

**FORSYTH COUNTY  
BOARD OF COMMISSIONERS**

BRIEFING  
DRAFT

MEETING DATE: September 6, 2018

AGENDA ITEM NUMBER: 8

**SUBJECT: RESOLUTION AWARDING A CONTRACT TO JERNIGAN KESTER LLC, TO REPLACE CURRENT LIGHTING ON THREE RADIO TOWERS WITH LED TECHNOLOGY TOWER LIGHTING FOR FORSYTH COUNTY'S RADIO SYSTEM**

**COUNTY MANAGER'S RECOMMENDATION OR COMMENTS:**

**SUMMARY OF INFORMATION:**

The City of Winston-Salem and Forsyth County operate a six tower 800 MHz public safety radio system to provide radio voice communications throughout the City and County for more than 3,700 public safety and non-public safety radio subscribers.

Each of the towers are mandated to have obstruction lighting from the Federal Aviation Administration to mark radio towers and display them as a hazard to aviation. The current obstruction lighting is a strobe style lighting. This lighting has been in operation 24 hours a day, 7 days a week for the last fourteen (14) years and is developing more frequent problems and replacement of the devices is inevitable.

The technology in LED (Light Emitting Diode) lighting has increased so that LED lights are now bright enough to be considered for replacement. LED consumes less electricity, fails on a much less frequent basis, and generates much less heat, potentially decreasing the chance of shock while working with these devices.

On November 28, 2016, the Forsyth County Board of Commissioners set aside \$80,000 in Pay-Go funding for the replacement of tower lighting which will be enough to replace three radio towers.

City/County Purchasing issued a Request for Proposals for LED replacement and two bids were received. Jernigan Kester LLC met the specifications for lighting and was determined to be the lowest price of the two bids at a total package price of \$73,232.48.

The City of Winston-Salem will reimburse Forsyth County for half of this purchase, so the \$36,616.24 that is reimbursed from the City will be reserved to help fund the other three towers.

ATTACHMENTS:  yes  no

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_  
COUNTY MANAGER

**RESOLUTION AWARDING A CONTRACT TO JERNIGAN KESTER LLC, TO REPLACE CURRENT LIGHTING ON THREE RADIO TOWERS WITH LED TECHNOLOGY TOWER LIGHTING FOR FORSYTH COUNTY'S RADIO SYSTEM**

**WHEREAS**, the City of Winston-Salem and Forsyth County operate a six tower 800 MHz public safety radio system to provide radio voice communication throughout the City and County for more than 3,700 public safety and non-public safety radio subscribers; and

**WHEREAS**, each of the towers is mandated by the Federal Aviation Administration to have obstruction lighting to mark and display them as a hazard to aviation; and

**WHEREAS**, the current strobe light structures on the towers have been in operation for fourteen (14) years and are approaching end of life; and

**WHEREAS**, a Request for Proposals to replace lighting on three towers was issued with two vendors submitting responses, and Jernigan Kester LLC, met the specifications for lighting and was determined to be the low bidder with a total package price of \$73,232.48; and

**WHEREAS**, the County Chief Financial Officer has determined that sufficient funds are available to cover the cost of this contract; and

**WHEREAS**, the City of Winston-Salem will reimburse Forsyth County for half of this purchase, and the \$36,616.24 that is reimbursed from the City will be reserved to help fund replacement lighting for the other three towers;

**NOW, THEREFORE, BE IT RESOLVED** that the Forsyth County Board of Commissioners hereby authorizes the County Manager and Clerk to the Board to execute, on behalf of Forsyth County, a contract with Jernigan Kester LLC, to replace the current lighting on three radio towers with LED technology tower lighting at a total package price of \$73,232.48, subject to a pre-audit certificate thereon by the County Chief Financial Officer, where applicable, and approval as to form and legality by the County Attorney.

Adopted this the 6<sup>th</sup> day of September 2018.

*Prepared by:*

**Jernigan Kester LLC**

**POC: Brady Rose**

**(919) 721-6476 / (910) 265-1968**

**brady@JerniganKester.com**

**119 S. Fuquay Ave**

**Fuquay Varina, North Carolina 27526**

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**Request for Proposal Response to:**

