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SPECIFICATIONS FOR LABOR AND MATERIALS

for

2018 HEALTH LIFE SAFETY IMPLEMENTATION WORK

at

MACOMB JUNIOR-SENIOR HIGH SCHOOL
1525 S. Johnson Street
Macomb, IL 61455

Edison School
521 S Pearl Street
MACOMB, IL 61455

for

MACOMB CUSD NO. 185
323 W. Washington Street
Macomb, IL 61455

A/E PROJECT NUMBER:2326 0217

ISSUE DATE: February 27, 2018

PRE-BID: Tuesday, March 6, 2018
1:00 p.m. at Edison School
2:00 p.m. at Macomb Junior-Senior High School

SITE VISITS: After 3:30 p.m. on school days
CALL AHEAD to see if a visit can or will be accommodated.

BID DATE: Wednesday, March 14, 2018 – 2:00 p.m.
Macomb CUSD No. 185 District Office
323 W. Washington Street
Macomb, IL 61455



A handwritten signature in blue ink that reads "Russell W. Middleton".

DIVISION 00 – BIDDING & CONTRACT REQUIREMENTS

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Macomb Junior-Senior High School, & Edison School

FOR: Macomb CUSD No. 185
323 W. Washington St.
Macomb, IL 61455

SUPERINTENDENT OF SCHOOLS: Patrick M. Twomey

ARCHITECT: Middleton Associates Incorporated
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309/452-1271 FAX 309/454-8049
e-mail: russ@middletonassociates.net
website: www.middletonassociates.net

A/E PROJECT NO: 2326 0217

ISSUE DATE: TUESDAY, February 27, 2018

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DOCUMENT LIABILITY

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END 00 0110

DIVISION 00 – PROCUREMENT REQUIREMENTS
Section 00 1116 – Invitation for Bids

Sealed proposals will be received by: Macomb CUSD No. 185

For Project: 2018 Health Life Safety Implementation Work
Macomb Junior-Senior High School & Edison School

Proposals to be submitted prior to **2:00 p.m., prevailing time, Wednesday, March 14, 2018**

Submit to: Macomb CUSD No. 185
323 W. Washington St.
Macomb, IL 61455

Pre-Bid Meeting: Tuesday March 6, 2018 – 1:00 p.m. Edison School check in at public entrance at office, and 2:00 p.m. at Macomb Junior-Senior High School check in at public entrance at office. Locations of the meeting will be available at that time.

Proposals shall be delivered to the above location prior to the time of opening. Proposals shall be identified on the outside of the envelope as "Sealed Proposal" and list the project title as shown above. Immediately following the stated time, proposals will be opened and publicly read.

Terms of the proposal:

- Bid Security is required, 5% Bid Bond payable to Macomb CUSD #185
- Owner protective bonds are required in the amount of 100% of the Contract value.
- Illinois Prevailing Wage Act P.A. 86-799 and Illinois Certified payroll reporting P.A. 094-0515 apply to this contract.
- Revised Statutes of the Illinois Criminal Code, apply, including the School code.
- No faxed proposals or proposal modifications can be considered.

The Board of Education has the right to reject or accept any or all parts of all bids submitted and to waive any or all irregularities in the bidding and to accept the lowest responsible bid in compliance with the past experience requirements listed in the bid documents.

Plans and specifications prepared by the Architect, Middleton Associates Incorporated, 1702 W. College Avenue, Suite E, Normal, Illinois 61761-2793, Phone 309/452-1271, FAX 309/454-8049. Plans and specifications may be reviewed without deposit at the office of the Architect or Lincoln Elementary School District No. 27 District office.

Bid Documents are available on line at www.middletonassociates.net paper copies may be purchased directly from The Copy Shop in Bloomington, phone 309/827-5466. Addendums or amendments to the bid documents will be available online or electronically upon request. One set may be acquired from the Architect if requested 6 days prior to bid, allow two days for delivery.

END 00 1116

DIVISION 00 – PROCUREMENT REQUIREMENTS

Section 00 2113 – Instructions to Bidders

1. GENERAL

1.1. QUALIFICATION

- A. Competency and responsibility of the Bidder, and of their proposed subcontractors, may be considered in making awards. Determination of responsibility prior to award may include:
1. A detailed statement regarding the business, technical organization, crew availability and evidence of capability for the work that is contemplated.
 2. Evidence of successful experience of personnel and previously completed construction projects:
 - a. Contractor and personnel, five years or more commercial construction experience, including recent projects of similar or greater value, similarity of types of work, technical content, and complexity.
 - b. Evidence that recent projects as described above have been scheduled and delivered on time, aggressively pursued to conclusion without delay.
 - c. Experience does not include frivolous claims for additional costs, or work requiring abnormal or extensive corrections.
 - d. Evidence that equipment was properly installed and started and functioned without abnormal warranty calls for installation related problems.
 - e. Evidence that the contractor coordinated with the Owner, scheduled work in a progressive manner to allow Owner reasonable access to get facilities ready for occupancy in a timely manner.
 - f. Evidence that phased projects have been completed without loss of services between phases.
 3. Information pertaining to the financial resources of the contractor to pursue the work may be considered prior to making the award:
 - a. Evidence of financial resources to cover retainage, meet payrolls, contract for and acquire or pre-pay materials. Resources and Contractor net worth available to this project less than 35% of the contract award may be grounds to disqualify the bid.
 - b. Evidence of unpaid bills, unresolved liens, outstanding claims by the Department of labor for wage, benefits or workman compensation violations or failure to provide accurate payroll information.

2. EXAMINATION OF DOCUMENTS, SITE AND WORK INCLUDED

- A. LOCATION OF THE PROJECT: Macomb Junior-Senior High School, 1525 S. Johnson St., Macomb, IL & Edison School, 521 S. Pearl St., Macomb, IL.

B. PRE-BID MEETINGS

1. **Pre-Bid Meeting is scheduled for Tuesday, March 6, 2018; 1:00 p.m. Edison School, 2:00 p.m. at Junior-Senior High School.**
2. Buildings may be available for inspection after 3:15 p.m. on school days, or all day on no school days when staff is available.
 - a. Call ahead to schedule. Randy Smith 309 837 0560
 - b. Site work can generally be inspected at any time.

C. EXAMINATION OF SITE AND CONTRACT DOCUMENTS

1. Bidder shall carefully examine bidding documents and inspect the site to obtain first-hand knowledge of existing conditions.
2. Access may not be available on short notice.
3. Do not ask for directions or interpretations of the work during these visits unless in combination with a pre-bid meeting, you may discuss the work but if any clarifications or questions become evident these must be handled through the A/E and no change to the project requirements will result from verbal clarifications of the work during a visit.
4. Each Bidder, by submitting his bid, represents that he has examined the bidding documents, inspected the site and premises, compared task requirements and time constraints to installation conditions and that he understands the obligations of the bidding documents. By providing a proposal he is certifying that he has familiarized himself with the local conditions under which the work is to be performed. Bidders will not be given extra payment or contract time for conditions that could have been determined by on site examination.

D. INTERPRETATION OF DOCUMENTS

1. Anyone having a doubt concerning the meaning of the Contract Documents, or any other questions, may submit a request for interpretation from the Architect/Engineer. All pre-bid interpretation shall be requested not later than FIVE (5) DAYS prior to the bid due date. Response, other than minor clarification, will be in the form of Addenda and will be mailed to each Bidder.
2. It shall be the Architect/Engineer's responsibility to clarify conflicts in requirements as may be reported to the Architect/Engineer. After bid due date, the Architect/Engineer shall determine the course to be followed for said clarification with no cost change to the Owner.

E. ADDENDA

1. Addenda may be issued before the bid opening date to clarify or modify the Contract Documents. Addenda are posted at www.middletonassociates.net
2. Addenda will be issued electronically. Email address is required to receive addenda.

3. If you have not registered your interest in the bid with the Architect, and do not receive or seek out the addendums then failure to recognize any Addendum may disqualify the bid.
4. Said addenda shall become a part of the Contract documents and supersede any conflicting specifications and/or clarify intent of same.

F. INTENT, ERRORS AND OMISSIONS

1. Any known conflict between requirements of various portions of the Contract Documents shall be reported to the Architect/Engineer prior bid due date and shall fall under the authority of Interpretation of Documents.
2. The Drawings are descriptive and directive in concept and are not intended to exhaust all detail situations required to complete the work. The procedures detailed shall establish the general character of solutions needed for typical, non-typical, and peculiar situations at the job site.
3. It is the intent of the documents that specified work and equipment be installed in a proper and finished manner, fully operational, at a minimum of generally accepted standards for good quality commercial construction. All necessary materials, labor, controls, accessories, brackets, fasteners, sealants, etc., to properly install and complete the work shall be provided unless specifically noted otherwise.
4. Each Contractor and Subcontractor shall coordinate and cooperate with the other Contractors to provide proper installation. Verify dimensions, services, installation conditions, obstacles to the work and modifications necessary to complete the work and coordinate the fit, finish and scheduling of the work.

G. DOCUMENT INTENT, PROJECT COMPLETION, FITTING AND FINISHING FULLY FUNCTIONAL, USER READY

1. It is the intent that all items of work included in the project are to be completely finished and all necessary associated components and accessories for proper completion are to be included in the work.
2. Drawings are schematic in nature; every single element needed is not necessarily labeled, dimensioned or positioned. Unless specifically exempted, the Contractor shall provide as follows:
3. Good quality fit, finish and workmanship at a level of competency and quality equal to or exceeding commercial construction in the area.
 - a. Sealants, caulks, flashings, transitions, closures and components to assure infiltration and weather tight result and finished appearance inside and out.
 - b. Sealants, flashings, closures at building connections.
 - c. Upper and lower flashings, in new construction and whenever possible, to shed water outward.
4. All components and assemblies to assure proper installation and performance of manufactured equipment, per manufacturer's or

industry association standards as a minimum.

- a. Mechanical equipment, plumbing, piping, ventilation, valves back checks, connections etc.
 - b. Mechanical and electrical coordination, coordination of installation locations, hidden where possible, routed through the construction in the most expedient but concealed manner,
 - 1) Minor relocation of piping, equipment, installations shall be provided without cost change within 10' either way or reasonable pathways of similar distance.
 - c. All other equipment, kitchen, doors, hardware, windows and any other operable equipment
 - d. Service access, filters, repairs always allow for reasonable repair and maintenance access.
5. Proper protection of dissimilar materials or components for bond problems, galvanic action, movement, moisture, and/or chemical reaction.
 6. New finished appearance for all new work and work abutting existing where applicable.
 7. Code compliance:
 - a. All equipment and installations.
 - b. Electrical NEC, circuit protection, grounding, disconnecting means, GFI, and installation practices
 - c. Water, back checks, vacuum breakers, back flow preventers, service valves, hammer arrestors, expansion tanks.
 8. Construction assembly details, setting forth special requirements, keyed to a specific section, detail or I.D. number, shall be considered applicable to similar assemblies throughout the contracted work unless specifically designated otherwise.

2.2. DRAWINGS & SPECIFICATIONS

A. OBTAINING INFORMATION

1. Drawings and Specifications may be obtained from the Architect, Middleton Associates Incorporated, 1702 W. College Ave., Suite E, Normal, IL 61761-2793, Telephone 309/452-1271, Fax 309/454-8049.
2. No deposit required for one set subject to return. Contractor may purchase additional documents directly from The Copy Shop in Bloomington.
3. To obtain documents provide the A/E all contact information as well as an email address for delivery of addendums and bidding information during the bid period.

4. Method of document distribution is at the option of the Owner and the Architect whether it is paper, or digital.
5. Replacement value \$60.00.

B. RETURNING DOCUMENTS

1. All documents remain the property of the Architect and shall be promptly returned after the bidding. The low bidder may keep documents and sub bidders may retain same until awards have been made.
2. Failure to return documents within 20 days after bidding will result in loss of deposit or compensation will be required for the replacement cost in the event there was not a plan deposit.

2.3. ALTERNATES

- A. The Bidder shall submit a proposal for every alternate listed in the Contract Documents. Failure to provide alternate prices may disqualify the bid.
- B. See Section 00 24 13, Scope of Bids, for a description of Alternates.

2.4. BID SECURITY

- A. The Bidder shall furnish bid security, along with his proposal:
 1. Form of security to be bid bond or certified check payable to the Owner.
 2. Amount 5% of the base bid proposal
 3. Said security shall serve as a guarantee that the Contractor will enter into the Contract with the Owner as per his bid and the contract terms should the job be awarded to him.
- B. Should said Contractor refuse or fail to enter into a Contract with Owner per his bid for the work included in these Contract Documents within fifteen days following notification of award and/or receipt of a contract for signature, said bid security shall become collectible, in full, by the Owner in payment for damages.
 1. Failure to enter into an agreement shall mean failure to return or submit:
 - a. A signed agreement.
 - b. Owner's protective bond(s) for Labor, materials and performance.
 - c. Approved subcontractor/supplier lists.
 - d. Certificates of insurance within stated time period.
 - e. Evidence that this contractor intends to pursue this contract in a timely and deliberate manner, including ordering of materials and committing or arranging for necessary manpower to accomplish the work.

2.5. WITHDRAWAL OF BIDS

- A. Bids may be withdrawn by an authorized person prior to the bid due date and time, after which time no bids may be withdrawn for a period of forty-five (45) days unless a Bidder has been released by the Owner's action.
- B. Authorized person shall mean an Owner or Officer of the Contractor offering the proposal or other evidence of authority.

2.6. PROPOSAL (BID) FORMS

- A. Each bidder shall submit his proposal, on proposal form provided.
 - 1. Submitted bid forms may be copied
 - 2. All applicable blank spaces on forms shall be filled out fully.
 - 3. Numbers shall be stated in writing where noted and in figures.
 - 4. Signatures shall be live in longhand by person authorized to sign bids as Owner or corporate officer or shall include Power of Attorney to sign the bid.
 - 5. No facsimile proposals or modifications can be considered per Illinois School Code on public school projects.
- B. Completed forms shall be without delineation, clarification, alteration or modification.
 - 1. Correction of contractor inserted is acceptable if clearly identified and initialed by the signatory to the bid. Irregularities of such corrections may be grounds to disqualify the bid.
 - 2. Offers to clarify or modify may be made on voluntary alternates and substitution forms if provided in the bid package, but in no case should the base bid or requested alternate bids offered be based on anything but the document requirements.
- C. Voluntary alternates or offers for substitutions may be attached on forms provided or on the bidder's letterhead. These will be considered at the Owners option. Additional information may be requested prior to consideration.

2.7. AWARD OF REJECTION OF BIDS

- A. Although it is the intention of the Owner to accept the lowest qualified bid the Owner specifically reserves the right to waive all formalities and/or informalities, to reject any and all bids and/or accept the bid that, in the Owner's judgment is the lowest responsible bid.
- B. Contractor will note all alternates that are applicable, or as may become applicable by addendum, should be bid. Failure to bid an alternate may be grounds to disqualify the proposal, at the Owners discretion.
- C. Should the time for award exceed the time stated for the proposal's expiration period, the Owner reserves the right to continue to negotiate with bidders in the line of award succession as a prior option rather than re-bid.

2.8. RETURN OF BID SECURITY

- A. After bids have been read along with alternates as applicable and a successful Bidder has been approved by Owner, a Letter of Intent will be sent to the successful bidder and bid security may be returned to the unsuccessful bidders except the deposits of the two (2) most advantageous bidders will be retained until Owner/Contractor agreements have been consummated.
- B. Following the signing of the Contracts and receipt of bonds, remaining bid security will be returned. If the successful Bidder fails to accept the Contract and submit acceptable bonds, same will be grounds for forfeiture of his bid security.

2.9. OWNER'S PROTECTIVE BONDS: A 100% of value Labor and Material Payment Bond and Performance Bond including all alternates accepted is required in the Contract and shall be included in the Contractor's Proposal:

- A. Periodic Change Orders that may occur to the Contract shall be included in each respective bond.
- B. Bonds shall cover the entire Contract without regard to the Contractor's assignment of work of Subcontractors or Suppliers.
 - 1. Inclusive of all awarded Alternates.

2.10. AWARD AND LETTER OF INTENT

- A. The Owner will make an award based on the selection of the lowest cost responsible bidder. After the award, and the issuance of a Letter of Intent, the contract timeline is as follows:
 - 1. Return signed agreement (10) days
 - 2. Sub Contractor, Supplier list, including any entity to be assigned a significant or skilled trade part of the work, provide list, addresses and contact information, (7) days. Provide references upon request.
 - 3. Labor and Materials Payment, and Performance bond(s), ten (10) days
 - 4. Insurance, ten (10) days
 - 5. Master Cost Breakdown (CSV), ten (10) days
 - 6. Proposed Schedule and time line, Pre-Construction meeting
- B. Failure or refusal to provide the preceding Contract information in a timely manner may be cause for cancellation of the award or termination of the agreement if signed and the Owner will be entitled to compensation under the terms of the bid security for failure to execute contract terms in good faith.

2.11. LIST OF SUBCONTRACTORS AND SUPPLIERS

- A. Within seven (7) business days after notification of intent to award, and prior to the Contract being signed, the Contractor shall submit to the Architect/Engineer, a list of proposed subcontractors and major equipment

suppliers and other persons or organizations to be assigned part(s) of the contract.

- B. This list is subject to the review and approval of the Owner. Basis for this review may include supporting evidence the proposed Subcontractor or Supplier has experience and adequate resources to accomplish the assigned responsibilities on time and in compliance with the requirements.
 - 1. The Owner reserves the right to request justifiable changes in the list.
 - 2. The changes requested are intended to be made at no additional cost to the Owner.
 - 3. If it is not possible to make requested changes at no additional cost, the Owner reserves the right to terminate the award and negotiate with the next successive bidder based on his original proposal.

2.12. MATERIALS SPECIFIED AND QUALITY OF WORK

- A. Materials shall be as specified or approved equal.
 - 1. Approved equal" and "or equal" shall mean that the Contractor shall be required to receive the approval (via the Architect) on any substitute materials.
 - 2. Requests for substitution approval shall be submitted to the Architect/Engineer, seven (7) days prior to the bid due date.
 - 3. Prior to considering substitutions, the Owner and/or the Architect/Engineer may require submission of samples, descriptive, technical and catalog data and lab reports of tests for verification of equivalency.
 - 4. If approved and selected, all adaptations to fit and accommodate the substitute or equal equipment including coordinating other trades is the responsibility of the Contractor requesting the change.

2.13. PROGRESS PAYMENTS

- A. Will be made not more frequently than monthly, per the Owners payment schedule.

2.14. PROJECT ACCESS: The Contractor shall be aware that the Town/City, Township, County or State has authority over various approach roads for site access and the Contractor is responsible to:

- A. Observe load limits and arrange for any exceptions to load restrictions that may be required for this project.
- B. Make arrangements for road cleanup, barricades and surface patches and repairs shall comply with applicable regulations and be subject to the governing authority approval.

2.15. EQUAL OPPORTUNITY EMPLOYMENT: The following clause is applicable unless this Contract is exempt under the rules and regulations of the Secretary of Labor of the State of Illinois.

- A. During the Performance of this Contract, the Contractor agrees as follows:
 - 1. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, age or national origin. The Contractor will take affirmative action to ensure that all applicants are considered and that employees are treated, during employment, without regard to their race, color, religion, sex, age or national origin."

2.16. ILLINOIS STEEL PROCUREMENT ACT

- A. During the performance of this contract, the contractor agrees to:
 - 1. Comply with the 30 ILCS 565
 - 2. Steel products used or supplied in the performance of that contract or any subcontract thereto shall be manufactured or produced in the United States.
 - 3. All requirements of and/or exemptions allowed in this regulation apply without exception.
 - 4. The Owner and A/E cannot interpret the legal requirements as applicable to this contract.
 - 5. Any additional cost incurred by the Owner for a violation of this provision shall be reimbursed by the Contractor.
 - 6. If the regulation cannot be complied with due to product or inadvertent specification requirement, notify the A/E promptly for direction.

2.17. ILLINOIS DEPARTMENT OF LABOR AND LABOR RELATED REQUIREMENTS

- A. IDLR regulations apply to all work on site without exception.
- B. Publicly funded projects or projects managed by Public Bodies require the following:
 - 1. PREVAILING WAGE 820 ILCS 130/4: The Contractor shall pay and shall require his subcontractors to pay the prevailing hourly wages as is determined by the Illinois Department of Labor pursuant to the Illinois Prevailing Wage (820 ILCS 130/1 et. seq.) included at the end of this section.
 - 2. CERTIFIED PAYROLL REPORTS: Will be required with each successive pay application for payroll periods preceding the application date.
 - 3. SUBSTANCE ABUSE PREVENTION ON PUBLIC WORKS 820 ILCS 265: All Contractors must be prepared to certify upon request that they have complied with the Illinois Substance Abuse Act, including a written program that meets or exceeds the requirements of this act for the prevention of substance abuse among its employees.

2.18. SALES TAX

- A. Materials supplied to a public school district are exempt from state sales taxes. The Contractor shall determine the extent of exemption and shall

comply with the regulations established by the Illinois Department of Revenue.

2.19. TOBACCO AND ALCOHOL FOR CONSUMPTION PRODUCTS

- A. Smoking, chewing, tobacco use; shall not be permitted anywhere on public school property by State Statute.
- B. Alcoholic beverages, controlled substances, unauthorized prescription medication are not allowed on school property.
 - 1. Working under the influence of any of the above and/or a legal prescription that causes impairment is not allowed.
- C. Violators may be removed from the job sites subject to conditional return privileges in the future.

2.20. SEXUAL HARASSMENT POLICY

- A. The Owner will not tolerate sexual harassment in any form. Sexual harassment is defined, for the purpose of this policy, as "unsolicited, deliberate or repeated sexually derogatory statements, gestures or physical or implied physical contact that causes discomfort or humiliation. Sexual harassment may involve pressure from a person of either sex against a person of the opposite sex or same sex . . ."
 - 1. Should evidence that a Contractor, or a Contractor's employee, has harassed staff, student or other individuals, that employee shall be removed from the job site permanently or until such time that the circumstances have been determined to have been resolved satisfactorily.

2.21. BACKGROUND INVESTIGATION AND SEX OFFENDERS ON SCHOOL GROUNDS

- A. Illinois Criminal Background checks may be applicable to this Contract. per 105 ILCS 5/10-21.9 and 105 ILCS 5/14-7.02.
 - 1. According to current interpretation a background check is only required of persons working in direct contact with students.
 - 2. This standard in no way reduces or eliminates restriction in the law for certain convictions and proximity to school grounds.
- B. The Contractor shall:
 - 1. Maintain a list available to the Owner of all the employees who will be or are anticipated will be employed on site. This list shall be updated when new persons not originally listed will be working on site. This list shall also include names of personnel employed by subcontractors.
 - 2. Persons temporarily on site such as truck drivers or employees making deliveries do not need to be listed, but the Owner reserves the right to request a background check if deemed in their interest.

3. Copies of employee lists shall be promptly provided to the Owner upon request and employees on site shall agree to submit to a background check if requested.
 4. Persons failing such check or refusing shall be removed from working on this site.
- C. The Contractor shall not knowingly employ on school grounds any person who has not signed or will not sign an authorization for a criminal background check.
- D. The Owner reserves the right to run fingerprint background checks on any or all employees on site, randomly or specifically, and the cost of this check will be borne by the Owner. Upon request, provide information, which will not be shared, as needed to complete checks. This may include SSN, home addresses, fingerprint, address, etc. and any alias or former names used.
- E. The Contractor shall assume the responsibility to notify all on site employees or potential employees of this provision, and of the consequences of this provision.

