

 Rockwall INDEPENDENT SCHOOL DISTRICT	Request for COMPETITIVE SEALED PROPOSALS
RFCSP 2526.02-001 RHHS and Shannon Elementary School FIRE ALARM REPLACEMENT	

<u>Date</u>	<u>Event</u>
February 6, 2026	1 st Advertisement / Issue Date
February 17, 2026	Pre-Bid Conference – 10:00 A.M. (CST)
February 19, 2026	Last day to submit questions – 12:00 P.M. (CST)
February 20, 2026	Addendum posted to Address Questions, if necessary
February 26, 2026	Deadline for submittals at 2:00 P.M. (CST)
March 23, 2026	Recommendation to RISD Board of Trustees

** The District will make every effort to adhere to this schedule; however, dates are subject to change. Any changes will be posted in the form of an addendum on the RISD website. Additional addendums may be posted at the discretion of RISD. Potential respondents are responsible for watching the website for such publications.*

Deliver Sealed Responses to:

Rockwall ISD Administration Building
 Purchasing Department
 1050 Williams Street
 Rockwall, Texas 75087

Rockwall ISD Purchasing Department:

(Contact during Procurement)
 Jana Hunter, MBA, RTSBA
 Director of Purchasing
 972-771-0605
jana.hunter@rockwallisd.org

Rockwall ISD Facilities Department:

(Contact during Project)
 Eddie Guajardo
 Facility Service Project Manager
 972-771-0605
eddie.guajardo@rockwallisd.org

Pre-Bid Information:

February 17, 2026 – 10:00 A.M.
 Rockwall ISD Administration Bldg.

NOTICE

The Rockwall Independent School District (RISD) is soliciting proposals per the specifications stated elsewhere in this solicitation document. A response to this solicitation is an offer to contract with Rockwall ISD and its members based on the specifications and standard terms and conditions contained in the bid document.

Respondents are cautioned to read this document completely and submit all documents. Each respondent, by submitting a response, represents that he/she has read and understands the proposal. Failure to examine the documents will be at the vendor's risk.

Respondents shall familiarize themselves with existing conditions in the material and labor markets prior to submission of an offer. The fact that an offer is submitted will be construed by the RISD Board of Trustees to indicate that the respondent agrees to carry out the furnishing of products and services in full accordance with the specifications and other contract documents notwithstanding existing material and labor market conditions. A signed, submitted proposal constitutes an offer to perform the work and/or deliver the product(s) and/or services specified in the solicitation.

The vendor should propose his/her lowest and best price. All pricing information shall be entered on the proposal in ink or typewritten. Pricing should include packaging and transportation unless otherwise noted by the vendor.

If the vendor is awarded a contract under this solicitation, the prices proposed by the vendor shall remain fixed and firm during the term of the contract, provided, however that the vendor may offer incentive discounts from this fixed price to the District at any time during the contractual term.

Jana Hunter

Jana Hunter, MBA, RTSBA
Director of Purchasing

February 6, 2026
Release Date



DISTRICT OVERVIEW

Rockwall ISD, situated in Rockwall County, Texas, comprises approximately two-thirds of the county's area and shares the county's boundary lines on the North, West and South. The eastern boundary of the district is an irregular line running through the town of Fate.

The District currently has 21 campuses comprised of 16 elementary schools, 3 middle schools, 2 high schools, a College and Career Academy and an alternative school. The District currently serves approximately 18,500 students and employs approximately 2300 employees.

Rockwall ISD has grown by more than 3,000 over the last decade and is expected to grow by nearly 6,000 students by 2030.

Rockwall ISD's Call to Action: Rockwall ISD empowers learners to embody independence, value relationships, and achieve excellence as thriving members of a dynamic community.

We believe that:

- Collaborative relationships create a culture where learners thrive.
- An effective learning environment is collaborative, safe, challenging, and responsive to the diverse needs of all students.
- Learning is a partnership that engages all members of our community to empower empathetic and responsible citizens for success among themselves.
- All learners deserve to be challenged in preparation for lifelong learning and future success.

Core Values:

- Relationships
- Innovation
- Excellence



Additional information about Rockwall ISD can be obtained on its website: www.rockwallisd.com



CODE OF CONDUCT

Vendors and their suppliers, installers and all others working on Rockwall ISD facilities are required to understand and adhere to the following rules and responsibilities. Failure to comply with the following rules and responsibilities may result in a work's removal from the facilities and/or the termination of all subcontractor's contract. Vendors are responsible for the suppliers and installers adherence to these policies. All personnel working on RISD facilities will indicate their understanding and agreement to comply with these rules and responsibilities by submitting a response to this solicitation.

1. Vendor's employees, installers and suppliers who will be entering the district should check in with the Rockwall ISD designated representative.
2. Vendor's employees, installers and suppliers must wear picture ID badges while on Rockwall ISD property.
3. The use of any tobacco products is prohibited on district property. These prohibited items include but are not limited to cigarettes, cigars, vapes and smokeless tobacco.
4. Drugs and alcoholic beverages are prohibited.
5. The use of vulgar or improper language is prohibited.
6. Unacceptable behavior including physical or verbal intimidation, horseplay, or fighting by any individual on district property will result in immediate remove from property.
7. School requirements may occasionally result in the untimely termination of a subcontractor's daily activities. Vendors are expected to anticipate and understand these circumstances and work with RISD to make-up any scheduling.
8. All contact with student is strictly prohibited.
9. Vendor's employees, installers and suppliers must be properly dressed in work attire which includes the use of proper work shoes and personal protection equipment (as needed).
10. Vendor's employees, installers and suppliers will promptly leave the premises at the end of each work shift or once business purpose has been served.
11. Vendor's employees, installers and suppliers will comply with all state and district rules regarding weapon free zones.
12. Vendor's employees, installers and suppliers shall submit such background information as may be requested by Rockwall ISD to perform criminal background evaluations/investigations.
13. No person who has charges pending or who has been convicted, received probation or deferred adjudication for the following shall be engaged to work on RISD property where students are present: Any offense against a child, any sex offense, any crimes against persons involving weapons or violence, any felony offense against property; or any offense that Rockwall ISD determines to compromise the safety and well-being of staff, students and/or property.



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STANDARD TERMS AND CONDITIONS

The following instructions by the Rockwall Independent School District are intended to afford potential respondents an equal opportunity to participate in the solicitation process. The following Terms and Conditions are standard for the District and apply to all types of purchasing, including this solicitation. In these Terms and Conditions, the terms *respondent*, *contractor*, *proposer*, *vendor*, and/or *bidder* refer to the person/firm that submits the offer to this solicitation document. The terms *RISD*, *owner*, *district*, and/or *government entity* refer to Rockwall Independent School District.

The documents contained in this solicitation represent the potential agreement between the successful respondent and the school district and supersedes any prior discussions, negotiations, representations, agreements, written or oral.

Any specifications, details, or specific instructions for this solicitation will be found following these Standard Terms and Conditions. Some of the Standard Terms and Conditions may not be applicable to a specific bid or proposal. To the extent each of the terms and conditions is applicable, these shall be deemed to be part of the vendor's bid or proposal documents. If there are specific terms and conditions contained in the bid or proposal documents which are inconsistent with the Standard Terms and Conditions, the specific terms and conditions in the bid and solicitation documents shall control. By submitting a bid or proposal, each vendor or proposer agrees to waive any claims it has or may have against the Owner, the Architect, and their respective officers, trustees, employees, agents, or representatives, arising out of or in connection with the administration, evaluation, recommendation, or selection of any bid or proposal; waiver of any requirements under the bid or proposal documents or contract documents; acceptance or rejection of any bid or proposal; and award of the contract.

The district guarantees no minimum dollar amount in purchase orders against this contract. The scope of this request and requirements of the District as shown in the specifications shall not be considered as binding on the District, and the work actually may be less than or greater than projected.

The RISD can terminate any resulting award for this request with thirty (30) calendar day notice, in the event no funds or insufficient funds are appropriated and budgeted or are otherwise not available in the next fiscal year for obligations herein provided, however, this provision shall not be construed so as to permit RISD to terminate this request in order to enter other contracts or make other arrangements for essentially the same services made the subject of this solicitation.

All bids and proposals from the vendor must remain open for acceptance for sixty (60) days after submittal.



AUTHORITY

The Board of Trustees has delegated to the superintendent the authority to make budgeted purchases for goods and services. Functional area experts, day-to-day contract administrators/managers, teachers, principals, and/or other district employees are not authorized to substantially amend this solicitation document or to substantially modify the subsequent contract. Substantially includes, but is not limited to, changes to delivery dates, place of delivery, and/or specifications that significantly alter the form, fit, and function of a product or the scope of work of a service. Amendments to solicitation documents may be made by the Director of Purchasing. Modifications to contracts/agreements will be made by the Director of Purchasing in accordance with the RISD Board of Trustee guidance, policies, and/or procedures. If a vendor acts on the guidance of a district employee that is not authorized to make changes, the vendor does so at his or her own risk or peril. Also, if a vendor attempts, or gains, a modification/amendment from a district employee that is not authorized to make changes, the vendor does this at his or her own risk or peril and risks the termination of his or her contract/agreement. The functional administrator for this contract is Eddie Guajardo, Facility Services Project Manager.

CONTACT

Contact between soliciting vendors and user departments during this solicitation process or evaluation process is prohibited. Any attempt by a soliciting firm to contact the department may result in disqualification.

VENDOR QUESTIONS

Any explanation desired or questions by a vendor regarding the meaning or interpretation of these instructions or any other documents included in this solicitation must be requested in writing to RISD, Director of Purchasing, 1050 Williams Street, Rockwall, TX 75087 (jana.hunter@rockwallisd.org) with sufficient time allowed for a reply to reach vendors before the submission of their offers. The email subject line for questions should read: "Questions" followed by the solicitation number and title. The deadline for questions regarding this solicitation is February 19, 2026.

ADDENDA

Written responses to vendor questions shall be presented in the form of an Addendum and posted on the District's website at: <https://www.rockwallisd.com/Page/380>. Respondents should monitor the Purchasing page on the RISD website for such postings. Oral explanations or instructions will not be binding. Rockwall ISD reserves the right to post addendums up to, and including, the business day prior to the deadline. Vendors who submit a bid or proposal without acknowledging receipt of all addenda issued may be deemed to have submitted a bid or proposal not responsive to the solicitation. Failure to receive such addenda does not relieve the vendor from any obligation under the bid or proposal submitted. All formal written addenda become a part of the vendor bid or proposal documents.



PRE-BID MEETING

Any scheduled pre-bid meeting, will be noted on the cover page of this document. In the event a pre-bid meeting is held, attendance is highly recommended to all potential responders. The purpose of this meeting will be to answer any questions regarding the proposal specifications. Proposers are reminded, however, that verbal responses are not binding – only questions answered by formal written agenda will be binding and will be made part of the proposal documents. Proposers must satisfy themselves, upon examination of these specifications in the pre-bid conference, as to the intent of the specifications. After submission of the proposal, no complaint or claim that there was any misunderstanding in regard to items listed for proposal will be entertained from either party.

SUBMISSION

The responsibility for compliance with this solicitation and the subsequent contract shall be with the bidder/respondent. In submitting a response to this solicitation, respondent understands and agrees to be bound by the terms and conditions, provided in this document, which shall be incorporated into any future contracts, agreements, or purchase orders relating to any resulting agreement between the vendor and Rockwall ISD.

Submissions to this request are due by: February 26, 2026 – 2:00 P.M. (CST).

Responses must be plainly marked on the outside with the vendor's name and address and the solicitation number. A shipping label has been provided in this packet and its use is highly encouraged. Respondents are instructed to submit (1) one original hard copy (marked ORIGINAL) and (1) one additional hard copy.

Responses must be delivered in a sealed envelope or container and submitted to the Purchasing Department at the RISD Administration Building in sufficient time to be received and time-stamped on or before the published date and time shown within this document or on any subsequent addenda. No other published dates will be binding. Late submissions will not be accepted. Unsigned, unsealed, faxed or late responses will not be accepted. Rockwall ISD will not be responsible for mail delivered from the post office. No oral, telegraphic, telephonic, electronic mail or facsimile transmitted responses will be considered. RISD Purchasing personnel will be the official time keeper for all submissions.

Each vendor shall furnish the information required by the solicitation documents. Proposals should provide straightforward, concise information that satisfies the requirements of this solicitation. Emphasis should be placed on conformity to the instructions and requirements of this solicitation and the completeness and clarity of content. Links to web sites for supporting documentation are not acceptable. Expensive bindings, color displays, and advertising materials are not necessary or desired.

Offers submitted on other than authorized forms or with different terms or provisions may be considered to be non-responsive. The vendor must sign the Offer Form and return with the other certifications provided



herein. Failure to manually sign the offer may disqualify it from being considered. The person signing the documents must initial erasures or other changes. Signatures by an agent are to be accompanied with evidence of his authority unless such evidence has been previously furnished to RISD.

EXCEPTIONS/MODIFICATIONS/WITHDRAWAL

Responses deposited with Rockwall ISD may be withdrawn prior to the time set for opening. A response may not be withdrawn after the submittal deadline. By submitting a response, the proposer warrants and guarantees that the document has been carefully reviewed and checked and that it is in all things true and accurate and free of mistakes. If any exceptions are taken to any portion of the bid or proposal, the vendor must clearly indicate the exceptions taken and include a full explanation. Vendor's failure to identify exceptions or proposed changes will constitute acceptance by the vendor of the bid or proposal as proposed by the District. The District reserves the right to reject a bid or proposal containing exceptions, additions, qualifications, or conditions. Any bid or proposal to the District by the vendor, or contract between the District and the vendor, can be modified or withdrawn only by written agreement between Rockwall ISD and the vendor.

BID OPENING

Submittals may be publicly opened immediately after the response deadline on the same day. Responses received by hand delivery or mail after the stated due date and time will remain unopened. Trade secrets and confidential information contained in response shall not generally be open for public inspection, but RISD's records are a matter of public record.

DISQUALIFICATION

Any bid or proposal that does not contain all required contents required by District may be disqualified. Vendor is strongly encouraged to carefully review its bid or proposal documents prior to submitting their response to ensure all requirements are met. Failure to provide the information requested, in its entirety, may be grounds for disqualification of the bid or proposal. Bidders or proposers may also be disqualified and their bids or proposals not considered, among other reasons, for any of the following specific reasons:

- a. Reason for believing collusion exists among respondents
- b. Reasonable grounds for believing that any respondent is interested in more than one solicitation for the work contemplated
- c. Where the respondent, any sub-contractor or supplier, or the surety on any bond given, or to be given, is in litigation with the District or where such litigation is contemplated or imminent, in the sole opinion of the District
- d. Respondent being in arrears on any existing contract/purchase order or having defaulted or failed to perform in a satisfactory manner on a previous purchase order
- e. Lack of competency as revealed by pertinent facts, including but not necessarily limited to, experience and equipment, financial statement and questionnaires



- f. Uncompleted work that, in the judgement of the District, will prevent or hinder the prompt completion of addition work if awarded.
- g. Where the bidder or proposer has failed to perform in a satisfactory manner on a previous purchase order or contract.

RISD expressly reserves the right to:

- a. Reject any or all proposals
- b. Consider a response irregular if it shows any omissions, alterations of form, additions, or conditions not called for; failure to return all forms and copies; or irregularities of any kind.
- c. Waive any minor informality or deficiency in a bid or proposal if it is determined to be in the best interest of RISD
- d. Award to a single vendor, multiple vendors, each line item separately, or in any combination it determines to be in the best interest of the District. If the Respondent chooses to propose "All or None" or is not agreeable to multiple or split awards, it must be noted as a deviation and included with the response.
- e. Reissue a request
- f. Consider and accept an alternate proposal as provided herein when most advantageous to RISD, including the utilization of other District contracts, contracts awarded by other governmental agencies, other school boards, or cooperative agreements in lieu of any offer received or award made as a result of this proposal, if it is in the best interest to do so.
- g. Cancel the contract with a thirty-day written notice, without prejudice, for factors including, but not limited to, non-availability or non-appropriation of funds
- h. Procure any item or services by other means to meet time-sensitive requirements
- i. As part of the evaluation process, seek additional information from bidders or proposers, interview bidders or proposers, and negotiate the terms of a proposal as allowed by Texas law.
- j. Negotiate price/delivery for service(s)/products(s) identified by this request. The District reserves the right to reject any and all bids that comply with the specifications or to accept a higher bid that complies, when, in judgment of the District, such proposal offers additional value or function, which justifies the difference in price.
- k. Make an award without discussion with any proposer.
- l. Be the sole judge of acceptable proposal responses.
- m. Cancel part or this entire contract at any time during the term without cause. Notification will be submitted in writing no less than thirty (30) days prior to the effective date. Upon receipt of such notice from the District, vendor shall not thereafter incur, and RISD shall have no liability for, any costs under this solicitation that are not necessary for actual performance of the request between the date of the notice of termination for convenience and the effective date of that termination for convenience. In the event of a termination for convenience hereunder, RISD shall have no liability to vendor for lost or anticipated profit resulting there from.



- n. Terminate for default all or any part of this contract if vendor breaches any of the terms hereof or if the vendor becomes insolvent or files any petition in bankruptcy. Such right of termination is in addition to and not in lieu of any other remedies which RISD may have in law or equity, specifically including, but not limited to, the right to collect for damages or demand specific performance. RISD may terminate the contract and debar the vendor for future "bidding" for violations of the federal requirements including, but not limited to, "Contract Work Hours and Safety Standards Act", "Equal Employment Opportunity Act", and "Energy Policy and Conservation Act".

Purchases of service or equipment from a business owned in whole or in part by a Rockwall ISD employee shall be permitted only when approved by the Director of Purchasing and when determination has been made that such equipment or service is not an extension of the employee's regular job responsibility at the District. Failure on part of Proposer to disclose ownership by the District employee may be grounds for disqualification.

EVALUATION

Proposals may be evaluated by an Evaluation Committee comprised of key Rockwall ISD personnel in order to fairly evaluate all qualified proposals. Evaluation by committee members will be combined into one score, which will be compared to the other proposals.

To the extent allowed by law, discussions/negotiations may be conducted with vendors who are deemed to be within the competitive range. If discussions/negotiations are conducted, respondents may be required to submit a best and final offer. The best and final offer may be required as early as 24 hours after completion of discussions/negotiations.

In determining to whom to award a contract and per the Texas Government Code 2269.055, the district will consider and apply any existing laws, including any criteria, related to historically underutilized business and any existing laws, rules or applicable municipal charters, including laws applicable to local governments, related to the use of women, minority, small, or disadvantaged business. The district may also consider the following criteria. At the discretion of the district and in evaluation of this solicitation, point values are indicated after each criteria item.



Govt. Code 2269	Criteria	Weight
(1)	The Price	60
(2)	The offeror's experience and reputation	15
(3)	The quality of the offeror's goods or services	20
(6)	The offeror's proposed personnel	5

In determining an award of a contract under Texas Government Code 2269.055, the government entity shall:

- a. Consider and apply any existing laws, including any criteria, related to historically underutilized businesses; and
- b. Consider and apply any existing laws, rules, or applicable municipal charters, including laws applicable to local governments, related to the use of women, minority, small or disadvantaged business.

As provided by Texas Government Code 2269.054 ("Right to Work"), Rockwall ISD will not consider whether the vendor is a member of, or has any other relationship, with any organization, and the specifications are not intended to, and do not, deny or diminish the right of a person to work because of the person's membership or other relationship status with respect to any organizations.

It is the intent and policy of the District not to discriminate on the basis of sex, disability, race, color, or national origin in its programs and/or activities, nor in its employment practices.

LOBBYING

In order to ensure the integrity of the selection process, the vendor's employees, officers, agents, or other representatives shall not lobby or attempt to influence a vote or recommendation related to the vendor's response, directly or indirectly, through any contact with school board members or other district officials involved in the solicitation from the date it is released until the award.

AWARD

Successful vendor(s) may be notified in writing of District's award. No assignment of a bid, proposal, or resulting contract is permitted without the prior notice to and written consent of Rockwall ISD by means of a Notice to Proceed and/or Authorized Purchase Order or signed contract after a recommendation has been accepted by the RISD Board of Trustees. If respondent requires any other agreement, a draft document must be provided with the proposal. No work shall begin, goods procured or delivered, or costs incurred by vendor until the notice is received. Any cost incurred by the vendor prior to the notice shall not be reimbursed by the District.

Tabulations may be requested by contacting the Director of Purchasing via email upon award of a contract based upon approval by the RISD Board of Trustees, if required. Otherwise, information may be released



after award of the contract by the Superintendent or designee.

TERM

If this solicitation is for a set time period only, or a single purchase, the award will last until the goods or services have been delivered, completed and accepted by the District. The District reserves the right to acquire reasonable amounts of additional goods/services, as listed in the bid or proposal, subject to verification of the same or lower prices and conditions of the bid or proposal and consistent with Texas law. After the initial contract term, the District reserves the right to extend the contract as indicated in this request.

PRICING

All prices proposed by the vendor, and accepted by the District, shall remain in effect throughout the term of the bid proposal, award, contract, or purchaser order, and cannot be increased during that term without written agreement between the vendor and the Rockwall ISD Board of Trustees or its designee. Rockwall ISD reserves the right to show a preference to any bid or proposal that provides a standard discount percentage for goods or services, or a discount for early payment of any bill to the vendor for its goods or services.

BILLING AND PAYMENTS

Per CH Local of District Policy - The District limits its purchases through the use of properly drawn and authorized purchase orders. Consequently, the District is not responsible for items not ordered via this method. The purchase order number shall appear on all itemized invoices to ensure payment. District employees shall not be permitted to purchase supplies or equipment for personal use through the District's business office without an authorized purchase order. Completing work or providing product without a purchase order may result in non-payment by the district and/or termination of awarded contract.

The District is a tax-exempt entity under Texas law. Vendor should not include tax on its bid, proposal, quote or invoice to the District. Vendor shall submit itemized invoices on each purchase order in a timely manner following delivery.

Invoices shall indicate the purchase order number and be submitted to RISD Business Office, Attn: Accounts Payable, 1050 Williams Street, Rockwall TX 75087 or emailed to accountspayable@rockwallisd.org.

The vendor shall make no charge or addition to the accepted price for delivering, placing, or invoicing product(s). Payment shall not be due until all items on the purchase order have been received by RISD (unless specified in the specifications) and the above instruments are submitted and the invoice has been accepted by RISD. All prices shall be F.O.B. destination.

District shall make all payments under this Agreement from current revenues available. In the event no funds, or insufficient funds due to non-appropriation, are available at any time or during any fiscal period when such payment is due, in accordance with Local Government Code Ann. §271.903, District shall notify vendor of



such occurrence and this Agreement shall terminate on the last day of the fiscal period for which payment was received without penalty or expense to District of any kind whatsoever. However, District shall be responsible to remit payment for all services provided by the Vendor to the District prior to the termination date.

GOODS

The vendor warrants that it owns and is legally able to transfer ownership of the goods or materials that are the basis of the solicitation to Rockwall ISD. The vendor warrants that it owns a clear title free of any materialman's, suppliers, or other type of liens, mortgage, encumbrance, or other security interest in the goods or materials supplied to Rockwall ISD. Any breach to this warranty of title shall be considered a default by the vendor and good cause for termination of the award, contract, or purchase order.

Strict conformance with the standards, specifications, and requirements of the bid or proposal is required by Rockwall ISD. Unless otherwise stated in the specifications, all supplies and components to be provided shall be new (not used or reconditioned, and not of such age or so deteriorated as to impair their usefulness or safety), of current production, and of the most suitable grade for the purpose intended. If at any time during the term of an awarded agreement the vendor believes the furnishings of supplies or components which are not new is necessary or desirable, it shall notify the District immediately, in writing, including the reasons and proposing any consideration which will flow to the District if authorization to use such supplies or components is granted.

If a brand name or specific model name is shown in the proposed specifications or bid form, such usage is to indicate an acceptable standard which must be considered if bidding better or equivalent products. Any bid or proposal for such better or equivalent products shall provide significant information on the products to allow the District to determine whether or not they are acceptable.

Any proposed substitution of goods or services to be supplied by the vendor shall require prior written acceptance by the District, unless stated otherwise. The vendor shall be bound to provide all proposed goods or services if its bid or proposal is accepted and awarded by Rockwall ISD, and no changes shall be acceptable unless agreed to in writing by the District.

Vendor assumes all liability for delivering non-compliant goods. The District reserves the right to reject any tender of non-compliant goods and shall require the vendor to take possession of such defective goods at no cost to District, and replace them with compliant goods at no cost to District, unless Rockwall ISD elects, in writing, to accept such non-compliant goods. Such non-confirming goods shall constitute good cause for termination of the contract, purchase order, or award, if not accepted by written agreement by Rockwall ISD or cured by the vendor.

Respondent agrees to ascertain whether goods manufactured in accordance with the specifications will give



rise to the rightful claim of any third person by way of infringement or the like. If vendor is of the opinion that an infringement or the like will result, he/she will notify RISD to this effect in writing within two weeks after the signing of this a contract. If RISD does not receive notice and is subsequently held liable for the infringement or the like, vendor will indemnify RISD for any damages due to such claim. If vendor, in good faith, ascertains that production of the goods in accordance with the specifications will result in infringement or the like, this document shall be null and void. RISD may pay vendor for the reasonable cost (as determined by RISD) of his/her search as to infringements.

Respondent warrants that the product sold to RISD shall conform to the standards promulgated by the federal government including, but not limited to, the U.S. Department of Labor under the Occupational Safety and Health Act (OSHA) and the Consumer Product Safety Commission (CPSC). In the event the product does not conform to applicable safety standards, RISD may return the product for correction or replacements at the vendor's expense. In the event vendor fails to make the appropriate correction within a reasonable time (i.e., 2 weeks) correction may be made by RISD at vendor's expense.

The terms of the agreement are "no arrival, no sale". The title and risk of loss of the goods shall not pass to the District until the District actually receives and takes possession of the goods/services at the point or points of delivery. The District shall have the right to inspect the goods at delivery before accepting them.

The vendor shall be responsible for replacing or correcting any defective product or service supplied to the District in response to the Solicitation at no cost to Rockwall ISD.

DELIVERY

Performance of service/delivery of goods shall be made to the location identified on each purchase order or resulting contract. All work performed, as herein shown under the specifications, shall be of the highest quality workmanship and shall in every respect meet or exceed the industry standards for this type of good/service. Every tender or delivery of goods must fully comply with all provisions of this contract as to time of delivery, quality and the like. All delivered equipment, materials or merchandise must be new, unused, free of liens, and in the manufacturer's original packing unless otherwise specified. If a tender is made which does not fully conform, this shall constitute a breach of the contract, purchase order, and award, and the vendor shall not have the right to substitute a conforming tender, provided, where the time for performance has not yet expired, the vendor may reasonably notify the district of his intention to cure and may then make a conforming tender within the contract time but not afterward.

The vendor will package goods in accordance with good commercial practice. Each shipping container shall be clearly and permanently packed as follows: (a) vendor's name and address;(b) Consignee's name, address and purchase order or purchase release number and the supply agreement number if applicable; (c) Container number and total number of containers, e.g., box 1 of 4 boxes; and (d) the number of the container bearing the packing slip. The vendor shall bear the costs of packaging and delivery at reasonable



costs unless otherwise provided. Acceptance by the District of any delivery shall not relieve the vendor of any guarantee or warranty, express or implied, nor shall it be considered an acceptance of material not in accordance with the specifications and shall not waive the District's right to request replacement of defective material.

NOTICE OF DELAYS

Whenever the vendor encounters any difficulty which delays or threatens to delay timely performance, the vendor shall immediately give notice, in writing, to the District, including all relevant information. Such notice shall not in any way constitute a basis for an extension of the delivery or performance schedule or be construed as a waiver by Rockwall ISD of any right or remedies to which it is entitled by law or pursuant to provisions herein. Failure to give such notice, however, may be grounds for denial of any request for an extension of the delivery or performance schedule because of such delay.

SAFETY DATA SHEET (SDS)

The vendor shall provide, at no cost to DISTRICT, at least one (1) copy of any Safety Data Sheet (SDS) applicable to any goods or materials to be supplied by the vendor in response to this solicitation.

WARRANTIES

Warranties for goods and services shall be a minimum of one (1) year from completion of the bid or proposal. If goods or services to be provided are of comparable quality, the District may give preference to longer warranties when evaluating the bid or proposal.

The price to be paid by Rockwall ISD shall be that contained in vendor's response, which the vendor warrants to be no higher than the vendor's current prices on orders by others for products of the kind and specification covered by the agreement for similar quantities under similar or like conditions and methods of purchase. In the event the vendor breaches this warranty, the prices of the items shall be reduced to the vendor's current prices on orders by others or, in the alternative, Rockwall ISD may cancel this contract without liability to the vendor for breach or the vendor's actual expense.

The vendor warrants that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for commission, percentage, brokerage, or contingent fee excepting bona fide employees of bona fide established commercial or selling agencies maintained by the vendor for the purpose of securing business. For breach or violation of this warranty, Rockwall ISD shall have the right in addition to any other right or rights to cancel this contract without liability and to deduct from the contract price, or otherwise recover the full amount of such commission, percentage, brokerage or contingent fee.

The vendor shall not limit or exclude any implied warranties and any attempt to do so shall render this contract voidable at the option of the District. The vendor warrants that the goods furnished will conform to the



specifications, drawings and descriptions listed in the bid invitation and to the sample(s) furnished by the vendor, if any. In the event of a conflict between the specifications, drawings and descriptions, the specifications shall govern. All equipment items awarded as a result of the bid will be covered by an all parts and labor warranty, including any/all transportation charges, for a minimum period of one (1) year.

CONTRACTORS

Persons providing services on a project ("subcontractor" in Texas Labor Code 406.096) include all persons or entities performing all or part of the services the contractor has undertaken to perform on the project, regardless of whether that person contracted directly with the contractor and regardless of whether that person has employees. This includes, without limitation, independent contractors, subcontractors, leasing companies, motor carriers, owner-operators, employees of any such entity, or employees of any entity that furnishes persons to provide services on the project.

Services include, without limitation, providing, hauling, or delivering equipment or materials, or providing labor, transportation, or other service related to a project. Services do not include activities unrelated to the project, such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.

The proposer declares that in the event of the award of a contract to the undersigned to this offer will comply with the Immigration Reform & Control Act of 1986.

Respondents will provide their own tools/equipment required/expected of their craft/trade. The contractor is responsible for permits and fees required and compliance with all local, state, and federal rules, regulations, and statutes. The job site shall be in a clean, safe and orderly condition at all times. It shall be the contractor's responsibility to remove all debris, materials, and equipment from the job site upon completion of the work specified.

The contractor shall agree to waive all right of subrogation against the District, its officials, employees and volunteers for losses from work performed by contractor for the District.

The contractor shall hold the District harmless from and indemnify it against all liability, including attorney's fees, which may arise from and accrue directly from the performance of the work or any obligation of Contractor or failure of Contractor to perform any work or obligation provided for in this Agreement.

INSURANCE

The successful respondent, at his/her own expense, shall provide and maintain insurance with fiscally sound firms (at least an AM Best rating of A-) authorized to do business in Texas. Insurance requirements also apply to any sub-contractor(s) in the event that any work is sublet. The contractor is responsible for making sure the sub-contractor(s) meets the minimum insurance requirement limits as by law.



Insurance must remain in effect for the duration of this contract. Should any policy be canceled before the expiration date, the issuing company will mail thirty (30) days written notice to the certificate holder, RISD. The contractor shall notify the district in writing by certified mail or personal delivery, within ten days after the contractor knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project. If the coverage period shown on the contractor's current certificate of coverage ends during the duration of the project, the contractor must, prior to the end of the coverage period, file a new certificate of coverage with the district showing that coverage has been extended.

Vendor may be required to provide a copy of insurance coverage to RISD. If the district is to be named as an additional insured on the vendor's insurance coverage, the certificate indicating this should be provided within ten (10) calendar days from date of award. The bid/proposal number and title should be noted in the "Description of Operations/Locations/Vehicles/Special Items" block of the certificate and the "Certificate Holder" block of the certificate should read, "RISD, Attn: Director of Purchasing, 1050 Williams Street, Rockwall, TX 75087." Additional insurance requirements may be required for construction and/or services projects and will be identified elsewhere in this document.

The contractor represents to the district that all employees of the contractor who will provide services on the project will be covered by statutory workers' compensation coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code 401.011 (44) for all employees of the contractor, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance regulation. Providing false or misleading information may subject the contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.

The contractor shall post on each project site a notice, in the text, form, and manner prescribed by the Texas Workers' Compensation Commission, informing all persons providing services on the project that they are required to be covered, and stating how a person may verify coverage and report lack of coverage.

A copy of a certificate of insurance, a certificate of authority to self-insure issued by the commission, or a coverage agreement (TWCC-81, TWCC-82, TWCC-83, or TWCC-84), showing statutory workers' compensation insurance coverage for the person's or entity's employees providing services on a project is required for the duration of the project. Duration of the project includes the time from the beginning of the work on the project until the project has been completed and accepted by the district.

The contractor shall retain all required certificates of coverage for the duration of the project and for one year thereafter. The contractor's failure to comply with any of these provisions is a breach of contract by the contractor that entitled the governmental entity to declare the contract void if the contractor does not remedy the breach within ten days after receipt of notice of breach from the governmental entity.



TERMINATION

Vendor shall be considered in default, and such default shall be grounds for the District to terminate any resulting award for this solicitation and/or pursue any and all relief, at law or in equity, to which it may be entitled by reason of such default, in the presence of a failure to perform any of its obligations under any resulting agreement and fails to correct such non-performance within ten (10) calendar days of written notice from the District to do so. In case of default of the vendor, RISD reserves the right to terminate the purchase order. In case of default of three (3) purchase orders, the district reserves the right to terminate the contract and suspend future business with the vendor.

Rockwall ISD shall have the right to terminate any purchase order to, contract with, or awarded to the vendor, in whole or in part, for cause (including breach of the proposal, warranties, or contract by the vendor, or because of loss of federal funding) or for the District's convenience at any time. Any award, contract, or purchase order is subject to termination by the District if any person significantly involved in initiating, negotiating, securing, drafting, or creating the solicitation on behalf of the District, is at any time while the solicitation is in effect, an employee of the vendor in any capacity or as a consultant to the District with respect to the subject matter of the Solicitation.

If deemed necessary, inspections will be made by authorized District personnel on a routine basis. Any deficiencies in the work performance disclosed during such inspections must be corrected following receipt of notification by the Vendor. Continued failure to take such corrective actions could, at the District's discretion, lead to termination of any resulting award.

FORCE MAJEURE

Neither the District nor the vendor shall be responsible or deemed to be in default of its obligations to the other to the extent any failure to perform or delay in performing its obligations under the bid or proposal is caused by events or conditions beyond the reasonable control of that party, and are not due to the negligence or willful misconduct of such party (hereinafter, "Force Majeure events"). For purposes of the bid or proposal, Force Majeure events shall include, but not be limited to, acts of God or public enemy, war, riot or civil commotion, strikes, epidemic, fire, earthquake, tornado, hurricane, flood, explosion, weather-related emergencies, or other catastrophes, or events or conditions due to law, regulations, ordinances, order of a court of competent jurisdiction, or executive decree or order. However, in the event of such delayed non-performance or nonperformance, the party so delayed shall furnish prompt written notice to the other party (including the date of inception of the Force Majeure event and the extent to which it will affect performance) and shall undertake all efforts reasonably possible to cure the delay or nonperformance and mitigate its effects, or to otherwise perform. The District shall not be responsible for payment for any product or service delayed or foreclosed by any Force Majeure event unless and until such delayed or foreclosed product or service is provided. These provisions shall not preclude the District from canceling or terminating any resulting award (or any order for any goods or services included herein), or from revising the scope of the work, as otherwise permitted under the bid or proposal.



CONFLICTS

Effective January 1, 2006 and pursuant to Texas H.B. No. 914 and in accordance with Chapter 176 of the Texas Local Government Code, Section 176.006, any person or entity who contracts or seeks to contract with RISD for the sale or purchase of property, goods, or services (as well as agents of such persons, hereafter referred to as Vendors) are required to file, on an annual basis, a Conflict of Interest Questionnaire with the District. Each covered person or entity who seeks to or who contracts with RISD is responsible for complying with any applicable disclosure requirements. RISD will post the completed questionnaires on its website. Information regarding H.B. No. 914 may be obtained from the Texas Ethics Commission's website at <http://www.ethics.state.tx.us>.

Any board member who has any substantial interest, either direct or indirect, in any business entity seeking to contract with the District, shall, before any vote or decision on any matter involving the business entity, file an affidavit stating the nature and extent of interest and shall abstain from any participation in the matter. This is not required if the vote or decision will not have any special effect on the entity other than its effect on the public. However, if a majority of the governing body are also required to file, and do file similar affidavits, then the member is not required to abstain from further participation.

Local Government Code Chapter 171

In 2015, the Texas Legislature adopted House Bill 1295, which added section 2252.908 of the Government Code. The laws states that a governmental entity or state agency may not enter into certain contracts with a business entity unless the business entity submits a disclosure of interested parties (Form 1295) to the governmental entity or state agency at the time the business entity submits the signed contract to the governmental entity or state agency. The business entity is responsible for first electronically filing Form 1295 with the Ethics Commission. This filing process creates a certification of filing and a completed Form 1295 must be printed, signed by an authorized agent of the business entity and submitted to the school district.

GRATUITIES

Please note that a "gift to a public servant" is a Class A misdemeanor offense if the recipient is a government employee who exercise some influences in the purchasing process of the governmental body. This would certainly apply to anyone who helps establish specifications or is involved in product selection or directs a purchase.

The District may, by written notice to the vendor, cancel this solicitation, its contract, purchase order, or award without liability to the vendor if it is determined by the District that gratuities, in the form of entertainment, compensation, gifts, or otherwise were offered or given by the vendor, or any agent or representative of the vendor, to any Board of Trustee member, officer, or employee of the Rockwall Independent School District with an intent to secure favorable treatment with respect to the awarding or amending, or the making of any determinations with respect to the performing of such an agreement. In the event this contract is canceled



by the District pursuant to this provision, Rockwall ISD shall be entitled, in addition to any other rights and remedies, to recover or withhold the amount used by the vendor to provide such gratuities.

FACILITIES

Rockwall ISD is a tobacco-free, drug-free, weapon-free and alcohol-free environment. No one may use, consume, carry, transport or exchange alcohol beverages, tobacco, cigarettes, electronic cigarettes, controlled substances and/ or illegal drugs while in a school district building or while on school district property. It is the responsibility of the vendor to ensure that its employees, agents, and subcontractors are not under the influence of drugs or alcohol and/or in possession of drugs, tobacco, alcohol, or weapons. If an employee, agent, or subcontractor of vendor is found to be under the influence and/or in possession of drugs/tobacco, alcohol, or weapons at the time of service, the vendor will be notified at once by District that the individual(s) must be immediately restricted from all Rockwall ISD campuses/departments. Repeated offenses by vendor could result in contract termination for default.

For the safety of students, all vendor personnel will sign visitor log in the office at the campus. An identification badge will be worn as required by the campus administrator. Vendor personnel are expected to maintain proper dress and exhibit a vendor badge or wear vendor issued shirts displaying the vendor logo. All contractors must also be in a uniform that identifies them at all times.

All vendor personnel are required to stay within the designated installation areas and may only enter a teacher's classroom when accompanied by District personnel.

At the time of offer submission, the person or entity submitting an offer must give notice to the district if the person or an owner or operator of the business entity has been convicted of a felony. The notice must include a general description of the conduct resulting in this conviction of a felony. The District may terminate a contract with a person or business if the District determines that the person or business failed to give such notice or misrepresented the conduct resulting in the conviction. This requirement does not apply to a publicly held corporation.

Texas Education Code Chapter 22 requires service contractors to obtain criminal history record information regarding covered employees and to certify to the District that they have done so. Covered employees with disqualifying convictions are prohibited from serving at a school district. Covered employees are all employees of a contractor who have or will have continuing duties related to the service to be performed at the District and have or will have direct contact with students. The District will be the final arbiter of what constitutes direct contact with students.

Vendors (owners, officers, employees, volunteers, etc.) may not work on District property where students may or may not be present when they have charges pending, have been convicted, received probation or deferred adjudication for the following:



- Any offense against a child
- Any sex offense
- Any crimes against persons involving weapons or violence
- Any felony offense involving controlled substances
- Any felony offense against property
- Any other offense the District believes might compromise the safety of students, staff, or property.

ASBESTOS

Vendors who perform work inside the RISD facilities are hereby notified that buildings may contain asbestos containing materials. This notification is required by both the State of Texas Department of State Health Services and the Federal EPA Asbestos regulations. These guidelines cover both RISD's responsibilities and the Employer's responsibility to their employees. As a Vendor it is your responsibility to check each building prior to performing any work in that facility. These building materials may include but are not limited to: ceiling tile, floor tile and mastic, sheetrock, tape and bed compound, thermal pipe insulation, spray-on ceiling material, calks, and roofing products. As there have been numerous asbestos containing products manufactured over the years, you must check each building's Asbestos Management Plan. This plan is normally kept in the main office. Check with the school secretary and she will allow you to look at it. It is the vendor's responsibility to notify all employees working for them that RISD facilities may contain asbestos and where their employees may find the facility's Asbestos Management Plan.

Products and/or services procured under this agreement may be of a construction nature and will require certification that materials utilized and installed in conjunction with any project involving construction, be it new, renovation or contracted trade services, are free of asbestos and lead.

PUBLIC INFORMATION ACT (PIA) / FREEDOM OF INFORMATION ACT (FOIA)

By entering into a contract, pursuant to Texas Government Code Ann. Chapter 552, Subchapter J, the vendor agrees to be bound by the following terms if the contract has a stated expenditure of at least \$1,000,000 for the purchase of goods or services by the District or if the contract results in the expenditure of at least \$1,000,000 in public funds for the purchase of goods or services by the District in a fiscal year of the Rockwall ISD. If the district receives a written request for public information related to this Contract that is in the possession or custody of the vendor and not in the possession or custody of the District, Rockwall ISD shall send, not later than the third business day after the date the District receives the written request, a written request to the vendor that vendor provide that information to the District.

The vendor must:

- Preserve all contracting information related to the contract as provided by the records retention requirements applicable to the District for the duration of the contract;



- Promptly, within four business days, provide to the District any requested contracting information that is in the custody or possession of the vendor upon request of the Rockwall ISD; and,

On completion of the contract, either:

- Provide to the District at no cost all contracting information related to the contract that is in the custody or possession of the vendor; or
- Preserve the contracting information related to the contract as provided by the records retention requirements applicable to the District.

If the requirements of Subchapter J, Chapter 552, Texas Government Code Ann. apply to this Solicitation or Contract, the vendor agrees that the contract can be terminated if the vendor knowingly or intentionally fails to comply with the requirements of that subchapter. Texas Government Code Ann. Chapter 552.374.

Further, under Texas Government Code Ann. Chapter 552.372(c), Rockwall ISD may not accept a bid from or award a contract to an entity that the District has determined has knowingly or intentionally failed in a previous bid or contract to comply with Subchapter J, unless the District determines and documents that the entity has taken adequate steps to ensure future compliance.

If a vendor fails to provide the requested information to the District, Texas Government Code Ann. §552.373 requires the District to notify the vendor in writing of the failure and allow 10 business days to cure the violation. Rockwall ISD may terminate the contract if vendor fails to remedy the failure, the District determines the failure was knowing and intentional, and steps have not been taken to ensure future compliance.

INDEMNITY

Except as otherwise expressly provided or prohibited by law, respondent shall defend, indemnify, and hold RISD harmless from and against all claims, liability, loss and expenses, including reasonable costs, collection expenses, and attorneys' fees incurred, which arise by reason of the acts or omissions of respondent, its agents or employees in the performance of its obligations under this contract. This clause shall survive termination of this contract.

ANTI-TRUST

Successful respondent shall assign to RISD any and all claims for overcharges associated with this contract which arise under the antitrust laws of the United States, 15 USCA, Section 1 et seq., and which arise under the antitrust laws of the State of Texas, Tex. Bus. & Com. Code, Section 15.01, et seq.

MEDIATION

In the event of any dispute arising out of, related to, or regarding vendor's bid or proposal, or charges for goods or services provided by the vendor, those disputes will be resolved under the terms of Texas



Government Code Ann. Chapter 2251. The vendor further agrees that any dispute regarding the sufficiency of the goods or services supplied by the vendor that is not resolved by discussion with the District, will be submitted to mediation in Rockwall County, Texas, with a mutually-agreed mediator, before either party may file suit. The costs of the mediator will be divided equally between the parties. In the event of any litigation between the parties, the prevailing party shall be entitled to recover reasonable and necessary attorneys' fees from the other party.

LITIGATION

This procurement, and any resulting award, contract, purchase order, or other agreement arising out of or related to it, shall be governed and interpreted by the laws of the State of Texas, and any litigation shall be conducted in state district court. Mandatory and exclusive venue shall be in Rockwall County, Texas, or, if no county is specified, then in the county in which the Owner's main administrative office is located.



SPECIFICATIONS
Rockwall ISD – Fire Alarm System Replacement CSP

Purpose:

Rockwall ISD is requesting solicitation of proposals for a turnkey Fire Alarm System Replacement at Heath High School and Shannon Elementary.

The locations which work will be required are the following:

	Facility Name	Facility Address
1	Shannon Elementary	3130 Fontanna Blvd, Rockwall, TX 75032
2	Heath High School	801 Laurence Dr, Heath, TX 75032

Owner Representatives:

During Procurement – Jana Hunter, Director of Purchasing

During Project Execution – Eddie Guajardo, Facility Services Project Manager

Scope Notes:

- Contractor to provide and install all equipment.
- Include any possible electrical reworking or upgrading.
- Work to begin 5/26/2026 and be complete 7/31/2026

Vendor Qualifications

- Proposer to provide all necessary tools, ladders, and lifts.
- Proposer must have adequate personnel on their staff to perform the required tasks as outlined in this CSP.
- Proposer must have job supervisor present on-site, at all times during this project.
- Proposer to provide proof of Liability Insurance – if awarded the project.
- Proposer to provide adequate bonding as indicated in contract – if awarded the project.

Contractor Responsibilities

- Contractor to communicate with Project Manager the daily project plan.
- Contractor to check in with the front office personnel during school hours before starting this work.
- Contractor shall wear identifying apparel and badge.
- All vendor motorized vehicles shall be identified with the company's name and/or logo in clear view.
- Contractor shall perform work in a personal and safe manner without interrupting normal business/class routines. This may require after hours work or weekend work depending on location.
- The proposer will take adequate precautions to protect all surfaces. The proposer will repair any damages to RISD property caused as a result of carelessness or neglect.
- Contractor is responsible to clean work areas, all refuse to be hauled off and shall not be disposed in district dumpsters.



- Contractor shall be responsible to procure and pay for any required permits required to complete the project.
- Patch any abandoned boxes or holes made by this project with appropriate color wall plates. Approved by District.
- The District would like to have some of the old Harrington components put back and not thrown away. Harrington Fire Panel, 20-Pulls, 20-Strobes, 20-Smoke Detectors.



SHIPPING LABEL

This label should be affixed to the outside of the package when submitted in response to this request.

FROM: _____

SHIP TO: Rockwall Independent School District
Attn: Jana Hunter, Director of Purchasing
1050 Williams Street
Rockwall, TX 75087

Package _____ of _____

CONTENTS: BID RESPONSE
BID NUMBER: RFCSP 2526.02-001
BID TITLE: RHHS and Shannon ES Fire Alarm Replacement
BID DUE DATE: February 26, 2026
TIME DUE: 2:00 P.M. (CST)

-----FOLD OR CUT HERE-----

FROM: _____

SHIP TO: Rockwall Independent School District
Attn: Jana Hunter, Director of Purchasing
1050 Williams Street
Rockwall, TX 75087

Package _____ of _____

CONTENTS: BID RESPONSE
BID NUMBER: RFCSP 2526.02-001
BID TITLE: RHHS and Shannon ES Fire Alarm Replacement
BID DUE DATE: February 26, 2026
TIME DUE: 2:00 P.M. (CST)

-----FOLD OR CUT HERE-----



OFFER FORM

This form should serve as the cover to all responses; failure to sign may result in disqualification.

Bid Number and Title: RCSP 2526.02-001 RHHS and Shannon ES Fire Alarm Replacement
Submittal Due Date and Time: February 26, 2026 – 2:00 P.M. (CST)
Submittal Address: Rockwall Independent School District
 Jana Hunter, Director of Purchasing
 1050 Williams Street
 Rockwall, Texas 75087

The undersigned authorized representative of the responding company indicated below hereby acknowledges;

- That he/she is authorized to enter into contractual relationship on behalf of the responding company indicated below;
- That he/she has carefully examined this document in its entirety;
- That he/she proposes to supply any products/services submitted under this solicitation at the prices quoted and in strict compliance with all terms, policies and procedures, unless any exceptions are noted;
- That any all and all exceptions have been noted in writing in the response and that no other exception will be claimed;
- The accuracy of all certifications which accompany this offer;
- The stated organization is an equal opportunity employer;
- That the organization has not been a party to any collusion among offer/vendors in restraint of freedom of competition by agreement to offer at a fixed price or to refrain from offering; or with any RISD employee, Board Trustee, or consultant as to quantity, quality, or price in the prospective contract, or in any terms of the prospective contract except in any authorized discussion(s) with RISD's Purchasing personnel; or in any discussions or actions between offer/vendors and any RISD employee, Board Trustee, or consultant concerning exchange of money or other things of value for special consideration in the award of this contract.
- That the prices in this offer have been determined independently, without consultation, communication, or agreement for the purpose of restricting competition, as to any matter related to such prices, with any other vendor or with any competitor;
- That notice of award and/or any communication regarding an award will be submitted via RISD and not by any consultant, contractor or other party involved in this solicitation.
- Receipt of Addenda, or lack thereof:

None: _____ (initial)

1: _____ (initial)

3: _____ (initial)

2: _____ (initial)

#4: _____ (initial)

Name of Company:	Date:
Signature of Authorized Rep:	Printed Name:
Position or Title:	Phone:
Email:	Fax:



RESPONDENT'S PROPOSAL

The undersigned has carefully examined the Request for Proposals, Contract Documents, Conditions of the Contract, the Specifications, the Drawings and any addenda to the Drawings and Specifications, the site, premises and all conditions affecting the work on the project listed above as prepared by Rockwall ISD. The undersigned proposes to furnish all labor, materials, services and equipment necessary to complete the entire work in strict accordance with the above documents for the following sum:

<u>Description</u>	<u>LS</u>	<u>Amount</u>
Shannon Elementary School	1	
Rockwall Heath High School	1	
Owner's Contingency	1	\$90,000.00 per location
<i>Total Project Proposal (Including contingency amount)</i>		

Respondent's (Company) Name: _____

Signature: _____

Title: _____



VENDOR DATA

FOR PURCHASE ORDER: ORDERING ADDRESS INFORMATION		
Company Name:		
Address:		
City, State, Zip:		
Contact Person:		
Title:		
Phone Fax:		
Email address:		
May we submit orders via email:		
Email address, if different:		

FOR PAYMENTS: REMITTANCE ADDRESS INFORMATION		
Company Name:		
Address:		
City, State, Zip:		
Contact Person:		
Title:		
Phone Fax:		
Email address:		

FOR BID NOTIFICATIONS	
Contact Email:	

COOPERATIVE AGREEMENTS												
<i>If the vendor holds a contract with any of the following, please circle and provide contract number(s) as applicable.</i>												
Allied States	Choice Partners	CTPA	DIR	E&I	EPIC6	EPCNT	HGAC	Omnia Partners	PACE	Tarrant County	TASB Buy Board	TIPS
Contract Number(s):												



REFERENCE SHEET
DO NOT LEAVE BLANK

REFERENCE 1

School District Name:		
Contact Name:		
Address:		
Phone Fax:		
Email Address:		

REFERENCE 2

School District Name:		
Contact Name:		
Address:		
Phone Fax:		
Email Address:		

REFERENCE 3

School District Name:		
Contact Name:		
Address:		
Phone Fax:		
Email Address:		

**Please note: Some projects may require more attention to be given to historical projects of like scope, type, location, institute, etc. While it is not a requirement, the District prefers references be given for school districts of similar size to Rockwall ISD and the district may evaluate responses as a whole, based on references provided.*



VENDOR ACKNOWLEDGEMENTS

RESIDENT BIDDER

A governmental entity may not award a governmental contract to a nonresident bidder unless the nonresident bidder underbids the lowest bid submitted by a responsible resident bidder by an amount that is not less than the great of the following (1) the amount by which a resident bidder would be required to underbid the resident bidder to obtain a comparable contract in the state in which the nonresident's principal place of business is located; or (2) the amount by which a resident bidder would be required to underbid the nonresident bidder to obtain a comparable contract in the state in which a majority of the manufacturing relating to the contract will be performed.

A governmental entity may not award a governmental contract to a nonresident bidder unless the nonresident underbids the lowest bid submitted by a responsible resident bidder by an amount that is not less than the amount by which a resident bidder would be required to underbid the nonresident bidder to obtain a comparable contract in (1) the state in which the nonresident's principal place of business is located; or (2) a state in which the nonresident is a resident manufacturer.

This subchapter does not apply to a contract involving federal funds.

FELONY CONVICTION AND CRIMINAL HISTORY NOTICE

Texas Education Code, Section 44.034, Notification of Criminal History, Subsection (a), states, "a person or business entity that enters into a contract with a school district must give advance notice to the District if the person or owner or operator of the business entity has been convicted of a felony." The notice must include a general description of the conduct resulting in the conviction of a felony. Subsection (b) states, "a school district may terminate a contract with a person or business entity if the district determines that the person or business entity failed to give notice as required by Subsection (a) or misrepresented the conduct resulting in the conviction." The district must compensate the person or business entity for services performed before the termination of the contract. Vendor is responsible for the performance of the persons, employees and/or sub-contractors. Vendor assigns to provide services for Rockwall ISD pursuant to this proposal on any and all Rockwall ISD campus or facilities. Vendor will not assign individuals to provide services at a Rockwall ISD campus or facility who have a history of violent, unacceptable, or grossly negligent behavior or who have a felony conviction, without the prior written consent of the Rockwall ISD Purchasing Department.

CONFIDENTIALITY DECLARATION

Any portion of the response considered to be confidential or contain proprietary information, or to contain trade secrets, must be marked accordingly. This designation may not necessarily guarantee the non-release of the information under the Public Information Act or as otherwise required by law, but does provide the District with a means to review the issues thoroughly and, if justified, request an opinion by the Attorney General's office prior to releasing any information requested under the Public Information Act.

INTER-LOCAL AGREEMENTS WITH OTHER SCHOOL DISTRICTS

Rockwall ISD is a member of the Central Texas Purchasing Alliance (CTPA) and the Education Purchasing Cooperative of North Texas (EPCNT), each serving as an alliance of over 100 school districts in Texas representing millions of students, sharing information, services and contractual opportunities. A list of member districts can be found on the RISD Purchasing webpage.

