

### Purchasing and Distribution Services 702 SE M-291 Highway Lee's Summit, Missouri 64063

(816) 986-2190 Email: heather.falls@lsr7.net

### **INVITATION TO BID**

DATE: November 8<sup>th</sup>, 2018 FOR: LSHS Exterior Lighting

BID#: 2019-19

DATE OF OPENING: November 28th, 2018

TIME OF OPENING: 2:00 PM

#### THE UNDERSIGNED HEREBY:

- 1. Agrees to deliver the items specified herein in accordance with the terms, conditions specifications and prices set forth.
- 2. Certifies that he/she is an authorized agent of said company and has the authority to legally enter into a binding contract.

#### **BIDS MUST BE SIGNED IN INK**

Name of Vendor	Authorized Representative (Print)
Street Address	Authorized Signature
City	State, Zip Code
Telephone	Contact Email
All questions, requests for information or writing to the District's Public Purchase	r clarification pertaining to this bid must be submitted i

Note: Vendors may not contact any other staff member of the Lee's Summit R-VII School District

or Board of Education during the bid process.

### SCOPE OF WORK: LSHS EXTERIOR LIGHTING

The Lee's Summit R-VII School District is soliciting bids for the purchase of parking lot lighting equipment at Lee's Summit High School located at 400 SE Blue Parkway, Lee's Summit, MO 64063. Parking lot lighting equipment including new poles and LED fixtures at two parking lot locations at Lee's Summit High School will be replacing existing fixtures and poles. An exterior lighting specification and drawings indicating existing light pole equipment locations are included as Appendix A attachments with this Invitation to Bid. The bid document and required specifications can be found on the District's purchasing website. All questions, requests for information or clarification pertaining to this RFP must be submitted in writing to the District's Public Purchase website, www.publicpurchase.com before 12:00 PM on November 21st. Proposals must be uploaded to Publicpurchase.com no later than 2:00 PM on Wednesday, November 28th.

#### SPECIAL INSTRUCTIONS

- 1. Purpose of Bid: The Lee's Summit R-VII School District is soliciting bids for the purchase of Parking Lot Lighting Equipment (See Equipment Specifications / Pricing page).
- 2. Bid price shall include new equipment and delivery.
- 3. All bids shall be quoted **F.O.B. DESTINATION** unless otherwise specified.
- 4. Delivery Locations: Lee's Summit High School 400 SE Blue Parkway, Lee's Summit, MO 64063.
- 5. Purchase Agreements shall be awarded in accordance with regulations adopted by the Lee's Summit R-VII Board of Education and adhere to all applicable purchasing policies. Purchase Agreements will be negotiated with the lowest responsible bidder who meets the qualifications for quality, price, terms of bid, and service, and determined to be in the best interest of the District. The bid award will be at the sole discretion of the District. The District reserves the right to reject any and all bids in part or in whole, and to accept the bid that is in the best interest of the District.
- 6. The terms of this bid shall remain in effect for at least one year from date of award. All prices **MUST** remain firm during that time period. The manufacturer warranty for the Parking Lot Lighting Equipment shall commence after the equipment is delivered and demonstrated to Facilities, unless otherwise stipulated on a specific order issued by the District. (See #10 below for allowable exceptions.) *The District may make additional purchases at the itemized price listed in the bid packet for a period of one* (1) year.
- 7. The successful bidder shall make deliveries as stated on each order. All deliveries shall be made in accordance with good commercial practice and shall be adhered to by the

successful bidder(s); except in such cases where the delivery will be delayed due to acts of God, strikes, or other causes beyond the control of the bidder. In these cases, the successful bidder shall notify the District of the delays in advance of the delivery dates so that a revised delivery schedule can be negotiated.

- 8. If the bidder experiences a back order of items from its manufacturer or distributor, the bidder shall ensure that such back orders are filled within twenty (20) calendar days from the date of the initial order. The successful bidder shall not invoice the District for back ordered items until such back orders are delivered and accepted by the District's authorized representative. It is understood and agreed that the District may, at its discretion, verbally cancel back orders after the grace period identified in this paragraph has lapsed, seek the items from another vendor and choose to cancel this contract.
- 9. Bidders are expected to bid on the equipment item as listed on the Equipment Specifications List. If there are any deviations from the specifications listed, the bidder is expected to make note on the bid form. The District reserves the right to determine the successful bidder and will make that decision based on the best interest of the District.
- 10. In the event a replacement product is necessary due to product failure, Facilities Department will work directly with the manufacturer under the applicable warranty coverage. A standard five (5) year warranty is preferred for this equipment purchase. If a five (5) year warranty is not offered, please provide information for an extended warranty option for purchase.
- 11. The successful bidder(s) must agree to accept the District's Purchase Order or the District's Visa P-card for the order. These purchases are tax exempt.
- 12. <u>Bids must be uploaded to Publicpurchase.com no later than 2:00 PM on November 28th. Please note, registration with Public Purchase can take up to 36 hours, so do not wait until the day of the bid closing to register and upload your bid.</u>
- 13. The Lee's Summit R-VII School District will review all bid submissions with regards to pricing, product performance, and equipment features. The District plans to award the bid within 30 days after the bid opening.

#### GENERAL INVITATION TO BID INSTRUCTIONS

- 1. These General Terms, Conditions and Instructions apply to all proposals made to Lee's Summit R-VII School District (herein after referred to as "District") by each prospective vendor (herein after referred to as "Bidder") in response to District solicitations including, but not limited to, Invitations to Bids, Requests for Proposals and Requests for Quotes. As such, the words "Bid" and "Proposal" are used inter-changeably in reference to any and all offers submitted by prospective vendors.
- 2. <u>Public Purchase:</u> It is the responsibility of the bidder to ensure that the bid is uploaded to the District's e-Procurement site, Public Purchase, prior to the time indicated in the

"Invitation to Bid". Only questions posted through the e-Procurement site will be answered and posted for all interested bidders to see. Telephone quotes will not be accepted when competitive sealed bids are solicited. In addition, only bids upload to the District's Public Purchase site, will be accepted. Late bids will not be allowed by the Public Purchase site.

