



## **POUDRE SCHOOL DISTRICT R-1**

### **INVITATION FOR BID**

### **WAREHOUSE 5 INTERIOR RENOVATION**

**IFB 21-401-001**

#### **BID SCHEDULE**

<b>IFB Posted to Bidnet</b>	<b>July 30, 2020</b>
<b>Pre-Bid Site Visit</b>	<b>August 4, 2020 - 10 a.m. MST</b>
<b>Questions Due</b>	<b>August 5, 2020 - 2 p.m. MST</b>
<b>IFB Closing Date</b>	<b>August 12, 2020 - 2 p.m. MST</b>
<b>Substantial Completion Date</b>	<b>September 1, 2020</b>

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**WAREHOUSE 5 INTERIOR RENOVATION**  
**IFB 21-401-001**

Poudre School District (the District) is requesting electronically submitted bids from experienced and qualified contractors to renovate an interior portion of Poudre School District's Warehouse 5 to accommodate additional staff members coming from the Partnership Building as specified in this Invitation for Bid (IFB).

A copy of the bid and any associated addenda may be obtained from the Rocky Mountain E-Purchasing (BidNet) website: <http://www.RockyMountainBidSystem.com>.

Contractors planning to submit bids are encouraged to be represented at a pre-bid site visit on **Wednesday, August 4, 2020**. The site visit will begin promptly at **10 a.m. MST** at the Warehouse 5 location (1502 South Timberline Road, Fort Collins, 80524).

The pre-bid site visit will follow the current local coronavirus-related recommendations of proper face coverings and social distancing. Depending on the number of attendees, site visits may proceed in one or more groups.

Questions regarding this IFB must be in writing and directed to the District through the BidNet platform any time after the issuance of this IFB through and including 2:00 p.m. MST on **August 5, 2020**. Questions received after the deadline date/time and/or not submitted electronically through the BidNet platform may not be addressed. Each question submitted, as well as the District's response thereto, shall be provided in an addendum through BidNet.

***Note: Every question must be submitted individually. Multiple questions per entry will not be answered.***

The District will only accept and consider electronically submitted bids. Bids must be submitted and received in BidNet's electronic solicitation portal on or before 2:00 p.m. MST on **August 12, 2020**. At that time, the submission portal will close, and no further submissions will be allowed, nor considered.

**At no time during the solicitation process, will communication regarding this IFB be permitted with any district employee other than the Procurement Agent named below until an award has been announced. Communication with a district employee other than the Procurement Agent named below may disqualify your bid from consideration.**

District staff shall review the bids received in response to this IFB during the bid consideration period commencing on August 12, 2020. During the bid consideration period, the District may ask questions of and/or request additional information from contractors who have submitted bids.

Sales Prohibited/Conflict of Interest: No officer, employee, or member of the School Board, shall have a financial interest in the sale to the school district of any real or personal property, equipment, material, supplies or services where such officer or employee exercises directly or indirectly any decision-making authority concerning such sale or any supervisory authority over the services to be rendered. This rule also applies to subcontracts with the School District. Soliciting or accepting any gift, gratuity favor, entertainment, kickback, or any items of monetary value from any person who has or is seeking to do business with Poudre School District R-1 is prohibited.

Collusive or sham bids: Any bid deemed to be collusive or a sham bid will be rejected and reported to authorities as such. Your authorized signature of this bid assures that such Bid is genuine and is not a collusive or sham bid.

Poudre School District R-1 reserves the right to reject any and all bids and to waive any irregularities or informalities.

Sincerely,  
Karen Wailly  
Senior Procurement Agent

## 1.0 **BACKGROUND**

Poudre School District is a high-performing District, covering more than 1,800 square miles in northern Colorado with diverse school settings. The District's instructional program is centered around District Ends, under the Policy Governance model, developed to support a comprehensive curriculum.

While more than 70% of the District's families choose to send their children to their neighborhood school, the district does support school choice and offers a wide spectrum of educational programs to fit any child's needs. Program options include International Baccalaureate, Core Knowledge, Bilingual/Dual Language Immersion, Hybrid/Online, Expeditionary Learning, Science, Technology, Engineering and Math (STEM) along with extra-curriculars and athletics. The District has two LEED certified school buildings and over 30 Energy Star awards and supports operational sustainability in all areas of work.

Our Schools:

- 31 elementary schools
- 10 middle schools
- 4 comprehensive high schools
- 6 option (100% choice) schools
- 3 alternative high schools
- 4 charter schools
- 1 online school

The District is fully accredited by the Colorado Department of Education Accreditation and Accountability Unit and is subject to periodic monitoring to ensure continued compliance with accreditation standards.

## **2.0 GENERAL TERMS AND CONDITIONS**

- 2.1 This is a solicitation for an offer and is not an offer to contract for goods or services.
- 2.2 These General Terms and Conditions apply to all offers made to the District by all prospective contractors (herein after referred to as Contractor) on behalf of District solicitations including, but not limited to, Invitations for Bid (IFB), Requests for Documented Quotes (DQ), Requests for Qualifications (RFQ) and Requests for Proposals (RFP).
- 2.3 Submission of a bid is deemed as acceptance of all terms, conditions and specifications contained in the solicitation package provided to the Contractor. Any proposed modification must be accepted in writing by the District prior to award of the bid.
- 2.4 Contractor must provide all requested information. Failure to do so may result in rejection of the bid at the option of the District.
- 2.5 The District is exempt from City, County, State and Federal Sales/Excise Taxes. Tax Exempt Certificates will be issued upon request. The District's Tax-Exempt Number is: 98-03335.
- 2.6 There is no expressed or implied obligation for the District to reimburse Contractors for any expenses incurred in preparing bids in response to this IFB.
- 2.7 Bids must meet or exceed specifications contained in the bid document.
- 2.8 All chemicals, equipment and materials proposed and/or used by Contractor in satisfaction of the terms of this solicitation shall conform to the standards required by the U.S. Department of Labor Occupational Safety and Health Administration (OSHA). Safety Data Sheets (SDS) shall accompany each shipment, when applicable.
- 2.9 Each Contractor (and its employees, representatives, and subcontractors) agrees to abide by all applicable Federal, State and Local codes, laws, rules, and regulations. The awarded Contractor shall also furnish all supplies, which conform to all applicable safety codes and regulations.
- 2.10 The Contractor, by affixing its signature to this bid, certifies that its bid is made without previous understanding, agreement, or connection either with any persons, firms or corporations offering a bid for the same items or with the District. The Contractor also certifies that its bid is in all respects fair, without outside control, collusion, fraud, or otherwise illegal action.
- 2.11 The successful Contractor will be required to enter into a negotiated agreement with the District prior to the start of project work.
  - 2.11.1 The agreement language will control over any language contained within this IFB that conflicts with the signed and fully executed agreement.
- 2.12 The initial agreement between the District and the awarded Contractor is planned to commence upon full execution of the agreement and issuance of a District purchase

order, and shall continue through and including June 30, 2021, unless terminated earlier by the District as in section 2.13 and 2.14 below.

- 2.12.1 For services provided, and at the option of the District, the agreement may be extended beyond the first term for up to three (3) additional one-year terms, beginning on July 1 of each subsequent year and is subject to the parties' negotiation of mutually agreeable one-year fee schedule for each successive one-year term.
- 2.13 The District may terminate the agreement at any time in its sole discretion for any reason, with or without cause, upon written notice served on the Contractor no less than thirty (30) days prior to the date of termination. In the event of such early termination by the District, the Contractor shall be paid up to the date of termination for services performed under and in accordance with the agreement.
- 2.14 Notwithstanding any other term or provision of this IFB, the District's obligations hereunder are expressly subject to its budgeting and appropriation of sufficient funds for each fiscal year (July 1 - June 30) an agreement is in effect. In no event, shall the District's obligations in an agreement constitute a multiple-fiscal year direct or indirect debt or other financial obligation under Article X, Section 20(4)(b) of the Colorado Constitution.
- 2.15 In the event the District has reasonable grounds to believe that any individual assigned to perform work under this agreement has a criminal record, is a registered sex offender, is under the influence of alcohol or other substance, has exhibited violence or based upon other information the District deems reliable; the District may exclude such individual from any school building or grounds or impose reasonable conditions upon such individual's presence upon any school premises. In the judgment of the District, if the agreement cannot be performed as a result of such action, the agreement may be terminated.
- 2.16 Contractor shall provide any and all services as an independent Contractor of the District, and the persons performing such services shall not be considered employees of the District. Contractor shall be exclusively responsible for: (a) all compensation, employment tax withholdings and payments, and all fringe benefits for its employees in full compliance with all applicable federal, state and local laws; (b) all insurance coverage's and benefits for its employees in full compliance with all applicable federal, state and local laws, including but not limited to pension or retirement benefits, works' compensation, unemployment compensation, and Social Security benefits; and (c) all payments to its Contractors and subcontractors for goods and/or services directly or indirectly related to the solicitation.
- 2.17 Contractor certifies, represents, warrants and agrees that it will not knowingly employ or contract with an illegal alien to provide services under this agreement, and will not enter into an agreement with a subcontractor that fails to certify to Contractor that the subcontractor will not knowingly employ or contract with an illegal alien to provide services under this agreement. Contractor also certifies, represents, warrants and agrees that it will confirm the employment eligibility of all its employees who are newly hired for employment to provide services under this agreement through Contractor's participation in either: (a) the E-Verify Program created under federal law and jointly administered by the Department of Homeland Security and the Social

Security Administration; or (b) the Colorado Department of Labor and Employment Program ("Department Program") established pursuant to C.R.S. § 8-17.5-102(5)(c).

- 2.17.1 Contractor shall not use either the E-Verify Program or the Department Program procedures to undertake pre-employment screening of job applicants while this agreement is being performed. If Contractor obtains actual knowledge that a subcontractor providing services under this agreement knowingly employs or contracts with an illegal alien, Contractor shall notify the subcontractor and the District within three (3) days that Contractor has such actual knowledge and terminate the subcontract within three (3) days of providing the notice if the subcontractor has not stopped employing or contracting with the illegal alien. Contractor shall comply with any reasonable request made by the Department of Labor and Employment in the course of an investigation undertaken pursuant to the authority of C.R.S. § 8-17.5-102(5). If Contractor participates in the Department Program, it shall: (a) notify the District and the Department of Labor and Employment of such participation as required by law; and (b) within twenty (20) days after hiring an employee to provide services under this agreement, provide to the District a written notarized copy of an affirmation that it has examined the legal work status of such employee, retained file copies of the documents required by 8 U.S.C. § 1324a, and not altered or falsified the identification documents for such employee.
- 2.18 Contractor agrees to furnish the services covered as a result of this solicitation in strict accordance with the District's specifications and at the price noted for each item.
- 2.19 Unless otherwise agreed in writing by the District, delivery of products shall be F.O.B. destination with all transportation and handling charges paid by the awarded Contractor. The District's acceptance of any offer is made in reliance on Contractor's promised delivery date and/or installation of service performance time, as material and basic to the acceptance. If Contractor fails to delivery as and when promised, the District may, without liability and in addition to its other rights and remedies at law or in equity, cancel the order by notice effective when received by Contractor as to goods not yet delivered and services not yet rendered, and purchase substitute goods or service elsewhere and charge Contractor with any loss incurred.
- 2.20 The Contractor shall not assign an agreement, as a result of this solicitation, or any of its rights, interests, or obligations without the prior written consent of the District. The consent may be withheld for any reason or no reason as determined by the District in its sole discretion.
- 2.21 The awarded Contractor will agree to not refuse to hire, discharge, promote, demote, or to otherwise discriminate in matters of compensation against any person otherwise qualified solely because of race, creed, gender, national origin, ancestry, or physical handicap.
- 2.22 Venue for any and all legal action regarding or arising out of transactions covered herein shall be solely in the District Court in and for Larimer County, State of Colorado. The transactions covered herein shall be governed by the laws of the State of Colorado.



- 2.23 Bids shall contain a signature of an authorized representative in the space provided on the Bid Certification Form. Failure to properly sign bid may result in bid being considered non-responsive.
- 2.24 Where there appears to be variances or conflicts between the General Terms and Conditions and the Specific Conditions outlined in this solicitation, the Specific Conditions shall prevail.
- 2.25 The District shall issue a written addendum if substantial changes, which impact the technical submission of bids, are required. A copy of such addenda will be distributed via the BidNet system. In the event of conflict with the original agreement documents, addenda shall govern all other agreement documents to the extent specified. Subsequent addenda shall govern over prior addenda only to the extent specified.
- 2.26 All information and supplemental documentation required in conjunction with this IFB shall be furnished by the Contractor with its bid. If the Contractor fails to supply any required information or documents, its bid may be considered non-responsive and ineligible for award.
- 2.27 The accuracy of the bid is the sole responsibility of the Contractor. No changes in the bid shall be allowed after the submission deadline, except when the Contractor can show clear and convincing evidence that an unintentional factual mistake was made, including the nature of the mistake and the price actually intended.
- 2.28 The apparent silence or omissions within this IFB regarding a detailed description of the materials and services to be provided shall be interpreted to mean that only the best commercial practices are to prevail and that only materials and workmanship of first quality are to be used.
- 2.29 Substitutions after award for product unavailability or unforeseen conditions will be considered only under the following criteria:
- 2.29.1 Unforeseen change to original project scope
  - 2.29.2 Cannot be delivered during the progress of the work
  - 2.29.3 Will no longer be available during the progress of the work
  - 2.29.4 The quality of the material, as specified, no longer meets the specifications
  - 2.29.5 Contractor shall be required to justify the substitution, confirm warranty, etc. Acceptance or rejection of a request will be based on the District's opinion to adaptability, durability, quality, aesthetics, and agreement amount change, compared to the specified or noted items.
- 2.30 Contractors may offer a cash discount for prompt payment; however, such discounts shall not be considered in determining the lowest net cost for the bid evaluation purposes.
- 2.31 A purchase order resulting from this solicitation shall be governed by and construed in accordance with the laws of the State of Colorado.

- 2.32 Payment for the goods and/or services furnished by the Contractor shall not constitute acceptance thereof. The District shall have the right to inspect such goods and the products of such services, and to reject any or all of which are in the District's judgment defective or nonconforming. In addition to the District's other rights, goods rejected, and goods supplied in excess of quantities specified in a purchase order, may be returned to the Contractor at the Contractor's expense. The District may charge Contractor all expenses of unpacking, examining, repacking, and reshipping such goods. In the event the District receives goods whose defects or nonconformity is not apparent upon examination, the District may require replacement and/or payment of damages upon discovery of the defects or nonconformity. Nothing contained herein shall relieve, in any way, Contractor from the obligation of testing, inspection, and quality control.
- 2.33 The District may, at its sole and absolute discretion:
- 2.33.1 Reject any and all or parts of any or all bids submitted by prospective Contractors;
  - 2.33.2 Re-advertise this solicitation;
  - 2.33.3 Postpone or cancel the bid process for this solicitation;
  - 2.33.4 Waive any irregularities or technicalities that are not qualified as a requirement for responsiveness in this bid or in bids received in conjunction with this bid; and/or
  - 2.33.5 Determine the criteria and process whereby bids are evaluated and awarded.
- 2.34 Information and materials submitted in response to this IFB may be considered public records subject to disclosure under the Colorado Open Records Act ("CORA"), C.R.S. §§ 24-72-200.1 to -205.5. Information and materials that Contractor believes are confidential and not subject to disclosure under CORA must be submitted separately with a citation to the section of CORA and any other relevant law under which Contractor believes they are confidential. The District, not Contractor, shall determine whether information and materials so identified will be withheld as confidential, but will inform Contractor in advance of disclosure to give it an opportunity to take legal action to protect its interests vis-à-vis the party making the CORA request.
- 2.35 For the purposes of solicitation evaluation, Contractor must indicate any variances to the specifications and terms and conditions, no matter how slight. If variations are not stated in the Contractor's response, it shall be construed that the quote fully complies with the specifications and terms and conditions. Notwithstanding the above, it is hereby agreed and understood that the District reserves the right to reject these variations if they individually, or as a whole, do not meet the standards established in the specifications.
- 2.36 Appeal of Award. Contractor may appeal the award by submitting, in writing, a request for re-consideration to the District's Procurement Services department within seventy-two (72) hours after the receipt of the notice of award.

### **3.0 SPECIFIC CONDITIONS**

- 3.1 The District is committed to be a responsible steward of its natural resources and believes that public education should provide leadership in developing an ethic of sustainability in all its practices. In the District we have both Energy Conservation and Waste Management policies and espouse these values, making environmental stewardship an integral part of the physical plant operation.
- 3.2 For services requiring Contractor's presence on District property, the successful Contractor must provide proof of insurance that meets the insurance requirements stated in Section 9.0 of this IFB. Contractor must maintain required insurance during the term of the agreement.
- 3.3 During the performance of this agreement, the Contractor agrees to provide a "drug-free workplace." For the purposes of this section, a "drug-free workplace" means a site for the performance of work done in connection with a specific agreement awarded to the Contractor. The Contractor's employees are prohibited from engaging in the unlawful manufacture, sale, distribution, dispensation, possession or use of any controlled substance during the performance of this agreement.
- 3.4 Where there appears to be variances or conflicts between the information outlined in this IFB and/or the referenced Drawings and Specifications (if applicable), the more stringent requirement shall prevail. In all cases, the Contractor is responsible for notifying the District of the variance or conflict.
- 3.5 If the Contractor experiences a back order of items from its Supplier or Distributor, the Contractor shall ensure that such back orders are filled within a reasonable period of time. The Contractor shall not invoice PSD for back ordered items until items are delivered and accepted by PSD authorized representative. PSD shall determine what constitutes a reasonable period of time and may verbally cancel back orders, seek the items from another Contractor, and charge the Contractor for any re-procurement costs.

### **4.0 CONTRACTOR'S RESPONSIBILITIES**

- 4.1 Contractor is responsible for all DORA permits and any fire systems permits.
  - 4.1.1 The District is responsible for the state building permit and Poudre Fire Authority review.
- 4.2 The Contractor shall furnish all labor, materials, and equipment, necessary for satisfactory agreement performance.
- 4.3 Upon request, proof will be available that the Contractor possesses adequate and sufficient equipment and resources to perform quality service and to commence work once the agreement has been fully executed.
- 4.4 Contractor shall be responsible for all site cleanups, to include trash removal. District dumpsters are not to be used. The buildings and property of the District shall be left in an acceptable as found condition. All unusable materials and debris shall be removed from the District premises. At completion, the Contractor shall

thoroughly clean up all areas where work has been involved as mutually agreed with the District's Project Manager.

- 4.5 The Contractor shall be responsible for disposing environmentally hazardous waste materials in a manner that is consistent with regulations stipulated by the United States Environmental Protection Agency (EPA) as well as with any state or locally prescribed procedures.
- 4.6 Contractor shall be solely responsible for the safety of its work, materials, equipment, tools, etc. on the site and shall, if deemed necessary or expedient, employ, at its own expense, the services of a competent watchman. The District disclaims all responsibility for the safety of the work, materials, equipment tools, etc. or for any damage, which may be done to same due to theft, or any other cause until such time as the District formally accepts the completed work.
- 4.7 Contractor agrees that it is fully responsible to the District for the acts or omissions of its subcontractors or of persons employed by them, in the same way as it is for the acts and omissions of persons directly employed by the Contractor. Nothing contained in the agreement or any subcontract shall create a contractual relation between a subcontractor and the District.
- 4.8 Project estimates, schedules, work activity, other trades not included in the agreement, inspections, and payment requests must be approved by the District's Project Manager.
- 4.9 The Contractor shall adhere to the specified start and completion timeline. Failure to complete the project within the stated dates could result in termination of the agreement by the District.
- 4.10 Contractor shall visit the project site prior to commencement of work to verify working area project scope and safety issues.
- 4.11 Contractor shall furnish all required personal safety equipment.
- 4.12 Contractor will be responsible for providing a clean and safe environment surrounding the work area at all times, including, if necessary, fencing of equipment, storage, and work area. The buildings and property of the District shall be left in an acceptable as found condition.
- 4.13 Contractors are responsible for monitoring the BidNet website for any additional requirements, addenda, and award information.

## **5.0 WARRANTIES**

- 5.1 The Contractor warrants that all parts, material, components, equipment and other items used to perform the work shall be new and suitable for the purpose used and will be of good quality, free from faults and defects and all Work will be free of defects and in conformance with the agreement documents. The Contractor also warrants that its workers will be sufficiently skilled to produce the highest quality of work, which is free from faults and defects. Work not so conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. The Contractor further warrants that the construction

processes and methods employed to perform the work shall be suitable for the results required.

- 5.2 The Contractor shall promptly repair, replace, or otherwise correct any of its workmanship and any parts, materials, components, equipment or other items in the work which contain faults or defects, whether such failures are observed by the District, Consultant, or Contractor before or after final completion. The Contractor shall bear all costs of correcting such work covered by the warranties.
- 5.3 The Contractor shall further warrant that all work shall be free of defects of material and workmanship for a period of one (1) year minimum and/or as required in the bid documents. The Contractor agrees it will, at its own expense, repair and replace all such defective work and all other work damaged thereby which become defective during the term of the Guarantee Warranty. Whenever guarantees or warranties are required by the specifications for a longer period than the one (1) year warranty, such period shall govern. The District shall have the full benefit of longer warranties provided by the Contractor.
- 5.4 Upon discovery of any warranty defect, the District shall give written notice to the Contractor and state the time frame in which the repairs shall be made.
- 5.5 The Contractor, at its own expense, shall repair or replace any damages to equipment, facilities, or other personal or real property owned by the District which is damaged as a result of any such fault or defect, at no cost to the District.

## **6.0 PROJECT SCOPE AND SPECIFICATIONS**

- 6.1 The architectural drawings are included as Exhibit A.
- 6.2 Work may begin after **August 12, 2020** upon a successful execution of the Limited Scope Agreement and issuance of a District purchase order.
  - 6.2.1 Work shall be substantially complete on or before **September 1, 2020**.
  - 6.2.2 There is no early finish incentive offered to the Contractor.
- 6.3 Work scheduling shall be coordinated between the District Project Manager and the Contractor. All work will be performed in accordance with accepted standards for work of a similar nature. Contractor must demonstrate experience with projects of similar size, scope, cost, and schedule via the references provided as required in section 10.0 of this IFB.
- 6.4 Inspection of the work shall not relieve the Contractor of any obligation to fulfill the agreement as prescribed. Work not meeting specifications shall be corrected, at Contractor's expense, and unsuitable work may be rejected, notwithstanding that such work has been previously inspected by the District Project Manager.
  - 6.4.1 Receipt of pertinent documentation and final inspection of finished product by the District Project Manager are required prior to release of final payment to the Contractor awardee.

## **7.0 EVALUATIONS AND AWARD OF AGREEMENT**

- 7.1 Responses to this IFB will be independently evaluated.
- 7.2 Award of the agreement shall be made to the responsive and responsible Contractor meeting the specifications and deemed to be in the best interests of the District. Interviews may be requested with one or more respondent. Final evaluation may be based on, but not limited to the following: price, delivery time, adherence to specifications, previous experience with similar projects, and customer references.
  - 7.2.1 Those bids that are clearly non-responsive to the stated requirements may be eliminated prior to this evaluation.
- 7.3 A submission of a bid in response to this IFB is an offer to contract with the District based upon the terms, conditions, scope of work and specifications contained in this IFB.
  - 7.3.1 The agreement language will control over any language contained within this IFB that conflicts with the signed and fully executed agreement.
- 7.4 All changes in bid documents shall be through written addendum and shall be posted to BidNet.
  - 7.4.1 Amendments or clarifications to the submitted bids not requested by the District will not be accepted, nor considered in awarding of the agreement.

## **8.0 PERFORMANCE BOND AND PAYMENT BOND**

- 8.1 Colorado State Statutes require a Performance Bond and a Payment Bond on public projects more than \$50,000.00. Contractor is required to post bonds, executed by a surety company authorized to do business in the State of Colorado, upon notification of bid award. Performance and Payment bonds will each be equal to 100% of agreement price and must remain in effect until completion of agreement.
- 8.2 Both the Performance Bond and the Payment Bond shall be written on AIA A312 Performance Bond and AIA A312 Payment Bond Forms, as issued by The American Institute of Architects. Dates of bonds shall coincide with the date of the agreement between the District and Contractor. Substitute forms may not be used.

## 9.0 INSURANCE

Contractor shall procure and maintain the required insurance specified below for the duration of this Agreement, which insurance shall be written for not less than the amounts specified or greater if required by law. Specified coverages and amounts may be provided by a combination of a primary policy plus an umbrella or following form excess policy. If not otherwise required by law, lower amounts may be acceptable upon review and written approval by the District's Director of Records and Risk Management. All insurance shall be with a carrier licensed in the state of Colorado and shall have a minimum A.M. Best rating of A- VII. Contractor shall furnish the District's Director of Records and Risk Management with certificates of the required insurance prior to the District's approval and signing of this Agreement, and with renewal certificates prior to the expiration of any required insurance that expires during the term of this Agreement. Certificates of Insurance and all communication regarding insurance shall be sent to:

Poudre School District  
Attention: Risk Management  
Email: [risk@psdschools.org](mailto:risk@psdschools.org) (preferred method of communication)  
2407 Laporte Ave  
Ft. Collins, CO 80521

Any insurance and/or self-insurance carried by the District is excess of the coverage extended to the District by Contractor. Contractor shall provide at least thirty (30) days' advance written notice to the District prior to cancellation, change of coverage, or non-renewal. The insurance requirements specified in this shall not reduce the indemnification liability that Contractor has assumed in section 9.1 below.

### **Commercial General Liability (General Contractor / Construction Manager)**

Coverage to include:

- a. Premises and Operations
- b. Explosions, Collapse and Underground Hazard
- c. Personal / Advertising Injury
- d. Products / Completed Operations
- e. Liability assumed under an Insured Agreement (including defense costs assumed under Agreement)
- f. Designated Construction Project(s) General Aggregate Limit, ISO CG 2503 or equivalent
- g. Automatic Additional Insurance Endorsement, Owners, Lessees, or Contractors Endorsement, ISO CG 2038 or equivalent
- h. Poudre School District R-1, its elected officials, employees, agents, and volunteers shall be named as an additional insured with respect to liability arising out of the activities performed by, or on behalf of the Contractor, including Completed Operations, Lessees or Contractors Endorsement, ISO CG 2307 or equivalent and shall be insured to the full limits of liability purchased by the Contractor even if those limits of liability are in excess of those required by this Agreement.

Completed Operations coverage must be kept in effect for up to the statute of repose after project completion.

#### Minimum Limits

- |                          |             |
|--------------------------|-------------|
| a. Each Occurrence Limit | \$2,000,000 |
| b. General Aggregate     | \$3,000,000 |



c. Products/Completed Operations Aggregate	\$3,000,000
d. Personal/Advertising Injury	\$2,000,000
e. Fire Damage (Any One Fire)	\$50,000
f. Medical Payments (Any One Person)	\$5,000

For estimated Projection Construction Cost from \$10,000,000 - \$29,999,999:

a. Each Occurrence	\$5,000,000
b. General Aggregate	\$5,000,000
c. Products/Completed Operations Aggregate	\$5,000,000
d. Personal/Advertising Injury	\$5,000,000
e. Fire Damage (Any One Fire)	\$50,000
f. Medical Payments (Any One Person)	\$5,000

For estimated Projection Construction Cost from \$30,000,000 - \$49,999,999:

a. Each Occurrence	\$10,000,000
b. General Aggregate	\$10,000,000
c. Products/Completed Operations Aggregate	\$10,000,000
d. Personal/Advertising Injury	\$10,000,000
e. Fire Damage (Any One Fire)	\$50,000
f. Medical Payments (Any One Person)	\$5,000

For estimated Projection Construction Cost from \$50,000,000 - \$99,999,999:

a. Each Occurrence	\$25,000,000
b. Annual Aggregate	\$25,000,000
c. Products/Completed Operations Aggregate	\$25,000,000
d. Personal/Advertising Injury	\$25,000,000
e. Fire Damage (Any One Fire)	\$50,000
f. Medical Payments (Any One Person)	\$5,000

For estimated Projection Construction Cost over \$100,000,000 - Contact Risk Management for limits and type of insurance.

### **Professional Liability**

#### Minimum Limits

- |  |             |
|--|-------------|
| a. Each Occurrence or Wrongful Act Limit | \$1,000,000 |
| b. Annual Aggregate Limit                | \$3,000,000 |
- c. In the event that the Professional Liability insurance required by this Agreement is written on a claims-made basis Contractor warrants that any retroactive date under the policy shall precede the effective date of this Agreement and that either continuous coverage will be maintained or an extended discovery period will be exercised for a period of three (3) years beginning at the time work under this Agreement is completed.
  - d. Contractor must provide evidence of the extended reporting period coverage at the end of the project and before all final payments to the Contractor is made.

**Contractor's Pollution Liability, Including Errors and Omissions** (If work involves potential pollution risk or losses caused by pollution conditions, including asbestos).

For losses caused by pollution conditions including coverage for bodily injury, property damage, (including natural resource damage), cleanup costs, removal, storage, disposal, and or use of the pollutant; and defense costs, including costs and expenses incurred in the



investigation, defense, or settlement of claims. Coverage shall apply to the sudden and gradual pollution conditions resulting from the escape or release of smoke, vapors, fumes, acids alkalis, toxic chemicals, liquids, or gases, natural gas, waste materials, or other irritants, contaminants, or pollutants (including asbestos). and cleanup costs that arise from the operations of the Contractor as described in the Scope of Services section of this Agreement.

#### Minimum Limits

- a. Per Loss \$5,000,000
- b. Products/Completed Operations Aggregate \$5,000,000
- c. The policy shall provide for complete professional service coverage, including coverage for pollution liability that is the result of a breach of professional duties.
- d. The policy shall provide for protection against claims for third-party bodily injury, property damage, or environmental damage caused by pollution conditions resulting from the Contractor's contracting activities for which the Contractor is legally liable.
- e. The policy shall provide for cleanup costs when mandated by governmental entities, when required by law, or as a result of third-party claims.
- f. The policy shall be endorsed to include the following additional insured language: "Poudre School District R-1, its elected officials, employees, agents, and volunteers shall be named as an additional insured with respect to liability arising out of the activities performed by, or on behalf of the Contractor" and shall be insured to the full limits of liability purchased by the Contractor even if those limits of liability are in excess of those required by this Agreement. Copy of policy endorsement must be attached to the Certificate of Insurance.
- g. Contractor warrants that any retroactive date under the policy shall precede the effective date of this Agreement; and that either continuous coverage will be maintained, or an extended discovery period will be exercised for a period of three (3) years beginning at the time work under this Agreement is completed.
- h. Completed Operations Coverage shall be kept in place for up to the statute of repose.

#### **Builders' Risk**

The policy shall:

- a. Be written on an "All Risk" basis (Special Coverage Form) including flood and earthquake.
  - b. Provide coverage of property at the construction site, off-site storage locations and in transit.
  - c. Be written on a completed value; the estimated completed value of the project is used as the limit of insurance.
  - d. Poudre School District R-1, its elected officials, employees, agents, and volunteers, the Contractor, and subcontractors, shall be named insureds under the policy.
- Soft Costs (or delay in opening) coverage is necessary on very large projects. Specific coverage requirements will be determined based on the possible exposure. Contact Risk Management for additional specific insurance requirements.

- Coverage for agreements less than \$1 million is provided by Colorado School Districts Self Insurance Pool and requires a completed application.
- Agreements that exceed \$1 million may require additional builders' risk insurance coverage.

**Commercial Automobile Liability Providing Coverage for Owned, Non-Owned, and Leased or Hired Vehicles** (Only required if Contractor operates vehicles in performing any services under this Agreement)

Bodily Injury & Property Damage  
Combined Single Limit Minimum \$1,000,000

**If work involves the transportation of hazardous materials or regulated substances:**

- a. Bodily Injury/Property Damage (Each Accident) Minimum Limit \$5,000,000
- b. The Policy shall include a CA 9948 Endorsement (or its equivalent) and MCS-90 to provide coverage for claims resulting in bodily injury, property damage or cleanup costs associated with a pollution condition from transported cargo.
- c. The policy shall be endorsed to include the following additional insured language:  
"Poudre School District R-1, its elected officials, employees, agents, and volunteers shall be named as an additional insured to the policy, with respect to liability arising out of the activities performed by, or on behalf of the Contractor and shall be insured to the full limits of liability purchased by the Contractor even if those limits of liability are in excess of those required by this Agreement.

**Workers' Compensation and Employers' Liability\***

Minimum Limits

- a. State of Colorado Statutory
- b. Employer's Liability \$500,000 Each Accident  
\$500,000 Disease – Policy Limit  
\$500,000 Disease – Each Employee
- c. Waiver of subrogation in favor of Poudre School District R-1.

\* This requirement shall not apply if Contractor is exempt under the Colorado Workers' Compensation Act AND if Contractor has a current Workers' Compensation Coverage Rejection on file with the Colorado Department of Labor and Employment, Division of Worker's Compensation.

9.1 Indemnification

Contractor shall indemnify and hold harmless the District and the District's Board members, employees, representatives and agents from and against any and all liability arising from any suit, action, grievance, charge or proceeding brought in connection with or related to Contractor's operations, provision of services and/or conduct of any of its employees, volunteers, agents or representatives. The indemnification and hold harmless obligation hereunder shall include all attorney fees, costs and expenses incurred by the District and/or the District's Board members, employees, representatives and/or agents in defense of said suits, actions, grievances, charges and/or proceedings. Nothing in this section or otherwise in this agreement shall be construed in any way or applied in any manner as a compromise or waiver of the District's rights and protections under the Colorado Constitution or the Colorado Governmental Immunity Act.