In support of this collaborative effort, all awards made by Rockwall ISD may be adopted by other active member districts in either (or both) of the identified entities. By adopting a contract from another member district, the adopting district has met the competitive bidding requirements established by the Texas Education Code, Section 44.031 (a)(4). While there is no obligation to participate, doing so will streamline the public purchasing process and cut costs to the public. It will also keep vendors from having to answer multiple bids for many school districts for the same product(s) or services, thereby saving the vendors resources.

All purchases by members and participants other than Rockwall ISD will be billed directly to that entity and paid by that entity. Rockwall ISD will not be responsible for another entity's debts. Each governmental entity will order its own materials/services as necessary and according their policies.



COMMITMENT TO PROVIDE INSURANCE

Bidder will be able to furnish a valid insurance certificate reflecting as Certificate Holder: Rockwall ISD, 1050 Williams Street, Rockwall TX 75087. The vendor shall provide and maintain insurance in a company rated no less than an "A" by A.M. Best Company.

Vendor is aware of all costs to provide insurance, will do so pending contract award, and will provide a valid insurance certificate as describe within this solicitation.

DEBARMENT OR SUSPENSION CERTIFICATION

Non-Federal entities are prohibited from contracting with or making sub-awards under covered transaction to parties that are suspended or debarred or whose principals are suspended or debarred. Covered transactions include procurement of goods or services equal to or in excess of \$100,000. Vendors receiving individual awards of \$100,000 or more and all sub-recipients must certify that the organizations and its principals are not suspended or debarred.

INDEMNIFICATION AND HOLD HARMLESS

Except as otherwise expressly provided, respondent shall defend, indemnify and hold RISD harmless from and against all claims, liability, loss and expenses, including reasonable costs, collection expenses, and attorney's fees incurred, which arise by reason of the acts or omissions of respondent, its agents or employees in the performance of its obligation under this contract.

STATEMENT OF COMPLIANCE/DEVIATION

Unless otherwise stated, this proposal complies with all specifications and/or scope of work contained in the solicitation document. Any deviations from any part of this solicitation shall be listed on a separate page as provided by the respondent with detailed conditions and information. RISD will consider any deviations in its evaluation, and reserves the right to accept or reject any bid based upon any deviations.

CONTRACTOR CERTIFICATION

If an employee of a contractor is covered under SB 9 the contractor must bear the burden of obtaining a national, fingerprint-based criminal history check. Under Section 22.0834 of the Education Code, the contractor is then required to certify to the district that the criminal history check has been performed. Under the statute SB 9, a contractor is required to conduct a criminal history review on an employee only when the following criteria has been met: 1) The employer has contracted with the district to provide services. 2) The particular employee will have continuing duties relating to the contract with the district. 3) The particular employee will have contact with students.

TOXIC CONTROL COMPLIANCE

Rockwall Independent School District has established Management Plans for ensuring a high level of environmental air quality through its Operations Department. All contractors performing construction projects for RISD must familiarize themselves with these Management Plans and comply prior to the beginning of any awarded construction project. RISD employees are available to review such plans and assist in interpretation and understanding its Asbestos Management Plans at any time prior to beginning construction.

Certification of non-use of Asbestos and Lead Containing Materials is required by all General and Sub-Contractors for all construction projects, by State and Federal regulations which RISD is subject to. Completion of this Affidavit is mandatory before final payment on a project will be made. Complete this certificate, have it notarized and submit it with your application for final payment, certifying that no materials used in conjunction with this project contain asbestos or lead in any form and that all Material Safety Data Sheets (MSDS) have been supplied to Owner before submitting application for final payment.

MWBE/HUB CERTIFICATION

A bidder/proposer that has been certified as a Minority/Women Business Enterprise (also known as "Historically Underutilized Business" or "HUB") is encouraged to indicate its MWBE certification status when responding to this Bid/Proposal. If so, please provide the Certificate Number and Name of Certifying Agency.



CERTIFICATION OF EQUAL EMPLOYMENT STATEMENT

It is the policy of the District not to discriminate on the basis of race, color, national origin, gender, limited English proficiency or handicapping conditions in its programs. Vendor agrees not to discriminate against any employee or applicant for employment to be employed in the performance of this Contract, with respect to hire, tenure, terms, conditions and privileges of employment, or a matter directly or indirectly related to employment, because of age (except where based on a bona fide occupational qualification), sex (except where based on a bona fide occupational qualification) or race, color, religion, national origin, or ancestry. Vendor further agrees that every subcontract entered into for the performance of this Contract shall contain a provision requiring non-discrimination in employment herein specified, binding upon each subcontractor. Breach of this covenant may be regarded as a material breach of the Contract.

CERTIFICATION OF SECTION 2271.002 TEXAS GOVERNMENT CODE

This section applies to a contract that: (1) is between a governmental entity and a company with 10 or more full-time employees; and (2) has a value of \$100,000 or more that is to be paid wholly or partly from public funds of the governmental entity. A governmental entity may not enter into a contract with a company for goods or services unless the contract contains a written verification from the company that it: (1) does not boycott Israel; and (2) will not boycott Israel during the term of the contract.

CERTIFICATION OF SECTION 2252 TEXAS GOVERNMENT CODE

This section applies to contracts with companies engaged in business with Iran, Sudan, or foreign terrorist organization is prohibited. A governmental entity may not enter into a governmental contract with a company that is identified on a list prepared and maintained under Section 806.051, 807.051 or 2252.153. The comptroller shall prepare and maintain, and make available to each governmental entity, a list of companies known to have contracts with or provide supplies and services to a foreign terrorist organization.

CERTIFICATION OF SECTION 2276 TEXAS GOVERNMENT CODE

This section applies only to a contract that (1) is between a governmental entity and a company with 10 or more full-time employees; and (2) had a value of \$100,000 or more that is to be paid wholly or partly from public funds of the governmental entity. Except as provided by Subsection (c), a governmental entity may not enter into a contract with a company for goods or services unless the contract contains a written verification from the company that (1) does not boycott energy companies; and (2) will not boycott energy companies during the term of the contract.

CERTIFICATION OF SECTION 2274 TEXAS GOVERNMENT CODE

This section applies only to a contract that: (1) is between a governmental entity and a company with at least 10 full-time employees; and (2) has a value of at least \$100,000 that is paid wholly or partly from public funds of the governmental entity. Except as provided by Subsection (c) and Section 2274.003, a governmental entity may not enter into a contract with a company for the purchase of goods or services unless the contract contains a written verification from the company that it: (1) does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association; and (2) will not discriminate during the term of the contract against a firearm entity or firearm trade association. Subsection (b) does not apply to a governmental entity that (1) contracts with a sole-source provider; or (2) does not receive any bids from a company that is able to provide the written verification required by that subsection.

CERTIFICATION OF SECTION 2273 TEXAS GOVERNMENT CODE

A governmental entity may not enter into a taxpayer resource transaction with an abortion provider or an affiliate of an abortion provider. This subsection does not apply to a taxpayer resource transaction that is subject to a federal law in conflict with Subsection (a) as determined by the executive commissioner of the Health and Human Services Commission and confirmed in writing by the Attorney General.

CERTIFICATION OF SECTION 2274 TEXAS GOVERNMENT CODE

A governmental entity may not enter into a contract or other agreement relating to critical infrastructure in this state with a company that is (1) owned by or the majority of stock or other ownership interest of the company is held or controlled by (a) individuals who are citizens of China, Iran, North Korea, Russia, or a designated country; (b) a company or other entity, including governmental entity, that is owned or controlled by citizens of or is directly controlled by the government of China, Iran, North Korea, Russia, or a designated country; or (2) headquartered in China, Iran, North Korea, Russia, or a designated country.



CONFLICT OF INTEREST

Effective January 1, 2006, any person or entity who contracts or seeks to contract with RISD for the sale or purchase of property, goods, or services (as well as agents of such persons) (hereafter referred to as Vendors) are required to file a Conflict of Interest Questionnaire with the District. Each covered person or entity who seeks to or who contracts with RISD is responsible for complying with any applicable disclosure requirements. Forms received by the District become public records immediately and the law requires school districts that maintain web sites to place these records on the District's web site.

The Conflict of Questionnaire must be filed no later than the seventh business day after the date that the vendor begins contract discussions or negotiations with the government entity, or submits to the entity an application, response to a request for proposal or bid, correspondence, or other writing related to a potential agreement with the entity.

The vendor also shall file an updated questionnaire not later than September 1 of each year in which a covered transaction is pending, and the seventh day after the date of an event that would make a statement in the questionnaire incomplete and inaccurate.

Note: A vendor is not required to file an updated questionnaire if the person had filed an updated statement on or after June 1, but before September 1 of the year.

Completed forms should be sent to Rockwall Independent School District Purchasing Department, 1050 Williams Street, Rockwall, Texas 75087. Forms are available from the Texas Ethics Commission website.

**The Rockwall ISD website provides a list of Local Government Officers,
Superintendent and other Personnel**

IRS FORM W9

This is a required form by the IRS for government entities that pay vendors in excess of \$600.00 annually in order to issue a 1099 form and is required in conjunction with the reporting requirements by the Internal Revenue Service.

Please include a current W9 with vendor's response.

Vendor affirms they have read all certifications as described in this section and agrees to comply with all federal, state, and local laws, rules, regulations and ordinances, as applicable. It is further acknowledged the vendor certifies compliance with all provisions, laws, acts, regulations, etc. as specifically noted.

Company Name:	
Federal Tax ID #:	
City, State, Zip:	
Phone Number:	
Printed Name of Authorized Representative:	
Title of Authorized Representative:	
Email Address:	
Signature of Authorized Representative:	
Date Signed:	



PROJECT MANUAL

EMA PROJECT NO. 1 001 0079 021

JANUARY 16, 2026

**FIRE ALARM REPLACEMENT
HEATH HIGH SCHOOL
ROCKWALL INDEPENDENT SCHOOL DISTRICT
ROCKWALL, TEXAS**

**ENGINEER:
EMA
ENGINEERING & CONSULTING
328 SOUTH BROADWAY
TYLER, TEXAS 75702
903-581-2677**

REGISTRATION NO. F-893

SEALS PAGE

EMA PROJECT NO. 1 001 0079 021

FIRE ALARM REPLACEMENT
HEATH HIGH SCHOOL
ROCKWALL INDEPENDENT SCHOOL DISTRICT
ROCKWALL, TEXAS

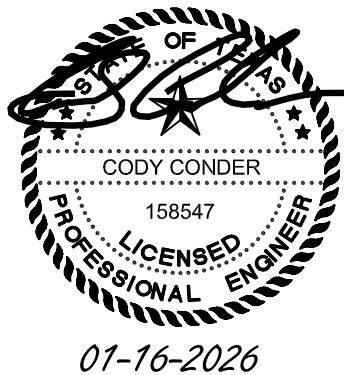


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FIRE ALARM REPLACEMENT**HEATH HIGH SCHOOL****ROCKWALL INDEPENDENT SCHOOL DISTRICT****ROCKWALL, TEXAS**

SECTION 28 46 21

FIRE DETECTION AND ALARM SYSTEM

PART 1 GENERAL

1.1 WORK INCLUDES

- A. This specification and the drawings provides requirements for the complete demolition and replacement of the fire detection and alarm system. The specification reflects the intent of the design and installation.
- B. Remove the entire existing fire alarm system including the panel, power supplies, cabling and all devices including, but not limited to, door hold open devices, auxiliary relays, remote indicator/test devices, tamper/damage covers, unused raceways/conduits, etc.
- C. Refer to the drawing schedules for equipment and device make, model and part numbers and other information.
- D. Equipment specified herein is designed to provide specific functional and operational characteristics. It is the responsibility of the Contractor to provide all features and functions as outlined in these specifications.
- E. The Owner has specific standards for fire alarm system manufacturer, intelligent addressable device communication protocols, cable conductor sizes, and cable jacket colors as specified herein.
- F. Furnish and install all equipment, accessories, materials, tools, scaffolding, man lifts, labor and transportation in accordance with these specifications to provide a complete and operating fire alarm system.
- G. It is the intent of these specifications and drawings to provide complete installations although every item necessary may not be specifically mentioned or shown.
- H. This project shall include preparation of construction plans locating the fire alarm system devices and having the plans reviewed by the Engineer, Owner, and local AHJ for permitting.
- I. It shall be the responsibility of this Contractor to obtain all required approvals, permits, and certifications from Authorities Having Jurisdiction (AHJ).
- J. Fire alarm cable that cannot be concealed by finished walls and ceilings are to be enclosed in a raceway. Regardless of height or the space, all fire alarm cable in open areas shall be enclosed in conduit. Conduit and raceway installations shall be of a neat and workman like manner. Conduits shall run parallel and at right angles to the building structure and be supported per NFPA 70 guidelines. Conduit runs from wall devices to the accessible ceiling area shall have a plastic bushing installed on the end to protect cable.
- K. Existing 120VAC power branch circuits that are powering fire alarm control panels, amplifiers, power supply panels that are to be removed, may be repurposed to power the new replacement panels as required, as long as the circuits meet code requirements for fire alarm equipment power. New equipment that is located in an area where no 120VAC branch circuits exist shall be installed by a licensed electrical contractor. It is this contractor's responsibility to contract, schedule and to pay to have the 120VAC circuit installed. The Owner reserves the right to

FIRE ALARM REPLACEMENT**HEATH HIGH SCHOOL****ROCKWALL INDEPENDENT SCHOOL DISTRICT****ROCKWALL, TEXAS**

approve the electrical contractor. More than one fire alarm component requiring 120VAC may be fed from one dedicated circuit providing the limitations of the 20-amp circuit are not exceeded. Each such circuit breaker shall be labeled in red, in a visible area utilizing a self-laminating, flexible vinyl film, non-smear, machine printed label, at the power distribution panel as FIRE ALARM. Secure the "ON" breaker handle with a lockout clip that is red and clearly labeled "FIRE ALARM" equal to Space Age Electronics "ELOCK" or equivalent. A breaker panel key shall be stored within the locked cabinet of each fire alarm control unit. The location of all circuit breakers serving the fire alarm control unit shall be posted in the fire alarm control unit cabinets. Each cabinet shall be grounded securely to the building grounding system.

L. Fire safety control devices and equipment:

1. Existing buildings include fire safety control devices and equipment that is designed to make the building occupants safer from the impact of fire and smoke during evacuation. The fire alarm system contractor is responsible for ensuring these systems are integrated and function properly with the new fire alarm system. These may include but are not limited to:
 - a. Fire/smoke curtains, shutters and doors.
 - b. Smoke exhaust fans, smoke exhaust vents and controls.
 - c. Air handler shutdown.
 - d. Fire/smoke damper control.
 - e. Elevator fire service functions and cab recall.
 - f. Automatic door unlocking.
2. Each Fire Safety Control Function circuit controlled device shall be configured such that when the fire alarm system safety control circuit is re-energized, by the fire alarm control panel, the device shall return to normal operation (e.g. re-start or be ready to re-start) without a need for manual or environmental control system intervention.

1.2 ADDITIONAL MATERIALS: INCLUDE IN THE BASE CONTRACT PROPOSAL

- A. All costs to provide fifteen (15) additional initiation devices installed, including cable and device, as directed by the Owner's Representative. Conduit and standard back boxes by Division 26 Electrical Contractor.
- B. All costs to provide fifteen (15) additional notification devices installed, including cable and device, as directed by the Owner's Representative. Conduit and standard back boxes by Division 26 Electrical Contractor.

1.3 EXISTING ELECTRONIC SAFETY AND SECURITY SYSTEMS

- A. The electronic safety and security contractor shall be responsible for complete demolition of the existing fire detection and alarm system. Demolition shall include:
 1. Disconnection and removal of all fire detection and alarm system devices not to remain in service in walls, floors, and ceilings.
 2. Identification and verification of abandoned wiring and equipment. All disconnected or abandoned devices that are visible shall be removed, i.e., non-functional fire pulls, bells, speakers, signals, et cetera. Remove abandoned wiring to the source of the supply everywhere possible, the accessible portions of all inaccessible abandoned cabling shall be removed.
 3. Demolition of devices, cabling, back boxes, and conduit previously abandoned.
 4. Removal of exposed surface ceiling and surface wall back boxes, boxes, raceway, conduit and supports including brackets, stems, hangers, and other accessories located on walls and above accessible finished ceilings.
 5. Provide a blank cover for abandoned device backboxes that are impractical to remove from masonry construction without unnecessary damage.

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6. Confirm with Owner/Architect regarding the handling and disposal/reuse of removed material, equipment, devices, et cetera.
7. Off-site disposal in a legal manner of all materials not requested to be turned over to the Owner. Comply with government regulations pertaining to environmental protection, and disposal of materials and equipment. Do not burn any materials on the site.
8. Repair of any finishes or adjacent construction damaged during modification, extension, and demolition work.

1.4 WORK NOT INCLUDED

- A. Contractors shall make no agreement that obligates the Owner to pay any company providing communications, monitoring, or other services.
- B. Contractors shall not make selection, purchase, or installation of interconnect instruments and/or equipment to be used on this project.

1.5 PRESCRIPTIVE CODES, STANDARDS, AND REGULATIONS

- A. Perform all work in strict accordance with the requirements and recommendations stated in the codes and standards except when requirements are exceeded by the contract documents.
- B. In addition to requirements outlined in other sections of the specifications these codes and standards are imposed as applicable to the work in each instance.
- C. The equipment, materials, and installation shall conform to the latest version of all applicable codes, standards and regulations of authorities having jurisdiction.
- D. Nothing in the Contract Documents shall be construed to permit work not conforming to these codes and standards.
- E. When two or more codes or standards are applicable to the same work, then the stricter code or standard shall govern.
- F. The date of the code or standard is that in effect on the date of issue stated on the contract documents, except when a particular publication date is specified.
- G. The Contractor shall comply with all State, Federal, NFPA, local codes and ordinances that may alter any part of the plans or specifications. The Contractor shall bear all costs for correcting any deficiencies due to non-compliance.
- H. Where local codes and ordinances are not in writing or on record but local precedence have been set, the Owner shall pay for any additional resulting cost.

1.6 PLANS AND SPECIFICATIONS

- A. The intent of the project drawings is to establish the types of systems and functions, but not to set forth each item essential to the functioning of the system.
- B. The drawings are generally diagrammatic and show approximate location and extent of work.
- C. Install the work complete including minor details necessary to perform the function indicated. Provide fire alarm systems (including all connections) complete in every respect and ready to operate.
- D. If clarification is needed, consult the Owner's Representative.

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- E. Review pertinent drawings and adjust the work to conditions shown. Where discrepancies occur between drawings, specifications, and actual field conditions, immediately notify the Owner's Representative for his interpretation.
- F. The Owner's Representative reserves the right to make any reasonable change in the location of any part of this work without additional cost to the Owner.
- G. Fire Detection and Alarm System Design Advisory:
 - 1. The Licensed Engineer of Record for this project makes the following statement:
 - a. The fire detection and alarm system drawings shall not be deemed engineered drawings (shop drawings). The Licensed Engineer of Record for this project will not prepare engineered fire detection and alarm system drawings. The Contractor shall provide a complete, automatic building fire alarm system, as performance based delegated design. The fire detection and alarm system designer shall be licensed by the State Fire Marshal's Office.
 - b. Suggested location of the fire detection and alarm system notification and initiation appliances, fire alarm control panel, alarm annunciator panel, and all other devices as shown on the plans are for reference only. Contractor shall design the fire detection and alarm system according to the local adopted codes with amendments. Confirm the fire detection and alarm system design meets all applicable code requirements through permitting and design review and approval by the appropriate AHJ and local Fire Marshal.

1.7 SITE VISIT

- A. Before submitting a proposal, each proposed contractor shall examine all plans and specifications relating to the work, shall visit the site of the project, and become fully informed of the extent and character of the work required, including all required utilities and work to remote areas.
- B. No consideration will be granted for any alleged misunderstanding of the materials to be furnished or the amount of work to be done, it being fully understood that the tender of a proposal carries with it the agreement to all items and conditions referred to herein, or indicated on the accompanying plans or required by nature of the site of which may be fairly implied as essential to the execution and completion of any and all parts of the work.

1.8 EXTENT OF WORK

- A. Before submitting a proposal, each proposed contractor shall examine all plans, specifications, and the existing systems relating to the work, and become fully informed of the extent and character of the work required, including all required underground or overhead connections.
- B. No consideration will be granted for any alleged misunderstanding of the materials to be furnished or the amount of work to be done, it being fully understood that the tender of a proposal carries with it the agreement to all items and conditions referred to herein, or indicated on the accompanying plans or required by nature of the site of which may be fairly implied as essential to the execution and completion of any and all parts of the work.

1.9 SUBMITTALS

- A. Submit a complete submittal package within 30 calendar days after award of this work for approval. Equipment is not to be ordered without approval. Partial submittals are not acceptable for review. Each submittal shall include a dated transmittal.
- B. Submittal shall be electronically transmitted in PDF file format.

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- C. For each submittal provide a cover sheet with the name and location of the project, the name, address and telephone number of the Contractor, and the name, address and telephone number of the submitting sub-contractor. Include on or after the cover sheet sufficient space for review stamps.
- D. Quality Assurance Submittal including special boxes, cable, and other material as requested by the Owner's Representative:
 - 1. Letter from manufacturer stating that the Contractor is an Authorized Factory Distributor for the area where the project is located.
 - 2. The Contractor and Manufacturer shall supply sufficient information to indicate that the proposed system is based on the latest hardware, software technology available.
 - 3. Current copy of the contractors State issued license for sales, service, and installation of fire detection and alarm systems.
 - 4. Current copy of the fire detection and alarm system designer's commercial (non-residential) State issued license of the person responsible for the design of the system submitted.
- E. Product Data Submittal to include special boxes, cable, and other material as requested by the Owner's Representative including:
 - 1. An indication of any deviations from Contract Document requirements, including variations and limitations. Show any revisions to equipment layout required by use of selected equipment.
 - 2. A product data index and complete equipment list including for each product submitted for approval the manufactures name and part number, including options and selections.
 - 3. Cut-sheets or catalog data illustrating the physical appearance, size, function, compatibility, standards compliance, and other relevant characteristics of each product on the equipment list.
 - 4. Indicate by prominent notation (an arrow, circle, or other means) on each sheet the exact product and options being submitted.
 - 5. Submit design data, when the scope of work requires, including schematics, risers, sequences, or other data.
 - 6. If not included in the Shop Drawings, calculations for notification device circuit current drop, conductor size, and battery backup for each unit.
 - 7. Resubmittals shall include a complete revised equipment list and any product data that is revised with revision notation and clouded changes.
- F. Shop Drawings Submittal to include:
 - 1. A cover page that includes project name and address, index of drawings, scope of work description, code editions designed under, local AHJ information, a sequence of operation input/output matrix, bill of material, device and cable legends, typical device connections and installation height details, schedules and location map.
 - 2. Produce accurate to scale (min. 1/8" = 1') drawings showing equipment and device layouts prepared using a CAD or BIM engineering drawing program. When CAD background files are not available for existing buildings the Contractor shall inspect the site and collect information to create a floor plan. Walls shall be double line showing the thickness, single line diagrams are not acceptable.
 - 3. Every room shall have a name and number identifying the use of the space with ceiling heights notated for each space or group of spaces throughout the design.
 - 4. Indicate and/or notate door swings, glass walls, half walls, floor to ceiling windows, skylights, and other openings, projections, ceiling features, elevation changes, et cetera that affect the placement of alarm devices.
 - 5. Show fire-rated walls, fire/smoke rated doors, fire rated shutters, fire rated rolling doors.
 - 6. Locate and label all components of the system, label and indicate circuit routing, cable type, and gauge. The fire alarm panel location and all device locations shall be clearly

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- identified by symbols matching the symbol legend. The labeling of circuits and devices shall correspond with the riser diagram.
7. Riser diagrams showing all components of the system. Show control panels, power supply panels, amplifiers, annunciators, network interfaces, all initiation and notification devices. Partial or typical riser diagrams are not acceptable.
 8. If not included in the Product Data Submittal, include calculations for notification device circuit current drop, conductor size, and battery backup for all panels.
 9. When multiple buildings make up the system, provide a block diagram of the project site showing all buildings to be covered by the fire alarm system and detailing the route and type of Signaling Line Circuit (SLC) connection between buildings. Note building entry points, conduit type and size, and routing pathway (underground or over canopy installation). Provide a separation in the outgoing and return conductors for all building connections as required for Class A circuits per NFPA 72, 12.3.8.
 10. Shop or coordination drawings shall include information that will allow the Contractor to coordinate interdisciplinary work and when necessary guide the manufacturer or fabricator in producing the product.
 11. Resubmittals shall include revision notation and clouded changes.

1.10 QUALIFICATIONS OF A PROPOSED CONTRACTOR

- A. Proposed contractors who do not currently possess the necessary qualifications, trained and experienced personnel, financial capacity, hold required current licenses, or meet the other requirements herein described will be disqualified.
- B. The Contractor shall be currently licensed by the State Fire Marshal to sell, install, and service commercial fire alarm systems.
- C. The Proposed Contractor shall not have any grievances or complaints of record regarding workmanship, code compliance, or service response with a licensing authority. A Proposed Contractor that has any prior finding(s) of a code or license violation or has any litigation in process concerning the installation of a system is unacceptable.
- D. The Contractor shall employ a full-time employee who is licensed by the State to design commercial fire alarm systems. They shall be responsible for the design of the system submitted and shall sign all submittal drawings.
- E. All work associated with the installation of the fire alarm system shall be under the direct supervision of a State licensed and factory trained technician. A certificate of this training shall be provided with the contractors' submittal.
- F. The proposed contractor, as a business entity, shall be an authorized and designated representative of the fire alarm panel equipment manufacturer, with full warranty privileges, and shall have been actively engaged in the business of selling, installing, and servicing commercial building fire alarm systems for a period of at least five (5) years.
- G. Recently formed companies are acceptable only if specific pre-approval is requested, and granted by the Owner's Representative, based on experience of key personnel, current and completed projects, and all licensing requirements are met 10 working days prior to the contract proposal date.
- H. No contract employees are allowed unless they have been to the factory-training school within the last 18 months. A certificate of this training shall be provided with the Contractor's submittal.
- I. The proposed Contractor shall have an office within 150-miles of the job site, staffed with factory trained technicians who are qualified and licensed to supervise the installation, to be responsible

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that the system is installed as submitted, to conduct system start up and perform a 100 percent operational audit of all installed devices. The technicians shall instruct the Owners representatives in the proper operation of the system, and to provide service throughout the warranty period. The contractor shall be capable of dispatching technicians to repair a system within four (4) hours of a service request.

- J. The proposed contractor shall be fully experienced in the design and installation of the type of Fire Alarm System herein specified and shall furnish with the contract proposal an itemized list of the installations of at least two (2) projects of the type specified herein. The list shall include the name of two (2) projects, date of completion, the amount of the contract, the name, and telephone number of a qualified person to contact for reference. Each reference project listed must utilize equipment by the same manufacturer as the proposed system.
- K. The ability of a proposed Contractor to obtain these specifications and provide a performance bond shall not be regarded as the sole qualification of the Contractors' competency and responsibility to meet the requirements and obligations of the contract.
- L. The Builder shall be satisfied that a proposed Contractor meets all the requirements expressed herein before including the Contractor's proposal in the project.
- M. The Owner's Representative or the Owner may investigate, as they deem necessary, to determine the ability of the proposed Contractor to perform the work. The proposed Contractor shall furnish to the Owner with any information or data requested for this purpose.
- N. The Owner's Representative or the Owner reserves the right to reject any contract proposal if the evidence submitted, or their investigation, fails to indicate that the Contractor is qualified to fulfill of any part of the contract or to complete the work contemplated therein.
- O. The Owner's Representative or the Owner reserves the right to reject the proposal of any Contractor who is unqualified, has previously failed to perform properly, or complete on time, contracts of a similar nature.

PART 2 PRODUCTS**2.1 GENERAL**

- A. Provide a complete and satisfactorily operating 24 VDC, closed circuit, electrically supervised, analog addressable, intelligent reporting, microprocessor-controlled fire detection and alarm system as described herein, using materials and equipment of types, sizes, ratings, and performances as specified. Use materials and equipment that comply with referenced standards and manufacturers' standard design and construction, in accordance with published product information. Coordinate the features of all materials and equipment so they form a functional system, with components and interconnections matched for optimum performance of specified functions.
- B. The system shall meet all requirements for a protected premises and supervising station fire alarm system per NFPA 72.
- C. Refer to Fire Detection and Alarm System schedule on the drawings for part numbers and additional information.
- D. All equipment and components shall be installed in strict compliance with manufacturers' recommendations and the requirements of the components UL listing. Consult the manufacturer's installation manuals for all wiring diagrams, schematics, electrical requirements, cable types, and physical equipment sizes, etc., before beginning system installation. Refer to

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the manufacturers' riser/connection diagrams for all specific system installation/termination/wiring data.

- E. The control units, power supplies, batteries, sub-assemblies, software, firmware, cable, and all accessories provided shall be listed and labeled by Underwriters Laboratories, Inc. for commercial system use under the latest appropriate testing standard. Provide all equipment and components required to provide a complete and operating system.
- F. All date keeping hardware, firmware, and software provided shall be fully compliant with the calendar year designated in four-digit date format. Any time equations must function normally, leap year, and daylight savings time must be supported.
- G. The system and all components shall be tested and found suitable for the specified purpose as part of a protected premises protective signaling (fire alarm) system by a nationally recognized approvals agency acceptable to the local AHJ.
- H. All equipment and components shall be new and the manufacturer's current model. All like devices shall be of the same manufacturer and model number.
- I. All equipment and components shall be installed in strict compliance with manufacturers' recommendations and the requirements of the components UL listing.
- J. Equipment devices, make/model numbers, accessories, and comments have been shown on the contract drawings. Specific wiring between equipment has not been shown.
- K. The contractor shall be responsible for sizing, verifying and supplying proper power supply(s) necessary to operate the system and audible/visual signals.
- L. All equipment shall be attached to walls and ceiling/floor assemblies utilizing a structured cabling system and shall be held firmly in place (e.g., detectors shall not be supported solely by suspended ceilings). Fasteners and supports shall be adequate to support the required load.

2.2 ACCEPTABLE MANUFACTURER

- A. Descriptions and details, acceptable manufacturers' names listed, and specific manufacturer and model number items indicated in this specification shall establish a standard of quality, function, and design. Manufacturers and model numbers listed "no exceptions" shall not be substituted without specific notice in an addendum. Otherwise, where a specific manufacturer's product is indicated, products of other manufacturers listed as acceptable may be submitted for approval based on the substitute product being, in the opinion of the Owner's Representative, of equivalent or better quality than that of the product specified.
- B. Proposed contractors wishing to propose any product substitution must do so in writing to the specifying authority at least ten (10) days prior to the proposal opening.
- C. For manufacturers equipment or models other than that specified, the proposed contractor shall supply proof that such substitute equipment equals or exceeds the features, functions, performance, and quality of the specified equipment. Proposals must include detailed information showing all deviations from the system as specified.
- D. Substitute products for which the proposed contractor does not obtain prior approval will not be considered acceptable for this project. Final approval of alternate products shall be based on the decision of the Owner and Engineer. Prior approval to make a proposal for this project does not automatically ensure products will be an acceptable equivalent.

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- E. It is the responsibility of the Contractor to provide all features and functions as outlined in these specifications. The functions and features specified are vital to the operation of this facility; therefore, inclusion in the list of acceptable manufacturers does not release the contractor from strict compliance with the requirements of this specification.
- F. The manufacturers model numbers, functions, and features described in this specification section are those of Farenhyt by Honeywell, and this shall constitute the quality and performance of the equipment to be furnished, no exceptions.

2.3 FIRE ALARM CONTROL PANEL

- A. Type: Microprocessor based modular design, analog intelligent, addressable fire alarm control panel (FACP) with integrated in-building voice evacuation notification, as herein specified. Size the panel to allow space for the addition of sub-assemblies (contained within the panel housing) to provide coverage by addressable devices plus a 30% expansion of all devices at a future date. Each signaling line circuit (SLC) shall be limited to 80% of its total device capacity during the initial installation.
- B. Locate the fire alarm control panel as indicated on the electrical drawings. An area smoke detector shall be located at the fire alarm control panel.
- C. The following are required system components and functions:
 - 1. Provide a UL listed cabinet suitable for semi-flush mounting. The door shall include a transparent opening for viewing of all alarm, supervisory, and trouble indicators on an LCD display. When the door is opened all operator controls shall be accessible and all internal components shall be enclosed (i.e. dead front panel). All components shall be securely mounted, all cable shall be routed, and tie wrapped in a neat, professional manner. Conduit shall enter the fire alarm control panel only where conduit entry is specified by the FACP manufacturer.
 - 2. The microprocessor shall provide a real-time clock for time annotation of system displays, printer, and history file. The time-of-day and date shall not be lost if system primary and secondary power supplies fail. The real time clock may also be used to control non-fire functions at programmed time of day, day of week, and day of year.
 - 3. The fire alarm panel shall provide for a custom alphanumeric message location identifier to be associated with each addressable device hardware address. For any event or alarm, the alphanumeric display will show the devices hardware address and a custom message clearly identifying the location of the device involved.
 - 4. Fire alarm, supervisory alarm, trouble, and maintenance alert conditions, with device hardware address and custom message location identifier, shall be displayed on an 80-character minimum Liquid Crystal Display (LCD). The chronological event history of alarm and trouble conditions may also be displayed.
 - 5. Keypad for functions and programming, buttons for scrolling data on the LCD, front panel switches for RESET, ALARM SILENCE, TROUBLE SILENCE, and DRILL/ALL CALL and LEDs for Normal, Fire Alarm, Supervisory Alarm, Trouble, and Test/Program. When multiple devices are reporting alarm condition, there shall be a visual indication that other devices are in alarm.
 - 6. Power supply/charger and batteries to supply power limited 24 VDC operating and emergency power to the system. The charger shall be capable of maintaining batteries in a fully charged state without damage and of bringing batteries from a fully discharged to a fully charged state within 48 hours of normal operation. Provide audible alarm and diagnostic LEDs to indicate AC power failure, brown out, control unit CPU failure, low battery detection, battery disconnection, and system ground fault detection. Upon AC power failure, the power supply shall automatically transfer the system to battery backup. Provide sufficient battery capacity for operation without AC power for twenty-four hours of

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normal supervision and fifteen (15) minutes alarm operation at the end of this period; include a 20% safety factor in battery calculations to ensure adequate performance for the service life of batteries.

7. An integrated UL approved IP and digital communicator transmitter control unit with the option of adding a cellular module. The communicator shall report system status signals to a remote UL listed monitoring service with the option of multiple transmission protocols including Contact ID and SIA.
8. The FACP shall check for the presence of ground faults in field wiring and report results on the LCD readout, is it a violation of this specification for any ground fault detection system to be disabled.
9. A single ground or open on any system SLC, IDC, NAC, or fire safety control function circuit shall not cause a system malfunction or the loss of ability to report an alarm.
10. The FACP shall have 20% spare capacity on the power supply, the signaling line circuit and all input and output circuits at final acceptance to allow for future expansion by the Owner.
11. All field wiring shall be completely supervised. In the event of a primary power failure, disconnected standby battery, removal of any internal modules, or any open circuits in the field wiring; a trouble signal will be activated until the system and its associated field wiring are restored to normal condition. The FACP shall check for the presence of ground faults in field wiring and report results on the LCD readout, is it a violation of this specification for any ground fault detection system to be disabled.
12. Walk test, the Fire Alarm Control Panel shall permit testing by manually placing each initiating device in alarm. The control panel shall pulse the system audible devices on detection of each such alarm and automatically reset the panel, permitting a single technician to perform a function test of the entire system.
13. Provide a digital communicator for UL Central Station monitoring. The communicator paths and protocols for monitoring shall be per Owner's requirements and standards.

2.4 IP AND CELLULAR ALARM COMMUNICATORS

- A. The fire alarm control panel internal communicator allows for system status reporting to a UL Central Station as well as for local and remote up/downloading of system operating options, event history and detector sensitivity.
- B. Provide IP and/or cellular communication to a UL Central Station as required by the Owner. The Owner shall select the monitoring service, remote supervising station, or central station and be responsible for connections and monthly monitoring costs. For central station service, the installation shall be certificated or placarded by the selected central station.
- C. Communications to the Central Station shall transmit alarm, supervisory and trouble signals descriptively as defined in NFPA 72 and the AHJ, with the correct addressable device designation, identification, and location. Alarms shall not be permitted to be transmitted as a general alarm or zone condition.
- D. IP communication works over an Ethernet 10/100 Base network connection. All equipment used for the IP connection (such as a router, switch, etc.) must be powered from an unswitched branch circuit with UPS standby power.
- E. Cellular communication transmission shall be NFPA 72 compliant for sole, primary, and backup communicator and programmed to operate per UL864 requirements. The communicator shall be installed per manufacturer's written instructions and the carrier shall be determined by the greater signal strength at the location.

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- F. Provide remote antenna and cable when the signal strength requires boosting. Size the cable for optimal antenna placement.
- G. The fire alarm contractor shall provide all activation circuits and the communicator shall be ready for programming by the UL Central Station monitoring provider selected by the Owner. The fire alarm contractor shall coordinate with and provide all necessary information to the representative of the service provider selected by the Owner.
- H. Surge protectors for Ethernet network runs rated up to Category 6A and operating at up to 10-Gigabit data rates. Each module shall protect up all four pairs using hybrid design multi-stage SAD technology which shall automatically reset to protect against multiple surges.

2.5 NETWORK GRADE CABLING FOR DIGITAL COMMUNICATOR SERVICE

- A. Provide two parallel runs of Ethernet network grade cabling as required to support the digital communicator systems in this specification section. Category listing of the cable shall be by the Owner's and/or the Facility's current Network Standards. Extend from the drop location inside the digital communicator panel to the building Telco Demarcation Point/Main Distribution Frame location and terminate at each end in a surface mount block. Coordinate Telco or Data termination location with the owner prior to installation. Cable runs shall be tested to industry standards to verify performance.

2.6 FIRE ALARM REMOTE ANNUNCIATOR

- A. Provide as indicated on the drawings, a remote annunciator, flushed mounted.

2.7 FIRE ALARM FLOOR PLAN MAP

- A. Provide adjacent to the fire alarm control panel a plan view of all building areas covered by the fire alarm system meeting the following requirements:
 - 1. Framed and secured to the wall and plan covered with clear acrylic panel, SpaceAge Electronics Inc. model SSU52003 Display Frame or equivalent.
 - 2. Size plan to clearly show all required information.
 - 3. Orient building to place the entry nearest to control panel at the bottom of plan.
 - 4. "YOU ARE HERE" indicator with arrow.
 - 5. Logical alarm zones.
 - 6. Room names and numbers. (Verify with Owner)
 - 7. Show each initiating device with symbol and identification number programmed in the panel. Do not show audio/visual devices.
 - 8. Symbol legend.
 - 9. True north arrow.
 - 10. Scale indicator.

2.8 SYSTEM RECORD DOCUMENT CABINET

- A. Provide, in accordance with NFPA 72, an adequately sized record documentation cabinet located at the system control unit or at an on-premises location approved by the AHJ and identified at the system control unit. Printed and/or electronic documentation shall include an owner's manual, published instructions, a design narrative and layout, record drawings, site specific software, passwords, and a record of installed software and firmware version numbers. The record documentation cabinet shall be 18-gauge minimum cold rolled steel with a red powder coat finish, a stainless steel-piano hinge, and keyed door lock. The cover shall be permanently screened with 1" high lettering stating "SYSTEM RECORD DOCUMENTS" in white letters. The interior shall accommodate as required standard 8.5" x 11" manuals and loose document

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records, a permanently mounted digital flash drive with USB-B connector, a business card holder, and key ring hooks.

2.9 POWER SUPPLY PANELS

- A. Provide additional power supplies for notification appliance circuits and devices or as a remote power supply.
- B. The primary locations shall be in IDF/MDF rooms, electrical rooms, wiring closets, custodial closets, or storage rooms. An area smoke detector shall be located at each fire alarm power supply location.
- C. An area smoke detector shall be located at the power supply panel locations.
- D. Each power supply shall individually report a trouble condition including battery charging failure, battery failure, NAC loss, AC power loss (delay acceptable), power brownout, or ground fault detection.
- E. A trouble condition on a power supply shall not interfere with normal operation the rest of the system.
- F. In the event of a trouble condition, each power supply shall provide location annotated individual point supervisory incident reporting to the main fire alarm control panel. This may be accomplished using one addressable module per power supply or via power supplies with multiplexed system bus communication or an integrated addressable interface.
- G. Provide sufficient battery capacity for operation without AC power for twenty-four (24) hours of normal supervision and fifteen (15) minutes of alarm operation at the end of this period; include a 20% safety factor in battery calculations to ensure adequate performance for the service life of batteries.
- H. Each power supply shall be labeled in a visible area with its device hardware address utilizing self-laminating, flexible vinyl film, non-smear, machine printed labels.
- I. Conduit shall enter the power supply backbox only where conduit entry is specified by the manufacturer.

2.10 VOICE EVACUATION SPEAKER AMPLIFIERS

- A. Provide additional amplifiers for notification appliance circuits and speakers.
- B. An area smoke detector shall be located at remote speaker amplifier locations.
- C. Each speaker amplifier shall individually report a trouble condition including battery charging failure, battery failure, NAC loss, AC power loss (delay acceptable), power brownout, or ground fault detection.
- D. A trouble condition on an external power supply shall not interfere with normal operation of the remainder of the system.
- E. In the event of a trouble condition, each speaker amplifier shall provide location annotated individual point supervisory incident reporting to the main fire alarm control panel. This may be accomplished using one addressable module per amplifier or via amplifier with multiplexed system bus communication or an integrated addressable interface.
- F. Provide sufficient battery capacity for operation without AC power for twenty-four (24) hours of normal supervision and fifteen (15) minutes alarm operation at the end of this period; include a

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20% safety factor in battery calculations to ensure adequate performance for the service life of batteries.

- G. Each speaker amplifier shall be labeled in a visible area with its device hardware address utilizing self-laminating, flexible vinyl film, non-smear, machine printed labels.
- H. Conduit shall enter the amplifier backbox only where conduit entry is specified by the manufacturer.

2.11 EMERGENCY ALARM OCCUPANT NOTIFICATION APPLIANCES

- A. Provide as indicated below and as required per NFPA, federal, state and local code and ADA standards, notification appliances that alert the building occupants to an emergency.
- B. Refer to the Fire Detection and Alarm System schedule on the drawings for part numbers and additional information.
- C. NFPA 72 prescribes the use of both ceiling and wall mounted audible/visual notification appliances. Provide notification appliances per the drawings.
- D. Notification appliance circuits serving employee work areas shall be initially installed with a minimum of 20% spare capacity for visible notification appliances to facilitate future additional device installation to accommodate hearing-impaired employees.
- E. Audible signals shall be designed to provide at least 15 dB above ambient sound levels measured at 5 feet above the floor in the occupied area. Sound levels shall not exceed 110 dbA at the minimum hearing distance from the audible appliance.
- F. Strobe intensity (candela output) and audible decibel level shall be sized for the room size and area of coverage per ADA and NFPA/ANSI and local codes and standards.
- G. All interior strobe flashing shall be synchronized. Provide synchronization control such that all strobe circuits are synchronous, for all notification appliance circuits. Note that signal appliances that can synchronize on a single circuit, but not across all circuits are not acceptable.
- H. Signal housings and grilles shall be imprinted 'FIRE' and the strobe lens shall be clear.
- I. Each strobe/horn shall include IN and OUT wiring terminals, each designed to accept two #12 to #18 AWG wires at each terminal, with standard reverse polarity DC NAC circuit supervision.
- J. Each speaker shall include audio IN and OUT wiring terminals, each designed to accept two #12 to #18 AWG wires at each terminal and a 10 uF, or as required, blocking capacitor for compatibility with standard reverse polarity DC voice NAC circuit supervision.
- K. Provide where indicated on plans or as required protective polycarbonate or wire Device Guards. Minimum of 1/8" thick clear polycarbonate or 10-gauge welded steel wire constriction with a corrosion resistant finish.
- L. Waterflow notification appliance shall be wall mounted above the fire department connection (Siamese Port) and shall be non-silenceable while water is flowing through the fire sprinkler system. Flush mount exterior devices when possible. For surface mount applications provide manufacturer furnished backbox.
- M. For waterflow notification appliance provide a weatherproof sign approximately 12" wide x 6" high, white with red letters reading, "WATERFLOW FIRE ALARM SIGNAL". Configure fire alarm system to activate this strobe signal on waterflow alarm only and be non-silenceable while the

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sprinkler system is active (water flowing). Center signal and sign directly over Fire Department Connection (Siamese Port).

2.12 MANUAL PULL STATIONS

- A. Provide manual fire alarm pull stations as shown on the drawings.
- B. Manual stations shall be double action and provide a visible indication they have been operated. Manual stations shall require a key to be returned to normal condition, key alike to FACP. It is the responsibility of the Fire Alarm Contractor to ensure that the pull stations provided allow key reset with the station protector frame/spacer in place.
- C. Provide a tamper-proof clear Lexan shield with horn station protector over each pull station. For potentially wet areas, provide the cover with weather gasket.
- D. Each manual station shall be labeled in a visible area with its device hardware address utilizing self-laminating, flexible vinyl film, non-smear, machine printed labels.

2.13 SMOKE DETECTORS

- A. Analog spot type photoelectric smoke detectors shall be low profile, analog addressable, and UL listed. The photoelectric smoke detector shall use one address on the SLC,
- B. Except for temporary testing, smoke detectors shall not be installed until the building is ready for occupancy and cleaned as dust free as possible.

2.14 CARBON MONOXIDE DETECTORS

- A. Provide as indicated on plans analog spot type intelligent carbon monoxide detectors with sounder base. Provide 24VDC resettable power for the sounder bases.
- B. The CO detector shall be ANSI/UL 2075 Third Edition Listed and installed in accordance with IBC/IFC Section 915 and NFPA 720 requirements.
- C. Each carbon monoxide detector shall be attached to a SLC and set to a distinct address and internal identification code, which the control panel shall use to identify the location, status, and type of device.
- D. The detectors shall provide dual alarm and power/status LEDs. Status LEDs shall flash under normal conditions, indicating that the detector is operational and in regular communication with the control panel.
- E. The CO sounder base shall share the address of the addressable CO detector and shall function as a single station local audible alert only when CO is detected. The audible CO alert signal shall be a Code-4/TC4 (temporal-four) audible pattern as designated by the NFPA for CO warning.
- F. Each sounder base requires 24VDC resettable power and shall be resettable from the FACP.
- G. The detector shall also provide a maintenance alert feature whereby the detector shall initiate a trouble condition should the units' sensitivity approach the outside limits of the normal sensitivity window.
- H. Except for temporary testing, detectors shall not be installed until the building is ready for occupancy and cleaned as dust free as possible.
- I. Each detector head shall be labeled in a visible area with its device hardware address utilizing self-laminating, flexible vinyl film, non-smear, machine printed labels.

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- A. CO Alarm units shall be listed and rated for commercial occupancies and be connected to an alarm control panel (system-connected). CO Alarm units shall be UL Listed and installed in accordance with IBC/IFC and NFPA requirements.
- B. CO Alarm units shall be installed as Single-Station Carbon Monoxide Alarms (non-tandem operation) and they shall be zoned on a Class A (Style D) four-wire IDC circuit (six-wire interface (4+2) total between CO Alarm Units including power circuit).
- C. Each zone of CO Alarm units shall be supervised for Alarm and Trouble conditions through interconnection with an addressable monitor module, which in turn is supervised through an SLC loop on the main control panel. Each CO Alarm unit shall be operate as a stand-alone detection and notification subsystem and the function of each shall not be impaired by any alarm or trouble condition on the other CO Alarm units in the same zone.
- D. All system connected CO Alarm units function as a single system providing zone notification at the control panel for reporting of CO Alarm or CO Trouble conditions. CO Trouble includes integral supervision for loss of power.
- E. If a dangerous level of Carbon Monoxide gas is detected by a CO Alarm unit, the red LED alarm light will come on and stay on, the temporal-four pattern audible alarm will sound, and the Alarm relay will be activated. The CO Alarm unit will automatically reset when CO is no longer detected. If the test/hush button is pushed during an alarm, it will silence the integral sounder for five minutes, the red LED alarm light will stay on, and if CO is still present after five minutes, the detector will once again sound the audible alarm.
- F. If there is a problem identified within a CO Alarm unit, on loss of power, or if the end of unit life indicator expires, the Trouble relay will be activated, in addition to the various LED blink rates will indicate the exact trouble.
- G. The status of each zone of CO Alarm units shall be descriptively annunciated at the main control panel by zone and shall be distinct from fire alarm status conditions. CO Alarm signals must take precedence over a CO Trouble signals. CO zone status signals shall be indicated visually (alphanumeric display description and/or indicator lights) and audibly (sounder) at the control panel, and at a constantly attended location in the building, and distinctly transmitted to the supervising station. In addition to each CO Alarm unit shall include a test/hush button, multicolored LED status indicator, and a built-in 85 dB Code-4/TC4 (temporal-four pattern) audible alarm.
- H. Each zone of CO Alarm units, as indicated on the plans, shall be a complete functional interconnected system of devices that includes supervised interface circuits to the main control panel. These circuits shall be arranged to monitor and annunciate the status of the CO Alarms and to initiate the appropriate response to those conditions. The power circuit shall be monitored via the CO Trouble relay when it indicates loss of power. The power source must be a regulated, filtered, power-limited, non-resettable, output from a system main or auxiliary control unit, providing 24 VAC operating power with primary (AC Main) and secondary (Battery Backup) capacity sufficient for operation without AC power for twenty-four hours of normal supervision and two hours of emergency operation at the end of this period.
- I. Each CO Alarm unit shall be labeled in a visible area with its device zone identification utilizing self-laminating, flexible vinyl film, non-smear, machine printed labels.
- J. Provide one (1) per zone - Addressable Monitor Module to supervise an IDC zone interface for 4-wire type conventional initiating devices. IDC to be a Class A redundant circuit.

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- K. Provide IDC four-conductor wiring, shall be NEC type FPLP Plenum rated, 16 AWG or 14 AWG, solid four conductor signaling cable.
- L. Provide power circuit two-conductor wiring, shall be NEC type FPLP Plenum rated, 16 AWG or 14 AWG, solid two conductor signaling cable.

2.16 HEAT (THERMAL) DETECTORS

- A. Analog spot type heat detectors shall be provided as shown on the drawings. Rate-of-rise heat detector element shall operate when the rate of temperature rise exceeds 15° Fahrenheit per minute.
- B. Analog fixed temperature heat detector shall be rated at 135° Fahrenheit for areas where ambient temperatures do not exceed 100° Fahrenheit.
- C. In areas where the ambient temperature does not exceed 150° Fahrenheit the analog fixed temperature heat detector shall be rated at 190° Fahrenheit.
- D. Each detector head shall be labeled in a visible area with its device hardware address utilizing self-laminating, flexible vinyl film, non-smear, machine printed labels.
- E. Heat detectors shall be provided where smoke detector coverage is prescribed by this specification, but ambient conditions prohibit installation due to the likelihood of nuisance alarms, such as:
 - 1. Very dusty or dirty areas, wood/metal shops.
 - 2. Damp or very humid areas, next to showers.
 - 3. Near furnaces, hot water heaters, or gas space heaters.
 - 4. Near large fresh air inlets, air returns, or excessively drafty areas.
 - 5. Insect-infested areas.
 - 6. Garages or cart parking areas.
 - 7. Outdoor elevator lobbies.
 - 8. Unheated buildings or outdoor rooms subject to extreme temperature changes.

2.17 ISOLATOR MODULE

- A. Isolator modules protect the SLC circuit and inactivate sections of an SLC circuit that become inoperable, protecting the remaining sections. Isolator modules shall be placed between every 25 or less addressable devices.

2.18 MONITOR MODULE

- A. Addressable Monitor Modules shall be provided where an interface is required to supervise wiring and monitor contact alarm devices. The alarm circuit shall be supervised with an end-of-line device.
- B. Monitor Module to supervise an IDC zone interface for compatible 2 or 4-wire circuit powered 24 volt normally open conventional smoke or heat detectors.
- C. Mini-monitor modules concealed in an electrical box with a blank cover are not acceptable.
- D. Each monitor module shall be labeled in a visible area with its device hardware address utilizing self-laminating, flexible vinyl film, non-smear, machine printed labels.

2.19 CONTROL MODULE

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- A. Addressable Control Modules shall be provided where a NAC control interface for fire alarm signal functions are required. Control modules shall require an auxiliary power input with the NAC circuit being supervised with an end-of-line device.
- B. Each control module shall be labeled in a visible area with its device hardware address utilizing self-laminating, flexible vinyl film, non-smear, machine printed labels.

2.20 CONTROL RELAY

- A. Addressable Control Relays shall be provided where required to provide a control interface for fire alarm system functions such as damper, auxiliary handler, fire doors and curtains, etc. with loads less than 0.5 amps.
- B. Addressable Control Relays shall be located within three feet of the controlled device or unit and the relay output (load) wiring shall be configured a fail-safe Fire Safety Control Function circuit.
- C. Each Fire Safety Control Function circuit-controlled device shall be configured such that when the fire alarm system safety control function circuit is re-energized, by the fire alarm control panel, the device shall return to normal operation (e.g. re-start or be ready to re-start) without a need for manual or environmental control system intervention.
- D. Addressable Control Relays shall be used to directly control only pilot duty loads, those not exceeding 0.5 amps, up to 120 volts, and without transient voltage spikes. For all applications exceeding these parameters also provide with an Auxiliary Relay to handle the load.
- E. Each control relay shall be labeled in a visible area with its device hardware address utilizing self-laminating, flexible vinyl film, non-smear, machine printed labels.

2.21 AUXILIARY RELAY

- A. Provide a hardwired Auxiliary Relay paired with the addressable Control Relay for all fire safety control function applications in which the load exceeds 0.5 amps, 120 volts, or with high transient voltage spikes.
- B. Each relay shall be mounted in a surface mount red metal enclosure with conduit knockouts. Relays shall be UL recognized and rated for ten million mechanical operations.
- C. Auxiliary relays shall be labeled in a visible area with its device function utilizing self-laminating, flexible vinyl film, non-smear, machine printed labels.
- D. Single pole standard duty Auxiliary Relays shall be operated by a multi-voltage coil (24 VDC, 24 VAC, 120 VAC, or 230 VAC), feature SPDT dry Form C contacts rated 10 Amps @ 120 VAC, and a status LED to indicate that the relay is energized. House in a red enclosure.
- E. Double pole standard duty Auxiliary Relays shall be operated by a multi-voltage coil (24 VDC, 24 VAC, 120 VAC, or 230 VAC), feature DPDT dry Form C contacts rated 10 Amps @ 120 VAC, and a status LED to indicate that the relay is energized. House in a red enclosure.
- F. Double pole heavy duty Auxiliary Relays shall be operated by a 24 VDC or a 120 VAC coil and feature DPDT dry Form C contacts rated at 30A @ 240VAC; 20A @ 277VAC; 2HP @ 240VAC / 1.5HP @ 120VAC. House in a red enclosure.

2.22 DUCT MOUNTED SMOKE DETECTORS

- A. Refer to mechanical system drawings and schedules and site visit observation for air handler sizes to determine the locations and quantities of addressable duct smoke detectors and

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addressable modules required to monitor and/or control HVAC units, dampers, smoke control systems, etc.