2.22. BUILDING PERMITS

- A. This project is exempt from local permit fees associated with the construction. Any such fees assessed are reimbursable.
1. This Contractor shall fully cooperate with the local authorities and shall apply for and obtain all required permits and comply with local regulations and requirements. Only the fee is exempt.
 2. Provide necessary permit related information to local city authorities.

2.23. CONTRACT DOCUMENTS CHECK LIST

- A. Proposal
1. Proposal Form properly filled out and signed, (live signatures)
 2. Bid Bond/Bid Security for 5% of base bid amount (live signatures)
 3. Low bidders exempt, return of documents within fifteen (15) working days after bid due date
- B. Letter of Intent
1. Supplier - Subcontractors List, (10 days after Award)
 2. Employee list and criminal background affidavit, (prior to start on site.)
 3. Proposal & Contract Form prepared by the Architect, (signed and returned 10 days after receipt).
 4. Labor and Material Payment Bond, two copies (10 days after award)
 5. Performance Bond, two copies (10 days after Award)
 6. Insurance Certificates, liability and hold harmless, three copies (10 days after award) *

7. CSV - Master Cost Breakdown (Preconstruction meeting)
 8. Bar Graph/Progress Schedule, copies as required (Preconstruction meeting)
- C. Periodically as needed
1. Update employee list and criminal background affidavit as needed.
- D. Periodic Application for Payment
1. Submit per the monthly scheduling, to be determined
 2. Application and Certificate for Payment, 3 copies (AIA G702A)
 3. Contractor's Affidavit, 2 copies (AIA G706)
 4. Breakdown Estimate, 3 copies
 5. Partial Waivers of Lien, 2 copies
 - a. Partial Waiver of Lien from Subcontractors/Suppliers for previous payment, 2 copies.
 - b. Updated Progress Schedule, submit with each pay request
 6. Certified Payroll for all trades employed on site.
- E. Substantial Completion
1. Notification work is ready for inspection.
 2. List of deficiencies or incomplete work.
- F. Final Application for Payment:
1. Letter to Architect that deficiency work is complete
 2. Final Lien Waiver from the Contractor, 2 copies
 3. Final Lien Waivers from Subcontractors/Suppliers, 2 copies
 4. Final Affidavit showing \$0.00 due to Subcontractors and \$0.00 due to Suppliers, 2 copies
 5. Final Payment Approval Letter from Bonding Co., 2 copies
 6. Certification of all guarantees, warranties and service contracts, O & M Manual
 7. Final Application & Certificate for Payment, 3 copies (AIA G702A)
 8. Additional certifications as may be requested, 2 copies
 9. Operating manuals & instructions, 3 copies-indexed and bound
 10. Figure Bonus / Penalty and Liquidated Damages if applicable.
- G. IDOL Prevailing wages see IDOL website.
1. <http://www.illinois.gov/idol/Laws-Rules/CONMED/Pages/prevailing-wage-rates.aspx>

END 00 2113

DIVISION 00 – PROCUREMENT REQUIREMENTS

Section 00 2213 – Supplementary Instructions

1. GENERAL

1.1. DESCRIPTION OF DRAWINGS AND LAYOUT

- A. Drawing data is intended to be reasonably accurate, however, strict accuracy in detail is not guaranteed.
 - 1. Drawings, particularly Mechanical and Electrical drawings are schematic in nature.
 - 2. The Contractor must verify all of the actual conditions, measurements, dimensions, rough-in requirements; fitting of piping, conduit, wiring, and duct work and coordination necessary for each item, system or piece of equipment in the Contract Documents.
 - 3. Verification is the Contractor's responsibility and shall be completed prior to the fabrication or installation processes.
 - 4. Coordination of all elements of the work must be allowed for with cooperation between the trades particularly for conflicts of limited flexibility of installation. The general priority unless fixed conditions conflict is as follows: structure, placement of equipment, service access, mechanical piping, plumbing piping, and electrical piping. Trade priority in the preceding list does not supersede field cooperation to collectively and most expediently install the work.
 - 5. All corrections necessary to provide properly installed, finished and operable system, in accordance with the intent of the Documents, shall be made at no additional cost.

- B. All measurements and conditions must be verified by actual observation at the site.
 - 1. The Contractor shall be responsible for all of his work fitting into place in a satisfactory and workmanlike manner in every aspect and detail subject to the approval of the Architect. The Contractor shall provide layout work and verification measurement at his own cost.
 - 2. The Contractor shall perform all layout work pursuant to site, building, grades and levels, and furnish such engineering services as he may require executing the intent of the work included.

- C. Before starting his work, the Contractor shall examine all Contract Area Drawings and Specifications and if discrepancies or conflicts are apparent or occur during the progress of the work:
 - 1. Work first with the conflicting trades or installations to fit and coordinate the work.
 - 2. If there appear to be no practical or agreeable way to coordinate the fitting of the work report same to the Architect as a Request for Instruction, RFI, and obtain direction or interpretation to proceed.

- D. The Drawings are instructive and diagrammatic and shall be followed as closely as actual construction will permit. All changes from Drawings necessary to complete the work shall be done at no added cost charge to

the Owner above the amount shown on the Owner/Contractor Agreement.

1.2. OVERLOADING OF BUILDING

- A. Care shall be taken that completed structures are not overloaded during Contractor operations. It shall not be the Owner's, or Architect/Engineer's responsibility to observe and check construction processes and temporary loading conditions that may temporarily occur in the pursuit of the completed installations.
 - 1. Structural design, unless noted otherwise, is designed to accommodate design loads, per code, after completion.
 - 2. Bracing and shoring for loading or stability prior to the installation of lateral support elements and diaphragm assemblies is the responsibility of the Contractor.
 - 3. All structural damage done by overloading the system shall be repaired by the Contractor or Subcontractor overloading the system.

1.3. MEANS AND METHODS

- A. The Architect/Engineer and Owner shall have no authority over the means, methods and procedures of the work and shall make no determination pursuant thereto nor render opinions concerning same.
 - 1. The Architect's Field Representative does not have authority to render opinions on structural questions.
 - 2. If questions arise submit a Request for Information, RFI, for direction.
- B. The Architect/Engineer and Owner and representatives of same shall have no authority over methods employed or safety conditions related to:
 - 1. Erection loads and as they relate to the Contractor's interest and shall provide no observation of same.
 - 2. Upon request the Architect can provide the design loads employed for the final installation.
 - 3. The contractor shall designate an employee of the contractor as the person in charge of and responsible for directing the work and safety procedures on site.

1.4. PROTECTION OF WORK AND BUILDING

- A. The Contractor shall protect all work and stored materials from injury or loss caused by or resulting from operations under this Contract, including but not limited to:
 - 1. Physical damage
 - a. Poor stacking practices
 - b. Abuse damage due to adjacent operations or exposures
 - c. Weather related damage

2. Failure to have reasonably secured stored and in progress work.

1.5. MOVING OF MATERIAL

- A. Contractor materials which are temporarily located or stored shall be relocated as needed to allow access by the Contractor, other Contractors and the Owner's personnel in and around the construction area.
 1. Prior to storing materials coordinate the operations to avoid conflicts.
 2. Such moving of any material shall be at no additional cost to the Owner.
- B. At no time shall tools, materials or workmen block an exit unless same has been coordinated with other trades on site and reasonable alternative options are maintained.

1.6. SHORING, BRACING, AND BARRICADES

- A. The Contractor shall provide, construct and finally remove all temporary shoring, bracing, underpinning, scaffolding, needling, barricades, etc. as required by local restrictions and as necessary for to protect persons and property from damage or injury.
 1. The Contractor shall determine the need for these items.
 2. The Contractor shall be responsible for the performance or failure of performance of same and shall repair damages caused by failure or absence of same.
- B. Specific temporary shoring supports, etc., may be noted in the Documents, such as for new openings or certain renovations in existing work.
 1. All such needed shoring is always not noted but the responsibility of the Contractor or Sub Contractor making the opening or installing the new work as needed
 2. Notation on the drawings is an observation that existing support conditions are being impacted by the work and shall be attended to by the Contractor as needed by conditions discovered.
 3. In all cases, observe actual conditions of the work, same may be different than the anticipated conditions and may require shoring bracing and barricades.

1.7. MATERIALS, WORKMANSHIP, AND LABOR

- A. All installed materials and equipment shall be new and shall be installed and completed in a first class, workmanlike manner.
- B. The Architect reserves the right to direct the removal and the replacement of any item which, in his opinion, does not present a proper, orderly or reasonably neat installation. Such removal and replacement shall be done promptly when directed by the Architect or the Owner. All installations will

be subject to the Architect's and Owner's inspections, tests, and approval at all times from commencement of the work to Final Acceptance of the completed Contract.

- C. Work needing correction or replacement that is not corrected with reasonable promptness shall be subject to written notice thereof by the Architect. The Contractor by virtue of having tendered his bid for the work, agrees that progress payments by the Owner may be held (no payment made) until said faults have been corrected.

1.8. ALIGNMENT BALANCING

- A. The Contractor shall be responsible for supervision of the installation of equipment.
 - 1. Level, adjust, balance and align new equipment and reinstalled or relocated equipment.
 - 2. Provide all alignment per manufacturer set up recommendations, align and balance pumps, belts and pulleys and adjust equipment to work properly.

1.9. CLEANING

- A. Work areas shall be maintained reasonably clear of accumulated debris, cartons and unused equipment to allow orderly pursuit of the Work.
- B. All surfaces shall be cleaned of any paint, plaster, mortar, gook and other stains.
 - 1. Care shall be taken that no surface is scratched, marred or damaged by the cleaning process.
 - 2. Damaged, marred or scratched surfaces of any type shall be repaired to new or original condition or replaced if necessary to provide a final installation acceptable to the Architect.
- C. Final Cleaning - All areas new and renovated areas:
 - 1. Clean and dusted.
 - 2. Floors cleaned ready for occupancy.
 - 3. Marks and scuffs repaired.

1.10. OPENINGS IN CONSTRUCTION

- A. Openings required for construction work shall be provided by the Contractor, complete with all necessary reinforcing, lintels, trim, finishing, etc. as shall be needed to complete the Work including openings required for electrical and mechanical work.
 - 1. Openings to be provided for other trades must be laid out and noted by the trade needing same prior to construction of the surface through which the opening is needed.

2. Untimely note of required openings shall be the responsibility of the Contractor or Subcontractor not requesting same.
 3. All sleeves, flanges and forms, etc., shall be furnished by the Contractor requiring the opening.
- B. Concrete slabs, joists, concrete floors, finished floors, walls and structural elements, and other structural items shall not be cut or disturbed, except as approved by the Architect IN WRITING.
- C. Pipes or elements passing through floors or partitions shall have sufficient clearance around pipes to prevent damage to the adjacent finish from expansion and contraction.

1.11. FIRE SEALS

- A. All penetrations of fire walls, smoke barriers and floors shall be properly fire sealed to prevent the passage of smoke and maintain the integrity of fire barriers.
1. Such seals are the responsibility of the contractor for whom the penetration is provided.

1.12. SUPPORTS

- A. The Contractor shall provide all concrete, steel bases and anchorage except as herein specified otherwise: vibration absorbing foundation bases, hangers, platforms, anchor bolts, etc. for all equipment which he furnishes. These foundations or supports shall be as specified under their respective headings, as shown on the drawings and/or as recommended by manufacturers.
1. Materials and installation requirements for curbs and pads shall be commensurate with the need.
 2. Concrete shall be 3500 psi minimum strength, air entrained 5% to 8% by volume. Install following commercial practices.
 3. Framed curbs or foundations shall be properly supported.

1.13. PROTECTION OF WORK

- A. The Contractor shall protect his work and adjacent existing work from injury by keeping all piping, ductwork, etc. capped, plugged, drained, or otherwise protected from injury including damage done by freezing and damage from building materials, cement and/or dirt, concrete traffic or exposure.

1.14. ELECTRICAL SERVICES TO EQUIPMENT

- A. Unless otherwise specified the Contractor shall furnish and install electrical feeders of proper size, and furnish, install and complete all power wiring and the control wiring for each motor, electrified signage and/or piece of equipment affected by the Contract.

1. Although circuits may be called for on the drawings, ALWAYS verify the final equipment requirements before pulling wire in the event it needs to be increased in size.
 2. Contractors providing equipment shall verify the circuits and protection level and need for safety switches matches what they are providing.
- B. All electrical procedures shall comply with the National Electric Code, whether temporary or permanent.

1.15. SEALANTS

- A. Provide sealants in all locations where shown on the Drawings or called for in the Specifications and as necessary for infiltration tight and weather tight building envelope and finished visual appearance.
- B. Sealants shall be provided in locations as directed by the Architect, where equipment components or fixtures fit to surrounds, and when cracks between equipment and surrounds are undesirable or excessive. Provide sealants in all interior locations, as necessary to properly trim out.
- C. Sealants shall be installed and tooled in strict accordance with the Sealant Manufacturer's recommendations for joint preparation, using foam rope backer bars, etc. Sealant shall be installed by the respective Contractor providing the item requiring sealant installation.

1.16. PAINTING

- A. All exposed surfaces or equipment reworked and installations leaving damaged or unfinished surfaces shall be painted or have a corrosion resistant or factory applied finish.
1. Unfinished non ferrous metals such as aluminum and stainless steel do not require painting.
 2. Field paint unfinished equipment and surfaces for corrosion protection and visual appearance, except where clearly stated to the contrary on the Drawings.

END 00 2213

1. BASE BID

1.1. DESCRIPTION

A. The Base Bid is to provide the Owner with all materials equipment and labor to complete the specified contract work.

1. All work is a single Contract, Macomb Junior-Senior High School, 1525 S. Johnson St., Macomb, IL & Edison School, 521 S. Pearl St., Macomb, IL.

2. The Base Bid proposal must be for the specified work as may be modified prior to the bid time and date by addendum.

a. Do not add any additional description of what is included or excluded from the bid on the proposal form, this may disqualify the bid.

b. Fully fill out the proposal/bid form, omissions and failure to sign will disqualify the bid. Minor irregularities in filling out the bid form may be considered by the Owner as inconsequential to the intended bid and may be declared as such and the bid be accepted.

3. Voluntary Alternates or Substitutions may be offered on the Voluntary alternate and substitution form if provided or on the Contractor's letterhead if desired. Such options should not materially change the intent of the proposal. These may be considered or disregarded at the Owner's discretion without explanation.

4. **Bonus/penalty applies, total contract all buildings as one contract \$100 per day, CALENDAR days and as noted below.**

a. **BONUS for each day substantially completed prior to August 10, 2018, \$100 dollars per day both buildings.**

b. **PENALTY for each day substantially completed after August 10, 2018 either building.**

Any work completed after August 10 must be done second shift or weekends after 3:30 PM or weekends with arrangements made with the Owner to accommodate.

B. Work; as noted on plans and including but not limited to

1. Junior Senior High, includes but not limited to:

a. Demolition associated with replacement and renovation work

b. Remove and remount 3 transformers on the roof

c. Coordinate with new mounting conditions, roofing, base construction and make water tight.

- d. New rough in and wiring as need to complete the work which will raise or relocate each transformer
- e. Remove Buss duct from roof and thru gym and replace with raceway and wiring as noted on plans.
- f. Coordinate and schedule work to minimize down time.
- g. Coordinate with owner before scheduling any shut down. Minimum 7 days notice please.
- h. All associated work, conduit, supports, roofing, patching, etc.
 - 1) Carpentry work.
 - 2) Roofing and flashing work
 - 3) Repair all impacted surfaces and surrounds, weather tight and attractive result.
- h. Edison School, includes but not limited to:
 - 1) Demolition associated with replacement and renovation work
 - 2) Replace auditorium seating.
- i. New work and equipment as specified in the Documents

1.2. UNIT PRICES

- A. None unless requested by addendum

1.3. ALLOWANCES

- A. **Include an allowance of \$25,000** for unexpected conditions or scope added by owner. Excess to be refunded, – assignment by agreed change order with the Owner.

1.4. ALTERNATE BIDS

- A. The alternates are to provide the Owner with options expanding or reducing the project scope and content and for comparative material or equipment prices for use in determining the final construction contract.
- B. Work included in alternates shall be commensurate with and in compliance with all the applicable and similar project specifications and conditions and shall include all necessary adjustments and additional labor and/or material as may become apparent to properly complete the alternate into the work. No additional charge will be considered after bidding for the purposes of making additional construction or adjustments in order to accomplish alternative work which has been included in the Contract.
- C. Incidental Work: All necessary adjustment in the work shall be made to accommodate accepted alternates without cost change in and above the alternate cost.

1.5. ALTERNATE BIDS

None requested unless identified in an addendum. Space is provided on bid form for any such alternate requested by addendum.

END 00 2413

DIVISION 00 – PROCUREMENT REQUIREMENTS
Section 00 3000 – Project Schedule & Terms

1. GENERAL

1.1. SCHEDULING

A. Master Schedule

1. The General Contractor as the Coordinating/Pacesetter Contractor shall maintain a Master Schedule.
2. Prior to preparation of the Master Schedule, all Subcontractors shall coordinate scheduling needs with the General Contractor.
3. Upon preparation of a detailed schedule, same shall be reviewed by the Architect and the Owner. Once accepted, it shall become the basis for determining the on time progress of the work.
 - a. Provide manpower, overtime, and equipment as needed to maintain the schedule. The Owner will not authorize additional payment for overtime or additional manpower needed to maintain, achieve, or make up time to meet the schedule.
 - b. The General Contractor shall notify the Architect and the Owner promptly of any deficiency in performance, which is unacceptably impacting the schedule or delaying progress.
 - c. The Subcontractor(s) shall immediately notify the General Contractor, in the event any trade area Contractor's progress is impeding their ability to maintain the schedule.
 - d. The General Contractor shall immediately provide notification of this report to the Architect and the Owner and shall include a plan of action to regain schedule.

B. Schedule

1. Contractors proposed schedule and timeline shall be delivered for review within seven (7) days or at the Pre-construction meeting.
 - a. Schedule will be subject to review and negotiated revision after Owner and Architect input are considered.
 - b. Contractor schedule should be available for the Preconstruction meeting.
2. Submittals shall be delivered forty-five (45) days following award.
 - a. This schedule is adjustable shorter or longer depending on the size and content of the project
3. Upon receipt of review submittals, schedule material and equipment for delivery by early June.

4. Confirm that manpower is available and Contractor has adequate capacity to complete the work on a timely basis.
 - a. Materials and equipment may be stored on site in trailers or in suitable insured warehouses in or near Lincoln.
 - b. Materials and equipment delivered on site or suitably stored with proof of insurance may be submitted for payment, subject to inspection.
 - c. The Owner requests that equipment and materials to do the work be on site or readily available for delivery prior to the start of operations.

5. Schedule
 - a. Project is planned for execution over the summer of 2018 with the schedule to be coordinated with the Owners schedule and in an orderly fashion.
 - 1) **Start operations on site May28, 2018, subject to possible emergency days.**
 - 2) **Substantial Complete operations on site August 10, 2018,**
 - 3) Edison auditorium
 - a) Existing seating shall be promptly removed from auditorium early June and disposed of and all floor patching and repairs to be executed immediately.
 - (1) Following floor patching and prep work contractor shall turn the space over to the owner for approximately 3 weeks turning which time the owner can complete necessary work with seating gone.
 - (2) Schedule available times with the owner so manpower can be arranged for their planed work.
 - (3) Owner will seal floor prior to turning back over for contractor seating installation work.
 - 4) Junior Senior High School electrical downtime **MUST BE MINIMIZED** in order for the district personnel to complete necessary work and to protect:
 - a) Pool and pool environment from damage.
 - (1) Schedule not more than 5 day down time, 7 in the event of unforeseen circumstances.

- (2) If more than 7 days becomes apparent to occur or is anticipated make arrangements for temporary power for humidity control, pumps and pool related operations.
 - (3) Once power is scheduled off schedule work days, full crew, 3 or 4 men minimum, not less than 10 hours and continuous thru weekends and holidays, or in lieu of 10 hour days, two shifts, not less than two men per shift.
- b) Auditorium environment, to reduce risk of damage or mold of fabrics, curtains etc.
- (1) Schedule not more than 5 day down time, 7 in the event of unforeseen circumstances.
 - (2) If more than 7 days becomes apparent to occur or is anticipated make arrangements for temporary power to at least one air handler/heat pump that serves the auditorium.
 - (3) Once power is scheduled off schedule work days, full crew, 3 or 4 men minimum, not less than 10 hours and continuous thru weekends and holidays, or in lieu of 10 hour days, two shifts, not less than two men per shift.
- c) Transformers
- (1) Schedule not more than 3 day down time, 4 in the event of unforeseen circumstances.
- 5) Final completion of deficiency items August 10, 2018
- 6) **Bonus/penalty applies, total contract both buildings as one contract either or both triggers bonus or penalty if both are complete early bonus, or either extends over schedule. \$100 per day, CALANDAR days:**
- a) **BONUS for each day substantially completed prior to August 10, \$100 dollars per day**
 - b) **PENALTY for each day substantially completed after August 10, \$100 per day.**

- 7) Any work completed after August 10 must be done second shift after 3:30 PM or weekends with arrangements made with the Owner to accommodate.
- b. Cooperation, always include in your schedule for manning the work and planning completion, not less than five days of flex time for summer tasks in the event the coordination, delivery issues or unusual weather impact on the work or unexpected Owner occupancy issues occur which might impact access. This is over and above the allowances you might include for your own operations such as weather, vacations, delays in delivery materials or equipment and illness. There is no intent or expectation of the Owner to abuse this allowance and every intent to cooperate to get the work complete, but an unexpected or uncontrollable time impact prior to August will not change owner occupancy schedules.
- c. It is intended all work to be complete and fully operational at substantial completion, and final complete 10 days after receipt of substantial completion punch list.
- d. See requirements for Manning the work described hereafter.
- e. The owner desires to get as much work as possible done early in the summer; work must be coordinated with building personnel for stripping, waxing and other summer maintenance work.

C. Manning the work

1. Contractors shall work overtime, Saturdays and/or double shifts if work falls one (1) week behind prepared schedule or agreed to revision and shall continue to work Saturdays and double shifts, full crews or with additional crews until lost time is recovered.
2. Prepare a plan of action to recoup lost time for the A/E and Owner.
3. See also the additional instruction on power outages in 1.1.B.5 above.

End 00 3000

PROJECT TITLE: 2018 Health Life Safety Implementation Work
at
Macomb Junior-Senior High School
and
Edison School

DATE OF PROPOSAL **Wednesday, March 14, 2018** TIME: **2:00 p.m. prevailing time**

LOCATION OF BID: SUPERINTENDENT'S OFFICE
Macomb CUSD No. 185
323 W. Washington St.
Macomb, IL 61455

NAME OF FIRM _____

PROPOSAL FOR: All work single contract

A/E PROJECT NO. 2326 0217

THE BID ACKNOWLEDGES THE FOLLOWING ADDENDA:
Failure to acknowledge may cause bid rejection

NO. 1 _____, NO. 2 _____, NO. 3 _____, NO. 4 _____, NO. 5 _____

EACH BID SHALL INCLUDE:

- A. The bid forms and certifications completed and signed, (*this form may be copied.*)
- B. Bid security (*standard industry forms may be employed*)
- C. Bids shall include **\$25,000.00 ALLOWANCE** – See Specification 00 2413
- D. Bids shall include bonus penalty \$100 per day see Project Schedule Specification Section 00 2413 and 00 3000
- E. The bidder shall be aware of the need to minimize down time for the electrical renovations at the Junior Senior High School

BASE BID: 2018 Health Life Safety Implementation Work including work at Macomb Junior-Senior High School & Edison School: The bidder agrees to perform all base bid work, single general contract, inclusive of all trades for the sum of:

_____ **Dollars**
WRITTEN AMOUNT

\$ _____
NUMERICAL

ALTERNATE _____
SPACE LEFT FOR ALTERNATE IF REQUESTED BY ADDENDUM

_____ **ADD/Deduct\$** _____

VOLUNTARY ALTERNATES OR SUBSTITUTIONS

Did you offer or include any voluntary alternates or product substitution on form provided.