- 3. Each Bidder shall furnish the information required; the unit price for each item and any variances in specifications must be shown.
- 4. Specifications are provided to identify the product required and to establish an acceptable quality level. Bids on products of equal quality and usability will normally be considered unless otherwise stated. Brochures and/or specifications must be submitted where applicable. Samples of item or items, when required, must be furnished free of expense to the District, and if not destroyed by tests, may upon request made at the time the sample is furnished, be returned at the Bidder's expense. Failure to furnish brochures, specifications, and/or samples as requested may be sufficient cause for rejection of Bids. Materials and/or services are to be supplied as specified. The District shall be the sole judge in determining "equals" in regard to quality, price, and performance.
- 5. The District reserves the right to reject any or all bids and to waive informalities and minor irregularities in bids received, and to accept any or all portions of a bid if deemed to be in the best interest of the District. The Invitation to Bid implies no obligation on the part of the District, and the District's silence does not imply any acceptance or rejection of any bid or quotation offer. The District reserves the right to select a bid with higher prices than the lowest of all prices received, if, in the opinion of the District, its interests will be best served by such bid.
- 6. Bidders are expected to examine the specifications, schedule of treatments of inspections and all instructions. Failure to do so will be at the bidder's risk.
- 7. Prices shall include all applicable discounts. If the successful bidder is offering a discount for quick payments, please state all payment terms in your bids.
- 8. The bid will be awarded to the responsive and responsible bidder(s) whose bid will be most advantageous to the District, price, specifications and other factors considered. The District reserves the right to waive any technical or formal error or omissions and reject any or all bids, or to award an agreement for the items thereon, either in part or in whole, if it is deemed to be in the best interest of the District to do so. Criteria that may be considered by the District in the award of this bid includes, but is not limited to, the following:
  - A. Superior quality and adherence to specifications
  - B. Delivery and/or completion time
  - C. Guarantees and warranties
  - D. Company's reputation and financial status

- 9. Any deviation from the specifications <u>MUST</u> be noted in detail, and submitted in writing with the bid packet. Complete specifications must be attached for any substitutions offered, or when amplifications are desirable or necessary. In the absence of a specification deviation statement and accompanying specifications, the bidder shall be held strictly accountable for full compliance with the specifications. Failure to submit a specification deviation statement, if applicable, shall be grounds for rejection of the item when offered for delivery. If specifications or descriptive papers are submitted with bids, the bidder's name must be clearly shown on each document.
- 10. The Invitation to Bid does not obligate the District to pay any costs incurred in the preparation or the submission of such bids, or to purchase or contract for materials or services, including costs of any required bonding.
- 11. Bidders who are not selected must submit objection documents, exhibits or other evidence within five (5) business days of opening if they wish to protest any portion of the Invitation to Bid.
- 12. The Bid price shall be exclusive of any federal or state taxes, from which the District is exempt. The District's Federal Tax Identification Number is 44-6004933. The District's State of Missouri Tax Exemption Certificate number is 12585521. The District's State of Kansas Tax Exemption Certificate number is KSMMS4EKDC.
- 13. Bidder understands and agrees that the District may increase or decrease quantities or modify conditions and specifications by mutual agreement with the selected supplier.
- 14. The District shall not be responsible for any goods delivered or services performed without an approved purchase order, signed by an authorized representative of the District.
- 15. Other governmental agencies may be extended the opportunity to purchase off any Bid with the agreement of the successful vendor and the participating agencies. Due to all the variables in this type of bid, the District will contact the successful bidder and make it aware of the interest by another agency (if any). The successful bidder and the interested agency will then be able to design the successful bid around their parameters, i.e., delivery locations and specialty products.
- 16. Provider must have the ability to accept the Lee's Summit R-VII School District Visa purchasing card. The District has implemented a Visa Purchasing Card Program for ease of purchasing items, especially for smaller items. Use of the District Visa purchasing card is at the discretion of the ordering agency. If there are additional fees associated with accepting a District Visa purchasing card, this must be notated and explained on the bidder's response.
- 17. The bid process is open and fair to everyone. Every attempt shall be made to ensure that the bidder receives an adequate and prompt response. However, in order to maintain a fair and equitable procurement process, all bidders will be advised via the issuance of an amendment to the Invitation to Bid, of any relevant or pertinent information related to the procurement. Therefore, bidders are advised that unless specified elsewhere in the Invitation to Bid, any

questions received less than five (5) calendar days prior to the opening date may not be answered.

#### **Purchase Orders**

- 1. OFFER/ACCEPTANCE: If the Purchase Order refers to Vendor's bid, then the Purchase Order is an ACCEPTANCE of Vendor's OFFER TO PROVIDE SERVICE, as stated in Vendor's bid. If no bid is referenced, the Purchase Order is an OFFER TO ORDER SERVICES, subject to Vendor's acceptance; which can be demonstrated by Vendor's performance of the order or by a formal acknowledgement. This section deals with items to purchase that may be provided by the successful bidder, but not listed on actual bid documents.
- 2. CHANGES: Any changes in prices to a Purchase Order shall be verified in writing, signed by an authorized representative of Lee's Summit R-VII School District and acknowledged by Vendor. Each service performed shall be deemed to be only upon the terms contained in the Purchase Order, notwithstanding any terms that may be contained in any invoice or other act of vendor other than acknowledgement of a written change submitted and approved by the District.
- 3. **DELIVERY:** In its acceptance of any quotation offer, Lee's Summit R-VII School District is relying on the promised delivery date, installation, and/or service performance as material and basic to its acceptance. In the event of Vendor's failure to deliver as and when promised, Lee's Summit R-VII School District reserves the right to cancel its order, or any part thereof, and vendor agrees that Lee's Summit R-VII School District may return all or part of any shipment so made, and may charge vendor with any loss or expense sustained as a result of such failure to deliver as promised.
- 4. **QUALITY:** Lee's Summit R-VII School District shall be the sole judge in determining "equals" in regard to quality, price and performance.
- 5. **INSPECTION:** Receipt of goods or services in response to the Purchase Order can result in authorized payment on the part of Lee's Summit R-VII School District. However, it is understood that final acceptance is dependent upon completion of all applicable required inspection procedures. Should the goods or services fail to meet all of Lee's Summit R-VII School District inspection requirements, Lee's Summit R-VII School District may exercise any or all of its rights allowed by law or in equity, including those provided in the Uniform Commercial Code. Vendor shall be responsible for inspection and replacement of all items damaged in shipment.
- 6. **WARRANTIES:** All goods covered by the Purchase Order are conveyed by vendor to Lee's Summit R-VII School District subject to the warranties and buyer's remedies described in the Uniform Commercial Code.
- 7. **TERMINATION:** In the event of the vendor's failure to deliver as and when specifically promised, Lee's Summit R-VII School District reserves the right to cancel the Purchase

Order, or any part thereof, without prejudice to its other rights, and vendor agrees that Lee's Summit R-VII School District may return all or part of any shipment so made and may charge vendor any loss or expense sustained as a result of such failure to deliver as promised.