10.0 **REFERENCES**

**WAREHOUSE 5 INTERIOR RENOVATION  
IFB 21-401-001**

**References are required** – List three references for which your company has completed similar services for projects of similar scope.

10.1 Company Name \_\_\_\_\_  
Address \_\_\_\_\_  
Contact Person \_\_\_\_\_  
Phone & Email \_\_\_\_\_  
Describe type of work/service performed \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

10.2 Company Name \_\_\_\_\_  
Address \_\_\_\_\_  
Contact Person \_\_\_\_\_  
Phone & Email \_\_\_\_\_  
Describe type of work/service performed \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

10.3 Company Name \_\_\_\_\_  
Address \_\_\_\_\_  
Contact Person \_\_\_\_\_  
Phone & Email \_\_\_\_\_  
Describe type of work/service performed \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

11.0 **BID CERTIFICATION FORM**

**WAREHOUSE 5 INTERIOR RENOVATION  
IFB 21-401-001**

**Bids must be submitted and received in BidNet’s electronic solicitation portal on or before 2:00 p.m. MST on August 12, 2020.**

The undersigned hereby affirms that:

- He/she is a duly authorized agent of the company issuing this bid and that all information provided in the bid is true and accurate.
- He/she has read the conditions and technical specifications, which were made available to the company in conjunction with this IFB, and fully understands and accepts these terms unless specific variations have been expressly listed in the bid.
- The company will adhere to all terms and conditions and provide, at a minimum, all services as expressed in the IFB and/or the company’s bid responding to the IFB.
- The company meets or exceeds all of the required criteria as specified by this IFB, or if not, has submitted a Justification for Consideration addressing any failure to meet the criteria.
- The company’s bid is being offered independently of any other Contractor and in full compliance with the terms specified in this IFB.
- The company will accept any awards made to it, as a result of this IFB for a minimum of ninety (90) calendar days following the date and time of the IFB closing.

Company Name \_\_\_\_\_

Mailing Address \_\_\_\_\_

Signature of Agent \_\_\_\_\_

Printed Name \_\_\_\_\_

Title \_\_\_\_\_

e-Mail Address \_\_\_\_\_

Phone Number \_\_\_\_\_

Contact Person \_\_\_\_\_  
(If different from Agent – include e-mail address and phone number)

**NOTE: Bids submitted without the signature of an authorized agent of the company may be considered non-responsive and ineligible for the award.**

12.0 **BID FORM**

**WAREHOUSE 5 INTERIOR RENOVATION  
IFB 21-401-001**

The District reserves the right to reject any or all bids or any parts thereof. The District's intent is to award a single agreement to one Contractor.

Contractor proposes to furnish all labor and material to complete the execution of Work described in the bid documents.

**BASE BID LUMP SUM**

\_\_\_\_\_ Dollars (\$ \_\_\_\_\_ )

The modifications to the bid documents noted in all addenda issued have been considered and all costs are included in the Bid Sum.

Addendum # \_\_\_\_\_ Dated \_\_\_\_\_ Signature \_\_\_\_\_

Addendum # \_\_\_\_\_ Dated \_\_\_\_\_ Signature \_\_\_\_\_

The undersigned Contractor agrees to achieve substantial completion of the project no later than **September 1, 2020**. There is no early incentive offered by the District.

Company Name: \_\_\_\_\_ Date: \_\_\_\_\_

Authorized Company Representative's Printed Name: \_\_\_\_\_

Authorized Company Representative's Signature: \_\_\_\_\_





# INTERIOR RENOVATION PSD WAREHOUSE 5

1502 SOUTH TIMBERLINE ROAD  
FORT COLLINS, COLORADO 80524

**OWNER:**

POUDRE SCHOOL DISTRICT  
2445 LAPORTE AVENUE  
FORT COLLINS, COLORADO 80521  
PHONE: 970|490|3017  
EMAIL: jlee@psdschools.org

Jason Lee  
Construction Project Manager

**ARCHITECT:**

KALERT CONSULTING GROUP|LLC  
2429 STONECREST DRIVE  
FORT COLLINS, COLORADO 80521  
PHONE: 970|412|3049  
EMAIL: tomkalert@gmail.com

Tom Kalert|AIA  
Architect

**MEP:**

PEC|LLC  
420 LINDEN STREET|SUITE 110  
FORT COLLINS, COLORADO 80524  
PHONE: 970|323|9558  
EMAIL: chad.hayes@pec1.com  
adam.rubin@pec1.com

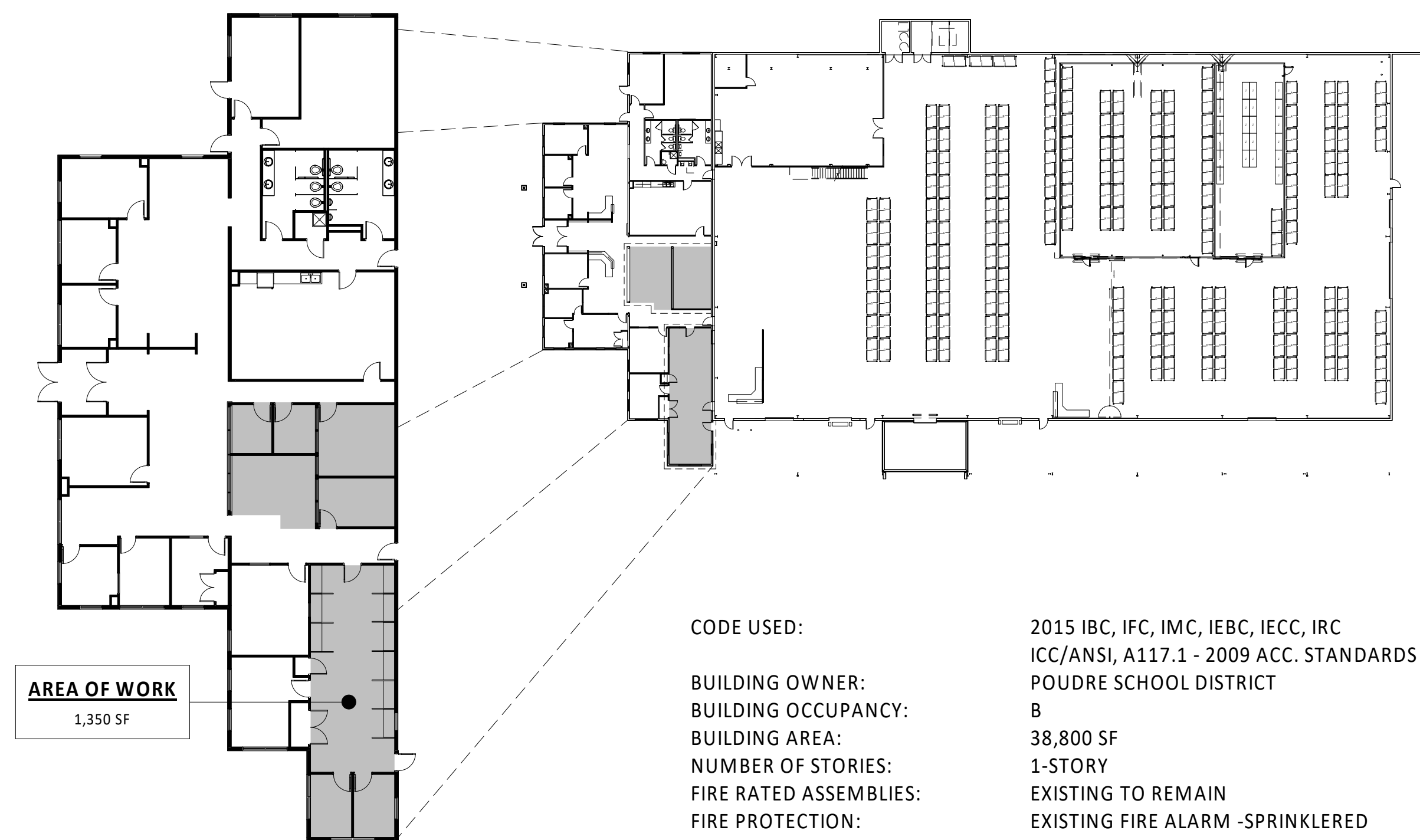
Chad Hayes|P.E. Mechanical Engineer  
Adam Rubin|P.E. Electrical Engineer

**DRAWING INDEX:**

- A0.0 TITLE SHEET, VICINITY MAP AND CODE INFORMATION
- A1.0 DEMOLITION AND NEW FLOOR AND CEILING PLANS AND DETAILS
- M0.1 MECHANICAL COVER SHEET
- M0.2 MECHANICAL SPECIFICATIONS
- M0.3 MECHANICAL SPECIFICATIONS
- M1.1 MECHANICAL FLOOR PLANS
- E0.1 ELECTRICAL GENERAL NOTES AND SYMBOLS
- E0.2 ELECTRICAL SPECIFICATIONS
- E1.0 ELECTRICAL DEMOLITION PLAN
- E1.1 ELECTRICAL PLANS
- E5.0 ELECTRICAL DETAILS AND SCHEDULES

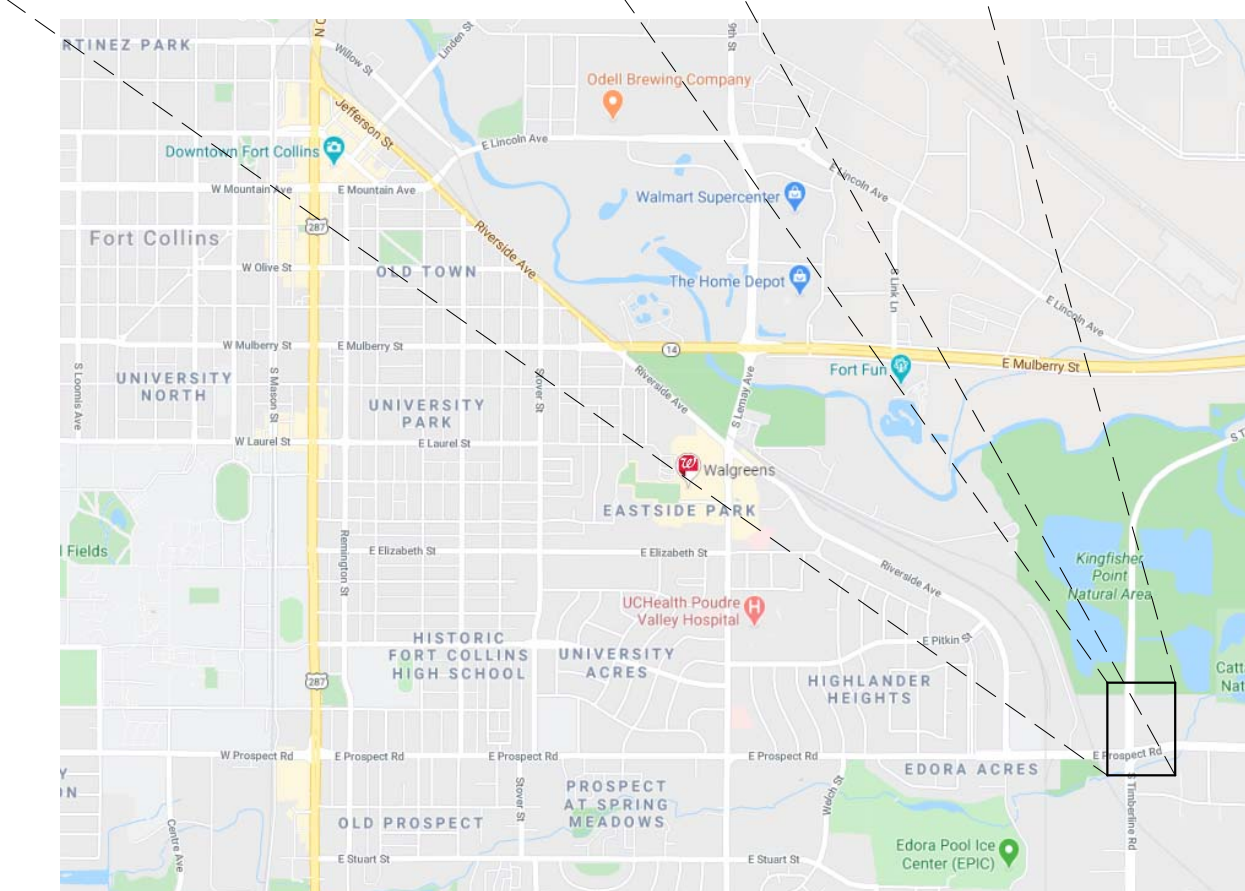
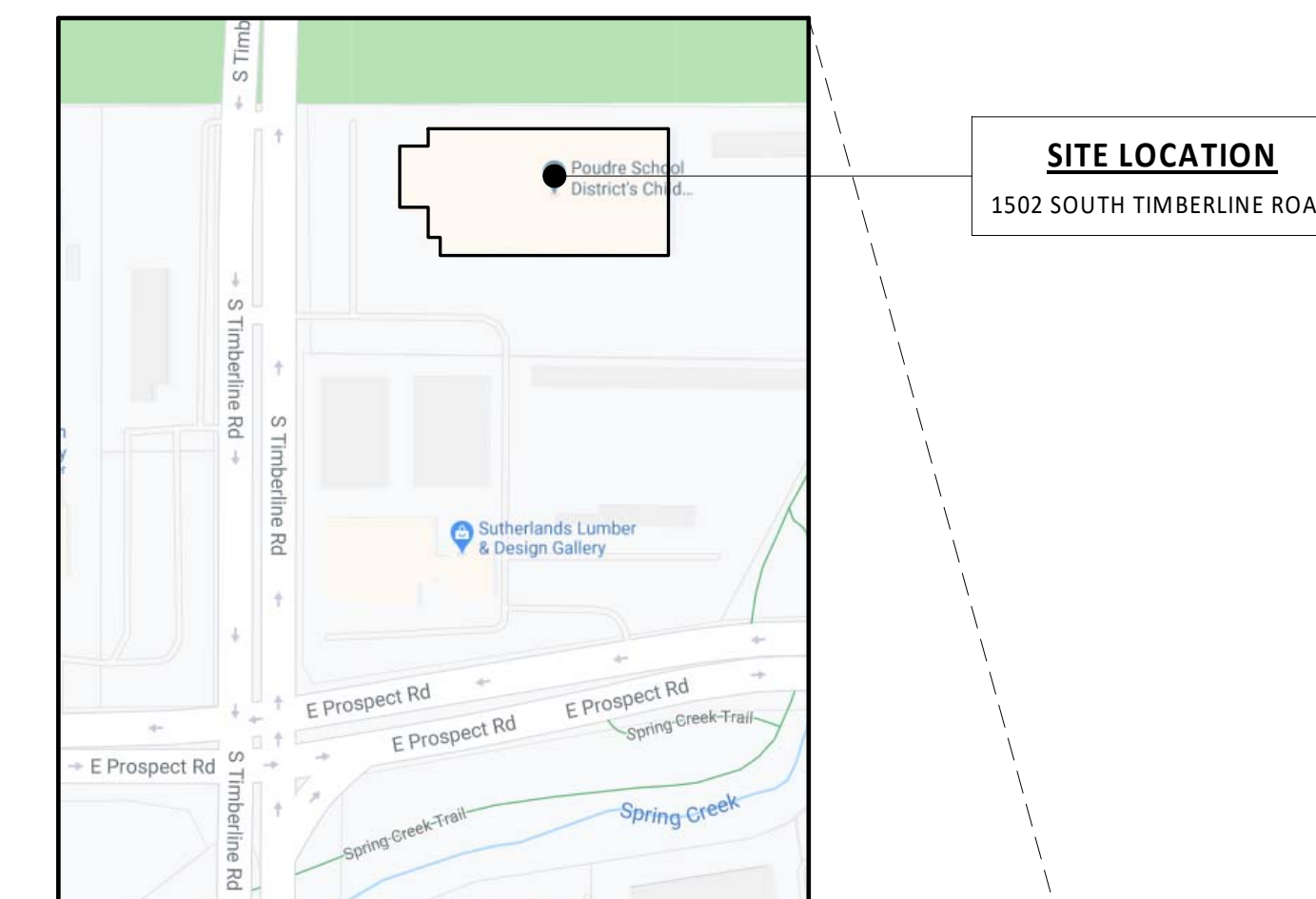
**ABBREVIATIONS:**

ACOUS. ACOUSTICAL	MATL. MATERIAL
A.F.F. ABOVE FINISH FLOOR	MECH. MECHANICAL
ARCH. ARCHITECTURAL	MEP. MECHANICAL, ELECTRICAL, PLUMBING
BD. BOARD	MFR. MANUFACTURER
BLDG. BUILDING	MIN. MINIMUM
BLKG. BLOCKING	MISC. MISCELLANEOUS
BOT. BOTTOM	MTD. MOUNTED
BSMT. BASEMENT	(N) NEW
	N. NORTH
C.J. CONTROL JOINT	N.E. NORTHEAST
CLG. CEILING	N.I.C. NOT IN CONTRACT
CLO. CLOSET	N.T.S. NOT TO SCALE
CLR. CLEAR	
COL. COLUMN	O.C. ON CENTER
CONC. CONCRETE	O.D. OUTSIDE DIAMETER
CONST. CONSTRUCTION	OPNG. OPENING
CONT. CONTINUOUS	OPP. OPPOSITE
CPT. CARPET	OPP.HD. OPPOSITE HAND
	P.L. PROPERTY LINE
DBL. DOUBLE	P.LAM. PLASTIC LAMINATE
DEPT. DEPARTMENT	P.T.D. PAPER TOWEL DISPENSER
DIA. DIAMETER	
DIM. DIMENSION	R.C.P. REFLECTED CEILING PLAN
DIV'D. DIVIDED	R.D. ROOF DRAIN
DN. DOWN	REQ'D. REQUIRED
DR. DOOR	R.H. RIGHT HAND
DWG. DRAWING	R.O.W. RIGHT OF WAY
(E) EXISTING	S SOUTH
EA. EACH	S.E. SOUTH EAST
E. EAST	SECT. SECTION
E.J. EXPANSION JOINT	S.E.D. SEE ELECTRICAL DRAWINGS
ELEC. ELECTRICAL	S.F. SQUARE FOOT
EP. ELECTRICAL PANEL	SHT. SHEET
EQ. EQUAL	S.L.D. SEE LANDSCAPE DRAWINGS
EQUIP. EQUIPMENT	S.M.D. SEE MECHANICAL DRAWINGS
	S.P.D. SEE PLUMBING DRAWINGS
F.A. FIRE ALARM	SPECS. SPECIFICATIONS
F.C.P. FIRE CONTROL PANEL	S.S.D. SEE STRUCTURAL DRAWINGS
F.D. FLOOR DRAIN	STOR. STORAGE
FDN. FOUNDATION	STRUCT. STRUCTURAL
F.F. FINISH FLOOR	
F.F.E. FINISH FLOOR ELEVATION	TEMP. TEMPERED
F.E.C. FIRE EXTINGUISHER CAB.	T & G TONGUE AND GROOVE
FIN. FINISH	T.O.P. TOP OF PLATE
FIXT. FIXTURE	T.O.W. TOP OF WALL
FL. FLOOR	T.P. TOILET PARTITION
F.O.F. FACE OF FINISH	T.O. TOP OF
F.O.S. FACE OF STUD	TYP. TYPICAL
FR. FRAME	
FTG. FOOTING	U.B.C. UNIFORM BUILDING CODE
	U.L. UNDERWRITER'S LABORATORY
GA. GAUGE	U.O.N. UNLESS OTHERWISE NOTED
GALV. GALVANIZED	
GYP. GYPSUM	V.C.T. VINYL COMPOSITION TILE
	VERT. VERTICAL
HDR. HEADER	VEST. VESTIBULE
HDWE. HARDWARE	V.I.F. VERIFY IN FIELD
HORIZ. HORIZONTAL	
	W. WEST
I.D. INSIDE DIAMETER	W/ WITH
INSUL. INSULATION	W.C. WATER CLOSET
INT. INTERIOR	WD. WOOD
	WDW. WINDOW
JAN. JANITOR	W/O WITHOUT
JT. JOINT	WT. WEIGHT
	YD. YARD
LAV. LAVATORY	
LOUV. LOUVER	
LT. LIGHT	



**KEY PLAN AND CODE INFORMATION:**

NOT TO SCALE



**VICINITY MAP:**

NOT TO SCALE



**SHEET CONTENTS**  
COVER SHEET AND CODE INFORMATION

**POUDRE SCHOOL DISTRICT**  
WAREHOUSE 5 RENOVATION  
FORT COLLINS, COLORADO 80524

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NO.	BY	DESCRIPTION	DATE

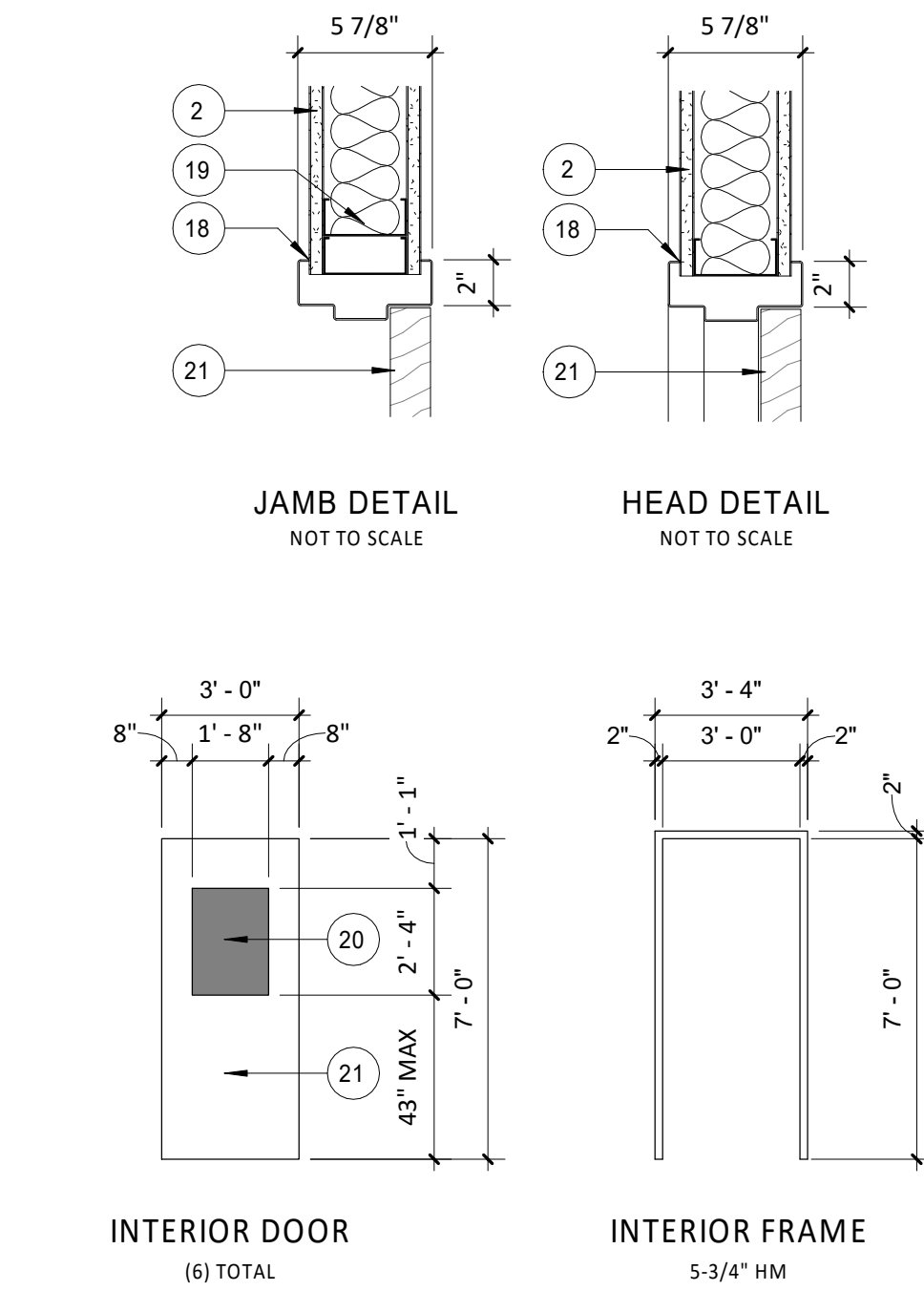
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CHECKED BY: KCG  
DATE: 07.10.20

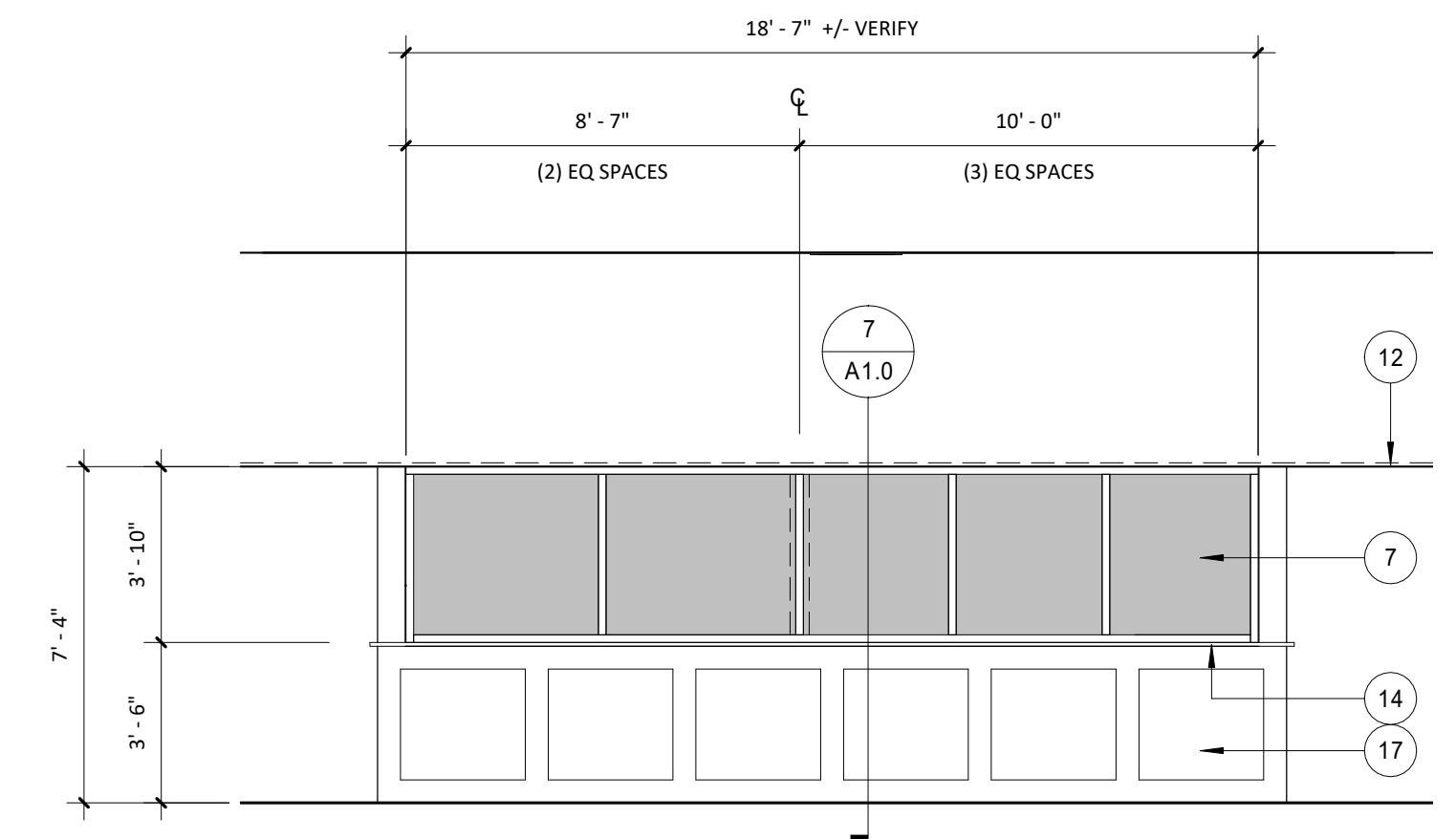
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REVISIONS

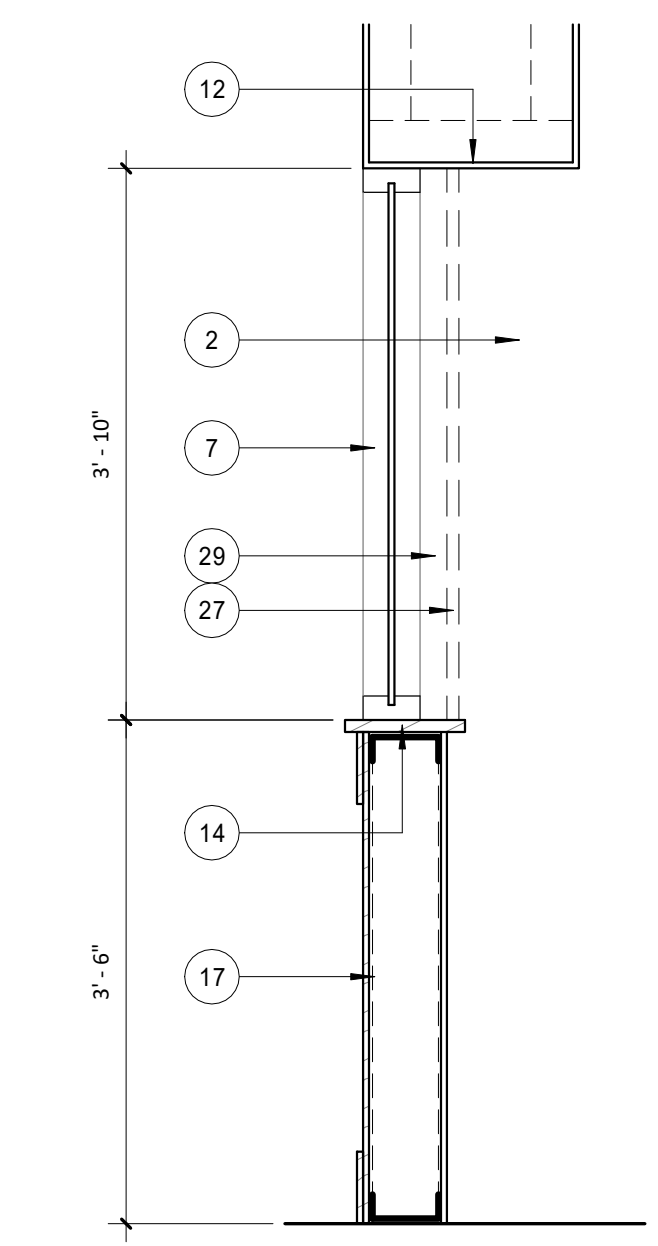




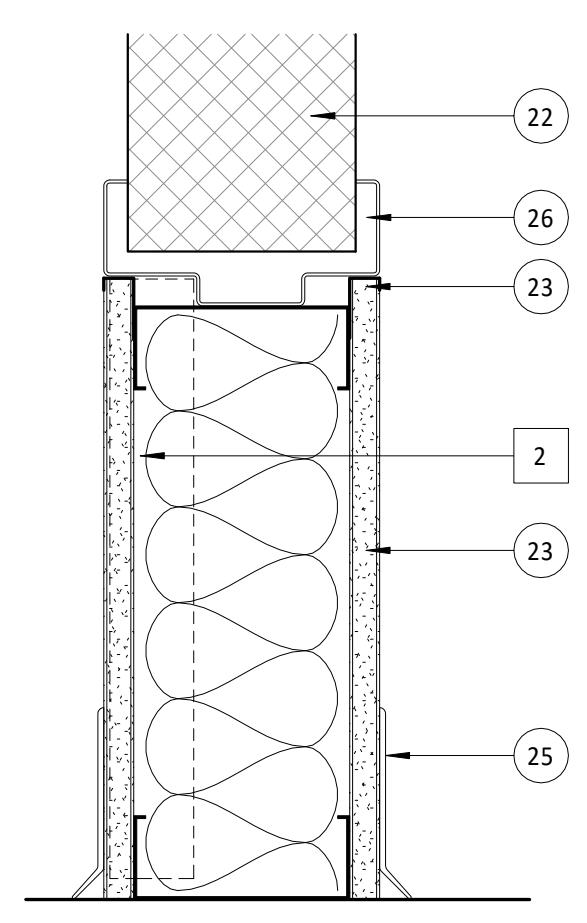
**9 DOOR DETAILS**  
1/4" = 1'-0"



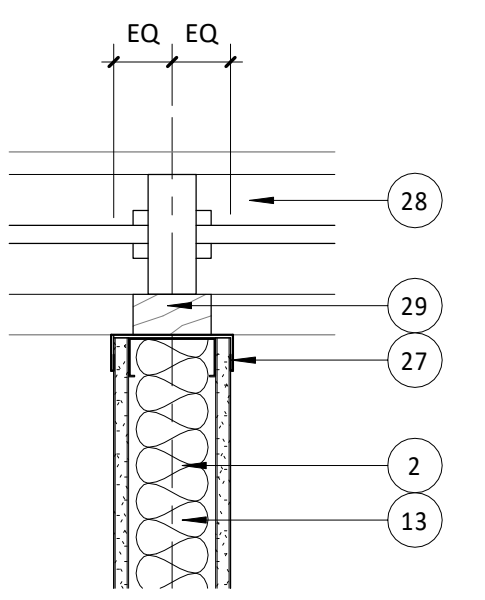
**8 NEW STOREFRONT ELEVATION**  
1/4" = 1'-0"



