

**CITY OF KNOXVILLE**

**REQUEST FOR PROPOSALS**

**Streetlight Replacement Project**

**Proposals to be Received by 11:00:00 a.m., Eastern Time,  
February 7, 2017**

Submit Proposals to:  
City of Knoxville  
Office of Purchasing Agent  
City/County Building  
Room 667-674  
400 Main Street  
Knoxville, Tennessee 37902

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Attachment # 1: Streetlight Map  
Attachment # 1: Streetlight Inventory  
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Attachment # 4: Google Earth Streetlight Data  
Attachment # 5: Main Pricing Sheet

**City of Knoxville  
Request for Proposals**

**Streetlight Replacement Project**

**I. Statement of Intent.** The City of Knoxville is requesting proposals from selected pre-qualified firms or teams to provide “turnkey” products and services resulting in the successful conversion of the City’s street lights from high pressure sodium (HPS) luminaires of various wattages and styles to light emitting diode (LED) luminaires of equivalent wattage. The successful firm will be expected to design and implement the conversion of street lighting in the City, estimated at approximately 29,500 units, to equivalent LED street luminaires. The City desires a comprehensive retrofit of all public lights, but reserves the right to exclude specific areas of lighting from this project as the City deems appropriate. The successful firm will provide labor, materials, supplies, equipment, facilities, disposal, photometric analyses (including provision of digital reports), detailed project cost and energy savings analyses, and processing for all utility rebates and timely rate schedules/billing revisions including reconciliation of any inventory differences.

Firms eligible to submit proposals are those that were selected as finalists by the City of Knoxville through a Request for Qualifications process. There are six (6) firms that were selected and invited to respond to this RFP. Proposing entities should respond in full to this RFP with a detailed proposal in which, among other things, firms describe how they plan to accomplish the scope of work, the luminaires they propose to use, and their cost for the project as well as any optional pricing that may be desired by the City. These proposals will then be evaluated by the evaluation committee and a contract may be entered into with the firm that provides the most responsive/responsible proposal.

**II. RFP Timeline**

Availability of RFP	January 9, 2017
Mandatory Pre-Proposal Meeting and Site Visit	January 24, 2017
Final Date to Submit Questions to Purchasing Agent	January 31, 2017
Submission of proposals by finalists	February 7, 2017

**NOTE:** The Mandatory Pre-Proposal Meeting and Site Visit will occur on January 24, 2017. The meeting will begin at 9:00 a.m. (Eastern Time) at the City’s new Public Works Complex located at 3131 Morris Avenue, Knoxville, Tennessee. After the initial meeting, the City will provide transportation for all attendees to conduct a site visit of the various sections of the City to show potential proposers the different type of lights that the City has. The meeting and site visit will last for approximately four hours.

This timetable is for the information of submitting entities. These dates are subject to change.

**However, in no event shall the deadline for submission of qualifications be changed except by written modification from the City of Knoxville Purchasing Division.**

**III. Background.** The City of Knoxville spends approximately \$4 million each year to cover the energy, operations, and maintenance costs associated with the city's 29,500+ street lights. In the past, the Knoxville Utilities Board (KUB) has owned, operated, and maintained these lights, and has billed the City for associated costs. The City's current street light system includes Type II, III, and V distribution patterns. Beginning in 2017, the City intends to re-structure the street lighting system by paying off the "stranded costs," or net book value, of the existing street lighting system and contracting with a firm to retrofit luminaires to LED technology. The City intends to achieve significant savings as a result of reduced energy consumption and reduced maintenance costs.

Funding for this project is contingent upon budget approval in FY2018 (beginning July 1, 2017). If necessary, the City may consider recommending a budget amendment for FY 2017 (ending June 30, 2017) to cover Phase I costs. The City estimates that the total cost for this project – *including* the approximately \$4,800,000 "stranded costs" payment to KUB – will fall between \$13 million and \$17 million. One of the City's primary objectives is that the cumulative cost savings resulting from the project offset all upfront capital costs (including any financing costs) within 10 years of project commencement.

Information about the City of Knoxville's current street lighting costs is included in Appendix A: Street Lighting Costs. A map of the City's existing street lights is included as Attachment 1: Street Light Map (.pdf). The best available inventory of the existing street lights to be included in the conversion project is available as Attachment 2: City Street Light Inventory (.xls). Firms may access a .KMZ file (compatible with Google Earth) showing street lighting locations in Attachment 4: Google Earth Streetlight Data.

**IV. General Conditions.** The following data is intended to form the basis for submission of qualifications to provide professional services for the City of Knoxville Streetlight Replacement Project.

4.1 This material contains general conditions for the procurement process, the scope of service requested; contract requirements; instructions for submissions of proposals; and submission forms that must be included in the Proposal. The RFP should be read in its entirety before preparing the submission.

4.2 All materials submitted pursuant to this RFP shall become the property of the City of Knoxville. In accordance with Tennessee State Law, all documents pertaining to this RFP shall be kept confidential until an intent to award has been announced. No information about any submission of proposals shall be released until the process is complete, except to the members of the Evaluation Committee and other appropriate City staff. All information provided shall be considered by the Evaluation Committee in making a recommendation to enter into an agreement with the selected consultant.

4.3 Any inquiries, suggestions or requests concerning interpretation, clarification or additional information pertaining to the RFP shall be made **in writing and be in the hands of**

**the Purchasing Agent by the close of the business day on January 31, 2017.** Questions can be submitted by letter, fax (865-215-2277), or email to [bhevans@knoxvilletn.gov](mailto:bhevans@knoxvilletn.gov). The City of Knoxville is not responsible for oral interpretations given by any City employee, representative, or others. The issuance of written addenda is the only official method whereby interpretation, clarification, or additional information can be given. If any addenda are issued to this Request for Proposals, the Purchasing Division will post them to the City's website at [www.knoxvilletn.gov/purchasing](http://www.knoxvilletn.gov/purchasing). Submitting organizations are strongly encouraged to view this website often to see if addenda are posted. Failure of any proposer to receive such addendum or interpretation shall not relieve such Proposer from any obligation under his bid as submitted. All addenda so issued shall become part of the Contract Documents.

4.4 The City of Knoxville reserves the right to (a) accept or reject any and/or all submissions of proposals; (b) to waive irregularities and technicalities; and (c) accept any alternative submission of proposals presented which in its opinion, would best serve the interests of the City. The City shall be the sole judge of the proposals, and the resulting negotiated agreement that is in its best interest, and its decision shall be final. The City also reserves the right to make such investigation as it deems necessary to determine the ability of any submitting entity to perform the work or service requested. Information the City deems necessary to make this determination shall be provided by the submitting entity. Such information may include, but is not limited to, current financial statements by an independent CPA, verification of availability of equipment and personnel, and past performance records.

4.5 Included in the Contract Documents is an affidavit that the undersigned has not entered into any collusion with any person in respect to this proposal. The proposing firm is required to submit this affidavit prior to execution of the Contract.

4.6 Subsequent to the Evaluation Committee's review and the Mayor's recommendation of a firm(s), Knoxville City Council approval will be required before the final contract may be executed.

4.7 All expenses for making submission of proposals shall be borne by submitting entity.

4.8 Any submission of proposals may be withdrawn up until the date and time for opening of the submissions. **Any submission not so withdrawn shall, upon opening, constitute an irrevocable offer for a period of 120 days to the City of Knoxville for the services set forth in the Request for Proposals until one or more of the submissions have been duly accepted by the City.**

4.9 Prior to submitting their proposals, submitters are to be registered with the Purchasing Division by setting up a Vendor Self-Service Account. Instructions for registering on-line are available at [www.knoxvilletn.gov/purchasing](http://www.knoxvilletn.gov/purchasing). **Submissions from un-registered submitters may be rejected.**

4.10 **NO CONTACT/NO ADVOCACY POLICY:** After the posting of this solicitation to the Purchasing Division's website, any contact initiated by any proposer with any City of Knoxville representative concerning this procurement action is strictly prohibited, unless such contact is

made with the Purchasing Division representative listed herein or with said representative's authorization. Any unauthorized contact may cause the disqualification of the submission from this procurement transaction. In short, the "No Contact/No Advocacy Affidavit you signed as part of the RFQ process remains in full force and effect throughout this RFP process.

**4.11 INCLEMENT WEATHER:** During periods of inclement weather, the Purchasing Division will enact the following procedures with regard to solicitations and weather delays:

- If City offices are closed due to inclement weather on the date that bids/proposals/qualifications/letters of interest are due into the Purchasing Office, all solicitations due that same day will be moved to the next operational business day.
- The City of Knoxville shall not be liable for any commercial carrier's decision regarding deliveries during inclement weather.

**4.12 The City of Knoxville reserves the right to make an award without further discussion of the response submitted. Therefore, the response should be submitted on the most favorable terms that Proposer intends to offer. During the evaluation phase, the City reserves the right to request a Best and Final Offer from the top-ranked most responsive/responsible proposers.**

**V. Scope of Service.** This section describes the scope of work (SOW) that the winning entity will be required to undertake. The winning proposer will provide labor, materials, supplies, equipment, facilities, disposal, photometric analyses including provision of digital reports, detailed project cost and energy savings analyses, and processing for all utility rebates and timely rate schedules/billing revisions including reconciliation of any inventory differences. This program will replace mostly high pressure sodium (HPS) cobra head and shoebox style luminaires with equivalent LED luminaires within the City. The replacement of existing photoelectric control devices, or "photoelectric (PE) cells," is included within this turnkey scope of work.

## **5.1 Project Objectives**

**The City's objectives for this overall project are as follows:**

- Reducing energy use and annual costs associated with street lights by converting approximately 29,500 existing street lights to LED technology;
- Designing and implementing the project such that it produces a net positive cash flow during the first full year, and such that cumulative cost savings resulting from the project offset all upfront capital costs within 10 years of project commencement;
- Minimizing energy consumption and maximizing energy cost savings;
- Minimizing future costs to maintain and replace converted street lights;
- Minimizing the City's administration costs and staff time for street light maintenance;
- Achieving high levels of "post-retrofit" resident satisfaction;
- Optimizing the environmental benefits of the program (e.g., reductions in greenhouse gases emitted and toxic materials disposal);

- Implementing a replacement plan that meets or exceeds the current lighting levels for all areas of the City, with a goal of achieving ANSI/IES RP-8-14 where practical;
- Receiving any and all available rebates from Tennessee Valley Authority (TVA), Knoxville Utilities Board (KUB), and other applicable parties;
- Obtaining accurate digital GIS data for all converted streetlights using GPS technology;
- Developing photometric analyses for lumen delivery and luminance uniformity of representative lighting configurations for both existing luminaires and the proposed replacement plan;
- Identifying incremental costs and benefits of value-added options (e.g. connected lighting or other “future proofing” features)
- Submitting any and all rate schedule/billing revision data required by KUB to accomplish timely billing reductions
- Completing the project no later than December 1, 2019.

**5.2 Phases of the Project/Contract.** The winning proposer will be required to complete the following Phases as part of the overall project:

### **5.2.1 Phase 1. Project Development**

1. Review and Update Streetlight Inventory - conduct a thorough/detailed investigation of KUB billing records, maps, and City records to finalize the list of street lights for replacement, and conduct on-site physical inspection of street lights for final verification of GPS coordinates (latitude, longitude), location (closest address), wattage, luminaire physical attributes, system voltage, City facility ID, KUB badge number, luminaire type, pole type, pole or bracket height, pole condition (identification of light poles at risk for failure, etc.), and other attributes relevant to the project.
  - 1.1 Notify the City of any issues that are identified during on-site physical inspections related to the street lighting system that require repair of poles, wiring, cables, or other system components beyond the luminaire, including tree limb interference and/or recommended clearing.
  - 1.2 **Proposers are to specify the total cost for conducting on-site physical inspection of all of the City’s approximately 29,500 lights with the understanding that the City may reduce the number of lights inspected on-site to a representative sample mutually agreed upon by Contractor and the City Project Manager. Additionally, if the City does reduce the number of lights inspected on-site, then it shall adjust the price for Phase 1 downward accordingly based on the actual number of lights inspected.**
2. Photometric Analysis – Conduct photometric analysis for a minimum of 15 representative locations on major and collector streets to verify existing conditions and confirm that

proposed luminaires will meet or exceed the current lighting levels for these areas, with a goal of achieving ANSI/IES RP-8-14 where practical.

- 2.1 Representative locations shall be agreed upon by Contractor and the City Project Manager. Proposals shall indicate the number of locations and/or percentage of lights to be sampled during photometric analyses.
- 2.2 The information shall be submitted to the City in both digital and hard copies as part of the requirements for the selected Contractor to obtain a Notice to Proceed with Project Implementation
- 2.3 The photometric analysis shall be stamped by a licensed professional engineer. Note that said professional engineer must be a licensed professional as required by the State of Tennessee for any services in this contract requiring such licensure. Additionally, any and all sub-consultants/contractors employed by the prime consultant/contractor for the performance of the services requested in this RFP must be licensed as professional service firms in the State of Tennessee if said sub-consultants/contractors will perform services that are considered professional in nature. The Licensure Affidavit of Prime Qualifier that was submitted with your earlier statement of qualifications remains in full force and effect during the RFP phase of this procurement.
3. Rebate Eligibility - Determine project eligibility for utility and all other applicable rebates. Develop and submit required paperwork to confirm rebate eligibility.
4. Billing – Determine any rate schedule/billing revision data required by KUB so that KUB can proceed with timely billing reductions, including reconciliation of any inventory differences.
5. Replacement Plan - Based on the replacements for lighting layout configurations, photometric analyses and the mapping data, develop a replacement plan for targeted luminaires that will meet or exceed current lighting levels. The plan shall list each fixture, associated KUB badge number, City facility ID, GIS location, street address, pole height, roadway type, physical fixture type, existing luminaire type, existing wattage, voltage, replacement luminaire model, replacement PE cell model, and replacement wattage. The plan should include applicable electrical diagrams and verification that all proposed luminaires meet LED Requirements (See Appendix B).
  - 5.1 The Replacement Plan may include the removal of poles and luminaires in areas that are deemed to be “over lit” based on the photometric analysis.
  - 5.2 Replacement Plan shall take into account the existing shielding of lights where applicable. Plan shall be able to accommodate additional shielding as appropriate and/or requested by the City.
  - 5.3 Replacement Plan shall follow as applicable LED street lighting guidelines and best practices issued by the International Dark Skies Alliance (see <http://darksky.org/lighting/led-practical-guide/>), the American Medical Association (see <http://www.ama-assn.org/ama/pub/news/news/2016/2016-06-14->



- [community-guidance-street-lighting.page](#)) and the Illuminating Engineering Society of North America (IESNA, see <http://www.ies.org/>).
- 5.4 Replacement Plan shall include detailed pricing estimate(s) representing all project options under consideration.
  - 5.5 Replacement Plan shall include detailed annual and 15-year energy (kWh), energy cost, greenhouse gas (GHG), and maintenance cost savings models accurately presenting results and cost-effectiveness of project options.
    - 5.5.1 Initial energy costs shall be based on KUB's LS current rate (see Attachment 3) and assume lights burn an average of 11.6 hours per day. No greater than a 1% annual increase should be assumed for electricity rates.
    - 5.5.2 GHG savings are to be based on the federal Emissions & Generation Resource Integrated Database (eGRID) most recent GHG Annual Output Emission Rates for the SERC Reliability Corporation-- Tennessee Valley sub-region.
    - 5.5.3 Maintenance costs shall include costs associated with luminaire and photocell maintenance and shall include web and 1-800# phone outage reporting along with minimum of 3 day response and monthly outage/failure rate reporting;
  6. Test deployment – unless deemed unnecessary by the City, the selected Contractor shall provide and install a sampling (minimum of 15) of the recommended luminaires as specified in the Replacement Plan for test deployment and evaluation by the City and additional stakeholders.
  7. Confirm Replacement Plan with the City to finalize project details and render final SOW.
    - 7.1 Conduct final review of all energy savings and construction cost estimates with the City to ensure accuracy and compliance given the final project details.
    - 7.2 A photometric analysis for the final Replacement Plan shall be stamped by a licensed professional engineer, licensed as such in the State of Tennessee, to verify that the plan will meet or exceed existing lighting levels.
  8. Confirm process to record, monitor, and inform the City of equipment installation dates and component failures for warranty replacements for all luminaire and photoelectric controllers and other system components.
  9. Secure all necessary approvals to proceed with project implementation, including a Notice to Proceed from the City as well as approvals as required by other entities including but not limited to KUB and the Tennessee Department of Transportation.