**Attn: Jerry Bates**

**County of Forsyth**

**City/County Purchasing Department**

**City Hall Suite 324**

**101 North Main Street**

**Winston Salem NC 27101**

***RFP Response***

***Public Safety Radio Communications Tower Obstruction Lighting***

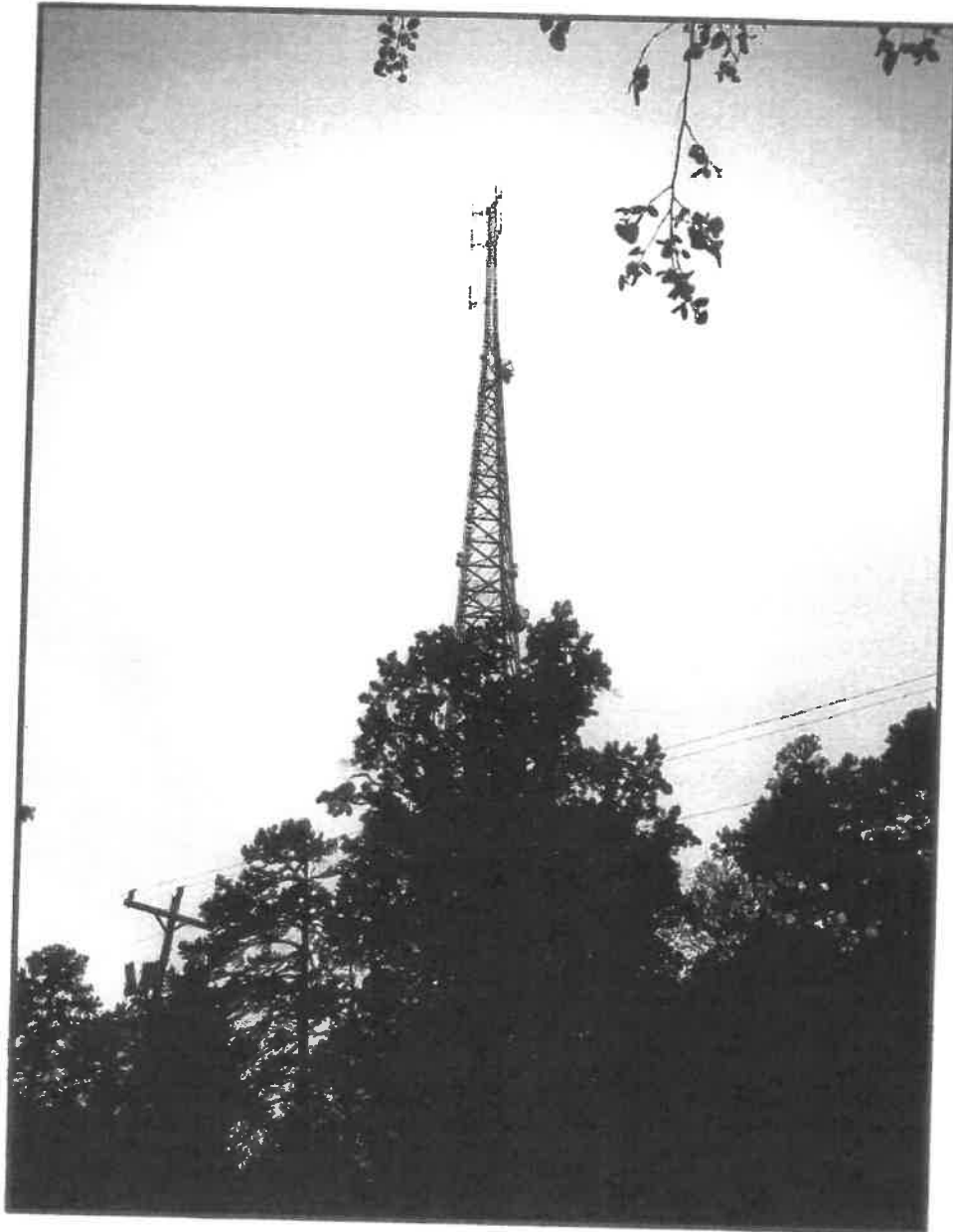
***LED Replacement Upgrade***

***for***

***Country of Forsyth***

***Solicitation: 281-FB18271***

***11 MAY 2018 12:00 PM (ET)***



**View of Site 1: Clemmons Tower- 6315 Amp Drive, Clemmons NC 27012**

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## INTRODUCTION

Jernigan Kester LLC (JK) is pleased to have the opportunity to respond to **Solicitation 281-FB18271 (Public Safety Radio Communications Tower Obstruction Lighting / LED Replacement Upgrade)** with this summary proposal with price quotation. Jernigan Kester is a Service Disabled Veteran-Owned business that is a multi-service turn-key provider with a significant focus in the areas of tower inspection, maintenance, modification, installation construction and decommissioning. Our team will use its extensive experience and knowledge to meet or exceed the requirements set forth in the solicitation.

### 1.0 Applicable Jernigan Kester Capabilities

As a tower related service company, Jernigan Kester maintains internal functional and operational control of entities needed to plan, deliver and maintain tower modification projects. *Our team consists of professional engineers, professional program managers and a former pilot with intimate knowledge of FAA lighting and marking requirements.* The key JK capabilities applicable for the defined scope of work are:

#### **Tower Maintenance, Installation and Modification**

Jernigan Kester offers a wide range of construction services, including tower modifications, maintenance repair work, communications electronics equipment installation, line and antenna installations and FAA compliant lighting and marker installation. JK is equipped to perform against varying requirements ranging from single site projects up to full region build-outs consisting of multiple sites. With our in-house network of construction and installation professionals, JK is well suited for turnkey projects of any size and is able to provide full-service support before, during, and after construction. Our services include:

- FAA Compliant lighting and marking installation
- Construction/project management
- Tower/Materials Procurement
- Inspections (Including tower, foundation, interior leg inspections, and construction inspection)
- Antenna & line installation and sweep testing
- Component installation & test
- Antenna sweeps and microwave path alignments

### 2.0 Statement of Work (SOW)

Jernigan Kester has reviewed the SOW and taken note of all stated County of Forsyth objectives and will perform all work and submit all deliverables in full compliance with stated requirements and specifications. JK program management personnel are well versed in the U.S. Department of Transportation Federal Aviation Administration (FAA) Advisory Circular (AC) 70/7460-IL CHG1 which sets forth the standards for marking and lighting obstructions that have been deemed to be a hazard to navigable airspace, and the FAA L-864/L-865 Medium Density Dual Lighting

specification. Jernigan Kester personnel will complete all rigging, installation and transition work in accordance with all relevant industry standards to include ANSI/TIA-222-G, OSHA and the FAA. Quality and Safety will be continuously maintained throughout the project timeline and the designated Forsyth County representative will be made aware of any quality or safety related issues during the project. At Jernigan Kester we believe in maintaining an open line of communication with our partners. Therefore the applicable county representative will also receive a daily situation report on the progress of the installation project.

### 2.1 Furnished Equipment & Materials

Jernigan Kester will furnish all equipment and materials in accordance with the requirements set forth in the SOW. This includes all components necessary for the LED Replacement Upgrade to the Public Safety Radio Communications Tower Obstruction Lighting for all three towers as stipulated in the Request for Proposal: 281-FB18271. Lighting controllers include alarm output dry closure relay contacts and are compatible with SNMP traps for future alarm systems. The table below provides a listing of the lighting system and materials to be furnished:

Qty	Item Number	Description
3	DLS1-008SP-R-B-M-AV-SYS	E2 LED Lighting System w new controller & IMS (Avian)
1,900	9802-008	18/8 Cable, Rev. B; 2 spools @450' ea. & 4 spools @250' ea
1.50	9802-008	18/8 Cable, Rev. B; 1 spool @ 500' & 2 spools @ 275'
As Req	Misc	Wiring, hardware, wire management devices, hangers, raceway, electrical tape, filament tape, photodiode w/ 20' pigtail shld, controller enclosure, etc

Figure 2.0 Bill of Material

### 2.2 Tower Obstruction Lighting/LED Replacement Upgrade Work

Jernigan Kester will perform a complete installation of all Tower Obstruction Lighting system items to be furnished and detailed in the BOM provided in Figure 2.0 of this response. The installation will include testing of the lighting system, the integrated alarm system and limited cutover support.