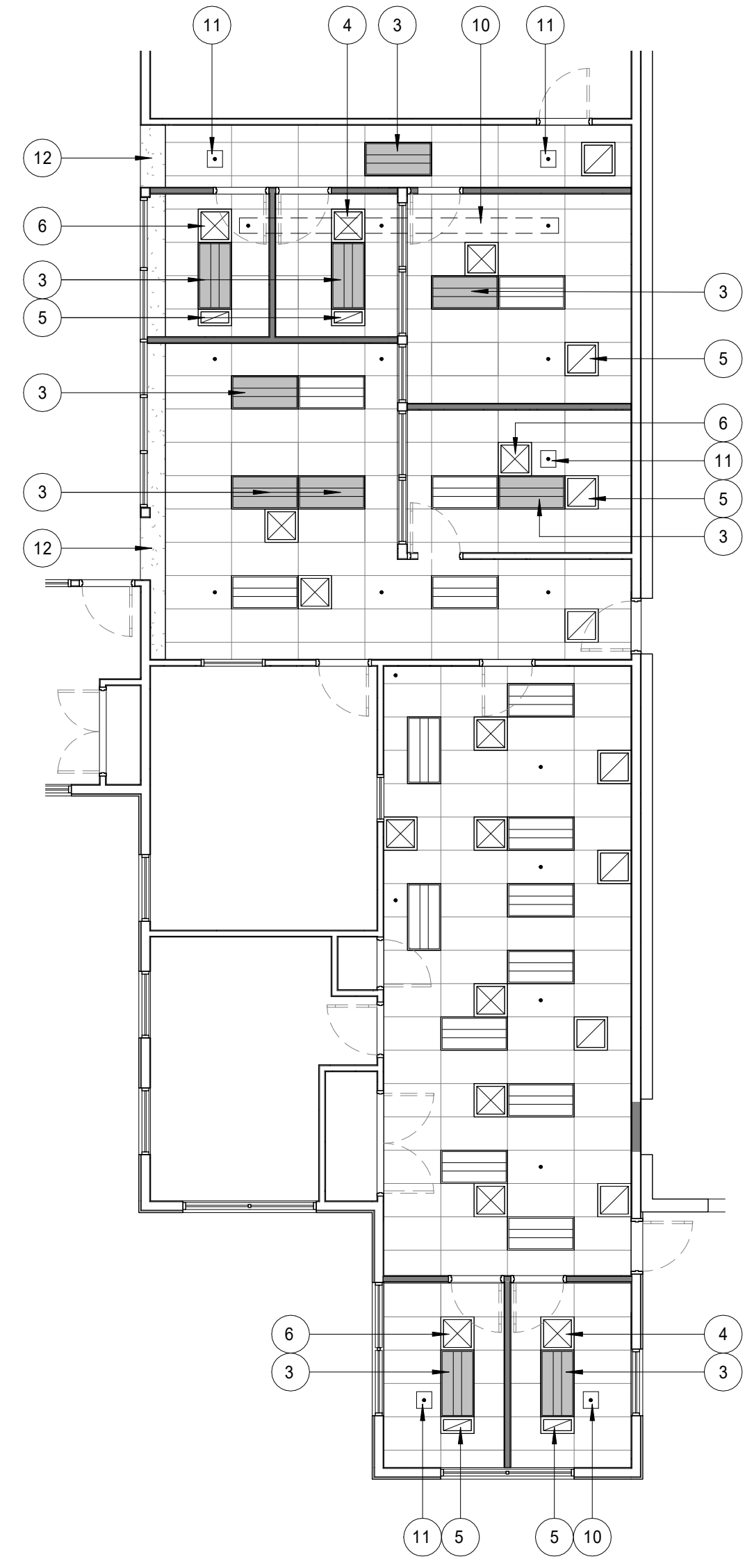
**7 STOREFRONT DETAIL**  
3/4" = 1'-0"



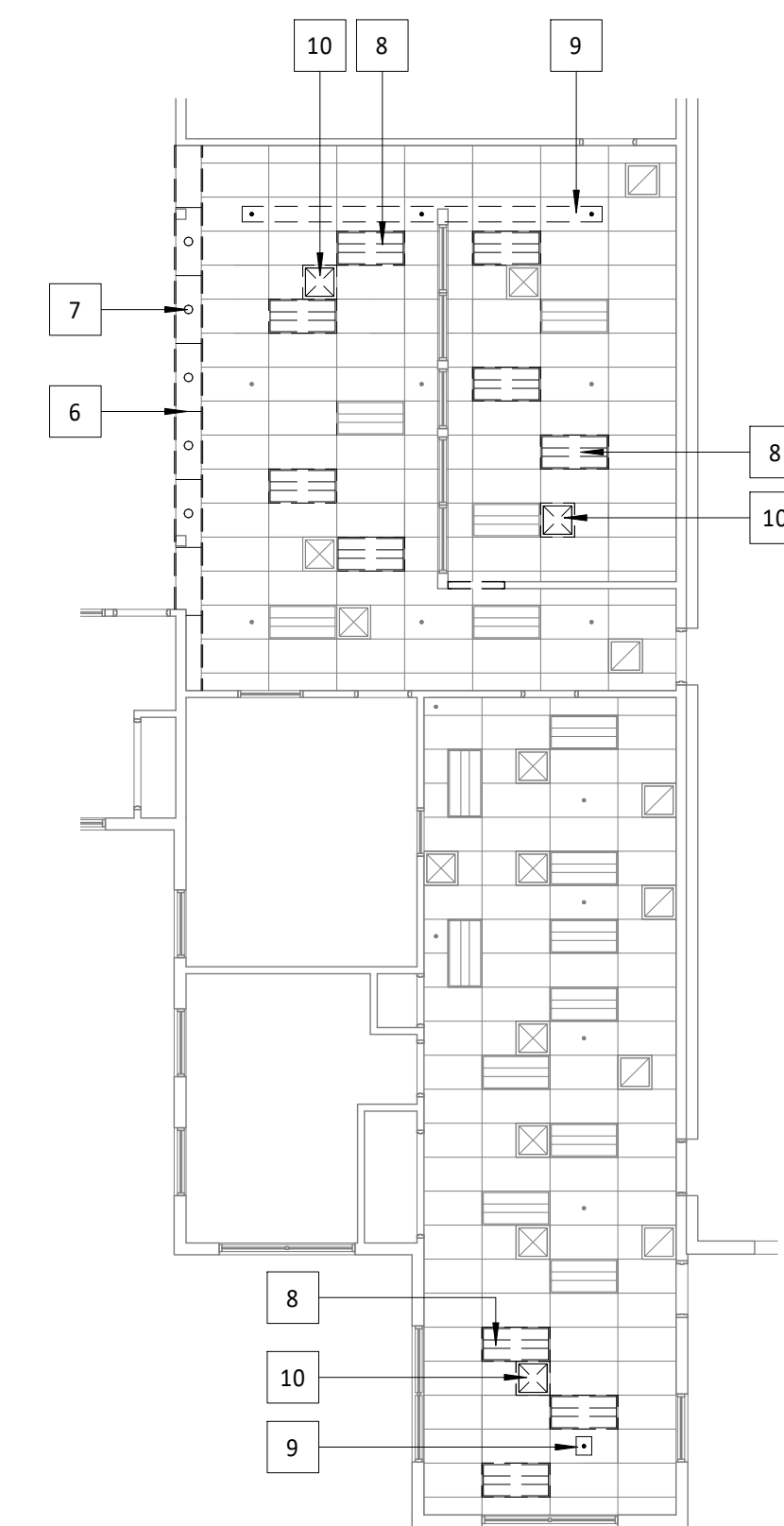
**6 DOOR INFILL DETAIL**  
3" = 1'-0"



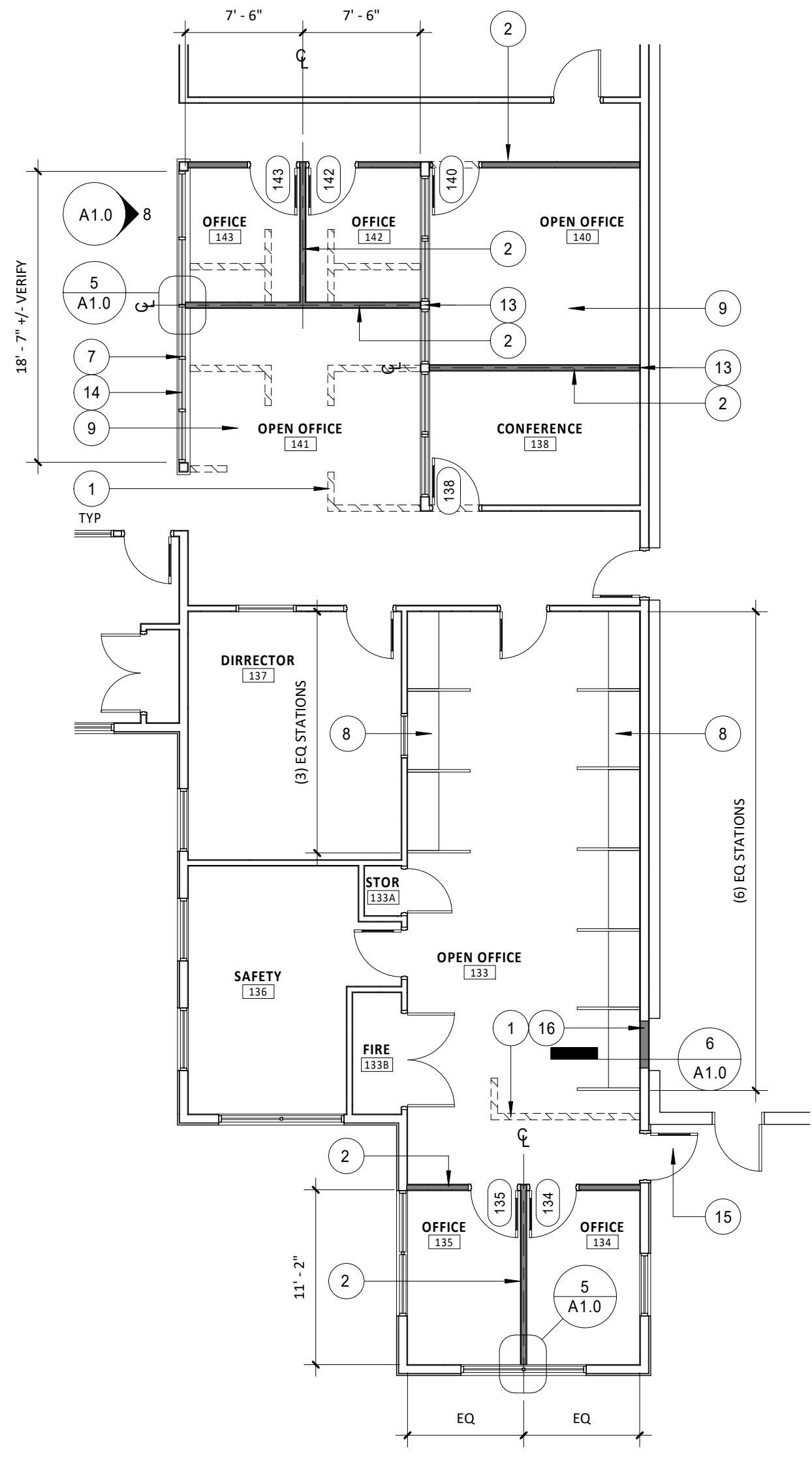
**5 WALL TO MULL**  
1 1/2" = 1'-0"



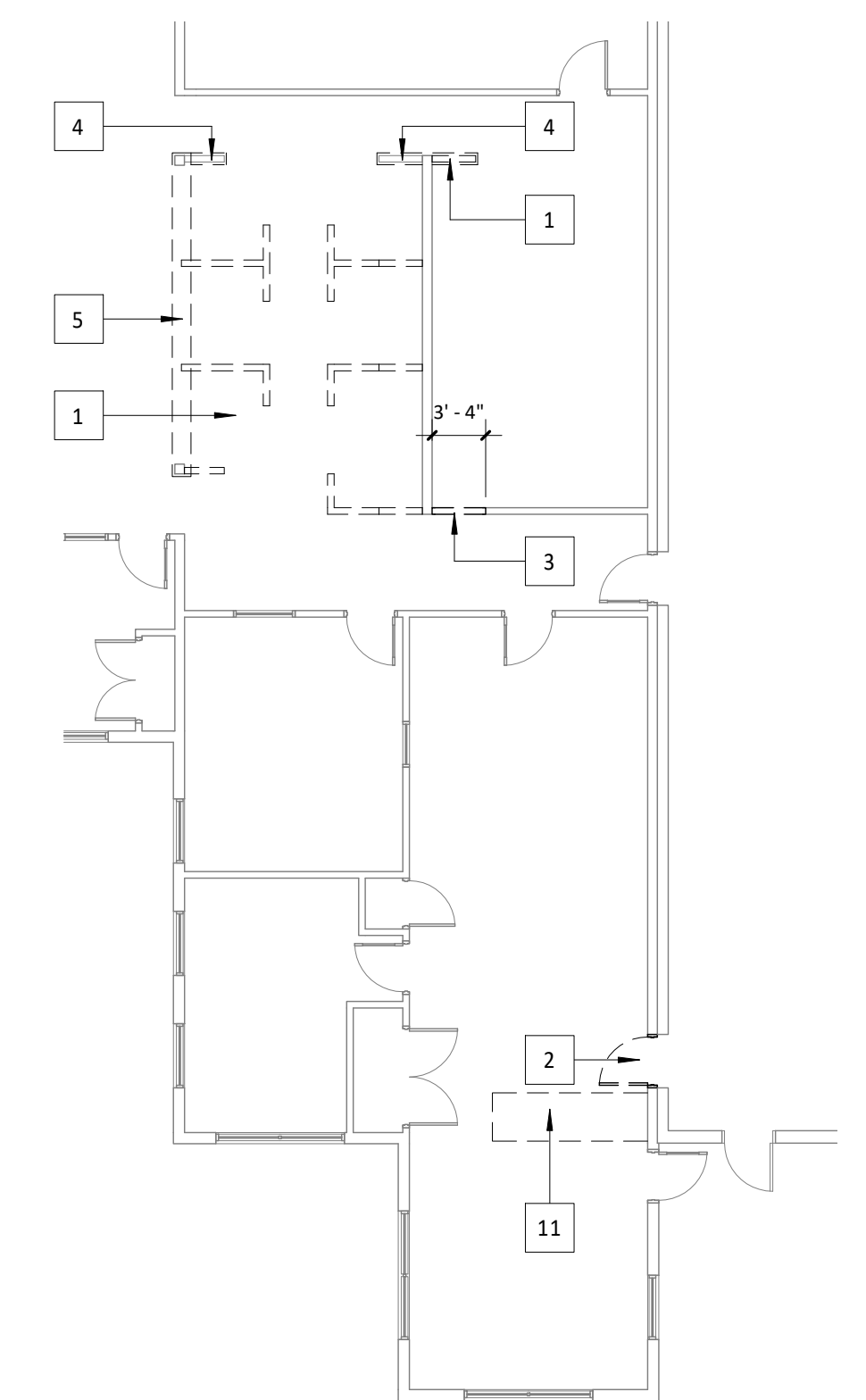
**4 NEW CEILING PLAN**  
1/8" = 1'-0"



**3 DEMOLITION CEILING PLAN**  
3/32" = 1'-0"



**2 NEW FLOOR PLAN**  
1/8" = 1'-0"



**1 DEMOLITION FLOOR PLAN**  
3/32" = 1'-0"

**GENERAL NOTES:**

- A. CONTRACTOR TO FIELD VERIFY ALL EXISTING SITE CONDITIONS AND SHALL INFORM ARCHITECT AND OWNER OF ANY MAJOR DISCREPANCIES
- B. CONTRACTOR SHALL PROTECT ALL FINISHES DURING CONSTRUCTION, TYPICAL
- C. ALL GLAZING SHALL MEET CLASS II SAFETY STANDARDS
- D. MECHANICAL AND ELECTRICAL ITEMS SHOWN FOR REFERENCE ONLY - SEE MEP DRAWINGS
- E. DOOR HARDWARE GROUP NO. 01 FOR USE ON DOORS 134, 135, 138, 140, 142 AND 143:

QTY	DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3 EA	HINGE	5B81 4.5 x 4.5	652	IVE
1 EA	VANDI ENTR LOCK	ND92TD RHO	626	SCH
1 EA	FSIC CORE	23-030 EV D	626	SCH
1 EA	KICK PLATE	8400 10 x 2 LDW B-CS	630	IVE
1 EA	WALL STOP	WS406/407CCV	630	IVE
3 EA	SILENCER	SR64	GRY	IVE

**DEMOLITION NOTES:**

1. REMOVE EXISTING WALL PARTIAL HEIGHT WALL
2. REMOVE EXISTING DOOR, HM FRAME TO REMAIN - SEE DETAIL
3. REMOVE PORTION OF EXISTING WALL FOR INSTALLATION OF NEW DOOR - SEE NEW FLOOR PLAN
4. REMOVE EXISTING OAK CAP AND TRIM
5. REMOVE AND SALVAGE EXISTING OAK CAP THIS LOCATION FOR RESIZING AND INSTALLATION - SEE NEW FLOOR PLAN
6. REMOVE EXISTING OAK SOFFIT PANEL AND ALL TRIM
7. REMOVE EXISTING CAN LIGHTS, TERMINATE ELECTRICAL - SEE ELECTRICAL PLANS
8. REMOVE EXISTING LIGHTING FIXTURE, SALVAGE FOR REINSTALLATION - SEE NEW CEILING PLAN AND ELECTRICAL DRAWINGS
9. REMOVE EXISTING FIRE SPRINKLER HEAD FOR RELOCATION - SEE NEW CEILING PLAN
10. REMOVE EXISTING MECHANICAL DIFFUSER TO BE RELOCATED - SEE NEW CEILING PLAN AND MECHANICAL DRAWINGS
11. REMOVE EXISTING COUNTERTOP AND PARTIAL HEIGHT WALL BELOW

**KEY NOTES:**

1. INSTALL OWNER PROVIDED CARPET PATCH FROM REMOVAL OF EXISTING WALL OR CASEWORK
2. NEW 3-5/8" STUD WALL WITH 5/8" GYP. BD AND RUBBER BASE BOTH SIDES, FRAME TO UNDERSIDE OF EXISTING ACP CEILING, FINISH TO MATCH EXISTING
3. REINSTALL SALVAGED LIGHTING FIXTURE THIS LOCATION - SEE ELECTRICAL DRAWINGS
4. PROVIDE NEW MECHANICAL SUPPLY - SEE MECHANICAL DRAWINGS
5. PROVIDE NEW MECHANICAL RETURN - SEE MECHANICAL DRAWINGS
6. RELOCATE EXISTING MECHANICAL SUPPLY - SEE MECHANICAL DRAWINGS
7. NEW ALUMINUM STORE FRONT WINDOW WITH PRIVACY ROLLER SHADES - SEE ELEVATION
8. NEW 60" ADJUSTABLE HEIGHT WORKSTATIONS WITH 48" x 60" SYSTEM FURNITURE PRIVACY WALLS - PSD PROVIDED - CONTRACTOR TO INSTALL NEW OPEN OFFICE FURNITURE LAYOUT BY OWNER - REINSTALL EXISTING SYSTEMS FURNITURE RELOCATED FROM VIPS BUILDING
9. RELOCATE EXISTING FIRE SPRINKLER HEADS TO THIS LOCATION
10. APPROXIMATE LOCATION OF NEW FIRE SPRINKLER HEAD, COORDINATE EXACT LOCATION INFIELD
11. PATCH AND REPAIR EXISTING GYP. BD. SOFFIT AS REQUIRED - FINISH, PRIME AND PAINT TO MATCH EXISTING
12. CENTER NEW GYP. BD. WALL ON EXISTING WINDOW SPACING ABOVE - COORDINATE IN FIELD
13. RIP SALVAGED OAK TOP TO 10" WIDTH AND REINSTALL
14. PROVIDE NEW CARD ACCESS AT EXISTING EXTERIOR DOOR
15. WALL INFILL AT EXISTING HOLLOW METAL FRAME - SEE DETAIL
16. EXISTING OAK PANELING TO REMAIN - SHOWN FOR REFERENCE ONLY
17. PROVIDE SEALANT BEAD, FULL PERIMETER, BOTH SIDES, TYPICAL
18. PROVIDE (2) 20 GA. METAL STUDS AT DOOR JAMB, TYPICAL
19. 1/4" LAMINATED SAFETY GLAZING - GLAZING SHALL MEET CLASS II SAFETY STANDARDS
20. INTERIOR DOOR: 3'-0" x 7'-0" HALF-LIGHT WOOD DOOR IN HOLLOW METAL FRAME - (6) TOTAL - FINISH DOOR AND FRAME TO MATCH EXISTING, HARDWARE BY OWNER
21. EXISTING WAREHOUSE WALL - SHOWN FOR REFERENCE
22. PROVIDE J-BEAD TERMINATION PIECE AND SEALANT AT PERIMETER OF GYP BD INFILL
23. NEW METAL FRAME INFILL WITH 5/8" GYP. BD AND SOUND BATT INSULATION, FRAME WITHIN EXISTING HOLLOW METAL FRAME TO REMAIN, FINISH AND PAINT TO MATCH ADJACENT
24. NEW RUBBER BASE TO MATCH EXISTING AT BOTH SIDES
25. EXISTING HOLLOW METAL FRAME TO REMAIN - PAINT TO MATCH EXISTING WALL
26. PROVIDE BREAK METAL END CAP WITH HEMMED EDGES, PAINT TO MATCH WALL
27. NEW OR EXISTING METAL WINDOW FRAME, SEE PLAN, CENTER NEW WALL AND PARTITION CLOSER AS SHOWN
28. FLUSH OUT METAL WINDOW FRAME TO BREAK METAL END CAP WITH WOOD CLOSER, PAINT TO MATCH END CAP
- 29.

**KCG | LLC**  
KALERT | Consulting Group, LLC  
2429 Stonercrest Drive  
Fort Collins, Colorado 80521  
tomskalert@gmail.com

STATE OF COLORADO  
THOMAS F. KALERT  
#208124  
07.10.20  
LICENSED ARCHITECT

SHEET CONTENTS  
DEMOLITION AND NEW FLOOR  
AND CEILING PLANS AND  
DETAILS

**POUDRE SCHOOL DISTRICT**  
WAREHOUSE 5 RENOVATION  
FORT COLLINS, COLORADO 80524

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ISSUE FOR PERMIT

NO.	BY	DESCRIPTION	DATE

DESIGNED BY: DAM  
CHECKED BY: KCG  
DATE: 07.10.20

SHEET NO: A.1.0

REVISIONS



# HVAC & PLUMBING SYMBOL SCHEDULE

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
⊕	REFER TO PLAN NOTES	111	ROOM CALLOUT
(E)	EXISTING EQUIPMENT OR MATERIAL DESIGNATION	△	REVISION NUMBER
---	EXISTING COMPONENT PEN WEIGHT	●	CONNECT NEW TO EXISTING. VERIFY EXACT LOCATION.
---	DEMOLITION PEN WEIGHT - COMPONENT MAY ALSO BE SHADED	○	DISCONNECT FROM EXISTING. VERIFY EXACT LOCATION.
T.C.C.	TEMPERATURE CONTROL CONTRACTOR	G.C.	GENERAL CONTRACTOR
E.C.	ELECTRICAL CONTRACTOR	M.C.	MECHANICAL CONTRACTOR
P.C.	PLUMBING CONTRACTOR	TYP.	TYPICAL ALL INSTANCES
⊠ 24x12	(UP) DUCT SEC., POSITIVE PRESSURE-FIRST SIZE IS TOP DIM.(TYP.)	⊠	BALANCING DAMPER W/ MANUAL LOCKING QUADRANT
⊠ 24x12	(DOWN) DUCT SECTION, POSITIVE PRESSURE	⊠	RECTANGULAR - OPPOSED BLADE / ROUND - BUTTERFLY
⊠ 24x12	(UP) DUCT SECTION, NEGATIVE PRESSURE	⊠	BALANCING DAMPER W/ MOTORIZED LOCKING QUADRANT
⊠ 24x12	(DOWN) DUCT SECTION, NEGATIVE PRESSURE	⊠	RECTANGULAR - OPPOSED BLADE / ROUND - BUTTERFLY
⊠ 24x12	SUPPLY DUCT DROP / RETURN DUCT DROP	18x12	DUCT SIZE, FIRST FIGURE IS SIDE SHOWN-CLEAR INSIDE DIM.
⊠ 24x12	SUPPLY DUCT RISER	⊠	DUCT CHANGE OF ELEVATION RISE(R) DROP(D)
⊠ 24x12	RETURN DUCT RISER	⊠	FLEXIBLE CONNECTION
⊠ 24x12	FLEXIBLE DUCT	⊠	SIDE WALL SUPPLY REGISTER
⊠ 24x12	TURNING VANES	RTU / AHU	ROOFTOP UNIT / AIR HANDLING UNIT
SA / OA	SUPPLY AIR / OUTSIDE AIR	VAV	VARIABLE AIR VOLUME UNIT
RA / EA	RETURN AIR / EXHAUST AIR	FTU / FCU	FAN POWERED TERMINAL UNIT / FAN COIL UNIT
OBD	OPPOSED BLADE DAMPER	MAU	MAKE-UP AIR UNIT
BOD	BOTTOM OF DUCT ELEVATION ABOVE FLOOR	SF	SUPPLY AIR FAN
BOS	BOTTOM OF STEEL	EF / RG	EXHAUST FAN / RETURN GRILLE
TOD	TOP OF DUCT ELEVATION ABOVE FLOOR	SR	SUPPLY REGISTER
DH	DUCT HEATER	F	FURNACE
DP	DIFFERENTIAL PRESSURE	UH	UNIT HEATER
CVR	CONSTANT VOLUME REHEAT UNIT	CRAC	COMPUTER ROOM AIR CONDITIONING UNIT
V V R	VARIABLE VOLUME REHEAT UNIT	H	HUMIDIFIER
V V T	VARIABLE VOLUME VARIABLE TEMPERATURE	VFD	VARIABLE FREQUENCY DRIVE
UV	ULTRAVIOLET STERILE CONDITIONER	FD	FIRE DAMPER IN FLOOR (VERTICAL POSITION)
⊠	RADIATION DAMPER	FD	FIRE DAMPER IN WALL (HORIZONTAL POSITION)
M	MOTOR	SD	SMOKE DAMPER
T	TEMPERATURE SENSOR	FSD	COMBINATION FIRE/SMOKE DAMPER (VERTICAL POSITION)
H	HUMIDITY SENSOR	FSD	COMBINATION FIRE/SMOKE DAMPER (HORIZONTAL POSITION)
⊠	ELECTRIC OR DDC HUMIDISTAT (HSTAT)	⊠	ELECTRIC OR DDC THERMOSTAT (TSTAT)
⊠	PNEUMATIC HUMIDISTAT	⊠	PNEUMATIC THERMOSTAT

NOT ALL MAY BE USED ON PROJECT

# GENERAL NOTES

- VERIFY JOB SITE CONDITIONS AND DIMENSIONS BEFORE BEGINNING WORK. PLANS ARE SCHEMATIC IN NATURE. LAYOUT IS BASED ON BEST AVAILABLE INFORMATION. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND DIMENSIONS.
- NO DUCTWORK, ETC. SHALL PENETRATE STRUCTURAL MEMBERS.
- PROVIDE MISCELLANEOUS CUTTING, PATCHING AND REPAIRING OF FINISHES, ROOF, WALLS, ETC., AS REQUIRED TO ACCOMMODATE THE NEW WORK.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY EXACT LOCATION, CONFIGURATION AND ROUTING OF EXISTING SYSTEMS REQUIRED TO REMAIN IN OPERATION DURING THE PROJECT TO PREVENT DAMAGE DURING DEMOLITION AND PHASING.
- REMOVE ALL EXISTING EQUIPMENT AND DUCTWORK THAT IS NOT REQUIRED FOR A WORKING INSTALLATION.
- COORDINATE ALL WORK WITH OTHER TRADES PRIOR TO INSTALLATION.
- UNLESS OTHERWISE INDICATED, INSTALL ALL SPACE THERMOSTATS SAME HEIGHT AS ADJACENT LIGHT SWITCHES, BUT IN NO CASE HIGHER THAN 48 INCHES ABOVE FINISHED FLOOR PER ADA REQUIREMENTS. COORDINATE EXACT HEIGHT WITH ARCHITECT PRIOR TO INSTALLATION.
- ALL CUTTING AND PATCHING SHALL BE CLOSELY COORDINATED WITH THE G.C.
- ALL DIFFUSERS ARE 4-WAY BLOW UNLESS INDICATED OTHERWISE ON THE DRAWINGS.
- FLEXIBLE DUCTWORK IS ALLOWED ON RUNOUTS TO SUPPLY DIFFUSERS ONLY. UTILIZE ONLY ABOVE LAY-IN ACCESSIBLE CEILINGS. DO NOT INSTALL FLEX DUCT ABOVE HARD CEILINGS OR WHERE EXPOSED. A MAXIMUM LENGTH OF 6'-0" MAY BE USED AT EACH CONNECTION.
- SEAL DUCTWORK AS CALLED OUT BELOW USING HARDCAST DT TAPE AND FTA-20 ADHESIVE OR HARDCAST AFG-1402 "FOIL GRIP" PER MANUFACTURERS INSTRUCTIONS. SEAL TO SMACNA SEAL CLASS A:
 

TYPE OF DUCT	APPLY TO JOINTS
EXHAUST DUCT (ROUND OR RECT)	TRANSVERSE AND LONGITUDINAL
MEDIUM VELOCITY (ROUND)	TRANSVERSE AND LONGITUDINAL
MEDIUM VELOCITY (RECTANGULAR)	TRANSVERSE AND LONGITUDINAL
LOW VELOCITY SUPPLY AND RETURN (RECT)	TRANSVERSE AND LONGITUDINAL
LOW VELOCITY SUPPLY (ROUND)	TRANSVERSE AND LONGITUDINAL
- INSTALL BALANCE DAMPER WITH STANDOFF AND LOCKING QUADRANT IN AN ACCESSIBLE LOCATION AT EACH RUNOUT TO SUPPLY DIFFUSERS, EXHAUST GRILLES, AND RETURN GRILLES WHERE AIRFLOW IS INDICATED, OR AS INDICATED OTHERWISE.
- DO NOT ROUTE DUCTWORK OVER ELECTRICAL PANELS OR EQUIPMENT. DUCTWORK SHALL NOT BE ROUTED THROUGH ELECTRICAL ROOMS, TELECOM ROOMS OR ELEVATOR EQUIPMENT ROOMS UNLESS SPECIFICALLY SERVING THAT ROOM. COORDINATE WITH E.C. PROVIDE WATERTIGHT DRIP PAN WITH DRAIN TO NEAREST APPROVED RECEPTOR WHERE REQUIRED.
- COORDINATE SIZE AND LOCATION OF ACCESS DOORS IN CONSTRUCTION REQUIRED FOR ACCESS TO MECHANICAL EQUIPMENT WITH G.C.
- ALL WORK IS TO CONFORM WITH APPLICABLE CODES AND STANDARDS.
- DUCT SIZES SHOWN ARE ACTUAL INSIDE CLEAR DIMENSIONS. INCREASE SHEET METAL DIMENSIONS AS REQUIRED TO ACCOMMODATE DUCT LINER WHERE LINER IS SPECIFIED.
- REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF ALL CEILING MOUNTED AIR DISTRIBUTION DEVICES.
- PAINT INSIDE OF DUCTWORK BLACK ANYWHERE VISIBLE THROUGH FACE OF GRILLE OR DIFFUSER.
- TEMPERATURE CONTROLS CONTRACTOR (T.C.C.) SHALL FURNISH AND INSTALL ALL LOW VOLTAGE WIRING AND ASSOCIATED CONDUIT REQUIRED FOR MECHANICAL CONTROL SYSTEM. WIRING SHALL BE IN CONDUIT INSIDE WALLS, IN ROOMS WITH EXPOSED CEILINGS, AND ABOVE HARD CEILINGS. LINE VOLTAGE WIRING AND ASSOCIATED CONDUIT SHALL BE PROVIDED AND INSTALLED BY E.C. CONTROL SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH SPECIFICATIONS.
- CONTRACTOR TO INSTALL TEMPORARY FILTERS OVER ALL RETURN AND EXHAUST GRILLES IN WORK AREA DURING CONSTRUCTION.
- THESE DRAWINGS ARE ACCOMPANIED BY SHEET SPECIFICATIONS. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.