- 8. **DISCOUNT:** Any discount periods will start from the date of Lee's Summit R-VII School District receipt of an acceptable invoice or from the date of its receipt of acceptable service.
- 9. **TAXES:** Lee's Summit R-VII School District is exempt from Federal and State Taxes under the State of Missouri Tax Exemption Certificate #12585521 and under the State of Kansas Tax Exemption Certificate #KSMMS4EKDC.
- 10. **PRICES:** Vendor agrees, if its bid is accepted by Lee's Summit R-VII School District within the time specified, to furnish the goods and/or services in strict accordance with the specifications, and at the price set forth for each item. In case of error in extension, the unit price shall prevail. If the price is omitted on the Purchase Order, vendor's price shall be the lowest prevailing market price.
- 11. **PROMPT PAYMENT:** It is Lee's Summit R-VII District policy to promptly pay vendors for goods and services it purchases. Payments are processed net 30.
- 12. **ASSIGNMENT:** Except for assignment of antitrust claims, neither party to the agreement created by the Purchase Order may assign any portion of the agreement or Purchase Order without the prior written consent of the other party. Vendor, and Lee's Summit R-VII School District as purchaser, recognizes that in actual economic practice antitrust violations ultimately impact on the purchaser.
- 13. O.S.H.A.: All chemicals, equipment and materials proposed and/or used by vendor in satisfaction of the terms of the Purchase Order shall conform to the standards required by O.S.H.A.
- 14. **SAFETY DATA SHEETS** (SDS) shall accompany each shipment, when applicable.
- 15. **INDEMNIFICATION:** In the event any goods sold or services delivered under the Purchase Order are covered by any patent, copyright or trademark, or application therefore, vendor shall indemnify and hold harmless Lee's Summit R-VII School District from any and all loss, cost, expenses and legal fees on account of any claims, legal actions or judgments on account of manufacturer, sale or use of such goods in violation, infringement or the like or rights under such patent, copyright, trademark or application.
- 16. **GOVERNING LAW AND VENUE:** All issues regarding the formation, performance and/or legal enforcement of this Purchase Order shall be governed by and construed in accordance with the laws of the State of Missouri. Venue for the resolution of any disputes arising out of or relating to the Purchase Order shall be in Lee's Summit R-VII School District, Lee's Summit, Missouri.

#### E-VERIFICATION AFFIDAVIT



#### Lee's Summit R-VII School District

301 NE Tudor Road Lee's Summit, Missouri 64086 (816) 986-1000 • FAX (816) 986-1168

#### **Business Services**

As a condition for any service provided to the Lee's Summit R-VII School District, a business entity shall, by sworn affidavit and provision of documentation, affirm its enrollment and participation in a federal work authorization program with respect to the employees working in connection with the contracted services.

Every such business entity shall complete the following affidavit affirming that it does not knowingly

employ any person who is an unauthorized alien in connection with the contract services. [RSMO 285.530 (2)]. The completed affidavit must be returned as part of the contract documentation or mailed to Lee's Summit R-VII School District, Attn: Accounts Payable, 301 NE Tudor Road, Lee's Summit, Missouri 64086. This affivadit affirms that \_\_ (Company Name) is enrolled in, and is currently participating in, E-verify or any other equivalent electronic verification of work authorization operated by the United States Department of Homeland Security under the Immigration Reform and Control Act of 1986 (IRCA); and \_\_\_\_\_\_\_ (Company Name) doe employ any person who is unauthorized alien in conjuction with the contracted services. (Company Name) does not knowingly Name (Please Print) of registered agent, legal representative or corporate officer Title Signature of registered agent, legal representative or corporate officer (DAY) of \_\_\_\_\_\_. I am commissioned as Subscribed and sworn to before me this a notary public within the County of \_\_\_\_\_, State of \_\_\_\_\_, State of \_\_\_\_\_, (NAME OF STATE) expires on (DATE) Signature of Notary Date

Failure to respond will cause payments due to you to be held until affidavit is received. Once the affidavit is received, payments will be released.

# (Rev. December 2011)

#### Request for Taxpayer Identification Number and Certification

Give Form to the requester. Do not send to the IRS.

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	Name (as shown or	n your Income tax	return)												
ge 2.	Business name/disr	regarded entity n	ame, if different fr	om above											
pe ons on page	Check appropriate		ax classification:  C Corporation	s Corpo	oration	Partnershi	lp 🗆 T	rust/esta	te						
Print or type See Specific Instructions	Limited liabilit		er the tax classifica	ation (C=C corpo	ration, S=	S corporation, Po	-partner	ship) ► _					L Ex	empt p	ayee
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	lote. If the account is in more than one name, see the chart on page 4 for guidelines on whose umber to enter.							=							
numbe	er to enter.									-					
Dan	Certifi	cation													

Under penalties of perjury, I certify that:

- 1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me), and
- 2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding, and
- 3. I am a U.S. citizen or other U.S. person (defined below).

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 4.

Sign Signature of Here U.S. person ▶

#### General Instructions

Section references are to the Internal Revenue Code unless otherwise

#### Purpose of Form

A person who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) to report, for example, income paid to you, real estate transactions, mortgage interest you paid, acquisition or abandonment of secured property, cancellation of debt, or contributions you made to an IRA.

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN to the person requesting it (the requester) and, when applicable, to:

- 1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued).
- 2. Certify that you are not subject to backup withholding, or
- 3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income.

Note. If a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- · An individual who is a U.S. citizen or U.S. resident alien,
- · A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States,
- . An estate (other than a foreign estate), or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax on any foreign partners' share of income from such business. Further, in certain cases where a Form W-9 has not been received, a partnership is required to presume that a partner is a foreign person, and pay the withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid withholding on your share of partnership income.

Form W-9 (Rev. 12-2011)

Caf. No. 10221X

### Purchasing and Distribution Services 702 SE M291 Highway Lee's Summit, Missouri 64063 (816) 986-2190

### PARKING LOT LIGHTING EQUIPMENT

Purchase of Parking Lot Lighting Equipment	Do the Specs meet Min. Spec Given?	If No, Give Explanation			
Details	Yes/ No	Explanation of Difference			
Equipment – Poles & Fixtures					
Banner Arms					
Warranty (5 years preferred):					
Extended Warranty Cost (if applicable) \$	_				
Brand and Model Bid:					
Price for Equipment (Poles & Fixtures)		\$			
Price for Banner Arms \$					
Grand Total \$					
Vendor	Authorized Representati	ive (Print)			
Date	Authorized Signature				
Telephone	Contact Email				

## **APPENDIX A – Specifications and Drawings**

#### SECTION 265600 - EXTERIOR AREA LIGHTING

#### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section includes the following lighting equipment:
- B. Exterior LED light fixtures.
  - 1. Light-fixture-mounted photoelectric relays.
  - 2. Poles and accessories.
  - 3. Light fixture lowering devices.

#### 1.2 SUBMITTALS

#### A. General:

- 1. Only those light fixtures and manufacturers designated and listed in this specification will be accepted.
- 2. Submit all light fixtures, specified for use on this Project, in a single submittal package of portfolios, so that all light fixtures can be reviewed at one time.
- B. Prepare portfolios from manufacturer's standard specification sheets, and include the number indicated on the drawings to identify each light fixture. Do not combine more than one light fixture type on a single sheet.
  - 1. Fixture, Poles, or other materials shall not be shipped or stored, without approval of shop drawings by Owner.
- C. Product Data: For each light fixture, pole, and support component, arranged in order of lighting unit designation. Include data on features, accessories, finishes, and the following:
  - 1. Name of manufacturer.
  - 2. Descriptive cut sheets providing physical description of light fixture, including materials, dimensions, effective projected area, and verification of indicated parameters.
  - 3. Fixture efficacy.
  - 4. Coefficient of utilization tables.
  - 5. Light fixture voltage.
  - 6. Summary page with the following for each light fixture type
    - a. The number, type and wattage of the light fixture lamps.