#### 2.2.1 Tower Rigging

Jernigan Kester will install all LED lights/mounts at current light heights and ICW FAA Advisory Circular Number: 70/7460-IL. Coaxial cables with associated hoisting grips, hangers, ground kits and other installation materials will be installed on the tower in accordance with applicable standards to include the Motorola R56 standard for communication sites. LED lighting cables will be routed and secured from the designated tower location through the existing conduit; new lighting controllers installed; new wiring into the site room installed with appropriate labeling and alarm terminations as applicable.

### **2.2.2 Cutover Support**

Once all lights and cables have been installed and all components testing completed Jernigan Kester LLC will train Forsyth County IAC individuals as to the normal operation, maintenance and troubleshooting procedures for the new controllers.

### **2.2.3 Equipment Acceptance of FAA Specifications**

Jernigan Kester acknowledges FAA specifications per FAA Advisory Circular (AC) 70/7460-1L and FAA AC 150/5345-43H. The Unimar DLS LED Medium Intensity Lighting System L-864/I-865 is certified to FAA AC 150/5345-43H and meets US Fish & Wildlife Services recommendations for proposed rule(s) meeting the FCC standards (WT Docket No 03-187, FCC06-164) regarding the protection of migratory birds.

## **2.3 Construction Site Restoration & Reclamation**

Upon completion of all removal, installation, and cutover activities JK personnel will implement restoration and reclamation activities which will consist of cleaning the affected area of all debris remaining from the installation activities and the proper and orderly assembly of the equipment/material at a location within the tower site.

## **2.4 Acceptance & Demobilization**

Once the Forsyth County Representative has deemed all work has been completed in compliance with stated requirements/specifications and that all deliverables have been received JK will execute a formal acceptance document and the final demobilization of remaining personnel and equipment will occur.

## **2.5 Tools & Test Equipment**

Jernigan Kester personnel will be equipped with all heavy equipment, power & hand tools and test equipment required to perform the tower lighting installation work.

## **3.0 Deliverables**

Jernigan Kester will provide the following deliverables to the designated Forsyth County representative at various intervals throughout the project timeline.

- Project Schedule
- Pre-Construction Safety Plan
- Tower Lighting & Rigging Plan
- Final Bill of Materials
- Lighting and monitoring System Test Results
- Lighting & Cable Labeling Chart

## **4.0 Specifications & Standards**

Jernigan Kester personnel and its affiliates are highly proficient with and will perform all work in compliance with the recommendations outlined in both primarily accepted codes: ANSI/TIA-222-G-2-



2009, Structural Standard for Antenna Supporting Structures and Antennas-Addendum 2, the TIA-1019-A, Standard for Installation, Alteration and Maintenance of Antenna Supporting Structures and Antennas, and 13 NCAC 07F.0601 NC Communication Tower Standards.

### 5.0 Project Manager

In accordance with the requirement set forth in the SOW, Jernigan Kester will provide a Project Manager (PM) who will act as the primary interface with the Forsyth County's Purchasing Department and other project and technical related government personnel for all matters related to the contract, invoicing or operational aspects of the project to include deliverable submittal and acceptance, schedule and general items that are programmatic in nature. The JK PM will be on-site full time during the implementation work. The PM will also visit the designated Forsyth County representative as needed throughout the project lifecycle.

### 6.0 Prime Contractor Subcontractors

Jernigan Kester will subcontract Tower Engineering Professionals (TEP), 326 Tyron Road, Raleigh, NC, to install the LED lighting systems IAW FB18271 SOW. TEP has over 20 years experience in the tower industry and has provided construction, maintenance, and engineering services for over 50,000 towers around the world, to include extensive lighting refit operations. (see Attachment 12.6, References)

### 7.0 Price Quote

Jernigan Kester LLC will perform all work as defined in the solicitation for a Firm Fixed Price of \$73,232.49. A description of activities and furnished equipment is provided in the table below.

ITEM	Tower #1	Tower #2	Tower #3	Totals
CLIN 0001 Public Safety Radio Communications Tower Obstruction Lighting/ LED Replacement Upgrade: Without 810 side markers (Avian Compliant)	Clemmons: 6315 Amp Drive	Lewisville: 7800 Shallowford Road	Old Richmond: 8124 Reynolda Road	
<b>Materials</b>	\$17,142.74	\$17,142.74	\$17,386.29	<b>\$51,671.77</b>
<b>Labor</b>	\$5,640	\$5,640	\$5,650.09	<b>\$16,930.09</b>
<b>Subtotal:</b>	<b>\$22,782.74</b>	<b>\$22,782.74</b>	<b>\$23,036.38</b>	<b>\$68,601.86</b>
<b>Tax:</b>	\$1537.83	\$1537.83	\$1554.96	<b>\$4630.62</b>
<b>Total Price:</b>	<b>\$24,320.57</b>	<b>\$24,320.57</b>	<b>\$24,591.34</b>	<b>\$73,232.48</b>

### 8.0 Invoicing

Jernigan Kester will follow the invoicing requirements set forth in the solicitation.

### 9.0 Compliance

Jernigan Kester is fully compliant with the specifications and requirements set forth in this solicitation and will maintain compliance throughout the lifespan of the project.

## 10.0 Notes & Assumptions

1. Unfettered access to site is assumed
2. It is assumed that a NEPA assessment is not required by JK
3. Pricing assumes no unnecessary delays due to circumstances beyond the control of Jernigan Kester to include Force Majeure situations.
4. Forsyth County (or appropriate agency) to submit a Marking and Lighting study via the FAA website (<https://oeaaa.faa.gov>), requesting a change to the E2 Configuration, by submitting Form 7460-1. (When filing Forsyth County should include the proposed change and note that it is consistent with AC 70/7460-1L CHG1 and AC 150/5345-43H)

## 11.0 Warranty

Unimar Inc LED lighting systems are warrantied for 5 years (10+ year life expectancy) when installed with new wiring and Unimar provided controllers. This JK proposal includes new wiring and (new) Unimar controllers in conjunction with the new LED beacons.