# SHEET LIST

M0.1	MECHANICAL COVER SHEET
M0.2	MECHANICAL SPECIFICATIONS
M0.3	MECHANICAL SPECIFICATIONS
M1.1	MECHANICAL FLOOR PLANS

# GENERAL DEMOLITION NOTES

- VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING WORK. BRING ANY DISCREPANCIES FROM THE DRAWINGS AND NOTES TO THE ARCHITECT IMMEDIATELY. MINOR CHANGES IN THE SCOPE OF THE DEMOLITION WORK SHALL NOT JUSTIFY AN ADDITIONAL COST.
- CONTRACTOR SHALL PROVIDE PROTECTIVE PLASTIC DROP CLOTHS TO PROTECT THE EXISTING OCCUPIED AREAS AND EQUIPMENT FROM DUST AND DEBRIS DURING THE CONSTRUCTION WORK, AND SHALL CLEAN THE AREAS OF ALL CONSTRUCTION DIRT DAILY, AND UPON COMPLETION OF THE WORK.
- COORDINATE WITH GENERAL CONTRACTOR THE REMOVAL AND REPLACEMENT OF ALL EXISTING CEILINGS, WALLS, ETC. AS REQUIRED FOR MECHANICAL DEMOLITION WORK.
- EXISTING EQUIPMENT, ETC., NOT TO BE UTILIZED IN THE COMPLETED BUILDING SHALL BE DISCONTINUED OR REMOVED AS REQUIRED. OPENINGS LEFT IN WALLS, CEILINGS, ETC., WHERE EQUIPMENT AND PIPE, ETC., ARE REMOVED AND NOT REPLACED, SHALL BE PATCHED NEATLY WITH SIMILAR MATERIAL TO ADJACENT CONSTRUCTION. REFER TO DRAWINGS DELINEATING NEW WORK FOR ADDITIONAL INFORMATION REGARDING SYSTEMS OR PORTIONS OF SYSTEMS WHERE USE IS TO BE DISCONTINUED.
- EXISTING EQUIPMENT THAT IS NOT TO BE REUSED SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE OWNER IF THEY WISH TO RETAIN OWNERSHIP OF SAME. IF NOT, EQUIPMENT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE AS SOON AS PRACTICAL AND DISPOSED OF IN ACCORDANCE WITH APPLICABLE LAWS AND REGULATIONS.
- ALL CUTTING AND CHANNELING OF EXISTING BUILDING SHALL BE ACCOMPLISHED IN A NEAT AND WORKMANLIKE MANNER WITHOUT REMOVAL OF EXCESS MATERIALS. THIS CONTRACTOR SHALL PATCH AND REPLACE WITH MATERIAL SIMILAR TO ADJACENT CONSTRUCTION.
- WHERE EXISTING PIPING AND EQUIPMENT, ETC., THAT ARE TO BE UTILIZED IN THE COMPLETED PROGRAM CONFLICT WITH NEW CONSTRUCTION AND THE REQUIRED DEMOLITION, THEY SHALL BE RELOCATED AND RECONNECTED TO MAINTAIN THE DESIRED SERVICE.
- PORTIONS OF EXISTING SYSTEMS MAY BE SHOWN FOR CLARITY EVEN THOUGH IT MAY NOT BE NECESSARY TO MODIFY OR REVISE THEM. ALL EXISTING SYSTEMS ARE SHOWN BASED ON ORIGINAL OR REMODEL BUILDING DRAWINGS. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS.
- ALL WORK MUST BE COORDINATED AND SCHEDULED WITH THE OWNER AND OCCUPANTS OF THIS BUILDING SO AS TO PROVIDE THE LEAST AMOUNT OF DISRUPTION OF BUILDING ACTIVITIES AS POSSIBLE. MAINTAIN CONDITIONED SPACE FOR ALL OWNER OCCUPIED AREAS DURING CONSTRUCTION.
- ALL ACCESSIBLE ABANDONED DUCTWORK SHALL BE REMOVED AND PROPERLY DISPOSED OF.

# DRAWING SYMBOLS

EQUIPMENT CALLOUT	SECTIONS	DETAILS

# GRILLE & REGISTER SCHEDULE

GRILLE CALLOUT IN GRILLE AND REGISTER SCHEDULE: A-12x12 600 (FD) FIRE DAMPER. GRILLE CALLOUT SYMBOL: ⊠.

DUCT CONNECTION SIZE: A-12"Ø 600 (FD) FIRE DAMPER. GRILLE CALLOUT SYMBOL: ⊠.

MARK	TYPE	PATTERN	FINISH	MANUFACTURER & MODEL	ACCESSORIES	REMARKS
A	SUPPLY DIFFUSER	4-WAY THROW	PER ARCH	PRICE SCD-A	-	24x24 UNO
B	RETURN GRILLE	PERFORATED	PER ARCH	PROCE PDR	-	24x12 UNO

# 2 DIFFUSER INSTALLATION DETAIL

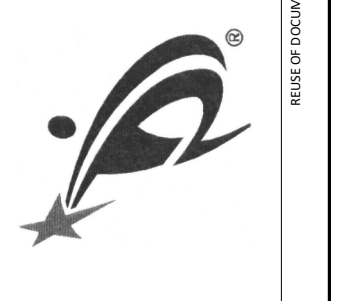


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 tomkalert@gmail.com



**SHEET CONTENTS**  
 MECHANICAL COVER SHEET

**POUDRE SCHOOL DISTRICT**  
 WAREHOUSE 5 RENOVATION  
 FORT COLLINS, COLORADO 80524



NO.	BY	DATE	DESCRIPTION	REVISIONS
1	JDB			
2	CWH	07.10.20		

ISSUE FOR PERMIT

**PEC**  
 PROFESSIONAL ENGINEERING CONSULTANTS, P.A.  
 400 LINDEN ST. SUITE 110 FORT COLLINS, CO 80524  
 970-232-8588 www.pec.com



SECTION 200500 – COMMON WORK RESULTS FOR FIRE PROTECTION, PLUMBING, AND MECHANICAL

1.1 GENERAL CONDITIONS

- A. The General Conditions, Supplemental General Conditions, Special Conditions and General Requirements are part of this contract and shall be referred to as they apply to this section of the specifications.

1.2 EXAMINATION OF SITE

- A. Visit the site, inspect the existing conditions and check the drawings and specifications so as to be fully informed of the requirements for completion of the work. Lack of such information shall not justify an extra to the contract price.

1.3 SCOPE

- A. The Mechanical Work shall include labor, materials, and equipment to install systems as shown on plans and hereinafter specified. The installation shall include all labor, materials, tools, transportation, equipment, services and facilities, required for the complete, proper and substantial installation of all mechanical work shown on the plans, and/or outlined in these specifications. The installation shall include all materials, appliances, and apparatus not specifically mentioned herein or noted on the drawings but which are necessary to make a complete working installation of all mechanical systems.
B. Show on prints in red ink all changes from original plans made during the installation. Return these prints to the Architect upon completion of the project.
C. By bidding, this contractor acknowledges his understanding of the work to be done and agrees to install complete and workable systems.

1.4 CODES

- A. Execute work in compliance with all applicable Federal, State and Municipal laws, codes, ordinances, and local customs regarding the trade to perform the work.
B. Codes shall govern in case of any direct conflict between codes and plans and specifications; except when plans and specifications require higher standards than those required by code. Variance from the plan and specifications made to comply with code must be approved by the Architect. If approved they shall be made with no increased cost to the Owner.
C. In addition, the following published Standards and Regulations shall be adhered to as applicable to the work involved:
Latest issue of the Local, State, and National Plumbing Codes
Latest issue of the ASHRAE Guide
Latest issue of the SMACNA Handbook
Applicable NFPA Pamphlets
Applicable ANSI Standards
American Society of Mechanical Engineers Boiler Code
American Society of Mechanical Engineers Unfired Pressure Vessel Code
American Standards Association Code for Mechanical Occupational Safety and Health Act
Current Editions of Uniform Building Code
Latest issue of the State Air Pollution Control Regulations
Rules of the State Boiler Inspection Department
Americans with Disabilities Act

1.5 DEFINITIONS

- A. It shall be understood that the drawings and specifications complement one another and items specified shall also meet the criteria set forth on the drawings.
B. Where any device or item is referred to in the singular sense (such as "the unit"), such reference applies to as many devices as are required to complete the installation as shown on the drawings.
C. The term "work" shall mean all obligations imposed upon the Contractor by the Contract Documents.

1.6 ABBREVIATIONS

- ADA - Americans with Disabilities Act
AGA - American Gas Association
AISI - American Iron and Steel Institute
AMCA - Air Moving and Conditioning Association, Inc.
ANSI - American National Standards Institute
ASHRAE - American Society of Heating, Refrigeration & Air-Conditioning Engineers, Inc.
ASME - American Society of Mechanical Engineers
ASTM - American Society for Testing and Materials
AWWA - American Water Works Association
BPVC - Boiler and Pressure Vessel Code of ASME
CISPI - Cast Iron Soil Pipe Institute
NFPA - National Fire Protection Association
SMACNA - Sheet Metal and Air-Conditioning Contractors National Association, Inc.
UL - Underwriters' Laboratories, Inc.
ETL - ETL Testing Laboratories, Inc.
OSHA - Occupational Safety and Health Administration

1.7 PERMITS

- A. Obtain and pay for all licenses and permits, fees, inspection and certificates required for the execution of this work.
B. Pay fees and charges for connection to outside services and use of property.
C. Deliver permits and certificates to the Architect for transmittal to the Owner.

1.8 RESPONSIBILITY

- A. This contractor will be held responsible for any and all damage to any part of the building or to the work of other contractors, as may be caused through his operation.
B. The operation and maintenance of the New Mechanical Equipment during construction shall be the responsibility of this contractor until the acceptance of the building by the Owner.
C. The General Contractor shall pay for all fuel cost for operation of the equipment, unless indicated otherwise in the specifications.
D. This Contractor shall make all provisions for entry of equipment, installed under this Contract, to the installed location. This Contractor shall provide openings in existing construction if necessary. This Contractor shall do all repair necessary to restore the building to the original condition. During the period of entry of equipment and removal of trash, no disruption of the Owner's normal business shall occur.

1.9 WORK TO BE DONE BY GENERAL CONTRACTOR

- A. Build in all openings, sleeves, chases, etc., for piping, as established, furnished and set by this contractor.
B. Mechanical Contractor shall furnish bolts, brackets, hangers, etc., required for work established and arrange for General Contractor to build into concrete structure. General Contractor shall install all factory sleeved fire dampers, furnished by Mechanical Contractor, in walls and floors.
C. Paint all mechanical equipment so specified. Use paint which is specified by the Architect.

1.10 WORK TO BE DONE BY ELECTRICAL CONTRACTOR

- A. The Electrical Contractor shall provide all motor starters complete with auxiliary contacts where required for the function of this system unless specifically noted otherwise on the plans or in these specifications.
B. All required line voltage wiring for the mechanical control system shall be furnished and installed by the Electrical Contractor under supervision of the Control Manufacturer's representative.
C. Check mechanical specifications to verify wiring requirements for motor driven equipment. Provide complete wiring for the equipment including all required interlocking. Provide complete wiring for power factor correction capacitors.
D. The Electrical Contractor shall install the power factor correction capacitors furnished by the Mechanical Contractor for equipment so specified.

1.11 ELECTRICAL REQUIREMENTS BY MECHANICAL CONTRACTOR

- A. Mechanical Contractor shall furnish all motors, motor interlocking control devices, certain magnetic starters, etc.
B. Submittals shall include complete equipment wiring diagrams and temperature control drawings for all the equipment furnished.
C. Submittals shall show all wiring connections, starters, auxiliary contactors, interlocking selector switches, separate control voltage power supplies, for each and every item of equipment, etc., requiring wiring.
D. Provide one copy of Engineer approved shop drawings showing all wiring and temperature control requirements of all mechanical equipment to the Electrical Contractor.

1.12 WORKMANSHIP AND COORDINATION

- A. Make installation substantially as shown on the plans.
B. Pipe and duct routing and equipment location shown on the drawings are schematic in nature. Make alterations in location of apparatus or piping as may be required to conform to building construction without extra charge.
C. Equipment service clearances, per equipment manufacturers' specifications, shall be maintained from general construction. No pipe or ductwork shall be installed within these clearances. No piping, coils, or ductwork shall be installed above electrical panels, starters or switch gear, or in elevator equipment rooms.
D. Cooperate with other contractors in their installation of work.
E. The ductwork shall take precedence over all pipe work except where it is necessary to maintain an even grade or specific slope on the piping.
F. Use only experienced mechanics.

1.13 MATERIALS

- A. Material and equipment shall be new, of best quality and design and free from defects. A manufacturer's nameplate affixed in a conspicuous place will be required on each major component of equipment stating manufacturer's name, address and catalog number.

1.14 MATERIALS OF APPROVED EQUAL

- A. Where items of equipment and/or materials are specifically identified herein by a manufacturer's name, model or catalog number, only such specific items may be used in the base bid, except as hereinafter provided.
B. Unless requests for changes in base bid specifications are received and approved and noted by addendum prior to the opening of bids, the successful contractor will be held to furnish specified item.
C. After contract is awarded, changes in specifications shall be made only as defined under "Substitution of Equipment".

1.15 SUBSTITUTION OF EQUIPMENT

- A. After execution of the contract, substitution of equipment of makes other than those specifically named in the contract documents will be approved by the Engineer only if the equipment named in the specifications cannot be delivered to the job in time to complete the work in proper sequence to work of other contractors, due to conditions beyond control of the contractor.
B. Requests for substitutions must be accompanied by documentary proof of equality or difference in price and delivery, if any, in form of certified quotations from suppliers of both specified and proposed equipment.
C. The Owner shall receive all benefits of the difference in cost involved in any substitution, and the contract altered by change order to credit Owner with any savings so obtained.
1.16 SUBMITTALS
A. Contractor shall send to the Architect for approval submittals on all equipment, accessories, and components.
B. Where catalog cuts are used, mark them to indicate equipment, capacities, controls, fittings, valves, sizes, etc.
C. Reference each item to applicable specification paragraph number and plan sheet number. Reference items not appearing in base specification to applicable alternate numbers, change order numbers, letters of authorization, etc.
D. All shop drawings shall be checked and signed by the mechanical contractor prior to submittal to the Engineer.
E. Shop drawings submitted without contractor's signature or approval and verification will not be approved. Quantities will not be checked or verified. It is the contractor's responsibility to provide the proper quantities required to complete the job.
F. Portions of the work requiring a shop drawing submittal shall not begin until the shop drawing has been approved by the Engineer.
G. Submit wiring diagrams for all mechanical equipment requiring field wiring clearly showing all required connections.
H. Engineer's acceptance of Compliance Submittals will not relieve Contractor from his responsibility for any deviations from the requirements of the Contract Documents unless Contractor has in writing called Engineer's attention to such deviation at the time of submission and Engineer has given written approval to the specific deviation, nor shall any acceptance by Engineer relieve Contractor from responsibility for errors or omissions in Compliance Submittals.

1.17 CUTTING AND PATCHING

- A. Notify the General Contractor in ample time, of the location of all chases, sleeves, and any other openings required in connection with the work of this contract.
B. Cutting and patching made necessary because of failure to comply with the above shall be done by the General Contractor at the expense of the Mechanical Contractor.

1.18 MUTILATION

- A. All mutilation of finishing initiated by installation of plumbing pipes, fixtures, etc., shall be properly pointed up by the respective finishing contractor and paid for by the Mechanical Contractor.

1.19 TESTING

- A. Furnish testing equipment and test all piping systems under methods and conditions as specified.
B. Test for a period of not less than 12 hours in the presence of the Architect.
C. Make all necessary replacements and repair and repeat tests until the entire system is approved and satisfactory.
D. Test under pressure with liquid or gas as directed or specified.

1.20 PAINTING

- A. All painting shall be done by the General Contractor.
B. Painting shall be for the following items: all piping, ductwork, frame work, and all equipment not furnished with factory finish, etc., in all exposed areas of the building and/or as noted on the drawings. Omit painting of piping in tunnels and in concealed areas.

1.21 LABELING

- A. Install mechanically engraved metal or plastic label at equipment, not less than 2-1/2 inches wide by 3/4 inch tall with letters between 1/4 inch and 1/2 inch tall. Utilize labels with pre-drilled holes and stainless steel rivets or self-tapping screws, or labels with contact-type permanent adhesive.
B. Identify all service piping which is accessible for maintenance operation with semi rigid plastic markers complete with direction of flow arrows. Each marker must show approved color-coded background, proper color of legend, approved legend letter size and approved marker length. Use snap on or Type SNA markers on diameters 3/4" thru 5". Use strap-on or Type STR on diameter 6" and larger. Locate pipe markers at each valve, each branch and riser takeoff, each passage through wall or floor construction, each passage to underground and at 25 foot intervals on all horizontal pipe runs.

1.22 OPERATING INSTRUCTIONS

- A. Prepare and submit to the Engineer for approval three (3) copies of operating instructions made in conjunction with Equipment Manufacturer's representative. Instruction shall contain equipment starting sequence, interlocks, controls, switches, etc. which affect the equipment operation. Place copies in maintenance instructions brochure.

1.23 MAINTENANCE INSTRUCTIONS

- A. Prepare a brochure in triplicate covering all systems and equipment furnished and installed under this contract. Each brochure shall include certified equipment drawings and/or catalog data as submitted, complete maintenance instructions, parts lists for each item of equipment, any special emergency operating instructions, all equipment warranties with starting dates identified, and a list of service organizations including addresses and telephone numbers.
B. Brochures shall be bound in hard backed, three-ring binders with an index, sub-dividers and reinforced sheets.
C. Label cover with the following:
Project name and address
Section of work covered by brochure, i.e., "Plumbing Heating, Ventilation, Air Conditioning", etc.
Name and address of Architect, Engineer, Contractor.
Telephone number of Contractor including night and emergency numbers.
D. Brochures shall be submitted to the Engineer for approval and delivery to the Owner.

1.24 LOOSE EQUIPMENT

- A. All keys and special wrenches furnished with the equipment shall be kept in a safe place during construction and presented to the Owner at the completion of the project.

1.25 FINAL INSPECTION

- A. Final inspection will be made upon written request from the Mechanical Contractor after the project is completed.
B. Furnish a workman familiar with this project to accompany the Engineer on final inspection and have available ladders, drop cords, and other equipment as required to gain access to any portion of this system.
C. This contractor and his principal sub-contractors shall be represented at the inspection by a person of authority responsible to demonstrate to the Engineer that his work conforms to the intent of the plans and specifications.
D. Extra inspections made necessary by the Mechanical Contractor's failure to comply with the conditions as set forth above shall be charged to the contractor at the inspector's time both on the job and spent in travel between the office and the project site.

1.26 GUARANTEE

- A. Guarantee all work, material and equipment for a period of one year after date of final certificate of acceptance by the Architect.
B. During the year guarantee period the mechanical contractor shall be responsible for any defects which develop in the mechanical systems. Upon notification of a defect by the Architect, (s)he shall make immediate effort to correct it and shall notify the Architect when this work is completed.
C. Repairs and/or replacements shall be made with no cost to Owner.

SECTION 230593 - AIR TEST AND BALANCE

1.1 SCOPE

- A. The Mechanical Contractor shall procure the services of Lawrence H Finn & Associates, Jedi Balancing or another independent firm, fully certified with the National Environmental Balancing Bureau (NEEB). The firm shall test air moving equipment and air distribution and exhaust systems and to supervise the balance and adjustment of these systems. All work shall be done under direct supervision of a qualified and licensed Heating and Ventilating Engineer. The mechanical contractor shall provide workmen of the proper trade to make adjustments to the systems as determined by the Engineer. The Contractor shall provide access as required, including any necessary scaffolding, and shall cooperate with testing laboratory personnel. All instruments used in this work shall be accurately calibrated and maintained in good working order. If requested the tests shall be conducted in the presence of the Mechanical Engineer responsible for the project and/or his representative. Air balance and testing shall not begin until the system has been completed and is in full working order. The Contractor shall put all heating, ventilating, and air conditioning systems and equipment into full operation 24 hours prior to the onset of testing and balancing and shall continue the operation of same during each working day until the completion of all test and balance work. The Contractor shall award the test and balance contract upon receipt of his contract to proceed with the air conditioning installation, to allow the Air Balance and Testing Engineer to schedule his work in cooperation with other trades involved and comply with completion date. Upon completion of the air conditioning system installation, the Air Balance and Testing Engineer shall perform the following tests, supervise adjustments and system modifications, and compile the test data as required for evaluation and approval.
B. In addition to procuring the services of an air balancing engineer as hereinafter specified the mechanical contractor shall:
a. Clean (e) air filters, ductwork, coils, fans, etc. in the air system to remove all construction dust and debris.
b. Start, lubricate and balance all fans. Change and/or adjust drive pulleys on fans to give required capacity.
c. Supply and install all balancing dampers as required for final balancing as determined by the balancing engineer.
d. Furnish workmen familiar with this project and of the proper trade to assist the balancing engineer in the air and water balancing. Also make available subject to request by the balancing engineer trained servicemen of the control and equipment suppliers to assist as needed during the testing of their portion of the project.
e. Furnish plans, operating manuals, and shop drawings of all equipment installed for use by the Air and Water Balancing Agency.
f. Have all systems in full operation a minimum of 24 hours before Balancing Engineer arrives on job.

1.2 AIR SYSTEM TEST AND BALANCE PROCEDURE

- A. Procedure:
a. Pre-test airflow of (e) RTU and all diffusers shown on these plans served by the RTU.
b. Bring all fans to design RPM.
c. Bring air volume in each air handling system to the design air volume using pitot tube transverse method.
d. Test and record fan motor data.
e. Bring air diffusers and registers to design CFM.
f. Make recommendations for system modifications and adjustments required to facilitate proper system balancing as determined by preceding test.
g. Retest and readjust all system segments affected by system modifications.

1.3 DATA FILE

- A. Prepare complete data file on all equipment and devices tested indicating name plate data, design requirements and final operating conditions. Submit electronic copy to be distributed to team.
B. Provide hard copy to PSD for record.

1.4 INSTRUCTION

- A. At the completion of the balancing, review the operating and maintenance brochures as supplied by the Mechanical Contractor supplement these instructions as determined through balancing experience. Meet with owners personnel to review proper operating procedures.
B. Warranty that the system is set in accordance with values as established by the plans and specifications.

SECTION 23 30 00 – HVAC AIR DISTRIBUTION (PSD Tech Spec)

Part 1: General

- 1.01 Summary
1.02 Related Sections
1.03 Definitions
1.04 Submittals Required
1.05 Quality Assurance
A. Codes and Standards:
1. ASHRAE 62: Meet or exceed standard.
1.06 Scheduling
1.07 Delivery, Storage, and Handling
1.08 Regulatory Requirements

Part 2: Products

- 2.01 Manufacturers
2.02 Products
A. BALANCING DAMPERS\*
1. Approved manufacturers ONLY. Install upstream of each supply register or diffuser.
B. SHEET METAL WORK – LOW VELOCITY SYSTEMS
A. All ductwork located where exposed to the weather shall be of double wall insulated construction. Interior sheet shall be of same material as connecting from inside of building. Exterior sheet exposed to weather shall be zinc-coated iron or steel sheet. Insulation shall be one-inch thick, 3-pound density fibreglass. All exterior seams shall be soldered watertight. All interior joints shall be coated with Minnesota Mining's Scotchweld adhesive No. 1838 B/A or equal. All ductwork shall be constructed in accordance with requirements for Low Velocity System.

Part 3: Execution

- 3.01 Preparation
3.02 Installation
A. REGISTERS, GRILLES, AND DIFFUSERS\*
1. Adjust air pattern controllers so that drafts are not created.
2. Selection based on NC less than 30.
C. Units shall be furnished complete with birdscreen and anti-condensate coating.
3.03 Cleaning and Protection

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KALERT | Consulting Group, LLC
2429 Stonemess Drive
Fort Collins, Colorado 80521
tomkalert@gmail.com



SHEET CONTENTS
MECHANICAL SPECIFICATIONS

POUDRE SCHOOL DISTRICT
WAREHOUSE 5 RENOVATION
FORT COLLINS, COLORADO 80524

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SHEET NO.
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SECTION 23 31 13 – DUCTWORK (PSD Tech Spec)

**Part 1: General**

- 1.01 Summary
  - A. Extent of metal ductwork
- 1.02 Related Sections
- 1.03 Definitions
- 1.04 Submittals Required: Product Data, Shop Drawings, Record Drawings, Maintenance Data
- 1.05 Quality Assurance
  - A. Manufacturer's Qualifications: similar service for not less than 5 years.
  - B. Installer's Qualifications: at least 3 years of successful installation
  - C. References to SMACNA, ASHRAE and NFPA are minimum requirements.
  - D. Codes and Standards:
- 1.06 Scheduling
- 1.07 Delivery, Storage, and Handling
  - A. Protection Prevent end damage and prevent dirt and moisture from entering ducts and fittings.
  - B. Cleaning: Clean shop and factory-fabricated ductwork and accessories at the time of fabrication, and protect from dirt and debris with shrink-wrap or equivalent pallet wrap.
  - C. Storage: store ductwork inside and protect from weather.
  - D. Temporary Closure: At ends of ducts polyethylene film or other covering

**Part 2: Products**

- 2.01 Manufactures
- 2.02 Products
  - A. DUCTWORK MATERIALS
    - 1. Exposed Ductwork Materials: Free from visual imperfections including pitting, seam marks, roller marks, stains, dents, discolorations, and other imperfections, including those which would impair painting.
  - B. DUCTWORK
    - 1. External Wrap (Thermal):
      - i. Do not install insulation over access panels.
    - 2. Internal Liner (Sound) (Rectangular Ducts):
  - C. FACTORY-FABRICATED MEDIUM PRESSURE DUCTWORK
    - 1. General: Provide factory-fabricated duct and fittings. All fittings shall be low loss conical type.
    - 2. Round Ductwork: Construct of galvanized sheet steel complying with ASTM A 527 by the following methods and in minimum gages listed.
      - a. Provide locked seams for spiral duct; fusion-welded butt seam for longitudinal seam duct. Provide internal stiffener rings and external reinforcement as required to meet operating static pressures.
      - b. Fittings and Couplings: Construct of minimum gages listed. Provide continuous welds along seams.
    - 3. Flat-Oval Ductwork: Construct of galvanized sheet steel complying with ASTM A 527, of spiral lockseam construction, in minimum gages listed.
      - i. Fittings and Couplings: Construct of minimum gages listed. Provide continuous weld along seams.
    - 4. Internally Insulated Duct and Fittings: Construct with outer pressure shell, 1" thick insulation layer, and perforated inner liner. Construct shell and liner of galvanized sheet steel complying with ASTM A 527, of spiral lockseam construction, use longitudinal seam for over 59", in minimum gages listed
      - a. Fittings and Couplings: Construct of minimum gages listed. Provide continuous weld along seams of outer shell.

**Part 3: Execution**

- 3.01 Preparation
- 3.02 Installation
  - A. INSTALLATION OF METAL DUCTWORK
    - 1. All ductwork shall be sealed.
    - 2. Routing: vertically and horizontally and avoid diagonal runs wherever possible. Run ductwork in shortest route which does not obstruct useable space or block access for servicing building and its equipment. Hold ducts close to walls, overhead construction, columns, and other structural and permanent enclosure elements of building. Limit clearance to 1/2" where furring is shown for enclosure or concealment of ducts, but allow for insulation thickness, if any. Locate insulated ductwork for 1" clearance outside of insulation. Conceal ductwork from view, PSD IS OPEN TO EXPOSED DUCT – SITE SPECIFIC. Do not encase horizontal runs in solid partitions.
    - 3. Electrical Equipment Spaces: Do not route ductwork through transformer vaults and their electrical equipment spaces and enclosures.
    - 4. Penetrations: Where ducts pass through interior partitions and exterior walls, and are exposed to view, conceal space between construction opening and duct or duct insulation with sheet metal flanges of same gage as duct. Overlap opening on all four sides by at least 1- 1/2". Fasten to duct only.
  - A. DUCTWORK AND DUCT ACCESSORIES
    - a. General: Interior of all ducts shall be smooth and free from obstruction with joints welded or brazed and held air tight with "hard cast" mineral impregnated woven fiber tape.
    - b. Locate ducts with sufficient space around equipment to allow normal operating and maintenance activities.
    - c. Materials:
      - 1. Galvanized Steel Ducts: ASTM A653/A653M galvanized steel sheet, lock-forming quality, having G90 zinc coating in conformance with ASTM A90/A90M.
      - 2. Touch up bare steel areas with Zincilate 810-C, zinc-rich coating.
      - 3. Duct, fittings and appurtenances shall be manufactured by the Kirk & Blum Manufacturing Company or approved equal.
    - d. Ductwork:
      - 1. The following minimum metal thickness shall be applied:
        - a. Fabricate and support [to UL 181] in accordance with SMACNA [HVAC Duct Construction Standards - Metal and Flexible 2 inch pressure class, Round Industrial Duct Construction Standard and Rectangular Industrial Duct Construction Standard, and ACGIH Industrial Ventilation Manual.
        - b. T's, bends, and elbows shall be welded high-pressure type.
  - B. INSTALLATION OF FLEXIBLE DUCTS
    - 1. Maximum Length: For any duct run using flexible ductwork, do not exceed 5' - 0".
    - 2. INSTALLATION OF FIRE-RESISTIVE DUCT WRAP
- 3.03 Cleaning and Protection
  - 1. FIELD QUALITY CONTROL
    - 1. General:
      - i. Ductwork pressure tests shall be observed by Architect/Engineer prior to installation of insulation.
      - ii. Test Failures.
  - 2. EQUIPMENT CONNECTIONS
    - 1. Provide access doors where required for service, maintenance and inspection of ductwork accessories.

SECTION 23 33 00 – AIR DUCT ACCESSORIES (PSD Tech Spec)

**Part 1: General**

- 1.01 Summary
  - A. Types of ductwork accessories required for project include the following:
    - 1. Manual Volume Dampers.
    - 2. Control Dampers.
    - 3. Counterbalanced Relief Dampers.
    - 4. Turning Vanes.
    - 5. Duct Hardware.
    - 6. Duct Access Doors.
    - 7. Flexible Connections.
- 1.02 Related Sections
- 1.03 Definitions
- 1.04 Submittals Required: Product Data, Shop Drawings, Record Drawings, Maintenance Data
- 1.05 Quality Assurance
  - A. Manufacturer's Qualifications: not less than 5 years.
- 1.06 Scheduling
- 1.07 Delivery, Storage, and Handling
- 1.08 Regulatory Requirements

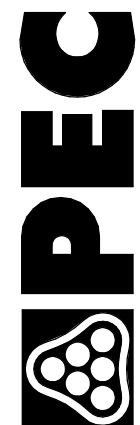
**Part 2: Products**

- 2.01 Manufactures
  - A. Manufacturer: Subject to compliance with requirements, provide products by one of the following:
    - 1. Combination Fire/Smoke Dampers:
      - i. Air Balance, Inc.
      - ii. Phillips Industries, Inc. Conaire Division
      - iii. Ruskin
      - iv. Greenheck
      - v. Prefco
      - vi. Nailor Industries
      - vii. Pottorff
      - viii. Approved equal.
- 2.02 Products
  - 1. TURNING VANES
    - a. Fabricated Turning Vanes: Provide fabricated 22 gauge, single blade or 24 gauge double bladed 4-1/2" radius, 3-1/4" spacing turning vanes and type 2, 4-1/2" wide runners, constructed in accordance with SMACNA "HVAC Duct Construction Standards" Fig 2.3.
    - b. Manufactured Turning Vanes: Provide airfoil double bladed turning vanes constructed of 1- 1/2" wide curved blades set at 3/4" o.c., supported with bars perpendicular to blades set at 2" o.c., and set into side strips suitable for mounting in ductwork.
    - c. Do not use trailing edge turning vanes.
  - 1. DUCT HARDWARE:
    - 1. General: Provide duct hardware, manufactured by one manufacturer for all items on project, for the following:
    - 2. Test Holes: Provide in ductwork at fan inlet and outlet, and elsewhere as indicated, duct test holes, consisting of slot and cover, for instrument tests.
    - 3. Quadrant Locks: Provide for each manual volume damper, quadrant lock device on one end of shaft; and end bearing plate on other end for damper lengths over 12". Provide extended quadrant locks and end extended bearing plates for externally insulated ductwork.
  - 2. DUCT ACCESS DOORS
    - 1. General: Provide access doors, at all fire dampers, smoke dampers, temperature control dampers, branch balancing dampers, duct heating coils, upstream of all turning vanes, outside air plenums, inlet of fans, upstream of all duct smoke detectors and all other equipment requiring service and/or access.
    - 2. Construction: Construct of same or greater gage as ductwork served, provide insulated doors for insulated ductwork. Provide flush frames for uninsulated ductwork, extended frames for externally insulated duct. All access doors shall have gasket and will be air tight. Provide one side hinged, other side with one handle-type latch for doors 12" high and smaller, 2 handle- type latches for larger doors. For spiral ductwork, use United McGill combination access section type ARF-SD for non-insulated duct systems and type ARF-ID double wall insulated door for insulated ducted systems (all supply ductwork).
    - 3. Hand entry access door openings: 24" x 24" minimum if the duct permits. Personnel entry doors: 18" x 42" minimum.
  - 3. ACCESS PANELS\*
    - 1. Permit inspection and maintenance of all automatic dampers, fire dampers, control equipment, coils, and other equipment requiring maintenance. Panels shall not be located in top side of ducts. Ceiling panels to be compatible with type ceiling used.
    - 2. Panels shall be attached to duct with zinc-plated cam latches. 18" x 18" and smaller panels shall have a minimum of two latches. Larger panels shall have a minimum of 4 latches. Panels shall set in rigid frame with sponge rubber gasketing to prevent air leakage. Panels may be of single wall uninsulated construction.
      - a. Where duct size permits, access panels shall be minimum 18" x 16" or 2" smaller than duct size, whichever is smaller.
  - 4. FLEXIBLE CONNECTIONS
    - 1. General: Provide flexible duct connections wherever ductwork connects to vibration isolated equipment. Construct flexible connections of neoprene-coated flameproof fabric crimped into duct flanges for attachment to duct and equipment. Make airtight joint. Provide adequate joint flexibility to allow for thermal, axial, transverse, and torsional movement, and also capable of absorbing vibrations of connected equipment. Shelf life shall be verified to not exceed six (6) months. Any sign of cracking on interior or exterior shall be cause for replacement immediately.
    - 2. Flexible Piping shall be used to connect exhaust drop pipes to machines.
      - a. Flexible pipe shall be kept to a length not to exceed 36 inches.
      - b. Automation Industries, Inc., Flexible Tubing Division, "Spiratube TDS", nylon cover, with vinyl scuff straps, galvanized spring steel helix, nylon liner; with operating range of -10 degrees to 200 degrees F; High-Tech type RFH or approved equal.
      - c. Use stainless steel clamps and other accessories as required for a complete installation.