YES _____

NO _____

SEE PRODUCT SUBSTITUTION OR VOLUNTARY ALTERNATES FORM, ATTACH IF ANY ARE OFFERED. Voluntary alternates or substitutions may or may not be considered in making the award and are not required.

THE BIDDER AGREES TO:

1. Hold this bid open for thirty four (34) calendar days after bid opening date.
2. Enter into and execute a contract with Macomb CUSD No. 185 if awarded this contract.
3. Comply with the contract and bidding documents with respect to bid security, all bonds, insurance, work requirements, schedule and Bonus / Penalty Clause
4. Comply with the Contract Documents with respect to scheduling as described in the documents, noted on drawings.
5. Follow the schedule proposed in Project Schedule specification 00 3000

THE BIDDER MAKES THE FOLLOWING REPRESENTATIONS AND CERTIFICATIONS:

- A. A surety company has agreed to issue payment and performance bonds to fulfill the contracting requirements.
- B. The Bidder is not barred from contracting with any unit of state or local government as a result of violating the bid rigging or bid rotating provisions contained in 720 ILCS 5/33E.
- C. The Bidder is not barred from contracting with the State of Illinois as a result of a bribery conviction per 30 ILCS 505/10.2.
- D. All on site labor and wage compensation provided by this contractor or his subcontractors will comply with the Illinois Prevailing Wage Act (820 ILCS 130E).
- E. This proposal is made without any connection with any person making another bid for the same contract, that the School Board, other officer or any person in the employment of Macomb CUSD No. 185 is directly or indirectly interested in the bid or any portion of the profit there from, except as allowed by the Illinois Law or the Illinois School Code.
- F. I agree to provide a drug-free workplace as required by the Illinois Drug-free Workplace Act.
- H. I do hereby certify that I am either the bidder or duly authorized agent of the referenced bidder, and I am authorized to execute the certifications hereon.
- G. I certify that by submission of this proposal the bidder confirms that he is familiar with the site, existing conditions, the Bid Documents, requirements and the project schedule.

CONTRACTOR:

SIGNATURE:

Firm Name: _____

Address: _____

TITLE: _____

For Corporations only

Telephone: _____

FAX: _____

Email: _____

Date: _____

END 00 4000

00 4000 PROCUREMENT FORMS

Section 00 4010 - Voluntary Alternate and Substitution Form

The Bidder should include this form with the Bid Forms if a material substitution is offered at that time.

The Base Bid and Alternate Bids include only those products specified in the bidding documents. Following is a list of substitute products which bidder proposes to furnish on this project, with the difference in price being added to or deducted from the Base Bid or Alternate Bids.

Bidder understands that acceptance of any proposed substitution is at Owner's option. Approval or rejection of any substitutions listed below will be subject to review after Contract award. Hold open for thirty-five (35) days from Bid Date.

SUBSTITUTIONS

MANUFACTURER'S NAME AND PRODUCT	ADD OR (DEDUCT)
_____	_____
_____	_____
_____	_____
_____	_____

VOLUNTARY ALTERNATE

DESCRIPTION	ADD OR (DEDUCT)
_____	_____
_____	_____
_____	_____
_____	_____

EVALUATION. Contract award will be made in accord with Instructions To Bidders. Only the lowest responsible bidder's Proposed Product Substitution Voluntary Alternates Form will be evaluated.

Attach with herewith or submit on day of bid a general description of the proposed option being offered.

Provide detailed information promptly upon request.

END 00 4010

DIVISION 00 – PROCUREMENT REQUIREMENTS
Section 00 4113 – Award & Contract Form

SAMPLE OWNER - CONTRACTOR AGREEMENT
Example of format to be employed upon award

Between:

The Owner:

And the General Contractor:

Macomb CUSD No. 185
323 W. Washington St.
Macomb, IL 61455

For the Project:

**2018 HEALTH LIFE SAFETY IMPLEMENTATION WORK
MACOMB JUNIOR-SENIOR HIGH SCHOOL & EDISON SCHOOL
FOR MACOMB CUSD NO. 185**

The Owner and Contractor agree to enter into a contract in accordance with the terms and conditions of the Documents (Plans & Specifications), A/E Project Number 2326 0217 and the Contractor's Bid Proposal dated **XX XX, 2018** which become the Contract for completion of the project as follows:

Base Bid Substantial Completion **Date August 12, 2018, final August 19, 2018.**

Bonus penalty if applicable: See Section 00 2413 Scope of Bid for specific conditions of bonus penalty.

Additional Terms & Conditions: (as applicable)

Addenda: #1 _____ #2 _____ #3 _____ #4 _____ (list as applicable)

Contract Amount: (to be listed as appropriate)

Base Bid Proposal including \$25,000 allowance	\$ _____
Alternate Bids as awarded to be listed if applicable	\$ _____
Total Contract Amount	\$ _____

(Written) _____ Dollars

Date of Agreement: _____

Signatures:

Owner:

Contractor:

Macomb CUSD No. 185

Signature

Signature

Title

Title

Contractor's Seal
(Corporation Only)

This Agreement must be signed and returned with the Contractor's Performance Labor and Materials Payment Bonds within fifteen (15) days of notice or the Contractor may be considered in default on acceptance of the award.

END 00 4113

DIVISION 00 – PROCUREMENT REQUIREMENTS
Section 00 7000 – General and Supplementary Conditions

1. GENERAL

1.1. GENERAL CONDITIONS

- A. The conditions outlined in this and following paragraphs are to supplement and complement the conditions found in the articles of the AIA Document A201, 2007 Edition.
 - 1. Included in these Specifications by reference is AIA Document A201 General Conditions.
- B. AIA Document A201, 2007 Edition, can be purchased directly on line from a variety of vendors including the AIA and are available in electronic format as well as printed.
 - 1. AIA A201 2007 version can be reviewed at the Architects office without charge.
- C. To the page one of the AIA A201 General conditions Document:
 - 1. Project: 2018 Health Life Safety Work, Macomb Junior-Senior High School, 1525 S. Johnson Street, Macomb, IL 61455 & Edison School, 521 South Pearl Street, Macomb, IL 61455.
 - 2. The Owner: Macomb CUSD No. 185, 323 W. Washington St., Macomb, IL 61455.
 - 3. The Architect: Middleton Associates Incorporated, 1702 W. College Ave., Suite E, Normal, IL 61761

1.2. SIGNING OF DOCUMENTS AND INSTRUMENTS OF THE CONTRACT

- A. All documents shall be signed by persons fully and duly authorized to so sign. Any documents signed by a person other than person prescribed by the Contractor's legal organization shall enclose with his signature the evidence of "Power of Attorney."

2. SUPPLEMENTARY GENERAL CONDITIONS

2.1. SUPPLEMENTS TO AIA DOCUMENT A201 (2007 EDITION) THE GENERAL CONDITIONS OF THE CONTRACT.

- A. The following sections represent modifications or additions to the AIA A201 -2007 Document.
- B. TO ARTICLE 2/OWNER
 - 1. Add Subparagraph 2.2.2.1 Easements off site required by the Contractor to execute the work, such as space for storage, access, scaffolding, lane enclosure, etc., shall be arranged for by the Contractor and included in the contract amount.

C. TO ARTICLE 3 CONTRACTOR

1. To Subparagraph 3.3.1, delete the last two (2) sentences listed under 3.3.1 in their entirety.
2. To Subparagraph 3.3.1 insert: If the Contractor determines that such means, methods, techniques, sequences or proceedings may not be safe, or may not be appropriate to the equipment and task as becomes apparent, then said Contractor shall have included in his proposal amount allowance to complete this work per a revised plan for which he can assume responsibility and shall notify the Owner and Architect before proceeding. In no case do the Owner and Architect take responsibility for directing Contractor Operations.
3. To Subparagraph 3.12
 - a. Add 3.12.6.1 Submittals unmarked will not be reviewed at the Architect's option. Said unmarked submittals may be returned to the Contractor for re-submittal and the time loss shall not extend the time of completion of the project.
 - b. Add 3.12.6.2 Submittals reviewed by the A/E and returned or held as a record copy presume the Contractor responsibilities in paragraph 3.12.6 have been included whether noted or not.

D. TO ARTICLE 5 SUBCONTRACTORS

1. To Subparagraph 5.2
 - a. Add 5.2.5 The assignment of work or a portion of the work by the Contractor to Subcontractor(s) is the election of the Contractor and in no way changes or reduces the Contractor's obligations under the Contract to properly complete the work and/or provide clear title to the work, including the work by said Subcontractor(s).

E. TO ARTICLE 7 CHANGES IN THE WORK

1. To Subparagraph 7.1.2
 - a. Add 7.1.2.1 The Contractor and/or his Subcontractor shall not proceed with any work, directive or change for which he intends to claim extra cost without providing written notice to the Architect.
 - b. Add 7.1.2.2 The Architect and Owner shall provide response to claims for additional cost within a reasonable time period upon receipt of notice or quote.
 - c. Add 7.1.2.3 Work for which an agreement cannot be reached prior to implementation can proceed as time and material work with all parties to agree on what is additional work over that which should have been included to complete the work as originally intended.

2. To Subparagraph 7.2.2
 - a. Add 7.2.2.1 Change Order quotes shall be based on an approved quote or estimate which shall be based on labor and material cost, actual or estimated as prior agreed upon, and:
 - b. Add 7.2.2.2 Overhead and profit may be charged proportional to this category of work on the Contractor's CSV or not to exceed the greater of:
 - 1) Eighteen percent (18%) for the Contractor's own work forces
 - 2) Ten percent (10%) Subcontractor plus ten percent (10%) Contractor, for twenty percent (20%) total for work completed under a Subcontractor arrangement.
 - 3) These allowances shall include all off site and indirect costs, including insurance, project management, bonds and profit.

F. TO ARTICLE 9 PAYMENT AND COMPLETION

1. To Subparagraph 9.6.1
 - a. Add 9.6.1.1 Wherein the Owner is governed by a public Board, payment requests must be received by the A/E 5 days prior to the established time for entering into agenda prior to the next regular Board Meeting. Payments will be made within twenty-five (25) days following Board approval. Failure to make agenda dates will result in a minimum one (1) month delay in payment.

G. TO ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

1. To Subparagraph 10.2.1
 - a. Add 10.2.1.4 The Contractor shall be responsible to provide and maintain on site MSDS Sheets for all required materials to be brought on site.
 - 1) These sheets shall be readily available upon request to the owner on remodeling renovation projects which are Owner occupied.
 - 2) Comply with VOC regulations.
 - 3) Comply with IEPA regulations.
2. To Subparagraph 10.2.3
 - a. Add 10.2.3.1 Provide for the general safety of public and Owners employees, such safety provision shall be adjusted as appropriate to the age and volume of public anticipated in the project vicinity.

- b. Add 10.2.3.1 Provide for traffic safety as appropriate to the operations; cooperate with the governing authorities on road activities, lane closures, excavations, surface cleaning etc.

H. TO ARTICLE 11 INSURANCE & BONDS

1. To Subparagraph 11.1.2

- a. Add 11.1.2.1 Minimum Limits of Liability for preceding coverage are:

- 1) Workers Compensation - Statutory Limit
- 2) Applicable Federal (*such as Longshoreman's*) Statutory limits.
- 3) Liability Insurance may be written as Comprehensive General Liability policy form or Commercial General Liability policy form with the following coverages:
 - a) Bodily Injury - \$1,000,000 each occurrence, \$2,000,000 aggregate
 - b) Property Damage - \$1,000,000 each occurrence, \$5,000,000 aggregate.
 - c) Property Damage – Broad Form - \$1,000,000 each occurrence, \$2,000,000 aggregate.
 - d) Personal injury (*with employment clause deleted*) \$1,000,000 aggregate.
 - e) Products and completed operations \$1,000,000 to be maintained one year following final completion.
 - f) Business Automobile Liability, (*including owned and non-owned and hired vehicles*)
 - g) Bodily Injury and Property damage \$1,000,000 each person, \$1,000,000 each occurrence.
- 4) Umbrella Insurance may be employed to supplement primary insurance limits to meet required limits.
- 5) Contractor is responsible for any self insured limits not to exceed \$10,000 for any self insured hazards each occurrence
- 6) In the event that a claim is filed or a settlement reached whether related to this project or not which compromises the aggregate limits of liability then the Owner and Architect shall be notified and arrangements shall be made to provide additional insurance as needed to keep aggregate limits in force for the remainder of the Contract.

2. To Subparagraph 11.1.4
 - a. Add 11.1.4.1 The Owner, Architect, and Consulting Engineers including their employees and representatives shall be included as Additional Insureds or Named Insureds on the insurance and shall be shown as such on the Certificate.
3. To Article 11
 - a. Add 11.1.5 Contractor's insurance shall be maintained in force through basic warranty and guarantee periods, not less than one (1) year following Final Completion.
4. To 11.3. Property Insurance
 - a. Add 11.3.1.1 The Owner's property and vandalism insurance has \$1,000 deductible. The Contractor shall insure and thus pay the costs not covered by the Owner's deductibles.
 - b. Add 11.3.1.2 The Owner's Builder's Risk will cover only normally included Owner risks, on site, Owner's interest only, excluding tools and property of the Contractor and improperly stored or unsecured materials or loss/damage resulting from contractors operations.
5. To Paragraph 11.4.1 add the following Subparagraphs:
 - a. Add 11.4.1.1 The Contractor shall furnish Performance and Labor and Material Payment Bonds covering the faithful performance by the Contractor of the work specified in accordance with the plans and specifications and according to the time and terms and Conditions of the Contract, and also that the Contractor shall properly pay all debts incurred in the prosecution of the work, including those for labor and materials furnished and including labor obligations as interpreted by the Illinois Department of Labor and/or the courts.
 - b. Add 11.4.1.2 The cost of each bond shall be included in the Contract Sum plus any changes to the Contract Sum. The Contractor shall include in all bonds provisions as will guarantee faithful performance of the prevailing wage provisions of the Contract if applicable.
 - c. Add 11.4.1.3 Bonds shall be written by surety, approved by Owner, with a minimum rating of B or better, Financial Class V, or higher, in A.M. Best's Insurance Guide, current edition. The company must also be licensed in the State of Illinois.
 - d. Add 11.4.1.4 The Contractor shall require the attorney-in-fact who executes the bonds on behalf of the surety to affix thereto a certified and current copy of power-of-attorney.

- e. Add 11.4.1.5 The Contractor shall deliver the required bonds to the Owner not later than fifteen (15) days following the date the agreement is executed.

I. TO ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

1. To Subparagraph 12.2.2.1 After Substantial Completion:

- a. Add 12.2.2.1.1 Latent Defects, for a period of 10 years after Substantial Completion, upon demand by the Owner, the Contractor shall promptly repair or replace, including associated work repairs and cleanup necessary, defective or non-conforming work resulting from or constituting latent defects, fraud, fraudulent concealment or gross negligence.
- b. Add 12.2.2.1.2 Seasonal equipment such as temperature controls and building systems subject to seasonal loads such as heating equipment and air conditioning, shall be warranted to perform as intended for two years. Exception would be equipment damaged by incorrect operation or maintenance procedures, specifically covered in training, but improperly implemented by the Owner.
- c. Add 12.2.2.1.3 Prompt Repair. Upon notice from the Owner or Architect of defects or nonconforming work, the Contractor shall promptly visit the site in the company of the Owner's representative to determine the extent of all defects or nonconforming work. The Contractor shall provide all labor, material and equipment to promptly repair or replace the defective or nonconforming work. The repair shall include all adjacent work not necessarily provided by the Contractor, but damaged as a result of correcting or remedying such defects or non-conforming work. If the Contractor does not promptly pursue correction, the Owner may repair or replace such work and charge the cost to the Contractor. Work which is repaired or replaced by the Contractor shall be inspected and shall be warranted by the Contractor in accordance with this Article.
- d. Add 12.2.2.1.4 The warranties set forth herein are in addition to all warranties or guarantees expressed or implied by operation of law, statute or ordinance.

2. To Subparagraph 12.2.2.3, Delete the word 'not'. Clarification; all materials and equipment are expected to perform satisfactorily for one year, items or equipment needing periodic attention during the first year of use, shall continue to be serviced by the Contractor until such time that the material, item or equipment is deemed to be doing its intended purpose without repeated service.

3. To Subparagraph 12.2.5

- a. Add 12.2.5.1 Extended Warranties and Commercial Warranties. The Contractor shall deliver all commercial and extended warranties received from manufacturers to the

A/E prior to Final Payment. Extended warranties and guarantees will be as described under the various trade work sections of these documents, and may be the responsibility of third parties to the contract such as dealers or manufacturer's from whom such extended coverage is specified or as advertised such as a commercial limited warranty of performance or service. Such extended warranties may or may not include labor unless specified, or in the case of commercially advertised warranties as offered by the party selling the product or equipment.

- b. 12.2.5.2 Prompt Repair. Upon notice from the Owner or Architect of such defects or nonconforming work, the Contractor shall promptly visit the site in the company of the Owner's representative to determine the extent of all defects or nonconforming work. The Contractor shall provide all labor, material and equipment to promptly repair or replace the defective or nonconforming work. The repair shall include all adjacent work not necessarily provided by the Contractor, but damaged as a result of such defects or nonconforming work or as a result of remedying them. If the Contractor does not promptly repair or replace defective or non-conforming work, the Owner may repair or replace such work and charge the cost thereof to the Contractor. Work which is repaired or replaced by the Contractor shall be inspected and shall be warranted by the Contractor in accordance with this Article. The warranties set forth herein are in addition to all warranties or guarantees expressed or implied by operation of law, statute or ordinance.

J. TO ARTICLE 13 MISCELLANEOUS PROVISIONS

1. To Subparagraph 13.1

- a. Add 13.1.1 Location of the project is Illinois.
- b. Add 13.1.2 The Contractor shall, to the best of his knowledge and capability, perform all work encompassed by the documents, in compliance with the Environmental Barriers Act (Ill. Rev. Stat. 1985, ch. 111-1/2, pars. 3711 et seq. as amended), the Illinois Accessibility Code, 71 Illinois Administrative Code 400; The Uniform Federal Accessibilities Standards (UFAS); Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act of 1990 (effective January 26, 1992) known as ADA requirements. This obligation shall apply to the contractual work described as the project and the conduct of work processes initiated to accomplish the work.
- c. Add 13.1.3 All parties to this Contract are subject to the rules and regulations of the Illinois Department of Human Rights and the statutory requirements thereof, including the requirement that every party to a public contract shall have adopted written sexual harassment policies (PA 87-1257).

- d. Add 13.1.4 It shall be mandatory that the Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin or ancestry, age, marital status, physical or mental disabilities.
- e. Add 13.1.5 Illinois Department of Labor requirements. It shall be mandatory upon the Contractor to whom the Contract is awarded and upon any Subcontractors thereof to be in compliance with applicable wage and reporting regulations. This project is a Prevailing Wage Public Works contract.

2. To Subparagraph 13.3.

- a. Add 13.3.1 Notice served by facsimile (fax) to facsimile number used during bidding and construction shall be official written notice.
- b. Add 13.3.2 Notice served by electronic means (email) to the electronic address used during bidding and construction shall be official written notice.
- c. Add 13.3.3 The Bidder shall notify the Architect and/or the Owner at any time of changes in the facsimile or electronic contact addresses that will reach the contractor. Failure to so notify is the Contractors responsibility.

K. TO ARTICLE 15 CLAIMS AND DISPUTES

- 1. To Subparagraph 15.3.1 Delete the word 'SHALL' and Insert the word 'MAY'.
 - a. Add 15.3.1.1 Mediation may be employed to resolve disputes if agreed to by both parties to the Contract.
- 2. To Subparagraph 15.4.1 Delete the word Shall and insert the word 'MAY'.
 - a. Add15.4.1.1 Arbitration may be employed to resolve disputes if agreed to by both parties to the Contract.

End 00 7000

1. GENERAL

1.1. REQUIREMENTS INCLUDE

A. Work covered by Contract Documents

1. The Contract includes all phases of the construction work pursuant to the 2018 Health Life Safety Work, Macomb Junior-Senior High School & Edison School as set forth in these Specifications and the accompanying Drawings.
2. All work, single Contract.

a. Junior Senior High, includes but not limited to:

- 1) Demolition associated with replacement and renovation work
- 2) Remove and remount 3 transformers on the roof
 - a) Coordinate with new mounting conditions, roofing, base construction and make water tight.
 - b) New rough in and wiring as need to complete the work which will raise or relocate each transformer
- 3) Remove Buss duct from roof and thru gym and replace with raceway and wiring as noted on plans.
 - a) Coordinate and schedule work to minimize down time.
 - b) Coordinate with owner before scheduling any shut down. Minimum 7 days notice please.
 - c) All associated work, conduit, supports, roofing, patching, etc.
- 4) Carpentry work.
- 5) Roofing and flashing work
- 6) Repair all impacted surfaces and surrounds, weather tight and attractive result.

b. Edison School, includes but not limited to:

- 1) Demolition associated with replacement and renovation work
- 2) Replace auditorium seating.

c. New work and equipment as specified in the Documents

- B. PRODUCTS FURNISHED BY OTHERS: All products, components, spaces, and equipment furnished by the Owner are currently in place and are to be relocated, disconnected and reconnected as set forth in these Documents (Specifications and Drawings) and/or required to accomplish these Documents. All added components shall be new and furnished by the Contractor.
- C. Contractor's Incidental Duties
 - 1. Designate specific delivery date for each product in approved construction schedule.
 - 2. Promptly inspect delivered products, report damaged or defective items.
 - 3. Handle at site, including unloading, uncrating, and storage.
 - 4. Protect from exposure to elements, from damage.
 - 5. Repair or replace items damaged as result of Contractor's operations.
 - 6. Install, connect and finish products in assembly function ready including incidental related work.

1.2. WORK SEQUENCE

- A. The Owner will occupy the adjacent school facilities at varied occupation levels (full occupation during school year minimal occupation summer) during construction.
- B. Coordinate the work schedule with the Owner and building administrator.

1.3. SCHEDULE

- A. Project Schedule
 - 1. Specification 00 3000
- B. Work not completed prior to student occupancy to be completed:
 - 1. Second shift
 - 2. Weekends
 - 3. Arrange schedule with Owner that will not disturb the learning environment.

1.4. CONTRACTOR USE OF PREMISES

- A. Confine operations at site to areas permitted by:
 - 1. Law
 - 2. Contract
 - 3. The Owner's Representative, per 1.3.B. above.

- B. Do not unreasonably encumber site with materials or equipment. Do not block the Owner's pedestrian traffic patterns except as prior arranged with the Owner's approval.
- C. Do not load structure, or components thereof, with weight that will endanger or damage structure.
- D. Assume full responsibility for protection and safekeeping of products stored on premises.
- E. Move and relocate as necessary all stored products or equipment that interferes with operations of the Owner.
- F. Obtain and pay for use of additional off site storage or work area needed for operations.
- G. Limited use of site for work and storage
 - 1. Use public access ONLY, now in service. Parking ONLY as prearranged with the Owner.
 - 2. All vehicular on site activity shall have been prearranged and approved by the Owner.
- H. Cooperate with the Owner's use of the premises and other Contractors providing work on site under separate Contracts with the Owner.

