

Southeast Polk Community School District

Junior High School Lighting Replacement

Engineer Project #25-174

February 20, 2026



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**SECTION 00 1114
NOTICE TO CONTRACTORS**

1.01 PART 1 GENERAL

PROJECT: Southeast Polk Community School District - Junior High School Lighting

BID DATE/TIME: March 6, 2026, at 11:00am

LOCATION: Southeast Polk Community School District 8031 NE University Avenue,
Pleasant Hill, IA 50327

Sealed proposals for the above project will be received, publicly opened and read aloud at the time and location stated above by the SOUTHEAST POLK COMMUNITY SCHOOL DISTRICT.

This district includes all or part of the following Iowa Counties: POLK

All bidders are required to pay for their own Bidding Documents with no requirements to return their bidding documents

Copies of the plans and specifications and other contract documents are now on file and available for inspection at the above bidding location and sets for contractors/suppliers can be ordered through Beeline and Blue at the full cost of the contractor. Electronic PDF's are available from MODUS by contacting Holly Stevens, hstevens@modus-eng.com or 515.412.5308.

Single proposal will be received for the work of the Electrical Contractor, (which includes the work to remove and replace all lighting fixtures as noted in the Bidding Documents. Subcontractors of all construction trades shall submit bids to the prime contractor covering the scope of work bid.

Award of the contract shall be to the lowest responsible bidder based on base bid and selected alternates and in conformance to the Bidding documents prepared by MODUS.

Each proposal must be accompanied by a bid bond, cash deposit, cashier's check, or a certified check on a solvent bank chartered under the laws of the United States in the amount of not less than 5% nor more than 10% of the proposal submitted therewith.

Bid Security shall be made payable to the Treasurer of SOUTHEAST POLK COMMUNITY SCHOOL DISTRICT

Should the successful bidder fail or neglect to furnish a satisfactory surety bond, refuse to enter into contract on the basis of the bid, or fail to meet the requirements for this Notice and the specifications regulating the award, the bidder's security may be retained as liquidated damages. No bidder may withdraw the proposal for a period of

thirty calendar (30) days after the date and hour set for opening of bids. The work under the Contract shall be commenced immediately after execution of the Owner-Contractor Agreement and substantially completed by a mutually agreed upon date, all as set forth in contractual documents.

By virtue of statutory authority, the contractor shall give preference to Iowa Domestic Labor, products and provisions grown, and coal produced within the State of Iowa, according to the provisions of Chapter 73, Code of Iowa 1999.

The right to reject any or all bids and to waive any irregularities therein is reserved by
SOUTHEAST POLK COMMUNITY SCHOOL DISTRICT

DATED ON: This 20th day of February 2026.

BY ORDER OF: SOUTHEAST POLK COMMUNITY SCHOOL DISTRICT

BY: Kevin Baccam, Chief Financial Officer, kevin.baccam@southeastpolk.org

END OF SECTION

**SECTION 00 2112
INSTRUCTIONS TO BIDDERS**

PART 1 GENERAL

1.01 BIDS

- A. Bids shall be sealed and made only on the proposal form furnished by the engineer. The bidder shall not write in any conditions or interpretations beyond filling in the required spaces. All bids must be signed by hand by an authorized member of the firm and submitted in a sealed envelope.
- B. A bidder may modify or withdraw their bid prior to the time set for opening bids. It shall be the bidders responsibility to deliver written modifications or request for withdrawal to the owner prior to closing time.
- C. No bidder may withdraw their bid for a period of 30 days after the date set for opening thereof. The owner reserves the right to reject any or all of the bids and to waive informalities therein.

1.02 CHECKS AND BONDS

- A. This contractor shall furnish and pay for a Performance Bond in a form approved by the owner. The Performance Bond shall remain enforce for a period of not less than two (2) years after completion and final acceptance of the project by the engineer or the owner.
- B. Performance bond shall cover the entire contract amount and shall escalate with all approved change orders.
- C. Bid Security: A separate check or bid bond in the amount of 5% of the bid proposal shall be included in separate envelope and clearly noted. It is understood said check will be refunded within 60 days.
- D. Bid security in the amount of 5% of the bid proposal shall be included in a separate envelope and clearly noted.

1.03 FORM OF CONTRACT

- A. The latest approved and published "Standard Form of Agreement Between Contractor and Owner" published by the AIA will form the basis of this contract. One contract shall be written with the owner for this project.

1.04 REJECTION OF BIDS

- A. The owner reserves the right to reject any or all bids. The contract will be let to the lowest responsible bidder on the basis of the total of all work the owner chooses to do, unless all bids are rejected or owner, for cause, will determine to reject one or more bids.

1.05 DRAWINGS

- A. The drawings covering the work under this contract as prepared by MODUS are as follows:
 - 1. Specifications: Division 00 and 01 (common sections), Division 26 (Electrical).
 - 2. Drawings: refer to Cover Sheet for Sheet Index.

1.06 BIDS DUE

- A. Sealed bids will be received until 11:00am on March 6, 2026 Southeast Polk Community School District Board Room, 8031 NE University Avenue, Pleasant Hill, IA 50327

1.07 BIDS OPENED

- A. Sealed bids will be opened and read aloud at 11:00am March 6, 2026.

- B. The work shall commence upon signature of contract by all parties and be completed by August 14, 2026.

1.08 ISSUE OF DRAWINGS AND SPECIFICATIONS

- A. All drawings, specifications, and copies thereof furnished by the engineer are property of the engineer and shall be returned to MODUS. They are not to be used on other work and with the exception of the signed contract set, are to be returned to the engineer at the completion of bidding. Drawings, specifications, and other contract documents are on file at the office of MODUS, 130 E. 3rd Street, Suite 300, Des Moines, Iowa 50309.

1.09 INQUIRIES

- A. All inquiries are to be direct to 130 E. 3rd Street, Suite 300, Des Moines, IA 50309; 515-251-7280 (phone), Adam Vander Helm, avanderhelm@modus-eng.com (email).
- B. Replies which revise the bidding documents will be issued to all bidding document holders of record as an addenda to the bidding documents and will become a part of the Contract. The engineer and owner will not be responsible for oral clarifications.

1.10 QUALIFICATIONS OF BIDDERS

- A. The owner may make sure investigations, as the owner deems necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to the owner all such information and data for this purpose as the owner may request.
- B. The owner reserves the right to reject any bid if the evidence submitted by or investigation of such bidder fails to satisfy the owner that such bidder is properly qualified to carry out the obligations of the contract and to complete the work contemplated therein.

1.11 ADDENDA AND INTERPRETATIONS

- A. No interpretation of the meaning of the drawings, specifications, or other pre-bid documents will be made orally to any bidder.
- B. Every request for such interpretations shall be in writing addressed to MODUS., 130 E. 3rd Street, Suite 300, Des Moines, Iowa 50309 and to be given consideration must be received at least three (3) days prior to the date fixed for the opening of bids.
- C. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the specifications that if issued will be mailed to all prospective bidders at the respective addresses furnished for such purposes, not later than seven (7) days prior to the date fixed for openings of bids. Failure of any bidder to receive any such addendum or interpretations shall not relieve such bidder from obligations under their bid as submitted. All addenda so issued shall become a part of the contract documents.

1.12 LAW AND REGULATIONS

- A. The bidder's attention is directed to the fact that all applicable state laws, municipal ordinances and the rules and regulations of all authorities having jurisdiction over construction of the contract the same as though herein written out in full.

1.13 SALES AND USE TAXES

- A. As this is a tax exempt entity, the contractors are not required to pay sales tax on building materials.
- B. Contractor's proposal shall include any sales or occupational tax or use tax to be levied.
- C. It is the responsibility of the contractor and their sub-contractors to pay sales tax on items only that do not become part of the realty being constructed. Examples include: barricades, building equipment, compressors, cranes, drill press, electric generators, forms, fuel, hand tools, lathes, lodging, machinery, replacement parts for equipment,

scaffolds, stakes, tools, utilities, vehicles, including grading, lifting and excavating vehicles, warning lights.

- D. Machinery or other equipment that remain tangible personal property rather than becoming part of real property may be purchased by the contractor tax free for resale. However, it must be separately itemized and transferred to the exempt entity.
- E. The rental of construction equipment for use on or in connection with new construction, reconstruction, alteration, expansion or remodeling of a building or structure is exempt from Iowa sales or use tax.
- F. Certain construction-related equipment is not subject to local option tax but remains subject to the state sales tax. See Rule 701-107.9 for details.
- G. The owner will provide to the successful contractor the required authorization letter and exemption certificate. The contractor shall then forward these items to sub-contractors.
- H. It shall be the responsibility of the contractor and their subcontractors and suppliers to pay all federal, state, or other taxes including Iowa sale and/or use tax on all supplies and materials used in and made a part of the work and on all equipment incorporated into and made a part of this project.
- I. Although the owner is a tax exempt body, the contractor and their suppliers and subcontractors shall include in the bid the Iowa sales tax and shall pay the tax to the appropriate state. The owner will file and receive the refund of taxes at completion of this project.
- J. The owner will provide to the successful contractor the required authorization letter and exemption certificate. The contractor shall then forward these items to the subcontractor.

1.14 TAX REFUND

- A. It will be a part of the contractor's work to submit, upon completion of this project, such information as is necessary to enable the owner to request refund of taxes for materials and supplies refundable to the owner per Iowa Code #422.45(7). Proper forms (Iowa Department of Revenue Form #35-002/CPD-7102-Contractor's Statement) for this information will be provided the contractor for submission with final estimate. Any and all refunds accrue to the owner.

1.15 BARRICADES

- A. Barricades shall be provided and set by the contractor at their own expense. Contractor shall close all openings into building as required to prevent unauthorized entry into building through construction openings.
- B. Provide free and unobstructed egress to exits.
- C. Adhere to the owner's smoking policy at all times.
- D. Develop storage, housekeeping, and debris removal policies and procedures.
- E. The contractor shall review and adhere to all safety and operational policies. OSHA Guidelines and Material Data Safety sheets for hazardous materials.

1.16 APPROVAL OF MATERIALS

- A. All materials that are to be bid as "equal" or "similar to" or "approved by the engineer" shall require prior approval by the engineer. All approvals will be issued per addendum(s). All materials other than those specified must be approved. Request for approval must be submitted at least 5 days prior to bid opening date.

1.17 GENERAL CONDITIONS

- A. General conditions of the contract for construction, AIA Document A201 latest edition shall become a part of these specifications.

1.18 STATUTORY AUTHORITY

- A. By virtue of Statutory Authority the contractor shall give preference to Iowa Domestic Labor, according to the Provisions of Code of Iowa.
- B. By virtue of Statutory Authority, a preference will be given to products and provisions grown within the State of Iowa.

1.19 INSURANCE REQUIREMENTS

A. LIMITS

- 1. 18.1.1 The insurance required by AIA contract subparagraph 11.1.1 shall be written for not less than the amounts listed in the following subsections.
- 2. 18.1.2 Worker's Compensation
 - a. State.....Statutory
 - b. Applicable Federal (e.g., Long Shoremans).....Statutory
 - c. Employer's Liability.....\$200,000.00
 - d. 18.1.3 Comprehensive General Liability (including Premises-Operations, Independent Contractor's Protective: Products and Completed Operation Board From Property Damage).
 - 1) Bodily Injury
 - (a) Each Occurrence.....\$500,000.00
 - (b) Annual Aggregate.....\$1,000,000.00
 - (1) Property Damage
 - (2) Each Occurrence.....\$250,000.00
 - (3) Annual Aggregate.....\$500,000.00
 - e. 18.1.4 Contractual Liability
 - 1) Bodily Injury
 - (a) Each Occurrence.....\$1,000,000.00
 - (1) Property Damage
 - (2) Each Occurrence..... \$100,000.00
 - (3) Annual Aggregate..... \$200,000.00
 - f. 18.1.5 Personal injury with employment exclusion deleted:
 - 1) Annual Aggregate..... \$1,000,000.00
 - g. 18.1.6 Completed Operation and Products Liability shall be maintained one year after final payment.
 - h. 18.1.7 Property Damage Liability Insurance shall include coverage for the following hazards:
 - 1) X (Explosion)
 - 2) C (Collapse)
 - 3) U (Underground)
 - i. 18.1.8 Comprehensive Automobile Liability
 - 1) a. Bodily Injury
 - (a) Each Person.....\$500,000.00
 - (1) Each Occurrence \$1,000,000.00
 - (2) Property Damage
 - (3) Each Occurrence.....\$250,000.00
 - j. 18.1.9 If an exposure exists, Aircraft Liability (owned and non-owned) and Watercraft Liability (owner and non-owned) with limits approved by the owner shall be provided.
 - k. 18.1.10 The contractor shall carry insurance in addition to that specifically named above as follows:
 - 1) Coverage and Amount\$ (see sub article 17.1.3)

1.20 REVISE AIA CONTRACT SUBPARAGRAPH 11.3.1 AS FOLLOWS:

- A. Until the work is completed by the contractor and accepted by the owner. The owner shall purchase and maintain property insurance upon the entire work at the site to the full insurable value thereof.

1.21 COMPREHENSIVE GENERAL LIABILITY

- A. Liability Insurance may be arranged by Comprehensive General Liability and Comprehensive Automobile Liability for the full limits required or by a combination of underlying comprehensive policies for less limits with the remaining limits provided by an excess of Umbrella Liability Policy in the amount of \$1,000,00.00.
- B. The contractor's comprehensive general liability policy in addition to providing the foregoing minimum limits must be endorsed to cover liability assumed by the contractor under Contract Documents. In order to assure the owner protection against all claims and liabilities based upon acts or omissions of the owner, the contractor shall either add owner as an additional insured under the contractor's comprehensive general protective liability policy or purchase an owner's protective liability policy naming the owner as insured there under with the minimum limits being in the same amounts as specified above the contractor's comprehensive liability insurance policy.