- B. It shall be the sole responsibility of the fire alarm system contractor to furnish and install all of the fire alarm system devices that are required by the code and the AHJ for the mechanical systems.
- C. Provide the duct smoke detector housing with included photoelectric detector head and relay. Provide with sample tube length 2.5', 5', 10' according to duct width. The duct smoke detector shall have a remote indicator visible from the finished floor.
- D. Duct mounted smoke detector housings and sample tubes shall be furnished by the Fire Alarm Contractor and mounted by the Mechanical Contractor. Coordinate with the mechanical contractor.
- E. When smoke is detected by a duct mounted smoke detector it shall activate a supervisory fire alarm condition at the fire alarm control panel unless an alarm condition is required by the AHJ.
- F. Install duct smoke detector in the supply or return duct of units supplying greater than 2000 cfm per local AHJ requirements. Install duct smoke detectors in the supply and return duct of units supplying greater than 15,000 cfm.
- G. Each HVAC unit for which a duct mounted smoke detector is installed shall also have a blower shutdown relay.
- H. The activation of any duct mounted smoke detector shall actuate all related fire safety control functions: air handler shut down relays, smoke fire damper motors, fire door release devices, et cetera.
- I. Each duct mounted detector housing shall be labeled in a visible area with its device hardware address utilizing self-laminating, flexible vinyl film, non-smear, machine printed labels.
- J. Each detector shall be provided with a remote power/status LED and remote testing function. The remote LED indicator shall be located in the nearest corridor ceiling unless otherwise directed.
- K. The status LED shall flash under normal conditions, indicating that the detector is operational and in regular communication with the control panel. The LED shall be placed into steady illumination when a supervisory fire alarm condition has been detected.
- L. Each remote LED faceplate shall have a self-laminating, flexible vinyl film, non-smear, machine printed label indicating the HVAC unit number, type, and device identification number as programmed in panel.

2.23 HVAC UNIT BLOWER SHUT-DOWN AND SMOKE DAMPER OR FIRE/SMOKE DAMPER OPERATION

- A. Refer to the mechanical system drawings, schedules and site visit observation to determine the locations and quantities of addressable modules required to control HVAC blowers, dampers, smoke control systems, etc.
- B. It shall be the sole responsibility of the fire alarm system contractor to furnish and install all of the fire alarm system devices that are required by the code and the AHJ for the mechanical systems.

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- C. The contractor providing the device shall wire it internally for fail-safe shut-down and provide a labeled 3' coil of cable outside the unit to allow the fire alarm contractor to make final connection to the dry contacts on the controlling relay.
- D. Provide an addressable control relay to control air handler shutdown of each unit without smoke dampers or fire/smoke dampers located in that unit's duct system as indicated on the project mechanical plans.
- E. Provide an addressable control relay, a double pole auxiliary relay, and a line voltage 120 VAC, fire safety control function circuit to control air handler shutdown of each unit with smoke dampers or fire/smoke dampers located in that unit's duct system as indicated on the project mechanical plans.
- F. Units with at least one supply grille serving a major path of egress (corridors, open concept classroom groups) shall have a shut-down control relay, even if unit is less than 2,000 CFM capacity. The shut-down will be activated on general alarm, which shall include any alarm from the smoke detectors in the corridor.
- G. Duct detector supervisory alarm condition shutdown function shall be limited to a single unit or group of units as required. A shutdown of all the facility's units on a single duct detector supervisory alarm shall be prohibited.

2.24 AUTOMATIC FIRE SUPPRESSION SYSTEMS

- A. All automatic fire suppression systems shall be monitored by the fire alarm system. The activation of any automatic fire suppression system shall produce an alarm condition. Refer to the drawings and site visit observation to determine quantities and locations of the kitchen hood suppression system controls.
- B. The kitchen ventilation hood suppression system shall provide contacts to monitor activation of system, coordinate with existing conditions and the Food Service Equipment Contractor. Provide monitor modules as required for alarm functions

2.25 BUILDING LIGHTING CONTROL SYSTEM

- A. Provide a fire alarm addressable control relay, located at the FACP, configured to activate on general alarm building illumination per NFPA 101 Section 7.8 Illumination of Means of Egress. The lighting control system contractor shall provide all associated hardware and wiring from this single fire alarm output to the lighting control system.

2.26 SOUND SYSTEM AND THEATER LIGHTING CONTROLS

- A. When required, provide a fire alarm addressable control relay, located at the sound system or public address head-end equipment location, to activate on a fire alarm, that shall override stage, theater, gymnasium sound and lighting equipment. Configure one set of contacts to provide a dry contact input to the sound system to shut down the sound for fire alarm instructions to be heard, and the second set of contacts to provide a dry contact input to override the theatrical and/or arena lighting and to turn on or turn up the house lighting to normal levels for safe occupant evacuation. The fire alarm contractor shall furnish and install the cable from the control relay to the theatrical and/or public address equipment system with a ten (10) foot service loop for final connections by the lighting/sound contractor to their equipment. The fire alarm system contractor shall coordinate with the lighting/sound contractor on dry contact form to provide, normally open or normally closed, for each input.

2.27 ELECTROMAGNETIC DOOR HOLD OPEN AND RELEASE

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- A. Refer to the Architectural drawings, door and door hardware schedules and site visit observation to determine the locations and quantities of electromagnetic door hold open devices required.
- B. Provide required devices and connections for door hold open devices integrated into door systems when supplied.
- C. The fire alarm contractor shall verify voltages, exact style, and quantity required with architectural plans and door schedules.
- D. Secure hardware to door drilled through with "Chicago Bolts" (barrel nut/mating screw with a low-profile head on each side to prevent pull out.
- E. Provide adequate blocking in wall for the magnet installation. The backbox and magnet installation shall withstand the force of the door being separated from the magnet while energized.
- F. Operating power shall be 24VDC and power shall be from a fire alarm power supply panel. Program an output circuit on the fire alarm power supply panel as a "door holder power" circuit.
- G. A "door holder power" circuit shall provide a constant 24VDC to the electromagnetic door hold open devices in a system "normal" state. On any alarm the "door holder power" circuit shall discontinue power to the electromagnetic door hold open devices allowing the doors to close. The 24VDC will be restored to the circuit on a fire alarm system reset.
- H. When AC power to the fire alarm power supply panel is off for more than 15 seconds the "door holder power" will be discontinued to conserve the battery backup power.

2.28 SPRINKLER RISER WATERFLOW AND TAMPER SWITCHES

- A. Refer to fire protection drawings, specifications and site visit observation to determine quantities of fire sprinkler devices that requiring monitoring and supervision. It shall be the sole responsibility of the fire alarm system contractor to furnish and install all fire alarm system devices required by the code and the AHJ to monitor and supervise the fire protection systems.
- B. Waterflow switches shall be provided and installed by the sprinkler system contractor. Provide an addressable monitor module for each sprinkler waterflow switch on a riser zone. The monitor module shall be programmed for a fire alarm condition.
- C. Sprinkler and standpipe valve supervisory switches shall be provided and installed by the sprinkler system contractor. Provide an addressable monitor module for each sprinkler system water supply control valve riser or zone control valve, and each standpipe system riser control valve shall be equipped with a supervisory switch device with a normally open dry contact for supervision by the fire alarm system. The addressable monitor module shall be programmed for a supervisory condition.
- D. Each Post Indicator Valve (PIV) or main gate valve shall be equipped with a supervisory switch and shall be provided and installed by the sprinkler system contractor. Provide an addressable monitor module for each PIV or gate valve. The addressable monitor module shall be programmed for a supervisory condition.
- E. When applicable, provide dry contact input fire alarm system monitor modules for individual additional sprinkler system alarm and supervisory conditions such as fire pump controller, pre-action sprinkler riser and dry pipe system air pressure status supervision.
- F. All wiring, monitor modules, end of line devices, and connection to the fire alarm system shall be by the fire alarm contractor.

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- G. All sprinkler system alarm and supervisory conditions shall be annunciated at the panel and transmitted to the monitoring service by the digital communicator.
- H. Valve tamper switches and other supervisory devices as required shall initiate a supervisory condition and may be grouped up to twenty devices per IDC when acceptable to the AHJ. Grouping shall be limited to risers within the same room by this specification. Coordinate with Section 21 13 14.

2.29 FIRE PUMP MONITORING

- A. Provide fire alarm system monitor modules as required connected to fire pump controller contacts to monitor all applicable service power and running conditions including controller common trouble, low city water pressure for booster fire pumps, and all fire pump related additional waterflow alarm switches and valve tamper supervisory switches.
- B. In the fire pump room or house, provide supervisory monitoring for any low temperature indicator.
- C. For a water reservoir or tank, provide supervisory monitoring for low water level and any low temperature indicator.
- D. For electric-motor-driven fire pumps per NFPA 20, provide for remote monitoring as separate signals of Pump Motor Running Alarms and supervisory conditions including Loss of Phase, Phase Reversal, and the transfer of the fire pump motor to an alternate power source when so equipped.

2.30 ELEVATOR RECALL FOR FIRE FIGHTER'S SERVICE

- A. Elevator recall functions are to be activated by the presence of smoke only in the elevator lobby, elevator hoistway, elevator machine room, elevator control room, and elevator control space. This shall be accomplished by smoke detectors at the locations mentioned and control relays or circuits to activate the elevator recall functions. The fire alarm system shall be programmed or circuited to activate the appropriate control circuit when smoke is detected at these specific locations only. The functions shall be elevator control circuit (designated level recall), elevator control circuit (alternate level recall), and elevator warning signal (warning that the elevator is not safe to use). Refer to NFPA 72 Section 21.3.13 and ASME A17.1 Section 2.27 (Electric Elevators) or 3.27 (Hydraulic Elevators) for control sequence. Smoke Detectors shall be installed in each elevator lobby. Smoke detectors shall be located at the top of the elevator hoistway when sprinklers are located above the lowest level of recall. Where sprinklers are located in the bottom of the hoistway, a smoke detector listed for the environment shall be installed within the pit. Smoke detectors shall be located in the elevator machine room if the machine room contains a fire sprinkler head. Elevator equipment room smoke detectors and any smoke detectors in an elevator shaft that contains a fire sprinkler head, shall be programmed at the fire alarm panel to alert fire fighters when elevators are not safe to use. Provide control relays programmed for each recall function at the elevator controls.

2.31 ELEVATOR SHUTDOWN

- A. When an elevator shaft or equipment room contains a fire sprinkler head, a shunt-trip breaker shall be provided on the elevator main power line circuit. The shunt-trip shall be activated by heat detectors prior to the application of water and the means shall not be self-resetting. The activation of sprinklers outside of the hoistway or equipment room shall not disconnect the main line power supply. Refer to NFPA 72 Section 21.4 and ASME A17.1 Section 2.8 (2.8.2.3.2) for control requirements. Means shall be provided to automatically disconnect the main power supply line to the affected elevator upon or prior to the application of water from sprinklers located in the machine room or in the hoistway more than 24 inches above the pit floor.

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- B. The heat detectors provided shall feature both a lower temperature rating and a higher sensitivity than the sprinkler heads located these areas. Coordinate with the sprinkler system contractor. A heat detector shall be located within two feet of each sprinkler head in the elevator equipment room and hoistway.
- C. Provide fixed temperature heat detectors, they may be either addressable type attached to a SLC or point contact type devices on a dedicated two-wire IDC zone wired Class B with electrical supervision and end of line device. Provide a control relay to activate the shunt-trip breaker control circuit only when these particular heat detectors detect an alarm condition.
- D. Provide a monitor module for the Fire Alarm Voltage Monitoring Relay of the power disconnection interface (to monitor shunt trip voltage). Main line power disconnection shunt trip breaker operating power shall be monitored for the presence of operating voltage, per NFPA 72 - 2016 Section 24.4.4, and initiate a supervisory condition on detection of power loss.
- E. Local Authorities Having Jurisdiction may have amended code requirements for elevator systems in their jurisdiction. Reference local amended code requirements and provide elevator fire alarm controls per the local AHJ requirements.

2.32 CABLE AND CIRCUIT TYPES

- A. General: All low voltage fire alarm circuits shall be power limited, electrically or electronically supervised, and of the correct cable type and gauge. Low voltage fire alarm cables of various types are to be permitted within the same raceway or conduit. Cable must be separated from any open conductors of power, or Class 1 circuits, and shall not be placed in any conduit, junction box, or raceway containing these conductors, as per NEC Article 760. T-taps in any electrically supervised circuit are prohibited by this specification. All junction boxes and conduit ends shall be marked red for all low voltage fire alarm circuits.
- B. The fire alarm contractor shall provide and install new and unused ASTM bare solid or stranded copper conductor cable per ANSI/NEMA, NEC and NFPA codes. Follow the manufacturer's instructions. All cable shall be UL listed for fire protective, power limited applications. All cable exposed in plenum attic spaces shall comply with UL 910, UL 1424, and UL 1581 vertical tray flame test.
- C. Cabling shall be in accordance with local, state, and national codes (e.g., NEC Article 760) and as recommended by the manufacturer of the fire alarm system. Number and size of conductors shall be as recommended by the fire alarm system manufacturer, but not less than 18 AWG (1.02 mm) for initiating device circuits and signaling line circuits, and 14 AWG (1.63 mm) for notification appliance circuits.
- D. Cable not installed in conduit shall have a fire resistance rating suitable for the installation as indicated in NFPA 70 (e.g., FPLP, CIC). All fire alarm system circuits shall be NEC type FPLP as required.
- E. All fire alarm systems shall be installed in such a manner that the failure of any single alarm-actuating or alarm-indicating device will not interfere with the normal operation of any other such devices. All circuit types shall comply with NFPA 72 Chapter 12.
 - 1. Signaling Line Circuit (SLC): Use shielded, or unshielded cabling as recommended by the FACP manufacturer. When recommended, shielded cable should be utilized to minimize electrical noise interference with data transmission. Shield drain wire to be grounded at one end only. SLC circuits shall be installed in a Class A redundant path configuration. Class A separation of outgoing and return cable routing shall be observed per NFPA 72, Chapter 12.

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2. Between Building Signaling Line Circuit (SLC) or Network Node Circuits: Cabling between buildings shall be enclosed in conduit, including underground and over canopy installations. Cable installed in conduit between buildings shall be rated for direct burial.
3. Voice Evacuation Notification Appliance Circuits (Voice NAC): Speaker circuits may be 25 or 70 VRMS to be determined by the contractor. Shielded cable shall be utilized to minimize electrical noise interference with voice transmission. These circuits shall be wired Class B with electrical supervision and end-of-line devices.
4. Audio/Visual and Visual Notification Appliance Circuit (NAC): These circuits shall be wired Class B with electrical supervision and end-of-line devices.
5. Initiating Device Circuits (IDC): Initiating device circuits shall be arranged to serve like categories (beam detectors, heat detectors, tamper switches). Mixed category circuitry shall not be permitted in a single IDC. A two-wire IDC shall contain only devices that require point-contact to operate. A four-wire IDC shall include an additional supervised circuit to supply 24 VDC operating power to devices that require it. These circuits shall be wired Class B with electrical supervision and end-of-line devices for circuits less than ten (10) feet in length, otherwise, the circuit shall be Class A redundant path. Class A separation of outgoing and return cable routing shall be observed per NFPA 72, Chapter 12.
6. Low voltage, 24 VDC, device power circuits provide power to fire alarm system devices that are not powered by the SLC or the IDC circuit. These circuits have backup power and are supervised by an end of line relay and monitor module combination. These types of circuits are required to remotely power devices such as detector sounder bases, stand-alone CO detectors, etc.
7. Low voltage, 24 VDC, fire safety control function circuits shall in all cases feature Class D "fail safe" operation and shall not have power backup. These circuits shall be controlled by a fire alarm system activated addressable control relay located within three (3) feet of the device controlled and on activation, or loss of power, the connected device shall actuate to its fire safety condition (i.e. HVAC blower control circuits shall open).
8. Line voltage, 120 VAC, fire safety control function circuits shall in all cases feature Class D "fail safe" operation and shall not have power backup. These circuits shall be controlled by a fire alarm system activated addressable control relay and auxiliary relay pair located within three (3) feet of the device controlled and on activation, or loss of power, the connected devices shall actuate to their fire safety condition (i.e. fire door holders shall release, smoke dampers and fire/smoke dampers shall close). Line voltage fire safety control function circuits shall be wired by the Electrical Contractor and shall be standard non-supervised line voltage circuits in conduit, utilizing the type of conductors specified in Division 26 for light and power circuits.

2.33 CEILING MOUNTED DEVICE BOX HANGERS

- A. All ceiling mounted devices including smoke detectors, heat detectors, remote power/status LEDs, ceiling mounted strobes and horn/strobes, et cetera, when mounted in a drop ceiling shall be supported by an electrical box hanger (Caddy #512 or #512A for deep boxes - 24" span), or equivalent. Box hangers shall be attached to the ceiling grid only for lateral stabilization, separate support wires shall be provided. The required support wires for the ceiling grid or light fixtures shall not be utilized. The backbox shall be flush and level with the bottom of the ceiling tile and the hole neatly cut for a finished appearance when the device is installed.
- B. Device and box hanger assemblies shall not be supported solely by suspended ceilings. Fasteners and supports shall be adequate to support the required load.

2.34 SURGE PROTECTION

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- A. Each incoming 120VAC power circuit shall be provided with an electrical surge protection module. Provide one for each fire alarm control unit, this shall include every fire alarm control panel, digital communicator, signal power expander and any other 120VAC powered fire alarm control units. Each power circuit surge protector module shall be Ditek DTK-120SRD or equivalent.
- B. Surge protection shall be provided for all exterior devices, communications service or antenna entrance connections, and for each circuit that connects one building to another (i.e. any other portion of a building complex not under one continuous roof) at both entry/exit points to prevent damage to equipment. Each surge protector shall be UL listed and mounted in a standard grounded metallic electric box or equipment backboard with a separate ground wire ran directly to the ground bus bar or equipment panel ground stud, do not daisy chain ground wires.

PART 3 EXECUTION**3.1 INSTALLATION**

- A. Cooperation with trades of adjacent, related or affected materials or operations, and or trades performing continuations of this work under subsequent contracts are considered a part of this work. In order to effect timely and accurate placing of work and to bring together, in the proper and correct sequence, the work of such trades, including work provided under a Division 1 allowance.
- B. The Electronic Safety and Security Contractor shall coordinate installation of the electronic safety and security systems with the Builder, Electrical, Mechanical, and Plumbing Contractors to insure a complete working system for the Owner.
- C. Where required for accessibility all conduit and boxes shall be provided by the Electrical Contractor as specified, including systems in Division 28, any and all allowances shall be included. Normally low voltage wiring shall run open and supported in accessible attic space. All low voltage wiring in exposed areas such as gyms, stages, shops, and field houses shall be enclosed in conduit. Coordinate with, and verify with Division 26 to provide required conduit and boxes at locations and heights as required.
- D. Conduit, innerduct, track, or raceway shall conceal and protect wiring in exposed areas, within walls, through in- accessible areas, floors, chases, under slab, crawlspace, or underground.
- E. All conduit, duct, track, and raceway runs shall be spaced apart to allow for maintenance, such as the installation of couplings, without disturbing adjacent pathways.
- F. All work must be performed by workers skilled in their trade. The installation must be complete whether the work is concealed or exposed.
- G. Coordinate the actual locations of devices and outlets and equipment with building features and mechanical equipment as indicated on architectural, structural, and mechanical drawings. Review with the Engineer any proposed changes in outlet or equipment location. Relocation of devices, before installation, of up to 3 feet from the position indicated, may be directed without additional cost. Remove and relocate outlets placed in an unsuitable location when so requested by the Engineer.

3.2 CABLE ROUTING, INSTALLATION

- A. The system cable, support and raceway installation shall be in accordance with good engineering practices and as established by the NFPA, and NEC. Wiring shall meet all state and local electrical code requirements.

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- B. All cable shall have a label on both ends utilizing self-laminating, flexible vinyl film, non-smear, machine printed labels.
- C. Fire alarm cables shall be run in bundles above accessible ceilings and supported from building structure building structure by j-hooks, conduit or cable tray.
- D. Cable bundles shall be routed through corridors and hallways. Devices located in rooms and spaces off of corridors and hallways shall be connected to the corridor cable bundle by an in and out configuration into the room and back out into the corridor.
- E. No terminations or splices shall be installed in or above ceilings.
- F. Fire alarm cables shall not be run loose on ceiling grid or ceiling tiles.
- G. Each cable run shall include a three-foot service loop with wire tie located in the ceiling above the control unit panel. This is to allow for future re-termination or repair.
- H. All cabling shall be placed with regard to the environment, EMI/RFI interference, and its effect on fire alarm signal transmission.
- I. Do not route any fire alarm cable within two feet of any light fixture, HVAC unit, service access area, electric panel, or any device containing a motor or transformer.
- J. Fire alarm cable must not be fastened to electrical conduits, mechanical ductwork/piping, sprinkler pipes.
- K. Plenum rated Velcro hook cable ties shall be furnished and installed to attach wire bundles to supports and for appropriate wire management as required. Tie wraps made of hard plastic or metal will not be allowed.
- L. Cabling shall be loosely bundled with cable ties randomly spaced at 30 to 48 inches on center, cable ties shall not be tight enough to deform cabling and shall not be used to support the cabling.
- M. Attachments for cabling support shall be spaced at approximately 48 to 60 inches on center. The cable bundle shall not be allowed to sag more than 12 inches mid-span between attachments. Provide J-hooks as follows:
 - 1. Bundles up to 1/2" diameter - 3/4" J-Hook
 - 2. Bundles up to 1" diameter - 1-1/2" J-Hook
 - 3. Bundles up to 1-1/2" diameter - 2" J-Hook
 - 4. Bundles greater than 1-1/2" diameter - provide cable tray.
- N. Do not mix different signal cables on the same J-Hook (i.e. fire alarm with telephone/data cable).
- O. Cable shall not be installed in the same conduit or surface track raceway with line voltage electrical cable without a metallic barrier meeting NEC requirements.
- P. Cable bends shall not be tighter than the manufacturers' suggested bend radius.
- Q. The cable shall not be crushed, deformed, skinned, crimped, twisted, or formed into tight radius bends that could compromise the integrity of the cabling.
- R. Maximum cable pulling tension should not exceed 25 pound-force (110 N) or the manufactures recommendation, whichever is less.
- S. Any pulling compounds utilized must be approved by the cable manufacturer and shall not degrade the strength or electrical characteristics of the cable.

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- T. The cable pathway supports of ceiling installed devices must be positioned at least 12 inches above the ceiling grid. The required support wires for the ceiling grid or light fixtures shall not be utilized for support attachment.
- U. Cable routing must not obstruct hatches, doors, utility access panels, fire doors, ventilation shafts, grates, service work areas or parallel for more than four-feet with line voltage electrical conductors.

3.3 CONDUIT, SURFACE TRACK RACEWAY, ROUTING AND INSTALLATION

- A. Conduit and surface track raceway and support installation shall be in accordance with good engineering practices and as established by the NFPA, and NEC. Conduit installation shall meet all state and local electrical code requirements.
- B. It shall be the responsibility of the electrical contractor to provide and install all conduit systems and standard electrical boxes for the fire alarm system.
- C. The fire alarm contractor shall coordinate all requirements with, and provide special back boxes to, the electrical contractor prior to installation of conduit.
- D. In all exposed and open ceiling areas such as gymnasiums, shops, field houses, janitors' closets, elevator hoist ways, and mechanical / electrical rooms all fire alarm cable shall be fully enclosed in conduit. This shall include spaces with suspended acoustical cloud and/or canopy type ceilings.
- E. Definitions:
 - 1. Electrical metallic tubing (EMT) for indoor applications. Compression fittings for EMT shall be used. Set screw fittings are not acceptable.
 - 2. Rigid metallic tubing (RMT) for outdoor applications. Threaded fittings for shall be used for RMT conduit.
 - 3. Flexible metallic conduit (FMC) for indoor applications. FMC is approved for short protected cable connections to the device. Support FMC per NEC.
 - 4. Surface track raceway shall be Wiremold® or equivalent. Surface track raceway shall be utilized for indoor finished surfaces where concealed cable is impracticable or impossible. Back boxes of the same manufacturer and color shall be installed.
 - 5. Polyvinyl chloride (PVC) for underground installations. Follow burial depth, protection and conduit fill per NEC.
- F. Conduit and surface track raceway shall be complete with bushings, de-burred, cleaned, and secure prior to installation of cable.
- G. Conduit and surface track raceway bends shall not be tighter than the manufacturers' suggested bend radius.
- H. All conduit and surface track raceway shall be supported from the structure at industry standard intervals for the size specified, utilizing proper anchoring devices. Cable fill may not exceed the standard set forth by the NEC.
- I. All conduit and surface track raceway runs shall be spaced apart to allow for maintenance without disturbing adjacent pathways.
- J. Conduit and surface track raceway shall not obstruct hatches, doors, utility access panels, fire doors, ventilation shafts, grates or service work areas.
- K. Conduit stubs from wall boxes to accessible areas above finished ceilings shall be provided for wall mounted devices. Provide bushings to protect the cable from damage from metal openings.

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- A. Verify field conditions including existing systems, equipment models, configurations, circuiting arrangements, cabling, and devices. Adjust all circuiting, cabling, and materials to be provided as required by job conditions.
- B. Project drawings are based on casual field observation and existing record documents when available, report any significant discrepancies to the Engineer before disturbing existing systems.
- C. The Contractor accepts the existing conditions when beginning demolition.

3.5 IMPLEMENTATION

- A. Verify phasing in regard to systems and coordinate before energizing any system.
- B. When required during phases of construction to maintain existing systems in service in particular areas, provide temporary wiring and connections as necessary to accommodate construction.

3.6 CLEANING AND REPAIR

- A. Clean existing materials and equipment in areas of renovation.

3.7 PROTECTION OF EQUIPMENT AND MATERIALS

- A. The Contractor shall take such precautions as may be necessary to protect his apparatus from damage.
- B. This shall include the creation of all required temporary shelters to protect any apparatus above the floor of the construction and the covering of apparatus in the completed building with tarpaulins or other protective covering.
- C. Failure to comply with the above to the satisfaction of the Owner's inspector will be sufficient cause for the rejection of the equipment in question and its complete replacement by the Contractor.

3.8 OPERATION PRIOR TO COMPLETION

- A. When the phasing of a project requires that fire alarm systems are operable in certain areas and the Owner needs to operate the equipment, such provisions shall be made by the contractor. The warranty period shall commence when the equipment is operated for the beneficial use of the Owner. Regardless of whether or not the equipment has or has not been operated, the Contractor shall properly clean the equipment, properly adjust, and complete all punch list items before final acceptance by the Owner. The date of acceptance and the start of the warranty may not be the same date.

3.9 CUTTING AND PATCHING

- A. Notify the Builder sufficiently ahead of construction of any floors, walls, ceiling, roof, et cetera, of any openings that will be required for his work.
- B. The Contractor shall see that all sleeves required for his work are set at proper times to avoid delay of the job.
- C. All necessary cutting of walls, floors, partitions, ceilings, et cetera, as required for the proper installation of the work under this Contract shall be done at the Subcontractor or at the

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Subcontractor's expense in a neat and workmanlike manner, and as approved by the Owner's Representative.

- D. Patching of openings and/or alterations shall be provided by the Electronic Safety and Security Subcontractor or at the Subcontractor's expense in an approved manner.
- E. No joists, beams, girders, or columns shall be cut by any Contractor without first obtaining written permission of the Owner's Representative.
- F. All openings in firewalls and floors shall be completely sealed after installation for a completely airtight installation. Sealing material shall be non-combustible and UL approved. The installed sealing assembly shall not cause the fire rating of the penetrated structure to be decreased.
- G. All openings in exterior walls shall be sealed watertight.
- H. Seal voids around conduits penetrating fire-rated assemblies and partitions using fire stopping materials and methods in accordance with NFPA and local codes.

3.10 FIRE STOPPING, DRAFT/NOISE STOPPING, PENETRATIONS, CORING

- A. UL Listed fire stopping methods that match the fire rating of the wall or floor being penetrated are to be used at all fire barrier penetrations. Seal the interior of the conduit sleeve around the cables and around the outside of the sleeve on each side of the penetration with fire-stop caulk or putty, install according to the manufacturers' instructions.
- B. All penetrations through fire rated walls or floors shall feature a suitable length of metal conduit. Hole diameter shall not exceed $\frac{1}{2}$ " larger than the conduit or sleeve to be installed. The hole shall be neatly cut, not oversize or irregular. Do not share wall/floor penetrations with ductwork, piping, line voltage electrical conduits, et cetera.
- C. Penetrations through non-rated walls shall include draft/noise stopping to minimize the transfer of air and sound between enclosed areas. Provide the penetration as in the rated wall instructions and install non-combustible mineral, wool, fiberglass, cellulose insulation, caulk, and/or sealant as required.
- D. Sleeves placed for new construction shall be coordinated with the building Engineer, Builder and Electrical Contractor so that later coring or drilling of building structural members will not be required. The Contractor must consult with the building Engineer, and Builder to place sleeves at approved, appropriate locations.
- E. Any concrete coring required this Contractor shall supply all labor, equipment, tools, materials and pay for the X-ray and concrete coring contractor to create any additional penetrations. Approval shall be required by the Owner's Representative before coring can take place. Under no circumstances shall penetrations be made without approval. Care shall be taken not to stress, overheat, or penetrate any building support member. Utilizing a chisel or percussion type equipment is forbidden.

3.11 SIGNAL TYPES (SYSTEM STATUS)

- A. General: The Fire Alarm Control Panel shall indicate various conditions or signals depending on system inputs. In all instances, a more severe signal shall override all less severe signals. All events are to be recorded with time and date in an electronic event history log maintained by the fire alarm control panel. The following is a short description of conditions that the Fire Alarm Control Panel is required to indicate in order of severity.
 - 1. WATERFLOW FIRE ALARM: A waterflow signal is a special alarm condition that is only applicable when an automatic building sprinkler or similar system is monitored. It indicates

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that at least one sprinkler head is open, so in addition to a fire, the premises are subject to water damage. This signal is transmitted on a special channel on the digital communicator. This is a fire alarm condition and all actions listed under fire alarm shall take place.

2. FIRE ALARM: This alarm signal is indicative of fire. Such a signal indicates an emergency requiring immediate action. All premises audible and visual notification appliances shall operate and the protected premises evacuated. A local audible alert shall sound, the alarm LED illuminate, and descriptive message appear on the LCD display at the panel and any remote annunciators until the panel is reset. The digital communicator transmits a fire alarm signal.
3. SUPERVISORY ALARM: A supervisory signal indicates the need for action concerning a duct mounted smoke detector, or the maintenance of related systems. An audible alert shall sound, the supervisory LED illuminate, and descriptive message appear on the LCD display at the panel and any remote annunciators until silenced. The digital communicator transmits a supervisory signal.
4. TROUBLE: A trouble signal indicates a fault in a monitored circuit or component of the fire alarm system. This could be a short, open, or ground in a supervised circuit. It could also indicate a device or battery failure. A local audible alert shall sound, the trouble LED illuminate, and descriptive message appear on the LCD display at the panel and any remote annunciators until silenced. The digital communicator transmits a trouble signal.
5. MAINTENANCE ALERT: A maintenance alert is an early warning of a condition before a device becomes inoperable. This is often a smoke detector that needs cleaning or other normal maintenance item. The maintenance alert shall display on the panel and any remote annunciator LCD display until acknowledged. No audible alert shall sound and no signal transmitted, in order that this condition not be confused with a supervisory or trouble condition.
6. NORMAL: All systems and supervised circuits functioning normally.

3.12 SEQUENCE OF OPERATION

- A. Alarm Condition: When a fire alarm condition is indicated by any manual pull station, heat detector, area smoke detector shall cause the following actions or effects to take place:
 1. At the panel and any remote annunciators, a system alarm LED shall flash and a local sounding device shall activate.
 2. The 80-character LCD display shall indicate all pertinent information associated with the alarm condition and its location.
 3. The digital communicator shall activate and transmit a GENERAL ALARM signal to the monitoring company.
 4. All audible and visual signal devices shall activate and operate until silenced manually, or until automatically silenced, by the control panel. Any subsequent alarm from another device shall automatically reactivate all audible and visual signal devices.
 5. Fire safety control functions related to providing free egress from the facility shall be activated on general alarm, including the automatic opening of any controlled motorized security grills and automatic unlocking for egress of any controlled non-fire rated security doors or gates.
 6. Fire safety control functions conditional on the detection of an alarm condition in one or more designated adjacent area smoke detectors shall be activated independently on a one-for-one basis, these functions may include air handler shutdown of units without a duct mounted smoke detector, electromagnetic door hold back release, release of overhead coiling or hinged fire or smoke rated doors or shutters (those designed to close in order to control the spread of fire or smoke), high volume low speed (HVLS) fan shut down, and any other conditional operations such as elevator recall.
 7. Each Fire Safety Control Function circuit controlled device shall be configured such that when the fire alarm system safety control function circuit is re-energized, by the fire alarm

FIRE ALARM REPLACEMENT**HEATH HIGH SCHOOL****ROCKWALL INDEPENDENT SCHOOL DISTRICT****ROCKWALL, TEXAS**

- control panel, the device shall return to normal operation (e.g. be ready to re-start) without a need for manual or environmental control system intervention.
8. The FACP event history storage equipment shall log the information associated each new fire alarm control panel condition, along with time and date of occurrence.
- B. When a dangerous accumulation of Carbon Monoxide gas is detected on any CO detection unit zone the following actions or effects shall take place:
1. At the individual initiating CO detection unit, the red LED alarm light will come on and stay on, the temporal-four pattern audible sounder base alarm will sound.
 2. At the panel and any remote annunciators, a system alarm LED shall flash and a local sounding device shall activate.
 3. The 80-character LCD display shall indicate Carbon Monoxide Alarm, the zone number, and its location.
 4. The digital communicator shall activate and transmit a Carbon Monoxide Alarm, the zone number, and its location to the monitoring company.
 5. The FACP event history storage equipment shall log the information associated each new fire alarm control panel condition, along with time and date of occurrence.
- C. The detection of any system internal or external trouble condition or the actuation of any supervisory alarm condition, as applicable, including any duct mounted smoke detector shall automatically cause the following actions to take place:
1. At the panel and any remote annunciators, a system supervisory alarm LED or trouble LED shall flash as appropriate and a local sounding device shall activate. Audible supervisory or trouble alerts that have been silenced shall automatically resound every twenty-four hours or less until repairs are made.
 2. The 80-character LCD display shall indicate all pertinent information associated with the trouble or supervisory condition and its location; however, unacknowledged alarm messages shall have priority over trouble messages.
 3. The digital communicator shall activate and transmit a SUPERVISORY or TROUBLE signal to the monitoring company.
 4. Conditional activation on supervisory alarm of any automatic programs assigned to the supervisory alarm point shall be executed and the associated indicating devices and relays shall be activated. When duct mounted smoke detectors indicate a supervisory alarm provide instantaneous activation of related fire safety control functions including any electromagnetic door hold back and release devices and any air handler shut down relays and smoke fire damper motors.
 5. Detection of a supervisory alarm in a duct mounted smoke detector shall initiate shutdown of the associated air handler and closing of any smoke dampers or fire/smoke dampers located in that unit's duct system, on a conditional one-for-one basis.

3.13 BASIC SETUP AND TESTING

- A. The completed system is to be tested for compliance with the specifications.
- B. The System Contractor shall make a thorough inspection of the complete installation to ensure the following:
1. Complete and functional system.
 2. Installed in accordance with manufacturer's instructions.
- C. Prior to the testing, ensure that the system is free of short circuits, grounds, excessive system noise beyond published specifications of the equipment, hum, RF interference, or instability of any form.

FIRE ALARM REPLACEMENT**HEATH HIGH SCHOOL****ROCKWALL INDEPENDENT SCHOOL DISTRICT****ROCKWALL, TEXAS**

- D. The testing work shall be performed after installation has been completed, but prior to any use of the system.
- E. All audio inputs, including live microphone, automated evacuation messages, temporary testing signal, and any additional low priority inputs such as an intercom/public address, telephone system paging, and background music (if approved by the LAHJ), shall be adjusted and matched to the produce proper effective volume output from the system.
- F. Always operate audio amplifiers and speakers within their specified ratings. Excessive input may distort sound quality and may damage audio equipment. Do not exceed +130% of speaker input voltage per UL 1480. Improper input voltage can damage speaker. If distortion is heard, check for clipping of the audio appliance with an oscilloscope and reduce the amplifier input level or gain level to eliminate any clipping.
- G. Check the installation instructions of the manufacturers of other equipment used in the system for any guidelines or restrictions on wiring and/or locating Voice Notification Appliance Circuits (Voice NAC) and notification appliances. Some system communication circuits and/or audio circuits, for example, may require special precautions to assure electrical noise immunity (e.g. audio crosstalk).
- H. The system shall be set up for a general occupancy and at no point in the testing or operation of the system shall output be allowed to exceed 95 dB at any occupiable position to prevent possible hearing damage, and system damage. It is prohibited at any time to "ring out" the system by turning it up until it distorts.
- I. The installer shall maximize the gain structure and balance each system component to provide the least possible variation in sound level and frequency response in each area as required. The testing shall be performed with a minimum of the following equipment:
 - 1. Professional 1/3 octave Real Time Analyzer (RTA) and Type One sound pressure level (SPL) meter - Ivie IE-30A or PC-40 with calibrated microphone or equivalent by Crown or White Instruments.
 - 2. Pink Noise Generator - Ivie IE-20B or equivalent by Crown or White Instruments.

3.14 PERFORMANCE TESTING

- A. After basic setup and testing, the sound system shall meet or exceed the following specifications:
 - 1. System shall be free of short circuits, ground loops, parasitic oscillation, excessive system noise, hum, and instability of any form, including RF interference.
 - 2. Maximum SPL with band-limited pink noise input to the system shall be 95 dB before audible distortion occurs.
- B. Acoustic response of the system shall be plus or minus 1.5 dB along a line which is flat from 100 Hz to 1250 Hz and which rolls off at 2 dB per octave to 8 kHz.

3.15 VOICE INTELLIGIBILITY TESTING

- A. Once the basic setup and performance testing is completed, this contractor shall conduct voice intelligibility testing as prescribed in NFPA 72 and as required by the local AHJ.
- B. In areas that may require additional speaker devices to achieve voice intelligibility, these devices shall be furnished and installed at no additional cost to the Owner.
- C. The final acceptance of the system by the Owner/Engineer will be based upon the proper performance of the completed system.

3.16 SYSTEM RECORD OF COMPLETION, INSPECTION AND TESTING, WARRANTY, SERVICE

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- A. A factory-trained representative of the manufacturer shall supervise the final connections and testing of the system and it shall be subject to the final acceptance of the Engineer, and local authorities. Testing shall be per NFPA 72, Chapter 7 Documentation. Provide applicable forms for each Record of Completion, Inspection and Testing and other documents from NFPA 72, Chapter 7. Testing shall include, but not be limited to, the following:
1. Before energizing the system check all cables for correct connections and test for short circuits, ground faults, continuity, and insulation.
 2. Close each sprinkler system valve with a tamper switch, when applicable, and verify proper supervisory alarm at the FACP.
 3. Verify alarm activation of waterflow switches by operation of the test port valve on each riser (when applicable).
 4. Open each initiating device circuit and verify that the trouble signal actuates.
 5. Open and short each signaling line circuit and verify that the trouble signal actuates.
 6. Open and short each notification appliance circuit and verify that trouble signal actuates.
 7. Individually ground each circuit and verify response of trouble signals.
 8. Check for presence of strobe signal and audibility of tone at all alarm notification devices.
 9. Check installation, supervision, and operation of all area detectors using the walk test.
 10. Check installation, configuration, and operation of all duct mounted smoke detectors. Verify that there is adequate airflow through the sample tubes and housing to activate the detector when smoke is present in the duct.
 11. Each of the alarm conditions that the system is required to detect should be introduced on the system. Verify the proper receipt and the proper processing of the signal at the FACP and the correct activation of the control points.
 12. Verify proper operation of all fire safety control functions including when applicable fire door hold open/release, coiling fire door release, air handler shutdown, smoke damper or fire/smoke damper control, high volume low speed (HVLS) fan shut down, and the automatic opening of any controlled motorized security grills and automatic unlocking for egress of any controlled non-fire rated security doors or gates.
 13. Check operation of elevator recall and shunt-trip when applicable.
 14. Ensure that all dust covers are removed from smoke and heat detectors at substantial completion.
- B. The Fire Alarm Contractor shall be ultimately responsible for safe and complete operation of the system. Any issues affecting proper operation of the system relating to the Electrical, Mechanical, Fire Protection, Fire Suppression or other contractors shall be resolved by the Fire Alarm Contractor, at no additional cost to, and without requesting intervention by the Owner.
- C. The Fire Alarm Contractor shall provide a complete, dated, installation certificate meeting state requirements for each installation including a System Record of Completion and an Emergency Communications Systems Supplementary Record of Completion. A Fire Alarm Installation Record sticker listing the; installation firm's name, address, and telephone number; signature of Licensee and license number; Fire Alarm Planning Superintendents name and license number; and the installation date, meeting state requirements shall be attached to the main fire alarm control panel. The Fire Alarm Contractor shall submit a copy of the installation certificate, final testing forms with final results and speech intelligibility testing results to the Engineer at the time of substantial completion.
- D. The contractor shall provide a labor warranty of the installed system against defects in material or workmanship for a period of one (1) year from the date of substantial completion. Provide the equipment manufacturer's warranty information with the operating and maintenance (O&M) manual.

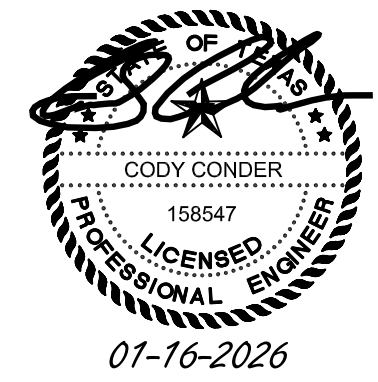
FIRE ALARM REPLACEMENT**HEATH HIGH SCHOOL****ROCKWALL INDEPENDENT SCHOOL DISTRICT****ROCKWALL, TEXAS**

- E. Equipment or cabling shown to be defective shall be replaced, repaired, or adjusted free of charge. All equipment will carry a one-year warranty or manufacturer's warranty whichever is greater. All labor and materials shall be provided at no expense to the Owner.
- F. Immediately prior to the end of the warranty period, the system shall be inspected and certified for the following year at no additional cost to the Owner.

3.17 AS-BUILT DRAWINGS, MANUALS, TRAINING

- A. As-built drawings and operating and maintenance (O&M) manuals may be electronically transmitted in PDF file format (preferred) or paper copies may be provided in quantities indicated in Division 1. Paper copies shall be organized including index tabs in a 3-ring black binder of sufficient size.
- B. Upon completion of the installation, and prior to final inspection, the fire alarm Contractor shall furnish as-built drawings.
- C. In addition, the fire alarm contractor shall furnish complete operating and maintenance manuals listing the manufacturer's name(s), including technical data sheets. Manuals shall include wiring diagrams to indicate internal wiring for each device and the interconnections between the items of equipment. Provide a clear and concise description of operation that gives, in detail, the information required to properly operate the equipment and system. Provide a parts list with manufacturer and model number for commonly replaced parts. Include complete instructions for the inspection, testing, and maintenance of the system.
- D. Provide fire alarm testing frequency information to the owner in the O&M manual per NFPA 72, Section 14.4.4.
- E. Provide the Owner a copy of the panel control software including the licensed program, site specific data file, and passwords that the Owner may require to maintain the system.
- F. The fire alarm contractor shall conduct formal on-site training sessions. It shall be the responsibility of the Contractor to coordinate time and location of training sessions with the Owner. Provide documented general instruction as follows:
 - 1. Provide instruction to the maintenance personnel to include the location, inspection, maintenance, testing, and operation of all system components. Provide a minimum of four (4) hours-two 2-hour sessions separated by a minimum of two weeks.
 - 2. Provide instruction to designated personnel on the functions and operation of the FIRE DETECTION AND ALARM SYSTEM including capabilities, limitations, monitoring, and the meaning of status messages. State the proper procedure for fire drills, routine maintenance, and request for service. Provide a minimum of four (4) hours-two 2-hour sessions separated by a minimum of two weeks.

END OF SECTION

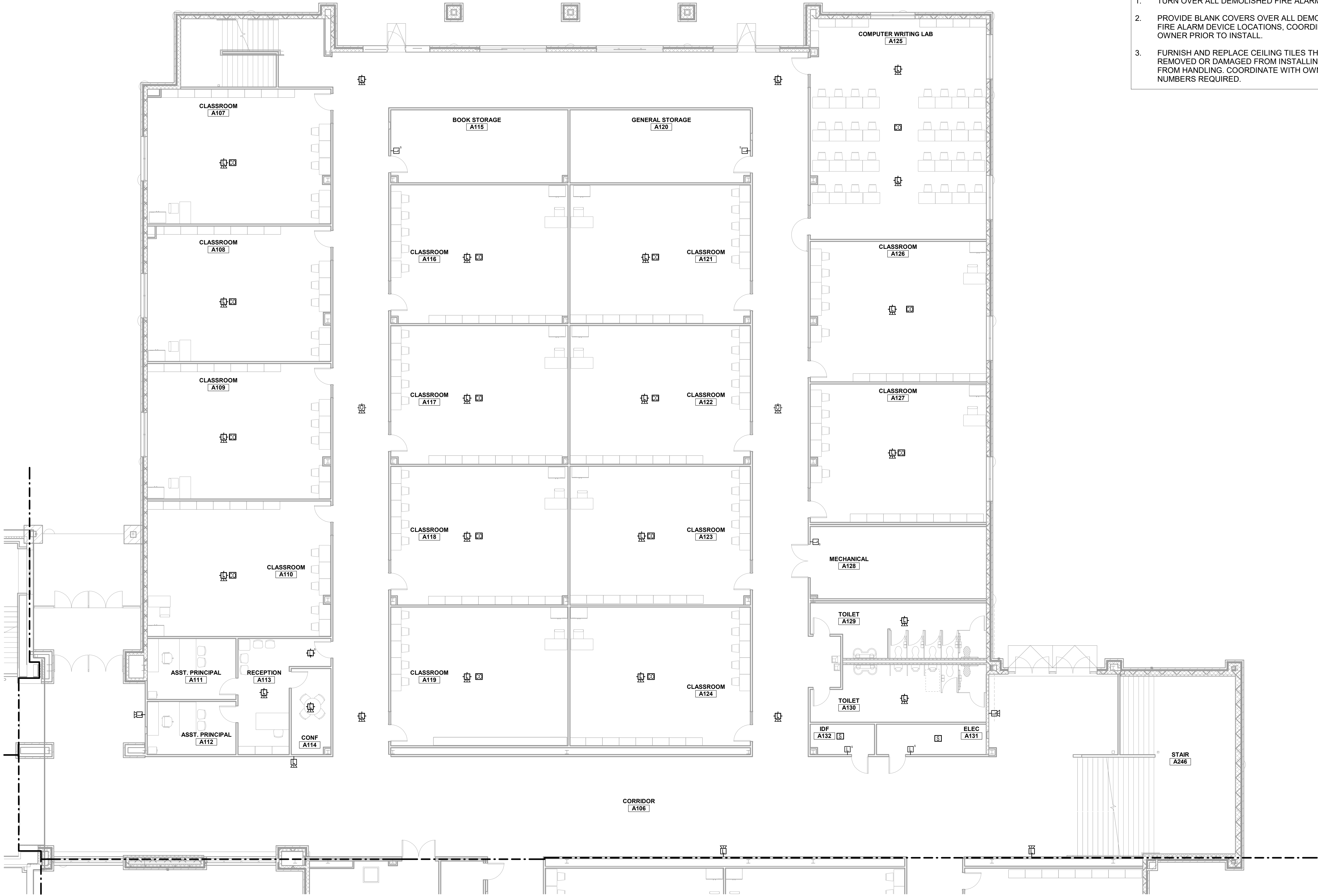


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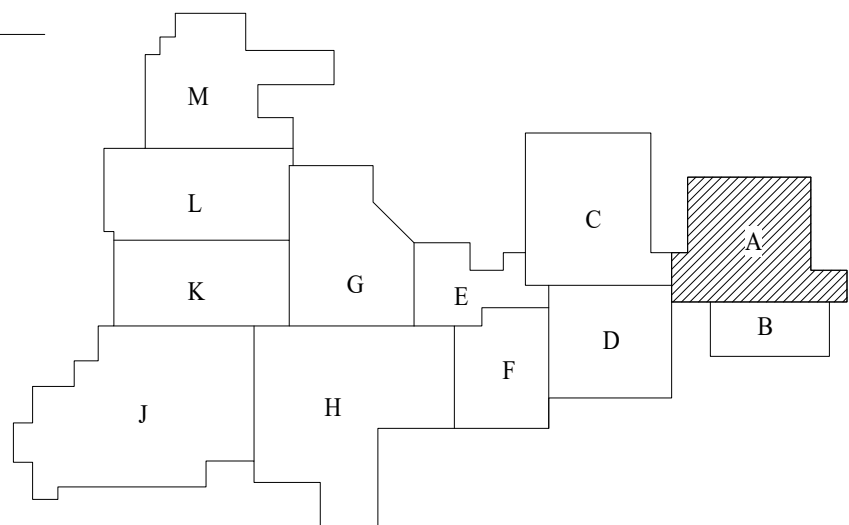
FIRE ALARM REPLACEMENT
HEATH HIGH SCHOOL
ROCKWALL INDEPENDENT SCHOOL DISTRICT
ROCKWALL, TEXAS

EMA JOB #:	1-001-0079-021
DRAWN BY:	CH
CHECKED:	QS
FIRE ALARM FLOOR PLAN LEVEL 1 - AREA A	
SHEET NUMBER FA1.01	
SHEET	OF

- FIRE ALARM GENERAL NOTES**
- SEE FA700 SERIES SHEETS FOR GENERAL NOTES, DETAILS AND SCHEDULES APPLICABLE TO THE ENTIRE DRAWING SET.
- ROCKWALL ISD FIRE ALARM STANDARDS**
- TURN OVER ALL DEMOLISHED FIRE ALARM EQUIPMENT TO OWNER.
 - PROVIDE BLANK COVERS OVER ALL DEMOLISHED WALL MOUNTED FIRE ALARM DEVICE LOCATIONS, COORDINATE EXACT COLOR WITH OWNER PRIOR TO INSTALL.
 - FURNISH AND REPLACE CEILING TILES THAT HAVE HAD A DEVICE REMOVED OR DAMAGED FROM INSTALLING A DEVICE OR DAMAGED FROM HANDLING. COORDINATE WITH OWNER FOR EXACT MODEL NUMBERS REQUIRED.



1 FIRE ALARM FLOOR PLAN - LEVEL 1 - AREA A
1/8" = 1'-0"



SUBMISSION OF BID WILL BE CONSIDERED ACKNOWLEDGMENT THAT THE CONTRACTOR HAS VISITED THE SITE AND HAS VERIFIED ALL EXISTING JOB CONDITIONS AND INCLUDED ANY NECESSARY MODIFICATION TO EXISTING AND NEW WORK REQUIRED FOR INSTALLATION OF A COMPLETE AND WORKING SYSTEM.

- FIRE ALARM GENERAL NOTES

1.

SEE FA700 SERIES SHEETS FOR GENERAL NOTES, DETAILS AND SCHEDULES APPLICABLE TO THE ENTIRE DRAWING SET.
- ROCKWALL ISD FIRE ALARM STANDARDS

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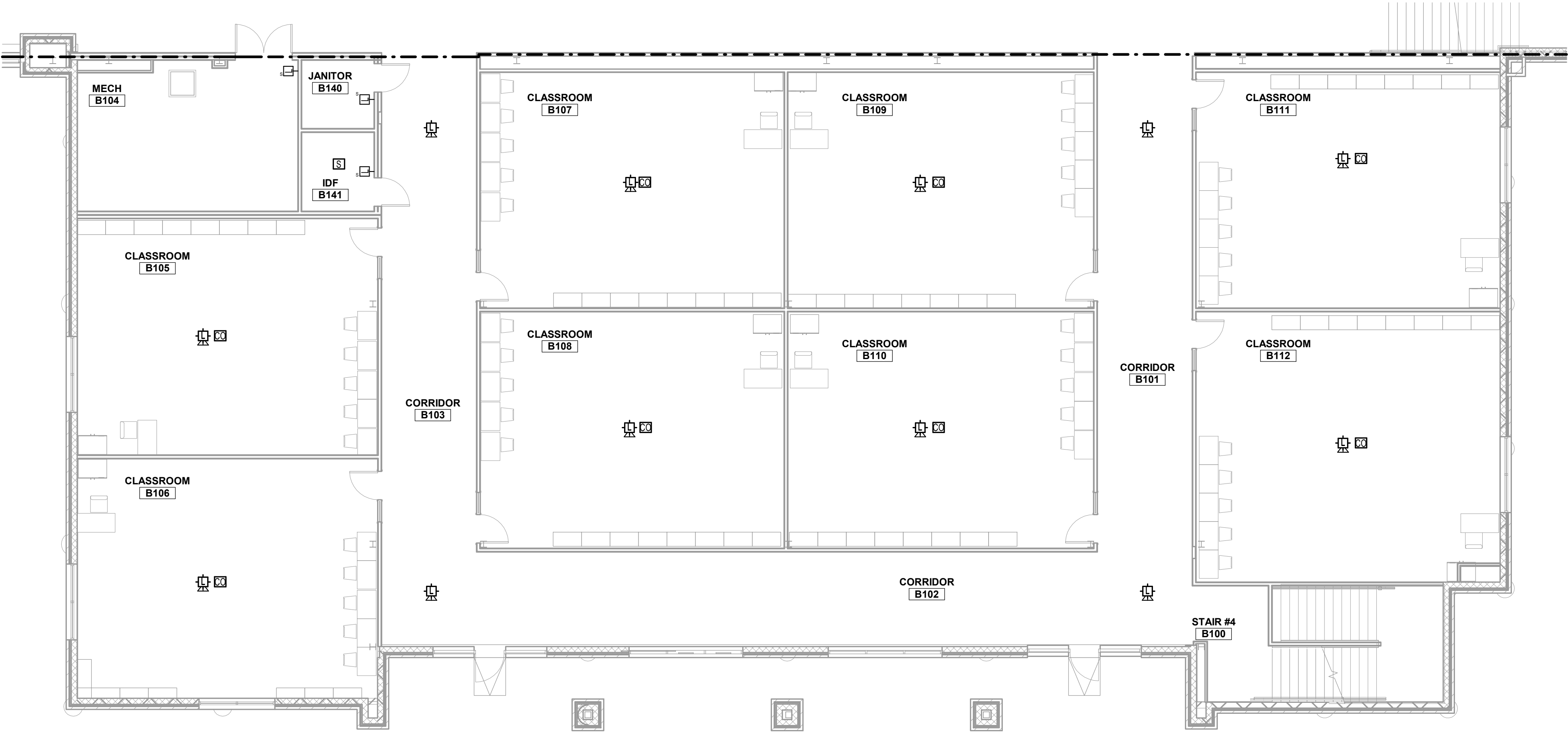
TURN OVER ALL DEMOLISHED FIRE ALARM EQUIPMENT TO OWNER.