1.5. CONTINUOUS OCCUPANCY BY OWNER

- A. Owner will occupy areas for purposes of conducting educational athletic and physical education and general maintenance during construction.
- B. Contractors shall provide
 - 1. Access by Owner's personnel and pupils when applicable.
 - 2. Operation of Mechanical and Electrical systems with a minimum of down time.
 - 3. Operation of exhaust systems with a minimum of down time.
 - 4. Adequate security of the premises in which work is in progress.
- C. Upon (after) the work being completed and accepted by Owner, the Owner shall provide:
 - 1. Custodial services
 - 2. Security
 - 3. General custodial maintenance

1.6. ASBESTOS

- A. ACM inspection reports are available at the site. The contractor shall perform his own examination of the buildings of concern on the project prior to bidding and be responsible for the determination of the existence or

nonexistence of suspect asbestos in a state that is likely to be interrupted or become hazardous to the health of the Contractor, his employees, his subcontractors and their employees.

- B. **No known ACM issues impact this project**
- C. **If suspect materials are encountered notify the A/E. Owners ACM representative/consultant will be contacted for direction**
- D. The Contractor may deem it advisable to contact the Office of Superintendent of Schools and request access to the Asbestos Management Survey applicable to the building pursuant to Section 855.30 (including updated amendments thereto) of AN ACT KNOWN AS THE ASBESTOS ABATEMENT ACT: P.A. 83-1325, approved and eff. Sept. 5, 1984, amended by P.A. 84-0951, approved and eff. Sept. 20, 1985, and amended by P.A. 84-1096, approved eff. Dec. 9, 1985, amended by P.A. 84-1245, approved and eff. July 29, 1986, amended by P.A. 84-1346, and approved and eff. Sept. 10, 1986, inclusive of such amendments and regulations applicable since 1986.
 - 1. Upon determination prior to bidding, or after bidding discovery by the Contractor that an asbestos hazardous condition does exist in the path of execution of the work of his Contract, he shall so notify the Owner IN WRITING.
 - 2. Pursuant to Item 1.6.B.1 above, the Owner (Lincoln Elementary School District No. 27, Lincoln, IL) may implement the following action:
 - a. Eliminating that portion of the work by revision and change order to these documents.
 - b. Institute removal or acceptance encapsulation.
 - 3. Wherein concealed asbestos is discovered, the Contractor shall notify the Owner of the existence of said apparent asbestos which may require analysis for hazardous determination. This notification shall be IN WRITING at no cost to the Owner. Should analysis indicate that hazardous substance does prevail the procedure shall be set forth under Item 1.6.B.2. above.
 - a. NOTE: DELAY IN THE CONTRACTOR'S WORK DUE TO SUCH CONCEALED DISCOVERY AND/OR OWNER RESPONSE THERETO SHALL NOT BE GROUNDS FOR CLAIM FOR EXTRA EXPENSE BY THE CONTRACTOR CHARGEABLE TO THE OWNER AS AN EXTRA TO THE CONTRACT AMOUNT.

1.7. COORDINATION AND COOPERATION

- A. It is the intent and purpose of the Owner to cooperate with the Contractor to the extent feasible under existing applicable laws and regulations and the Owner and the Contractor alike shall not construe this portion of the

documents, that is, Section Paragraph 1.6.A, and B to the disadvantage of the other.

- B. Should the bidding Contractor not understand the foregoing, he shall notify the Architect/Engineer for clarification prior to bidding in accordance with Section 00040, Paragraph 1.3, 1.4, and 1.15.
- C. This Contractor shall cooperate with other Contractors and their Subcontractors working on site duly employed by the Owner to perform service related and unrelated to work outlined by these Documents.
- D. The Owner has the right to employ other contractors or his own forces to be working on site in concurrence with this Contractor's work. Coordinate and cooperate to the extent reasonable under the contract so all parties can collectively accomplish the work scheduled.

1.8. FITTING AND FINISHING THE WORK

- A. Contractor shall verify all field conditions, dimensions, elevations that relate to the work and properly accommodate these in the work as appropriate to the intended result within the Contract amount.
 - 1. In place construction, obstacles and site conditions and elements which can be seen and reasonably inferred.
 - 2. New construction, obstacles and conditions that can be seen or are to occur in the completion of the work.
 - 3. Allow to fit structural elements and all equipment as occur or will occur during the implementation of the Contract.
 - 4. Make adjustments as needed to fit and properly complete the work. This includes coordination of work by all trades.
- B. Contractor and his Subcontractors shall coordinate, accommodate, adjust and fit as appropriate all work to achieve the intended finished intent to normal commercial industry standards.
 - 1. Provide finishing elements, trim, sealants, scribes, receivers and accessories necessary and normal to the installations proposed and as recommended by manufacturers for proper use of products.
 - 2. All construction (all trades) to be weather and infiltration tight. Include appropriate weather seals, infiltration barriers, sealants, non-corrosive flashings and sealants to properly complete the intent of the project.
 - 3. Provide all necessary work to complete all installations, equipment and parts of the work to be complete and properly operable, under control for motorized equipment, in a finished appearance and condition, unless specifically noted otherwise.
 - a. Conceal piping and conduit to the extent possible
 - b. Run piping and conduit and supports parallel and/or perpendicular to main structural elements when possible.

- c. Avoid creating trip hazards or low headroom hazards when possible
 - d. Always allow for service access.
4. Always comply with the Illinois Energy Code
- a. Infiltration tight
 - b. Watertight
 - c. Insulation and continuous insulation, types and assembly U or R values as well as component ratings.
 - d. Air barriers continuous to the extent possible at assembly junctures, windows to walls, walls to roof assembly, walls floor to floor.

END 01 1000

DIVISION 1 – GENERAL REQUIREMENTS
Section 01 2500– Substitutions & Product Options

1. GENERAL

1.1. SPECIFIED PRODUCTS

- A. All bids shall be based on providing products exactly as specified or equal as prior approved.
- B. Products specified only by reference or performance standards, shall be met or exceeded by the standards of any manufacturer's material and subject to the Architect/Engineer's approval.
- C. Products specified by naming several products or manufacturers shall be selected from any product and manufacturer named.

1.2. SUBSTITUTIONS, BIDDER/CONTRACTOR OPTIONS

- A. PRIOR TO BID OPENING - The Architect/Engineer will consider requests to amend the bidding documents to add products not specified, provided such requests are received in adequate time prior to bid opening date.
 - 1. Requests received after ten (10) days before bid due date will not be considered.
 - 2. If a request is approved, the Architect/Engineer will endeavor to issue an appropriate addendum not less than seven (7) calendar days prior to bid opening date.
 - 3. Ten (10) days is based on the start bid date, and will not be extended by bid extension unless same is extended more than ten (10) days.
- B. WITH BID - Substitutions will not be considered with the bids.
- C. AFTER AWARD OF CONTRACT - No substitutions will be considered after Notice of Award, except under one or more of the following conditions:
 - 1. Substitution is required for compliance with final interpretations of code requirements or insurance regulations.
 - 2. Unavailability of specified products, through no fault of the Contractor.
 - 3. Subsequent information discloses inability of specified product to perform properly or to fit in designated space.
 - 4. Manufacturer/fabricator refusal to certify or guarantee performance of specified product as required. This does not alter the requirement.
 - 5. When a substitution would be substantially to the Owner's best interest.

1.3. SUBSTITUTION REQUIREMENTS

- A. Submit four (4) copies of each request for substitution. Include in each request for substitution:

1. Complete data substantiating compliance of proposed substitution with Contract Documents.
2. For products:
 - a. Product identification, including Manufacturer's name and address.
 - b. Manufacturer's literature.
 - 1) Product description.
 - 2) Performance and test data.
 - 3) Reference standards.
 - c. Samples, if applicable.
 - d. Name and address of similar projects on which product was used and date of installation.
3. For construction methods substitution:
 - a. Detailed description of proposed methods.
4. Itemized comparison of proposed substitution with product or method specified, including accurate and true cost data on proposed substitution in comparison with product or methods specified.
5. Data relating to changes in construction schedule.
6. Identify:
 - a. List other contracts affected, if applicable.
 - b. List changes or coordination required.

B. In making requests for substitution, bidder/contractor represents:

1. He has personally investigated proposed product or method and determined that it is equal or superior in all respects to that specified.
2. He will provide the same guarantee for substitutions as for product or method specified.
3. He will coordinate installation of accepted substitutions into work, making all such changes as may be required for work to be complete in all respects.
4. He will provide complete cost data including all related costs under his contract (and other Prime Contract's, as applicable) whose work may also be affected by the substitution in product or method.
5. He will assume full responsibility for all additional costs and expenses to the Owner, Architect/Engineer (and other contractors employed on the same project, as applicable).
6. The Contractor agrees that it is the Contractor's sole responsibility to stand any costs that may be attributable to an allowed substitution that may surface as construction proceeds toward finalization.

- C. Substitution will not be considered if:
1. It is indicated or implied on shop drawings or product data submittals without formal request submitted in accordance with Paragraph 1.4 above.
 2. Acceptance will require substantial revision of Contract Documents.

END 01 2500

DIVISION 01 – ADMINISTRATIVE REQUIREMENTS
Section 01 3000 – Project Management

1. GENERAL

1.1. MANAGEMENT OF THE CONTRACT

A. The contractor shall provide necessary project support to manage necessary support documentation in an accurate and timely fashion.

1. Following award, fifteen (15) calendar days, submit two (2) copies:

- a. Signed contracts
- b. Insurance
- c. Bonds, Labor and Material payment and Performance or approved Owner protective bond.
- d. Subcontractor/supplier List – provide promptly prior to signing the of contract
- e. Contractor Schedule of Values, labor and materials and by trade and task breakdown.

2. Pre-Construction meeting:

- a. Provide proposed schedules
- b. Project access for remodel/renovation projects
- c. Project security plans, fences, storage facilities, public access control.
- d. Proposed schedule
- e. Contact information
- f. Identify Project management team, Superintendent of the work,

3. Prior to start of the work on site:

- a. NOI permit from IEPA as applicable on projects excavating over 1 acre or more.
- b. Background check information as applicable to this project.
- c. Permits
- d. Have in place the safety plan and assigned safety person on the site. Safety is the responsibility of the contractor, and is not monitored or directed by the Owner or the A/E except in apparent emergency situations where the Owner or the A/E might assist in determination of safety accommodations as identified by the contractor.
- e. Have in place the fences and barricades to control public or non-contractor access to the site.

1.2. SUPERINTENDENT OF WORK

A. The Contract shall designate a person who shall be General Superintendent of on site construction work encompassed by the Contract Documents.

1. Said designated superintendent shall have prior served as project superintendent of construction of similar nature and size. Qualifications shall be subject to the Owner's and Architect's review.
2. Superintendent shall remain superintendent for the duration of the project unless said person shall become disabled, no longer employed by the Contractor. The Contractor shall provide notice to the Architect and the Architect and Owner shall approve the personnel change.
3. Owner can request superintendent replacement for cause at any time.

1.3. AWARD AND LETTER OF INTENT

- A. The Owner will make an award based on the selection of the lowest cost responsible bidder that has demonstrated past experience and evidence of adequate resources to accomplish the work. After the award, and the issuance of a Letter of Intent, the contract timeline is as follows:
 1. Return signed agreement seven (7) days
 2. Sub Contractor, Supplier, or any entity to be assigned a part of the work, provide list, addresses and contact information. Seven (7) days. Provide references upon request. Seven (7) days:
 3. Labor and Materials, Payment, and Performance bonds, 15 days
 4. Insurance, 15 days
 5. Master Cost Breakdown (CSV), 15 days
 6. Proposed Schedule and time line, 15 days
- B. Failure or refusal to provide the preceding Contract information in a timely manner may be cause for cancellation of the award or termination of the agreement if signed and the Owner will be entitled to compensation under the terms of the bid security for failure to execute contract terms in good faith.

1.4. MATERIALS SPECIFIED AND QUALITY OF WORK

- A. Materials shall be as specified or approved equal.
- B. "Approved equal" and "or equal" shall mean that the Contractor shall be required to receive the Owner's approval (via the Architect) on any substitute materials seven (7) days prior to the bid due date.
- C. Requests for substitution approval shall be submitted to the Architect/Engineer.
 1. Prior to considering substitutions, the Owner and/or the Architect/Engineer may require submission of samples, descriptive, technical and catalog data and lab reports of tests for verification of equivalency.
 2. Said submittals shall be presented to Architect/ Engineer.

1.5. PROGRESS PAYMENTS

- A. All payments by the Board of Education require Board approval.
 - 1. Payment requests must be submitted prior to the first Monday of the month for consideration and entry into the agenda.
 - 2. Untimely submission of payment request will result in a one (1) month delay for consideration.
 - 3. The Contractor will be notified of the regular Board meeting schedule upon request.
 - 4. Payment will be made within twenty (20) days following board approval, or a notice of board concerns will be provided.

- B. In accordance with the terms of the Contract periodic partial progress payments may be made monthly to the Contractor for: 90% of the value of the labor, materials, and/or equipment incorporated in the construction.
 - 1. Payment will be for completed progress materials only.
 - 2. Materials properly stored and protected on site may be billed
 - 3. Payment for Materials off site may be considered if properly warehoused, dedicated to this project and insured. Submit all information and same will be reviewed and may be approved or denied for payment.
 - 4. Progress pay requests shall indicate amounts completed of all items listed from the master breakdown.
 - 5. 10% of each request will be retained by Owner until work has been satisfactorily completed.
 - 6. Submit lien waivers for preceding payments made.
 - 7. Submit lien waivers from subcontractors and suppliers.
 - 8. Submit notarized Contractor's affidavits with each pay request showing that total owed on Contract by Owner (after subject request has been paid to Contractor) is more than the amount to become due the Contractor for material, subcontractors and labor.

- C. All the applications for payment shall be made in three (3) copies with all copies bearing live seals and signatures, notarized and complete and accurately filled in.
 - 1. Applications for payment shall be submitted to Architect/Engineer on AIA G-702A Forms or other standard formats containing similar information.

- D. Public Projects only: Attach one (1) copy of Contractor's Certified Prevailing Payroll with Pay Request in accord with Dept. of Labor requirements. Include Payroll for the major Subcontractors and upon request any minor or intermittent on-site Subcontractor.
 - 1. Submit beginning with the first application for payment for all workers employed on site
 - 2. Submit for each successive month with each pay request.

1.6. FINAL PAYMENT: The final application for payment shall not be made until all work and deficiency (punch list) items have been satisfactorily completed and approved by the Architect/Engineer for documents compliance.

1.7. EMPLOYEE-STUDENT RELATIONSHIPS

A. Except in an emergency situation involving safety, there is to be no intermingling of the Contractors' employees and the school faculty, staff and students violating this requirement shall be removed from employment at this site. Contractor employees experiencing problems with students or faculty shall report same to their project superintendent, who shall promptly report the problem to an authorized representative of the Owner and the Architect/Engineer.

1. Avoid profanity and inappropriate subject matter in conversation as students and staff may be within audible range and walls or ceiling spaces may allow sound transmission.
2. Verbal or physical action interpreted as sexual or sexually suggestive in nature or as sexual harassment will be grounds for removal of the employee from the site. Further legal action remains the option of the persons affected.
3. In all aspects of this provision, the Contractor's employees as adults have the greater responsibility and should not respond to inappropriate student behavior.

B. Authorized agents of the Owner include the District Superintendent, District Building and Grounds Supervisor, the District Financial Services Director and the Architect/Engineer. The School Principal is authorized to discuss concerns regarding operations on site, but is not authorized to order changes in the work.

End 01 3000

1. GENERAL

1.1. DESCRIPTION

- A. Prior to commencing the work, the Contractor shall provide submittals on all materials and equipment proposed for the work.

1.2. SHOP DRAWINGS, SUBMITTALS, AND SUBMITTAL BROCHURES

- A. Submit four (4) copies minimum unless notes otherwise in a particular section.
 - 1. Electronic submittals by pdf are allowed directly emailed in not through a posting service.
 - 2. Electronic submittals shall be tailored to the project, do not submit a 25 page catalog that 2 pages apply to this contract.
 - 3. Clearly delineate applicable products and selections.
- B. Architect and/or Owner will retain two (2) copies.
- C. Contractor will receive remaining copies for his use.
 - 1. Maintain records for submittal of Operations and Maintenance manuals at the conclusion of the work.
 - a. Two (2) copies, Or one copy and an electronic copy.
- D. Shop drawings and material schedules shall be accompanied by catalog cuts or literature providing all data, description, function, and capacity of item or component submitted.
- E. Catalogs and fliers with multiple component descriptions shall be clearly and precisely marked as to submittal item. The Architect/Engineer's office will provide no sorting to assure the submittals match with documents requirements.

1.3. SAMPLES

- A. When samples are requested submit two (2), minimum.
- B. All samples will be retained unless otherwise noted in the documents or requested by the vendor. Samples for return may be held until the material is installed on site.

1.4. PROJECT RECORD INFORMATION

- A. The Contractor shall, within seven (7) days of Notice of Award, submit to the Architect the following:
 - 1. Name of person under Contractor employment at the job site in charge of the work and safety.

2. Provide a contact list including emergency contact information for all relative parties to the work, including the superintendent, the project manager, subcontractors, and major vendors.

1.5. PROJECT RECORD DOCUMENTS

1. Operating and Maintenance Manuals.
 - a. Submit three (3) bound, indexed copies minimum.
 - b. These manuals shall include all Shop Drawings and all Submittals, all Equipment Brochures, Operating Manuals, Operating Instructions, names, addresses, and telephone numbers for guarantee work, all bound into a good quality binder or loose-leaf notebook, clearly labeled.
 - c. THE SHOP DRAWINGS RETAINED BY THE OWNER AND ARCHITECT ARE NOT AVAILABLE FOR PREPARING THESE MANUALS. If additional copies are required for this, the Contractor shall make allowance and copy additional sets.
 - d. Include warranty information and warranty contact information.
2. Record drawings: Maintain as work proceeds record drawings marked to show any variances in installations, particularly underground and concealed services.

1.6. AS-BUILT DRAWINGS

- A. The Contractor shall provide the Architect/Engineer's Office with one marked set of drawings showing changes from the original drawings. Marked As-Built Drawings shall be submitted upon progress having Substantial Completion progress.
 1. Preferably markings should be in red, clearly legible and easily understood.
 2. Clearly and boldly label the set As Built or Record Drawings.

1.7. IDENTIFICATION OF SUBMITTALS

- A. The Contractor shall clearly mark each submittal of the Shop Drawings, Catalog Cuts, Pamphlet, or Specification Sheet for identification and record, for example:
 - a. DATE: As submitted
 - b. BUILDING: Project Name
 - c. LOCATION: City
 - d. TYPE OF EQUIPMENT: (Example – AHU 1)
 - e. SUBMITTED BY: Contractor's Name and contact information for questions.
2. Data shall also indicate model number selected for furnishing and indicate capacities or conditions or operation.

- a. Catalog data of general advertising nature, without specific outline or rating for equipment, will be rejected.
- b. Marked product manufacturer's catalogs and engineering data shall accompany the submittal.

1.8. REVIEW OF SUBMITTALS

1. Submittals will be reviewed by the Architect and/or the Owner and will be checked for Contract compliance and the basic fabrication methods.
2. The Contractor must verify all the dimensions, field conditions, field clearances, and rough-in requirements with adaptations as necessary.
3. Submittals are to be reviewed and corrected first by the Contractor. If submittals contain obvious oversights or conditions that make it apparent they have not been checked, they will be returned for re-submittal.
4. Architect/Engineer review of a submittal shall not relieve the Contractor of contract compliance unless any variance is specifically brought to the attention of the Architect and/or Owner IN A LETTER FORM attached to the submittal data and subsequently approved by the Architect/Engineer IN WRITING.
5. An omission on the shop drawings or a review oversight by the Architect/Engineer shall not be construed as the calling of specific attention thereto.
6. It is not the responsibility of the Architect Engineer to request submittals, failure to submit presumes contract compliance is understood.
7. It is not the responsibility of the Architect Engineer to provide rapid review turnaround on a delayed submittal to maintain schedule. The Contractor shall make submittals in a timely manner generally allowing at least ten (10) days for review.

END 01 3300

1. GENERAL

1.1. REQUIREMENTS INCLUDE

A. Contractor:

1. Coordinate work of all crafts including that of subcontractors and his crafts as applicable.
2. Schedule elements of remodeling and renovation work to expedite completion.
3. Schedule noisy or hazardous work to avoid problems with the Owner's day-to-day building functions and general maintenance operations.
4. In addition to required incidental demolition specified in various sections, and that shown on Drawings, cut, move or remove existing construction to provide access or to allow remodeling and new work to proceed. Include:
 - a. Removal of temporarily or permanent Electrical and Plumbing devices, circuits and piping plus the reinstallation of same as required to continue service.
 - b. Removal of unsuitable or extraneous materials and non-functioning components not marked for salvage, such as abandoned furnishings and equipment, and debris such as rotted wood, rusted metals, abandoned electrical and mechanical components, and deteriorated concrete.
 - c. Cleaning of surfaces. Remove surface finishes to install new work and finishes.
5. Patch, repair and refinish existing items to remain, to the specified condition for each material, with a neat transition to adjacent new construction.
6. Move room furnishings to allow access to specified floor, wall and ceiling work. Relocate same in place at the completion of specified rehab work.
7. Cooperate with the Owner and schedule ahead pursuant to rehab work at locations involving preparatory work by Owner - see 1.1.B. of this section.

B. Owner:

1. Remove, store and replace books and files to allow Contractor access to floors, walls and ceiling, room by room, on schedule determined by the Contractor.
2. Cooperate with the Contractor pursuant to providing Contractor access to rooms and areas scheduled for rehab - see 1.1.A. 6 & 7 this section.

1.2. RELATED REQUIREMENTS

- A. Specified elsewhere:
 - 1. DIVISION 0 - PROCUREMENT REQUIREMENTS
 - 2. DIVISION 1 - ADMINISTRATIVE REQUIREMENTS
- 1.3. SEQUENCE AND SCHEDULES: Schedule work in sequences within times specified in 01 1000.
- 1.4. ALTERATIONS, CUTTING AND PROTECTION
 - A. Assign moving, removal, cutting and patching work to crafts qualified to perform the work in a manner to cause least damage to each type of work, and provide means of restoring surfaces to appearance of new work.
 - B. Perform cutting and removal work to minimize removals, and in a manner to avoid damage to adjacent work.
 - 1. Cut finish surfaces such as masonry, tile, plaster or metals by methods to terminate surfaces in a straight line at a natural point of division.
 - C. Perform cutting and patching in accordance with the general and supplementary General Conditions.
 - D. Protect from damage existing finishes, equipment and adjacent work which is scheduled to remain.
 - 1. Protect existing and new work from weather and temperature extremes.
 - 2. Provide weather protection, waterproofing, heat and humidity control to prevent damage to remaining existing work and to new work.

2. PRODUCTS

2.1. SALVAGED MATERIALS

- A. The Contractor shall:
 - 1. Remove all existing reusable components such as hardware, (hinges closers, locks, panic sets, door stops, kick plates and latch sets) and deliver same to the Owner at a location to be determined by the Owner.

2.2. MATERIALS FOR PATCHING, EXTENDING AND MATCHING

- A. Ensure that work is complete:
 - 1. Provide same materials or types of construction as that in existing structure, to patch, extend or match existing work.
 - a. Contract Documents may not define products or standards

- of workmanship present in existing construction.
 - b. Consult the Drawing Details and/or consult the Architect/Engineer.
2. Presence of a product, finish or type of construction requires that patching, extending or matching be performed to make work complete and consistent to identical or better quality standards.

3. EXECUTION

3.1. REMOVE EXISTING CONSTRUCTION

- A. Consult the drawings for removals and replacements as set forth.

3.2. PERFORMANCE

- A. Patch and extend existing work using skilled craftsmen capable of matching existing quality of workmanship.
- B. For patched or extended work, provide quality equal to that specified for new work.

