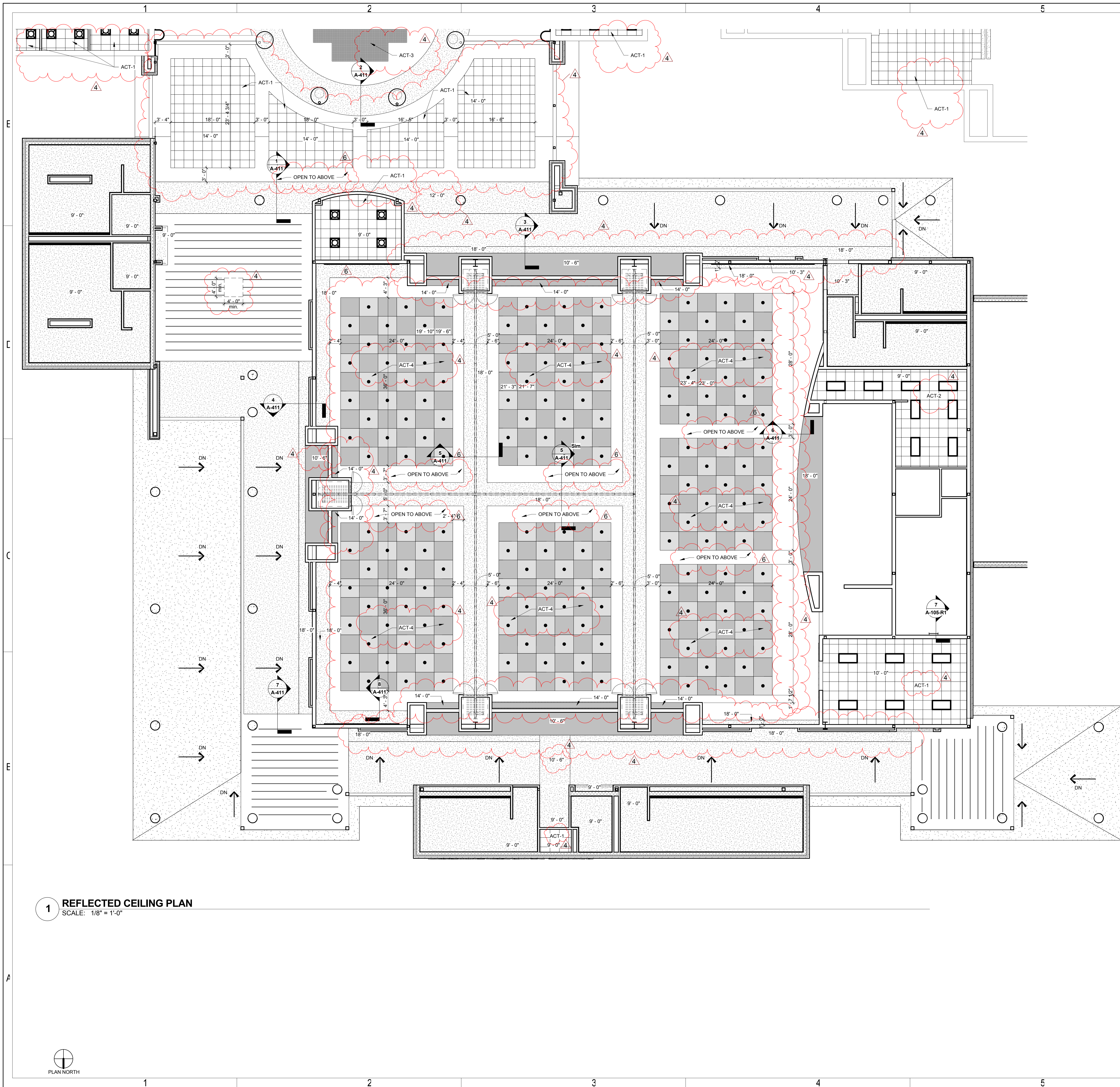
Revisions:
No. Description Date

Sheet Title:
PAVING AND DRAINAGE PLAN

ADDENDUM #8

C-5.0

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GENERAL NOTES

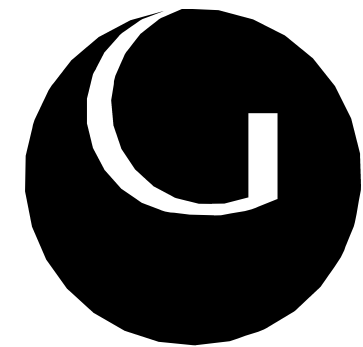
GENERAL CEILING NOTES

1. ALL CEILING AND SOFFIT HEIGHTS ARE GIVEN ABOVE FINISHED FLOOR ELEVATION (EL. 0'-0")
2. GENERALLY ONLY CEILING MOUNTED FIXTURES ARE SHOWN ON THIS PLAN. COORDINATE WITH MEP PLANS FOR ADDITIONAL INFORMATION.
3. SOME OR ALL SPRINKLERS MAY NOT BE SHOWN ON THIS PLAN. COORDINATE WITH MEP DRAWINGS FOR ADDITIONAL INFORMATION. SPRINKLER HEADS TO BE CENTERED ON CEILING TILE, TYP.
4. VERIFY LOCATIONS OF ALL CEILING ACCESS PANELS WITH MEP DRAWINGS. COORDINATE LOCATIONS OF PANELS WITH ARCHITECT PRIOR TO INSTALLATION. ACCESS PANEL FIRE RATINGS MUST MATCH CEILING ASSEMBLY FIRE RATINGS.
5. LIGHTING FIXTURES TO BE CENTERED AND SPACED EQUALLY UNLESS NOTED OTHERWISE.
6. LIGHT FIXTURES ARE SHOWN FOR DIMENSIONAL PURPOSES ONLY. COORDINATE WITH ELECTRICAL DRAWINGS FOR FIXTURE DESIGNATIONS.
