



Solicitation Response

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|--|---|---|---|---------------------------------------|--|
| | | Response Due Date December 13, 2016 | Time 1:00 P.M. | Location 800 Lincoln Way, Ames, IA | |
| Proposal Number 17891 | Description Lighting Retro Fitting for the DOT's Pacific Junction Maintenance Facility | | | | |
| Contract Begin Date January 3, 2017 | Contract Completion Date March 30, 2017 | Bid Bond N/A | Performance Bond (Y/N) If required see section | Liquidated Damages | |
| Purchasing Agent assigned Jody McNaughton | E-mail Address Jody.mcnaughton@iowadot.us | Phone 515-239-1298 | Fax 515-239-1538 | | |
| RESPONDER INFORMATION | | | | | |
| Company Name | | | Federal Tax ID | | |
| Street Address | | City | State | Zip Code | |
| Contact Name | E-mail Address | Phone | Fax | | |
| Responder agrees to sell goods, services or both at the same prices, terms and conditions to any other Iowa state agency, Regent or Political Subdivision upon request. Please check Yes or No. <input type="checkbox"/> Yes <input type="checkbox"/> No | | | Responder is an Iowa Targeted Small Business <input type="checkbox"/> Yes <input type="checkbox"/> No | | |

GENERAL INFORMATION

The entire contents of this solicitation; Addendums, Schedule of Prices, Specifications, Plans and Drawings, Supplemental Terms and Conditions, Standard Terms and Conditions shall become part of the contract or purchase order. **Faxed or email responses will be accepted.**

Acceptance/Rejection: The Iowa DOT reserves the right to accept or reject any or all responses and to waive irregularities or technicalities, provided such waiver does not substantially change the offer or provide a competitive advantage to a supplier or service provider. The Iowa DOT reserves the right to accept the response which is deemed to be in the best interest of the state. Any unauthorized changes, additions, or conditional responses including any ties to other solicitations or any reservations about accepting an award or entering into a contract, may result in rejection of the response. Responses must remain available for award for (30) days from the due date indicated above.

Method of Award: Award shall be made to the lowest responsible, responsive responder whose response meets the requirements of the solicitation unless otherwise specified. An Iowa responder will be given preference over an out-of-state responder when responses are equal in all aspects and are tied in price. By virtue of statutory authority preference will be given to products and provisions grown and coal produced within the State of Iowa.

Contracts: Successful contractor(s) may be sent either a formal contract or a purchase order. The contractor may not assign the contract to another party without written authorization from the Iowa DOT Purchasing Section.

Pricing and Discount: Unit prices shown in the response shall be quoted as the price per unit (e.g., gal., case, each, etc.) as stated in the solicitation. If there is a discrepancy between the unit prices, extended price, or total amount of response, the unit price shall prevail. Unless otherwise indicated, prices shall be firm for the duration of the contract or purchase order. Discounts for early payment are allowed, but not considered in award of the contract.

We certify that all materials, equipment, goods and/or services offered meet or exceed the specifications and requirements and will be supplied in accordance with the entire contents of this solicitation including delivery schedules.

Signed _____ Date _____

Schedule of Prices

Project Description: Lighting retro fitting for Pacific Junction as per plans and specifications.

| Item No. | Description | Quantity | Unit/Price | Lump Sum |
|----------|--|----------|------------|----------|
| 1 | Contractor to modify the existing lighting system as specified herein, as shown on the Drawings, and in compliance with applicable codes and requirements of governmental authorities having jurisdiction. Provide all materials, labor, equipment, and miscellaneous materials for a fully functional lighting system as shown on the Drawings and specified herein including: Demolition of selected existing lighting fixtures and associated switches. Installation of Owner furnished lighting fixtures. Furnish and install new lighting fixtures and lamps, furnished by the contractor, as noted on the Drawings. Provide hanger materials and fixture whips for all fixtures, except emergency/exit fixtures, as noted on the Drawings. Extension of existing lighting circuits and associated materials. Furnish and install new lighting switches in existing locations. | 1 | Job | \$ _____ |
| | | | | |

Fabricated or Custom Built Products (Reference section 1.28)
List all and the lead times for each

I hereby certify that this response meets or exceeds the minimum requirements including specifications and addendums.

Authorized
Signature:

Contact Person:

Company:

(Print Name)

Address:

Contractor number: _____

(City) (State) (Zip Code)

Phone No: _____

Email: _____

Fax No.: _____

I acknowledge receipt of addendums: _____



Iowa Department of Transportation
Standard Terms and Conditions
For
Submission of Quotations or Bids

-INFORMAL-

Informal - means a limited solicitation type of procurement where a sufficient number of responses from qualified sources are obtained and the aggregate amount of the purchase is less than \$50,000.

The entire contents of this bid solicitation shall become a part of a contract or purchase order. In case of a discrepancy between the contents of the solicitation documents, the following items listed by descending order shall prevail:

- Addendums to the solicitation
- Solicitation-
 - Schedule of Prices
 - Specifications
 - Plans and Drawings
- Supplemental Terms and Conditions
- Standard Terms and Conditions

(Example - if there is a statement in the Specifications that contradicts a statement in the Standard Terms and Conditions, the statement in the Specifications shall apply)

Preparation of Solicitation Response: All responses must address all aspects of the solicitation. Responses must be typed or completed in ink and submitted on the forms supplied by the Iowa DOT.

Responses must be signed and received prior to the bid opening date and time indicated on the Solicitation Response page or other specified areas throughout the solicitation document. The signed, submitted quotation or bidder's proposal shall become the official response to be considered for award.

Responses may be sent by email, fax, weblink, or delivered by a courier that ensures timely delivery.

A. Solicitation

1. **Opening:** The opening of responses are made public and conducted at the Iowa DOT, Ames complex unless otherwise specified. Responses received after the time of the opening will be returned to the bidder and considered non-compliant.
2. **Communications:** Questions concerning this solicitation should be directed to the purchasing agent listed on the Solicitation Response page. Inquiries can be written, phoned, or faxed. In all cases, written communication will take precedence over verbal communication.
3. **Pricing and Discount:** Unit prices shown on the response shall be quoted as the price per unit (e.g., gal., case, each, etc.) as stated in the solicitation. If there is a discrepancy between the unit bid prices, extended price, or total amount of response, the unit prices shall prevail. Unless otherwise indicated, prices shall be firm for the duration of the contract or purchase order. Discounts for early payment are allowed, but not considered in award of the contract.
4. **Acceptance/Rejection:** The Iowa DOT or provider reserves the right to accept or reject any or all responses and to waive irregularities or technicalities, provided such waiver does not substantially change the offer or provide a competitive advantage to any supplier(s). The Iowa DOT also reserves the right to accept that response which is deemed to be in the best interests of the state. Any unauthorized changes, additions, or conditional response including any ties to another response or any reservations about accepting an award or entering into a contract, may result in rejection of the response. Responses must remain available for award for thirty (30) days from date of opening.