3.3. ADJUSTMENTS

- A. Where existing construction and components are removed, patch floors, walls, doors, trim, and ceilings with finish materials to match existing as closely as possible.

3.4. DAMAGED SURFACES RESULTING FROM CONTRACTOR WORK

- A. Patch and replace all portions of the existing finished surfaces found to be damaged, lifted, discolored or showing other imperfections, with matching material.
 - 1. Provide adequate support prior to patching the finish.
 - 2. Refinish patched portions of painted or coated surfaces in a manner to produce uniform color and texture over entire surface.
 - 3. When existing surface cannot be matched, refinish entire surface to nearest intersections.

3.5. TRANSITION FROM EXISTING TO NEW WORK

- A. When new work abuts or finishes flush with existing work, make a smooth transition. Patched work shall match existing adjacent work in texture and appearance as closely as possible.
 - 1. When finished surfaces are cut in such a way that a smooth transition with new work is not possible, terminate existing surface in a neat manner along a straight line at a natural line of division, and provide trim appropriate to finished surface.
 - 2. Refinished surfaces must be weathertight as appropriate to the exposure

3.6. CLEANING

- A. Perform construction cleaning as specified in Section 01 7800.
 - 1. Clean Owner occupied areas, where work prevails, daily.
 - 2. Clean all spillage, overspray and heavy dust collections in Owner's occupied areas immediately.
- B. At completion of work of each craft, clean area and make surfaces ready for work of successive crafts.
- C. At completion of alterations work in each area, provide final cleaning for occupancy and return space to a condition suitable for use of Owner.

END 01 3516

1. GENERAL

1.1. GENERAL TERMS USED IN THE CONTRACT

- A. OWNER: Macomb CUSD No. 185, 323 W. Washington St., Macomb, IL 61455
- B. CONTRACTOR: A person, firm or corporation with whom a Contract or Agreement is made by the Owner.
- C. GENERAL CONTRACTOR: The General Contractor furnishes all of the work in the documents. Pursuant to these Documents the Designating Contractor, General Contractor and Prime Contractor shall be one and the same.
- D. ARCHITECT OR A/E: Middleton Associates, Incorporated, 1702 W. College Ave., Suite E, Normal, IL 61761 - Telephone 309/452-1271, Fax 309/454-8049, e-mail: russ@middletonassociates.net
 - 1. Consulting Engineer: CM Engineering, 2801 Woodward Drive, Suite 105, Columbia, MO 65202. Telephone 573 874 9455, fax 573 874 9474, email russ@cmeng.com
- E. DOCUMENTS: The Drawings, Specifications and Contract as apply to all areas of the work.
- F. WORK: All obligations undertaken by the Contractor, pursuant to the Contract Documents.
 - 1. Work includes, but is not limited to, the furnishing of all of the materials, labor, equipment, supplies, plant, tools, scaffolding, transportation, unloading, superintendence, insurance, bonds, taxes and all other services, facilities, required demolition (major and minor as applicable) and expenses necessary for the full performance and completion of requirements of the Contract Documents.
 - 2. Work also means that which is produced, built, or constructed, pursuant to the Contract Documents.
 - 3. Work includes all labor and materials to properly install and make functional.
- G. PROVIDE: Furnish and install (including materials, accessories and labor) ready for the Owner's use. Comply with manufacturer's installation requirements as minimum standard, Drawings and Specifications where installation requirements exceed manufacturer's recommendations.
- H. EQUAL, APPROVED EQUAL: Alternative products meeting or exceeding the base specification product or process and approved by the Architect/Engineer IN WRITING as suitable for this application. If not

accepted prior to bidding, acceptance is discretionary.

- I. **SUBSTANTIALLY COMPLETE:** When work progress has arrived at the point where the Owner may have full use of the installation for the purpose for which the same was installed, all components installed, equipment operating under control and minimum code compliance achieved, then, the work may be declared substantially complete if so requested by the Contractor and specifically approved by the Owner.
 - J. **PUNCH LIST:** Those items, components, installation inclusive of labor and materials (in place) which, in the opinion of the Architect/Engineer or the Owner do not conform to the intent of the Contract Documents and/or adequately satisfy the purpose and intent of the Owner.
 - K. **DESIGNATED WORK:** Wherein the documents designate that one contractor shall provide specified material and labor for another trade area contractor, the cost of the work and material shall be included in the bid of the contractor that is designated to provide the material and labor.
 - L. **AND/OR:** Wherein employed in the documents shall be either and both, singularly and together, as applicable to the intent of the Project Documents.
 - M. **CONCEALED:** Concealed building components, services, and obstacles subject to Change Orders, shall be limited to those components, services, obstacles, etc., not designated or known to exist, not typical to the type of construction observed and not available for inspection without destructive action. Opening of access panels, looking above accessible ceiling systems or inside chase walls is not considered concealed items.
- 1.2. In general, definitions of words employed in the Contract Documents shall be as defined in "Webster's New World Dictionary" the latest edition. The Architect shall be the interpreter in the case of multiple meanings. Exceptions to this shall include longstanding meanings in the construction industry but have not been so defined in Webster's Dictionary. Determination shall be in accordance with these Specifications.

END 01 4216

DIVISION 1 - GENERAL REQUIREMENTS
Section 01 5000 - Temporary Facilities & Controls

1. GENERAL

1.1. WORK INCLUDES

- A. Contractor shall provide and maintain specified temporary utilities.
- B. Contractor may extend electrical and water services from Owner's existing sources.
 - 1. Tap on and extension of services shall be implemented and paid for by the Contractor requiring utility.
 - a. Tap on arrangements must be coordinated with the Owner, and shall not compromise the Owners operations or equipment.
 - 2. Return tap on surrounds to original or contracted configuration and circumstances at close of job by the Contractor.
 - 3. Extension shall not compromise Owner's operations.
- C. Contractor shall furnish (included in his Base Bid):
 - 1. The cost of all utilities required by him which:
 - a. Are in excess of existing available at the building and are necessary for the completion of his work.
 - b. Exceed the capacity of existing or permanent systems and are necessary for the completion of his work.
 - c. Required prior to permanent enclosure.
 - 2. Extension cords, extension lights and lamps from approved temporary power centers to his work.
 - 3. Ventilation for his storage spaces containing volatile or hazardous materials.
 - 4. Security for materials and equipment.
 - 5. Heating as needed to protect construction form freezing or frost damage.
- D. Furnished by Owner
 - 1. Authorization of existing facilities for temporary use.
 - a. Electrical power service
 - b. Water service extended from existing outlets by the Contractor
 - 2. Owner will pay all costs of power and water consumables used for construction purposes for utilities properly extended.

3. The Contractor requiring Owner-furnished services, shall provide and pay for extension or modification of services to perform the work and for restoration of services and Owner equipment at completion of the work.

E. Water Service:

1. For construction purposes:
 - a. The Contractor shall provide and maintain temporary water service connection throughout construction period.
 - b. The Contractor shall supply adequate water hoses from hose bibs to the point of his operations.
2. For temporary fire protection and cleaning.
3. Maintain adequate volume of water for all purposes.
4. The Contractor provides drinking water for his own forces.
5. Water source: On or off site.

1.2. COST OF INSTALLATION, OPERATION, MAINTENANCE & CONSUMABLES

A. Installation, operation and maintenance:

1. The Contractor requiring service extensions shall pay all costs of installation, operation, maintenance, restoration and equipment warranty extension of temporary utilities for designated time periods.
2. The Contractor shall not overload the system.

B. Consumables:

1. Contractor pay all costs of consumables for temporary utilities, as designated:
 - a. Heating Fuel via Temporary Heating Units: Contractor requiring same.
 - b. Heating
 - c. Electrical Energy Contractor except as properly extended.
 - d. Lamps: Contractor requiring same.
 - e. Water: Owner as properly extended.
 - f. Toilets and Supplies: Contractor.

1.3. MONITORING OF TEMPORARY UTILITIES

- A. The Contractor extending or providing a temporary utility extension shall be responsible for all damage to his work or to the existing facility caused by a defect in temporary utilities or utility extensions.
1. Enforce compliance with specified codes and standards.
 2. Enforce safe practices.
 3. Prevent abuse of services and utilities.

4. Prevent damage to finishes.
- B. Upon completion of work, or when directed by Architect/Engineer, restore existing systems to original condition.

2. PRODUCTS (Not applicable)

3. EXECUTION

3.1. ALL TEMPORARY UTILITIES AND EXTENSIONS

- A. Comply with DIVISION 15 and DIVISION 16 Specifications and Federal and State regulations.
- B. Install work in a neat and orderly manner.
- C. Be made structurally, mechanically and electrically sound throughout.
- D. Be maintained to give safe, continuous service, and to provide safe working conditions.
- E. Be modified and extended as work progresses.

3.2. INSTALLATION

- A. Electrical:
 1. Protect branch circuits or extension wiring on floor or on ground from damage.
 2. Provide ground fault outlets
 3. Wiring for temporary heating and ventilating equipment:
 - a. Wire all safety devices specified for operation or equipment.
 - b. Verify proper operation of all safety devices.

3.3. REMOVAL & REINSTALLATION

- A. At the conclusion of the work, completely remove temporary materials and equipment.
- B. Repair all damage caused by installation. Restore to original condition or better.

END 01 5000

1. GENERAL

1.1. WORK INCLUDES

- A. Completed Deficiency List
- B. Final Cleaning
 - 1. Clean all finished areas ready for occupancy, dust, remove debris, mop or vacuum as appropriate, seal and wax if specified. Concrete sealers free of scuffs and scratches
 - 2. Unoccupied areas, above ceilings, tunnels, chases, Mechanical areas, roof, etc., free of debris reasonably cleaned up of construction scraps, tools boxes.
 - 3. Equipment cleaned and ready for occupied use, new filters, and spare filters stored in location directed.
 - 4. Site and exterior cleaned up, no debris, equipment, tools removed.
 - a. Sidewalks clean
 - b. Earthwork finish graded, seeded if specified
 - c. Drainage ways open
- C. Project Record Drawings
 - 1. Contact list of Installing Contractor and/or Subcontractors.
- D. Maintenance Information
 - 1. Provide operations and Maintenance manual containing all information relative to the future operation and maintenance of the facility:
 - a. Warranty contact information
 - b. Instruction booklets for all equipment, relative parts sources and care instructions
 - c. Contact information and extended warranty information
- E. Guarantees, Warranties and Bonds
 - 1. Contact list for warranty claims.
- F. Submittal
 - 1. All materials shall be submitted in multiple copies in an orderly and labeled fashion.
 - 2. Generic documents not filled in, dated, and job specific are not acceptable.

1.2. EVIDENCE OF COMPLETION OF THE CONTRACT

A. Equipment and Building

1. All equipment operational as intended, under control, installed per Manufacturer's recommendations.
2. All construction completed, finished and in new condition.
3. All deficiencies addressed to the satisfaction of the A/E and Owner.
 - a. Return Punch List with each completed item initialed by the Contractor representative who has inspected the corrective work.

1.3. COORDINATE FINAL CODE INSPECTIONS

A. Work with governing authorities for occupancy inspection.

1. Municipality
2. Regional Superintendent of Schools (school project).
3. IDPH for plumbing and any other IDPH permitted work.
4. A/E for called inspection when applicable.
5. Fire Marshall, local / state for:
 - a. Elevator, if applicable
 - b. Sprinklers, if applicable.
 - c. Fire alarm, if applicable.
 - d. Walk-through
 - e. Boilers

1.4. WARRANTIES

A. Extended warranties beyond the one (1) year 100% labor and material overall warranty shall be provided showing:

1. Terms and dates
2. Contact information
3. Installing Contractor
4. Exact system / material as applicable.

B. Extended warranties

1. As listed in various Specification Sections.
2. As advertised by Manufacturers.
3. As required for:
 - a. Hardware – five (5) years
 - b. Refrigeration equipment – five (5) years.
 - c. Wet rotor circulator pumps – three (3) years
 - d. Roofing – twenty (20) years
 - e. Insulated glass – ten (10) years
 - f. Carpet – Contractor: two (2) years; Manufacturer: fifteen (15) years

- g. HDPE Toilet Compartments – fifteen (15) years HDPE material; five (5) years hardware material
 - h. Visual Display Surfaces – Manufacturer – five (5) years
 - i. Lockers – five (5) year minimum (or Manufacturer's advertised if extended)
4. Items requiring chronic repair during the warranty period shall have an extended 12-month warranty until repairs are not needed over a 12-month period.

1.5. PROJECT RECORD DOCUMENTS

- A. Submit Project Record Documents to reasonably provide information on:
- 1. Hidden utilities
 - 2. Products used.
 - 3. Any hidden from view structural or mechanical or electrical variations from plans.
 - 4. Notation of alternates where same impacted the Base Bid Drawings.
- B. Provide listing:
- 1. Contractor / Subcontractor / Vendor list with:
 - a. Product or service.
 - b. Contact information.

1.6. FINAL PAY APPLICATION

- A. Final Lien Waivers – Major Subcontracts and direct Suppliers.
- B. Final Affidavit showing \$0.00 due to all vendors.
- C. Letter from Bond holder approving closeout payment.
- D. Final paperwork on allowances, adds or deductions agreed upon by Change Order.
- E. Final acceptance as applicable.

END 01 7800

1. GENERAL

1.1. BASE BID

A. Contractor:

1. Remove and dispose of existing in required to make way for additions and rehab work set forth by the Drawings.
2. Provide and institute cautionary removal measures to allow continuing Owner occupancy/arrange schedule with building supervisor.
3. Remove and dispose of rubbish and debris resulting from demolition operations. Do not use Owner's refuse containers.
4. See Drawings for areas to be cleared of walls, floors, room finishes, furnishings, etc.
5. Remove and dispose of abandoned electrical components, conduits and circuitry in the course of executing the electrical work.
6. Disconnect, remove, extend electrical services as required.
7. Remove and reset existing components as shown on the drawings: Wherein not specifically shown on the drawings the details shown shall govern as typical solutions subject to the approval of the Architect.
8. Remove all debris from the construction site.

B. Inspection of existing surfaces:

1. Resulting existing surfaces following demolition shall be inspected for structural integrity and suitability for application of new work.
2. Repair and replace existing construction damaged by demolition and rework.
3. Notify the Architect of discovered previously concealed damage uncovered by demolition and removals for recommended action.
 - a. Concealed work
 - b. Discovered deterioration or deficiency condition

1.2. RELATED WORK

A. Specified elsewhere

1. 01 1000 - Summary of Work
2. DIVISION 3 – CONCRETE
3. DIVISION 4 - MASONRY
4. DIVISION 5 - METALS
5. DIVISION 6 – WOOD
6. DIVISION 7 - THERMAL & MOISTURE PROTECTION
7. DIVISION 8 - DOORS & WINDOWS
8. DIVISION 9 - FINISHES

1.3. SUBMITTALS

- A. Submit demolition and removal procedures and schedule in accord with 01 3300
- B. Maintain environmental security of the building envelope at all times.

1.4. EXISTING CONDITIONS

- A. Conduct all demolition work in such a manner to minimize interference with Owner operations and inconvenience with adjacent building areas regarding Owner, pedestrian and vehicular traffic. Maintain protected access and egress at all times.
- B. Provide, erect, and maintain temporary barriers and security devices in accord with Division 0 and 1

2. PRODUCTS

2.1. MATERIALS

- A. Products and materials for minor demolition work are limited to removal, repair and replacement of existing work damaged by demolition operations.
- B. All work damaged during operations shall be repaired or replaced with new materials of the same quality as the existing materials and installation when they were new.

3. EXECUTION

3.1. PREPARATION

- A. Erect and maintain weatherproof and security closures for exterior openings in accord with Division 0 and 1 and as needed to protect the work.
- B. Protect existing items not indicated to be demolished.

3.2. PERFORMANCE OF THE WORK

- A. Demolish and remove in an orderly and careful manner. Protect existing supporting structural members, traffic areas and project access.
- B. Immediately remove demolished and waste materials from site.
- C. Remove materials to be reinstalled or retained in manner to prevent damage. Store, deliver, relocate and protect in accord with Sections 01 3516. See this Section, Paragraph 2.1 "PRODUCTS".
- D. Remove and promptly dispose of contaminate, vermin infested, rotted or dangerous materials encountered.
- E. Do not burn or bury materials on site.

- F. Remove demolished materials from site daily, as work progresses. Upon completion of work, leave areas in clean condition.
- G. Do not remove materials by open gravity drop. All materials above ground level to be disposed of shall be handled via closed chutes with materials water sprayed to prevent dust.

END 02 4116

DIVISION 7 – THERMAL & MOISTURE PROTECTION
Section 07 5323 – Miscellaneous Roofing

1. GENERAL

1.1. WORK INCLUDES

- A. Miscellaneous EPDM roofing modification as a result of work on this contract.
 - 1. See Drawings:
 - a. For removal, rebuild curbs and reinstallation of three (3) roof mounted transformers.
 - b. For removal and reinstallation of electrical buss duct with conduit supported on permanently installed and flashed supports as occur, approximately 8' on center.
 - c. Buss ducts, two runs approximately 300' each, 600' total plus pull box supports as occur.
 - 2. Work includes temporary protection, EPDM work and metal flashings.
 - 3. See Details for work proposed.
- B. Warranty
 - 1. Roofing subcontractor and general contractor shall warrant the new work to be weather tight and leak free for not less than three years, to the extent that the existing membrane is performing without failure or degradation.
 - 2. This warranty shall include repair of visually apparent delamination or failure of bond of the patches, whether a leak is reported or not.
 - 3. Existing roof is not under a manufacturer warranty.

2. PRODUCTS

2.1. MATERIALS

- A. Roofing Membrane 60 mil EPDM
 - 1. Double side lap seam tape not less than 3"
 - 2. Seam cover tape not less than 4"
 - 3. other roofing materials commensurate with warranty compliant materials used in new Firestone or Carlisle EPDM systems, including:
 - a. Cleaning and surface prep materials
 - b. Primer
 - c. adhesives, formable flashings, boots, etc.
- B. Insulation
 - a. Insulation for patching shall be fiberglass scrim faced

- polyisocyanurate urethane foam in thicknesses required, Firestone or Carlisle warranty compliant materials.
 - b. I should be assumed that existing insulation is tapered and averages 4.5" over the roof, may be thicker at any or all repair areas.
 - c. Insulation securement, mechanical or foam adhered.
 - d. All voids (*except deck deformations*) are to be filled.
- C. Metal work 20 gauge dead soft stainless steel or 16 oz. copper as local conditions warrant or details show
- D. Fasteners for sheet metal to be stainless steel.
- E. Other accessories and materials to properly complete the renovations and provide for water tight properly draining result.

3. EXECUTION

3.1. INSTALLATION

- A. Transformer curbs to be at least 14" above existing roof.
 - 1 Flash the entire curb as detailed.
 - 2 Conduit penetrations at least 10" clear above existing roof
- B. Pipe stanchion supports to have at least 12" flashable height available.
 - 1. Flashing to extend at least 8" above roof.
- C. Roofing: wrap curb water tight with EPDM, use seam tape and cover tape as detailed.
 - 1. Always coordinate with electrician for scheduling and prompt closure of roof membrane, do not leave open overnight.
 - 2. Neatly cut out work areas with proper
 - 3. Properly clean all surfaces for patching
- D. Sheet metal cap, as detailed, design drop edge with receiver hem for future reroof work. Cap to have soldered corners.
- E. Coordinate with electricians to flash conduits and to provide seam tape at each point of anchorages through cap metal.
- F. Coordinate the weather protection of the installation to make sure:
 - 1. No Leaks
 - 2. Serviceable for future inspection and reroof operations.

END 07 5323

**SECTION 07 7200
ROOF ACCESSORIES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Manufactured curbs, equipment rails, and pedestals.
 - 1. Pedestals and supports system to be engineered to ensure member/component capacities and deflection criteria are not exceeded.
 - a. Support for conduit, boxes and enclosures for electrical and fire alarm systems.

1.02 RELATED REQUIREMENTS

- A. Section 00 3000 - Project Schedule and Terms: for coordination of downtime of systems.
- B. Section 07 5327 - EPDM Roofing: for coordination of maintaining weather tight building enclosure.
- C. Section 26 0529 Hangers and Supports for Electrical Systems: for coordination for support of systems.
- D. Section 26 0533.13 Conduit for Electrical Systems: for coordination for support of systems.
- E. Section 26 0533.16 Boxes for Electrical Systems: for coordination for support of systems.

1.03 REFERENCE STANDARDS

- A. ICC (IBC) - International Building Code; 2018.
- B. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's data sheets on each product to be used.
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
 - 4. Maintenance requirements.
- C. Shop Drawings: Submit detailed layout developed for this project and provide dimensioned location and number for each type of roof accessory.
 - 1. Submit shop drawings sealed and signed by a Professional Structural Engineer experienced in design of this type of work and licensed in Illinois.
 - 2. Provide project specific, engineered stamped shop drawings including extents of installation, load bearing capacity and structural requirements.
 - 3. Show installation layout, indicating product type and spacing. Coordinate; measurements, control dimensions, and rooftop requirements analysis.
 - 4. Show details of each roofing system including material layers and thicknesses, flashing, terminations, and penetrations with each rooftop support system to be installed.
 - 5. Indicate all steps and preparation required for installation.
 - 6. Additions/Renovations Product Certificates: Manufacturer's product certification includes review and provided products in accordance with plans. All existing conditions, dimensions, locations and elevations of existing equipment shall be verified by the Contractor in the field and coordinated with new construction in preparation of shop drawings, fabrication, or commencement of work. If discrepancies are discovered between existing conditions and new work, the Contractor shall coordinate for proper installation prior to performance of shop drawings, fabrication, or commencement of work.
 - 7. Installer Qualifications: Certified by the manufacturer.
- D. Warranty Documentation:
 - 1. Submit manufacturer warranty.

2. Ensure that forms have been completed in Owner's name and registered with manufacturer.
3. Submit documentation that roof accessories are acceptable to roofing manufacturer, and do not limit the roofing warranty.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company with minimum 20 years of experience and specializing in the manufacture and distribution of engineered rooftop support systems.
- B. Manufacturer's custom work process shall include the following steps:
 1. Project concept development and consulting.
 2. Design and engineering including quantity and type of supports and accessories.
 3. Fabrication and delivery.
 4. On site evaluation that installation meets specifications herein and manufacturer requirements.
 5. Owner training and maintenance instruction.
- C. Installer Qualifications: Approved by the manufacturer, with minimum 5 years of experience installing similar products.

1.06 PRE-INSTALLATION MEETINGS

- A. After approval of submittals but before beginning installation, conduct a meeting at the Project site including:
 1. Attendance shall include the Architect, Contractor, roofing installers, mechanical, electrical and other trades whose work will be installed in support system.
 2. Describe the installation process in detail to establish responsibilities and project specific requirements and site logistics.
 3. Prepare detailed meeting report and distribute to all attendees.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store products under cover and elevated above grade.

1.08 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Correct defective Work within a 1 year period after Date of Substantial Completion.
- C. Provide Manufactures year manufacturer warranty for 20 years.
 1. Manufacturers standard product warranty against defects in manufacturing, proper operation, and against damaging roofing membrane when products are installed in accordance with engineered shop drawings and manufacturer's instructions. Warranty is not a maintenance agreement, insurance policy or obligation to repair leaks determined to be a result of the building design, installation, construction error, misuse of system, failure to inspect or maintain system or other limitations in manufacturer's standard warranty.