- 7. Lens type (if applicable).
- 8. Light fixture options that are to be provided.
- 9. Light fixture mounting details.
- 10. Construction of light fixture housing and door (if applicable).
- 11. Light fixture finish and color (if applicable).
- 12. Lamp Cutsheet with options marked, providing physical description of lamps, including voltage, wattage, efficacy, CCT, CRI, lumens, and life expectancy.
- 13. Details of attaching light fixtures and accessories.
- 14. Details of installation and construction.
- 15. Light fixture materials.
- 16. Photometric data, in IESNA format, based on laboratory tests of each light fixture type, outfitted with lamps, ballasts, and accessories identical to those indicated for the light fixture as applied in this Project.
  - a. For indicated light fixtures, photometric data shall be certified by a qualified independent testing agency. Photometric data for remaining light fixtures shall be certified by manufacturer.
  - b. Photometric data shall be certified by manufacturer's laboratory with a current accreditation under the National Voluntary Laboratory Accreditation Program for Energy Efficient Lighting Products.
- 17. Photoelectric relays.
- 18. Materials, dimensions, and finishes of poles.
- 19. Means of attaching light fixtures to supports, and indication that attachment is suitable for components involved.
- 20. Anchor bolts for poles.
- 21. Manufactured pole foundations.
- 22. Manufacturer's determination of LLF used in design calculations.
- 23. Structural analysis data and calculations used for pole selection and foundations.
  - a. Manufacturer Seismic Qualification Certification: Submit certification that sports lighting components and their mounting and anchorage provisions are designed to remain in place without separation of any parts when subject to seismic forces defined in SEI/ASCE 7 for the geographical area.
    - 1) Basis for Certification: Indicate whether withstand certifications are based on actual test of assembled components or calculation.
    - 2) Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.
  - b. Manufacturer Wind-Load Strength Certification: Submit certification that selected total support system, including poles, complies with AASHTO LTS-4 or as required by the local authority having jurisdiction, whichever is more stringent, for location of project.
- 24. Design calculations for the following:
  - a. Target illuminance.
  - b. Point Calculations of horizontal and vertical illuminance, CV, and UG at minimum grid size and area.
  - c. Point calculations of horizontal and vertical illuminance in indicated areas of concern for spill light.
  - d. Calculations of source intensity of luminaires observed at eye level from adjacent properties.
  - e. Short-circuit current calculations for rating of panel boards

- f. Total connected and estimated peak-demand electrical load, in kilowatts, of lighting system.
- g. Capacity of feeder required to supply the lighting system.
- h. Design calculations indicating strength of screw foundations and soil conditions on which they are based.
- i. Design calculations for determination of poured-in-place concrete foundation size and reinforcement
- 25. Wiring requirements, including required conductors and cables and wiring methods.
- D. Design Submittals for Pole-Mounted Area Lighting: Submit the following documents, signed and sealed by a qualified professional engineer:
  - 1. Structural analysis data and calculations used for pole selection and foundations.
    - a. Manufacturer Seismic Qualification Certification: Submit certification that lighting components and their mounting and anchorage provisions are designed to remain in place without separation of any parts when subject to seismic forces defined in SEI/ASCE 7 for the geographical area. Include the following:
      - 1) Basis for Certification: Indicate whether withstand certifications are based on actual test of assembled components or calculation.
      - 2) Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.
    - b. Manufacturer Wind-Load Strength Certification: Submit certification that selected total support system, including poles and equipment anchorage devices, complies with AASHTO LTS-4 or as required by the local authority having jurisdiction, whichever is more stringent, for location of project.
  - 2. Anchor-bolt templates:
    - a. For replacement poles reference detail drawing(s) for existing pole(s) bolt patterns.
    - b. For new pole installations key anchor-bolt templates to specific poles and certified by manufacturer.
  - 3. Design calculations for the following:
    - a. Design calculations indicating strength of screw foundations and soil conditions on which they are based.
    - b. Design calculations for determination of poured-in-place concrete foundation size and reinforcement

#### E. Shop Drawings:

- 1. Submittal Schedule
  - a. Within 30 days of Owner receiving bids, Vendor shall provide shop drawings covering all light fixtures within this section to Owner to begin approval process.
  - b. Within 15 days of "approved" and "approved as noted" shop drawings, Vendor shall forward to Owner a guaranteed ship date for each specified fixture.

- c. Owner is responsible to call to the attention of the Vendor any submittals that have not been returned to him/her in a timely manner that may affect delivery of fixtures.
- 2. Show details of non-standard or custom light fixtures. Indicate dimensions, finish color, including custom color, weights, methods of field assembly, components, features, accessories, and modifications. Scaled documents shall be provided for custom fixtures.
- 3. Wiring Diagrams: Power wiring.
- F. Pole and Support Component Certificates: Signed by manufacturers of poles, certifying that products are designed for indicated load requirements in AASHTO LTS-4 or as noted elsewhere in this specification and that loads imposed by light fixtures have been included in design.
- G. Qualification Data: For light fixture photometric data testing laboratory.
- H. Field quality-control test reports.
- I. Operation and Maintenance Data: For light fixtures to include in operation and maintenance manuals.
- J. Warranty: Special warranties specified in this Section.

#### 1.3 DEFINITIONS

- A. CCT: Correlated color temperature
- B. CRI: Color-rendering index.
- C. CU: Coefficient of utilization.
- D. CV: Coefficient of Variance. The ratio of standard deviation for all illuminance values to the mean illuminance value.
- E. Design Submittals: Documents, including drawings, calculations, and material and product specifications prepared as a responsibility of Vendor to obtain acceptance by Owner and authorities having jurisdiction.
- F. EISA: Energy Independence and Security Act of 2007.
- G. Horizontal Illuminance: Measurement in foot-candles (lux), on a horizontal surface 36 inches above the ground, unless otherwise indicated.
- H. LED: Light Emitting Diode
- I. LER: Light fixture efficacy rating.
- J. Light fixture: Complete light fixture, including ballast housing if provided.

- K. LLD: Lamp Lumen Depreciation.
- L. LLF: Light Loss Factor.
- M. Luminaire: Complete lighting fixture, including ballast housing if provided.
- N. Pole: Light fixture support structure, including tower used for large area illumination.
- O. Standard: Same definition as "Pole" above.
- P. Target Illumination: Average maintained illumination level, calculated by multiplying initial illuminance by LLF.
- Q. UG: Uniformity Gradient; the rate of change of illuminance over a lighted area, expressed as a ration between the illuminances of adjacent measuring points on a uniform grid.
- R. Vertical Illuminance: Measurement in foot-candles (lux), in two directions on a vertical surface, at an elevation coinciding with plane height of horizontal measurements.