1.22 AUTOMOBILE INSURANCE

- A. The automobile insurance policy furnished by the contractor, including coverage for residual liability in the amount specified above, must provide coverage for all owned, non-owned, and hired vehicles used by the contractor in the work performed under the contract documents.

1.23 ADDITIONAL INSURANCE REQUIREMENTS

- A. The contractor shall procure and maintain at their own expense and without expense to the owner until final acceptance by the owner of the work covered by the contract, liability insurance for damages imposed by the law of the kinds and in the amount hereinafter provided, in insurance authorized to do such business in Iowa covering all operations under the contract whether performed by this contractor or by their subcontractors.
- B. Before commencing the work, the contractor shall furnish to the owner certificate(s) of insurance in a form satisfactory to the owner showing that the contractor has complied with this paragraph, which certificate of certificates shall not be changed or canceled until 30 days written notice has been given to the owner, its' officers or agents from and against all other causes arising out of or from the performance of this contract and to save them harmless there from.

1.24 EMPLOYEE PARKING

- A. Construction vehicles will be determined at the preconstruction meeting.
- B. Construction employee parking will be only in restricted areas as directed by the owner and shall comply with the owner's parking regulations.
- C. Contractor shall not obstruct traffic flow unless this is coordinated with the owner for location and time.

1.25 PERMITS AND INSPECTIONS

- A. The contractor shall obtain and pay for necessary municipal inspections and permits as required to make tests and inspections as called for by the regulations of such authorities.
- B. The contractor shall obtain and pay for necessary municipal inspections and permits as required and make tests and inspections as called for by the regulations of such authorities.

1.26 PRE-BID MEETING

- A. A pre-bid meeting will be held February 25, 2026 at 8:00 am. All interested electrical prime contractors should attend this meeting on site at 8325 N E University Ave, Pleasant Hill, IA 50327

1.27 SUBCONTRACTORS AND MAJOR MATERIAL SUPPLIERS

- A. Contractor shall submit list of subcontractors and major suppliers with the bid proposal.

1.28 HAZARDOUS MATERIALS

- A. At no time shall any product containing asbestos be incorporated into the work.
- B. It shall be the contractor's responsibility to become familiar with locations of asbestos in the area of work. The contractor shall not disturb known asbestos materials and will be responsible for any disturbances of asbestos that is caused intentionally or accidentally by this contractor's work.
- C. If any asbestos containing materials are encountered on any of the piping or materials to be removed, the contractor shall immediately notify the owner. The owner will abate hazardous materials. Work shall be phased as noted on the construction documents.

1.29 PROJECT COORDINATION

- A. Coordinate various elements of the work and entities engaged to perform work and coordinate the work with existing facilities/conditions and with work by separate contracts and by the owner.

1.30 AS BUILT DRAWINGS

- A. The prime contractor and each major subcontractor shall provide and maintain in proper order and in good clean condition at the field office of this project one complete set of prints. On this set, with red ink, neatly inscribe all changes in the work including relocation and type of partitions, walls, doors, electrical, plumbing, heating, ventilation, air conditioning services, and equipment.
- B. At time of final acceptance and prior to final payment present these corrected prints to the owner.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

NOT USED

END OF SECTION

**SECTION 00 2113
INSTRUCTIONS TO BIDDERS**

PART 1 GENERAL

1.01 INSTRUCTIONS

- A. "Instructions to Bidders" shall be AIA Document A701, 2018, Article 1 through 8 inclusive, by the American Institute 1735 New York Ave NW, Washington DC 20006 is hereby made to govern and accompany the drawings, specifications, and the following Supplementary Instructions to Bidders. However, the Supplementary Instructions to Bidders shall take precedence over and modify any statements of the AIA forms. Although AIA Document A701, 2018 is not bound in these specifications, the document is considered inclusive by reference and as modified by the Supplementary Instructions to Bidders hereafter.

END OF SECTION

**SECTION 00 2114
SUPPLEMENTARY INSTRUCTIONS TO BIDDERS**

PART 1 GENERAL

1.01 SCOPE

- A. The following Supplementary Instructions to Bidders shall be intended to modify and expand the referenced Instructions to Bidders and they shall take precedence over any statements of the AIA Document A701 forms. The article and paragraph of the AIA Document which the supplementary statement refers to is so noted. Where any part of the AIA, A701, Instruction to Bidders is modified, the unaltered provisions of that part shall remain in effect.

1.02 ARTICLE 3 BIDDING DOCUMENTS (3.1.5)

- A. List of Drawings and Specifications
 - 1. Drawings: All drawings are all branch sets. A set of drawings consists of the sheets noted in the Sheet Index on E0.0.
 - 2. Specifications: Division 00, 01, 26.
- B. All bidders will receive index specification headings in addition to the specific headings listed below:
 - 1. Title Sheet
 - 2. Index
 - 3. Invitation to Bid
 - 4. Instructions to Bidders
 - 5. Supplementary Instructions to Bidders
 - 6. Form of Proposals.
 - 7. General Conditions.
 - 8. Supplementary General Conditions.

1.03 PLAN AND SPECIFICATION ON FILE

- A. Bidding documents may also be examined at the following locations:
 - 1. Owner: Southeast Polk Community School District 8031 NE University Avenue, Pleasant Hill, IA 50327
 - 2. MODUS, 130 E. 3rd Street, Suite 300, Des Moines, IA 50309
 - 3. Master Builders 221 Park Street, Box 695, Des Moines, IA 50306
 - 4. Beeline and Blue, 2507 Ingersoll Ave, Des Moines, IA 50312

1.04 INQUIRIES

- A. All inquiries are to be direct to Adam Vander Helm at MODUS avanderhelm@modus-eng.com (e-mail) 130 E. 3rd Street., Suite 300, Des Moines, IA; 515-251-7280(phone).
- B. Replies which revise the bidding documents will be issued to all bidding document holders of record as an addenda to the bidding documents and will become a part of the Contract. The engineer and owner will not be responsible for oral clarifications.

1.05 INTERPRETATION OF THE CONTRACT DOCUMENT (3.2.4)

- A. In the event that any questions shall arise after the letting of the contract, respecting the true meaning of the drawings and specifications, the matter shall be referred to the engineer, whose decision shall be conclusive upon all parties to the contract. No advantage shall be taken of any manifest errors or omissions which affect the submitted bid.

1.06 APPROVAL OF SUBSTITUTIONS (3.3.3)

- A. Approval to bid any material other than the specified products and any listed pre-approved substitutions must be requested by the supplier, in writing. If approved, the engineer will submit the approval on an addendum. The requesting letter must be received by the engineer no less than 7 days prior to the bid date. Any materials not so

approved will not be permitted on the project. This also applies to subcontractors, which must be approved prior to the bidding when so specified.

1.07 BID SECURITY (4.2.1)

- A. Modify Subparagraph 4.2.1 as Follows:
 - 1. Bid Security will be required as stipulated in the Advertisement for Bids and Notice to Contractors, and if Bid Bond is used shall be as specified in Instructions to Bidders A701, 4.2.2. Bid security shall be submitted in a separate envelope than the proposal form under the letterhead of the Contractor. The envelope shall have typed on its face the following identification: Bid Security for the Southeast Polk CSD Junior High School Lighting Replacement project.

1.08 BIDS

- A. 4.3.1. Identification of Proposal: Proposal shall be submitted in a single envelope under the letterhead of the Contractor. The envelope shall have typed on its face the following identification: Proposal for the Southeast Polk CSD Junior High School Lighting Replacement project.
- B. 4.3.2. Submission of Bid: Bid shall be mailed or delivered to the secretary of the owner on the Form of Proposal (or copy) so as to reach its destination prior to time set for bidding.
- C. 4.4.1. Withdrawal of Bid: No bidder may withdraw their bid for a period of 30 days after the date and hour set for opening of bids.
- D. 4.4.5. Special Notice: Bidders are hereby given notice to check carefully the accuracy and arithmetic of their bids before submission. Errors in bids will result in rejection of the bid and be awarded to the next low bidder and disposition of Bid Security is at the discretion of the owner.

1.09 ARTICLE 5 CONSIDERATION OF BIDS

- A. 5.1.2. Standard of Bidding Procedures: Bidding and award procedures will be conducted according to the latest edition of "Manual of Recommended Procedure for Competitive Bidding and Award of Building Contracts" as prepared by Construction Council of Iowa (C.C.I).
- B. 5.3.1 Acceptance of Bids: Bids will be acted upon at the time of bidding or at such subsequent time as the owner may decide within the time limit stated in S.I.B. 4.4.1 above.

1.10 ARTICLE 6 POST-BID INFORMATION

- A. 6.1.2. Qualification of Bidders: Submission of the proposal for this work shall constitute assurance that the contractor is qualified and will be able to furnish all of the requirements of this contract, including bonds, guarantees, insurance, and related items as required and herein set out.

1.11 ARTICLE 7 PERFORMANCE BOND AND PAYMENT BOND

- A. 7.3. Bond: Bond under this contract will be required according to 7.1.1. Furnishing the Bond shall be executed within 14 days of the Notice of Award of Contract. The Bond shall continue for twelve (12) months from the day on which final payment under the contracts falls due and shall be written on AIA Document A312, 2010 edition. Contractor shall deliver a bond in the full amount (100%) of the contract sum concurrently with the signed Agreement.

1.12 ARTICLE 8 FORM OF AGREEMENT (8.1)

- A. Form of Contract: If the contractor is notified of the acceptance of this proposal, the contractor agrees to execute a contract for the work for the stated compensation in the form of the AIA Standard Form of Agreement Between Contractor and Owner for Construction, AIA Document A101, 2017 Edition. Sample copy on file at the engineer's

office. The low bid contractor shall execute the signed agreement within 14 days of the Notice of Award of Contract.

PART 2 PRODUCTS

2.01 NOT USED

PART 3 EXECUTION

3.01 NOT USED

END OF SECTION

**SECTION 00 2115
FORM OF PROPOSAL**

1.01 PROJECT

- A. Southeast Polk CSD Junior High School Lighting Replacement

1.02 BID DATE

- A. March 6, 2026, at 11:00am
- B. Submit bid in duplicate with Bid Security attached in a separate envelope.

1.03 OWNER/BOARD MEMBERS

- A. The undersigned contractor, being familiar with the proposed project, local conditions affecting the cost of the work, the Bidding and Contract Documents, including Instructions to Bidders, Form of Proposal, General and Supplementary Conditions, Specifications, Form of Contract, Form of Bond, Drawings, Addenda and Exhibits issued and attached to the drawings and project manual on file in office of MODUS, 130 E. 3rd Street, Suite 300, Des Moines, IA 50309 and the office of Southeast Polk Community School District 8031 NE University Avenue, Pleasant Hill, IA 50327 having visited the premises of the work to inspect and determine the extent of the work, hereby proposes to complete all work in connection with the (General) (Electrical) construction contract for Southeast Polk CSD Junior High School Lighting Replacement project in the best possible manner in accordance with the Contract Documents prepared by MODUS Engineering.

1.04 DOCUMENTS

- A. Invitation to Bid
- B. Instructions and Supplementary Instructions to Bidders
- C. General and Supplementary General Conditions
- D. Proposal Bid Form properly executed with Bid Security and/or other Supplementary Forms.
- E. Plans and Specifications
- F. Addenda:
 - 1. Addendum #1, Dated: _____
 - 2. Addendum #2, Dated: _____
 - 3. Addendum #3, Dated: _____
 - 4. Addendum #4, Dated: _____
 - 5. Addendum #5, Dated: _____
- G. (Contractor to insert date of each Addenda received)

1.05 AGREEMENTS

- A. In submitting this proposal, the contractor agrees to the following stipulations:
 - 1. The bid is in full compliance with the Contract Documents.
 - 2. Accompanying this proposal is the Bid Security (Bid Bond, Certified Check, Certified Share Draft, Cashier's Check or Cash) required to be furnished by the Contract Documents, the same being subject to forfeiture in the event of default by the undersigned in accordance with the terms of the specifications.
 - 3. In submitting this bid it is understood that the right is reserved by the owner to reject minor bids and waive all informalities and irregularities in connection therewith, if the same is judged to be in the best interest of the owner.
 - 4. Payment shall be received for services as set forth in the Contract Documents.
 - 5. Shall execute a Contract and present Bonds within ten (10) days after formal written notice of award for the above stated compensation.

6. Shall execute and pay premium on and deliver to the Owner's representative satisfactory bonds in the form stated. The bonds shall be in the full amount of the contract price, extending from the date of final completion to a date two (2) years later than the date of final completion.
7. Shall furnish all insurance certifications before entering or starting work at the site.
8. Iowa Sales Tax and applicable Local Option Sales Tax shall NOT be included in the Bid.
9. Contract date will be on or after the bidding date, and Contractor will be required to hold valid all terms of the proposal.
10. The requirements of the Instructions to Bidders will be adhered to.
11. If the undersigned is notified of the acceptance of this proposal, they agrees to execute a contract for the above work, for the below stated compensation in the form prescribed in Article 8.2 of the Supplementary Instructions to Bidders.
12. The Bid will not be withdrawn for thirty (30) days after the opening thereof.
13. The undersigned agrees, if awarded the contract and required by Article 7 to execute and deliver to the owner prior to the signing of the agreement, a satisfactory bond in the form set out in Paragraph 7.3 of the Supplementary Instructions to Bidders.
14. To include in the bid all other taxes lawfully assessed against the contractor or company in connection with the work included herein. SEE: SUPPLEMENTARY GENERAL CONDITIONS, Part 3.6.2. TAXES.
15. To include in the bid all other taxes lawfully assessed against the contractor or company in connection with the work included herein. SEE: SALES AND USE TAX
16. The undersigned agrees, if awarded the contract, to have the work substantially completed on or before the _____ day of _____, 2026. (Contractor to insert the estimated completion date.)