5. **Bid Results & Disclosure:** Tabulation results will be sent to all responders and may be posted on the Iowa DOT website at www.iowadot.gov/purchasing under the *Bid Award* link referencing the proposal number with an award recommendation indicated. At the conclusion of the selection process, the contents of all received responses will be placed in the public domain and be open to inspection by interested parties, according to state law. Trade secrets or proprietary information that are recognized as such and are protected by law may be withheld if clearly identified.
6. **Quality of Goods:** All material shall be new and of first quality. Items which are used, demonstrators, refurbished, obsolete, seconds, or which have been discontinued are unacceptable without prior written approval by the Iowa DOT.
7. **Recycled Content:** The Iowa Code encourages purchase of products and materials with recycled content, including but not limited to paper products, oils, plastic products, compost materials, aggregate, solvents, and rubber products. Recycled items or alternatives must be noted in the Solicitation Response, if known.
8. **Shipping Terms:** Deliveries shall be F.O.B. Destination unless otherwise specified. All deliveries shall be accompanied by a packing slip indicating the Supplier, quantities shipped, and the purchase order number(s). All delivery charges shall be included in the response price and paid by the Supplier. No collect C.O.D. deliveries shall be accepted. When entering into a contract, the Supplier shall notify the freight company that all freight and delivery charges are to be prepaid by the Supplier. Goods delivered to the Iowa DOT Distribution Center at 800 Lincoln Way, Ames, IA shall be received between the hours of 7:00 a.m. and 3:00 p.m. on any day except Saturday, Sunday, or a holiday. For deliveries to other Iowa DOT locations, the Supplier may contact the destination location for available times to deliver as not all Iowa DOT locations have the same business hours. The Iowa DOT will not be liable for any freight claims or unpaid freight bills arising from contract or purchase order issues.

B. Award

The binding agreement (award) may be issued in the form a purchase order or contract or both depending on the requirements and complexity of the agreement.

1. **Method of Award:** Award shall be made to the lowest responsible, responsive responder whose response meets the requirements of the solicitation unless otherwise specified. An Iowa company or individual will be given preference over an out-of-state company or individual when responses are equal in all aspects and are tied in price. By virtue of statutory authority preference will be given to products and provisions grown and coal produced within the State of Iowa.
2. **Award Protests:** Protests of award recommendations are to be addressed to the Director of Purchasing, and shall be made in accordance with paragraph 761--20.4(6)"e" of the Iowa Administrative Code.
3. **Contracts:** Successful contractor(s) may be sent a formal Contract, Notification of Award or Purchase Order as confirmation of acceptance and award. Any of these binding agreements shall be for the term stated in the solicitation or on a purchase order and may be renewed for additional period(s) under the same terms and conditions upon mutual agreement as defined. The successful responder may not assign a contract to another party without written authorization from the Iowa DOT Purchasing Section. The Iowa DOT may offer a contract extension to the Contractor when a scheduled target date cannot be met.
4. **Consumer Price Index (CPI-U):** A CPI may be allowed as specified in the terms of the solicitation and at the discretion of the Iowa DOT based on currently posted CPI-U, US City Average, All Items – non seasonally adjusted unless otherwise specified. This applies each of any subsequent renewals, extensions, amendments issued under the contract for the duration of the contract.

5. **Payment Terms:** The Iowa DOT typically pays properly submitted vendor invoices within thirty (30) days of receipt, providing goods and/or services have been successfully delivered, installed or inspected (if required), and accepted. Invoices presented for payment must be only for quantities received by the Iowa DOT and must reference the purchase order number or contract to be submitted for processing.
6. **Default (Supplier):** Failure of the Supplier to adhere to specified delivery schedules or to promptly replace rejected materials shall render the Supplier liable for all costs in excess of the bid price when alternate procurement is necessary. This shall not be the exclusive remedy and the Iowa DOT reserves the right to pursue other remedies available to it by law or under the terms of the binding agreement.
7. **Default (Contractor):** Failure of a Contractor other than a Supplier to meet any specified project completion deadline shall render the Contractor liable for all costs incurred by the Iowa DOT that were: a) necessary to meet said deadline; or b) necessary to complete said project after said deadline. This shall not be the exclusive remedy and the Iowa DOT reserves the right to pursue other remedies available to it by law or under the terms of the agreement.

C. General

1. **Administrative Rules:** For additional details on the rules governing the action of the Iowa DOT Purchasing Section, refer to 761IAC, Chapter 20, Iowa Administrative Code, entitled "Procurement of Equipment, Materials, Supplies and Services".
2. **Affirmative Action:** The Contractor (and also subcontractor, vendor, service provider or supplier) is prohibited from engaging in discriminatory employment practices forbidden by federal and state law, executive orders and rules of the Iowa Department of Management, pertaining to equal employment opportunity and affirmative action. Contractor may be required to have a copy of their affirmative action program on file, containing goal and time specifications. Contractors doing business with Iowa in excess of \$5,000 annually and employing 50 or more full time employees may be required to file with the Iowa Department of Management a copy of their affirmative action plan. Failure to fulfill these non-discrimination requirements may cause the contract to be canceled and the contractor declared ineligible for future state contracts or subject to other sanctions as provided by law or rule.
3. **Applicable Law:** The contract shall be governed under the laws of the State of Iowa. The contractor shall at all times comply with and observe all federal and state laws, local laws, ordinances, and regulations which are in effect during the period of a contract and which in any manner affect the work or its conduct. Any legal action relating to a contract shall only be commenced in the Story County, Iowa, District Court or the United States District Court for the Southern District of Iowa.
4. **Conflict of Interest:** No state or county official or employee, elective or appointive shall be directly or indirectly interested in any contract issued by the Iowa DOT, see Code of Iowa 314.2.
5. **Debarment and Vendor Suspension:** By submitting a response, the contractor is certifying that it and its principals and/or subcontractors are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by the State of Iowa or any Federal department or agency.
6. **Equal Opportunity:** Responders to the solicitation must be an "Equal Opportunity Employer" as defined in the Civil Rights Act of 1964 and in Iowa Executive Order Number Thirty-four.
7. **Indemnification-Goods:** To the extent the goods are not manufactured in accordance with Iowa DOT's designs, Supplier shall defend, indemnify and hold harmless Iowa DOT, its assignees, and other users of the goods from and against any claim of infringement of any letters patent, trade names, trademarks, copyright or trade secrets by reason of sale or use of any articles purchased. Iowa DOT shall promptly notify Supplier of any such claim.
8. **Infringement:** Goods shall be delivered free of the rightful claim of any third party by way of infringement. Contractor shall indemnify and save harmless the State of Iowa and the Iowa DOT against all claims for infringement of, and/or royalties claimed under, patents or copyrights on materials and equipment furnished under this bid.
9. **Iowa Open Records Law:** All Solicitation Responses are subject to terms and provisions of Iowa Code Chapter 22 Examination of Public Records (Open Records), specifically 22.7- Confidential Records.