## 12.0 Attachments

12.1 Attachment 1, Signed Forsyth Co Tower RFP: LED Replacement Upgrade 281-FB18271.

12.2 Attachment 2, Signed Forsyth Co RFP 281-FB18271, Addendum 1.

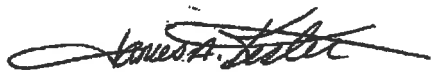
12.3 Attachment 3, Certificate of Insurance

12.4 Attachment 4, Figure A-10, AC 70/7460-1L Appendix A, E2

12.5 Attachment 5, Summary of Compliance

12.6 Attachment 6, References: Non-Forsyth County Transmission Tower Work

12.7 Attachment 7, Unimar DLS LED Medium Intensity Lighting System L-864/L-865



James A. Kester  
CEO/Owner  
Jernigan Kester LLC  
[Jim@JerniganKester.com](mailto:Jim@JerniganKester.com)  
Office: 919-285-4607



**Request for Proposals**  
**Public Safety Radio Communications**  
**Tower Obstruction Lighting / LED Replacement Upgrade**

**Proposals will be received until**  
**12:00 Noon, Friday, May 11, 2018**

**at**  
**City/County Purchasing Department**  
**City Hall Suite 324**  
**101 North Main Street**  
**Winston-Salem, NC 27101**

**MANDATORY PRE-PROPOSAL CONFERENCE**  
**WILL BE HELD**

**10:00 AM, Wednesday, April 25, 2018**

**at**  
**the tower facility, known as "Clemmons" at 6315 Amp Drive, Clemmons NC**  
**27012**

**ADVERTISEMENT FOR BIDS**

**Tower Obstruction Lighting/LED Replacement Upgrade**

Sealed proposals endorsed **Tower Obstruction Lighting/LED Replacement Upgrade** to be furnished to Forsyth County will be received by the City/County Purchasing Department in Suite 324, City Hall Building, 101 North Main Street, Winston-Salem, N.C. **until 12:00 Noon, Friday, May 11, 2018**. To obtain the complete proposal document or receive instructions for submitting proposals contact Jerry Bates via email [jerryjb@cityofws.org](mailto:jerryjb@cityofws.org), phone 336-747-6939, or visit the Purchasing Department at same location from 8:00 A.M. to 5:00 P.M. Monday through Friday. The County reserves the right to reject any and/or all proposals, bids, to waive informalities in the bids, and to choose the bid that is in the best interests of the County.

Jerry Bates  
Purchasing Director

In submitting Qualifications/Proposals, each Service Provider agrees that the City/County may reveal any trade secret materials contained in such response to all City/County staff and City/County officials involved in the selection.

#### **Familiarity with Laws and Ordinances**

The submission of Qualifications/Proposals for the services requested herein shall be considered as a representation that the prospective Franchise Holder is familiar with all federal, state, and local laws, ordinances, rules and regulations which affect those engaged or employed in the provision of such services, or equipment used in the provision of such services, or which in any way affects the conduct of the provision of such services; and no plea of misunderstanding will be considered on account of ignorance thereof. If the prospective Franchise Holder discovers any provisions in the RFQ/RFP documents that are contrary to or inconsistent with any law, ordinance, or regulation, it shall be reported to the County in writing without delay.

#### **By signing below the Service Provider agrees to the following:**

The Service Provider agrees that in carrying out this agreement, compliance will be maintained with all applicable federal, state, and local laws, specifically including, without limitations, the Occupational Safety and Health Act of 1970 and Section 1324A, the Immigration Reform and Control Act.

The prospective Franchise Holder certifies that the submission is made in good faith and without collusion with any person submitting a Qualification/Proposal in response to this RFQ/RFP or with any officer or employee of the County of Forsyth.

The undersigned further agrees, in connection with the performance of this agreement, not to discriminate against any employee or Service Provider for employment because of race, religion, color, gender, age, handicap, political affiliation or national origin.

The County reserves the right to hold submittals open for a period of ninety (90) calendar days after due date before making awards.

Submittals are to be signed by an officer of the company authorized to bind the submitter to its provisions. Failure to manually sign the appropriate form(s) will disqualify the prospective Franchise Holder and the submittal will not be considered.

#### **E-Verify Compliance**

Per N.C.G.S. 143-133.3 "E-VERIFY. Provider shall comply with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes. Further, if the Provider utilizes a subcontractor, the Provider shall require the subcontractor to comply with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes."

#### **Iran Divestment Act**

Provider hereby certifies that it is not on the North Carolina State Treasurer's list of persons engaging in business activities in Iran, prepared pursuant to NCGS 147-86.58, nor will Provider utilize on this agreement any subcontractor on such list. This list, along with additional information about the Iran Divestment Act, is available on the Treasurer's Office site: <https://www.nctreasurer.com/inside-the-department/OpenGovernment/Pages/Iran-Divestment-Act-Resources.aspx>.

#### **Divestment from Companies that Boycott Israel**

Contractor hereby certifies that it is not on the North Carolina State Treasurer's list of companies engaged in a boycott of Israel in violation of NCGS 147-86.80 et. seq. and that it will not utilize on this agreement any subcontractor on said list."

## Introduction

Forsyth County (the County) Interagency Communications (IAC) by way of this specification and scope of work, requests quotations for the purchase and installation of replacement obstruction lighting systems for City/County owned radio communications towers and the removal of existing legacy Honeywell B3000 Strobe Assemblies and side lamps. Lighting replacements are to be considered for 3 towers within the City/County public safety radio system. Locations of the towers shall be 1) Clemmons NC. 2) Lewisville NC. 3) Old Richmond NC. Exact addresses of the sites found later in this document.

The replacement systems shall be of LED technology lighting and furthermore, the successful vendor is required to furnish all materials, labor and services to install LED Replacement Obstruction Lighting, as specified or reasonably implied as necessary to complete this project. The contractor is responsible for assessing the conditions of the job site and facilities, storing, placing, handling and installing of the materials and equipment. The contractor is responsible for any and all test equipment, sleeves, tools, ladders, lifts and scaffolding required to perform the installation.

At the time of the pre-bid meeting it shall be the contractor's responsibility to ask questions related to the work, any review drawings, and determine wiring pathways and lengths. Any existing wiring that, due to age or other factors, is deemed to need replacing, shall be the responsibility of the contractor

The contractor shall review all materials, descriptions, and part numbers the County has or may have specified in this document before bidding and inform the County if there are any issues with these materials or part numbers that would affect the system functioning.

### **Mandatory Pre-Bid Meeting Location and Project Location**

**Meet at the tower facility, known as "Clemmons" at 6315 Amp Drive, Clemmons, NC 27012**

This facility is directly across from Holiday Inn Express, Amp Drive in Clemmons NC. The date of the meeting shall be Wednesday, April 25, 2018 at 10:00 am. This site will serve as a pre-bid conference location and will be one of the locations of the lighting replacement.

