

**TOWN OF JAMESTOWN, RHODE ISLAND  
93 NARRAGANSETT AVE  
JAMESTOWN, RI 02835**

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**INVITATION TO BID**

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BID NUMBER – JTN-21-500  
STREET LIGHT MAINTENANCE AND LED CONVERSION

SPECIFICATIONS AND INSTRUCTIONS



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## INVITATION TO BID

### **Bid Number – JTN-21-500 Street Light Maintenance and LED Conversion**

Notice is hereby given that separate sealed bids will be received by the Town of Jamestown, Rhode Island (hereinafter “the Town”) at the Town of Jamestown’s Finance Office, until Friday January 29, 2021 at 10:00am, local time, for furnishing all labor, materials and equipment, and performing all work necessary and incidental to: Streetlight Maintenance and LED Conversion Project in accordance with the specifications and contract documents within.

Contract documents may be obtained the Town of Jamestown website and on the City of Newport – Online Bidding System

All bidders must register at: [eprocurement.cityofnewport.com](http://eprocurement.cityofnewport.com), you can access the RFP document and any future information or changes to be released by the Town on this RFP.

THERE IS A MANDATORY VIRTUAL PRE BID CONFERENCE AT 10:00 am, on Tuesday JANUARY 5, 2021. NO BIDS WILL BE ACCEPTED FROM FIRMS THAT DO NOT ATTEND THIS PRE-BID CONFERENCE. Please email Michael Gray, Public Works Director at [mgray@jamestownri.net](mailto:mgray@jamestownri.net) for the virtual meeting invitation.

**The Submittal Deadline is 10:00 a.m., Friday January 29, 2021. Bids must arrive in the Finance Office, Town of Jamestown, prior to this Submittal Deadline.** The receiving time in the Finance Office will be the governing time for acceptability of bids.

Bids shall be submitted on the bid form(s) provided and in accordance with the bid submittal requirements herein. Bids shall be delivered and addressed to the Jamestown Finance Director, 93 Narragansett Ave, Jamestown, RI 02835. They will be opened and read aloud at The Jamestown Town Hall Council Chambers. Any Bidder who wishes their bid to be considered is responsible for making certain that their bid is received in the Town of Jamestown’s Finance Office by the proper time.

Bids should be clearly labeled and submitted in a sealed envelope or box bearing the name of the Bidder, the name of the Town, the ITB number, and Submittal Deadline. Bidder’s authorized representative must properly initial any erasures or alterations of any kind. Bids that contain omissions or improper erasures or irregularities may be rejected.

- a. Bidders must submit one (1) printed Master original, clearly labeled “MASTER”, one (1) copy, and one (1) electronic version on a thumb drive.
- b. The Price Proposal form shall be submitted in print and as an Excel file.
  - o The printed Price Proposal form shall be submitted in a sealed envelope.
  - o The electronic Price Proposal form (Excel file) may be submitted on the same thumb drive as other electronic bid documents but must be saved as a separate Excel document and must be clearly labeled “BIDDER NAME\_Price Proposal\_TOWN NAME.”

No oral, telegraphic, electronic, facsimile, or telephonic bids or modifications will be considered unless specified. Bids received after the scheduled Submittal Deadline will be returned unopened. Bids must bear original signatures and figures.

The successful bidder will be required to furnish a performance & payment bond in the amount equal to the contract award if bid is greater than \$25,000.00, along with all required insurance certificated, within fifteen (15) calendar days after the award date in order to execute a Contract. This applies to each Bid submitted for each community.

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Christina Collins  
Finance Director



PLEASE COMPLETE THIS PAGE AND SUBMIT WITH YOUR PROPOSAL

**ACKNOWLEDGEMENT OF ADDENDUM**

(if applicable)

Addendum Number	Signature of Bidder
*SEE ATTACHED NO ADDENDUM 1 LISTED	
2	
3	
4	
5	
6	
7	

COMPANY NAME: Arden Engineering Constructors, LLC

COMPANY ADDRESS: 505 Narragansett Park Drive

COMPANY ADDRESS: Pawtucket, RI 02861

BIDDER'S SIGNATURE: 

BIDDER'S NAME (PRINT): Ken Demers

TITLE: COO TEL. NO.: 401-727-3500

EMAIL ADDRESS: cmcelroy@ardeneng.com \*

\*Please include your email address. Future proposals will be emailed, unless otherwise noted.

# CITY OF NEWPORT

## ONLINE BIDDING SYSTEM

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- [Vendor](#)
  - [My Current Bids](#)
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- [Logout](#)

### Active Solicitations

Solicitation Title: Street Light Maintenance and LED Conversion  
Solicitation Number: JTN-21-500

[Solicitation Summary](#) [Specifications, Terms & Conditions](#) [Q&A](#) [Addenda](#) [Planholders](#)

Agency: Town of Jamestown

Contact: [ccollins@jamestownri.net](mailto:ccollins@jamestownri.net)

Solicitation Starts: 12/21/2020 9:15:00 AM

Solicitation Ends: 2/10/2021 10:00:00 AM

Q&A Deadline: 1/13/2021 4:00:00 PM

Submission Method: Manual

Commodity	Subcommodity
76 - Street and Highway Lighting Luminaires, Accessories and Parts	285 - Electrical Equipment and Supplies (Except Cable and Wire)
80 - Street Light Poles and Standards	285 - Electrical Equipment and Supplies (Except Cable and Wire)

### Addenda

[Addenda 2 - Pre-bid info](#) (Downloaded)

Posted Date: 12/30/2020 9:00:05 AM

[Addenda 5- Extension of bid February 10 2021 10 am](#) (Downloaded)

Posted Date: 1/25/2021 11:29:46 AM

[Addenda 7 - Town of Jamestown Lighting Inventory 20150924](#) (Downloaded)

Posted Date: 1/27/2021 6:40:10 PM

[Addenda 3 -Pre-Bid Meeting January 5, 2021](#) (Downloaded)

Posted Date: 1/20/2021 2:42:55 PM

[Addenda 4 - 2021.01.05 Jamestown Price Proposal Form](#) (Downloaded)

Posted Date: 1/20/2021 2:57:41 PM

[2020.12.15 Jamestown Price Proposal Form](#) (Downloaded)

Posted Date: 12/22/2020 8:34:45 AM

[Addenda 5- Extension of bid February 10 2021 10 am](#) (Downloaded)

Posted Date: 1/25/2021 11:29:54 AM

[Addenda 2](#) (Downloaded)

Posted Date: 12/30/2020 9:00:05 AM

[Addenda 6 - 2021.01.22 Jamestown Price Proposal Form](#) (Downloaded)

Posted Date: 1/27/2021 6:40:10 PM

[Go to Solicitation List](#)

Online Bidding System Version 2.0 created by Vision Internet

## INSTRUCTIONS TO BIDDER

**ACCEPTANCE PERIOD.** Unless otherwise specified herein, bid proposals and pricing are firm for a period of six (6) months.

**ADDENDA ACKNOWLEDGMENT.** Each bid shall include specific acknowledgment in the space provided of receipt of all addenda issued during the solicitation period. Failure to acknowledge may result in the bid being rejected as not responsive.

**AUTHORIZED SIGNATURES.** Every bid must be signed by the person or persons legally authorized to bind the Bidder to a contract for the execution of the work. Upon request of the Town, any agent submitting a bid on behalf of a Bidder shall provide a current power of attorney certifying the agent's authority to bind the Bidder. If an individual makes the bid, his or her name, signature, and post office address must be shown. If a firm or partnership makes the bid, the name and post office address of the firm or partnership and the signature of at least one of the general partners must be shown. If a corporation makes the bid, the bid shall show the name of the state under the laws of which the corporation is chartered, the name and post office address of the corporation and the title of the person signing on behalf of the corporation. Upon request of the Town, the corporation shall provide a certified copy of the bylaws or resolution of the board of directors showing the authority of the officer signing the bid to execute contracts on behalf of the corporation.

**AWARD OF BID.** Award will be made to the Bidder offering the most advantageous bid after consideration of all Evaluation Criteria set forth below. These criteria are not listed in any order of preference. Evaluation scores will not be released until after award of bid. Each Town shall not be obligated to accept the lowest priced bid but will make an award in the best interests of each Town after all factors have been evaluated. The right is reserved, as the interest of each Town may require, to reject any or all bid proposals, to waive any technical defect or informality in bids received, and to accept or reject any bid or portion thereof. The Town reserves the right to reject any bid of any Bidder who previously failed to perform adequately for the Town or any other governmental agency. The Town expressly reserves the right to reject the bid of any Bidder who is in default on the payment of taxes, licenses, or other monies due the Town.

**CANCELLATION OF SOLICITATION.** The Town may award and/or cancel their solicitation at any time.

**COMPLIANCE WITH LAWS.** All bids shall comply with current federal, state, and other laws relative thereto.

**DEFINITION OF TERMS.** For the purposes of this ITB, the following definitions will be used:

- a. **Contractor.** Throughout this set of documents, the terms "Vendor", Bidder", Proposer", "Respondent", and "Contractor" will carry the same weight and meaning as the entity that may (and does) submit a Bid on this project. "Contractor" may also refer to the Successful Bidder.
- b. **May.** Indicates something that is not mandatory but permissible.
- c. **Must/Shell.** Indicates a mandatory requirement. A bid that fails to meet a mandatory requirement will be deemed non-responsive and not be considered for award.
- d. **Bidder.** The person or firm making the offer.
- e. **Bid.** The offer presented by the Bidder.



- f. **ITB.** Acronym for Invitation to Bid.
- g. **Should.** Indicates something that is recommended but not mandatory. Failure to do what "should" be done will not result in rejection of your bid.
- h. **Submittal Deadline.** The date and time on or before all bids must be submitted.
- i. **Successful Bidder.** The person, contractor, or firm to whom the award is made.

**INK OR TYPEWRITTEN.** All information, prices, notations, signatures, and corrections must be in ink or typewritten. Mistakes may be crossed out and corrections typed or printed adjacent to the mistake and initialed in ink by the person signing the bid.

**NON-COLLUSION AFFIDAVIT.** Bidders are required to submit a Non-Collusion Affidavit with their Bids. See attached Affidavit. If there is reason to believe that collusion exists among the Bidders, the Town may refuse to consider bids from participants in such collusion.

**OPENING OF BIDS.** All bids, irrespective of irregularities or informalities, will be opened and the names of the Bidders will be read aloud at the Submittal Deadline. A recording of this reading will be made available on the Jamestown website.

**Postponement of Opening.** The Town reserves the right to postpone the Submittal Deadline and opening of bids any time before the date and time announced in the Invitation to Bid or subsequent addenda.

**PRICES.** All Bids shall give the prices proposed, both in writing and in figures, shall give all other information requested herein, and shall be signed by the Bidder's authorized representative. Bid prices shall include everything necessary for the completion and fulfillment of the contract. Unit & total price in dollars shall be submitted in both writing and numbers where applicable, in case of a discrepancy, the amount shown in words will govern.

**FORMS.** In addition to the written Technical Proposal, the following forms must be completed and submitted on or before the Submittal Deadline for the Bid to be considered complete:

- Price Proposals
- Bid Form
- Non-Collusion Affidavit
- Bidder's Statement Regarding Insurance Coverage
- Bidder Statement of Relevant Experience
- Bid Bond
- Performance Bond
- Labor and Material Payment Bond
- Proposed Subcontractors (if applicable)
- Insurance Certificate

**PRICE DISCREPANCIES.** In the event that there are unit price items in a bid schedule and the "amount" indicated for a unit price of an item does not equal the product of the unit price and quantity listed, the unit price shall govern and the amount will be corrected accordingly. If there is more than one item in a bid schedule, and the total indicated for the schedule does not agree with the sum of prices of the individual items, the prices given for the individual items shall govern and the total for the schedule will be corrected



accordingly. The Bidder will be bound by said corrections. If discrepancies are found between the original "MASTER" and copy or copies, the original "MASTER" will provide the basis for resolving such discrepancies. If one document is not clearly marked "MASTER", the Town reserves the right to use the original as the Master. For pricing discrepancies between the electronic Price Proposal form (Excel file), the printed Price Proposal form, and the bid form (with pricing written words), the bid form will prevail.

**BID CONTENT.** Bidder must describe in detail how he will meet the requirements of this ITB, and may provide additional related information with his bid. The bid should be presented in a format that corresponds to, and references, the sections outlined herein, and should be presented in the same order. Responses to each section and subsection should be labeled to indicate which item is being addressed. Bids should be straightforward and concise. Emphasis should be concentrated on conforming to the ITB instructions, responding to the ITB requirements, and on providing a complete and clear description of the offer. If a complete response cannot be provided without referencing supporting documentation, you must provide such documentation with the bid indicating where the supplemental information can be found. Supplemental information shall clearly reference the bid section to which it applies.

The Town is not liable for any costs incurred by Bidders before entering into a formal contract. Costs of developing the bids or any other such expenses incurred by the Bidder in responding to the ITB, are entirely the responsibility of the Bidder, and shall not be reimbursed in any manner by the Town.

**BID MODIFICATIONS.** Any Bidder who wishes to make modifications to a bid already received by the Town must withdraw their bid in order to make the modifications. Withdrawals must be made in accordance with the terms and conditions of this solicitation (see Bid Withdrawal). All modifications must be made in ink, properly initialed by Bidder's authorized representative, executed, and submitted in accordance with the terms and conditions of this solicitation. It is the responsibility of the Bidder to ensure that modified or withdrawn bids are resubmitted before the Submittal Deadline.

**BID WITHDRAWAL.** Bidders' authorized representative may withdraw bids only by written request received before the Submittal Deadline.

**BIDDER'S BACKGROUND.** Bidder must include in his bid a complete disclosure of any alleged significant prior or ongoing contract failures, any civil or criminal litigation or investigation pending which involves the Bidder or in which the Bidder has been judged guilty or liable. Failure to comply with the terms of this provision will disqualify any bid. The Town reserves the right to reject any bid based upon the Bidder's prior history with the Town or with any other party, which documents, without limitation, unsatisfactory performance, adversarial or contentious demeanor, significant failure(s) to meet contract milestones or other contractual failures.

**PUBLIC RECORDS.** Rhode Island law provides that municipal records shall at all times be open for personal inspection by any person. Information and materials received by the Town in connection with an ITB response shall be deemed to be public records subject to public inspection upon award, recommendation for award, or 10 days after bid opening, whichever occurs first. However, certain exemptions to the public records law are statutorily provided. If the Bidder believes any of the information contained in his or her response is exempt from the Public Records Law, then the Bidder, must in his or her response, specifically identify the material which is deemed to be exempt and cite the legal authority for the exemption, otherwise, the Town will treat all materials received as public records.

**QUESTIONS AND COMMENTS.** It shall be the Bidder's responsibility to ask questions, request changes or clarifications, or otherwise advise the Town if any language, specifications or requirements of an ITB



are ambiguous, contradictory, or appear to inadvertently restrict or limit the requirements stated in the ITB to a single source. Questions and comments regarding this solicitation must be submitted in writing, either by email to [mgray@jamestownri.net](mailto:mgray@jamestownri.net) mail to Michael Gray, Public Works Director, or faxed to (401)-423-7226 by 4:00pm on Friday January 8, 2021. Questions received after the deadline noted herein will not be answered. The questioner's company name, address, phone and fax number, and contact person must be included with the questions or comments. All submitted questions and the Town's written response to each will be available as an addendum that will be posted on the Jamestown website by Friday January 22, 2021. Potential proposers are responsible for checking the Jamestown website or contacting the Jamestown Finance office to request a copy of the addendum. Proposers must acknowledge receipt of all addenda on the town proposal form which will be submitted with the proposal package.

**ASSIGNMENT OF RIGHTS OR OBLIGATIONS.** Except as noted hereunder, Successful Bidder may not assign, transfer or sell any rights or obligations resulting from this solicitation without first obtaining the specific written consent of the contracting Town.

**TAXES, EXEMPT.** The Town is exempt from the payment of the Rhode Island State Sales Tax under the 1956 General Laws of the State of Rhode Island, 44-18-30, Paragraph 1, as amended. Further, the Town is also exempt from the payment of any excise or federal transportation taxes. The proposal prices submitted must be exclusive of same. If requested, the Town will furnish exemption certificates when the successful bidder submits invoices for payment.

**TERMS OF THE OFFER.** The Town reserves the right to negotiate final contract terms with any Bidder selected. The contract between the parties will consist of the ITB together with any modifications thereto, the awarded Bidder's bid, and all modifications and clarifications that are submitted at the request of the Town during the evaluation and negotiation process. In the event of any conflict or contradiction between or among these documents, the documents shall control in the following order of precedence: the final executed contract, the ITB, any modifications and clarifications to the awarded Bidder's bid, and the awarded Bidder's bid. Specific exceptions to this general rule may be noted in the final executed contract. Bidder understands and acknowledges that the representations above are material and important and will be relied on by the Town in evaluation of the bid. Bidder misrepresentation shall be treated as fraudulent concealment from the Town of the facts relating to the bid.



## **TERMS AND CONDITIONS**

**ATTORNEY FEES.** In the event a suit or action is instituted in connection with any controversy arising out of this contract, the prevailing party shall be entitled to receive, in addition to its costs, such sum as the court may adjudge reasonable as to attorney's fees and costs.

**AUTHORITY OF THE TOWN.** Subject to the power and authority of the Town as provided by law in this contract, the Town shall in all cases determine the quantity, quality, and acceptability of the work, materials and supplies for which payment is to be made under this contract. The Town shall decide the questions that may arise relative to the fulfillment of the contract or the obligations of the contractor hereunder.

**CANCELLATION OF THE CONTRACT.** Without cause, the Town may cancel this contract at any time with thirty- (30) days written notice to the supplier/contractor. With cause, the Town may cancel this contract at any time with ten- (10) days written notice to the Bidder. Cancellation for cause shall be at the discretion of the Town and shall be, but is not limited to, failure to supply the materials, or service specified within the time allowed or within the terms, conditions or provisions of this contract. The successful Bidder may not cancel this contract without prior written consent of the Town's Finance Director.

**CHANGES IN WORK.** The Town may, at any time work is in progress, by written order, make alterations in the terms of work as detailed herein, require the performance of extra work, decrease the quantity of work, or make such other changes as the Town may find necessary or desirable. The Contractor shall not claim forfeiture of contract by reasons of such changes by the Town. Changes in work and the amount of compensation to be paid to the Contractor for any extra work as so ordered shall be determined in accordance with the unit prices of contractor's proposal.

**COMPLIANCE WITH OR DEVIATION FROM SPECIFICATIONS.** Bidder hereby agrees that the material, equipment or service offered will meet all the requirements of the specifications in this solicitation unless deviations from them are clearly indicated in the Bidder's response. Bidders may submit an "approved equal" product or service in quality basis. The Town reserves the right to determine equality. Bidders must indicate brand or the make being offered and submit detailed specifications if other than the specifications requested with the submission of the bid and in accordance with applicable technical specifications.

**CONTRACT INCORPORATION.** This contract embodies the entire contract between the Town and the Contractor. The parties shall not be bound by or be liable for any statement, representation, promise, inducement or understanding of any kind or nature not set forth herein. No changes, amendments, or modifications of any of the terms or conditions of the contract shall be valid unless reduced to writing and signed by both parties. The complete contract shall include the entire contents of the ITB solicitation, all addenda, all of Bidder's successful submittal, supplemental agreements, change orders, performance bond(s), and any and all written agreements which alter, amend or extend the contract. Parties may add or remove items or services from the scope of work on an as needed basis and at the discretion of the Town.

**FORMATION OF CONTRACT.** Bidder's signed Bid and the Town's written acceptance shall constitute a binding contract.

**LAWS GOVERNING CONTRACT.** This contract shall be in accordance with the laws of the state of Rhode Island. The parties stipulate that this contract was entered into in the respective county of the



Town, in state of Rhode Island. The parties further stipulate that the county of the Town is the only appropriate forum for any litigation resulting from a breach hereof or any questions risen here from.

SEVERABILITY. If any provisions or portion of any provision, of this contract are held invalid, illegal or unenforceable, they shall be severed from the contract and the remaining provisions shall be valid and enforceable.

SPECIFICATIONS, CHANGES TO. The parties shall not be bound by or be liable for any statement, representation, promise, inducement or understanding of any kind or nature not set forth herein or by written amendment. No changes, amendments, or modifications of any of the terms or conditions of the specification shall be valid unless reduced to writing and signed by both parties.

SPECIFICATIONS, DEFINITION. The term "specification" or "ITB specification" as used in this solicitation shall be interpreted to mean all the pages that make up this solicitation including documents referenced herein.

COOPERATION BETWEEN CONTRACTORS. The Town reserves the rights to contract for and perform other or additional work on or near the work covered by these specifications. When separate contracts are let within the limits of any one project, each contractor shall conduct his work so as not to interfere with or hinder the progress or completion of the work being performed by other contractors. Contractors working on the same project shall cooperate with each other as directed. Each contractor involved shall assume all liability, financial or otherwise, in connection with his contract and shall protect and save harmless the Town from any and all damages or claims that may arise because of inconvenience, delays, or loss experienced by them because of the presence and operations of other contractors working within the limits of the same project.

COORDINATION WITH AGENCIES. The Contractor shall coordinate his activities with the proper regulatory agencies and have their representative on site at the proper times.

DAMAGE. The Contractor shall be held responsible for any breakage, loss of the Town's equipment or supplies through negligence of the contractor or his employee while working on the Town's premises. The Contractor shall be responsible for restoring or replacing any equipment, facilities, etc. so damaged. The Contractor shall immediately report to the Town any damages to the premises resulting from services performed under this contract. Failure or refusal to restore or replace such damaged property will be a breach of this contract.

INSURANCE REQUIREMENT. Within ten (10) consecutive calendar days of award of contract, Successful Proposer must furnish the Town with the Certificates of Insurance proving coverage as specified in "Proposer's Statement Regarding Insurance Coverage" and naming the Town, its officers and agents, Additional Insured by endorsement.

RIGHTS RESERVED. Completion of Work. If Contractor fails to comply with the conditions of the contract or fails to complete the required work or furnish the required materials within the time stipulated, the Town reserves the right to purchase in the open market, or to complete the required work, at the expense of the Contractor.

ACKNOWLEDGEMENT of Risk & Hold Harmless Agreement. In addition to the indemnity provisions in the these Terms and Conditions of Purchase and to the fullest extent permitted by law, the selected vendor, its officers, agents, servants, employees, parents, subsidiaries, partners, officers, directors,



attorneys, insurers, and/or affiliates (Releasors) agree to release, waive, discharge and covenant not to sue the Town, their officers, agents, servants or employees (Releasees) from any and all liability, claims, cross-claims, rights in law or in equity, agreements, promises demands, actions and causes of action whatsoever arising out of or related to any loss, damage, expenses (including without limitation, all legal fees, expenses, interest and penalties) or injury (including death), of any type, kind or nature whatsoever, whether based in contract, tort, warranty, or other legal, statutory, or equitable theory of recovery, which relate to or arise out of the Releasors use of or presence in and/or on Town property. The Releasors agree to defend, indemnify and hold harmless the Releasees from (a) any and all claims, loss, liability, damages or costs by any person, firm, corporation or other entity claiming by, through or under Releasors in any capacity whatsoever, including all subrogation claims and/or claims for reimbursement, including any court costs and attorney's fees, that may incur due to Releasors use of or presence in and on Town property; and (b) any and all legal actions, including third-party actions, cross-actions, and/or claims for contribution and/or indemnity with respect to any claims by any other persons, entities, parties, which relate to or arise out of Releasors use of or presence in and on Town property. The Releasors acknowledge the risks that may be involved, and hazards connected with use of or presence in and on Town property but elect to provide services under any contract with the Town with full knowledge of such risks. Releasors also acknowledge that any loss, damage, and/or injury sustained by Releasors is not covered by Releasees insurance. Releasors agree to become fully aware of any safety risks involved with the performance of services under any contract with the Town and any safety precautions that need to be followed and agree to take all such precautions. The duty to indemnify and/or hold the Town harmless shall not be limited by the insurance required under the Terms and Conditions of Purchase.

**ADDITIONAL INSURANCE REQUIREMENTS.** In addition to the insurance provisions noted within the Contract Documents, the liability insurance coverage, except Professional Liability, Errors and Omissions or Workers' Compensation insurance required for performance of a contract with the Town shall include the Town, its department, divisions, officers, and employees as Additional Insureds but only with respect to the selected vendor's activities under the contract. The insurance required through a policy or endorsement shall include:

Waiver of Subrogation waiving any right to recovery the insurance company may have against the Town; and Provision that the selected vendor's insurance coverage shall be primary with respect to any insurance, self-insurance or self-retention maintained by the Town and that any insurance, self-insurance or self-retention maintained by the Town shall be in excess of the selected vendor's insurance and shall not contribute.

There shall be no cancellation, material change, potential exhaustion of aggregate limits or non-renewal without thirty (30) days written notice from the selected vendor or its insurer(s) to the Town's Purchasing Agent. Any failure to comply with the reporting provision of this clause shall be grounds for immediate termination of the contract with the Town. Insurance coverage required under the contract shall be obtained from insurance companies acceptable to the Town. The selected vendor shall pay for all deductibles, self-insured retentions and/or self-insurance included hereunder. The Town's Purchasing Agents reserve the right to consider and accept alternative forms and plans of insurance or to require additional or more extensive coverage for any individual requirement.

**BRAND NEUTRALITY** – The Town remains brand neutral and expresses no preference for specific products and/or manufacturers. References to specific products or brands, where provided herein, are for reference only and should be interpreted to mean "or equivalent".



**FAMILIARITY WITH SITE/CONTRACT DOCUMENTS** - It is the responsibility of the BIDDER/CONTRACTOR to visit the Project site(s) and become familiar with all applicable existing conditions. This responsibility extends to any and all subcontractors or tradespersons employed or intended to be employed by the successful CONTRACTOR. It is furthermore the responsibility of the BIDDER/CONTRACTOR to examine the Contract Documents and become familiar with same, and to ensure that said familiarity extends to any and all subcontractors or tradespersons as referenced above. No claim for extra compensation shall be entertained for Work required be done which an examination or examinations of the Site and/or the Contract Documents would have revealed as necessary to accomplish the purpose intended or indicated within the Contract Documents.

**CLEANING FINISHED WORK** - After the Work is completed, each site shall be carefully cleaned free of debris, product wrappings, etc. and left in first class condition, ready to use. All waste materials shall be properly recycled off-site and the Work left broom-clean.

#### **PROTECTION OF TRAFFIC**

A. The CONTRACTOR shall inconvenience traffic as little as possible and shall provide suitable barricades, red lights, "Danger" or "Caution" signs at all places where the Work constitutes in any way a hazard to the public. All barricades and obstructions along public roads shall be illuminated at night and all lights for this purpose shall be kept burning from sunset to sunrise.

B. In addition, the CONTRACTOR shall provide and maintain such other warning signs and barricades in other areas as may be required for the safety of those employed in the Work or visiting site. Traffic control devices shall be in accordance with the latest Manual of Uniform Traffic Control Devices.

C. The CONTRACTOR shall provide watchmen at particularly dangerous locations such as railroads, heavily traveled roadways and similar locations, and where ordered by the OWNER.