10. **Records Audit:** The contractor agrees that the Auditor of the State of Iowa or any authorized representative of the state, and where federal funds are involved, the Comptroller General of the U.S. Government, shall have access to and the right to examine, audit, excerpt, and transcribe any directly pertinent books, documents, papers, and records of the contractor relating to orders, invoices, or payments of a contract or purchase order.
11. **Targeted Small Businesses:** The Iowa DOT seeks to provide opportunities for women and/or minority small business enterprises. To apply for certification as an Iowa Targeted Small Business, contact the Iowa Department of Inspection and Appeals (515-281-5796). Contractors shall take documented steps to encourage participation from Targeted Small Businesses for the purpose of subcontracting and supplying of goods or services or both.
12. **Taxes:** Prices quoted shall not include state or federal taxes from which the state is exempt. Exemption certificates will be furnished upon request.
13. **Termination:**
 - **Termination Due to Lack of Funds or Change in Law**

The Iowa DOT shall have the right to terminate this Contract without penalty by giving thirty (30) days written notice to the vendor as a result of any of the following:

 - Adequate funds are not appropriated or granted to allow the Iowa DOT to operate as required and to fulfill its obligations under contract.
 - Funds are de-appropriated or not allocated or if funds needed by the Iowa DOT, at the Iowa DOT's sole discretion, are insufficient for any reason.
 - The Iowa DOT's authorization to operate is withdrawn or there is a material alteration in the programs administered by the Iowa DOT.
 - The Iowa DOT's duties are substantially modified.

Following a 30 day written notice, the Iowa DOT may terminate a binding agreement in whole or in part without the payment of any penalty or incurring any further obligation to the Supplier. Following termination upon notice, the Supplier shall be entitled to compensation upon submission of invoices and proper proof of claim for goods and services under contract up to and including the date of termination.

Section 1 Introduction & Solicitation Information

1.1 Purpose

The purpose of this Request for Bid (RFB) is to solicit responses from responsible, responsive bidders to provide the goods and/or services identified and described below as specifically described in Section 2 of this solicitation.

1.2 General

The owner of goods and/or services sought shall be the Iowa Department of Transportation (Iowa DOT).

1.2.1 Project Location

Iowa Department of Transportation, 21112 Kane Ave. Pacific Junction, IA 51561

1.2.2 Issuing Agent

The Issuing Agent, identified on the Solicitation Response page is the sole point of contact regarding the RFB from the date of issuance until the notice of intent to award is issued (selection of the successful bidder).

1.2.3 RFB posted on the Internet

Bidders are required to visit the Iowa DOT's website at:

www.iowadot.gov/purchasing/lettingschedule periodically for any and all addendums or other pertinent information regarding this solicitation.

1.2.4 Solicitation Responses

The Iowa DOT must receive responses either **electronically or by standard mail on or before** the deadline on the Solicitation Response page. Any responses received after this deadline may be rejected.

Bidders must furnish all information necessary to be considered for award. Responses that fail to meet the mandatory requirements of the RFB will be disqualified. Verbal information provided by bidders shall not be considered part of the bidders' response.

1.2.5 Clarification

If a Bidder requires additional information to understand specifications found in Section 2 or any other part of the solicitation, all questions must be received in writing no less than 48 hours prior to the bid opening. The Iowa DOT reserves the right to contact Bidders after receiving responses for the purpose of clarification to ensure mutual understanding.

1.2.6 No Minimum Guaranteed Purchase

It is understood that the Iowa DOT considers this a best estimate only of requirements and makes no firm quantity commitment.

1.2.7 Incurring Costs

The costs of preparation and delivery of a response are solely the responsibility of the Bidder. No payments shall be made by the Iowa DOT to cover costs incurred by any Bidder for the preparation of any response.

1.2.8 Fabricated or Custom Built Materials Lead time

All Bidders shall provide a lead time on any fabricated or custom built product or products that will impact the project timeline. Lead times are to be listed for each fabricated product, including estimated product delivery on the Schedule of Prices. If no critical fabricated or custom built products are needed for the project, bidders shall simply indicated "Not applicable or N/A in the Schedule of Prices. This indicated no known additional time for readily available materials and products needed for the project.

1.2.10 Pre- bid / Site Visit



Non- Required Pre- bid meeting with site visit is not required but **Highly Recommended**. Contractors interested in a site visit are to contact Jody McNaughton at 515-239-

- No considerations or revision in the contract price or scope of the project will be considered by the Iowa DOT for any item which could have been revealed by a thorough on-site inspection and examination or pre- bid meeting.

Section 2 Specifications & Contractor Responsibilities

2.1 Specifications

Contractor is to provide all equipment, materials and labor necessary for the completion of this lighting retro fitting at the Pacific Junction Maintenance facility.

Modify the existing lighting system as specified herein, as shown on the drawings, and in compliance with applicable codes and requirements of governmental authorities having jurisdiction.

Provide all materials, labor, equipment, and miscellaneous materials for a fully functional lighting system as shown on the Drawings and specified herein including:

Demolition of selected existing lighting fixtures and associated switches.

Installation of Owner furnished lighting fixtures.

IA DOT Furnished: 49 High Bay, 8 Wet Location High Bay

Contractor Furnished: 10 Workbench, 4 Exit lights, 13 High Bay, 2 Wet Location High Bay.

Furnish and install new lighting fixtures and lamps, furnished by the contractor, as noted on the Drawings.

Provide hanger materials and fixture whips for all fixtures, except emergency/exit fixtures, as noted on the Drawings.

Extension of existing lighting circuits and associated materials.

Furnish and install new lighting switches in existing locations.