PART 2 PRODUCTS

2.01 CURBS, EQUIPMENT RAILS, AND OTHER ROOF MOUNTING ASSEMBLIES

- A. Manufacturers:
 1. Miro Industries, Inc.: www.miroind.com.
 2. Substitutions: See Section 01 6000 - Product Requirements.
- B. Pipe, Duct, and Conduit Mounting Pedestals: Vertical posts, minimum (See drawings) inches square unless otherwise indicated.
 1. Custom Engineered Stanchions System: For rooftop mounted pipe subject to design requirements for Thermal, Wind and Seismic forces with Stanchions Supports placed strategically on the roof to provide a code compliant solution. The support system serves to keep the supported conduit vertically and laterally constrained while allowing the content to move longitudinally for expansion and contraction of the system. Supports are designed

- with a project specific base arrangement to provide the required attachment to the structure to resist lateral and gravity loading from the frame.
2. The Supports and related configurations / components allow adjustable height as required for existing and location requirements. System shall be configurable to allow vertical and some lateral adjustment as specified.
 3. The supports system shall be engineered project specific to ensure member/component capacities and deflection criteria are not exceeded

PART 3 EXECUTION

3.01 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.03 INSTALLATION

- A. Install in accordance with manufacturer's instructions, in manner that maintains roofing weather integrity.
- B. Install horizontal supports spaced as required per the project specification, horizontal pipe support intervals per the appropriate ICC (IBC), NFPA 70 Code or manufacturer's maximum suggested spacing as loading permits.
 1. Space and adjust supports to evenly distribute weight.
 2. Do not exceed support manufacturer's recommended load limits or specified mechanical piping limits.
- C. Pipe Supports:
 1. Center Pipestands and bases beneath pipes so supports are aligned.
 2. If more than one pipe is being supported, adjust for even weight distribution.
 3. Set pipe in support without dropping or causing undue impact.
- D. Adjustable Supports: Adjust height of each support to achieve proper height and level before installing supported item.
 1. Level rollers or struts before installing pipe.
 2. Make final height adjustments to provide even distribution of load on all supports.
- E. Fixed Anchor Stanchion Supports: Prior to installation of roof insulation and roof membrane attach support to roof structure as indicated on drawings.
 1. After installation of roof insulation and membrane, install pipe or rooftop mechanical supports used in connection with fixed anchor supports.
 2. Install piping or mechanical units on each support.

3.04 FIELD QUALITY CONTROL

- A. When requested by Architect, provide a factory-trained representative of manufacturer to visit site while work is in progress to assure that installation complies with design requirements and manufacturer's installation requirements.
- B. After system startup, correct any deficiencies that arise, including but not limited to, improper location or position, improper seating or level on the roof, lack of roof pads or deck plates, inadequate operation, and as directed by Architect.

3.05 CLEANING

- A. Clean installed work to like-new condition.

3.06 PROTECTION

- A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Date of Substantial Completion.

END OF SECTION 07 7200

Part 1: General

1.1 Summary:

Deliver and install approximately 314, *always verify with plan layout*, fixed padded and upholstered chairs as sloped floor mounted, with self-lifting seat that rises to a uniform 3/4-safety fold position.

- A. Seats vary in width 19" to 22" please refer to plan, Alternative layouts with matching count will be considered.
- B. Specification is based on Irwin Seating Model #91.12.00.4 Millennium.
 - 1. Equivalent seating by other manufacturers can be considered subject to submittal prior to bidding.
- C. See scheduling requirements specification section 00 3000.
 - 1. Demolition early June.
 - 2. Turn space over to Owner for unrelated work, three weeks
 - 3. Complete the seating installation in July of August.

1.2 Submittals:

- A. Product data for each chair model specified to include construction details, material descriptions and finish options
- B. Seating layout (shop drawings) developed from the contract drawings that show aisle widths, chair spacing for each row, row-lettering and chair-numbering scheme, chair dimensions and back pitch. Layout drawings to also include locations for accessories, including left- and right-hand tablet arms, electrical devices, accessibility provisions and attachments to other work.
- C. Samples for verification & finish selection to include:
 - 1. Final powder coat selection to be approved from manufacturers standard-sized samples not less than 1" x 3".
 - a. Satin Black.
 - 2. Final laminate selection to be approved from manufacturers standard-sized samples not less than 2" x 2".
 - a. Not applicable
 - 3. Final plastic color selection to be approved from manufacturers standard-sized samples not less than 2" x 3".
 - a. Satin Black

4. Final wood finish selection to be approved from manufacturers standard-sized samples not less than 4" x 3".
 - a. Not applicable
5. Final upholstery fabric selection to be approved from fabric mills standard swatch size if available.
 - a. Abescon Mills, Inc., Marquesa Lana, Sherpa & Shire
 - b. Final color selection to be made at time of submittals, anticipated selection, Sherpa Snappy or Shire Peachland
- D. Maintenance instructions and inspection guidelines furnished for each chair model specified.
- E. Manufacturers standard warranty.

1.3 Quality Assurance:

- A. Source Limitations:
 1. Obtain each type of fixed seating required, including accessories and mounting components, from a single manufacturer.
 2. Obtain fabric of a single dye lot for each color and pattern of fabric required except when yardage requirement exceeds maximum dye lot. Multiple dye lots shall be color matched for quality assurance.
- B. Fire Performance Characteristics of Upholstered Seating:
 1. Fabric shall be Class 1 according to DOC CS 191 and 16 CFR 1610.61, tested according to California Technical Bulletin 117.
 2. Padding shall comply with California Technical Bulletin 117.
- C. Submit sample chairs for each model required to demonstrate aesthetic effects and set quality standards for fabrication.

1.4 Project Conditions:

- A. Environmental Limitations:

Do not deliver or install seating until spaces are enclosed and weather tight, wet work in spaces is complete and dry, work above ceilings is complete, and temporary or permanent HVAC system is operating and maintaining ambient temperature and humidity at occupancy levels during the remainder of the construction period.
- B. Field Measurements:

Take field measurements to verify or supplement dimensions indicated on contract drawings prior to manufacturing.
- C. Illinois Steel procurement regulations apply.

1.5 Project Coordination:

- A. Existing seating to be demolished and completely removed from site promptly upon completion of the school year.
 - 1. General contractor shall oversee careful repair of floor surfaces upon removal of existing seating
 - 2. Space to be turned over to owner in clean condition for floor seal coat application.
 - 3. After floor is satisfactorily sealed and cured by owner then new seating to be installed.
 - 4. Existing seating has aisle lighting, this is to be abandon and floor repaired
- B. Do not deliver or install seating until space is free of lifts and/or scaffolding used by other trades which may interfere with installation and/or damage seating.
- C. Coordinate layout and installation of electrical wiring and devices with electrical contractor to ensure that floor junction boxes for electrical devices are accurately located for final connection to the building's power supply by the electrical contractor.
 - 1. Not applicable
- D. Coordinate concrete requirements needed for proper installation.
 - 1. Existing.

1.6 Warranty:

- A. Provide a manufacturer's warranty covering the material and workmanship for the specified warranty period from date of final acceptance.
- B. Warranty Periods:
 - 1. Structural Components: five years.
 - 2. Operating Mechanisms: five years.
 - 3. Plastic, Wood and Painted Components: five years.
 - 4. Upholstery Fabric: one year.
 - 5. Electrical Components: one year. Not applicable

Part 2: Products

2.1 Materials and Finishes:

- A. Steel shall meet requirements for ASTM A 36/A 36M plates, shapes, and bars; ASTM A 513 mechanical tubing; ASTM A 1008/A 1008M cold-rolled sheet; and ASTM A 1011 hot-rolled sheet and strip.
- B. Cast Iron shall meet requirements for ASTM A 48/A 48M, Class 25, gray iron castings free of blow holes and hot checks with parting lines ground smooth.

- C. Cast Aluminum shall meet requirements for ASTM B 85 aluminum-alloy die castings.
- D. All exposed metal parts shall be powder coated with a hybrid thermosetting powder coat finish. The powder coat finish shall be applied by electrostatic means to a thickness of 2 - 5 mils, and shall provide a durable coating having a 2H Pencil hardness. Prior to powder coating, metal parts shall be treated with a three-stage non-acidic, bonderizing process for superior finish adhesion, and after coating shall be oven baked to cause proper flow of the epoxy powder to result in a smooth, durable finish. Manufacturer's standard color range shall be used.
- E. Medium-density fiberboard shall meet requirements for ANSI A208.2, Grade MD, made with binder containing no urea formaldehyde.
- F. Upholstery fabric:
 - a. Abescon Mills, Inc., Marquesa Lana, Sherpa & Shire
 - b. Final color selection to be made at time of submittals, anticipated selection, Sherpa Snappy or Shire Peachland
- G. Upholstery padding shall be molded or slab polyurethane foam.
- H. Molded Plastics:
 - 1. Structural components shall be mar and dent resistant high density glass-filled polypropylene with UV stabilizers.
 - 2. Decorative components shall be mar and dent resistant high density polyethylene (HDPE) with UV stabilizers.
 - 3. Plastic components shall be chosen from manufacturer's standard offering.

2.2 Fixed Audience Seating:

- A. Permanent arrangement of fixed audience seating as shown on seating layout drawings.
 - 1. Approved manufacturers subject to compliance with requirements outlined herein.
 - 2. Basis-of-design for fixed audience seating is Irwin Seating Company model 90.12.00.4 Millennium or comparable product by one of the following:
 - a. Hussey Quattro
 - b. KI Concerto
 - c. Listing here indicates that equivalent products can be employed, with the following specifications as a guide to intended results. Minor variations to match manufacturer's standard assembly and fabrication with equivalent results are acceptable.
- B. Chair support columns shall be a formed 14 gauge (.0747") steel tube with an integral back wing plate. Column shall exhibit a 10° rearward incline to help

conceal back attachment hardware. Brackets for seat attachment shall be 7-gauge (.1875") steel for superior strength, formed with an integral support buttress. Floor attachment foot shall be formed from 12 gauge (.105) steel to 7-1/2" x 2-5/8" in size. All steel components shall be robotic welded for precise assembly and exceptional integrity. Foot-to-column welds are to be concealed on the inside of the foot for a clean appearance. The standard shall be fabricated to be compatible with the floor incline, and to maintain proper seat and back height and angle.

- C. Aisle end panels shall be injection molded glass-filled polypropylene and enclose the upper 2/3 of the support column. Panels are teardrop-shaped with a concave rear edge and well-rounded surfaces around a center area, which features a veneer surfaced insert.
- D. Backs shall be curved top shaped, padded and upholstered on their face, with a one-piece injection molded polymer rear panel. The foundation of the back component shall be provided by a 7/16" thick, 5-ply hardwood inner panel that shall also serve as the upholstery substrate. The face of the back shall be upholstered over a 2" thick polyurethane foam pad. The polyfoam pad shall be securely cemented to the plywood inner panel and upholstered with a 1-piece cover securely fastened to the hardwood inner panel by means of upholstery staples to facilitate ease of re-upholstering. The rear designer panel shall be injection molded HDPE plastic, high impact-resistant, with textured outer surface, formed to enclose the edges of the inner upholstery panel at the top and both sides of the back, and shall be not less than 25" in length, extending down to the rear of the seat. There shall be no exposed screws above the armrests. Wings used for the attachment of the complete back assembly to the standards shall be not less than 14 gauge (.0747") steel. Wings shall be firmly secured to the inner panel through the use of threaded t-nuts fastened to the inner panel. Assembled chair shall have a nominal back height of 34". The back assembly shall be certified through routine ISO testing to withstand a 250 lb. static load test applied approximately 16" above the seat assembly and a 100,000 cycle 40 lb. swing impact test.
- E. Seats shall be padded and upholstered on their top surface with a structural, injection molded polypropylene seat foundation. Seats shall self-rise to a uniform position when unoccupied. The mechanism shall be certified through routine ISO testing to exceed 300,000 cycles during ASTM Designation F851-87 Test Method for Self-Rising Seat Mechanism. In addition, the seat shall withstand as a 600 lb. static load test applied approximately 3" from the front edge of the seat assembly and a 50,000 cycles 125 lb. vertical drop impact test.
 - 1. Seat foundation shall be engineered glass-filled, injection molded polypropylene, strengthened by deep internal ribs and gussets, completely enclosing the self-rising hinge mechanism. Bottom surface of the foundation shall be textured and feature an attractive molded recess. Bolted attachment of the seat assembly to the chair standard shall be concealed by an integral color-coordinated plastic cap to present a finished, refined appearance.
 - 2. When unoccupied, the seat shall rise automatically to a 3/4 safety fold position, and upon a slight rearward pressure, shall achieve full-fold, allowing the patron additional passing room. The seat shall rotate on two,

molded acetal shafts supported by nylon bearings with integral down-stops for exceptional strength. Seat-lift shall be accomplished by compression springs and self-lubricating plastic cams.

3. The base structure for the cushion assembly shall be five serpentine springs locked to an engineered, glass-filled polypropylene frame. Serpentine springs are covered with 3-1/2" thick molded polyurethane foam. Cushion is molded with an integral chafing barrier to protect the foam from the serpentine springs and a waterfall leading edge. Cushion assembly is upholstered with a carefully tailored fabric cover secured around the perimeter of the cushion frame by means of a drawstring and staples and securely locked to the seat foundation, preventing unauthorized removal; but facilitating convenient access by trained maintenance personnel.
- F. Chair width shall vary to accommodate sightlines and row lengths from center to center of armrests.
 - G. Back height and pitch shall be fixed per manufacturer recommended standard.
 - H. Center standards shall be provided with a glass-filled polypropylene armrest support structure capable of surpassing a 200 lb. vertical static load test applied 3" from the front edge of the armrest. Armrest support shall be attached to the support column with an integral ribbed post that binds into the steel support column and locked in place with a concealed security screw. Support structure is capped with a curved solid wood armrest attached with concealed hardware. Aisle end armrests are to be attached to the 14-gauge aisle panel bracket with concealed hardware.
 - I. Row-lettering and chair-numbering shall be provided for identification of all chairs as shown on approved seating layout drawings. Number plates shall be 5/8" x 1-5/8" aluminum with a bronze finish and black sans serif numerals. The seat pans shall be recessed at the center of the front edge for the number plates, and attached by two (2) pop rivets. Letter plates shall be 2" round with a bronze finish and black sans serif numerals attached in recess of aisle standard decorator panel by two (2) pop rivets. Attaching hardware shall have a finish compatible to plates.
 - J. Aisle lights, not applicable.
 - K. Accessible Seating: Not applicable, auditorium is not accessible, accessible seating is provided on the upper deck entrance level.
 - L. Furnish extra materials from the same production run that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 1. Furnish complete seat and back assemblies equal to 5%, not less than 2, of amount installed for each type and size of chair seat and back Always round count up.
 2. Furnish seat and back fabric covers equal to 5%, not less than 2, of amount installed for each type and size of cushion. Always round count up.
 3. Furnish armrests equal to 5% of amount installed for each type of armrest.

4. Stanchions: one right end, one left end, five interior.
5. Other parts:
 - a. Tablet arms: Not applicable
 - b. Retracting springs, hinges and accessory pieces, 10

2.3 Fabrication:

- A. Manufacture fabric-covered cushions with molded padding beneath fabric and with fabric covering free of welts, creases, stretch lines, and wrinkles. For each upholstered component, install pile and pattern run in a consistent direction.
- B. Fabricate floor attachment plates to conform to floor slope, if any, so that standards are plumb and chairs are maintained at same angular relationship to vertical throughout project.

Part 3: Execution

3.1 Examination

- A. Prior to layout and installation examine floors, risers, and other adjacent work and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of the work including, but not limited to, plumb of riser faces and concrete conditions.
- B. Examine locations of electrical connections. Not applicable
- C. Examine locations of HVAC supply ducts. Not Applicable
- D. Notify the General Contractor and proceed with installation only after unsatisfactory conditions have been corrected.

3.2 Installation

- A. Install seating in locations indicated and fastened securely to substrates according to manufacturer's written installation instructions.
- B. Use installation methods and fasteners that produce fixed audience seating assemblies with individual chairs capable of supporting an evenly distributed 600-lb static load applied 3" from front edge of the seat without failure or other conditions that might impair the chair's usefulness.
- C. Install seating with chair end standards aligned from first to last row and with backs and seats varied in width and spacing to optimize sightlines.
- D. Install riser-mounted attachments to maintain uniform chair heights above floor. Not applicable
- E. Install chairs in curved rows at a smooth radius.
- F. Install seating so moving components operate smoothly and quietly.

- G. Install wiring conductors and cables concealed in components of seating and accessible for servicing. Not applicable.

3.3 Field Quality Control

- A. Perform tests and inspections.
- B. Prepare test and inspection reports.

3.4 ADJUSTING

- A. Adjust chair backs so that they are properly aligned with each other.
- B. Adjust self-rising seat mechanisms so seats in each row are aligned when in upright position.
- C. Verify that all components and devices are operating properly.
- D. Repair minor abrasions and imperfections in finishes with coating that matches factory-applied finish.
- E. Replace upholstery fabric damaged during installation.

End 12 610

**SECTION 26 0505
SELECTIVE DEMOLITION FOR ELECTRICAL**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Electrical demolition.
 - 1. Demolition of conduit and conductors on roof to prepare for new conduit and conductors to replace emergency circuits.
 - 2. Demolition of buss duct on roof to prepare for new conduit and conductors to replace circuits.
 - 3. Demolition of conduit containing fire detection and alarm cabling on roof to prepare for new cabling to be run inside building.

1.02 RELATED REQUIREMENTS

- A. Section 00 3000 - Project Schedule and Terms: for coordination of downtime of systems.
- B. Section 28 4600 - Fire Detection and Alarm: Coordination requirements.

PART 2 PRODUCTS

2.01 MATERIALS AND EQUIPMENT

- A. Materials and equipment for patching and extending work: As specified in individual sections.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify field measurements and circuiting arrangements are as indicated.
- B. Verify that abandoned wiring and equipment serve only abandoned facilities.
- C. Demolition drawings are based on casual field observation and existing record documents.
- D. Report discrepancies to Architect before disturbing existing installation.
- E. Beginning of demolition means installer accepts existing conditions.

3.02 PREPARATION

- A. Coordinate utility service outages with utility company.
- B. Provide temporary wiring and connections to maintain existing systems in service during construction. When work must be performed on energized equipment or circuits, use personnel experienced in such operations.
- C. Existing Electrical Circuits: Coordinated with Community Unit School District No. 185 to make switchovers and connections. Minimize outage duration.
 - 1. Obtain permission from Owner at least 24 hours before partially or completely disabling system.
- D. Existing Fire Alarm System: Maintain existing system in service until new system is accepted. Disable system only to make switchovers and connections. Minimize outage duration.
 - 1. Notify Owner before partially or completely disabling system.
 - 2. Notify local fire service.
 - 3. Make notifications at least 24 hours in advance.
 - 4. Make temporary connections to maintain service in areas adjacent to work area.

3.03 DEMOLITION AND EXTENSION OF EXISTING ELECTRICAL WORK

- A. Remove, relocate, and extend existing installations to accommodate new construction.
- B. Remove abandoned wiring to source of supply.
- C. Remove exposed abandoned conduit, including abandoned conduit above accessible ceiling finishes. Cut conduit flush with walls and floors, and patch surfaces.
- D. Disconnect and remove electrical devices and equipment serving utilization equipment that has been removed.

- E. Repair adjacent construction and finishes damaged during demolition and extension work.
- F. Maintain access to existing electrical installations that remain active. Modify installation or provide access panel as appropriate.

3.04 CLEANING AND REPAIR

- A. See Section 01 7419 - Construction Waste Management and Disposal for additional requirements.
- B. Clean and repair existing materials and equipment that remain or that are to be reused.
- C. Panelboards: Clean exposed surfaces and check tightness of electrical connections. Replace damaged circuit breakers and provide closure plates for vacant positions. Provide typed circuit directory showing revised circuiting arrangement.

END OF SECTION 26 0505

SECTION 26 0519

LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Single conductor building wire.
- B. Wiring connectors.
- C. Electrical tape.
- D. Wire pulling lubricant.
- E. Cable ties.

1.02 RELATED REQUIREMENTS

- A. Section 00 3000 - Project Schedule and Terms: for coordination of downtime of systems.
- B. Section 07 8400 - Firestopping.
- C. Section 26 0526 - Grounding and Bonding for Electrical Systems: Additional requirements for grounding conductors and grounding connectors.

1.03 REFERENCE STANDARDS

- A. ASTM B3 - Standard Specification for Soft or Annealed Copper Wire; 2013.
- B. ASTM B8 - Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft; 2011.
- C. ASTM B787/B787M - Standard Specification for 19 Wire Combination Unilay-Stranded Copper Conductors for Subsequent Insulation; 2004 (Reapproved 2014).
- D. ASTM D3005 - Standard Specification for Low-Temperature Resistant Vinyl Chloride Plastic Pressure-Sensitive Electrical Insulating Tape; 2010.
- E. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2010.
- F. NEMA WC 70 - Nonshielded Power Cable 2000 V or Less for the Distribution of Electrical Energy; 2009.
- G. NETA ATS - Acceptance Testing Specifications for Electrical Power Equipment and Systems; 2013.
- H. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- I. UL 44 - Thermoset-Insulated Wires and Cables; Current Edition, Including All Revisions.
- J. UL 83 - Thermoplastic-Insulated Wires and Cables; Current Edition, Including All Revisions.
- K. UL 486A-486B - Wire Connectors; Current Edition, Including All Revisions.
- L. UL 486C - Splicing Wire Connectors; Current Edition, Including All Revisions.
- M. UL 510 - Polyvinyl Chloride, Polyethylene, and Rubber Insulating Tape; Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Coordinate sizes of raceways, boxes, and equipment enclosures installed under other sections with the actual conductors to be installed, including adjustments for conductor sizes increased for voltage drop.
 - 2. Coordinate with electrical equipment installed under other sections to provide terminations suitable for use with the conductors to be installed.
 - 3. Notify Architect of any conflicts with or deviations from the contract documents. Obtain direction before proceeding with work.

1.05 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's standard catalog pages and data sheets for conductors and cables, including detailed information on materials, construction, ratings, listings, and available sizes, configurations, and stranding.
- C. Project Record Documents: Record actual installed circuiting arrangements. Record actual routing of structured and fire detection & alarm cabling .

1.06 QUALITY ASSURANCE

- A. Conform to requirements of NFPA 70.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Receive, inspect, handle, and store conductors and cables in accordance with manufacturer's instructions.

1.08 FIELD CONDITIONS

- A. Do not install or otherwise handle thermoplastic-insulated conductors at temperatures lower than 14 degrees F, unless otherwise permitted by manufacturer's instructions. When installation below this temperature is unavoidable, notify Architect and obtain direction before proceeding with work.

PART 2 PRODUCTS

2.01 CONDUCTOR AND CABLE APPLICATIONS

- A. Do not use conductors and cables for applications other than as permitted by NFPA 70 and product listing.
- B. Provide single conductor building wire installed in suitable raceway unless otherwise indicated, permitted, or required.

2.02 CONDUCTOR AND CABLE GENERAL REQUIREMENTS

- A. Provide products that comply with requirements of NFPA 70.
- B. Provide products listed, classified, and labeled as suitable for the purpose intended.
- C. Unless specifically indicated to be excluded, provide all required conduit, boxes, wiring, connectors, etc. as required for a complete operating system.
- D. Comply with NEMA WC 70.
- E. Thermoplastic-Insulated Conductors and Cables: Listed and labeled as complying with UL 83.
- F. Thermoset-Insulated Conductors and Cables: Listed and labeled as complying with UL 44.
- G. Conductors for Grounding and Bonding: Also comply with Section 26 0526.
- H. Conductors and Cables Installed Exposed in Spaces Used for Environmental Air (only where specifically permitted): Plenum rated, listed and labeled as suitable for use in return air plenums.
- I. Conductor Material:
 - 1. Provide copper conductors only. Aluminum conductors are not acceptable for this project. Conductor sizes indicated are based on copper.
 - 2. Copper Conductors: Soft drawn annealed, 98 percent conductivity, uncoated copper conductors complying with ASTM B3, ASTM B8, or ASTM B787/B787M unless otherwise indicated.
- J. Where conductor size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.
- K. Conductor Color Coding:
 - 1. Color code conductors as indicated unless otherwise required by the authority having jurisdiction. Maintain consistent color coding throughout project.
 - 2. Color Coding Method: Integrally colored insulation.