1.06 PROPOSAL

- A. Having carefully examined the contract documents as well as the premises and conditions affecting the work, the undersigned hereby proposes to furnish all labor and materials to complete the general contract requirements of the project in accordance with said documents for the sum of:
- B. _____
 _____ DOLLARS (\$ _____)
- C. BASE BID

RESPECTFULLY SUBMITTED,

PERSON, FIRM OR CORPORATION BIDDER

COMPANY NAME:

BY: _____

(Signature of Authorized Person)

BY: _____

(Print Name of Authorized Person) (Title)

Date: _____

Business Address: _____

City, State, Zip Code: _____

Telephone number: _____

Iowa Contractor License Number: _____

END OF SECTION

**SECTION 00 7200
GENERAL CONDITIONS - AIA**

PART 1 GENERAL

1.01 GENERAL CONDITIONS

- A. General Conditions for the Contract for Construction shall be AIA Document A201 2017 edition by the American Institute of Architects, 1735 New York Avenue, Northwest, Washington D.C. are hereby made to govern the accompanying drawings and specifications, except that the accompanying Supplementary General Conditions shall take precedence over and modify, delete, and/or add to any statements of the AIA forms.
- B. Although AIA Document A201, 2017 is not bound in these specifications, the document is considered inclusive by reference and as modified by the Supplementary General Conditions hereafter. A copy of the General Conditions is available at this office and can be purchased for a \$3.00 cost as required by the AIA.

END OF SECTION

**SECTION 00 7300
SUPPLEMENTARY GENERAL CONDITIONS – ARTICLE 15**

PART 1 GENERAL

1.01 SCOPE (15.1)

- A. The following Supplementary General Conditions shall be intended to modify and expand the referenced General Conditions and they shall take over any statements of the AIA documents. The article and paragraph of the General Conditions which the supplementary statements refer to is so noted.
- B. Delete the last sentence in paragraph 1.1.1., of the CONTRACT DOCUMENTS, and replace with the following: "The Contract Documents do include other documents such as bidding requirements (Notice to Contractors, Instructions to Bidders, Form of Proposal, sample forms and addenda relating to bidding requirements)."

1.02 OWNER (2.1.1.1)

- A. Owner shall mean: Southeast Polk CSD

1.03 DEFINITIONS (3.1.1.1)

- A. All references to the "Contractor", etc in this specification shall mean the prime general contractor and shall be included as part of the prime contractor's work if it occurs in the specifications issued under the scope of the prime contractor's work, unless specifically state otherwise. See "Supplementary Instructions to Bidders" 3.1.5 for documents under the prime contractor's work.

1.04 MANUFACTURER'S DIRECTIONS (3.4.1.1)

- A. All manufactured articles, materials, and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned as directed by the manufacturer. Manufacturer's specifications including installation shall govern, unless these specifications are in conflict, in which case the more restrictive requirements shall be met.

1.05 RESPONSIBILITY (3.5.2)

- A. The general contractor shall assume responsibility for the building until such time as final acceptance by the owner. The contractor shall assume responsibility for protecting the work as completed on the site. Each contractor is responsible for their own work.

1.06 TAXES (3.6.2)

- A. As this is a tax exempt entity, the contractors are not required to pay sales tax on building materials.
- B. Contractor's proposal shall include any sales or occupational tax or use tax to be levied.
- C. It shall be the responsibility of the contractor and their subcontractors and suppliers to pay all federal, state, or other taxes including Iowa sale and/or use tax on all supplies and materials used in and made a part of the work and on all equipment incorporated into and made a part of this project.
- D. It shall be the responsibility of the contractor and their subcontractors to pay sale tax on items only that do not become part of the realty being constructed. Examples include: barricades, building equipment*, compressors, cranes, drill press, dynamite, electric generators, forms, fuel, hand tools, lathes, lodging, machinery, pile drivers, replacement parts for equipment, scaffolds, stakes, tools, utilities, vehicles (including grading, lifting and excavating vehicles), and warning lights.
 - 1. Machinery or other equipment that remain tangible personal property rather than becoming part of real property may be purchased by the contractor tax free for

resale. HOWEVER, it must be separately itemized and transferred to the exempt entity.

2. The rental of construction equipment for use on or in connection with new construction, reconstruction, alteration, expansion or remodeling of a building or structure is exempt from Iowa sales or use or use tax.
 3. Certain construction related equipment is not subject to local option tax but remains subject to the state sales tax. See Rule 701-107.9 for details.
- E. Although the owner is a tax exempt body, the contractor and their suppliers and subcontractors shall include in the bid the Iowa sales tax and shall pay the tax to the appropriate state. The owner will file and receive the refund of taxes at completion of this project.
- F. The owner will provide to the successful contractor the required authorization letter and exemption certificate. The contractor shall then forward these items to the subcontractor.

1.07 IOWA SALES TAX

- A. Bidder shall include all Iowa Sales and Service Tax.

1.08 IOWA SALES TAX REFUND TO OWNER

- A. It will be a part of the contractor's work to submit, upon completion of this project, such information as is necessary to enable the owner to request refund of taxes for materials and supplies refundable to the owner per Iowa Code #422.45(7). Proper forms (Iowa Department of Revenue Form #35-002/CPD-7102-Contractor's Statement) for this information will be provided the contractor for submission with final estimate. Any and all refunds accrue to the owner.
- B. The contractor shall provide to the owner an itemized listing of all material purchase amounts and the associated Iowa Sales tax and Local Option Tax eligible for refund by the State. These amounts shall be documented on Iowa Department of Revenue and Finance form No. 35-003 and provided to the owner at the conclusion of the project.

1.09 INCOME TAX

- A. The successful bidder is subject to payment of Iowa Income Tax in amount prescribed by law. If the successful bidder is a non-Iowa partnership, individual or association, the bidder shall furnish evidence prior to the execution of the Contract that bond of securities have been posted with the Iowa State Revenue Department in the amount required by law.

1.10 CONSTRUCTION PERMITS (3.7.1)

- A. "The contractor" referred to in this paragraph shall mean the General Contractor including the electrical and any subcontractor's costs.

1.11 BUILDING CODE (3.7.2.1)

- A. All construction under this contract shall conform to the requirements of the local authority. The provisions of the International Building Code (current version) as adopted and amended by the local authority shall be strictly followed. Local planning and zoning regulations, ordinances, and requirements shall be followed as adopted.

1.12 EQUAL EMPLOYMENT OPPORTUNITY (3.7.2.2)

- 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, creed, color, religion, natural origin, sex, age, or physical or mental disability. The contractor will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, creed, color, religion, national origin, sex, age or physical or mental disability except where it relates to a bona fide occupational qualification. Such action shall include but not be limited to the following:

employment, upgrading, demolition or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

2. The contractor will, in all solicitation or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, religion, national origin, sex, age or physical or mental disability except where it relates to a bona fide occupational qualification.
3. The contractor will send to each labor union or representative of workers with which has a collective bargaining agreement or other contract or understanding a notice advertising the labor union or workers' representative of the contractor's commitments under this nondiscrimination clause and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. The contractor will comply with all relevant provisions of the Iowa Civil Rights Act of 1965 as amended, Iowa Executive Order #15 of 1973, Federal Executive Order 11246 of 1965 as amended by Federal Executive Order 11375 of 1967, the Equal Employment Opportunity Act of 1972, and all federal, state and local provisions relevant to fair employment.
5. In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the aforesaid rules, regulations or request, this contract may be cancelled, terminated or suspended in whole or in part and the contractor may be declared ineligible for further contracts with the owner. In addition, the owner or institutions may take such further action, and such other sanctions may be imposed and remedies invoked, as provided by the Iowa Civil Rights Act of 1965 as amended, Chapter 601A, Code of Iowa 1973, as heretofore and hereafter amended or as otherwise provided by law.
6. The contractor will include the provisions of paragraphs one through five hereof in every subcontract and purchase order unless specifically exempted by the owner, in accordance with the rules and regulations of the owner, so that such provisions will be binding on each subcontractor and vendor. The contractor will take such action with respect to any subcontractor or purchase order as the owner or the authorized representative thereof, may direct as a means of enforcing such provisions including sanctions for noncompliance; provided, however, that in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the contractor may request the owner to enter into such litigation to protect the interests of the State of Iowa.

1.13 SHOP DRAWINGS

- A. The contractor shall submit to the engineer one (1) electronic copy for review and distribution. The engineer will keep an electronic copy.
- B. Upon completion of the project the contractor will submit a complete set of "As-Built" drawings (include all updates/changes/corrections, etc from all contractors) to the Engineer.

1.14 ALLOWANCES (3.8.4)

- A. See individual specification sections for any allowance that may apply to this contract.

1.15 ARCHITECT (4.1.1.1)

- A. Architect shall mean the engineering firm of MODUS, 130 E. 3rd Street, Suite 300, Des Moines, Iowa 50309.

1.16 MECHANICAL/ELECTRICAL CONSULTANT (4.1.1.2)

- A. Same as architect in this contract.

1.17 REQUIRED OBSERVATIONS (4.2.2.1)

- A. Throughout the plans and specifications, observations are called for by the engineer at certain stages of construction. The contractor may not cover the work and to do so will require removal of all work covering the work to be reviewed. The contractor shall notify the engineer at least one day prior to the time they will have to proceed with the work. The engineer agrees to visit the site within that time, or the contractor may proceed with the work if the engineer fails to do so.

1.18 EXTRA SERVICE OF THE ARCHITECT (4.3.9.1)

- A. If due to the neglect or fault of the contractor damage is done to any existing building or grounds or work in place so that additional work is caused the engineer over and above their normal duties or if the contract time exceeds the time specified by more than 25%, it shall be the contractor's responsibility to reimburse the owner for these extra services of the engineer caused by the contractor's neglect or work. This charge is based on two-and one-half times the per hour rate for draftsmen and principals, plus allowable current IRS automobile mileage reimbursement rate.

1.19 MEDIATION (4.5.1.1)

- A. This contractor further agrees to include a similar mediation provision in all agreements with independent contractors, subcontractors, suppliers and /or fabricators who are providing work for this contractor for this project.

1.20 AWARD OF SUBCONTRACTS (5.2.1.1)

- A. No payments will be approved until subcontractors and suppliers list has been submitted and approved.

1.21 WORK NOT INCLUDED (6.1.5)

- A. All items herein specifically stated as being by other than this contractor or by others who are not included in the contractor's work, and all items designated N.I.C. or "by others" on the drawings are not a part of this contractor's work.

1.22 CHANGE ORDERS (7.2.3)

- A. The form used to process a change order will be AIA Document G701. Contractor is responsible for this form and its contents.

1.23 DATE OF ENCLOSURE

- A. The term "date of enclosure" shall mean the date agreed to by all prime contractors, the owner, and Engineer when the building will be enclosed, sealed from the weather, and the heating system operable.

1.24 WORK DURING COLD WEATHER (8.3.1.1)

- A. It will not be required of the contractor to continue work on the project through cold weather. The contractor shall protect all work from freezing, etc. Any work damaged by freezing and thawing will be removed and replaced by the contractor responsible. No time extension will be allowed for shut down in cold weather, unless the contractor can substantiate unusual prolonged extreme weather by weather bureau records.

1.25 SCHEDULE OF VALUES (9.2.2)

- A. Within 14 days after contract award, a Schedule of Values shall be submitted and again at the closeout of the project. The Schedule of Values shall be listed according to the specification sections herein with each major line item identified by the specification section number. List sub values of major products or operations under the item. Each item shall be further subdivided for material cost (including shipping and taxes) and labor cost listed separately. Within 10 days after submitting the Schedule of Values, each separate prime contractor shall submit a schedule of payment sums, by month, for the duration of the project.

1.26 OCCUPATIONAL SAFETY AND HEALTH ACT (10.2.2.1)

- A. Nothing herein specified or shown on the drawings to the contrary shall relieve the contractor of any obligations concerning conformance to current requirements of the Occupational Safety and Health Act as pertains to this project.

1.27 HAZARDOUS WASTE OR TOXIC SUBSTANCES (10.3.1.1)

- A. Friable Asbestos: No friable asbestos work of any nature is included in this contract.
- B. Concealed Hazardous or Toxic Substances: No hazardous or toxic substances knowingly exist on the project site.
- C. If during the construction of this project, work involving friable asbestos or hazardous or toxic substances is suspended, or encountered, the owner or the owner's representative shall be notified immediately and the owner with their own forces or by separate contract shall be solely responsible for selection and complete investigation, removal, and disposition of the friable asbestos hazard by appropriate licensed parties in full accordance with any and all applicable laws and regulations.
- D. The engineer and contractor shall be indemnified and held harmless from all claims and costs incurred in defending claims based on hazardous waste or toxic substances discovered at the project site. The Engineer is not responsible for any failure to discover any hazardous waste or toxic substances not specifically indicated in the contract documents.
- E. If the contractor claims that delay or additional cost is involved because of such action by the owner, the contractor shall make such claim immediately as provided elsewhere in the contract documents.