D. Access to private properties over driveways shall be maintained. Temporary structures erected by the CONTRACTOR to accomplish this shall be safe. The CONTRACTOR shall be liable for any damage or injury resulting from the Work.

E. Arrangements for traffic protection and control, detours, barricades, flaggers, danger signs and warning lights shall be provided in accordance with local jurisdictional authorities' requirements.

F. Efforts shall be made to preserve two lane traffic on all roads, except in areas where it becomes necessary, then one lane of traffic will be open for traffic. At all road crossings where "open cut construction" will be allowed one lane of traffic will be preserved.

G. When it is necessary to close a street temporarily, detours shall be provided and plainly and adequately marked. Adequate barricades, lights and other warnings shall be provided and erected to protect the public from the Work. The CONTRACTOR shall provide uniformed signal men to direct traffic at major intersections and as directed by the Town.

**START-UP CERTIFICATIONS AND COMMISSIONING** - The CONTRACTOR is responsible for scheduling and coordinating all required certifications and commissioning tests for each Town. The

CONTRACTOR is further required to schedule and coordinate all appropriate start-up tests, training, etc. with all equipment vendors, subcontractors, etc. for all equipment.

**BID FORM**

**Bid Number – ITB JTN-21-500**

**Street Light Maintenance and LED Conversion**

To:

Town of Jamestown, RI

Address: 93 Narragansett Ave

Jamestown, RI 02835

From:

Arden Engineering Constructors, LL

Name of Proposer

505 Narragansett Park Drive

Mailing Address

Pawtucket, RI 02861

Town, State & Zip

\*\*\*\*\*

THE PRICE OF EACH ITEM MUST BE WRITTEN IN WORDS AND FIGURES. IN CASE OF DISCREPANCY, THE AMOUNT SHOWN IN WORDS WILL GOVERN.

\*\*\*\*\*

All items shall be completely filled out in writing

\*\*\*\*\*

Please provide the following cost items in writing: **SEE ATTACHED**

Base Cost:

Total Cost of LED Conversion Option 1:	
Total Cost of LED Conversion Option 2:	
Total Cost of Controls Option1:	
Total Cost of Controls Option 2:	
Total Cost of Controls Option 3:	
Total Cost of Decorative Lights Option 1:	
Total Cost of Decorative Lights Option 2:	
Total Pre-Conversion Maintenance:	
Total Post-Conversion Maintenance:	
Total GIS Lighting Survey:	



ITB JTN-21-500  
Street Light Maintenance and LED Conversion

	Total Cost in Figures	Total Cost in Words
Total Cost of LED Conversion Option 1	\$ 79,400.00	Seventy Nine Thousand Four Hundred Dollars and Zero Cents
Total Cost of LED Conversion Option 2	\$ 102,375.00	One Hundred Two Thousand Three Hundred Seventy Five Dollars and Zero Cents
Total Cost of Controls Option 1	\$ 6,606.00	Six Thousand Six Hundred Dollars and Zero Cents
Total Cost of Controls Option 2	\$ 48,440.00	Forty Eight Thousand Four Hundred Forty Dollars and Zero Cents
Total Cost of Controls Option 3	\$ 329,933.00	Three Hundred Twenty Nine Thousand Nine Hundred Thirty Three Dollars and Zero Cents
Total Cost of Decorative Lights Option 1	\$ 30,900.00	Thirty Thousand Nine Hundred Dollars and Zero Cents
Total Cost of Decorative Lights Option 2	\$ 40,000.00	Forty Thousand Dollars and Zero Cents
Total Pre-Conversion Maintenance	\$ 17,616.00	Seventeen Thousand Six Hundred Sixteen Dollars and Zero Cents
Total Post-Conversion Maintenance	\$ 330.00	Three Hundred Thirty Dollars and Zero Cents
Total GIS Lighting Survey	\$ 39,695.75	Thirty Nine Thousand Six Hundred Ninety Five Dollars and Seventy Five Cents

Arden Engineering Constructors, LLC

Company Name of Proposer

505 Narragansett Park Drive

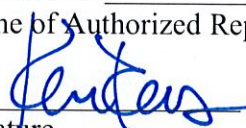
Mailing Address (PO Box or street)

Pawtucket, RI 02861

Town, State, and Zip Code

Ken Demers

Name of Authorized Representative

  
Signature

COO  
Title

Type of Business (Corp, Partnership, Sole Proprietorship)

401-727-3500

Telephone Number

401-727-3540

Facsimile

#### CONTRACTOR'S PROPOSAL

The undersigned Proposer agrees that he will contract with the Town to provide all necessary labor, supervision, tools, and other means to do all the work and furnish all the materials specified in the contract in the manner and time therein prescribed, and that he will take in full payment the amount set forth hereon.

The Town will have the sole authority to enter into an Agreement under this Invitation for Bid with the Bidder of its choice based on the evaluation criteria referenced herein. The Town has the sole right to select any Bid Item or combination of Bid Items when making an award.

To Be Completed, Notarized, and Submitted with Bid

**NON-COLLUSION AFFIDAVIT**

Bid Number – ITB **JTN-21-500**

Street Light Maintenance and LED Conversion

State of Rhode Island Counties of Newport and Providence".  
Arden Engineering Constructors, LLC, Bidder, being first duly sworn, deposes and says that he or she is Owner of the party making the foregoing bid that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the Bidder has not directly or indirectly induced or solicited any other Bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any Bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the Bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the Bidder or any other Bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other Bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and further, that the Bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid."

2/9/2021  
Date

Arden Engineering Constructors, LLC  
Bidder name  
(Person, Firm, Corp.)

505 Narragansett Park Drive  
Address

Pawtucket, RI 02861  
City, State, Zip

2:30 PM Pawtucket, RI  
(Signed at)

  
Authorized Representative

Ken Demers  
Representative's Name

COO  
Representative's Title

**BIDDER STATEMENT REGARDING INSURANCE COVERAGE**

**Bid Number – ITB JTN-21-500**

**Street Light Maintenance and LED Conversion**

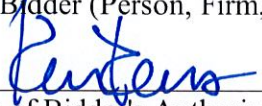
BIDDER HEREBY CERTIFIES that the Bidder has reviewed and understands the insurance coverage requirements specified in the Request for Proposal No2020-07. Should the Bidder be awarded the contract for the work, Bidder further certifies that the Bidder can meet the specified requirements for insurance and agrees to name the Town as Additional Insured for the work specified.

Insurance Required:

Workmen's Compensation and Employment Liability Insurance in compliance with statutory limits.  
Comprehensive General Liability Insurance including Products Completed, Contractual, Property, and Personal Injury coverage with combined single limits of \$1,000,000 per occurrence and in the aggregate.  
Professional Liability Insurance with a limit of \$1,000,000 per claim and in the aggregate. Automobile Liability Insurance including non-owned and hired automobiles with the limits listed below.

Bodily Injury	\$1,000,000 each person \$1,000,000 each occurrence
Property Damage	\$1,000,000 each occurrence

Arden Engineering Constructors, LLC  
Name of Bidder (Person, Firm, or Corporation)

  
Signature of Bidder's Authorized Representative

COO  
Name & Title of Authorized Representative

2/9/2021  
Date of Signing



### BIDDER STATEMENT OF RELEVANT EXPERIENCE

Bidders should provide a minimum of three (3) references from similar projects performed for any local government clients within the last five years. Information provided shall include:

Client/Business name;

Project description;

Project dates (starting and ending);

Client/Business project manager name and telephone number;

Contract amount.

I hereby certify that I have performed the work listed below.

  
\_\_\_\_\_  
Signature of Bidder

CLIENT/ BUSINESS NAME	PROJECT DESCRIPTION	PROJECT DATES	CLIENT/BUSINESS CONTACT	CONTRACT AMOUNT
Town of Liecester, MA	SEE ATTACHED QUALIFICATIONS SECTION 3.07 REFERENCES	01/21/2019 – 03/19/2019	Kristen Forsberg forsbergk@leicesterma. org	\$32,538.00
Town of Somerset, MA	SEE ATTACHED QUALIFICATIONS SECTION 3.07 REFERENCES	1/21/2020 – 04/06/2020	Jordan Remy jremy@town.swansea. ma.us	\$96,523.00
Town of Tewksbury, MA	SEE ATTACHED QUALIFICATIONS SECTION 3.07 REFERENCES	01/14/209 – 03/31/2019	Steve Sadwick ssadwick@tewksbury- ma.gov	\$344,648

**Arden Engineering Constructors, LLC**  
**505 Narragansett Park Drive, Pawtucket, RI 02861**

Request for Proposal Bid# JTN-21-500  
STREET LIGHT MAINTENANCE AND LED CONVERSION

**3.07 a-c. References**

<b>Client</b>	<b>Description</b>	<b>Project Start and End Dates</b>	<b>Project Manager</b>	<b>Contract Amount</b>
Town of Leicester, MA	Installation of ~1,200 LED Cobra Head Street Lights, Area Flood Lighting, Installation of Fuses and Upgrade/Maintenance of Existing Wiring	01/21/2019 – 03/19/2019	Kristen Forsberg forsbergk@leicesterma.org	\$32,538.00
Town of Swansea, MA	Installation of ~3,000 LED Cobra Head Street Lights, Area Flood Lighting, Installation of Fuses and Upgrade/Maintenance of Existing Wiring	1/21/2020 – 04/06/2020	Jordan Remy jremy@town.swansea.ma.us	\$96,523.00
Town of Tewksbury, MA	Installation of ~2,000 LED Cobra Head Street Lights, Decorative Lighting, Area Flood Lighting, Installation of Fuses and Upgrade/Maintenance of Existing Wiring, Cimcon Photo Controls	01/14/2019 – 03/31/2019	Steve Sadwick 978-640-4355 <a href="mailto:ssadwick@tewksbury-ma.gov">ssadwick@tewksbury-ma.gov</a>	\$344,648



**BID BOND**

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned Arden Engineering Constructors, LLC, as Principal, and , as Surety, are hereby held and firmly bound unto the TOWN OF JAMESTOWN, RHODE ISLAND, as OWNER in the penal sum of (\$ 10% ), for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors and assigns.

Signed, this 25th day of January, 2021.

The condition of the above obligation is such that whereas the Principal has submitted to the Town of Jamestown, Rhode Island, a certain BID, attached hereto and hereby made a part hereof to enter into a Contract in writing, for JTN-21-500 STREET LIGHT MAINTENANCE AND LED CONVERSION

NOW, THEREFORE,

If said BID shall be rejected, or

If said BID shall be accepted and the Principal shall execute and deliver a Contract in the Form Of Contract attached hereto (properly completed in accordance with said BID) and shall furnish a Performance Bond and a Labor and Material Payment Bond for his/her faithful performance of said Contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the Agreement created by the acceptance of said BID, then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

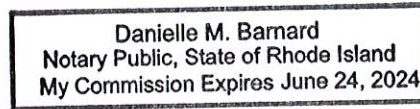
The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its BOND shall be in no way impaired or affected by any extension of the time with which the OWNER may accept such BID; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

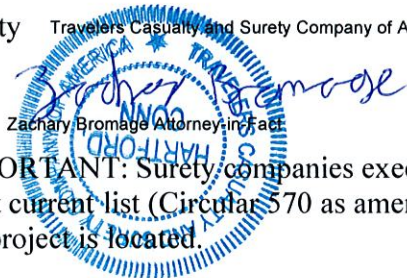
Travelers Casualty and Surety Company of America and Arden Engineering Constructors, LLC Principal

Notary  
Seal

Notary  
By: Danielle M. Barnard and  
Seal #759322



Surety Travelers Casualty and Surety Company of America



IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the project is located.





**Travelers Casualty and Surety Company of America  
Travelers Casualty and Surety Company  
St. Paul Fire and Marine Insurance Company**

**POWER OF ATTORNEY**

**KNOW ALL MEN BY THESE PRESENTS:** That Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company are corporations duly organized under the laws of the State of Connecticut (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint **Zachary Bromage** of **CRANSTON**, **Rhode Island**, their true and lawful Attorney-in-Fact to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

**IN WITNESS WHEREOF**, the Companies have caused this instrument to be signed, and their corporate seals to be hereto affixed, this **17th** day of **January**, **2019**.



State of Connecticut

City of Hartford ss.

By: \_\_\_\_\_

Robert L. Raney, Senior Vice President

On this the **17th** day of **January**, **2019**, before me personally appeared **Robert L. Raney**, who acknowledged himself to be the Senior Vice President of Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of said Companies by himself as a duly authorized officer.

**IN WITNESS WHEREOF**, I hereunto set my hand and official seal.

My Commission expires the **30th** day of **June**, **2021**



Anna P. Nowik, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company, which resolutions are now in full force and effect, reading as follows:

**RESOLVED**, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

**FURTHER RESOLVED**, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

**FURTHER RESOLVED**, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

**FURTHER RESOLVED**, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, **Kevin E. Hughes**, the undersigned, Assistant Secretary of Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company, do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which remains in full force and effect.

Dated this **25th** day of **January**, **2021**



Kevin E. Hughes, Assistant Secretary

**To verify the authenticity of this Power of Attorney, please call us at 1-800-421-3880.**

**Please refer to the above-named Attorney-in-Fact and the details of the bond to which this Power of Attorney is attached.**



**PERFORMANCE BOND**

KNOW ALL MEN BY THESE PRESENTS, that \_\_\_\_\_

\_\_\_\_\_  
(Name of Contractor)

of \_\_\_\_\_  
(Address of Contractor)

as Principal, hereinafter called Principal, and

\_\_\_\_\_  
(Name of Surety)

\_\_\_\_\_  
(Address of Surety)

as Surety, hereinafter called Surety, are held and firmly bound unto the Town of Jamestown, Rhode Island, called the Obligee, in the full penal sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_), in lawful money of their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT WHEREAS said Principal has entered into a certain written Contract with said Obligee, dated the \_\_\_\_\_ day of 20 for the \_\_\_\_\_

which Contract, together with all Contract Documents now made or which may hereafter be made in extension, modification or alteration thereof, are hereby referred to, incorporated in and made a part of this Bond as though herein fully set forth.

NOW, THEREFORE, if the said Principal shall well and truly keep, perform, and execute all the terms, conditions and stipulations of said Contract according to its provisions on his/her or its part to be kept and performed and shall indemnify and reimburse the Obligee for any loss that it may suffer through failure of the Principal to faithfully observe and perform each and every obligation and duty imposed upon the Principal by the said Contract, at the time and in the manner therein specified, then this obligation shall be null and void, otherwise it shall remain and be in full force and effect.

PROVIDED, HOWEVER, that any alterations which may be made in the terms of said Contract or in the Work done or to be done under it, or the giving by the Obligee of any extension of time for the performance of said Contract or any other forbearance on the part of either the Obligee or the Principal one to the other, shall not in any way release the Principal and/or the Surety, or either of them, their representatives, heirs, executors, administrators, successors or assigns from liability hereunder, notice to the Surety or Sureties of any such alteration, extension or forbearance being hereby specifically and absolutely waived.

AND PROVIDED FURTHER THAT NO ACTION, suit, or proceeding shall be had or maintained against the Surety on this instrument unless the same be brought or instituted and process served upon the Surety within three (3) years from the expiration of the guaranty period



provided in the Contract, whether the Work be completed by the Principal, or Obligee.

IN WITNESS WHEREOF, the said Principal and Surety have SIGNED AND SEALED this instrument this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

ATTEST:

\_\_\_\_\_  
Principal

\_\_\_\_\_  
(Principal) Secretary

By \_\_\_\_\_ (S)  
(SEAL)

\_\_\_\_\_  
Witness as to Principal

ATTEST:

\_\_\_\_\_  
Surety

\_\_\_\_\_  
(Surety) Secretary

(SEAL)

By \_\_\_\_\_  
Attorney-in-Fact

\_\_\_\_\_  
Witness as to Surety

Note: Date of Bond must not be prior to date of Contract. If Contractor is a Partnership, all partners should execute Bond.

IMPORTANT: Surety companies executing Bonds must appear on the U.S. Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Rhode Island.

**LABOR AND MATERIAL PAYMENT BOND**

KNOW ALL MEN BY THESE PRESENTS, that \_\_\_\_\_

\_\_\_\_\_  
(Name of CONTRACTOR)

of \_\_\_\_\_  
(Address of CONTRACTOR)

as Principal hereinafter called Principal, and

\_\_\_\_\_  
(Name of Surety)

of \_\_\_\_\_  
(Address of Surety)

\_\_\_\_\_, a Corporation organized and existing under the laws of the State of \_\_\_\_\_, as Surety, hereinafter called Surety, are held and firmly bound unto the Town of Jamestown as Oblige, hereinafter called the Oblige, in the full penal sum of \_\_\_\_\_ dollars (\$ \_\_\_\_\_) in lawful money of the United States for the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT WHEREAS said Principal has entered into a certain written Contract with said Oblige, dated the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_, which written Contract provides for the which Contract, together with all Plans and Specifications now made or which may hereafter be made in extension, modification of alteration thereof, are hereby referred to, incorporated in and made a part of this Bond as though herein fully set forth.

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms, subcontractors, and corporations furnishing materials for or performing labor in the prosecution of the Work provided for in such Contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs or machinery, equipment and tools, consumed or used in connection with the construction of such Work, and all insurance premiums on said Work and for all labor, performed in such Work whether by subcontractor or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, HOWEVER, that this Bond is executed, pursuant to the provision of the General Statutes of the State of Rhode Island and the rights and liabilities hereunder shall be determined and limited by said sections to the same extent as if they were copies at length herein.

PROVIDED, FURTHER, that the said Surety for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the Work to be performed there under or the Specifications accompanying the same shall in any wise affect its obligation on this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the Work or to the Specifications.



PROVIDED, FURTHER, that no final settlement between the Obligee and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, the said principal and surety have signed and sealed this instrument this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

ATTEST:

\_\_\_\_\_  
Principal

\_\_\_\_\_  
(Principal) Secretary  
By \_\_\_\_\_ (S)

(SEAL)

\_\_\_\_\_  
Witness as to Principal

ATTEST:

\_\_\_\_\_  
Surety

\_\_\_\_\_  
(Surety) Secretary

(SEAL)  
By \_\_\_\_\_  
Attorney-in-Fact

\_\_\_\_\_  
Witness as to Surety

NOTE: Date of Bond must not be prior to date of Contract. If CONTRACTOR is Partnership, all partners should execute bond.

IMPORTANT: Surety companies executing Bonds must appear on the U.S. Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Rhode Island.

### PROPOSED SUBCONTRACTORS

THE BIDDER SHALL STATE THE NAMES OF ALL THE SUBCONTRACTORS THAT THEY PROPOSE TO USE

Note: If more than two (2) subcontractors are proposed, provide multiple copies of this form with the various entities' information filled in below.

If none, write "None" None

\*Description of Work

Proposed Subcontractor, Name: \_\_\_\_\_

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

Description of Work

Proposed Subcontractor, Name: \_\_\_\_\_

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

\*Insert description of Work and subcontractors' names as may be required.

This is to certify that all names of the above-mentioned subcontractors are submitted with full knowledge and consent of the respective parties.

The Bidder warrants that none of the proposed subcontractors have any conflict of interest in respect to this Contract.

Bidder Arden Engineering Constructors, LLC  
(Fill in Name)

By  COO  
(Signature and Title)

**NOTICE OF AWARD**

TOWN OF \_\_\_\_\_

TO: \_\_\_\_\_

\_\_\_\_\_

**PROJECT DESCRIPTION: Streetlight Maintenance and LED Conversion Project**

The OWNER has considered the BID submitted by you dated \_\_\_\_\_ for the above referenced WORK in response to its Invitation to Bid and the Standard & Special Instructions to Bidders.

You are hereby notified that your BID has been accepted for items in the amounts shown in the Bid Schedule, for the Town of \_\_\_\_\_ portion only.

You are required by the Standard & Special Instructions to Bidders to execute the Agreement and furnish the required CONTRACTOR'S PERFORMANCE BOND, LABOR AND MATERIAL PAYMENT BOND, and Certificates Of Insurance within fifteen (15) calendar days from the date of this NOTICE to you. The bond forms contained within the Contract Documents must be used. Substitute bond forms will not be accepted.

If you fail to execute said Agreement and to furnish said BONDS and CERTIFICATES OF INSURANCE within fifteen (15) days from the date of this NOTICE, said OWNER will be entitled to consider all your rights arising out of the OWNER'S acceptance of your BID as abandoned, and as a forfeiture of your BID BOND. The OWNER will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the OWNER.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

TOWN OF \_\_\_\_\_, RHODE ISLAND

OWNER

BY:

TITLE:

Agenda Item # \_\_\_\_\_ Date: \_\_\_\_\_

**ACCEPTANCE OF NOTICE**

Receipt of the above NOTICE OF AWARD is hereby acknowledged by \_\_\_\_\_  
this the \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_. (Company Name)

BY: \_\_\_\_\_

TITLE: \_\_\_\_\_



**NOTICE TO PROCEED**

TOWN OF \_\_\_\_\_

TO:

DATE:

PROJECT DESCRIPTION: Streetlight Maintenance and LED Conversion Project

Town of \_\_\_\_\_ Portion Only

You are hereby notified to commence WORK in accordance with the Bid Proposal dated \_\_\_\_/\_\_\_\_/20\_\_\_\_, on or before \_\_\_\_/\_\_\_\_/20\_\_\_\_ and you are to complete the WORK within one hundred twenty (120) consecutive calendar days thereafter. The date of completion of all WORK is therefore xx/xx/20xx.

TOWN OF \_\_\_\_\_, RHODE ISLAND  
OWNER

BY:

TITLE:

**ACCEPTANCE OF NOTICE**

Receipt of the above NOTICE TO PROCEED is hereby acknowledged by \_\_\_\_\_  
this the \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_. (Company Name)

BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

**PRICE PROPOSAL FORMS**

Intentionally blank.

Please see attached Excel Files.

## CONTRACT AGREEMENT

TOWN OF \_\_\_\_\_

THIS AGREEMENT made and executed this \_\_\_\_ day of \_\_\_\_\_, in the year 20\_\_\_\_\_, by and between the Town of \_\_\_\_\_, a municipality located within the State of Rhode Island, by its Town Council duly constituted, and without personal liability for the individual's signatory hereto, herein termed the OWNER, party, of the first part, and \_\_\_\_\_ of \_\_\_\_\_ doing business as a corporation, hereinafter termed the CONTRACTOR, party of the second part;

WITNESSETH: That the parties to this Agreement each in consideration of the Agreements on the part of the other herein contained have agreed, and by these presents do hereby agree, the OWNER for itself, and the CONTRACTOR for themselves and their heirs, executors, administrators, successors, and assigns, as follows:

That the Contract Documents consisting of this Agreement, together with the Legal and Procedural Documents, General and Supplemental Conditions, Detailed Specification Requirements, Contract Drawings, and any Addenda issued before execution of the Agreement, for the Contract;

That the CONTRACTOR has informed themselves fully in regard to all conditions pertaining to the place where the Work is to be done and other circumstances affecting the Work;

That the CONTRACTOR has obtained all the information he needs to enable them to estimate fully and fairly the costs of the Work herein contemplated;

That the CONTRACTOR shall furnish all plant, labor, materials, suppliers, tools, equipment, and other facilities and things necessary or proper for or incidental to, the party of the first part in accordance with this Contract, commencing Work within the time interval stated in the Bid Proposal, provided he shall have been notified by the OWNER so to do, and completing everything required of them under this Contract not later than the time stated in the Bid Proposal.

That the OWNER shall pay and the CONTRACTOR shall receive, as full compensation for fulfilling everything required of the CONTRACTOR under this Contract, the unit prices and lump sums recorded in the Bid Form of the Proposal.

That the quantities shown in the Bid Proposal or Bid Form are approximate only, and are solely for the purpose of facilitating the comparison of Proposals; that the OWNER shall not be held responsible if these quantities are not even approximately correct; that for all Work upon which unit prices and lump sums are quoted, the CONTRACTOR'S compensation shall be computed upon the Work actually performed, measured by the units of measurement specified, whether greater or less than the quantities shown in the Bid Proposal or Bid Form; and that the unit prices and lump sums set against the several items cover all incidental services required of the CONTRACTOR under the Contract. That the CONTRACTOR shall give to the OWNER, as liquidated damages, for each day lost by the CONTRACTOR in the completion of the Work of the Contract after the time stipulated in the Contract Documents, the sum of Two Hundred Dollars (\$200.00) per day;

Signed, sealed and delivered in triplicate the day and year first above written.



OWNER:

Town of \_\_\_\_\_ a, Rhode Island

BY:

\_\_\_\_\_  
Town Administrator

CONTRACTOR\*:

\_\_\_\_\_

ADDRESS:

\_\_\_\_\_

\_\_\_\_\_

BY:

\_\_\_\_\_

TITLE:

\_\_\_\_\_

\*IMPORTANT: Execute acknowledgment of officer or agent of CONTRACTOR who signs this document.

This Contract, Bonds, and Certificates of Insurance are satisfactory to the Town of XXXXX, Rhode Island.

BY:

\_\_\_\_\_  
Town Solicitor

\_\_\_\_\_  
Town Council Agenda Approval Date

## **SCOPE OF WORK**

Prepared for the Town of Jamestown

## 1. General Scope of Work

Please note that the Town reserves the right to make changes related to the wattages, control options, maintenance count, etc. based on requirements around how streetlights on state roads will need to be transferred to RIDOT.

The Town of Jamestown (“the Town”) is seeking Proposals from qualified contractors (“Contractor(s)” or “Vendor(s)”) to provide turnkey projects to:

- 1) provide pre-LED conversion streetlight maintenance,
- 2) convert existing municipally-owned streetlights to LED
- 3) purchase and install streetlight controls, and
- 4) provide warranty and non-warranty maintenance services following the conversion.

LED conversion project elements include developing a lighting design (including the recommendation of equipment options for the LED conversion and equipment options for controls) and installing lighting samples in the Town for review and approval (pilot program), then removing and disposing of the existing luminaires and/or ancillary fixtures, installing town-approved LED luminaires, installing in-line fuse disconnects, installing streetlight controls, labeling streetlight poles, as appropriate, retrofitting and/or replacing post top fixtures as required, installing or repairing posts and poles as required, providing an updated streetlight inventory, supplying GPS fixture location and inventory data to the Town, and applying for available rebates and incentives. Conversion also includes routine maintenance during the first year where labor and materials are fully warrantied.

**Note that the Town is “brand neutral” and has not identified a particular LED fixture product or streetlight network control option as being the product of choice.**

The Vendor is expected to provide information to support their selection in sufficient detail so that each Town may make informed choices accordingly. On the Bid Form, Vendors may propose two options. Vendor’s preferred option is to be expressed as Option # 1. See the Bid Form for additional information. The costs associated with hosting and maintaining controls network(s) are to be included in the Bid. For each controls option, please provide the annual base cost per unit. See price proposal form for more details. The Town retains the option to negotiate with the selected contractor(s) or other service providers for these services.

The value of any incentives or rebates from National Grid and the Rhode Island Office of Energy Resources (OER) for the LED conversion shall remain with the Town or with the awarded vendor, to be determined by the Town. As such, all pricing must reflect the full price of the project. The selected Contractor will be responsible for completing the necessary applications and supporting documentation to capture any incentives, rebates, etc., applying to National Grid and/or OER accordingly, and following-up as needed until incentives are received by the municipality.