2.

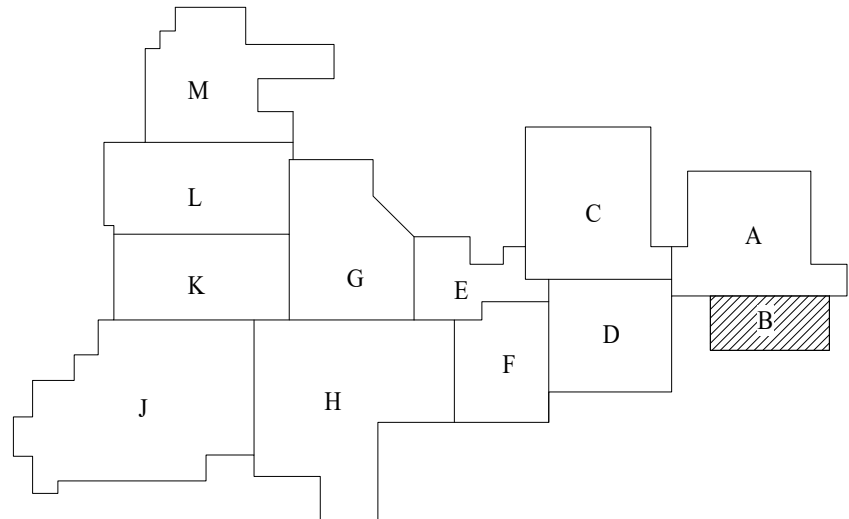
PROVIDE BLANK COVERS OVER ALL DEMOLISHED WALL MOUNTED FIRE ALARM DEVICE LOCATIONS, COORDINATE EXACT COLOR WITH OWNER PRIOR TO INSTALL.

3.

FURNISH AND REPLACE CEILING TILES THAT HAVE HAD A DEVICE REMOVED OR DAMAGED FROM INSTALLING A DEVICE OR DAMAGED FROM HANDLING. COORDINATE WITH OWNER FOR EXACT MODEL NUMBERS REQUIRED.



1 FIRE ALARM FLOOR PLAN - LEVEL 1 - AREA B
1/8" = 1'-0"

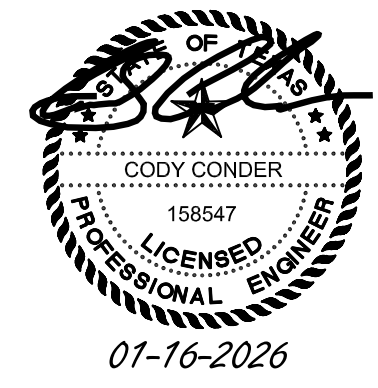


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FIRE ALARM REPLACEMENT
HEATH HIGH SCHOOL
ROCKWALL INDEPENDENT SCHOOL DISTRICT
ROCKWALL, TEXAS

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FIRE ALARM FLOOR PLAN LEVEL 1 - AREA B	
SHEET NUMBER FA1.02	
SHEET	OF



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FIRE ALARM FLOOR PLAN
LEVEL 1 - AREA C

SHEET NUMBER

FA1.03

SHEET OF

FIRE ALARM GENERAL NOTES

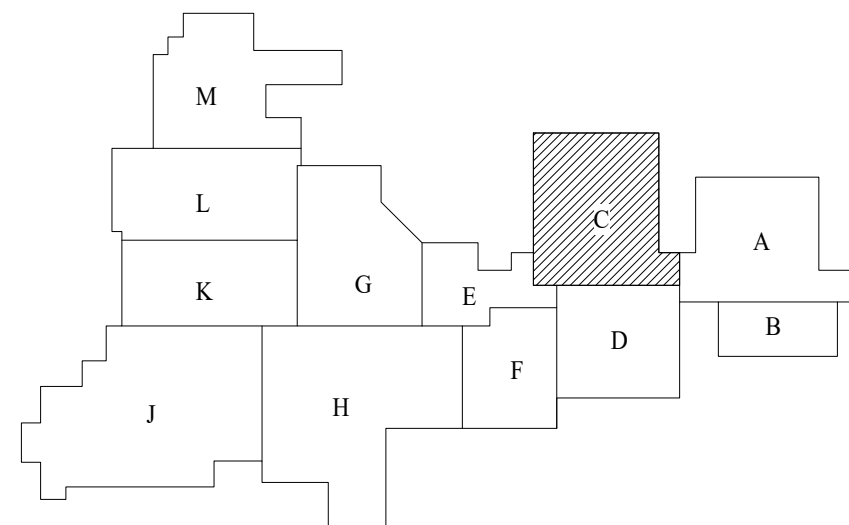
- SEE FA700 SERIES SHEETS FOR GENERAL NOTES, DETAILS AND SCHEDULES APPLICABLE TO THE ENTIRE DRAWING SET.

ROCKWALL ISD FIRE ALARM STANDARDS

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1 FIRE ALARM FLOOR PLAN - LEVEL 1 - AREA C
1/8" = 1'-0"



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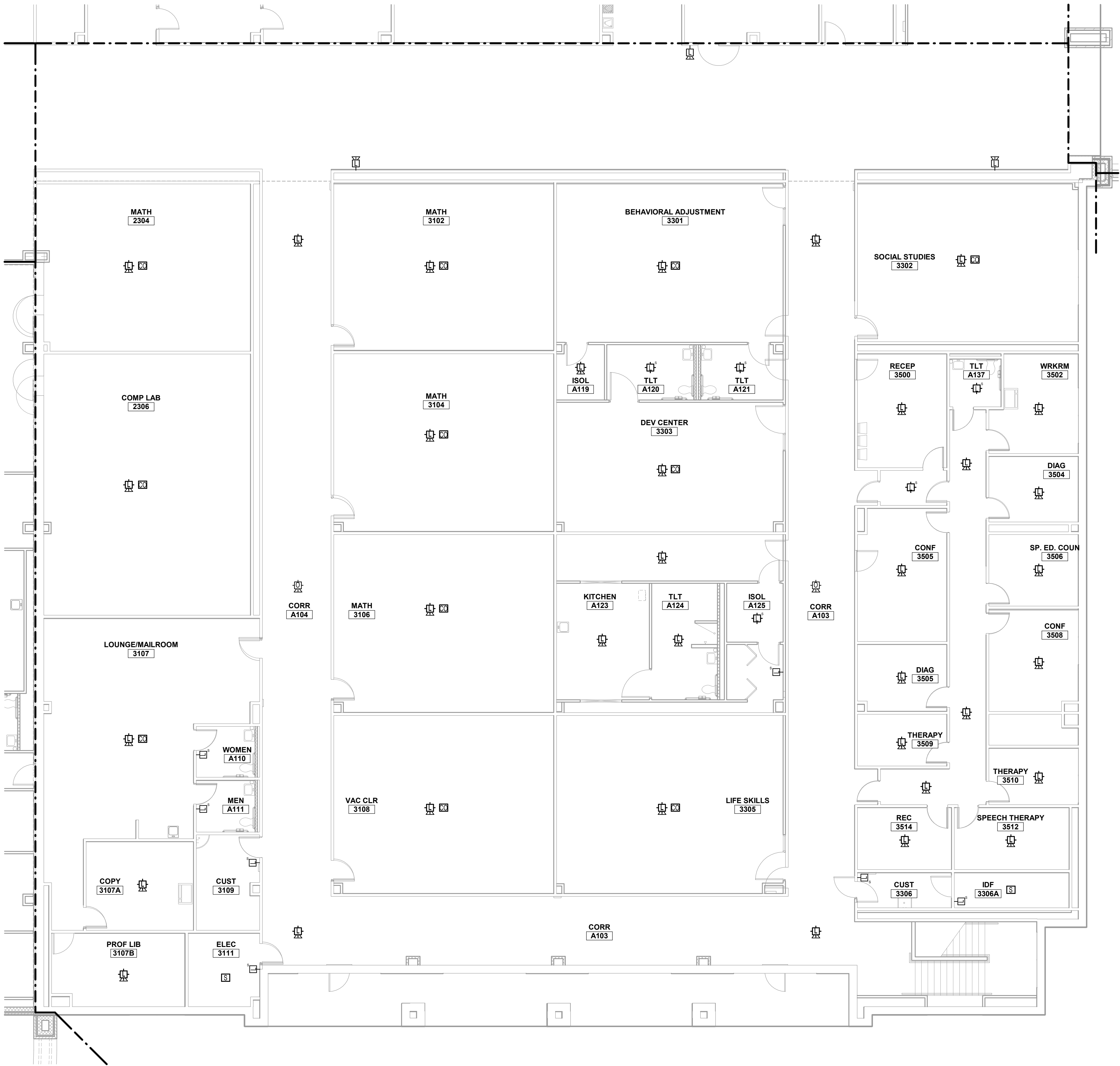
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FIRE ALARM GENERAL NOTES

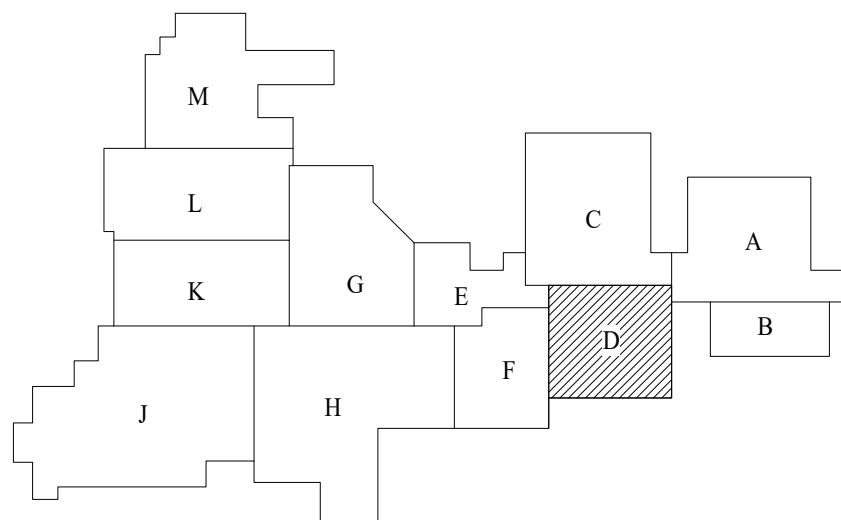
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1 FIRE ALARM FLOOR PLAN - LEVEL 1 - AREA D
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FIRE ALARM FLOOR PLAN
LEVEL 1 - AREA D

SHEET NUMBER

FA1.04

SHEET OF



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FIRE ALARM REPLACEMENT
HEATH HIGH SCHOOL
ROCKWALL INDEPENDENT SCHOOL DISTRICT
ROCKWALL, TEXAS

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FIRE ALARM FLOOR PLAN
LEVEL 1 - AREA E

SHEET NUMBER

FA1.05

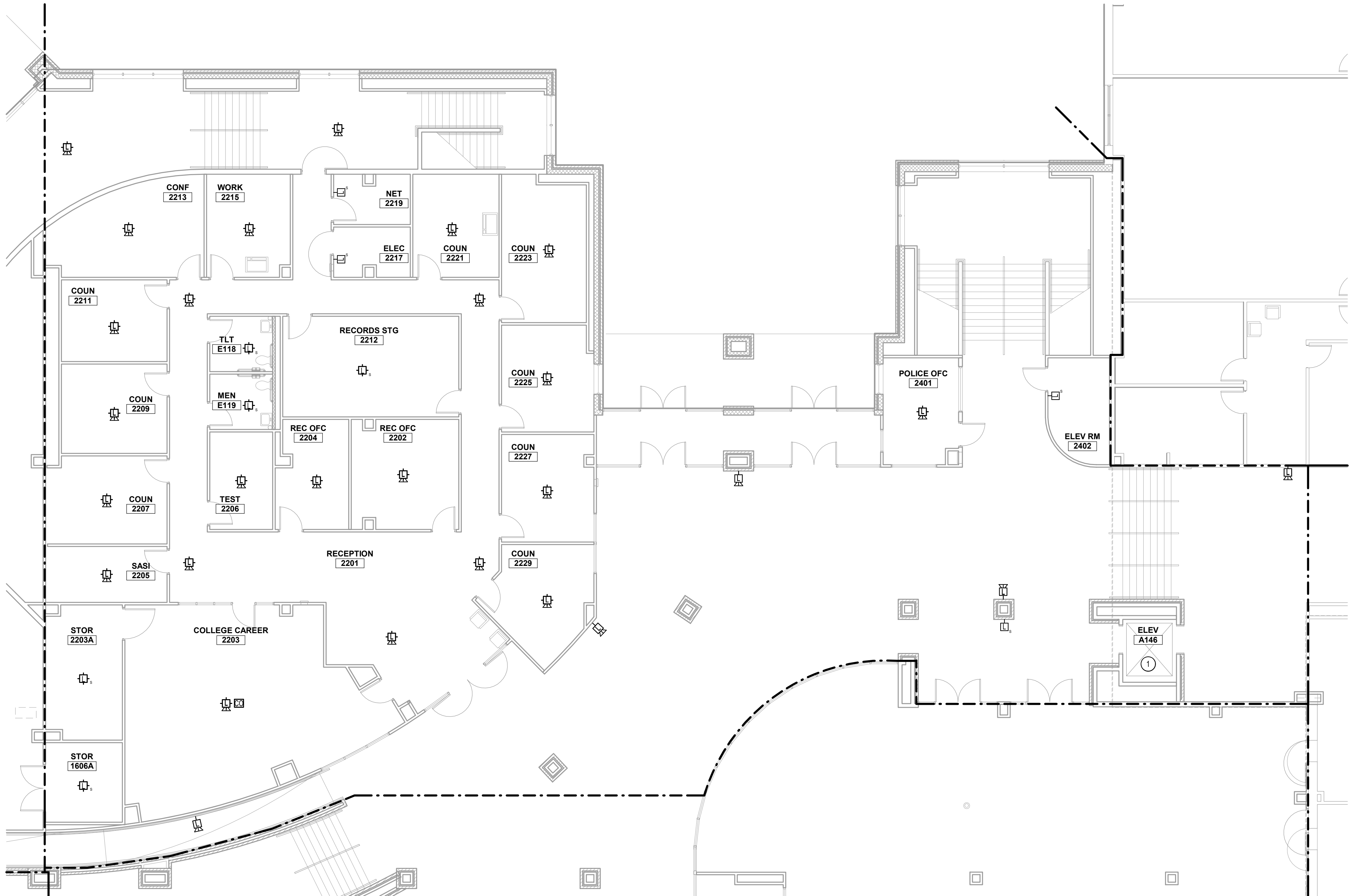
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FIRE ALARM GENERAL NOTES

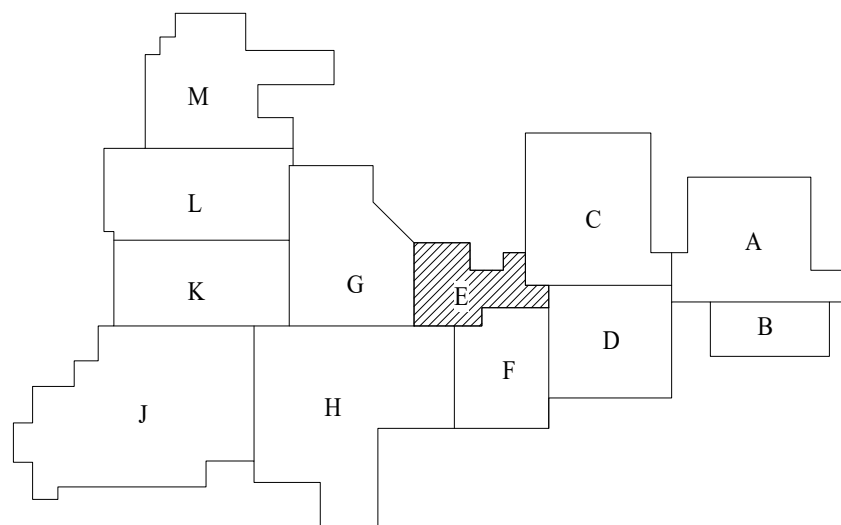
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FIRE ALARM FLOOR PLAN
LEVEL 1 - AREA F

SHEET NUMBER

FA1.06

SHEET OF

FIRE ALARM GENERAL NOTES

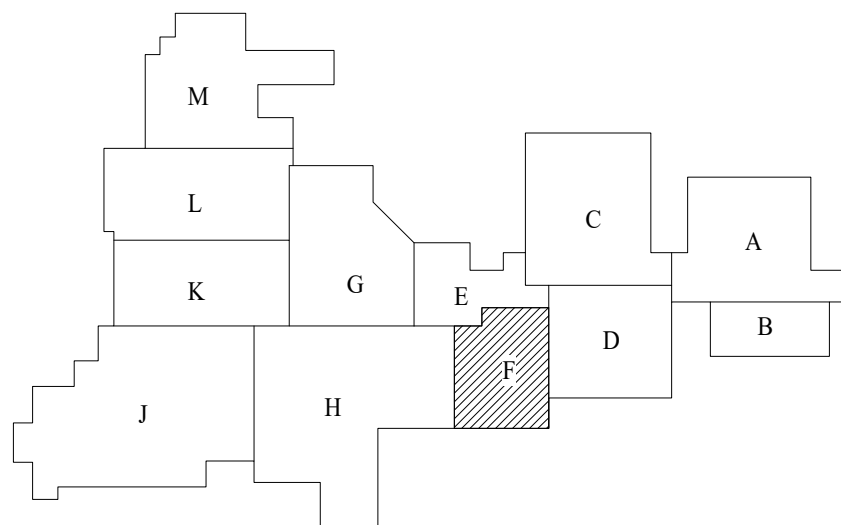
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ROCKWALL ISD FIRE ALARM STANDARDS

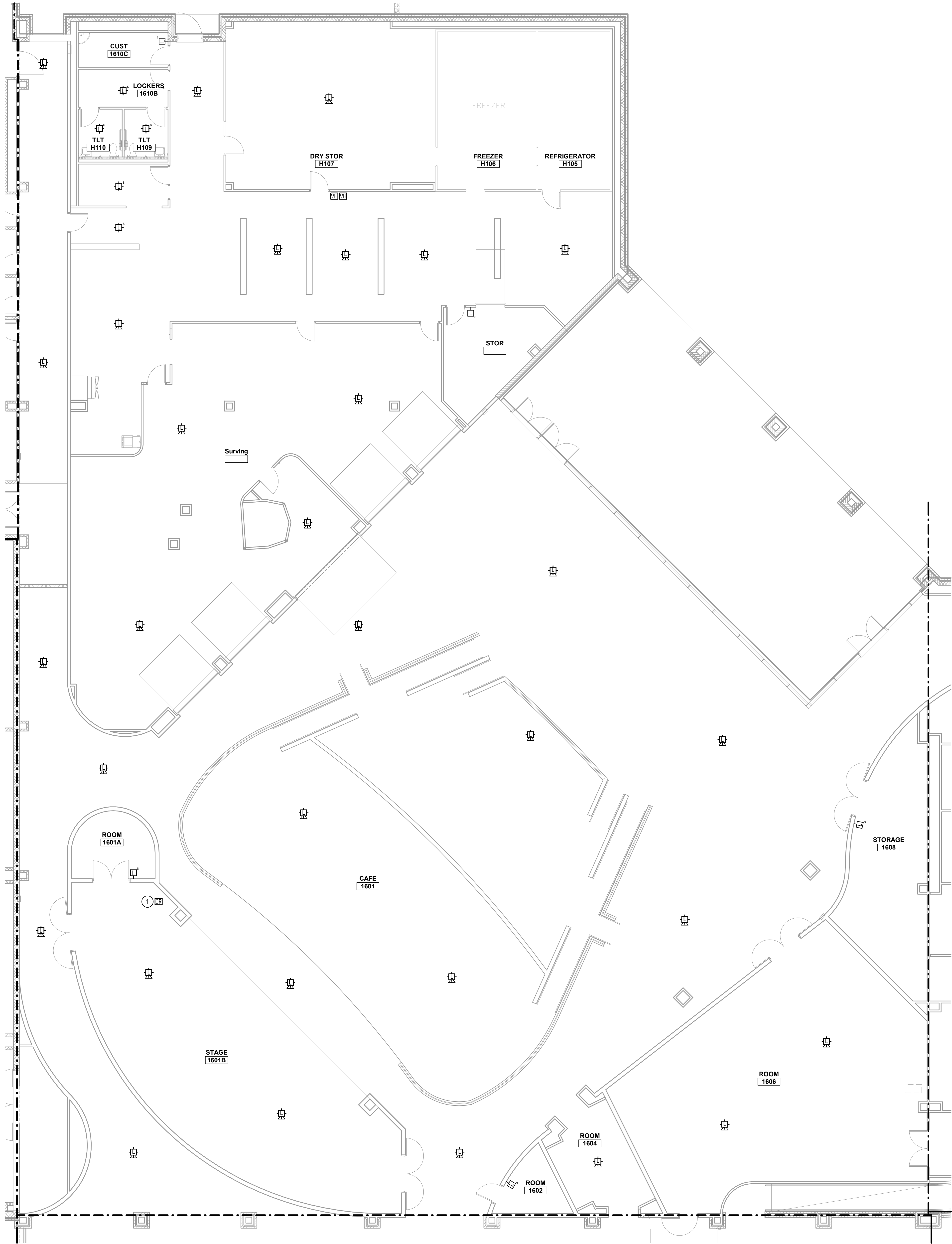
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1 FIRE ALARM FLOOR PLAN - LEVEL 1 - AREA F
1/8" = 1'-0"



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1 FIRE ALARM FLOOR PLAN - LEVEL 1 - AREA G
1/8" = 1'-0"

FIRE ALARM GENERAL NOTES

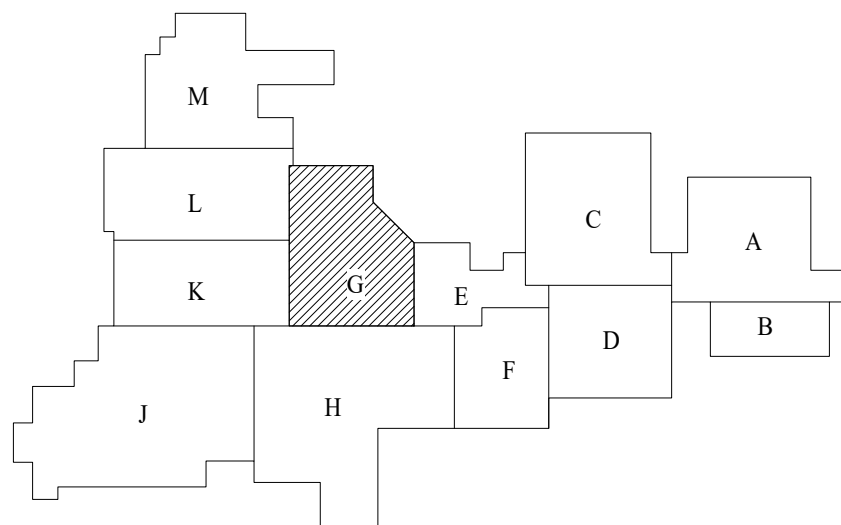
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TECHNOLOGY PLAN NOTES

- 1 PROVIDE FIRE ALARM CONTROL RELAY TO MUTE AV SOUND SYSTEM WHEN FIRE ALARM INITIATES AN ALARM CONDITION.

ROCKWALL ISD FIRE ALARM STANDARDS

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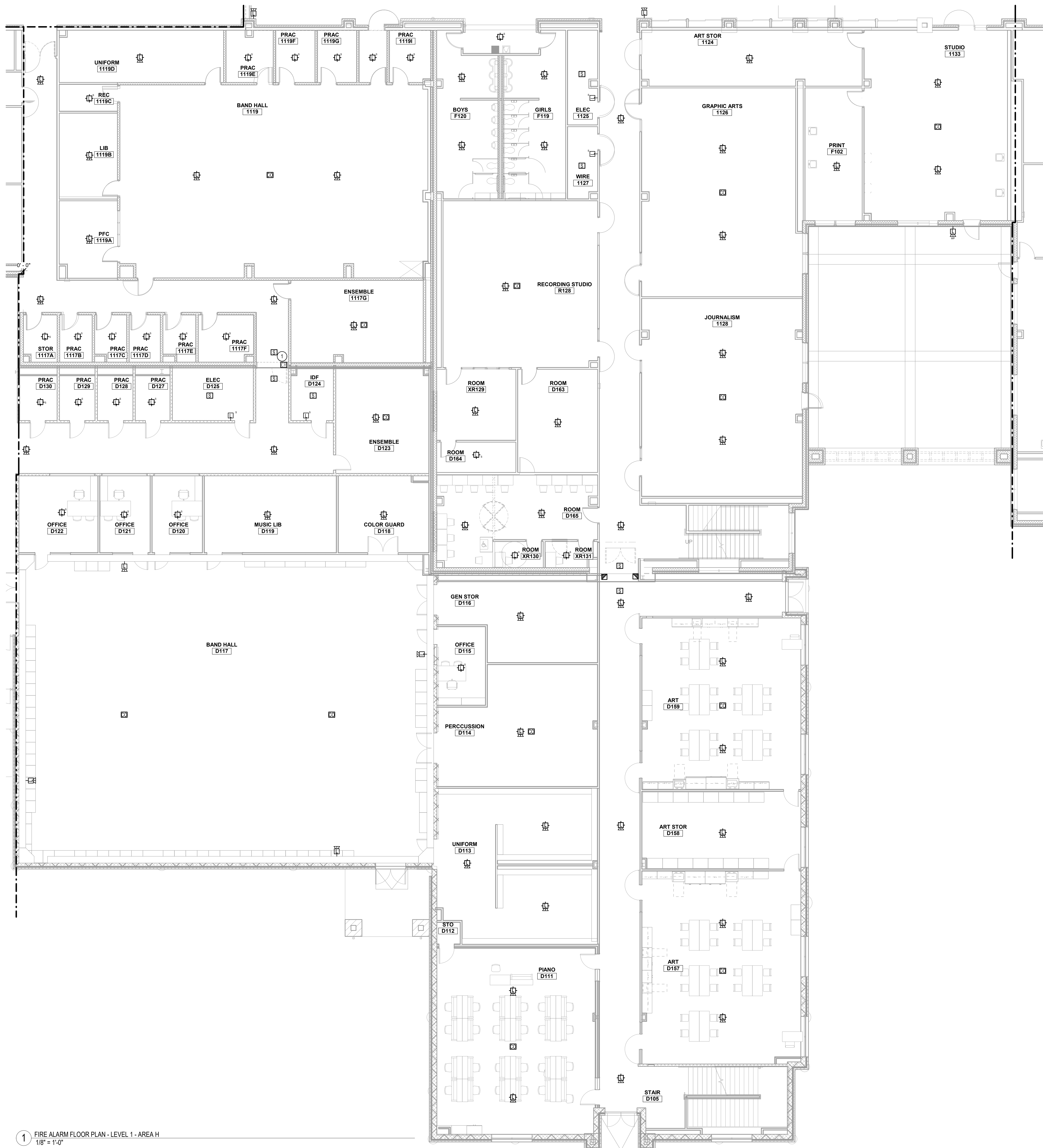
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FIRE ALARM GENERAL NOTES

- SEE FA700 SERIES SHEETS FOR GENERAL NOTES, DETAILS AND SCHEDULES APPLICABLE TO THE ENTIRE DRAWING SET.

TECHNOLOGY PLAN NOTES

- PROVIDE FIRE ALARM CONTROL RELAY FOR DOOR TO STAY OPEN WHEN FIRE ALARM INITIATES AN ALARM CONDITION.

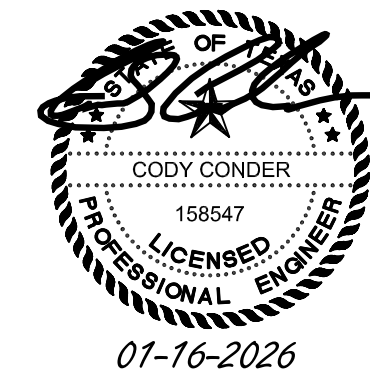
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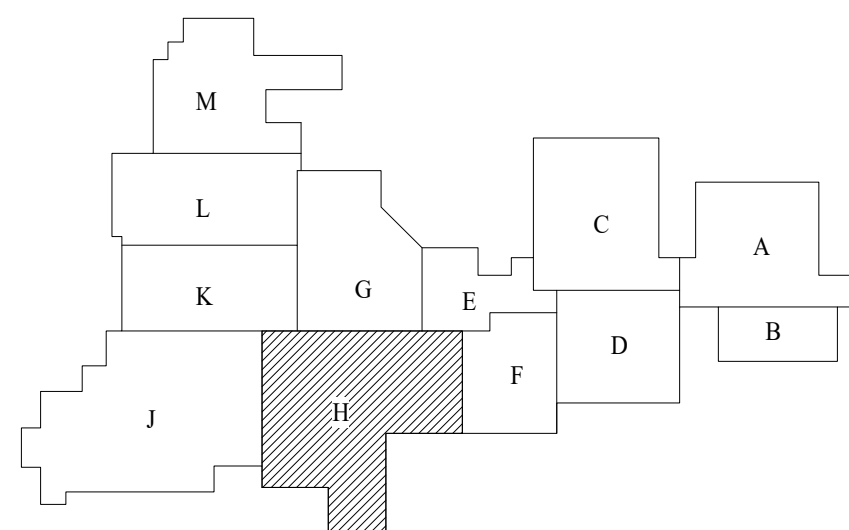
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FIRE ALARM REPLACEMENT

HEATH HIGH SCHOOL

ROCKWALL INDEPENDENT SCHOOL DISTRICT

ROCKWALL, TEXAS



SUBMISSION OF BID WILL BE CONSIDERED ACKNOWLEDGMENT THAT THE CONTRACTOR HAS VISITED THE SITE AND HAS VERIFIED ALL EXISTING JOB CONDITIONS AND INCLUDED ANY NECESSARY MODIFICATION TO EXISTING AND NEW WORK REQUIRED FOR INSTALLATION OF A COMPLETE AND WORKING SYSTEM.

1 FIRE ALARM FLOOR PLAN - LEVEL 1 - AREA H
1/8" = 1'-0"

EMA JOB #: 1-001-0079-021

DRAWN BY: CH

CHECKED: QS

FIRE ALARM FLOOR PLAN
LEVEL 1 - AREA H

SHEET NUMBER

FA1.08

SHEET OF

FIRE ALARM GENERAL NOTES

1. SEE FA700 SERIES SHEETS FOR GENERAL NOTES, DETAILS AND SCHEDULES APPLICABLE TO THE ENTIRE DRAWING SET.

TECHNOLOGY PLAN NOTES

1. FIRE ALARM CONTRACTOR SHALL PROVIDE DEVICES AS REQUIRED FOR ELEVATOR. REFER TO DETAIL ON FA700 SERIES SHEETS FOR FIRE ALARM DEVICE REQUIREMENTS.
2. PROVIDE FIRE ALARM CONTROL RELAY TO MUTE AV SOUND SYSTEM WHEN FIRE ALARM INITIATES AN ALARM CONDITION.
3. PROVIDE FIRE ALARM CONTROL RELAY TO RELEASE THE FIRE CURTAIN WHEN FIRE ALARM INITIATES AN ALARM CONDITION.

ROCKWALL ISD FIRE ALARM STANDARDS

1. TURN OVER ALL DEMOLISHED FIRE ALARM EQUIPMENT TO OWNER.
2. PROVIDE BLANK COVERS OVER ALL DEMOLISHED WALL MOUNTED FIRE ALARM DEVICE LOCATIONS. COORDINATE EXACT COLOR WITH OWNER PRIOR TO INSTALL.
3. FURNISH AND REPLACE CEILING TILES THAT HAVE HAD A DEVICE REMOVED OR DAMAGED FROM INSTALLING A DEVICE OR DAMAGED FROM HANDLING. COORDINATE WITH OWNER FOR EXACT MODEL NUMBERS REQUIRED.

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JANUARY 16, 2026

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FIRE ALARM REPLACEMENT
HEATH HIGH SCHOOL
ROCKWALL INDEPENDENT SCHOOL DISTRICT
ROCKWALL, TEXAS

EMA JOB #: 1-001-0079-021

DRAWN BY: CH

CHECKED: QS

FIRE ALARM FLOOR PLAN
LEVEL 1 - AREA J

SHEET NUMBER

FA1.09

SHEET OF

1 FIRE ALARM FLOOR PLAN - LEVEL 1 - AREA J
1/8" = 1'-0"

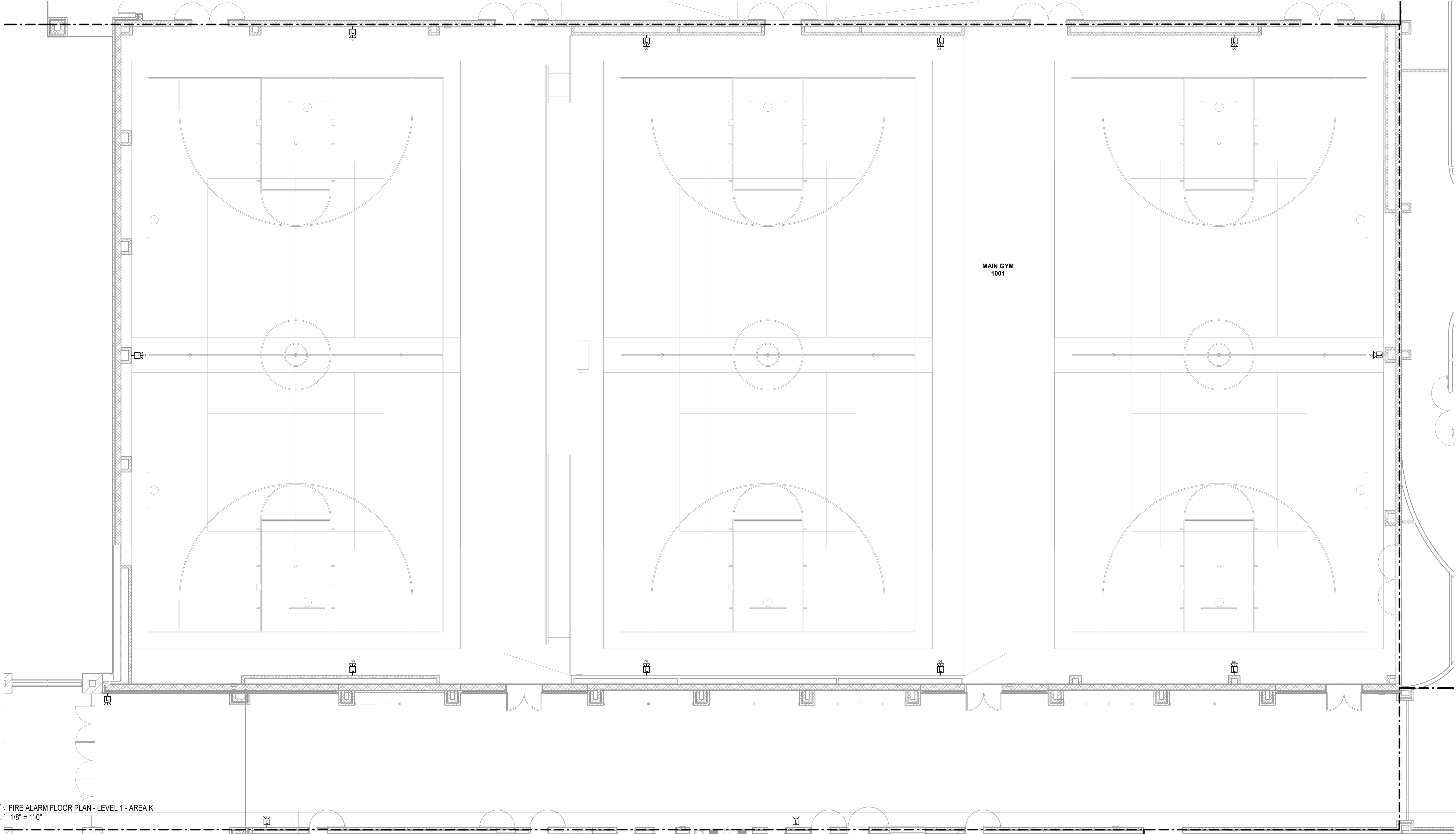


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JANUARY 16, 2026	
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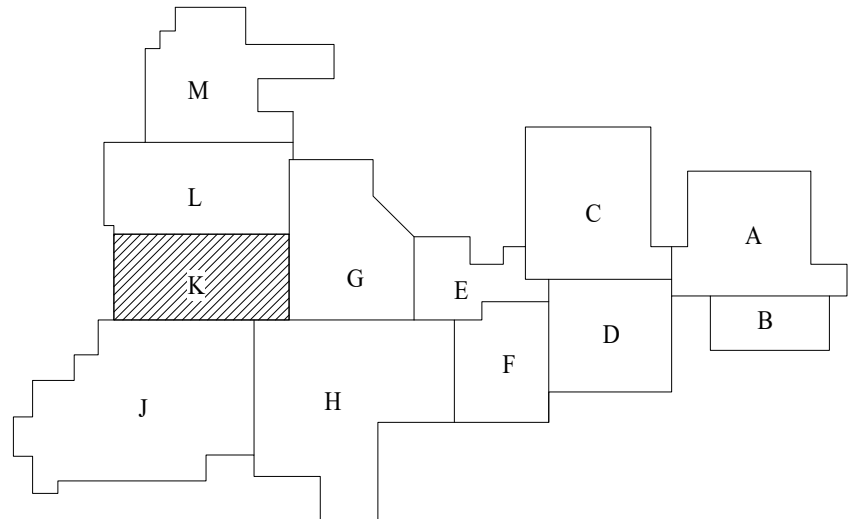
FIRE ALARM REPLACEMENT
HEATH HIGH SCHOOL
ROCKWALL INDEPENDENT SCHOOL DISTRICT
ROCKWALL, TEXAS

EMA JOB #:	1-001-0079-021
DRAWN BY:	CH
CHECKED:	QS
FIRE ALARM FLOOR PLAN LEVEL 1 - AREA K	
SHEET NUMBER FA1.10	
SHEET	OF

- FIRE ALARM GENERAL NOTES**
 - SEE FA700 SERIES SHEETS FOR GENERAL NOTES, DETAILS AND SCHEDULES APPLICABLE TO THE ENTIRE DRAWING SET.
- ROCKWALL ISD FIRE ALARM STANDARDS**
 - TURN OVER ALL DEMOLISHED FIRE ALARM EQUIPMENT TO OWNER.
 - PROVIDE BLANK COVERS OVER ALL DEMOLISHED WALL MOUNTED FIRE ALARM DEVICE LOCATIONS, COORDINATE EXACT COLOR WITH OWNER PRIOR TO INSTALL.
 - FURNISH AND REPLACE CEILING TILES THAT HAVE HAD A DEVICE REMOVED OR DAMAGED FROM INSTALLING A DEVICE OR DAMAGED FROM HANDLING. COORDINATE WITH OWNER FOR EXACT MODEL NUMBERS REQUIRED.



1 FIRE ALARM FLOOR PLAN - LEVEL 1 - AREA K
1/8" = 1'-0"



SUBMISSION OF BID WILL BE CONSIDERED ACKNOWLEDGMENT THAT THE CONTRACTOR HAS VISITED THE SITE AND HAS VERIFIED ALL EXISTING JOB CONDITIONS AND INCLUDED ANY NECESSARY MODIFICATION TO EXISTING AND NEW WORK REQUIRED FOR INSTALLATION OF A COMPLETE AND WORKING SYSTEM.



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FIRE ALARM FLOOR PLAN
LEVEL 1 - AREA M

SHEET NUMBER

FA1.12

SHEET OF

FIRE ALARM GENERAL NOTES

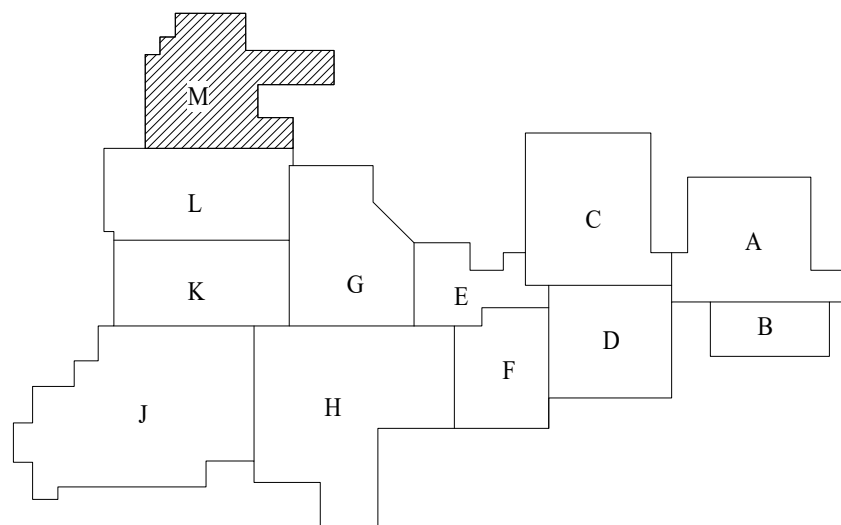
- SEE FA700 SERIES SHEETS FOR GENERAL NOTES, DETAILS AND SCHEDULES APPLICABLE TO THE ENTIRE DRAWING SET.

ROCKWALL ISD FIRE ALARM STANDARDS

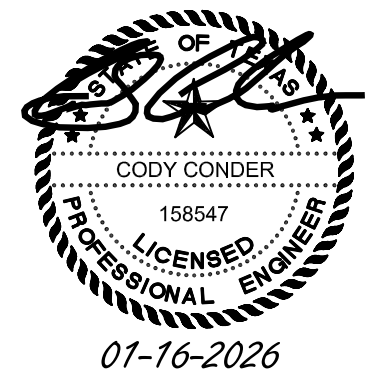
- TURN OVER ALL DEMOLISHED FIRE ALARM EQUIPMENT TO OWNER.
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1 FIRE ALARM FLOOR PLAN - LEVEL 1 - AREA M
1/8" = 1'-0"



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JANUARY 16, 2026	
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FIRE ALARM REPLACEMENT
HEATH HIGH SCHOOL
ROCKWALL INDEPENDENT SCHOOL DISTRICT
ROCKWALL, TEXAS

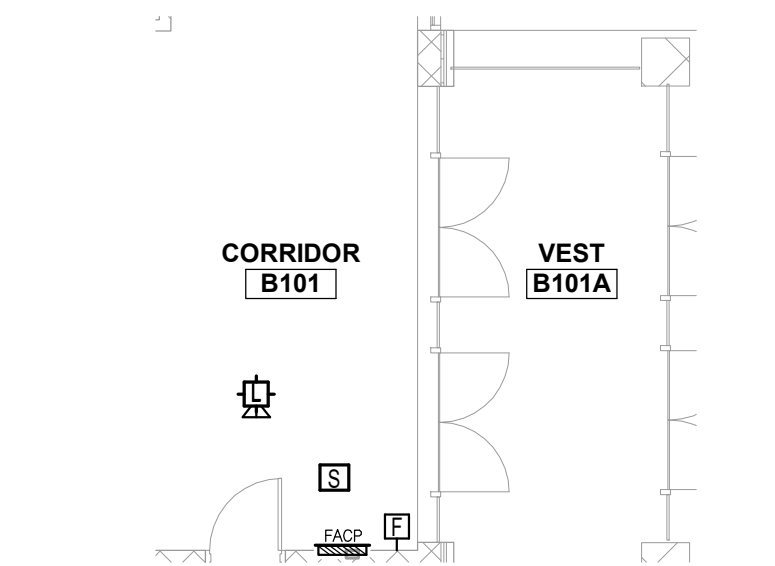
EMA JOB #:	1-001-0079-021
DRAWN BY:	CH
CHECKED:	QS
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SHEET NUMBER FA1.13	
SHEET	OF

FIRE ALARM GENERAL NOTES

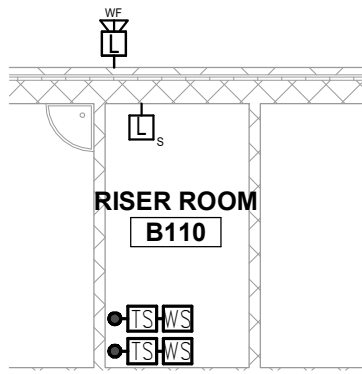
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ROCKWALL ISD FIRE ALARM STANDARDS

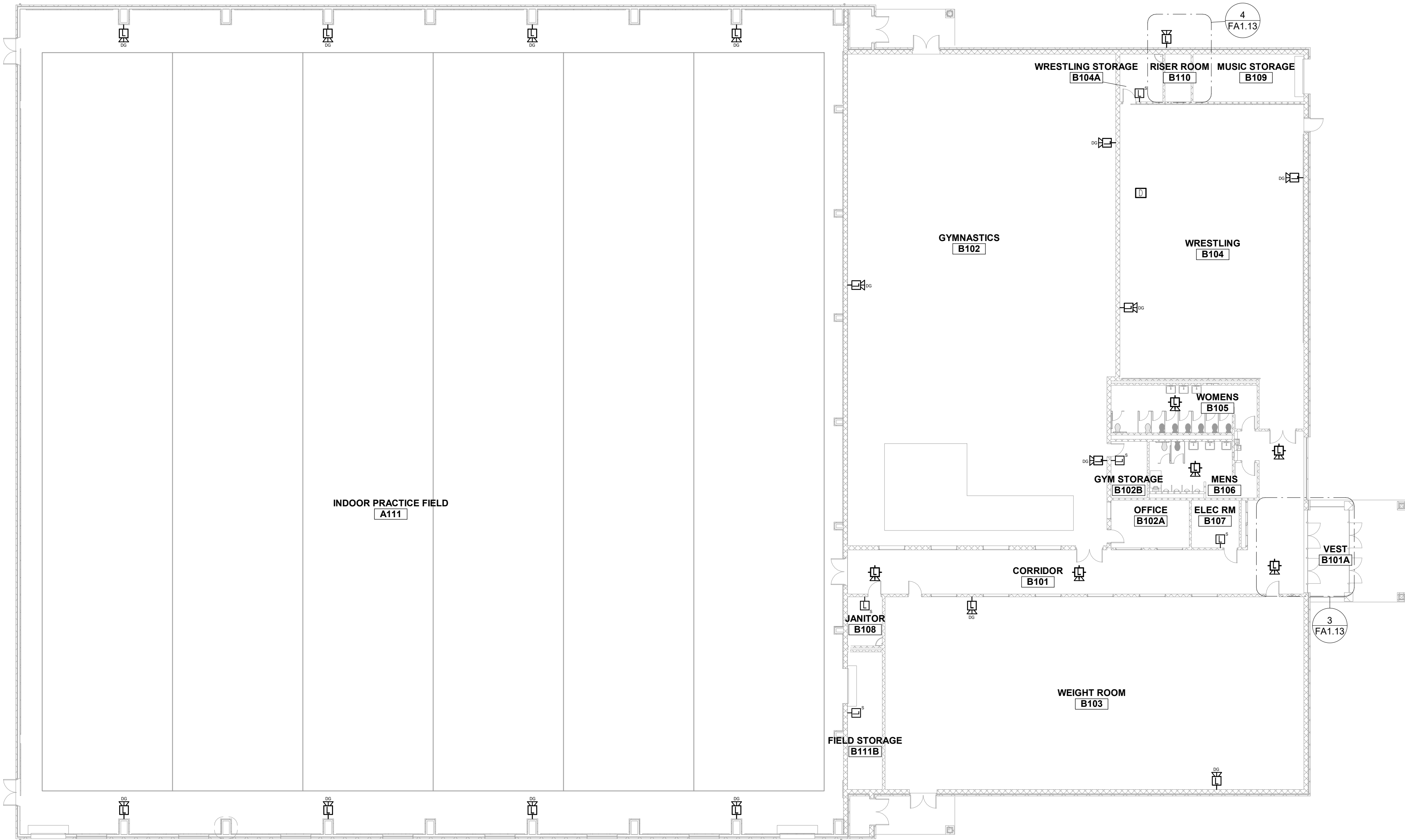
- TURN OVER ALL DEMOLISHED FIRE ALARM EQUIPMENT TO OWNER.
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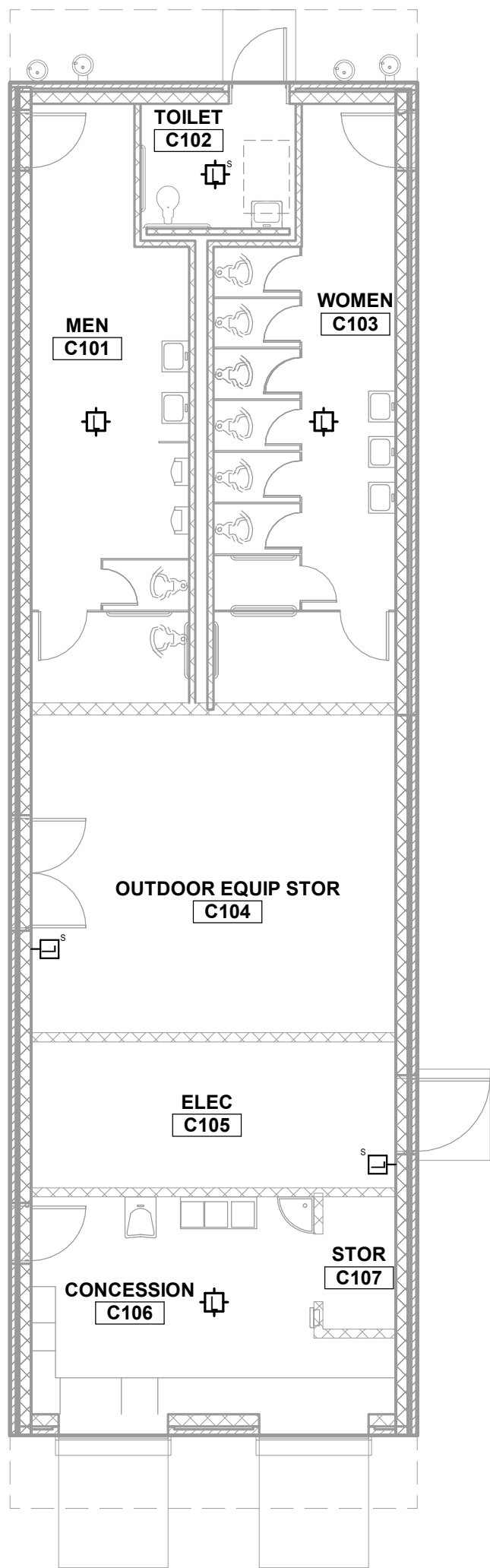
3 FIRE ALARM FLOOR PLAN - MULTIPURPOSE - FARA
1/8" = 1'-0"



4 FIRE ALARM FLOOR PLAN - MULTIPURPOSE - RISER
1/8" = 1'-0"



1 FIRE ALARM FLOOR PLAN - MULTIPURPOSE
1/16" = 1'-0"



2 FIRE ALARM FLOOR PLAN - CONCESSION
1/8" = 1'-0"

SUBMISSION OF BID WILL BE CONSIDERED ACKNOWLEDGMENT THAT THE CONTRACTOR HAS VISITED THE SITE AND HAS VERIFIED ALL EXISTING JOB CONDITIONS AND INCLUDED ANY NECESSARY MODIFICATION TO EXISTING AND NEW WORK REQUIRED FOR INSTALLATION OF A COMPLETE AND WORKING SYSTEM.



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FIRE ALARM GENERAL NOTES

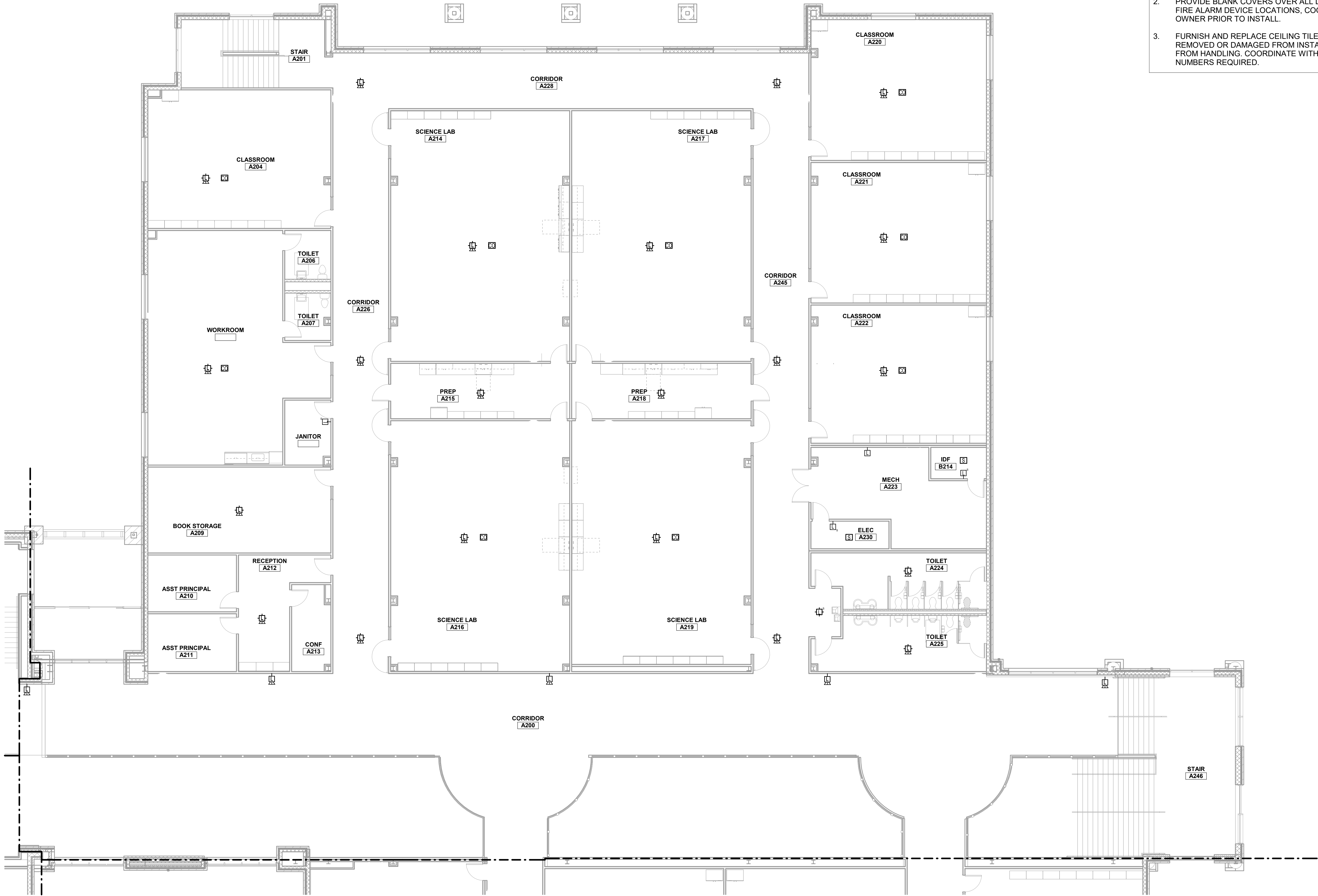
1. SEE FA700 SERIES SHEETS FOR GENERAL NOTES, DETAILS AND SCHEDULES APPLICABLE TO THE ENTIRE DRAWING SET.