1.28 WORKER'S COMPENSATION INSURANCE (11.1.1.1)

- A. The contractor shall purchase and maintain Worker's Compensation including \$100,000.00 Employers Liability Coverage, Statutory for State and Statutory for applicable Federal.

1.29 LIABILITY INSURANCE (11.1.2.1)

- A. INSURANCE REQUIREMENTS
 - 1. LIMITS
 - 2. 18.1.1 The insurance required by AIA contract subparagraph 11.1.1 shall be written for not less than the amounts listed in the following subsections.
 - 3. 18.1.2 Worker's Compensation
 - a. State.....Statutory
 - b. Applicable Federal (e.g., Long Shoremans).....Statutory
 - c. Employer's Liability.....\$200,000.00
 - 4. 18.1.3 Comprehensive General Liability (including Premises-Operations, Independent Contractor's Protective: Products and Completed Operation Board From Property Damage).
 - a. Bodily Injury
 - 1) Each Occurrence.....\$500,000.00
 - 2) Annual Aggregate.....\$1,000,000.00
 - (a) Property Damage
 - (1) Each Occurrence.....\$250,000.00
 - (2) Annual Aggregate.....\$500,000.00
 - 5. 18.1.4 Contractual Liability
 - a. Bodily Injury
 - 1) Each Occurrence.....\$1,000,000.00
 - (a) Property Damage
 - (1) Each Occurrence..... \$100,000.00
 - (2) Annual Aggregate..... \$200,000.00
 - 6. 18.1.5 Personal injury with employment exclusion deleted:

- a. Annual Aggregate..... \$1,000,000.00
 - 7. 18.1.6 Completed Operation and Products Liability shall be maintained one year after final payment.
 - 8. 18.1.7 Property Damage Liability Insurance shall include coverage for the following hazards:
 - a. X (Explosion)
 - b. C (Collapse)
 - c. U (Underground)
 - 9. 18.1.8 Comprehensive Automobile Liability
 - a. a. Bodily Injury
 - 1) Each Person.....\$500,000.00
 - (a) Each Occurrence \$1,000,000.00
 - (b) Property Damage
 - (1) Each Occurrence.....\$250,000.00
 - 10. 18.1.9 If an exposure exists, Aircraft Liability (owned and non-owned) and Watercraft Liability (owner and non-owned) with limits approved by the owner shall be provided.
 - 11. 18.1.10 The contractor shall carry insurance in addition to that specifically named above as follows:
 - a. Coverage and Amount\$ (see sub article 18.1.3)
- B. REVISE AIA CONTRACT SUBPARAGRAPH 11.3.1 AS FOLLOWS:**
- 1. Until the work is completed by the contractor and accepted by the owner. The owner shall purchase and maintain property insurance upon the entire work at the site to the full insurable value thereof.
- C. COMPREHENSIVE GENERAL LIABILITY**
- 1. Liability Insurance may be arranged by Comprehensive General Liability and Comprehensive Automobile Liability for the full limits required or by a combination of underlying comprehensive policies for less limits with the remaining limits provided by an excess of Umbrella Liability Policy in the amount of \$1,000,00.00.
 - 2. The contractor's comprehensive general liability policy in addition to providing the foregoing minimum limits must be endorsed to cover liability assumed by the contractor under Contract Documents. In order to assure the owner protection against all claims and liabilities based upon acts or omissions of the owner, the contractor shall either add owner as an additional insured under the contractor's comprehensive general protective liability policy or purchase an owner's protective liability policy naming the owner as insured there under with the minimum limits being in the same amounts as specified above the contractor's comprehensive liability insurance policy.
- D. AUTOMOBILE INSURANCE**
- 1. The automobile insurance policy furnished by the contractor, including coverage for residual liability in the amount specified above, must provide coverage for all owned, non-owned, and hired vehicles used by the contractor in the work performed under the contract documents.
- E. ADDITIONAL INSURANCE REQUIREMENTS**
- 1. The contractor shall procure and maintain at their own expense and without expense to the owner until final acceptance by the owner of the work covered by the contract, liability insurance for damages imposed by the law of the kinds and in the amount hereinafter provided, in insurance authorized to do such business in Iowa covering all operations under the contract whether performed by this contractor or by their subcontractors.
 - 2. Before commencing the work, the contractor shall furnish to the owner certificate(s) of insurance in a form satisfactory to the owner showing that they have complied with this paragraph, which certificate of certificates shall not be

changed or canceled until 30 days written notice has been given to the owner, its' officers or agents from and against all other causes arising out of or from the performance of this contract and to save them harmless there from.

F. BUILDER'S RISK (11.3.1.1)

1. "The owner shall purchase and maintain property insurance upon the entire work at the site to the full insurable value thereof. This insurance shall include the interests of the owner, the contractor, the subcontractors and sub-subcontractors and shall include the "Special" covered causes of loss, insurance for physical loss or damage." The contractor will be named and furnished a copy of the coverage at the beginning of the project.

END OF SECTION

**SECTION 01 1100
SUMMARY OF WORK**

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general construction provisions of the Contract including common sections and other divisions and sections of the specifications to which the products, materials, and systems specified herein are attached, supporting, protecting or related.

1.02 SUMMARY

- A. This section includes the following:
 1. Work covered by the contract documents.
 2. Type of the contract.
 3. Work phases.
 4. Work under other contracts.
 5. Products ordered in advance.
 6. Owner-furnish products.
 7. Use of premises.
 8. Owner's occupancy requirements.
 9. Work restrictions.
 10. Specification formats and conventions.

1.03 WORK COVERED BY CONTRACT DOCUMENTS

- A. Project Location: 8325 N E University Ave, Pleasant Hill, IA 50327
- B. Engineer: MODUS, 130 E. 3rd Street, Des Moines, IA 50309
- C. The Work Consists of the following: replacing light fixtures.

1.04 TYPE OF CONTRACT

- A. Project will be constructed under a single prime contract.

1.05 WORK PHASES

- A. The work shall be constructed under one phase.

1.06 WORK UNDER OTHER CONTRACTS

- A. Cooperate fully with separate contractors so work on those contracts may be carried out smoothly, without interfering with or delaying work under this contract. Coordinate the work of this contract with work performed under separate contracts.

1.07 USE OF PREMISES

- A. Limit use of premises to work in areas indicated. Do not disturb portions of project site beyond areas in which the work is indicated.
- B. Limits: Confine construction operations to the light fixture replacement spaces.

1.08 OWNER OCCUPANCY

- A. Allow for owner occupancy of project site and use by the public.
- B. Driveways and Entrances: Keep driveways and entrances serving premises clear and available to owner, owner's employees and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
 1. Schedule deliveries to minimize use of driveways and entrances.
 2. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
- C. Use of Existing Building: Maintain existing building in a weathertight condition throughout construction period. Repair damage caused by construction operations. Protect building and its occupants during construction period.

1.09 OWNER OCCUPANCY REQUIREMENTS

- A. Owner Occupancy: Owner will occupy site and and existing building during a portion of the construction period. Cooperate with owner during construction operations to minimize conflicts and facilitate owner usage. Perform the work so as not to interfere with owner's day-to-day operations. Maintain existing exits, unless otherwise indicated.
 - 1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from the owner and authorities having jurisdiction.
 - 2. Provide not less than 72 hours' notice to owner of activities that will affect owner's operations.

- B. Owner Occupancy of Completed Areas of Construction: Owner reserves the right to occupy completed areas of building, before Substantial Completion, provided such occupancy does not interfere with completion of the work. Such placement of equipment and partial occupancy shall not constitute acceptance of the total work.
 - 1. Architect will prepare a Certificate of Substantial Completion for each specific portion of the work to be occupied before owner occupancy.
 - 2. Obtain a Certificate of Occupancy from authorities having jurisdiction before owner occupancy.
 - 3. Before partial owner occupancy, mechanical and electrical systems shall be fully operational, and required tests and inspections shall be successfully completed. On occupancy, the owner will operate and maintain mechanical and electrical systems serving occupied portions of building.
 - 4. On occupancy, the owner will assume responsibility for maintenance and custodial service for occupied portions of building.

1.10 SHOP DRAWINGS

- A. The contractor shall submit to the engineer one (1) electronic copy for review and distribution. The engineer will keep an electronic copy.

1.11 WORK RESTRICTIONS

- A. On-Site Work Hours: Work shall be generally performed inside the existing building as needed Monday through Sunday. Building access shall be coordinated with the Owner for nights and weekend work.
 - 1. Hours for Utility Shutdowns: Coordinate with owner.

- B. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated.
 - 1. Notify owner not less than two days in advance of proposed utility interruptions.
 - 2. Do not proceed with utility interruptions without owner's written permission.

PART 2 PRODUCTS

2.01 NOT USED

PART 3 EXECUTION

3.01 NOT USED

END OF SECTION

**SECTION 01 3200
PROGRESS SCHEDULES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Format
- B. Content
- C. Schedule
- D. Submittals

1.02 RELATED SECTIONS

- A. Specification Section 01 1100 - Summary of Work
- B. Specification Section 01 1900 - Contract Considerations

1.03 FORMAT

- A. Prepare schedules as a horizontal bar chart with separate bar for each major portion of work or operation identifying first workday of each week.
- B. Sequence of Listings: The chronological order of the start of each item of work.
- C. Scale and Spacing: To provide space for notations and revisions.
- D. Sheet Size: Multiples of 8-1/2" x 11" paper.

1.04 CONTENT

- A. Show complete sequence of construction by activity with dates for beginning and completion of each element or area of construction,
- B. Identify each item by specification section number.
- C. Identify work of separate stages and other logically grouped activities.
- D. Provide subcontractor schedules for each stage of work identified in the specifications.
- E. Provide subcontractor schedules to define critical portions of the entire schedule.
- F. Show accumulated percentage of completion of each item and total percentage of work completed as of the first day of each month.
- G. Indicate delivery dates for owner furnished products.
- H. Coordinate content with Schedule of Values specified in Contract Considerations.

1.05 REVISION TO SCHEDULES

- A. Indicate progress of each activity to date of submittal and projected completion date of each activity.
- B. Identify activities modified since previous submittal, major changes in scope and other identifiable changes.
- C. Provide narrative report to define problem areas, anticipated delays, and impact on the schedule. Report corrective action taken or proposed and its effect.

1.06 SUBMITTALS

- A. Submit initial schedules within 15 days after date of Owner-Contractor agreement.
- B. Submit revised progress schedules with each Application for Payment.

1.07 DISTRIBUTION

- A. Distribute copies of reviewed schedules to project site file, subcontractors, suppliers, and other concerned parties.
- B. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in the Schedule.

PART 2 PRODUCTS

2.01 NOT USED

PART 3 EXECUTION

3.01 NOT USED

END OF SECTION

**SECTION 01 4000
QUALITY CONTROL**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Quality assurance and control of installation
- B. References
- C. Inspection and testing laboratory services
- D. Manufacturer's field services and reports

1.02 RELATED SECTIONS

- A. Specification Section 01 1600 - Materials and Equipment

1.03 QUALITY ASSURANCE/CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship to produce work of specified quality.
- B. Comply fully with manufacturer's instructions, including each step in sequence.
- C. Should manufacturer's instructions conflict with contract documents, request clarification from the engineer prior to proceeding.
- D. Comply with specified standards as a minimum quality for the work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform work by persons qualified to produce workmanship of specified quality.
- F. Secure products in place with positive anchorage devices designed and sized to withstand stress, vibration, physical distortion, or disfiguration.

1.04 REFERENCES

- A. Conform to reference standard by date of issue current on date of contract documents.
- B. When required by contract documents obtain copies of standards.
- C. Should specified reference standards conflict with contract documents request clarification from engineer before proceeding.
- D. The contractual relationship of the parties to the contract shall not be altered from the contract documents by mention or inference otherwise in any reference document.

1.05 INSPECTION AND TESTING LABORATORY SERVICES

- A. Contractor shall include and pay for inspections and testing.

1.06 MANUFACTURER'S FIELD SERVICES AND REPORTS

- A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start up of equipment, test, adjust and balance of equipment as applicable and to initiate instructions when necessary.
- B. Individuals are to report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to the manufacturers' written instructions.
- C. Submit report in duplicate within 30 days of observation to engineer for review.

PART 2 PRODUCTS

2.01 NOT USED

PART 3 EXECUTION

3.01 NOT USED

END OF SECTION

**SECTION 01 5000
CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. This section includes requirements for temporary utilities, support facilities, and security and protection facilities.

1.02 USE CHARGES

- A. General: Cost or use charges for temporary facilities shall be included in the Contract Sum. Allow other entities to use temporary services and facilities without cost, including, not not limited to, owner's construction forces, engineer, occupants of project, testing agencies, and authorities having jurisdiction.
- B. Electrical Power Service: Electric power from owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

1.03 QUALITY ASSURANCE

- A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electrical service. Install service to comply with NFPA 70.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

1.04 PROJECT CONDITIONS

- A. Temporary Use of Permanent Facilities: Installer of each permanent service shall assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before owner's acceptance, regardless of previously assigned responsibilities.

1.05 TELEPHONE SERVICE

- A. Provide, maintain, and pay for telephone service to field or use a cellular telephone.

1.06 PROTECTION OF INSTALLED WORK

- A. Protect installed work and provide special protection where specified in individual specification sections.
- B. Provide temporary and removable protection for installed products. Control activity in immediate work area to minimize damage.

1.07 PROGRESS CLEANING

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition
- B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces prior to enclosing the space.
- C. Broom and vacuum clean interior areas prior to start of surface finishing and continue cleaning to eliminate dust.
- D. Remove waste materials, debris and rubbish from site periodically and dispose off site.