The Bidder shall prepare an estimate of the energy and demand (kWh and KW) savings. The Bidder shall calculate energy and demand savings and incentives based on the National Grid tariff, comparing rated wattage of the existing fixture and the rated wattage of the proposed fixture, running on a dusk to dawn schedule (4175 running hours annually). Expectations for dimmed operations should not be included.

**Note: Since the Town has not made final decisions about dimming schedules, this methodology will allow for simple review and a level field for evaluating bids. The Town recognizes that actual**



**costs and savings will be impacted by the RI S05 Tariff, controls selection, adopted dimming schedules and other factors some of which will be decided after contract award.**

Maintenance services will include all services necessary to keep the streetlights in good and proper working condition including warranty work, routine repairs, emergency repairs, coordination activities and call center operations. Similar maintenance on decorative lights as well as other incidentals are also included as part of this ITB – see the Price Proposal Forms for additional information.

The Town may select the same Contractor or different Contractors, for the various Bid Items within this ITB based on the evaluation processes and in accordance with their best interests as described herein. Prospective firms must provide a complete response addressing all the requirements of this Invitation to Bid (ITB).

## **2. Detailed Scope of Work**

All of the requirements herein (as applicable) shall apply to the following specific Scope of Work (Bid) Items. State of RI prevailing wage rates will apply to all labor activities associated with each Bid Item. Bid pricing for materials shall not include sales tax. More details are provided in section 2.01 and thereafter.

- Item 1:** Pre-LED conversion streetlight maintenance, including:
  - a. Unit per-pole pricing for routine maintenance as described herein;
  - b. Time and materials labor rates for routine maintenance and emergency maintenance as described herein;
- Item 2:** LED conversion, including all fixtures, hardware, equipment, fused disconnects, confirming inventory, basic lighting design, pilot program, ensuring proper operations of each streetlight, incidentals necessary for a complete turnkey project, call center operations, and year 1 maintenance services. Each bidder must submit two equipment options as described herein. First year warranty and routine maintenance pricing is included within this Bid Item.
- Item 3:** Streetlight Controls – purchase, installation, commissioning, and training for the control system. Each bidder must submit two (2) control system options as described herein. The Bid shall include the initial (one-time) installation costs for the streetlight control software platform and separately, shall include on-going service fees such as internet-hosting costs or data plans.
- Item 4:** Post-LED conversion streetlight maintenance (years 2-5), including:
  - a. Monthly per-pole pricing for routine, non-warranty services;
  - b. Time and materials pricing for routine, non-warranty services;
  - c. Labor and material costs for emergency services.

Note: The first-year post-conversion maintenance costs, while labor and material warranties are in effect, are to be included within the conversion bid prices.

- Item 5:** GIS Lighting Survey - Audit the Town's streetlight inventory to create a clean dataset of the existing fixtures and conditions. Create a GIS interchange data set suitable for use with various online GIS systems such as Google Maps, ARC GIS, Map Info etc.

### **2.01 General and Technical Requirements**

All data regarding the streetlights within the Town is based on information provided by the Town. The inventory of cobra head style streetlights located on wood and steel poles was provided by National Grid for Jamestown. All inventory counts are to be considered estimates.

The basis for each bid shall be the inventories in the price proposals. The number of fixtures and associated wattages shown should be considered estimates only; the Price Proposal Forms are set up on a unit price basis, and the prices offered by each Contractor shall be used to adjust for any discrepancies that may be found between the National Grid and/or Municipal inventories and the actual conditions found in the field by the Contractor.

The Contractor(s) shall comply with applicable environmental laws and regulations regarding handling of hazardous substances and shall take appropriate measures to ensure the safe handling of such substances as Contractor(s) may encounter in the performance of the approved Contract(s).

The project will be "No Waste", i.e. all equipment will be removed and properly recycled in accordance with all applicable laws and regulations. All disposal costs shall be borne by the Contractor. The Contractor will provide copies of disposal lading documentation to the Town and will keep copies on file as required by law.

## **2.02 Contractor Minimum Qualifications**

Prospective firms submitting proposals shall submit at least 5 references of similar projects in the area of streetlight conversion, management and maintenance services. Anyone working above the communication space on utility poles or within electric distribution enclosures shall be electrically qualified as defined by OSHA 1910.269 (hereinafter "Qualified Electrical Worker"). *Customer personnel or Qualified Electrical Workers are never allowed to enter a Company manhole, handhole, or other enclosed electrical equipment for any reason without the Company's safety supervision personnel being present on site and overseeing said work.*

By submitting a Proposal, the Contractor is certifying that all electricians who would perform work under the Agreement are Qualified Electrical Workers as described above. Contractor must abide by any and all requirements set forth in Appendix B - National Grid's Customer-Owned Streetlight Equipment Standards.

## **2.03 Purchase and Storage of Goods and Materials**

The Contractor shall supply and install LED luminaires approved for the specific road classification and/or application. The Contractor shall also supply controls, luminaire arms (where necessary), in-line fused disconnects (see Appendices A and B), other fuses as required, daily report forms, wiring, and any other materials required to complete the work outlined herein.

The Contractor shall maintain an inventory or have readily available a supply/supplier of luminaires, network controls, or other parts that are routinely used for warranty and non-warranty repairs in order to perform these repairs in accordance with the maintenance response times defined herein. Storage of the parts inventory shall be the responsibility of the Contractor.

The Town will provide (at no cost) a central staging area where LED luminaires and other materials may be delivered, stored, picked-up and prepared for installations. Contractors may also deposit the removed luminaires and materials into contractor-provided storage bins at the staging site. Additional staging areas may be provided by the Town based on the location of individual work areas throughout the duration of the project. The Contractor shall have reasonable access to the stored goods and materials. Details about the hours of access will be finalized after the Contractor is selected. Alternatively, the Contractor may provide staging areas at his/her own expense.

#### **2.04 Responsibilities of the Contractor during LED Conversion – Scope of Work Bid Items 2, 3, and 5**

The selected Contractor(s) shall provide all labor, equipment, materials, permits and incidental work necessary to completely remove and properly dispose of the existing luminaires and replace them with new LED luminaires with streetlight controls, if said controls are approved by the Town. This work will be performed on streetlights listed in the attached streetlight inventories, which is to be verified and updated as part of the project (as noted herein). Additional streetlight and/or decorative fixtures may be added or removed after the acceptance of a final design plan only by an approved change order from the municipality, as noted in the Proposal Terms and Conditions.

**Bids shall not include assumptions about lighting design. Decisions regarding appropriate light outputs and dimming criteria will be determined in coordination with the awarded Contractor.**

Work will be scheduled on a block-by-block basis in geographic succession using maps provided by the Contractor that will depict the replacement schedule by area. Scheduling is subject to approval by the Town's Project Manager, or designee. The Contractor will provide maps and database listings, utilizing the streetlight inventory, of the pole locations where the Contractor will be performing LED replacements.

The Contractor shall use handheld GPS devices to verify and/or update the streetlight coordinates and maps as needed (such as Trimble or other equivalent device as approved by the Town) for the duration of the Contract. The Contractor will be responsible to create information sheets on each pole, fixture, and control with location data. This information shall be provided to the Town for processing and incorporation into their mapping database. GIS mapping will be the responsibility of the Town, unless the optional task 5 is awarded.

The Contractor shall complete project reports described herein and will meet all applicable federal, state, utility, and municipal rules, regulations, and requirements.

**Pilot Program** – the pilot program involves installing 8-10 sample light fixtures and control nodes (as applicable) at the site of the Town' 'choosing, at no cost. The pilot serves to confirm and approve fixture wattages which should be closely considered depending on the controls strategy that is chosen. For example, if simple photocells are to be used, the specified wattages may be too bright. The vendor is responsible to advise the Town and verify the wattages with the Town prior to ordering any product for installation. The pilot program should be representative of the exact fixtures, wattages, and controls that will be installed during LED conversion as agreed to by the Town.

**LED Fixture Installation** - The work involves removing an existing luminaire and photocell, repairing or adjusting a streetlight arm, and wiring as necessary, installing a new LED luminaire, wireless streetlight control as appropriate, and fuse block while repeating the process until all of the identified luminaires are replaced.

All LED luminaires will be installed according to the manufacturer's instructions. After replacing the existing luminaire with the new LED luminaires, the Contractor will test and confirm proper operation of the streetlights and controls, if included. Work also includes, but may not be limited to:

- a. Coordinate and schedule any needed power disconnections and reconnections with National Grid, such as defective wire on a pole, as appropriate.
- b. Coordinate traffic control with the Town as necessary.



- c. Identify the pole location and verify map and pole number; update database with equipment installed, date, latitude and longitude for GPS coordinates, IP addresses, and other information, as needed. Provide this data in a file format suitable to common GIS software and the Town's requirements, such as ESRI ArcMap, as well as Microsoft Excel.
  - If luminaire arm is missing or defective, make a note and report to municipal representative and skip to the next location.
  - If a luminaire is on a utility pole but not on the inventory list, report to the municipal representative and perform the conversion as approved, then make a note in the inventory.
- d. Affix appropriate Ownership Identification Label (to be provided by the Contractor) prior to installation in accordance with National Grid requirements.
- e. Prepare LED luminaire and control for installation. Scan LED luminaire bar code. Ensure that each fixture and control work as intended. If a networked system, also confirm that each control can be seen on the software at the time of installation.
- f. Perform safety check:
  - Check the secondary power lines (triplex) to determine the best approach for the luminaire and luminaire arm installation.
  - Check tree/vegetation. If tree /vegetation is obstructing the streetlight, trim branches as necessary to complete the installation; note work done in daily report form.
  - Check utility supply wire to the streetlight ensuring the drip loop is not touching any other wires or equipment. If touching other equipment, make adjustment if necessary; note work done in daily report form.
- g. Check luminaire arm for structural integrity and perform routine\minor maintenance tasks (i.e., if bolts are loose, tighten the bolts). If luminaire arm and/or wind rod is damaged or non-repairable make a note to report to appropriate municipal representative and skip to the next location.
- h. Check line voltage to the luminaire; update database if necessary.
- i. Remove and dispose of existing luminaires.
- j. Complete installations of fused disconnect devices as described below and per instructions below and in Appendices A and B.
  - Install inline fused disconnect and cover on streetlight-only pole if power is fed overhead.
  - Install inline fused disconnect and cover in underground streetlight-only pole hand hole or in junction box, following approval and under supervision of the Utility.
- k. Install LED luminaire and Controls as specified in Contract.
- l. Confirm successful operation of the luminaire and control.
- m. Note wattage of removed luminaire and LED replacement model, as well as pole number and street name for each. Prepare and store removed luminaire for recycling.
- n. Utilize a main vehicle (a properly equipped bucket truck) equipped with Type D Arrow Board for mobile operation.
- o. Comply with applicable environmental laws and regulations regarding handling of hazardous substances and take appropriate measures to ensure the safe handling of such materials as may be encountered in the performance of the Contract.
- p. Recycle all materials such as old luminaires, paint, paint brushes and other materials responsibly. Provide required lading documentation.

Contractor may propose additional work for the Town's consideration.

**Electric System Separation** - The Contractor will be responsible for creating a physical electrical separation between National Grid's secondary conductors and the municipal-owned street and area light conductors. This fused disconnect device is required to be installed at the time of conversion to LED on Utility-owned poles.

The separation is accomplished by installing a fused disconnect device (e.g., an in-line fuse holder capable of utilizing a midjet cartridge style fuse on every street and area light supply located as near as possible to the connection to the National Grid-owned secondary conductors). National Grid will permit the Town to install the disconnect devices on existing streetlight locations in an energized condition using Qualified Electrical Workers, which will include the disconnecting of the existing energized supply conductor source to the streetlight luminaire. The Contractor shall design his/her Work Plan such that this activity should not require a visit from National Grid to de-energize or re-energize the streetlight source at the service connection.

The purpose of the fused disconnect device, in addition to providing electrical protection, is to serve as a disconnect point for the municipally-owned streetlight. Once installed, the Town's Qualified Electrical Workers may disconnect or reconnect a customer-owned streetlight(s) using the fuse device to perform maintenance or other equipment per Narragansett Electric Co. (National Grid) Guidelines for Customer-Owned Streetlighting Installation and Maintenance replacement (Appendix A).

For underground customer circuit applications, the Contractor shall locate the disconnect device within an enclosure installed and owned by the municipality and located in close proximity to the designated service connection location within the enclosed National Grid facility. However, at a minimum for existing streetlight installations only, the disconnect device can be located within the base of the first streetlight standard closest to the circuit's service connection.

If it is found that the existing streetlight conductors are defective, corroded, or burned, or the circuits are insufficient, National Grid will allow the Qualified Electrician to install a #10 AWG wire of sufficient length, and will allow the municipality to make the permanent connections to National Grid's secondary wiring loop using the appropriate material and sized connectors, per the National Grid's Customer-Owned Streetlight Equipment Standards (Appendix B).

**Traffic Controls** - The Contractor shall submit a traffic control plan for approval by the municipality prior to authorization to proceed with the work. The traffic control plan shall stipulate the streets where police are required for traffic control at work zones due to traffic volume and/or safety concerns.

The Contractor shall provide and maintain such signs, barricades and warning lights as are necessary to warn and protect the public at all times if affected by work operations. Contractor shall arrange for police traffic patrols with the Police Department, in accordance with the approved traffic control plan, where required.

The cost of police details (personnel and vehicles) shall be borne by the Town, not the Contractor. However, the Contractor is responsible for all other incidental traffic control measures and devices (cones, warning signs, flaggers etc.).

The procedure for securing police detail assistance involves notifying and securing the approval of the Town, followed by the direct scheduling of such assistance by the Contractor. In the event of a scheduling change for any reason, the Contractor will be responsible for cancellation of any police detail. The cost of any cancelled work not coordinated with the police department will be the responsibility of the Contractor.

Contractor shall conduct operations as to cause the least possible obstruction and inconvenience to public traffic. Contractor shall maintain and make available to the Town a local telephone number and website where they can be contacted twenty-four (24) hours per day.

**Quality of the Work-** Contractor shall make all necessary repairs and replacements to remedy any and all defects, breaks, or failures of the Work occurring within the conversion period. Such repairs and replacements shall conform to the specifications under which the Contractor originally performed the work.

**Payment for LED Fixture Conversion** - The LED installation process will be paid according to the final approved Price Proposal form and based on actual quantities as verified in the field and/or modified by approved change order. All streetlight work is subject to approval by the respective Town's Project Manager or designee prior to payment authorization. Payments are subject to a standard 10% retainage until the end of the project. The Contractor shall provide a payment schedule for the Town's approval after award.

**GIS Lighting Survey** – Prior to LED conversion, collect data on existing lighting inventory and identify attributes such as GPS coordinates (latitude and longitude) of each fixture, fixture type, pole mounting configuration, wattage, pole height and type, setback, mast arm length, and ID number. Record any issues such as damage, tree obstruction or electrical hazards. Auditor's software shall be capable of generating a custom mobile application for use by the client and their electrical contractor that provides all location mapping, asset data, and the ability to record installation progress and field notes in real time.

The Contractor shall provide frequent audit reports showing an overview map listing the locations completed during data collection.

The Contractor shall reconcile the data with the Town's existing inventory and provide a GIS interchange data and GIS map for the Town's use. This may include the development of a data dictionary defining data being collected for use with the GIS interchange data set

## **2.05 Responsibilities of the Contractor Pre and Post LED Conversion – Scope of Work Items 1 and 4**

The Contractor(s) shall provide warranty and non-warranty maintenance services for each existing light fixture (as of the date of the Contract acceptance) and each new light fixture once converted to LED and accepted by the Town.

**Call Center Operations** – The Contractor shall maintain a Call Center where residents and municipal staff may report outages and other issues and which enables the Contractor to meet the emergency and non-emergency response times and other requirements of this ITB.

- a. The Call Center is to be accessible twenty-four (24) hours per day, seven (7) days per week. It shall provide both internet, and phone access.
- b. The Contractor shall provide written (electronic) reports detailing the services provided, any coordination efforts with the utility provider, calls received, urgency of the call, caller information (if available), nature of the repair and any other relevant information. The frequency of these reports may vary and is at the discretion of the Town.
- c. Within the Bid, the Bidder shall describe their approach to the Call Center operations.

**Routine Maintenance** – As part of routine maintenance, the Contractor will be responsible for initially responding to outages and following up on City or constituent repair requests to the call center. The



Contractor shall first determine if the issue can be resolved remotely to avoid field actions if possible. If the issue falls under routine maintenance, it shall be addressed within the timeframe provided herein. With approval from the Town, the Contractor may bundle routine maintenance issues to minimize the number of times a truck needs to be rolled. The Contractor shall be responsible for the replacement of failed lamps, ballasts, or other equipment, repair of minor wiring issues, replacement of broken covers, and other failures/issues that occur under warranty or as a result of age and normal deterioration. Routine maintenance will be performed within five (5) business days of notification, weather permitting.

The selected Contractor shall maintain an inventory or have readily available a supply/supplier of streetlight network controls, photocells, lamps, ballasts and all other equipment/materials that is routinely used for these repairs in order to perform the repairs in the timeframes required.

Immediately following the completion of the repair work, the Contractor shall send an after-action report to the Town indicating what actions were taken to resolve the field issue. The Contractor will log this into the reporting system and generate a report of repair actions each billing period for review by the Town.

**Emergency Repair Service -** Emergency service shall be provided by the Contractor twenty-four (24) hours per day, seven (7) days per week, to make immediate or temporary repairs to municipally-owned series and multiple streetlight pole or service knock downs or damage caused by vehicle collision, acts of God, vandals, or as required because of a public safety hazard.

Emergency calls must be authorized under direction of the Town unless otherwise specified. When so authorized, the Contractor shall dispatch a qualified service technician and equipment. Response time shall be less than two (2) hours under normal circumstances.

Contractor shall conduct operations so as to cause the least possible obstruction and inconvenience to public traffic. Contractor shall maintain and make available to the Town, a local telephone number and website where they can be contacted twenty-four (24) hours per day.

**Additional Repair Service -** In the event a pole and/or fixture needs to be replaced and/or additional poles or lights are requested, the Contractor shall submit a quote via e-mail to the applicable municipal representative for approval. Upon approval, the Contractor shall proceed with the replacement. The successful Contractor will be expected to note and then report to the Town's representative any outages found in the process of responding to a streetlight maintenance request.

**Utility Coordination -** The Contractor will be required to coordinate streetlight repair and maintenance activities with the utility where required. However, the Town are interested in minimizing these costs to the extent practicable. The procedure for securing assistance from the utility involves notifying and securing the approval of the Town, followed by the direct scheduling of such assistance by the Contractor. The Contractor shall be responsible for following up with the utility on a weekly basis to determine the status of any outstanding work requests. If the utility has completed its work, and the streetlight is still not functioning, the Contractor shall return to finalize the repair. In the event of a scheduling change for any reason, the Contractor will be responsible for cancellation of any utility assistance. The Contractor will pay for any utility assistance that it fails to cancel in a timely fashion.

**Reporting -** The Contractor shall provide reports in spreadsheet format, (Microsoft Excel), outlining the following information: location of repair, pole number, adjacent street address, coordination activity with utility company, complaint number, date complaint received, date repair due, date of actual service, if repair has been turned over to utility and if so the work request number, and any other pertinent notes. The monthly reports shall include summary information, as requested by the Town (e.g. total number of calls, average response time).

**Other Assistance** – At the Town’s request, the Contractor shall make themselves available to attend Town Council and other meetings in order to report on issues concerning the street-lighting system

## **2.06 Other Services**

The Contractor should identify any other services that it will provide as part of the contract.

## **2.07 Deliverables and Schedule**

Deliverables shall be considered those tangible resulting work products that are to be delivered to the Town such as reports, final streetlight inventory, copies of incentive applications, warranty documentation, cut sheets and other items related to this project .

The following deliverables related to the LED conversion shall be provided on a daily, weekly, bi-weekly, monthly or other basis as needed, and shall include but not be limited to:

- a. Daily report submitted at the beginning of the next work day, by fax or e-mail as directed by the Town detailing the number of streetlights removed, number of LED streetlights installed, number of poles skipped and reason why the poles were skipped, traffic detail provided, utility coordination, and any incident or situation and additional work that happened during the work day. The reports shall identify locations by street and pole number. The reports shall also indicate the planned or proposed work for the following week.
- b. Monthly summary report detailing work completed for submission to National Grid.
- c. Pay requests will be on a monthly basis and will detail work performed per line item as specified in the Price Agreement and any negotiated work performed during that time. All payment requests shall be made utilizing AIA standard payment forms 702 and 703.
- d. Access to the inventory database, as appropriate.
- e. Final summary report that includes the final inventory (streetlight and decorative) at the conclusion of the project.

## **2.08 Warranty and Performance**

All parts and labor shall be covered under warranty as described below.

The Contractor represents and warrants that:

- A. They will perform all Services set forth herein in a good and workmanlike manner, in conformance with the specifications and requirements of the approved Contract, and in accordance with the highest applicable professional and/or industry standards;
- B. Each of their employees, subcontractors, and others assigned to perform Services have the proper skill, training, and background to be able to perform Services in a competent, timely, and professional manner and that all Services shall be so performed; and
- C. They will, at all times during the term of an approved Contract, maintain and keep current all licenses, technical certifications, and certificates of insurance required to perform the work set forth in the Contract.

Warranty work shall have at a minimum a one-year (1-year) workmanship warranty period from the date of project completion and acceptance by the Town. The manufacturer’s warranty for the LED luminaires and controls shall be at least ten (10) years. Contractor shall submit completed original Manufacturer warranty documentation, issued to the appropriate Town, prior to acceptance of the work.

The one (1) year and ten (10) year warranty periods for all equipment will begin upon final acceptance of the entire project for the Town, not on the install date of each individual piece of equipment. Contractor shall make all necessary repairs and replacements to remedy any and all defects, breaks, or failures of the Work occurring within the workmanship warranty period. Such repairs and replacements shall conform to the specifications under which the Contractor originally performed the work. Contractor shall also repair any damage or remedy any disturbance to property or improvements if caused by the Contractor's work and if the damage or disturbances occurs within the warranty period. If Contractor performs warranty work, the warranty work also shall have a one (1) year workmanship and ten (10) year materials warranty period from the date of acceptance by the municipality. The Contractor shall notify the Town if such problems occur within the one (1) year period. The Town, or their designated representative, will provide the Contractor with written Notice of the need to perform warranty work unless it is determined that an emergency exists, that delay would cause serious additional loss or damage, or if any delay in performing the work might cause injury to any member of the public. If the Contractor, after written Notice, fails within five (5) days to comply with the municipality's request, the municipality has the right to perform the warranty work either by hiring another Contractor or by using its own forces. In that event, the Contractor and its Surety shall be liable to the municipality for the cost of the work performed and any additional damage suffered by the Town, including reasonable attorney's fees incurred by the Town for this event.

## **2.09 Period of Performance**

### **CONVERSION**

It is the responsibility of the contractor to ensure the proper flow of materials and scheduling of labor to meet project timelines. The LED conversion shall be completed within one hundred and eighty (180) calendar days (weekends and holidays included) from the notice to proceed with LED conversion work. The failure to complete work within the stipulated timeframe will result in the assessment of liquidated damages in the amount of five hundred dollars (\$500) for each day the work is past due unless just cause can be provided to the Town for the delay. "Just cause" is defined as acts of god such as floods, earthquakes, acts of terrorism or other natural disasters that have been clearly documented by the Contractor. Normal amounts of rain, wind, or poor weather conditions will not be considered as just cause for extending the contract duration. Please note that the liquidated damages are not penalties, but rather pre-determined damages.

The initial term of this Agreement shall begin on the Effective Date and shall expire one (1) year later unless terminated sooner as provided herein. The Bidder shall provide a schedule at the outset of the project that identifies specific milestones and the anticipated date of completion.

The Parties may agree, by mutual consent, to extend the Agreement for an additional one (1) year period. All original or duly negotiated and mutually agreed upon terms and conditions shall apply during any such extension period.

**Conversion work may not begin until all National Grid and Office of Energy Resources (OER) approvals for incentives and rebates are approved and authorization to proceed is furnished.**

### **MAINTENANCE**

Pre-LED conversion maintenance shall begin as of the date of transfer of ownership of lights to the Town and shall continue uninterrupted for the term of this contract or until all of the fixtures have been converted to LED. The Town shall issue a Notice to Proceed for this work once the transfer is complete.



Post-LED conversion maintenance shall begin upon written acceptance by the Town of the LED conversion project (“Conversion Effective Date”). The initial term of this Price Agreement element (Post-LED Conversion Maintenance) shall begin on the Conversion Effective Date and shall expire three (3) years later unless terminated sooner as provided herein. This contract will be for an initial three (3) year period with two (2) additional one (1) year extensions.

The additional two (2) years may be taken individually or in multiple years with the same terms and conditions. At least sixty (60) days prior to the expiration of the initial term, or extension, the Parties shall commence discussions if they desire to extend the Price Agreement. The Contractor shall provide a written extension proposal within thirty (30) calendar days following the municipality’s request for such a proposal. However, nothing binds or requires either Party to extend this Price Agreement. The total term of this Price Agreement shall not exceed five (5) years.

## **2.10 Work Performed by the Town**

Municipal staff shall make available sufficient hours of staff personnel as is required to meet with the Contractor and provide such information as required.

The Town has assigned the following personnel or their designees to this project. Contact information will be provided upon contract award.

- Michael Gray, Town of Jamestown

The Town, or their designee, will perform the following specific duties:

- a. Approve the lighting design, pilot program, and completed streetlight inventory.
- b. Inspection and monitoring of the project.
- c. Provide instruction and direction for additional work that the Contractor might perform.
- d. Cover the cost of police detail, in accordance with the respective Town-approved traffic control plans.
- e. Provide guidance on maintenance services.
- f. Provide lay down area.
- g. Serve as a central point of communication as issues arise during the lighting conversion process.

## **2.11 Place of Performance**

The work will be performed on poles as depicted herein or as otherwise negotiated by the Town. The Town reserves the right to add to the Price Agreement additional sites, such as but not limited to municipal parking lots, schools, parks, and other lighting on municipal properties not listed herein. The Town reserves the right to negotiate pricing for alternative and/or additional fixture types.

## **2.12 Public Safety**

Contractor shall comply with the following safety requirements:

- a. Work performed on all poles must follow the applicable requirements of OSHA and shall ensure all such work is performed by a Qualified Electrical Worker.
- b. Work in Utility’s manhole, hand hole, or other enclosed electrical equipment shall be performed in coordination with and under the supervision of the Utility, as per Appendices A and B.
- c. Temporary traffic control based on municipally approved traffic control plans.

Locations with limited access include the following:

Some streets may be off limits during holidays and special events (pre-planned road races, etc.). Emergency situations may result in limited or restricted access to certain streets on an as-needed basis. No additional compensation shall be allowed for limited or restricted access as defined herein. A delay of work caused by a special event sponsored by the Town shall be considered “just cause” for a delay of the LED conversion. The LED conversion schedule will be extended proportionately for any special event delays caused at the request by the Town to avoid liquidated damages.

### **3. Proposal and Content Organization**

By submitting a response, the Contractor is accepting all contract conditions, terms, and documents that are a part of, referenced by, or attached to this ITB.