7. IF PROJECT INCLUDES FIRE RATED CEILINGS, LIGHT FIXTURES LOCATED IN RATED CEILING ASSEMBLIES ARE TO BE TENTED OR OTHERWISE RATED TO MATCH THE CEILING.

CEILING LEGEND:

- 2x4 RECESS LIGHT FIXTURE
- 2x2 RECESS LIGHT FIXTURE
- RECESSED CAN LIGHT FIXTURE
- SUPPLY DIFFUSER REGISTER
- RETURN GRILLE
- SOFFIT VENT
- ACT-1 OR ACT-2
2x2 SUSPENDED LAY-IN CEILING
- 5/8" GYP. SUM. BOARD CEILING
- PLASTER
- ACT-3
OPEN CELL CEILING
- ACT-4
OFFSET COFFERED CEILING
- FLUSH WOOD PANELING
- SUSPENDED METAL BAFFLES

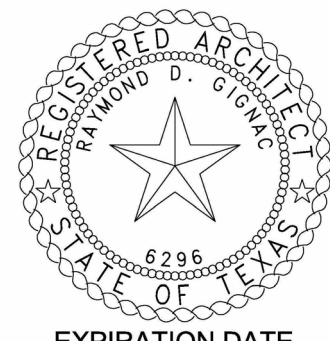
NOTE:
ALL EXPOSED CEILING SHALL BE PAINTED.
COLOR TO BE SELECTED BY ARCHITECT.



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**REGION ONE - EDUCATION SERVICE CENTER ADDITIONS
AND RENOVATIONS**
EDUCATION SERVICE CENTER - EDINBURG ADDITIONS
1900 W. SCHUNIOR
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EXPIRATION DATE
11/30/2018

Project Number: 17.14
Drawing Date: 2-20-19
Drawn: .
Checked: .

Revisions:

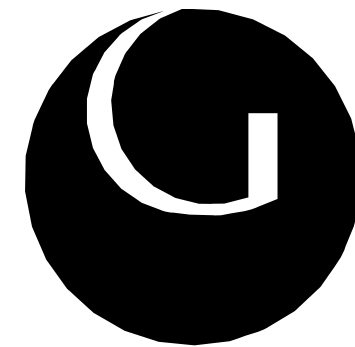
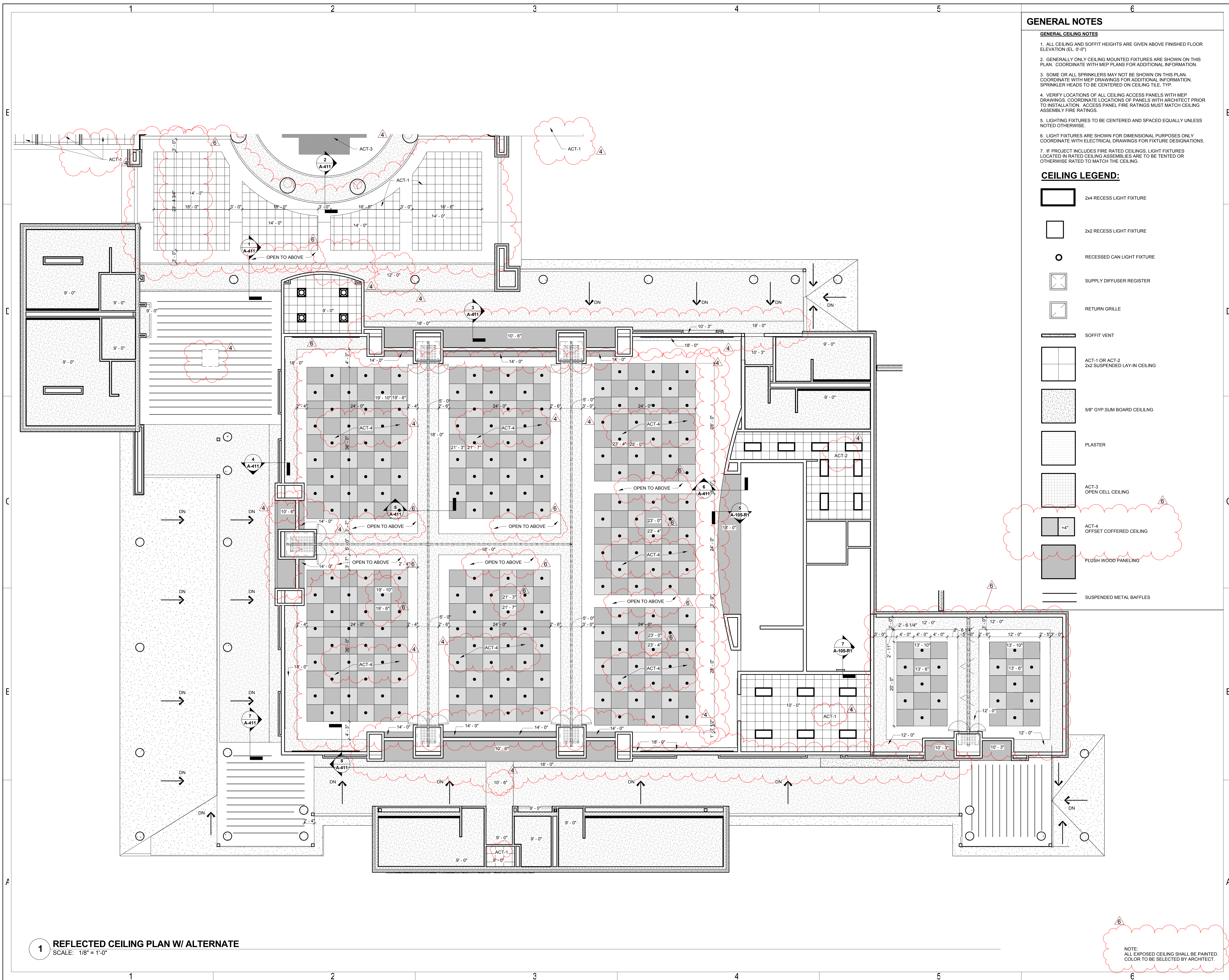
No.	Description	Date
4	ADDENDUM #4	3-19-19
6	ADDENDUM #6	3-28-19

Sheet Title:

**REFLECTED CEILING
PLAN - TRAINING
FACILITY**

A-408-R2

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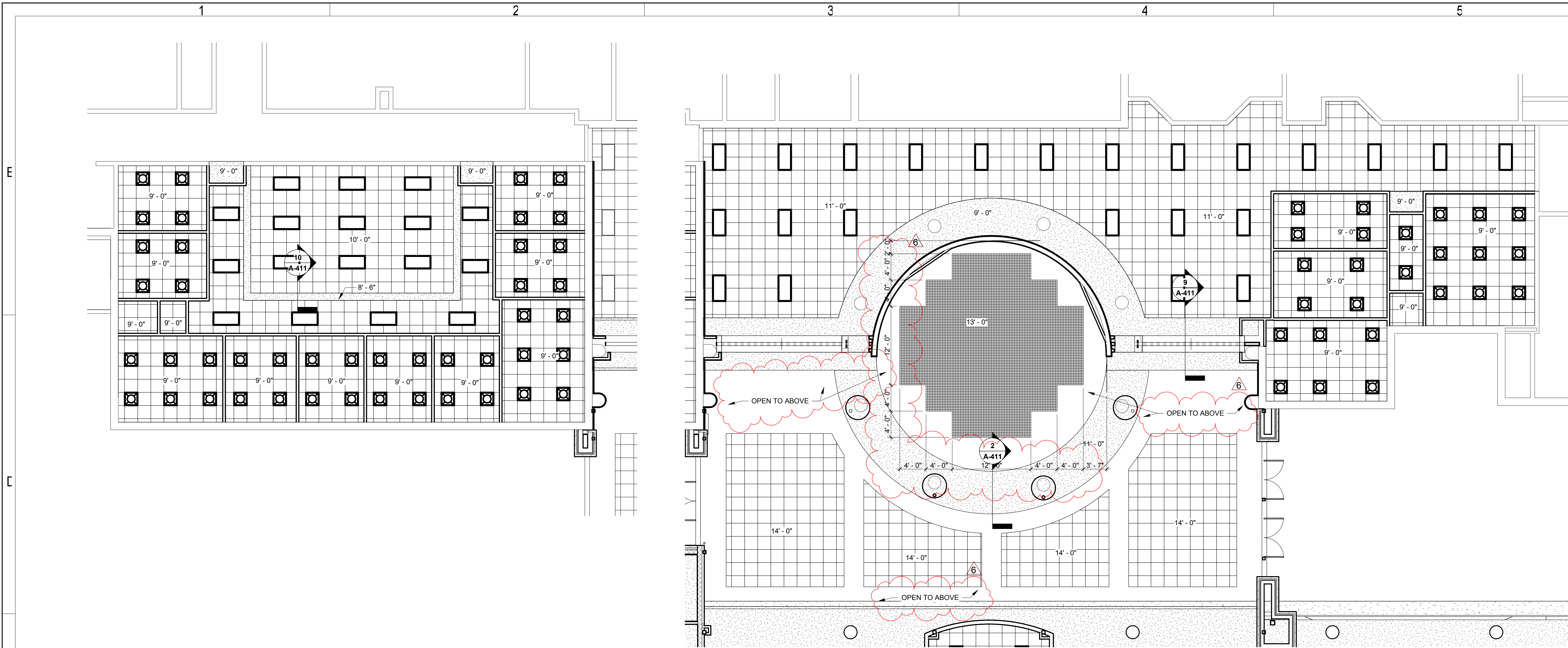
Project Number: 17.14
Drawing Date: 2-20-19
Drawn: Author
Checked: Checker

Revisions:

No.	Description	Date
4	ADDENDUM #4	3-19-19
6	ADDENDUM #6	3-28-19

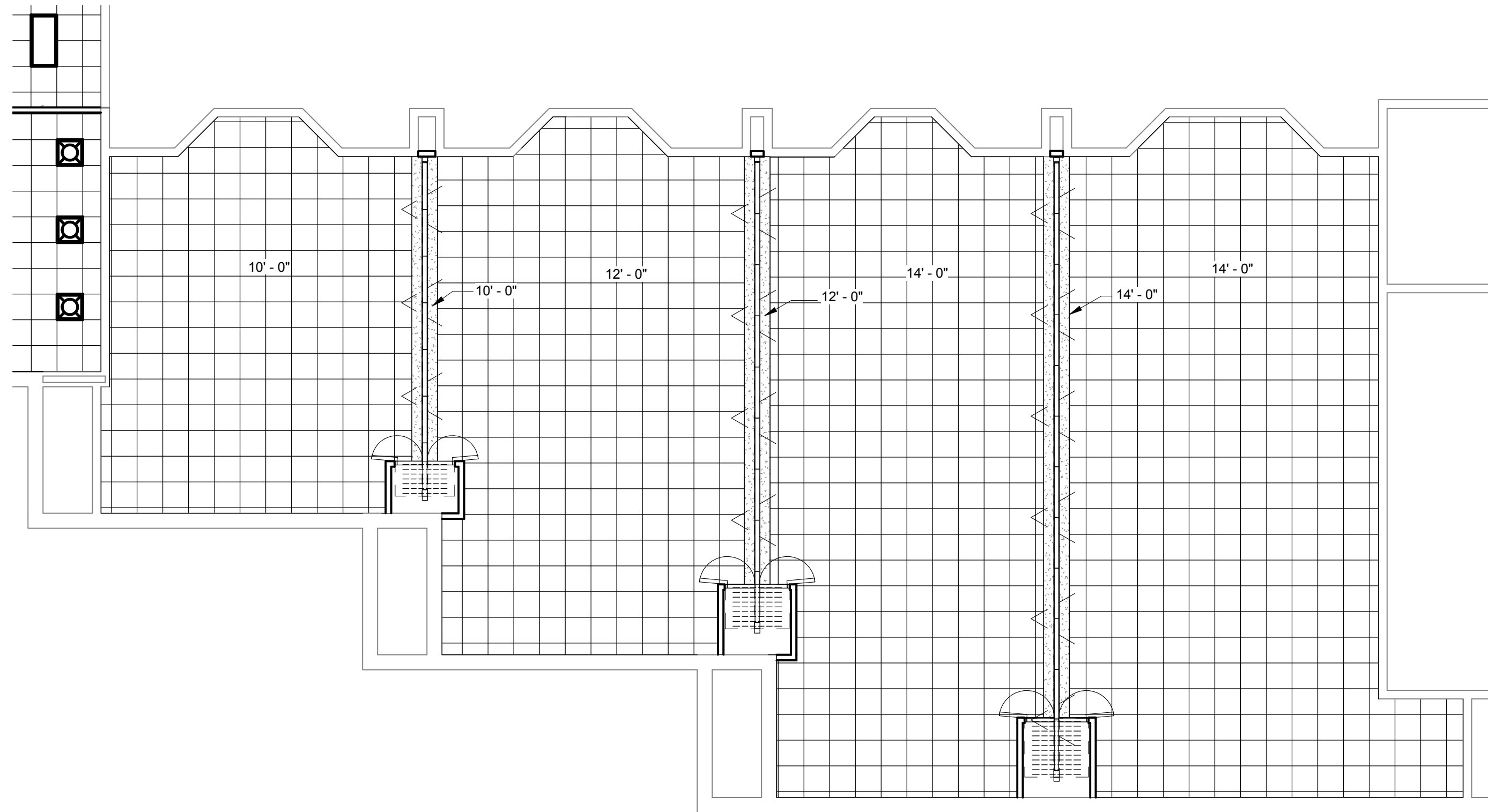
Sheet Title:
**REFLECTED CEILING
PLAN - TRAINING
FACILITY W/
ALTERNATE #1**

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1 REFLECTED CEILING PLAN - OFFICES - ALTERNATE #4
SCALE: 1/8" = 1'-0"

2 REFLECTED CEILING PLAN - CAFE AND OFFICES
SCALE: 1/8" = 1'-0"



5 REFLECTED CEILING PLAN - ALTERNATE #2
SCALE: 1/8" = 1'-0"

GENERAL NOTES

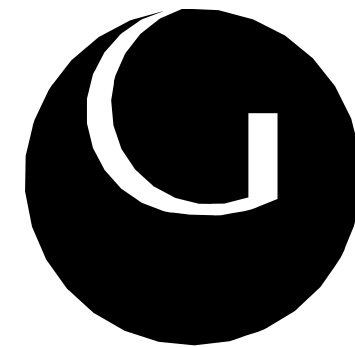
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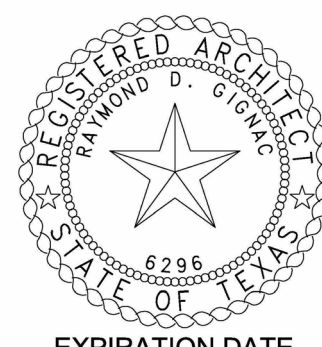


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Revisions:

No.	Description	Date
6	Addendum #6	3-28-19

Sheet Title:

**REFLECTED CEILING
PLAN - OFFICES AND
ALTERNATE #2**

A-410-R1