### **5.2.2 Phase 2. Project Implementation**

The Contractor must obtain a written Notice to Proceed from the City before proceeding with Phase 2. During the project implementation phase, the successful Proposer shall coordinate with both the City and Knoxville Utilities Board (KUB), which currently owns, operates, and

maintains the existing street light system. The Contractor shall schedule and attend regular progress meetings with City staff and other stakeholders as invited by the City. Before beginning installation of new luminaires, the Contractor and all sub-contractors shall meet with the City to review installation schedule, work safety, public safety, and waste material handling procedures and requirements. The winning proposer shall:

1. Purchase qualified luminaires and other required system components from a vendor authorized by the applicable manufacturer(s).
2. Participate in the development and implementation of community outreach and notification plan to ensure project awareness and minimize impacts to traffic, business, and residents.
3. Manage deliveries and staging of material to site including any secured storage considerations.
4. Provide Traffic Control plans as necessary to be reviewed and approved by the City's Traffic Engineering Division and obtain all required permits.
  - 4.1 Contractor will be responsible for cost and management of any necessary traffic flaggers/police detail required in association with installation.
5. Installation – Install new energy-efficient LED roadway luminaires to replace the existing decorative luminaires. Provide all necessary equipment including City approved 20-year rated life photo cell, hardware, adapters, and any other materials necessary for a quality installation. Ensure installation quality, compliance with project schedule, and proper disposal and/or recycling of old luminaires.
  - 5.1 During installation, comply with all requirements to ensure replacement luminaires receive utility rebates, if eligible, and LED electric rate schedule. Note that rebates should not be factored into any proposed pricing.
  - 5.2 Ensure each newly installed luminaire has been tagged/recorded with the correct wattage sticker consistent with American National Standard for Roadway Lighting Equipment, ANSI C136.15.
  - 5.3 Obtain and provide accurate digital GIS data for all retrofitted luminaires.
  - 5.4 Contractor shall warrant all labor and replace defective light luminaires and parts thereof for a period of two years from the date of project acceptance.
  - 5.5 Notify the City of any issues that are identified during luminaire installation related to the street lighting system that require repair of poles, wiring, cables, or other system components beyond the luminaire.
6. Removal and Disposal – removal and disposal of existing luminaire heads and any other discarded materials including all necessary and appropriate temporary traffic control measures compliant with all federal, state, and local regulations including but not limited to the Tennessee Manual of Uniform Traffic Control Devices. Note that any and all equipment and supplies removed from the City's current lighting system, during the execution of the replacement of the street lights, are considered City owned surplus

property. As such, the City desires that the winning submitter develop a way to properly dispose of said equipment in a way that ensures the City receives at least a portion of the revenue/proceeds from the sale of such property where possible. Proposers should describe their plan for assisting the City in this endeavor.

7. Inspect final work with City and correct/complete any punch list items.
8. Test lights to ensure that they work and identify locations where repairs need City assistance.
9. Recommend cleaning schedule to maintain lumen output.
10. During this phase, Contractor shall provide a 1-800 telephone line and online form to receive comments, questions, or complaints from residents or other stakeholders impacted by LED replacements.
11. Work with the City to ensure that the data collection process is compatible with, and will interface correctly with, the existing processes.

### **5.2.3 Phase 3. Project Completion**

The Contractor must obtain a written Letter of Acceptance from the City before proceeding with this Phase. The Letter of Acceptance will affirm that Phase II has been completed as contracted and specified.

1. Following City acceptance, produce final project reporting to City of Knoxville's Office of Sustainability.
2. Provide administrative effort required to process and receive all available rebates from TVA, KUB, and other applicable parties.
3. Submit any and all rate schedule/billing revision data required by KUB to accomplish timely billing reductions.
4. Record Documents – provide to the City and to KUB record (“as-built”) documentation of installed LED luminaires (including wattages, pole numbers, locations, and other associated attributes), GIS data, digital images of nameplates for each replaced fixture, and any applicable warranties, service, maintenance and operations manuals, and similar information.
  - 4.1 This inventory shall include replaced LED luminaires, existing (non-replaced) LED luminaires, and any other street lights that were inventoried through the project but not replaced to LED per City instruction.
  - 4.2 Records shall document purchase dates, dates of installation, and failure rates for LED luminaires and system component failures/replacements and current records history of exchange items.
  - 4.3 These records should be submitted in a format that allows data download and upload in an easily transferrable method (i.e., csv, txt delimited file) in order to interface efficiently with the City's and KUB's existing asset management systems, Accela and IBM Maximo, respectively.

5. During this phase, Contractor shall provide a 1-800 telephone line and online form to receive comments, questions, or complaints from residents or other stakeholders impacted by LED replacements.

### **5.3 As-Needed Lighting System Repairs**

During the project, the contractor may encounter issues related to the street lighting system that require repair or replacement of mast arms, poles, wiring, cables, or other system components beyond the luminaire. The contractor should notify the City of these issues as they arise or are identified. The City will determine whether or not to proceed with LED replacement in the affected areas under this project.

Submitting firms with the qualifications to perform potential as-needed lighting system repairs are invited (but not required) to submit their proposed approach and pricing to perform this optional scope of work. Although all firms must be able to identify and notify the City of any issues encountered during project development and project implementation, submitting firms will not be penalized if they choose not to submit a proposal for this portion of the scope of work.

The City reserves the right to proceed with any necessary repairs under this contract at the proposed hourly prices; to not proceed with the repairs, potentially removing affected areas from the scope of this project; or to contract with a separate firm to make the repairs, potentially upgrading the affected areas to LED at a later date and potentially under a different contract.

The pricing sheet for this optional scope of work is included as Appendix C.

### **5.4 On-Going Maintenance of Street Light System (Optional)**

The City is *considering* contracting with a private firm for the ongoing maintenance of the street light system once the LED conversion is complete, but has not yet confirmed its intent to do so. Submitting firms are invited to optionally submit a proposal (including pricing) to provide street light system maintenance after LED conversion is complete. However, the City reserves the right to exclude this maintenance component from this project, or to issue a separate procurement request at a later date for such services.

If the City pursues this option, it would desire comprehensive Operations and Maintenance services for the street lighting system. At a minimum, these services would include:

- System monitoring, including regular and proactive review of whether system components are functioning as expected. System components include LED luminaires, photocells, street light (non-utility) poles, mast arms, dedicated cables and wires (including those that may be underground), and all other equipment and materials necessary for the safe and effective functioning of the street light system. The selected firm should provide the City with monthly outage/failure rate reports.

- Equipment repair & replacement, including both proactive and reactive maintenance of all system components necessary for safe and effective functioning of the street light system. Failed luminaires shall be replaced in three (3) days or less once identified. Services shall also include pursuit of warranty replacements and insurance damage claims where applicable in order to minimize out-of-pocket costs to the City.
- Asset management, including maintenance of up-to-date records and valuations for all system components, as well as web and 1-800# phone outage reporting available 24/7.
- Design services, including working with the City as well as private entities to appropriately specify and locate any new lights being added to the system, or redesign/reconfigure existing lights as required by roadway, streetscape, or other projects as approved by the City.
- Inventory maintenance, including locally stocking important system components to facilitate efficient repair and replacement as necessary.

Submitting firms interested in providing on-going street lighting system maintenance are invited (but not required) to submit their proposed approach and associated pricing to perform this optional scope of work. Submitting firms will not be penalized if they choose not to submit a proposal for this portion of the scope of work. **If you intend to propose for this section of the RFP, then develop and submit your own pricing sheet because such pricing will not be considered on the City's "Main Pricing Sheet" included with this RFP as Attachment 5.**

## 5.5 Project Requirements

This section describes the project requirements that the winning entity will be required to comply with while completing the SOW.

### 5.5.1 General Information

The work shall comply with the requirements of all the following without limitation, and these requirements shall apply to the RFQ, this RFP, and any subsequent contract as though incorporated herein by reference:

- Federal, State, and Local Laws, including wage and labor, OSHA requirements, and appropriate safety measures
- Rules and regulations governing utility districts
- Rules and regulations of other authorities with jurisdiction over the procurement of products

The work to be done consists of designing and implementing a comprehensive upgrade of the City's street lights from HPS to LED luminaires as described in the Scope of Work. No used, refurbished, reconditioned, or rebuilt parts or products shall be used, unless otherwise approved

by the City in writing; all street lights shall be fully operational each night unless due to a power fault issue.

The large majority of the existing streetlights are 120-240 volts. The only exceptions are those luminaires along the interstate (both high mast and off-road lights). These interstate luminaires are single-phase 480 volts. All existing luminaires are fed phase-to-ground (not phase-to-phase). KUB currently installs 3 wires to each light: 1 wire is the hot leg, 1 wire is the neutral, and 1 wire is connected to the equipment (arm, bracket, light head, etc.) which is then connected to the pole ground.

#### **5.5.2 LED Requirements**

The City of Knoxville is not specifying a particular brand or model of LED luminaire. Rather, submitters are to propose the specific luminaires listed on the DesignLights Consortium (DLC) Qualified Products List (see <http://www.designlights.org>), which comply with the parameters outlined in Appendix B: LED Requirements, and which (in the proposer's view) best meet the City's objectives for this project. Submitting firms should be aware that the LED replacements must meet or exceed the current lighting levels for all areas of the city, with a goal of achieving ANSI/IES RP-8-14 where practical. During Phase I of the contract, the winning firm will perform field inventories and photometric analyses to verify existing conditions and confirm that proposed luminaires will meet or exceed the current lighting levels and meet all other project requirements. The City understands that some aspects of the proposed design developed for this RFP may need to be modified during Phase I of the contract. Generally, the existing luminaires are mounted on the mast arm of free standing light poles or utility-owned distribution and transmission poles. The scope of work of this project involves removal and disposal and/or recycle of the existing HPS luminaires and replacement with equivalent LED luminaires to complete and provide the City with a functional turnkey operational lighting system. The project includes various luminaire styles such as cobra head, shoebox, under-bridge, and high mast luminaires located along commercial, industrial, and residential areas as well as along the interstate highway system within the boundaries of the city limits of Knoxville. The project also includes various post top style as well as decorative lights in the downtown area and other select neighborhoods.

#### **5.5.3 Photoelectric Control**

All photoelectric controls shall be standard 20-year rated life fail-on or equivalent. A photoelectric (PE) unit shall be supplied for each luminaire feeding from a single source. Group operated luminaires feeding from a lighting control center shall be supplied with a shorting cap. All PE cells shall be connected to the same voltage as the luminaire source.

#### **5.5.4 Minimum Warranty Requirements**

Contractor shall provide a minimum ten (10) year warranty for all components of the luminaire, including drivers (power supplies) and a ten (10) year warranty on finish and materials.

Replacement material warranty shall include warranty against defective or non-starting LED source assemblies, and luminaires exhibiting inadequate lumen maintenance at end of warranty period. Finish warranty shall include warranty against failure or substantial deterioration such as blistering, cracking, peeling, chalking, or fading.

Contractor shall provide a minimum twelve (12) Year Hardware Warranty for 20-year rated life photo cell.

Contractor shall provide a labor warranty for two (2) years from the date of project acceptance. During these two years, the selected Contractor shall be responsible for replacement of all failed products due to warranty or installation issues (including luminaires and parts thereof), to include the labor and materials, shipping of failed materials to supplier for replacement, and maintaining sufficient stock on hand to ensure prompt repairs to failed units.

For LED luminaires, a warranty failure will be considered a lumen output of less than 70% of original lumen output. If it drops below 70% in the warranty period, the replacement cost will be covered under the warranty. Warranties should include complete replacement of unit, not just defective components. All shipping charges returns and replacements for warrantied equipment shall be paid by manufacturer.

#### **5.5.5 Equipment Standardization**

The City desires to standardize equipment as much as possible, but understands that different areas of the street lighting system may need different treatment. Unless otherwise permitted in writing by the City, all similar equipment installed shall be from the same manufacturer in order to standardize equipment as much as possible City-wide. The City reserves the right of final approval of any selected equipment or modifications proposed. Only prior reviewed and approved equipment and modifications will be permitted. Review and approval shall be conducted by the City of Knoxville in a timely manner. The City shall: approve proposed equipment, materials, products, and installation plans; approve equipment specifications and installation plans for any proposed changes prior to the implementation of any modifications; have the right to make routine inspections and be present during any equipment and systems commissioning procedures.

#### **5.5.6 Disposal/Recycle**

The Contractor will propose a disposal and recycle plan associated with the removal and disposal of the City's existing street light assets which are replaced by the new LED light luminaires. This removal/disposal of the existing street lights shall not be a separate pay item and shall be included in the proposed unit price for supply and installation of the LED luminaires. The plan should include a revenue sharing proposal for the funds of any material that is recycled or resold.

#### **5.5.7 Licensing Requirements & Minimum Qualifications**

All photometric analyses, lighting models/footprints, and final replacement plans and specifications shall be prepared, reviewed and stamped by Professional Engineers (PE) licensed within the State of Tennessee with competency in lighting design. The City prefers firms and teams that have demonstrated competence and familiarity complying with Illuminating Engineering Society (IES) standards. Project development and implementation should follow IES best practices and standards.

All streetlight retrofit work (i.e., removing, installing, or maintaining street and area lighting) must be performed by personnel who are certified as Qualified Workers as described in OSHA 29 CFR 1910.269. Installation contractors, including sub-contractors, shall be licensed electrical contractors in the State of Tennessee and will have experience and qualification in installing streetlights on utility poles in compliance with the applicable requirements of OSHA, TOSHA (Tennessee Occupational Safety and Health Administration), the NESC, and/or NEC by Qualified Workers as described in OSHA 29 CFR 1910.269. Installation contractors shall submit documentation demonstrating their Qualified Worker training program prior to issuance of the City's Notice to Proceed with Project Implementation. By submitting a proposal, the proposer is certifying that all personnel who will perform under the contract are Qualified Workers as described above. Anyone working above the communication space on utility poles or within electric distribution enclosures shall be electrically qualified as defined by OSHA 1910.269. Customer personnel or qualified electrical workers are never allowed to enter a KUB manhole or vault for any reason without KUB safety supervision personnel being present on site. Before a contract is signed by the City, the submitting entity, if selected, must provide the City Purchasing Division with a copy of its valid business license or with an affidavit explaining why it is exempt from the business licensure requirements of the city or county in which it is headquartered.

#### **5.5.8 Options**

The City of Knoxville is not specifying a particular brand or model of LED luminaire. Rather, submitters are to propose the specific luminaires listed on the DesignLights Consortium (DLC) Qualified Products List (see <http://www.designlights.org>), which comply with the parameters outlined in Appendix B: LED Requirements, and which (in the proposer's view) best meet the City's objectives for this project. In addition, proposers are invited to submit optional pricing associated with the following technology options the City "may" be interested in. Any acceptance of or upgrade to these optional features is entirely at the discretion of the City.

Proposers are invited to submit the proposed costs of these enhancements and identify the up-front and the ongoing (annual) costs and financial savings as well as the potential revenue for either a localized or system-wide installation. If proposers are interested in providing these options, clear examples of typical installations with total cost and benefits should be highlighted in proposals.



### *1. Connected Lighting Capabilities for Remote Monitoring (**Pricing Requested**)*

The City requests option pricing for the installation, start-up, and commissioning of a networked lighting system that enables, at a minimum, remote monitoring of the streetlight system. This network lighting system is intended to facilitate asset management and work order initiation, as well as the use of “real-time” data to improve customer service by reducing outage response times. The network lighting system includes two components, the central management system (CMS) and outdoor lighting network (OLN). The proposed CMS and OLN solutions and their components shall be TALQ compliant and certified (see <http://www.talq-consortium.org/> for more information on TALQ). The solution must provide a high availability network and support frequent data transmission. Data must be able to be encrypted while traversing the network in order to ensure security and privacy, as well as at rest in any software system.