The Contractor must provide all information and follow the format outlined herein. Additional materials in other formats may not be considered. The Town may reject as non-responsive at their sole discretion any proposal or any part thereof, which is incomplete, inadequate in its response, or departs in any substantive way from the required format. Proposal responses shall be organized in the following manner:

- a. Cover Letter
- b. Table of Contents
- c. Description of Firm and Experience, including Project Team and Equipment
- d. Project Approach and Understanding - Conversion
- e. Project Approach and Understanding – Pre and Post-Conversion Maintenance
- f. Proposed LED Luminaires and Controls Manufacturer Warranties and Cut-Sheets
- g. Bid Forms and Price Proposal Forms

#### **3.01 Cover Letter**

The Cover Letter must state the name of the person(s) authorized to represent the Contractor in any negotiations, the name(s) of the person(s) authorized to sign any contract that may result, the contact person’s name, mailing or street addresses, phone and fax numbers and email addresses.

A legal representative of the successful firm authorized to bind the firm in contractual matters must sign the Cover Letter and the Proposal response.

#### **3.02 Table of Contents**

Please provide a *Table of Contents* after the Cover Letter giving a clear identification by section and page number. Such sections will be those listed below.

#### **3.03 Description of Firm and Experience (Maximum Points – 30)**

1. Provide a company profile and describe your firm’s legal structure. Include:
  - a. Company ownership. If incorporated, the state in which the company is incorporated and the date of incorporation.
  - b. Location of the company offices.
  - c. Number of employees both locally and nationally.
  - d. Location(s) from which employees will be assigned.

- e. Name, address, and telephone number of the Bidder's point of contact for a contract resulting from this ITB.
  - f. Company background/history and why Bidder is qualified to provide the services described in this ITB.
  - g. Length of time Bidder has been providing services described in this ITB. Please provide a brief description.
  - h. Resumes for key staff to be responsible for performance of any contract resulting from this ITB.
2. Describe areas of expertise and other information that would be helpful in characterizing the firm. Describe the firm's internal procedures and/or policies associated or related to work quality and cost control. Describe the resource availability, which may include the various levels of experience of the personnel to be provided and vehicles and equipment to be used, to perform the work for the duration of the project.
  3. Briefly describe other engagements by your firm that demonstrate relevant experience and that best characterize the firm's capabilities, work quality, and cost control.
  4. Describe your firm's familiarity and experience working with utility and other incentive programs. Please note that a minimum of 3 years prior experience is expected.
  5. Provide the approximate number of people and how many crews will be assigned to the LED conversion and maintenance sections of this project. Describe your firm's workforce, including the prior experience of all qualified certified journeyman linemen on staff, who are capable of performing as Qualified Electrical Workers as described in this ITB. Please include:
    - a. Names of key team members, including those of any subcontractors, who will be performing the work on this project, and:
    - b. their responsibilities on this project
    - c. current assignments and location
    - d. experience on similar or related projects
    - e. unique qualifications
    - f. percentage of their time that will be devoted to the project.

**Contractors must notify and receive approval of the Town for any changes to proposed subcontractors.**

6. Provide a list and descriptions of the vehicle(s) and equipment to be used including important features such as the main vehicle (bucket truck) which is equipped with Type D Arrow Board for mobile operation.

### **3.04 Project Approach and Understanding – LED Conversion (Maximum Points – 20)**

Provide a narrative description of how the firm proposes to design a replacement plan and then replace the Town's inventory of utility and municipal-owned streetlights with LED streetlights and streetlight controls. Your firm should rely on expertise and experience with similar projects to demonstrate how it will effectively complete the proposed project within the allowable timeframe. The narrative should describe your firm's overall approach to the project including but not necessarily limited to the following elements:

1. Describe how you will work with the Town to determine appropriate wattages, lumen output, color



temperature, color rendering, and overall quantity of light. Describe your process for choosing and installing sample fixtures for visual review within the Pilot Program area in the Town.

2. Describe your strategy for using control systems to maximize incentives and limit on-going utility costs.
3. Describe storage and staging areas you will require during the project. You may include a discussion of how your firm will make personnel adjustments if project goals and standard are not being attained. Provide a short description of how traffic control will be handled on residential streets and on arterial streets.
4. Describe the type of handheld devices to be used by your crews and how you will furnish and utilize these devices in the field to verify and update the municipalities' streetlight databases as the conversion to LEDs, perhaps with network controls, is completed. Specify the type of device to be used and explain how the device will interface with and update the streetlight databases. Explain how you will format the databases as needed to work with the handheld devices and to have data available to the Town through Excel or other approved software. Explain how you propose to work with maps to track progress. Explain how you will share the database, train municipal representative(s), and report monthly progress to National Grid.
5. Provide a Proposed Project Schedule to complete the work within the required timeframe as described in this ITB. Provide the impact of multiple participating communities on the project schedule.
6. Describe your firm's safety policies and procedures as they relate to handling high-pressure sodium lamps and other hazardous items. How are employees directed to deal with broken lamps? What precautions are taken to prevent damage to lamps during luminaire removal, clean-up activities, and transport? Do the procedures specifically address handling high-pressure sodium lamps and other types, including mercury vapor lamps, in public areas or in environmentally sensitive areas? Describe your firm's environmental spill or release response procedures and training in general and specifically as they would apply to the materials to be handled for this project and the firm's equipment that will be used.
7. Describe how you propose to commission the streetlights and controls including provision of commissioning reports.
8. Describe your firm's approach to training of municipal staff on the network control software.
9. Include any other information you feel will be helpful in assessing your firm's ability to meet the LED conversion requirements of this ITB.

### **3.05 Project Approach and Understanding – Maintenance (Maximum Points – 20)**

1. Describe in detail the services to be offered to meet the requirements of this ITB. Responses must include a clear explanation of warranty, routine, emergency, and additional maintenance definitions, scope and practices.
2. Describe Call Center operations including intake and response protocols for routine and emergency calls, reporting practices, online portal, staffing, oversight, and arrangement of operation.

### **3.06 Proposed LED Luminaires and Network Controls, Including Manufacturer Warranties (Maximum Points – 20)**

1. **LED Luminaires**

All proposed luminaires shall be eligible for National Grid and Office of Energy Resource incentives. They shall be Design Lights Consortium qualified where possible, dimmable through the use of proposed controls, and meet the requirements described in *Specification for LED Luminaires*. Specify the preferred LED luminaires proposed to replace the HPS MV, and/or other streetlights as depicted in the streetlight inventory in your proposal. Respondents shall provide two (2) options for LED luminaires as follows:

- Option 1:** This shall be the Contractor’s preferred product for roadway luminaires. Describe the technical capabilities and features that make it your preferred option. Specify the manufacturer, model numbers, rated wattage and manufacturer’s warranties, and attach cut sheets for the proposed luminaires. Include an estimate of the energy and demand (kWh and KW) savings as described in this ITB.
- Option 2:** This may be an alternate product that meets the technical specifications herein. Describe the differences in technical capabilities and features of the product that make it worthy of consideration. Specify the manufacturer, model numbers, rated wattage and manufacturer’s warranties, and attach cut sheets for the proposed luminaires. Include an estimate of the energy and demand (kWh and KW) savings as described in this ITB.

## 2. Streetlight Controls

Proposed controls shall be “state of the art” in terms of technology, shall be fully functional in salt air environments and capable of operating within the variable voltage range allowed by regulation. Quoted controls should include all streetlights listed in the initial inventory, including decorative lights. Bidders are encouraged to offer up to three (3) types of controls with varying capabilities and prices, as described below:

- Option 1:** Products proposed under option one (1) shall be a simple dimming controls system with capabilities for lighting management such as scheduling, alarms/notifications, and remote control.
- Option 2:** Products proposed under option two (2) shall be a networked controls system that allows for integration of additional smart features, beyond dimming and scheduling.
- Option 3:** Standard photocell for on/off operation.

Describe the technical capabilities and features of each type of controls offered; include examples of their use in other communities, if applicable. Provide supporting documentation and opinion as to the benefits of each option.

## 3. Decorative / Post Top Fixtures:

Specify the LED luminaires proposed to replace or retrofit the post top streetlights in the Town inventories. Describe the technical capabilities and features of the proposed products. Specify the manufacturer, model numbers, rated wattage and manufacturer’s warranties, and attach cut sheets for the proposed luminaires. Include an estimate of the energy and demand (kWh and KW) savings as described in this ITB.

Respondents may offer up to two (2) Proposals for different types of Decorative Luminaires as detailed below:

- Option 1:** A replacement fixture for Decorative Streetlights.

**Option 2:** A drop in retrofit kit for Decorative Streetlights.

### **3.07 References (Maximum Points – 10)**

Provide references that include three (3) previous municipalities or other government agencies for which similar LED conversion work was performed and (3) previous municipalities or other government agencies for which similar maintenance work was performed. Note that extensive descriptions or references to vaguely related projects are discouraged and may negatively impact the overall outcome of the evaluation. References may be called and their responses used in the evaluation process.

Information provided shall include:

- a. Client/Business name;
- b. Project description;
- c. Project dates (starting and ending);
- d. Client/Business project manager name and telephone number;
- e. Contract amount.

### **3.08 Price Proposals (Maximum Points – 75)**

Complete the Bid Form and submit along with a separate Price Proposal as per the instructions within this ITB. Please note that all Price Proposals should be submitted in a marked envelope that is separate from the technical proposal outlined above. The envelope should be clearly marked “price proposal” and include the bidders name, address information, bid name, and bid number.

Price proposals will be evaluated after all qualification packages have been reviewed and scored. Qualifying price proposals will be calculated and rated. The scores from the qualifications and pricing evaluation will then be added to determine the final score for ranking purposes.

## **4. Evaluation Criteria**

The evaluation of proposals will be conducted in a time frame convenient to the Town. The Town reserves the right to award on the basis of cost alone, accept or reject any or all proposals, and to otherwise act in its best interest including, but not limited to, directly negotiating with any Contractor who submits a proposal in response to this ITB and to award a contract based upon the results of those negotiations alone. Further, the Town reserves the right to waive irregularities it may deem minor in its consideration of proposals. The Town has the right to reject any or all proposals for good cause in the public interest and may waive any evaluation irregularities that have no material effect on upholding a fair and impartial evaluation selection process.

Proposals found to be technically or substantially non-responsive at any point in the evaluation process will be rejected and not considered further. Qualification proposals that are rated with a combined average score less than seventy-five (75) will not be considered for further evaluation during the price proposal evaluation phase. The Town may elect to require bidders to provide presentations and interviews for further consideration of award.

### **PHASE 1**

The first phase is an initial review to determine if the proposal, as submitted, is complete. To be complete, a proposal must meet all the requirements of this ITB.



**PHASE 2**

The second phase is an in-depth analysis and review based on criteria defined under *Proposal Content and Organization*. In the event that the Town requires further information and/or a demonstration of any equipment or process offered in any proposal, all Contractors asked for same will do so at no cost.

Each proposal response will be evaluated in accordance with the following evaluation criteria:

<b>EVALUATION CRITERIA – PROPOSAL RESPONSES</b>	
<b>Criteria</b>	<b>Maximum Score</b>
1. COVER LETTER	N/A
2. TABLE OF CONTENTS	N/A
3. DESCRIPTION OF FIRM AND EXPERIENCE	30
4. PROJECT APPROACH & UNDERSTANDING - CONVERSION	20
5. PROJECT APPROACH & UNDERSTANDING - MAINTENANCE	20
6. PROPOSED LEDS AND CONTROLS	20
7. REFERENCES	10
<b>Maximum Technical Proposal Total:</b>	<b>100</b>

If oral interviews or presentations are determined to be necessary, this next step will consist of oral presentations and further clarification of the Contractor's response. The municipalities reserve the sole right to select the number of Contractors, as determined by the evaluation scoring, to be interviewed.

**PHASE 3**

Following completion of the ITB proposal evaluations, the third phase is a comparison of each proposal's evaluation score relative to the costs proposed.

The Municipalities will individually score the Price Proposals from Contractors whose ITB evaluations place them in the Competitive Range in accordance with the following evaluation criteria:

<b>Criteria</b>	<b>Maximum Score</b>
1. CONVERSION PRICES, WARRANTIES – LEDS	20
2. INSTALLATION PRICES, WARRANTIES CONTROLS	20

3. T&M AND PER POLE MAINTENANCE PRICES	15
4. ADDITIONAL MAINTENANCE SERVICE PRICES	20
<b>Maximum Price Proposal Total</b>	<b>75</b>

The Price Proposal evaluation score will be added to the Proposal Response evaluation score to determine a **TOTAL TECHNICAL AND PRICING SCORE (Maximum: 175 points)**.

## **APPENDICES**

Please see the following pages for the appendices.

Appendix A – National Grid Guidelines for Customer Owned Streetlights

Appendix B – National Grid Customer-Owned Streetlight Equipment Standards

Appendix C – Technical Specifications





## ***Narragansett Electric Co. Guidelines for Customer-Owned Street Lighting Installation and Maintenance***

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The general safety and welfare of the public and all workers are of paramount concern to Narragansett Electric Co., d/b/a National Grid (hereinafter "Company"). These concerns are particularly salient as street lights are installed within the designated electric space on a distribution pole and/or provided service from underground electric distribution enclosures. To perform work on street lights, workers must often be within established electrical clearances above the communication space and in close proximity to electric distribution lines with voltages as high as 34.5KV. Therefore, the Company requires that anyone working above the communication space on Company poles or within electric distribution enclosures are electrically qualified as defined by OSHA 1910.269 (hereinafter "Qualified Electrical Worker"). Customer personnel or Qualified Electrical Workers are never allowed to enter a Company manhole, handhole, or other enclosed electrical equipment for any reason without the Company's safety supervision personnel being present on site.

### **Maintenance of Overhead Customer-Owned Street and Area Lighting Equipment**

Once the street lighting purchase process and the transfer of ownership of the unmetered street lights or the attachment of customer-owned unmetered street and area lighting as available under the S-05 tariff (new requests) is complete, the customer is responsible for maintaining all customer-owned street and area lighting equipment, including but not limited to: luminaires, standards, foundations, conduits and conductors. The Company will allow the customer to perform all maintenance activities on customer-owned equipment provided they are in compliance with the following provisions:

- The customer shall ensure that only Qualified Electrical Workers perform work on the street lighting system. This assurance will be provided to the Company through the execution of the Company's Acknowledgment for the Use of Qualified Electrical Workers document (hereinafter "Acknowledgment") by an appropriately authorized municipal or governmental official. This Acknowledgment is currently located in the Agreement for Customer-Owned Street and Area Lighting Attachments as Appendix Form G.
- If the customer's workers do not meet the qualifications stated above, or the Company is not in receipt of a valid Acknowledgment, the customer shall request that the Company make all connections and/or disconnections of the customer's street lighting system to the Company's secondary distribution conductors to facilitate certain maintenance or equipment replacement in a de-energized condition. If this occurs, the Company will assess the appropriate service charges per the Company's Terms and Conditions for Distribution Service.<sup>1</sup>

### **Maintenance of Underground Customer-Owned Street and Area Lighting Equipment**

Customer personnel or Qualified Electrical Workers are never allowed to enter a Company manhole, handhole, or other enclosed electrical equipment for any reason without the Company's safety supervision personnel being present on site.

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<sup>1</sup> R.I.P.U.C. No. 2130.



## ***Narragansett Electric Co. Guidelines for Customer-Owned Street Lighting Installation and Maintenance***

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However:

- At the sole discretion of the Company, the customer's Qualified Electrical Workers may be allowed supervised access to perform maintenance or equipment replacement functions of customer-owned equipment within enclosed Company facilities.
- When supervised access is denied, the Company shall schedule and perform the required customer work and be reimbursed for all time and expenses, including materials, in accordance with the Company's Attachment Agreement.

The Company will allow the customer to perform all routine maintenance activities on customer-owned underground fed equipment provided compliance with the following provisions:

- The customer shall ensure that only Qualified Electrical Workers work on its street and area lighting system by having an appropriately authorized municipal or governmental official execute the Acknowledgment.
- The Company will permit a customer's Qualified Electrical Worker to install the fused disconnect device through the access point at the pole base of the first street light from the source while the street and area lights are energized.
- As mentioned previously, if the customer's workers do not meet the qualifications stated above, or the Company is not in receipt of a valid Acknowledgment, the customer must request that the Company make all connections and/or disconnections of the customer's street lighting system to the Company's secondary distribution conductors to facilitate certain maintenance or equipment replacement in a de-energized condition. If this occurs, the Company will assess the appropriate service charges per the Company's Terms and Conditions for Distribution Service as referenced in the Company's Attachment Agreement.

### **Electric System Separation**

Per the Company's Attachment Agreement, the customer is responsible for creating a physical electrical separation between the Company's secondary conductors and the customer-owned street and area light conductors. This separation is accomplished by installing a fused disconnect device (e.g., an in-line fuse holder capable of utilizing a midget cartridge style fuse on every street and area light supply located as near as possible to the connection to the Company-owned secondary conductors). The Company will permit the customer to install the disconnect devices on existing street light locations in an energized condition using Qualified Electrical Workers, which will include the disconnecting of the existing energized supply conductor source to the street light luminaire. This should not require a visit from the Company to de-energize or re-energize the street light source at the service connection.

- The fused disconnect device, in addition to providing electrical protection, shall serve as a disconnect point for the customer-owned street light. Once installed, the customer's Qualified Electrical Worker may disconnect or reconnect a customer-owned street light(s) using the fuse device to perform maintenance or other equipment

## ***Narragansett Electric Co. Guidelines for Customer-Owned Street Lighting Installation and Maintenance***

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replacement. The disconnect device must be installed prior to or during any major maintenance/equipment replacement of an existing light (luminaire replacement, arm/bracket replacement, etc.) or within a period not greater than 10 years following the purchase date, and must be installed at the time of any new customer-owned lighting attachment. Further, in the event a customer plans to purchase the Company's street lights and convert to LED or other light source, this fused disconnect device is required to be installed at the time of conversion.

- For underground customer circuit applications, the customer shall locate the disconnect device within an enclosure installed and owned by the customer and located in close proximity to the designated service connection location within the enclosed Company facility. However, optimum location for the disconnect device is within an enclosure installed and owned by the customer and located in close proximity to the designated service connection location within the enclosed company facility. However, at a minimum for existing street lighting installations only, the disconnect device can be located within the base of the first street light standard closest to the circuit's service connection.
- If it is found that the existing street light conductors or circuits are insufficient, the Company will allow the customer to install a #10 AWG wire of sufficient length, and will allow the customer to make the permanent connections to the Company's secondary using the appropriately sized connectors per the Company's Customer-Owned Municipal Lighting Standards.

### **New or Relocation Lighting Requests - Overhead**

For new customer-owned street lighting attachments or the relocation of existing street lights sourced by overhead equipment, the customer must submit the appropriate Company forms provided in the Attachment Agreements prior to a required field survey by the Company personnel or agent. The field survey is performed to ensure all NESC clearances and loading conditions of the distribution structure or pole are acceptable. If existing clearances and load capacity are sufficient, the Company shall approve the customer's installation or relocation of street lighting equipment. If existing clearances and load capacity are not sufficient to accommodate the requested attachment, the make-ready terms and provisions of the Attachment Agreement will become applicable.

Once the appropriate conditions for installing or relocating the equipment are met, the customer shall:

1. Install the equipment per the Company's Customer-Owned Lighting Standards using Qualified Electrical Workers;
2. Leave a recommended #10 AWG Black wire and a #10 AWG White wire of sufficient length for the Company to perform the final connections to the company's secondary network;
3. Provide a #4 AWG stranded copper conductor with sufficient length to connect to the pole mounting equipment grounding conductor (when available) or to the secondary system neutral.





## ***Narragansett Electric Co. Guidelines for Customer-Owned Street Lighting Installation and Maintenance***

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4. Install the physical disconnect device to be installed and ready prior to making the final connection to the secondary conductors on new or relocated lights.

For new customer-owned street lighting attachments or the relocation of existing street lights sourced by overhead equipment, the Company personnel shall perform the final service connections. The Company will assess the applicable Lighting Service Charge per the Company's Terms and Conditions for Distribution Service and referenced in the Company's Attachment Agreements.

### **New or Relocation Lighting Requests - Underground**

For new customer-owned street lighting attachments or the relocation of existing street lights sourced by underground equipment, the customer must submit the appropriate Company forms provided in the Attachment Agreements prior to the Company personnel performing the required field survey to locate and provide an applicable electrical service point. Following the customer's installation of the equipment per the Company's Customer-Owned Lighting Standards, which recommends #10 AWG Black and White wire of adequate length and a required #4 AWG stranded copper conductor to be installed to the specified ground assembly provided by the customer, the Company would perform the supply connections at the service point.

For new customer-owned street lighting attachments or the relocation of existing street lights sourced by underground equipment, Company personnel shall perform the final service connections. The Company will assess the applicable Lighting Service Charge per the Company's Terms and Conditions for Distribution Service as referenced in the Company's Attachment Agreements.

### **Lighting Removal Requests**

In the event a customer determines a light is no longer needed, the customer may remove the lighting equipment from the pole or other Company facility. The customer will be responsible for disconnecting the existing source and neutral conductors to the light and making the circuit electrically and physically safe. Given that the appropriate notification and timeframes are provided to the Company by the customer per the Attachment Agreement, and upon notification of the customer's removal of all street lighting equipment, the Company will visit the location and remove the remaining connections from the secondary network. At that point, electric service billing for that location will be terminated following the billing of the applicable Lighting Service Charge per the Company's Terms and Conditions for Distribution Service for removal of the connection per each service connection location.

### **Contact Us**

In the event that a Qualified Electrical Worker performing work on behalf of the customer is presented with a situation that may require the Company's assistance, please do not hesitate to contact a Company representative before performing or continuing the work. Be advised, however, that the Company shall perform work requests in accordance with the applicable provisions of the Company's Terms and Conditions for Distribution Service.

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***This document contains information that is provided for reference purposes only, and should not be construed or used as a substitute for an analysis of the applicable tariffs, agreements, and safety regulations specific to each particular customer.***

CUSTOMER OWNED OUTDOOR LIGHTING – TABLE OF CONTENTS			
nationalgrid	OUTDOOR LIGHTING CONSTRUCTION STANDARD	PAGE NUMBER	ISSUE
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1. **SAFETY:**

The number 1 priority of every job is:

# **SAFETY!**

National Grid's distribution poles carry electric lines that operate at voltages as high as 34,500 volts and can carry very high amperages.

National Grid's underground infrastructure carries the same very high distribution voltages and amperages in a confined space, and may also carry sub-transmission or transmission lines that operate at even higher voltage levels.

Outdoor lights are installed within the electric space on a distribution pole. Performing work on outdoor lights may require the worker to be in close proximity to the distribution lines.

It is the responsibility of the customer that owns and maintains outdoor lighting to insure that all personnel working on the outdoor lighting system are qualified to work in the designated electric supply space on a distribution pole in accordance with OSHA 1910.269.

## **OVERHEAD DISTRIBUTION**

No customer, customer's employees, or contractors are ever allowed to perform any work on National Grid 120/240 volt or 120/208 volt secondary conductors.

## **UNDERGROUND DISTRIBUTION**

No customer, customer's employees, or contractors are ever allowed to enter a National Grid manhole or handhole for any reason without National Grid safety supervision personnel being present on site.

**IF UNSURE:** - **STOP** – Call National Grid for assistance.

***No outdoor lighting repair is too important to sacrifice personal safety.***

OUTDOOR LIGHTING - SAFETY			
ISSUE	STANDARD NUMBER	CUSTOMER OWNED OUTDOOR LIGHTING STANDARD	nationalgrid
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2. **GENERAL:** These Standards identify requirements to enable a customer to safely install, remove, and maintain a customer owned outdoor lighting system which is installed on National Grid distribution poles and connected to National Grid overhead or underground secondary conductors.

Standards: All customer owned outdoor lighting shall be in compliance with the applicable provisions of the National Electric Safety Code, (NESC) latest edition, and the applicable National Grid Construction Standards.

Note: (As of July 1, 2014, the latest edition of the NESC is the 2012 edition)

Customer Owned Equipment: The customer shall be responsible to own, operate, and maintain all outdoor lighting equipment beyond the service tap connections to National Grid. This shall include, but not be limited, to the following:

1. Supplying all material and labor.
2. Transferring an overhead supplied outdoor light attachment to a new pole in the event of a pole replacement.
3. Relocating an overhead supplied outdoor light attachment to accommodate other construction activities on the pole.
4. Performing any work required on the outdoor lighting underground conduit system, conductors, foundation, pole, arm and luminaire.
5. Emergency 24 hour response to remove or make safe the outdoor light attachment in the event of a broken pole.

***NOTE:** In an emergency, National Grid personnel may perform, at customer expense, any customer outdoor lighting work National Grid deems necessary to maintain public or employee safety.*

Electrical Separation: The customer is responsible to create an electrical separation between the National Grid secondary conductors and the customer owned outdoor lighting conductors. This is required to insure the safety of National Grid and customer employees. It also clearly defines where National Grid ownership ends and customer ownership begins. This is accomplished by installing a dual pole in-line fuse holder with a midjet cartridge style fuse on every outdoor light supply located as near as possible to the connection to the National Grid owned secondary conductors. This fuse, in addition to providing electrical protection, shall serve as a future disconnect point for the customer owned outdoor light. Once installed, the customer may disconnect or reconnect a customer owned outdoor light only by means of the in-line fuse holder. See Figure 6 for overhead supplied outdoor lights, and Figures 7, 8, 9, or 10 for underground supplied outdoor lights. See Figure 12 for in-line fused disconnect details.

Ownership Identification: The customer is responsible to label all customer owned outdoor lighting luminaires in accordance with National Grid Construction Standards. See Figures 1 and 2.

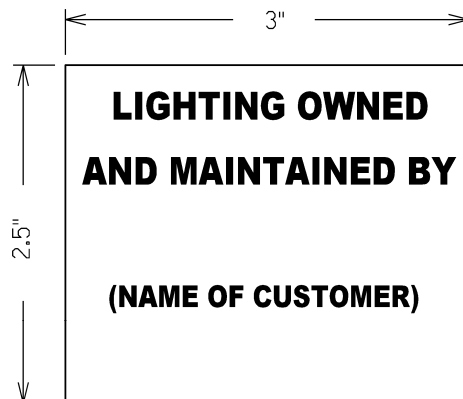
Worker Qualifications: All customer work shall be completed only by personnel qualified to work in the electric supply space on a distribution pole (herein referred to as "Qualified Worker") in accordance with OSHA 1910.269. An executed copy of the OSHA 1910-269 ACKNOWLEDGEMENT FOR THE USE OF QUALIFIED ELECTRICAL WORKERS form is mandatory.

Final Connections to National Grid 120/240 VAC or 120/208 VAC Secondary Conductors: For OVERHEAD supplied lighting, National Grid will permit a Qualified Worker to make all connections and disconnections of customer owned outdoor light supply conductors to the company owned secondary and grounding conductors. For UNDERGROUND supplied lighting, National Grid will permit a Qualified Worker to make all connections and disconnections of customer owned outdoor light supply conductors to the company owned secondary and grounding conductors provided that National Grid personnel are present to provide safety supervision and access to the underground facilities.