The Pre-Bid meeting is mandatory for participation in this bid response due to the need for respondents to see the legacy equipment on site and the particulars as to wiring routing and other aspects that might have a bearing on subsequent bid pricing.

### **Electrical Licenses and Building Permit**

The contractor will be responsible for acquiring all permits needed for the completion of the project and must maintain all necessary licensing as needed.

### **WARRANTY**

Equipment provided in this project shall offer pass through of all manufactures warranties but no less than One Year's Parts and Labor.

### **Project Overview**

The requirement of this project is to furnish and install new LED tower obstruction beacons and side lights, meeting the FAA L-864/L-865 Medium Intensity Dual Lighting specification, replace legacy strobe systems, and their associated lighting controller mechanisms, including but not limited to, Beacon lights, side lamps, all required components, wiring, hardware, wire management devices, hangers, raceway, J-Hooks, sleeves, grounding blocks/wire and any additional components necessary to ensure that the County is provided with a standards compliant solution with guaranteed performance as outlined in Scope of Work. This is a brief overview of the project and should be noted as such. The lighting

The contractor is responsible for and must wear personal protective equipment as required by OSHA standards and TIA standards while performing work on the tower. Wiring codes shall be strictly observed and components of the system shall be installed in a neat, workmanlike manner.

At the time of the issue date of this specification information was accurate to the best of our ability. The contractor shall be responsible to review any drawings and all sections in this RFQ to determine all work required and related components needed to complete this project.

Lighting controllers shall furnish alarm output dry closure relay contacts. Alarm relay closures shall indicate, but not limited to, the following: AC power failure, Tower light (beacon) Fail, Side lamp failure, Day/Night change of state. In addition to dry closure relays, lighting controllers shall be able to provide SNMP traps for future alarm provisioning.

**Labeling (Coordinate all labeling with the County before labeling)**

The contractor shall be responsible for machine printed labels for all cables and cords according to Forsyth County Government specifications. The County will provide more specific labeling requirements prior to installation.

**Delivery, Storage, Handling and Protection**

Contractor is responsible for the handling of all materials and all costs associated with material handling. It is the contractor's responsibility to coordinate delivery schedules with the project schedule.

**A. Delivery and Acceptance Requirements:**

- a. Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.

**B. Storage and Handling Requirements:**

- a. Store and handle materials in accordance with manufacturer's instructions.
- b. Keep materials in manufacturer's original, unopened containers and packaging until installation.
- c. Store materials in secure, clean, dry area indoors.
- d. Protect materials during storage, handling, and installation to prevent damage.
- e. Protect installed communications horizontal and vertical cabling from damage during construction.

**Debris Removal**

It is the responsibility of the contractor to discard debris on a daily basis and to keep the work area clean.

**Damages**

- The contractor will be held responsible for any and all damages to portions of the tower site caused by contractor, its employees or subcontractors; including but not limited to:
- Damage to any portion of the tower site caused by the movement of tools, materials or equipment.
  - Damage to the electrical distribution system and/or other space "turned over" to the contractor.
  - Damage to the electrical, mechanical and/or life safety or other systems caused by inappropriate operation or connections made by the contractor or other actions of contractor.
  - Other damage to the materials, tools and/or equipment of Forsyth County, its consultants, general contractor, subcontractors, architect, other contractors, agents and leases.

**Safety Regulations**

The contractor, its employees, and any sub-contractors will abide at all times by the general contractors and the County's safety protocols and procedures and all OSHA regulations. The contractor, its employees, and any contractor sub-contractors will attend all required safety meetings.

**Telecommunications Wiring Standards**

Except as otherwise explicitly waived within this document, all wiring and/or cabling which is within the scope of this specification is to be configured and installed in full compliance with the current ANSI/TIA/EIA Telecommunications Wiring Standards.

Installation of all materials and equipment must meet industry standards in all respects with specific attention given to methods employed for wiring, cabling, terminations, cable dressings, cable and wire labeling, documentation, general appearance, equipment operation and performance.

The contractor shall provide and install all components, and associated hardware required to supply a complete structured obstruction light system, as defined in this specification.

Forsyth County its officials, officers, and employees is additional insured.

**CERTIFICATE HOLDER** – block should read:  
Forsyth County Its Officials, Officers, and Employees  
201 N. Chestnut Street  
Winston-Salem, NC 27101

The contractor understands and acknowledges that these insurance coverage requirements are minimums and that they do not restrict or limit the hold harmless provisions of this agreement.

### **Supporting Documents Required with Bid Package**

It is the expectation of Forsyth County that the contractor will comply, and the contractor agrees to comply, with all applicable federal immigration laws in its hiring and contracting practices relating to the services covered by this contract involving County funds, as outlined in the Resolution adopted by the Forsyth County Board of Commissioners.

- Bid must be signed and dated by an officer of the bidding company.
- Bid must acknowledge the contractors acceptance of all addendums issued.
- Bid shall be valid for at least 90 days.
- Bidders must provide with their bid response a Compliance Summary stating compliance to every article of this RFQ and stating they have fully read and agree to comply with all sections. Exception to any article must be accompanied by a full explanation, exceptions may disqualify the bid.
  - WMBE - If applicable the contractor shall provide a Letter of WMBE Certification.
  - Bidders who have not completed transmission tower work for Forsyth County in the past (i.e. unknown to us) must provide 3 references for projects completed within the past two years of similar size and scope. References must include company name, address, phone number and contact person. Also include a brief summary of the actual projects performed for the County and copy of the manufacturer's certification.
  - Bids will be accepted via email along with any additional documentation required.

**Forsyth County reserves the right to consider any bidder that does not provide the supporting documents listed above with their bid as non-responsive and disqualified.**

### **Changes and Alternates**

The County will consider any changes or deviations from this specification or approved products and manufacturers defined in this document non-responsive. The County will consider any changes or deviations from the pricing formats as defined in this document non-responsive. The County will consider any changes or deviations from the Bid Schedule or Project Schedule as defined in this document non-responsive.

### **Project Schedule**

PROJECT START DATE - TBD  
PROJECT COMPLETION DATE - TBD

### **Project Locations**

- 1) Clemmons Tower: 6315 Amp Drive, Clemmons NC. 27012
- 2) Lewisville Tower: 7800 Shallowford Road, Lewisville NC. 27023
- 3) Old Richmond Tower: 8124 Reynolda Road, Pfafftown, NC. 27040 (Behind Spevco Mfg. Co.)