3. Color Code:
 - a. Equipment Ground, All Systems: Green.
 - b. For modifications or additions to existing wiring systems, comply with existing color code when existing code complies with NFPA 70 and is approved by the authority having jurisdiction.

2.03 SINGLE CONDUCTOR BUILDING WIRE

- A. Manufacturers:
 1. Copper Building Wire:
 - a. Cerro Wire LLC: www.cerrowire.com.
 - b. Encore Wire Corporation: www.encorewire.com.
 - c. Southwire Company: www.southwire.com.
- B. Description: Single conductor insulated wire.
- C. Conductor Stranding:
 1. Feeders and Branch Circuits:
 - a. Size 10 AWG and Smaller: Solid.
 - b. Size 8 AWG and Larger: Stranded.
- D. Insulation Voltage Rating: 600 V.
- E. Insulation:
 1. Copper Building Wire: Type THHN/THWN.

2.04 WIRING CONNECTORS

- A. Description: Wiring connectors appropriate for the application, suitable for use with the conductors to be connected, and listed as complying with UL 486A-486B or UL 486C as applicable.
- B. Connectors for Grounding and Bonding: Comply with Section 26 0526.
- C. Wiring Connectors for Terminations:
 1. Provide terminal lugs for connecting conductors to equipment furnished with terminations designed for terminal lugs.
 2. Where over-sized conductors are larger than the equipment terminations can accommodate, provide connectors suitable for reducing to appropriate size, but not less than required for the rating of the overcurrent protective device.
- D. Do not use insulation-piercing or insulation-displacement connectors designed for use with conductors without stripping insulation.
- E. Mechanical Connectors: Provide bolted type or set-screw type.
 1. Manufacturers:
 - a. Burndy LLC: www.burndy.com.
 - b. IlSCO: www.ilsco.com.
 - c. Thomas & Betts Corporation: www.tnb.com.

2.05 WIRING ACCESSORIES

- A. Electrical Tape:
 1. Vinyl Insulating Electrical Tape: Complying with ASTM D3005 and listed as complying with UL 510; minimum thickness of 7 mil; resistant to abrasion, corrosion, and sunlight; conformable for application down to 0 degrees F and suitable for continuous temperature environment up to 221 degrees F.
- B. Wire Pulling Lubricant: Listed; suitable for use with the conductors or cables to be installed and suitable for use at the installation temperature.
- C. Cable Ties: Material and tensile strength rating suitable for application.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that interior of building has been protected from weather.

- B. Verify that work likely to damage wire and cable has been completed.
- C. Verify that raceways, boxes, and equipment enclosures are installed and are properly sized to accommodate conductors and cables in accordance with NFPA 70.
- D. Verify that field measurements are as indicated.
- E. Verify that conditions are satisfactory for installation prior to starting work.

3.02 PREPARATION

- A. Clean raceways thoroughly to remove foreign materials before installing conductors and cables.

3.03 INSTALLATION

- A. Circuiting Requirements:
 1. Unless dimensioned, circuit routing indicated is diagrammatic.
 2. When circuit destination is indicated without specific routing, determine exact routing required.
 3. Arrange circuiting to minimize splices.
 4. Maintain separation of Class 1, Class 2, and Class 3 remote-control, signaling, and power-limited circuits in accordance with NFPA 70.
 5. Maintain separation of wiring for emergency systems in accordance with NFPA 70.
- B. Install products in accordance with manufacturer's instructions.
- C. Perform work in accordance with NECA 1 (general workmanship).
- D. Installation in Raceway:
 1. Tape ends of conductors and cables to prevent infiltration of moisture and other contaminants.
 2. Pull all conductors and cables together into raceway at same time.
 3. Do not damage conductors and cables or exceed manufacturer's recommended maximum pulling tension and sidewall pressure.
 4. Use suitable wire pulling lubricant where necessary, except when lubricant is not recommended by the manufacturer.
- E. Paralleled Conductors: Install conductors of the same length and terminate in the same manner.
- F. Secure and support conductors and cables in accordance with NFPA 70 using suitable supports and methods approved by the authority having jurisdiction. Provide independent support from building structure. Do not provide support from raceways, piping, ductwork, or other systems.
 1. Installation Above Suspended Ceilings: Do not provide support from ceiling support system. Do not provide support from ceiling grid or allow conductors and cables to lay on ceiling tiles.
- G. Neatly train and bundle conductors inside boxes, wireways, panelboards and other equipment enclosures.
- H. Group or otherwise identify neutral/grounded conductors with associated ungrounded conductors inside enclosures in accordance with NFPA 70.
- I. Make wiring connections using specified wiring connectors.
 1. Make splices and taps only in accessible boxes. Do not pull splices into raceways or make splices in conduit bodies or wiring gutters.
 2. Remove appropriate amount of conductor insulation for making connections without cutting, nicking or damaging conductors.
 3. Do not remove conductor strands to facilitate insertion into connector.
 4. Clean contact surfaces on conductors and connectors to suitable remove corrosion, oxides, and other contaminates. Do not use wire brush on plated connector surfaces.
 5. Mechanical Connectors: Secure connections according to manufacturer's recommended torque settings.

- J. Insulate splices and taps that are made with uninsulated connectors using methods suitable for the application, with insulation and mechanical strength at least equivalent to unspliced conductors.
- K. Insulate ends of spare conductors using vinyl insulating electrical tape.
- L. Install firestopping to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Section 07 8400.
- M. Unless specifically indicated to be excluded, provide final connections to all equipment and devices, including those furnished by others, as required for a complete operating system.

3.04 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for additional requirements.
- B. Inspect and test in accordance with NETA ATS, except Section 4.
- C. Perform inspections and tests listed in NETA ATS, Section 7.3.2. The insulation resistance test is required for all conductors. The resistance test for parallel conductors listed as optional is not required.
- D. Correct deficiencies and replace damaged or defective conductors and cables.

END OF SECTION 26 0519

SECTION 26 0526
GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Grounding and bonding requirements.
- B. Conductors for grounding and bonding.
- C. Connectors for grounding and bonding.

1.02 RELATED REQUIREMENTS

- A. Section 26 0519 - Low-Voltage Electrical Power Conductors and Cables: Additional requirements for conductors for grounding and bonding, including conductor color coding.
- B. Section 26 0553 - Identification for Electrical Systems: Identification products and requirements.

1.03 REFERENCE STANDARDS

- A. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2010.
- B. NETA ATS - Acceptance Testing Specifications for Electrical Power Equipment and Systems; 2013.
- C. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- D. UL 467 - Grounding and Bonding Equipment; Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Verify exact locations of underground metal water service pipe entrances to building.
 - 2. Coordinate the work with other trades to provide steel reinforcement complying with specified requirements for concrete-encased electrode.
 - 3. Notify Architect of any conflicts with or deviations from the contract documents. Obtain direction before proceeding with work.
- B. Sequencing:
 - 1. Do not install ground rod electrodes until final backfill and compaction is complete.

1.05 QUALITY ASSURANCE

- A. Conform to requirements of NFPA 70.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Receive, inspect, handle, and store products in accordance with manufacturer's instructions.

PART 2 PRODUCTS

2.01 GROUNDING AND BONDING REQUIREMENTS

- A. Existing Work: Where existing grounding and bonding system components are indicated to be reused, they may be reused only where they are free from corrosion, integrity and continuity are verified, and where acceptable to the authority having jurisdiction.
- B. Do not use products for applications other than as permitted by NFPA 70 and product listing.
- C. Unless specifically indicated to be excluded, provide all required components, conductors, connectors, conduit, boxes, fittings, supports, accessories, etc. as necessary for a complete grounding and bonding system.
- D. Where conductor size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.
- E. Bonding and Equipment Grounding:
 - 1. Provide bonding for equipment grounding conductors, equipment ground busses, metallic equipment enclosures, metallic raceways and boxes, device grounding terminals, and

other normally non-current-carrying conductive materials enclosing electrical conductors/equipment or likely to become energized as indicated and in accordance with NFPA 70.

2. Provide insulated equipment grounding conductor in each feeder and branch circuit raceway. Do not use raceways as sole equipment grounding conductor.
3. Where circuit conductor sizes are increased for voltage drop, increase size of equipment grounding conductor proportionally in accordance with NFPA 70.
4. Unless otherwise indicated, connect wiring device grounding terminal to branch circuit equipment grounding conductor and to outlet box with bonding jumper.
5. Terminate branch circuit equipment grounding conductors on solidly bonded equipment ground bus only. Do not terminate on neutral (grounded) or isolated/insulated ground bus.
6. Provide bonding jumper across expansion or expansion/deflection fittings provided to accommodate conduit movement.
7. Provide bonding for interior metal piping systems in accordance with NFPA 70. This includes, but is not limited to:
 - a. Metal water piping where not already effectively bonded to metal underground water pipe used as grounding electrode.
 - b. Metal gas piping.

2.02 GROUNDING AND BONDING COMPONENTS

- A. General Requirements:
 1. Provide products listed, classified, and labeled as suitable for the purpose intended.
 2. Provide products listed and labeled as complying with UL 467 where applicable.
- B. Conductors for Grounding and Bonding, in Addition to Requirements of Section 26 0526:
 1. Use insulated copper conductors unless otherwise indicated.
- C. Connectors for Grounding and Bonding:
 1. Description: Connectors appropriate for the application and suitable for the conductors and items to be connected; listed and labeled as complying with UL 467.
 2. Unless otherwise indicated, use exothermic welded connections for underground, concealed and other inaccessible connections.
 3. Unless otherwise indicated, use mechanical connectors, compression connectors, or exothermic welded connections for accessible connections.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that work likely to damage grounding and bonding system components has been completed.
- B. Verify that field measurements are as indicated.
- C. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
- B. Perform work in accordance with NECA 1 (general workmanship).
- C. Make grounding and bonding connections using specified connectors.
 1. Remove appropriate amount of conductor insulation for making connections without cutting, nicking or damaging conductors. Do not remove conductor strands to facilitate insertion into connector.
 2. Remove nonconductive paint, enamel, or similar coating at threads, contact points, and contact surfaces.
 3. Exothermic Welds: Make connections using molds and weld material suitable for the items to be connected in accordance with manufacturer's recommendations.
 4. Mechanical Connectors: Secure connections according to manufacturer's recommended torque settings.

- 5. Compression Connectors: Secure connections using manufacturer's recommended tools and dies.
- D. Identify grounding and bonding system components in accordance with Section 26 0553.

3.03 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for additional requirements.
- B. Inspect and test in accordance with NETA ATS except Section 4.
- C. Perform inspections and tests listed in NETA ATS, Section 7.13.
- D. Perform ground electrode resistance tests under normally dry conditions. Precipitation within the previous 48 hours does not constitute normally dry conditions.
- E. Investigate and correct deficiencies where measured ground resistances do not comply with specified requirements.

END OF SECTION 26 0526

SECTION 26 0529

HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Support and attachment components for equipment, conduit, cable, boxes, and other electrical work.
 - 1. Support conduit from roof deck with clearance above roof membrane and parapets.
 - 2. Support electrical transformers and disconnects from roof deck with clearance above roof membrane and parapets.
- B. Non-Continuous Cable Support System (J-Hooks)
 - 1. Support for Fire Detection and Alarm cabling.

1.02 RELATED REQUIREMENTS

- A. Section 07 7200 Roof Accessories: Additional support and attachment requirements for conduits
- B. Section 26 0533.13 - Conduit for Electrical Systems: Additional support and attachment requirements for conduits.

1.03 REFERENCE STANDARDS

- A. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2015.
- B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.
- C. ASTM B633 - Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel; 2013.
- D. MFMA-4 - Metal Framing Standards Publication; 2004.
- E. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2010.
- F. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Coordinate sizes and arrangement of supports and bases with the actual equipment and components to be installed.
 - 2. Coordinate the work with other trades to provide additional framing and materials required for installation.
 - 3. Coordinate compatibility of support and attachment components with mounting surfaces at the installed locations.
 - 4. Coordinate the arrangement of supports with ductwork, piping, equipment and other potential conflicts installed under other sections or by others.
 - 5. Notify Architect of any conflicts with or deviations from the contract documents. Obtain direction before proceeding with work.
- B. Sequencing:
 - 1. Do not install products on or provide attachment to concrete surfaces until concrete has fully cured in accordance with Section 03 3000.

1.05 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's standard catalog pages and data sheets for penetrating rooftop supports.
- C. Shop Drawings: Include details for fabricated hangers and supports.
 - 1. Include proposed locations of hangers and supports and proposed spacing.

2. Include proposed conduit routing.
 - a. Details of provision for conduit support and roof penetrating provisions.

1.06 QUALITY ASSURANCE

- A. Comply with NFPA 70.
- B. Comply with applicable building code.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Receive, inspect, handle, and store products in accordance with manufacturer's instructions.

PART 2 PRODUCTS

2.01 SUPPORT AND ATTACHMENT COMPONENTS

- A. General Requirements:
 1. Provide all required hangers, supports, anchors, fasteners, fittings, accessories, and hardware as necessary for the complete installation of electrical work.
 2. Provide products listed, classified, and labeled as suitable for the purpose intended, where applicable.
 3. Where support and attachment component types and sizes are not indicated, select in accordance with manufacturer's application criteria as required for the load to be supported. Include consideration for vibration, equipment operation, and shock loads where applicable.
 4. Do not use products for applications other than as permitted by NFPA 70 and product listing.
 5. Do not use wire, chain, perforated pipe strap, or wood for permanent supports unless specifically indicated or permitted.
 6. Steel Components: Use corrosion resistant materials suitable for the environment where installed.
 - a. Outdoor and Damp or Wet Indoor Locations: Use galvanized steel, stainless steel, or approved equivalent unless otherwise indicated.
 - b. Zinc-Plated Steel: Electroplated in accordance with ASTM B633.
 - c. Galvanized Steel: Hot-dip galvanized after fabrication in accordance with ASTM A123/A123M or ASTM A153/A153M.
- B. Materials for Metal Fabricated Supports: Comply with Section 05 5000.
- C. When passing through an outside wall, the conduit shall be protected against corrosion by coating or wrapping with an inert material.
- D. Where conduit is encased in a protective sleeve, the annular space between the conduit and the sleeve shall be sealed.
- E. Conduit and Cable Supports: Straps, clamps, etc. suitable for the conduit or cable to be supported.
 1. Conduit Straps: One-hole or two-hole type; steel or malleable iron.
 2. Conduit Clamps: Bolted type unless otherwise indicated.
- F. Outlet Box Supports: Hangers, brackets, etc. suitable for the boxes to be supported.
- G. Metal Channel (Strut) Framing Systems: Factory-fabricated continuous-slot metal channel (strut) and associated fittings, accessories, and hardware required for field-assembly of supports.
 1. Comply with MFMA-4.
- H. Hanger Rods: Threaded zinc-plated steel unless otherwise indicated.
- I. Rooftop Supports for Low-Slope Roofs: Steel pedestals with thermoplastic or rubber bases that attach to the roof structure, with support fixtures.
 1. Base Sizes: As required to distribute load sufficiently to roof structure.
 2. Attachment/Support Fixtures: As recommended by manufacturer, same type as indicated for equivalent indoor hangers and supports.

3. Mounting Height: Provide minimum clearance of three (3) inches above supported component to top of roofing.
 4. Manufacturers:
 - a. Cooper B-Line, a division of Eaton Corporation: www.cooperindustries.com.
 - b. Erico International Corporation: www.erico.com.
 - c. Unistrut, a brand of Atkore International Inc: www.unistrut.com.
 - d. Mapa Products: www.mapaproducts.com.
- J. Non-Continuous Cable Support System: The work covered for this system consists of the furnishing of all necessary labor, supervision, materials, equipment, and services to completely execute the support system.
1. Assemblies shall be listed by Underwriters Laboratories UL listing shall be 2239/CSA C22.2 No. 18.4-04.
 2. Shall provide a bearing surface of sufficient width.
 3. Shall have flared edges to prevent damage while installing cables.
 4. Shall have a cable retainer wire form to provide containment of cables within the hanger, the cable retainer shall be removable and reusable.
 5. Shall have a hot-dipped galvanized or G60 finish and shall be rated for indoor use in non-corrosive environments.
 6. Shall be made using a metal thickness of 0.052" and not plastic or other similar material that will potentially fail to support cabling in a fire event. Any fasteners used to affix the cable support system shall also be metal.
 7. Manufacturers: Company specializing in manufacturing products specified in this section with a minimum of five years documented experience in the industry and certified ISO 9000.
 - a. Erico International Corporation: www.erico.com.
- K. Anchors and Fasteners:
1. Unless otherwise indicated and where not otherwise restricted, use the anchor and fastener types indicated for the specified applications.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that field measurements are as indicated.
- B. Verify that mounting surfaces are ready to receive support and attachment components.
- C. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
- B. Perform work in accordance with NECA 1 (general workmanship).
- C. Provide independent support from building structure. Do not provide support from piping, ductwork, or other systems.
- D. Unless specifically indicated or approved by Architect, do not provide support from suspended ceiling support system or ceiling grid.
- E. Do not penetrate or otherwise notch or cut structural members without approval of Structural Engineer.
- F. Equipment Support and Attachment:
 1. Use metal fabricated supports or supports assembled from metal channel (strut) to support equipment as required.
 2. Use metal channel (strut) secured to studs to support equipment surface-mounted on hollow stud walls when wall strength is not sufficient to resist pull-out.
 3. Use metal channel (strut) to support surface-mounted equipment in wet or damp locations to provide space between equipment and mounting surface.

- 4. Securely fasten floor-mounted equipment. Do not install equipment such that it relies on its own weight for support.
- G. Conduit Support and Attachment: Also comply with Section 26 0533.13.
- H. Cable Tray Support and Attachment: Also comply with Section 26 0536.
- I. Secure fasteners according to manufacturer's recommended torque settings.
- J. Remove temporary supports.
- K. Conduit shall be supported, suitable for the size of conduit, of adequate strength and quality, and located at intervals so as to prevent or damp out excessive vibration.
- L. Conduit shall be anchored to prevent undue strains on connected equipment.
- M. Support, hangers and anchors shall be installed so as to not interfere with the free expansion and contraction of the conduit between anchors.
- N. All parts of the supporting systems shall be installed so that they will not be disengaged by movement of the supported conduit.

3.03 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for additional requirements.
- B. Inspect support and attachment components for damage and defects.
- C. Repair cuts and abrasions in galvanized finishes using zinc-rich paint recommended by manufacturer. Replace components that exhibit signs of corrosion.
- D. Correct deficiencies and replace damaged or defective support and attachment components.

END OF SECTION 26 0529

SECTION 26 0533.13
CONDUIT FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Galvanized steel rigid metal conduit (RMC).
- B. Electrical metallic tubing (EMT).
- C. Conduit fittings.
- D. Accessories.

1.02 RELATED REQUIREMENTS

- A. Section 07 8400 - Firestopping.
- B. Section 26 0526 - Grounding and Bonding for Electrical Systems.
 - 1. Includes additional requirements for fittings for grounding and bonding.
- C. Section 26 0529 - Hangers and Supports for Electrical Systems.

1.03 REFERENCE STANDARDS

- A. ANSI C80.1 - American National Standard for Electrical Rigid Steel Conduit (ERSC); 2005.
- B. ANSI C80.3 - American National Standard for Steel Electrical Metallic Tubing (EMT); 2005.
- C. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2010.
- D. NECA 101 - Standard for Installing Steel Conduits (Rigid, IMC, EMT); 2013.
- E. NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, Electrical Metallic Tubing, and Cable; 2012.
- F. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- G. UL 6 - Electrical Rigid Metal Conduit-Steel; Current Edition, Including All Revisions.
- H. UL 514B - Conduit, Tubing, and Cable Fittings; Current Edition, Including All Revisions.
- I. UL 797 - Electrical Metallic Tubing-Steel; Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Coordinate minimum sizes of conduits with the actual conductors to be installed, including adjustments for conductor sizes increased for voltage drop.
 - 2. Coordinate the arrangement of conduits with structural members, ductwork, piping, equipment and other potential conflicts installed under other sections or by others.
 - 3. Verify exact conduit termination locations required for boxes, enclosures, and equipment installed under other sections or by others.
 - 4. Coordinate the work with other trades to provide roof penetrations that preserve the integrity of the roofing system and do not void the roof warranty.
 - 5. Notify Architect of any conflicts with or deviations from the contract documents. Obtain direction before proceeding with work.
- B. Sequencing:
 - 1. Do not begin installation of conductors and cables until installation of conduit is complete between outlet, junction and splicing points.

1.05 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements for submittals procedures.
- B. Product Data: Provide manufacturer's standard catalog pages and data sheets for conduits and fittings.
- C. Shop Drawings:
 - 1. Include proposed locations of exterior wall penetrations and proposed methods for sealing.

2. Include proposed conduit routing.
 - a. Details of provision for conduit movement provisions.
- D. Project Record Documents: Record actual routing for conduit & cabling.

1.06 QUALITY ASSURANCE

- A. Conform to requirements of NFPA 70.

PART 2 PRODUCTS

2.01 CONDUIT APPLICATIONS

- A. Do not use conduit and associated fittings for applications other than as permitted by NFPA 70 and product listing.
- B. Unless otherwise indicated and where not otherwise restricted, use the conduit types indicated for the specified applications. Where more than one listed application applies, comply with the most restrictive requirements. Where conduit type for a particular application is not specified, use galvanized steel rigid metal conduit.
- C. Concealed Within Hollow Stud Walls: Use electrical metallic tubing (EMT).
- D. Concealed Above Accessible Ceilings: Use electrical metallic tubing (EMT).
- E. Interior, Damp or Wet Locations: Use electrical metallic tubing (EMT).
- F. Exposed, Exterior: Use galvanized steel rigid metal conduit.
 1. All conduit on roof to be galvanized steel rigid metal conduit.

2.02 CONDUIT REQUIREMENTS

- A. Existing Work: Where existing conduits are indicated to be reused, they may be reused only where they comply with specified requirements, are free from corrosion, and integrity is verified by pulling a mandrel through them.
- B. Fittings for Grounding and Bonding: Also comply with Section 26 0526.
- C. Provide all conduit, fittings, supports, and accessories required for a complete raceway system.
- D. Provide products listed, classified, and labeled as suitable for the purpose intended.
- E. Where conduit size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.

2.03 GALVANIZED STEEL RIGID METAL CONDUIT (RMC)

- A. Manufacturers:
 1. Allied Tube & Conduit: www.alliedeg.com.
 2. Republic Conduit: www.republic-conduit.com.
 3. Wheatland Tube Company: www.wheatland.com.
- B. Description: NFPA 70, Type RMC galvanized steel rigid metal conduit complying with ANSI C80.1 and listed and labeled as complying with UL 6.
- C. Fittings:
 1. Manufacturers:
 - a. Bridgeport Fittings Inc: www.bptfittings.com.
 - b. O-Z/Gedney, a brand of Emerson Industrial Automation: www.emersonindustrial.com.
 - c. Thomas & Betts Corporation: www.tnb.com.
 2. Non-Hazardous Locations: Use fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
 3. Material: Use steel or malleable iron.
 4. Connectors and Couplings: Use threaded type fittings only. Threadless set screw and compression (gland) type fittings are not permitted.