**Part 3: Execution**

- 3.01 Preparation
- 3.02 Installation
  - A. INSTALLATION OF DUCTWORK ACCESSORIES
    - 1. Install access doors to open against system air pressure, with latches operable from either side, except outside only where duct is too small for person to enter.
    - 2. Provide fire/smoke dampers, where ducts and outlets pass through rated components, and where required by authorities having jurisdiction.
    - 3. Where fire/ smoke dampers are installed in rated construction, provide firestopping between fire smoke damper sleeve and substrate.
  - B. FIELD QUALITY CONTROL
    - 1. Test every fire/smoke damper for proper operation, letter REQUIRED certifying this work is complete and all dampers are functioning properly.
- 3.03 Cleaning and Protection
  - A. ADJUSTING AND CLEANING
    - 1. Label access doors in per label and identification requirements.
    - 2. Final positioning of manual dampers.
  - B. EXTRA STOCK
    - 1. One EXTRA FUSIBLE link for every 10 installed of each temperature range; obtain receipt.

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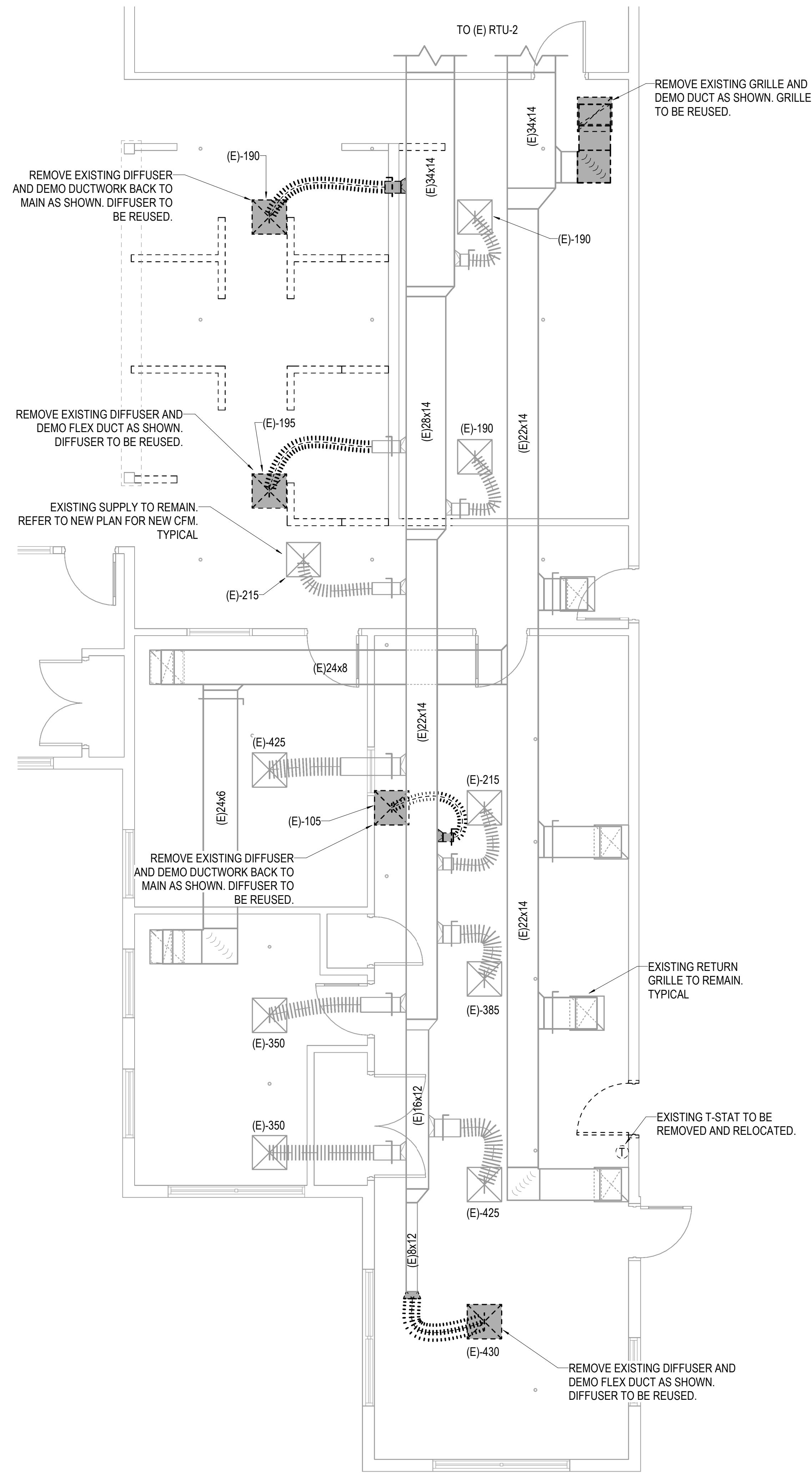


SHEET CONTENTS  
 MECHANICAL SPECIFICATIONS

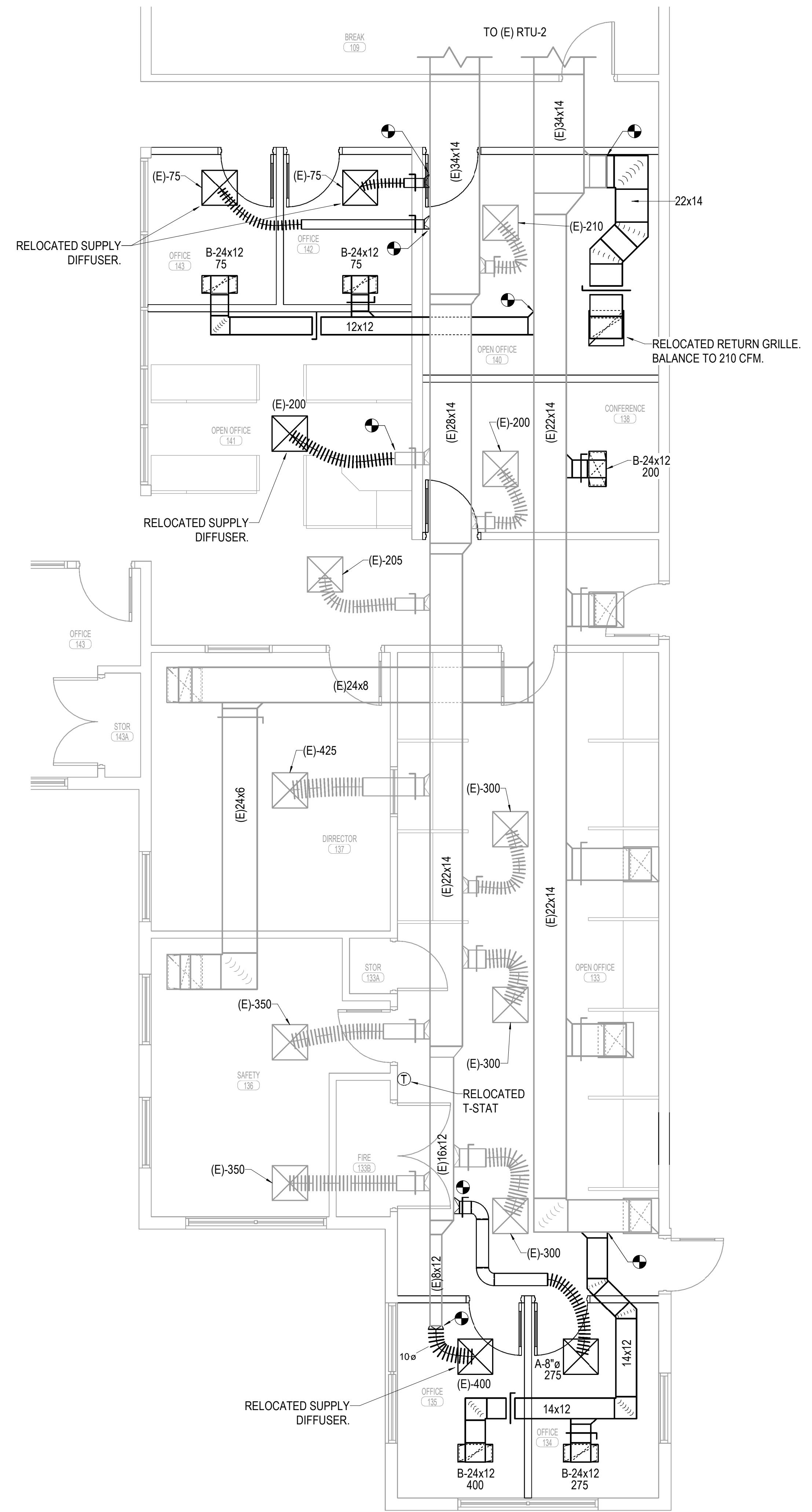
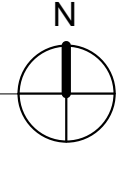
**POUDRE SCHOOL DISTRICT**  
 WAREHOUSE 5 RENOVATION  
 FORT COLLINS, COLORADO 80524

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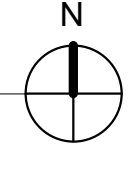




**2 MECHANICAL DEMO PLAN**  
 0' 4' 8' 12' 1/4" = 1'-0"



**1 NEW MECHANICAL PLAN**  
 0' 4' 8' 12' 1/4" = 1'-0"

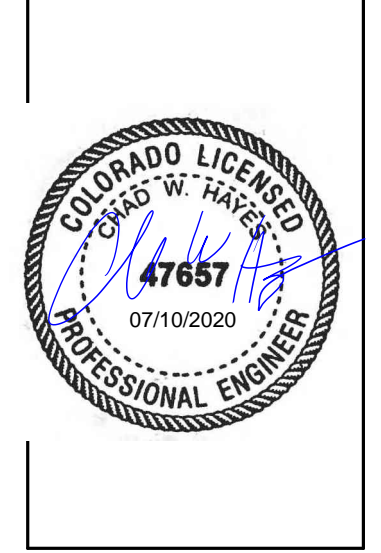


**MECHANICAL GENERAL NOTES**

1. DUCT SIZES SHOWN ARE ACTUAL INSIDE CLEAR DIMENSIONS. INCREASE SHEET METAL DIMENSIONS AS REQUIRED TO ACCOMMODATE DUCT LINER WHERE LINER IS SPECIFIED.
2. FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING WORK. BRING ANY DISCREPANCIES FROM THE DRAWINGS AND NOTES TO THE OWNER'S REPRESENTATIVE IMMEDIATELY. MINOR CHANGES IN THE SCOPE OF THE DEMOLITION WORK SHALL NOT JUSTIFY AN ADDITIONAL COST.
3. CONTRACTOR SHALL PROVIDE PROTECTIVE PLASTIC DROP CLOTHS TO PROTECT THE EXISTING OCCUPIED AREAS AND EQUIPMENT FROM DUST AND DEBRIS DURING THE CONSTRUCTION WORK AND SHALL CLEAN THE AREAS OF ALL CONSTRUCTION DIRT DAILY, AND UPON COMPLETION OF THE WORK.
4. THIS CONTRACTOR SHALL GIVE FULL COOPERATION TO THE OWNER IN THE SCHEDULING AND PROCEDURE OF WORK AND SHALL TAKE EVERY PRECAUTION TO PREVENT DAMAGE FROM FREEZING TO EXISTING SYSTEMS.
5. RELOCATE EXISTING DUCTWORK, PIPING, ELECTRICAL CONDUITS, AND CABLING AS NECESSARY TO ACCOMPLISH FINAL INSTALLATION AS SHOWN.
6. CAP ALL EXISTING DUCTWORK SHOWN TO BE DISCONNECTED AND NOT RE-USED AT MAINS. ALL ACCESSIBLE ABANDONED DUCTWORK SHALL BE REMOVED.
7. ANY EXPENSES ARISING FROM LACK OF COORDINATION SHALL BE AT CONTRACTOR'S EXPENSE. ALL DUCT AND PIPE ELEVATIONS SHOWN IN PARENTHESES ARE BOTTOM OF DUCT OR PIPE UNLESS INDICATED OTHERWISE ON PLANS.
8. ALL SUPPLY, RETURN, AND EXHAUST BRANCHES TO GRILLES, REGISTERS, AND DIFFUSERS SHALL HAVE A MANUAL BALANCE DAMPER.

**DESIGN NOTE:**  
 THERE IS NO CFM BEING ADDED TO THE SYSTEM. THE EXISTING CFM IS BEING REDISTRIBUTED TO THE NEW LAYOUT. CONTRACTOR SHALL PRETAB SYSTEM TO ENSURE IT IS PROVIDING THE CFM AMOUNT SHOWN ON THE EXISTING DRAWINGS, 3,665 CFM.

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**SHEET CONTENTS**  
 MECHANICAL FLOOR PLANS

**POUDRE SCHOOL DISTRICT**  
 WAREHOUSE 5 RENOVATION  
 FORT COLLINS, COLORADO 80524

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# GENERAL NOTES

- ALL ELECTRICAL WORK SHALL COMPLY WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NEC) & THE AMERICANS WITH DISABILITIES ACT (ADA).
- REFER TO RELATED ARCHITECTURAL, MECHANICAL, STRUCTURAL, AND CIVIL DRAWINGS FOR RELATED INFORMATION.
- REFER TO THE SPECIFICATIONS FOR DATA NOT ON THE DRAWINGS.
- E.C. SHALL REFER TO MECHANICAL DRAWINGS AND SPECIFICATIONS FOR THE REQUIREMENTS ASSOCIATED WITH WIRING AND CONNECTION OF INTERLOCKING AND CONTROLS OF MECHANICAL UNITS AND THERMOSTAT LOCATIONS.
- COORDINATE OUTLET BOX LOCATIONS WITH MASONRY TO MINIMIZE CUTTING OF BRICK OR BLOCK.
- ALL MOUNTING HEIGHTS TO CENTERLINE OF ITEM UNLESS OTHERWISE NOTED. VERIFY ALL OUTLET LOCATIONS ON THE JOB PRIOR TO ROUGH-IN.
- CONDUIT RUN W/CONDUCTORS AS INDICATED & GROUND WIRE SIZED PER N.E.C. 250.122. CONDUIT SIZE AS REQUIRED.
- WHEN INCREASED CONDUCTOR SIZES ARE SHOWN ON THE PLANS, THE LARGER CONDUCTOR SIZE SHALL BE USED THROUGHOUT THE LENGTH OF THE CIRCUIT, INCLUDING NEUTRAL AND GROUND.
- "CT" INDICATED ADJACENT TO DEVICE INDICATES DEVICE MOUNTED ABOVE BACKSPASH OF COUNTER TOP. VERIFY EXACT HEIGHT WITH ARCHITECTURAL PLANS AND ELEVATIONS.
- BRANCH CIRCUITS ARE INDICATED AS ONE CIRCUIT HOME RUNS WITH INDIVIDUAL NEUTRALS. A MAXIMUM OF THREE CIRCUITS (MAXIMUM OF THREE PHASE CONDUCTORS) MAY BE GROUPED IN A SINGLE CONDUIT. WHERE MULTIPLE CIRCUITS ARE LOCATED IN THE SAME RACEWAY, JUNCTION BOX OR ENCLOSURE, NEUTRALS SHALL BE MARKED OR LABELED TO INDICATE WHICH CIRCUIT THEY ARE ASSOCIATED WITH. SEE SPECIFICATION SECTION "LOW VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES" FOR ADDITIONAL INFORMATION.
- JUNCTION BOX OR RECEPTACLE FOR DRINKING FOUNTAINS SHALL BE LOCATED BEHIND THE EQUIPMENT SKIRT UNLESS OTHERWISE NOTED. COORDINATE CONNECTION TYPE AND LOCATION WITH EQUIPMENT PROVIDED.
- LABEL THE FRONT OF EACH RECEPTACLE COVERPLATE WITH PANEL DESIGNATION AND CIRCUIT NUMBER USING CLEAR THERMAL TRANSFER (ELECTRONIC DYMO) LABELS WITH 1/8" HIGH BLACK LETTERS (OR CONTRASTING COLOR IF COVERPLATES ARE BLACK OR BROWN). LABELS SHALL BE SUITABLE FOR INDOOR/OUTDOOR USE. LABEL THE BACK OF EACH LIGHT SWITCH COVERPLATE WITH PANEL DESIGNATION AND CIRCUIT NUMBER USING A FINE BLACK PERMANENT MARKER.
- PROVIDE 18" LONG (MIN.) CONDUIT SLEEVES THRU ALL WALLS WHERE CABLES ARE INDICATED OR REQUIRED TO PASS THRU WALLS. PROVIDE BUSHINGS ON BOTH ENDS. SIZE CONDUIT FOR CABLES INSTALLED. AT CABLE TRAYS, PROVIDE ONE 4" CONDUIT SLEEVE FOR EACH 4" WIDTH OF CABLE TRAY. MAXIMUMS SHALL BE:
  - 1". = 10 CABLES
  - 2 1/2". = 20 CABLES
  - 3". = 30 CABLES
  - 4". = 50 CABLES
- LOCATE CABLE TRAYS 6" ABOVE CEILING. OFFSET TRAY UP AND OVER LIGHT FIXTURES AND DUCTWORK (FIELD VERIFY AND PROVIDE AS REQUIRED). IF PHYSICALLY IMPOSSIBLE TO RUN CABLE TRAY UP AND OVER, THEN PROVIDE CABLE SUPPORT HOOKS FROM STRUCTURE ABOVE. SIZED AND RATED FOR INSTALLED CABLES PLUS 25% SPARE.
- PROVIDE DIMMER PER THE SPECIFICATIONS. COORDINATE DIMMER TYPE AND WIRING WITH ASSOCIATED LIGHT FIXTURE DIMMING REQUIREMENTS (I.E. 3-WIRE, 0-10V, ELECTRONIC OR MAGNETIC LOW VOLTAGE, ETC.) OR WITH LIGHTING CONTROL SYSTEM PROPRIETARY REQUIREMENTS (I.E. LUTRON, nLIGHT, DALI, ETC.) AS NECESSARY. 3-WIRE DIMMERS SHALL BE PROVIDED WITH A DEDICATED NEUTRAL FOR EACH CONTROL ZONE. 0-10V DIMMERS SHALL BE PROVIDED WITH DIM/OFF/ON CONTROL. COORDINATE PHASE CONTROL OF LED DRIVERS (I.E. REVERSE PHASE, FORWARD PHASE, ETC.) WITH LIGHT FIXTURE MANUFACTURER'S RECOMMENDATIONS. LOW VOLTAGE CONTROL WIRING IS NOT SHOWN ON PLANS FOR CLARITY, BUT SHALL BE PROVIDED AS REQUIRED.

## COMMUNICATION / DATA

- EACH DATA, TELEPHONE, VIDEO, OR OTHER SYSTEMS OUTLET REQUIRES 1" C. WITH PULL ROPE STUBBED 6" ABOVE NEAREST ACCESSIBLE CEILING UNLESS OTHERWISE NOTED ON PLANS. CONDUITS STUBBED UP ABOVE CEILINGS SHALL BE TURNED OUT 90 DEGREES. PROVIDE INSULATED BUSHINGS ON ALL CONDUITS. LABEL CONDUIT TO IDENTIFY ITS INTENDED USE (I.E. TELEPHONE, DATA, ETC.).

## FIRE ALARM

- THE FIRE ALARM SYSTEM SHOWN HAS BEEN DESIGNED PER THE REQUIREMENTS OF NFPA 72, 2019 EDITION. DEVICES SHOWN INDICATE DESIGN INTENT AND SHALL BE THE MINIMUM PROVIDED. SYSTEM SUPPLIER SHALL PROVIDE ANY ADDITIONAL CODE REQUIRED DEVICES OR DEVICES REQUIRED BY THE AUTHORITY HAVING JURISDICTION.
- FIELD VERIFY LOCATIONS OF AREA SMOKE DETECTORS AND HEAT DETECTORS. DO NOT LOCATE WITHIN 36" OF A HVAC DIFFUSER (SUPPLY OR RETURN), IN A DIRECT AIR FLOW, WITHIN 36" OF A SPRINKLER HEAD, OR WITHIN 36" OF THE TIP OF A CEILING FAN BLADE. SMOKE DETECTORS FOR DOOR RELEASE SHALL BE LOCATED ON THE CENTER LINE OF THE DOOR AND A MAXIMUM OF 5 FEET FROM THE DOOR. THE MINIMUM DISTANCE FROM THE DOOR IS THE DEPTH OF THE WALL SECTION ABOVE THE DOOR, BUT NOT LESS THAN 12".
- FAN SHUTDOWN RELAY WIRING SHALL BE LOCATED WITHIN 3 FEET OF THE FAN CONTROLS AND THE WIRING TO THE RELAY SHALL BE MONITORED.
- LABEL REMOTE ALARM INDICATOR FOR DUCT MOUNTED SMOKE DETECTORS (I.E. RTU-1 SUPPLY, RTU-2 RETURN, FIRE/SMOKE DAMPER, ETC.). DUCT DETECTORS SHOULD BE LOCATED IN THE AREA BETWEEN 6 AND 10 DUCT EQUIVALENT DIAMETERS OF STRAIGHT, UNINTERRUPTED DUCTWORK. DUCT DETECTORS FOR FIRE/SMOKE DAMPERS SHOULD BE LOCATED BETWEEN THE LAST INLET OR OUTLET UPSTREAM OF THE DAMPER AND THE FIRST INLET OR OUTLET DOWNSTREAM OF THE DAMPER.
- PROVIDE 120V POWER AND FUSTAT FOR EACH FIRE/SMOKE DAMPER. INTERLOCK WITH FIRE ALARM CONTROL PANEL TO CLOSE THE FIRE/SMOKE DAMPER UPON ANY ALARM AT THE FIRE ALARM CONTROL PANEL AND TO SHUTDOWN THE ASSOCIATED MECHANICAL UNIT.

ELECTRICAL SHEET INDEX	
SHEET NO.	SHEET TITLE
E0.1	ELECTRICAL GENERAL NOTES AND SYMBOLS
E0.2	ELECTRICAL SPECIFICATIONS
E1.0	ELECTRICAL DEMOLITION PLAN
E1.1	ELECTRICAL PLANS
E5.0	ELECTRICAL DETAILS AND SCHEDULES

# SYMBOL LIST

SYMBOL	DESCRIPTION	MOUNTING	SYMBOL	DESCRIPTION	MOUNTING
<b>LIGHTING, SWITCHES AND SENSORS</b>					
	LIGHT FIXTURE & FIXTURE LETTER	CEILING		SWITCHES (1-POLE, 2-POLE, 3-WAY, 4-WAY)	46" AFF
	STRIP LIGHT FIXTURE & FIXT LETTER	CEILING		SWITCHES (KEYED, PILOT, TIMER)	46" AFF
	LIGHT FIXTURE & FIXTURE LETTER	CEILING		INDICATES SWITCHING SCHEME	46" AFF
	LIGHT FIXTURE & FIXTURE LETTER	WALL		LOW VOLTAGE SWITCH	46" AFF
	EXIT SIGN (SHADING DENOTES EXIT FACE SIDE)	CEIL/WALL		ON/OFF SWITCH	46" AFF
	LIGHT FIXTURE & FIXTURE LETTER	WALL		ON/OFF/0-10V DIMMING SWITCH	46" AFF
	FIXTURE WITH SHADED LAMP(S) ON EMERGENCY POWER	CEILING		DUAL TECH ON/OFF SENSOR	46" AFF
	EMERGENCY BATTERY LIGHT FIXT	CEIL/WALL		DUAL TECH ON/OFF/0-10V DIM SW	46" AFF
	COMB EXIT SIGN/EM BATTERY LIGHT	WALL		16-SCENE WALL CONTROLLER	46" AFF
	LIGHT FIXTURE & FIXTURE LETTER	POLE		PIR SENSOR	CLG/WALL
	1 RELAY PIR SENSOR	46" AFF		ULTRASONIC SENSOR	CLG/WALL
	2 RELAY PIR SENSOR	46" AFF		DUAL TECHNOLOGY SENSOR	CLG/WALL
	1 RELAY DUAL TECH SENSOR	46" AFF		SWITCHING POWER PACK	CLG/WALL
	2 RELAY DUAL TECH SENSOR	46" AFF		UL924 SWITCHING POWER PACK	CLG/WALL
	DIMMER (SEE GENERAL NOTE 15)	46" AFF		DIMMING POWER PACK	CLG/WALL
	PHOTOCELL	46" AFF		UL924 DIMMING POWER PACK	CLG/WALL
	PHOTOCELL	46" AFF		AV SYSTEM/LIGHTING INTERFACE	CLG/WALL
<b>COMMUNICATION / DATA</b>					
	1-DATA OUTLET & JACK (GEN NOTE T1)	18" AFF		2-DATA OUTLETS & JACKS (GEN NOTE T1)	18" AFF
	1-VOICE OUTLET & JACK (GEN NOTE T1)	18" AFF		3-DATA OUTLETS & JACKS (GEN NOTE T1)	18" AFF
	1-VOICE/1-DATA OUTLET & JACKS (GEN NOTE T1)	18" AFF		4-DATA OUTLETS & JACKS (GEN NOTE T1)	18" AFF
	1-VOICE/2-DATA OUTLETS & JACKS (GEN NOTE T1)	18" AFF		2-VOICE/2-DATA OUTLETS & JACKS (GEN NOTE T1)	18" AFF
	CABLE TV OR VIDEO OUTLET & CONNECTOR (GEN NOTE T1)	18" AFF		1-VOICE/3-DATA OUTLETS & JACKS (GEN NOTE T1)	18" AFF
<b>FIRE ALARM</b>					
	FIRE ALARM CONTROL PANEL	WALL		FIRE ALARM REMOTE ANNUNCIATOR	WALL
	FIRE ALARM MANUAL STATION	46" AFF		FIRE ALARM SPEAKER	WALL
	FIRE ALARM HORN	BOTTOM 80"		COMB FA SPEAKER & VISUAL SIGNAL	BOTTOM 80"
	FIRE ALARM VISUAL SIGNAL	BOTTOM 80"		COMB FA HORN & VISUAL SIGNAL	CEILING
	COMB. F.A. HORN & VISUAL SIGNAL	BOTTOM 80"		FIRE ALARM VISUAL SIGNAL	CEILING
	CHIME	WALL		FIRE ALARM CONTROL MODULE	
	FIRE SPRINKLER ALARM BELL	WALL		FIRE ALARM MONITOR MODULE	
	F.A. RELAY (GEN NOTE F3)			FIRE SPRINKLER PRESSURE SWITCH	
	IONIZATION AREA SMOKE DETECTOR (GEN NOTE F2)			FIRE ALARM SPEAKER	CEILING
	PHOTO ELECTRIC AREA SMOKE DETECTOR (GEN NOTE F2)			FIRE ALARM SPEAKER	WALL
	DUCT SMOKE DETECTOR (GEN NOTE F4)	DUCTWORK		HEAT DETECTOR (GEN NOTE F2)	
	DUCT SMOKE DETECTOR & FIRE/ SMOKE DAMPER (GEN NOTES F4 & F5)	DUCTWORK		FIRE ALARM SPEAKER	WALL
				FIRE SPRINKLER TAMPER SWITCH	SPRKL RSR
				FIRE SPRINKLER WATER FLOW SW	SPRKL RSR
				ELECTROMAGNETIC DOOR HOLDER	WALL
<b>PEN WEIGHT LEGEND</b>					
ALL DEVICES, LIGHT FIXTURES, ETC., DRAWN IN DARK SOLID LINES ARE NEW TO BE INSTALLED			ALL DEVICES, LIGHT FIXTURES, ETC., DRAWN IN DARK DASHED LINES ARE EXISTING TO BE REMOVED		
	NEW DUPLEX GROUNDED RECEPTACLE			DUPLEX GROUNDED REC TO BE REMOVED	
	NEW LIGHT FIXTURE			LIGHT FIXTURE TO BE REMOVED	
ALL DEVICES, LIGHT FIXTURES, ETC., DRAWN IN LIGHT SOLID LINES ARE EXISTING TO REMAIN			ALL DEVICES, LIGHT FIXTURES, ETC., DRAWN IN LIGHT DASHED LINES ARE EXISTING TO BE RELOCATED		
	EXISTING DUPLEX GROUNDED REC TO REMAIN			DUPLEX GROUNDED REC TO BE RELOCATED	
	EXISTING LIGHT FIXTURE TO REMAIN			LIGHT FIXTURE TO BE RELOCATED	
<b>--- SYMBOL LIST IS FOR REFERENCE ONLY. ALL SYMBOLS MAY NOT BE USED ON THIS PROJECT. ---</b>					

### SPECIAL SYSTEMS NOTES:

ALL SPECIAL SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH PSD'S SPECIFICATIONS BY PSD'S PREFERRED VENDORS AS NOTED BELOW:

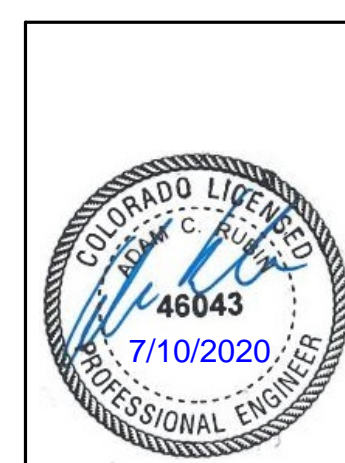
**STRUCTURED CABLING:**  
STURGEON ELECTRIC  
INTERFACE COMMUNICATIONS  
LYNX

CONTRACTOR TO PROVIDE NETWORK WIRING, JACKS, AND INSTALLATION. ALL WIRING, JACKS, TESTING AND CERTIFICATION TO BE COMPLETED PER DIVISION 27 OF THE PSD TECHNICAL SPECIFICATIONS.