For the purposes of this solicitation, please refer to the following definitions:

- Outdoor Lighting Network (OLN): A communication network of outdoor devices such as Light Points controllers, Gateways, Segment Controllers, Sensors, for purpose of saving energy and maintenance optimization.
- Central Management System (CMS): A device (whether hardware, software or combination thereof) which communicates with the OLN's to remotely configure and operate the OLN's components. The CMS provides web or PC based user interface able to manage the lighting infrastructure (e.g. assets, schedules, manual overrides, alarm triggers), and monitor the operating conditions (e.g. burning hours, voltages, failures) and performance reports (maintenance, energy consumption).

The CMS must have the capability to download and upload data in an easily transferrable method (i.e., csv, txt delimited file) in order to interface efficiently with the City's and KUB's existing asset management systems, Accela and IBM Maximo, respectively.

Proposers should complete Attachment 5: Main Pricing Sheet, which includes Option Pricing for luminaires with remote monitoring. .

### *2. Future Proofing Capabilities (**Pricing Optional**)*

The City is interested in proposal pricing for luminaires that allow for modular upgrades at a later date to accommodate external “smart” lighting controls or features (i.e., Wi-Fi, cameras, traffic monitoring, etc.). Proposers should note that this option does not indicate the City's current interest in such features, but rather an interest in investing in luminaires that could be easily upgraded at a later date should the City desire to add these features to the street lighting system. Proposals shall comply with same OLN and CMS specifications described in Option 1 above. Price sheet will need to include any on-going annual costs, as well as any incremental upfront cost for materials and installation of luminaires that can accommodate future modular upgrades.

If you intend to propose for “Future Proofing Capabilities,” then develop and submit your own pricing sheet because such pricing will not be considered on the City’s “Main Pricing Sheet” included with this RFP as Attachment 5.

#### 5.5.9 Preferred Schedule

The following schedule describes the City’s preferred implementation schedule for this contract in light of fiscal calendars and administrative priorities. The City is open to considering alternative schedules that would gain efficiencies, cost savings or other advantages related to labor, materials sourcing and delivery, or other aspects of the project. Proposals shall include a detailed timeline for commencement and completion of all project phases with the understanding that the City anticipates the contract between the City and the winning proposer being fully executed sometime in the late winter or early spring of 2017

Anticipated Contract Execution	Late winter/early spring of 2017
Phase I Project Development	Complete within 6 months from contract execution
Phase II Project Implementation	
50% of Lights Converted	Complete within 16 months from full contract execution
100% of Lights Converted	Complete within 28 months from full contract execution
Phase III Project Completion (Full Close Out)	Complete within 33 months from full contract execution

**VI. Contract Requirements.** Submitting entities, if selected, must be willing to sign a contract with the City which will include certain provisions, among which are the following:

- 6.1 Contract Documents. The contract shall consist of
- (1) The previous RFQ, with any and all addenda, published by the City and the statement of qualifications submitted in response thereto
  - (2) This RFP, with any and all addenda, and the proposal submitted in response thereto
  - (3) The “Best & Final Offer if one is asked for by the City
  - (4) Any negotiated points between the City and the winning proposer
  - (5) And the contract between the City and winning proposer

In the event of a discrepancy between any of the above listed documents, then the terms of the contract shall prevail.

- 6.2 Administration. The contract will be administered by the City of Knoxville’s Office of

Sustainability.

**6.3 Invoices.** Invoices for services will be submitted to the City in accordance with the contract terms. Note that it is the City's intent to pay the winning proposer for Phase I at the completion of Phase I which will conclude at upon the City's issuance of a Notice to Proceed with Phase II. Additionally, the City plans to pay the winning proposer for Phase II in 20% increments during the construction phase of this contract. In other words, once 20% of the lighting is installed and accepted by the City then the City will pay for said 20% of the lighting in accordance with Phase II pricing. Once the next 20% of the lighting is installed, then the City will pay for that 20%, and so forth.

**6.4 Retainage.** The City shall retain five (5%) percent of all work covered by the Contract Documents as it does in all construction related projects/contracts. Upon completion and acceptance of the Work, the City issue a certificate attached to the final payment request that the Work has been accepted in full under conditions of the Contract Documents. The entire balance found to be due the Contractor, including the retained percentages, but except such sums as may be lawfully retained by the City, shall be paid to the Contractor within thirty (30) days of completion and acceptance of the Work.

**6.5. Liquidated Damages.** The City and the Contractor mutually agree response time compliance and performance compliance are critical and that failure to complete the project in the amount of time agreed to in the subsequent contract between the City and the winning proposer will result in the winning proposer paying liquidated damages to the City in the amount of \$500 per calendar day for each day that the project has not been completed (and fully accepted by the City) in accordance with the agreed to duration of the contract/project.

**6.6 A Performance Bond and a Payment Bond,** each in the amount of one hundred percent (100%) of the Contract price, with a corporate surety approved by the Owner, will be required for the faithful performance of the Contract. Said bonds must be provided to the City prior to full execution of the contract. Attorneys-in-fact who sign Bid Bonds and Performance Bonds must file with each bond a certified and effective dated copy of their power of attorney.

**6.7 Drug Free Work Place & Child Crime Affidavits.** Before a contract is fully executed, the proposer shall provide the City a Drug Free Workplace Affidavit (see the Forms section of this RFP) to ensure the company conducting the actual construction/build out of the project indeed has a drug free workplace as well as a Child Crime Affidavit to ensure sex offenders and violent crime offenders are not going to be conducting work on this project as some of the work will be done in areas where children are in close proximity to the work being done.

**6.8 Independent Contractor.** The relationship of contractor to the City will be that of independent contractor. The contractor will be solely and entirely responsible for its acts and for the acts of its agents, employees, servants and subcontractors done during the performance of the contract. All services performed by the contractor shall be provided in an independent contractor capacity and not in the capacity of officers, agents, or employees of the City.

**6.9 Assignment.** The contractor shall not assign or transfer any interest in this contract

without prior written consent of the City of Knoxville.

6.10 Indemnification and Hold Harmless. The successful qualifier will be required to sign a contract with the City which contains the following indemnification clause. This indemnification clause will not be altered in any way. Failure to agree with this indemnification clause in the contract may result in the City moving to the next responsible responsive proposer.

Consultant shall defend, indemnify and hold harmless the City, its officers, employees and agents from and against any and all lawsuits, claims, liabilities, damages, losses, and expenses (including, but not limited to, court costs, reasonable attorney fees, and costs of claim processing, investigation, and litigation) to the extent arising out of, relating to, or resulting from the negligent or intentional acts, errors, or omissions of Consultant in performance of this Agreement or from Consultant's failure to perform this Agreement using a due and reasonable standard of professional care and skill ("Indemnified Claim"), and except where such injury, damage, or loss was caused by the sole negligence of the City, its agents or employees. The amount and type of insurance coverage requirements set forth in this Agreement will in no way be construed as limiting the scope of the indemnity in this section.

Consultant shall assume and take over the defense of the City in any such claim, demand, suit, or cause of action involving an Indemnified Claim upon written notice and demand for same by the City. Consultant will have the right to defend the City with counsel of its choice that is satisfactory to the City, and the City will provide reasonable cooperation in the defense as Consultant may request. Consultant will not consent to the entry of any judgment or enter into any settlement with respect to an Indemnified Claim without the prior written consent of the City, such consent not to be unreasonably withheld or delayed. The City shall have the right to participate in the defense against an Indemnified Claim with counsel of its choice at its own expense.

Consultant shall save, indemnify and hold City harmless and pay judgments that shall be rendered in any such actions, suits, claims or demands against City with respect to any Indemnified Claim.

The indemnification and hold harmless provisions of this Agreement shall survive termination of the Agreement.

6.11 Termination. The City may this Agreement at any time, with or without cause, by written notice of termination to the Contractor.

If the City terminates this Agreement, and such termination is not a result of a default by the Contractor, the Contractor shall be entitled to receive as its sole and exclusive remedy the following amounts from the City, and the City shall have no further or other obligations to the Contractor: the amount due to the Contractor for work executed through the date of termination, not including any future fees, profits, or other compensation or payments which the Contractor would have been entitled to receive if this Agreement had not been terminated.

The City may, by written notice of default to the Contractor, terminate the whole or any part of this Agreement if the Contractor fails to perform any provisions of this Agreement and

does not cure such failure within a period of ten (10) days (or such longer period as the Purchasing Agent may authorize in writing) after receipt of said notice from the Purchasing Agent specifying such failure. If this Agreement is terminated in whole or in part for default, the City may procure, upon such terms and in such manner as the Purchasing Agent may deem appropriate, supplies or services similar to those terminated.

6.12 Insurance. When applicable and prior to the commencement of the contract, contractor must, at its sole expense, obtain and maintain in full force and effect for the duration of the Agreement and any extension hereof at least the following types and amounts of insurance for claims which may arise from or in connection with this Agreement. Contractor shall furnish the City of Knoxville with properly executed certificates of insurance which shall clearly evidence all insurance required by the City. All insurance must be underwritten by insurers with an A.M. Best rating of A-VIII or better. Such insurance shall be at a minimum the following:

- A. **Commercial General Liability Insurance;** occurrence version commercial general liability insurance, and if necessary umbrella liability insurance, with a limit of not less than two million dollars each occurrence for bodily injury, personal injury, property damage, and products and completed operations. If such insurance contains a general aggregate limit, it shall apply separately to the work/location in this Agreement or be no less than \$3,000,000.

Such insurance shall:

(a.) Contain or be endorsed to contain a provision that includes the City, its officials, officers, employees, and volunteers as additional insureds with respect to liability arising out of work or operations performed by or on behalf of the Contractor including materials, parts, or equipment furnished in connection with such work or operations. The coverage shall contain no special limitations on the scope of its protection afforded to the above-listed insureds. Proof of additional insured status up to and including copies of endorsements and/or policy wording will be required.

(b.) For any claims related to this project, Contractor's insurance coverage shall be primary insurance as respects the City, its officers, officials, officers, employees, and volunteers. Any insurance or self-insurance programs covering the City, its officials, officers, employees, and volunteers shall be excess of Contractor's insurance and shall not contribute with it.

(c.) At the sole discretion of the City, dedicated limits of liability for this specific project may be required.

- B. **Automobile Liability Insurance;** including vehicles owned, hired, and non-owned, with a combined single limit of not less than \$1,000,000 each accident. Such insurance shall include coverage for loading and unloading hazards. Insurance shall contain or be endorsed to contain a provision that includes the City, its officials, officers, employees, and volunteers as additional insureds with

respect to liability arising out of automobiles owned, leased, hired, or borrowed by or on behalf of Contractor.

- C. **Workers' Compensation Insurance.** Contractor shall maintain workers' compensation insurance with statutory limits as required by the State of Tennessee or other applicable laws and employers' liability insurance with limits of not less than \$500,000. Contractor shall require each of its subcontractors to provide Workers' Compensation for all of the latter's employees to be engaged in such work unless such employees are covered by Contractor's workers' compensation insurance coverage.
- D. **Professional Liability (including Errors & Omissions).** Consultant shall maintain professional liability insurance covering claims arising from real or alleged negligent errors, omissions, or acts committed in the performance of professional services under this contract with limits of \$2,000,000. If the coverage is written on a claims-made form:
- a. The "Retro Date" must be shown and must be before the date of the contract or the beginning of contract work.
  - b. Insurance must be maintained and evidence of insurance must be provided for at least three (3) years after completion of the contract work and acceptance by the City.
  - c. If coverage is cancelled or non-renewed and not replaced with another claims-made policy form with a "Retro Date" prior to the contract effective date, Consultant must purchase "extended reporting" coverage for a minimum of three (3) years after completion of contract work.
  - d. A copy of the claims reporting requirements must be submitted to the City for review.
- E. **Other Insurance Requirements.** Contractor shall:
- Prior to commencement of services, furnish the City with original certificates and amendatory endorsements effecting coverage required by this section and provide that such insurance shall not be cancelled, allowed to expire, or be materially reduced in coverage except on 30 days' prior written notice to the City Attorney of Knoxville; P.O. Box 1631; Knoxville, Tennessee 37901. Proof of policy provisions regarding notice of cancellation will be required.
  - Upon the City's request, provide certified copies of endorsements and policies if requested by the City in lieu of or in addition to certificates of insurance. Copies of policies will only be requested when contracts are deemed to be extremely or uniquely hazardous, include a dollar amount that is significant to the overall budget of the City or a City Department, or the coverage(s) may not follow standard insurance forms. A policy will only be requested after the City's Risk Manager has reviewed the contract and proof of coverage has been provided. Should the certificate of insurance refer to

specific coverage wording or endorsements(s), proof of such policy wording or endorsement(s) will be required.

- Replace certificates, policies, and endorsements for any such insurance expiring prior to completion of services.
- Maintain such insurance from the time services commence until services are completed. Failure to maintain or renew coverage or to provide evidence of renewal may be treated by the City as a material breach of contract.
- If Contractor cannot procure insurance through an insurer having an A.M. Best rating of A-VIII, Contractor may, in the alternative, place such insurance with insurer licensed to do business in Tennessee and having A.M. Best Company ratings of no less than A. Modification of this standard may be considered upon appeal to the City Law Director.
- Require all subcontractors to maintain during the term of the Agreement Commercial General Liability insurance, Business Automobile Liability insurance, and Workers' Compensation/Employer's Liability insurance (unless subcontractor's employees are covered by Contractor's insurance) in the same manner as specified for Contractor. Contractor shall furnish subcontractors' certificates of insurance to the City without expense immediately upon request.
- Large Deductibles; Self-Insured Retentions. Any deductibles and/or self-insured retentions greater than \$50,000 must be disclosed to and approved by the City of Knoxville prior to the commencement of services. Use of large deductibles and/or self-insured retentions may require proof of financial ability as determined by the City.
- Waiver of Subrogation Required. The insurer shall agree to waive all rights of subrogation against the City, its officers, officials, and employees for losses arising from work performed by Contractor for the City. Proof of waiver of subrogation up to and including copies of endorsements and/or policy wording will be required.
- Occurrence Basis Requirement. All general liability policies must be written on an occurrence basis, unless the Risk Manager determines that a claims made basis is reasonable in the specific circumstance. Use of policies written on a claims made basis must be approved by the City. Risk Manager and retroactive dates and/or continuation dates must be provided to the City prior to commencement of any work performed. Professional Liability and Environmental Liability (Pollution Coverage) are most commonly written on a claims made basis and are generally acceptable in that form.

6.13 Ethical Standards. Attention of all firms is directed to the following provisions contained in the Code of the City of Knoxville: Chapter 24, Article II, Section 24-33 entitled "Debts owed

by persons receiving payments other than Salary;" Chapter 2, Article VIII, Division 11. the Contractor hereby takes notice of and affirms that it is not in violation of, or has not participated, and will not participate, in the violation of any of the following ethical standards prescribed by the Knoxville City Code:

A. Section 2-1048. Conflict of Interest.

It shall be unlawful for any employee of the city to participate, directly or indirectly, through decision, approval, disapproval, recommendation, preparation of any part of a purchase request, influencing the content of any specification or purchase standard, rendering of advice, investigation, auditing or otherwise, in any proceeding or application, request for ruling or other determination, claim or controversy or other matter pertaining to any contract or subcontract and any solicitation or proposal therefore, where to the employee's knowledge there is a financial interest possessed by:

- (1) the employee or the employee's immediate family;
- (2) A business other than a public agency in which the employee or member of the employee's immediate family serves as an officer, director, trustee, partner or employee; or
- (3) Any person or business with whom the employee or a member of the employee's immediate family is negotiating or has an arrangement concerning prospective employment.

B. Section 2-1049. Receipt of Benefits from City Contracts by Council Members, Employees and Officers of the City.

It shall be unlawful for any member of council, member of the board of education, officer or employee of the city to have or hold any interest in the profits or emoluments of any contract, job, work or service, either by himself or by another, directly or indirectly. Any such contract for a job, work or service for the city in which any member of council, member of the board of education, officer or employee has or holds any such interest is void.

C. Section 2-1050. Gratuities and Kickbacks Prohibited.

It is unlawful for any person to offer, give or agree to give to any person, while a city employee, or for any person, while a city employee, to solicit, demand, accept or agree to accept from another person, anything of a pecuniary value for or because of:

- (1) An official action taken, or to be taken, or which could be taken;
- (2) A legal duty performed, or to be performed, or which could be performed; or
- (3) A legal duty violated, or to be violated, or which could be violated by such person while a city employee.