2.04 ELECTRICAL METALLIC TUBING (EMT)

- A. Manufacturers:

1. Allied Tube & Conduit: www.alliedeg.com.
 2. Republic Conduit: www.republic-conduit.com.
 3. Wheatland Tube Company: www.wheatland.com.
- B. Description: NFPA 70, Type EMT steel electrical metallic tubing complying with ANSI C80.3 and listed and labeled as complying with UL 797.
- C. Fittings:
1. Description: Fittings complying with NEMA FB 1 and listed and labeled as complying with UL 514B.
 2. Material: Use steel or malleable iron.
 3. Connectors and Couplings: Use compression (gland) type.
 - a. Do not use indenter type connectors and couplings.

2.05 ACCESSORIES

- A. Conduit Joint Compound: Corrosion-resistant, electrically conductive; suitable for use with the conduit to be installed.
- B. Pull Strings: Use nylon cord with average breaking strength of not less than 200 pound-force.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that field measurements are as indicated.
- B. Verify that mounting surfaces are ready to receive conduits.
- C. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
- B. Perform work in accordance with NECA 1 (general workmanship).
- C. Install galvanized steel rigid metal conduit (RMC) in accordance with NECA 101.
- D. Conduit Routing:
1. Conceal all conduits unless specifically indicated to be exposed.
- E. Conduit Support:
1. Secure and support conduits in accordance with NFPA 70 and Section 26 0529 using suitable supports and methods approved by the authority having jurisdiction.
 2. Provide independent support from building structure. Do not provide support from piping, ductwork, or other systems.
 3. Installation Above Suspended Ceilings: Do not provide support from ceiling support system. Do not provide support from ceiling grid or allow conduits to lay on ceiling tiles.
- F. Connections and Terminations:
1. Use approved zinc-rich paint or conduit joint compound on field-cut threads of galvanized steel conduits prior to making connections.
 2. Where two threaded conduits must be joined and neither can be rotated, use three-piece couplings or split couplings. Do not use running threads.
 3. Use suitable adapters where required to transition from one type of conduit to another.
 4. Terminate threaded conduits in boxes and enclosures using threaded hubs or double lock nuts for dry locations and raintight hubs for wet locations.
 5. Provide insulating bushings or insulated throats at all conduit terminations to protect conductors.
 6. Secure joints and connections to provide maximum mechanical strength and electrical continuity.
- G. Penetrations:
1. Do not penetrate or otherwise notch or cut structural members, including footings and grade beams, without approval of Structural Engineer.
 2. Make penetrations perpendicular to surfaces unless otherwise indicated.

3. Provide sleeves for penetrations as indicated or as required to facilitate installation. Set sleeves flush with exposed surfaces unless otherwise indicated or required.
 4. Conceal bends for conduit risers emerging above ground.
 5. Seal interior of conduits entering the building from underground at first accessible point to prevent entry of moisture and gases.
 6. Where conduits penetrate waterproof membrane, seal as required to maintain integrity of membrane.
 7. Make penetrations for roof-mounted equipment within associated equipment openings and curbs where possible to minimize roofing system penetrations. Where penetrations are necessary, seal as indicated or as required to preserve integrity of roofing system and maintain roof warranty. Include proposed locations of penetrations and methods for sealing with submittals.
 8. Install firestopping to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Section 07 8400.
- H. Conduit Movement Provisions: Where conduits are subject to movement, provide expansion and expansion/deflection fittings to prevent damage to enclosed conductors or connected equipment. This includes, but is not limited to:
1. Where conduits cross structural joints intended for expansion, contraction, or deflection.
 2. Exposed conduit on roof..
- I. Condensation Prevention: Where conduits cross barriers between areas of potential substantial temperature differential, provide sealing fitting or approved sealing compound at an accessible point near the penetration to prevent condensation. This includes, but is not limited to:
1. Where conduits pass from outdoors into conditioned interior spaces.
 2. Where conduits pass from unconditioned interior spaces into conditioned interior spaces.
- J. Provide grounding and bonding in accordance with Section 26 0526.

3.03 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for additional requirements.
- B. Repair cuts and abrasions in galvanized finishes using zinc-rich paint recommended by manufacturer. Replace components that exhibit signs of corrosion.
- C. Correct deficiencies and replace damaged or defective conduits.

3.04 CLEANING

- A. Clean interior of conduits to remove moisture and foreign matter.

3.05 PROTECTION

- A. Immediately after installation of conduit, use suitable manufactured plugs to provide protection from entry of moisture and foreign material and do not remove until ready for installation of conductors.

END OF SECTION 26 0533.13

SECTION 26 0533.16
BOXES FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Outlet and device boxes up to 100 cubic inches, including those used as junction and pull boxes.
- B. Cabinets and enclosures, including junction and pull boxes larger than 100 cubic inches.

1.02 RELATED REQUIREMENTS

- A. Section 08 3100 - Access Doors and Panels: Panels for maintaining access to concealed boxes.
- B. Section 26 0529 - Hangers and Supports for Electrical Systems.
- C. Section 26 0533.13 - Conduit for Electrical Systems:
 - 1. Conduit bodies and other fittings.
 - 2. Additional requirements for locating boxes to limit conduit length and/or number of bends between pulling points.

1.03 REFERENCE STANDARDS

- A. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2010.
- B. NECA 130 - Standard for Installing and Maintaining Wiring Devices; 2010.
- C. NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, Electrical Metallic Tubing, and Cable; 2012.
- D. NEMA OS 1 - Sheet-Steel Outlet Boxes, Device Boxes, Covers, and Box Supports; 2013.
- E. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum); 2014.
- F. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- G. UL 50 - Enclosures for Electrical Equipment, Non-Environmental Considerations; Current Edition, Including All Revisions.
- H. UL 50E - Enclosures for Electrical Equipment, Environmental Considerations; Current Edition, Including All Revisions.
- I. UL 508A - Industrial Control Panels; Current Edition, Including All Revisions.
- J. UL 514A - Metallic Outlet Boxes; Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Coordinate the work with other trades to avoid placement of ductwork, piping, equipment, or other potential obstructions within the dedicated equipment spaces and working clearances for electrical equipment required by NFPA 70.
 - 2. Coordinate arrangement of electrical equipment with the dimensions and clearance requirements of the actual equipment to be installed.
 - 3. Coordinate minimum sizes of boxes with the actual installed arrangement of conductors, clamps, support fittings, and devices, calculated according to NFPA 70.
 - 4. Coordinate minimum sizes of pull boxes with the actual installed arrangement of connected conduits, calculated according to NFPA 70.
 - 5. Coordinate the placement of boxes with millwork, furniture, devices, equipment, etc. installed under other sections or by others.
 - 6. Coordinate the work with other trades to preserve insulation integrity.
 - 7. Coordinate the work with other trades to provide walls suitable for installation of flush-mounted boxes where indicated.
 - 8. Notify Architect of any conflicts with or deviations from the contract documents. Obtain direction before proceeding with work.

1.05 QUALITY ASSURANCE

- A. Conform to requirements of NFPA 70.

PART 2 PRODUCTS

2.01 BOXES

- A. General Requirements:
 - 1. Do not use boxes and associated accessories for applications other than as permitted by NFPA 70 and product listing.
 - 2. Provide all boxes, fittings, supports, and accessories required for a complete raceway system and to accommodate devices and equipment to be installed.
 - 3. Provide products listed, classified, and labeled as suitable for the purpose intended.
 - 4. Where box size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.
 - 5. Provide grounding terminals within boxes where equipment grounding conductors terminate.
- B. Outlet and Device Boxes Up to 100 cubic inches, Including Those Used as Junction and Pull Boxes:
 - 1. Use sheet-steel boxes for dry locations unless otherwise indicated or required.
 - 2. Use cast iron boxes or cast aluminum boxes for damp or wet locations unless otherwise indicated or required; furnish with compatible weatherproof gasketed covers.
 - 3. Use suitable concrete type boxes where flush-mounted in concrete.
 - 4. Use suitable masonry type boxes where flush-mounted in masonry walls.
 - 5. Use raised covers suitable for the type of wall construction and device configuration where required.
 - 6. Use shallow boxes where required by the type of wall construction.
 - 7. Do not use "through-wall" boxes designed for access from both sides of wall.
 - 8. Sheet-Steel Boxes: Comply with NEMA OS 1, and list and label as complying with UL 514A.
 - 9. Cast Metal Boxes: Comply with NEMA FB 1, and list and label as complying with UL 514A; furnish with threaded hubs.
 - 10. Boxes for Ganged Devices: Use multigang boxes of single-piece construction. Do not use field-connected gangable boxes.
 - 11. Wall Plates: Comply with Section 26 2726.
- C. Cabinets and Enclosures, Including Junction and Pull Boxes Larger Than 100 cubic inches:
 - 1. Comply with NEMA 250, and list and label as complying with UL 50 and UL 50E, or UL 508A.
 - 2. NEMA 250 Environment Type, Unless Otherwise Indicated:
 - a. Indoor Clean, Dry Locations: Type 1, painted steel.
 - b. Outdoor Locations: Type 3R, painted steel.
 - 3. Junction and Pull Boxes Larger Than 100 cubic inches:
 - a. Provide screw-cover or hinged-cover enclosures unless otherwise indicated.
 - b. Boxes 6 square feet and Larger: Provide sectionalized screw-cover or hinged-cover enclosures.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that field measurements are as indicated.
- B. Verify that mounting surfaces are ready to receive boxes.
- C. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.

- B. Install boxes in accordance with NECA 1 (general workmanship) and, where applicable, NECA 130, including mounting heights specified in those standards where mounting heights are not indicated.
- C. Arrange equipment to provide minimum clearances in accordance with manufacturer's instructions and NFPA 70.
- D. Box Locations:
 - 1. Locate boxes to be accessible. Provide access panels in accordance with Section 08 3100 as required where approved by the Architect.
 - 2. Locate junction and pull boxes as indicated, as required to facilitate installation of conductors, and to limit conduit length and/or number of bends between pulling points in accordance with Section 26 0533.13.
- E. Box Supports:
 - 1. Secure and support boxes in accordance with NFPA 70 and Section 26 0529 using suitable supports and methods approved by the authority having jurisdiction.
 - 2. Provide independent support from building structure. Do not provide support from piping, ductwork, or other systems.
 - 3. Installation Above Suspended Ceilings: Do not provide support from ceiling grid or ceiling support system.
- F. Install boxes plumb and level.
- G. Flush-Mounted Boxes:
 - 1. Install boxes in noncombustible materials such as concrete, tile, gypsum, plaster, etc. so that front edge of box or associated raised cover is not set back from finished surface more than 1/4 inch or does not project beyond finished surface.
 - 2. Install boxes in combustible materials such as wood so that front edge of box or associated raised cover is flush with finished surface.
 - 3. Repair rough openings around boxes in noncombustible materials such as concrete, tile, gypsum, plaster, etc. so that there are no gaps or open spaces greater than 1/8 inch at the edge of the box.
- H. Install boxes as required to preserve insulation integrity.
- I. Install permanent barrier between ganged wiring devices when voltage between adjacent devices exceeds 300 V.
- J. Install firestopping to preserve fire resistance rating of partitions and other elements, using materials and methods specified in Section 07 8400.
- K. Close unused box openings.
- L. Install blank wall plates on junction boxes and on outlet boxes with no devices or equipment installed or designated for future use.
- M. Provide grounding and bonding in accordance with Section 26 0526.

3.03 CLEANING

- A. Clean interior of boxes to remove dirt, debris, plaster and other foreign material.

3.04 PROTECTION

- A. Immediately after installation, protect boxes from entry of moisture and foreign material until ready for installation of conductors.

END OF SECTION 26 0533.16

SECTION 26 0553
IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Electrical identification requirements.
- B. Wire and cable markers.
- C. Voltage markers.

1.02 RELATED REQUIREMENTS

- A. Section 26 0519 - Low-Voltage Electrical Power Conductors and Cables: Color coding for power conductors and cables 600 V and less; vinyl color coding electrical tape.

1.03 REFERENCE STANDARDS

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

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Verify final designations for equipment, systems, and components to be identified prior to fabrication of identification products.
- B. Sequencing:
 - 1. Do not conceal items to be identified, in locations such as above suspended ceilings, until identification products have been installed.
 - 2. Do not install identification products until final surface finishes and painting are complete.

1.05 QUALITY ASSURANCE

- A. Conform to requirements of NFPA 70.

1.06 FIELD CONDITIONS

- A. Do not install adhesive products when ambient temperature is lower than recommended by manufacturer.

PART 2 PRODUCTS

2.01 IDENTIFICATION REQUIREMENTS

- A. Existing Work: Unless specifically excluded, identify existing elements to remain.
- B. Identification for Conductors and Cables:
 - 1. Color Coding for Power Conductors 600 V and Less: Comply with Section 26 0519.
 - 2. Use identification nameplate or identification label to identify color code for ungrounded and grounded power conductors inside door or enclosure at each piece of feeder or branch-circuit distribution equipment when premises has feeders or branch circuits served by more than one nominal voltage system.
 - 3. Use wire and cable markers to identify circuit number or other designation indicated for power, control, and instrumentation conductors and cables at the following locations:
 - a. Within boxes when more than one circuit is present.
 - b. Within equipment enclosures when conductors and cables enter or leave the enclosure.
- C. Identification for Boxes:
 - 1. Use voltage markers to identify highest voltage present.

2.02 IDENTIFICATION NAMEPLATES AND LABELS

- A. Identification Labels:
 - 1. Materials: Use self-adhesive laminated plastic labels; UV, chemical, water, heat, and abrasion resistant.

2. Text: Use factory pre-printed or machine-printed text. Do not use handwritten text unless otherwise indicated.

2.03 WIRE AND CABLE MARKERS

- A. Markers for Conductors and Cables: Use wrap-around self-adhesive vinyl cloth, wrap-around self-adhesive vinyl self-laminating, heat-shrink sleeve, plastic sleeve, plastic clip-on, or vinyl split sleeve type markers suitable for the conductor or cable to be identified.
- B. Markers for Conductor and Cable Bundles: Use plastic marker tags secured by nylon cable ties.
- C. Legend: Power source and circuit number or other designation indicated.
- D. Text: Use factory pre-printed or machine-printed text, all capitalized unless otherwise indicated.
- E. Minimum Text Height: 1/8 inch.
- F. Color: Black text on white background unless otherwise indicated.

2.04 VOLTAGE MARKERS

- A. Markers for Conduits: Use factory pre-printed self-adhesive vinyl, self-adhesive vinyl cloth, or vinyl snap-around type markers.
- B. Markers for Boxes and Equipment Enclosures: Use factory pre-printed self-adhesive vinyl or self-adhesive vinyl cloth type markers.
- C. Minimum Size:
 1. Markers for Pull Boxes: 1 1/8 by 4 1/2 inches.
 2. Markers for Junction Boxes: 1/2 by 2 1/4 inches.
- D. Legend:
 1. Markers for Voltage Identification: Highest voltage present.
- E. Color: Black text on orange background unless otherwise indicated.

PART 3 EXECUTION

3.01 PREPARATION

- A. Clean surfaces to receive adhesive products according to manufacturer's instructions.

3.02 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
- B. Install identification products to be plainly visible for examination, adjustment, servicing, and maintenance. Unless otherwise indicated, locate products as follows:
 1. Interior Components: Legible from the point of access.
 2. Boxes: Outside face of cover.
 3. Conductors and Cables: Legible from the point of access.
- C. Install identification products centered, level, and parallel with lines of item being identified.
- D. Install self-adhesive labels and markers to achieve maximum adhesion, with no bubbles or wrinkles and edges properly sealed.

3.03 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for additional requirements.
- B. Replace self-adhesive labels and markers that exhibit bubbles, wrinkles, curling or other signs of improper adhesion.

END OF SECTION 26 0553

SECTION 26 2813

FUSES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Fuses.
- B. Spare fuse cabinet.

1.02 REFERENCE STANDARDS

- A. NEMA FU 1 - Low Voltage Cartridge Fuses; 2012.
- B. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- C. UL 248-1 - Low-Voltage Fuses - Part 1: General Requirements; Current Edition, Including All Revisions.

1.03 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Coordinate fuse clips furnished in equipment provided under other sections for compatibility with indicated fuses.
 - 2. Coordinate fuse requirements according to manufacturer's recommendations and nameplate data for actual equipment to be installed.
 - 3. Notify Architect of any conflicts with or deviations from the contract documents. Obtain direction before proceeding with work.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's standard data sheets including voltage and current ratings, interrupting ratings, time-current curves, and current limitation curves.
 - 1. Spare Fuse Cabinet: Include dimensions.
- C. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 01 6000 - Product Requirements, for additional provisions.
 - 2. Extra Fuses: One set(s) of three for each type and size installed.
 - 3. Fuse Pullers: One set(s) compatible with each type and size installed.
 - 4. Spare Fuse Cabinet Keys: Two.

1.05 QUALITY ASSURANCE

- A. Conform to requirements of NFPA 70.
- B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

PART 2 PRODUCTS

2.01 FUSES

- A. Provide products listed, classified, and labeled as suitable for the purpose intended.
- B. Unless specifically indicated to be excluded, provide fuses for all fusible equipment as required for a complete operating system.
- C. Provide fuses of the same type, rating, and manufacturer within the same switch.
- D. Comply with UL 248-1.
- E. Unless otherwise indicated, provide cartridge type fuses complying with NEMA FU 1, Class and ratings as indicated.
- F. Voltage Rating: Suitable for circuit voltage.

2.02 SPARE FUSE CABINET

- A. Description: Wall-mounted sheet metal cabinet with shelves and hinged door with cylinder lock, suitably sized to store spare fuses and fuse pullers specified.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that fuse ratings are consistent with circuit voltage and manufacturer's recommendations and nameplate data for equipment.
- B. Verify that mounting surfaces are ready to receive spare fuse cabinet.
- C. Verify that conditions are satisfactory for installation prior to starting work.

3.02 INSTALLATION

- A. Do not install fuses until circuits are ready to be energized.
- B. Install fuses with label oriented such that manufacturer, type, and size are easily read.
- C. Install spare fuse cabinet where indicated.

END OF SECTION 26 2813

SECTION 28 4600
FIRE DETECTION AND ALARM

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Replacement and removal of existing Simplex Fire Alarm system components, wiring, and conduit indicated.
 - 1. Modifications to re-route cabling from roof to inside building above accessible ceiling space.

1.02 RELATED REQUIREMENTS

- A. Section 00 3000 - Project Schedule and Terms: for coordination of downtime of systems.
- B. Section 07 8400 - Firestopping: Materials and methods for work to be performed by this installer.
- C. Section 26 0506 Selective Demolition for Electrical: Demolition of Fire Alarm Systems.
- D. Section 26 0529 Hangers and Supports for Electrical Systems: Additional support and attachment requirements for cabling.

1.03 REFERENCE STANDARDS

- A. 36 CFR 1191 - Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines; current edition.
- B. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.
- C. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- D. NFPA 72 - National Fire Alarm and Signaling Code; 2016.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Coordinate minimum sizes of actual conductors to be installed, including adjustments for conductor sizes increased for voltage drop.
 - 2. Coordinate the arrangement of cabling with structural members, ductwork, piping, equipment and other potential conflicts installed under other sections or by others.
 - 3. Verify exact conduit termination locations required for boxes, enclosures, and equipment installed under other sections or by others.
 - 4. Coordinate the work with other trades to provide roof penetrations that preserve the integrity of the roofing system and do not void the roof warranty.
 - 5. Notify Architect of any conflicts with or deviations from the contract documents. Obtain direction before proceeding with work.
- B. Sequencing:
 - 1. Do not begin demolition of conductors and cables until installation of new conductors and cables is complete between splicing points. Minimize downtime of systems.

1.05 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Evidence of installer qualifications.
- C. Inspection and Test Reports:
 - 1. Submit inspection and test plan prior to closeout demonstration.
 - 2. Submit documentation of satisfactory inspections and tests.
- D. Project Record Documents: See Section 01 7800 for additional requirements; have one set available during closeout demonstration:
 - 1. Complete set of floor plans showing actual installed locations of components, conduit, and zones.
 - 2. "As installed" wiring and schematic diagrams, with final terminal identifications.

- E. Closeout Documents:
 - 1. Certification by manufacturer that the system has been installed in compliance with his installation requirements, is complete, and is in satisfactory operating condition.

1.06 QUALITY ASSURANCE

- A. Installer Qualifications: Firm with minimum 3 years documented experience installing fire alarm systems of the specified type and providing contract maintenance service as a regular part of their business.
 - 1. Authorized representative of control unit manufacturer; submit manufacturer's certification that installer is authorized; include name and title of manufacturer's representative making certification.
 - 2. Installer Personnel: At least 2 years of experience installing fire alarm systems.
 - 3. Supervisor: NICET level III or IV (3 or 4) certified fire alarm technician; furnish name and address.

PART 2 PRODUCTS

2.01 FIRE ALARM SYSTEM

- A. Fire Alarm System: Provide modifications and extensions to the existing automatic fire detection and alarm system:
 - 1. Provide all components necessary, regardless of whether shown in the contract documents or not.
 - 2. Comply with the following; where requirements conflict, order of precedence of requirements is as listed:
 - a. ADA Standards.
 - b. The requirements of the local authority having jurisdiction.
 - c. Applicable local codes.
 - d. The contract documents (drawings and specifications).
 - e. NFPA 72; where the word "should" is used consider that provision mandatory; where conflicts between requirements require deviation from NFPA 72, identify deviations clearly on design documents.
- B. Circuits:
 - 1. Initiating Device Circuits (IDC): Class B, Style A.
 - 2. Signaling Line Circuits (SLC) Within Single Building: Class B, Style 0.5.
 - 3. Notification Appliance Circuits (NAC): Class B, Style W.

2.02 EXISTING COMPONENTS

- A. Existing Fire Alarm System: Remove existing components indicated and incorporate remaining components into new system, under warranty as if they were new; do not take existing portions of system out of service until new portions are fully operational, tested, and connected to existing system.
- B. Clearly label components that are "Not In Service."
- C. Remove unused existing components and materials from site and dispose of properly.

2.03 COMPONENTS

- A. General:
 - 1. Provide junction boxes for Circuit Conductors splices.
 - a. Provide legible, for each Circuit Conductors, using identification used in operation and maintenance data.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install in accordance with applicable codes, NFPA 72, NFPA 70, and the contract documents.
- B. Conceal all wiring, conduit, boxes, and supports where installed in finished areas.
 - 1. Cabling to independently supported.

- C. Obtain Community Unit School District No. 185's approval of locations of boxes, before installation.

3.02 INSPECTION AND TESTING FOR COMPLETION

- A. Notify Owner 7 days prior to beginning completion inspections and tests.
- B. Notify authorities having jurisdiction and comply with their requirements for scheduling inspections and tests and for observation by their personnel.
- C. Provide the services of the installer's supervisor or person with equivalent qualifications to supervise inspection and testing, correction, and adjustments.
- D. Prepare for testing by ensuring that all work is complete and correct; perform preliminary tests as required.
- E. Provide all tools, software, and supplies required to accomplish inspection and testing.
- F. Perform inspection and testing in accordance with NFPA 72 and requirements of local authorities; document each inspection and test.
- G. Correct defective work, adjust for proper operation, and retest until entire system complies with contract documents.

3.03 CLOSEOUT

- A. Closeout Demonstration: Demonstrate proper operation of all functions to Owner.
 - 1. Be prepared to conduct any of the required tests.
 - 2. Have at least one copy of operation and maintenance data, preliminary copy of project record drawings, input/output matrix, and operator instruction chart(s) available during demonstration.
 - 3. Have authorized technical representative of control unit manufacturer present during demonstration.
 - 4. Demonstration may be combined with inspection and testing required by authority having jurisdiction; notify authority having jurisdiction in time to schedule demonstration.
 - 5. Repeat demonstration until successful.

END OF SECTION 28 4600