CUSTOMER OWNED OUTDOOR LIGHTING - GENERAL			
nationalgrid	OUTDOOR LIGHTING CONSTRUCTION STANDARD	PAGE NUMBER	ISSUE
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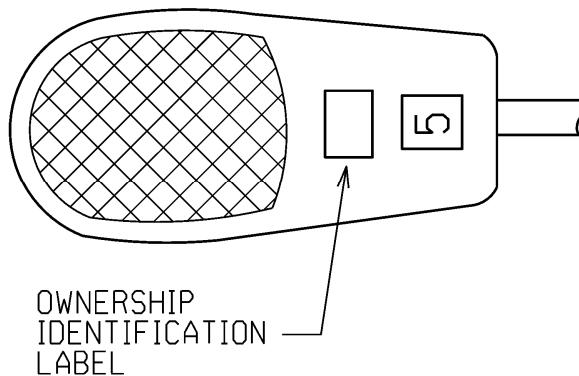


3. **CONSTRUCTION DRAWINGS:**



**Figure 1 – Ownership Identification Label for Customer Owned Outdoor Luminaires**

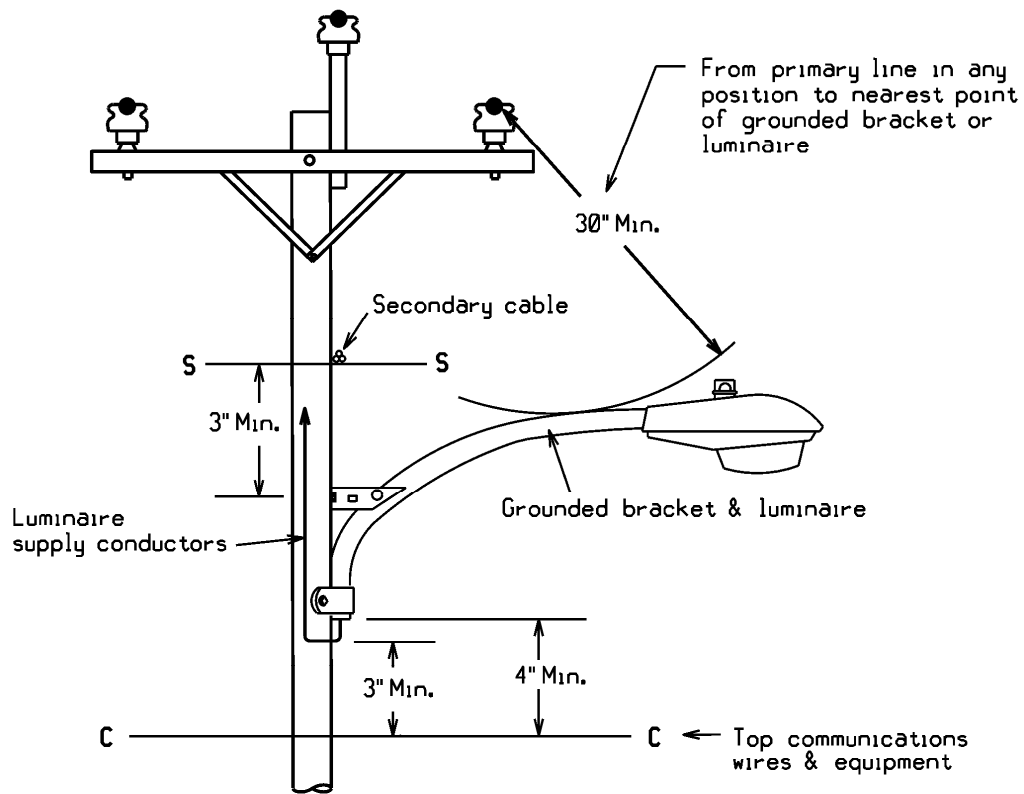
1. All customer owned outdoor light luminaires shall be identified with a label to clearly define ownership and maintenance responsibilities.
2. Ownership identification labels shall be reflective white with black lettering. See Figure 1.



**Figure 2 – Installation of Ownership Identification Label**

1. Ownership identification label shall be installed on the lower door of a horizontal roadway luminaire such that it is clearly visible from the ground. See Figure 2.
2. For post top, floodlight, and other luminaires, the ownership identification label shall be installed on the luminaire housing in a location such that it is clearly visible from the ground.

OWNERSHIP IDENTIFICATION OF CUSTOMER OWNED LIGHTING			
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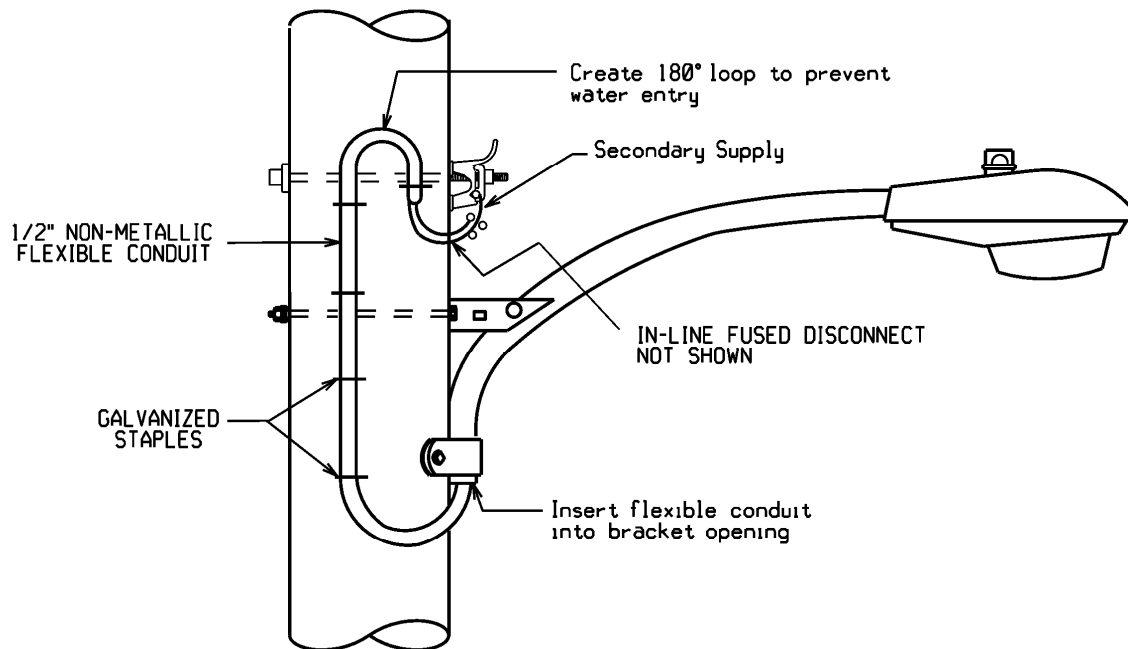
**Figure 3 – Outdoor Light Clearance from Overhead Conductors**

1. Primary Conductors – Maintain minimum 30-inch clearance from any primary conductor or cable to nearest point of grounded luminaire or bracket.
2. Secondary Conductors – Maintain minimum 3-inch vertical clearance from secondary wires or cable to nearest point of grounded luminaire bracket. (NESC Table 239-1)
3. Communications Cables – Maintain minimum 4-inch vertical clearance from closest communication cable to nearest point of grounded luminaire bracket. (NESC Table 238-2)

Maintain minimum 3-inch clearance from closest communications cable to nearest point of luminaire supply conductors drip loop. Luminaire supply conductors must be covered with non-metallic flexible conduit. (NESC 238D)

4. Location on Pole – Always install the outdoor light **BELOW** the secondary conductors. This applies to new installations and any time an existing outdoor light is relocated or transferred to a new pole.

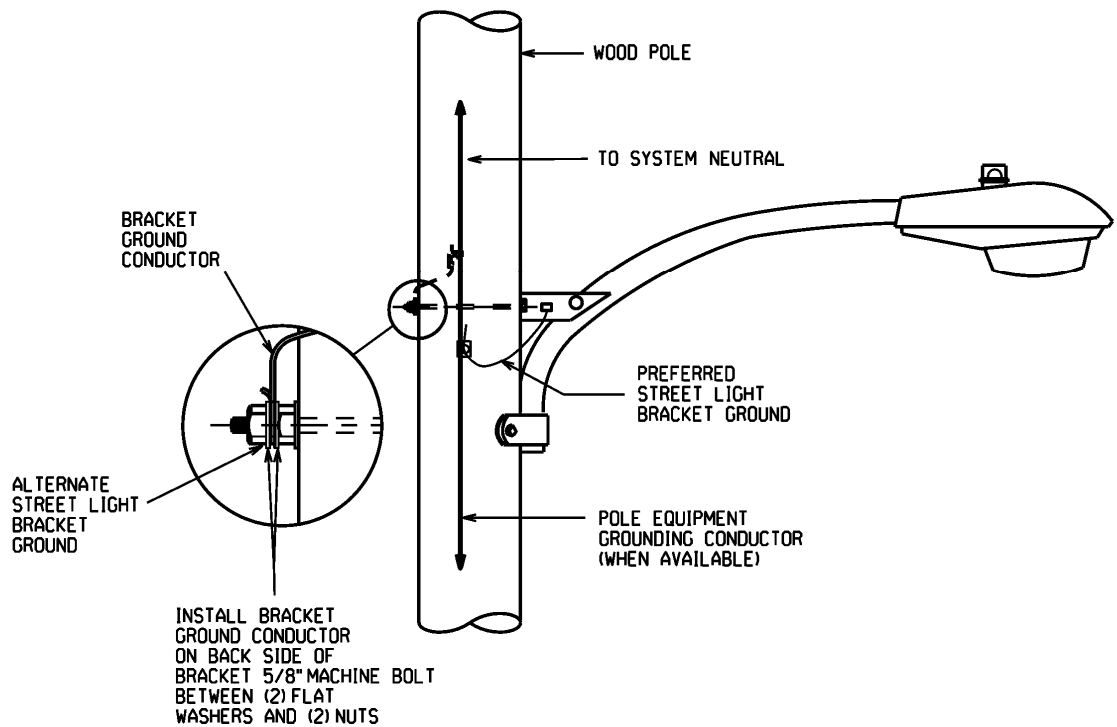
CLEARANCES FROM OVERHEAD CONDUCTORS			
nationalgrid	CUSTOMER OWNED OUTDOOR LIGHTING STANDARD	STANDARD NUMBER	ISSUE
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**Figure 4 - Mechanical Protection for Overhead Supplied Outdoor Light Fixture Conductors**

1. NESC Table 239G1 requires that all luminaire supply conductors (#10 AWG) shall have mechanical protection (1/2" non-metallic flexible conduit) installed from the point where they leave the pole end of the bracket to the connection to the secondary supply in order to take advantage of the clearance dimensions shown on page 5.
2. Insert the non-metallic flexible conduit into the bracket opening and extend up the pole to the secondary supply.
3. Create a 180 degree loop at the secondary supply to prevent rain water from entering and becoming trapped inside the flexible conduit.
4. Secure the non-metallic flexible conduit with galvanized staples spaced 12-inches apart or closer as necessary.

MECHANICAL PROTECTION FOR OVERHEAD OUTDOOR LIGHTING FIXTURE CONDUCTORS			
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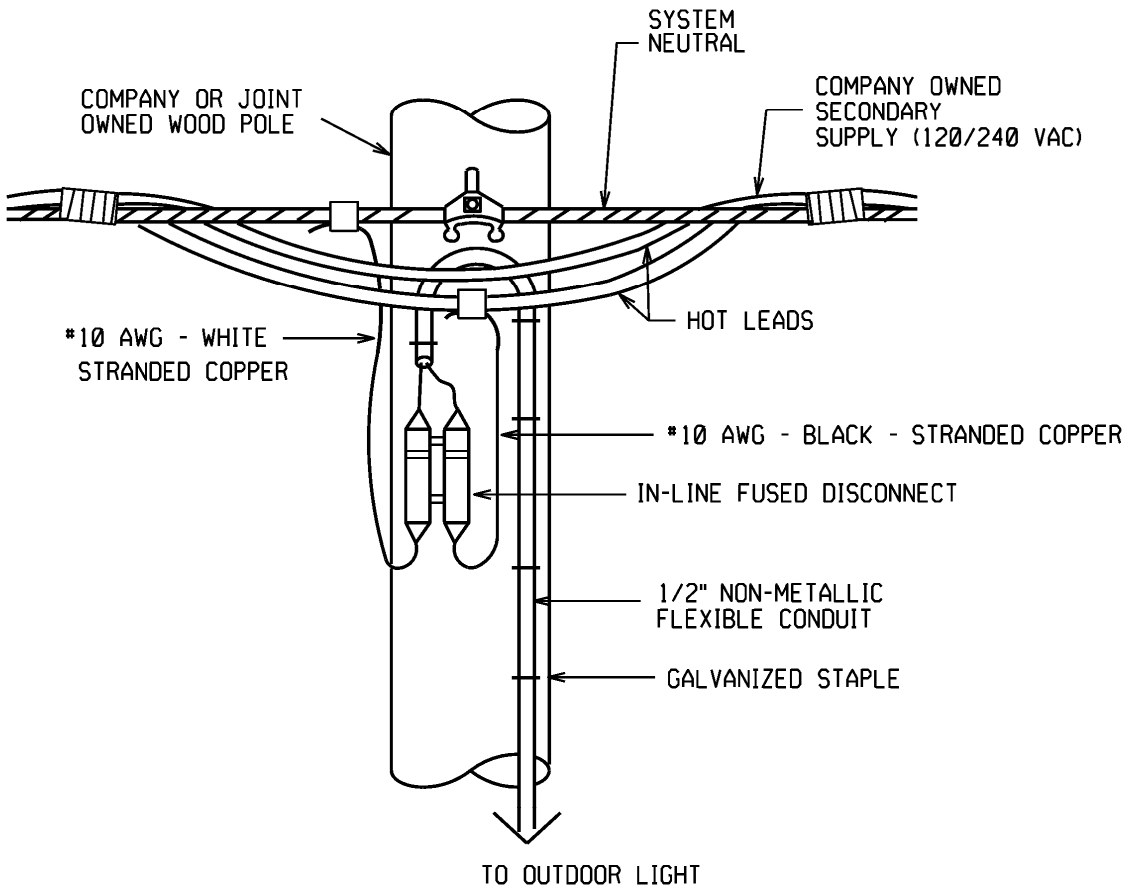


**Figure 5 – Grounding of Overhead Supplied Outdoor Light**

1. Every outdoor light bracket shall be grounded. Install a #4 AWG stranded copper conductor with enough length to connect to the pole equipment grounding conductor (when available) or to the secondary system neutral. Final connections to National Grid conductors may be made by a Qualified Worker.
2. Many brackets have a bracket grounding bolt located near the wood pole end of the bracket. If none exists, install a bracket grounding bolt on the bracket or connect grounding conductor to the back side of the 5/8" square head machine bolt which secures the bracket to the pole.

GROUNDING OF OVERHEAD SUPPLIED OUTDOOR LIGHTING			
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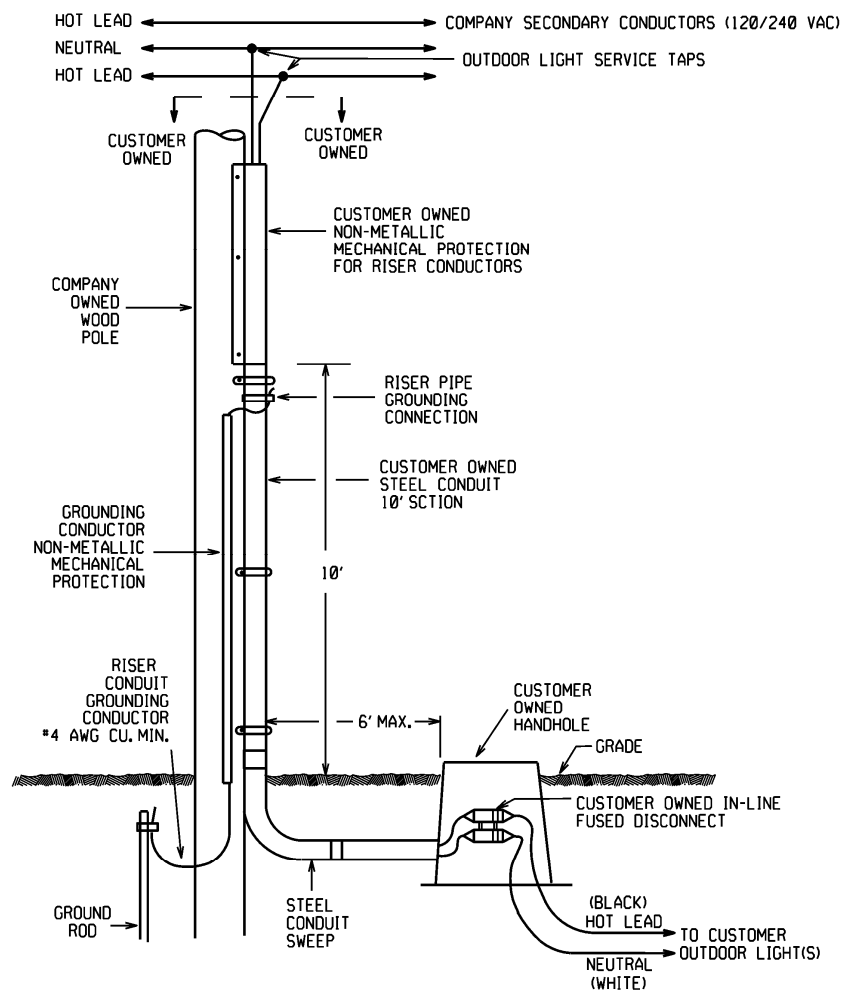




**Figure 6 – Connection of Overhead Supplied Customer Owned Outdoor Light to National Grid Overhead Secondary Conductors**

1. Every customer outdoor light shall have an in-line fused disconnect as described in “Electrical Separation” on page 3. See page 14 for details on the in-line fused disconnect.
2. Secure the in-line fused disconnect to the pole using a spring loaded conduit clip or galvanized staple.
3. Provide sufficient slack in the luminaire wiring to facilitate fuse replacement.
4. Outdoor lighting fixture wiring shall be #10 AWG 7-strand copper BLACK-WHITE with RHH/RHW/USE-2 insulation.

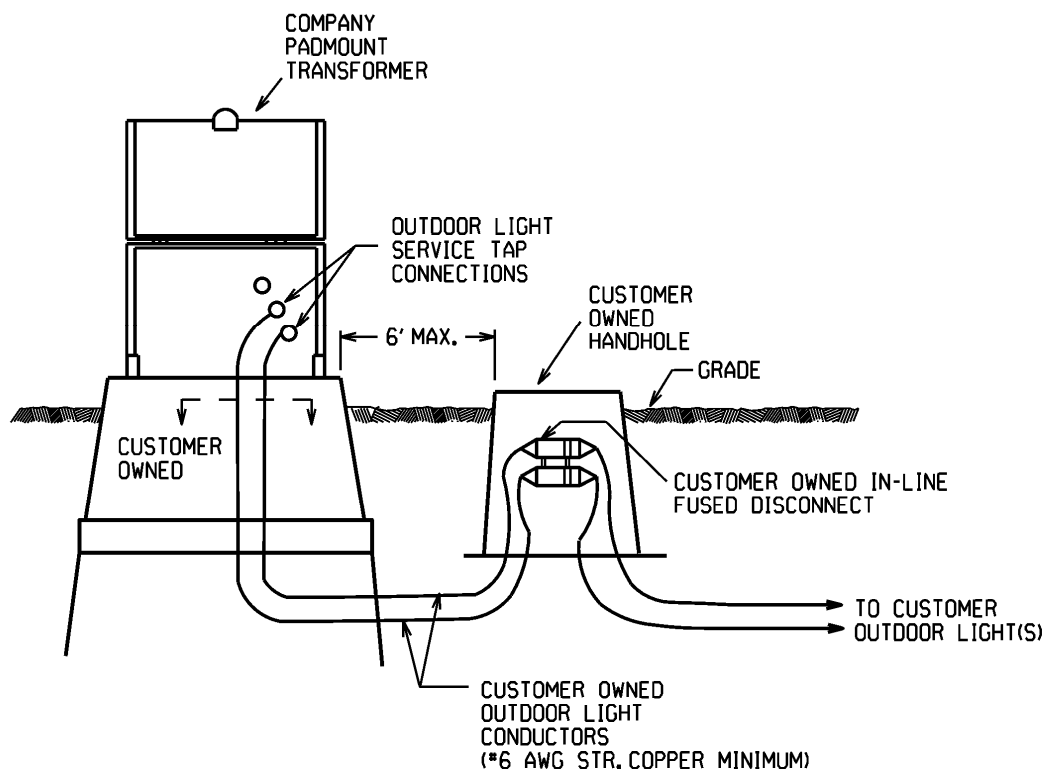
CONNECTION OF CUSTOMER OWNED LIGHTING TO NATIONAL GRID OVERHEAD SECONDARY CONDUCTORS			
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**Figure 7 – Connection of Customer Owned Outdoor Lighting Riser to National Grid Overhead Secondary Conductors**

1. Install customer owned handhole as shown in Figure 7. Customer owned handhole shall house the in-line fused disconnect. See page 14 for details on the in-line fused disconnect.
2. Always install the riser conduit away from vehicle traffic.
3. No more than (2) riser conduits may be attached to a pole. Consult National Grid Engineering if more than (2) risers are desired.
4. Underground supply conductors shall be #6 AWG 7-strand copper (minimum) with RHH/RHW/USE-2 insulation. Conductors shall be color coded BLACK = Hot lead, WHITE = Neutral.

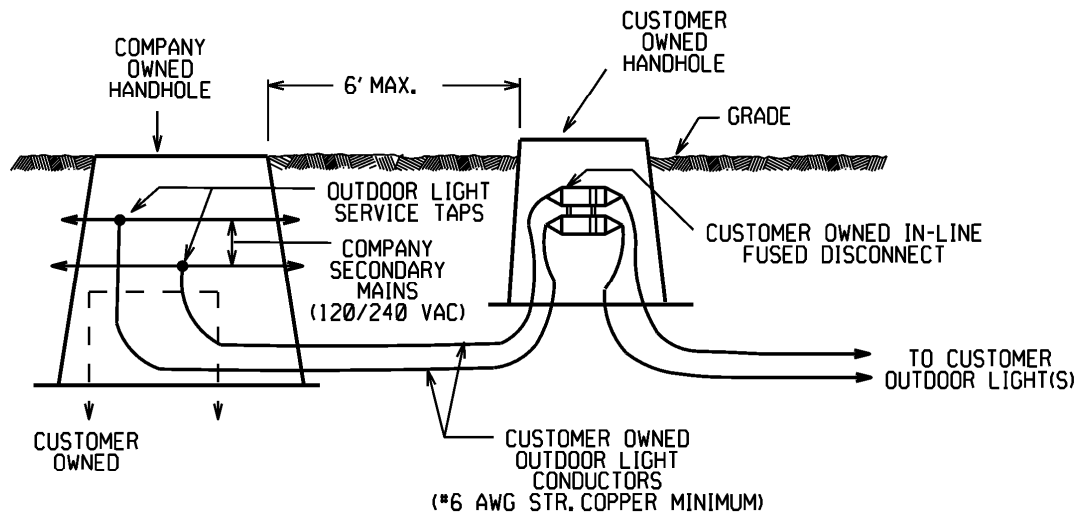
CONNECTION OF CUSTOMER OWNED OUTDOOR LIGHTING RISER TO NATIONAL GRID OVERHEAD SECONDARY CONDUCTORS			
nationalgrid	CUSTOMER OWNED OUTDOOR LIGHTING STANDARD	STANDARD NUMBER	ISSUE
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**Figure 8 – Connection of Underground Supplied Street Light to National Grid Padmount Transformer**

1. Install customer owned handhole as shown in Figure 8. Customer owned handhole shall house the in-line fused disconnect. See page 14 for details on the in-line fused disconnect.
2. Underground supply conductors shall be #6 AWG 7-strand copper (minimum) with RHH/RHW/USE-2 insulation. Conductors shall be color coded BLACK = Hot lead, WHITE = Neutral.
3. In cases where a new customer conduit is to be installed into a National Grid padmount transformer, National Grid shall determine the conduit entrance location at the padmount transformer foundation. The customer shall install the conduit to just outside this location. National Grid shall then create the opening in the padmount foundation and extend the customer conduit into the padmount foundation.
4. All electrical connections or disconnections to the secondary supply may be performed by a Qualified Worker, however, in every case, National Grid personnel shall be present to provide safety supervision and to unlock and relock the padmount transformer.

CONNECTION OF CUSTOMER OWNED LIGHTING TO NATIONAL GRID PADMOUNT TRANSFORMER			
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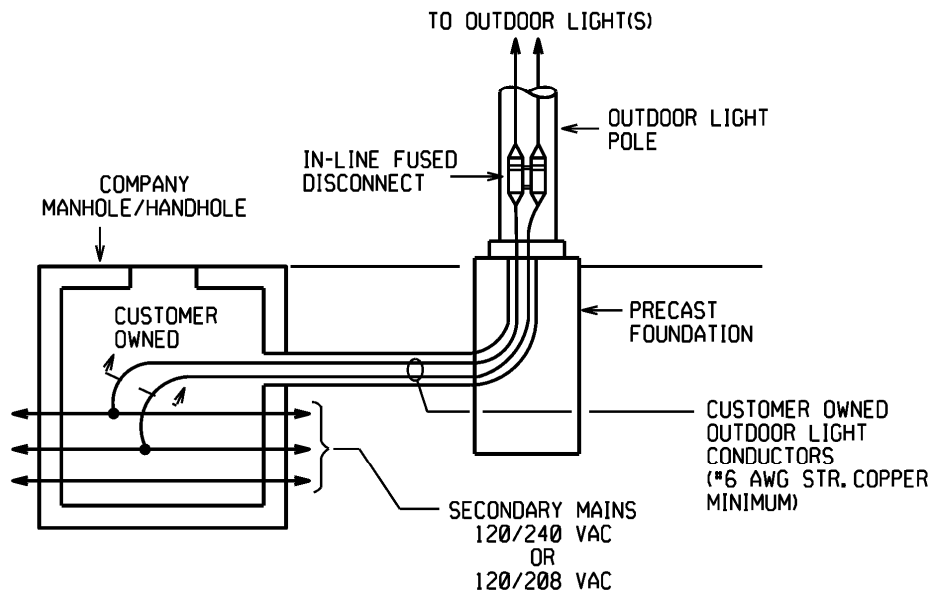


**Figure 9 – Connection of Underground Supplied Customer Owned Outdoor Lighting to National Grid Handhole or Manhole – Standard Connection**

1. Install customer owned handhole as shown in Figure 9. Customer owned handhole shall house the in-line fused disconnect. See page 14 for details on the in-line fused disconnect.
2. Underground supply conductors shall be #6 AWG 7-strand copper (minimum) with RHH/RHW/USE-2 insulation. Conductors shall be color coded BLACK = Hot lead, WHITE = Neutral.
3. In cases where a new customer conduit is to be installed into a National Grid manhole or handhole, National Grid shall determine the conduit entrance location in the manhole/handhole, The customer shall install the conduit to just outside this location. National Grid shall then create the opening in the manhole/handhole wall and extend the customer conduit into the manhole/handhole.
4. All electrical connections or disconnections to the secondary supply may be performed by a Qualified Worker, however, in every case National Grid personnel shall be present to provide safety supervision.