Anything of nominal value shall be presumed not to constitute a gratuity under this section.

Kickbacks. It is unlawful for any payment, gratuity, or benefit to be made by or on behalf of a subcontractor or any person associated therewith as an inducement for the award of a subcontract or order.

D. Section 2-1051. Covenant Relating to Contingent Fees.

- (a) Representation of Contractor. Every person, before being awarded a contract in



excess of ten thousand dollars (\$10,000.00) with the city, shall represent that no other person has been retained to solicit or secure the contract with the city upon an agreement or understanding for a commission, percentage, brokerage or contingent fee, except for bona fide employees or bona fide established commercial, selling agencies maintained by the person so representing for the purpose of securing business.

(b) Intentional Violation Unlawful. The intentional violation of the representation specified in subsection (a) of this section is unlawful.

E. Section 2-1052. Restrictions on Employment of Present and Former City Employees. Contemporaneous employment prohibited. It shall be unlawful for any city employee to become or be, while such employee, an employee of any party contracting with the particular department or agency in which the person is employed.

For violations of the ethical standards outlined in the Knoxville City Code, the City has the following remedies:

- (1) Oral or written warnings or reprimands;
- (2) Cancellation of transactions; and
- (3) Suspension or debarment from being a Contractor or subcontractor under city or city-funded contracts.

The value of anything transferred in violation of these ethical standards shall be recoverable by the City from such person. All procedures under this section shall be in accord with due process requirements, included but not limited to a right to notice and hearing prior to imposition of any cancellation, suspension or debarment from being a Contractor or subcontractor under a city contract.

6.14 Firms must comply with the President's Executive Order No. 11246 and 11375 which prohibit discrimination in employment regarding race, color, religion, sex or national origin. Firms must also comply with Title VI of the Civil Rights Act of 1964, Copeland Anti-Kick Back Act, the Contract Work Hours and Safety Standards Act, Section 402 of the Vietnam Veterans Adjustment Act of 1974, Section 503 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act of 1990, all of which are herein incorporated by reference.

6.15 Firms shall give consideration to the inclusion of minority and woman owned businesses in this project, and shall advise the city in this submittal of qualifications of their intent to do so. The City of Knoxville's current goals are to conduct 3.33% of its total business with minority-owned firms and 9.22 percent of its business with woman-owned businesses. With that in mind, the City desires that interested qualifiers tell the City how much (on a percentage basis) business they plan to conduct with minority owned and woman owned businesses to help the City meet its stated goals. A specific dollar amount is not necessary at this time but will be asked for, from the finalists, in their proposals. All that is necessary right now is for the qualifiers to state the percentage of business they plan to sub-contract to minority and woman owned companies.

6.16 Firms shall give consideration to the use of environmentally sustainable best practices,

and shall advise the city in this submittal of qualifications of their efforts to do so.

6.17 Federal, State, and Local Requirements. Each submitting entity is responsible for full compliance with all applicable federal, state, and local laws, rules and regulations.

6.18 Licenses. The contractor must be a licensed professional as required by the State of Tennessee for any services in this contract requiring such licensure. Additionally, any and all sub-consultants/contractors employed by the prime consultant/contractor for the performance of the services requested in this RFP must be licensed as professional service firms in the State of Tennessee if said sub-consultants/contractors will perform services that are considered professional in nature. The affidavit submitted previously, with your statement of qualifications, is considered to still be in full force and effect throughout this RFP phase of the procurement process and during any subsequent contract between the City and the winning proposer.

6.19 Before a contract is signed by the City, the submitting entity, if selected, **must** provide the City Purchasing Division with a copy of its valid business license **or** with an affidavit explaining why it is exempt from the business licensure requirements of the city or county in which it is headquartered. If a contract is signed, the contractor's business license shall be kept current throughout the duration of the contract, and the contractor shall inform the City of changes in its business name or location.

6.20 Funding. The City's performance and obligation to pay under this contract is subject to funding contingent upon an annual appropriation.

6.21 Governing Law and Venue. This Agreement shall be governed by and construed in accordance with the substantive laws of the State of Tennessee and its conflict of laws provisions. Venue for any action arising between the City and the Contractor from the Agreement shall lie in Knox County, Tennessee.

6.22 Subcontracts to the Agreement. Contractor shall not enter into a subcontract for any of the services performed under this Agreement without obtaining the prior written approval of the City.

6.23 Amendments. This Agreement may be modified only by a written amendment or addendum that has been executed and approved by the appropriate officials shown on the signature page of the Agreement.

6.24 Captions. The captions appearing in the Agreement are for convenience only and are not a part of the Agreement; they do not in any way limit or amplify the provisions of the Agreement.

6.25 Severability. If any provision of the Agreement is determined to be unenforceable or invalid, such determination shall not affect the validity of the other provisions contained in the Agreement. Failure to enforce any provision of the Agreement does not affect the rights of the parties to enforce such provision in another circumstance, nor does it affect the rights of the parties to enforce any other provision of this Agreement at any time.

6.26 No Benefit for Third Parties. The services to be performed by the Contractor pursuant to the Agreement with the City are intended solely for the benefit of the City, and no benefit is conferred hereby, nor is any contractual relationship established herewith, upon or with any person or entity not a party to the Agreement. No such person or entity shall be entitled to rely on the Contractor's performance of its services hereunder, and no right to assert a claim against the City or the Contractor, its officers, employees, agents, or contractors shall accrue to the Contractor or to any subcontractors, independently retained professional consultant, supplier, fabricator, manufacturer, lender, tenant, insurer, surety, or any other third party as a result of this Agreement or the performance or non-performance of the Contractor's services hereunder.

6.27 Non-Reliance of Parties. Parties explicitly agree that they have not relied upon any earlier or outside representations other than what has been included in the Agreement. Furthermore, neither party has been induced to enter into this Agreement by anything other than the specific written terms set forth herein.

6.28 Force Majeure. Neither party shall be liable to the other for any delay or failure to perform any of the services or obligations set forth in this Agreement due to causes beyond its reasonable control, and performance times shall be considered extended for a period of time equivalent to the time lost because of such delay plus a reasonable period of time to allow the parties to recommence performance of their respective obligations hereunder. Should a circumstance of force majeure last more than ninety (90) days, either party may by written notice to the other terminate this Agreement. The term "force majeure" as used herein shall mean the following: acts of God; strikes, lockouts or other industrial disturbances; acts of public enemies; orders or restraints of any kind of the government of the United States or of the State or any of their departments, agencies or officials, or any civil or military authority; insurrections, riots, landslides, earthquakes, fires, storms, tornadoes, droughts, floods, explosions, breakage or accident to machinery, transmission pipes or canals; or any other cause or event not reasonably within the control of either party.

6.29 EEO/AA/ The City of Knoxville is an EE/AA/Title VI/Section 504/ADA/ADEA Employer.

6.30 By submitting a proposal, the submitting entity agrees to all terms and conditions established in this RFP, including its contract requirements.

**VII. Instructions to Submitting Entities.** All proposals shall comply with the following instructions. These instructions ensure that (1) submissions contain the information and documents required by the City RFP; and (2) the submissions have a degree of uniformity to facilitate evaluation.

7.1 General. Submission forms and RFP documentation may be obtained on or after January 9, 2017, at no charge from:

City/County Building  
400 Main Street, Room 667  
Knoxville, Tennessee 37902

between 8:30 a.m. and 4:30 p.m. (Eastern Time), Monday through Friday or by calling 865-215-2070. Forms and RFP information are also available on the City web site at [www.knoxvilletn.gov/purchasing](http://www.knoxvilletn.gov/purchasing) where it can be read or printed using Adobe Acrobat Reader software.

7.2 Submission Information. Submitters shall include 8 hard copies (one original and 7 duplicates—**mark the original as such**), as well as one electronic copy of their submission (.pdf format on CD only—**mark the storage device with the company name**); the electronic version shall be an exact duplicate of the original, and the electronic version will be the official document exhibited in the contract. **Electronic submissions must be included with the sealed submissions; do not email your submission.**

Proposals shall clearly indicate the legal name, address and telephone number of the submitting entity (company, firm, partnership, individual). Original signature must be signed above the typed or printed name and title of the signer. All proposals must be signed by an officer of the company authorized to bind the firm to a contract.

Proposals will be received until 11:00:00 a.m. (Eastern Time) on February 7, 2017. Each submission of proposals must be submitted in a sealed envelope addressed to:

City of Knoxville Purchasing Division  
City/County Building  
400 Main Street, Room 667  
Knoxville, TN 37902

**IMPORTANT NOTE: Each outermost mailing envelope or shipping carton containing a proposal must be plainly marked on the outside "Streetlight Replacement Project." Those making submissions are reminded that the Purchasing Division receives many submissions for any number of solicitations; unlabeled submissions are extremely difficult to match to their appropriate solicitations and therefore may be rejected.**

Any proposals received after the time and date on the cover sheet will not be considered. It shall be the sole responsibility of the submitting entity to deliver their proposal to the City of Knoxville Purchasing Division on or before that date.

Late submissions will not be considered. Submissions that arrive late due to the fault of United States Postal Service, United Parcel Service, DHL, FEDEX, any delivery/courier service, or any other carrier of any sort are still considered late and shall not be accepted by the City. Such submissions shall remain unopened and will be returned to the submitting entity upon request.

7.3 Format. The City is committed to reducing waste. Proposals must be typed on 8.5 x 11 inch wide white paper, printed on both sides. DO NOT BIND the document; instead, staple or

binder clip the submission together and place in a sealed envelope. Pages must be consecutively numbered. A table of contents must be included in the submission immediately after the title page, and each of the following numbered sections must be tabbed. Additional tabs to denote specific sections are allowed.

Please note the page limits for proposals. The total length of the proposal shall not exceed fifty (50) 8.5"x11" pages, less dividers, tabs, and required forms. Submittals should be typed and printed double-sided on recycled paper. Submittals may contain additional pages in the form of appendices, but submitting firms should be aware that the review committee may select not to review appendices when scoring submittals.

Proposals shall be structured as follows:

1. Title Page
2. Table of Contents
3. Submission Forms:
  - F. Form S-1
  - G. Non-Collusion Affidavit
  - H. Diversity Business Enterprise Program (DBEP)Forms
  - I. Drug Free Workplace Affidavit
  - J. Child Crime Affidavit
4. Body of Proposal: Information which submitting entity wishes to include

NOTE: The Submission Form S-1, Non-Collusion Affidavit, Drug Free Workplace Affidavit, Child Crime Affidavit, and the DBEP Forms are provided in the "Submission Forms" section of this RFP.

## **VIII. Evaluation Criteria**

Evaluation of Proposals. All qualified submissions received by the deadline will be analyzed by the Evaluation Committee according to the criteria outlined in these specifications. Each proposal will be initially analyzed and judged according to the evaluation criteria below. Failure to comply with the provisions of the RFP may cause any submission to be ineligible for evaluation. The maximum score is 100 points.

The criteria, and their associated weights, upon which the evaluation of the proposals will be based includes, but is not limited to, the following:

The RFP Evaluation Criteria (listed in relative order of importance) are as follows:

- |   |             |
|---|-------------|
| - Proposed Pricing                        | (40 points) |
| - Quality of Proposed Lighting Solution   | (30 points) |
| - Approach to Scope of Work               | (20 points) |
| - Qualifications of Proposing Firm & Team | (10 points) |

Firms and/or teams responding to this Request for Proposals shall be available for interviews with the Evaluation Committee. Discussions may be conducted with responsible submitting entities for purposes of clarification to assure full understanding of and conformance to the RFP requirements. Selection shall be based on the firms' proposals applicable to the scope and nature of the services to be performed per this RFP, as well as previously submitted statements of qualifications. Determination of firms' qualifications shall be based on their previously submitted statement of qualifications, any additional written information submitted in response to this RFP, and information presented to the Evaluation Committee during oral interviews, if any.

In addition to materials provided in the written responses to this RFP or the previously issued RFQ, the Committee may request additional material, information, or references from the submitting entity or others.

Provided it is in the best interest of the City of Knoxville, the firm or team determined to be the most responsive to the City of Knoxville, taking into consideration the evaluation factors set forth in this Request for Proposals, will be selected to begin contractual negotiations. The firm or team selected will be notified at the earliest practical date and invited to submit more comprehensive information if necessary. If no satisfactory agreement can be reached with the "most responsive firm," the City may elect to negotiate with the next best and most responsive firm or team.

The narrative portion and the materials presented in response to this Request for Proposals shall be submitted as set forth in Section VII and follow the same order as requested and must contain, at a minimum, the following:

### **Price Proposal**

Proposers shall submit prices on the "Main Pricing Sheet," which the City has included as Attachment 5 of this RFP. This Pricing Sheet represents the City of Knoxville's official request for price quotation and MUST be completed by the Proposer. The pricing stated herein must be a firm cost. Unless otherwise and specifically provided, the price is all-inclusive and must include all necessary costs including, but not limited to, materials, labor, travel, copying costs, incidentals, equipment, space, taxes, profit, insurance and any other items necessary to effectively conduct and complete the Scope of Work. Pricing should exclude available rebates. If proposing firms know of rebates and want to give the City an indication of what to expect, they are welcome to do so, but such values shall be clearly labeled and listed separately and will "not" be considered a part of the proposer's pricing.

Additionally, the removal/disposal of the existing street lights shall not be a separate pay item and shall be included in the proposed unit price for supply and installation of the LED street light fixtures.

The City of Knoxville reserves the right to make an award without further discussion of the response submitted. Therefore, the response should be submitted on the most favorable terms that Proposer intends to offer. During the evaluation phase, the City reserves the right to request a Best and Final Offer from the top-ranked most responsive/responsible proposers.

## **Quality of Proposed Lighting Solution**

Provide a narrative explanation and supporting documentation that describes the luminaires proposed for this project and how they will meet the City's illumination, financial, and other project objectives. Explain how the proposed luminaires will meet illumination standards in the most common configurations in the City while minimizing power requirements. Verify that the proposed luminaires comply with each of the parameters outlined in Appendix B: LED Requirements. Explain how the data provided by the City were used and what assumptions were applied. Proposer shall provide cut sheets and detailed product specifications for all proposed luminaires and retrofits.

1. **Quality of Lighting Solution:** Describe the quality of the lighting solution such as the light quality, reduced light pollution, and the ability to add additional options in future controls or cameras. Specifically address the specifications of the LED driver relative to working experience and failure rates.
2. **Financial Savings:** Discuss the projected savings created by your proposed lighting solution relative to the City's existing system on an annual and life-cycle basis. Life-cycle costs and benefits should include energy savings as well as any maintenance costs/savings and other non-energy costs associated with operating the new luminaires. Information about the costs of the current system can be found in Appendix A: Street Lighting Costs.
3. **Adherence to Best Practice:** Describe how the proposed luminaires – and the proposed approach to design – will adhere to the guidelines and best practices issued by the International Dark Skies Alliance, American Medical Association, and the Illuminating Engineering Society of North America. Describe how the proposed solution will mitigate glare and incorporate shielding.
4. **Warranty:** Describe the warranty for the proposed lighting solution that meets the specifications of this solicitation. Proposers should clearly state the length of warranty for labor, LED luminaires, and photo cells, as well as the number of days required to supply and replace failed fixtures.
5. **Ease of Maintenance:** Describe the maintenance requirements of the proposed luminaires on an annual and life-cycle basis. Discuss any features or qualities of the luminaires that would make them easier (or harder) to maintain, including how many people are required to change-out a luminaire, how much luminaires weigh, and other relevant information. All luminaires must not have any components which can only be replaced by manufacturer-authorized service personnel or contractors.
6. **Aesthetics/Appearance** as viewed by the City of Knoxville's evaluation committee.