#### 1.4 STRUCTURAL ANALYSIS CRITERIA FOR POLE SELECTION

- A. Dead Load: Weight of light fixture and its horizontal and vertical supports, lowering devices, and supporting structure, applied as stated in latest AASHTO LTS-4.
- B. Live Load: Single load of 500 lbs/f, distributed as stated in latest AASHTO LTS-4.
- C. Ice Load: As stated in latest AASHTO LTS-4 or as required by the local authority having jurisdiction, whichever is more stringent.
- 1.5 WIND LOAD: AS STATED IN LATEST AASHTO LTS-4 OR AS REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION, WHICHEVER IS MORE STRINGENT.QUALITY ASSURANCE
  - A. Manufacturer's authorized representative who is trained and approved for installation of units required for this project.
  - B. Light Fixture Photometric Data Testing Laboratory Qualifications: Provided by manufacturers' laboratories that are accredited under the National Volunteer Laboratory Accreditation Program for Energy Efficient Lighting Products.
  - C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
  - D. Comply with IEEE C2, "National Electrical Safety Code."
  - E. Comply with NFPA 70.

#### 1.6 COORDINATION

- A. Unless otherwise noted, Owner to perform installation of fixtures, poles, and associated electrical equipment.
- B. Coordinate delivery and storage of light fixtures, poles, and related equipment with Owner

#### 1.7 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace products that fail in materials or workmanship; that corrode; or that fade, stain, perforate, erode, or chalk due to effects of weather or solar radiation within specified warranty period. Manufacturer may exclude lightning damage, hail damage, vandalism, abuse, or unauthorized repairs or alterations from special warranty coverage.
  - 1. Warranty Period for Light fixtures: Free from defects in materials and workmanship (excluding fuses and lamps) for a period of Five years from date of Substantial Completion.
  - 2. Warranty Period for Metal Corrosion: Free from defects in materials and workmanship for a period of Five years from date of Substantial Completion.
  - 3. Warranty Period for Color Retention: Free of fading for a period of Five years from date of Substantial Completion.
  - 4. Warranty Period for Lamps: Replace lamps and fuses that fail within 12 months from date of Substantial Completion; furnish replacement lamps and fuses that fail within the second 12 months from date of Substantial Completion.
  - 5. Warranty Period for Poles: Repair or replace light poles and standards that fail in finish, materials, and workmanship within manufacturer's standard warranty period, but not less than three years from date of Substantial Completion.
  - 6. Alignment Warranty: Accuracy of alignment of light fixtures shall remain within specified illuminance uniformity ratios for a period of five years from date of successful completion of acceptance tests. Realign fixtures that become misaligned during the warranty period. Replace alignment products that fail within the warranty period. Retest distribution to verify proper realignment.

#### 1.8 DELIVERY, STORAGE, AND HANDLING

- A. Package aluminum poles for shipping according to ASTM B 660.
- B. Store poles on decay-resistant-treated skids at least 12 inches above grade and vegetation. Support poles to prevent distortion and arrange to provide free air circulation.
- C. Handle wood poles so they will not be damaged. Do not use pointed tools that can indent pole surface more than 1/4 inch deep. Do not apply tools to section of pole to be installed below ground line.
- D. Retain factory-applied pole wrappings on metal poles.
- E. Handle all poles with web fabric straps
- F. Vendor to coordinate with Owner the lead time, delivery, storage, and handling of light fixtures, poles, and related equipment.

#### 1.9 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
  - 1. Additional light fixtures, and accessories as requested by Owner.
- B. Where light fixtures are provided with tamper proof hardware, provide the Owner with three tools for each different type of hardware.

#### 1.10 SPARES

- A. Furnish spare materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
  - 1. Glass and Plastic Lenses, Covers, and Other Optical Parts: 10 for every 100 of each type and rating installed. Furnish at least one of each type.

#### PART 2 - PRODUCTS AND MATERIALS

#### 2.1 MANUFACTURERS

- 1. Approved Manufacturers:
  - a. Eaton Lighting:
    - Cooper Lighting
    - McGraw-Edison
    - Lumark
  - b. Acuity
    - Lithonia
  - c. RAB Lighting
  - d. US Pole lighting Company
  - e. Cree

#### 2.2 LIGHT FIXTURES, GENERAL REQUIREMENTS

- A. Light fixtures shall comply with UL 1598 and be listed and labeled for installation in wet locations by an NRTL acceptable to authorities having jurisdiction.
- B. Comply with IESNA RP-8 for parameters of lateral light distribution patterns indicated for light fixtures.
- C. Metal Parts: Free of burrs and sharp corners and edges.
- D. Sheet Metal Components: Corrosion-resistant aluminum, unless otherwise indicated. Form and support to prevent warping and sagging.
- E. Housings: Rigidly formed, weather- and light-tight enclosures that will not warp, sag, or deform in use. Provide filter/breather for enclosed light fixtures.

EXTERIOR LIGHTING 265600 - 7

- F. Doors, Frames, and Other Internal Access: Smooth operating, free of light leakage under operating conditions, and designed to permit unrestricted access. Designed to prevent doors, frames, lenses, diffusers, and other components from falling accidentally during service access and when secured in operating position. Doors shall be removable for cleaning or replacing lenses.
- G. Exposed Hardware Material: Stainless steel for latches, fasteners, and hinges.
- H. Plastic Parts: High resistance to yellowing and other changes due to aging, exposure to heat, and UV radiation.
- I. Light Shields: Metal baffles or louvers, factory installed and field adjustable, arranged to block light distribution to indicated portion of normally illuminated area or field.
- J. Reflecting surfaces shall have minimum reflectance as follows, unless otherwise indicated:
  - 1. White Surfaces: 85 percent.
  - 2. Specular Surfaces: 83 percent.
  - 3. Diffusing Specular Surfaces: 75 percent.
- K. Gaskets for Lenses and Refractors: Use heat- and aging-resistant resilient gaskets to seal and cushion lenses and refractors in light fixture doors.
- L. Light Fixture Finish: Manufacturer's standard paint applied to factory-assembled and -tested light fixture before shipping. Where indicated, match finish process and color of pole or support materials.
- M. Factory-Applied Finish for Steel Light Fixtures: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
  - 1. Surface Preparation: Clean surfaces to comply with SSPC-SP 1, "Solvent Cleaning," to remove dirt, oil, grease, and other contaminants that could impair paint bond. Grind welds and polish surfaces to a smooth, even finish. Remove mill scale and rust, if present, from uncoated steel, complying with SSPC-SP 5/NACE No. 1, "White Metal Blast Cleaning," or SSPC-SP 8, "Pickling."
  - 2. Exterior Surfaces: Manufacturer's standard finish consisting of one or more coats of primer and two finish coats of high-gloss, high-build polyurethane enamel.
    - a. Color: As selected from manufacturer's standard catalog of colors.
- N. Factory-Applied Finish for Aluminum Light Fixtures: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
  - 1. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.
  - 2. Natural Satin Finish: Provide fine, directional, medium satin polish (AA-M32); buff complying with AA-M20; and seal aluminum surfaces with clear, hard-coat wax.
  - 3. Class I, Clear Anodic Finish: AA-M32C22A41 (Mechanical Finish: medium satin; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class I, clear coating 0.018 mm or thicker) complying with AAMA 611.
  - 4. Class I, Color Anodic Finish: AA-M32C22A42/A44 (Mechanical Finish: medium satin; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class I, integrally colored or electrolytically deposited color coating 0.018 mm or thicker) complying with AAMA 611.
    - a. Color: As indicated by Owner.