ROCKWALL ISD FIRE ALARM STANDARDS

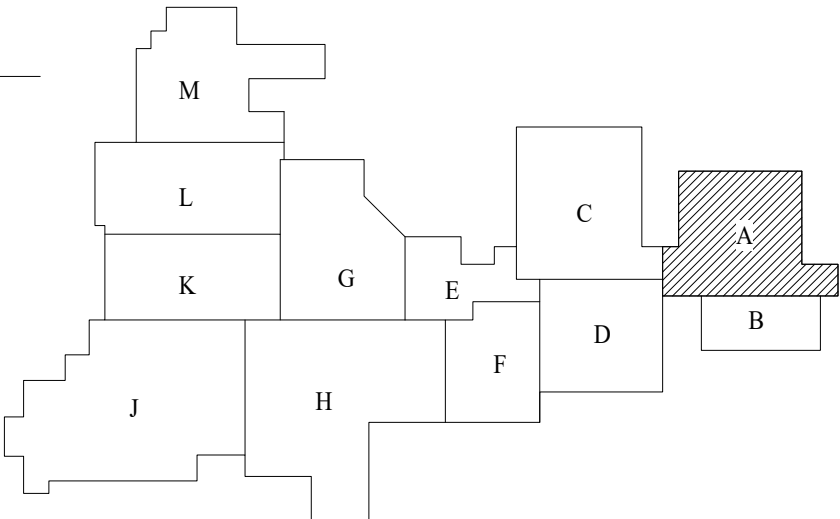
1. TURN OVER ALL DEMOLISHED FIRE ALARM EQUIPMENT TO OWNER.

2. PROVIDE BLANK COVERS OVER ALL DEMOLISHED WALL MOUNTED FIRE ALARM DEVICE LOCATIONS, COORDINATE EXACT COLOR WITH OWNER PRIOR TO INSTALL.

3. FURNISH AND REPLACE CEILING TILES THAT HAVE HAD A DEVICE REMOVED OR DAMAGED FROM INSTALLING A DEVICE OR DAMAGED FROM HANDLING. COORDINATE WITH OWNER FOR EXACT MODEL NUMBERS REQUIRED.



1 FIRE ALARM FLOOR PLAN - LEVEL 2 - AREA A
1/8" = 1'-0"



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EMA JOB #: 1-001-0079-021

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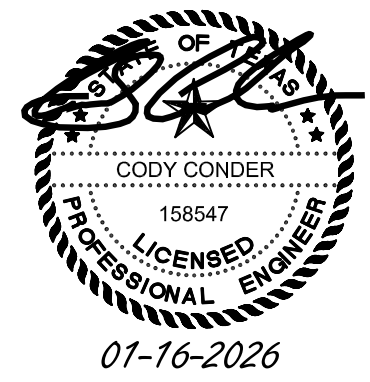
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FIRE ALARM FLOOR PLAN
LEVEL 2 - AREA A

SHEET NUMBER

FA2.01

SHEET OF



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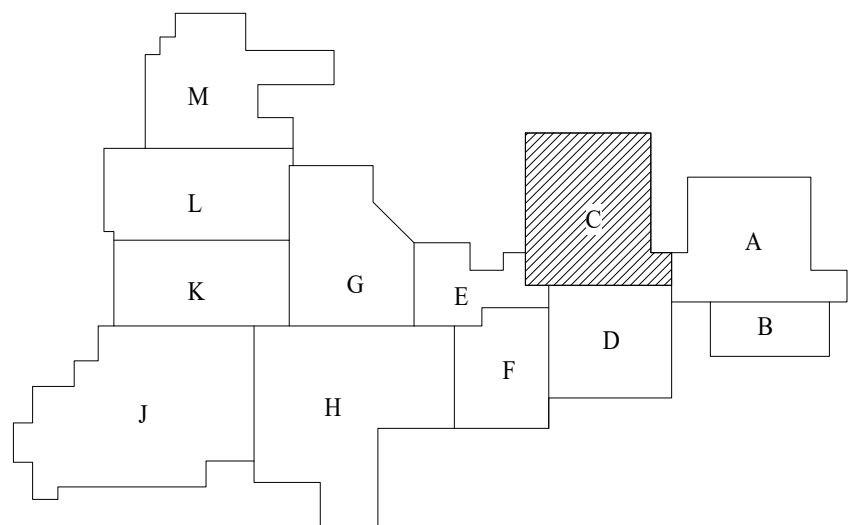
FIRE ALARM REPLACEMENT
HEATH HIGH SCHOOL
ROCKWALL INDEPENDENT SCHOOL DISTRICT
ROCKWALL, TEXAS

EMA JOB #:	1-001-0079-021
DRAWN BY:	CH
CHECKED:	QS
FIRE ALARM FLOOR PLAN LEVEL 2 - AREA C	
SHEET NUMBER FA2.03	
SHEET	OF

- FIRE ALARM GENERAL NOTES**
- SEE FA700 SERIES SHEETS FOR GENERAL NOTES, DETAILS AND SCHEDULES APPLICABLE TO THE ENTIRE DRAWING SET.
- ROCKWALL ISD FIRE ALARM STANDARDS**
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 - PROVIDE BLANK COVERS OVER ALL DEMOLISHED WALL MOUNTED FIRE ALARM DEVICE LOCATIONS, COORDINATE EXACT COLOR WITH OWNER PRIOR TO INSTALL.
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1 FIRE ALARM FLOOR PLAN - LEVEL 2 - AREA C
1/8" = 1'-0"



SUBMISSION OF BID WILL BE CONSIDERED ACKNOWLEDGMENT THAT THE CONTRACTOR HAS VISITED THE SITE AND HAS VERIFIED ALL EXISTING JOB CONDITIONS AND INCLUDED ANY NECESSARY MODIFICATION TO EXISTING AND NEW WORK REQUIRED FOR INSTALLATION OF A COMPLETE AND WORKING SYSTEM.



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FIRE ALARM FLOOR PLAN
LEVEL 2 - AREA D

SHEET NUMBER

FA2.04

SHEET OF

FIRE ALARM GENERAL NOTES

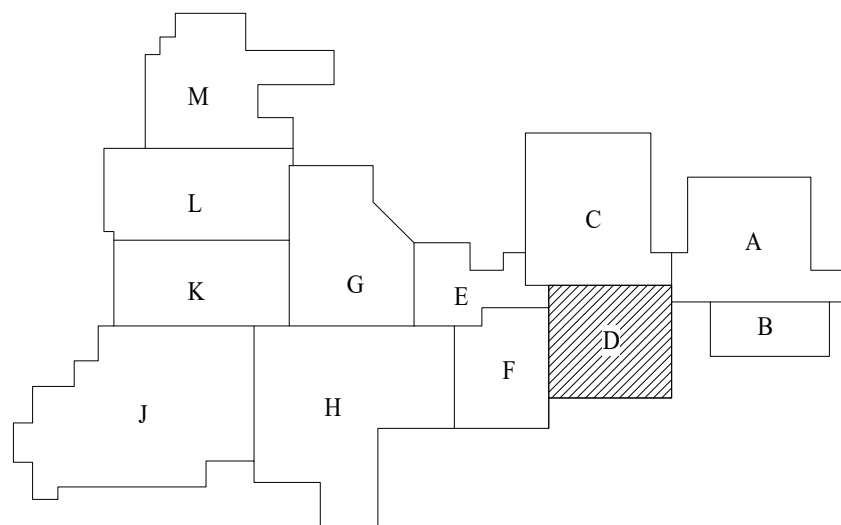
1. SEE FA700 SERIES SHEETS FOR GENERAL NOTES, DETAILS AND SCHEDULES APPLICABLE TO THE ENTIRE DRAWING SET.

ROCKWALL ISD FIRE ALARM STANDARDS

1. TURN OVER ALL DEMOLISHED FIRE ALARM EQUIPMENT TO OWNER.
2. PROVIDE BLANK COVERS OVER ALL DEMOLISHED WALL MOUNTED FIRE ALARM DEVICE LOCATIONS, COORDINATE EXACT COLOR WITH OWNER PRIOR TO INSTALL.
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1 FIRE ALARM FLOOR PLAN - LEVEL 2 - AREA D
1/8" = 1'-0"



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HEATH HIGH SCHOOL
ROCKWALL INDEPENDENT SCHOOL DISTRICT
ROCKWALL, TEXAS

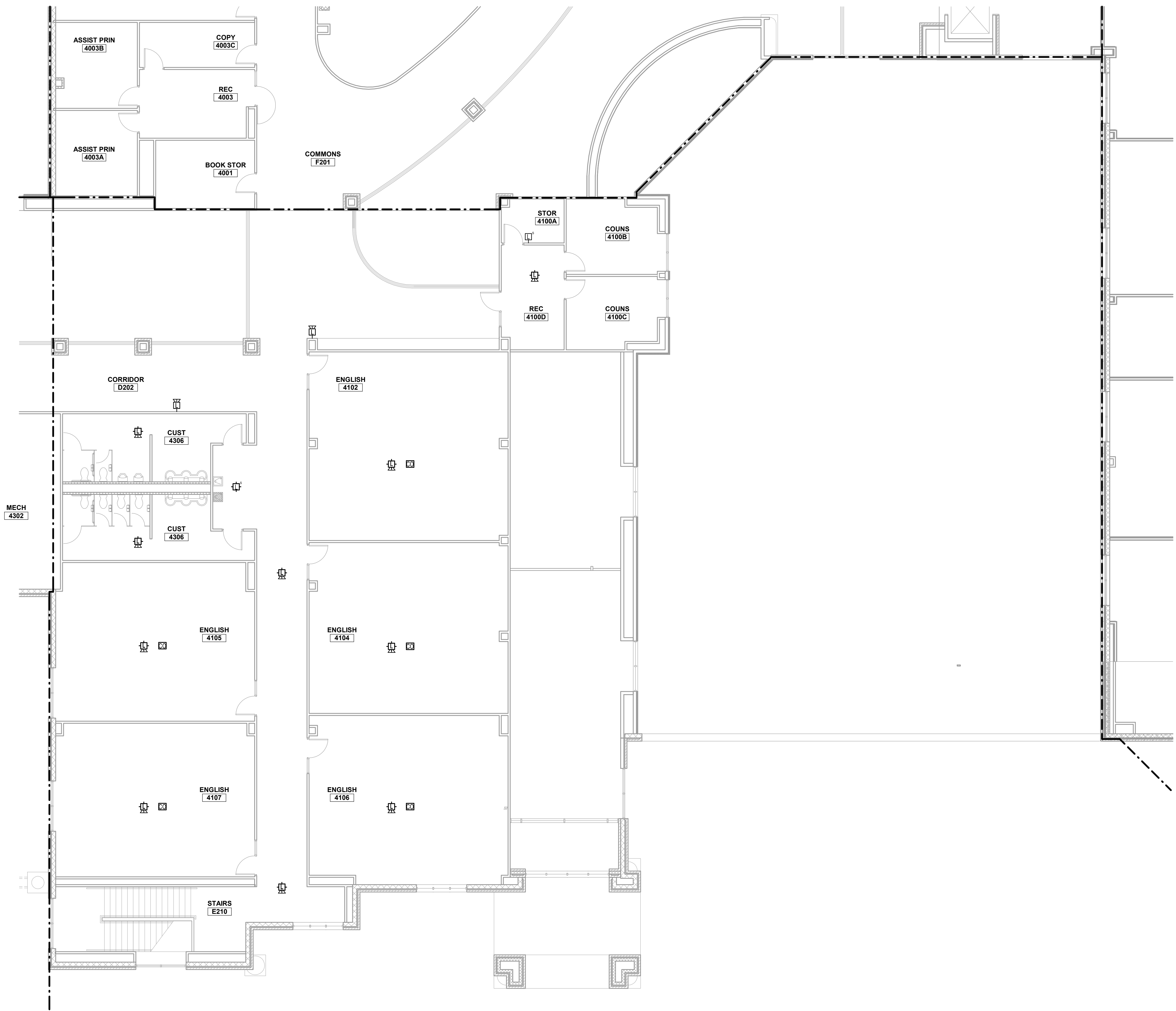
EMA JOB #: 1-001-0079-02
DRAWN BY: C
CHECKED: C

RE ALARM FLOOR PLAN
LEVEL 2 - AREA F

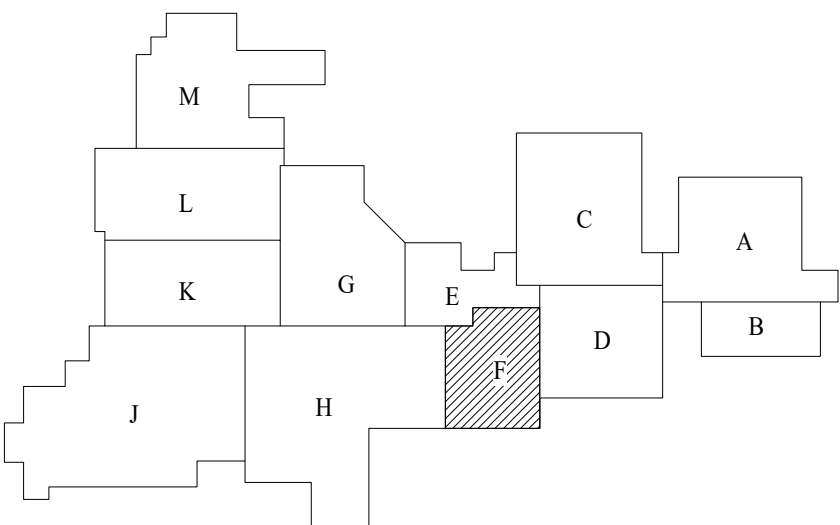
SHEET NUMBER
FA2.06
SHEET OF

1. SEE FA700 SERIES SHEETS FOR GENERAL NOTES, DETAILS AND SCHEDULES APPLICABLE TO THE ENTIRE DRAWING SET.

1. TURN OVER ALL DEMOLISHED FIRE ALARM EQUIPMENT TO OWNER.
2. PROVIDE BLANK COVERS OVER ALL DEMOLISHED WALL MOUNTED FIRE ALARM DEVICE LOCATIONS, COORDINATE EXACT COLOR WITH OWNER PRIOR TO INSTALL.
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1 FIRE ALARM FLOOR PLAN - LEVEL 2 - AREA F
1/8" = 1'-0"



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FIRE ALARM GENERAL NOTES

1. SEE FA700 SERIES SHEETS FOR GENERAL NOTES, DETAILS AND SCHEDULES APPLICABLE TO THE ENTIRE DRAWING SET.

TECHNOLOGY PLAN NOTES

① PROVIDE FIRE ALARM CONTROL RELAY FOR DOOR TO STAY OPEN WHEN FIRE ALARM INITIATES AN ALARM CONDITION.

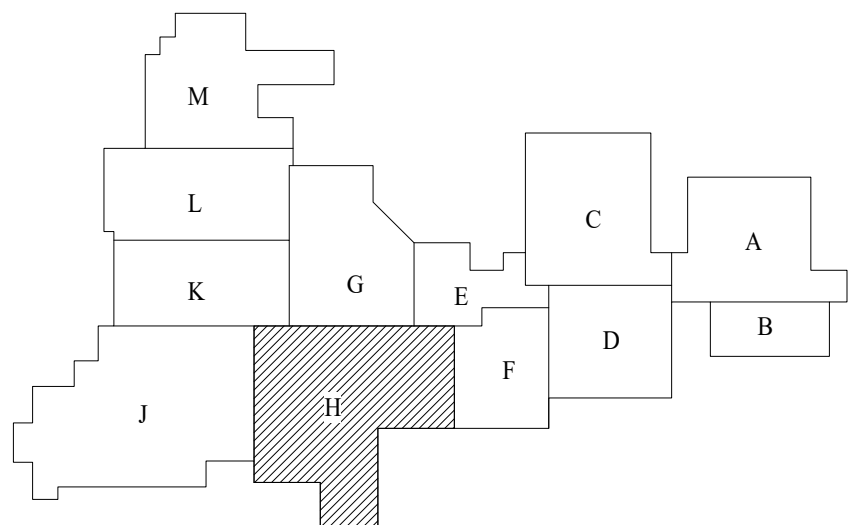
ROCKWALL ISD FIRE ALARM STANDARDS

1. TURN OVER ALL DEMOLISHED FIRE ALARM EQUIPMENT TO OWNER.

2. PROVIDE BLANK COVERS OVER ALL DEMOLISHED WALL MOUNTED FIRE ALARM DEVICE LOCATIONS, COORDINATE EXACT COLOR WITH OWNER PRIOR TO INSTALL.

3. FURNISH AND REPLACE CEILING TILES THAT HAVE HAD A DEVICE REMOVED OR DAMAGED FROM INSTALLING A DEVICE OR DAMAGED FROM HANDLING. COORDINATE WITH OWNER FOR EXACT MODEL NUMBERS REQUIRED.

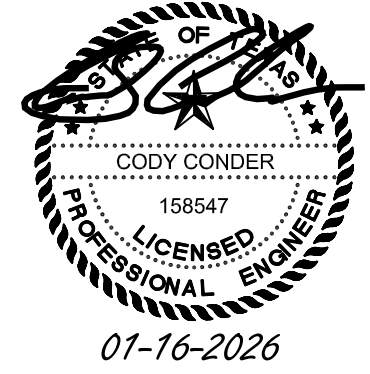
① FIRE ALARM FLOOR PLAN - LEVEL 2 - AREA H
1/8" = 1'-0"



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FIRE ALARM REPLACEMENT
HEATH HIGH SCHOOL
ROCKWALL INDEPENDENT SCHOOL DISTRICT
ROCKWALL, TEXAS

EMA JOB #:	1-001-0079-021
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FIRE ALARM FLOOR PLAN LEVEL 2 - AREA H	
SHEET NUMBER FA2.07	
SHEET	OF



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EMA JOB #: 1-001-0079-021

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FIRE ALARM FLOOR PLAN
LEVEL 2 - AREA J

SHEET NUMBER

FA2.08

SHEET OF

FIRE ALARM GENERAL NOTES

- SEE FA700 SERIES SHEETS FOR GENERAL NOTES, DETAILS AND SCHEDULES APPLICABLE TO THE ENTIRE DRAWING SET.

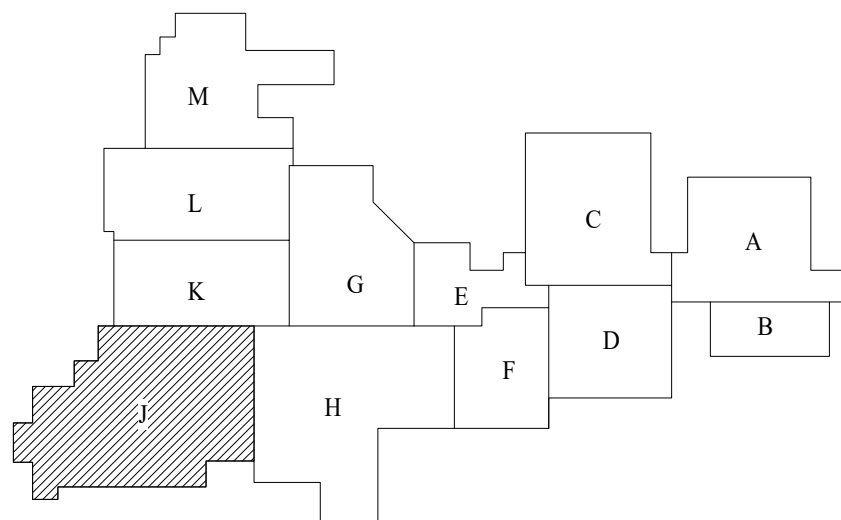
TECHNOLOGY PLAN NOTES

- FIRE ALARM CONTRACTOR SHALL PROVIDE DEVICES AS REQUIRED FOR ELEVATOR. REFER TO DETAIL ON FA700 SERIES SHEETS FOR FIRE ALARM DEVICE REQUIREMENTS.

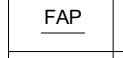
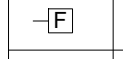
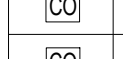
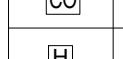
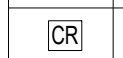
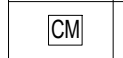
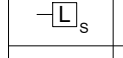
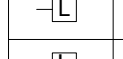
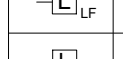
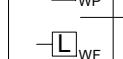
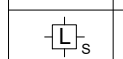
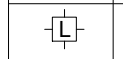
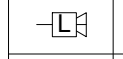
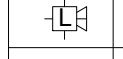
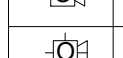
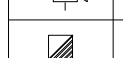
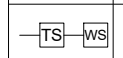
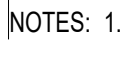
ROCKWALL ISD FIRE ALARM STANDARDS

- TURN OVER ALL DEMOLISHED FIRE ALARM EQUIPMENT TO OWNER.
- PROVIDE BLANK COVERS OVER ALL DEMOLISHED WALL MOUNTED FIRE ALARM DEVICE LOCATIONS, COORDINATE EXACT COLOR WITH OWNER PRIOR TO INSTALL.
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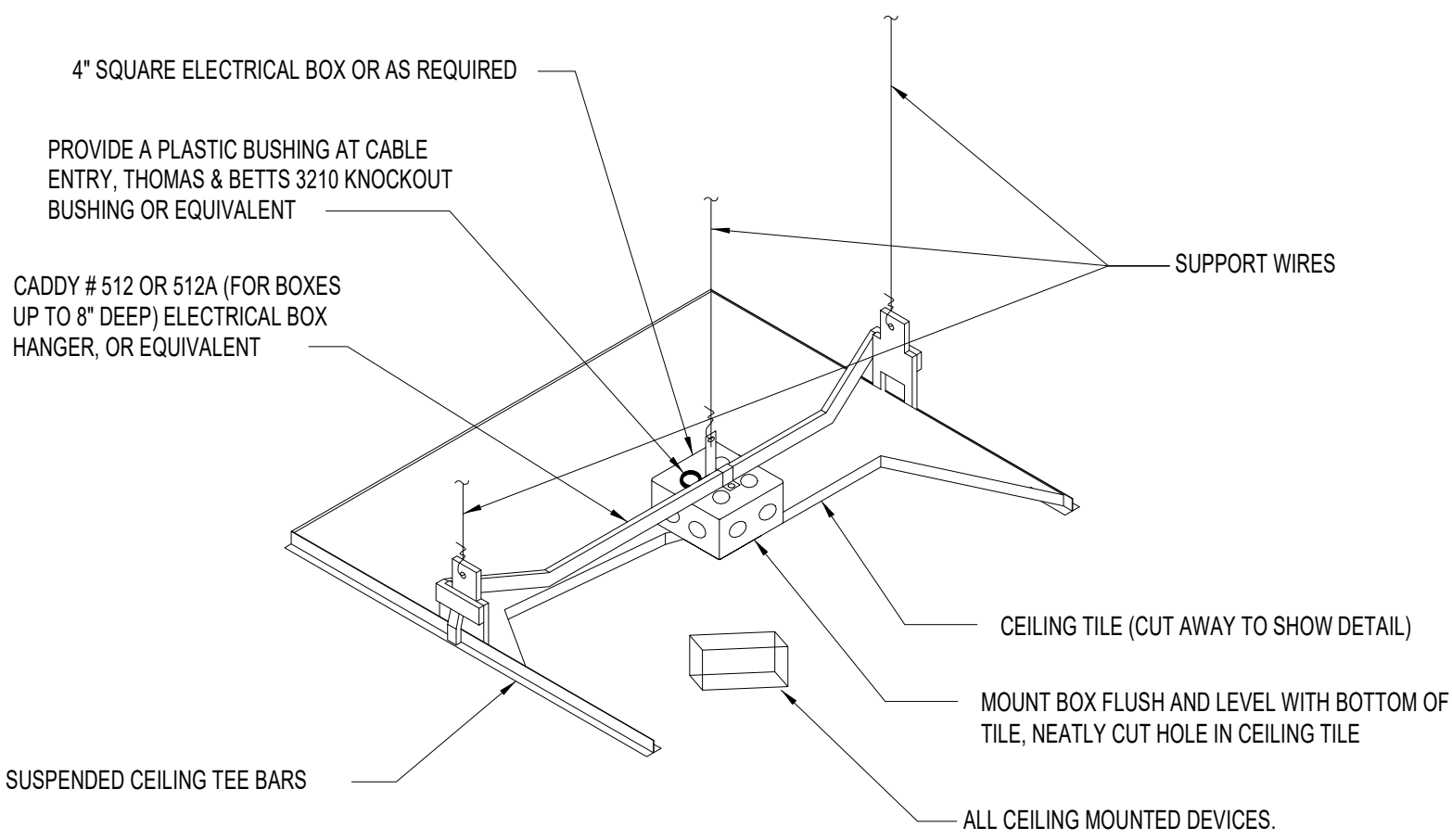
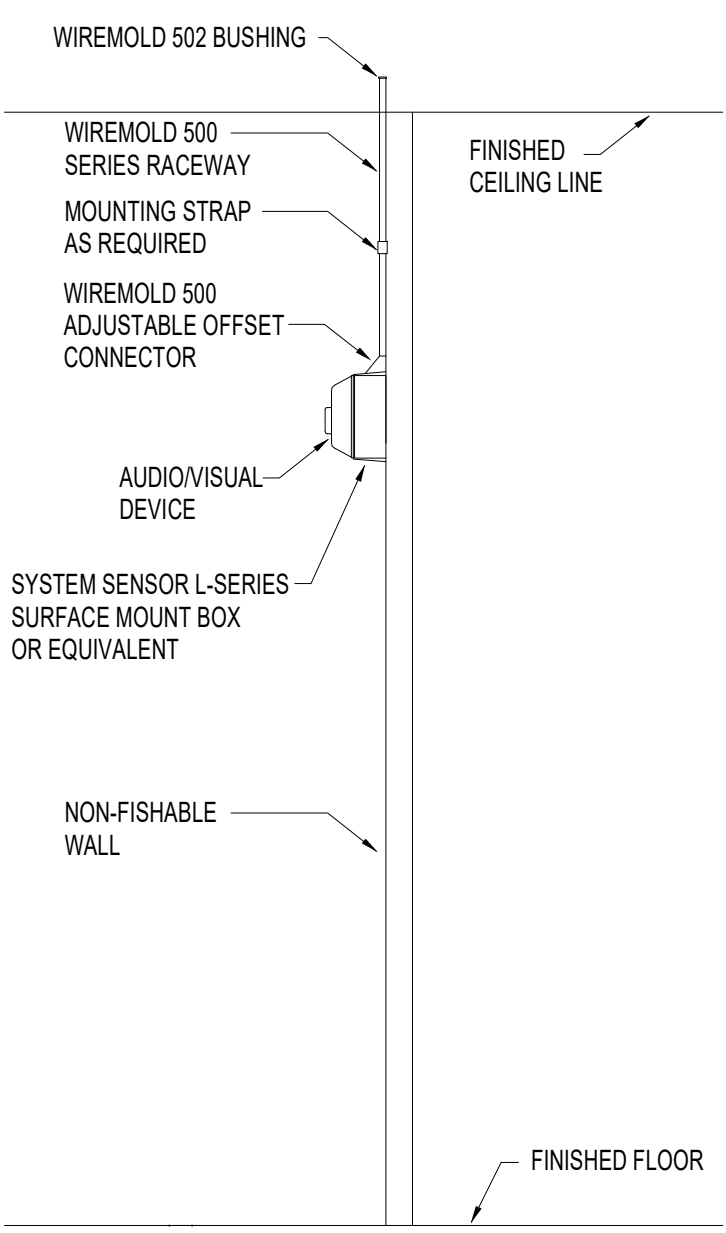
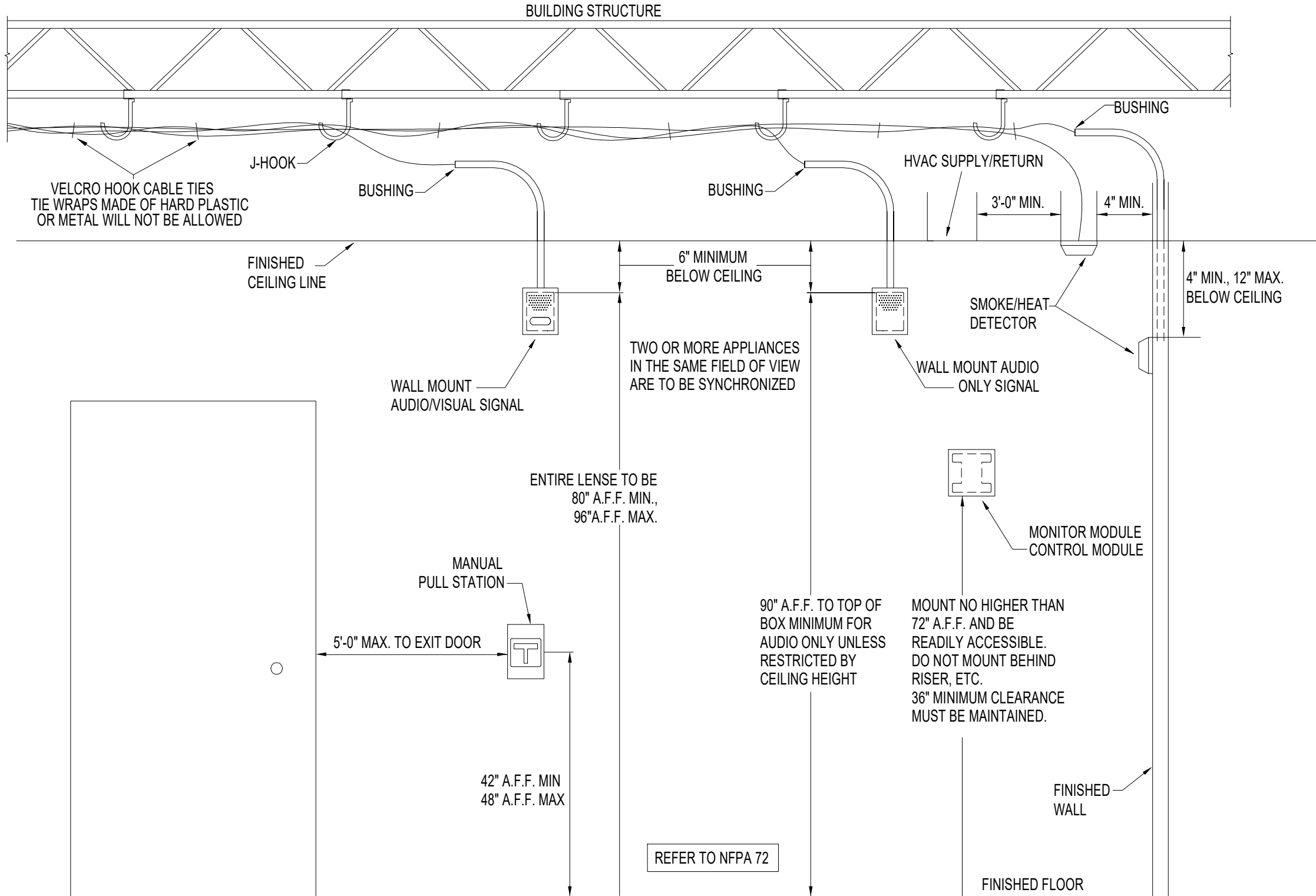
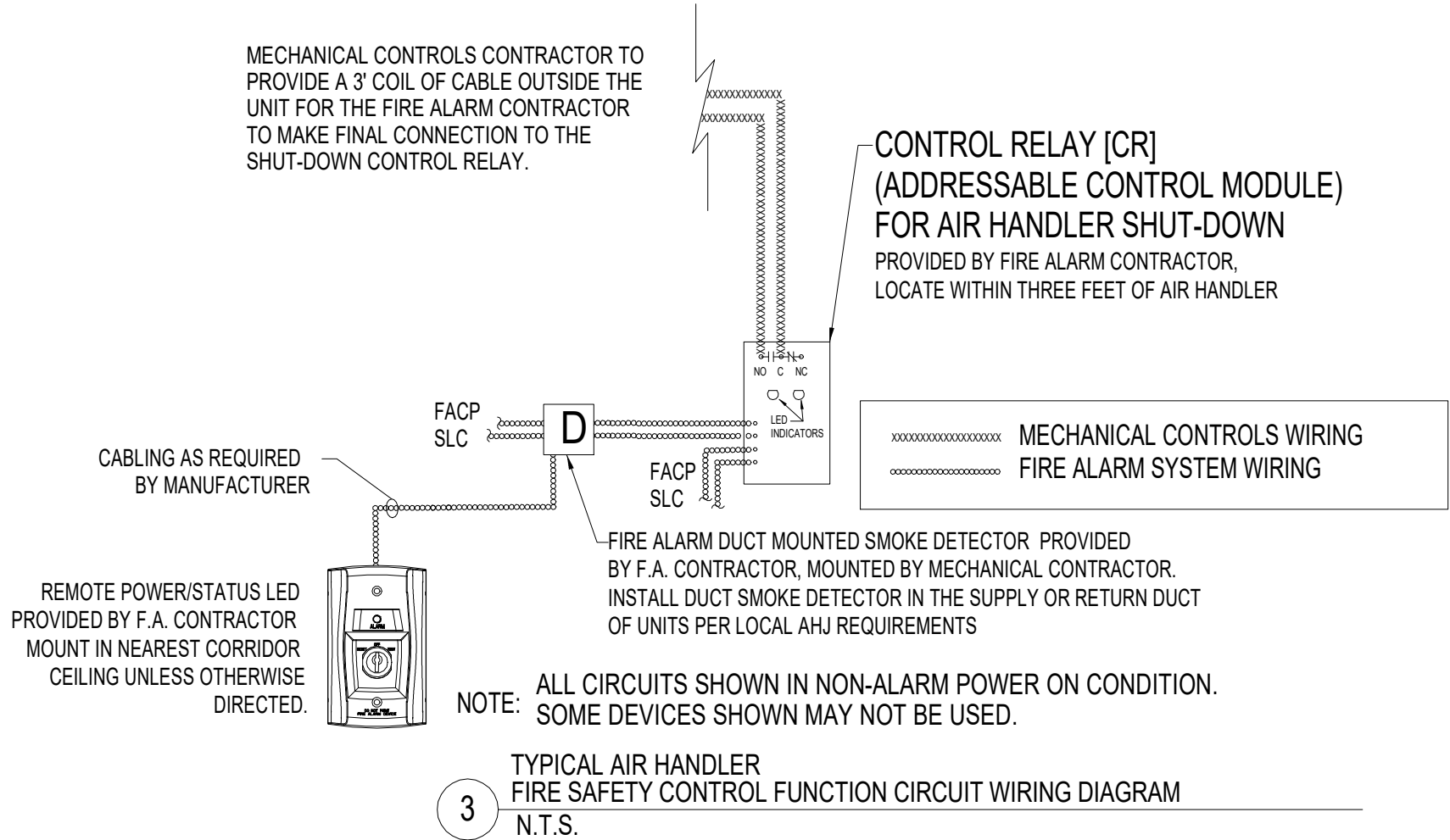
1 FIRE ALARM FLOOR PLAN - LEVEL 2 - AREA J
1/8" = 1'-0"



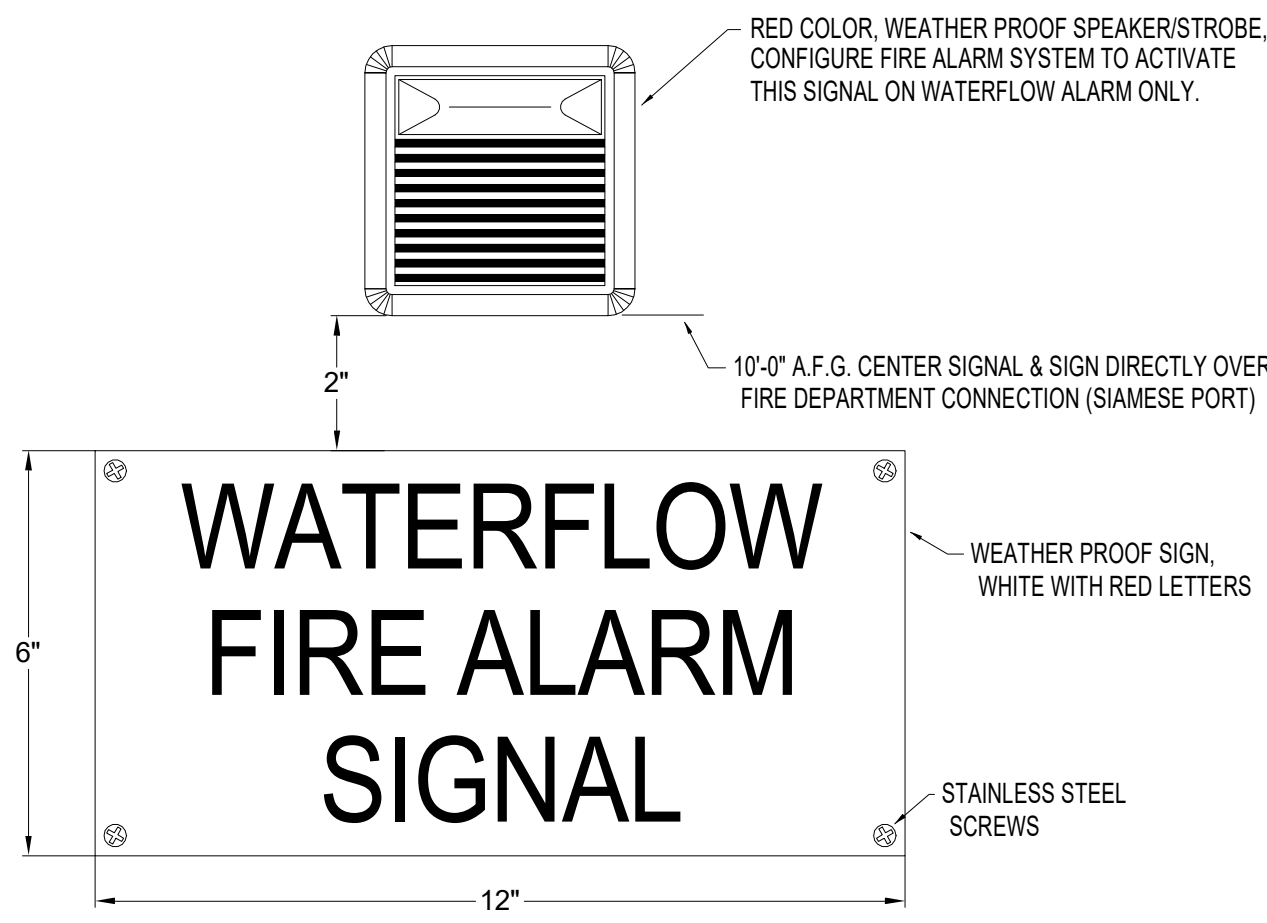
SUBMISSION OF BID WILL BE CONSIDERED ACKNOWLEDGMENT THAT THE CONTRACTOR HAS VISITED THE SITE AND HAS VERIFIED ALL EXISTING JOB CONDITIONS AND INCLUDED ANY NECESSARY MODIFICATION TO EXISTING AND NEW WORK REQUIRED FOR INSTALLATION OF A COMPLETE AND WORKING SYSTEM.

SYMBOL	FIRE DETECTION & ALARM SYSTEM SCHEDULE				NO EXCEPTIONS	APPROVED EQUIV.	COMMENTS
	PRODUCT	MANUFACTURER	PART NUMBER	ACCESSORIES			
	Fire Alarm Control Panel	Farenhyt	IFP-2100ECS	Voice Evaluation Notification	o		
	Fire Alarm Control Panel	Farenhyt	IFP-300ECS	Voice Evaluation Notification	o		Panel to be located in the Multipurpose building.
	Fiber Optic Modules	Honeywell	SK-NIC, SK-FSL, SK-FML	SK-NIC-KIT	o		Provide as required.
	Central Station Communicator						Refer to Specification Section 28 46 21, 2.04 IP AND CELLULAR COMMUNICATORS
	Records Document Cabinet	Space Age Electronics	SSU00689		o		Adjacent to FACP
	Floor Plan Map	Space Age Electronics	SSU52010		o		Adjacent to FACP
	Remote Annunciator	Farenhyt	RA-2000		o		
	Remote Power Supply	Farenhyt	PS-6PS-10/5895XL5496		o		
	Pull Station	Farenhyt	IDP-PULL-DA	STI Stopper 1100	o		
	Smoke Detector - Photoelectric	Farenhyt	IDP-PHOTO	B300-6 Base	o		
	Carbon Monoxide Detector	Farenhyt	IDP-FIRE-CO	B200S-6 Base	o		
	Carbon Monoxide Alarm Unit	System Sensor	CO1224TR		o		Provide Resettable 24VDC, Supervise with Monitor Module and EOL Relay
	Heat Detector	Farenhyt	IDP-HEAT	B300-6 Base	o		
	Duct Smoke Detector	Farenhyt	IDP-DUCT-R	RA100Z	o		
	Monitor Module	Farenhyt	IDP-MONITOR		o		
	Relay Module	Farenhyt	IDP-RELAY		o		
	Control Module	Farenhyt	IDP-CONTROL		o		
	Isolator Module	Farenhyt	IDP-ISO		o		
	Strobe - Wall	System Sensor	SWL		o		
	Horn/Strobe - Wall	System Sensor	P2WL		o		
	Horn/Strobe - Wall - Low Frequency 520Hz	System Sensor	P2WL-LF		o		
	Device Guard - Wall	Space Age Electronics	SSU03503		o		
	Horn/Strobe - Wall - Weatherproof	System Sensor	P2RK		o		
	Horn/Strobe - Wall - Weatherproof - Waterflow	System Sensor	P2RK		o		Install Above the Fire Department Connection (FDC)
	Strobe - Ceiling	System Sensor	SCWL		o		
	Horn/Strobe - Ceiling	System Sensor	PC2WL		o		
	Speaker/Strobe - Wall	System Sensor	SPSWL		o		
	Speaker/Strobe - Ceiling	System Sensor	SPSCWL		o		
	Speaker/Strobe - Wall - Weatherproof	System Sensor	SPSCWL		o		
	Speaker/Strobe - Wall - Weatherproof - Waterflow	System Sensor	SPSRK		o		Install Above the Fire Department Connection (FDC)
	Speaker - Wall	System Sensor	SPWL		o		
	Speaker - Ceiling	System Sensor	SPCWL		o		
	Electromagnetic Door Hold/Release Device	Edwards	DH150A		o		
	Kitchen Vent Hood Suppression System						Furnished by Kitchen Hood Suppression System Contractor
	Fire Sprinkler Valve Tamper & Waterflow Switches						Furnished by Fire Sprinkler Contractor

NOTES: 1. REFER TO SPECIFICATIONS 28 46 21 FOR ADDITIONAL INFORMATION.



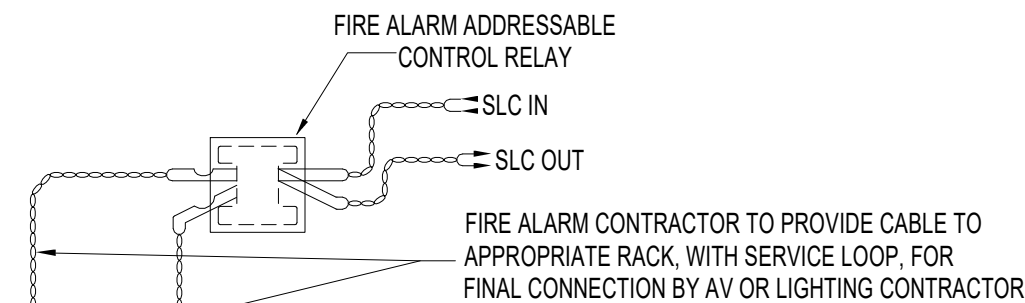
1 HANGER BAR DETAIL FOR ALL DROP CEILING MOUNTED DEVICES
N.T.S.



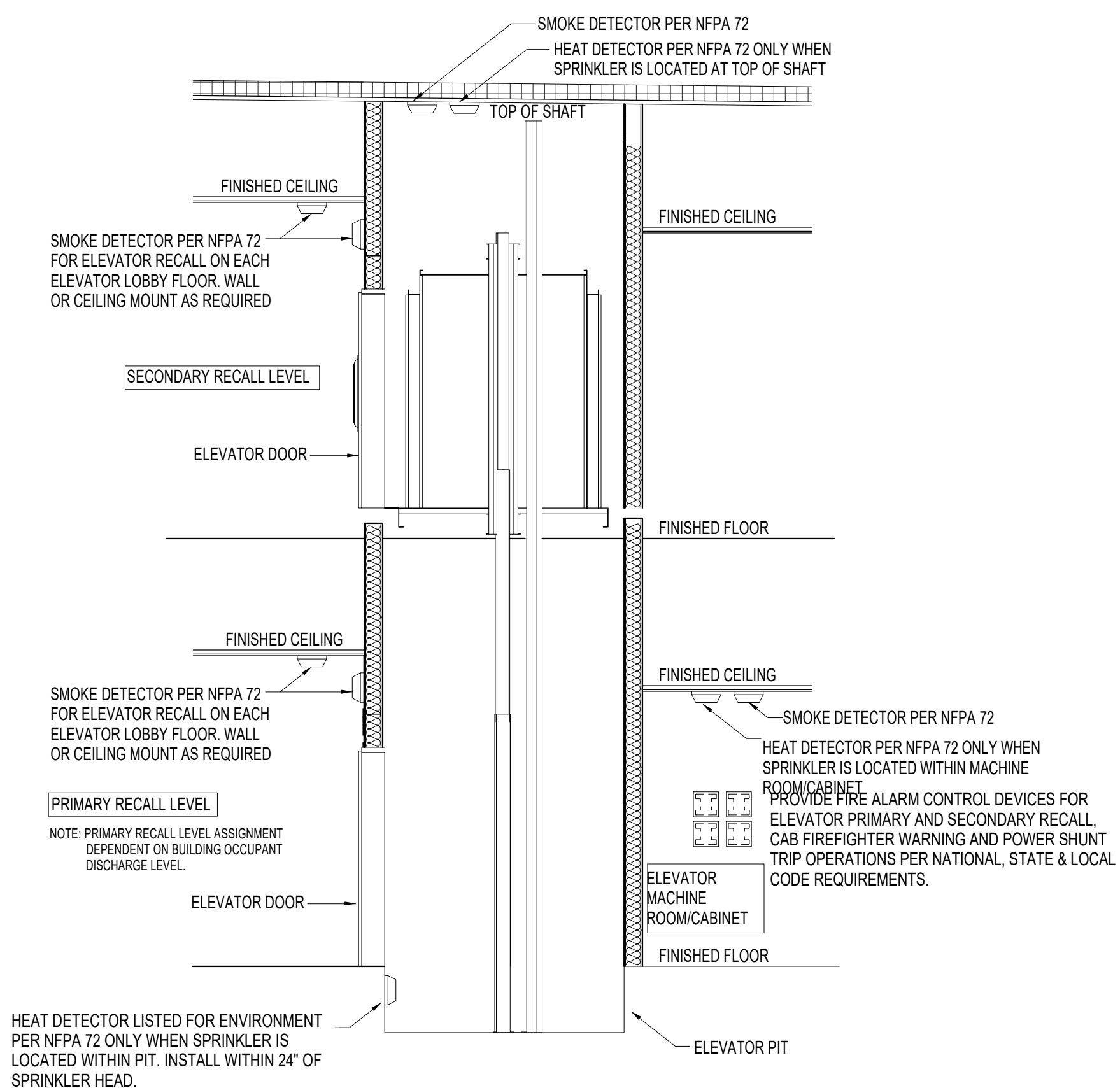
2 EXTERIOR WATERFLOW FIRE ALARM SIGNAL
N.T.S.

FIRE ALARM GENERAL NOTES

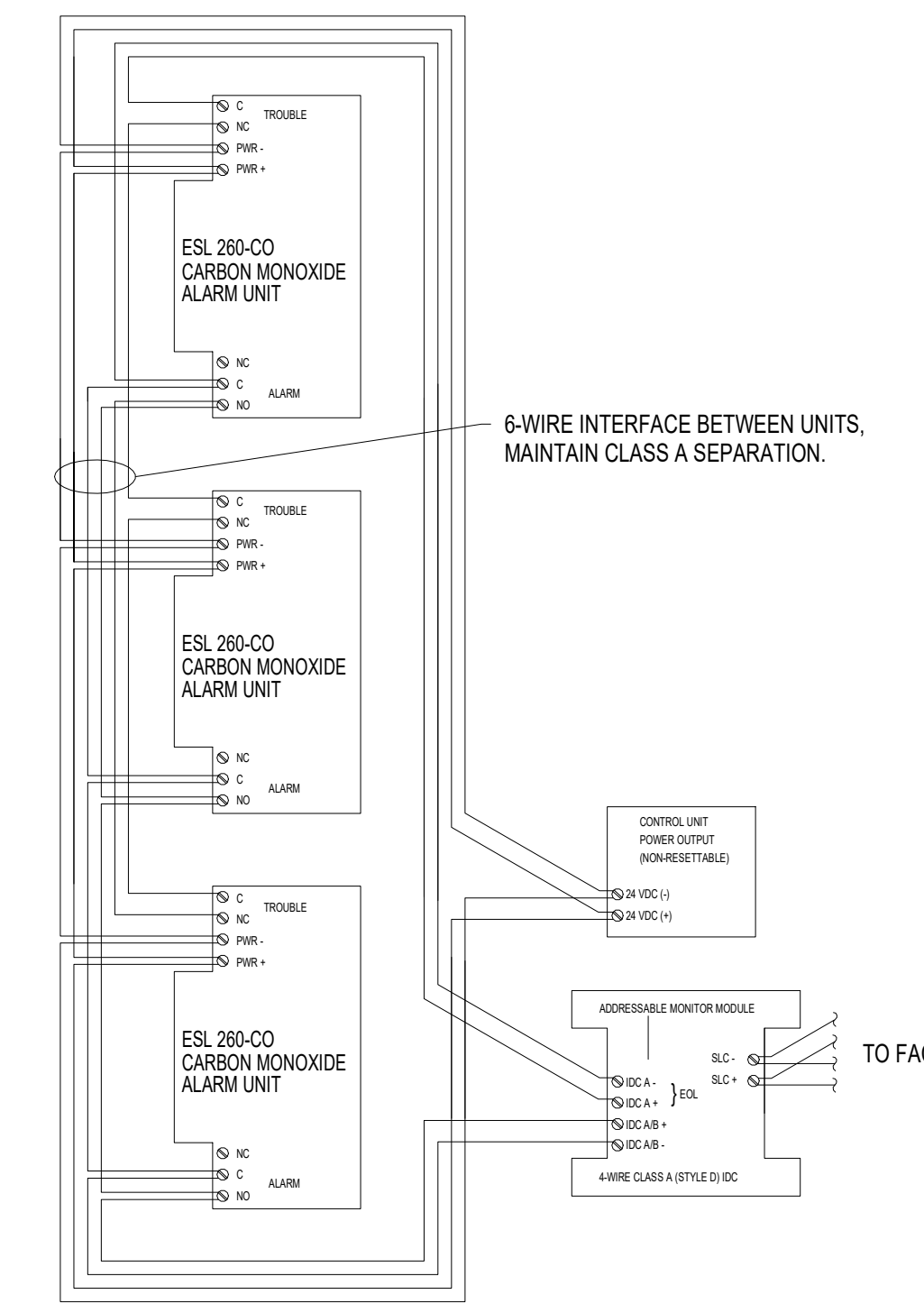
- FIRE ALARM CONTRACTOR SHALL PROVIDE ALL CONDUIT AND STANDARD BACKBOXES FOR SYSTEMS SHOWN ON THIS DRAWING IN BASE PROPOSAL.
- IN ANY EXPOSED CEILING AREAS ALL LOW VOLTAGE CABLING SHALL BE ENCLOSED IN CONDUIT.
- ALL FIRE ALARM CABLING SHALL RUN DOWN THE CORRIDORS AND BRANCH OFF TO EACH ROOM TRUNKING SHALL BE RUN PRIMARILY PERPENDICULAR TO BUILDING WALLS.
- CABLING SHALL BE RAN IN BUNDLES ABOVE ACCESSIBLE CEILINGS AND SUPPORTED FROM BUILDING STRUCTURE BY J-HOOKS, CONDUITS OR CABLE TRAY. CABLING MUST NOT BE FASTENED TO ELECTRICAL CONDUITS, MECHANICAL DUCTWORK/PIPING, SPRINKLER PIPE, CEILING GRID OR WIRES. CABLING SHALL NOT BE RAN LOOSE ON CEILING TILE OR GRID.
- WHERE NO FINISHED CEILINGS ARE SCHEDULED ALL DEVICES, CONDUIT, AND BACKBOXES SHALL BE INSTALLED UP AGAINST BOTTOM OF DECK AND SHALL NOT PROTRUDE BELOW BOTTOM OF STEEL. THE ENGINEER AND OWNER SHALL APPROVE ROUTING OF ALL EXPOSED ROUGH-INS PRIOR TO PLACEMENT.
- ANY SIGNAL, OUTLET OR OTHER DEVICE MOUNTED ON A COLUMN, PILASTER, OR SIMILAR WALL OFFSET AREA SHALL BE CENTERED.
- VERIFY MARKERBOARD, TACKBOARD, AND DOOR SWING LOCATIONS WITH ARCHITECTURAL PLANS - DO NOT INSTALL DEVICES IN THESE AREAS.
- THE FIRE ALARM CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE LOCATION AND QUANTITIES OF ALL DUCT SMOKE DETECTORS AND CONTROL RELAYS THAT ARE REQUIRED BY THE CODE AND AHJ FOR THE MECHANICAL SYSTEMS.
- FIRE ALARM CONTRACTOR SHALL PROVIDE DUCT MOUNTED SMOKE DETECTORS AND CONTROL RELAYS WHERE REQUIRED. FIRE ALARM CONTRACTOR SHALL INSTALL HOUSING AND SAMPLE TUBES IN DUCT. FIRE ALARM CONTRACTOR TO PROVIDE LOW VOLTAGE CONNECTION TO FIRE ALARM.
- FIRE ALARM CONTRACTOR SHALL VERIFY CIRCUIT STYLE, QUANTITY, AND LOCATION OF DEVICES TO MEET ALL APPLICABLE CODES, LAWS, AND ALL REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION FOR INCLUSION IN BASE PROPOSAL.
- THE FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF EXPOSED SURFACE MOUNTED BACK BOXES, JUNCTION BOXES, RACEWAYS, CONDUIT AND SUPPORTS LOCATED ON FINISH WALLS AND CEILINGS NOT TO BE REUSED FOR CABLE OR DEVICE INSTALLATION.
- PATCHING AND PAINTING OF DISTURBED FINISHED SURFACES SHALL BE BY THE FIRE ALARM CONTRACTOR AS REQUIRED. ALL WORK SHALL BE IN A NEAT AND WORKMANLIKE MANNER AND AS APPROVED BY THE OWNER AND ENGINEER.
- SEAL VOIDS AROUND FIRE-RATED WALL AND FLOOR PENETRATIONS USING FIRE STOPPING MATERIALS AND METHODS THAT ARE UL APPROVED AND INSTALLED IN ACCORDANCE WILL ALL APPLICABLE CODES. THE INSTALLED FIRE STOPPING SHALL BE EQUAL TO OR GREATER THAN THE FIRE RATING OF THE WALL OR FLOOR.
- REFER TO SPECIFICATION DIVISION 28 FOR ADDITIONAL INFORMATION.