The project building will be occupied by the Owner and in normal use through standard business days and times (Monday-Friday, 7:00 AM -3:30 PM).

Work, including any significant power outage, must be performed without major disruption to the Owner's normal activities. As a result, work that requires or results in a power disruption must be performed during weekends, extended holiday weekends, and/or after 3:30 PM and before 7:00 AM.

Coordinate any proposed power outage(s) with the facility administrator.

Protect all Owner's equipment and fixtures from dust, dirt and debris using clean drop clothes, tarps, or other acceptable means.

1 year warranty on all parts and labor. Contractor is to provide the warranty information at the time the solicitation response is returned.

Additional mandatory specifications are included after section 3.6 and in the attached plans

Pre-bid meeting or site visit is not mandatory but highly recommended.

Contractors interested in a site visit are to contact Jody McNaughton at 515-239-1298

2.2 Contractor Responsibilities

2.2.1

All bidder information and conditions, bid check lists and similar documents included in the specifications issued by the Iowa DOT, Ames, Iowa are hereby made a part of the General Conditions.

2.2.2 Contractors Construction Schedule

The Successful Bidder will, at the pre-construction meeting, submit a detailed construction schedule including dates of commencement and completion on each phase of the proposed construction. Upon acceptance of the schedule, the Bidder will be expected to adhere to these dates as proposed.

2.2.3 Sub-Contractors

The Successful Bidder for the project shall furnish the Iowa DOT with a complete list of subcontractors and major material suppliers at the pre-construction meeting.

The Iowa DOT shall approve and maintain the list of subcontractors and major suppliers and issue a general approval of same after official award of the contract, subject to the specific requirements of the Plans, Specifications and the "General Conditions of the Contract, and of these supplementary Conditions," "Special Provisions," and elsewhere with contract documents, as applicable. Deviations from the list of subcontractors and material suppliers shall be made only with the specific approval of, or at the request of the Iowa DOT.

2.2.4 Verifying Work of Others

When a Contractor's work depends on proper execution of work by other contractors, such Contractor shall promptly report to the Iowa DOT project manager any defects in such work and/or discrepancies between executed work plans, drawings or specifications.

2.2.5 Safety Data Sheets (SDS)

The vendor shall include with proposal a SDS of materials bid for which these sheets apply. The successful bidder must furnish a SDS with all material delivered.

2.2.6 Guarantee

The Guarantee shall include, but not be limited to the following elements and services:

- a. Repair or replace defective materials, equipment, workmanship and installation that develops within the guarantee period, promptly and to Iowa DOT's satisfaction and correct damage caused in making necessary repairs and replacements, including all other damage done to areas, materials, and other systems resulting from the failure or defect, under guarantee by and at the expense of the Contractor.
- b. Replace material or equipment that requires excessive service during guarantee period, as defined and as directed by the Iowa DOT.
- c. Make all service calls, replacements, repairs and adjustments during the guarantee period without cost to the Iowa DOT.

2.2.7 Workmanship

All workmanship or labor provided upon award shall be warranted for a period of not less than twelve (12) months. The Contractor shall be responsible for any damage to other work resulting from negligence either purposeful or accidental. The Contractor will be allowed a remedy period as mutually agreed upon. The warranty period of twelve (12) months shall begin on the date of final acceptance. Neither the final payment nor any provision of the

contract documents shall relieve the Contractor of responsibility for faulty materials or workmanship.

Work shall be performed in best, most workmanlike manner by mechanics, Contractor personnel. Installation shall be made by the manufacturer or their authorized installer where specified. Unsatisfactory work shall be replaced at Contractor's expense. The Iowa DOT project manager shall notify the Contractor and set up a complete walk-through inspection.

2.2.8 Discriminatory Practices

All Contractors or subcontractors working under the terms of these projects are prohibited from engaging in discriminatory employment practices as defined by the Iowa Civil Rights Act of 1965. These provisions shall be fully enforced, as directed through Executive Order Number 34 dated July 22, 1988. Any breach of the provisions contained in the Iowa Civil Rights Acts of 1965 shall be regarded as a material breach of contract.

The successful bidder agrees that if awarded a contract to construct and/or remodel any portion of the project described in these specifications, neither the contractor nor any subcontractors will engage in any discriminatory employment practices based on race, color, creed, religion or natural origin and that they will in all contracts comply with all statutes of the State of Iowa against discrimination.

2.2.9 Use of Premises

The successful contractors shall confine all apparatus, storage of materials and construction to areas as directed by the Iowa DOT and shall not encumber the premises with materials.

Notwithstanding any approvals or instructions which must be obtained by the Contractors from the Iowa DOT in connection with use of premises, the responsibility for the safe working conditions at the site shall remain that of the Contractors.

2.2.10 Clean-Up

Throughout the period of construction, the successful bidder shall clean up all work and yard areas and keep their area reasonably free of debris, etc., as required for proper protection of the work. Prior to final acceptance, the successful contractor shall remove all debris, tools and equipment from the project site.

2.2.11 Safety and OSHA STDs

The successful bidder shall comply with Iowa Occupational Safety and Health Standards as found in 29 CFR Parts 1910 and 1926. Of particular importance are those standards referring to the use of personal protective equipment (PPE), fall protection and ventilation.

2.2.12 Safety and Health Regulations

The successful contractor, serving in the role of the employer for the project, shall exercise at all times the protection of all persons and property. Successful contractor shall comply with all requirements of the Occupational Safety and Health Act of 1970, Iowa Bureau of Labor and all applicable state and municipal laws, as well as building and construction codes. It is the successful contractor's responsibility to enforce all regulations that apply to these projects.

2.2.13 State of Iowa Building Code

All construction under this section shall conform to the requirements of the Iowa State Building Code. The provisions of the Iowa State Building Code will be strictly adhered to, and will take precedence over any local Governmental Body Regulations. Work not regulated by the Iowa State Building Code shall be performed in accordance with local Governmental Body Regulations.

2.2.14 Cutting and Patching

Similarly, each successful contractor shall perform all necessary patching that result from cutting of holes.

2.3 Performance and Payment Bond

If the contracted amount is \$25,000 or more, the successful Bidder shall furnish a performance bond covering the faithful performance of 100% of the Contract and the payment of all obligations arising thereunder.

One copy of the bond shall be submitted on Iowa Department of Transportation **Form 131070**. All items must be properly filled in, including Bidder's signature.

A Resident Commission Agent or attorney-in-fact must file a copy of the power of attorney.