This signature page must be completed and submitted with the Proposal:

# Tower Obstruction Lighting / LED Replacement Upgrade

## PROPOSAL AUTHORIZATION AND SIGNATURE

Proposals are to be signed by an officer of the company authorized to bind the submitter to its provisions. Failure to manually sign the appropriate proposal form will disqualify the Proposer and the proposal will not be considered.

JERNIGAN KESTER, LLC

Firm Name \_\_\_\_\_

09MAY2018

Date \_\_\_\_\_

EIN: 82-3427478 NC SoS: 1637830

Contractor/Business License No. \_\_\_\_\_

(910) 721-6476 / (910) 265-1968

Telephone Number \_\_\_\_\_

jim@jernigankester.com

Email Address \_\_\_\_\_

*Jessica L Gralton*  
Authorized Signature (Notarized)

119 S. Fuquay Ave.

Street Address (P.O. Box) \_\_\_\_\_

Fuquay Varina, NC 27526

City, State and Zip Code \_\_\_\_\_

Fax Number \_\_\_\_\_

On this 9<sup>th</sup> day of May, 2018 before me Jessica L Gralton  
(name)

to me personally known, being duly sworn, did execute the foregoing submittal, and did so state that

\_\_\_\_\_ was properly authorized by JERNIGAN KESTER LLC  
(Company name)

to execute the submittal and did so on his/her free act and deed.



*Jessica L Gralton*  
My commission expires 12/10/2022.

The following information is requested for statistical purposes only. The inclusion or omission of this information will not affect or influence the County's award of this contract.

We  are a Historically Underutilized Business (HUB) certified by State of North Carolina.

We  are a minority business enterprise.

are not a minority business enterprise.

If yes, please identify in the appropriate box below:

Black

Hispanic

Asian American including Indian Subcontinent and Pacific Islands

Native American Indian including Eskimos and Aleuts

We  are a woman-owned business concern.

are not a woman-owned business concern



**ADDENDUM 1**



**Forsyth County**  
**Request for Proposals**

**Public Safety Radio Communications**  
**Tower Obstruction Lighting / LED Replacement Upgrade**

**Proposals will be received until**  
**12:00 Noon, Friday, May 11, 2018**

**at**  
**City/County Purchasing Department**  
**City Hall Suite 324**  
**101 North Main Street**  
**Winston-Salem, NC 27101**

May 2, 2018

Please acknowledge receipt of this Addendum and include with your proposal.

JERNIGAN KESTER LLC  
Company

*James A. Foster*  
Authorized Signature

5/9/18  
Date

---

**Questions/County Responses**

---

Question: Is the County/City going to re-file the towers with the FAA to allow for "avian" so you don't need any L810 low intensity side marker lights? Response: Winston-Salem / Forsyth County would be very interested in a proposal that only included the Medium Intensity Red/White devices, however such a quote should be secondary to the original request for L864/865 and L810 equipment. Due to fiscal year limitations, we will have to proceed with the original request for quotation and will be happy to consider any alternate proposal.

Question: (Old equipment/materials disposition) IAW FB18271, request disposition of legacy equipment and materials removed from the Forsyth County towers. Is the contractor responsible for disposal of old lines and lighting equipment? or other.

Response: Contractor's responsibility for old equipment/materials disposition will be limited to the proper and orderly assembly of the equipment/material at a location within the tower site, at a location to be specified prior to installation, after all work is performed.



JERNKES-01

EWOLFF

# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)  
05/11/2018

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

**PRODUCER**  
Mesirow Insurance Services, Inc.  
1500 S. Lakeside Dr.  
Bannockburn, IL 60015

**CONTACT NAME:**  
**PHONE (A/C, No, Ext):** (847) 444-1060 **FAX (A/C, No):** (847) 201-4720  
**E-MAIL ADDRESS:**

**INSURED**  
Jernigan Kester LLC  
119 S. Fuquay Ave  
Fuquay Varina, NC 27526

INSURER(S) AFFORDING COVERAGE		NAIC #
INSURER A:	Scottsdale Insurance Company	41297
INSURER B:	Allied Insurance Company of America	10127
INSURER C:	Nautlius Insurance Company	17370
INSURER D:		
INSURER E:		
INSURER F:		

### COVERAGES

**CERTIFICATE NUMBER:**

**REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDITIONAL SUBROGATION WAIVED	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input checked="" type="checkbox"/> POLICY <input checked="" type="checkbox"/> PROJECT <input type="checkbox"/> LOC OTHER:		CPS2811351	05/10/2018	05/10/2019	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 100,000 MED EXP (Any one person) \$ 5,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COM/OP AGG \$ 2,000,000
B	AUTOMOBILE LIABILITY ANY AUTO OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> <input checked="" type="checkbox"/> HIRED AUTOS ONLY <input checked="" type="checkbox"/> NON-OWNED AUTOS ONLY <input type="checkbox"/>		ACPBAL3008804612	05/10/2018	05/10/2019	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
C	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED <input checked="" type="checkbox"/> RETENTION \$ 0		AN052005	05/10/2018	05/10/2019	EACH OCCURRENCE \$ 1,000,000 AGGREGATE \$ 1,000,000
<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NC) <input type="checkbox"/> Y/N <input checked="" type="checkbox"/> N/A If yes, describe under DESCRIPTION OF OPERATIONS below				PER STATUTE <input type="checkbox"/> OTH-ER <input type="checkbox"/> E.L. EACH ACCIDENT \$ E.L. DISEASE - EA EMPLOYEE \$ E.L. DISEASE - POLICY LIMIT \$		

**DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES** (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)  
Forsyth County, its officials, officers, and employees are included as Primary and Non-Contributory Additional Insureds with respect to General Liability where required by written contract with the Named Insured.