4 FIRE ALARM SOUND SYSTEM AND HOUSE LIGHTING CONTROLS
N.T.S.
REFER TO SPECIFICATIONS 28 46 21 FOR MORE DETAIL.



7 FIRE ALARM REQUIREMENTS FOR ELEVATOR
N.T.S.



8 CARBON MONOXIDE ALARM UNIT ZONE WIRING DIAGRAM
N.T.S.

SUBMISSION OF BID WILL BE CONSIDERED ACKNOWLEDGMENT THAT THE CONTRACTOR HAS VISITED THE SITE AND HAS VERIFIED ALL EXISTING JOB CONDITIONS AND INCLUDED ANY NECESSARY MODIFICATION TO EXISTING AND NEW WORK REQUIRED FOR INSTALLATION OF A COMPLETE AND WORKING SYSTEM.

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EMA Engineering & Consulting, Inc.
Tyler | Austin | Houston | El Paso
DFW | San Antonio | Shreveport
Texas Firm Registration No. F-933
Louisiana Firm Registration No. EF-5818
www.EMAengineer.com



ISSUE DATE

JANUARY 16, 2026

REVISION DATE

FIRE ALARM REPLACEMENT
HEATH HIGH SCHOOL
ROCKWALL INDEPENDENT SCHOOL DISTRICT
ROCKWALL, TEXAS

EMA JOB #: 1-001-00794021

DRAWN BY: CH

CHECKED: QS

**FIRE ALARM DETAILS,
SYMBOLS & GENERAL
NOTES**

SHEET NUMBER

FA7.01

SHEET OF

PROJECT MANUAL

EMA PROJECT NO. 7 001 0079 022

JANUARY 16, 2026

**FIRE ALARM REPLACEMENT
SHANNON ELEMENTARY SCHOOL
ROCKWALL INDEPENDENT SCHOOL DISTRICT
ROCKWALL, TEXAS**

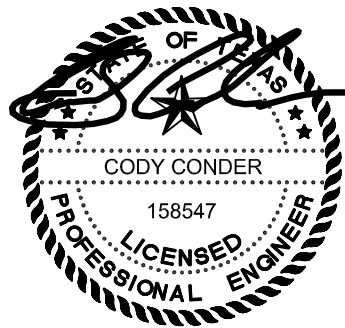
**ENGINEER:
EMA
ENGINEERING & CONSULTING
328 SOUTH BROADWAY
TYLER, TEXAS 75702
903-581-2677**

REGISTRATION NO. F-893

SEALS PAGE

EMA PROJECT NO. 7 001 0079 022

**FIRE ALARM REPLACEMENT
SHANNON ELEMENTARY SCHOOL
ROCKWALL INDEPENDENT SCHOOL DISTRICT
ROCKWALL, TEXAS**



01-16-2026

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FIRE ALARM REPLACEMENT**SHANNON ELEMENTARY SCHOOL****ROCKWALL INDEPENDENT SCHOOL DISTRICT****ROCKWALL, TEXAS**

SECTION 28 46 21

FIRE DETECTION AND ALARM SYSTEM

PART 1 GENERAL

1.1 WORK INCLUDES

- A. This specification and the drawings provides requirements for the complete demolition and replacement of the fire detection and alarm system. The specification reflects the intent of the design and installation.
- B. Remove the entire existing fire alarm system including the panel, power supplies, cabling and all devices including, but not limited to, door hold open devices, auxiliary relays, remote indicator/test devices, tamper/damage covers, unused raceways/conduits, etc.
- C. Refer to the drawing schedules for equipment and device make, model and part numbers and other information.
- D. Equipment specified herein is designed to provide specific functional and operational characteristics. It is the responsibility of the Contractor to provide all features and functions as outlined in these specifications.
- E. The Owner has specific standards for fire alarm system manufacturer, intelligent addressable device communication protocols, cable conductor sizes, and cable jacket colors as specified herein.
- F. Furnish and install all equipment, accessories, materials, tools, scaffolding, man lifts, labor and transportation in accordance with these specifications to provide a complete and operating fire alarm system.
- G. It is the intent of these specifications and drawings to provide complete installations although every item necessary may not be specifically mentioned or shown.
- H. This project shall include preparation of construction plans locating the fire alarm system devices and having the plans reviewed by the Engineer, Owner, and local AHJ for permitting.
- I. It shall be the responsibility of this Contractor to obtain all required approvals, permits, and certifications from Authorities Having Jurisdiction (AHJ).
- J. Fire alarm cable that cannot be concealed by finished walls and ceilings are to be enclosed in a raceway. Regardless of height or the space, all fire alarm cable in open areas shall be enclosed in conduit. Conduit and raceway installations shall be of a neat and workman like manner. Conduits shall run parallel and at right angles to the building structure and be supported per NFPA 70 guidelines. Conduit runs from wall devices to the accessible ceiling area shall have a plastic bushing installed on the end to protect cable.
- K. Existing 120VAC power branch circuits that are powering fire alarm control panels, amplifiers, power supply panels that are to be removed, may be repurposed to power the new replacement panels as required, as long as the circuits meet code requirements for fire alarm equipment power. New equipment that is located in an area where no 120VAC branch circuits exist shall be installed by a licensed electrical contractor. It is this contractor's responsibility to contract, schedule and to pay to have the 120VAC circuit installed. The Owner reserves the right to

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approve the electrical contractor. More than one fire alarm component requiring 120VAC may be fed from one dedicated circuit providing the limitations of the 20-amp circuit are not exceeded. Each such circuit breaker shall be labeled in red, in a visible area utilizing a self-laminating, flexible vinyl film, non-smear, machine printed label, at the power distribution panel as FIRE ALARM. Secure the "ON" breaker handle with a lockout clip that is red and clearly labeled "FIRE ALARM" equal to Space Age Electronics "ELOCK" or equivalent. A breaker panel key shall be stored within the locked cabinet of each fire alarm control unit. The location of all circuit breakers serving the fire alarm control unit shall be posted in the fire alarm control unit cabinets. Each cabinet shall be grounded securely to the building grounding system.

L. Fire safety control devices and equipment:

1. Existing buildings include fire safety control devices and equipment that is designed to make the building occupants safer from the impact of fire and smoke during evacuation. The fire alarm system contractor is responsible for ensuring these systems are integrated and function properly with the new fire alarm system. These may include but are not limited to:
 - a. Fire/smoke curtains, shutters and doors.
 - b. Smoke exhaust fans, smoke exhaust vents and controls.
 - c. Air handler shutdown.
 - d. Fire/smoke damper control.
 - e. Elevator fire service functions and cab recall.
 - f. Automatic door unlocking.
2. Each Fire Safety Control Function circuit controlled device shall be configured such that when the fire alarm system safety control circuit is re-energized, by the fire alarm control panel, the device shall return to normal operation (e.g. re-start or be ready to re-start) without a need for manual or environmental control system intervention.

1.2 ADDITIONAL MATERIALS: INCLUDE IN THE BASE CONTRACT PROPOSAL

- A. All costs to provide fifteen (15) additional initiation devices installed, including cable and device, as directed by the Owner's Representative. Conduit and standard back boxes by Division 26 Electrical Contractor.
- B. All costs to provide fifteen (15) additional notification devices installed, including cable and device, as directed by the Owner's Representative. Conduit and standard back boxes by Division 26 Electrical Contractor.

1.3 EXISTING ELECTRONIC SAFETY AND SECURITY SYSTEMS

- A. The electronic safety and security contractor shall be responsible for complete demolition of the existing fire detection and alarm system. Demolition shall include:
 1. Disconnection and removal of all fire detection and alarm system devices not to remain in service in walls, floors, and ceilings.
 2. Identification and verification of abandoned wiring and equipment. All disconnected or abandoned devices that are visible shall be removed, i.e., non-functional fire pulls, bells, speakers, signals, et cetera. Remove abandoned wiring to the source of the supply everywhere possible, the accessible portions of all inaccessible abandoned cabling shall be removed.
 3. Demolition of devices, cabling, back boxes, and conduit previously abandoned.
 4. Removal of exposed surface ceiling and surface wall back boxes, boxes, raceway, conduit and supports including brackets, stems, hangers, and other accessories located on walls and above accessible finished ceilings.
 5. Provide a blank cover for abandoned device backboxes that are impractical to remove from masonry construction without unnecessary damage.

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6. Confirm with Owner/Architect regarding the handling and disposal/reuse of removed material, equipment, devices, et cetera.
7. Off-site disposal in a legal manner of all materials not requested to be turned over to the Owner. Comply with government regulations pertaining to environmental protection, and disposal of materials and equipment. Do not burn any materials on the site.
8. Repair of any finishes or adjacent construction damaged during modification, extension, and demolition work.

1.4 WORK NOT INCLUDED

- A. Contractors shall make no agreement that obligates the Owner to pay any company providing communications, monitoring, or other services.
- B. Contractors shall not make selection, purchase, or installation of interconnect instruments and/or equipment to be used on this project.

1.5 PRESCRIPTIVE CODES, STANDARDS, AND REGULATIONS

- A. Perform all work in strict accordance with the requirements and recommendations stated in the codes and standards except when requirements are exceeded by the contract documents.
- B. In addition to requirements outlined in other sections of the specifications these codes and standards are imposed as applicable to the work in each instance.
- C. The equipment, materials, and installation shall conform to the latest version of all applicable codes, standards and regulations of authorities having jurisdiction.
- D. Nothing in the Contract Documents shall be construed to permit work not conforming to these codes and standards.
- E. When two or more codes or standards are applicable to the same work, then the stricter code or standard shall govern.
- F. The date of the code or standard is that in effect on the date of issue stated on the contract documents, except when a particular publication date is specified.
- G. The Contractor shall comply with all State, Federal, NFPA, local codes and ordinances that may alter any part of the plans or specifications. The Contractor shall bear all costs for correcting any deficiencies due to non-compliance.
- H. Where local codes and ordinances are not in writing or on record but local precedence have been set, the Owner shall pay for any additional resulting cost.

1.6 PLANS AND SPECIFICATIONS

- A. The intent of the project drawings is to establish the types of systems and functions, but not to set forth each item essential to the functioning of the system.
- B. The drawings are generally diagrammatic and show approximate location and extent of work.
- C. Install the work complete including minor details necessary to perform the function indicated. Provide fire alarm systems (including all connections) complete in every respect and ready to operate.
- D. If clarification is needed, consult the Owner's Representative.

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- E. Review pertinent drawings and adjust the work to conditions shown. Where discrepancies occur between drawings, specifications, and actual field conditions, immediately notify the Owner's Representative for his interpretation.
- F. The Owner's Representative reserves the right to make any reasonable change in the location of any part of this work without additional cost to the Owner.
- G. Fire Detection and Alarm System Design Advisory:
 - 1. The Licensed Engineer of Record for this project makes the following statement:
 - a. The fire detection and alarm system drawings shall not be deemed engineered drawings (shop drawings). The Licensed Engineer of Record for this project will not prepare engineered fire detection and alarm system drawings. The Contractor shall provide a complete, automatic building fire alarm system, as performance based delegated design. The fire detection and alarm system designer shall be licensed by the State Fire Marshal's Office.
 - b. Suggested location of the fire detection and alarm system notification and initiation appliances, fire alarm control panel, alarm annunciator panel, and all other devices as shown on the plans are for reference only. Contractor shall design the fire detection and alarm system according to the local adopted codes with amendments. Confirm the fire detection and alarm system design meets all applicable code requirements through permitting and design review and approval by the appropriate AHJ and local Fire Marshal.

1.7 SITE VISIT

- A. Before submitting a proposal, each proposed contractor shall examine all plans and specifications relating to the work, shall visit the site of the project, and become fully informed of the extent and character of the work required, including all required utilities and work to remote areas.
- B. No consideration will be granted for any alleged misunderstanding of the materials to be furnished or the amount of work to be done, it being fully understood that the tender of a proposal carries with it the agreement to all items and conditions referred to herein, or indicated on the accompanying plans or required by nature of the site of which may be fairly implied as essential to the execution and completion of any and all parts of the work.

1.8 EXTENT OF WORK

- A. Before submitting a proposal, each proposed contractor shall examine all plans, specifications, and the existing systems relating to the work, and become fully informed of the extent and character of the work required, including all required underground or overhead connections.
- B. No consideration will be granted for any alleged misunderstanding of the materials to be furnished or the amount of work to be done, it being fully understood that the tender of a proposal carries with it the agreement to all items and conditions referred to herein, or indicated on the accompanying plans or required by nature of the site of which may be fairly implied as essential to the execution and completion of any and all parts of the work.

1.9 SUBMITTALS

- A. Submit a complete submittal package within 30 calendar days after award of this work for approval. Equipment is not to be ordered without approval. Partial submittals are not acceptable for review. Each submittal shall include a dated transmittal.
- B. Submittal shall be electronically transmitted in PDF file format.

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- C. For each submittal provide a cover sheet with the name and location of the project, the name, address and telephone number of the Contractor, and the name, address and telephone number of the submitting sub-contractor. Include on or after the cover sheet sufficient space for review stamps.
- D. Quality Assurance Submittal including special boxes, cable, and other material as requested by the Owner's Representative:
 - 1. Letter from manufacturer stating that the Contractor is an Authorized Factory Distributor for the area where the project is located.
 - 2. The Contractor and Manufacturer shall supply sufficient information to indicate that the proposed system is based on the latest hardware, software technology available.
 - 3. Current copy of the contractors State issued license for sales, service, and installation of fire detection and alarm systems.
 - 4. Current copy of the fire detection and alarm system designer's commercial (non-residential) State issued license of the person responsible for the design of the system submitted.
- E. Product Data Submittal to include special boxes, cable, and other material as requested by the Owner's Representative including:
 - 1. An indication of any deviations from Contract Document requirements, including variations and limitations. Show any revisions to equipment layout required by use of selected equipment.
 - 2. A product data index and complete equipment list including for each product submitted for approval the manufactures name and part number, including options and selections.
 - 3. Cut-sheets or catalog data illustrating the physical appearance, size, function, compatibility, standards compliance, and other relevant characteristics of each product on the equipment list.
 - 4. Indicate by prominent notation (an arrow, circle, or other means) on each sheet the exact product and options being submitted.
 - 5. Submit design data, when the scope of work requires, including schematics, risers, sequences, or other data.
 - 6. If not included in the Shop Drawings, calculations for notification device circuit current drop, conductor size, and battery backup for each unit.
 - 7. Resubmittals shall include a complete revised equipment list and any product data that is revised with revision notation and clouded changes.
- F. Shop Drawings Submittal to include:
 - 1. A cover page that includes project name and address, index of drawings, scope of work description, code editions designed under, local AHJ information, a sequence of operation input/output matrix, bill of material, device and cable legends, typical device connections and installation height details, schedules and location map.
 - 2. Produce accurate to scale (min. 1/8" = 1') drawings showing equipment and device layouts prepared using a CAD or BIM engineering drawing program. When CAD background files are not available for existing buildings the Contractor shall inspect the site and collect information to create a floor plan. Walls shall be double line showing the thickness, single line diagrams are not acceptable.
 - 3. Every room shall have a name and number identifying the use of the space with ceiling heights notated for each space or group of spaces throughout the design.
 - 4. Indicate and/or notate door swings, glass walls, half walls, floor to ceiling windows, skylights, and other openings, projections, ceiling features, elevation changes, et cetera that affect the placement of alarm devices.
 - 5. Show fire-rated walls, fire/smoke rated doors, fire rated shutters, fire rated rolling doors.
 - 6. Locate and label all components of the system, label and indicate circuit routing, cable type, and gauge. The fire alarm panel location and all device locations shall be clearly

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- identified by symbols matching the symbol legend. The labeling of circuits and devices shall correspond with the riser diagram.
7. Riser diagrams showing all components of the system. Show control panels, power supply panels, amplifiers, annunciators, network interfaces, all initiation and notification devices. Partial or typical riser diagrams are not acceptable.
 8. If not included in the Product Data Submittal, include calculations for notification device circuit current drop, conductor size, and battery backup for all panels.
 9. When multiple buildings make up the system, provide a block diagram of the project site showing all buildings to be covered by the fire alarm system and detailing the route and type of Signaling Line Circuit (SLC) connection between buildings. Note building entry points, conduit type and size, and routing pathway (underground or over canopy installation). Provide a separation in the outgoing and return conductors for all building connections as required for Class A circuits per NFPA 72, 12.3.8.
 10. Shop or coordination drawings shall include information that will allow the Contractor to coordinate interdisciplinary work and when necessary guide the manufacturer or fabricator in producing the product.
 11. Resubmittals shall include revision notation and clouded changes.

1.10 QUALIFICATIONS OF A PROPOSED CONTRACTOR

- A. Proposed contractors who do not currently possess the necessary qualifications, trained and experienced personnel, financial capacity, hold required current licenses, or meet the other requirements herein described will be disqualified.
- B. The Contractor shall be currently licensed by the State Fire Marshal to sell, install, and service commercial fire alarm systems.
- C. The Proposed Contractor shall not have any grievances or complaints of record regarding workmanship, code compliance, or service response with a licensing authority. A Proposed Contractor that has any prior finding(s) of a code or license violation or has any litigation in process concerning the installation of a system is unacceptable.
- D. The Contractor shall employ a full-time employee who is licensed by the State to design commercial fire alarm systems. They shall be responsible for the design of the system submitted and shall sign all submittal drawings.
- E. All work associated with the installation of the fire alarm system shall be under the direct supervision of a State licensed and factory trained technician. A certificate of this training shall be provided with the contractors' submittal.
- F. The proposed contractor, as a business entity, shall be an authorized and designated representative of the fire alarm panel equipment manufacturer, with full warranty privileges, and shall have been actively engaged in the business of selling, installing, and servicing commercial building fire alarm systems for a period of at least five (5) years.
- G. Recently formed companies are acceptable only if specific pre-approval is requested, and granted by the Owner's Representative, based on experience of key personnel, current and completed projects, and all licensing requirements are met 10 working days prior to the contract proposal date.
- H. No contract employees are allowed unless they have been to the factory-training school within the last 18 months. A certificate of this training shall be provided with the Contractor's submittal.
- I. The proposed Contractor shall have an office within 150-miles of the job site, staffed with factory trained technicians who are qualified and licensed to supervise the installation, to be responsible

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that the system is installed as submitted, to conduct system start up and perform a 100 percent operational audit of all installed devices. The technicians shall instruct the Owners representatives in the proper operation of the system, and to provide service throughout the warranty period. The contractor shall be capable of dispatching technicians to repair a system within four (4) hours of a service request.

- J. The proposed contractor shall be fully experienced in the design and installation of the type of Fire Alarm System herein specified and shall furnish with the contract proposal an itemized list of the installations of at least two (2) projects of the type specified herein. The list shall include the name of two (2) projects, date of completion, the amount of the contract, the name, and telephone number of a qualified person to contact for reference. Each reference project listed must utilize equipment by the same manufacturer as the proposed system.
- K. The ability of a proposed Contractor to obtain these specifications and provide a performance bond shall not be regarded as the sole qualification of the Contractors' competency and responsibility to meet the requirements and obligations of the contract.
- L. The Builder shall be satisfied that a proposed Contractor meets all the requirements expressed herein before including the Contractor's proposal in the project.
- M. The Owner's Representative or the Owner may investigate, as they deem necessary, to determine the ability of the proposed Contractor to perform the work. The proposed Contractor shall furnish to the Owner with any information or data requested for this purpose.
- N. The Owner's Representative or the Owner reserves the right to reject any contract proposal if the evidence submitted, or their investigation, fails to indicate that the Contractor is qualified to fulfill of any part of the contract or to complete the work contemplated therein.
- O. The Owner's Representative or the Owner reserves the right to reject the proposal of any Contractor who is unqualified, has previously failed to perform properly, or complete on time, contracts of a similar nature.

PART 2 PRODUCTS**2.1 GENERAL**

- A. Provide a complete and satisfactorily operating 24 VDC, closed circuit, electrically supervised, analog addressable, intelligent reporting, microprocessor-controlled fire detection and alarm system as described herein, using materials and equipment of types, sizes, ratings, and performances as specified. Use materials and equipment that comply with referenced standards and manufacturers' standard design and construction, in accordance with published product information. Coordinate the features of all materials and equipment so they form a functional system, with components and interconnections matched for optimum performance of specified functions.
- B. The system shall meet all requirements for a protected premises and supervising station fire alarm system per NFPA 72.
- C. Refer to Fire Detection and Alarm System schedule on the drawings for part numbers and additional information.
- D. All equipment and components shall be installed in strict compliance with manufacturers' recommendations and the requirements of the components UL listing. Consult the manufacturer's installation manuals for all wiring diagrams, schematics, electrical requirements, cable types, and physical equipment sizes, etc., before beginning system installation. Refer to

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the manufacturers' riser/connection diagrams for all specific system installation/termination/wiring data.

- E. The control units, power supplies, batteries, sub-assemblies, software, firmware, cable, and all accessories provided shall be listed and labeled by Underwriters Laboratories, Inc. for commercial system use under the latest appropriate testing standard. Provide all equipment and components required to provide a complete and operating system.
- F. All date keeping hardware, firmware, and software provided shall be fully compliant with the calendar year designated in four-digit date format. Any time equations must function normally, leap year, and daylight savings time must be supported.
- G. The system and all components shall be tested and found suitable for the specified purpose as part of a protected premises protective signaling (fire alarm) system by a nationally recognized approvals agency acceptable to the local AHJ.
- H. All equipment and components shall be new and the manufacturer's current model. All like devices shall be of the same manufacturer and model number.
- I. All equipment and components shall be installed in strict compliance with manufacturers' recommendations and the requirements of the components UL listing.
- J. Equipment devices, make/model numbers, accessories, and comments have been shown on the contract drawings. Specific wiring between equipment has not been shown.
- K. The contractor shall be responsible for sizing, verifying and supplying proper power supply(s) necessary to operate the system and audible/visual signals.
- L. All equipment shall be attached to walls and ceiling/floor assemblies utilizing a structured cabling system and shall be held firmly in place (e.g., detectors shall not be supported solely by suspended ceilings). Fasteners and supports shall be adequate to support the required load.

2.2 ACCEPTABLE MANUFACTURER

- A. Descriptions and details, acceptable manufacturers' names listed, and specific manufacturer and model number items indicated in this specification shall establish a standard of quality, function, and design. Manufacturers and model numbers listed "no exceptions" shall not be substituted without specific notice in an addendum. Otherwise, where a specific manufacturer's product is indicated, products of other manufacturers listed as acceptable may be submitted for approval based on the substitute product being, in the opinion of the Owner's Representative, of equivalent or better quality than that of the product specified.
- B. Proposed contractors wishing to propose any product substitution must do so in writing to the specifying authority at least ten (10) days prior to the proposal opening.
- C. For manufacturers equipment or models other than that specified, the proposed contractor shall supply proof that such substitute equipment equals or exceeds the features, functions, performance, and quality of the specified equipment. Proposals must include detailed information showing all deviations from the system as specified.
- D. Substitute products for which the proposed contractor does not obtain prior approval will not be considered acceptable for this project. Final approval of alternate products shall be based on the decision of the Owner and Engineer. Prior approval to make a proposal for this project does not automatically ensure products will be an acceptable equivalent.

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- E. It is the responsibility of the Contractor to provide all features and functions as outlined in these specifications. The functions and features specified are vital to the operation of this facility; therefore, inclusion in the list of acceptable manufacturers does not release the contractor from strict compliance with the requirements of this specification.
- F. The manufacturers model numbers, functions, and features described in this specification section are those of Farenhyt by Honeywell, and this shall constitute the quality and performance of the equipment to be furnished, no exceptions.

2.3 FIRE ALARM CONTROL PANEL

- A. Type: Microprocessor based modular design, analog intelligent, addressable fire alarm control panel (FACP) with integrated in-building voice evacuation notification, as herein specified. Size the panel to allow space for the addition of sub-assemblies (contained within the panel housing) to provide coverage by addressable devices plus a 30% expansion of all devices at a future date. Each signaling line circuit (SLC) shall be limited to 80% of its total device capacity during the initial installation.
- B. Locate the fire alarm control panel as indicated on the electrical drawings. An area smoke detector shall be located at the fire alarm control panel.
- C. The following are required system components and functions:
 - 1. Provide a UL listed cabinet suitable for semi-flush mounting. The door shall include a transparent opening for viewing of all alarm, supervisory, and trouble indicators on an LCD display. When the door is opened all operator controls shall be accessible and all internal components shall be enclosed (i.e. dead front panel). All components shall be securely mounted, all cable shall be routed, and tie wrapped in a neat, professional manner. Conduit shall enter the fire alarm control panel only where conduit entry is specified by the FACP manufacturer.
 - 2. The microprocessor shall provide a real-time clock for time annotation of system displays, printer, and history file. The time-of-day and date shall not be lost if system primary and secondary power supplies fail. The real time clock may also be used to control non-fire functions at programmed time of day, day of week, and day of year.
 - 3. The fire alarm panel shall provide for a custom alphanumeric message location identifier to be associated with each addressable device hardware address. For any event or alarm, the alphanumeric display will show the devices hardware address and a custom message clearly identifying the location of the device involved.
 - 4. Fire alarm, supervisory alarm, trouble, and maintenance alert conditions, with device hardware address and custom message location identifier, shall be displayed on an 80-character minimum Liquid Crystal Display (LCD). The chronological event history of alarm and trouble conditions may also be displayed.
 - 5. Keypad for functions and programming, buttons for scrolling data on the LCD, front panel switches for RESET, ALARM SILENCE, TROUBLE SILENCE, and DRILL/ALL CALL and LEDs for Normal, Fire Alarm, Supervisory Alarm, Trouble, and Test/Program. When multiple devices are reporting alarm condition, there shall be a visual indication that other devices are in alarm.
 - 6. Power supply/charger and batteries to supply power limited 24 VDC operating and emergency power to the system. The charger shall be capable of maintaining batteries in a fully charged state without damage and of bringing batteries from a fully discharged to a fully charged state within 48 hours of normal operation. Provide audible alarm and diagnostic LEDs to indicate AC power failure, brown out, control unit CPU failure, low battery detection, battery disconnection, and system ground fault detection. Upon AC power failure, the power supply shall automatically transfer the system to battery backup. Provide sufficient battery capacity for operation without AC power for twenty-four hours of

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normal supervision and fifteen (15) minutes alarm operation at the end of this period; include a 20% safety factor in battery calculations to ensure adequate performance for the service life of batteries.

7. An integrated UL approved IP and digital communicator transmitter control unit with the option of adding a cellular module. The communicator shall report system status signals to a remote UL listed monitoring service with the option of multiple transmission protocols including Contact ID and SIA.
8. The FACP shall check for the presence of ground faults in field wiring and report results on the LCD readout, is it a violation of this specification for any ground fault detection system to be disabled.
9. A single ground or open on any system SLC, IDC, NAC, or fire safety control function circuit shall not cause a system malfunction or the loss of ability to report an alarm.
10. The FACP shall have 20% spare capacity on the power supply, the signaling line circuit and all input and output circuits at final acceptance to allow for future expansion by the Owner.
11. All field wiring shall be completely supervised. In the event of a primary power failure, disconnected standby battery, removal of any internal modules, or any open circuits in the field wiring; a trouble signal will be activated until the system and its associated field wiring are restored to normal condition. The FACP shall check for the presence of ground faults in field wiring and report results on the LCD readout, is it a violation of this specification for any ground fault detection system to be disabled.
12. Walk test, the Fire Alarm Control Panel shall permit testing by manually placing each initiating device in alarm. The control panel shall pulse the system audible devices on detection of each such alarm and automatically reset the panel, permitting a single technician to perform a function test of the entire system.
13. Provide a digital communicator for UL Central Station monitoring. The communicator paths and protocols for monitoring shall be per Owner's requirements and standards.

2.4 IP AND CELLULAR ALARM COMMUNICATORS

- A. The fire alarm control panel internal communicator allows for system status reporting to a UL Central Station as well as for local and remote up/downloading of system operating options, event history and detector sensitivity.
- B. Provide IP and/or cellular communication to a UL Central Station as required by the Owner. The Owner shall select the monitoring service, remote supervising station, or central station and be responsible for connections and monthly monitoring costs. For central station service, the installation shall be certificated or placarded by the selected central station.
- C. Communications to the Central Station shall transmit alarm, supervisory and trouble signals descriptively as defined in NFPA 72 and the AHJ, with the correct addressable device designation, identification, and location. Alarms shall not be permitted to be transmitted as a general alarm or zone condition.
- D. IP communication works over an Ethernet 10/100 Base network connection. All equipment used for the IP connection (such as a router, switch, etc.) must be powered from an unswitched branch circuit with UPS standby power.
- E. Cellular communication transmission shall be NFPA 72 compliant for sole, primary, and backup communicator and programmed to operate per UL864 requirements. The communicator shall be installed per manufacturer's written instructions and the carrier shall be determined by the greater signal strength at the location.

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- F. Provide remote antenna and cable when the signal strength requires boosting. Size the cable for optimal antenna placement.
- G. The fire alarm contractor shall provide all activation circuits and the communicator shall be ready for programming by the UL Central Station monitoring provider selected by the Owner. The fire alarm contractor shall coordinate with and provide all necessary information to the representative of the service provider selected by the Owner.
- H. Surge protectors for Ethernet network runs rated up to Category 6A and operating at up to 10-Gigabit data rates. Each module shall protect up all four pairs using hybrid design multi-stage SAD technology which shall automatically reset to protect against multiple surges.

2.5 NETWORK GRADE CABLING FOR DIGITAL COMMUNICATOR SERVICE

- A. Provide two parallel runs of Ethernet network grade cabling as required to support the digital communicator systems in this specification section. Category listing of the cable shall be by the Owner's and/or the Facility's current Network Standards. Extend from the drop location inside the digital communicator panel to the building Telco Demarcation Point/Main Distribution Frame location and terminate at each end in a surface mount block. Coordinate Telco or Data termination location with the owner prior to installation. Cable runs shall be tested to industry standards to verify performance.

2.6 FIRE ALARM REMOTE ANNUNCIATOR

- A. Provide as indicated on the drawings, a remote annunciator, flushed mounted.

2.7 FIRE ALARM FLOOR PLAN MAP

- A. Provide adjacent to the fire alarm control panel a plan view of all building areas covered by the fire alarm system meeting the following requirements:
 - 1. Framed and secured to the wall and plan covered with clear acrylic panel, SpaceAge Electronics Inc. model SSU52003 Display Frame or equivalent.
 - 2. Size plan to clearly show all required information.
 - 3. Orient building to place the entry nearest to control panel at the bottom of plan.
 - 4. "YOU ARE HERE" indicator with arrow.
 - 5. Logical alarm zones.
 - 6. Room names and numbers. (Verify with Owner)
 - 7. Show each initiating device with symbol and identification number programmed in the panel. Do not show audio/visual devices.
 - 8. Symbol legend.
 - 9. True north arrow.
 - 10. Scale indicator.

2.8 SYSTEM RECORD DOCUMENT CABINET

- A. Provide, in accordance with NFPA 72, an adequately sized record documentation cabinet located at the system control unit or at an on-premises location approved by the AHJ and identified at the system control unit. Printed and/or electronic documentation shall include an owner's manual, published instructions, a design narrative and layout, record drawings, site specific software, passwords, and a record of installed software and firmware version numbers. The record documentation cabinet shall be 18-gauge minimum cold rolled steel with a red powder coat finish, a stainless steel-piano hinge, and keyed door lock. The cover shall be permanently screened with 1" high lettering stating "SYSTEM RECORD DOCUMENTS" in white letters. The interior shall accommodate as required standard 8.5" x 11" manuals and loose document

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records, a permanently mounted digital flash drive with USB-B connector, a business card holder, and key ring hooks.

2.9 POWER SUPPLY PANELS

- A. Provide additional power supplies for notification appliance circuits and devices or as a remote power supply.
- B. The primary locations shall be in IDF/MDF rooms, electrical rooms, wiring closets, custodial closets, or storage rooms. An area smoke detector shall be located at each fire alarm power supply location.
- C. An area smoke detector shall be located at the power supply panel locations.
- D. Each power supply shall individually report a trouble condition including battery charging failure, battery failure, NAC loss, AC power loss (delay acceptable), power brownout, or ground fault detection.
- E. A trouble condition on a power supply shall not interfere with normal operation the rest of the system.
- F. In the event of a trouble condition, each power supply shall provide location annotated individual point supervisory incident reporting to the main fire alarm control panel. This may be accomplished using one addressable module per power supply or via power supplies with multiplexed system bus communication or an integrated addressable interface.
- G. Provide sufficient battery capacity for operation without AC power for twenty-four (24) hours of normal supervision and fifteen (15) minutes of alarm operation at the end of this period; include a 20% safety factor in battery calculations to ensure adequate performance for the service life of batteries.
- H. Each power supply shall be labeled in a visible area with its device hardware address utilizing self-laminating, flexible vinyl film, non-smear, machine printed labels.
- I. Conduit shall enter the power supply backbox only where conduit entry is specified by the manufacturer.

2.10 VOICE EVACUATION SPEAKER AMPLIFIERS

- A. Provide additional amplifiers for notification appliance circuits and speakers.
- B. An area smoke detector shall be located at remote speaker amplifier locations.
- C. Each speaker amplifier shall individually report a trouble condition including battery charging failure, battery failure, NAC loss, AC power loss (delay acceptable), power brownout, or ground fault detection.
- D. A trouble condition on an external power supply shall not interfere with normal operation of the remainder of the system.
- E. In the event of a trouble condition, each speaker amplifier shall provide location annotated individual point supervisory incident reporting to the main fire alarm control panel. This may be accomplished using one addressable module per amplifier or via amplifier with multiplexed system bus communication or an integrated addressable interface.
- F. Provide sufficient battery capacity for operation without AC power for twenty-four (24) hours of normal supervision and fifteen (15) minutes alarm operation at the end of this period; include a

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20% safety factor in battery calculations to ensure adequate performance for the service life of batteries.

- G. Each speaker amplifier shall be labeled in a visible area with its device hardware address utilizing self-laminating, flexible vinyl film, non-smear, machine printed labels.
- H. Conduit shall enter the amplifier backbox only where conduit entry is specified by the manufacturer.

2.11 EMERGENCY ALARM OCCUPANT NOTIFICATION APPLIANCES

- A. Provide as indicated below and as required per NFPA, federal, state and local code and ADA standards, notification appliances that alert the building occupants to an emergency.
- B. Refer to the Fire Detection and Alarm System schedule on the drawings for part numbers and additional information.
- C. NFPA 72 prescribes the use of both ceiling and wall mounted audible/visual notification appliances. Provide notification appliances per the drawings.
- D. Notification appliance circuits serving employee work areas shall be initially installed with a minimum of 20% spare capacity for visible notification appliances to facilitate future additional device installation to accommodate hearing-impaired employees.
- E. Audible signals shall be designed to provide at least 15 dB above ambient sound levels measured at 5 feet above the floor in the occupied area. Sound levels shall not exceed 110 dbA at the minimum hearing distance from the audible appliance.
- F. Strobe intensity (candela output) and audible decibel level shall be sized for the room size and area of coverage per ADA and NFPA/ANSI and local codes and standards.
- G. All interior strobe flashing shall be synchronized. Provide synchronization control such that all strobe circuits are synchronous, for all notification appliance circuits. Note that signal appliances that can synchronize on a single circuit, but not across all circuits are not acceptable.
- H. Signal housings and grilles shall be imprinted 'FIRE' and the strobe lens shall be clear.
- I. Each strobe/horn shall include IN and OUT wiring terminals, each designed to accept two #12 to #18 AWG wires at each terminal, with standard reverse polarity DC NAC circuit supervision.
- J. Each speaker shall include audio IN and OUT wiring terminals, each designed to accept two #12 to #18 AWG wires at each terminal and a 10 uF, or as required, blocking capacitor for compatibility with standard reverse polarity DC voice NAC circuit supervision.
- K. Provide where indicated on plans or as required protective polycarbonate or wire Device Guards. Minimum of 1/8" thick clear polycarbonate or 10-gauge welded steel wire constriction with a corrosion resistant finish.
- L. Waterflow notification appliance shall be wall mounted above the fire department connection (Siamese Port) and shall be non-silenceable while water is flowing through the fire sprinkler system. Flush mount exterior devices when possible. For surface mount applications provide manufacturer furnished backbox.
- M. For waterflow notification appliance provide a weatherproof sign approximately 12" wide x 6" high, white with red letters reading, "WATERFLOW FIRE ALARM SIGNAL". Configure fire alarm system to activate this strobe signal on waterflow alarm only and be non-silenceable while the

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sprinkler system is active (water flowing). Center signal and sign directly over Fire Department Connection (Siamese Port).

2.12 MANUAL PULL STATIONS

- A. Provide manual fire alarm pull stations as shown on the drawings.
- B. Manual stations shall be double action and provide a visible indication they have been operated. Manual stations shall require a key to be returned to normal condition, key alike to FACP. It is the responsibility of the Fire Alarm Contractor to ensure that the pull stations provided allow key reset with the station protector frame/spacer in place.
- C. Provide a tamper-proof clear Lexan shield with horn station protector over each pull station. For potentially wet areas, provide the cover with weather gasket.
- D. Each manual station shall be labeled in a visible area with its device hardware address utilizing self-laminating, flexible vinyl film, non-smear, machine printed labels.

2.13 SMOKE DETECTORS

- A. Analog spot type photoelectric smoke detectors shall be low profile, analog addressable, and UL listed. The photoelectric smoke detector shall use one address on the SLC,
- B. Except for temporary testing, smoke detectors shall not be installed until the building is ready for occupancy and cleaned as dust free as possible.

2.14 CARBON MONOXIDE DETECTORS

- A. Provide as indicated on plans analog spot type intelligent carbon monoxide detectors with sounder base. Provide 24VDC resettable power for the sounder bases.
- B. The CO detector shall be ANSI/UL 2075 Third Edition Listed and installed in accordance with IBC/IFC Section 915 and NFPA 720 requirements.
- C. Each carbon monoxide detector shall be attached to a SLC and set to a distinct address and internal identification code, which the control panel shall use to identify the location, status, and type of device.
- D. The detectors shall provide dual alarm and power/status LEDs. Status LEDs shall flash under normal conditions, indicating that the detector is operational and in regular communication with the control panel.
- E. The CO sounder base shall share the address of the addressable CO detector and shall function as a single station local audible alert only when CO is detected. The audible CO alert signal shall be a Code-4/TC4 (temporal-four) audible pattern as designated by the NFPA for CO warning.
- F. Each sounder base requires 24VDC resettable power and shall be resettable from the FACP.
- G. The detector shall also provide a maintenance alert feature whereby the detector shall initiate a trouble condition should the units' sensitivity approach the outside limits of the normal sensitivity window.
- H. Except for temporary testing, detectors shall not be installed until the building is ready for occupancy and cleaned as dust free as possible.
- I. Each detector head shall be labeled in a visible area with its device hardware address utilizing self-laminating, flexible vinyl film, non-smear, machine printed labels.

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- A. CO Alarm units shall be listed and rated for commercial occupancies and be connected to an alarm control panel (system-connected). CO Alarm units shall be UL Listed and installed in accordance with IBC/IFC and NFPA requirements.
- B. CO Alarm units shall be installed as Single-Station Carbon Monoxide Alarms (non-tandem operation) and they shall be zoned on a Class A (Style D) four-wire IDC circuit (six-wire interface (4+2) total between CO Alarm Units including power circuit).
- C. Each zone of CO Alarm units shall be supervised for Alarm and Trouble conditions through interconnection with an addressable monitor module, which in turn is supervised through an SLC loop on the main control panel. Each CO Alarm unit shall be operate as a stand-alone detection and notification subsystem and the function of each shall not be impaired by any alarm or trouble condition on the other CO Alarm units in the same zone.
- D. All system connected CO Alarm units function as a single system providing zone notification at the control panel for reporting of CO Alarm or CO Trouble conditions. CO Trouble includes integral supervision for loss of power.
- E. If a dangerous level of Carbon Monoxide gas is detected by a CO Alarm unit, the red LED alarm light will come on and stay on, the temporal-four pattern audible alarm will sound, and the Alarm relay will be activated. The CO Alarm unit will automatically reset when CO is no longer detected. If the test/hush button is pushed during an alarm, it will silence the integral sounder for five minutes, the red LED alarm light will stay on, and if CO is still present after five minutes, the detector will once again sound the audible alarm.
- F. If there is a problem identified within a CO Alarm unit, on loss of power, or if the end of unit life indicator expires, the Trouble relay will be activated, in addition to the various LED blink rates will indicate the exact trouble.
- G. The status of each zone of CO Alarm units shall be descriptively annunciated at the main control panel by zone and shall be distinct from fire alarm status conditions. CO Alarm signals must take precedence over a CO Trouble signals. CO zone status signals shall be indicated visually (alphanumeric display description and/or indicator lights) and audibly (sounder) at the control panel, and at a constantly attended location in the building, and distinctly transmitted to the supervising station. In addition to each CO Alarm unit shall include a test/hush button, multicolored LED status indicator, and a built-in 85 dB Code-4/TC4 (temporal-four pattern) audible alarm.
- H. Each zone of CO Alarm units, as indicated on the plans, shall be a complete functional interconnected system of devices that includes supervised interface circuits to the main control panel. These circuits shall be arranged to monitor and annunciate the status of the CO Alarms and to initiate the appropriate response to those conditions. The power circuit shall be monitored via the CO Trouble relay when it indicates loss of power. The power source must be a regulated, filtered, power-limited, non-resettable, output from a system main or auxiliary control unit, providing 24 VAC operating power with primary (AC Main) and secondary (Battery Backup) capacity sufficient for operation without AC power for twenty-four hours of normal supervision and two hours of emergency operation at the end of this period.
- I. Each CO Alarm unit shall be labeled in a visible area with its device zone identification utilizing self-laminating, flexible vinyl film, non-smear, machine printed labels.
- J. Provide one (1) per zone - Addressable Monitor Module to supervise an IDC zone interface for 4-wire type conventional initiating devices. IDC to be a Class A redundant circuit.

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- K. Provide IDC four-conductor wiring, shall be NEC type FPLP Plenum rated, 16 AWG or 14 AWG, solid four conductor signaling cable.
- L. Provide power circuit two-conductor wiring, shall be NEC type FPLP Plenum rated, 16 AWG or 14 AWG, solid two conductor signaling cable.

2.16 HEAT (THERMAL) DETECTORS

- A. Analog spot type heat detectors shall be provided as shown on the drawings. Rate-of-rise heat detector element shall operate when the rate of temperature rise exceeds 15° Fahrenheit per minute.
- B. Analog fixed temperature heat detector shall be rated at 135° Fahrenheit for areas where ambient temperatures do not exceed 100° Fahrenheit.
- C. In areas where the ambient temperature does not exceed 150° Fahrenheit the analog fixed temperature heat detector shall be rated at 190° Fahrenheit.
- D. Each detector head shall be labeled in a visible area with its device hardware address utilizing self-laminating, flexible vinyl film, non-smear, machine printed labels.
- E. Heat detectors shall be provided where smoke detector coverage is prescribed by this specification, but ambient conditions prohibit installation due to the likelihood of nuisance alarms, such as:
 - 1. Very dusty or dirty areas, wood/metal shops.
 - 2. Damp or very humid areas, next to showers.
 - 3. Near furnaces, hot water heaters, or gas space heaters.
 - 4. Near large fresh air inlets, air returns, or excessively drafty areas.
 - 5. Insect-infested areas.
 - 6. Garages or cart parking areas.
 - 7. Outdoor elevator lobbies.
 - 8. Unheated buildings or outdoor rooms subject to extreme temperature changes.

2.17 ISOLATOR MODULE

- A. Isolator modules protect the SLC circuit and inactivate sections of an SLC circuit that become inoperable, protecting the remaining sections. Isolator modules shall be placed between every 25 or less addressable devices.

2.18 MONITOR MODULE

- A. Addressable Monitor Modules shall be provided where an interface is required to supervise wiring and monitor contact alarm devices. The alarm circuit shall be supervised with an end-of-line device.
- B. Monitor Module to supervise an IDC zone interface for compatible 2 or 4-wire circuit powered 24 volt normally open conventional smoke or heat detectors.
- C. Mini-monitor modules concealed in an electrical box with a blank cover are not acceptable.
- D. Each monitor module shall be labeled in a visible area with its device hardware address utilizing self-laminating, flexible vinyl film, non-smear, machine printed labels.

2.19 CONTROL MODULE

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- A. Addressable Control Modules shall be provided where a NAC control interface for fire alarm signal functions are required. Control modules shall require an auxiliary power input with the NAC circuit being supervised with an end-of-line device.
- B. Each control module shall be labeled in a visible area with its device hardware address utilizing self-laminating, flexible vinyl film, non-smear, machine printed labels.

2.20 CONTROL RELAY

- A. Addressable Control Relays shall be provided where required to provide a control interface for fire alarm system functions such as damper, auxiliary handler, fire doors and curtains, etc. with loads less than 0.5 amps.
- B. Addressable Control Relays shall be located within three feet of the controlled device or unit and the relay output (load) wiring shall be configured a fail-safe Fire Safety Control Function circuit.
- C. Each Fire Safety Control Function circuit-controlled device shall be configured such that when the fire alarm system safety control function circuit is re-energized, by the fire alarm control panel, the device shall return to normal operation (e.g. re-start or be ready to re-start) without a need for manual or environmental control system intervention.
- D. Addressable Control Relays shall be used to directly control only pilot duty loads, those not exceeding 0.5 amps, up to 120 volts, and without transient voltage spikes. For all applications exceeding these parameters also provide with an Auxiliary Relay to handle the load.
- E. Each control relay shall be labeled in a visible area with its device hardware address utilizing self-laminating, flexible vinyl film, non-smear, machine printed labels.

2.21 AUXILIARY RELAY

- A. Provide a hardwired Auxiliary Relay paired with the addressable Control Relay for all fire safety control function applications in which the load exceeds 0.5 amps, 120 volts, or with high transient voltage spikes.
- B. Each relay shall be mounted in a surface mount red metal enclosure with conduit knockouts. Relays shall be UL recognized and rated for ten million mechanical operations.
- C. Auxiliary relays shall be labeled in a visible area with its device function utilizing self-laminating, flexible vinyl film, non-smear, machine printed labels.
- D. Single pole standard duty Auxiliary Relays shall be operated by a multi-voltage coil (24 VDC, 24 VAC, 120 VAC, or 230 VAC), feature SPDT dry Form C contacts rated 10 Amps @ 120 VAC, and a status LED to indicate that the relay is energized. House in a red enclosure.
- E. Double pole standard duty Auxiliary Relays shall be operated by a multi-voltage coil (24 VDC, 24 VAC, 120 VAC, or 230 VAC), feature DPDT dry Form C contacts rated 10 Amps @ 120 VAC, and a status LED to indicate that the relay is energized. House in a red enclosure.
- F. Double pole heavy duty Auxiliary Relays shall be operated by a 24 VDC or a 120 VAC coil and feature DPDT dry Form C contacts rated at 30A @ 240VAC; 20A @ 277VAC; 2HP @ 240VAC / 1.5HP @ 120VAC. House in a red enclosure.

2.22 DUCT MOUNTED SMOKE DETECTORS

- A. Refer to mechanical system drawings and schedules and site visit observation for air handler sizes to determine the locations and quantities of addressable duct smoke detectors and

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addressable modules required to monitor and/or control HVAC units, dampers, smoke control systems, etc.

- B. It shall be the sole responsibility of the fire alarm system contractor to furnish and install all of the fire alarm system devices that are required by the code and the AHJ for the mechanical systems.
- C. Provide the duct smoke detector housing with included photoelectric detector head and relay. Provide with sample tube length 2.5', 5', 10' according to duct width. The duct smoke detector shall have a remote indicator visible from the finished floor.
- D. Duct mounted smoke detector housings and sample tubes shall be furnished by the Fire Alarm Contractor and mounted by the Mechanical Contractor. Coordinate with the mechanical contractor.
- E. When smoke is detected by a duct mounted smoke detector it shall activate a supervisory fire alarm condition at the fire alarm control panel unless an alarm condition is required by the AHJ.
- F. Install duct smoke detector in the supply or return duct of units supplying greater than 2000 cfm per local AHJ requirements. Install duct smoke detectors in the supply and return duct of units supplying greater than 15,000 cfm.
- G. Each HVAC unit for which a duct mounted smoke detector is installed shall also have a blower shutdown relay.
- H. The activation of any duct mounted smoke detector shall actuate all related fire safety control functions: air handler shut down relays, smoke fire damper motors, fire door release devices, et cetera.
- I. Each duct mounted detector housing shall be labeled in a visible area with its device hardware address utilizing self-laminating, flexible vinyl film, non-smear, machine printed labels.
- J. Each detector shall be provided with a remote power/status LED and remote testing function. The remote LED indicator shall be located in the nearest corridor ceiling unless otherwise directed.
- K. The status LED shall flash under normal conditions, indicating that the detector is operational and in regular communication with the control panel. The LED shall be placed into steady illumination when a supervisory fire alarm condition has been detected.
- L. Each remote LED faceplate shall have a self-laminating, flexible vinyl film, non-smear, machine printed label indicating the HVAC unit number, type, and device identification number as programmed in panel.

2.23 HVAC UNIT BLOWER SHUT-DOWN AND SMOKE DAMPER OR FIRE/SMOKE DAMPER OPERATION

- A. Refer to the mechanical system drawings, schedules and site visit observation to determine the locations and quantities of addressable modules required to control HVAC blowers, dampers, smoke control systems, etc.
- B. It shall be the sole responsibility of the fire alarm system contractor to furnish and install all of the fire alarm system devices that are required by the code and the AHJ for the mechanical systems.

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- C. The contractor providing the device shall wire it internally for fail-safe shut-down and provide a labeled 3' coil of cable outside the unit to allow the fire alarm contractor to make final connection to the dry contacts on the controlling relay.
- D. Provide an addressable control relay to control air handler shutdown of each unit without smoke dampers or fire/smoke dampers located in that unit's duct system as indicated on the project mechanical plans.
- E. Provide an addressable control relay, a double pole auxiliary relay, and a line voltage 120 VAC, fire safety control function circuit to control air handler shutdown of each unit with smoke dampers or fire/smoke dampers located in that unit's duct system as indicated on the project mechanical plans.
- F. Units with at least one supply grille serving a major path of egress (corridors, open concept classroom groups) shall have a shut-down control relay, even if unit is less than 2,000 CFM capacity. The shut-down will be activated on general alarm, which shall include any alarm from the smoke detectors in the corridor.
- G. Duct detector supervisory alarm condition shutdown function shall be limited to a single unit or group of units as required. A shutdown of all the facility's units on a single duct detector supervisory alarm shall be prohibited.

2.24 AUTOMATIC FIRE SUPPRESSION SYSTEMS

- A. All automatic fire suppression systems shall be monitored by the fire alarm system. The activation of any automatic fire suppression system shall produce an alarm condition. Refer to the drawings and site visit observation to determine quantities and locations of the kitchen hood suppression system controls.
- B. The kitchen ventilation hood suppression system shall provide contacts to monitor activation of system, coordinate with existing conditions and the Food Service Equipment Contractor. Provide monitor modules as required for alarm functions

2.25 BUILDING LIGHTING CONTROL SYSTEM

- A. Provide a fire alarm addressable control relay, located at the FACP, configured to activate on general alarm building illumination per NFPA 101 Section 7.8 Illumination of Means of Egress. The lighting control system contractor shall provide all associated hardware and wiring from this single fire alarm output to the lighting control system.

2.26 SOUND SYSTEM AND THEATER LIGHTING CONTROLS

- A. When required, provide a fire alarm addressable control relay, located at the sound system or public address head-end equipment location, to activate on a fire alarm, that shall override stage, theater, gymnasium sound and lighting equipment. Configure one set of contacts to provide a dry contact input to the sound system to shut down the sound for fire alarm instructions to be heard, and the second set of contacts to provide a dry contact input to override the theatrical and/or arena lighting and to turn on or turn up the house lighting to normal levels for safe occupant evacuation. The fire alarm contractor shall furnish and install the cable from the control relay to the theatrical and/or public address equipment system with a ten (10) foot service loop for final connections by the lighting/sound contractor to their equipment. The fire alarm system contractor shall coordinate with the lighting/sound contractor on dry contact form to provide, normally open or normally closed, for each input.

2.27 ELECTROMAGNETIC DOOR HOLD OPEN AND RELEASE

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- A. Refer to the Architectural drawings, door and door hardware schedules and site visit observation to determine the locations and quantities of electromagnetic door hold open devices required.
- B. Provide required devices and connections for door hold open devices integrated into door systems when supplied.
- C. The fire alarm contractor shall verify voltages, exact style, and quantity required with architectural plans and door schedules.
- D. Secure hardware to door drilled through with "Chicago Bolts" (barrel nut/mating screw with a low-profile head on each side to prevent pull out.
- E. Provide adequate blocking in wall for the magnet installation. The backbox and magnet installation shall withstand the force of the door being separated from the magnet while energized.
- F. Operating power shall be 24VDC and power shall be from a fire alarm power supply panel. Program an output circuit on the fire alarm power supply panel as a "door holder power" circuit.
- G. A "door holder power" circuit shall provide a constant 24VDC to the electromagnetic door hold open devices in a system "normal" state. On any alarm the "door holder power" circuit shall discontinue power to the electromagnetic door hold open devices allowing the doors to close. The 24VDC will be restored to the circuit on a fire alarm system reset.
- H. When AC power to the fire alarm power supply panel is off for more than 15 seconds the "door holder power" will be discontinued to conserve the battery backup power.

2.28 SPRINKLER RISER WATERFLOW AND TAMPER SWITCHES

- A. Refer to fire protection drawings, specifications and site visit observation to determine quantities of fire sprinkler devices that requiring monitoring and supervision. It shall be the sole responsibility of the fire alarm system contractor to furnish and install all fire alarm system devices required by the code and the AHJ to monitor and supervise the fire protection systems.
- B. Waterflow switches shall be provided and installed by the sprinkler system contractor. Provide an addressable monitor module for each sprinkler waterflow switch on a riser zone. The monitor module shall be programmed for a fire alarm condition.
- C. Sprinkler and standpipe valve supervisory switches shall be provided and installed by the sprinkler system contractor. Provide an addressable monitor module for each sprinkler system water supply control valve riser or zone control valve, and each standpipe system riser control valve shall be equipped with a supervisory switch device with a normally open dry contact for supervision by the fire alarm system. The addressable monitor module shall be programmed for a supervisory condition.
- D. Each Post Indicator Valve (PIV) or main gate valve shall be equipped with a supervisory switch and shall be provided and installed by the sprinkler system contractor. Provide an addressable monitor module for each PIV or gate valve. The addressable monitor module shall be programmed for a supervisory condition.
- E. When applicable, provide dry contact input fire alarm system monitor modules for individual additional sprinkler system alarm and supervisory conditions such as fire pump controller, pre-action sprinkler riser and dry pipe system air pressure status supervision.
- F. All wiring, monitor modules, end of line devices, and connection to the fire alarm system shall be by the fire alarm contractor.