2.4 Bid Bond (if required)

The Solicitation Response page will indicate the fixed percent of the bid security required based on the amount of the Bidder's bid. See also Standard Terms and Conditions Section A-3.

It is the responsibility of the Contractor to notify the surety company of the required amount of the bond. The surety is based on the percentage of the contractors total bid response.

Bid Bond's must be submitted on Iowa DOT Form No. 131084 or the bid will be rejected.

The Bid Bond from the qualified responsive Bidder will be retained until an executed contract is in place and the required bonds and Insurance Certificates are in the possession of the Iowa DOT after which the bid security will promptly be returned.

2.5 Power of Attorney

Attorney-in-fact who signs the Bid Bond and/or Performance Bond must file with each bond a certified and effectively dated copy of the Power of Attorney. It is the responsibility of the Contractor to notify the surety company of the required amount of the bond. The performance bond is based on the percentage of the contractors total bid response.

2.6 Labor Regulations

All Bidders, before entering into a contract with the Department, must be registered with the Division of Labor in the Iowa Department of Workforce Development (515-281-3606) according to chapter 91C, Code of Iowa 2015. This pertains to contractor's who engage in the business of construction.

2.7 DOT Responsibilities

Identify Iowa DOT project manager & contact information.

2.7.1 Inspection and Supervision

- All work shall be according to the approved design and shall be under the direct supervision of the Iowa DOT project manager.
- Periodic site inspections will be carried on by the Iowa DOT project manager with the contractor to ensure coordination of the project.
- . The Contractor is to give the Iowa DOT project manager notice no less than 24 hours in advance of installation.

Section 3 Supplemental Terms & Conditions

3.1 Contract Award

Award will be based on the total lump sum amount of response price shown on the Schedule of Prices. The Iowa DOT will award to the lowest, most responsive, responsible bidder. The Iowa DOT reserves the right to accept the response(s) which best serves the interest of the State.

Bid price will include all requirements listed in Section 2 to complete this proposed project. The Contractor shall be responsible for taking all sub-contractor responses and for all coordination between trades.

3.2 Contract Period

The date of completion shall be stated in calendar days on the Responder's Response, and if necessary, adjusted by mutual agreement between the Iowa DOT and successful contractor prior to executing the contract documents.

The Iowa DOT realizes that deliveries and site conditions have a definite bearing on the completion date. The Iowa DOT will demand diligence in the progression of the work, but with good cause and satisfactory past performance by the Contractor, the Iowa DOT may revise the completion date to another mutually-acceptable date, when requested in writing and in good faith by the Contractor.

3.3 Liquidated Damages

Liquidated damages of **\$ 150.00** will be assessed for each calendar day the contract remains uncompleted after the contract completion date.

3.4 Payments and Completion of Contract

3.4.1 At the Pre-Construction Conference, the contractor shall submit a schedule of values of the various parts of the work, aggregating the total sum of the contract, made out in such form as the Iowa DOT may direct and, if required, supported by evidence as to its correctness. This schedule, when approved by the Iowa DOT, shall be used as a basis for requests for payment.

3.4.2 Final payment shall be authorized not later than sixty (60) days following the completion and final acceptance of the contract, provided that the provisions herein and all other contract requirements have been fulfilled, accepted and approved, where no claims have been filed or following adjudication or release of claims as provided in Chapter 573 of the Code of Iowa.

3.4.3 No notification of payment being processed, no payment made to the Contractor, no partial payment nor the entire use or occupancy of the work by the Iowa DOT shall be held to constitute an acceptance, in whole or in part, by the Iowa DOT prior to making the final payment and acceptance in full completion of the contract.

3.5 Contractor(s) Insurance Requirements

The resulting Contract will require the successful Contractor to maintain insurance coverage(s) of the type and in the amounts set forth below.

- It shall be the Contractor's responsibility to have liability insurance covering all of the project operations incident to contract completion and the Contractor(s) must have on file with the Contracting Authority a current "Certificate of Insurance" prior to award of contract.

The certificate shall identify the insurance company firm name and address, contractor firm name, policy period, type of policy, limits of coverage, and scope of work covered (single contract or statewide). This requirement shall apply with equal force, whether the work is performed by persons employed directly by the Contractor(s) including a subcontractor, persons employed by a subcontractor(s), or by an independent contractor(s).

- In addition to the above, the Contracting Authority shall be included as an insured party, or a separate owner's protective policy shall be filed showing the Contracting Authority as an insured party.

- The liability insurance shall be written by an insurance company (or companies) qualified to do business in Iowa. For independent contractors engaged solely in the transportation of materials, the minimum coverage provided by such insurance shall be not less than that required by Chapter 325A, Code of Iowa, for such truck operators or contract carriers as defined therein. For all other contractors, subcontractors, independent contractors, and the Contracting Authority, the minimum coverage by such insurance shall be as follows:

- Commercial General Liability including Contractual Liability;
- Contingent Liability;
- Damage; Occurrence Basis Bodily Injury; Broad Form Personal Injury; Broad Form Property Damage.

Bodily Injury

The contractor will purchase and maintain throughout the term of this contract the following minimum limits and coverage:

| | |
|----------------------------|-----------|
| • Each person | \$750,000 |
| • Each accident/occurrence | \$750,000 |
| • Workers Compensation | \$750,000 |
| • Statutory Limits | \$750,000 |
| • Employer's liability | \$750,000 |
| • Occupation Disease | \$750,000 |

Operations

- Property Damage \$250,000 each occurrence

The Contractor(s) shall require all subcontractor(s) meet the above insurance requirements.

The Certificate of Insurance must include the following;

- Iowa Department of Transportation must be listed as an additional insured
- Proposal Number
- Proposal Description
- Letting Date and Contract Period

For independent contractors engaged solely in the transportation of materials, the minimum insurance coverage provided shall be not less than that required by Chapter 325A, Code of Iowa, for such truck operators or contract carriers as defined therein.

Builders Risk Insurance (if applicable)

- Each Contractor holding a valid contract with the Iowa DOT shall furnish and pay for builder's risk insurance, providing coverage for at least the following losses: fire, extended coverage, vandalism and malicious damage to materials incorporated in the project, and materials purchased to be incorporated in the project, either stored on or off the permanent job site. If this insurance coverage is not provided, the Contractor shall assume all responsibility for the perils outlined above which may occur prior to

project completion and acceptance.

- Failure on the part of the Contractor(s) to comply with the requirements of this Article will be considered sufficient cause to suspend the work, withhold estimates, and to deny the Contractor(s) any further contract awards, as provided in Article 1103.01.
- The Contractor(s) shall require all subcontractor(s) meet the above insurance requirements.