### CERTIFICATE HOLDER

Forsyth County, its Officials, Officers, and Employees  
201 N. Chestnut Street  
Winston-salem, NC 27101

### CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE



# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)  
5/10/2018

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> NFP Corporate Services (SE), Inc. 1901 Roxborough Rd, Ste 300 Charlotte NC 28211		<b>CONTACT NAME:</b> Maria Wilson	
		<b>PHONE (A/C. No. Ext):</b> 704-385-7236	<b>FAX (A/C. No.):</b> 704-973-9501
		<b>E-MAIL ADDRESS:</b> maria.wilson@nfp.com	
		<b>INSURER(S) AFFORDING COVERAGE</b>	
		<b>INSURER A:</b> Allied World Specialty Ins Co	<b>NAIC #</b> 16624
		<b>INSURER B:</b> BERKSHIRE HATHAWAY HOMESTATE	20044
		<b>INSURER C:</b> Allied World Nat'l Assurance	10690
		<b>INSURER D:</b> AIG Specialty Insurance Co.	26883
		<b>INSURER E:</b> Lexington Insurance Company	19437
		<b>INSURER F:</b>	

**INSURED** TOWENGP  
Tower Engineering Professionals, Inc.  
326 Tryon Road  
Raleigh NC 27603-3530

**COVERAGES** **CERTIFICATE NUMBER:** 1119499283 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
C	<input checked="" type="checkbox"/> <b>COMMERCIAL GENERAL LIABILITY</b> <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> BI/PD Ded \$5,000  GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PROJECT <input type="checkbox"/> LOC OTHER:			03101426	5/22/2017	5/22/2018	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 100,000 MED EXP (Any one person) \$ 5,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COM/POP AGG \$ 2,000,000 \$
A	<input checked="" type="checkbox"/> <b>AUTOMOBILE LIABILITY</b> <input checked="" type="checkbox"/> ANY AUTO <input checked="" type="checkbox"/> OWNED AUTOS ONLY <input checked="" type="checkbox"/> HRED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS ONLY			60000237	5/22/2017	5/22/2018	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
A	<input checked="" type="checkbox"/> <b>UMBRELLA LIAB</b> <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED <input checked="" type="checkbox"/> RETENTION \$ 10,000			03101434	5/22/2017	5/22/2018	EACH OCCURRENCE \$ 10,000,000 AGGREGATE \$ 10,000,000 \$
B	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) if yes, describe under DESCRIPTION OF OPERATIONS below			TEWC810481 (AOS)	5/22/2017	5/22/2018	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTHER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000
B D E	Workers Compensation Pollution Liability Professional Liability			TEWC810513 (FL) CPO22112258 031710985	5/22/2017 5/22/2017 2/9/2018	5/22/2018 5/22/2018 5/22/2019	25,000 Deductible 200,000 Retention 1,000,000 5,000,000 5,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

<b>CERTIFICATE HOLDER</b>  Forsyth County, Its Officials, Officers and Employees 201 N. Chestnut St. Winston-Salem NC 27101	<b>CANCELLATION</b>  SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.  AUTHORIZED REPRESENTATIVE <i>Ala Wise</i>
---	---

### MEDIUM-INTENSITY DUAL OBSTRUCTION LIGHT STANDARDS (FAA STYLE E)

Day / Twilight Protection = 20,000 cd White Light  
Night Protection = 2,000 cd Red Light and 32 cd side lights  
(Painting of tower is typically not required)

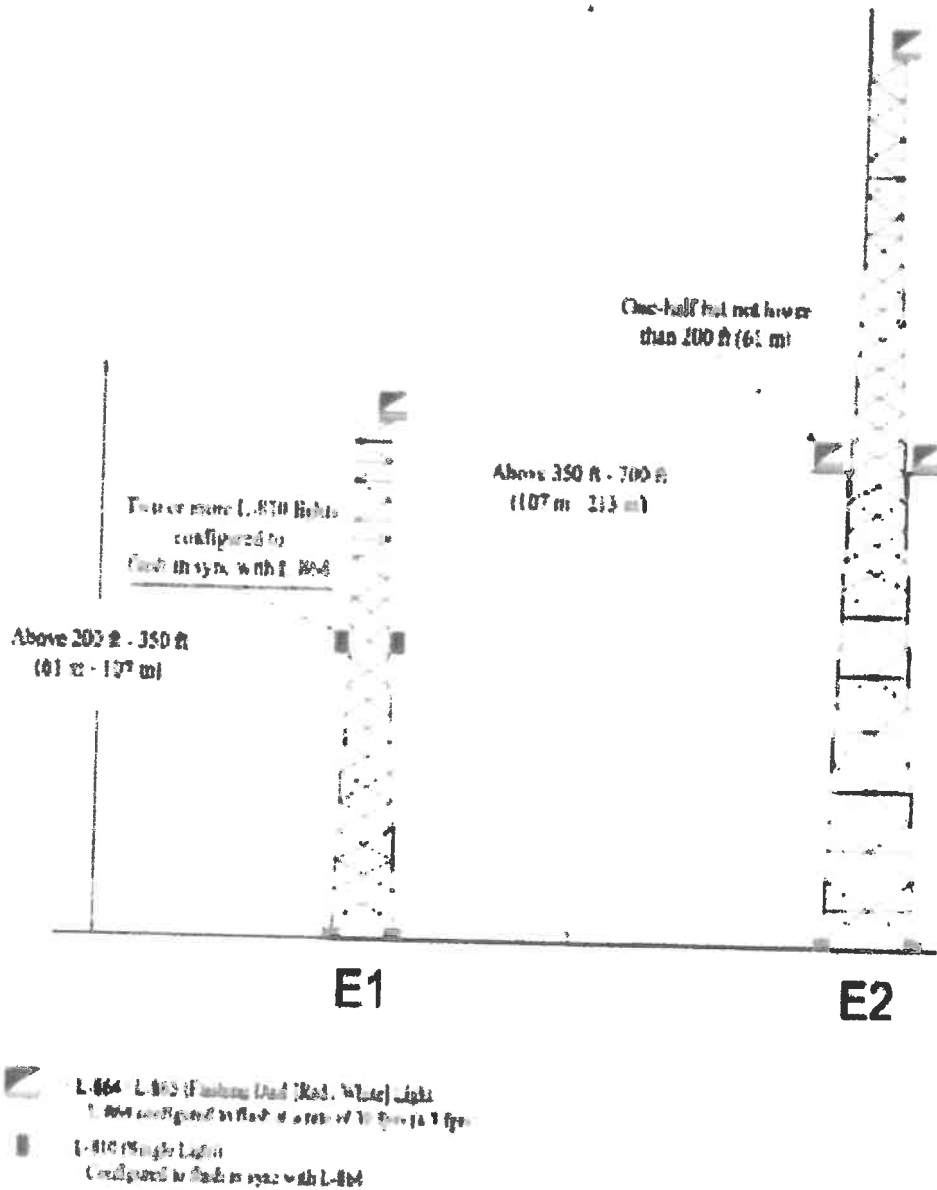
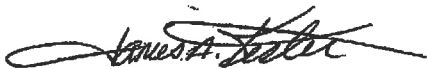