## **Approach to Scope of Work**

Provide a narrative explanation and supporting documentation describing the proposed approach to completing the Scope of Work, including details about each of the project's three phases. Describe all services to be provided and project deliverables for each phase of the project. In describing the proposed approach, submitting firms should clearly convey how the approach will help ensure that this project achieves the City's desired objectives, as described in Section 5.1. Specific topics of interest to the City include:

1. Approach to Phase 1 (Project Design): Describe the proposed approach to each step included in this RFP's description of Phase 1, as well as any additional steps proposed for this Phase. Describe how field information will be used to ensure a successful design that meets the City's objectives. Include the proposed approach to Test Deployment, including the number of test luminaires to be deployed and the proposed duration of the test deployment. Describe how input from various stakeholders, including members of the public, will be incorporated into the Replacement Plan.
2. Approach to Phase 2 (Project Implementation): Describe the proposed approach to each step included in this RFP's description of Phase 2, as well as any additional steps proposed for this Phase. Describe your approach to ensuring the safe and proper installation of lights. Describe the proposed plan for removal and disposal of existing lighting equipment. Describe the proposed plan for managing the public's questions and concerns during installation.
3. Approach to Phase 3 (Project Completion): Describe the proposed approach to each step included in this RFP's description of Phase 3, as well as any additional steps proposed for this Phase.
4. Project Timeline and Milestones: Provide a list of milestones and proposed deliverables for each milestone. Provide a detailed schedule for all phases of the project as described in the Scope of Work, including lead time for product procurement and delivery. Vendors should be aware that installation hours will vary by street and the permit issued by the City.
5. Client Services: Provide an estimate of key personnel time on each major step. State the work schedule (days and hours) that the contract representative will be available and the anticipated turn-around time for returning phone calls. State the availability of assigned personnel to perform the work according to the timing/needs of the City. Provide a brief assessment of the current workload and capacity of the Proposer to carry out the Scope of Work. State or describe any on-site resources such as office space, conference rooms, clerical support for meeting arrangements as relevant to the services provided.



6. Sample Reports: Describe or provide a sample progress report and other forms/reports relevant to the scope of work. Describe or provide a sample street light inventory or data submission sheet delineating information on installed LEDs as described in Scope of Work.
7. Disadvantaged business Enterprises. Be sure to state whether or not you intend to employ disadvantaged business enterprises as set forth in your initial statement of qualifications. Be specific.

### **Qualifications of Proposing Firm & Team**

Determination of firms' qualifications shall be based on their previously submitted written responses to the Request for Qualifications, any additional written information submitted in response to this RFP, and information presented to the Evaluation Committee during oral interviews, if any.

## RFP Appendix A: Street Lighting Costs

### *Current Bill Summary*

Estimated Current Annual Street Lighting Costs (Paid to KUB)		
Bill Component	Amount	Calculation Notes
Energy Charge	\$ 1,995,484	27,305,476 kWh @ \$0.07308/kWh
Facilities Charge	\$ 1,993,407	\$13,795,205 * 14.45%
Glassware	\$ 30,000	Actual cost for replacement lamps and glassware
Total Bill	\$ 4,018,891	

### *Notes on Current Bill*

The City's monthly street light bill includes an energy charge, a facility charge, and a monthly charge for the cost of the replacement of any glassware for the lights.

The energy charge is determined by multiplying the energy rate (Schedule LS – See Attachment 3) by the amount of electric power (kWh) used by the street lights. Street lights are not metered. The usage per light is based on type of fixture and estimated daily burn time, which is determined by KUB's Engineering Department using IESNA (Illumination Engineering Society of North America) standards and guidelines. The energy charge, at a minimum, should recover the cost of purchasing the power from TVA.

The facility charge is determined by multiplying a percentage (currently 14.45%) by the installed cost (gross plant value) to KUB's electric system devoted to street lighting service, including luminaires, wiring, poles, and cables. The installed cost is currently estimated to be \$13,795,205. The facility charge should recover the KUB's capital cost for the street light facilities, the cost of maintaining the facilities (O&M), tax equivalents, interest, and other operating costs incurred by KUB in supporting street lighting service.

KUB bills the City directly for the material replacement of lamps and glassware. Annually, these "glassware" costs are estimated to cost approximately \$30,000.

### *Notes on Future Bill*

Beginning in 2017, the City intends to re-structure the street lighting system by paying off the "stranded costs," or net book value, of the existing street lighting system and contracting with a firm to retrofit luminaires to LED technology.

The City intends to pay off the stranded costs of the existing system, including luminaires and non-transmission/distribution wiring, some poles, and cables, for the depreciated plant value, or approximately \$4,800,000. This payment to KUB will eliminate all facility charges on future bills.

The City may or may not contract with KUB or another third party for on-going maintenance and operation of the street lighting system. Under such an arrangement, the City would pay a contracted annual maintenance fee that reflects actual costs of maintaining the system and other support services as contracted by the City.

Some poles on which luminaires are mounted are transmission and/or distribution poles that are owned by KUB. After the re-structuring of the street lighting and associated billing system, annual pole rental fees may apply.

## RFP Appendix B: LED Requirements

<b>LED Luminaire Requirements</b>	
Design Lights Consortium (DLC) Listing	Luminaires must be listed on the DesignLights Consortium (DLC) Qualified Products List (see <a href="http://www.designlights.org">http://www.designlights.org</a> )
Correlated Color Temperature (CCT)	CCT shall be 3,000K +/- 500 nominal CCT, subject to proposed design that results in improved public safety with streets not under- or over- lit, improved color rendering, more consistent light levels and heightened detection distance. Color shift during L70 period shall be less than 5%. Acceptable LM80 test results shall be provided.
Color Rendering Index (CRI)	Luminaires shall have a minimum CRI of 70.
Off-state Power Consumption	The power draw of the luminaire (including PE or remote control devices) shall not exceed 1 (one) watt when in the off state.
On-state Power Consumption	The LM79 test shall exceed 85 lumens per watt.
Warranty	The warranty shall provide for the full replacement of the entire fixture due to any failure for a minimum of ten (10) years. For the first two years of the warranty period the warranty shall also include removal and installation services for fixture replacement.
Ambient Temperature Environment	Luminaires shall be able to operate normally in temperatures from -20° C to 50° C ambient.
Cooling System	Shall be by passive cooling by a heat sink; no fans, pumps, or liquids. Luminaires shall be tested for heat management with debris to ensure buildup does not degrade heat dissipation such that the life of light is diminished.
Dimensions (Approx.)	Maximum EPA of 1.2 sq ft  Maximum Weight of 60 lbs for post-top luminaires; maximum weight of 46 lbs for all other luminaires
Housing	Shall be primarily constructed of metal. Finish shall be gray or black in color, powder coated and rust resistant. Driver must be mounted internally and suitable for multi-voltages. All screws shall be stainless steel. Captive screws are needed on any components that require maintenance after installation. No parts shall be

	constructed of polycarbonate. The housing shall be equipped with a screwed or latching power door assembly. Light Engine shall be not less than IP 66.
Dark Sky Compliance	<p>The City desires to follow the recommendations of the International Dark-Sky Association (see <a href="http://darksky.org/lighting/led-practical-guide/">http://darksky.org/lighting/led-practical-guide/</a>).</p> <p>Luminaires and housing be fully shielded and installed in such a way that no light is emitted above a horizontal plane running through the lowest part of the fixture.</p> <p>Luminaires and housing shall accommodate optional field-installed backlight control shields.</p>
Certification	Entire fixture including internal components, and as a whole unit, shall be either UL or CSA certified, or equivalent, <i>and</i> shall be listed on the DLC Qualified Product List (see <a href="http://www.designlights.org">http://www.designlights.org</a> )
Mounting Arm Connection	Roadway luminaires must easily slide on a 2.375" outside diameter arm or horizontal tenon.
PE Cell Receptacle	Luminaires shall have a 7-prong twistlock photo-control receptacle in accordance with ANSI C136.41-2013. The driver dimming leads shall be wired to prongs 4 and 5. The PE socket shall be able to rotate so that the PE window can be positioned to face the north direction.

<b>LED Power Supply/Driver Requirements</b>	
Power Factor	Shall have minimum Power Factor of 0.90
Dimming	Drivers shall be capable of 0-10 V dimming
Transient Protection	LED lights shall be supplied and installed with surge protector rated for 10KA/10KV per ANSI/IEEE C62.41
Operating Temperature	Power Supply shall operate between -20°C to 50°C
Frequency	Output operating frequency must be >120Hz (to avoid visible flicker) and input operating frequency of 60 Hz

Interference	Power supplies shall meet FCC 47 CFR Part 15/18 (Consumer Emission Limits)
Noise	Power supply shall have a Class A sound rating per ANSI Standard C63.4
Voltage	Driver shall accept 120 V – 277 V input
Terminal Block	Shall be manufacturer standard.

<b>LED Measurement/Performance/Safety Standards</b>	
ANSI C78.377.2008	Specifications for the Chromaticity Solid State Lighting Products.
IESNA LM-79-08	IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products. Submit certified photometric reports per IESNA LM79 from an approved Department of Energy Independent testing laboratory to validate manufacturer's photometric performance claims for each luminaire.
IESNA LM-80-08 (Recommended)	IESNA Approved Method for measuring Lumen Maintenance of LED Lighting Sources. Submit lumen depreciation (operating life) data for each luminaire supported by the LED chip manufacturers' IESNA LM 80 test data that directly correlates to luminaire level performance.
UL Standards (Latest Approved)	8750 Light-Emitting Diode (LED) Light Sources for Use in Lighting Products - 1598 Luminaires – 1012 Power Units Other Than Class 2 – 1310 Class 2 Power Units – 2108 Low Voltage Lighting Systems
IP Rating of Light Engine	Minimum rating of IP 66

<b>LED Maintenance Requirements</b>	
Access	Must have tool-less entry to allow ease of access to the fixture.  Driver trays must be able to be removed without the ground wire being tied to it.
Power	Must have a “quick disconnect” power connection.  Must have surge suppression system.  Must be able to disconnect to driver board.
Modularity	Must have replaceable door cover power unit.

## **RFP Appendix C: As-Needed System Repair Pricing Sheet (Optional)**

<b>Item</b>	<b>Description</b>	<b>Price</b>	<b>Units</b>
XE-1	Journeyman Electrician/Lineman	\$	Per Hour
XE-2	Journeyman Electrician/Lineman – Overtime	\$	Per Hour
XE-3	Apprentice Electrician/Lineman	\$	Per Hour
XE-4	Apprentice Electrician/Lineman – Overtime	\$	Per Hour
XE-5	Lamp and Photocell Service Person	\$	Per Hour
XE-6	Laborer	\$	Per Hour
XE-7	Laborer – Overtime	\$	Per Hour
XE-8	Truck (35 to 40 foot bucket truck)	\$	Per Hour
XE-9	Dump truck (2 to 3 yard)	\$	Per Hour
XE-10	Crane (5 to 10 ton)	\$	Per Hour
XE-11	Pole Truck with Pole Auger	\$	Per Hour

# **Submission Forms**



**CITY OF KNOXVILLE  
REQUEST FOR PROPOSALS**

**Streetlight Replacement Project**

**Submission Form (S-1)**

**Proposals To Be Received by 11:00 a.m., Eastern Time, February 7, 2017, in Room 667-674, City/County Building, Knoxville, Tennessee.**

**IMPORTANT:** Submitters shall include 9 hard copies (one original and 8 duplicates—**mark the original as such**), as well as one electronic copy of their submission (.pdf format on CD only—**mark the storage device with the company name**); the electronic version shall be an exact duplicate of the original, and the electronic version will be the official document exhibited in the contract. **Electronic submissions must be included with the sealed submissions; do not email your submission.**

**Please complete the following:**

**Legal Name of Proposer:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Telephone Number:** \_\_\_\_\_

**Fax Number:** \_\_\_\_\_

**Contact Person:** \_\_\_\_\_

**Email Address:** \_\_\_\_\_

**Signature:** \_\_\_\_\_

**Name and Title of Signer:** \_\_\_\_\_

**Note: Failure to use these response sheets may disqualify your submission.**

## NON-COLLUSION AFFIDAVIT

State of \_\_\_\_\_

County of \_\_\_\_\_

\_\_\_\_\_, being first duly sworn, deposes and says that:

- (1) He/She is the \_\_\_\_\_ of \_\_\_\_\_, the firm that has submitted the attached Proposal;
- (2) He/She is fully informed respecting the preparation and contents of the attached Proposal and of all pertinent circumstances respecting such Proposal;
- (3) Such Proposal is genuine and is not a collusive or sham Proposal;
- (4) Neither the said firm nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly, with any other vendor, firm or person to submit collusive or sham proposal in connection with the contract or agreement for which the attached Proposal has been submitted or to refrain from making a proposal in connection with such contract or agreement, or collusion or communication or conference with any other firm, or, to fix any overhead, profit, or cost element of the proposal price or the proposal price of any other firm, or to secure through any collusion, conspiracy, connivance, or unlawful agreement any advantage against the City of Knoxville or any person interested in the proposed contract or agreement; and
- (5) The proposal of service outlined in the Proposal is fair and proper and is not tainted by collusion, conspiracy, connivance, or unlawful agreement on the part of the firm or any of its agents, representatives, owners, employees, or parties including this affiant.

Signed): \_\_\_\_\_

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

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
NOTARY PUBLIC

My Commission expires \_\_\_\_\_

## DRUG-FREE WORKPLACE AFFIDAVIT

State of \_\_\_\_\_

County of \_\_\_\_\_

\_\_\_\_\_, being duly sworn, deposes, and says that:

- (1) He/She is a principal officer of \_\_\_\_\_, the firm that has submitted the attached Proposal, his or her title being \_\_\_\_\_ of the firm; and
- (2) He/She has personal knowledge of the policies of the above-named firm with respect to the maintenance of a drug-free workplace; and
- (3) He/She certifies that all provisions and requirements of the Tennessee Drug-Free Workplace Program, as established by Tenn. Code Ann. §§ 50-9-100 et. seq., have been met and implemented.

\_\_\_\_\_  
(Signed)

\_\_\_\_\_  
(Title)

Subscribed and sworn to before me this \_\_\_\_ day of \_\_\_\_\_, 20\_\_.

Title \_\_\_\_\_

My Commission expires \_\_\_\_\_

Child Crime Affidavit

State of \_\_\_\_\_

County of \_\_\_\_\_

\_\_\_\_\_, being first duly sworn, deposes and says that:

(1) He/She is the owner, partner, officer, representative, or agent of

\_\_\_\_\_, the Proposer that has submitted the attached Proposal;

(2) The Proposer \_\_\_\_\_ will abide by the following if  
chosen as the successful Proposer:

The Proposer \_\_\_\_\_ agrees not to allow any  
employee or volunteer who is awaiting trial or has been convicted of a felony crime  
involving the sexual exploitation of children, sexual offenses involving children or  
violent crimes to participate in this Agreement at sites where children may be present.  
Failure by the Proposer to comply with this requirement is grounds for immediate  
termination of the Agreement.

Signed: \_\_\_\_\_

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

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 2\_\_\_\_\_.

My commission expires: \_\_\_\_\_

# DIVERSITY BUSINESS ENTERPRISE (DBE) PROGRAM

The City of Knoxville strongly encourages prime contractors to employ diverse businesses in the fulfillment of contracts/projects for the City of Knoxville.

The City of Knoxville's Fiscal Year 2017 goal is to conduct 3.33% of its business with minority-owned businesses, 9.21% of its business with women-owned businesses, and 45.5% with small businesses.

While the City cannot engage (pursuant to state law), in preferential bidding practices, the city does **strongly encourage** prime contractors to seek out and hire diverse businesses in order to help the city meet its goals as stated above. As such, the City encourages prime contractors to seek out and consider competitive sub-bids and quotations from diverse businesses.

For DBE tracking purposes, the City requests that prime contractors who are bidding, proposing, or submitting statements of qualifications record whether or not they plan to employ DBE's as sub-contractors or consultants. With that in mind, please fill out, sign and submit (with your bid/proposal) the following sub-contractor/consultant statement.

**Subcontractor/Consultant Statement**  
(TO BE SUBMITTED IN THE BID/PROPOSAL ENVELOPE)

We \_\_\_\_\_ do certify that on the  
(Bidder/Proposer Company Name)

\_\_\_\_\_  
(Project Name)  
( \$ \_\_\_\_\_ )  
(Amount of Bid)

**Please select one:**

☐ **Option A: Intent to subcontract using Diverse Businesses**

A Diversity business will be employed as subcontractor(s), vendor(s), supplier(s), or professional service(s). The estimated **dollar value** of the amount that we plan to pay is:

\$ \_\_\_\_\_.