3.6 Public Contract Termination

The provisions of Iowa law as contained in Chapter 573A of the Code of Iowa, an Act to provide for termination of contracts for the construction of public improvements when construction or work thereon is stopped because of national emergency, shall apply to and be a part of this Contract, and shall be binding upon all parties hereto, including subcontractors and sureties upon any bond given or filed in connection herewith.

SECTION 16010

BASIC ELECTRICAL REQUIREMENTS

PART 1 - GENERAL

SECTION INCLUDES

Basic Electrical Requirements specifically applicable to Division 16 Sections, in addition to Division 1 - General Conditions.

SUMMARY OF WORK

Modify the existing lighting system as specified herein, as shown on the Drawings, and in compliance with applicable codes and requirements of governmental authorities having jurisdiction.

Provide all materials, labor, equipment, and miscellaneous materials for a fully functional lighting system as shown on the Drawings and specified herein including:

Demolition of selected existing lighting fixtures and associated switches.

Installation of Owner furnished lighting fixtures.

Furnish and install new lighting fixtures and lamps, furnished by the contractor, as noted on the Drawings.

Provide hanger materials and fixture whips for all fixtures, except emergency/exit fixtures, as noted on the Drawings.

Extension of existing lighting circuits and associated materials.

Furnish and install new lighting switches in existing locations.

SPECIAL CONDITIONS

The project building will be occupied by the Owner and in normal use through standard business days and times (Monday-Friday, 7:00 AM -3:30 PM).

Work, including any significant power outage, must be performed without major disruption to the Owner's normal activities. As a result, work that requires or results in a power disruption must be performed during weekends, extended holiday weekends, and/or after 3:30 PM and before 7:00 AM.

Coordinate any proposed power outage(s) with the facility administrator.

Protect all Owner's equipment and fixtures from dust, dirt and debris using clean drop clothes, tarps, or other acceptable means.

SITE VISIT

Visit the project site to verify existing conditions prior to bidding.

DEMOLITION

Demolish existing lighting fixtures and associated switches as shown on the Drawings.

Note the requirement to verify existing conditions prior to bidding.

Include miscellaneous materials associated with the demolished items and not needed for the new installation.

Remove demolished materials from the site and dispose of properly. Comply with all applicable State and Local requirements regarding the disposal, with attention drawn to the disposal of lamps and ballasts.

CODES AND PERMITS

Apply and pay for state and/or local permits, in the name of the Owner.

Comply with all applicable provisions of codes and local requirements that pertain to this project. Know code and local requirements prior to bidding.

In the event of a conflict between the contract documents and a code requirement, the more stringent requirement applies.

Codes that apply to this project include, but are not limited to, the following:

National Electrical Code (2014)

Arrange for inspections by governmental authorities having jurisdiction.

NO SMOKING POLICY

The Owner requires that no smoking be permitted in/on any part of the property at any time.

PRIOR APPROVAL

When an item of equipment is given as a quality and performance standard, or when the phrase "or approved equal" appears, a manufacturer's representative of an unlisted item may submit for approval to bid as an equal to the listed item.

Include product specifications and other literature as required to demonstrate that the submitted product is at least equal to the listed item.

Submit Request for Prior Approval at least 10 days before the bid date to allow inclusion in an addendum.

SUBMITTALS

Submit shop drawings in conformance with requirements in Division 1.

Submit shop drawings for contractor-furnished fixtures, switches, and fixture hangers. Indicate the specific product proposed with all pertinent information shown to match that specified.

Submit shop drawings by email in Adobe pdf format files.

OPERATION AND MAINTENANCE MANUALS (O&M)

Submit operation and maintenance documents for contractor-furnished light fixtures and switches.

Submit two (2) copies of O&M manuals in vinyl covered 3-ring binders, with project title on the front cover and spine.

WARRANTY

Warrant the work to be free of defects for a period of one year from the date of Substantial Completion. Repair defects within the warranty period in a timely manner without additional charge to the Owner.

Do not warrant damage from improper maintenance or use by the owner.

QUALITY ASSURANCE

Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

PART 2 – PRODUCTS

MATERIALS

Provide only products that are new, and of the type and quality specified.

UL APPROVAL AND LISTING

Provide only products that are approved and listed by Underwriter's Laboratories, Inc.

PART 3 - EXECUTION

INSTALLATION IN GENERAL

Coordinate scheduling of work with the Owner's local representative.

Do not disrupt power during normal business hours without first scheduling work with the Owner's local representative.

Provide all required slots, chases, and openings in the building structures. Do not cut structural members without the written permission of the Engineer.

Install fixtures in strict accordance with manufacturers' installation instructions and recommendations. Provide copies of these instructions in the O & M manuals.

Provide all structural supports and mounting accessories for fixtures.

Provide all required adjustments for proper operation of the electrical systems. Check all safety devices and associated wiring for safe and proper operation.

At the completion of the project provide thorough instruction to the Owner's personnel on the proper operation and maintenance of the modified electrical system.

CLEANING

Keep the premises clear of unnecessary accumulation of debris during the project. On completion, remove all rubbish and debris resulting from the work or the work of subcontractors and dispose of properly.

Clean all equipment and fixtures at the completion of the project of accumulated plaster, dust, or other dirt and leave in a condition satisfactory for use. Vacuum chips, insulation stubs, and other debris from all panelboards, switches, and other enclosures.

END OF SECTION

SECTION 16110**CONDUIT**PART 1 - GENERAL**SECTION INCLUDES**

Electrical metallic tubing and fittings.
Non-metallic conduit and fittings.

REFERENCES

ANSI C80.3 - Electrical Metallic Tubing, Zinc-Coated.
ANSI C80.4 - Fittings for Rigid Metal Conduit and Electrical Metallic Tubing
ANSI/NEMA FB 1 - Fittings and Supports for Conduit and Cable Assemblies
UL 514B - Fittings for Conduit and Outlet Boxes
UL 797- Electrical Metallic Tubing
NEMA TC 2 - Conduit (EPC-40 and EPC-80).
NEMA TC 3 - PVC Fittings for Use with Rigid PVC Conduit and Tubing.
NEC - National Electric Code (2014)

PART 2 - PRODUCTS**ELECTRICAL METALLIC TUBING (EMT) AND FITTINGS**

EMT: galvanized tubing that conforms to UL 797 and ANSI C80.3. Conduit shall bear UL label.