#### 2.3 DRIVERS FOR LED LAMPS

- A. Description: Complying with ANSI C 82.11, designed for type and quantity of LED lamps indicated. Drivers shall tolerate sustained open circuit and short circuit output conditions without damage. Driver shall be designed for full light output unless dimmer or bi-level control is indicated:
  - 1. Sound Rating: A.
  - 2. Total Harmonic Distortion Rating: Less than 20 percent. Shall comply with ANSIC82.77.
  - 3. Transient Voltage Protection: IEEE C62.41, Category A or better.
  - 4. Power Factor: 0.90 or higher.
  - 5. Interference: Comply with 47 CFR, Chapter 1, Part 15, for limitations on electromagnetic and radio-frequency interference for nonconsumer equipment.
  - 6. Driver Case Temperature: 75 deg C, maximum.
  - 7. Driver shall operate with maximum sustained variations of +/- 10 % input voltage and frequency with no damage to driver.
  - 8. Driver output shall be regulated to +/- 5 % published load range.
  - 9. LED Current Crest Factor: 1.5 or less.
  - 10. LED drivers shall not over-drive LEDs at a current or voltage above LED rated values in order to increase LED lumen output.

#### 2.4 LED LAMPS

A. Comply with ANSI C78.377 for white light LED color range. Color Rendering Index (CRI), shall be 70 or greater. Correlated Color Temperature (CCT) shall be 4000K to 4500K. LED binning specification tolerance to be maximum 15 % of rated values. All LEDs used for same fixture type throughout the project to originate from same production bin. Minimum 70% maintained initial-rated lumens at average rated life of 50,000 hours. Lumen rating shall meet or exceed lumen rating of existing 400 watt metal halide fixtures.

#### 2.5 LIGHT FIXTURE-MOUNTED PHOTOELECTRIC RELAYS

A. Comply with UL 773 or UL 773A.

#### 2.6 POLES AND SUPPORT COMPONENTS, GENERAL REQUIREMENTS

- A. Structural Characteristics: Comply with AASHTO LTS-4.
  - 1. Wind-Load Strength of Poles: Adequate at indicated heights above grade without failure, permanent deflection, or whipping in steady winds of speed indicated in Part 1 "Structural Analysis Criteria for Pole Selection" Article.
  - 2. Strength Analysis: For each pole, multiply the actual equivalent projected area of light fixtures and brackets by a factor of 1.1 to obtain the equivalent projected area to be used in pole selection strength analysis.

- B. Light Fixture Attachment Provisions: Comply with light fixture manufacturers' mounting requirements. Use stainless-steel fasteners and mounting bolts, unless otherwise indicated.
- C. Mountings, Fasteners, and Appurtenances: Corrosion-resistant items compatible with support components.
  - 1. Materials: Shall not cause galvanic action at contact points.
  - 2. Anchor Bolts, Leveling Nuts, Bolt Caps, and Washers: Hot-dip galvanized after fabrication, complying with ASTM A 123/A 123M or ASTM A 153/A 153M unless stainless-steel items are indicated.
  - 3. Anchor-Bolt Template: Plywood or steel.
    - a. Reference detail drawing(s) for existing pole(s) bolt patterns
- D. Concrete Pole Foundations: Cast in place, 3000-psi (28-day minimum compressive strength, with anchor bolts to match pole-base flange. Concrete, reinforcement, and formwork are specified in Division 03 Section "Cast-in-Place Concrete."
- E. Power-Installed Screw Foundations: Factory fabricated by pole manufacturer, with structural steel complying with ASTM A 36/A 36M and hot-dip galvanized according to ASTM A 123/A 123M; and with top-plate and mounting bolts to match pole base flange and strength required to support pole, light fixture(s), and accessories.
- F. Breakaway Supports: Frangible breakaway supports, tested by an independent testing agency acceptable to authorities having jurisdiction, according to AASHTO LTS-4.
- G. Unless otherwise specified, pole length for all poles shall be twenty (20) feet in length.
- H. Banner Arms: In addition to the base bid price for lighting equipment (fixtures and poles), submit an additional price for double banner arms for each pole.

#### 2.7 STEEL POLES

- A. Poles: Comply with ASTM A 500, Grade B, carbon steel with a minimum yield of 46,000 psig; 1-piece construction up to 40 feet in height with access hand hole in pole wall.
  - 1. Shape: Per light fixture schedule.
  - 2. Mounting Provisions: Butt flange for bolted mounting on foundation or breakaway support.
- B. Steel Mast Arms: Single-arm type, continuously welded to pole attachment plate. Material and finish same as pole.
- C. Brackets for Light Fixtures: Detachable, cantilever, without underbrace.
  - 1. Adapter fitting welded to pole and bracket, then bolted together with stainless-steel bolts.
  - 2. Cross Section: Tapered oval, with straight tubular end section to accommodate light fixture.
  - 3. Match pole material and finish.
- D. Pole-Top Tenons: Fabricated to support light fixture or light fixtures and brackets indicated, and securely fastened to pole top.

- E. Steps: Fixed steel, with nonslip treads, positioned for 15-inch vertical spacing, alternating on opposite sides of pole; first step at elevation 10 feet above finished grade.
- F. Grounding and Bonding Lugs: Welded 1/2-inch threaded lug listed for attaching grounding and bonding conductors of type and size required, and accessible through hand hole.
- G. Cable Support Grip: Wire-mesh type with rotating attachment eye, sized for diameter of cable and rated for a minimum load equal to weight of supported cable times a 5.0 safety factor.
- H. Platform for Lamp and Ballast Servicing: Factory fabricated of steel with finish matching that of pole.
- I. Prime-Coat Finish: Manufacturer's standard prime-coat finish ready for field painting.
- J. Galvanized Finish: After fabrication, hot-dip galvanize complying with ASTM A 123/A 123M.
- K. Factory-Painted Finish: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
  - 1. Surface Preparation: Clean surfaces to comply with SSPC-SP 1, "Solvent Cleaning," to remove dirt, oil, grease, and other contaminants that could impair paint bond. Grind welds and polish surfaces to a smooth, even finish. Remove mill scale and rust, if present, from uncoated steel, complying with SSPC-SP 5/NACE No. 1, "White Metal Blast Cleaning," or SSPC-SP 8, "Pickling."
  - 2. Interior Surfaces of Pole: One coat of bituminous paint, or otherwise treat for equal corrosion protection.
  - 3. Exterior Surfaces: Manufacturer's standard finish consisting of one or more coats of primer and two finish coats of high-gloss, high-build polyurethane enamel.
    - a. Color: As indicated by Owner

#### 2.8 ALUMINUM POLES

- A. Poles: Seamless, extruded structural tube complying with ASTM B 429, Alloy 6063-T6 withaccess hand hole in pole wall.
- B. Poles: ASTM B 209, 5052-H34 marine sheet alloy with access hand hole in pole wall.
  - 1. Shape: Per light fixture schedule.
  - 2. Mounting Provisions: Butt flange for bolted mounting on foundation or breakaway support.
- C. Grounding and Bonding Lugs: Welded 1/2-inch threaded lug listed for attaching grounding and bonding conductors of type and size required, and accessible through hand hole.
- D. Prime-Coat Finish: Manufacturer's standard prime-coat finish ready for field painting.
  - 1. Natural Satin Finish: Provide fine, directional, medium satin polish (AA-M32); buff complying with AA-M20; and seal aluminum surfaces with clear, hard-coat wax.
    - a. Color: As indicated by Owner

#### 2.9 DECORATIVE POLES

#### A. Pole Material:

- 1. Cast ductile iron.
- 2. Cast gray iron, according to ASTM A 48/A 48M, Class 30.
- 3. Cast aluminum.
- 4. Steel tube, covered with closed-cell polyurethane foam, with a polyethylene exterior.