CONNECTION OF CUSTOMER OWNED LIGHTING TO NATIONAL GRID MANHOLE OR HANDHOLE – STANDARD CONNECTION			
nationalgrid	CUSTOMER OWNED OUTDOOR LIGHTING STANDARD	STANDARD NUMBER	ISSUE
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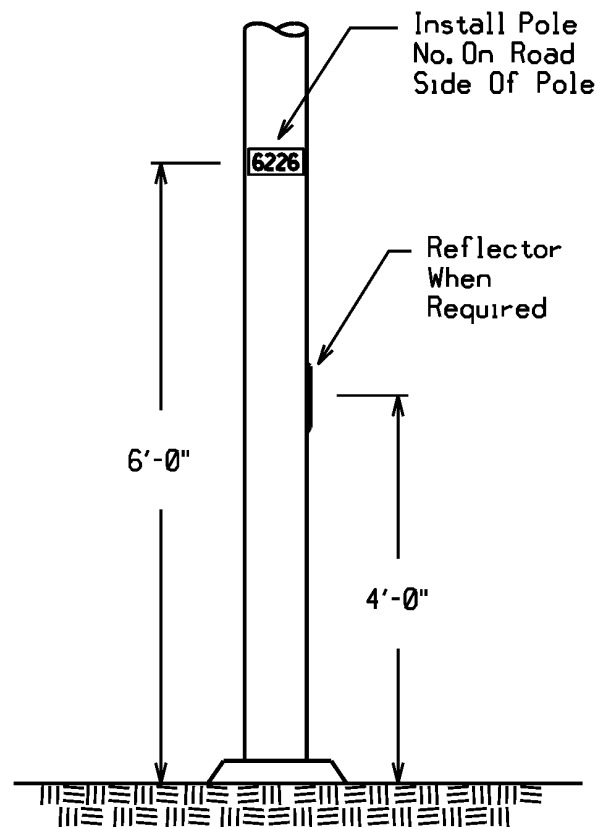




**Figure 10 – Connection of Underground Supplied Customer Owned Outdoor Light to National Grid Handhole or Manhole – Non-Standard Connection**

1. For all new installations and modifications to existing installations, the customer is required to install an in-ground handhole located as close as possible to the company provided electrical source point, as illustrated in Figures 7, 8, and 9.
2. In the rare case where the customer owned concrete outdoor lighting foundation is immediately adjacent to the National Grid manhole/handhole, installation of an in-ground customer owned handhole may be impossible. In this case, the in-line fused disconnect may be installed inside the pole access handhole. **This is allowed only in cases where no physical space exists to install the in-ground customer owned handhole.** Note that the #6 AWG underground supply conductors between the manhole and the base of the outdoor light are customer owned.
3. Underground supply conductors shall be #6 AWG 7-strand copper (minimum) with RHH/RHW/USE-2 insulation. Conductors shall be color coded BLACK = Hot lead, WHITE = Neutral.
4. In cases where a new customer conduit is to be installed into a National Grid manhole or handhole, National Grid shall determine the conduit entrance location in the manhole/handhole, The customer shall install the conduit to just outside this location. National Grid shall then create the opening in the manhole/handhole wall and extend the customer conduit into the manhole/handhole.
5. All electrical connections or disconnections to the secondary supply may be performed by a Qualified Worker, however, in every case National Grid personnel shall be present to provide safety supervision.

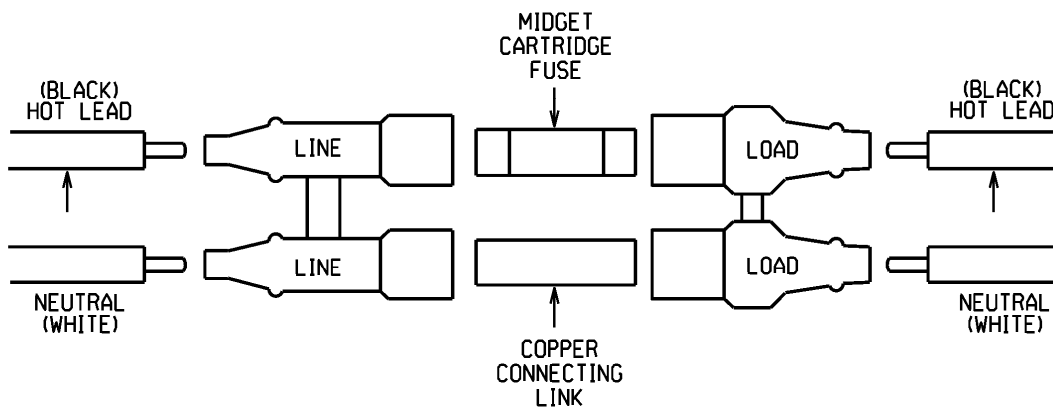
CONNECTION OF CUSTOMER OWNED LIGHTING TO NATIONAL GRID MANHOLE OR HANDHOLE – NON-STANDARD CONNECTION			
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**Figure 11 – Pole Numbering - Underground Supplied Customer Owned Lighting**

1. Every underground supplied customer lighting pole shall be numbered in accordance with Figure 11.
2. Always use 1-3/4-inch x 3-inch, high intensity white reflective pole number decals.
3. Pole number decals shall be installed horizontal to each other as shown in Figure 11 – not vertical.

POLE NUMBERING – UNDERGROUND SUPPLIED LIGHTING			
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**Figure 12 – In-Line Fused Disconnect Details**

1. All customer owned outdoor lighting equipment shall be fused using a dual pole, watertight, in-line fuse holder and cartridge style fuse. This fuse, in addition to providing electrical protection, shall serve as a disconnection point for the customer owned outdoor lighting equipment.
2. Fuse Holder  
 The fuse holder shall be a watertight device suitable for use in an outdoor environment.  
  
 The fuse holder shall be totally insulated, thus having no exposed energized parts.  
  
 The fuse holder shall accept #14 AWG - #6 AWG stranded copper conductors on both ends.  
  
 The fuse holder shall be a dual pole device allowing simultaneous disconnection of both the 120 VAC hot lead (black wire) and the neutral conductor (white wire).  
  
 The fuse holder shall be designed such that, when separated, the midget cartridge fuse and copper connecting link shall be held captive in the load end of the fuse holder.  
  
 The fuse holder shall be polarized to prevent accidental reversal of the live leg and neutral connections.
3. Cartridge Fuse  
 The fuse shall be a non-glass type, midget style cartridge fuse. Fuse dimensions shall be 13/32" diameter x 1½" length.
4. Neutral Connection  
 The neutral conductor shall not be fused. Install a 13/32" diameter x 1½" length copper connecting link in place of a cartridge fuse.
5. Always provide sufficient slack in wiring to facilitate fuse replacement.

IN-LINE FUSED DISCONNECT DETAILS			
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# **Appendix C**

## **SPECIFICATIONS FOR LED LUMINAIRES**

### **1.0 INTRODUCTION**

This specification provides the necessary information to allow for selection of LED luminaires which meet the key parameters of this project. Requirements were developed to meet the objectives of this project and allow for a common basis of design against which all proposals can be evaluated for suitability. Incomplete submittals or failure to meet any of the stated criteria may result in rejection of a proposal. Submittal entries will be evaluated based on best overall value rather than lowest price.

### **2.0 RELATED DOCUMENTS**

Contract Drawings and Conditions of Contract (including General Conditions, Addendum to the General Conditions, Special Conditions, Technical Specifications Sections and all other Contract Documents) apply to the work of this section.

### **3.0 DEFINITIONS**

- 3.1 Lighting terminology used herein is defined in IES RP-16. See referenced documents for additional definitions.
- 3.2 Exception: The term “driver” is used herein to broadly cover both drivers and power supplies, where applicable.
- 3.3 Clarification: The term “LED light source(s)” is used herein per IES LM-80 and TM-21 to broadly cover LED package(s), module(s), and array(s).

### **4.0 PRODUCT REQUIREMENTS**

- 4.1 Tabulated summary of key parameters and product criteria.



Existing Luminaires			New Luminaire Requirements							
Luminaire Type	Lamp Wattage	Source	Minimum Initial Lumens	Maximum Wattage	Distribution Type	Input Voltage	Maximum Weight	Maximum EPA	Mounting	Driver
Flood	250W	HPS	13,500	140	6x6	120-227	120-277	3.1ft <sup>2</sup>	Yoke	Dimmable
Flood	400W	HPS	18,500	220	6x6	120-227	120-278	3.1ft <sup>2</sup>	Yoke	Dimmable
Flood	1000W	MV	18,500	220	6x6	120-227	120-279	3.1ft <sup>2</sup>	Yoke	Dimmable
Flood	400W	MV	13,500	140	6x6	120-227	120-281	3.1ft <sup>2</sup>	Yoke	Dimmable
Flood	300W	MH	13,500	140	6x6	120-227	120-282	3.1ft <sup>2</sup>	Yoke	Dimmable
Flood	400W	MH	13,500	140	6x6	120-227	120-283	3.1ft <sup>3</sup>	Yoke	Dimmable
Post	100W	HPS	6800	50	Type 5	120-227	120-284	0.3 ft <sup>2</sup>	Tenon (3x3 standard	Dimmable
Post	50W	HPS	3900	30	Type 2	120-227	120-290	0.3 ft <sup>2</sup>	arm (2" normal)	Dimmable
Roadway	100W	HPS	6800	50	Type 2	120-227	120-286	0.3 ft <sup>2</sup>	arm (2" normal)	Dimmable
Roadway	100W	MV	6800	50	Type 2	120-227	120-294	0.3 ft <sup>2</sup>	arm (2" normal)	Dimmable
Roadway	105W	INC	3900	30	Type 2	120-227	120-292	0.3 ft <sup>2</sup>	arm (2" normal)	Dimmable
Roadway	205W	INC	6800	50	Type 2	120-227	120-293	0.3 ft <sup>3</sup>	arm (2" normal)	Dimmable
Roadway	250W	HPS	15,500	140	Type 2	120-227	120-288	0.5ft <sup>2</sup>	arm (2" normal)	Dimmable
Roadway	250W	MV	15,500	140	Type 2	120-227	120-296	0.5ft <sup>2</sup>	arm (2" normal)	Dimmable
Roadway	400W	HPS	25,000	220	Type 2	120-227	120-289	0.75ft <sup>2</sup>	arm (2" normal)	Dimmable
Roadway	400W	MV	25,000	220	Type 2	120-227	120-297	0.5ft <sup>2</sup>	arm (2" normal)	Dimmable
Roadway	50W	HPS	3900	30	Type 2	120-227	120-290	0.3 ft <sup>2</sup>	arm (2" normal)	Dimmable
Roadway	70W	HPS	3900	30	Type 2	120-227	120-291	0.3 ft <sup>2</sup>	arm (2" normal)	Dimmable

**\*Please note that all final wattages should be approved by the towns through the pilot program and prior to installation, depending on individual towns' control strategies.**

Existing Luminaires			New Luminaire Lighting Requirements (Maintained Levels)				
			Roadway			Sidewalk	
Luminaire Type	Lamp Wattage	Source	Average at Pavement	Ave:Min Uniformity	Max Veiling Luminance Ratio	Average at Pavement	Ave:Min Uniformity
Roadway	100W	HPS	0.7fc	6	0.4	0.2fc	4
Roadway	100W	MV	0.7fc	6	0.4	0.2fc	4
Roadway	105W	INC	0.7fc	6	0.4	0.2fc	4
Roadway	150W	HPS	0.7fc	6	0.4	0.2fc	4
Roadway	175W	MV	0.7fc	6	0.4	0.2fc	4
Roadway	205W	INC	0.7fc	6	0.4	0.2fc	4
Roadway	250W	HPS	1.3fc	4	0.4	0.5fc	4
Roadway	250W	MV	1.3fc	4	0.4	0.5fc	4
Roadway	400W	HPS	1.8fc	4	0.4	0.6fc	4
Roadway	400W	MV	1.8fc	4	0.4	0.6fc	4
Roadway	50W	HPS	0.4fc	6	0.4	0.2fc	4
Roadway	70W	HPS	0.4fc	6	0.4	0.2fc	4
Roadway	70W	MV	0.4fc	6	0.4	0.2fc	4

## 4.2 General requirements

- 4.2.1 Luminaires shall satisfy the key criteria summarized in section 4.1.
- 4.2.2 Luminaires shall be listed on the DesignLights Consortium Qualified Products List and qualify for National Grid and OER incentives.
- 4.2.3 Transmissive optical components shall be applied in accordance with OEM design guidelines to ensure suitability for the environment (e.g., electromagnetic, thermal, mechanical, chemical).
- 4.2.4 Luminaire shall be designed for ease of component replacement and end-of-life disassembly.
- 4.2.5 LED light source(s) and driver(s) shall be RoHS compliant.
- 4.2.6 Luminaire shall accept the voltage or voltage range specified at 60 Hz and shall operate normally for input voltage fluctuations of plus or minus 10 percent.
- 4.2.7 All internal components shall be assembled and pre-wired using modular electrical connections.
- 4.2.8 The following shall be in accordance with ANSI C136.37.
  - 4.2.8.1 Wiring and grounding
  - 4.2.8.2 Terminal blocks for incoming AC supply wiring (electrical)
  - 4.2.8.3 Photocontrol receptacle
  - 4.2.8.4 Latching and hinging
  - 4.2.8.5 Mounting provisions
  - 4.2.8.6 Ingress protection: minimum rating of IP66 for Optical assembly, and IP65 for Electrical components compartment.

## 4.3 Painted or finished luminaire surfaces exposed to the environment

- 4.3.1 Shall exceed a scribe creepage rating of 8 (per ASTM D1654) after 3000 hours of exposure testing to salt fog per ASTM B117.
- 4.3.2 Coastal finish option shall exceed a scribe creepage rating of 8 (per ASTM D1654) after 5000 hours of exposure testing to salt fog per ASTM B117.
- 4.3.3 The coating shall exhibit no greater than 30% reduction of gloss per ASTM D523, after 500 hours of QUV testing at ASTM G154 Cycle 6.
- 4.3.4 Fixtures shall be available in a black finish.

## 4.4 Vibration

- 4.4.1 Luminaires shall meet requirements for Level 2 (bridge/overpass) per ANSI C136.31

## 4.5 Thermal management

- 4.5.1 Luminaire shall start and operate in ambient temperature range from -40C to 40C.
- 4.5.2 Maximum rated case temperature of driver and other internal components shall not be exceeded when luminaire is operated in ambient temperature range specified.
- 4.5.3 Mechanical design of protruding external surfaces (heat sink fins) shall facilitate hose-down cleaning and discourage debris accumulation.
- 4.5.4 Non-passive means of cooling are not allowed. This includes the use of liquids or other mechanical cooling systems.

#### 4.6 Photocontrol receptacle, and photocontrol

##### 4.6.1 Receptacle

4.6.1.1 Luminaires to be supplied with a 7-pin ANSI C136.41 compliant receptacle with the dimming leads from the driver connected to the receptacle pads and specified in ANSI C136.41. Drivers shall all be 0-10 volt dimming capable.

##### 4.6.2 Photocontrol

4.6.2.1 Shall be rated for minimum 20 years, with 10-Year Warranty.

4.6.2.2 Shall have LED inrush protection on the 7-pin node. Please specify type.

4.6.2.3 Shall have extreme surge protection of 1280J/40kA utility or 2120J/40kA UL listed.

4.6.2.4 Shall have double thick enclosure and lens with additional UV inhibitor.

4.6.2.5 Shall be UL listed to U.S. and Canadian safety standards.

4.6.2.6 Shall be 120V to 480VAC, 60Hz.

4.6.2.7 Shall have load rating of 1000 watts, 1800 VA ballast.

4.6.2.8 Shall have average power consumption: <0.5 watts @ 120V.

#### 4.7 Electrical immunity

4.7.1 Luminaire shall be listed for wet locations by a U.S. Occupational Safety Health Administration (OSHA) Nationally Recognized Testing Laboratory (NRTL).

4.7.2 Manufacturer shall indicate on submittal form whether failure of the electrical immunity system can possibly result in disconnect of power to luminaire.

4.7.3 Enhanced surge protection devices (SPD) are required. SPDs shall be rated to protect the luminaire up to 20kV\10kA combination wave surges in accordance with ANSI C136.2 (Most Current) and UL 1449 recognized.

4.7.4 Failure mode of surge protection is to leave the luminaire off.

#### 4.8 Interference and power quality

4.8.1 Luminaire shall comply with FCC 47 CFR part 15 interference criteria for Class A (non-residential) digital devices.

4.8.2 Luminaire shall comply with section 5.2.5 (luminaires rated for outdoor use) of ANSI C82.77 at full input power and across specified voltage range.

#### 4.9 Color attributes

4.9.1 Color Rendering Index (CRI) shall be no less than 70 with the option of 80 or higher.

4.9.2 Nominal Correlated Color Temperature (CCT) options shall be available in 2700K, 3000K and 4000K +/- 8%.

#### 4.10 Identification

4.10.1 Luminaire shall have an external label per ANSI C136.15.

4.10.2 Luminaire shall have an internal label per ANSI C136.22.

### 5.0 PRODUCT REQUIREMENTS by product category

#### 5.1 Roadway Luminaires

### 5.1.1 Optical Features

- 5.1.1.1 Borosilicate or tempered glass optical enclosure is preferred.
- 5.1.1.2 Any plastic materials used in the optical assembly that affect the light output and distribution shall be appropriately heat and UV resistant. Plastic materials shall have been evaluated and exhibit a Yellowness Index (YI) over the useful life of the product of no more than 30%. YI reference ASTM E313 (ASTM D1925). A list of relevant plastic materials used, and the plastic material manufacturer's "YI" data report shall be provided with the bid documents.

### 5.1.2 Electrical Features

- 5.1.2.1 Expected life of LED light engines of >100,000 hours at 25C.
- 5.1.2.2 LED's lumen depreciation equal to or greater than L85 at 100,000 hours.
- 5.1.2.3 Expected life of the electronic driver of 100,000 hours at 25C ambient.
- 5.1.2.4 Driver shall be easily accessible.
- 5.1.2.5 Surge protection device shall be connected in series with the luminaire load and shall disconnect power at the end of life. Device shall allow no more than 10% of pass-through to surge energy under either differential or common mode surge.

### 5.1.3 Mechanical Features

- 5.1.3.1 Luminaires with rugged die-cast aluminum housing are preferred. Polycarbonate door is acceptable.
- 5.1.3.2 Mast arm mount is adjustable for arms from 1-1/4" to 2" (1-5/8" to 2-3/8" O.D.) diameter with 2-bolt clamping mechanism.
- 5.1.3.3 Tool-less entry to electrical compartment with 3 station terminal block and quick disconnects.
- 5.1.3.4 Bubble level located inside the electrical compartment for levelling of luminaire during installation.

## 5.2 Floodlights

### 5.2.1 Optical Features

- 5.2.1.1 Shielding options available to control light trespass and uplight where required.
- 5.2.1.2 Segmented internal reflectors designed to produce beam pattern as specified in the tables in section 5.1.

### 5.2.2 Electrical Features

- 5.2.2.1 Expected life of LED light engines of >100,000 hours at 25C.
- 5.2.2.2 LED's lumen depreciation equal to or greater than L80 at 100,000 hours.
- 5.2.2.3 Expected life of the electronic driver of 100,000 hours at a 25C ambient.
- 5.2.2.4 Surge protection device shall be connected in series with the luminaire load and shall disconnect power at the end of life. Device shall allow no more than 10% of pass-through to surge energy under either differential or common mode surge.

### 5.2.3 Mechanical Features

- 5.2.3.1 Low copper content die cast aluminum A360 allow castings. Die-cast aluminum housing with integral heat sink fins is preferred.

5.2.3.2 Tool free access to electrical compartment with stainless steel latches.

5.2.3.3 Knuckle adjustable to fit 2-3/8" to 2-7/8" tenon.

## 6.0 QUALITY ASSURANCE

- 6.1 Before approval and purchase, Owner may request luminaire sample(s) identical to product configuration(s) submitted for inspection. Owner may request IES LM-79 test reports of luminaire sample(s) to verify performance is within manufacturer-reported tolerances.
- 6.2 Electrically test fully assembled luminaires before shipment from factory.
- 6.3 After installation, Owner may perform IES LM-50 field measurements to verify performance requirements, giving consideration to manufacturing tolerances and measurement uncertainties as outlined in IES LM-61 and NEMA LSD 63.

## 7.0 WARRANTY

- 7.1 Warranty shall be for a minimum period of ten (10) years and shall cover maintained integrity and functionality of the following:
  - 7.1.1 Luminaire housing, wiring, and connections
  - 7.1.2 LED light source(s)
    - 7.1.2.1 Negligible light output from more than 15 percent of the LED packages constitutes luminaire failure.
  - 7.1.3 LED driver(s) and associated surge protection device.
- 7.2 Warranty period shall begin with the date of project completion as per RFP, or as negotiated by owner such as in the case of an auditable asset management system. Note that warranty on labor shall be for a minimum of one (1) year as per RFP.

## 8.0 MANUFACTURER SERVICES

- 8.1 Manufacturer shall provide on-site installation and troubleshooting support in addition to via telephone and/or email.

## 9.0 ELIGIBLE MANUFACTURERS

- 9.1 While the products indicated above are preferred, any manufacturer offering products that comply with the required product performance and operation criteria may be considered. If you chose to submit alternate products, please clearly indicate in your bid response
- 9.2 All roadway luminaires supplied must be from the same manufacturer. All floodlights supplied must be from the same manufacturer that may be different from the roadway light manufacturer.

## 10.0 REQUIRED SUBMITTALS

- 10.1 Product cutsheets
  - 10.1.1 Luminaire cutsheets
  - 10.1.2 Cutsheets for LED light source(s)
  - 10.1.3 Cutsheets for LED driver(s)
  - 10.1.4 Provide diagrams illustrating light output and input power as a function of control signal.



- 10.1.5 Cutsheets for surge protection device
- 10.2 Instructions for installation and maintenance
- 10.3 IES LM-79 luminaire photometric report(s) from an accredited test laboratory.
- 10.4 Lumen maintenance calculations and supporting test data
  - 10.4.1 Shall be in accordance with LED Lighting Facts guidance.
    - 10.4.1.1 Exception: calculations shall be based on 100,000 hours of operation and average ambient temperature of 25C
- 10.5 Summary of reliability testing performed for LED driver(s)
- 10.6 Written product warranty as per section 7.0 above.
- 10.7 Safety certification and file number indicating compliance with UL 1598
  - 10.7.1 Applicable testing bodies are determined by the US Occupational Safety Health Administration (OSHA) as Nationally Recognized Testing Laboratories (NRTL) and include: CSA (Canadian Standards Association), ETL (Edison Testing Laboratory), and UL (Underwriters Laboratory).
- 10.8 Documentation from the luminaire and controls manufacturer(s) confirming interoperability of their products and identifying the manufacturer responsible for resolving any interoperability issues.
- 10.9 Documentation from the controls manufacturer(s) regarding any cybersecurity certifications the system has, including but not limited to UL 2900, IEC 62443, NIST Cybersecurity Framework, or other certifications to test the cybersecurity of system.

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**3.01 Cover Letter**

February 9, 2021

Town of Jamestown  
93 Narragansett Ave  
Jamestown, RI 02835

To Whom it May Concern,

Arden Engineering is pleased to participate in the request for proposal for the Street Light Maintenance and LED Conversion for the Town of Jamestown (ITB# JTN-21-500).

The representatives authorized to represent Arden Engineering in negotiations and sign contracts are:

John Puniello – President [jpuniello@ardeneng.com](mailto:jpuniello@ardeneng.com)

Gordon Fletcher – CFO [gletcher@ardeneng.com](mailto:gletcher@ardeneng.com)

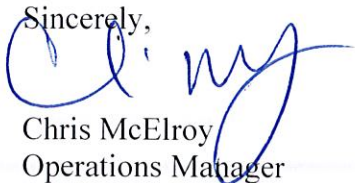
Chris McElroy – Operations Manager [cmcelroy@ardeneng.com](mailto:cmcelroy@ardeneng.com)

Address: 505 Narragansett Park Drive, Pawtucket, RI 02861

Phone: 401-727-3500 Fax: 401-727-3540

We want to thank you for the chance to participate in this proposal. We look forward to the opportunity to work with Jamestown during this process.

Sincerely,



Chris McElroy  
Operations Manager

**Arden Engineering Constructors, LLC**  
**505 Narragansett Park Drive, Pawtucket, RI 02861**

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**3.03 Description of Firm and Experience**

**1. Company Profile**

Arden Engineering Building Companies, LLC  
505 Narragansett Park Drive  
Pawtucket, Rhode Island 02861

**a. Robert M. Bolton, CEO / Owner**

State and Date of Incorporation: Rhode Island – 1954

**b. Location of Company Offices: 505 Narragansett Park Drive, Pawtucket, RI 02861**

**c. Total Current Employees in Rhode Island: 231**

Total Current Employees Nationally: 455

**d. Locations from which employees will be assigned for these Projects: 505 Narragansett Park Drive, Pawtucket, RI 02861**

**e. Principal Point of Contact:**

Name: Chris McElroy

Address: 505 Narragansett Park Drive, Pawtucket, RI 02861

Telephone (cell): 401-258-9381

**f. Company Background/History**

Since 1954, Arden Engineering Constructors has led the industry with the most advanced design, construction, and maintenance solutions available. From sophisticated heating, ventilating or cooling systems, power systems, roadway lighting, and traffic signalization, to the demands of industrial power piping, the breadth and depth of Arden's capabilities are unmatched.

From engineering to installation to maintenance, each specialized capability is delivered with uncompromising excellence. You can expect streamlined communication, no-frills efficiency, and respect for deadlines. Arden Engineering's approach is mean and lean. Your operating costs and bottom line will reflect it.

As Rhode Island's most significant mechanical contracting engineering firm, we are experts in mechanical construction and service, electrical construction, sprinkler construction, and sprinkler service. We are southern New England's premier total solution, Electrical/Mechanical engineering, and construction company.



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Today's complex projects demand a balance of bold thinking and trusted wisdom. Across the-board experience gives Arden the know-how to understand every facet of your project, and to integrate each one with masterful skill.

**Engineering Services**

- Design
- Plans/Specifications
- Retro Commissioning
- Energy/LEED Audit and Consulting
- System Installation Diagnostics

**Mechanical Services**

- Testing and Balancing
- Facilities Maintenance

**Construction (New & Retrofit) Commercial**

- HVAC & Refrigeration
- Plumbing & Heating
- Fire Protection
- Electrical
- Roadway Lighting & Traffic Signalization
- Intelligent Traffic Systems

**Why Arden is qualified to provide the services described in this RFP:**

**Who We Are:**

- Roadside lighting experts with many years' experience performing lighting LED conversions with an in-house team of professionals.