Figure A-10. Medium-Intensity Dual Obstruction Lighting Standards

### **Attachment 12.5- Summary of Compliance- Jernigan Kester LLC**

Jernigan Kester LLC agrees that in carrying out this agreement, compliance will be maintained with all applicable federal, state and local laws, specifically including, without limitations the following acts:

1. Occupational safety and Health Act of 1970
2. Section 8 of U.S.C. 1324A – Unlawful employment of aliens
3. Submission of this proposal is made in good faith and without collusion with any person submitting a qualification/proposal in response to this RFQ/RFP or with any officer or employee of the county of Forsyth.
4. Title VII of the Civil Rights Act of 1964 (42 U.S.C. 2000e, et.al.)
5. E-Verify: per N.C.G.S 143-133.3 “E-Verify. Provider (JK) shall comply with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes. Further, Sub-Contractors retained and employed by JK will comply with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes”.
6. Iran Divestment Act. JK is not on the North Carolina State Treasurer’s list of persons engaging in business activities with Iran, prepared pursuant to NCGS 147-86.58, nor will JK use a sub-contractor on such list.
7. Divestment from Companies that Boycott Israel. JK is not on the North Carolina State Treasurer’s list of companies engaged in a boycott of Israel in violation of NCGS 147-86.80 et.seq. and will not use on this agreement any subcontractor on said list.



James A. Kester  
CEO/Owner  
Jernigan Kester LLC  
[Jim@JerniganKester.com](mailto:Jim@JerniganKester.com)  
Office: 919-285-4607

## **Attachment 12.6 - References for Non-Forsyth County Transmission Tower Work- Jernigan Kester LLC**

Tower Engineering Professionals (TEP) will serve as the subcontractor for Jernigan Kester in the Tower Obstruction Lighting/LED Replacement Upgrade for Forsyth County. TEP has over 20 years experience in the tower industry and has provided construction, maintenance, and engineering services for over 50,000 towers around the world, to include extensive lighting refit operations. References for TEP projects of similar size and scope are:

1. Grain Communications: Nationwide Lighting system installation and troubleshooting, monitoring system installations. (2012 – Present)

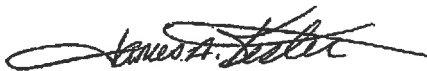
Contact: J.R. Carroll, Construction & Operations Manager  
100 N Washington Blvd. Suite 201 | Sarasota, FL 34236  
Direct: 941.379.1223 | Mobile: +1 941.321.8207  
[jr@graingp.com](mailto:jr@graingp.com) | [www.graingp.com](http://www.graingp.com)

2. Duke Energy (East and West Carolinas): Lighting system replacements with new Flash LED systems (2016 - Present)

Contact: Lee Trowell, Telecom Operations Support, Carolina West  
704-382-5462  
[Lee.Trowell@duke-energy.com](mailto:Lee.Trowell@duke-energy.com)

3. View Capitol Advisors, LLC -Lighting system troubleshooting and flash tube replacement. (Charlotte, NC - 2018)

Contact: Keith Drucker, Consultant, Co-Portfolio Manager  
Mobile (941) 744-6543  
[kdrucker@view-cap.com](mailto:kdrucker@view-cap.com)



James A. Kester  
CEO/Owner  
Jernigan Kester LLC  
[Jim@JerniganKester.com](mailto:Jim@JerniganKester.com)  
Office: 919-285-4607

# DLS LED Medium Intensity Lighting System

L-864/L-865 FAA E2 for Avian Configurations



3195 Vickery Rd. North Syracuse NY 13212 | (315) 699 4400 | Unimar.com



## Features

- 5 year warranty; 10+ year life expectancy
- Easy access, color coded terminal blocks for quick and easy installation.
- Hinged Flash Head with color coded terminal block for secure cable install.
- Strategically placed control components to simplify troubleshooting.
- "No-Fault" current limiters built in to protect system from incorrect installs.
- No high voltages as found in Xenon systems
- Patented optics eliminate ground scatter
- No moving or serviceable parts in Flash Head, all replacement components located at tower base.
- Resistant to shock and vibration
- Tested and passed surge tests up to 1.9 Million Volts
- No EMI or RF
- IP66 rated
- Optional GPS Sync device for unique obstructions

## Certified to:

FAA AC 150/5345-43F  
 FAA Engineering Brief No. 67  
 ICAO (Annex 14 - Fourth Edition, July 2004)  
 ICAO Aerodromes Design Manual, Chapter 18  
 Interlek ETL

## Application

The all LED Medium Intensity Lighting System is designed for the lighting of chimneys, silos, flarestacks and other obstructions to aerial navigation as specified by the FAA and FCC. The Dual L864/ L865 uses LED technology for light output for both the Red Beacon and the White LED Strobe. Unlike conventional Xenon flashtube technology, little or no maintenance is required during its lifetime. Working voltages of less than 200 VDC are significantly less than those of Xenon flashtube designs. Therefore, this system represents an advance in safety. The system operates from a number of different input voltages and the controller which can be located up to 550 ft away from the Flash Head.

## Specifications

<b>Operating Voltage:</b>	Universal 100/230 VAC, 50/60 Hz power factor corrected supply	
<b>Wattage (Peak):</b>	White Day	270W
	White Night	105W
	Red Night	60 W
<b>Candela:</b>	White Day	20,000 cd
	White Night	2,000 cd
	Red Night	2,000 cd
<b>Power Factor:</b>	> .9	
<b>Operating Temperature:</b>	-40° F to +131° F (-40° C to +55° C)	
<b>Flash Head Weight:</b>	26 lbs.	
<b>Synchronization:</b>	Multiple unit sync from single controller	
<b>Warranty:</b>	5 years	

## System Part Numbers

Part Number for E2 System:	Description
DLS(X*)-008SP-E2M-AV	E2 Dual Lighting System - Master Controller
DLS(X*)-008SP-S	E2 Dual Lighting System- Slave Controller

\*Note: X=1 120VAC or X=2 230VAC

Meets US Fish & Wildlife Services recommendation for proposed rule meeting the FCC standards (WT Docket No 03-187, FCC 06-164) regarding the protection of migratory birds

LED\_Dual\_E2\_Avian170316