1.08 REMOVAL OF UTILITIES, FACILITIES AND CONTROLS

- A. Restore existing facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Gypsum Board: Minimum 1/2" thick x 48" wide by maximum available lengths; regular type panels with tapered edges. Comply with ASTM C36/C 36M.

2.02 TEMPORARY FACILITIES

- A. Field Offices, General: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.

2.03 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated, with class and extinguishing agent as required by locations and classes of fire exposures.
- B. HVAC Equipment: Owner authorizes use of permanent HVAC system.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Locate facilities where they will serve project adequately and result in minimum interference with performance of the work. Relocate and modify facilities as required by progress of the work.
- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.02 TEMPORARY UTILITY INSTALLATION

- A. Install temporary service or connect to existing service.
 - 1. Arrange with utility company, owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
- B. Sanitary Facilities: Provide temporary toilets, was facilities, and drinking water for use of construction personnel. Comply with authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
- C. Electric Power Service: Provide electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations.
 - 1. Install electric power service overhead.
 - 2. Temporary service to owner's existing power source, as directed by the owner.
- D. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.
 - 1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.
 - 2. At each telephone, post a list of important telephone numbers:
 - a. Police and fire departments.
 - b. Ambulance service.
 - c. Contractor's home office.
 - d. Engineer's office.
 - e. Principal subcontractors' field and home offices.
 - 3. Provide superintendent with cellular telephone or portable two-way radio for use.

3.03 DISPOSAL OF WASTE

- A. Except for items or materials to be salvaged, recycled or otherwise reused, remove waste materials from project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
 - 1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

- B. Burning: Do not burn waste materials.
- C. Waste Disposal Facilities: Provide waste collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having .

3.04 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal.
 - 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24 hour basis where required to achieve indicated results and to avoid possibility of damage.
- C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.
- D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or not later than Substantial Completion. Complete, or if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
 - 1. Materials and facilities that constitute temporary facilities are property of contractor. The owner reserves the right to take possession of project identification signs.
 - 2. At Substantial Completion, clean and renovate permanent facilities used during construction periods. Comply with final cleaning requirements.

END OF SECTION

**SECTION 01 7000
CONTRACT CLOSEOUT**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. This section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Inspection procedures
 - 2. Warranties
 - 3. Final cleaning

1.02 CLOSEOUT PROCEDURES

- A. Submit written certification that Contract Documents

1.03 SUBSTANTIAL COMPLETION

- A. Primary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
 - 1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the work has not been completed.
 - 2. Advise the engineer of pending insurance changeover requirements.
 - 3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 4. Submit releases permitting owner unrestricted use of the work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 5. Prepare and submit project record documents, operation and maintenance manuals, damage or settlement surveys, and similar final record information.
 - 6. Deliver tools, spare parts, extra materials, and similar items to location designated by owner. Label with manufacturer's name and model number where applicable.
 - 7. Make final changeover of permanent locks and deliver key to the owner. Advise owner's personnel of changeover in security provisions.
 - 8. Complete startup testing of systems.
 - 9. Submit test/adjust, balance records.
 - 10. Terminate and remove temporary facilities from project site, along with mockups, construction tools, and similar elements.
 - 11. Advise owner of changeover in heat and other utilities.
 - 12. Submit changeover information related to owner's occupancy, use, operation, and maintenance.
 - 13. Complete final cleaning requirements, including touch up painting.
 - 14. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- B. Inspection: Submit a written request for inspection of Substantial Completion. On receipt of request, The engineer will either proceed with inspection or notify contractor of unfulfilled requirements. The engineer will prepare the Certificate of Substantial Completion after inspection or will notify contractor of items, either on contractor's list or additional items identified by architect that must be completed or corrected before certificate will be issued.
 - 1. Re-inspection: Request re inspection when the work identified in previous inspections as incomplete is completed or corrected.
 - 2. Results of completed inspection will form the basis of requirements for Final Completion.

1.04 FINAL COMPLETION

- A. Before requesting final inspection for determining date of Final Completion, complete the following:

1. Submit a final Application for Payment.
2. Submit certified copy of the engineer's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by the engineer. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
4. Instruction owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
5. All trailers, construction signs, unused, broken or demolition materials have been removed from the site and the premises returned to the original condition in the opinion of the owner and engineer.

1.05 WARRANTIES

- A. Submit written warranties for designated portions of the work where commencement of warranties other than date of Substantial Completion is indicated.
- B. Submit properly executed warranties within 15 days of completion of designated portions of the work that are completed and occupied or used by the owner during construction period by separate agreement with the contractor.
- C. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
 1. Bind warranties and bonds in heavy-duty 3-D ring, vinyl covered, loose leaf binders, thickness as necessary to accommodate contents, and sized to received 8-1/2" x 11" paper. Provide heavy paper dividers with plastic covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the project and the name, address, and telephone number of installer.
 2. Identify each binder on the front and spine with the type or printed title "WARRANTIES", project name, and name of contractor.
 3. Submit to the engineer for approval.
- D. Provide additional electronic copies of each warranty to include in operation and maintenance manuals.
- E. Items of work delayed beyond date of Substantial Completion, provide updated submittal within 10 days after acceptance, listing date of acceptance as start of warranty period.

PART 2 PRODUCTS

2.01 NOT USED

PART 3 EXECUTION

3.01 NOT USED

END OF SECTION

**SECTION 26 0050
BASIC ELECTRICAL REQUIREMENTS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Basic Electrical Requirements specifically applicable to Electrical Division Specification Sections.
- B. Division 26 Specification requirements also include, by reference, all Division 00 and 01 specification sections. This contractor is responsible to review these specification sections. Requirements of these specification sections are included as a part of this contract.
- C. Division 26 Specification requirements also include, by reference, Specification Section 08 7100 - Door Hardware. Review and inclusion of the electrical requirements of this specification section are included as a part of this contract.

1.02 OWNER OCCUPANCY

- A. The owner will not occupy the premises during the construction period.
- B. Limit use of site and premises to allow owner occupancy.
- C. Cooperate with the owner to minimize conflict and to facilitate owner's operations.
- D. Schedule the work to accommodate this requirement.

1.03 REGULATORY REQUIREMENTS

- A. This contractor shall give proper authorities all requisite notices relating to work in their charge, obtain official permits, licenses for temporary construction and pay proper fees for it.
- B. This contractor is to be solely answerable for and shall promptly make good all damage, injury or delay to other contractors, to neighboring premises or to persons or property of the public by themselves, by their employees or through any operation under their charge, whether in the contract or extra work.
- C. No attempt has been made to reproduce in these specifications any of the rules or regulations contained in city, state or federal ordinances and codes pertaining to the work covered by these specifications that the contractor be thoroughly familiar with all such ordinances and codes.
- D. The fact that said various rules, regulations and ordinances are not repeated in this specification does not relieve the contractor of the responsibility of making the entire installation in accordance with the requirement of those authorities having jurisdiction.
- E. All work shall comply with the applicable recommendations of:
 - 1. The National Board of Fire Underwriters
 - 2. The ANSI-NFPA 70 National Electrical Code
 - 3. The National Fire Protection Association (NFPA)
 - 4. The Occupations Safety and Health Act (OSHA)
 - 5. IBC Building Code (current) and any current applicable city building and or electrical codes.
 - 6. Fire Protection: Conform to International Fire Code (IFC) and NFPA.
 - 7. International Energy Conservation Code (IECC)
- F. Obtain permits and request inspections from authority having jurisdiction.
- G. Conform to latest approved versions of codes.

1.04 PROJECT/SITE CONDITIONS

- A. Install work in locations shown on drawings unless prevented by project conditions.

- B. Prepare drawings showing proposed rearrangement of work to meet project conditions, including changes to work specified in other sections. Obtain permission of owner and architect/engineer before proceeding.
- C. This contractor, before submitting their bid, shall visit the site of the project to familiarize themselves with locations and conditions affecting their work.
- D. It is the intent of this specification that the contractor furnish all labor and material required to complete the installation as outlined in the drawings and specifications. No additions to the contract price will be allowed due to the failure of this contractor to properly evaluate the effect of existing conditions on the work to be done under this contract.
- E. Whenever renovation or remodeling or relocation of existing equipment is included in the contract, it is imperative that all locations of existing wiring conduits, electrical panels, equipment, services and grades be noted on the job site before bid is submitted and that all elevations and grades be verified before roughing in new work.
- F. This contractor shall provide, as necessary, for the installation of their work and in accordance with materials other than the structure.

1.05 SEQUENCING AND SCHEDULING

- A. This contractor shall arrange their work in order that it progresses along with the general construction of the building.
- B. This contractor shall be kept informed as to the work of other trades engaged in the project and shall execute their work in such a manner so as not to delay or interfere with progress of other contractors.
- C. Where space for mechanical and electrical lines and piping is limited, it is imperative that all such trades coordinate their work so as to ensure concealment in space provided. Where conflict exists, the engineer shall decide priority of space. If work is not properly coordinated, the engineer may require removal and relocation of work without additional compensation.

1.06 GUARANTEE

- A. This contractor shall guarantee all of the apparatus, materials, equipment furnished, and labor installed under this contract for a period of one year after date of final acceptance, unless a longer period is specified.
- B. Neither final certificate of payment nor any provisions in the contract documents nor partial or complete occupancy of premises by owner shall constitute an acceptance for work not done in accordance with contract documents or relieve the contractor of liability in respect to any express warranties or responsibility for faulty materials or workmanship.
- C. Should any defects arise as the result of defective workmanship or material within the guarantee period set forth, this contractor shall make the necessary correction at their own expense.

1.07 ENGINEER APPROVED EQUAL PRODUCTS

- A. When the engineer, at the request of the interested parties, including the contractor, supplier and manufacturer approved "engineer approved equal" products for this project, such products are approved on the assumption that they will equal or exceed the performance of the products specified.
- B. If such products do not do so after being installed on this project, this contractor shall replace or modify the particular product as necessary to equal the performance of the products specified at no expense to the owner, architect or engineer.
- C. Request for "engineer approved equal" products shall be received by the architect/engineer prior to the last addendum being issued. Requests for substitutions received after this date will not be considered. Substitution requests shall clearly state

which products are being considered for substitution. Substitution requests shall include all pertinent product information needed to evaluate the substitution as an "equal".

- D. Similar products shall be all of the same manufacturers and style. There is no exception to this unless prior approval has been granted from engineer.

1.08 OWNER'S RIGHT OF SALVAGE

- A. Before beginning construction, the contractor shall check and verify with the owner each item of existing equipment that must be removed.
- B. The owner will designate which items of material or equipment not reused that they may wish to keep. The contractor shall then remove these items with care and store in a location designated by the owner for the owner's disposal.
- C. All other items of equipment to be removed and not specified for reuse in new construction or reserved by the owner for their use shall become the property of the contractor and shall be removed from the site.

1.09 PROTECTION AND MAINTENANCE

- A. Any work to be done in existing structures shall be coordinated with the owner and arrangements made so that traffic flow may be maintained and areas finished where possible before other areas are begun.
- B. This contractor shall protect existing equipment in finished areas from dirt, dust and damage as a result of their work.
- C. Coordinate protection requirements with department heads before beginning construction.
- D. Protect any building openings from unauthorized entry. Coordinate with owner where building entry must be controlled.

1.10 DEMOLITION

- A. This contractor shall be responsible for the demolition and removal of all existing electrical elements within the project area except as follows:
 - 1. Elements shown on the drawings as "existing to remain and/or to be reused".
 - 2. Elements serving adjacent areas.
 - 3. Elements required for the support of the newly remodeled areas.
 - 4. All elements to be removed are subject to the Owner's Right of Salvage.
- B. Preserve services to the existing facility. Extend/reroute/reconnect the existing systems as required providing for the continued function of these systems.

1.11 CUTTING AND PATCHING

- A. This contractor shall do all cutting and patching necessary for the installation of his work in all existing and new buildings unless otherwise noted.
- B. In areas where the integrity of new or existing fire separation assembly/wall is compromised by the work, this contractor shall be responsible to patch and/or seal openings as necessary to maintain and/or return fire separation to rating as required by applicable codes.
- C. This contractor shall do all cutting and patching required for his work beyond the remodeled areas unless otherwise noted. All finish work shall include patching to match existing adjacent surfaces. Painting shall be by others.

1.12 DAILY HOUSEKEEPING AND CLEANING

- A. At the end of each workday, the contractor shall remove all of their debris, rubbish, tools, and surplus materials from the project work area. The work area shall be broom cleaned and left in a neat and orderly condition. The contractor shall not use the owner's waste disposal facility for the removal of debris from the project.

- B. At end of construction, all equipment shall be cleaned and the premises left in first class condition as far as this contractor's work is concerned.

1.13 CLEANING AND RUBBISH

- A. This contractor, upon completion of their work, shall remove all rubbish and debris resulting from their operation and shall remove it from site at their own expense.
- B. As far as their work is concerned, all equipment shall be cleaned and the premises left in first class condition.
- C. This contractor shall maintain the work area each day to prevent hazardous accumulation of waste from their work.

1.14 SEALING AND PENETRATION

- A. Clearance around the piping passing through fire or smoke rated construction shall be sealed to maintain the rated integrity of the construction (1 hr. 2 hrs. etc.). One and two-hour rated assemblies are to be patched on both sides of the assembly.
- B. This contractor shall verify rating and location of all such construction with the architectural drawings and seal all penetrations.
- C. Manufacturer offering products to comply with the requirements include the following:
 - 1. Dow Corning "Silicone RTV Foam"
 - 2. 3-M Corporation "Fire Barrier Caulk and Putty"
 - 3. Thomas & Betts "Flame Safe Fire Stop System"
- D. Installation of these products are to be in strict accordance with the manufacturer's recommendations.