Estimated Amount of Subcontracted Service

Diversity Business Enterprise Utilization			
Description of Work/Project	Amount	Diverse Classification (MOB, WOB, SB, SDOV)	Name of Diverse Business

☐ **Option B: Intent to perform work “without” using Diverse Businesses**

We hereby certify that it is our intent to perform 100 % of the work required for the contract, work will be completed without subcontracting, or we plan to subcontract with non-Diverse companies.

DATE: \_\_\_\_\_ COMPANY NAME: \_\_\_\_\_

SUBMITTED BY: \_\_\_\_\_ TITLE: \_\_\_\_\_  
(Authorized Representative)

ADDRESS: \_\_\_\_\_

CITY/STATE/ZIP CODE: \_\_\_\_\_

TELEPHONE NO: \_\_\_\_\_

## **CITY OF KNOXVILLE DIVERSITY BUSINESS DEFINITIONS**

Diversity Business Enterprise (DBE's) are minority-owned (MOB), women-owned (WOB), service-disabled veteran-owned (SDVO), and small businesses (SB), who are impeded from normal entry into the economic mainstream because of past practices of discrimination based on race or ethnic background. These persons must own at least 51% of the entity and operate or control the business on a daily basis.

Minority: A person who is a citizen or lawful admitted permanent resident of the United States and who is a member of one (1) of the following groups:

- a. African American, persons having origins in any of the Black racial groups of Africa;
- b. Hispanic American, persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race;
- c. Native American, persons who have origin in any of the original peoples of North America ;
- d. Asian American, person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands.

Minority-owned business (MOB) is a continuing, independent, for profit business that performs a commercially useful function, and is at least fifty-one percent (51%) owned and controlled by one (1) or more minority individuals.

Woman-owned business (WOB) is a continuing, independent, for profit business that performs a commercially useful function, and is at least fifty-one percent (51%) owned and controlled by one (1) or more women.

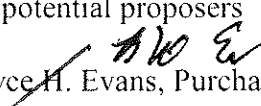
Service Disabled Veteran-owned business (SDOV) is a continuing, independent, for profit business that performs a commercially useful function, owned by any person who served honorably on active duty in the armed forces of the United States with at least a twenty percent (20%) disability that is service connected. Meaning such disability was incurred or aggravated in the line of duty in the active military, naval or air service, and is at least fifty-one percent (51%) owned and controlled by one (1) or more service disabled veteran.

Small Business (SB) is a continuing, independent, for profit business which performs a commercially useful function and has total gross receipts of not more than ten million dollars (\$10,000,000) average over a three-year period or employs no more than ninety-nine (99) persons on a full-time basis.

## ADDENDUM NO. 1

**Date:** January 13, 2017

**To:** All potential proposers

**From:**  Boyce H. Evans, Purchasing Agent

**Subject:** Addendum No. 1 – RFP for Streetlight Replacement Project

**Proposals to be Opened:** February 7, 2017 at 11:00 a.m. (Eastern Time)

This addendum is being published to respond to questions asked by potential proposers with regard to the City of Knoxville's RFP for its Streetlight Replacement Project. The questions received, and the City's responses to each, are provided below and this addendum becomes a part of the contract documents and modifies the original RFP as follows:

**Question # 1:** The pricing sheet breaks out pricing for Phase 1, 2 and 3. In phase 1, it asks for unit pricing for all 29,000-plus fixtures. Presumably this is the cost for the "physical inspection" outlined in the system. Since the RFP calls for Proposers to complete photometric analysis of 15 locations, and not the entire system, where should the price of the photometric survey be shown?

Response: All tasks associated with Phase 1, including the physical inspection *as well as* photometric surveys and other Phase 1 tasks described in the RFP, should be included in the Phase 1 pricing.

**Question # 2:** The RFP clearly indicates that the City is only considering contracting for ongoing maintenance, and that pricing that service is optional and should be done with our own pricing sheet. Can you provide guidance on the duration of the maintenance contract that we should price (annual pricing for a 1-year contract will be different than 3 years, 5 years or 10 years).

Response: Proposers are invited to propose a contract duration for these services. The City's general opinion (which may change as the project progresses) is that such a contract term would be for five years (base term), with two each five-year option renewals.

**Question # 3:** Can you confirm that the City of Knoxville's "small business" contracting goal is 45.5%, as stated on page 45 of the RFP? This was not in RFQ, so just needing clarification please.

Response: Yes – the City of Knoxville's goal for conducting business with small businesses is indeed 45.5%.

END OF ADDENDUM NO. 1



## **ADDENDUM NO. 2**

DATE: January 26, 2017

TO: All Proposers

FROM: Boyce H. Evans, Purchasing Agent *BAH JSM*

SUBJECT: Addendum No. 2 – RFP- Streetlight Replacement Project

PROPOSALS TO BE OPENED: February 7, 2017, at 11:00:00 a.m.

This addendum is being published to respond to questions asked by potential proposers and to provide an additional required document regarding the above-referenced Request for Proposals. This addendum becomes a part of the Contract Document and modifies the original specifications as noted.

### **Item I. Required Form**

Included in this addendum is the “Iran Divestment Act Affidavit” which must be submitted with all proposals.

### **Item II. Responses to Questions Raised at the Pre-Proposal Meeting held January 24, 2017**

**Question 1:** Given that the City's deadline for questions to be submitted is 1/31/17 - just one week before the proposals are due, and the City has not made clear after that deadline for questions to be submitted when it will be able to provide an addendum with answers, it is concerning that there will not be enough time for proposers to adequately integrate the City's responses to questions into their proposals prior to the current proposal deadline. Can the City please consider extending the proposal submission deadline to allow for at least two weeks from when the City anticipates it will provide responses to the proposers' questions?

Response: As of now, the deadline remains the same. If the City decides to extend the deadline on account of the number of questions and/or a delay in responding to questions, Purchasing will update all invited proposers with another addendum to the RFP.

**Question 2:** The current deadline for submission is 11:00:00 a.m. on February 7, 2017. Can the City please consider extending the time on this date to later in the afternoon, so as to better accommodate ease of delivery by couriers?

Response: No. The City of Knoxville's deadline for submissions of bids, proposals, and qualifications will remain 11:00:00 a.m. (see previous response).

**Question 3:** Are proposers permitted to submit cut sheets beyond the 50 page maximum?

Response: Proposers are welcome to submit cut sheets or additional information as an appendix to the proposal, which will not be counted toward the 50 page maximum. However, the City's evaluation committee reserves the right to only review the maximum of 50 pages of the proposal that was specified in the RFP.

**Question 4:** What are the major road classifications in Knoxville?

Response: A map showing road classifications may be found on page 19 of the Knoxville-Knox County "Major Road Plan," available at [http://archive.knoxmpc.org/zoning/Major\\_Road\\_Plan.pdf](http://archive.knoxmpc.org/zoning/Major_Road_Plan.pdf).

**Question 5:** Are there any lights located on private property included in this contract?

Response: Private lights managed by KUB (i.e., lights on private property) are not included in this contract.

**Question 6:** If existing luminaires are not "dark sky" compliant, will the winning proposer be required to make them "dark sky" compliant?

Response: All new luminaires –regardless of the existing light – must adhere to the specific requirements related to Dark Sky Compliance listed in Appendix B of the RFP. The extent to which proposed luminaires and proposed approach to design adhere to guidelines and best practices issued by the International Dark Skies Alliance will be considered when scoring proposals (see page 31 of the RFP).

**Question 7:** Please provide current rates for police detail, estimated percentage of project that will require police detail, the work hour restrictions for this project, instructions regarding the application process for control permits, and a list of State routes.

Response: Traffic Control plans must be reviewed and approved by the City's Traffic Engineering Division, and the selected contractor must obtain all required permits. Requirements and other information related to Traffic Control Permits may be found at: [http://knoxvilletn.gov/government/city\\_departments\\_offices/engineering/civil\\_engineering\\_division/civil\\_engineering\\_permits/](http://knoxvilletn.gov/government/city_departments_offices/engineering/civil_engineering_division/civil_engineering_permits/). The Work Zone Traffic Control Policy ([http://knoxvilletn.gov/UserFiles/Servers/Server\\_109478/File/Engineering/Civil/Permits/wztc\\_policy.pdf](http://knoxvilletn.gov/UserFiles/Servers/Server_109478/File/Engineering/Civil/Permits/wztc_policy.pdf)) has more detailed information about hours of work and other info related to traffic control.

Except as described in the Work Zone Traffic Control Policy, the City does not anticipate any blanket restrictions on work hours during the contract, including Phase II. Some restrictions may be necessary depending on particular locations or tasks; however, the City will work with the selected contractor to define these during Phase I and Phase II.

The Work Zone Traffic Control Policy does not require police detail for a lane closure. Police detail would be at the discretion of the contractor. If the contractor desires a uniformed Knoxville Police Officer on site, the current cost is \$30.00/hour with a 4 hour minimum, and must be arranged directly with Knoxville Police Department.

Page 8 of the Work Zone Traffic Control Policy lists State Routes within the City of Knoxville. A map of state routes can be found here: <http://www.tn.gov/tdot/topic/maps-state>.

**Question 8:** Does the winning proposer need to coordinate with the UT Campus Security/Police when working on lights in the vicinity of UT?

Response: This contract will only include lights that are located on City streets (and exclude lights on UT campus streets). Generally, service to street lights on City streets will not require coordination with UT campus security/police. However, if contractors need access to UT streets or property (for staging, parking, closures, etc.), then it will be the responsibility of the selected firm to coordinate with the appropriate UT officials for that access.

**Question 9:** How does the City define “substantially complete” in terms of the overall project? When are the “as builds” from the winning proposer expected?

Response: Proposers are welcome to divide the system into “sub-sections” such as neighborhoods, quadrants, or other logical divisions to phase-in installation. Before issuing the Notice to Proceed for Phase II, the City and winning firm will mutually agree on the delineation of any such sub-sections. The City will define a sub-section of the retrofit project to be “substantially complete” when all Phase II tasks have been completed for that section. As-built documentation is required as part of Phase III and could be submitted immediately following “substantial completion” of a sub-section, or after Phase II tasks have been completed for the entire system.

**Question 10:** The RFP is clear that the selected Proposer and the City will agree on 15 sample locations for photometric analysis. Does the City have any sense of either the length of each of these sections of roadway, or the number of fixtures likely to be included in each section?

Response: The goal of the photometric analysis sampling is to provide sufficient data to confirm the design of a replacement plan will meet or exceed current lighting levels. The City does not prescribe a length for sample locations or number of fixtures. Proposers should develop a plan for this task that they feel will best enable development of an appropriate replacement plan and achieve the City’s goals for this project. Proposers are welcome to propose analysis of more than 15 locations, if they feel that additional locations are necessary in order to achieve a successful project design.

**Question 11:** Referencing Page 15, Section 5.5.6 - Are Proposers required to include the disposal/recycle plan in the proposals or is this part of the scope of work of the winning Proposer?

Response: Proposers should describe their proposed approach to removal and disposal of existing lighting equipment, especially any plans or opportunities to assist the City in capturing revenue/proceeds from the sale of surplus property where possible. A formal disposal plan is not required.

**Question 12:** Referencing Page 31, Bullet 6 (Aesthetics/Appearance) - Is there a particular requirement related to this section that should be included in the proposal narrative response?

Response: The Evaluation Committee will want to know what proposed luminaires look like when evaluating proposals. Proposers may desire to provide pictures, illustrations, or a narrative description.

**Question 13:** Referencing Page 11, Section 5.2.3.1 - Please describe the required elements of the final project report for the City's Office of Sustainability.

Response: The final report should show clear documented evidence of completion for all tasks included in Phases 1, 2, and 3 of the project, as well as any and all written deliverables as described in the RFP and the final contract. The final report, either in part or in total, should also help communicate the project's accomplishments and impacts to internal and external stakeholders and be designed as a resource that can be shared publicly. The City recognizes that some final documentation/deliverables may be submitted "along the way" as key tasks in Phases 1 and 2.

**Question 14:** Is the City open to receiving multiple bid sheets from multiple manufacturers? Can a Proposer submit with multiple brand options? If so, please clarify whether the Proposer needs to submit one cost proposal sheet per brand option or incorporate all brand options into the one cost proposal sheet.

Response: Proposals should include only one pricing sheet that reflects what proposing firms feel is the best lighting solution for the City given the specifications of the project, our goals, the existing system, and other variables as described in the RFP. Proposers need not be limited to a single manufacturer when developing their recommendations and pricing sheet, but should keep in mind the City's desires related to equipment standardization (see page 15 of the RFP).

**Question 15:** When will the project start?

Response: The City desires to adhere as closely as possible to the "Preferred Schedule" published in the RFP, or an alternative schedule as negotiated with the winning proposer. Phase I work can only begin after the City has a fully executed contract in place. Phase II work can only begin when the winning firm has received a written Notice to Proceed from the City.

**Question 16:** With regard to the City of Knoxville Diversity Business Definitions included in the RFP, is there a particular certification that the City needs to see for any of these categories or as long as a prime and/or subcontractor are certified with any entity for any of these categories, is that sufficient?

Response: The City will accept a statement from the prime contractor that a DBE business is being used for this project, in good faith.

**Question 17:** Referencing Page 25, Section 6.15 - Please confirm that the language in this section related to percentage estimates is now outdated, given that this is the proposal phase and the City has included the DBE Program Form at the end of the RFP that are required to be completed and submitted with proposals.

Response: Confirmed. The DBE Forms are to be filled out at this point and this requirement supersedes section 6.15 of document.

**Question 18:** Regarding the DBE Statement Form, if the Prime Proposer fulfills any of the DBE classifications on its own (as well as through subcontractors), how should this form be completed? Should the prime be listed in the DBE Utilization table?

Response: If the prime is, in fact, a DBE then he/she should state this in the DBE form. Additionally, if the prime plans on employing DBE's (as sub-contractors or sub-consultants) in the performance of this contract, then the prime should state this on the DBE forms included in the RFP.

**Question 19:** May we have a copy of the Pre-Bid Meeting Sign in sheet?

Response: Yes. Sign in sheet is attached to this addendum.

**END OF ADDENDUM NO. 2**

## IRAN DIVESTMENT ACT

### Certification of Noninclusion

**NOTICE:** Pursuant to the Iran Divestment Act, Tenn. Code Ann. § 12-12-106 requires the State of Tennessee Chief Procurement Officer to publish, using creditable information freely available to the public, a list of persons it determines engage in investment activities in Iran, as described in § 12-12-105. Inclusion on this list makes a person ineligible to contract with the state of Tennessee; if a person ceases its engagement in investment activities in Iran, it may be removed from the list. A list of entities ineligible to contract in the State of Tennessee Department of General Services or any political subdivision of the State may be found here:

[https://www.tn.gov/assets/entities/generalservices/cpo/attachments/List of persons pursuant to Tenn. Code Ann. 12-12-106, Iran Divestment Act-July.pdf](https://www.tn.gov/assets/entities/generalservices/cpo/attachments/List_of_persons_pursuant_to_Tenn._Code_Ann._12-12-106,_Iran_Divestment_Act-July.pdf)

By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief that each bidder is not on the list created pursuant to T.C.A. § 12-12-106.

Vendor Name (Printed)	Address
By (Authorized Signature)	Date Executed
Printed Name and Title of Person Signing	

### NOTARY PUBLIC:

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_,  
2\_\_\_\_\_.