#### B. Mounting Provisions:

Bolted to concrete foundation.

#### C. Fixture Brackets:

- 1. Cast ductile iron.
- 2. Cast gray iron.
- 3. Cast aluminum.
- D. Pole Finish: Consult Owner for color and finish type.

#### 2.10 POLE ACCESSORIES

A. Base Covers: Manufacturers' standard metal units, arranged to cover pole's mounting bolts and nuts. Finish same as pole.

#### PART 3 – EXECUTION

#### 3.1 EXAMINATION

A. Vendor to verify with Owner conditions of light fixtures, poles, and equipment prior to installation.

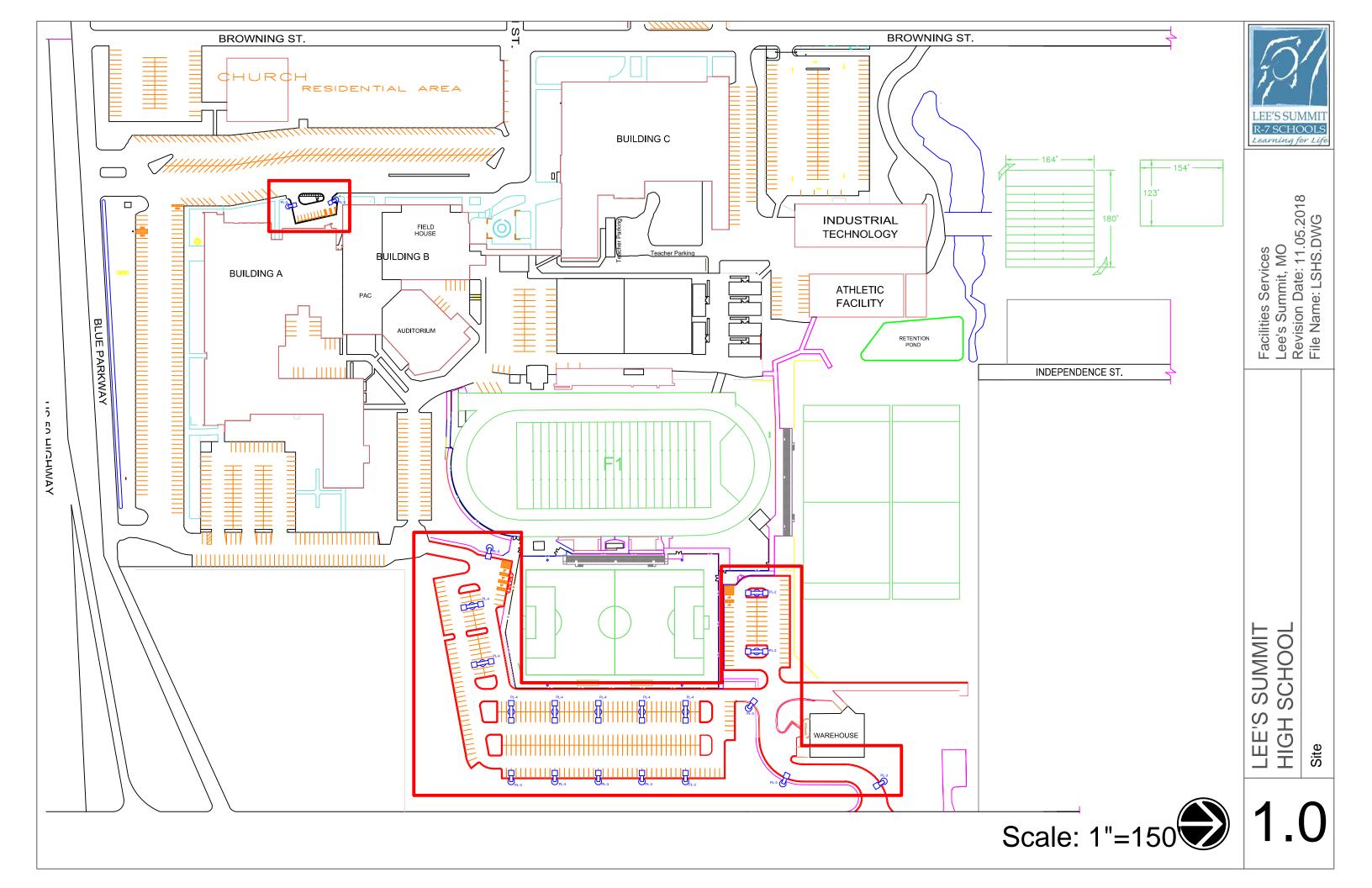
#### 3.2 LIGHT FIXTURE INSTALLATION

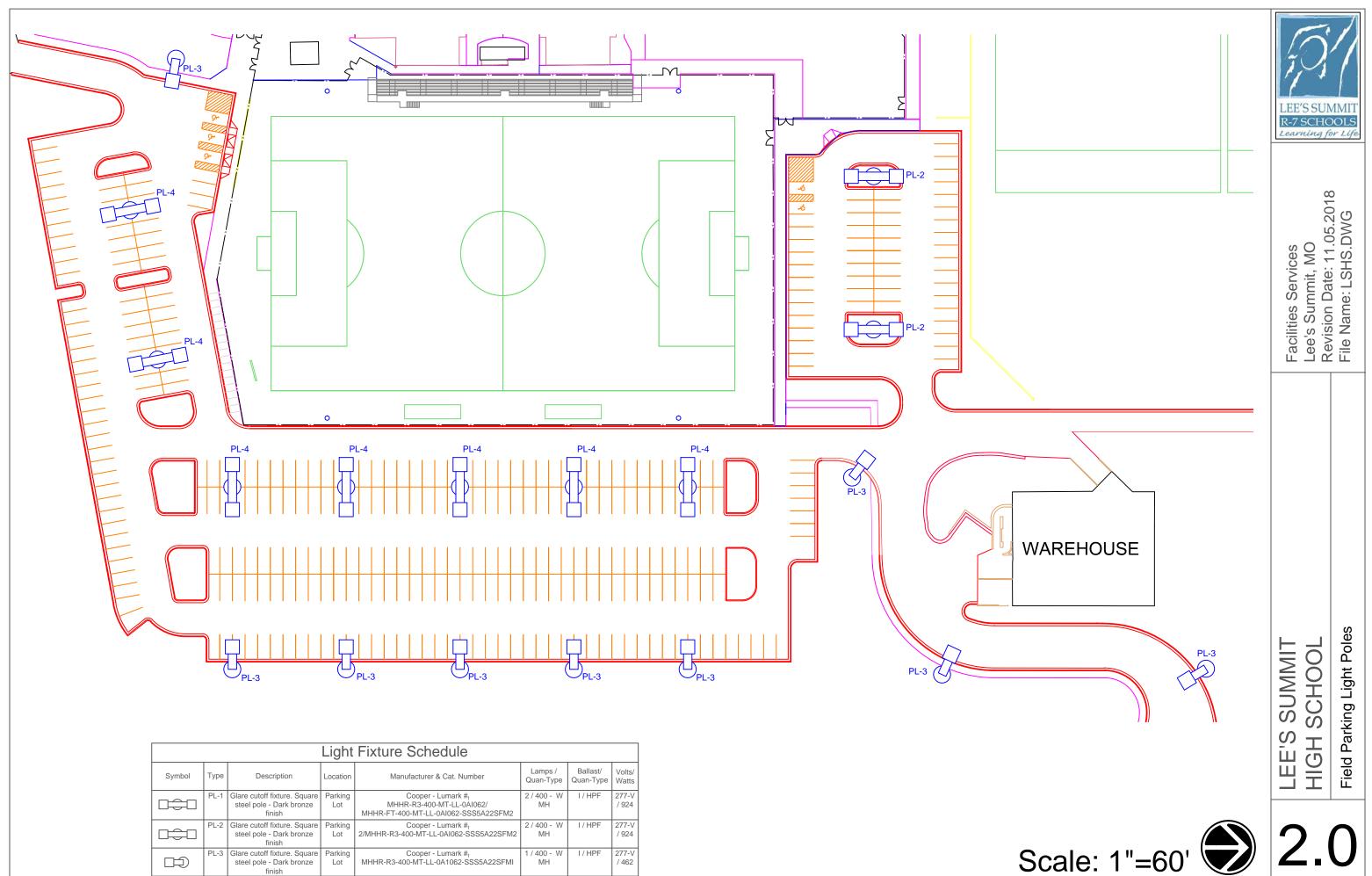