# SYMBOL LIST

SYMBOL	DESCRIPTION	MOUNTING	SYMBOL	DESCRIPTION	MOUNTING
<b>ABBREVIATIONS</b>					
NL	NIGHT LIGHT - WIRE AHEAD OF CONTROLS		AFF	ABOVE FINISHED FLOOR	
EM	ON EMERGENCY POWER		AFG	ABOVE FINISHED GRADE	
WP	WEATHERPROOF		DF	DRINKING FOUNTAIN - SEE GENERAL NOTE 11	
CT	COUNTERTOP (SEE GEN. NOTE 9)				
UON	UNLESS OTHERWISE NOTED				
W	WALL				
<b>CONDUIT AND WIRING</b>					
	EMERGENCY CIRCUIT	CLG/WALL		CONDUIT HOME RUN, 1 CIRCUIT. 2#12 & 1#12 GRD. - 1/2" C.	CLG/WALL
	MASTER/SLAVE FIXTURE WHIP	CEILING		CONDUIT HOME RUN, 2 CIRCUITS. 4#12 & 1#12 GRD. - 1/2" C.	CLG/WALL
	LOW VOLTAGE WIRING	CLG/WALL		CONDUIT HOME RUN, 3 CIRCUITS. 6#12 & 1#12 GRD. - 1/2" C.	CLG/WALL
	CDT RUN 2#12 & 1#12 GRD. - 1/2" C. OR CDT RUN AS NOTED ON PLAN	CLG/WALL		CONDUIT HOME RUN, 2 CIRCUITS PHASE CONDUCTORS/ NEUTRAL CONDUCTOR (#12 UON) SWITCH LEGS (#12 UON) GROUND CONDUCTOR (#12 UON)	CLG/WALL
	CDT RUN 2#12 & 1#12 GRD. - 3/4" C. OR CDT RUN AS NOTED ON PLAN	EARTH/ FLOOR			
	CONDUIT HOME RUN, 1 CIRCUIT. 2#10 & 1#10 GRD.	CLG/WALL			
	CONDUIT RUN PARTIAL CIRCUIT. 2#12 & 1#12 GRD. - 1/2" C.	CLG/WALL			
	MISC. EQUIPMENT CONNECTION	CLG/WALL			
	CONDUIT SEAL OFF				
<b>POWER</b>					
	SINGLE GROUNDED RECEPTACLE	18" AFF		BRANCH CIRCUIT PANEL AND PANEL DESIGNATION	72" TO TOP
	DUPLEX GROUNDED RECEPTACLE	18" AFF		ELECTRICAL DISTRIBUTION EQUIP	
	DUPLEX GROUNDED RECEPTACLE	CEILING		EQUIPMENT - SEE EQUIPMENT CONNECTION SCHEDULE	
	DOUBLE DUPLEX GROUNDED REC	18" AFF		CONDUIT SLEEVE (GEN NOTE 13)	
	GROUND FAULT DUPLEX REC	18" AFF		CABLE TRAY (GEN NOTE 14)	
	GRD FAULT DOUBLE DUPLEX REC	18" AFF		MOTOR	
	DUPLEX GRD REC BOTTOM SWITCHD	18" AFF		DISCONNECT SWITCH	
	TAMPER-PROOF DUPLEX REC	18" AFF		MANUAL STARTER	
	TAMPER-PROOF GFCI DUPLEX REC	18" AFF		CIRCUIT BREAKER	
	SPECIAL OUTLET (SEE SCHEDULE OR AS NOTED)	FLOOR/WALL		STARTER OR ATS (AS NOTED)	
	SPECIAL DEVICE (AS NOTED)			COMBINATION STARTER/DISC	
	FEEDER DESIGNATION			RELAY	
	JUNCTION BOX - 1-GANG			PUSHBUTTON (1-BUTTON, 2-BUTTON)	46" AFF
	JUNCTION BOX - 2-GANG			BOX MOUNTED TRANSFORMER	
	FUSTAT BUSS #SSY			CONTACTOR	
	THERMOSTAT/TEMP SENSOR	46" AFF		METER	
	PLUG LOAD SENSOR	CEILING		PLUGMOLD SURFACE RACEWAY	WALL
	HANDICAP DOOR PUSHBUTTON	36" AFF		BUSDUCT PLUG	
<b>ONE-LINE</b>					
	CIRCUIT BREAKER ACCESSORIES: LSIG = LONG TIME, SHORT TIME. INSTANTANEOUS, GROUND FAULT GFI = GROUND FAULT ST = SHUNT TRIP K = KIRK KEY INTERLOCK INDICATOR LIGHT (G=GREEN, R=RED) CONTACTS (N.O., N.C.)			FUSIBLE SWITCH (CIRCUIT NUMBER / SWITCH SIZE / FUSE SIZE / # OF POLES) (# OF POLES IF OTHER THAN 3)	
	CIRCUIT BREAKER			STARTER WITH FUSIBLE SWITCH (CIRCUIT NUMBER / SWITCH SIZE / FUSE SIZE / # OF POLES / STARTER SIZE) (# OF POLES IF OTHER THAN 3)	
	OVERLOADS			CIRCUIT BREAKER (MOLDED CASE NON-ADJUSTABLE TRIP / ADJUSTABLE TRIP) (CIRCUIT NUMBER / TRIP SIZE / # OF POLES) (FRAME SIZE / TRIP SIZE) (# OF POLES IF OTHER THAN 3)	
	DRAWOUT CONTACTS			3Ø TRANSFORMER (DELTA PRIMARY / WYE SECONDARY)	
	DISCONNECT SWITCH (SEE EQUIP CONN SCHED) (VOLTAGE / SWITCH SIZE / FUSE SIZE / # OF POLES - NOTED IF EQUIPMENT NOT SCHEDULED)			1Ø TRANSFORMER	
	STARTER (SEE EQUIP CONN SCHED) (VOLTAGE / STARTER SIZE / # OF POLES - NOTED IF EQUIPMENT NOT SCHEDULED)			PANELBOARD (BUILT-IN SPD)	
	GROUND CONNECTION			TRANSFER SWITCH (ATS = AUTOMATIC, MTS = MANUAL) (AMP SIZE / VOLTAGE / POLES / AIC RATING / NEMA RATING) (NEMA RATING IF OTHER THAN NEMA-1)	
	LIGHTNING ARRESTOR			MOTOR STARTER [SINGLE SPEED ACROSS-THE-LINE (UON)] (NEMA SIZE / RV AT = REDUCED VOLTAGE / AUTO-TRANSFORMER / SS = SOLID STATE)	
	FEEDER DESIGNATION				
	SURGE PROTECTIVE DEVICE				
	METER (UTILITY / PANEL MOUNTED)				
	EQUIPMENT (SINGLE MOTOR / MULTI-MOTOR OR OTHER TYPE AS NOTED)				
	VARIABLE FREQUENCY DRIVE (HP SIZE IF NOT SCHEDULED)				
<b>--- SYMBOL LIST IS FOR REFERENCE ONLY. ALL SYMBOLS MAY NOT BE USED ON THIS PROJECT. ---</b>					

NO.	BY	DESCRIPTION	DATE



**SHEET CONTENTS**  
 ELECTRICAL GENERAL NOTES AND SYMBOLS

**POUDRE SCHOOL DISTRICT**  
 WAREHOUSE 5 RELOCATION  
 FORT COLLINS, COLORADO





**ELECTRICAL SPECIFICATIONS**

**SECTION 16050 - BASIC METHODS AND REQUIREMENTS (ELECTRICAL)**

**PART 1 - GENERAL**

- 1.1 GENERAL CONDITIONS
- A. THE GENERAL CONDITIONS, SUPPLEMENTARY GENERAL CONDITIONS, GENERAL REQUIREMENTS, AND SPECIAL CONDITIONS SHALL BE AND ARE HEREBY MADE A PART OF THIS SECTION OF THE SPECIFICATIONS.
- 1.2 EXAMINATION OF SITE
- A. VISIT THE SITE, INSPECT THE EXISTING CONDITIONS AND CHECK THE DRAWINGS AND SPECIFICATIONS SO AS TO BE FULLY INFORMED OF THE REQUIREMENTS FOR COMPLETION OF THE WORK.
- B. LACK OF SUCH INFORMATION SHALL NOT JUSTIFY AN EXTRA TO THE CONTRACT PRICE.
- 1.3 SCOPE
- A. THE ELECTRICAL WORK SHALL INCLUDE ALL LABOR, MATERIALS, TOOLS, TRANSPORTATION, EQUIPMENT, SERVICES AND FACILITIES, REQUIRED FOR THE COMPLETE, PROPER AND SUBSTANTIAL INSTALLATION OF ALL ELECTRICAL WORK SHOWN ON THE PLANS, AND/OR OUTLINED IN THESE SPECIFICATIONS. THE INSTALLATION SHALL INCLUDE ALL MATERIALS, APPLIANCES, AND APPARATUS NOT SPECIFICALLY MENTIONED HEREIN OR NOTED ON THE DRAWINGS BUT WHICH ARE NECESSARY TO MAKE A COMPLETE WORKING INSTALLATION OF ALL ELECTRICAL SYSTEMS.
- B. ALL OF THE ELECTRICAL RELATED WORK REQUIRED FOR THIS PROJECT (UNLESS SPECIFIED OTHERWISE) IS A PART OF THE ELECTRICAL CONTRACT PRICE AND IS NOT NECESSARILY SPECIFIED UNDER THIS DIVISION OF THE SPECIFICATIONS OR SHOWN ON THE ELECTRICAL DRAWINGS. THEREFORE, ALL DIVISIONS OF THE SPECIFICATIONS AND ALL DRAWINGS SHALL BE CONSULTED.
- C. THE DRAWINGS SHOWING THE LAYOUT OF THE WORK INDICATE THE APPROXIMATE LOCATIONS OF OUTLETS, APPARATUS, AND EQUIPMENT. THE DRAWINGS ARE SCHEMATIC ONLY AND ARE NOT INTENDED TO SHOW THE EXACT ROUTING OF CONDUITS, ETC. THE FINAL DETERMINATION AS TO THE ROUTING SHALL BE GOVERNED BY STRUCTURAL CONDITIONS AND OTHER OBSTRUCTIONS. THIS SHALL NOT BE CONSTRUED TO MEAN THE DESIGN OF THE SYSTEM MAY BE CHANGED. IT MERELY REFERS TO THE EXACT RUN OF A RACEWAY BETWEEN GIVEN POINTS. THE CONTRACTOR SHALL CONSULT ALL CONTRACT DRAWINGS WHICH MAY AFFECT THE LOCATION OF ANY OUTLET, APPARATUS OR EQUIPMENT TO AVOID POSSIBLE INTERFERENCE AND PERMIT FULL COORDINATION OF ALL WORK. THE RIGHT TO MAKE ANY REASONABLE CHANGE (WITHIN 6"-0") IN THE LOCATION OF APPARATUS, OUTLETS, AND EQUIPMENT UP TO THE TIME OF ROUGHING-IN IS RESERVED BY THE ARCHITECT WITHOUT INVOLVING ANY ADDITIONAL EXPENSE TO THE OWNER.
- D. SHOW ON BLUE LINE PRINTS IN RED INK ALL CHANGES FROM ORIGINAL PLANS MADE DURING THE INSTALLATION. RETURN TWO (2) SETS OF RED MARKED DRAWINGS, SPECIFICATIONS AND ADDENDA, AS SET FORTH IN THE GENERAL CONDITIONS, TO THE ARCHITECT UPON COMPLETION OF THE PROJECT.
- E. PROVIDE SUBMITTALS IN ELECTRONIC FORM FOR LIGHT FIXTURES, PANELBOARDS, WIRING DEVICES, ETC.
- 1.4 CODES RULES AND REGULATIONS
- A. EXECUTE ALL WORK UNDER THE LATEST RULES AND REGULATIONS OF THE NATIONAL ELECTRICAL CODE STANDARD OF THE NATIONAL BOARD OF FIRE UNDERWRITERS AND WITH ALL LAWS, REGULATIONS AND ORDINANCES OF THE COUNTY, STATE, AND CITY.
- B. CODES SHALL GOVERN IN CASE OF ANY DIRECT CONFLICT BETWEEN CODES AND PLANS AND SPECIFICATIONS; EXCEPT WHEN PLANS AND SPECIFICATIONS REQUIRE HIGHER STANDARDS THAN THOSE REQUIRED BY CODE. VARIANCE FROM THE PLAN AND SPECIFICATIONS MADE TO COMPLY WITH CODE MUST BE APPROVED BY THE ARCHITECT. IF APPROVED THEY SHALL BE MADE WITH NO INCREASED COST TO THE OWNER.
- 1.5 PERMITS
- A. OBTAIN AND PAY FOR ALL LICENSES AND PERMITS, FEES, INSPECTION AND CERTIFICATES REQUIRED FOR THE EXECUTION OF THIS WORK.
- B. DELIVER PERMITS AND CERTIFICATES TO THE ARCHITECT TO BE TRANSMITTED TO THE OWNER.
- 1.6 RESPONSIBILITY
- A. THIS CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY AND ALL DAMAGE TO ANY PART OF THE BUILDING OR TO THE WORK OF OTHER CONTRACTORS, AS MAY BE CAUSED THROUGH HIS OPERATION.
- 1.7 WORK TO BE DONE BY GENERAL CONTRACTOR
- A. BUILD IN ALL OPENINGS SLEEVES, CHASES ETC., FOR CONDUIT AND EQUIPMENT AS ESTABLISHED, FURNISHED AND SET BY THIS CONTRACTOR. HE SHALL SEAL OR GROUT ALL OPENINGS AFTER THIS CONTRACTOR HAS INSTALLED HIS CONDUITS.
- 1.8 WORKMANSHIP AND COORDINATION
- A. MAKE INSTALLATION SUBSTANTIALLY AS SHOWN ON THE PLANS.
- B. MAKE ALTERATIONS IN LOCATION OF APPARATUS OR CONDUIT AS MAY BE REQUIRED TO CONFORM TO BUILDING CONSTRUCTION WITHOUT EXTRA CHARGE.
- C. MECHANICAL EQUIPMENT SERVICE CLEARANCES AND ELECTRICAL APPARATUS SERVICE CLEARANCES AS SPECIFIED IN THEIR RESPECTIVE MANUFACTURER'S PRODUCT DATA SHALL BE MAINTAINED FREE FROM CONDUIT.
- D. COOPERATE WITH OTHER CONTRACTORS IN THEIR INSTALLATION OF WORK.
- E. COMPLETE THE INSTALLATION IN A WORKMANLIKE MANNER, COMPLETELY CONNECTED AND READY TO GIVE PROPER AND CONTINUOUS SERVICE.
- F. USE ONLY EXPERIENCED LICENSED ELECTRICIANS.

- 1.9 NAMEPLATES
- A. ALL BRANCH CIRCUIT PANELBOARD DIRECTORIES SHALL BE UPDATED WITH CHANGES.
- B. DEVICE COVERS (RECEPTACLES, SWITCHES) SHALL BE LABELED NEATLY WITH A PERMANENT MARKER OR LABEL MAKER WITH PANEL & CIRCUIT NUMBER. (EX. L1A-10)
- C. ON THE COVER OF EACH JUNCTION BOX AND PULL BOX: THE CIRCUIT NUMBER(S) OF THE ENCLOSED CONDUCTORS ARE TO BE LEGIBLY WRITTEN WITH A BLACK PERMANENT INK BROAD TIP MARKING PEN AND THE SYSTEM IDENTIFICATION.
- D. PANELBOARD DIRECTORIES SHALL BE LABELED WITH THE ACTUAL FINISHED BUILDING ROOM NUMBERS FOR CIRCUIT IDENTIFICATION AND NOT THE ROOM NUMBERS FROM THE CONSTRUCTION PLANS. (UNLESS THEY ARE THE SAME)
- 1.10 MATERIALS
- A. MATERIAL AND EQUIPMENT SHALL BE NEW, OF BEST QUALITY AND DESIGN AND FREE FROM DEFECTS. A MANUFACTURER'S NAMEPLATE AFFIXED IN A CONSPICUOUS PLACE WILL BE REQUIRED ON EACH MAJOR COMPONENT OF EQUIPMENT STATING MANUFACTURER'S NAME, ADDRESS AND CATALOG NUMBER. ALL ITEMS USED ON THIS PROJECT SHALL BE OF ASBESTOS FREE MATERIAL.
- B. WHERE ITEMS OF EQUIPMENT AND/OR MATERIALS ARE SPECIFICALLY IDENTIFIED HEREIN BY A MANUFACTURER'S NAME, MODEL OR CATALOG NUMBER, ONLY SUCH SPECIFIC ITEMS MAY BE USED IN THE BASE BID.
- 1.11 MANUFACTURER'S INSTRUCTIONS
- A. APPLY, INSTALL, CONNECT, ERECT, USE, CLEAN, AND CONDITION ARTICLES, MATERIALS AND EQUIPMENT AS DIRECTED BY THE MANUFACTURER.
- 1.12 CUTTING AND PATCHING
- A. NOTIFY THE GENERAL CONTRACTOR IN AMPLE TIME, OF THE LOCATION OF ALL CHASES, SLEEVES, AND ANY OTHER OPENINGS REQUIRED IN CONNECTION WITH THE WORK OF THIS CONTRACT.
- B. CUTTING AND PATCHING MADE NECESSARY BECAUSE OF FAILURE TO COMPLY WITH THE ABOVE SHALL BE DONE BY THE GENERAL CONTRACTOR AT THE EXPENSE OF THE ELECTRICAL CONTRACTOR.
- C. WHEN IT IS NECESSARY FOR THE ELECTRICAL CONTRACTOR TO CUT BUILDING MATERIALS TO INSTALL HIS WORK, IT SHALL BE DONE IN A NEAT AND WORKMANLIKE MANNER MEETING WITH THE APPROVAL OF THE ARCHITECT.
- 1.13 MUTILATION
- A. ANY MUTILATION OF FINISHING INITIATED BY ELECTRICAL CONSTRUCTION SHALL BE PROPERLY CORRECTED BY THE RESPECTIVE FINISHING CONTRACTOR AND PAID FOR BY THE ELECTRICAL CONTRACTOR.
- 1.14 TESTING AND ADJUSTMENT
- A. WHEN INSTALLATION IS COMPLETE, TEST ALL ELECTRICAL CONDUCTORS TO INSURE CONTINUITY, FREEDOM FROM GROUNDS, AND INSULATION RESISTANCE VALUES.
- B. ALL FEEDERS AND BRANCH CIRCUITS SHALL BE MEGGER TESTED BETWEEN PHASE CONDUCTORS AND GROUND, USING A 1,000V MEGGER. TESTS SHALL BE MADE UPON COMPLETION OF ALL CONNECTIONS AND SPLICES AND INSERTION OF ALL OVERCURRENT DEVICES. TESTS SHALL INDICATE FREEDOM FROM SHORT CIRCUITS AND GROUNDS.
- 1.15 FINAL INSPECTION
- A. FINAL INSPECTION WILL BE MADE UPON WRITTEN REQUEST FROM THE GENERAL CONTRACTOR AFTER THE PROJECT IS COMPLETED; IN ACCORDANCE WITH THE SUPPLEMENTARY GENERAL CONDITIONS.
- 1.16 GUARANTEE
- A. GUARANTEE ALL WORK, MATERIAL AND EQUIPMENT FOR A PERIOD OF TWO YEARS AFTER DATE OF SUBSTANTIAL COMPLETION. PROVIDE WRITTEN DOCUMENTATION OF WARRANTY TO OWNER WITH RELEVANT CONTACT INFO.
- B. DURING THE YEAR GUARANTEE PERIOD THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEFECTS WHICH DEVELOP IN THE ELECTRICAL SYSTEMS. UPON NOTIFICATION OF A DEFECT BY THE GENERAL CONTRACTOR, THE ELECTRICAL CONTRACTOR SHALL MAKE IMMEDIATE EFFORT TO CORRECT IT AND SHALL NOTIFY THE ARCHITECT WHEN THIS WORK IS COMPLETED.
- C. REPAIRS AND/OR REPLACEMENTS SHALL BE MADE WITH NO COST TO OWNER.

**END OF SECTION**

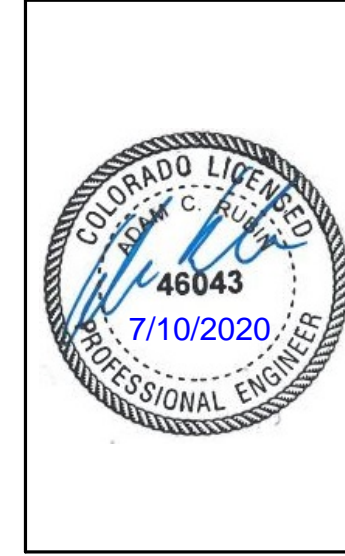
**SECTION 16100 - BASIC MATERIALS**

- 1.1 CONDUIT
- A. MATERIALS:
1. EMT TUBING SHALL BE ALLIED, REPUBLIC, LTV, OR EQUAL WITH U.L. APPROVED NATIONAL ELECTRIC CODE TYPE FITTINGS. INDENTER TYPE FITTINGS SHALL NOT BE USED. A GROUND WIRE SIZED PER N.E.C. ART. 250-122 SHALL BE PULLED IN EACH CONDUIT CONTAINING PHASE CONDUCTOR(S).
2. LIQUID-TIGHT FLEXIBLE METAL CONDUIT: FLEXIBLE GALVANIZED STEEL TUBING COVERED WITH EXTRUDED LIQUID-TIGHT JACKET OF POLYVINYL CHLORIDE (PVC). PROVIDE CONDUIT WITH A CONTINUOUS COPPER BONDING CONDUCTOR SPIRAL BETWEEN THE CONVOLUTIONS. PROVIDE STEEL OR MALLEABLE IRON FITTINGS. CONNECTORS SHALL HAVE INSULATED THROATS.
- B. BUSHINGS AND LOCKNUTS:
1. BUSHINGS FOR TERMINATING CONDUITS SMALLER THAN 1-1/4-INCHES ARE TO HAVE FLARED BOTTOM AND RIBBED SIDES, WITH SMOOTH UPPER EDGES TO PREVENT INJURY TO CABLE INSULATION.
2. WHERE REQUIRED, BUSHINGS OF STANDARD OR INSULATED TYPE SHALL HAVE SCREW TYPE GROUNDING TERMINAL.

- C. CONDUIT INSTALLATION:
1. ALL EXPOSED CONDUITS SHALL BE ROUTED PARALLEL OR PERPENDICULAR TO BUILDING ELEMENTS.
2. CONDUIT SHALL BE INSTALLED TO THE REQUIREMENTS OF THE STRUCTURE AND TO REQUIREMENTS OF ALL THE OTHER WORK ON THE PROJECT. CONDUIT SHALL BE INSTALLED TO CLEAR ALL OPENINGS, DEPRESSIONS, PIPES, DUCTS, REINFORCING STEEL, ETC.
3. CONDUIT SHALL BE INSTALLED CONTINUOUS BETWEEN CONNECTIONS TO OUTLETS, BOXES AND CABINETS WITH A MINIMUM POSSIBLE NUMBER OF BENDS AND NOT MORE THAN THE EQUIVALENT OF 4-90 DEGREE BENDS BETWEEN CONNECTIONS. BENDS SHALL BE SMOOTH AND EVEN AND SHALL BE MADE WITHOUT FLATTENING CONDUIT OR FLAKING ENAMEL. RADIUS OF BENDS SHALL BE AS LONG AS POSSIBLE AND NEVER SHORTER THAN THE CORRESPONDING TRADE ELBOW. LONG RADIUS ELBOWS SHALL BE USED WHERE NECESSARY.
4. CONDUITS SHALL BE SECURELY FASTENED IN PLACE WITH APPROVED STRAPS, HANGERS, AND SUPPORTS AS REQUIRED.
5. ALL WORK SHALL BE PROTECTED AGAINST DAMAGE DURING CONSTRUCTION AND ANY WORK DAMAGED OR MOVED OUT OF LINE AFTER ROUGHING-IN SHALL BE REPAIRED AND RESET TO THE APPROVAL OF THE ARCHITECT WITHOUT ADDITIONAL COST TO THE OWNER.
6. CONDUIT TERMINATIONS AT PANELBOARDS, JUNCTION BOXES, ETC., SHALL BE ALIGNED AND INSTALLED TRUE AND PLUMB. WOOD OR STEEL BUCKS OR TEMPLATES SHALL BE USED WHERE REQUIRED.
- 1.2 WIRES AND CABLES
- A. HARBIRSHAW, CRESCENT, SOUTHWIRE, GENERAL CABLE, AMERICAN, U.S. RUBBER COMPANY OR EQUAL CODE GAUGE WIRE, FINISHED WITH FADELESS COLOR SOLUTION FOR NATIONAL ELECTRIC CODE SYSTEM OF COLOR CODING AND BEARING UNDERWRITER'S LABEL. WIRES SHALL BE SOFT ANNEALED STRANDED COPPER WITH PROPERTIES CONFORMING TO THE NATIONAL ELECTRIC CODE REQUIREMENTS. NO. 10 GAUGE AND LARGER SHALL BE STRANDED. NO. 12 GAUGE CAN BE SOLID OR STRANDED.
- B. WIRE SMALLER THAN NO. 12 GAUGE SHALL NOT BE USED UNLESS SPECIFICALLY CALLED FOR.
- C. WIRES FOR GENERAL USE WITHIN THE BUILDING SHALL BE TYPE THWN, XHHW, OR COMBINATION THHN/THWN EXCEPT WHERE CALLED FOR ON THE DRAWINGS. ALL CONDUCTOR SIZES MUST BE AS SPECIFIED ON DRAWINGS REGARDLESS OF INSULATION TYPE.
- D. A GROUND WIRE SIZED PER N.E.C. ART. 250-122 SHALL BE INSTALLED IN EACH CONDUIT CONTAINING PHASE CONDUCTORS.
- E. ALL CONTROL WIRING SHALL BE COPPER, SOLID OR STRANDED, #14 GA. OR LARGER DEPENDING UPON CURRENT REQUIREMENTS. INSULATION TYPE FOR 90 DEGREE C. WHERE STRANDED CONDUCTORS ARE USED PROVIDE WITH SPADE TYPE INSULATED COPPER TERMINALS.
- F. ALL CONDUCTORS SHALL BE IDENTIFIED AT ALL TERMINATION POINTS AND IN ALL PULL AND JUNCTION BOXES BY THE FOLLOWING METHOD OF COLOR CODING. MEANS OF IDENTIFICATION SHALL BE PERMANENTLY POSTED AT EACH BRANCH CIRCUIT PANEL WITH A NAMEPLATE IDENTIFYING COLOR CODING WHERE MORE THAN ONE NOMINAL VOLTAGE SYSTEM IS IN THE SAME BUILDING.
- |                       |                       |
|-----------------------|-----------------------|
| 208Y/120 VOLT SYSTEM: | 480Y/277 VOLT SYSTEM: |
| PHASE A - BLACK       | PHASE A - BROWN       |
| PHASE B - RED         | PHASE B - ORANGE      |
| PHASE C - BLUE        | PHASE C - YELLOW      |
| NEUTRAL - WHITE       | NEUTRAL - GRAY        |
| GROUND - GREEN        | GROUND - GREEN        |
- G. ALL CONDUCTORS SIZE #8 AWG AND SMALLER SHALL HAVE COLORED INSULATION. WHERE CONDUCTORS WITH BLACK INSULATION ARE USED FOR THE LARGER WIRE SIZES (#6 AWG AND LARGER) COLOR CODING SHALL BE PROVIDED WITH TWO LAYERS-ONE HALF LAPPED OF NO. 35 COLORED SCOTCH VINYL ELECTRICAL TAPE.
- 1.3 WIRE CONNECTIONS
- A. ALL WIRES SHALL BE RUN IN CONDUIT, SHALL BE CONTINUOUS BETWEEN OUTLETS AND BOXES (WITH NO SPLICES OR TAPS IN CONDUITS). SPLICES AND TAPS FOR #6 AND LARGER CONDUCTORS SHALL BE WITH BLOCK TYPE WITH INSULATING JACKET OR SPLIT BOLT CONNECTORS, COVERED AND COMPLETELY INSULATED WITH A MINIMUM OF THREE HALF-LAPPED LAYERS OF SCOTCH NO. 33+ (105°C) PLASTIC ELECTRICAL TAPE OR BY APPROVED INSULATED FASTENER. ALL SPLICES AND TAPS HAVING IRREGULAR SURFACES SHALL BE PROPERLY PADDED WITH SCOTCHFIL PUTTY BEFORE APPLICATION OF INSULATING PLASTIC TAPE. SCOTCHLOK ELECTRICAL PRE-INSULATED SPRING PRESSURE CONNECTORS OR EQUAL MAY BE USED FOR UP TO #8 CONDUCTORS. CONNECTORS SHALL BE INSTALLED SO THAT ALL WIRES ARE PROPERLY INSULATED.
- 1.4 PULL AND JUNCTION BOXES
- A. PULL AND JUNCTION BOXES SHALL BE CODE GAUGE STEEL BOXES WITH HINGED, BOLTED OR SCREWED COVERS. BOXES SHALL BE FLUSH OR SURFACE MOUNTED AS SHOWN OR REQUIRED.
- B. PROVIDE JUNCTION AND PULL BOX AS REQUIRED FOR PULLING OF WIRE AS REQUIRED BY THE NEC. ALL BOXES SHALL BE CODE CONSTRUCTION WITH SCREW TYPE COVER AND SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS.
- 1.5 OUTLET BOXES
- A. J-BOXES IN BOILER ROOMS, MECH./ELECT. ROOMS, STORAGE ROOMS OR ABOVE CEILINGS SHALL BE A MINIMUM OF 2 1/8" DEEP 4" SQ. BOXES W/ COMBO 1/2" & 3/4" CONCENTRIC KO'S.

- 1.6 WIRING DEVICES
- A. RECEPTACLES SHALL BE 20A COMMERCIAL GRADE.
- B. THE GROUND WIRE SHALL BE PIGTAILED TO THE BOX WITH A 10/32 GREEN SCREW AND WRAPPED ON THE GROUNDING SCREW / YOKE OF THE DEVICE.
- C. METAL COVER PLATES SHALL BE USED ON ALL FLUSH DEVICES.
- D. SWITCHES SHALL BE EXTRA HEAVY-DUTY TYPE WITH NYLON FRONTS AND BACKS.
- E. DEVICES SHALL BE PIGTAILED FROM BRANCH CIRCUIT FOR EASE OF DEVICE REMOVAL OR REPLACEMENT.
- 1.7 LIGHTING FIXTURES AND LAMPS:
- A. INSTALL LIGHTING FIXTURES. PROVIDE LAMPS AS INDICATED ON THE DRAWINGS. NO SUBSTITUTIONS ON LIGHTING FIXTURES EXCEPT AS APPROVED BY ENGINEER PRIOR TO BIDDING.
- B. VERIFY EXACT LOCATIONS OF FIXTURE OUTLETS SO AS TO CAUSE NO INTERFERENCE WITH PIPING, EQUIPMENT AND ARCHITECTURAL TREATMENT.
- 1.8 SUPPORTING DEVICES
- A. CONDUITS SHALL BE SUPPORTED AT INTERVALS NOT GREATER THAN 10 FT., WITHIN 3 FT. OF ANY BEND AND EVERY OUTLET OR JUNCTION BOX. THIS SHALL APPLY ON VERTICAL RUNS AS WELL AS HORIZONTAL RUNS.
- B. ALL SUPPORTS FOR CONDUITS SHALL BE INDEPENDENT FROM OTHER TRADES UNLESS NOTED OTHERWISE ON DRAWINGS OR WRITTEN APPROVAL BY THE ENGINEER. CONTRACTOR SHALL WORK WITH OTHER TRADES WHERE A COMMON SUPPORT STRUCTURE IS PROVIDED AND HAS BEEN APPROVED BY ENGINEER.
- C. ANCHORS:
1. ONLY ANCHORS THAT USE REMOVABLE BOLTS OR SCREWS ARE ALLOWED. SCREW TYPE ANCHORS APPROVED FOR THE APPLICATION WILL BE THE ONLY TYPE OF FASTENER ACCEPTED. ANCHORS SHALL BE USED AND APPROVED FOR USE PER MANUFACTURER INSTRUCTIONS. EXAMPLES LISTED.
- DRYWALL: MOLLY, E-Z (SCREW IN TYPE), TOGGLE BOLT AND OTHER.
  - MASONRY, BLOCK, CONCRETE: PLASTIC, LEAD W MACHINE SCREW BOLT, DROP-IN AND OTHER.
  - NAIL IN OR PIN TYPE ANCHORS SHALL NOT BE USED TO MOUNT FIXTURES, STRAPS, BOXES, OR ANY DEVICE ASSOCIATED WITH THE ELECTRICAL SYSTEM.
- END OF SECTION

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**SHEET CONTENTS**  
 ELECTRICAL SPECIFICATIONS

**POUDRE SCHOOL DISTRICT**  
**WAREHOUSE 5 RELOCATION**  
**FORT COLLINS, COLORADO**

THE GREAT AND SOVEREIGN NATIONS OF DENVER, COLORADO, AND THE STATE OF COLORADO, HEREBY CERTIFY THAT THE SIGNATURE OF THE PROFESSIONAL ENGINEER, KALERT, IS THE PROPERTY OF KCG, LLC, AND NOT TO BE USED FOR ANY OTHER PROJECT WITHOUT THE AUTHORIZATION OF KCG, LLC.