My commission expires: \_\_\_\_\_

TO OPEN ON 2/7/17

AT 11:00A.M. (EASTERN TIME)

(p. 1 of 3)

NAME OF ATTENDEES

COMPANY NAME

ADDRESS

PHONE

EMAIL ADDRESS

Timothy Olopaze	Philips	1600 K STREET WASHINGTON DC 208 HENDY DR NASHVILLE TN 1820 Midpark Rd. Knoxville, TN 37921	202.579.5198	Timothy.Olopaze@philips.com
Taylor Roach	"	1820 Midpark Rd. Knoxville, TN 37921	615-804-1697	taylor.roach@icloud.com
Jim Jameson	Ameresco	1820 Midpark Rd. Knoxville, TN 37921	865-330-7198	jameson@ameresco.com
Jay Lockard	Ameresco	1820 Midpark Rd. Knoxville, TN 37921	865-380-7230	jlockard@ameresco.com
Johnny Miller	Graybar	3020 N. Central St KNOXVILLE, TN 37917	865-546-7550	johnny.miller@graybar.com
Mike Gibson	Graybar	3020 N. Central Street Knoxville, TN 37917	865-546-7550	mike.gibson@graybar.com
JASON TANKO	TANKO LIGHTING	220 BAYSHORE BLVD SAN FRANCISCO, CA 94124	415.254.7579	JASON@TANKOLIGHTING.COM
BRUCE BORDEN	HOLOPHANE	4314 FOXHILLS DR LOUISVILLE, TN 37777	865-970-9891	bborden@holophane.com
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Gabriel Bolas	KUB	448 Gay St Knox TN 37909	865/558-2100	gabriel.bolas@kub.org
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PRE-PROJECT MEETING FOR Streetlight Replacement Project

P. 2 of 3

TO OPEN ON 2/7/17 AT 11:00A.M. (EASTERN TIME)  
 NAME OF ATTENDEES COMPANY NAME

NAME OF ATTENDEES	COMPANY NAME	ADDRESS	PHONE	EMAIL ADDRESS
Dyan Bau	SIEMENS			
Phil Kruer	Ameresco	9300 Snelbyville Rd. Louisville, KY	615.310.9324	Dyan.Bau@SIEMENS.COM
John Boehm	PHILIPS	Rosemont, IL	502-387-6492	pkruer@ameresco.com
Greg Williamson	Stansell Electric		224-388-1382	John.boehm@philips.com
Mike Morris	Ameresco	880 Visco Dr. Nashville 37210	423-710-4058	gwilliamson@stansellelectric.com
Kirk Whittington	Philips	1846 old Highway 99 Columbia TN 38401	423-483-1684	mmorris@ameresco.com
Kylon Waterbury	Johnson Controls	1640 Anderson Rd, Hendersonville TN	615-347-8992	kirk.whittington@philips.com
PECK WOLBERT	STANTIS	Milwaukee, WI	512-639-8945	kylon.waterbury@jci.com
Aaron Kline	City of Knoxville	702 W LAMAR AVE KNOXVILLE	865-633-9888	R.Wolbert@stantis.com
Chris Hawley	City of Knoxville	400 Main St, Rm 400	865-215-2152	akline@knoxvilletn.gov
Brian Blackmon	COK	"	865 215 3252	chawley@knoxvilletn.gov
		"	215-2065	BBlackmon@KNOXVILLETN.GOV



PRE-MEETING FOR Streetlight Replacement Project

TO OPEN ON 2/7/17 AT 11:00A.M. (EASTERN TIME)

NAME OF ATTENDEES

COMPANY NAME

ADDRESS

PHONE

EMAIL ADDRESS

JOE WATSON	PowerSecure	128 F The <del>Street</del> Rd. MURFESSVILLE, TN 38817	919 624 5384	jw@sherepowersecure.com
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STEVE BRADSHAW				sbradsh@powersecure.com
JOE LINGERFOLK	Johnson Controls	909 Oak Ridge Turnpike #349 Oak Ridge, TN 37830	865 209 2702	jlingerf@jci.com
JOE BOND	Johnson Controls	↑ ↑ ↑	615 5878780	JOSEPH.R.BOND@JCI.COM

Boyd H. Evans  
Purchasing Agent  
City of Knoxville  
(1/24/17)

## **ADDENDUM NO. III**

**DATE:** February 1, 2017

**TO:** All Proposers

**FROM:** Boyce H. Evans, Purchasing Agent, City of Knoxville

**SUBJECT:** Addendum No. 3 – RFP for Streetlight Replacement Project

**PROPOSALS TO BE OPENED:** February 14, 2017, at 11:00:00 a.m.

This addendum becomes a part of the Contract Documents and modifies the original specifications as noted.

**Question 1: Will the City modify the submission deadline to allow more time to incorporate answers to questions?**

*Response: Yes. The City hereby extends the deadline for submissions to 11:00:00 a.m., Eastern Time, February 14, 2017. However, the deadline for the submission of questions remains as originally set forth in the RFP which was January 31, 2017. In sum, the City will work on posting additional addenda to respond to the questions it received before January 31<sup>st</sup> but is no longer accepting additional questions.*

**Question 2: If some existing lights do not have an ANSI label, will it be the winning proposer's responsibility to confirm the wattage of said lights? Can the existing wattage be confirmed upon installation if no NEMA wattage sticker exists?**

*Response: Ultimately, the winning proposer will be responsible for designing a replacement plan that meets or exceeds existing lighting levels. The City recognizes that firms may be able to achieve this objective without physically inspecting the wattage level for each and every existing luminaire. If, during Phase I, firms feel the need to confirm the wattage of an unlabeled existing light in order to develop the replacement plan, then yes, it will be their responsibility to confirm that wattage. It would be acceptable for existing wattage to be confirmed upon installation in the case of an unlabeled light. The winning contractor must ensure that each newly installed luminaire has been tagged/recorded with the correct wattage sticker consistent with ANSI.*

**Question 3: Please explain in better detail what the winning proposer must do on state routes with regard to coordinating with TDOT.**

*Response: When replacing lights along a state route, the winning proposer must coordinate construction with TDOT as to fixture change-outs and road/lane closures or detours. It is KUB's understanding that, if fixtures are replaced one-for-one with equivalent illumination*

*levels, then simply informing TDOT of the proposed changes is all that is required. However, if it is determined that additional lighting is needed (i.e. increase in fixtures and/or poles), then the state route for that affected section will need to be brought up to compliance with RP-8, and all design files must be sent to TDOT Headquarters in Nashville for approval before being implemented. It will be the responsibility of the winning proposer to confirm and comply with all TDOT (and other agency) requirements before the City will issue the Notice to Proceed with Phase II.*

**Question 4: What is the mounting height of various poles throughout the City?**

*Response: Specific mounting height data is not available for every light across the system. Mounting heights depend on many factors, including desired illumination levels, existing facilities on a utility pole, type of fixture/mounting, classification of roadway, RP-8 requirements, etc. Thus it is difficult to even project an average mounting height for any particular style or type of light, or for any specific area. KUB has installed every light within its designed specifications.*

**Question 5: Will a “lowering device” be present to lower and raise devices? Will the contractor be responsible for that process, or will KUB?**

*Response: The winning proposer should be equipped with the manpower and equipment to enable lowering and raising of the high mast cluster rings required to be accessed in the Contract. Unless it chooses to have personnel on site, KUB will not be involved with this task.*

**Question 6: The City makes no mention in the RFP scope of work of the need for pole labeling. Does the City require it? If so, what are the requirements/specifications? Further, will the winning Proposer be responsible for providing replacement labels for any missing digits or will they be required to replace the existing pole numbering system with an entirely new system?**

*Response: The selected firm will not be required to provide replacement pole labels. KUB will provide the tags for all missing or damaged pole tags.*

**Question 7: Page 11, Section 5.2.3.4 - This section requires "digital images of nameplates for each replaced fixture". This has been a requirement in other cities' previous projects, but later was determined to be an unnecessary data burden and cost to the cities. As such, can the City please reconsider this requirement? If the City elects not to eliminate this requirement, can it please confirm that the digital images will not be required for nameplates in any street lights inventoried but not replaced fixtures (see Page 11, Section 5.2.3.4.1)?**

*Response: At this point in time, the City desires to keep the requirement for digital images of nameplates. Digital images will not be required for nameplates in any street lights inventoried but not replaced.*

**Question 8: Should we consider the current KUB Facility Charge to be the total cost of existing lighting maintenance?**

*Response: As described in Appendix A, the City also pays KUB for the glassware needed to maintain existing lights, an estimated annual cost of \$30,000. For the purposes of this proposal, proposers should consider the current Facilities Charge + Glassware to be the total cost of existing lighting maintenance.*

**Question 9: For the purposes of calculating energy savings, should we use the \$.07308/kWh shown in Appendix A, or the \$.07716/kWh shown for schedule LS in Attachment 3?**

*Response: Proposers should use the \$.07716/kWh shown for schedule LS in Attachment 3 for the purposes of calculating energy savings.*

**Question 10: Can the City please confirm annual operating hours? As of now, our calculations are (11.6 hours \* 365 days) = 4,234 annual operating hours.**

*Response: Proposers should reference Column G of Attachment 2- City Street Light Inventory for the estimated burn time for each fixture. While the majority of lights are assumed to burn an average of 11.6 hours per day, some lights burn 24 hours per day.*

**Question 11: The RFP states that we should meet existing light levels, but also target RP-8-14. If existing light levels are found to be significantly higher than RP-8, are we allowed to reduce the fixture wattage to bring the light levels in line with RP-8?**

*Response: Yes. If existing light levels are found to be significantly higher than RP-8, the replacement fixture wattage may be reduced in order to bring the light levels in line with RP-8. The City desires to avoid over lighting areas.*

**Question 12: Will the subcontractor's certificates of insurance need to name both the prime contractor and the City of Knoxville?**

*Response: No. The City does not require sub-contractors to list the City as an additional insured. The City only requires the sub-contractors to maintain coverage "in the same manner as specified for Contractor" and provide the City with a certificate of insurance, upon request.*

**Question 13: The RFP specifies 8.5” x 11” paper. Does this apply to the “Main Pricing Sheet” specified in the RFP? Given the size of the table it will require a very small font on 8.5” x 11” and may be better suited to 11” x 17” paper. Also, would it be acceptable to utilize 11” x 17” paper for select analyses results if they would be difficult to properly present on 8.5” x 11” paper?**

*Response: Yes, please print and submit the Main Pricing Sheet on 11” x 17” paper. Yes, it would be acceptable to utilize 11” by 17” paper for select analyses results if they would be difficult to properly present on 8.5” x 11” paper.*

**Question 14: Do the title page, and table of contents count against the 50 page limit?**

*Response: No, the title page and table of contents will not count against the 50 page limit.*

**Question 15: Regarding the decorative fixtures on the bid (Scroll, Traditional, Acorn, Post Top) - is Dark Skies compliance more important than preserving the aesthetic? We ask because if Dark Skies compliance does in fact take precedence over the aesthetic of the fixtures, we will need to narrow down the options we propose for these types.**

*Response: All Proposed Luminaires, including decorative fixtures, listed in the Pricing Sheet should adhere to the specifications listed in Appendix B of the RFP, including specific requirements related to Dark Sky Compliance. Note that we are not explicitly requiring that proposed lights must be certified through the International Dark-Sky Association’s Fixture Seal of Approval program. However, as stated before, the extent to which proposed luminaires and proposed approach to design adhere to guidelines and best practices issued by the International Dark Skies Alliance will be considered when scoring proposals.*

**Question 16: The answer to Question 14 on Addenda 2 is still not clear. It seems that the City is saying that only one pricing sheet should be submitted with the proposal, but it is also open to proposers submitting more than one brand. Please clarify that this is correct and that proposers interested in submitting proposals with more than one brand/manufacture should include all proposed options in one cost proposal sheet.**

*Response: Proposals should include only one pricing sheet that reflects what proposing firms feel is the best lighting solution for the City given the specifications of the project, our goals, the existing system, and other variables as described in the RFP. The statement in the previous addendum that “proposers need not be limited to a single manufacturer when developing their recommendations and pricing sheet,” simply means that proposers could develop a recommendation that includes lights from multiple manufacturers. For example, a firm could recommend (and price) Acorn lights manufactured by Company X, Cobra Head lights manufactured by Company Y, and Off Road lights manufactured by Company Z, etc.*

**Question 17: The RFP lighting specification calls for a maximum EPA of 1.2sqft for all fixture types and a maximum weight of 60lbs for post tops and 46lbs for all other luminaires. There are multiple fixtures in the city's existing inventory that exceed these EPA and weight maximums (high mast, Mongoose, post tops, etc.). Would the City consider modifying this specification to allow for proposed luminaires that are equal or less weight and EPA than the existing luminaire and able to maintain the structural integrity of the existing pole and wind loading?**

*Response: All Proposed Luminaires should adhere to the specifications listed in Appendix B of the RFP, including the maximum EPA and weight maximums.*

**Question 18: Can you please define the TALQ Compliance specifications? Can you please list the companies that are currently "officially" TALQ Compliant? Can you provide us a list of the components and manufacturers that are certified via the TALQ Consortium?**

*Response: Additional information about TALQ can be found online at <http://www.talq-consortium.org/>. Proposers are encouraged to research these questions on their own as they develop a proposed solution that will meet the City of Knoxville's requirements.*

**Question 19: What specific licenses does the City require for contractors?**

*Response: The RFP correctly lists the licenses required for contractors. It is the responsibility of proposing firms to understand Tennessee license requirements for professional services that may be associated with this project.*

**Question 20: RFP section 7.2 states "Submitters shall include 8 hard copies (one original and 7 duplicates – mark the original as such)." However, Submission Form S-1 states "Submitters shall include 9 hard copies." How many hard copies of the proposal should we submit?**

*Response: The requirement in the header of the S-1 Form is hereby changed to read "The City of Knoxville requires 8 hard copies (one original and 7 duplicates).*

**Question 21: The RFP mentions 29,500 light fixtures in the city, but Attachment 2 - City Street Light Inventory only shows 28,523 fixtures. Is there a known reason for this discrepancy? For example, were metered street lights not included in the inventory?**

*Response: The RFP estimates the number of fixtures in the city at approximately 29,500. In "Attachment 2- City Street Light Inventory," Column F "Number of Lamps" correctly shows a total of 29,816 lights in the system. Of those, 517 lights are already LED.*

**Question 22:** In the Main Pricing Sheet, the Item Description for Item 4 shows “existing 250 Watt HPS” but the nominal bulb wattage shows 200 watts. Based on the Attachment 2 spreadsheet, we believe the nominal bulb wattage should be 250 watts on the Main Pricing sheet. Can you confirm the nominal bulb wattage should be 250 watts on the Main Pricing sheet?

*Response: That is correct. The Main Pricing Sheet has been updated to reflect this correction and is attached to this addendum. That is the only change that was made to the Pricing Sheet.*

**Question 23:** Under the section of the RFP for on-going maintenance services there is a requirement for design services. Would the provider of maintenance services perform design “reviews” of new projects and developments, or is the expectation that the provider would perform actual design of lighting installations for new projects and developments?

*Response: As stated in the RFP, the City has not yet confirmed its intent or desire to contract with a private firm for ongoing maintenance of the street light system. Many variables associated with such a maintenance contract are still in flux and would be negotiated with the winning proposer in close coordination with Knoxville Utilities Board. The following answer reflects current thinking, but is subject to change.*

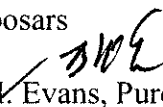
*If contracted to provide on-going maintenance services, the provider would only need to perform design reviews of new projects and developments; the expectation is not that the provider would perform actual design of lighting installations for new projects and developments.*

**END OF ADDENDUM # III**

## **ADDENDUM NO. 4**

DATE: February 8, 2017

TO: All Proposars

FROM: Boyce H. Evans, Purchasing Agent 

SUBJECT: Addendum No. 4 – RFP for Streetlight Replacement Project

PROPOSALS TO BE OPENED: February 14, 2017, at 11:00:00 a.m. Eastern Time

This addendum is being published to respond to questions asked by potential proposers regarding the above-referenced Request for Proposals. This addendum becomes a part of the Contract Document and modifies the original specifications as noted.

**Question 1:** Does the City have any estimate as to the number of fixtures that are fed from a lighting control center, and therefore, require shorting caps? What is the number of street lights fed by a lighting control center versus those fed by a single source?

Response: KUB estimates that 20-30% of the total number of fixtures are fed from a lighting control center.

**Question 2:** Can the City and KUB provide a lumen schedule for the existing system? What is the lumen output for “high mast, wall pack, etc.,” type lights? What current lighting levels should proposers use as baseline for the purposes of the RFP? Can the City provide guidance regarding minimum lumens and maximum wattages for each replacement?

Response: In response to this question, KUB has prepared Attachment 6 – Generic Lumen Schedule for KUB System. In developing their proposals, firms shall reference this attachment for a general understanding of the lumen schedule for the existing system. This attachment also includes additional information that firms may find helpful.