- A. Owner to install light fixtures, poles, and associated equipment.
- B. Vendor to provide installation instructions to Owner before proceeding installation.

#### 3.3 DEMONSTRATION AND TRAINING

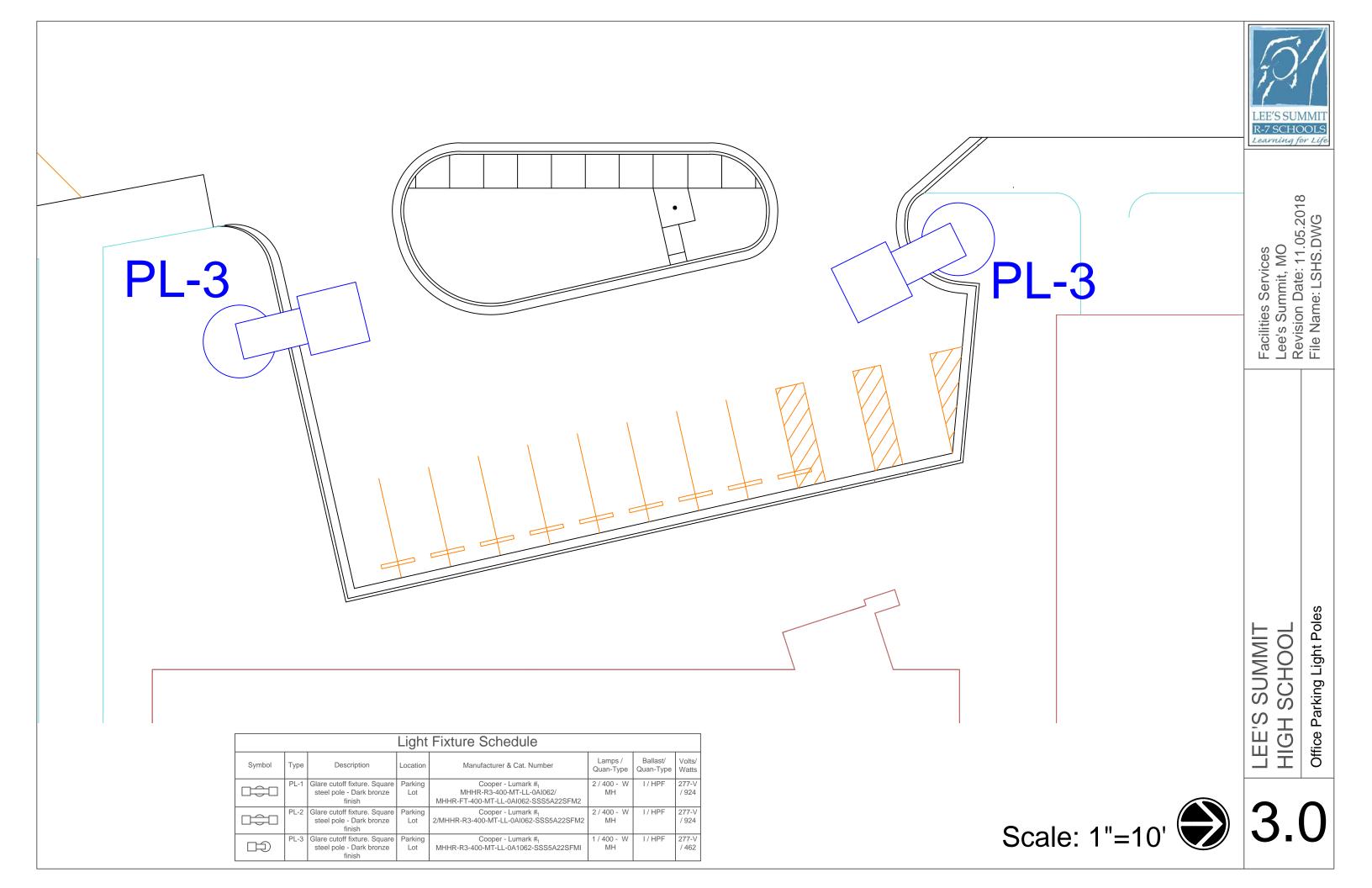
A. Vendor shall engage a factory-authorized service representative to train Owners electrical maintenance personnel to adjust, operate, and maintain light fixtures.

#### END OF SECTION 265600





finish





Facilities Services
Lee's Summit, MO
Revision Date: 11.05.2018
File Name: LSHS.DWG

LEE'S SUMMIT HIGH SCHOOL Existing Pole Light base

4.0

Scale: 6" = 1'