NO.	BY	DESCRIPTION	DATE

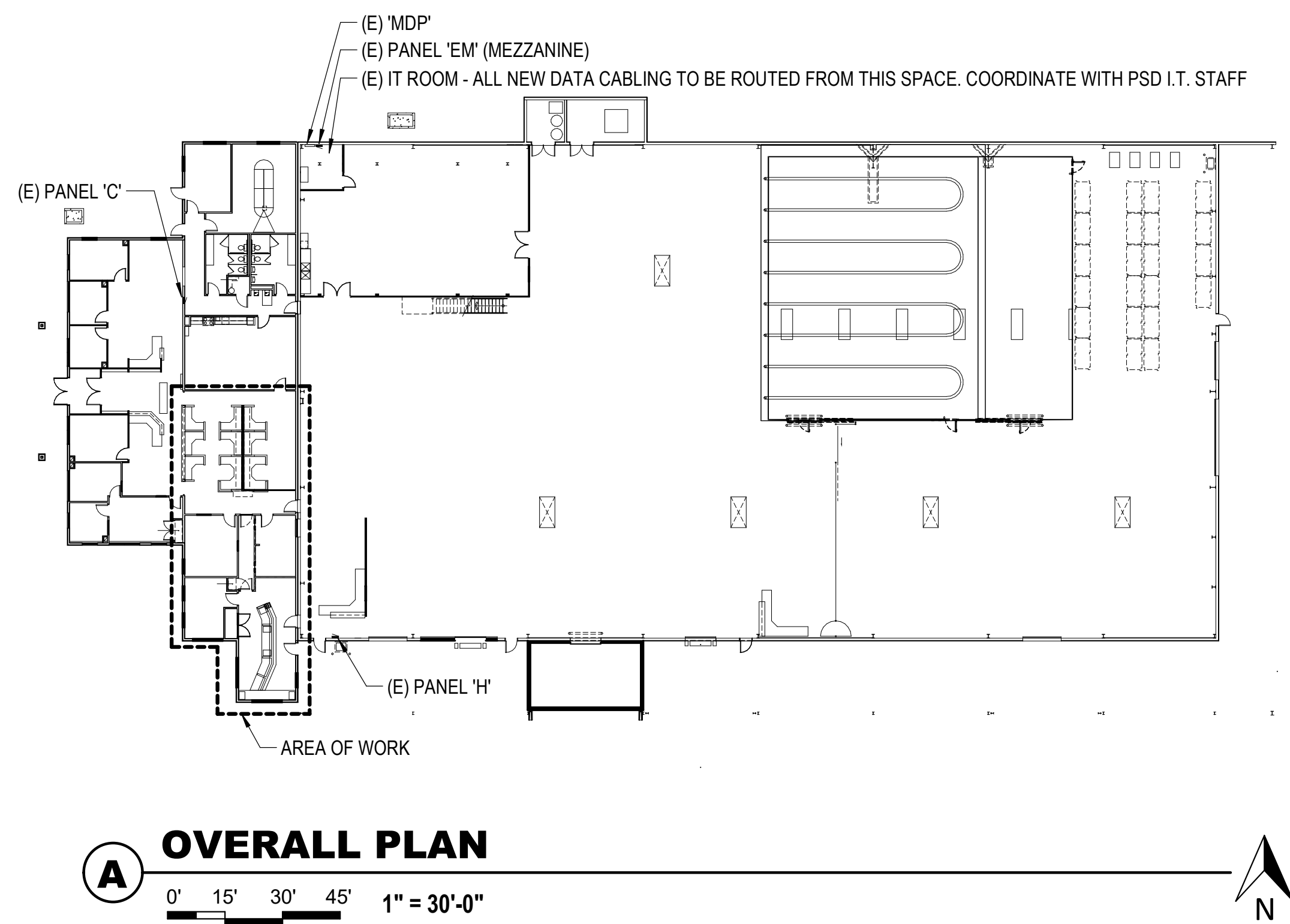
REVISIONS

**PEC** PROFESSIONAL ENGINEERING CONSULTANTS, P.A.  
 420 LINDEN ST. SUITE 110 FORT COLLINS, CO 80524  
 970.232.9558 www.pec1.com

**ISSUE FOR PERMIT**

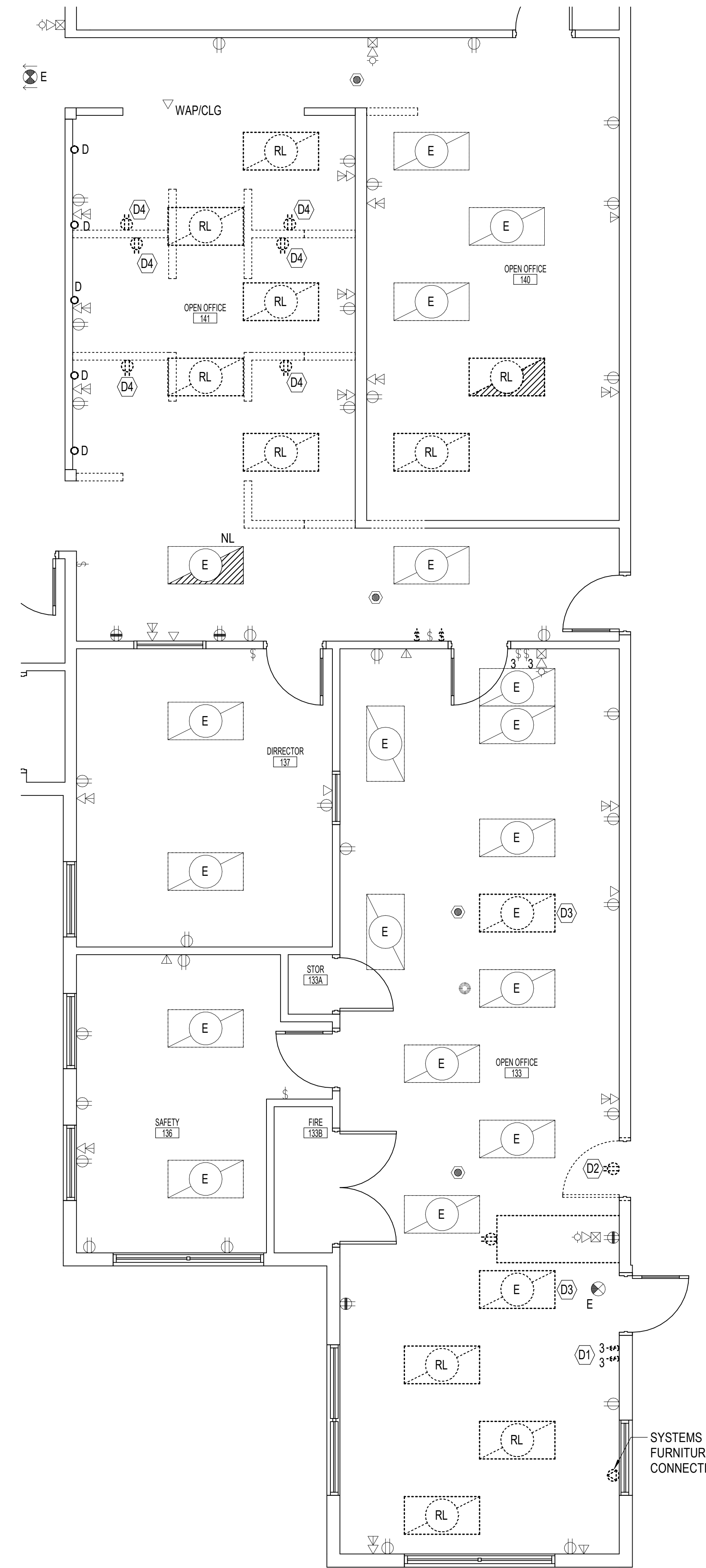
DATE: 07.10.20  
 E.O.2





**A OVERALL PLAN**

0' 15' 30' 45' 1" = 30'-0"



**B ELECTRICAL DEMOLITION PLAN**

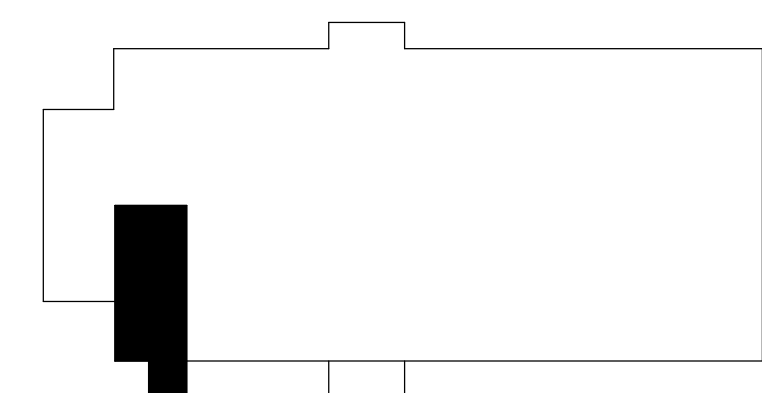
0' 2' 4' 6' 1/4" = 1'-0"

**DEMOLITION PLAN NOTES:**

- DEMOLITION PLANS SHOW THE GENERAL EXTENT OF THE ELECTRICAL DEMOLITION WORK. THE ELECTRICAL CONTRACTOR SHALL DISCONNECT ELECTRICAL SERVICES TO ALL EQUIPMENT BEING REMOVED. SEE MECHANICAL PLANS. OWNER SHALL HAVE THE OPTION TO RETAIN REUSABLE ITEMS, SUCH AS COVERPLATES, RECEPTACLES, LIGHTS, PANELS, ETC. NOT BEING USED IN THE FINISHED WORK. COORDINATE WITH OWNER PRIOR TO STARTING DEMOLITION. PROPERLY AND LEGALLY DISPOSE OF ALL EQUIPMENT AND MATERIALS BEING REMOVED.
- REMOVE ALL CONDUIT LEFT EXPOSED BY REMOVAL OF WALLS AND CEILINGS IN REMODELED AREAS. PLUG BOTH ENDS OF REMAINING CONDUIT IN WALL OR FLOOR WHERE CUT.
- ELECTRICAL OUTLETS, ETC. POSSIBLY CONCEALED BY STORAGE SHELVING, CASEWORK, FURNITURE, ETC. ARE NOT SHOWN AND MAY REQUIRE REMOVAL.
- GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING ALL OPENINGS IN EXISTING CONSTRUCTION AFTER REMOVAL OF EQUIPMENT, RACEWAY SYSTEMS, OUTLET BOXES, ETC.
- WHERE EQUIPMENT AND OTHER DEVICES ARE BEING REMOVED, THE CIRCUITING SHALL BE REMOVED, IF POSSIBLE, BACK TO POINT OF SUPPLY. WHERE REQUIRED, CIRCUITING SHALL BE EXTENDED TO MAINTAIN CONTINUITY OF THE CIRCUIT OR OPERATION OF THE SYSTEM.
- ALL DEVICES SHOWN DASHED ON THE DEMOLITION PLAN(S) SHALL BE REMOVED, UNLESS NOTED OTHERWISE.
- PROVIDE MATCHING BLANK COVERPLATES WHERE DEVICES ARE BEING REMOVED FROM FLUSH-MOUNTED OUTLET BOXES IN EXISTING WALLS TO REMAIN.
- FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO BEGINNING WORK.

**# KEYED NOTES:**

- EXISTING LIGHT FIXTURE SWITCHES TO BE RELOCATED. REFER TO LIGHTING PLAN ON SHEET E1.1 FOR NEW SWITCH LOCATION.
- CIRCUITING FOR EXISTING RECEPTACLE AT +9'-6" AFF SHALL BE EXTENDED DOWN TO +18" AFF IN DOOR INFILL FOR FUTURE WORKSTATION. DEMOLISH EXISTING RECEPTACLE.
- EXISTING FIXTURE TO BE RECIRCUITED. REFER TO LIGHTING PLAN ON SHEET E1.1. MAINTAIN AND CONTINUE EXISTING SWITCHING AND CIRCUITING TO ADJACENT LIGHT FIXTURES.
- DEMOLISH EXISTING RECEPTACLES WHILE MAINTAINING CIRCUITING IN AREA. NEW RECEPTACLES SHALL UTILIZE EXISTING CIRCUITS AT NEW LOCATIONS.



**KEY PLAN**

**PEC** PROFESSIONAL ENGINEERING CONSULTANTS, P.A.  
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NO.	BY	DESCRIPTION	DATE

REVISIONS

E1.0

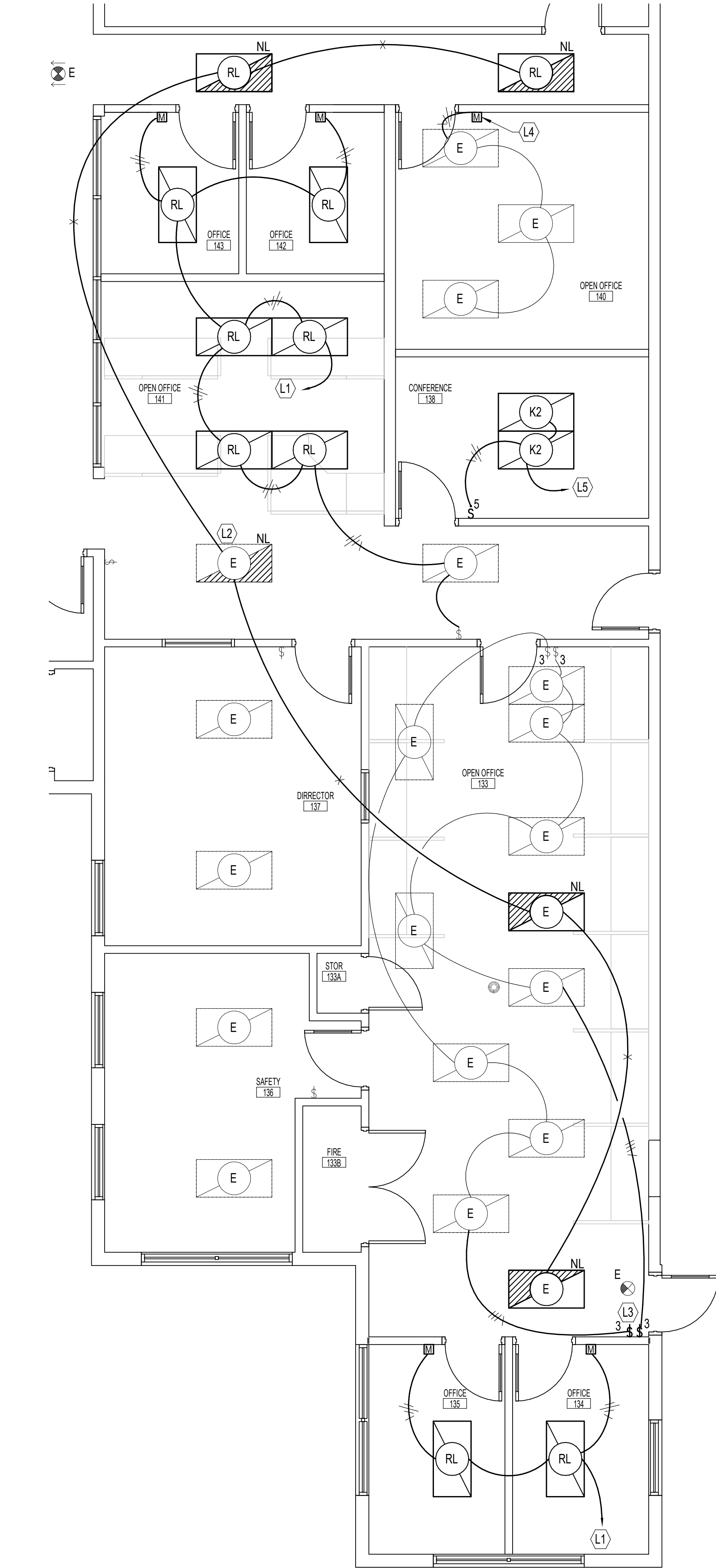
**POUDRE SCHOOL DISTRICT**  
**WAREHOUSE 5 RELOCATION**  
**FORT COLLINS, COLORADO**

**SHEET CONTENTS**  
 ELECTRICAL DEMOLITION PLAN

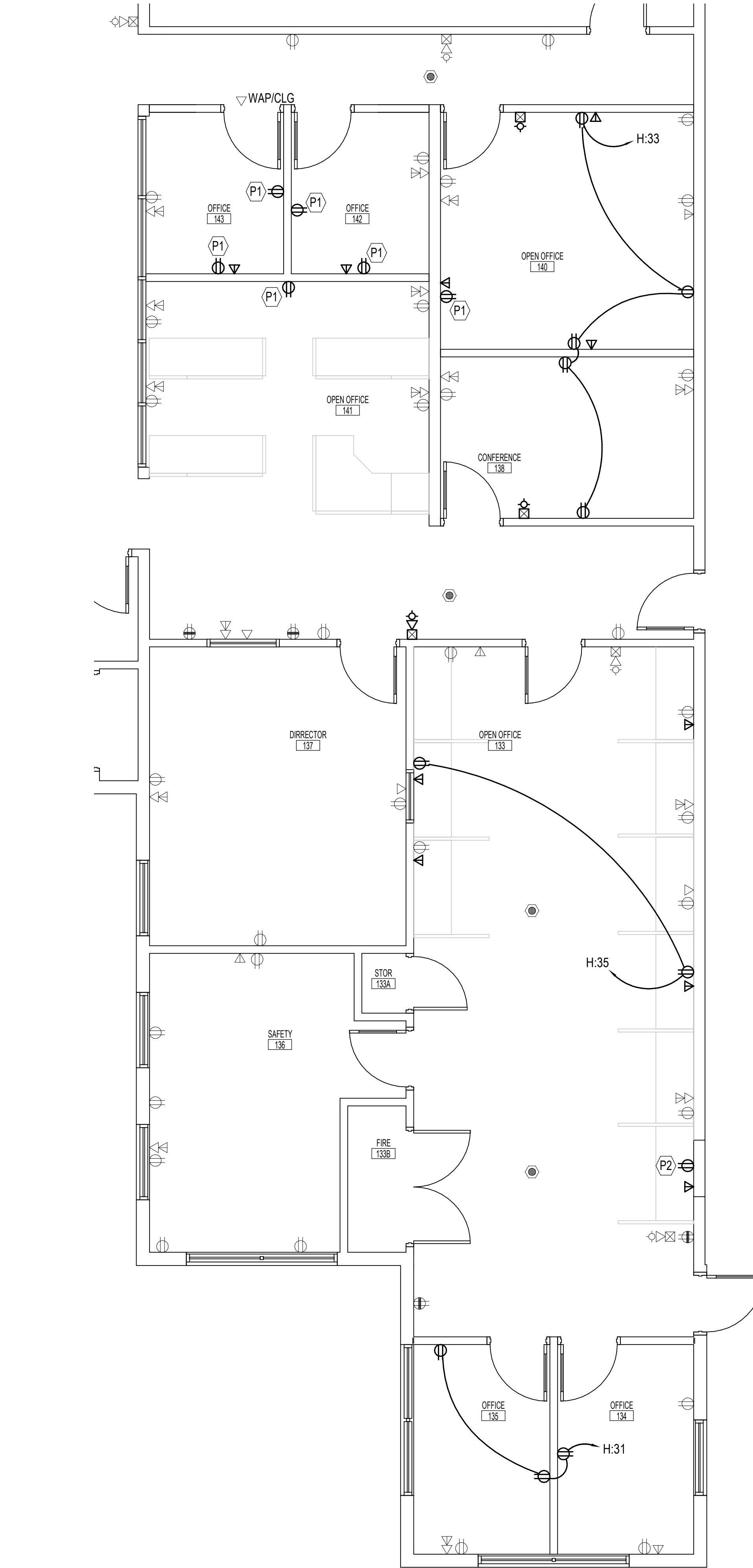


**KCG | LLC**  
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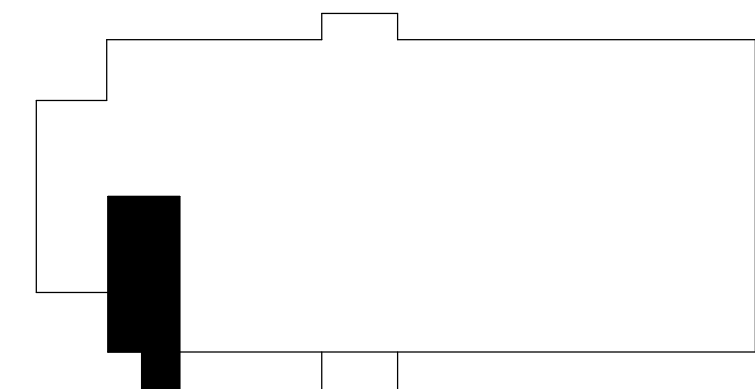




**B LIGHTING PLAN**  
 0' 2' 4' 6' 1/4" = 1'-0"



**A POWER & SYSTEMS PLAN**  
 0' 2' 4' 6' 1/4" = 1'-0"



KEY PLAN

**ELECTRICAL PLAN NOTES:**

- BRANCH CIRCUITS ARE INDICATED AS ONE CIRCUIT HOME RUNS WITH INDIVIDUAL NEUTRALS. A MAXIMUM OF THREE CIRCUITS (MAXIMUM OF THREE PHASE CONDUCTORS) MAY BE GROUPED IN A SINGLE CONDUIT. WHERE MULTIPLE CIRCUITS ARE LOCATED IN THE SAME RACEWAY, JUNCTION BOX OR ENCLOSURE, NEUTRALS SHALL BE MARKED OR LABELED TO INDICATE WHICH CIRCUIT THEY ARE ASSOCIATED WITH.
- A GROUND CONDUCTOR SIZED PER N.E.C. ARTICLE 250 IS REQUIRED IN ALL CONDUITS.
- FOR ALL PENETRATIONS IN FIRE RATED WALLS AND CEILINGS, PROVIDE AN ASTM E814 COMPLIANT, U.L. LISTED THROUGH PENETRATION FIRE STOPPING SYSTEM THAT IS SPECIFIC TO THE WALL OR CEILING CONSTRUCTION ASSEMBLY.
- ALL PIPING, CONDUIT, AND OUTLET BOXES (ELECTRIC, TELEPHONE, COMPUTER, ETC.) IN FIRE RATED WALLS OR CEILINGS SHALL BE CONSTRUCTED OF NON-COMBUSTIBLE MATERIAL.
- IN PUBLIC AREAS WHERE NEW CONDUIT CANNOT BE CONCEALED WITHIN WALLS OR ABOVE CEILINGS, WIREMOLD SURFACE RACEWAYS SHALL BE USED.
- FIRE ALARM TO BE BY DESIGN/BUILD CONTRACTOR IN COMPLIANCE WITH APPLICABLE CODES. COORDINATE REQUIREMENTS WITH OWNER. FIRE ALARM DEVICES SHOWN ON DRAWINGS ARE TO ILLUSTRATE SCOPE ONLY.
- LIGHTING CONTROL STRATEGIES:
  - PRIVATE/OPEN OFFICE: LIGHTING SHALL BE CONTROLLED BY A WALL MOUNTED OCCUPANCY SENSOR SWITCH, SET TO "VACANCY" MODE TO ALLOW FOR MANUAL ON, AUTOMATIC OFF AFTER 20 MINUTES. BASIS OF DESIGN: WATTSTOPPER DW-100.
  - CONFERENCE ROOM: LIGHTING SHALL BE CONTROLLED BY A WALL MOUNTED OCCUPANCY SENSOR SWITCH WITH 0-10V DIMMING CAPABILITIES. SWITCH SHALL BE SET TO "VACANCY" MODE TO ALLOW FOR MANUAL ON, AUTOMATIC OFF AFTER 20 MINUTES. RAISE AND LOWER DIMMING SHALL BE PROVIDED AT THE SWITCH STATION. BASIS OF DESIGN: WATTSTOPPER DW-311.
  - EXISTING SPACES: WHERE FIXTURES ARE RELOCATED OR HAVE CIRCUITING ADJUSTED BASED ON THIS SCOPE, EXISTING ON/OFF SWITCHING SHALL BE MAINTAINED. ALL LOCATIONS WHERE 3-WAY SWITCHING EXISTS SHALL BE MAINTAINED TO PROVIDE EXISTING SWITCHING INTENT.

**# KEYED NOTES:**

- CONNECT TO EXISTING LIGHTING CIRCUIT SERVING AREA.
- UTILIZE EXISTING EMERGENCY LIGHTING CIRCUIT AT EXISTING FIXTURE FOR CONNECTION TO EGRESS LIGHTS IN SPACE. FIXTURES SHALL OPERATE AS 'NIGHT LIGHTS' WITH ALWAYS-ON OPERATION FOR SAFETY THROUGH CIRCULATION AREA.
- RELOCATED LIGHT FIXTURE SWITCHES.
- CONNECT EXISTING LIGHTING FIXTURES AS INDICATED. MAINTAIN EXISTING CIRCUITING IN AREA.
- CONNECT LIGHTING FIXTURES TO ADJACENT LIGHTING CIRCUIT IN AREA. OVERALL LOAD ON CIRCUIT REDUCED DUE TO DEMOLITION OF DOWNLIGHTS ON CIRCUIT.
- RECEPTACLE TO BE CIRCUITED TO EXISTING CIRCUIT FROM DEMOLISHED AREA. RE-LABEL EXISTING CIRCUITS IN PANEL 'C' TO REFLECT NEW ROOM NAMING AND CIRCUITED AREA.
- NEW RECEPTACLE UTILIZING EXISTING CIRCUIT EXTENDED TO NEW +18" AFF HEIGHT.

NO.	BY	DATE	DESCRIPTION	REVISIONS
01	MJH			
02	ACR			
03		07.10.20		E1.1





# LIGHTING FIXTURE SCHEDULE

MARK	DESCRIPTION	MANUFACTURER 1 CATALOG NUMBER	LIGHT SOURCE				LENS/LOUVER/FINISH	DIMENSIONS			REF. NOTE	REMARKS
			#	TYPE	WATTS	VOLTS		W	L	D		
D	EXISTING FIXTURE TO BE DEMOLISHED		1			UNV						
E	EXISTING FIXTURE TO REMAIN					UNV						
K2	2X4 LAY-IN	RAB EZPAN-2X4-40-YN/D10	1	LED	40	UNV	ACRYLIC	2.0	4.0	0.33	3	4700LM; 3500K; 85CRI
RL	EXISTING FIXTURE TO BE RELOCATED		2	F32/835	65	UNV	ACRYLIC	2.0	4.0	0.33	4	

# LIGHTING FIXTURE SCHEDULE NOTES

- MANUFACTURERS LISTED IN THIS SCHEDULE OR APPROVED BY WRITTEN ADDENDUM WILL BE THE ONLY APPROVED MANUFACTURERS TO BID THE LIGHTING FIXTURES FOR THIS PROJECT. CONTRACTORS AND SUPPLIERS USING PRICING FROM MANUFACTURERS NOT LISTED ON SCHEDULE OR BY ADDENDUM DO SO AT THEIR OWN RISK.
- ALL LIGHT FIXTURES SHALL BE SECURED TO THE CEILING FRAMING SYSTEM BY MECHANICAL MEANS (SUCH AS BOLTS, SCREWS, OR RIVETS) OR BY CLIPS IDENTIFIED FOR USE WITH THE TYPE OF CEILING FRAMING MEMBER AND LIGHT FIXTURE.
- LIGHT FIXTURES SHALL BE PROVIDED WITH 0-10V DIMMING DRIVERS. DRIVERS SHALL BE CAPABLE OF DIMMING TO A MINIMUM OF 10% OF TOTAL LIGHT OUTPUT. LED DRIVERS SHALL HAVE A DISCONNECTING MEANS MEETING THE REQUIREMENTS OF NEC SECTION 410.130(G), EXCEPT FOR THOSE INSTALLED IN CORD-AND-PLUG CONNECTED FIXTURES. WHERE APPLICABLE, WHEN DIMMING SWITCHES ARE NOT PROVIDED AS PART OF THE DESIGN, CONTRACTOR SHALL CAP OFF 0-10V DIMMING WIRES FOR FUTURE EXTENSION BY OWNER.
- TO COMPLY WITH NEC SECTION 410.130(G), ALL EXISTING OR RELOCATED FLUORESCENT LIGHT FIXTURES WITHOUT A BALLAST DISCONNECTING MEANS SHALL HAVE A BALLAST DISCONNECTING MEANS PROVIDED AND INSTALLED UNDER ANY OF THE FOLLOWING CONDITIONS:
  - WHEN AN EXISTING BALLAST IS REPLACED.
  - WHEN AN EXISTING LIGHT FIXTURE IS RELOCATED.
  - WHEN AN EXISTING LIGHT FIXTURE IS RECIRCUITED.

# EXIST. PANEL: C

SIEMENS S1, W/GRD. BUS

208Y/120 VOLTS, 3 PHASE, 4 WIRE  
250 AMP MLO, FLUSH MTD.  
10000 AIC LABELED

CIRC NO.	LOAD V. A.	LOAD TYPE	LOAD DESCRIPTION	AMP SIZE	USE TYPE	AMP SIZE	LOAD DESCRIPTION	LOAD TYPE	LOAD V. A.	CIRC NO.		
1	360	RCPT	SHOWROOM NORTH OUTLETS	1	20	A	20	1	MAIN OFFICE EAST OUTLETS	RCPT	360	2
3	720	RCPT	SOUTHWEST OFFICE OUTLETS	1	20	B	25	1	VENDING MACHINE	EQPT	1500	4
5	740	EQPT	SOUTHWEST OFFICE OUTLET SPRINKLER	1	20	C	35	1	WOMENS HANDWARMER	EQPT	1920	6
7	250	LIGHT	SOUTHWEST OFFICE LIGHTS	1	20	A	20	1	BATH LIGHTS AND FANS	LIGHT	1840	8
9	500	EQPT	FIRE ALARM	1	20	B	30	1	LOUNGE COUNTER AND DISPLAY	EQPT	1720	10
11	1200	EQPT	COPIER	1	20	C	20	1	NORTH OFFICE OUTLETS	RCPT	720	12
13	1920	EQPT	MENS SO HANDWARMER	1	20	A	20	1	HALL LOUNGE CONF. A OFFICE LIGHTS	LIGHT	1200	14
15	1880	LIGHT	SHOWROOM LIGHTS	1	20	B	20	1	OUTLET FOR COPIER	EQPT	1200	16
17	180	RCPT	MAIN OFFICE SE OUTLET	1	20	C	25	1	VENDING MACHINE	EQPT	1500	18
19	1880	LIGHT	SOUTH EAST OFFICE	1	20	A	20	1	RESTROOM OUTLETS AND WATER COOLER	EQPT	1110	20
21	380	LIGHT	MAIN OFFICE LIGHTS	1	20	B	20	1	CONFERENCE ROOM OUTLETS	RCPT	1080	22
23	1200	EQPT	COFFEE MAKER	1	20	C	25	1	EXHAUST FANS	MOTR	1460	24
25	1920	EQPT	MENS NO. HANDWARMER	1	20	A	25	1	VENDING MACHINES	EQPT	1500	26
27	1880	LIGHT	SOUTH EAST OFFICE LIGHTS	1	20	B	25	1	FRONT SIGN	EQPT	1400	28
29	750	EQPT	MICROWAVE	1	20	C	20	1	MAIN OFFICE WEST CENTER OUTLETS	RCPT	360	30
31	1880	LIGHT	SHOWROOM LIGHTS	1	20	A	25	1	VENDING MACHINE	EQPT	1500	32
33	750	EQPT	MICROWAVE	1	20	B	25	1	VENDING MACHINE	EQPT	1500	34
35	360	RCPT	MAIN OFFICE WEST OUTLETS	1	20	C	20	1	MAIN OFFICE EAST CENTER OUTLETS	RCPT	360	36
37	250	LIGHT	SOUTH WEST OFFICE LIGHTS	1	20	A	25	1	REFRIGERATOR OUTLETS	EQPT	1500	38
39	2160	POWER	SUB PANEL FRONT OFFICE 146	2	60	B	30	2	WATER HEATER	WTRH	2500	40
41	---	---	---	---	---	C	---	---	---	---	---	42

- EXISTING CIRCUIT BREAKERS AND LOADS TO REMAIN UNLESS NOTED OTHERWISE. UPDATE PANEL DIRECTORY WITH ALL CHANGES. PANEL SHOWN FOR REFERENCE ONLY.