Fittings and Conduit Bodies: conform to ANSI/NEMA FB 1 and UL 514B; steel, insulated throat compression or set screw type except in poured concrete or wet locations use only the compression type. Cast or crimp (indent) type fittings are not acceptable.

RIGID NON-METALLIC CONDUIT AND FITTINGS

Conduit: Schedule 80 PVC, UL listed for 90°C; NEMA TC 2, conform to NEC Article 347.

Fittings and Conduit Bodies: PVC sleeve type, suitable for, and manufactured specifically for use with the conduit by the manufacturer; NEMA TC 3.

Plastic cement for joining conduit and fittings shall be supplied by the manufacturer of the conduit and shall be suitable for the ambient temperature at the time of installation.

PART 3 - EXECUTION**CONDUIT SIZING**

Size conduit for conductor type installed in compliance with the NEC.

Conduit sizes shall change only at the entrance or exit to a junction box.

CONDUIT ARRANGEMENT

Arrange conduit to maintain headroom and present a neat appearance. Route exposed conduit and conduit above accessible ceilings parallel and perpendicular to walls, structure, and adjacent piping.

Maintain minimum 6 inch clearance between conduit and piping. Maintain 12 inch clearance between conduit and heat sources such as flues, and heating appliances.

Arrange conduit supports to prevent distortion of alignment by wire pulling operations. Fasten conduit using galvanized straps, lay-in adjustable hangers, clevis hangers, or bolted split stamped galvanized hangers.

CONDUIT SUPPORTS

Provide stainless steel conduit hangers and associated hardware. Do not fasten conduit with wire or perforated pipe straps. Remove all wire used for temporary conduit support during construction, before conductors are pulled.

Conduit shall be held in place by the correct size of conduit clamps or straps, or other support devices specifically designed for conduit support. Support conduit in compliance with the NEC.

Do not support conduit from lay-in ceiling hanger wires, ceiling support channels, ductwork, or piping.

On concrete or masonry construction, use insert anchors or expansion shields installed with plated steel

CONDUIT INSTALLATION SCHEDULE

Indoor dry locations: Electrical metallic tubing (EMT) and fittings

Indoor wet locations (Wash Bay): Schedule 40 rigid PVC non-metallic conduit and fittings.

END OF SECTION

SECTION 16120

WIRE

PART 1 - GENERAL

SECTION INCLUDES

Building wire

Wiring connections and terminations

REFERENCES

NEC - National Electric Code (2014)

NEMA WC 5 - Thermoplastic-Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy

PART 2 - PRODUCTS

BUILDING WIRE

Thermoplastic-insulated Building Wire: NEMA WC 5.

Feeders and branch circuits 10 AWG and smaller: Solid or stranded copper conductor, 600 volt insulation:

Dry locations: THHN-2

Wet locations: THWN-2.

PART 3 - EXECUTION

GENERAL WIRING METHODS

Use no wire smaller than 12 AWG for switch and lighting circuits.

Splice only in junction or outlet boxes.

Neatly train and lace wiring inside boxes, equipment, and panelboards.

Make conductor lengths for parallel circuits equal.

Use industry standard color code for all conductors.

Provide green equipment grounding conductor in all conduits.

WIRING INSTALLATION IN RACEWAYS

Pull all conductors into a raceway at the same time. Use UL listed wire pulling lubricant for pulling 4 AWG and larger wires.

Completely and thoroughly swab raceway system before installing conductors.

Wires shall not be laid on ground before pulling nor dragged over the ground.

Only nylon rope shall be used for pulling wires or cables.

Leave at least 6" ends in device or fixture boxes for connections.

WIRING CONNECTIONS AND TERMINATIONS

Splice only in accessible junction boxes.

Use solderless pressure connectors with metal inserts and insulating covers for copper wire splices and taps, 8 AWG and smaller. Use insulated spring wire connectors with plastic caps, 10 AWG or smaller. All plastic or ceramic wire nuts are not acceptable.

Thoroughly clean wires before installing lugs and connectors.

Make splices, taps and terminations to carry full ampacity of conductors without perceptible temperature rise.

Terminate spare conductors with electrical tape.

FIELD QUALITY CONTROL

Inspect wire and cable for physical damage and proper connection.

Torque test conductor connections and terminations to manufacturers recommended values.

Perform continuity test on all power and equipment branch circuit conductors. Verify proper phasing connections.

END OF SECTION

SECTION 16130**BOXES**PART 1 - GENERAL**SECTION INCLUDES**

Pull and junction boxes.

RELATED SECTIONS

Section 16110 - Conduit

Section 16141 - Wiring Devices

REFERENCES

UL 514A - Metallic Outlet Boxes, Electrical

UL 514B - Fittings for Conduit and Outlet Boxes

ANSI/NEMA FB 1 - Fittings and Supports for Conduit and Cable Assemblies

ANSI/NEMA OS 1 - Sheet-steel Outlet Boxes, Device Boxes, Covers, and Box Supports

ANSI/NFPA 70 - National Electrical Code (2014)

REGULATORY REQUIREMENTS

Conform to requirements of ANSI/NFPA 70.

Furnish products listed and classified by Underwriters Laboratories, Inc., as suitable for purpose specified and shown.

PART 2 - PRODUCTS**PULL AND JUNCTION BOXES-INDOORS, DRY AREAS**

Sheet Metal Boxes: galvanized code gage stamped knockouts, threaded screw holes, and accessories as required for each location including mounting brackets and straps, cable clamps, conform to UL 514A, UL 514B, and ANSI/NEMA OS 1.

PULL AND JUNCTION BOXES-INDOORS, WET AREAS (WASH BAYS)

PVC Boxes: NEMA 4X, heavy duty construction, and accessories as required for each location including mounting brackets and straps, cable clamps.

PART 3 - EXECUTION**INSTALLATION**

Install electrical boxes as required for splices, taps, wire pulling, equipment connections and compliance with regulatory requirements.

Install electrical boxes to maintain headroom and to present neat mechanical appearance.

Install pull boxes and junction boxes above accessible ceilings and in unfinished areas only.

Support boxes independently of conduit.

Remove knockouts only as required. Knockouts mistakenly removed shall be properly plugged.

END OF SECTION

SECTION 16141**WIRING DEVICES**PART 1 - GENERAL**SECTION INCLUDES**

Switches

Device plates and box covers

RELATED SECTIONS

Section 16110 - Conduit

Section 16120 - Wire

Section 16130 - Boxes

REFERENCES

NEMA WD 1 - General Purpose Wiring Devices

NEMA WD 6 - Wiring Device Configurations

SUBMITTALS

Submit under provisions of Section 16010.