1.15 HAZARDOUS MATERIALS

- A. If this contractor stores any hazardous solvents or other materials on the site, they shall obtain copies of the safety data sheets for the materials and post them at the site. This contractor shall inform the owner and all employed of any potential exposure to this material.
- B. At no time shall any product containing asbestos be incorporated into the work.
 - 1. If asbestos materials are encountered, report to the owner. The owner will be responsible for asbestos removal.

1.16 ALTERNATES

- A. Refer to description of alternate bids under General Specification Sections.

1.17 REVIEW OF MATERIALS

- A. This contractor shall submit to the engineer for review one (1) electronic copy giving a complete list of materials, fixtures, devices and panels they propose to furnish. The brochure shall contain complete information as to the make of equipment, type, size, capacities, dimensions, and illustration. One of the returned copies shall be kept on the job at all times.
- B. Checking of submittal drawings by the engineer does not relieve the contractor of the responsibility for the accuracy of such drawings and for their conformity to drawings and specifications unless the contractor notifies engineer, in writing, of such deviation at time such drawings are furnished.
- C. All submittals shall have the date marked on them when the contractor receives them from the supplier. Submittals shall be submitted through the contractor and shall not come direct from the supplier to the architect or engineer.
- D. This contractor shall mark the date and sign each set. This indicates that each of them have been checked in their entirety before submitting to the engineer. Submittals that are not dated and signed by the contractor will not be accepted or checked and will be marked "resubmit" and sent back to the contractor.

1.18 TEST OF SYSTEMS

- A. This contractor shall, before concealed, test all systems installed under this contract as called for in these specifications and as required by local codes. Tests shall be made in the presence of the engineer, local authorities or their duly authorized representative. Any defects discovered in testing shall be corrected and the tests repeated until all defects are eliminated.
- B. This contractor shall be held responsible for all damage resulting from defects in the system.
- C. Each individual feeder circuit shall be tested at the panel and in testing for insulation resistance to ground; the power equipment shall be connected for proper operation. In no case shall the insulation resistance to ground be less than that required by the National Electrical Code (NEC).

1.19 SCOPE OF WORK

- A. This contractor shall furnish all the labor and material necessary to install a complete electrical system for the building. The system shall include all items of work as outlined in these specifications and on the drawings.
- B. All work shall be performed by a well-qualified, licensed electrician with a thorough knowledge of the various systems involved in this building. It shall be this contractor's responsibility to see that their employees are familiar with all the various codes and tests applicable to this work.
- C. All equipment shall be new and of the type specified by the engineer unless otherwise noted in these specifications or on the drawings to remain and or be reused.
- D. The intent of the specifications and drawings is for complete installation of the systems outlined in the specifications and drawings so that at the conclusion of construction the system will be turned over to the owner complete and ready for safe and efficient operation. The specifications and drawings cannot deal individually with the many minute items that may be eventually required by the nature of the systems.
- E. This contractor is required to furnish and install all such items normally included on systems of this type, which, while not mentioned directly herein or on the drawings are obviously essential to the installation and operation of the system and which are normally furnished on quality installation of this type.
- F. If there is a discrepancy between the drawings and the specifications or within either document, the more stringent requirement shall be estimated unless brought to the engineer's attention and an addendum is issued for clarification.

1.20 WALL CONTINUITY (1 HR.)

- A. All items mounted in 1 hr. rated walls requiring an opening larger than a four inch (4") square (16 sq. inches) require the 1 hr. rating not be degraded.
- B. Any branch panel in a 1 hr. wall will require the exterior of the recessed panel be covered with 5/8 inch fire rated gypsum board. This is true for any device requiring more than a 16 sq. inch opening.

1.21 LOW VOLTAGE CONDUIT INSTALLATION

- A. This contractor shall install conduit serving low voltage cables located in all mechanical rooms and non-accessible areas and exposed structural areas. Use cable trays in other areas as indicated on the drawings. Where cable trays are not accessible, use J-hooks equal to Caddy Cable CAT. Provide hooks with closure holes and cable ties. Mount hooks three foot (3') on center.
- B. This contractor shall install conduit sleeves serving low voltage cables through walls and floors.
- C. Refer to other specification sections for additional information.

1.22 TEMPORARY POWER AND LIGHTING

- A. Temporary electrical power and lighting necessary for the construction process is the responsibility of the electrical contractor and shall be included in the base bid amount.

1.23 EXTRA MATERIALS AND LABOR [RENOVATION PROJECTS ONLY]

- A. The electrical contractor shall include in their bid additional resources for the removal and installation of [10] existing junction boxes in order to maintain access upon completion of construction. Provide new wiring as necessary where length is insufficient to maintain a complete system. The relocation requests may occur anytime during the construction process as requested by the Owner or Design Team. Junction boxes may be associated with Divisions 26, 27 and 28.

1.24 ALLOWANCE

- A. Include a \$5,000.00 allowance in the bid amount for owner or engineer directed changes during the construction period. Changes shall be priced prior to proceeding with the work. Any amount left over at the conclusion of the project shall be deducted from the contractor's last payment application.

1.25 DIGITAL MEDIA AGREEMENT

- A. Computer Aided Drafting (CAD) documents may be available to the contractor for some uses. Contact the engineer prior to bidding to determine what information is available to be transmitted to the contractor in digital form.
- B. When documents are determined to be available, and as requested by the contractor, they will be transmitted upon the completion and execution of the MODUS digital media agreement. A service fee for each document transmitted will be assessed to the contractor. Documents will be transmitted upon payment receipt. Current service fee is \$100.00 per CAD sheet.

PART 2 PRODUCTS

2.01 NOT USED

PART 3 EXECUTION

3.01 NOT USED

END OF SECTION

**SECTION 26 0519
ELECTRICAL POWER CONDUCTORS AND CABLES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Building wire
- B. Wiring connectors

1.02 RELATED SECTIONS

- A. Specification Section 26 0553 - Identification for Electrical Systems
- B. Specification Section 26 2413 - Distribution Switchgear
- C. Specification Section 26 2416 - Panelboards
- D. Specification Section 26 2421 - Isolation Power Panelboards

1.03 REFERENCES

- A. NECA Standard of Installation (National Electrical Contractors Association)
- B. NETA ATS - Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems (International Electrical Testing Association)
- C. NFPA 70 - National Electrical Code
- D. Product Data: Provide for each cable assembly type.
- E. Test Reports: Indicate procedures and values obtained.
- F. Manufacturer's Installation Instructions: Indicate application conditions and limitations of use stipulated by product testing agency specified under Regulatory Requirements.

1.04 SUBMITTALS

- A. Project Record Documents: Record actual locations of components and circuits.
- B. Project Record Documents: Provide documentation of the manufacturer's recommended lug torque value for aluminum conductors, the date the lugs were torqued, and installed torque readings.

1.05 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years experience.

1.06 REGULATORY REQUIREMENTS

- A. Conform to NFPA 70.
- B. Furnish products listed and classified by Underwriters Laboratories Inc., as suitable for the purpose specified and indicated.

1.07 PROJECT CONDITIONS

- A. Verify that field measurements are as indicated.
- B. Wire and cable routing indicated is approximate unless dimensioned. Include wire and cable lengths within 10 foot of length shown.

1.08 COORDINATION

- A. Where wire and cable destination is indicated and routing is not shown, determine exact routing and lengths required.

PART 2 PRODUCTS

2.01 BUILDING WIRE

- A. Manufacturers:
 - 1. Okanite

2. Bell/Hubbell #BICC
 3. American Insulated Wire
 4. General Cable
 5. Southwire
 6. Encore Wire Corporation
 7. Engineer approved equal.
- B. Description: Insulated conductor wire.
1. All wire shall be stranded. Refer to Section 26 0553 Identification for Electrical Systems for conductor color requirements.
- C. Conductor:
1. Copper
- D. Insulation Voltage Rating: 600 volts.
- E. Insulation: NFPA 70, type #THHN/THWN-2. All cable installation procedures or sizing shall be based on 75 deg C temperature rating.

2.02 WIRING CONNECTORS

- A. Split Bolt Connectors:
1. Burndy
 2. Engineer approved equal.
- B. Spring Wire Connectors:
1. Thomas & Betts
 2. Engineer approved equal.
- C. Compression Connectors:
1. Burndy
 2. Thomas & Betts
 3. Engineer approved equal.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that interior of building has been protected from weather.
- B. Verify that raceway installation is complete and supported.

3.02 PREPARATION

- A. Completely and thoroughly swab raceway over two inch (2") in size or buried below grade before installing wire.

3.03 WIRING METHODS

- A. Concealed Dry Interior Locations: Use only building wire, type #THHN/THWN-2 insulation in raceway. Use type #NMC cable in residential areas where approved for use.
- B. Exposed Dry Interior Locations: Use only building wire, type #THHN/THWN-2 insulation in raceway.
- C. Above Accessible Ceilings: Use only building wire, type #THHN/THWN-2 insulation in raceway. Use type #NMC cable in residential areas where approved for use.
- D. Wet or Damp Interior Locations: Use only building wire, type #THHN/THWN-2 insulation in raceway.
- E. Interior Installations: Use only building wire, type #THHN/THWN-2 insulation, in raceway.
- F. Use wiring methods indicated.

3.04 INSTALLATION

- A. Route wire and cable as required meeting project conditions.
- B. Install cable in accordance with the NECA "Standard of Installation."
- C. Use conductors not smaller than 12 AWG for power and lighting circuits. Only pre-manufactured fixture whips are allowed to be 14 AWG.
- D. Use #10 AWG conductors for 20 ampere, 120 volt branch circuits longer than 75 feet.
- E. Use #10 AWG conductors for 20 ampere, 277 volt branch circuits longer than 300 feet.
- F. It shall be the responsibility of the electrical contractor to verify all voltage drop and size all wire accordingly.
- G. Pull all conductors into raceway at same time.
- H. Protect exposed cable from damage.
- I. Use suitable cable fittings and connectors.
- J. Neatly train and lace wiring inside boxes.
- K. Clean conductor surfaces before installing lugs and connectors.
- L. Make splices, taps, and terminations to carry full ampacity of conductors with no perceptible temperature rise.
- M. Use suitable reducing connectors or mechanical connector adaptors for connecting aluminum conductors to copper conductors.
- N. Use solderless pressure connectors with insulating covers for copper conductor splices and taps, #8 AWG and smaller.
- O. Use insulated spring wire connectors with plastic caps for copper conductor splices and taps, #10 AWG and smaller. All connections in exterior hand holes shall have liquidtight connections.
- P. Do not install multi-wire branch circuits. No sharing of neutral shall be permitted.
- Q. Install all conductors and make final connections in accordance with all manufacturer's recommendations.

3.05 FIELD QUALITY CONTROL

- A. Perform field inspection and testing.
- B. Inspect wire and cable for physical damage and proper connection.
- C. Measure tightness of bolted connections and compare torque measurements with manufacturer's recommended values.
- D. Verify continuity of each branch circuit conductor.

END OF SECTION

**SECTION 26 0526
GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Wire

1.02 SUBMITTALS

- A. Product data and manufacturer's installation instructions for non-approved manufacturers shall be submitted for review prior to the bid date.
- B. Submittals shall include:
 - 1. Dimensional drawing for each planned device.
 - 2. Exothermic Connection Certification for installers.

1.03 SUMMARY

- A. Provide all labor, materials, and equipment necessary to properly install a grounding system conductor in all new branch wiring and feeder installations, which shall be in full compliance with all applicable codes as accepted by the authorities having jurisdiction. The secondary distribution system shall include a grounding conductor in all raceways in addition to the return path of the metallic conduit.
- B. All raceways shall have an insulated copper system ground conductor throughout the entire length of circuit installed within conduit in strict accordance with NEC. The grounding conductor shall be included in total conduit fill determining conduit sizes, even though not included or shown on drawings.
- C. Provide and install all grounding and bonding as required by the National Electrical Code (NEC) including but not limited to Article 800 of the NEC.

1.04 REFERENCES

- A. ANSI/NFPA 70 - National Electrical Code
- B. NFPA 99 - Health Care Facilities
- C. The Joint Commission
- D. Iowa Administrative Code, Chapter 61
- E. IEEE 837-2014: Standard for Qualifying Permanent Connections Used in Substation Grounding
- F. IEEE Emerald Book
- G. IEEE Green Book

1.05 PROJECT RECORD DOCUMENTS

- A. Submit record documents to accurately record actual locations of grounding electrodes.
- B. Submit test results of each ground rod.

1.06 REGULATORY REQUIREMENTS

- A. Conform to requirements of ANSI/NFPA 70.
- B. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

PART 2 PRODUCTS

2.01 WIRE

- A. Material: Stranded copper.
- B. Size to meet NFPA 70 requirements as a minimum. Increase size if called for on drawings or in these specifications.

- C. Insulated THWN (or bare as noted elsewhere).

PART 3 EXECUTION

3.01 GENERAL

- A. Install products in accordance with manufacturer's instructions.
- B. Install grounding electrodes conductor, bonding conductors, ground rods, etc. with all required accessories.
- C. Grounding shall meet (or exceed as required to meet these specifications) all the requirements of the N.E.C., the NFPA, and applicable standards of IEEE.
- D. Where there is a conflict between these specifications and the above applicable codes/standards or between this section of these specifications and other sections, then the most stringent or excessive requirement shall govern. Where there is an omission of a code/standard requirement in these specifications then the current code/standard requirements shall comply.
- E. Requirement in these specifications to comply with a specific code/standard article, etc. is not to be construed as deleting of requirements of other applicable codes/standards and their articles, etc.