# EXIST. PANEL: H

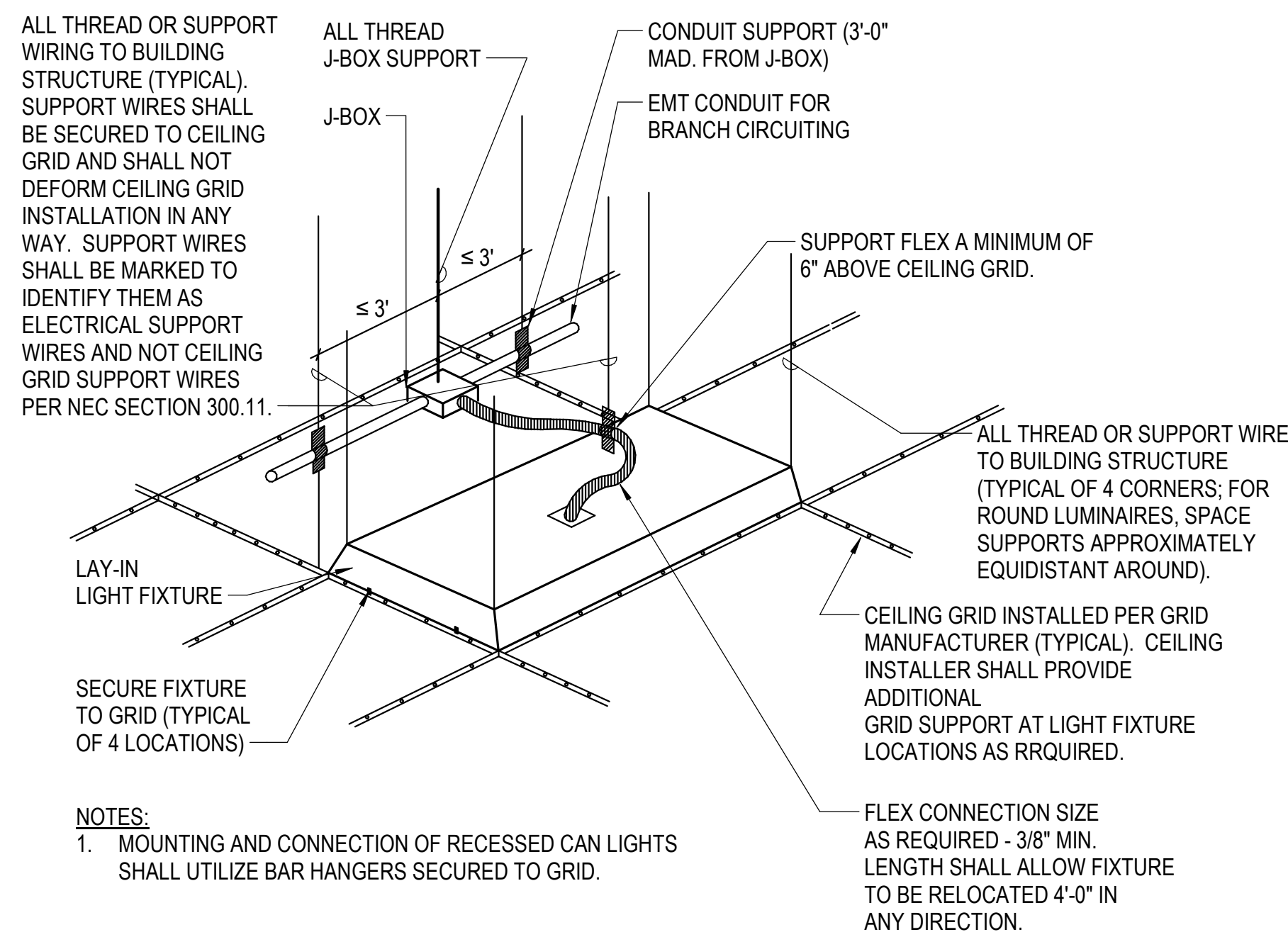
EATON PRL1A, FEED THRU 150A CB TO PANEL B, W/GRD. BUS

208Y/120 VOLTS, 3 PHASE, 4 WIRE  
225 AMP MAIN BKR, SURFACE MTD.  
10000 AIC LABELED

CIRC NO.	LOAD V. A.	LOAD TYPE	LOAD DESCRIPTION	AMP SIZE	USE TYPE	AMP SIZE	LOAD DESCRIPTION	LOAD TYPE	LOAD V. A.	CIRC NO.		
1	360	RCPT	SUPERVISOR DESK RCPT	1	20	A	20	1	WAREHOUSE LIGHTING CONTACTOR COILS	EQPT	600	2
3	360	RCPT	SUPERVISOR DESK RCPT	1	20	B			SPACE			4
5	1180	EQPT	WEST DOCK DOOR	1	20	C	20	1	EXISTING LOAD	EQPT	1920	6
7	1200	EQPT	PALLET WRAPPER	1	20	A	20	1	EF-1	MOTR	700	8
9	1830	EQPT	WEST DOCK LEVELER	1	20	B	20	1	WORK STATION RCPT	RCPT	360	10
11	1830	EQPT	EAST DOCK LEVELER	1	20	C	20	1	WORK STATION RCPT	RCPT	360	12
13	600	EQPT	CHARGING CONTACTOR COILS	1	20	A	20	1	PALLET WRAPPER	EQPT	1200	14
15	1920	EQPT	EXISTING LOAD	1	20	B	20	1	CHARGING STATION LIGHTING	LIGHT	250	16
17	500	EQPT	STOCK PICKER	1	20	C	20	2	EXISTING LOAD	EQPT	3300	18
19	500	EQPT	STOCK PICKER	1	20	A	---	---	---	---	---	20
21	500	EQPT	PALLET JACK	1	20	B	---	---	SPACE	---	---	22
23	500	EQPT	PALLET JACK	1	20	C	20	2	EXISTING LOAD	EQPT	3300	24
25	500	EQPT	PALLET JACK	1	20	A	---	---	---	---	---	26
27	500	EQPT	PALLET JACK	1	20	B	---	---	SPACE	---	---	28
29	1180	EQPT	EAST DOCK DOOR	1	20	C	---	---	SPACE	---	---	30
31	540	RCPT	OFFICE 134,135 RCPT	1	20	A	---	---	SPACE	---	---	32
33	900	RCPT	OPEN OFFICE 138,140 RCPT	1	20	B	---	---	SPACE	---	---	34
35	360	RCPT	OPEN OFFICE 133 RCPT	1	20	C	---	---	SPACE	---	---	36
37			SPACE			A	---	---	SPACE	---	---	38
39			SPACE			B	---	---	SPACE	---	---	40
41			SPACE			C	---	---	SPACE	---	---	42

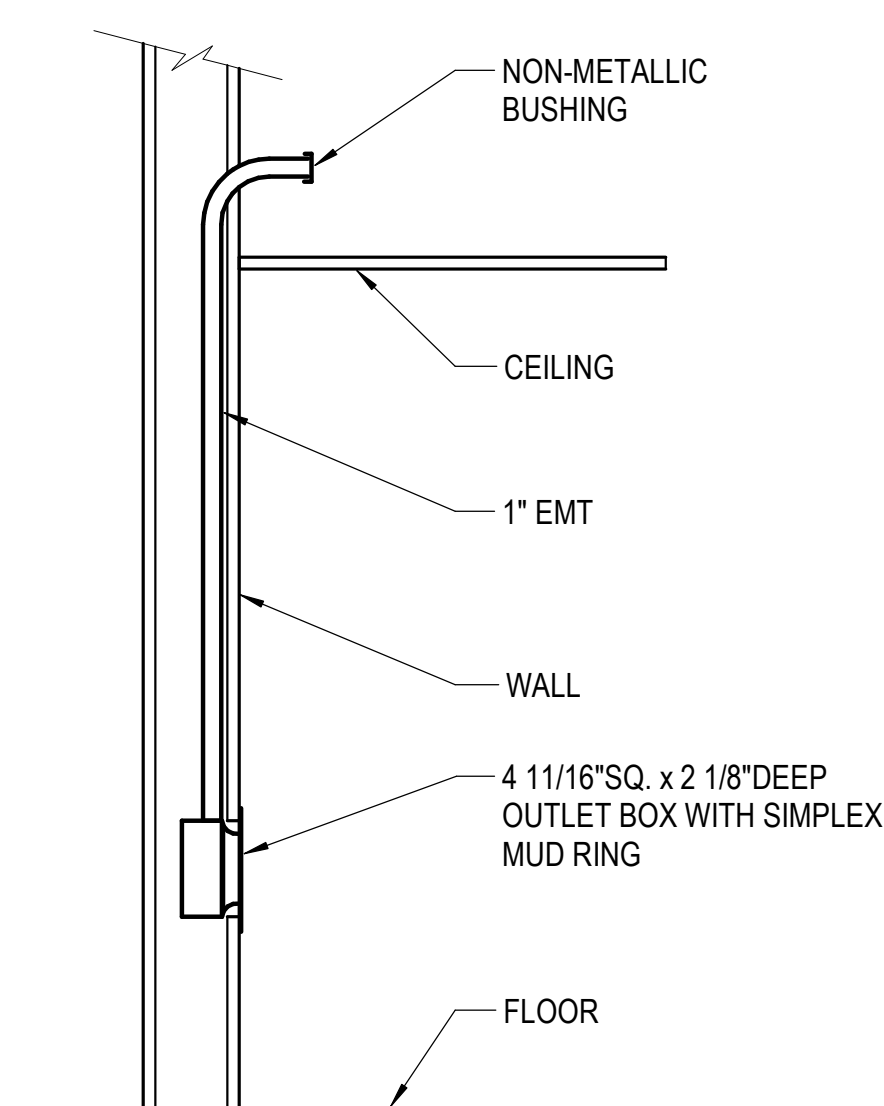
- EXISTING CIRCUIT BREAKERS AND LOADS TO REMAIN UNLESS NOTED OTHERWISE. UPDATE PANEL DIRECTORY WITH ALL CHANGES.
- PROVIDE AND INSTALL CIRCUIT BREAKER IN EXISTING SPACE. CIRCUIT BREAKER SHALL MATCH EXISTING CIRCUIT BREAKERS SHALL BE RATED FOR THE MAX AIC RATING WITH EXISTING PANEL. VERIFY ALL REQUIREMENTS IN THE FIELD.

	CONNECTED KVA:				DEMAND FACTOR	CONT. FACT	SIZING AMPS:				
	PH-A	PH-B	PH-C	TOTAL			TOTAL	PH-A	PH-B	PH-C	
Lighting	0.0	0.2	0.0	0.2	1	0.2	1.25	0.9	0.0	2.6	0.0
Receptacle	0.9	1.3	0.7	2.9	1	2.9	1	8.0	7.5	10.5	6.0
Largest Motor	0.0	0.0	0.0	0.0	1	0.0	0.25	15.9	15.9	15.9	15.9
Motor	0.7	0.0	0.0	0.7	1	0.7	1	1.9	5.8	0.0	0.0
Equipment	15.5	12.4	18.0	46.0	1	46.0	1	127.6	129.4	103.2	150.4
<b>TOTAL KVA:</b>	<b>17.1</b>	<b>13.9</b>	<b>18.8</b>	<b>49.8</b>		<b>49.8</b>		<b>TOTAL AMPS:</b>	<b>PH-A</b>	<b>PH-B</b>	<b>PH-C</b>
<b>TOTAL AMPS:</b>	<b>142.8</b>	<b>115.8</b>	<b>156.4</b>	<b>138.2</b>				<b>154.3</b>	<b>158.7</b>	<b>132.2</b>	<b>172.3</b>



# TYPICAL LAY-IN FIXTURE INSTALLATION

NO SCALE

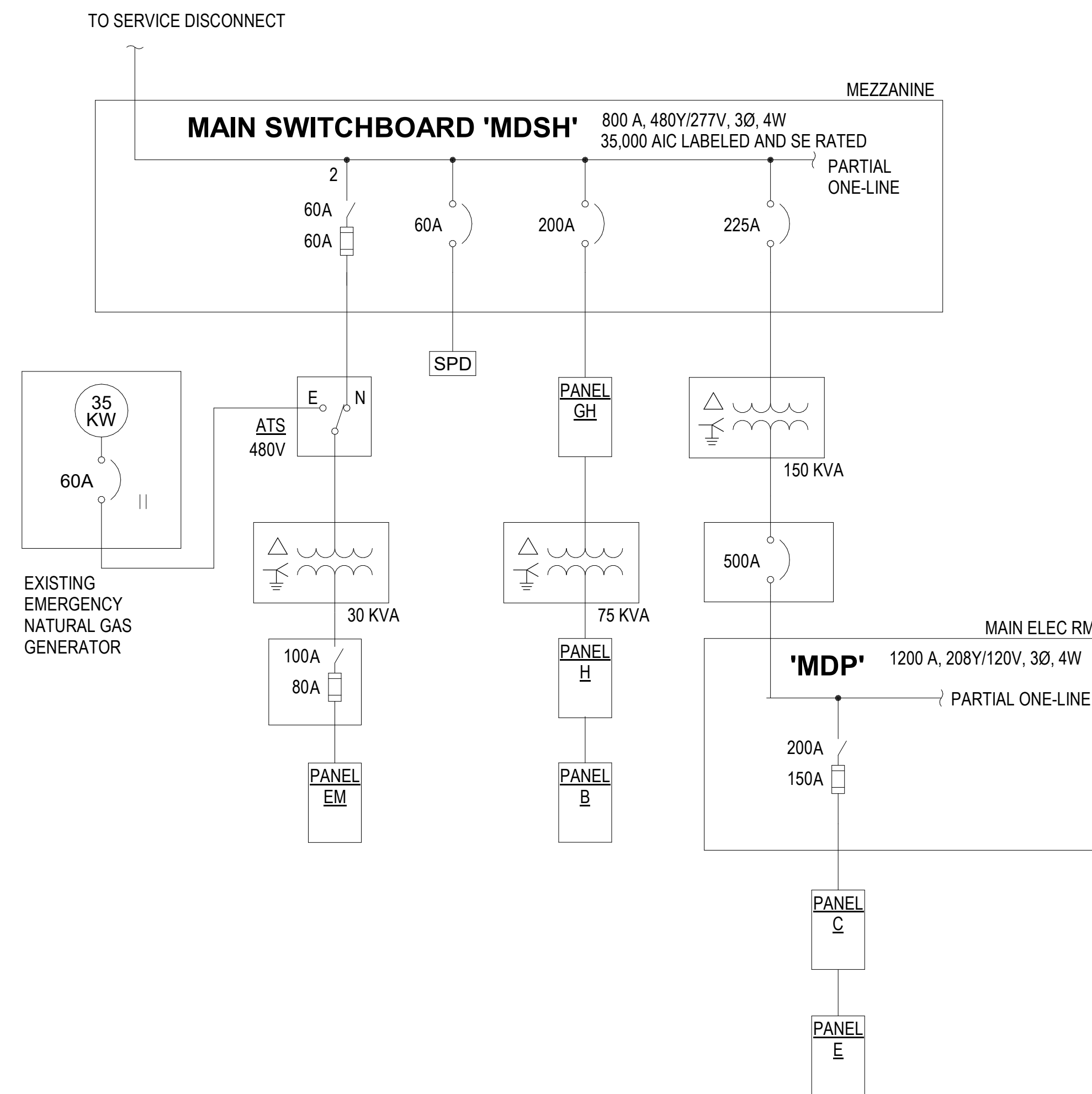


# DATACOM OUTLET DETAIL

NO SCALE

# GENERAL ONE-LINE DIAGRAM NOTES:

- UNLESS OTHERWISE NOTED, ALL CIRCUIT BREAKERS AND/OR SWITCHES ARE THREE POLE.
- ALL ELECTRICAL EQUIPMENT AND WIRING SHOWN IN A LIGHT LINE, IS EXISTING TO REMAIN.
- ONE-LINE SHOWN FOR REFERENCE ONLY. ALL WORK IS AT BRANCH CIRCUIT LEVEL, REFER TO PANEL SCHEDULES.



# PARTIAL ELECTRICAL ONE-LINE DIAGRAM

NO SCALE

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SHEET CONTENTS  
ELECTRICAL DETAILS AND SCHEDULES

POUDRE SCHOOL DISTRICT  
WAREHOUSE 5 RELOCATION  
FORT COLLINS, COLORADO



NO.	BY	DATE	DESCRIPTION	REVISIONS
1	MJH			
2	ACR			

ISSUE FOR PERMIT

DATE: 07.10.20

SCALE: AS SHOWN

PROJECT NO. E5.0

PEC PROFESSIONAL ENGINEERING CONSULTANTS, P.A.  
400 LINDEN ST. SUITE 110 FORT COLLINS, CO 80524  
970.232.9558 www.pec1.com





**LIMITED SCOPE AGREEMENT**  
FOR  
PROVISION OF PROFESSIONAL SERVICES, CONSTRUCTION SERVICES, AND/OR  
MATERIALS

THIS AGREEMENT, effective the \_\_\_\_\_, 20\_\_ by and between Poudre School District R-1, hereinafter referred to as the "District," and \_\_\_\_\_, hereinafter referred to as the "Contractor," for the following project:

**Solicitation Method... RFQu, RFP, IFB #**

WITNESSETH THAT:

WHEREAS, the District is desirous of engaging the services of the Contractor for purposes of obtaining the Contractor's expertise in the areas of construction and/or to provide certain materials for the above project; and

WHEREAS, the Contractor has agreed to provide such services and/or materials under certain terms and conditions as hereinafter set forth; and

WHEREAS, the services and/or materials to be provided by the Contractor are to be limited to the services which are more fully described herein; and

WHEREAS, the parties hereto wish to memorialize, in writing, the terms of their agreements and understandings with regard to the rights and obligations of the District and the Contractor in connection therewith.

NOW, THEREFORE, in consideration of the covenants and promises hereinafter set forth, the parties hereto agree as follows:

1. The Contractor will provide the services which are described herein and contemplated to be provided by the Contractor in fulfillment of the project of the District, a written copy of which Project Scope of Services, if available, is attached to, incorporated herein and titled "Exhibit 1." The provisions of this Agreement shall prevail in the event of conflict between this Agreement and any Exhibit hereto or any purchase order associated herewith.
2. The Contractor shall perform the services in a professional manner and in conformity with all applicable federal, state, county, and local municipal or regulatory statutes, ordinances, codes, standards, directives, rules, and regulations. To the extent of its liability insurance limits, the Contractor shall fully indemnify the District for all claims or damages, including all direct, indirect, incidental, special or consequential damages or liability, that the District may incur as a result of any negligent acts or omissions of the Contractor and the Contractor's employees and agents performing the services (or goods and services) herein, including third party claims. Any materials obtained or provided by the Contractor hereunder shall be of good quality and sufficient for the project and/or the District's needs.

3. The District shall provide the Contractor with complete information concerning the project, and shall allow the Contractor the opportunity to review all necessary and reasonable documents concerning the project.
4. The Contractor shall not be liable for the District's use of materials prepared by the Contractor, if the District's use is beyond the scope of the project.
5. Changes in the nature and scope of the services to be provided by the Contractor pursuant to this Agreement shall be as agreed upon in writing from time to time by the Contractor and the District. Any material changes in the nature of the services to be provided by the Contractor must first be reduced to writing and executed by the District and Contractor.
6. This Agreement may be terminated by either of the parties hereto upon seven days written notice to the other party, if either party should fail to substantially perform its obligations pursuant to this Agreement. If not so terminated, this Agreement shall continue until the services (as set forth in the scope of services) have been completed, but in any event, no later than \_\_\_\_\_.
7. The compensation to be paid by the District to the Contractor shall be \_\_\_\_\_.
8. For all purposes, the Contractor is an independent contractor of the District and not an employee. This Agreement shall not be deemed to create any partnership or joint venture or other enterprise between the parties or any employer-employee relationship and is executed, in part, to rebut the presumptions set forth in Sec. 8-40-202(2), C.R.S.
  - 8.1. The Contractor shall be responsible for obtaining the Contractor's own workers' compensation, medical, health, unemployment and other insurance and coverage as contractor deems necessary or as may be required by law. The Contractor is required to make appropriate filings with federal, state, and local taxing authorities to include income tax, social security, Medicare and other payments. No federal or state withholdings shall be made by the District on any compensation paid to the Contractor and for services rendered under this Agreement.
9. In the event of any dispute or claim arising under or related to this Agreement, the parties shall use their best efforts to settle such dispute or claim through good faith negotiations with each other. If such dispute or claim is not settled through negotiations within 30 days after the earliest date on which one party notifies the other party in writing of its desire to attempt to resolve such dispute or claim through negotiations, then the parties agree to attempt in good faith to settle such dispute or claim by mediation conducted under the auspices of a recognized established mediation service within the State of Colorado. Such mediation shall be conducted within 60 days following either party's written request therefor. If such dispute or claim is not settled through mediation, then either party may initiate a civil action in the state courts of Larimer County, Colorado. No such action shall be removed to any other court or jurisdiction. The prevailing party in such court action

shall be entitled to collect, as part of any judgment entered, its reasonable expert witness and attorneys' fees and costs.

10. The Contractor agrees to procure and maintain, at its sole expense, all licenses, or registrations necessary for doing business within the applicable governing jurisdictions that may regulate the performance of the work set forth in the Exhibits and Attachments, except in those instances when the District is required to procure them due to ownership of the building, structure, or property.
11. The Contractor shall obtain and maintain a liability insurance policy... of no less than \$2,000,000 in coverage to meet the Contractor's indemnification obligations hereunder as well as any direct liability that it may incur. The Contractor shall furnish to the District a Certificate of Insurance or other evidence satisfactory to the District that such insurance coverage is in effect. OR as specifically outlined in the solicitation request.
12. This Agreement shall be construed under the laws of the State of Colorado.
13. Contractor shall maintain documentation of services provided to the District under the terms of this Agreement and said information shall be available to the District at any time upon request. The District's representative shall monitor and coordinate the performance of the terms of this Agreement. The Contractor agrees to coordinate activities under this Agreement with the District's representative, \_\_\_\_\_.
14. Performance and Payment Bond. Colorado State Statues require Performance Bond and a Payment Bond on public construction projects of more than \$50,000.00. Contractor is required to post bonds, executed by a surety company authorized to do business in the State of Colorado, upon notification of bid award. Performance and Payment bonds will each be equal to 100% of contract price and must remain in effect until completion of contract.
  - 14.1. Both the Performance Bond and the Payment Bond shall be written on AIA A312 Performance Bond and AIA A312 Payment Bond Forms, as issued by The American Institute of Architects. Dates of bonds shall coincide with the date of the Contract between the Owner and the Contractor. Substitute forms may not be used.  
**REQUIRED:**  YES  NO
15. Immigrant Worker Regulation. See Attachment A. The Contractor agrees to comply with, sign, and return Attachment A, "Immigrant Worker Regulation."  
**REQUIRED:**  YES  NO
16. Asbestos Hazardous Material Clause. See Attachment B. The Contractor agrees to comply with, sign, and return Attachment B, "Asbestos Hazardous Material Clause - Protection of Persons or Property."  
**REQUIRED:**  YES  NO

17. Lead-Based Paint Material Clause. See Attachment C. The Contractor agrees to comply with, sign, and return Attachment C, "Lead Paint Renovation, Repair, & Painting Recordkeeping Checklist."

**REQUIRED:**  YES  NO

18. Stormwater Management Permit. See Attachment D. The Contractor agrees to comply with Attachment D, "Stormwater Management Permit."

**REQUIRED:**  YES  NO

19. All notices, requests, demands, and other communications given or to be given under this Agreement shall be in writing and shall be deemed to have been duly given when served if served personally, or on the second day after mailing if mailed by first class mail, registered or certified, postage prepaid, and properly addressed to the party to whom notice is to be given as set forth below.

**To the District:**

Earl Smith, Director of Construction Services  
Poudre School District R-1  
2445 Laporte Avenue  
Fort Collins, CO 80521

**To the Contractor:**

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IN WITNESS WHEREOF, the parties' authorized representatives have executed this Agreement, effective the date first above written.

POUDRE SCHOOL DISTRICT R-1

By: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

CONTRACTOR

By: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**ALL CONTRACTS MUST BE APPROVED PER DISTRICT POLICY DJA**

*Poudre School District Policy DJA requires all contracts in excess of \$250,000 have Board of Education approval. Contracts up to \$250,000 must be approved by either the Superintendent, Executive Director of Finance, Purchasing and Materials Manager, or authorized delegate. This Contract is not valid until signed and dated below by an authorized person. Contractor is not authorized to begin performance until such time. If Contractor begins performing prior thereto, Poudre School District is not obligated to pay Contractor for such performance or for any goods and/or services provided hereunder.*

**APPROVED:**

\_\_\_\_\_

*(Signature)*

\_\_\_\_\_

*(Printed name, title, and date)*

**EXHIBIT 1**  
**PROJECT SCOPE OF SERVICES**

(Insert scope or replace with other document)

## ATTACHMENT A

### IMMIGRANT WORKER REGULATION

1. **UNLAWFUL EMPLOYEES, CONTRACTORS AND SUBCONTRACTORS.** Contractor shall not knowingly employ or contract with an illegal alien to perform work under this Contract. Contractor shall not knowingly contract with a subcontractor that (a) knowingly employs or contracts with an illegal alien to perform work under this Contract or (b) fails to certify to the Contractor that the subcontractor will not knowingly employ or contract with an illegal alien to perform work under this contract.
2. **VERIFICATION REGARDING ILLEGAL ALIENS.** Contractor has verified or attempted to verify through participation in the basic pilot program of the State of Colorado that Contractor does not employ any illegal aliens or Contractor verifies that Contractor has not been accepted into the basic pilot program prior to entering into this Contract. Contractor further verifies that if Contractor has not been accepted into the basic pilot program of the State of Colorado, Contractor will apply to participate in the basic pilot program of the State of Colorado every three months until Contractor is accepted or this Contract is completed, whichever is earlier. If the Basic Pilot Program is discontinued, this provision shall not be required or be effective.
3. **LIMITATION REGARDING BASIC PILOT PROGRAM.** Contractor shall not use Basic Pilot Program procedures to undertake pre-employment screening of job applicants while performing this Contract.
4. **DUTY TO TERMINATE A SUBCONTRACT; EXCEPTIONS.** If Contractor obtains actual knowledge that a subcontractor performing work under this Contract knowingly employs or contracts with an illegal alien, the Contractor shall:
  - 4.1 Notify the subcontractor and the District within three days that the Contractor has actual knowledge that the subcontractor is employing or contracting with an illegal alien; and,
  - 4.2 Terminate the subcontract with the subcontractor if, within three days of receiving notice that the Contractor has actual knowledge that the subcontractor is employing or contracting with the illegal alien. The contractor shall not terminate the contract with the subcontractor if during the three days, the subcontractor provides information to establish that the subcontractor has not knowingly employed or contracted with an illegal alien.
5. **DUTY TO COMPLY WITH STATE INVESTIGATION.** Contractor shall comply with any reasonable request of the Colorado Department of Labor and Employment made in the course of an investigation pursuant to Section 8-17.5-102(5), C.R.S.
6. **DAMAGES FOR BREACH OF CONTRACT.** In addition to any other legal or equitable remedy, the District may be entitled to for a breach of this Contract, if the District terminates this Contract, in whole or in part, due to Contractor's breach of the obligations set forth above, Contractor shall be liable for actual and consequential damages to the District.

**ATTACHMENT A - FORM**

**CONTRACTOR'S CERTIFICATE REGARDING  
EMPLOYING OR CONTRACTING WITH AN ILLEGAL ALIEN**

FROM: \_\_\_\_\_  
(Contractor)

TO: Poudre School District R-1  
2407 Laporte Avenue  
Fort Collins, CO 80521

Project Name: \_\_\_\_\_

Bid Number: \_\_\_\_\_ Project Number: \_\_\_\_\_

As the Contractor for the above-identified bid, I (we) do hereby certify that, as of the date of this certification, I (we) do not knowingly employ or contract with an illegal alien and the I (we) have participated in or attempted to participate in the basic pilot program of the State of Colorado in order to verify that I (we) do not employ any illegal aliens.

Signed on \_\_\_\_\_, 20\_\_

\_\_\_\_\_  
Contractor Name

By: \_\_\_\_\_

Its: \_\_\_\_\_  
Title



## ATTACHMENT B

### Asbestos Hazardous Material Clause - Protection of Persons or Property

#### Asbestos-Containing Materials:

1. Notice is hereby given that Poudre School District, in accordance with the United States Environmental Protection Agency's Asbestos Hazard Emergency Response Act, has completed federally mandated asbestos inspections of its facilities and that AHERA Inspection Reports and Management Plan Updates are available for review at each school facility and at the Department of Facility Services, Operations Service Center without cost or restriction for inspection during normal business hours. Copies can be made of such Plans at the normal copying charges established by the District.
  - 1.1. If asbestos containing material (ACM) is discovered during construction, Contractor is to notify the Owner immediately for evaluation and removal.
2. NON-USE OF ASBESTOS CONTAINING MATERIAL
  - 2.1. No asbestos or asbestos containing products shall be used in this construction or in any tools, devise, clothing or equipment used to affect this construction. Specific exceptions to this exclusion are as follows: vehicles with asbestos containing material (ACM) brake linings; elevator brake linings; laboratory muffle furnace with interior ACM insulation.
3. DEFINITION AND TESTING
  - 3.1. Asbestos and/or asbestos-containing products shall be defined as all items containing chrysotile, crocidolite, amosite, anthophyllite, tremolite or actinolite.
  - 3.2. Any or all material containing greater than one tenth of one percent (0.1%) asbestos shall be defined as ACM.
  - 3.3. Any disputes involving the question of whether or not material contains asbestos shall be settled by electron microscopy; the costs of any such tests which confirm the presence of ACM shall be paid by the Contractor; if no ACM is found, the cost of such tests shall be borne by the Owner.
4. REMEDIATION
  - 4.1. All work or materials found to contain asbestos or work or material installed with asbestos-containing equipment will be immediately rejected upon discovery and this Work will be remediated at no additional cost to the Owner. Such cost for remediation shall include, but is not limited to, cost of; the asbestos contractor, insurance, asbestos consultant, analytical and laboratory fees, and any other additional cost as may be incurred by Owner.
5. CERTIFICATION
  - 5.1. The Contractor shall certify, on the Certification of Nonuse of Asbestos Form – Attachment B, that to the best of his knowledge no ACM was used as a building material in the construction of the Project. Attachment B is to be submitted in a separate folder with the closeout documents. Attachment B follows this section.
  - 5.2. Certification required for final payment.

**ATTACHMENT B - FORM**  
**CONTRACTORS/ARCHITECTS CERTIFICATION**  
**OF NON-USE OF ASBESTOS CONTAINING BUILDING MATERIAL**

PROJECT NAME: \_\_\_\_\_ PROJECT NO. \_\_\_\_\_

CONTRACTOR: \_\_\_\_\_

CONSTRUCTION DATES:

NOTICE TO PROCEED (START): \_\_\_\_\_

SUBSTANTIAL COMPLETION DATE: \_\_\_\_\_

SQUARE FEET: \_\_\_\_\_  
(BUILDING OR PROJECT AREA)

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I certify that for the project described above, to the best of my knowledge, no asbestos-containing material (ACM) was used as a building material in the construction of this project.

\_\_\_\_\_  
Contractor's Company Name

\_\_\_\_\_  
Name & Title

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

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I certify that for the project described above, to the best of my knowledge, no asbestos-containing material (ACM) was used as a building material in the construction of this project.

\_\_\_\_\_  
Architect's Company's Name

\_\_\_\_\_  
Name & Title

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

## ATTACHMENT C

### Lead-Based Paint Materials Clause – Protection of Persons or Property

#### Lead-Based Paint Materials:

1. Notice is hereby given that Poudre School District, in accordance with the United States Environmental Protection Agency's Lead Safety for Renovation, Repair, and Painting Rule has performed lead-based paint inspections of its elementary school facilities constructed prior to 1980.
2. Lead-Based Paint Evaluation Reports are available for review at each elementary school built prior to 1980 and at the Department of Facility Services, Operations Service Center without cost or restriction for inspection during normal business hours. Copies can be made of such reports at the normal copying charges established by the District.
3. In the event that lead-based paint materials or suspected lead-based paint materials are discovered in the area designated for construction, the Contractor assumes responsibility to notify to the District and all workmen of existing lead-based paint conditions. Notification shall be made on approved EPA Forms and includes posting of notices in accordance with EPA and OSHA Guidelines. The Contractor shall assume all responsibility for compliance with applicable codes and regulations regarding discovery and notification of the presence of lead-based paint material.
4. If suspect lead-based paint material is identified, the Contractor shall not continue until the District, upon proper notification from the Contractor or Subcontractor, has the suspected lead-based materials analyzed. This will be done promptly by the District. If the Contractor proceeds after notification by the District not to proceed, the Contractor shall become liable for all costs associated with the cleaning and clearance for occupancy (using clearance testing method set out by the RRP Rule Regulations) of the structure or site.
5. All Work impacting Lead-Based Paint shall be performed by firms and individuals certified in Lead Safety for Renovation, Repair, and Painting. A copy of the firm's certification and a copy of certification of renovators shall be provided to the District within 10 days of contract issuance. The Contractor shall provide the District a copy of the Attachment – Lead Paint Renovation, Repair, and Painting Recordkeeping Checklist for each work area at project completion.

**ATTACHMENT C - FORM**

**LEAD PAINT RENOVATION, REPAIR, & PAINTING RECORDKEEPING  
CHECKLIST**

Work Date(s): \_\_\_\_\_ Facility: \_\_\_\_\_

Work Area(s): \_\_\_\_\_

Brief Description of Work: \_\_\_\_\_

**Review Conducted of Lead-Based Paint Evaluation Report for Facility to determine whether lead was present on components affected by work:  
(Signature **REQUIRED**)** \_\_\_\_\_

**Work Impacted by Lead-Paint: NO \_\_\_\_\_ YES: \_\_\_\_\_ (if YES complete remaining form)**

Name of Certified RRP Renovator (if used): \_\_\_\_\_

- Copies of RRP renovator qualifications (training certificates, certifications) on file or attached.
- Warning signs posted at entrance to work area.
- Work area contained to prevent spread of dust and debris.
- All objects in the work area removed or covered (interiors).
- HVAC ducts in the work area closed and covered (interiors).
- Windows in the work area sealed.
- Windows within 20 feet of the work area closed.
- Doors in the work area closed and sealed (interiors).
- Doors in and within 20 feet of the work area closed and sealed (exteriors).
- Doors that must be used in the work area covered to allow passage but prevent spread of dust.
- Floors in the work area covered with taped-down plastic (interiors).
- Ground covered by plastic extending 10 feet from work area.
- Vertical containment installed to prevent migration of dust and debris to adjacent areas.
- All visible debris HEPA vacuumed or cleaned with wet cloths, protective sheeting misted, folded dirty side inward, and taped for disposal in exterior dumpster.
- TCLP performed of waste streams greater than 220 lbs. Results (attach lab report): \_\_\_\_\_
- Certified Renovator performed EPA Post-Renovation Cleaning Verification Card (describe results, time & date):** \_\_\_\_\_
- \_\_\_\_\_
- Number of wet cloths used: \_\_\_\_\_
- Work Waste sealed with duct tape in appropriate trash bag and disposed of in exterior dumpster.

**I certify under penalty of law that the above information is true and complete**

**(Signature **REQUIRED**):** \_\_\_\_\_

## ATTACHMENT D

### STORMWATER MANAGEMENT PERMIT

1. The Contractor is responsible for securing and paying for the State Stormwater Management Permit and/or local Stormwater Management Permit as may be required.
  - 1.1. The contractor is responsible to ensure that all the requirements of either the State or local Stormwater Management Permit are strictly followed during construction.
  - 1.2. The Contractor shall review and follow the District's Illicit Discharge reporting procedures in the event of an occurrence.
2. The District may engage a civil engineer to prepare an erosion control plan as part of the overall contract documents.
  - 2.1. The Contractor can use or modify the contract document plan as necessary in their preparation of the Stormwater Management Permit application. However, this does not relieve the Contractor from preparing their own site specific plan for application submission if no plan is provided in the contract documents.
3. The District or designated District's representative may inspect the Stormwater Management plan, project site and Best Management Practices (BMPs) and communicate noted deficiencies for corrective measures at any time during the construction project.
  - 3.1. The Contractor shall be fined up to \$250 dollars per day in addition to any Federal, State or local fines until deficiencies are corrected.
  - 3.2. The Contractor shall coordinate all inspections required by the State or authority having jurisdiction (AHJ).
4. The District's final acceptance of the project and Contractor de-mobilization does not relieve the Contractor of their responsibilities and duties as required in the permit, (i.e., maintain BMPs, regular and post-event inspections as defined in the permit, etc.) while it is still open.
  - 4.1. Final acceptance of ground areas including permanent stormwater structures shall only occur after the required vegetation and stabilization has been established.
  - 4.2. The Contractor is required to conduct monthly inspections of the site and BMPs during this warranty period and make corrective changes to the BMPs or add BMPs as needed.
5. The Contractor will notify the District in writing when they believe all vegetation and stabilization has reached the contract requirements and they want to close the Stormwater Management Permit.
  - 5.1. The District must be allowed the opportunity to review the site and approve the contractor's request to close the permit. The Contractor cannot apply to close the Stormwater Management permit without the District's written approval.
  - 5.2. It is the contractor's responsibility to remove and dispose of all BMPs after the Stormwater Management Permit has been closed.
6. The Contractor shall provide full-time, qualified, and efficient supervision of the work, using competent skill and attention.
  - 6.1. The Contractor's superintendent shall be knowledgeable and completed training in

Stormwater Management & Erosion Control and OSHA construction safety.

- 6.2. The superintendent shall be knowledgeable of all building codes that govern the construction of the project.
- 6.3. The superintendent shall direct, schedule, and coordinate the work.
- 6.4. The superintendent is responsible for determining and supervising all temporary and permanent erection and construction sequences, techniques, means and methods.
- 6.5. The superintendent shall coordinate the work to ensure that all parts fit together properly and in accordance with the Contract Documents.
- 6.6. The superintendent shall carefully study and compare all Contract Documents and other instructions and shall at once report to the Architect (if applicable) and the District any error, inconsistency, or omission which they may discover.