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- G. All sprinkler system alarm and supervisory conditions shall be annunciated at the panel and transmitted to the monitoring service by the digital communicator.
- H. Valve tamper switches and other supervisory devices as required shall initiate a supervisory condition and may be grouped up to twenty devices per IDC when acceptable to the AHJ. Grouping shall be limited to risers within the same room by this specification. Coordinate with Section 21 13 14.

2.29 CABLE AND CIRCUIT TYPES

- A. General: All low voltage fire alarm circuits shall be power limited, electrically or electronically supervised, and of the correct cable type and gauge. Low voltage fire alarm cables of various types are to be permitted within the same raceway or conduit. Cable must be separated from any open conductors of power, or Class 1 circuits, and shall not be placed in any conduit, junction box, or raceway containing these conductors, as per NEC Article 760. T-taps in any electrically supervised circuit are prohibited by this specification. All junction boxes and conduit ends shall be marked red for all low voltage fire alarm circuits.
- B. The fire alarm contractor shall provide and install new and unused ASTM bare solid or stranded copper conductor cable per ANSI/NEMA, NEC and NFPA codes. Follow the manufacturer's instructions. All cable shall be UL listed for fire protective, power limited applications. All cable exposed in plenum attic spaces shall comply with UL 910, UL 1424, and UL 1581 vertical tray flame test.
- C. Cabling shall be in accordance with local, state, and national codes (e.g., NEC Article 760) and as recommended by the manufacturer of the fire alarm system. Number and size of conductors shall be as recommended by the fire alarm system manufacturer, but not less than 18 AWG (1.02 mm) for initiating device circuits and signaling line circuits, and 14 AWG (1.63 mm) for notification appliance circuits.
- D. Cable not installed in conduit shall have a fire resistance rating suitable for the installation as indicated in NFPA 70 (e.g., FPLP, CIC). All fire alarm system circuits shall be NEC type FPLP as required.
- E. All fire alarm systems shall be installed in such a manner that the failure of any single alarm-actuating or alarm-indicating device will not interfere with the normal operation of any other such devices. All circuit types shall comply with NFPA 72 Chapter 12.
 - 1. Signaling Line Circuit (SLC): Use shielded, or unshielded cabling as recommended by the FACP manufacturer. When recommended, shielded cable should be utilized to minimize electrical noise interference with data transmission. Shield drain wire to be grounded at one end only. SLC circuits shall be installed in a Class A redundant path configuration. Class A separation of outgoing and return cable routing shall be observed per NFPA 72, Chapter 12.
 - 2. Between Building Signaling Line Circuit (SLC) or Network Node Circuits: Cabling between buildings shall be enclosed in conduit, including underground and over canopy installations. Cable installed in conduit between buildings shall be rated for direct burial.
 - 3. Voice Evacuation Notification Appliance Circuits (Voice NAC): Speaker circuits may be 25 or 70 VRMS to be determined by the contractor. Shielded cable shall be utilized to minimize electrical noise interference with voice transmission. These circuits shall be wired Class B with electrical supervision and end-of-line devices.
 - 4. Audio/Visual and Visual Notification Appliance Circuit (NAC): These circuits shall be wired Class B with electrical supervision and end-of-line devices.
 - 5. Initiating Device Circuits (IDC): Initiating device circuits shall be arranged to serve like categories (beam detectors, heat detectors, tamper switches). Mixed category circuitry

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shall not be permitted in a single IDC. A two-wire IDC shall contain only devices that require point-contact to operate. A four-wire IDC shall include an additional supervised circuit to supply 24 VDC operating power to devices that require it. These circuits shall be wired Class B with electrical supervision and end-of-line devices for circuits less than ten (10) feet in length, otherwise, the circuit shall be Class A redundant path. Class A separation of outgoing and return cable routing shall be observed per NFPA 72, Chapter 12.

6. Low voltage, 24 VDC, device power circuits provide power to fire alarm system devices that are not powered by the SLC or the IDC circuit. These circuits have backup power and are supervised by an end of line relay and monitor module combination. These types of circuits are required to remotely power devices such as detector sounder bases, stand-alone CO detectors, etc.
7. Low voltage, 24 VDC, fire safety control function circuits shall in all cases feature Class D "fail safe" operation and shall not have power backup. These circuits shall be controlled by a fire alarm system activated addressable control relay located within three (3) feet of the device controlled and on activation, or loss of power, the connected device shall actuate to its fire safety condition (i.e. HVAC blower control circuits shall open).
8. Line voltage, 120 VAC, fire safety control function circuits shall in all cases feature Class D "fail safe" operation and shall not have power backup. These circuits shall be controlled by a fire alarm system activated addressable control relay and auxiliary relay pair located within three (3) feet of the device controlled and on activation, or loss of power, the connected devices shall actuate to their fire safety condition (i.e. fire door holders shall release, smoke dampers and fire/smoke dampers shall close). Line voltage fire safety control function circuits shall be wired by the Electrical Contractor and shall be standard non-supervised line voltage circuits in conduit, utilizing the type of conductors specified in Division 26 for light and power circuits.

2.30 CEILING MOUNTED DEVICE BOX HANGERS

- A. All ceiling mounted devices including smoke detectors, heat detectors, remote power/status LEDs, ceiling mounted strobes and horn/strobes, et cetera, when mounted in a drop ceiling shall be supported by an electrical box hanger (Caddy #512 or #512A for deep boxes - 24" span), or equivalent. Box hangers shall be attached to the ceiling grid only for lateral stabilization, separate support wires shall be provided. The required support wires for the ceiling grid or light fixtures shall not be utilized. The backbox shall be flush and level with the bottom of the ceiling tile and the hole neatly cut for a finished appearance when the device is installed.
- B. Device and box hanger assemblies shall not be supported solely by suspended ceilings. Fasteners and supports shall be adequate to support the required load.

2.31 SURGE PROTECTION

- A. Each incoming 120VAC power circuit shall be provided with an electrical surge protection module. Provide one for each fire alarm control unit, this shall include every fire alarm control panel, digital communicator, signal power expander and any other 120VAC powered fire alarm control units. Each power circuit surge protector module shall be Ditek DTK-120SRD or equivalent.
- B. Surge protection shall be provided for all exterior devices, communications service or antenna entrance connections, and for each circuit that connects one building to another (i.e. any other portion of a building complex not under one continuous roof) at both entry/exit points to prevent damage to equipment. Each surge protector shall be UL listed and mounted in a standard grounded metallic electric box or equipment backboard with a separate ground wire ran directly to the ground bus bar or equipment panel ground stud, do not daisy chain ground wires.

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- A. Cooperation with trades of adjacent, related or affected materials or operations, and or trades performing continuations of this work under subsequent contracts are considered a part of this work. In order to effect timely and accurate placing of work and to bring together, in the proper and correct sequence, the work of such trades, including work provided under a Division 1 allowance.
- B. The Electronic Safety and Security Contractor shall coordinate installation of the electronic safety and security systems with the Builder, Electrical, Mechanical, and Plumbing Contractors to insure a complete working system for the Owner.
- C. Where required for accessibility all conduit and boxes shall be provided by the Electrical Contractor as specified, including systems in Division 28, any and all allowances shall be included. Normally low voltage wiring shall run open and supported in accessible attic space. All low voltage wiring in exposed areas such as gyms, stages, shops, and field houses shall be enclosed in conduit. Coordinate with, and verify with Division 26 to provide required conduit and boxes at locations and heights as required.
- D. Conduit, innerduct, track, or raceway shall conceal and protect wiring in exposed areas, within walls, through in- accessible areas, floors, chases, under slab, crawlspace, or underground.
- E. All conduit, duct, track, and raceway runs shall be spaced apart to allow for maintenance, such as the installation of couplings, without disturbing adjacent pathways.
- F. All work must be performed by workers skilled in their trade. The installation must be complete whether the work is concealed or exposed.
- G. Coordinate the actual locations of devices and outlets and equipment with building features and mechanical equipment as indicated on architectural, structural, and mechanical drawings. Review with the Engineer any proposed changes in outlet or equipment location. Relocation of devices, before installation, of up to 3 feet from the position indicated, may be directed without additional cost. Remove and relocate outlets placed in an unsuitable location when so requested by the Engineer.

3.2 CABLE ROUTING, INSTALLATION

- A. The system cable, support and raceway installation shall be in accordance with good engineering practices and as established by the NFPA, and NEC. Wiring shall meet all state and local electrical code requirements.
- B. All cable shall have a label on both ends utilizing self-laminating, flexible vinyl film, non-smear, machine printed labels.
- C. Fire alarm cables shall be run in bundles above accessible ceilings and supported from building structure building structure by j-hooks, conduit or cable tray.
- D. Cable bundles shall be routed through corridors and hallways. Devices located in rooms and spaces off of corridors and hallways shall be connected to the corridor cable bundle by an in and out configuration into the room and back out into the corridor.
- E. No terminations or splices shall be installed in or above ceilings.
- F. Fire alarm cables shall not be run loose on ceiling grid or ceiling tiles.

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- G. Each cable run shall include a three-foot service loop with wire tie located in the ceiling above the control unit panel. This is to allow for future re-termination or repair.
- H. All cabling shall be placed with regard to the environment, EMI/RFI interference, and its effect on fire alarm signal transmission.
- I. Do not route any fire alarm cable within two feet of any light fixture, HVAC unit, service access area, electric panel, or any device containing a motor or transformer.
- J. Fire alarm cable must not be fastened to electrical conduits, mechanical ductwork/piping, sprinkler pipes.
- K. Plenum rated Velcro hook cable ties shall be furnished and installed to attach wire bundles to supports and for appropriate wire management as required. Tie wraps made of hard plastic or metal will not be allowed.
- L. Cabling shall be loosely bundled with cable ties randomly spaced at 30 to 48 inches on center, cable ties shall not be tight enough to deform cabling and shall not be used to support the cabling.
- M. Attachments for cabling support shall be spaced at approximately 48 to 60 inches on center. The cable bundle shall not be allowed to sag more than 12 inches mid-span between attachments. Provide J-hooks as follows:
 - 1. Bundles up to 1/2" diameter - 3/4" J-Hook
 - 2. Bundles up to 1" diameter - 1-1/2" J-Hook
 - 3. Bundles up to 1-1/2" diameter - 2" J-Hook
 - 4. Bundles greater than 1-1/2" diameter - provide cable tray.
- N. Do not mix different signal cables on the same J-Hook (i.e. fire alarm with telephone/data cable).
- O. Cable shall not be installed in the same conduit or surface track raceway with line voltage electrical cable without a metallic barrier meeting NEC requirements.
- P. Cable bends shall not be tighter than the manufacturers' suggested bend radius.
- Q. The cable shall not be crushed, deformed, skinned, crimped, twisted, or formed into tight radius bends that could compromise the integrity of the cabling.
- R. Maximum cable pulling tension should not exceed 25 pound-force (110 N) or the manufacturers recommendation, whichever is less.
- S. Any pulling compounds utilized must be approved by the cable manufacturer and shall not degrade the strength or electrical characteristics of the cable.
- T. The cable pathway supports of ceiling installed devices must be positioned at least 12 inches above the ceiling grid. The required support wires for the ceiling grid or light fixtures shall not be utilized for support attachment.
- U. Cable routing must not obstruct hatches, doors, utility access panels, fire doors, ventilation shafts, grates, service work areas or parallel for more than four-feet with line voltage electrical conductors.

3.3 CONDUIT, SURFACE TRACK RACEWAY, ROUTING AND INSTALLATION

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- A. Conduit and surface track raceway and support installation shall be in accordance with good engineering practices and as established by the NFPA, and NEC. Conduit installation shall meet all state and local electrical code requirements.
- B. It shall be the responsibility of the electrical contractor to provide and install all conduit systems and standard electrical boxes for the fire alarm system.
- C. The fire alarm contractor shall coordinate all requirements with, and provide special back boxes to, the electrical contractor prior to installation of conduit.
- D. In all exposed and open ceiling areas such as gymnasiums, shops, field houses, janitors' closets, elevator hoist ways, and mechanical / electrical rooms all fire alarm cable shall be fully enclosed in conduit. This shall include spaces with suspended acoustical cloud and/or canopy type ceilings.
- E. Definitions:
 - 1. Electrical metallic tubing (EMT) for indoor applications. Compression fittings for EMT shall be used. Set screw fittings are not acceptable.
 - 2. Rigid metallic tubing (RMT) for outdoor applications. Threaded fittings shall be used for RMT conduit.
 - 3. Flexible metallic conduit (FMC) for indoor applications. FMC is approved for short protected cable connections to the device. Support FMC per NEC.
 - 4. Surface track raceway shall be Wiremold® or equivalent. Surface track raceway shall be utilized for indoor finished surfaces where concealed cable is impracticable or impossible. Back boxes of the same manufacturer and color shall be installed.
 - 5. Polyvinyl chloride (PVC) for underground installations. Follow burial depth, protection and conduit fill per NEC.
- F. Conduit and surface track raceway shall be complete with bushings, de-burred, cleaned, and secure prior to installation of cable.
- G. Conduit and surface track raceway bends shall not be tighter than the manufacturers' suggested bend radius.
- H. All conduit and surface track raceway shall be supported from the structure at industry standard intervals for the size specified, utilizing proper anchoring devices. Cable fill may not exceed the standard set forth by the NEC.
- I. All conduit and surface track raceway runs shall be spaced apart to allow for maintenance without disturbing adjacent pathways.
- J. Conduit and surface track raceway shall not obstruct hatches, doors, utility access panels, fire doors, ventilation shafts, grates or service work areas.
- K. Conduit stubs from wall boxes to accessible areas above finished ceilings shall be provided for wall mounted devices. Provide bushings to protect the cable from damage from metal openings.

3.4 EXAMINATION

- A. Verify field conditions including existing systems, equipment models, configurations, circuiting arrangements, cabling, and devices. Adjust all circuiting, cabling, and materials to be provided as required by job conditions.
- B. Project drawings are based on casual field observation and existing record documents when available, report any significant discrepancies to the Engineer before disturbing existing systems.

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- C. The Contractor accepts the existing conditions when beginning demolition.

3.5 IMPLEMENTATION

- A. Verify phasing in regard to systems and coordinate before energizing any system.
- B. When required during phases of construction to maintain existing systems in service in particular areas, provide temporary wiring and connections as necessary to accommodate construction.

3.6 CLEANING AND REPAIR

- A. Clean existing materials and equipment in areas of renovation.

3.7 PROTECTION OF EQUIPMENT AND MATERIALS

- A. The Contractor shall take such precautions as may be necessary to protect his apparatus from damage.
- B. This shall include the creation of all required temporary shelters to protect any apparatus above the floor of the construction and the covering of apparatus in the completed building with tarpaulins or other protective covering.
- C. Failure to comply with the above to the satisfaction of the Owner's inspector will be sufficient cause for the rejection of the equipment in question and its complete replacement by the Contractor.

3.8 OPERATION PRIOR TO COMPLETION

- A. When the phasing of a project requires that fire alarm systems are operable in certain areas and the Owner needs to operate the equipment, such provisions shall be made by the contractor. The warranty period shall commence when the equipment is operated for the beneficial use of the Owner. Regardless of whether or not the equipment has or has not been operated, the Contractor shall properly clean the equipment, properly adjust, and complete all punch list items before final acceptance by the Owner. The date of acceptance and the start of the warranty may not be the same date.

3.9 CUTTING AND PATCHING

- A. Notify the Builder sufficiently ahead of construction of any floors, walls, ceiling, roof, et cetera, of any openings that will be required for his work.
- B. The Contractor shall see that all sleeves required for his work are set at proper times to avoid delay of the job.
- C. All necessary cutting of walls, floors, partitions, ceilings, et cetera, as required for the proper installation of the work under this Contract shall be done at the Subcontractor or at the Subcontractor's expense in a neat and workmanlike manner, and as approved by the Owner's Representative.
- D. Patching of openings and/or alterations shall be provided by the Electronic Safety and Security Subcontractor or at the Subcontractor's expense in an approved manner.
- E. No joists, beams, girders, or columns shall be cut by any Contractor without first obtaining written permission of the Owner's Representative.

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- F. All openings in firewalls and floors shall be completely sealed after installation for a completely airtight installation. Sealing material shall be non-combustible and UL approved. The installed sealing assembly shall not cause the fire rating of the penetrated structure to be decreased.
- G. All openings in exterior walls shall be sealed watertight.
- H. Seal voids around conduits penetrating fire-rated assemblies and partitions using fire stopping materials and methods in accordance with NFPA and local codes.

3.10 FIRE STOPPING, DRAFT/NOISE STOPPING, PENETRATIONS, CORING

- A. UL Listed fire stopping methods that match the fire rating of the wall or floor being penetrated are to be used at all fire barrier penetrations. Seal the interior of the conduit sleeve around the cables and around the outside of the sleeve on each side of the penetration with fire-stop caulk or putty, install according to the manufacturers' instructions.
- B. All penetrations through fire rated walls or floors shall feature a suitable length of metal conduit. Hole diameter shall not exceed $\frac{1}{2}$ " larger than the conduit or sleeve to be installed. The hole shall be neatly cut, not oversize or irregular. Do not share wall/floor penetrations with ductwork, piping, line voltage electrical conduits, et cetera.
- C. Penetrations through non-rated walls shall include draft/noise stopping to minimize the transfer of air and sound between enclosed areas. Provide the penetration as in the rated wall instructions and install non-combustible mineral, wool, fiberglass, cellulose insulation, caulk, and/or sealant as required.
- D. Sleeves placed for new construction shall be coordinated with the building Engineer, Builder and Electrical Contractor so that later coring or drilling of building structural members will not be required. The Contractor must consult with the building Engineer, and Builder to place sleeves at approved, appropriate locations.
- E. Any concrete coring required this Contractor shall supply all labor, equipment, tools, materials and pay for the X-ray and concrete coring contractor to create any additional penetrations. Approval shall be required by the Owner's Representative before coring can take place. Under no circumstances shall penetrations be made without approval. Care shall be taken not to stress, overheat, or penetrate any building support member. Utilizing a chisel or percussion type equipment is forbidden.

3.11 SIGNAL TYPES (SYSTEM STATUS)

- A. General: The Fire Alarm Control Panel shall indicate various conditions or signals depending on system inputs. In all instances, a more severe signal shall override all less severe signals. All events are to be recorded with time and date in an electronic event history log maintained by the fire alarm control panel. The following is a short description of conditions that the Fire Alarm Control Panel is required to indicate in order of severity.
 - 1. WATERFLOW FIRE ALARM: A waterflow signal is a special alarm condition that is only applicable when an automatic building sprinkler or similar system is monitored. It indicates that at least one sprinkler head is open, so in addition to a fire, the premises are subject to water damage. This signal is transmitted on a special channel on the digital communicator. This is a fire alarm condition and all actions listed under fire alarm shall take place.
 - 2. FIRE ALARM: This alarm signal is indicative of fire. Such a signal indicates an emergency requiring immediate action. All premises audible and visual notification appliances shall operate and the protected premises evacuated. A local audible alert shall sound, the alarm LED illuminate, and descriptive message appear on the LCD display at the panel and any

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remote annunciators until the panel is reset. The digital communicator transmits a fire alarm signal.

3. SUPERVISORY ALARM: A supervisory signal indicates the need for action concerning a duct mounted smoke detector, or the maintenance of related systems. An audible alert shall sound, the supervisory LED illuminate, and descriptive message appear on the LCD display at the panel and any remote annunciators until silenced. The digital communicator transmits a supervisory signal.
4. TROUBLE: A trouble signal indicates a fault in a monitored circuit or component of the fire alarm system. This could be a short, open, or ground in a supervised circuit. It could also indicate a device or battery failure. A local audible alert shall sound, the trouble LED illuminate, and descriptive message appear on the LCD display at the panel and any remote annunciators until silenced. The digital communicator transmits a trouble signal.
5. MAINTENANCE ALERT: A maintenance alert is an early warning of a condition before a device becomes inoperable. This is often a smoke detector that needs cleaning or other normal maintenance item. The maintenance alert shall display on the panel and any remote annunciator LCD display until acknowledged. No audible alert shall sound and no signal transmitted, in order that this condition not be confused with a supervisory or trouble condition.
6. NORMAL: All systems and supervised circuits functioning normally.

3.12 SEQUENCE OF OPERATION

- A. Alarm Condition: When a fire alarm condition is indicated by any manual pull station, heat detector, area smoke detector shall cause the following actions or effects to take place:
 1. At the panel and any remote annunciators, a system alarm LED shall flash and a local sounding device shall activate.
 2. The 80-character LCD display shall indicate all pertinent information associated with the alarm condition and its location.
 3. The digital communicator shall activate and transmit a GENERAL ALARM signal to the monitoring company.
 4. All audible and visual signal devices shall activate and operate until silenced manually, or until automatically silenced, by the control panel. Any subsequent alarm from another device shall automatically reactivate all audible and visual signal devices.
 5. Fire safety control functions related to providing free egress from the facility shall be activated on general alarm, including the automatic opening of any controlled motorized security grills and automatic unlocking for egress of any controlled non-fire rated security doors or gates.
 6. Fire safety control functions conditional on the detection of an alarm condition in one or more designated adjacent area smoke detectors shall be activated independently on a one-for-one basis, these functions may include air handler shutdown of units without a duct mounted smoke detector, electromagnetic door hold back release, release of overhead coiling or hinged fire or smoke rated doors or shutters (those designed to close in order to control the spread of fire or smoke), high volume low speed (HVLS) fan shut down, and any other conditional operations such as elevator recall.
 7. Each Fire Safety Control Function circuit controlled device shall be configured such that when the fire alarm system safety control function circuit is re-energized, by the fire alarm control panel, the device shall return to normal operation (e.g. be ready to re-start) without a need for manual or environmental control system intervention.
 8. The FACP event history storage equipment shall log the information associated each new fire alarm control panel condition, along with time and date of occurrence.
- B. When a dangerous accumulation of Carbon Monoxide gas is detected on any CO detection unit zone the following actions or effects shall take place:

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1. At the individual initiating CO detection unit, the red LED alarm light will come on and stay on, the temporal-four pattern audible sounder base alarm will sound.
 2. At the panel and any remote annunciators, a system alarm LED shall flash and a local sounding device shall activate.
 3. The 80-character LCD display shall indicate Carbon Monoxide Alarm, the zone number, and its location.
 4. The digital communicator shall activate and transmit a Carbon Monoxide Alarm, the zone number, and its location to the monitoring company.
 5. The FACP event history storage equipment shall log the information associated each new fire alarm control panel condition, along with time and date of occurrence.
- C. The detection of any system internal or external trouble condition or the actuation of any supervisory alarm condition, as applicable, including any duct mounted smoke detector shall automatically cause the following actions to take place:
1. At the panel and any remote annunciators, a system supervisory alarm LED or trouble LED shall flash as appropriate and a local sounding device shall activate. Audible supervisory or trouble alerts that have been silenced shall automatically resound every twenty-four hours or less until repairs are made.
 2. The 80-character LCD display shall indicate all pertinent information associated with the trouble or supervisory condition and its location; however, unacknowledged alarm messages shall have priority over trouble messages.
 3. The digital communicator shall activate and transmit a SUPERVISORY or TROUBLE signal to the monitoring company.
 4. Conditional activation on supervisory alarm of any automatic programs assigned to the supervisory alarm point shall be executed and the associated indicating devices and relays shall be activated. When duct mounted smoke detectors indicate a supervisory alarm provide instantaneous activation of related fire safety control functions including any electromagnetic door hold back and release devices and any air handler shut down relays and smoke fire damper motors.
 5. Detection of a supervisory alarm in a duct mounted smoke detector shall initiate shutdown of the associated air handler and closing of any smoke dampers or fire/smoke dampers located in that unit's duct system, on a conditional one-for-one basis.

3.13 BASIC SETUP AND TESTING

- A. The completed system is to be tested for compliance with the specifications.
- B. The System Contractor shall make a thorough inspection of the complete installation to ensure the following:
 1. Complete and functional system.
 2. Installed in accordance with manufacturer's instructions.
- C. Prior to the testing, ensure that the system is free of short circuits, grounds, excessive system noise beyond published specifications of the equipment, hum, RF interference, or instability of any form.
- D. The testing work shall be performed after installation has been completed, but prior to any use of the system.
- E. All audio inputs, including live microphone, automated evacuation messages, temporary testing signal, and any additional low priority inputs such as an intercom/public address, telephone system paging, and background music (if approved by the LAHJ), shall be adjusted and matched to the produce proper effective volume output from the system.

FIRE ALARM REPLACEMENT**SHANNON ELEMENTARY SCHOOL****ROCKWALL INDEPENDENT SCHOOL DISTRICT****ROCKWALL, TEXAS**

- F. Always operate audio amplifiers and speakers within their specified ratings. Excessive input may distort sound quality and may damage audio equipment. Do not exceed +130% of speaker input voltage per UL 1480. Improper input voltage can damage speaker. If distortion is heard, check for clipping of the audio appliance with an oscilloscope and reduce the amplifier input level or gain level to eliminate any clipping.
- G. Check the installation instructions of the manufacturers of other equipment used in the system for any guidelines or restrictions on wiring and/or locating Voice Notification Appliance Circuits (Voice NAC) and notification appliances. Some system communication circuits and/or audio circuits, for example, may require special precautions to assure electrical noise immunity (e.g. audio crosstalk).
- H. The system shall be set up for a general occupancy and at no point in the testing or operation of the system shall output be allowed to exceed 95 dB at any occupiable position to prevent possible hearing damage, and system damage. It is prohibited at any time to "ring out" the system by turning it up until it distorts.
- I. The installer shall maximize the gain structure and balance each system component to provide the least possible variation in sound level and frequency response in each area as required. The testing shall be performed with a minimum of the following equipment:
 - 1. Professional 1/3 octave Real Time Analyzer (RTA) and Type One sound pressure level (SPL) meter - Ivie IE-30A or PC-40 with calibrated microphone or equivalent by Crown or White Instruments.
 - 2. Pink Noise Generator - Ivie IE-20B or equivalent by Crown or White Instruments.

3.14 PERFORMANCE TESTING

- A. After basic setup and testing, the sound system shall meet or exceed the following specifications:
 - 1. System shall be free of short circuits, ground loops, parasitic oscillation, excessive system noise, hum, and instability of any form, including RF interference.
 - 2. Maximum SPL with band-limited pink noise input to the system shall be 95 dB before audible distortion occurs.
- B. Acoustic response of the system shall be plus or minus 1.5 dB along a line which is flat from 100 Hz to 1250 Hz and which rolls off at 2 dB per octave to 8 kHz.

3.15 VOICE INTELLIGIBILITY TESTING

- A. Once the basic setup and performance testing is completed, this contractor shall conduct voice intelligibility testing as prescribed in NFPA 72 and as required by the local AHJ.
- B. In areas that may require additional speaker devices to achieve voice intelligibility, these devices shall be furnished and installed at no additional cost to the Owner.
- C. The final acceptance of the system by the Owner/Engineer will be based upon the proper performance of the completed system.

3.16 SYSTEM RECORD OF COMPLETION, INSPECTION AND TESTING, WARRANTY, SERVICE

- A. A factory-trained representative of the manufacturer shall supervise the final connections and testing of the system and it shall be subject to the final acceptance of the Engineer, and local authorities. Testing shall be per NFPA 72, Chapter 7 Documentation. Provide applicable forms for each Record of Completion, Inspection and Testing and other documents from NFPA 72, Chapter 7. Testing shall include, but not be limited to, the following:
 - 1. Before energizing the system check all cables for correct connections and test for short circuits, ground faults, continuity, and insulation.

FIRE ALARM REPLACEMENT**SHANNON ELEMENTARY SCHOOL****ROCKWALL INDEPENDENT SCHOOL DISTRICT****ROCKWALL, TEXAS**

2. Close each sprinkler system valve with a tamper switch, when applicable, and verify proper supervisory alarm at the FACP.
 3. Verify alarm activation of waterflow switches by operation of the test port valve on each riser (when applicable).
 4. Open each initiating device circuit and verify that the trouble signal actuates.
 5. Open and short each signaling line circuit and verify that the trouble signal actuates.
 6. Open and short each notification appliance circuit and verify that trouble signal actuates.
 7. Individually ground each circuit and verify response of trouble signals.
 8. Check for presence of strobe signal and audibility of tone at all alarm notification devices.
 9. Check installation, supervision, and operation of all area detectors using the walk test.
 10. Check installation, configuration, and operation of all duct mounted smoke detectors. Verify that there is adequate airflow through the sample tubes and housing to activate the detector when smoke is present in the duct.
 11. Each of the alarm conditions that the system is required to detect should be introduced on the system. Verify the proper receipt and the proper processing of the signal at the FACP and the correct activation of the control points.
 12. Verify proper operation of all fire safety control functions including when applicable fire door hold open/release, coiling fire door release, air handler shutdown, smoke damper or fire/smoke damper control, high volume low speed (HVLS) fan shut down, and the automatic opening of any controlled motorized security grills and automatic unlocking for egress of any controlled non-fire rated security doors or gates.
 13. Check operation of elevator recall and shunt-trip when applicable.
 14. Ensure that all dust covers are removed from smoke and heat detectors at substantial completion.
- B. The Fire Alarm Contractor shall be ultimately responsible for safe and complete operation of the system. Any issues affecting proper operation of the system relating to the Electrical, Mechanical, Fire Protection, Fire Suppression or other contractors shall be resolved by the Fire Alarm Contractor, at no additional cost to, and without requesting intervention by the Owner.
- C. The Fire Alarm Contractor shall provide a complete, dated, installation certificate meeting state requirements for each installation including a System Record of Completion and an Emergency Communications Systems Supplementary Record of Completion. A Fire Alarm Installation Record sticker listing the; installation firm's name, address, and telephone number; signature of Licensee and license number; Fire Alarm Planning Superintendents name and license number; and the installation date, meeting state requirements shall be attached to the main fire alarm control panel. The Fire Alarm Contractor shall submit a copy of the installation certificate, final testing forms with final results and speech intelligibility testing results to the Engineer at the time of substantial completion.
- D. The contractor shall provide a labor warranty of the installed system against defects in material or workmanship for a period of one (1) year from the date of substantial completion. Provide the equipment manufacturer's warranty information with the operating and maintenance (O&M) manual.
- E. Equipment or cabling shown to be defective shall be replaced, repaired, or adjusted free of charge. All equipment will carry a one-year warranty or manufacturer's warranty whichever is greater. All labor and materials shall be provided at no expense to the Owner.
- F. Immediately prior to the end of the warranty period, the system shall be inspected and certified for the following year at no additional cost to the Owner.

3.17 AS-BUILT DRAWINGS, MANUALS, TRAINING

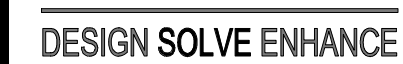
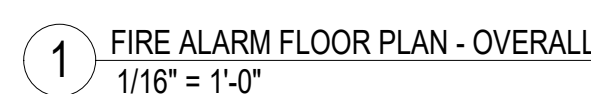
FIRE ALARM REPLACEMENT**SHANNON ELEMENTARY SCHOOL****ROCKWALL INDEPENDENT SCHOOL DISTRICT****ROCKWALL, TEXAS**

- A. As-built drawings and operating and maintenance (O&M) manuals may be electronically transmitted in PDF file format (preferred) or paper copies may be provided in quantities indicated in Division 1. Paper copies shall be organized including index tabs in a 3-ring black binder of sufficient size.
- B. Upon completion of the installation, and prior to final inspection, the fire alarm Contractor shall furnish as-built drawings.
- C. In addition, the fire alarm contractor shall furnish complete operating and maintenance manuals listing the manufacturer's name(s), including technical data sheets. Manuals shall include wiring diagrams to indicate internal wiring for each device and the interconnections between the items of equipment. Provide a clear and concise description of operation that gives, in detail, the information required to properly operate the equipment and system. Provide a parts list with manufacturer and model number for commonly replaced parts. Include complete instructions for the inspection, testing, and maintenance of the system.
- D. Provide fire alarm testing frequency information to the owner in the O&M manual per NFPA 72, Section 14.4.4.
- E. Provide the Owner a copy of the panel control software including the licensed program, site specific data file, and passwords that the Owner may require to maintain the system.
- F. The fire alarm contractor shall conduct formal on-site training sessions. It shall be the responsibility of the Contractor to coordinate time and location of training sessions with the Owner. Provide documented general instruction as follows:
 - 1. Provide instruction to the maintenance personnel to include the location, inspection, maintenance, testing, and operation of all system components. Provide a minimum of four (4) hours-two 2-hour sessions separated by a minimum of two weeks.
 - 2. Provide instruction to designated personnel on the functions and operation of the FIRE DETECTION AND ALARM SYSTEM including capabilities, limitations, monitoring, and the meaning of status messages. State the proper procedure for fire drills, routine maintenance, and request for service. Provide a minimum of four (4) hours-two 2-hour sessions separated by a minimum of two weeks.

END OF SECTION

ROCKWALL ISD FIRE ALARM STANDARDS

1. TURN OVER ALL DEMOLISHED FIRE ALARM EQUIPMENT TO OWNER.
2. PROVIDE BLANK COVERS OVER ALL DEMOLISHED WALL MOUNTED FIRE ALARM DEVICE LOCATIONS, COORDINATE EXACT COLOR WITH OWNER PRIOR TO INSTALL.
3. FURNISH AND REPLACE CEILING TILES THAT HAVE HAD A DEVICE REMOVED OR DAMAGED FROM INSTALLING A DEVICE OR DAMAGED FROM HANDLING. COORDINATE WITH OWNER FOR EXACT MODEL NUMBERS REQUIRED.



REVISION	DATE
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FIRE ALARM REPLACEMENT

SHANNON ELEMENTARY SCHOOL

ROCKWALL INDEPENDENT SCHOOL DISTRICT

ROCKWALL, TEXAS

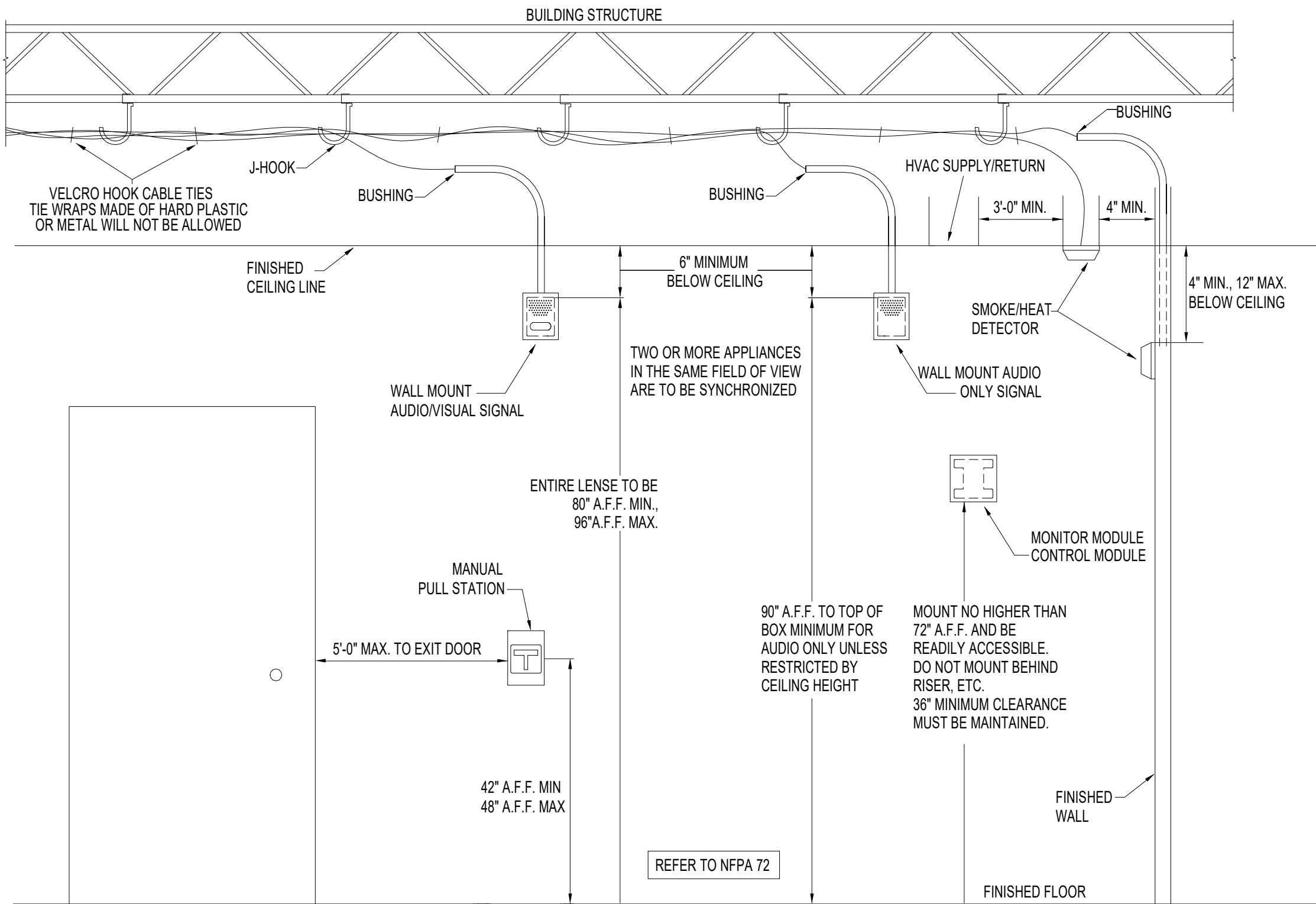
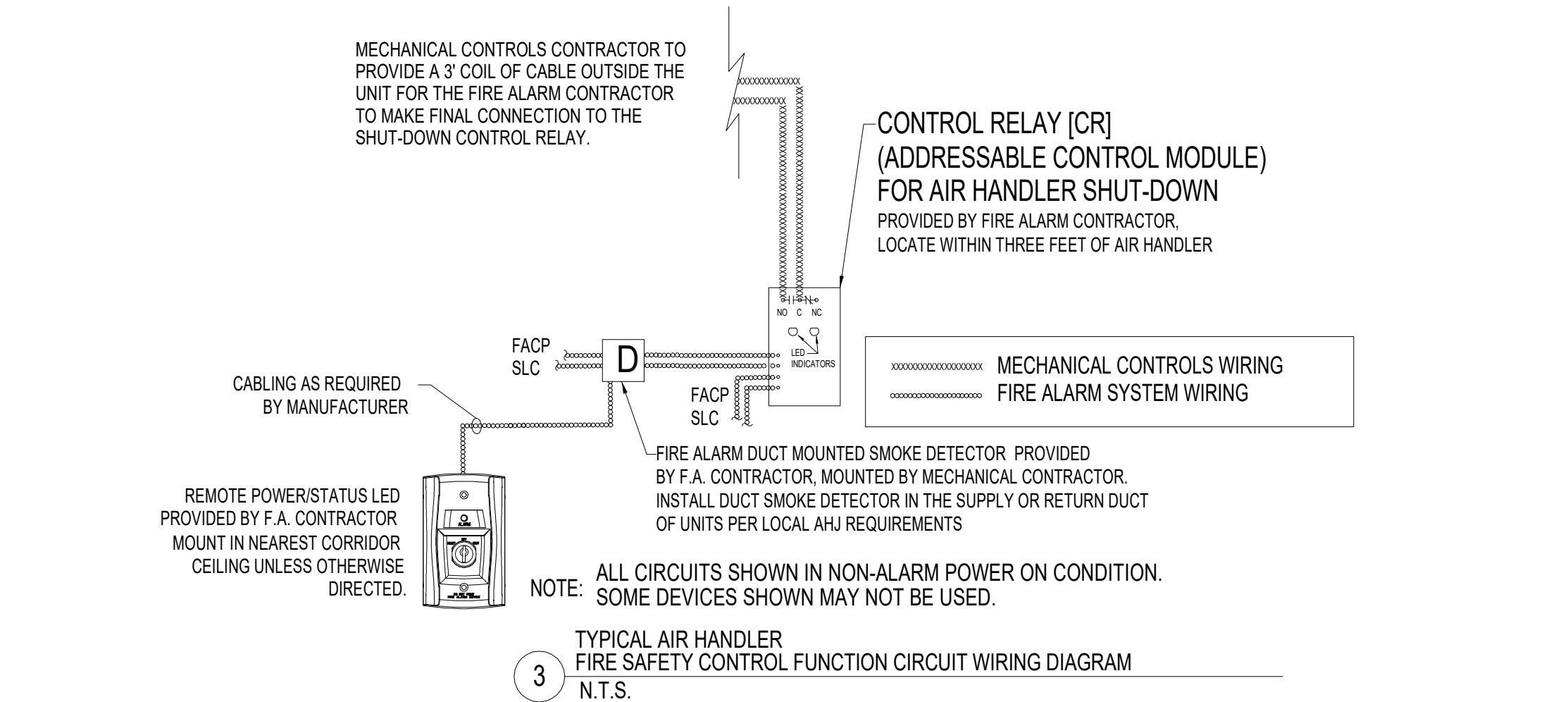
**FIRE ALARM FLOOR PLAN -
OVERALL**

SHEET	OF
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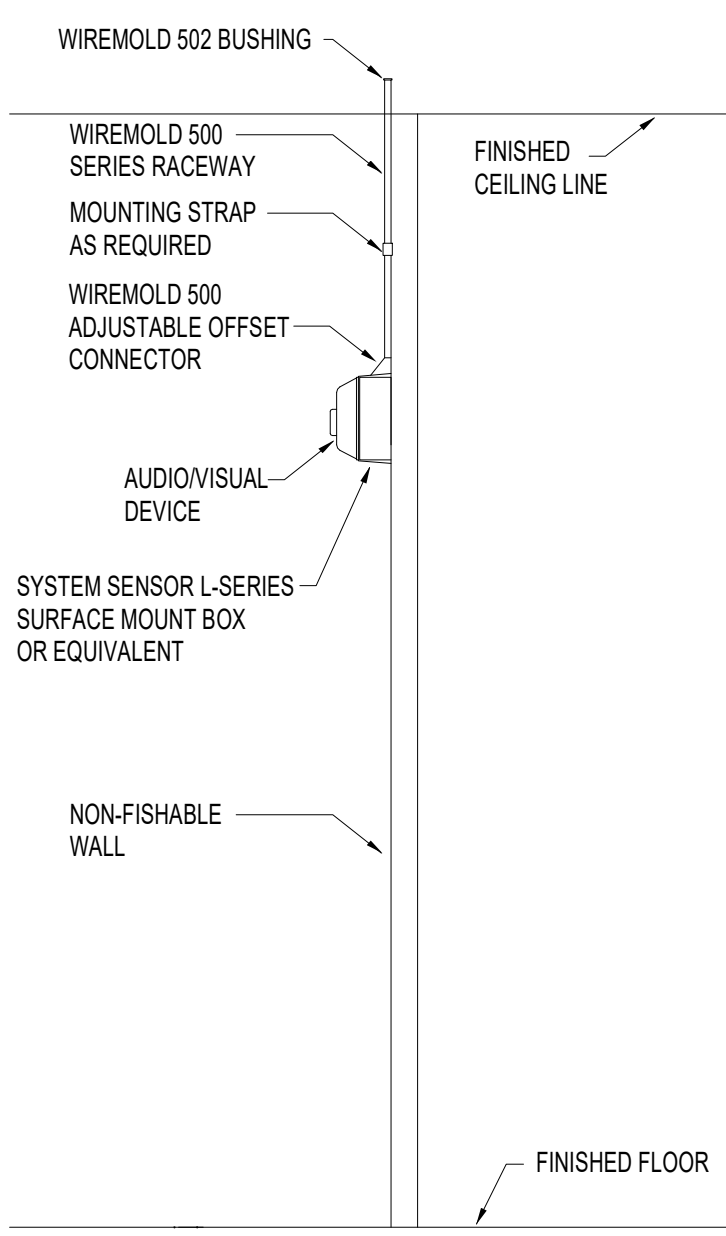
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SYMBOL	FIRE DETECTION & ALARM SYSTEM SCHEDULE				NO EXCEPTIONS	APPROVED EQUIV.	COMMENTS
	PRODUCT	MANUFACTURER	PART NUMBER	ACCESSORIES			
FACP	Fire Alarm Control Panel	Farenthyt	IFP-210ECS	Voice Evacuation Notification	o		
	Central Station Communicator				o		Refer to Specification Section 28 46 21, 2.04 IP AND CELLULAR COMMUNICATORS
	Records Document Cabinet	Space Age Electronics	SSU00689		o		Adjacent to FACP
FAP	Floor Plan Map	Space Age Electronics	SSU5210		o		Adjacent to FACP
FABA	Remote Annunciator	Farenthyt	RA-2000		o		
	Remote Power Supply	Farenthyt	PS-6/PS-10/5885XL5496		o		
[F]	Pull Station	Farenthyt	IDP-PULL-DA	ST1 Stopper 1100	o		
[S]	Smoke Detector - Photoelectric	Farenthyt	IDP-PHOTO	B300-6 Base	o		
[CO]	Carbon Monoxide Detector	Farenthyt	IDP-FIRE-CO	B200S-6 Base	o		
[CO]	Carbon Monoxide Alarm Unit	System Sensor	CO1224TR		o		Provide Resettable 24VDC, Supervise with Monitor Module and EOL Relay
[H]	Heat Detector	Farenthyt	IDP-HEAT	B300-6 Base	o		
[D]	Duct Smoke Detector	Farenthyt	IDP-DUCT-R	RA100Z	o		
[MM]	Monitor Module	Farenthyt	IDP-MONITOR		o		
[CR]	Relay Module	Farenthyt	IDP-RELAY		o		
[CM]	Control Module	Farenthyt	IDP-CONTROL		o		
[IM]	Isolator Module	Farenthyt	IDP-ISD		o		
[L _{st}]	Strobe - Wall	System Sensor	SWL		o		
[L _{st}]	Horn/Strobe - Wall	System Sensor	P2WL		o		
[L _{st}]	Horn/Strobe - Wall - Low Frequency 520Hz	System Sensor	P2WL-LF		o		
[L _{st}]	Device Guard - Wall	Space Age Electronics	SSU03503		o		
[L _{st}]	Horn/Strobe - Wall - Weatherproof	System Sensor	P2RK		o		
[L _{st}]	Horn/Strobe - Wall - Weatherproof - Waterflow	System Sensor	P2RK		o		Install Above the Fire Department Connection (FDC)
[L _{st}]	Strobe - Ceiling	System Sensor	SCWL		o		
[L _{st}]	Horn/Strobe - Ceiling	System Sensor	PC2WL		o		
[L _{st}]	Speaker/Strobe - Wall	System Sensor	SPSWL		o		
[L _{st}]	Speaker/Strobe - Ceiling	System Sensor	SPSCWL		o		
[L _{st}]	Speaker/Strobe - Wall - Weatherproof	System Sensor	SPSCWL		o		
[L _{st}]	Speaker/Strobe - Wall - Weatherproof - Waterflow	System Sensor	SPSRK		o		Install Above the Fire Department Connection (FDC)
[O]	Speaker - Wall	System Sensor	SPWL		o		
[O]	Speaker - Ceiling	System Sensor	SPCWL		o		
[E]	Electromagnetic Door Hold/Release Device	Edwards	DH150A		o		
[VH]	Kitchen Vent Hood Suppression System						Furnished by Kitchen Hood Suppression System Contractor
[FIS]	Fire Sprinkler Valve Tamper & Waterflow Switches						Furnished by Fire Sprinkler Contractor

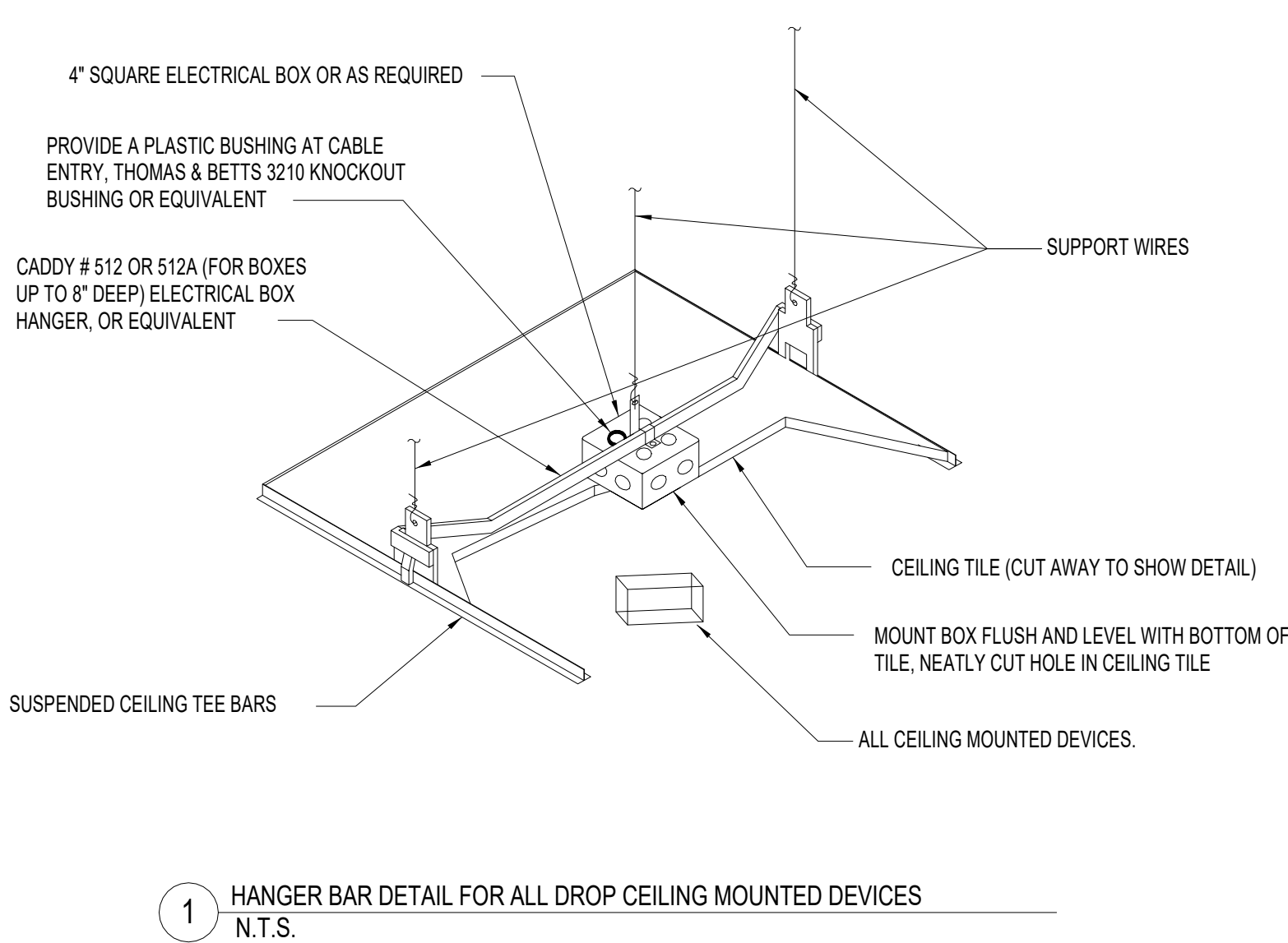
NOTES: 1. REFER TO SPECIFICATIONS 28 46 21 FOR ADDITIONAL INFORMATION.



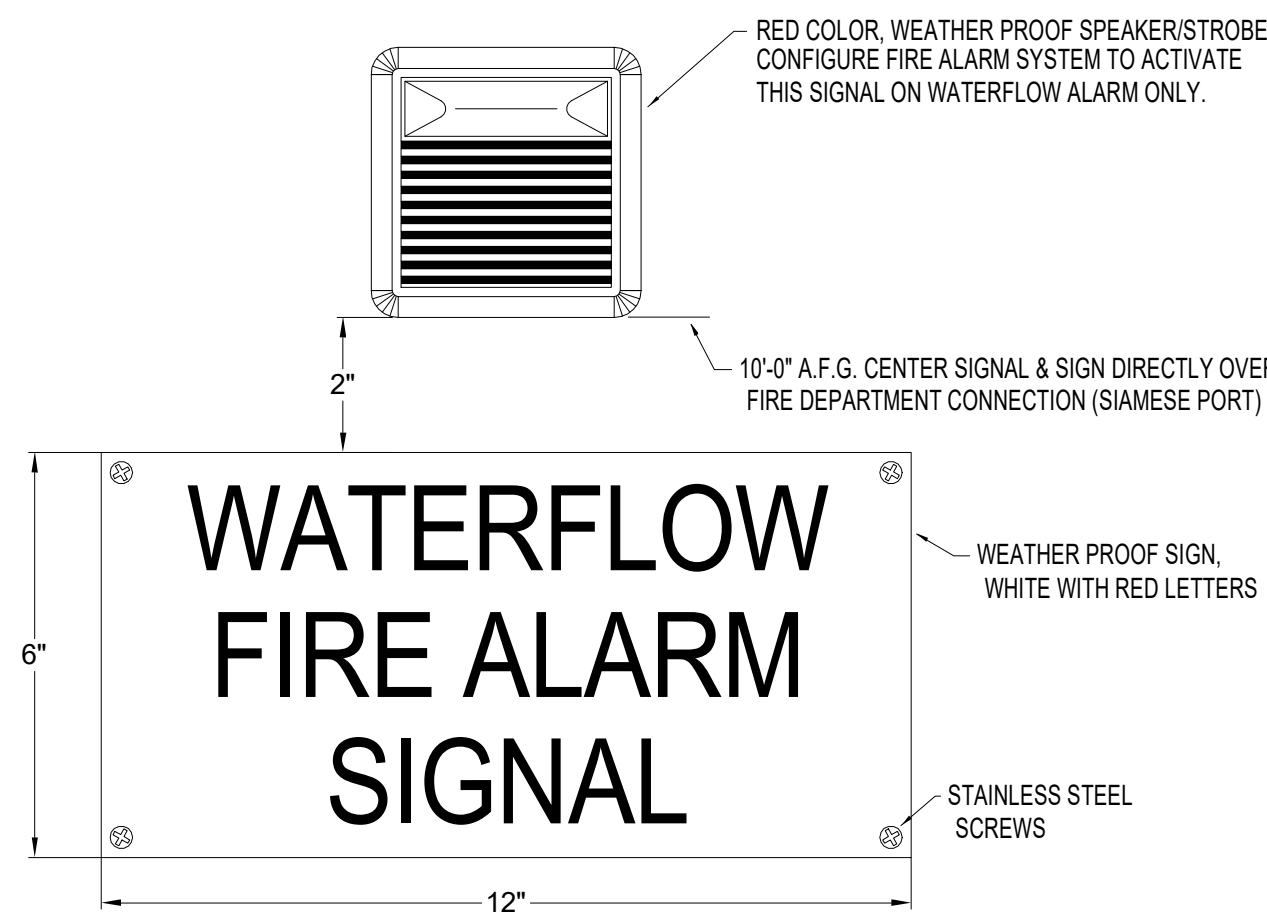
4 FIRE ALARM DEVICE MOUNTING HEIGHTS AND CABLE ROUTING
N.T.S.