3.02 GROUNDING CONDUCTORS

- A. Grounding conductors shall be provided with every circuit to meet (or exceed as required to meet these specifications and/or drawings) the requirements of NEC 250.

3.03 LIGHT FIXTURES

- A. All new and removed/reinstalled fixtures in building interior, and exterior fixtures shall be provided with green grounding conductor, solidly connected to unit. Individual fixture grounds shall be with lug to fixture body, generally located at point of electrical connection to the fixture unit.
- B. Installation shall exceed minimum requirements of NFPA 780.

3.04 MISCELLANEOUS GROUNDING CONNECTIONS

- A. Provide bonding to meet regulatory requirements.
- B. All surfaces to which grounding connections are made shall be thoroughly cleaned to maximum conductive condition immediately before connections are made thereto. Metal rust proofing shall be removed at grounding contact surfaces, for 0 ohms by digital Vm. Exposed bare metal at the termination point shall be painted.
- C. Install ground bushings on all metal conduits where the continuity of grounding is broken between the conduit and the electrical distribution system (i.e. metal conduit stub-up from wall outlet box to ceiling space. Provide an appropriately sized bond jumper from the ground bushing to the respective equipment ground bus or ground bus bar.

3.05 INTERFACE WITH OTHER PRODUCTS

- A. Interface with communications system installed under other specification sections.

3.06 FIELD QUALITY CONTROL

- A. Inspect grounding and bonding system conductors and connections for tightness and proper installation.
- B. Use suitable test instrument with current certificate of calibration to measure resistance to ground of system. Perform testing in accordance with test instrument manufacturer's recommendations using the fall-of-potential method or signal injection method.

END OF SECTION

**SECTION 26 0529
HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Product requirements
- B. Formed steel channel

1.02 REFERENCES

- A. NECA Standard of Installation (National Electrical Contractors Association)
- B. NFPA 70 - National Electrical Code

1.03 SUBMITTALS

- A. Product Data: Provide manufacturers catalog data for fastening systems.
- B. Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by product testing agency specified under Regulatory Requirements. Include instructions for storage, handling, protection, examination, preparation, and installation of products.

1.04 REGULATORY REQUIREMENTS

- A. Conform to requirements of NFPA 70.
- B. Products: Listed and classified by Underwriters Laboratories, Inc. as suitable for the purpose specified and indicated.

PART 2 PRODUCTS

2.01 PRODUCT REQUIREMENTS

- A. Materials and Finishes:
 - 1. Corrosion resistant.
 - 2. Select materials, sizes, and types of anchors, fasteners and supports to carry the loads of equipment and conduit, including weight of wire in conduit.
- B. Anchors and Fasteners:
 - 1. Concrete Structural Elements: Use expansion anchors and preset inserts.
 - 2. Steel Structural Elements: Use beam clamps and welded fasteners.
 - 3. Concrete Surfaces: Use self-drilling anchors and expansion anchors.
 - 4. Hollow Masonry, Plaster, and Gypsum Board Partitions: Use toggle bolts and hollow wall fasteners.
 - 5. Solid Masonry Walls: Use expansion anchors and preset inserts.
 - 6. Sheet Metal: Use sheet metal screws.
 - 7. Wood Elements: Use wood screws.
- C. Staples:
 - 1. Wood Elements: UV resistant polyethylene saddles. For use with non-metallic sheathed cable only.

2.02 FORMED STEEL CHANNEL

- A. Manufacturers:
 - 1. Globe Strut
 - 2. Uni-Strut
 - 3. Kindorf
 - 4. Power-Strut
 - 5. Erico
 - 6. Engineer approved equal.
- B. Description: Galvanized steel.

- C. Provide aluminum supports and hangers in pool area and pool equipment room.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install products in accordance with manufacturer's instructions and utility company regulations where applicable.
- B. Provide anchors, fasteners and supports in accordance with NECA "Standard of Installation".
 - 1. Do not fasten supports to pipes, ducts, mechanical equipment, or conduit.
 - 2. Do not use spring steel clips and clamps.
 - 3. Do not use powder-actuated anchors.
 - 4. Do not drill or cut structural members.
- C. Fabricate supports from structural steel or formed steel members or steel channel. Rigidly weld members or use hexagon-head bolts to present neat appearance with adequate strength and rigidity. Use spring lock washers under all nuts.
- D. Use steel channel supports to stand cabinets and panelboards one inch (1") off wall in all wet and damp locations.
- E. All pathways and hangers shall be independently hung.
- F. All pathways shall be routed overhead unless otherwise noted or approved by engineer.

END OF SECTION

**SECTION 26 0533
RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Conduit requirements
- B. Conduit types
- C. Box types
- D. Surface metal raceway types

1.02 REFERENCES

- A. ANSI C80.1 - Rigid Steel Conduit, Zinc Coated
- B. ANSI C80.3 - Electrical Metallic Tubing, Zinc Coated
- C. ANSI C80.5 - Rigid Aluminum Conduit
- D. ANSI/NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit and Cable Assemblies
- E. ANSI/NFPA 70 - National Electrical Code
- F. NEMA 250 - Enclosures for Electric Equipment
- G. NEMA WD 6 - Wiring Device Configurations
- H. NEMA RN 1 - Polyvinyl Chloride (PVC) Externally Coated Galvanized Rigid Steel Conduit and Intermediate Metal Conduit
- I. NECA (National Electrical Contractor's Association) Standard of Installation
- J. NEMA WD 6 - Wiring Device Configurations
- K. TIA-569-B - Commercial Building Standard for Telecommunications Pathways and Spaces
- L. NEMA OS 2 – Nonmetallic Outlet Boxes, Device Boxes, Covers, and Box Supports; National Electrical Manufacturers Association; 2013 (ANSI/NEMA OS2)
- M. UL 514C- Nonmetallic Outlet Boxes, Flush-Device Boxes, and Covers; Current Edition, Including All Revisions

1.03 RELATED SECTIONS

- A. Specification Section 26 0543 - Underfloor Ducts and Raceways for Electrical Systems
- B. Specification Section 27 0526 - Grounding and Bonding for Communications Systems

1.04 REGULATORY REQUIREMENTS

- A. Conform to requirements of ANSI/NFPA 70.
- B. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

1.05 SUBMITTALS

- A. Product Data: Provide dimensions, knockout sizes and locations, materials, fabrication details, finishes, and accessories.
- B. Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by product testing agency specified under Regulatory Requirements. Include instructions for storage, handling, protection, examination, preparation, and installation of product.

1.06 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years experience.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, protect, and handle products to the site.
- B. Accept products on site. Inspect for damage.
- C. Protect products from corrosion and entrance of debris by storing above grade. Provide appropriate covering.

1.08 PROJECT CONDITIONS

- A. Verify that field measurements are as shown on the drawings.
- B. Verify routing and termination locations of conduit prior to rough in.
- C. Conduit routing is shown on the drawings in approximate locations unless dimensioned. Route as required completing the wiring system.

PART 2 PRODUCTS

2.01 CONDUIT REQUIREMENTS

- A. Minimum Size: 1/2 inch for power wiring and 1 inch for low voltage wiring unless noted otherwise.
- B. Size conduit per ANSI/NFPA 70.
- C. Dry Locations:
 - 1. Concealed: Use rigid steel conduit, intermediate metal conduit or electrical metallic tubing.
 - 2. Exposed: Use rigid steel conduit, intermediate metal conduit or electrical metallic tubing.

2.02 CONDUIT TYPES

- A. Metal Conduit:
 - 1. Rigid Steel Conduit: ANSI C80.1
 - 2. Rigid Aluminum Conduit: ANSI C80.5
 - 3. Intermediate Metal Conduit (IMC): Rigid steel
 - 4. Fittings and Conduit Bodies: ANSI/NEMA FB 1; material to match conduit.
- B. Flexible Metal Conduit:
 - 1. Description: Interlocked steel construction.
 - 2. Fittings: ANSI/NEMA FB 1.
- C. Electrical Metallic Tubing (EMT):
 - 1. Description: ANSI C80.3; galvanized tubing.
 - 2. Fittings and Conduit Bodies: ANSI/NEMA FB 1; [steel compression type with steel lock nut, and ring or] steel setscrew fittings.
 - 3. Fittings and Conduit Bodies: ANSI/NEMA FB 1; steel compression type with steel lock nut, and ring. Steel setscrew fittings are NOT permitted. [UIHC REQUIRED]
- D. Pre-manufactured Fixture Whips:
 - 1. Manufacturers:
 - a. Southwire
 - b. EPCO
 - c. Engineer approved equal.
 - 2. Description: UL listed flexible conduit with conductors and die-cast screw connectors on the end.
 - 3. Size: no longer than 6', 3/8" diameter.
 - 4. Wire: 14 AWG minimum for lighting and required by the load.
 - 5. Install between junction box and light fixture only in concealed and unfinished spaces. Use interior raceway or surface raceway where exposed in finished spaces.
- E. Fittings and Conduit Bodies:

1. NEMA TC 3
2. Install offsets at surface boxes.
3. Install single hole strap connectors on all exposed conduit one inch (1") and smaller.

2.03 BOX TYPES

- 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.
- B. Pull and Junction Boxes:
 1. Sheet Metal Boxes: NEMA OS 1 galvanized steel.
 2. Surface Mounted Cast Metal Box: NEMA 250, type #4 and #6, flat-flanged, surface mounted junction box:
 - a. Material: Galvanized cast iron.
 3. Cover: Furnish with ground flange, neoprene gasket and stainless steel cover screws.

2.04 SURFACE METAL RACEWAY TYPES

- A. Surface Metal Raceway:
 1. Manufacturers:
 - a. Wiremold #V500 or #V700
 - b. Hubbell
 - c. Engineer approved equal.
 2. Description: Sheet metal channel with fitted cover, suitable for use as surface metal raceway.
 3. Size as required or as indicated on drawings.
 4. Finish is to be ivory enamel.
 5. Color coat to be applied by others.
 6. Fittings, Boxes, and Extension Rings: Furnish manufacturer's standard accessories.

PART 3 EXECUTION

3.01 CONDUIT INSTALLATION

- A. Install conduit in accordance with NECA "Standard of Installation."
- B. Arrange supports to prevent misalignment during wiring installation.
- C. Support conduit using coated steel, malleable iron straps, lay-in adjustable hangers, clevis hangers, and split hangers.
- D. Group related conduit support using conduit rack. Construct rack using steel channel and provide space on each for 25% additional conduits.
- E. Fasten conduit supports to building structure and surfaces.
- F. Do not support conduit with perforated pipe straps. Remove wire used for temporary supports.
- G. Do not use spring steel clips and clamps for support.
- H. Install compression type fittings in all wet and damp areas.
- I. Do not attach conduit to ceiling support wires.
- J. Arrange conduit to maintain headroom and present neat appearance.
- K. Route exposed conduit parallel and perpendicular to walls.
- L. Route conduit installed above accessible ceilings, parallel and perpendicular to walls.

- M. Maintain adequate clearance between conduit and piping.
- N. Maintain 12 inch clearance between conduit and surfaces with temperatures exceeding 104 degree F.
- O. Cut conduit square using saw or pipe cutter; de-burr cut ends.
- P. Bring conduit to shoulder of fittings; fasten securely.
- Q. Use conduit hubs to fasten conduit to cast boxes.
- R. A run of conduit shall not contain more than the equivalent of four (4) quarter bends (360 degrees), including those bends located immediately at the outlet or body. Use conduit bodies to make sharp changes in direction (as around beams). Use hydraulic one-shot bender to fabricate bends in metal conduit larger than two inch (2") size. All conduit shall be held right to structure.
- S. Avoid moisture traps; provide junction box with drain fitting at low points in conduit system.
- T. Provide suitable fittings to accommodate expansion and deflection where conduit crosses control and expansion joints.
- U. Provide suitable pull string in each empty conduit except sleeves and nipples.
- V. Use suitable caps to protect installed conduit against entrance of dirt and moisture.
- W. Ground and bond all conduits.
- X. Identify conduit.
- Y. Use flexible and liquidtight conduits where required by NEC.
- Z. Junction boxes shall not be installed over four foot (4') above accessible ceiling without prior written approval by owner.

3.02 BOX INSTALLATION

- A. Install boxes in accordance with NECA "Standard of Installation."
- B. Install electrical boxes in locations as shown on the drawings and as required for splices, taps, wire pulling, equipment connections and compliance with regulatory requirements.
- C. Set wall mounted boxes at elevations to accommodate mounting heights as indicated.
- D. Electrical boxes are shown on the drawings in approximate locations unless dimensioned. Adjust box location up to ten foot (10') if required to accommodate intended purpose. Verify with architectural drawings and elevations for additional information.
- E. Orient boxes to accommodate wiring device orientation.
- F. Maintain headroom and present neat mechanical appearance.
- G. Install pull boxes and junction boxes above accessible ceilings and in unfinished areas only. Junction boxes shall not be installed over four foot (4') above accessible ceilings.
- H. Inaccessible Ceiling Areas: Install outlet and junction boxes no more than six inches (6") from ceiling access panel or from removable recessed luminaire.
- I. Fire-stop boxes to preserve fire resistance rating of partitions and other elements. Boxes may be installed within a minimum of 24 inch separation with written approval prior to installation.
- J. Coordinate mounting heights and locations of outlets mounted above counters, benches, and back splashes.
- K. Locate outlet boxes to allow luminaires positioned as shown on the drawings. If light fixture locations conflict with ceiling plans, the electrical contractor shall document discrepancies and send to the engineer for clarification.