**What We Have:**

- Safe, energy-saving lamp solutions
- Licensed, experienced staff
- Large, new, reliable mobile fleet

**What We Do:**

- LED conversion and maintenance
- Streetlamp repair and replacement with commissioning
- Install new streetlights with commissioning
- Repair lights and associated conduit or power issues not operating properly
- Rewire poles and light fixtures to correct faults
- Respond to and perform related repairs of pole knockdowns



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- Repair or Replace standard or decorative fixtures
- Repair or replace foundation or poles
- Repair or replace electrical service pedestals and foundations
- Repair or replace damaged standard arms and fixtures
- Locate and mark streetlights and conduits for underground service alerts
- Perform comprehensive streetlight audits, collecting information such as pole and fixture type, wattage, GPS coordinates, etc.
- Paint poles
- Physically test and treat wooden poles
- Perform visual inspection of the Agency's infrastructure

Arden Engineering is fully qualified to offer all the functions defined in this solicitation's scope of work. Arden confidently recommends leading edge technologies that perform to the utility standards. Our methodologies ensure successful projects with maximized return on investments. LED Street lighting conversion and replacement has been a key focus of our operations for several years now as cities across the region have accelerated their conversions.

Arden Engineering works throughout New England with all associated utility companies and co-ops. The company has worked for over nine years without any OSHA accidents. Arden rapidly responds to natural disasters such as hurricanes, tornadoes & ice storms. Arden crews respond to the call of mutual aid groups in and throughout the Northeast with over 25 crews per storm event when needed. Arden teams also assist power companies with pole setting, repairing, and reconductoring downed overhead power lines, replacing electrical equipment and maintenance services. Our storm restoration also consists of assessing, troubleshooting, de-energizing, grounding, and re-energizing of primary and secondary overhead & underground conductors after all repairs have been made. Arden can comprehensively install and service multiple community's street lighting networks throughout the region at one time. Arden Engineering controls our large fleet of 15 locally operating bucket trucks and 25 qualified journeyman linemen. Arden maintains a close partnership with its leasing company, which allows Arden to acquire additional fleet as needed readily. With those resources, we have built this proposal around the commitment to complete the project in the most efficient time-frame possible.

The Northeast based utility companies that Arden Engineering has worked with are National Grid (Rhode Island, Massachusetts & New York); Unitil in MA & NH, Eversource in MA; Green Mountain Power in VT; Public Service of New Hampshire; New Hampshire Coop; Vermont Coop; CT Light & Power, and Western Mass Electric.



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**g. Length of time Arden has been providing services described in this ITB**

Arden Engineering Constructors has operated in the outdoor electrical sector for over 20 years. We employ our technical expertise to meet the electrical challenges of buildings and facilities for essentially any market. We provide expert guidance on the electrical systems that will best suit your specific situation and that ensure efficiency. Whether your project is new construction, retrofitting, or upgrades we deliver superior workmanship of code-compliant electrical solutions by licensed and experienced professionals. Arden has extensive experience in all aspects of installing highway and parking lot electrical construction including traffic signals, signs, and lighting systems. You see us beside the highways of New England installing, repairing, and maintaining the traffic, signal, and lighting systems that provide safe passage along our interstate highways.

**h. Resumes of Key Staff**

**Chris McElroy – Operations Manager – Senior Project Manager**  
**Experience Summary**

Mr. McElroy has near 20 years of experience in traffic and street lighting technology and operations, including construction, installation, and maintenance of electronic traffic control equipment. He is experienced in inspecting, testing, and repairing traffic control systems, including software, hardware, network, and communication issues. Chris has managed and or been a part of over 250K streetlight retrofits; many projects overlapped and required multiple community contacts. Over the years, Mr. McElroy has assisted a number of contractors and municipalities to install and maintain traffic signal systems while maintaining an excellent customer relationship. Mr. McElroy excels in managing large scale projects and his team, all while maintaining constant communication with the consultant, municipality, or end customer.

**Experience**

- **Field Operations Manager – Arden Engineering Constructors – August 2018**
- **Operations Manager – Siemens Industry Inc – January 2016 – June 2018**
- **Service Account Manager – Siemens Industry Inc – December 2015- January 2016**
- **Senior Field Service Engineer – Siemens Industry Inc – July 2013 –December 2015**
- **Traffic Signal Technician – Transportation Technical Service–January 1999 – June 2013**
- **- Lead Technician, managed installation, maintenance of traffic signal control devices, solar flashers. Specialized in implementing video detection and coordinated systems. Held training seminars with contractors as well as state and local municipalizes ranging from basic signal operation to more complex traffic signal standards, controllers, cabinet wiring, video detection software, interconnect systems, central management software.**



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#### **Certifications**

- **IMSA Work Zone Safety, IMSA Level I,II,III Traffic Signal Field Technician**
- **OSHA 10 T&D**
- **EPAC/SIEMENS Product Certified**
- **Solar Powered System Troubleshooting**
- **NEMA Cabinet Wiring Training, Programming and Troubleshooting**
- **Econolite Control Products Certified – AutoScope, ASC3, ASC2**

#### **Shaun Allen – Lead Project Developer – Assistant Project Manager**

##### **Experience Summary**

Mr. Allen has 15 years of experience in building trades and construction. Shaun has spent the last ten years developing and managing projects with a primary focus on energy efficiency. He is experienced in auditing existing systems, specifying replacement equipment, collaborating with stakeholders, and commissioning lighting controls. Shaun has developed projects with the Rhode Island State Office of Energy Resources, RI DOT, and the RI Airport Commission. Shaun played a primary role in developing the 2013 RI Municipal Streetlight Summit for members of the Rhode Island League of cities and towns. Mr. Allen has worked as a project expeditor serving National Grid's customers as they investigate and implement energy efficiency projects. Over the years, Shaun has assisted over 30 municipalities, 17 of those he assisted with developing LED Streetlight initiatives.

#### **Experience**

- **Lead Project Developer – EW Energy Solutions – August 2019**
- **Director of Sales & Operations – Trust Energy Solutions – October 2017 – Aug 2019**
- **Energy Analyst – Energy Conservation Inc – April 2014 - October 2017**
- **Director of Operations – Trust Energy Solutions – September 2012 – April 2014**
- **Project Manager – Heritage Restoration – April 2010 – September 2012**

#### **Certifications**

- **LEED AP**



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**Carmen Morasca – Foreman**

**Experience Summary**

Mr. Morasca has extensive knowledge and skill in LED lighting conversion projects. Carmen started in the trade approximately 25 years ago as an apprentice and rising to journeyman and foreman. In 2014, he successfully became a licensed electrician in the Commonwealth of Massachusetts. He has passed Local 103 hoisting and rigging class, storm service restoration class, and foreman certifications through Wentworth Institute of Technology along with OSHA safety cards. Mr. Morasca was previously employed at other local electrical contractors in the territory, where he excelled in safe, productive, and successful energy management installations throughout communities such as Leominster MA, Medford MA, Milton MA, Pittsfield MA, Quincy MA, Sunderland MA, and Ware MA. During the installation phase of these projects, Carmen also handled the streetlighting maintenance calls for Bedford MA, Canton MA, Gloucester MA, Manchester-by-the-Sea MA, Westwood MA, and D5 Mass DOT. His electrical experience also expands to other forms of public service items, such as the installation of electronic advertising screens at various T stations in Greater Boston and the Massachusetts statewide Variable Message Signs (VMS).

**3.03 2. Relevant Areas of Expertise**

**Internal Procedures and Policies Associated with this Project**

Arden takes the necessary steps to ensure quality in their installations. Technicians are trained in appropriate installation techniques. Arden's foreman will check back on-site to ensure luminaires have been properly installed. The project manager will occasionally inspect work sites at nighttime to ensure fixtures are functioning as expected. Along with occasional nighttime inspections, the project manager will visit job sites for quality inspections.

**Resource Availability**

Arden Engineering, under its field operations division, maintains a suite of resources particularly useful in the street lighting field. Arden's equipment, certified labor, and relationships strengthen its capabilities to complete the scope of work required in this solicitation. Arden Engineering Constructors is highly involved and maintains a superior relationship with all area local International Brotherhood for Electrical Workers (IBEW), allowing Arden to obtain staffing for any size project. Arden currently is signatory with Local 7, 99, 96, 103, 104, covering all of Rhode Island and Massachusetts. This relationship with IBEW can be activated to maintain project schedules and respond positively to the request for parallel installation periods among all three communities.

Partnering with EW extends the capabilities of Arden's service to the utility integration, specification, supply logistics, and warehousing. EW finishes among the top two contributors into the local utility rebate and incentive programs over the last two years. National Grid's local administrative staff and EW collaborate on a routine basis, discussing incentive and rebate programs, pilot programs, and market analysis. EW processes over 3,000 incentivized projects per year, submitting applications, scheduling post inspections, and validating



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that incentive payments are accurately applied. EW is a multi-layered and high-volume partner with X million square feet of warehousing, X hundred trucks, and over 5000 employees via USESI to assist with any level of demand the streetlight change over may generate. The USESI backing also provides buying power and logistics that stands unparalleled in our region. The customer's needs are given a more direct point of access to

manufacturers by having a distributor partner. This team takes pride in our expertise and commitment to this opportunity. There is a focus on doing what is right, derived from Arden and EW being staffed by Rhode Island employees. We are neighbors and members of the communities undergoing these streetlight projects. This team carries high standards to fulfill the scope of work professionally and to support Lincoln, Woonsocket, and Smithfield through these important public improvements.

**3.03 3. Relevant Experience**

The below list contains the most recent lighting projects (from a long list available upon further request) performed by Arden with similar scope to this solicitation. These projects consist of a new installation of lighting poles and fixtures and demonstrate the capacity Arden's electricians can handle with efficiency and professionalism.

**1. RIDOT Statewide LED Retrofit**

- Scope: Installation of 5,285 LED luminaires with cutoff optics and wireless lighting controllers in all ramps and mainline and overpasses on Interstate 295, 95 and 195, as well as Route 146, 99, 10, 6, 6/10 Connector, 24, 37, 114, 138, 78 and the Henderson Bridge.
- Contract: RI No. 2016-CT-009 – Amount, \$3,945,944.50 Completed 04/2018
- Owner: Rhode Island Department of Transportation  
Resident Engineer, Richard Pisaturo (401-265-5194)

**2. I-295 Safety and Lighting, Warwick - Johnston, RI – ARRA Project**

- Prime Contractor to Rhode Island Department of Transportation
- Scope: This project consists of the replacement of 297 Light Poles and Fixtures along I-295 Exit 1-5
- Contract: RI No. 2009-CH-068 – Amount, \$3,151,272.51 Completed 05/2015
- Owner: Rhode Island Department of Transportation  
Resident Engineer, Richard Pisaturo (401-265-5194)



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**3. MAPC-DOER-20 – Street Light Retrofit, Municipalities of Douglas, Everett, Oxford, Westford, Westport & Whitman**

Scope: Installation of ~5,500 LED Cobra Head Street Lights, Decorative Lighting, Area Flood Lighting, Installation of Fuses and Upgrade/Maintenance of Existing Wiring (Westford Cimcon Photo Controls)  
Contract: 6 Communities Total: \$525,000.00  
Owner: Douglas (Bill Cundiff 508-476-4000 [wcundiff@douglasma.org](mailto:wcundiff@douglasma.org) 29 Depot Street Douglas, MA 01516), Everett (Rachel Kelly 617-394-5004 484 [rachel.kelly@ci.everett.ma.us](mailto:rachel.kelly@ci.everett.ma.us) Broadway Everett, MA 02149), Oxford (Sean Divoll 508-987-6006 [sdivoll@town.oxford.ma.us](mailto:sdivoll@town.oxford.ma.us) 325 Main Street Oxford MA, 01540), Westford (Eric Heideman 978-692-5501 [ehaideman@westfordma.gov](mailto:ehaideman@westfordma.gov) 55 Main Street Westford, MA 01886), Westport (Lucy Tabit 508-636-1020 [tabitl@westport-ma.gov](mailto:tabitl@westport-ma.gov) 816 Main Road Westport, MA 02790), Whitman (Lisa Green 781-618-9788 [LGreen@whitman-ma.gov](mailto:LGreen@whitman-ma.gov) 54 South Ave Whitman MA 02382)

**4. MAPC-DOER-21 – Street Light Retrofit, Municipalities of Amesbury, Auburn, Haverhill, Tewksbury, and Tyngsborough**

Scope: Installation of ~9,000 LED Cobra Head Street Lights, Decorative Lighting, Area Flood Lighting, Installation of Fuses and Upgrade/Maintenance of Existing Wiring (Auburn, Tewksbury Cimcon Photo Controls)  
Contract: 5 Communities Total: \$1,100,000.00  
Owner: Amesbury, Auburn (Matthew C. Benoit 104 Central Street Auburn, MA 01501 [mboenit@town.auburn.ma.us](mailto:mboenit@town.auburn.ma.us) 508-832-7721), Haverhill (Mike Stankovich 978-420-3815 [mstankovich@cityofhaverhill.com](mailto:mstankovich@cityofhaverhill.com) P.O. Box 969 Haverhill, MA 01831), Tewksbury (Steve Sadwick 978-640-4355 [ssadwick@tewksbury-ma.gov](mailto:ssadwick@tewksbury-ma.gov) 1009 Main Street 2<sup>ND</sup> Floor Tewksbury, MA 01876),

**5. MAPC-DOER-23 – Street Light Retrofit, Municipalities of Athol, Berlin, Cohasset, Leicester, Newbury, Palmer, Salisbury, Somerset, Stoneham and Swansea**

Scope: Installation of LED Cobra Head Street Lights, Decorative Lighting, Area Flood Lighting, Installation of Fuses and Upgrade/Maintenance of Existing Wiring  
Contract: 10 Communities Total: \$600,000  
Owner: Athol (TBD), Berlin (Tim Wysocki 978-838-0045 23 Linden Street, Berlin, MA 01503), Cohasset (Michelle Leary 781-383-4100 4100 [MLeary@cohassetma.org](mailto:MLeary@cohassetma.org) 41 Highland Ave Cohasset, MA 02025), Leicester (Kristen L. Forsbergforsbergk@leicesterma.org (508) 892-7000 3 Washburn Square, Leicester, MA 01524), Newbury (Tracy Blais 978-465-0862 [administrator@townofnewbury.org](mailto:administrator@townofnewbury.org) 12 Kent Way Byfield, MA 01922), Palmer (Linda Leduc 413-283-2605 [lleduc@townofpalmer.com](mailto:lleduc@townofpalmer.com) 4417 Main Street Palmer, MA 01069), Salisbury (James Ryan 978-463-0656 [jryan@salisburyma.gov](mailto:jryan@salisburyma.gov) 5 Beach Road Salisbury, MA 01952), Somerset (Starting 9/1/2019), Stoneham (Jen Tomase 617-272-6151 [jtomase@gmail.com](mailto:jtomase@gmail.com) 35 Central St Stoneham, MA 02180), Swansea (TBD)



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**3.03 4. Experience with Utility and Other Incentive Programs**

Arden's customers' streetlight projects will benefit from our team's close relationship with National Grid. Our experience covers auditing existing conditions, processing incentives, coordinating utility post inspections, and scheduling interconnections. Over the years working with National Grid, we understand how to anticipate critical deadlines, manage dependencies, and accommodate expected lead times for return services. Our project schedule will not be negatively impacted due to communication, improper documentation, or ineffective scheduling. Your communities are anticipating significant incentives that require applications and technical review. EW and Arden are regional leaders in the processing and fulfillment of utility applications and on paid incentives. As listed in section 3.03 subsection 3, Arden has been working with utility and other incentive programs for over 5 years.

**3.03 5. Personnel**

As a leading provider of mechanical and electrical services, construction design-build, facilities management, and energy services, Arden's success directly reflects the skills, experience, and dedication our people bring to their jobs every day. To help them succeed, we strive to provide a positive, productive work environment based upon both mutual respect and a commitment to compliance with all federal, state, and local laws.

Arden recruits, hires, trains, and promotes employees without discriminating based on race, color, religion, gender, national origin, marital status, age, disability, or veteran status. And we understand that all our employees share the responsibility for supporting our policies for a harassment-free and drug-free workplace.

Arden Engineering Constructors is highly involved and maintains a superior relationship with all area local International Brotherhood for Electrical Workers (IBEW), allowing Arden to obtain staffing for any size project. Arden currently is signatory with Local 7, 99, 96, 103, 104, covering all of Rhode Island and Massachusetts.

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**Size of Team Assigned to This Project**

Thomas J. Adamson	David T. Disney	Matthew A. Marchetti
Joseph Audette	Allan Dunlop	Michael J. Massemini
Michael F. Avila	Austin Q. O'Flaherty	William L. Mulgrew
Joshua F. Barbosa	Michael Floriani	Scott F. Nallen Jr.
Zachary R. Belasco	Luke J. Folkes	Michael Nolette
Peter J. Bennett	Christopher J. Forte	Kevin Prosser
Aaron W. Bouley	Ryan L. Geremia	Philip Rodrigues
Danny E. Brennan	Michael A. Germain	Gregory F. Schramm
Edward F. Britto IV	Derek M. Hebert	Steven M. Shuman
Peter P. Butkins Jr	Shaun Hennessey	Kurt Smollin
Jeannine L. Chartier	Christopher R. Jackson	Michael J. Speight
Andrew J. Cross	Nichole L. Kent Scambio	Brandon M. Speight
Kevin T. Curran	Paul B. Landry	Bryce J. Suvajian
Ryan Dahlberg	Edward C. Larocque	Daniel F. Valcourt
Timothy J. Daley	Charles H. Lena	Michael A. Vito
Donald F. Davis Jr	Thomas J. Limoges	Shawn M. Viveiros
Marco A. De Sousa	Kyle Logan	Michael C. Walsh
Alan E. Desplaines	Biaggio Macera	Kirk M. Williams
		Kun Zeng



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<b>Name</b>	<b>Title / License #</b>	<b>Certification</b>
Joshua Barbosa	Apprentice	OSHA 10/30
Aaron Bouley	Foreman – 40709	OSHA 10/30
Peter Butkins	Electrician – B-010945	OSHA 10/30, IMSA Work Zone Safety. CDL
Marco De Sousa	Electrician – 52436	OSHA 10/30, IMSA Work Zone Safety
Bob Duchesne	Equipment Operator A	OSHA 10/30, IMSA Work Zone Safety. CDL, Hoisting, IMSA Traffic Signal Tech II
Michael Floriani	Electrician – A-000012 B-012811	OSHA 10/30, IMSA Work Zone Safety. CDL, Hoisting
Luke Folkes	Apprentice	OSHA 10/30
Adam Guyette	Electrician	OSHA 10/30
Shaun Hennessey	Electrician – A-004906 B-014054	OSHA 10/30
Ed Larocque	Electrician – B-012730	OSHA 10/30, IMSA Work Zone Safety
Kevin Leblanc	Foreman	OSHA 10/30
Matt Marchetti	Foreman – A-001430 B-010734; 56038-B	OSHA 10/30, IMSA Work Zone Safety. CDL, Hoisting
Carmen Morasca	Electrician – B-014543	OSHA 10/30
Austin O’Flaherty	Electrician – 52904	OSHA 10/30
Philip Rodrigues	Electrician – 10464	OSHA 10/30, IMSA Work Zone Safety, IMSA Street Light Tech I
Kurt Smollin	Electrician – 33981	OSHA 10/30
Nichole Scambio	Apprentice	OSHA 10/30



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### **3.03 5 a-f. Project Team**

Arden has a qualified team dedicated to traffic and streetlight conversions whose goal is to complete projects on time and in budget. Arden's team assigned to this project are Chris McElroy as Operations Manager, Matt Marchetti as General Foreman, Mike Floriani and Carmen Morasca as Foreman, and Emalee Russell as Project Coordinator.

#### **Chris McElroy – Operations Manager**

Mr. McElroy has near 20 years of experience in traffic and street lighting technology and operations, including construction, installation, and maintenance of electronic traffic control equipment. He is experienced in inspecting, testing, and repairing traffic control systems, including software, hardware, network, and communication issues. Chris has managed and or been a part of over 250K streetlight retrofits; many projects overlapped and required multiple community contacts. Over the years, Mr. McElroy has assisted several contractors and municipalities install and maintain traffic signal and street lighting systems while maintaining an excellent customer relationship. Mr. McElroy excels in managing large scale projects and his team, all while maintaining constant communication with the consultant, municipality, or end customer. 20% of Mr. McElroy's time will be dedicated to this project.

#### **Matt Marchetti – General Foreman**

Mr. Marchetti started in the trade nearly 30 years ago as an apprentice making his way to foreman. Mr. Marchetti has been a part of the traffic division since 2003, joining Arden Engineering in 2014. Mr. Marchetti has gone through the ranks of electrician, foreman, to general foreman due to his nature of management and being able to handle the tasks at hand. Mr. Marchetti excels in field and project management. Matt is currently pursuing master electricians license in Connecticut and currently holds a masters license in Massachusetts and Rhode Island. Matt is currently overseeing field operations in Rhode Island and Massachusetts construction and maintenance projects. Mr. Marchetti will serve as general foreman throughout all communities on this project and 75% of his time will be dedicated to this project.

#### **Mike Floriani – Foreman**

Mr. Floriani has roughly 20 years of experience in the electrical trade. Joining the State of Rhode Island's apprenticeship program in 2000, he completed the program in 2004 excelling to a Foreman role during that time. Mr. Floriani's experience includes electrical inspector at Rhode Island Department of Transportation transitioning to Electrical Traffic Maintenance Personnel at RIDOT where he earned his CDL and restricted hoisting and excavation licenses. Mr. Floriani was responsible for the maintenance of all highway lights in Rhode Island as well as troubleshooting and restoring traffic signals. Mr. Floriani's role at Arden Engineering includes foreman for RIDOT Traffic Monitoring, which entails installing and maintaining RVD and highway camera systems. Mr. Floriani will serve as foreman for this project and 100% of his time will be dedicated to this project.



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**Carmen Morasca – Foreman**

Mr. Morasca has joined the Arden Engineering team bringing his knowledge and skill set that he has shown in LED lighting conversion projects. Carmen started in the trade approximately 25 years ago as an apprentice and rising to journeyman and foreman. In 2014, he successfully became a licensed electrician in the Commonwealth of Massachusetts. He has passed Local 103 hoisting and rigging class, storm service restoration class and foreman certifications through Wentworth Institute of Technology along with OSHA safety cards. Mr. Morasca was previously employed at other local electrical contractors in the territory, where he excelled in safe, productive, and successful energy management installations throughout communities. During the installation phase of these projects, Carmen also handled the streetlighting maintenance calls for municipalities throughout New England. His electrical experience also expands to other forms of public service items such as the installation of electronic advertising screens at various T stations in Greater Boston and the Massachusetts statewide Variable Message Signs (VMS). Mr. Morasca will be responsible for the day to day operations of field staff, quality inspections on work performed, accurate field documentation, and safety meetings. 100% of Mr. Morasca's time will be dedicated to this project.

**Emalee Russell – Project Coordinator**

Ms. Russell was recently brought on as project coordinator for all traffic/streetlighting projects. Her responsibilities on this project include coordinating with Operations and Project Managers in overseeing, documenting, and reporting on the daily activities. She will also support Chris McElroy in material procurement, processing purchase orders and invoicing promptly. Her experience on similar projects involves recent MAPC streetlight conversion projects serving as administrative support keeping track of weekly conversion amounts ensuring projects are completed and invoiced in a timely fashion. 50% of Ms. Russell's time will be dedicated to this project.

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### **3.03 6. Equipment**

Arden Engineering has significant owned and long-term leased resources to complete all lighting and retrofit projects. In addition, Arden has access to bucket trucks of any size with partnered leasing companies. Arden Engineering maintains a large, well-maintained fleet of new vehicles and premium equipment, ensuring reliability and responsiveness.

Our vehicles include 2015 through the 2019-year model insulated bucket trucks with an Altec Articulating Booms, exceeding full-size cranes for pole replacement and transportation of poles, service vehicles, and dump trucks to respond to all traffic signal and street lighting situations including excavation and new construction. All Arden fleet is equipped with emergency lighting that meets or exceeds MUTCD standards.

Arden's fleet is locally available and within minutes of any job site. These include vehicles assigned to the job as well as fleet vehicles in East Providence or other vehicles on the road. These instantly re-deployable assets assure a rapid response by Arden to any emergency or contingency related to this project. This responsiveness directly affects the public perception of the conversion by both creating less tension on the roads as well as providing project leaders with confidence that the solution for any issue is readily available.

Arden's fleet is deployable 24/7 by a call from any public official assigned to manage this process, the police, or other emergency officials. In the maintenance stage, Arden is positioned as a Rhode Island-based company with extensive equipment (and staff to operate them) to respond extremely quickly to the First Responder, and National Grid Make Safe protocols.



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Arden Current Fleet as of February 2021

2011 DODGE 5500 HD BUCKET TRUCK	2018 GMC SAVANA 2500 PICKUP TRUCK
2019 FORD F550 4x2 BUCKET TRUCK	2017 FORD F250 PICKUP TRUCK
2017 RAM 5500 4x4 BUCKET TRUCK	2017 GMC EXPRESS PICKUP TRUCK
2014 FORD F550 4x2 BUCKET TRUCK	2018 GMC SAVANA 2500 PICKUP TRUCK
2016 DODGE 5500 HD BUCKET TRUCK	2013 GMC SIERRA 2500 4x2 PICKUP TRUCK
2017 FORD F550 4x2 BUCKET TRUCK	2015 FORD F250 UTILITY PICKUP TRUCK
2012 FORD F550 4x2 BUCKET TRUCK	2019 GMC SAVANA 2500 PICKUP TRUCK
2015 DODGE 5500 HD BUCKET TRUCK	2019 GMC SAVANA 2500 PICKUP TRUCK
2019 FORD F550 4x2 BUCKET TRUCK	2014 FREIGHTLINER DIGGER DERRICK
2019 FORD F550 4x2 BUCKET TRUCK	2019 CHEVY 5500 DUMP TRUCK
2017 FORD F550 4x2 BUCKET TRUCK	2019 CHEVY 5500 DUMP TRUCK
2016 FORD F550 4x2 BUCKET TRUCK	
2019 FORD F550 4x2 BUCKET TRUCK	
2019 FORD F550 4x2 BUCKET TRUCK	
2019 FORD F550 4x2 BUCKET TRUCK	

Arden Engineering also leases various E250 Vans, Pick-Ups, and Utility Body Trucks.



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### **3.04 Project Approach and Understanding – LED Conversion**

#### **3.04 1. Pilot Program**

Arden will work closely to provide consultation with key members of the community to establish lighting plans or standards. The Arden team has already assisted several Rhode Island and Massachusetts municipalities with this process through the years. In the past, team member Shaun Allen assisted the Rhode Island State Department of Transportation and Rhode Island State Office of Energy Resources in researching and establishing the current state-wide standard as well. We welcome the community to nominate project champions who will represent public safety, department of public works, parks, and recreation, center for aging and council. Samples can be provided ahead of time to install and use as pilot programs if desired as well. Arden strongly recommends visiting these pilot installations as a group during different hours from dusk to dawn and in deferent weather when possible. Arden will also help the communities by providing all the necessary equipment and skillset to effectively collect and analyze essential data.

Arden engineering recommends using network controls that include remote monitoring and management of electrical usage. We are very effective advisors of maximizing the communities' eligible incentives while also being practical to lead investment dollars toward the functionality the community truly needs. There are many ways to overpay for what would ultimately be commissioned as a simpler system. It is our team's experience and knowledge that will protect the communities' investment into the right control strategy for them. We do this in public and private buildings with every project. We understand how quality streetlighting impacts operators and residents. Safety, Security, and immersive quality of light can elevate a community perception.