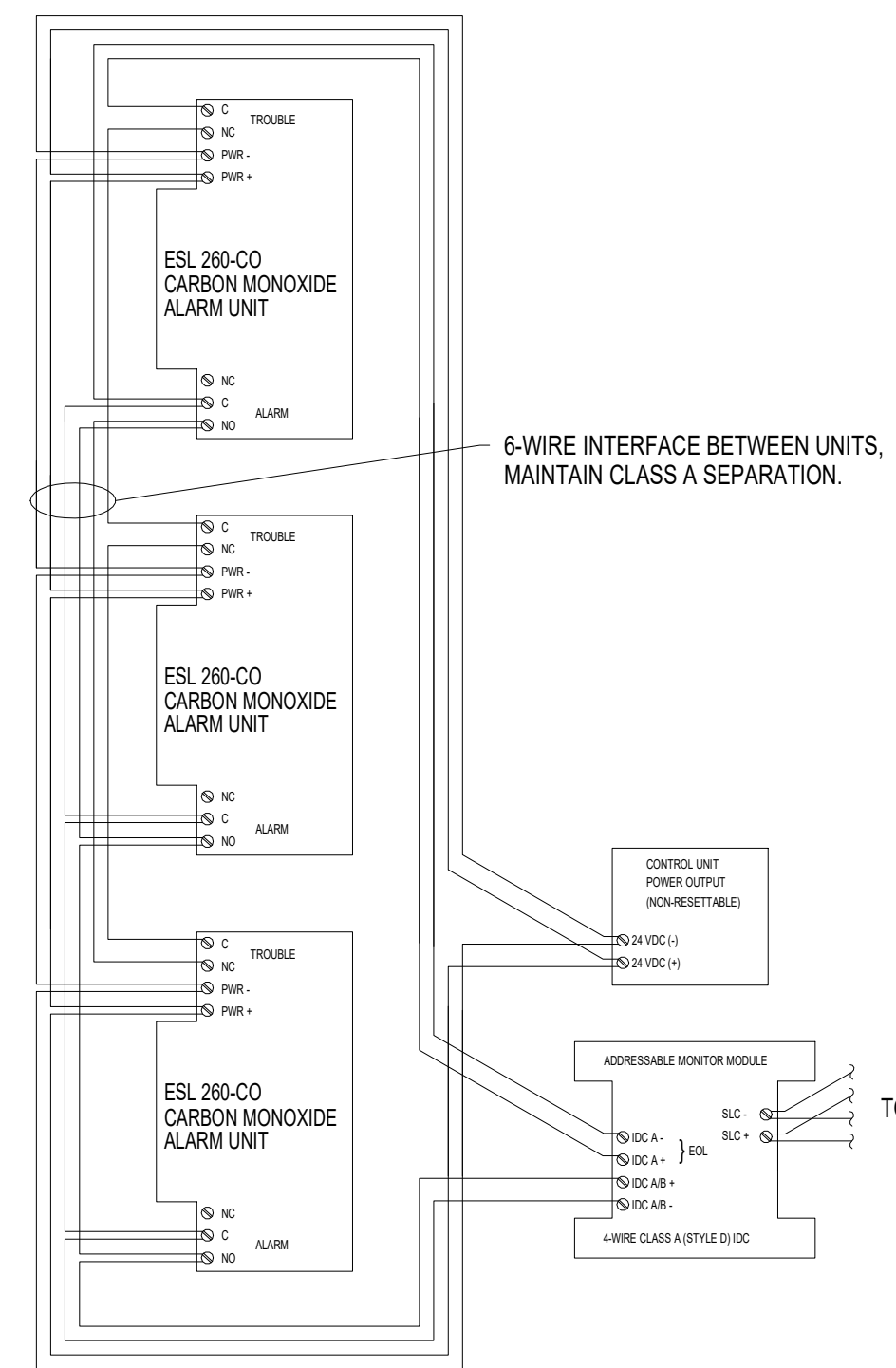
5 FIRE ALARM DEVICE BACKBOXES SURFACE MOUNT
N.T.S.



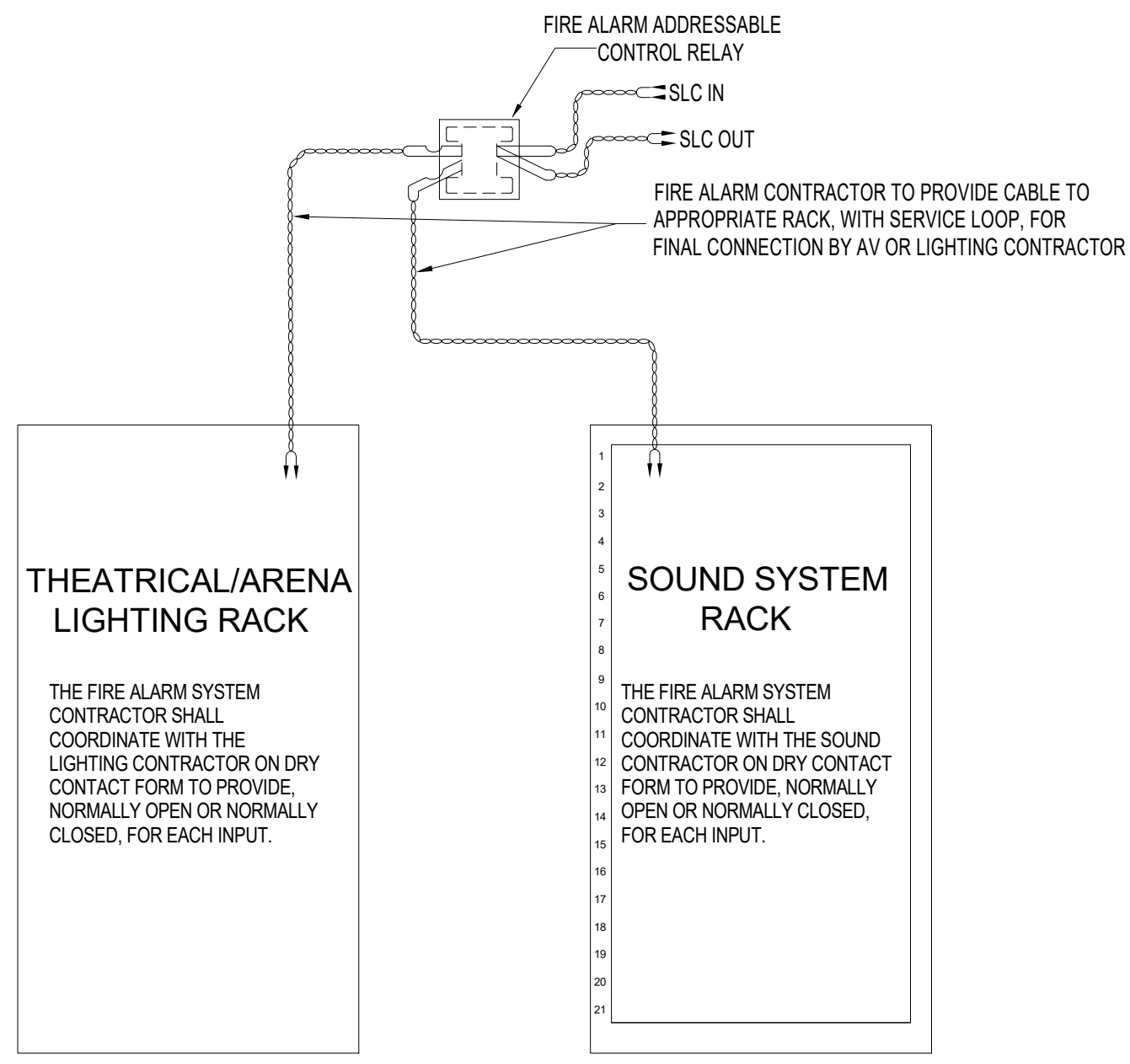
1 HANGER BAR DETAIL FOR ALL DROP CEILING MOUNTED DEVICES
N.T.S.



2 EXTERIOR WATERFLOW FIRE ALARM SIGNAL
N.T.S.



6 CARBON MONOXIDE ALARM UNIT ZONE WIRING DIAGRAM
N.T.S.



7 FIRE ALARM SOUND SYSTEM AND HOUSE LIGHTING CONTROLS
N.T.S.
REFER TO SPECIFICATIONS 28 46 21 FOR MORE DETAIL.

FIRE ALARM GENERAL NOTES

1. FIRE ALARM CONTRACTOR SHALL PROVIDE ALL CONDUIT AND STANDARD BACKBOXES FOR SYSTEMS SHOWN ON THIS DRAWING IN BASE PROPOSAL.
2. IN ANY EXPOSED CEILING AREAS ALL LOW VOLTAGE CABLING SHALL BE ENCLOSED IN CONDUIT.
3. ALL FIRE ALARM CABLING SHALL RUN DOWN THE CORRIDORS AND BRANCH OFF TO EACH ROOM TRUNKING SHALL BE RUN PRIMARILY PERPENDICULAR TO BUILDING WALLS.
4. CABLING SHALL BE RAN IN BUNDLES ABOVE ACCESSIBLE CEILINGS AND SUPPORTED FROM BUILDING STRUCTURE BY J-HOOKS, CONDUITS OR CABLE TRAY. CABLING MUST NOT BE FASTENED TO ELECTRICAL CONDUITS, MECHANICAL DUCTWORK/PIPING, SPRINKLER PIPE, CEILING GRID OR WIRES. CABLING SHALL NOT BE RAN LOOSE ON CEILING TILE OR GRID
5. WHERE NO FINISHED CEILINGS ARE SCHEDULED ALL DEVICES, CONDUIT, AND BACKBOXES SHALL BE INSTALLED UP AGAINST BOTTOM OF DECK AND SHALL NOT PROTRUDE BELOW BOTTOM OF STEEL. THE ENGINEER AND OWNER SHALL APPROVE ROUTING OF ALL EXPOSED ROUGH-INS PRIOR TO PLACEMENT.
6. ANY SIGNAL, OUTLET OR OTHER DEVICE MOUNTED ON A COLUMN, PILASTER, OR SIMILAR WALL OFFSET AREA SHALL BE CENTERED.
7. VERIFY MARKERBOARD, TACKBOARD, AND DOOR SWING LOCATIONS WITH ARCHITECTURAL PLANS - DO NOT INSTALL DEVICES IN THESE AREAS.
8. THE FIRE ALARM CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE LOCATION AND QUANTITIES OF ALL DUCT SMOKE DETECTORS AND CONTROL RELAYS THAT ARE REQUIRED BY THE CODE AND AHJ FOR THE MECHANICAL SYSTEMS.
9. FIRE ALARM CONTRACTOR SHALL PROVIDE DUCT MOUNTED SMOKE DETECTORS AND CONTROL RELAYS WHERE REQUIRED. FIRE ALARM CONTRACTOR SHALL INSTALL HOUSING AND SAMPLE TUBES IN DUCT. FIRE ALARM CONTRACTOR TO PROVIDE LOW VOLTAGE CONNECTION TO FIRE ALARM.
10. FIRE ALARM CONTRACTOR SHALL VERIFY CIRCUIT STYLE, QUANTITY, AND LOCATION OF DEVICES TO MEET ALL APPLICABLE CODES, LAWS, AND ALL REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION FOR INCLUSION IN BASE PROPOSAL.
11. THE FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF EXPOSED SURFACE MOUNTED BACK BOXES, JUNCTION BOXES, RACEWAYS, CONDUIT AND SUPPORTS LOCATED ON FINISH WALLS AND CEILINGS NOT TO BE REUSED FOR CABLE OR DEVICE INSTALLATION.
12. PATCHING AND PAINTING OF DISTURBED FINISHED SURFACES SHALL BE BY THE FIRE ALARM CONTRACTOR AS REQUIRED. ALL WORK SHALL BE IN A NEAT AND WORKMANLIKE MANNER AND AS APPROVED BY THE OWNER AND ENGINEER.
13. SEAL VOIDS AROUND FIRE-RATED WALL AND FLOOR PENETRATIONS USING FIRE STOPPING MATERIALS AND METHODS THAT ARE UL APPROVED AND INSTALLED IN ACCORDANCE WITH ALL APPLICABLE CODES. THE INSTALLED FIRE STOPPING SHALL BE EQUAL TO OR GREATER THAN THE FIRE RATING OF THE WALL OR FLOOR.
14. REFER TO SPECIFICATION DIVISION 28 FOR ADDITIONAL INFORMATION.

EMA
DESIGN SOLVE ENHANCE

EMA Engineering & Consulting, Inc.
Tyler | Austin | Houston | El Paso
DFW | San Antonio | Shreveport
Texas Firm Registration No. F-9393
Louisiana Firm Registration No. EF-5818
www.EMAengineer.com



ISSUE DATE

JANUARY 16, 2026

REVISION DATE

**ROCKWALL INDEPENDENT SCHOOL DISTRICT
STANDARD FORM OWNER/CONTRACTOR AGREEMENT**

THIS AGREEMENT made and entered into on January 16, 2026, by and between the **Rockwall Independent School District** called "**District**," and, Contractor Name herein called "**Contractor**."

The Owner's authorized representative is:

David Carter, CPA
Senior Chief Financial Officer
Rockwall Independent School District
1050 Williams Street
Rockwall, TX 75087
Phone number: (469) 698-7149

The term "Owner" means the Rockwall Independent School District or the Owner's authorized representative.

And the Contractor is: _____

The Contractor's authorized representative is: _____

Phone number: _____

This is a parking lot addition project and all associated work shown in the Architectural, Civil, Structural documents and specification issued by EMA in CSP # XXXXXXXY. This will be for the Ursula Rakow Middle School located in Fate, Texas. This project will consist of but not be limited to demolition and haul off, electrical, fire alarm equipment specified in the documents and specifications by EMA and Consultants. Contractor to salvage demo fire alarm equipment for RISD.

WITNESSETH:

The Owner and Contractor agree as follows:

I. THE CONTRACT DOCUMENTS.

The Contract Documents consist of this Standard form Owner/Contractor Agreement (the "Agreement"), all sections of the Project Manual, including Drawings, Specifications, and Addenda issued prior to execution of this Agreement, the Owner's Request for Proposals and Contractor's Proposal documents submitted in response to such Request, modifications to the Agreement issued and agreed to by the parties subsequent to the execution of this Agreement, and other documents as may be listed in this Agreement. A Modification is (1) a written amendment to the Agreement signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the work issued by the Owner & Engineer, all of which must be signed by the parties. The Project Manual is a volume assembled for the work that is to be done on or relating to the Project (the "Work") which includes the bidding requirements, sample forms, Conditions of the Contract and Specifications.

In the event of conflict, terms and conditions contained in this Agreement shall take precedence over terms and conditions contained in the Project Manual, and the terms and conditions in the Project Manual, shall take precedence over all other terms and conditions contained in the other Contract Documents, unless specifically agreed otherwise herein.

The Contract Documents form the Contract for Construction (the "Contract"). The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a written Modification signed by Contractor, approved by Owner's Board of Trustees, and signed by the representative of Owner's Board of Trustees who is authorized to sign contracts. As a material consideration for the making of the Contract, modifications to the Contract shall not be construed against the maker of said modifications. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Engineer or the Engineers consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Engineer or the Engineers consultants or (4) between any persons or entities other than the Owner and the Contractor.

II. DATE OF COMMENCEMENT, FINAL COMPLETION, AND LIQUIDATED DAMAGES.

A. The date of commencement is the date to be fixed in a written Notice to Proceed (NTP) issued by the Owner, which shall be not later than TBD 16, 2026). The NTP date is dependent upon the awarded contractor returning executed contracts and insurance/bonds, if required, prior to this date.

B. The Contractor shall achieve Final Completion of the entire Project not later than (TBD 18, 2026), subject to adjustments as provided in the Contract.

C. The Contractor and his surety or sureties shall be liable for and shall pay to the Owner the sum of (\$1,500 per day per school) per day as fixed, agreed and liquidated damages for each calendar day after the date specified in Paragraph 2(b), as adjusted by written amendment, until Final Completion of the Project. The amount of damage to the Owner for delay in completion of the Project is difficult to ascertain and the amount of liquidated damages per calendar day is reasonable anticipated pecuniary damages for such delay and is not a penalty. Neither an extension of time nor the collection of liquidated damages shall limit or exclude any other right or remedy of the Owner under provisions of the Contract.

III. CONTRACT SUM.

The Owner shall pay the Contractor for the Contractor's full performance of the Contract, the Contract Sum of (\$TBD) (the "Contract Sum") subject to additions, deductions and/or liquidated damages as provided in the Contract.

The Contract Sum contains an Owner's Contingency in the amount of (\$90,000.00 per school). This contingency is for the sole use of the Owner to be used for changes in the scope of the Work and for the betterment of the Project. Owner's authorized representative may approve any expenditure from Owner's Contingency without further Board of Trustees approval. If the Owner's Contingency is not expended or not fully expended, then any unused portion shall belong to the Owner and shall be credited to the Owner in calculating final payment. The Contract sum contains "EXHIBIT A" and "EXHIBIT B". Exhibit A is a cost break down including Alternates. Exhibit B is acceptance of the Addendum dated February 03, 2025 and is included in contract sum.

IV. PROGRESS PAYMENTS.

A. Based upon Applications for Payment submitted to the Owner by the Contractor, the Owner will make progress payments as provided below

B. Provided an Application for Payment is received and approved by the Owner not later than the twentieth (20th) day of a month, the Owner will make payment of the amount due, less five percent (10%) retainage, to the Contractor not later than the tenth (10th) day of the following month. If an Application for Payment is received by the Owner after the application date fixed above, payment in such amount as determined by Owner will be made by the Owner not later than fifty-one (51) days after the Owner receives and approves the Application for Payment.

C. Based on the Owner's observations and evaluations of the Project and the Contractor's Applications for Payment, the Owner will determine the amounts due to Contractor. If Owner determines, in Owner's reasonable discretion, that Contractor's Application for Payment contains discrepancies and/or errors, then Contractor shall resubmit said Application for Payment and the timeframe set forth in Section IV(B) above shall restart and apply from the date of resubmittal.

D. Any payment for undisputed amounts not paid in the time specified in paragraph 4.b. above shall be overdue. An overdue payment bears interest at the legal rate established by the Texas Government Code, §2251.025.

V. FINAL PAYMENT.

A. Final payment, constituting the entire unpaid balance of the Contract Sum (less any offsets or damages as provided in the Contract Documents), will be made by the Owner when:

1. the Contract has been fully performed by the Contractor as determined by Owner and Engineer, and
2. the completed Project has been accepted by the Rockwall ISD Board of Trustees or its designee.

B. Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Owner:

1. an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Project have been paid or otherwise satisfied,
2. a certificate evidencing that the required insurance will remain in force after final payment and will not be cancelled or allowed to expire until at least 30 days' prior written notice has been given to the Owner,
3. a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Owner,
4. consent of surety to final payment,
5. other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner, and
6. written warranties and other documents required by the Contract and submitted to the Owner's Superintendent of Schools.

C. Acceptance of final payment by the Contractor shall constitute a waiver of all claims by the Contractor, except those previously made in writing and identified by the Contractor as unsettled at the time of final Application for Payment.

VI. OBLIGATIONS OF CONTRACTOR.**A. REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR.**

Before ordering materials or equipment or commencing the Project, the contractor shall carefully:

1. study and compare the Contract Documents with each other and with other information furnished by Owner,

2. verify all indicated dimensions,
3. take field measurements,
4. verify field conditions, and
5. compare the field measurements and conditions and other information known to the Contractor with the Contract Documents, and verify that there are no impediments to the Project being constructed at the proposed site.

Errors, inconsistencies or omissions discovered shall be reported in writing to the Owner & Engineer at once. In the event that discrepancies occur between ordered material and actual conditions, of which the Owner and Engineer were not notified beforehand, costs to correct such discrepancies shall be borne by Contractor.

B. SUPERVISION AND CONSTRUCTION PROCEDURES.

1. The Contractor shall supervise and direct the Project, using the Contractor's best skill and attention. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Project under the Contract, unless the Contract gives other specific instructions concerning these matters.
2. The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons performing portions of the Project under a contract with the Contractor.
3. On trench excavations in excess of five feet in depth, Contractor shall bear sole responsibility for design and execution of acceptable trenching and shoring procedures as may be required by law, including but not limited to Texas Government Code §2166.303, Texas Health & Safety Code, Subchapter C, §756.021, *et seq.*, and OSHA 1926.652-.653. Contractor shall pay a qualified engineer to prepare detailed plans and specifications directing Contractor in safe execution of trenching and shoring.

C. LABOR AND MATERIALS.

1. Unless otherwise provided in the Contract, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Project, whether temporary or permanent and whether or not incorporated or to be incorporated in the Project.
2. The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Contract. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them. As part of that responsibility, Contractor shall enforce the Owner's alcohol-free, drug-free, tobacco-

free, and weapon-free policies and zones, which will require compliance with those policies and zones by Contractor's employees, Subcontractors, and all other persons carrying out the Contract. Contractor shall also require adequate and appropriate dress of Contractor's employees, Subcontractors, and all other persons carrying out the Contract. Contractor also agrees all Employee's must wear clothing and or badges that clearly identify the company they work for.

Contractor further agrees to submit any of its employees, agents, subcontractors or sub-subcontractors or their respective employees and agents, who meet the requirements of a covered employee under Texas Education Code §22.0834, to national criminal history checks or, alternatively, agrees to keep such employees and agents from having any direct contact with students of Owner. Failure to comply with the requirements of Texas Education Code §22.0834 shall constitute an immediate event of default by Contractor. Further, Contractor shall complete the "Contractor Certification" attached hereto as Exhibit "A" before beginning any Work that is the subject of this Agreement.

3. Contractor shall at all times maintain job records, including, but not limited to, invoices, payment records, payroll records, daily reports, logs, diaries, and job meeting minutes, applicable to the Project. Owner reserves the right to audit contractor's books and records relevant to all services provided under the Contract Documents. In the event such audit reveals any errors resulting in overpayments by the Owner, Contractor shall refund Owner the full amount of such overpayment within thirty (30) days of such audit findings, or the Owner, at its option, reserves the right to withhold such amounts owing the Owner from any payments due the Contractor. Contractor shall make such reports and records available to inspection or audit by the Owner and/or its agents within five (5) working days of request by Owner or its agent. Such records shall be maintained by Contractor for at least four (4) years.

D. WARRANTY.

The Contractor warrants to the Owner that materials and equipment furnished under the Contract will be of good quality and new unless otherwise required or permitted by the Contract, that work on the Project shall be performed in a good and workmanlike manner, that the Project will be free from defects not inherent in the quality required or permitted, and that the Project will conform with the requirements of the Contract. The contractor shall furnish the Contractor's warranty covering material and workmanship for a period of one year from the commencement date of the substantial completion. Manufacturer's material warranties shall be as issued by each manufacturer and provided in the close-out documentation.

E. TAXES.

The Owner qualifies for exemption from State and Local Sales Tax pursuant to the provisions of Chapter 151 of the Tax Code of the State of Texas. The Contractor may claim exemption from payment of applicable State and Local Sales Taxes by complying with such procedures as may be prescribed by the State Comptroller of Public Accounts. However, the Contractor shall pay all necessary local, county and state taxes, compensation tax, social

security and withholding payments as required by law. **THE CONTRACTOR SHALL INDEMNIFY AND SAVE HARMLESS THE OWNER OF AND FROM ALL CLAIMS AND DEMANDS MADE BY FAILURE OF THE CONTRACTOR OR SUBCONTRACTORS TO COMPLY WITH THE PROVISIONS OF ANY OR ALL SAID LAWS AND AMENDMENTS.**

F. PERMITS, FEES AND NOTICES.

1. The Contractor shall secure and pay for the building permit and other permits, governmental fees and licenses necessary for proper execution and completion of the Project which are customarily secured after execution of the Contract and which are legally required when bids are received or negotiations concluded.
2. The Contractor shall comply with, give notices and provide certifications as may be required by applicable laws, ordinances, rules, regulations and lawful orders of public authorities bearing on performance of the Project including, but not limited to, 19 T.A.C. §61.1036.

G. USE OF SITE.

The Contractor shall confine operations at the site to areas permitted by law, ordinances, permits and the Contractor, as designated by the Owner, and shall not unreasonably encumber the site with materials or equipment. Contractor not to use School Facilities Restrooms. Contractor must provide other bathroom accommodations for subs and vendors.

H. CLEANING UP.

The Contractor shall on a daily basis keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Project the Contractor shall remove from and about the Project waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials. If the Contractor fails to clean up as provided in the Contract, the Owner may do so and the cost thereof shall be charged to the Contractor and may be offset against any amounts still owed to the Contractor. Contractor must provide dumpsters as necessary to completed work as the schools existing dumpsters are not available for construction trash and debris.

I. INDEMNIFICATION.

TO THE FULLEST EXTENT PERMITTED BY LAW, THE CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE OWNER, ITS TRUSTEES, AGENTS AND EMPLOYEES FROM AND AGAINST ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES INCLUDING BUT NOT LIMITED TO, ATTORNEYS' FEES, ARISING OUT OF OR RESULTING FROM CONSTRUCTION OF THE PROJECT, BUT ONLY TO THE EXTENT CAUSED IN WHOLE OR IN PART BY ACTS OR OMISSIONS OF THE CONTRACTOR, A SUBCONTRACTOR, ANYONE DIRECTLY OR INDIRECTLY EMPLOYED BY THE CONTRACTOR

OR SUBCONTRACTORS OR ANYONE ELSE FOR WHOSE ACTS THEY MAY BE LIABLE, UNLESS SUCH CLAIM, DAMAGE, LOSS OR EXPENSE IS CAUSED SOLELY BY A PARTY INDEMNIFIED HEREUNDER.

THE OBLIGATIONS OF THE CONTRACTOR UNDER THIS SECTION SHALL NOT EXTEND TO THE LIABILITY OF THE ENGINEER, THE ENGINEER'S CONSULTANTS, OR AGENTS AND EMPLOYEES OF ANY OF THEM, CAUSED BY OR RESULTING FROM: (1) DEFECTS IN PLANS, DESIGNS OR SPECIFICATIONS PREPARED, APPROVED, OR USED BY THE ENGINEER; OR, (2) NEGLIGENCE OF THE ENGINEER IN THE RENDITION OR CONDUCT OF PROFESSIONAL DUTIES CALLED FOR OR ARISING OUT OF THE CONSTRUCTION CONTRACT IN THE PLANS, DESIGNS OR SPECIFICATIONS THAT ARE PART OF THE CONSTRUCTION CONTRACT; AND, (3) ARISING FROM: (A) PERSONAL INJURY OR DEATH; (B) PROPERTY DAMAGE; OR, (C) ANY OTHER EXPENSE THAT ARISES FROM PERSONAL INJURY, DEATH OR PROPERTY DAMAGE OR AS OTHERWISE LIMITED BY TEXAS CIVIL PRACTICE & REMEDIES CODE §130.001, ET SEQ.

FURTHER, AND IN ACCORDANCE WITH TEXAS INSURANCE CODE §151.102, AS APPLICABLE, THE OBLIGATIONS OF THE CONTRACTOR UNDER THIS SECTION SHALL NOT REQUIRE CONTRACTOR TO INDEMNIFY, HOLD HARMLESS, OR DEFEND THE PARTY(S) INDEMNIFIED HEREUNDER AGAINST A CLAIM CAUSED BY (I) THE NEGLIGENCE OR FAULT, (II) THE BREACH OR VIOLATION OF A STATUTE, ORDINANCE, GOVERNMENTAL REGULATION, STANDARD, OR RULE, OR (III) THE BREACH OF CONTRACT, OF THE OWNER ITS AGENT OR EMPLOYEE OR ANY THIRD PARTY UNDER THE CONTROL OR SUPERVISION OF THE OWNER, OTHER THAN THE CONTRACTOR OR ITS AGENT, EMPLOYEE OR SUBCONTRACTOR OF ANY TIER.

J. AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE PROJECT.

1. The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner the names of persons or entities proposed for each principal portion of the Project, if any. The Owner will promptly reply to the Contractor in writing stating whether or not the Owner, after due investigation, has reasonable objection to any proposed person or entity. Failure of the Owner to reply within ten (10) District business days shall constitute notice of no reasonable objection.
2. The Contractor shall not contract with a proposed person or entity to whom the Owner has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.
3. If the Owner has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner has no reasonable objection. The Contract Sum shall be increased or decreased by the difference in cost occasioned by

such change and an appropriate Change Order shall be issued. However, no increase in the Contract Sum shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

4. The Contractor shall not change a Subcontractor, person or entity previously selected if the Owner makes reasonable objection to such change.
5. The Contractor shall not subcontract the Project as a whole. The approval of Subcontractors in no way relieves the Contractor from full responsibility.
6. Communications by and with Subcontractors and material suppliers shall be through the Contractor.
7. The Contract shall not be construed to create a contractual relationship of any kind:
 - a. between the Owner and a Subcontractor or Sub-subcontractor, or
 - b. between any persons or entities other than the Owner and Contractor.

K. WORKERS' COMPENSATION.

A copy of a certificate of insurance, a certificate of authority to self-insure issued by the Texas Department of Insurance, or a coverage agreement (DWC-81, DWC-82, DWC-83, or DWC-84), showing statutory workers' compensation insurance coverage for the person's or entity's employees providing services on a project is required for the duration of the Project.

Duration of the Project includes the time from the beginning of the Work on the Project until the Contractor's/person's work on the project has been completed and accepted by the Owner.

Persons providing services on the Project ("subcontractor" in Texas Labor Code §406.096) include all persons or entities performing all or part of the services the Contractor has undertaken to perform on the Project, regardless of whether that person contracted directly with the Contractor and regardless of whether that person has employees. This includes, without limitation, independent contractors, subcontractors, leasing companies, motor carriers, owner-operators, employees of any such entity, or employees of any entity that furnishes persons to provide services on the Project.

Services include, without limitation, providing, hauling, or delivering equipment or materials, or providing labor, transportation, or other service related to a project. Services do not include activities unrelated to the Project, such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.

The Contractor shall provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code §401.011(44) for all employees of the Contractor providing services on the project for the duration of the Project.

The Contractor must provide a certificate of coverage to the Owner prior to being awarded the Contract.

If the coverage period shown on the Contractor's current certificate of coverage ends during the duration of the Project, the Contractor must, prior to the end of the coverage period, file a new certificate of coverage with the Owner showing that coverage has been extended.

The Contractor shall obtain from each person providing services on a project, and provide to the Owner:

1. A certificate of coverage, prior to that person beginning work on the Project, so the Owner will have on file certificates of coverage showing coverage for all persons providing services on the Project; and
2. No later than seven (7) days after receipt by the Contractor, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the Project.

The Contractor shall retain all required certificates of coverage for the duration of the Project and for one year thereafter.

The Contractor shall notify the Owner in writing by certified mail or personal delivery, within ten (10) days after the Contractor knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the Project.

The Contractor shall post on each project site a notice, in the text, form, and manner prescribed by the Texas Workers' Compensation Commission, informing all persons providing services on the project that they are required to be covered, and stating how a person may verify coverage and report lack of coverage.

The Contractor shall contractually require each person with whom it contracts to provide services on a Project, to:

1. Provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code §401.011(44) for all of its employees providing services on the project for the duration of the Project;
2. Provide to the Contractor, prior to that person beginning work on the project, a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the Project for the duration of the Project;
3. Provide the Contractor, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the Project.

4. Obtain from each other person with whom it contracts, and provide to the Contractor:
 - a. A certificate of coverage, prior to the other person beginning work on the Project; and
 - b. A new certificate of coverage showing extension of coverage, prior to the end of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the Project;
5. Retain all required certificates of coverage on file for the duration of the Project and for one year thereafter;
6. Notify the Owner in writing by certified mail or personal delivery, within ten (10) days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the Project; and
7. Contractually require each person with whom it contracts to perform as required by items 1-6, with the certificates of coverage to be provided to the person for whom they are providing services.

By signing this Contract or providing or causing to be provided a certificate of coverage, the Contractor is representing to the Owner that all employees of the Contractor who will provide services on the Project will be covered by workers' compensation coverage for the duration of the Project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.

The Contractor's failure to comply with any of these provisions is a breach of contract by the Contractor that entitles the Owner to declare the contract void if the Contractor does not remedy the breach within ten days after receipt of notice of breach from the Owner.

The coverage requirement recited above does not apply to sole proprietors, partners, and corporate officers who are excluded from coverage in an insurance policy or certificate of authority to self-insure that is delivered, issued for delivery, or renewed on or after January 1, 1996. 28 TAC §110.110(i).

L. PAYMENT AND PERFORMANCE BONDS.

In accordance with Texas Government Code §2253.021, the Contractor shall furnish, before beginning the Work, a Performance Bond in an amount equal to one hundred percent (100%) of the Contract Sum, if the Contract Sum meets or exceeds \$100,000.00, to be used as security of the faithful performance of the Contract. The Contractor shall also furnish, before beginning the Work, a Payment Bond in accordance with Texas Government Code §2253.021, in an amount equal to one hundred percent (100%) of the Contract Sum, if the Contract Sum meets or exceeds \$25,000.00, as security for the payment of all persons

performing labor on the project under this Contract and furnishing materials in connection with the Contract. ~~The Contractor shall also furnish, before commencing the Work, a Maintenance Bond in an amount equal to fifteen percent (15%) of the Contract Sum, to protect Owner against any repairs arising from defective workmanship or materials used in any part of the Work, for a period of two (2) years after the date of final acceptance of the Work by Owner.~~ The Performance Bond, the Payment Bond, and the Maintenance Bond may be in one or in separate instruments in accordance with local law. Surety companies must be authorized to write surety bonds in Texas and any such surety bond must comply with the requirements Section 7.19-1, Texas Insurance Code. Proof of such Performance, Payment, and Maintenance Bonds shall be submitted to the Superintendent for his inspection and review prior to beginning any Work on the Project.

1. The Contractor shall deliver the required Bonds to the Owner not later than the date set in the Notice to Proceed. All Bonds will be reviewed by the District for compliance with the Contract Documents prior to the start of construction.
2. All Bonds shall be originals. The Contractor shall require the attorney-in-fact who executes the required Bonds on behalf of the Surety to affix thereto a certified and current copy of the power of attorney. The name, address, and telephone number of a contact person for the Bonding Company shall be provided.

M. CONTRACTOR'S INSURANCE.

Contractor shall carry the following insurance with the minimum limits set forth herein. Such insurance must be carried with insurance companies acceptable to Owner. Contractor shall maintain such insurance, at its sole cost and expense, in full force and effect until this Contract has been fully performed, all equipment, implements and machinery of Contractor has been removed from, and all employees, agents, representatives and Subcontractors of Contractor have left Owner's premises, and final payment of the Contract Sum is made, unless any such coverage is required pursuant to the terms of the Contract Documents to be maintained after all of the foregoing items have been completed. Contractor shall cause each insurance company (i) to issue the insurance on an occurrence basis; (ii) to provide defense as additional benefit and not within the limits of liability, (iii) to issue an endorsement to all policies that the policies are primary and that Owner's policies are excess, secondary and noncontributing, (iv) issue an endorsement to all policies to provide a waiver of subrogation in favor of Owner, (v) to issue an endorsement to all policies, except the workers' compensation and employer's liability insurance policies, to include Owner and its trustees, officers, employees, and agents as "additional insureds," and, (vi) to include in each insurance policy a provision that the insurance company or companies shall not cancel, non-renew, or change coverage from the requirements of the Contract Documents without providing at least 30 days' advance written notice to Owner. The insurance company or companies shall not exclude from coverage the negligence, of the "additional insureds," unless such negligence is solely attributable to the conduct of an "additional insured." Contractor releases Owner and its trustees, officers, employees and agents from any liability covered by the insurance for which subrogation is waived. Contractor shall provide to Owner at least 30 days' advance written notice of any contemplated cancellation, non-renewal, or material reduction in

insurance coverage. Contractor shall provide to Owner a certified copy of any and all insurance policies required in this Contract if Owner requests a copy.

Insurance coverage shall be written for the greater of the following limits or as specified in Owner's RFP/CSP, or as required by law, if greater:

1. Employer's Comprehensive General Liability insurance with minimum limits of \$1,000,000 for each employee for bodily injury by accident and for each employee for bodily injury by disease.

2. Commercial General Liability insurance, including liability for the Project and blanket coverage, Personal and Advertising Injury, Products-Completed Operations, Medical Payments, Bodily Injury, and Property Damage, with minimum limits of \$300,000 per occurrence, \$300,000 general aggregate, \$300,000 products-completed operations aggregate, \$5,000 fire damage (any one fire), and \$5,000 medical expense. Contractor shall obtain an endorsement to each insurance policy to provide aggregate limits per location. Contractor shall cause each insurance company to delete any contractual liability exclusion with respect to this insurance, including insurance coverage for personal injury, hazards of explosion, collapse, fire, and underground property damage.

3. Business Automobile Liability insurance with minimum combined single limits of \$1,000,000. Contractor shall cause each insurance company to provide coverage for liability arising out of the operation of owned, hired, and non-owned vehicles.

4. Intentionally Deleted. Contractual Liability insurance with minimum limits of \$1,000,000 per occurrence, and \$1,000,000 general aggregate. Contractor shall obtain an endorsement to each insurance policy to provide aggregate limits per location. The contractual liability insurance shall not be limited to coverage for the Indemnity, Waiver, and Obligation to Defend provisions in this Contract, but, instead, the contractual liability insurance shall cover all of Contractor's obligations to the fullest extent possible under the contractual liability endorsement. Further, the contractual liability insurance shall not limit, in any way, coverage provided to Owner and its trustees, officers, employees, and agents as additional insureds under each of Contractor's insurance policies.

5. Builder's Risk "all-risk" or equivalent insurance policy, including boiler and machinery insurance, in which may be satisfied with an installation policy, the amount of the initial Contract Sum plus the value of subsequent Contract modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis. Coverage shall insure against the perils of fire, (with extended coverage) and physical loss or damage including, without limitation or duplication of coverage, lightning, collapse, earthquake, flood, wind storm, hurricane, hail, explosion, riot, civil commotion, smoke, aircraft, land vehicles, theft, vandalism, malicious mischief, falsework, testing and start-up, temporary buildings, debris removal including demolition occasioned by enforcement of any applicable legal requirements, and all other perils, and shall include materials stored on-site, off-site and in transit. Owner shall be a named insured under the policy, and the insurance shall also include the interests of Contractor, subcontractors, and sub-subcontractors. Contractor shall be

responsible for maintaining said builder's risk insurance or equivalent until the date of Final Completion. For any claim made against the builder's risk insurance or equivalent, the deductible shall not exceed \$2,500.

6. Umbrella/Excess Liability Insurance with minimum limits of \$1,000,000. Contractor shall cause each insurance company to provide the insurance on an umbrella basis in excess over and no less broad than the liability coverages required in this Contract, with the same inception and expiration dates as Commercial General Liability insurance, and with coverage that “drops down” for exhausted aggregate limits under liability coverages in this Contract.

Contractor shall provide to Owner before the Work is started and at least 30 days prior to the expiration of a policy or policies of insurance in effect during the term of this Contract a certificate or certificates of insurance evidencing all required insurance in the Contract Documents and acceptable to Owner. All certificates, among other things, shall:

1. Show Owner as a certificate holder.
2. Show Contractor as the Named Insured.
3. Show the names of the insurance companies providing each coverage, the policy numbers of each coverage, and policy dates of each coverage.
4. Show the name of the person providing the certificate and that person's address and telephone number.
5. Contain the signature of an authorized representative of the person providing the certificate.
6. Show that each insurance company named Owner and its trustees, officers, employees, and agents as additional insureds in each insurance policy.
7. Show the primary status of each insurance policy.
8. Have attached copies of all required endorsements to each insurance policy, and not contain the phrases “endeavor to” and “but failure to mail such notice will impose no obligation or liability of any kind upon Company, its agents or representatives,” or similar phrases and shall include the commitment that each insurance company shall issue each insurance policy to the named and additional insureds, that each policy is in full force and effect, and that each insurance company shall give to Owner at least 30 days' advance written notice, by certified mail, return receipt requested in the event of cancellation, non-renewal, or material reduction in coverage of any insurance policy.

Contractor shall not procure an insurance policy or policies with deductibles or self-insured retention in excess of \$10,000 or with an endorsement restricting, limiting, or excluding coverage in any manner without Owner's prior written approval. Contractor shall

pay all deductibles in the insurance that Contractor is required to provide under the Contract Documents.

The Contractor shall purchase and maintain insurance covering the Owner's contingent liability for claims which may arise from operations under the Contract. This coverage can be afforded by adding Owner as additional insured on general liability insurance coverage.

Contractor's failure to procure and maintain the required insurance shall constitute a material breach of, and default under, this Contract. If Contractor fails to remedy the breach within five (5) days after notice from Owner, Owner may, in addition to any other remedy available to it, at its option, purchase the insurance, at Contractor's expense, or immediately terminate this Contract. Contractor shall Indemnify and Defend Indemnified Persons from and against any Claims Arising from Contractor's failure to procure and/or maintain the insurance.

N. EQUAL EMPLOYMENT OPPORTUNITIES.

Contractor acknowledges that Owner, as an independent school district, is a political subdivision of the State of Texas and has certain requirements concerning equal employment and affirmative action under state and federal law, and shall comply with all applicable laws, regulations and special requirements under such federal and state laws, and the Contract Documents regarding equal employment opportunity and affirmative action programs.

Contractor and Contractor's Subcontractors, if any, shall not discriminate against any employee or applicant for employment because of race, religion, color, sex or national origin. Contractor shall take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, religion, color, sex or national origin. Such actions shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth policies of nondiscrimination.

VII. OWNER'S RIGHTS AND REMEDIES.

A. OWNER'S RIGHT TO REJECT THE PROJECT AND TO REQUIRE TESTING.

The Owner may reject all or part of the Project which does not conform to the Contract. Whenever the Owner considers it necessary or advisable, the Owner may require additional inspection or testing of the Project. Owner reserves the right to withhold any Progress Payment or portion thereof for any non-conforming or inferior Work, and the cost of any additional testing associated with non-conforming portions of the Work shall be charged to the Contractor and may be offset against any amounts still owed to the Contractor.

B. OWNER'S RIGHT TO STOP THE PROJECT.

If Owner discovers any defective Work, including any portion of Work not constructed in accordance with the Contract Documents, Contractor shall promptly, without cost to the Owner, correct such defective Work. If Contractor fails to commence such corrections within a reasonable period of time, not to exceed thirty (30) days, and does not diligently continue the prosecution of such corrections, or if the Contractor persistently fails to do the Project in accordance with the Contract, the Owner, by written order, may order the Contractor to stop the Project, or any portion thereof, until the cause for such order has been eliminated.

C. OWNER'S RIGHT TO CARRY OUT THE PROJECT.

If the Contractor defaults or neglects to carry out the Project in accordance with the Contract and fails within a seven-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may after such seven-day period give the Contractor a second written notice to correct such deficiencies within a second seven-day period. If the Contractor within such second seven-day period after receipt of such second notice fails to commence and continue to correct any deficiencies, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case the Owner shall deduct from payments then or thereafter due the Contractor the cost of correcting such deficiencies. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

D. TERMINATION BY THE OWNER FOR CAUSE.

1. The Owner may terminate the Contract if the Contractor:
 - a. persistently or repeatedly refuses or fails to do the work on the Project, or any part thereof, in accordance with the Contract and/or fails to supply enough properly skilled workers or proper materials;
 - b. fails to make prompt payment to Subcontractors or for materials or labor;
 - c. repeatedly disregards laws, ordinances, or rules, regulations or orders of a public authority having jurisdiction;
 - d. otherwise is guilty of substantial breach of a provision of the Contract; or
 - e. is adjudged bankrupt, makes a general assignment for the benefit of his creditors, or has a receiver appointed on account of its insolvency.
2. When any of the above reasons exist, the Owner may, but shall not be obligated to, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety seven days' written notice, terminate employment of the Contractor and may, but shall not be obligated to, subject to any prior rights of the surety:

- a. take possession of the site and all materials, including tools, and construction equipment and machinery located thereon which have been leased by the Contractor on behalf of the Owner;
 - b. accept assignment of subcontracts; and/or
 - c. finish the Project by whatever reasonable method the Owner may deem expedient.
3. When the Owner terminates the Contract for one of the reasons stated in Subparagraph 7(d)(1) above, the Contractor shall not be entitled to receive further payment until the Project is finished, if at all.
4. If the unpaid balance of the Contract Sum exceeds costs of finishing the Project, such excess shall be paid to the Contractor. If such costs exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be an obligation for payment which shall survive termination of the Contract.

E. TERMINATION BY THE OWNER FOR CONVENIENCE.

The Owner may, for convenience and without cause, terminate the Contract upon not less than seven (7) days' prior written notice to the Contractor. In the event of such termination for convenience and without cause, the Contractor shall be compensated for services performed prior to termination.

F. SUSPENSION BY THE OWNER FOR CONVENIENCE.

1. The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Project in whole or in part for such period of time as the Owner may determine.
2. An adjustment may be made for increases in the cost of performance of the Contract, including profit on the increased cost of performance, caused by suspension, delay or interruption. No adjustment shall be made to the extent:
 - a. that performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or
 - b. that an equitable adjustment is made or denied under another provision of this Contract.

VIII. CLAIMS.

A. CLAIMS FOR ADDITIONAL COST.

If the Contractor wishes to make a claim for an increase in the Contract Sum or for extra costs or damages, the Contractor shall give the Owner written notice thereof within five (5) days after the event giving rise to such claim. Such claim will be submitted to the Superintendent of the Rockwall Independent School District, or designee, and that action shall be final and binding. **Failure to give such notice shall be a waiver of the claim and such claim or possible claim shall be invalid and unenforceable unless so made.**

B. CLAIMS FOR ADDITIONAL TIME.

1. If the Contractor wishes to make claim to change the date of Final Completion to allow for additional time, the Contractor shall give the Owner written notice thereof within five (5) days following the beginning of any such delay. In the case of a continuing delay only one claim is necessary. Such claim will be submitted to the Superintendent of the Rockwall Independent School District, or designee, and reviewed and approved or denied. Failure by Contractor to give such notice shall be a waiver of the claim and such claim or possible claim shall be invalid and unenforceable unless so made.

2. If adverse weather conditions are the basis for a claim for additional time, such claim shall be accompanied by Weather Bureau documentary evidence showing by comparison that such weather is abnormal to each of the past five (5) years. The guide for average climatological conditions will be the bulletin "Summary of Monthly Normals," for DFW Airport published by the Department of Commerce in cooperation with the National Oceanic & Atmospheric Administration.

IX. MISCELLANEOUS.

A. AUTHORITY OF BOARD.

The Owner is the Rockwall Independent School District, as identified in the Contract Documents. The Board of Trustees, by majority vote, is the only representative of the Owner, an independent school district, having the power to enter into or amend a contract, to approve changes in the scope of Work, to approve and execute a Change Order or Construction Change Directive modifying the Contract Sum or Guaranteed Maximum Price, or agree to an extension to the date of Substantial or Final Completion. The Board will act as soon as reasonably possible to avoid undue delays. The Board designates authorized representatives to act on its behalf for day-to-day operations under the Contract. Unless otherwise designated in the Contract Documents, Owner's authorized representative shall be the Superintendent of Schools, who may delegate responsibilities as appropriate. Owner's Board of Trustees hereby delegates to the Superintendent of Schools or designee(s) the authority to approve changes to the Work where such changes are within the Owner's Contingency not to exceed (\$120,000), or will not increase the dates for Substantial or Final Completion by more than (0) days. Any such change shall be confirmed in writing between the Contractor and Owner's Superintendent or designee(s), and notice of such approved changes shall be given to the Board at its next regular meeting; except as otherwise provided in the Contract Documents, the Owner & Engineer does not have such authority. Neither Owner & Engineer nor Contractor may rely upon the direction of any employee of Owner who has not been designated in writing by the Superintendent or Board of Trustees; Owner shall not be

financially responsible for actions taken by the Owner & Engineer or Contractor in reliance upon direction from unauthorized persons.

B. HAZARDOUS MATERIALS.

IF HAZARDOUS MATERIALS ARE ENCOUNTERED AS A RESULT OF CONTRACTOR OR ITS SUBCONTRACTORS' IMPORTATION OF SUCH MATERIALS ONTO THE PROJECT SITE, THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD HARMLESS THE OWNER, ITS OFFICERS, DIRECTORS, AND EMPLOYEES FROM AND AGAINST ANY AND ALL CLAIMS, DAMAGES, LOSSES, COSTS AND EXPENSES, INCLUDING BUT NOT LIMITED TO, ATTORNEYS' FEES, ARISING OUT OF OR RELATED TO THE IMPORTATION OF SUCH MATERIALS ONTO THE PROJECT SITE AND/OR CONSTRUCTION WORK IN ANY AREA AFFECTED BY HAZARDOUS MATERIALS.

If hazardous materials are encountered as a result of the Owner's failure to identify or remove hazardous materials prior to the commencement of construction, Owner agrees to (1) release the Contractor and its subcontractors, officers, directors, and employees from any and all claims, damages, losses, or expenses incurred by Owner arising out of or related to the performance of the Construction Work in the area affected by the hazardous material up to and including the time when Contractor first learns of or discovers the existence of the hazardous materials, but not for any additional work done by the Contractor after the identification of such hazardous materials; (2) release the Contractor from any indemnification obligations in this Agreement arising out of or related to the hazardous materials, except to the extent that any such claims, damages, losses, or expenses incurred by Owner arise from Contractor's actions or inaction after the initial discovery and identification of hazardous materials; and (3) extend the contract time by the actual number of days that Contractor is delayed in the completion of the contract arising out of or related to the identification, test, and/or abatement of the hazardous material if Contractor is unable to complete the Project by the scheduled completion date plus any agreed extension under other conditions of the Agreement.

C. IMMIGRATION LAW.

Contractor represents and warrants that all contractors and subcontractors working on this project for Owner will comply with all applicable federal and state immigration laws, and verify all employees' eligibility to work in this country. Further, Contractor shall ensure that all contractors and subcontractors will indemnify the Owner for any damages and legal fees that the Owner incurs as a result of Contractor's and/or any subcontractor's failure to comply with applicable immigration laws.

D. PREVAILING WAGE RATES.

1. Contractor, Contractor's Subcontractors and Sub-subcontractors shall pay all workers not less than the general prevailing rate of per diem wages for work of a similar character where the Project is located, as detailed in the "Minimum Wage Schedule" provided

herein. Wages listed are minimum rates only. However, no claims for additional compensation above the Contract Sum shall be considered by the Owner because of payments of wage rates in excess of the applicable rate provided herein. Texas Government Code §2258, *et seq.*; Texas Labor Code §62.0512, *et seq.*

2. Contractor shall forfeit, as a penalty to the Owner, \$60 for each laborer, worker or mechanic employed for each calendar day or part of the day that the worker is paid less than the wage rates stipulated in the Contract Documents.

3. Owner reserves the right to receive and review payroll records, payment records, and earning statements of employees of Contractor, and of Contractor's Subcontractors and Sub-subcontractors.

4. In executing the Work under the Contract Documents, Contractor shall comply with all applicable state and federal laws, including but not limited to, laws concerned with labor, equal employment opportunity, safety and minimum wages.

5. If no "minimum wage schedule" is provided herein, the Contractor shall use the wage rates determined by the US Department of Labor in accordance with the Davis-Bacon Act, 40 USC Section 3141, which can be accessed on the internet at www.gpo.gov/davisbacon/, or determined by any local contractor association, whichever is less.

E. TIME.

1. Time limits stated in the Contract are of the essence. By executing the Agreement, the Contractor confirms that the date selected for Final Completion provides a reasonable period for performing the Project. Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become familiar with local conditions under which the Project is to be performed and correlated personal observations with requirements of the Contract.

2. The Contractor shall proceed expeditiously with adequate forces and shall achieve Final Completion by the date selected for Final Completion.

F. GOVERNING LAW.

This Contract shall be governed by the law of the State of Texas. Venue for any legal action arising out of the Project shall be in a state or federal court, as appropriate, in the county where the Owner's Administrative Offices are located.

G. NO ASSIGNMENT.

Neither party to the Contract shall assign the Contract as a whole without written consent of the other.

H. WRITTEN NOTICE.

Written notice shall be deemed to have been duly served if delivered in person or if delivered at or sent by registered or certified mail to the following:

If to Owner:

Superintendent of Schools
Rockwall Independent School District
1050 Williams Street
Rockwall, Texas 75087

and to the Owner's authorized representative at the address set forth above.

David Carter, Senior Chief Financial Officer

If to Contractor:

TBD
TBD
TBD
TBD

Contractor's authorized representative or, if a corporation, to an officer of the corporation at the address set forth above.

I. RIGHTS AND REMEDIES.

Duties and obligations imposed by the Contract and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

J. ENTIRE AGREEMENT.

This Agreement and the additional documents identified and referenced herein represent the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral.

K. NO ISRAEL BOYCOTT.

Pursuant to the requirements of Texas Government Code Chapter 2270, Contractor verifies that it does not boycott Israel, and it will not boycott Israel during the term of this Agreement.

[the remainder of this page is intentionally left blank]

This Agreement is entered into as of the day and year first written above and is executed in at least two original copies, one of which is to be delivered to the Contractor and one to the Owner.

OWNER:**CONTRACTOR:**

Signature

Signature

Date

Date

David Carter, CPA
Senior Chief Financial Officer

TBD
President

Rockwall Independent School District
1050 Williams Street
Rockwall, Texas 75087

TBD
TBD
TBD
TBD

Contractor Certification

Introduction: Texas Education Code Chapter 22 requires service contractors to obtain criminal history record information regarding covered employees and to certify to Rockwall Independent School District (the “District”) that they have done so. Covered employees with disqualifying convictions are prohibited from serving at a school district.

Definitions:

Covered employees: All employees of a contractor who have or will have continuing duties related to the service to be performed at the District and have or will have direct contact with students. The District will be the final arbiter of what constitutes direct contact with students.

Disqualifying conviction: One of the following offenses, if at the time of the offense, the victim was under 18 or enrolled in a public school: (a) a felony offense under Title 5, Texas Penal Code; (b) an offense for which a defendant is required to register as a sex offender under Chapter 62, Texas Code of Criminal Procedure; or (c) an equivalent offense under federal law or the laws of another state.

On behalf of _____ (“Contractor”), I certify that [check one]:

- ☐ None of Contractor’s employees are covered employees, as defined above. Or
- ☐ Some or all of Contractor’s employee are covered employees. If this box is selected, I further certify that:
- (1) Contractor has obtained all required criminal history record information, through the Texas Department of Public Safety, regarding its covered employees. None of the covered employees has a disqualifying conviction. Contractor has taken reasonable steps to ensure that its employees who are not covered employees do not have continuing duties related to the contract services or direct contact with students.
 - (2) If Contractor receives information that a covered employee has a disqualifying conviction, Contractor will immediately remove the covered employee from contract duties and notify the District in writing within 3 business days.
 - (3) Upon request, Contractor will make available for the District’s inspection the criminal history record information of any covered employee. If the District objects to the assignment of a covered employee on the basis of the covered employee’s criminal history record information, Contractor agrees to discontinue using that covered employee to provide services at the District.

Noncompliance by Contractor with this certification may be grounds for contract termination.

Signature

Date

“Exhibit A”

SAMPLE

“Exhibit B”

SAMPLE