Product Data: Provide manufacturer's catalog information showing dimensions, colors, and configurations.

REGULATORY REQUIREMENTS

Conform to requirements of ANSI/NFPA 70 - National Electric Code (2014).

Provide products listed and classified by Underwriters Laboratories, Inc.

PART 2 - PRODUCTS**WIRING DEVICES - ACCEPTABLE MANUFACTURERS & MODELS**

| DEVICE | P&S |
|-------------------------------|----------------|
| Wall Switch, single pole, 20A | PS20AC1 |
| Wall Switch, 3-way, 20A | PS20AC3 |
| Wall Switch, 4-way, 20A | PS20AC4 |
| Wall Switch, single pole, 15A | PS15AC1 |
| Wall Switch, 3-way, 15A | PS15AC3 |

Equivalent devices from Hubbell or Leviton are acceptable. All devices shall be from the same manufacturer.

SWITCHES

Description: NEMA WD 1, heavy-duty, AC only general use toggle handle snap action switch with colored Nylon™ thermoplastic face.

Color: Grey

Rating: 120 volts, AC, 20A

WALL PLATES

Satin finish stainless steel.

PART 3 - EXECUTION

PREPARATION

Clean debris from boxes.

INSTALLATION

Install products in accordance with manufacturer's instructions.

Install devices plumb and level.

FIELD QUALITY CONTROL

Inspect each wiring device for defects.

ADJUSTING

Adjust devices and wall plates to be flush and level.

END OF SECTION

SECTION 16190
SUPPORTING DEVICES

PART 1 - GENERAL

SECTION INCLUDES

Conduit and equipment supports
Fastening hardware

SUMMARY OF WORK

Furnish and install hangers, struts, and brackets required to support electrical work.

Furnish and install foundations, bases, and supports for items of equipment involved in the Work.

RELATED SECTIONS

Section 16110 – Conduit
Section 16130 – Boxes

PART 2 - PRODUCTS

STEEL STRUTS- ACCEPTABLE MANUFACTURERS

B-Line
Unistrut
T&B Superstrut/Kindorf

Steel Struts, Inside: Stainless steel, nominally 1-5/8" square size.

FASTENERS, RODS, AND CLAMPS

Fasteners: Stainless steel.

Hanger Rods: Stainless steel threaded rods.

Conduit Clamps: Stainless steel.

LIGHTING FIXTURE SUPPORTS

Refer to Section 16510.

PART 3 - EXECUTION

INSTALLATION

Fasten hanger rods, conduit clamps, and junction boxes to building structure using beam clamps, or other appropriate fastener.

Do not fasten supports to piping, ductwork, mechanical equipment, conduit, or ceiling hanger wires.

Do not drill structural members without written permission of the Engineer.

Do not use powder actuated (explosive) anchors without specific permission from the Engineer.

Provide supports from structural steel or steel channel, rigidly welded or bolted to present a neat appearance. Use hexagon head bolts with spring lock washers under all nuts.

END OF SECTION

SECTION 16510**LIGHTING FIXTURES & LAMPS**PART 1 - GENERAL**SECTION INCLUDES**

Interior lighting fixtures
Exit/emergency lighting fixtures

RELATED SECTIONS

Section 16110 - Conduit
Section 16120 - Wire
Section 16130 - Boxes
Section 16190 - Supporting Devices

REGULATORY REQUIREMENTS

Conform to NFPA 101 for installation requirements.

NFPA 70 - National Electric Code (2014)

OWNER FURNISHED MATERIALS

The majority of lighting fixtures are furnished by the Owner and are stored on-site.

Refer to the Drawings to determine which fixtures are Owner-furnished, and which are Contractor-furnished.

SUBMITTALS-CONTRACTOR FURNISHED FIXTURES

Submit product data and manufacturer's installation instructions under provisions of Section 16010. Include outline drawings, lamp and ballast data, ETL photometric curves, support points, weights, and accessory information for each lighting fixture type.

DELIVERY, STORAGE, AND HANDLING

Owner furnished fixtures are stored on-site.

Store new fixtures indoors in a dry, conditioned space.

Coordinate with the Owner's representative to arrange for on-site storage space.

Contractor furnished fixtures-Replace lenses, and other fixture components furnished as part of this project, if broken or damaged after arriving on site.

PART 2 - PRODUCTS**FIXTURES, LAMPS, AND SUPPORT HANGERS**

Refer to the Fixture schedule and notes on the Drawings.

High bay fixtures and lamps will be furnished by as noted on the Drawings.

Provide workbench and emergency/exit fixtures and lamps as noted on the Drawings.

Provide fixture hangers and miscellaneous support materials for all fixtures as noted on the Drawings.

FIXTURE WHIPS

Provide fixture whips for all fixtures, except emergency/exit fixtures.

Provide fixture whips that meet the requirements of the 2014 NEC: Articles 348.20(A)(2), 348.22, 410.177(A), (B), and (C), and 410.137(C).

Fixture whips: UL Listed, with die cast metal screw-In connectors on each end, stranded copper wire, 3/8" flexible armored cable, 3-12 AWG Stranded Wire: 6-FT - Black, White, Green.

MOUNTING ACCESSORIES

Provide fixture 'aircraft cable' wire hangers and accessories as scheduled on the Drawings.

Only provide wire hanger systems furnished by the fixture manufacturer.

PART 3 - EXECUTION

DEMOLITION

Demolish the existing lighting fixtures that will be replaced by new fixtures, as shown on the Drawings. Include miscellaneous materials associated with the removed fixtures and not needed for the new installation. Remove demolished materials from the site and dispose properly.

INSTALLATION

Owner furnished fixtures are stored on-site in a building different from the project area. Move the fixtures to the project area, unbox the fixtures, and properly dispose of the packing materials off site.

Install fixtures furnished by the Owner and contractor as shown on the Drawings. Provide boxes, cover plates, conduit, wire, supports, fixture whips, and miscellaneous materials as required for a complete, fully functional lighting system.

Comply with the National Electric Code and the manufacturer's instructions.

Support lighting fixtures directly from building structure. Provide mounting accessories as required to support fixtures.

Install units plumb and level.

Ground fixture bodies to conduit system and connect outer shells of lamp sockets to neutral conductors.

Test all fixtures for proper operation.

ADJUSTING AND CLEANING

Align emergency lighting fixtures to illuminate the egress path and lock into position.

Clean fixture bodies and lenses at completion of Work.

END OF SECTION