- L. Align adjacent wall mounted outlet boxes for switches, thermostats, and similar devices.
- M. Locate flush mounting box in masonry wall to require cutting of masonry unit corner only. Coordinate masonry cutting to achieve neat opening.
- N. Do not install flush mounting box back-to-back in wall, provide minimum six inch (6") separation.
- O. Provide minimum 24 inch separation for receptacles in acoustic rated walls. Provide sound blocking putty where lighting control devices are located in the same stud cavity.
- P. Secure flush mounting box to interior wall and partition studs. Accurately position to allow for surface finish thickness.
- Q. Install flush mounting box without damaging wall insulation or reducing its effectiveness.
- R. Use adjustable steel channel fasteners for hung ceiling outlet box.
- S. Do not fasten boxes to ceiling support wires.
- T. Support boxes independently of conduit.
- U. Use gang box where more than one device is mounted together. Do not use sectional box.

3.03 SURFACE RACEWAY AND WALL DUCT INSTALLATION

- A. Install products in accordance with manufacturer's instructions. Provide all trim and accessories.
- B. Use flat-head screws, clips, and straps to fasten raceway channel to surfaces. Mount plumb and level.
- C. Use suitable insulating bushings and inserts at connections to outlets and corner fittings.
- D. Wire Way Supports: Provide steel channel.
- E. Close ends of wire way and unused conduit openings.
- F. Ground and bond raceway and wire way.
- G. Install surface metal raceway in exposed existing finished areas where indicated on the drawing. Coordinate all raceway routing with architect.
- H. Install insulated bushings on all Wiremold terminated above accessible areas serving low voltage wiring prior to pulling wire unless otherwise noted.

3.04 PULLBOXES

- A. Size communications cabling pull boxes according to the following:

Conduit Trade Size	Width	Length	Depth	Width Increase for Additional Conduit
1"	4"	16"	3"	2"
1-1/4"	6"	20"	3"	3"
1-1/2"	8"	28"	4"	4"
2"	8"	36"	4"	5"
2-1/2"	10"	42"	5"	6"
3"	12"	48"	5"	6"
4"	16"	60"	8"	6"

- B. Directional changes within a pullbox shall not be allowed. Conduit entering the box shall have conduit leaving the box from the opposite side. Do not use a pull box to make 90 degree turns.
- C. Install pullboxes in conveniently accessible locations.
- D. Where identified on drawings as lockable, key all pullboxes the same.
- E. Label all pull boxes. Handwritten labels shall not be accepted.

3.05 INTERFACE WITH OTHER PRODUCTS

- A. Install conduit using materials and method to preserve fire resistance rating of partitions and other elements.
- B. Piping and Ductwork: Route conduits through roof openings or through suitable roof jack with pitch pocket. Coordinate location with roofing installation specified.
- C. Coordinate installation of outlet and junction boxes for equipment connection.

3.06 ADJUSTING

- A. Adjust flush-mounting outlets to make front flush with finished wall material.
- B. Install knockout closures in unused box openings.
- C. Adjust floor box flush with finish flooring material.

3.07 CLEANING

- A. Clean interior of boxes to remove dust, debris, and other material.
- B. Clean exposed surfaces and restore finish.

END OF SECTION

**SECTION 26 0553
IDENTIFICATION FOR ELECTRICAL SYSTEMS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Nameplates and labels
- B. Identification

1.02 REFERENCES

- A. NFPA 70 - National Electrical Code
- B. NFPA 70E - Standard for Electrical Safety in the Workplace

1.03 SUBMITTALS

- A. Product Data: Provide catalog data for nameplates, labels and markers.
- B. Samples: Submit two nameplates 4" x 4" in size illustrating materials and engraving quality.
- C. Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by product testing agency specified under Regulatory Requirements. Include instructions for storage, handling, protection, examination, preparation, and installation of product.

1.04 REGULATORY REQUIREMENTS

- A. Conform to requirements of NFPA 70.
- B. Products: Listed and classified by Underwriters Laboratories, Inc. as suitable for the purpose specified and indicated.

PART 2 PRODUCTS

2.01 NAMEPLATES AND LABELS

- A. Labels: Embossed adhesive tape with 3/16 inch white letters on black background. Use only for identification of individual wall switches and receptacles, control device stations, and communication outlets.

2.02 IDENTIFICATION

- A. Identify All Modified Junction Boxes With Appropriate Marker As Follows:
 - 1. 208 Volt System: Black (circuit name and number)
 - 2. Write the circuit number of each modified junction box on box cover where no devices are contained. Write the circuit number of each modified junction box inside the device box where devices are housed in the junction box.

PART 3 EXECUTION

3.01 PREPARATION

- A. Degrease and clean surfaces to receive nameplates and labels.

3.02 INSTALLATION

- A. Install nameplate and label parallel to equipment lines.
- B. Secure nameplate to equipment front using screws.
- C. Secure nameplate to inside surface of door on panelboard that is recessed in finished locations.
- D. Identify modified conduits using field painting.
- E. Paint colored band on each modified conduit longer than 6 feet.
- F. Paint bands 20 foot on center.

END OF SECTION

**SECTION 26 5100
INTERIOR LIGHTING**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. LED Drivers
- B. Light Emitting Diodes (LEDs)

1.02 REFERENCES

- A. ANSI C78.379 - American National Standard for Electric Lamps -- Reflector Lamps -- Classification of Beam Patterns; 2006
- B. NECA/IESNA 500 - Recommended Practice for Installing Indoor Commercial Lighting Systems; National Electrical Contractors Association
- C. NECA/IESNA 502 - Recommended Practice for Installing Industrial Lighting Systems; National Electrical Contractors Association
- D. NEMA WD 6 - Wiring Devices - Dimensional Requirements; National Electrical Manufacturers Association
- E. NFPA 70 - National Electrical Code; National Fire Protection Association
- F. NFPA 101 - Life Safety Code
- G. IESNA LM-79-08 - Approved Method for the Electrical and Photometric Measurement of Solid-State Lighting Products
- H. IESNA LM-80-08 - Approved Method for Measuring Lumen Maintenance of LED Light Sources.
- I. IESNA TM-21-11 - Projecting Long Term Lumen Maintenance of LED Light Sources
- J. EU Directive 2002/95/EC - Restriction of Hazardous Substances in Electrical and Electronic Equipment (RoHS), as amended by directive 2005/618/EC

1.03 SUBMITTALS

- A. Provide cut sheet indicating dimensions and components for each luminaire.
- B. Submit manufacturer's installation instructions. Indicate application conditions and limitations of use stipulated by product testing agency specified under Regulatory Requirements. Include instructions for storage, handling, protection, examination, preparation, and installation of product.
- C. Submit manufacturer's operation and maintenance instructions for each product.
- D. All lighting submittals must be on Local Authorized Manufacturer Representative's letterhead and contain Project Name and Location.
- E. Closeout: Provide list of Extra Materials for owner to verify and sign for acknowledgement of receiving.

1.04 QUALITY ASSURANCE

- A. Conform to requirements of NFPA 70 and NFPA 101.
- B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.
- C. Products: Listed and classified by Underwriters Laboratories, Inc. as suitable for the purpose specified and indicated.

1.05 REGULATORY REQUIREMENTS

- A. Conform to requirements of NFPA 70 and 101
- B. Products: Listed and classified by Underwriters Laboratories, Inc. as suitable for the purpose specified and indicated.

- C. Products with Light Emitting Diodes:
 - 1. Fixtures shall comply with LM-79-08: Electrical and Photometric Measurements of Solid-State Lighting Products.
 - 2. Interior fixture diode arrays shall maintain +/-100 degrees Kelvin (K); exterior fixture diode arrays shall maintain +/- 500 K color temperature range through the life of the fixture.
 - 3. Diode arrays shall be wired so that if one diode fails, at least 90% of the remaining diodes will operate.

PART 2 PRODUCTS

2.01 LED DRIVERS:

- A. Manufacturers must be in business a minimum of (5) years.
- B. Drivers shall be provided with light emitting diodes as a modular replaceable system. The system shall be fully designed and tested for operation throughout warranted period.
- C. Driver shall be Underwriters Laboratories (UL) listed, Class 2 Outdoor recognized.
- D. Driver shall be suitable for damp locations.
- E. Driver shall operate from -20 to 60 deg C.
- F. Refer to fixture schedule on drawings for additional requirements.
- G. Driver shall operate from 50 to 60 Hz input source of 120 V, 208 V, 240V, 277 V and/or 480 V, as required in plans, with sustained variations of +/-10% (voltage and frequency) with no damage to the driver.
- H. Driver output shall be regulated to +/- 5% across published load range.
- I. Driver shall have an "A" sound rating.
- J. Driver shall have a power factor greater than 0.9.
- K. Driver input current shall have Total Harmonic Distortion (THD) of less than +/-20% at all operating voltages.
- L. Driver shall tolerate sustained open circuit and short circuit output conditions without damage and without need for external fuses or trip devices.
- M. Driver shall carry a five-year warranty from the date of manufacture against defects in material or workmanship, including replacement for operation at a maximum case temperature of 90 deg C.
- N. Driver shall have an efficiency greater than or equal to 85%.
- O. Driver shall comply with Federal Communications Commission (FCC) rules and regulations, Title 47 CFR part 15, Non-consumer (Class A) for EMI/RFI (conductive and radiated).
- P. Driver shall not contain any Polychlorinated Biphenyl (PCB).

2.02 LIGHT EMITTING DIODES (LEDS):

- A. Manufacturers must be in business for a minimum of (5) years.
- B. Light Emitting Diodes shall be provided with a driver as a modular replaceable system. The system shall be fully designed and tested for operation throughout warranted period.
- C. Diode arrays shall maintain +/-100K color temperature through the life of the fixture.
- D. Diodes shall have a minimum color rendering index of 80.
- E. Diodes and associate circuitry shall be RoHS compliant.
- F. Diodes shall be photometrically tested for compliance with IESNA LM-80-08, with projections calculated in accordance with IESNA TM-21-11.

- G. Diode arrays shall maintain a minimum 70% lumen output through an average operating life of 50,000 hours.
- H. Diodes and associated printed circuit boards shall be RoHS compliant.
- I. Refer to Lighting Fixture Schedule for color temperature requirements.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Furnish products as specified in schedule on the drawings.
- C. Install suspended luminaires and exit signs using pendants supported from swivel hangers. Provide pendant length required suspending luminaire at indicated height.
- D. Locate recessed ceiling luminaires as indicated on reflected ceiling drawing and electrical lighting drawings.
- E. Install surface mounted luminaires and exit signs plumb and adjust to align with building lines and with each other. Secure to prevent movement.
- F. Install recessed luminaires to permit removal from below.
- G. Install recessed luminaires using accessories and fire stopping materials to meet regulatory requirements for fire rating.
- H. Install clips to secure recessed grid-supported luminaires in place.
- I. Install recessed can luminaires to fit in ceiling. Provide all necessary trim ring extenders or other accessories for proper installation of luminaire in ceiling.
- J. Install wall mounted luminaires, emergency lighting units and exit signs at height as scheduled.
- K. Install accessories furnished with each luminaire.
- L. Fixture whips utilizing THHN/THWN-2 wire in flexible metal conduit shall be used to connect all luminaires, emergency lights, and exit signs. Minimum wire size for all fixture whips shall be 14 AWG. Fixture whips shall be wired directly from the luminaire to an accessible junction box. Fixture to fixture whips are not allowed. Maximum length for any fixture whip shall be 6'.
- M. Make wiring connections to branch circuit using building wire with insulation suitable for temperature conditions within luminaire.
- N. Bond products and metal accessories to the branch circuit equipment grounding conductor.
- O. Exposed Grid Ceilings: Support surface mounted luminaires on grid ceiling directly from building structure. Provide auxiliary members spanning ceiling grid members to support surface mounted luminaires.
- P. Support luminaires larger than 2' x 4' size independent of ceiling framing.

3.02 FIELD QUALITY CONTROL

- A. Operate each luminaire after installation and connection. Inspect for proper connection and operation.

3.03 ADJUSTING

- A. Aim and adjust luminaires as directed.
- B. Position exit sign directional arrows as indicated.

3.04 WARRANTIES

- A. All warranties shall remain as an agreement between the installing contractor and the manufacturer. No third parties shall be involved with warranty repairs or replacements

of installed products without the written consent of the installing contractor and the owner or their representative.

- B. Labor for warranty repairs shall be billed by the contractor directly to the manufacturer or distributor during the duration of the labor warranty on the originally installed products. Labor work required on warranted parts, but outside of the 1-year labor warranty shall be the responsibility of the owner.

3.05 CLEANING

- A. Clean all electrical parts to remove all of the conductive and deleterious materials.
- B. Remove dirt and debris from enclosures.
- C. Clean photometric control surfaces as recommended by manufacturer.
- D. Clean finishes and touch up damage.

3.06 SCHEDULES

- A. See the drawings.

3.07 EXTRA MATERIAL AND LABOR

- A. Drivers:
 - 1. The electrical contractor shall include in their bid, two (2) additional drivers for all wattages, voltages, and configurations required on the project.
 - 2. Extra materials shall be turned over to the owner at substantial completion in their original unopened packaging.
 - 3. All drivers shall be clearly marked for the fixture types that they are compatible with based on the drawings, fixture schedule and submittals received.
 - 4. Extra drivers included in this requirement shall not be used for warranty replacements without replacing this extra stock in the owner's inventory.
 - 5. No labor should be added to the project over the standard warranties already required in previous sections.

END OF SECTION