Arden agrees to the provision in the RFP and recommends the use of cellular network-integrated nodes. This type of lighting control qualifies for the highest incentives due to its intelligent networking capabilities. The network controls also generate the greatest savings to the customer as a result of their scheduled dimming capabilities.

#### **3.04 2. Maximizing Incentives and Limiting Utility Costs**

Arden will work with the community to determine the configurations of the control needed at each luminaire. We suggest that the community review these decisions with their public safety, public works, and administrative staff to reach an agreement. The table below taken from the RIPUC No. 2190 Rate Tariff illustrates the billable kWh delivered by wattage and operation schedule. The communities lighting control system will be programmed to match the minimum requirements of this rate tariff. The luminaires that are assigned scheduled hours less than Dusk-To-Dawn will provide a further reduction in the community's streetlight electric bill.



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Solid State Lighting (SSL) Sources

Light Source Type: Light Emitting Diode (LED)

<u>Nominal Wattage<sup>2</sup> (Range)</u>	<u>Billable Wattage</u>	<u>Annual Billable kWh Delivered</u>				
		<u>Operating Schedule</u>				
		<u>Continuous</u>	<u>Dusk-To-Dawn</u>	<u>Dimming-70%</u>	<u>Part-Night-4hr</u>	<u>Dimming-50%</u>
0.1 to 20.0	10	88	42	37	27	31
20.1 to 40.0	30	263	125	112	81	92
40.1 to 60.0	50	438	209	187	136	154
60.1 to 100.0	80	701	334	299	217	246
100.1 to 140.0	120	1,051	501	448	326	370
140.1 to 220.0	180	1,577	752	673	489	554
220.1 to 300.0	260	2,278	1,086	972	706	801

<sup>2</sup> LED Nominal Wattage includes the total device system wattage (LED array, driver, and control) and applicable adjustments. For billing purposes, a streetlight will be placed on an operating schedule based on the following: (1) if the streetlight's annual operating hour equivalent is no more than five (5) percent above the closest operating schedule's annual operating hour equivalent identified below in the Hours of Operation section, the streetlight shall be placed on that operating schedule; or (2) if the streetlight's annual operating hour equivalent is more than five (5) percent above the closest operating schedule's annual operating hour equivalent, the streetlight shall be placed on the operating schedule with the next highest annual operating hour equivalent.

Issued: August 16, 2018

Effective: September 1, 2018

Arden will assist with generating and providing the inventory of installed equipment and controls. "The Customer shall provide the Company with a complete listing of all luminaires served under this rate within thirty (30) days following the beginning of each calendar year of all facilities in-service as of December 31 of the preceding calendar year." RIPUC No. 2190. The public utility commission has not yet reached an agreement with National Grid to meter the actual usage of each luminaire. However, in the event that it's approved, the cellular nodes can also report energy consumption within an accuracy of plus or minus 0.5% when operating with PF 0.9. The communities would be able to benefit from their dimming strategies and be billed at a reduced demand from National Grid. Until the utility allows for metering via nodes, the communities will receive a special S-05 rate for municipal-owned LED fixtures.



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### **3.04 3. Storage and Staging**

Arden Engineering crews would operate daily from a small construction staging area, with outdoor space to be provided by the City, anticipated to contain the following:

- One to Two storage trailers (53' long)
- One 30YD dumpster for cardboard
- One 30YD dumpster for fixtures
- One smaller dumpster for other trash

Arden Engineering technicians load trucks from 6 am-7 am and do not typically return to the staging area to unload until around 3 pm, finishing their day at 4 pm. Personal vehicles are not parked at the staging area during the day, as our technicians take their bucket trucks home.

Arden Engineering will require space for mobile storage containers and staging areas for this project. We will work with the community to select a specific area within the community. This space will be used to stage 6 bucket trucks, one dumpster, and at least four mobile storage facilities. If gated, we would ask but not require that the area be managed through a shared lock process. Each entity would provide a padlock and interconnect the two where convenient. Upon arrival, either entity could open their lock and gain access without requiring the other entity to be on site. This would help us stage product or receive deliveries after municipal hours. If that is not possible, we can make adjustments to our scheduling of such events to work within the operating hours of the host site.

Should the project goals and standards of this ITB not be obtained, Arden Engineering will make the necessary personnel adjustments

Arden Engineering will submit a traffic control plan for approval by the Town of Jamestown prior to authorization to proceed with work. In the traffic control plan, Arden Engineering will address which streets will require a police detail. Arden shall maintain the necessary signs and barricades necessary to protect the public. Traffic control will be performed on residential and arterial streets based on the MUTCD guidelines and will be conducted in a manner to cause the least inconvenience to traffic as possible.



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#### **3.04 4. Handheld Devices**

Arden technicians use iPads to keep track of their progress during the conversion stage. As they make their way from fixture to fixture, the conversion status is changed from “unconverted” to “converted” or “converted with an issue.” In the case of converted with an issue, the issue is assigned to the appropriate person using the Arch.GIS Collector Application.

Our technicians are experienced with the Arch.GIS software having used the application in over two dozen municipalities across Massachusetts and Rhode Island.

Arch.GIS licensing will be shared or provided to the community upon request. All programs coordinate clearly with Excel to present all relevant information. For example, usage, location, status, and equipment characteristics will be archived for the community’s records. As the installation is completed, milestones of progress can be shared while the project is underway. The community can notify residents and prepare community resources to accommodate the installation plan.

GIS mapping shall only be included if Town proceeds with the GIS lighting survey.

#### **3.04 5. Project Schedule**

Arden Engineering is confident that our team members will have the ability to deliver the installed units within the planned scope of the project. Organization and management will be vital to keeping these projects on schedule. That is why our tactical plan has three levels of project management between Arden Engineering, EW Energy Solutions for material logistics, and the lighting and sensor manufacture principal designers. Each professional will be responsible for overlapping daily reporting, inventory, and next day staging tasks. We are committed to maintaining effective communication, data sharing, and site presence to properly deploy our installation crews in each town simultaneously. Coordination with local officials and community members will always be our highest priority. We take seriously the notion that we are guests of the community and shall do everything necessary to make sure this transition is a positive experience. Our approach is completely scalable relative to the communities’ needs (i.e., project completion date). We will be using less than 20% of the Arden team's total workforce. The weather during the winter months may require construction to shut down for a day or two. Arden can ramp up the onsite presence overnight to get back on or ahead of schedule.

The daily schedule would consist of all crew members arriving at the staging area for work at the start of their 10-hour day. Bucket Trucks will be started, and quickly checked for safety while the transport vehicle’s inventory is confirmed for the day’s target zone. The crew will review the target zone and specific traffic plan for that space. The crews will move all assets to the initiating point for the day’s target zone and begin work. The crew will complete three streetlights per hour and work until a one-half hour prior to the end of their shift. They will use that final half-hour to return all vehicles, waste, and recycling to the staging area. The transport



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vehicle will be restocked for the next day's workload. As mentioned earlier in this section, we anticipate meeting or beating the goal of 120 days to finish the installation.

**3.04 6. Safety Policies**

Arden has a zero-tolerance policy on safety violations, and copies of safety history documentation will be provided upon request. Our employees are trained in basic safety, coupled with weekly safety meetings, to avoid safety violations. All electricians are IMSA and IBEW trained and are paired with a senior staff member and must pass a series of tests prior to being permitted to work independently.

Prior to the start of any project, the jobsite supervisor is to become familiar with the client and job site rules, regulations, procedures, and requirements, which will then be passed along to all supervisors of the project before work commences.

- EMR is 0.63.
- All employees are authorized to immediately stop any unsafe work without fear of retribution or reprisal.
- Employees OSHA 10 trained with majority of foremen OSHA 30 trained.
- "A" or "Green" rated in third party qualifiers such as ISNetwork, Avetta, Browz and ConstructSecure.
- Weekly toolbox talks required of all craft employees.
- Job Hazard Analysis (JHA) completed for involved scopes of work.
- Weekly jobsite inspections conducted by foremen and/or safety personnel.
- Incident/accidents investigated as a team to learn and determine true root causes.
- SiteDocs (3rd party app) used to provide real time access to safety procedures, safety data sheets, toolbox talks, inspections, etc.
- Respirator medical clearance, fit tests, and training conducted prior to authorizing use.
- Confined space entry awareness, attendant, entrant, supervisor conducted and continually refreshed.
- Vehicle drivers pre-screened prior to allowing to drive.
- Refresher training conducted such as lead awareness, asbestos awareness, HAZCOM refresher, etc.
- Respirable silica program with training and HEPA-equipped drills.
- Aerial Work Platform training conducted for scissor & boom lifts and bucket trucks.
- Vehicles/drivers monitored with GPS.
- Vehicles & equipment maintained to manufacturers' requirements.
- NFPA 70E electrical safety procedures followed.
- Work Zone training & 3rd party certification conducted.
- Department of Transportation (DOT) requirements complied with.
- Hazardous/reportable material disposal conducted per EPA & State requirements.
- Company's Director of Safety & Fleet Operations is CSP certified.



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### **Disposal and Recycling**

Arden will ensure all waste materials generated from the replacement and maintenance program disposed of in accordance with all applicable laws and regulations. Arden will contract with one or more hazardous waste disposal and recycling firms. Arden shall comply with applicable environmental laws and regulations regarding handling of hazardous substances and shall take appropriate measures to ensure the safe handling of such substances as Arden may encounter. Arden acknowledges the project will be “no waste”, i.e. all equipment will be removed and properly recycled in accordance with all applicable laws and regulations. Arden is responsible for all disposal cost. Arden will supply copies of all disposal documentation to the Communities upon request and retain copies for the required under applicable laws.

### **Safety and Training**

A Successful Project is a Safe Project

One of the ways in which Arden measures project success is safety. We hold it in the highest esteem, making sure that every Arden employee – from our office staff to our tradespeople and subcontractors – understands it to be our first and top priority. We respect the men and women we employ, everyone that we encounter, and have dedicated ourselves to ensuring those individuals return safely to their homes each and every night. This goal drives our uncompromising commitment to safety education and training. We are committed to operating safely.

We offer our employees a safe environment and the responsibility to keep it that way. Any employee may stop work if he or she feels there are unsafe conditions present. Every employee has an obligation to inform and rectify any unsafe situation they may encounter. Our goal is zero work accidents. Period.

We foster a culture of education and training. Every employee of any of the Arden Building Companies is OSHA 10 trained for safety.

### **3.04 7. Commissioning of Streetlights and Controls**

Arden Engineering will provide the availability to conduct commissioning planning meetings with community representatives and stakeholders. We encourage members of police, fire, DPW, Water, Council, and County Authorities to participate. Discussions will revolve around emergency response settings, creating control zone overlays, and planning for special events or natural weather events where override abilities can be utilized.

Start-up tasks include the creation of customer instance and site within the cloud-hosted Netsense platform and association of field-installed nodes with the site, geolocation, and specific fixture type characteristics. A mobile application will be employed by field installers to scan unique node IDs automatically associating it with the site and allowing field capture of relevant information like fixture characteristics leveraged by the Netsense platform for lighting management. Information on site and fixtures can be entered in bulk prior to field



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deployment allowing for rapid field data collection by pre-populating drop-down menus with attributes for selection by field personnel.

Commissioning tasks also include assignment of nodes to groups, creation of schedules, and assignment of schedules to nodes and groups. Secure user accounts (with appropriate role-based access controls) will also be established for City personnel, designated call center staff, and Tier 2/3 support personnel at Acuity and Verizon. In general, there are two types of users: executives and lighting system managers.

- An executive user can monitor streetlights status, including via a web browser-based graphical user interface depicting every single streetlight's state, and has the ability to monitor energy consumption, but cannot turn lights on or off or change schedules. Essentially an executive has 'read-only' access.
- Lighting system managers have the same monitoring capabilities as executive users, and can turn streetlights on or off, create or modify schedules, and apply and change schedules. They have 'read/write' access.

Automated alerts will be configured and directed to relevant City staff and support centers to assist in system monitoring. Energy Conservation, Inc. will solicit usernames, node grouping, and scheduling input from the City of Pawtucket during the commissioning process.

Prior to the turnover, several standard diagnostics, including network signal strength checks, will be performed to verify node functioning and accuracy of information (e.g., node location) within the Netsense instance. A turnover package documenting the diagnostics, lighting groups, programmed schedules, and support contacts is provided to the City upon completion of commissioning.

Two networking technologies will be utilized for this deployment: cellular. The cellular network requires no start-up or commissioning.

- Conduct a pre-install site survey to discover pre-existing conditions and test design assumptions
- Finalize design
- Train installer on the physical installation
- Pre-configure and stage Access Point equipment
- Provide explicit installation instructions
- Conduct a post-install site survey to validate network performance
- Program Manage the network design, installation, and validation

Light Sense nodes can be installed via *auto-commissioning* with our lighting portal, NetSense. With auto-commissioning, the Light Sense node becomes operational at the customer's site often within minutes of being powered on. If the operator has uploaded pole and fixture data to NetSense, auto-commissioning will associate the installed node with this data based on GPS location.



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Light Sense node, auto-commissioned with NetSense, dramatically reduces your installation complexity, time, and cost.

Remote support capabilities will be used to assist the communities in their ownership and operational needs. Developers and Engineers can work remotely on the system to assist with commissioning changes, service, or needs.

### **3.05 8. Training Staff on Network Controls**

Arden and its associated partners understand the importance of training municipal staff on their newly installed system. Typically, our team would arrange an in-house conference to bring all staff up to speed on their system, but due to the current circumstances this would be accomplished virtually over live meetings. Arden's team is prepared to provide several online training sessions along with Arden's 24/7 on call number that can direct your questions to the appropriate in-house staff. To further support the project all key Town staff will have direct contact information for Arden's Operations Manager and foreman allowing the Town to be in contact as needed.

### **3.05 Project Approach and Understanding – Maintenance**

#### **3.05 1. Warranty, Routine, and Emergency Maintenance**

Bid price includes a 1-year workmanship warranty. The manufacturer's warranty for LED Luminaires and controls shall be at least ten years.

Maintenance is separated into routine and emergency maintenance. Routine maintenance will consist of Arden following up on City repair requests. Arden will first determine if these issues can be resolved remotely if this is not possible, a technician shall address the issue within five (5) business days of notification. Arden shall maintain an inventory of frequently used material/equipment including photocells, lamps, ballasts, in order to perform repairs in the timeframe required in this ITB.

Emergency Maintenance will be responded to by Arden within the timeframe specified in this ITB. Arden's Service and Maintenance Division is on call 24 hours a day, seven days a week to resolve emergency repairs. To report a traffic signal or streetlight issue, contact 1-866-GO-ARDEN (1-866-462-7336).

#### **3.05 2. Call Center**

Arden's Service and Maintenance Division is on call 24 hours a day, seven days a week to resolve critical issues. To report a traffic signal or streetlight issue, contact 1-866-GO-ARDEN (1-866-462-7336). Routine maintenance calls during regular working hours will be addressed to Chris McElroy and Emalee Russell who will then schedule a technician to repair issue with five (5) business days. Emergency calls after business hours



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should be report to Arden's on call Service and Maintenance line. These calls will be fielded to Chris McElroy who will address emergency calls in a timely manner.

### **3.06 Proposed LED Luminaires and Network Controls, Including Manufacturer Warranties**

#### **LED Luminaires – Decorative/Post Top Fixtures Option 1:**

##### **ACUITY BRANDS QUALIFICATION STATEMENT**

Acuity Brands is one of the world's leading providers of lighting fixtures and related products and services, with fiscal year 2019 net sales of over \$3.9B. Acuity Brands is made up of many different product brands including Acuity Controls®, American Electric Lighting®, Antique Street Lamps™, Carandini®, Distech Controls™, Gotham®, Healthcare Lighting®, Holophane®, Hydrel®, June Lighting Group®, Lithonia Lighting®, Mark Architectural Lighting™, Peerless®, RELOC®, Sunoptics®, and Winona Lighting®. Headquartered in Atlanta, GA, Acuity Brands employs approximately 13,000 associates and has operations throughout North America, Europe and Asia.

##### **Highlights – American Electric Lighting**

In 2001, Acuity Brands Lighting, Inc. purchased AEL, DTL and the Heritage line. American Electric was founded in 1953 to address the unique needs of the utility, municipality, and DOT markets, and was acquired in the early 1970s by ITT. The company was then purchased by Forstman/Little, an investment and holding company, in 1985; in 1986, Forstman/Little officially changed the name of the line to "American Electric Lighting." The brand thrived and grew under this leadership and was acquired by Thomas & Betts (T&B) in 1991. Under the T&B umbrella, AEL acquired Emery decorative products (now known as the Heritage line) and Dark-to-Light photocontrols (DTL) in 1998.

American Electric Lighting products strive to provide the best value by offering best in class performance at competitive price levels. Over the last 3 years we have produced well over 1 million LED cobra head luminaires in addition to a variety of other product styles utilizing LED as the light source.

##### **Highlights – Manufacturing**

As the largest LED luminaire manufacturer in North America and with a supporting network of distribution centers located across the country, Acuity has the financial strength, capacity, scalability, and logistical capabilities to support projects of all sizes.



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Our manufacturing organization (as well as all other parts of our company) follows Acuity Business System or (ABS) which was founded on the maniacal pursuit of the elimination of waste... from every business process with the ultimate goal of providing World-Class Quality and Delivery to our customers at the lowest possible Cost. ABS is a mindset of continuous improvement as a total organization, cross functionally and collaboratively to make a difference with our customers. This mindset demands excellence in everything we do! ABS integrates not only a quality management system but also the holistic E-Q-D-C management of the company.

**E – Environmental, Enterprise Risk, Health and Safety** – Focused on the Environmental, Health and Safety impact that our company has on our World, Customers and employees.

**Q – Quality** – Focused on improving our processes throughout the Acuity Enterprise that assure our customers' expectations are exceeded.

**D – Delivery** – Focused on improving our process of flow in distributing our products from the pull of our customers - What they want, where they want it, when they want it, and without defects.

**C – Cost** – Focused on eliminating non-value-added cost from the perspective of our customers, in order to improve overall value and service for our customers.

#### Highlights – Distribution Capabilities

Acuity Brands Distribution Centers are located strategically throughout the US. Each Acuity Brands location distributes about \$1M dollars of material a day to locations throughout the geography they cover. In addition to distribution, Acuity Brands also performs small cell manufacturing for select light fixtures in the Acuity Brands portfolio. A portion of the components and parts for these fixtures are sourced from local suppliers and vendors.

Having participated in many LED upgrades to include small projects to those with 100,000+ luminaire, we understand the logistical dynamics that must be met. We work closely with our distributor partners and installing contractors to manage production and delivery in support of project timelines.

Simply stated, no other manufacturer can match our manufacturing and distribution capabilities or our experience supporting projects like yours.

#### Highlights – Services – Technical, Design, and Field Support

In addition to designing, manufacturing, marketing and distributing lighting luminaires and controls systems, Acuity offers many additional services to our customers, such as:

- Product training
- Lighting education



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- Computerized lighting design
- Photometric, economic and financial pay back analysis
- Field technical support
- Commissioning
- Financing

Acuity's Holophane/American Electric Lighting field sales organization is among the best trained, most educated lighting sales force in the world. These Acuity Brands employees can provide expert training, design and technical support, and are available to work with our customers on the development and implementation of their lighting and controls projects.

Acuity Brands has fully staffed Customer Service and Field Service organizations, to ensure that we properly support and service every Acuity Brands product. Our Field Service team has been in place for over 40 years, with some of the most experienced personnel in the industry.

Highlights – Autobahn ATBMic/S/M/L family

American Electric Lightings Autobahn ovate family of cobraheads is available in four sizes (Micro, Small, Medium, and Large) with output up to 30,000 lumens. It's industry leading performance and design includes;

**Optical.** IP66 rated borosilicate glass optics ensure longevity and minimize depreciation due to dirt and other environmental factors. Available in multiple distributions with field installable light trespass shields and visual comfort lens. IP66 rated light engines provide 0% uplight and restrict backlight to within sidewalk depth, providing optimal application coverage and optimal pole spacing. LED's are available in a full range of correlated color temperatures.

**Electrical.** LED light engines are rated >100,000 hours at 25C, L70. Drivers are rated for 100,000 hours life at a 25C ambient. 20kV/10kA surge protection includes inductive filtering limiting pass through to surge energy to less than 10%.

**Mechanical.** Die cast low copper content aluminum housing and door is polyester powder coated for durability and corrosion resistance. The standard finish is suitable for coastal applications and achieves a scribe creepage rating of 8 (per ASTM D1654) after over 5000 hours of exposure to salt fog chamber (operated per ASTM B117). Lineman and installation friendly features include tool-less entry, 3 station terminal block, quick disconnects, and a standard internal bubble level. The 2-bolt clamping mechanism provide 3G rating per ANSI C136.



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**Interoperability.** Acuity solutions provide you with world-class LED lighting and controls technologies with the peace of mind only Acuity Brands can offer. We have verified performance of the complete system to include luminaires and controls included in our proposal. Provided all equipment (luminaires and controls) is manufactured and/or sourced in coordination with Acuity Brands, we will coordinate full technical support for its operation. Acuity Brands is your one, trusted resource before, during and after installation.

Highlights – Autobahn Projects

Small sampling of projects across the country either completed or ongoing construction

- Duke Energy – 100,000+ luminaires
- City of Phoenix, AZ – 90,000+ luminaires
- City of Tucson, AZ – 18,000+ luminaires
- City of Raleigh, NC – 15,000+ luminaires
- City of Worcester, MA – 14,000+ luminaires
- City of Clearwater, FL – 11,000+ luminaires
- City of El Paso, TX – 10,000+ luminaires
- City of Newton, MA – 8,000+ luminaires
- City of Pawtucket, RI – 5,800+ luminaires

And a few more!

- City of Pueblo, CO; City of New Bedford, MA; Bay City, MI; Charlotte - Douglas Airport ; City of Chula Vista, CA; City of Renton, WA; City of Cuyahoga Falls, OH; City of Hamilton, OH;
- City of Los Angeles; City of Redwood, CA; City of Wadsworth, OH; CT DOT; Dept. of Corrections, Brockton MA; Energy Northwest - Spokane, WA; Fairbanks AK Transportation; Gulf Power; MA DOT; TX DOT; Marinwood, CA; Owensboro Municipal Utility; PEPCO, PSE&G; PWU Traffic Operations, Duluth, MN; San Rafael, CA; SCE&G; Snohomish PUD; Solutia, Sauget, IL; Town of Amherst, MA; Town of Erving, MA (Public Works); Cranston, RI, Barrington, RI.

**Table 2: Total kWh Reduction Calculation**

Dusk to Dawn Operations	4,175	hrs.
Total Rated Wattage Reduction (Total Rated Existing W - Total Proposed Rated W)	178,769	W
Total kWh Reduction (Total Rated Wattage Reduction * 4,175)	807,301	kWh

\* Total kW Reduction – 193.37 kW



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### **3.06 Streetlight Controls**

#### **Options 1, 2, 3**

Specific to the Light Sense node hardware:

- Encryption: DTLS1.2 PSK with 128-bit AES encryption

Specific to the complete Verizon Intelligent Lighting solution:

- Intelligent Lighting provides security infrastructure with role-based access control and data-at-rest and data-in-motion encryption
- Transport Layer Security (TLS) 1.2, AES 256-bit encryption for device authentication
- Role-based access control for NetSense application
- Secure Sockets Layer (SSL)-encrypted access to the NetSense portal through a standard web browser on a laptop, desktop, smartphone or tablet
- Periodic vulnerability scan and penetration testing

### **3.06 Proposed LED Luminaires and Network Controls, Including Manufacturer Warranties**

#### **LED Luminaires – Decorative/Post Top Fixtures Option 2**

Highlights – Leotek GreenCobra™ Series

Leotek believes that good design integrates simplicity and functionality. The GreenCobra™ Series is built with durable high-strength materials and reliable components, and is backed by Leotek USA's Standard 10-Year Warranty and 20 years of experience building LED lighting products.

**Optical.** Green Cobra light engines are constructed of durable optical polymer that is impact and UV resistant to ensure efficient light transmission over the life of the luminaire. The optical distributions are optimized to provide performance that is compliant with IESNA RP-8-18, even in challenging applications. GreenCobra light engines utilize one-piece optics that are more efficient than optics that use flat tempered glass. With flat secondary cover glass, a significant percentage of light output is reflected back and never reaches the roadway. GreenCobra IP-66 rated light engines use an array of discrete LEDs. There is less glare since the LED light sources are distributed, not concentrated in a small area like COB (chip-on-board) light engines.

**Electrical.** GreenCobra™ light engines are designed to draw less current than most designs in the industry. This provides maximum efficacy with less thermal stress for longer life. Leotek partners with premium LED vendors that use the latest material technology for long life operation. These high output LEDs produces a nominal 90%



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of initial output at 60,000 hours of life (IES recommended lumen maintenance life projection based on 6X the duration of LM-80 data.) Leotek uses LEDs that are ROHS compliant, 100% mercury and lead free. GreenCobra™ luminaires are designed with power supplies that are rated for 100,000 hours of life with standard 1-10V dimming. Surge protection includes 10kV/5kA with available 20kV/10kA per ANSI C136.2-2015.

**Mechanical.** The single-cast GreenCobra™ housing (GCJ, GCM, GCL) is made of corrosion-resistant aluminum and provides a continuous thermal path from the LED light engine to ambient air. This enables passive heat dissipation along the entire length of the luminaire. This design approach makes it possible to introduce an elegant, low-profile luminaire without compromising efficiency. All GreenCobra™ luminaires withstand the 5000-hour ASTM B-117 salt spray test through the use of low-copper content alloys and a robust Multi-stage polyester powder coat finish.

Table 2: Total kWh Reduction Calculation		
Dusk to Dawn Operations	4,175	hrs.
Total Rated Wattage Reduction (Total Rated Existing W - Total Proposed Rated W)	176,179	W
Total kWh Reduction (Total Rated Wattage Reduction * 4,175)	805,810	kWh

\* Total kW Reduction – 193.01 kW

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**3.07 a-c. References**

<b>Client</b>	<b>Description</b>	<b>Project Start and End Dates</b>	<b>Project Manager</b>	<b>Contract Amount</b>
Town of Leicester, MA	Installation of ~1,200 LED Cobra Head Street Lights, Area Flood Lighting, Installation of Fuses and Upgrade/Maintenance of Existing Wiring	01/21/2019 – 03/19/2019	Kristen Forsberg forsbergk@leicesterma.org	\$32,538.00
Town of Swansea, MA	Installation of ~3,000 LED Cobra Head Street Lights, Area Flood Lighting, Installation of Fuses and Upgrade/Maintenance of Existing Wiring	1/21/2020 – 04/06/2020	Jordan Remy jremy@town.swansea.ma.us	\$96,523.00
Town of Tewksbury, MA	Installation of ~2,000 LED Cobra Head Street Lights, Decorative Lighting, Area Flood Lighting, Installation of Fuses and Upgrade/Maintenance of Existing Wiring, Cimcon Photo Controls	01/14/2019 – 03/31/2019	Steve Sadwick 978-640-4355 <a href="mailto:ssadwick@tewksbury-ma.gov">ssadwick@tewksbury-ma.gov</a>	\$344,648