**Question 3:** For the maintenance estimate, where will KUB’s responsibility end and street light maintenance provider begin? Will the maintenance contract include all electrical issues with underground and/or overhead wiring from the power source/transformer to the street light control point or individual pole?

Response: As stated in the RFP, the City has not yet confirmed its intent or desire to contract with a private firm for ongoing maintenance of the street light system. Many variables associated with such a maintenance contract are still in flux and would be negotiated with the winning proposer in close coordination with Knoxville Utilities Board. The following answer

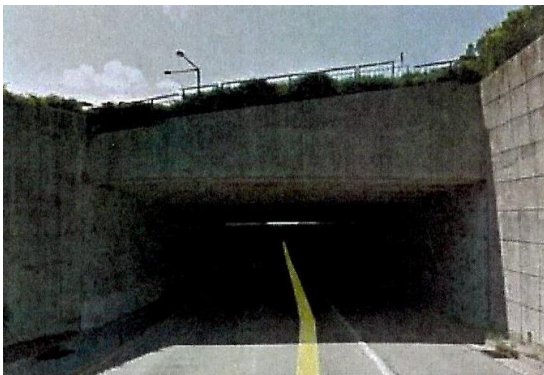


reflects current thinking on the beginning and end of KUB's responsibility, but is subject to change.

In the case of street lights attached to shared utility poles owned by KUB, KUB's responsibility will end at the connectors that attach the streetlight leads to KUB's secondary conductors. In the case of street light-only stand-alone poles that are owned by the City, KUB's responsibility will end at the transformer. In this latter case, the provider will be responsible for all electrical issues with underground and/or overhead wiring from the power source/transformer to the street light.

**Question 4:** Will the Henley Street viaduct (pictured below - left) need to be treated as a tunnel and target RP-22 light levels? Can the City specify what portion of the wall pack lights are believed to be located in tunnels and also if a different lighting standard applies?

**Response:** Yes, the Henley Street viaduct is considered a tunnel and will need to target RP-22 light levels. The Henley Street Tunnel has (56) 100W & (168) 400W wall packs. In addition, there is a tunnel where James White Parkway merges onto I-40 East (underneath Hall of Fame Drive) that will also need to meet RP-22 standards. The Hall of Fame Tunnel (pictured below - right) has (50) 400W & (16) 70W tunnel predators (the predators may be considered "wall packs" for the purposes of the inventory and pricing sheet).



*Henley Street Tunnel*



*Hall of Fame Tunnel*

**Question 5:** The RFP lighting specification states "must have replaceable door cover power unit." Not all products in the City's inventory can be equipped with a "power door" due to form factor or scale. We believe the intent of this requirement is to have ease of entry into the unit, to minimize number of maintainable parts, and to enhance the overall ease of use. Can bidders demonstrate the modularity and the functional ease of use for proposed luminaires that do not have a power door in their proposal?

**Response:** The "modularity" requirement for a replaceable door cover power unit may be waived, but only for the following decorative fixtures: wall pack, acorn, post top, scroll, and traditional. In lieu of this requirement, proposers should demonstrate the modularity and functional ease of use & maintenance for proposed decorative luminaires. All other fixture types, regardless of existing modularity, must comply with the original modularity requirement and

have a replaceable door cover power unit. Proposers should note that ease of maintenance of the proposed lighting solution will be considered when scoring proposals.

**Question 6:** The RFP states: “A photometric analysis for the final Replacement Plan shall be stamped by a licensed professional engineer, licensed as such in the State of Tennessee, to verify that the plan will meet or exceed existing lighting levels.” Is the PE stamping and taking responsibility for the photometric analysis of all 29,000 lights or is the PE stamping the photometric analysis of representative lights and areas (15 or more) and verifying that the representative areas would provide enough design data to establish adequate lighting levels for typical lights and areas throughout the city?

Response: The PE should stamp the photometric analyses for any areas surveyed and verify that these analyses provide sufficient design data to establish replacement lighting levels throughout the city that meet or exceed existing lighting levels.

**Question 7:** Is the City requiring digital submittals of the light replacement plan drawings in Microstation or Autocad?

Response: The City desires digital submittals of light replacement plan drawings, but does not require a specific brand of software to be used. However, in describing their approach to the scope of work, proposers should disclose the different types of software and technologies they intend to use in developing the replacement plan.

**Question 8:** The lighting specification in the RFP calls for an operating temperature range of -20C to 50C, a temperature range that is normally associated with high heat areas such as Arizona. Would the City consider using the industry standard -40oC to 40oC temperature range?

Response: No. The City is keeping this specification as is.

**Question 9:** Can KUB provide information where fixtures are fed by 480 Volts or more so that the appropriate fixture can be specified and ordered?

Response: KUB will provide this information to the winning proposer during Phase I.

**Question 10:** Collecting system voltage will require a certified electrician or electrical engineer to conduct the inventory work. We recommend the City consider alternatives, such as field verification when the LED fixture is installed, if voltage is required.

Response: Field verification of voltage when the LED fixture is installed would be acceptable.

**Question 11:** Does the 12-year hardware warranty/20-year rate life for the photocell also apply to the controls option?

Response: No. The photocell warranty requirement does not explicitly apply to the controls option. However, in describing controls options, proposals should describe any applicable warranties for the recommended controls solution.

**Question 12:** In terms of a connected lighting solution, would the City like a luminaire-level control solution for lights controlled by LCCs (e.g. a solution that provides monitoring, alerting, scheduling, grouping, dimming, energy metrics, etc. at the individual luminaire level) or a cabinet-level control solution (one that turns the group of lights controlled by an LCC on and off and provides scheduling and energy monitoring through a separate digital meter, but does not provide dimming, fixture out alerts, and other features)?

Response: The City will not indicate a preference at this time. Proposers should propose a solution that they feel best meets the objectives described in the RFP.

**Question 13:** What is the desired level of spatial accuracy (+/- feet) of the existing GIS points that the City wishes the contractor to verify?

Response: The City does not have a specific requirement.

**Question 14:** How can the “City facility ID” information be obtained?

Response: The winning proposer will receive the full street light inventory with all available information about the system during Phase 1.

**Question 15:** Please confirm that LED wattage will be treated in the same way as existing HPS wattage by the KUB tariff, which does not apparently exist today, based on 11.6 hour per day operating assumption. Does the City have any indication as to how KUB will modify the facilities charge post installation of LED fixtures, if KUB continues to maintain?

Response: For the purposes of the proposal, submitting firms should assume that initial energy costs shall be based on KUB’s current LS rate of 7.716¢ per kWh. Proposers can consult Attachment 2 – City Street Light Inventory for the average daily burn time of lights. The City makes no claim on how KUB rates and charges will change in the future beyond what is noted in the RFP.

**Question 16:** After using our assumed annual operating hours and kWh rate, we are unable to achieve annual kWh (27,305,476kWh) used and annual energy costs (\$1,995,484) provided on page 34 of the RFP. Can the City please clarify what numbers to use in our analysis? One way this error could occur would be from the ballast loss calculations. Can the City please provide expected total wattage, including the ballast loss, for all fixtures from the inventory provided?

Response: For the purposes of calculating energy savings, proposers should use the 7.716¢ per kWh shown for Schedule LS in Attachment 3; the average daily burn times shown in Attachment 2 – City Street Light Inventory; and the average system wattages shown in Attachment 6 - Generic Lumen Schedule for KUB System (new).

**Question 17:** Does the City require that the new LED luminaire sticker include any information besides the NEMA wattage?

Response: At this time, no. Proposers are welcome to recommend the inclusion of additional information for our consideration.

**Question 18:** Is the “Light Number” attribute in the KUB inventory the same as “KUB Badge Number” listed in the RFP? Additionally, is this number found on the luminaire sticker tag or is it a pole label?

Response: Yes, these terms are interchangeable. This number is found on the tag located on the lighting pole.

**Question 19:** Please describe or provide photos/additional clarification to distinguish between different types of luminaires.

Response: Photos of sample lights as listed in the inventory are provided below. The City and KUB will work with the winning proposer to identify any additional types of non-standard existing lights as needed during Phase I.

#### Wall Pack Lights



#### Acorn





### Post Top



### Traditional



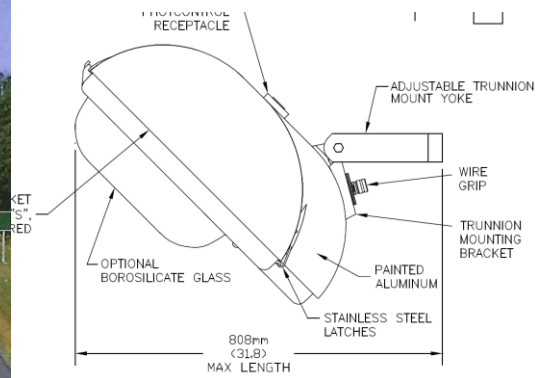
### Scroll



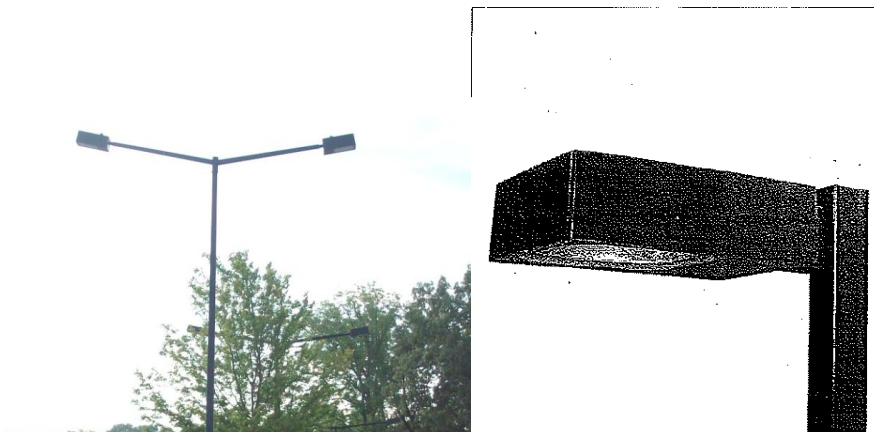
## Cobra Head



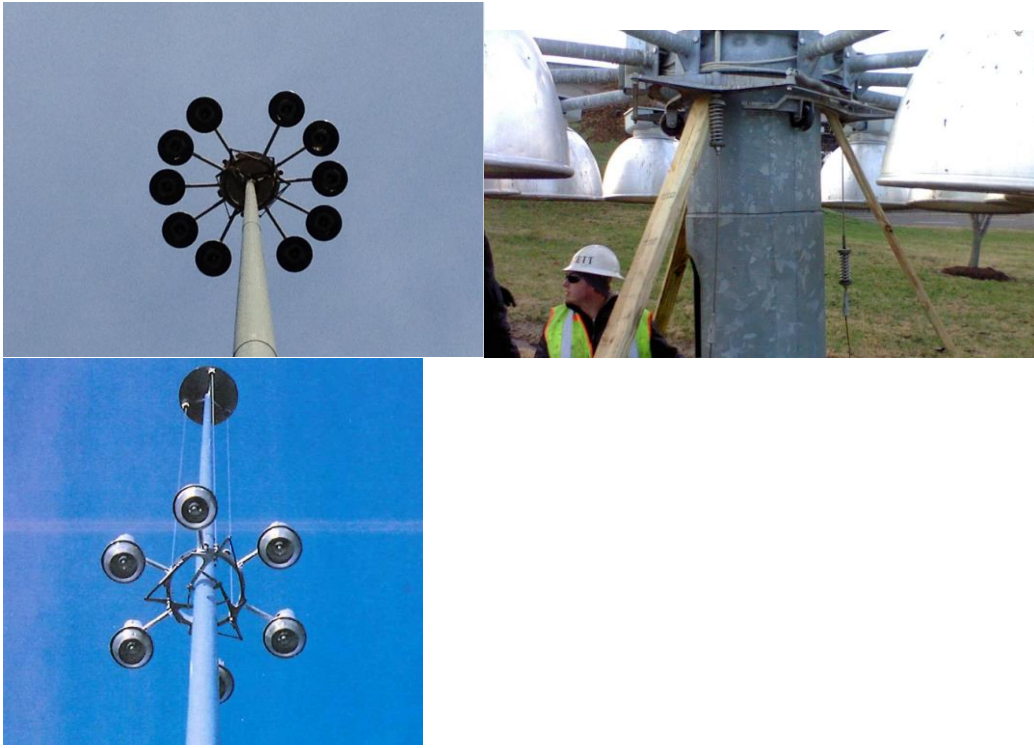
## Off Road



## Shoe Box



## High Mast



**END OF ADDENDUM NO. 4**

GENERIC HPS UNITS WITHIN THE KUB SYSTEM PRIOR TO 2-6-2017																		
KUB Stock No.	Fixture Type	Manufacturer's Part Number		Wattage	Averaged System Wattage (per head)	Initial Lumens	Mean Lumens	Lumens Per Watt	Voltage	Nema 7 Pin PE Receptacle	Field Rotatable Optics	Optical Distribution Type	Color Tempreature			LLD Enclosed / Open	Nominal Data for CRI	Comments
177493	Cobra Head	Multiple Vendors		100	116	9,500	8,550	82	120-277 & 480	NA	NA	2	2000K			0.81	22	240V & 480V Phase-to-Gnd (8)
177477	Cobra Head	Multiple Vendors		150	171	16,000	14,400	94	120-277 & 480	NA	NA	2	2000K			0.81	22	240V & 480V Phase-to-Gnd (8)
176685	Cobra Head	Multiple Vendors		250	318	28,000	25,200	88	120-277 & 480	NA	NA	3	2100K			0.81	22	240V & 480V Phase-to-Gnd (8)
176677	Cobra Head	Multiple Vendors		400	480	51,000	45,000	106	120-277 & 480	NA	NA	3	2100K			0.81	22	240V & 480V Phase-to-Gnd (8)
180398	Cobra Head	Multiple Vendors		1000	1180	137,500	118,200		120-277 & 480	NA	NA	3	2000K			0.81	25	
Non-Stock	High Mast	Multiple Vendors		400	480	61,000			480	NA	NA	5	2100K			0.81	22	Phase-to-Ground Only (8)
Non-Stock	High Mast	Multiple Vendors		1000	1180	137,500	118,200		480	NA	NA	5	2000K			0.81	25	Phase-to-Ground Only (8)
Non-Stock	Tunnel Predator	Holophane		70	88	6,400	5,450		240	NA	NA		1900K			0.83	22	Phase-to-Ground (8)
Various	Post-top, all styles	Multiple Vendors		100	116	9,500	8,550		120 & 240	NA	NA	5	2000K			0.81	22	240V Phase-to-Gnd (8)
Various	Post-top, Acorn	Multiple Vendors		150	171	16,000	14,400		120,240, & 277	NA	NA	5	2000K			0.81	22	240V Phase-to-Gnd (8)

NOTES:

- 1 Existing Cobra Head Luminaires are a mixture of General Electric, Cooper Lighting, and American Electric Lighting. Initial Lumens based upon GE lamp lumens:  
2 Lamp Lumens determined by Lamp Manufacturer does not take into account enclosed lamps, frosted globes, or other prismatic effects  
3 Averaged System Wattage includes ballast and line losses within the fixture.  
4 Actual performance may vary as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions:  
5 Lumen maintenance varies with operating hours and other light loss factors (LLF).  
6 Output of existing HM luminaires require different type luminaires for different interchanges. LED types listed must be evaluated and defined to insure sufficient lighting levels.  
7 3G Vibration Rating on all Fixtures.
- 8  
Some existing lighting systems within the service area are connected with a special utility voltage of phase-to-ground. These circuits may be subject to voltages up to 1.7 times the rated voltage of 600 volts. All components connected to these phase-to-ground circuits must be equipped to handle up to 832 volts under fault conditions without failure.
- 9 Daily burn time based upon a seasonally adjusted, daily average of 11.6 hours per day
- 10 Cobra Head Luminaires are designed for 2" pipe  
11 Post-Top Luminaires for the most part have 3 in pipe fitters. Some units may be encountered that have a 4" pipe fitter  
12 Hight Mast Luminaires have 2" pipe fitters  
13 **Initial Lumens** refer to the lamp lumen outptu after 100-hours burning. **Mean Lumens** refer to the lamp lumen output at lamp life at 50% for HPS and 40% for MH