Appendix A – Technical Specifications

Engineering Services for the 69kV Circuit 679 Underground Reconductor

1. Scope of Work
   1.1. Provide civil and electrical engineering services for the Circuit 697 Reconductor.

2. Project Background and Description

   2.1. The existing circuit 679 (Lane Ave Substation to Randall St Substation) consists of both overhead (OH) and underground (UG) conductor sections. The UG section is direct buried cable, 0.67 miles long, and has experienced 2 cable faults within the last year. It was built in 1959. The overall thermal rating for circuit 679 is 117 MVA. The UG portion is the limiting factor for the overall line rating. The UG section is rated around 117 MVA while the overhead portion is rated around 140 MVA.

   Due to the age of the direct buried cable and the frequency of cable faults increasing, the UG portion of this 69 kV line requires a reconductor primarily for reliability and to provide a higher overall line rating. With the shutdown of the SJRPP plant, there are higher flows from the west and the southwest into the downtown 69 kV system. This line provides a west to east injection into the downtown load pocket. A higher thermal rating provides additional capacity under various contingencies to import additional power from FPL's Duval Substation to serve load to the east.

   2.2. Based on a recent transmission study, the UG reconductor needs to allow the overall line to be rated (Rate A = Rate B) to a minimum of 140 MVA. Electric T&D Planning recommends UG conductors to be installed to achieve this minimum rating. Based on our recent discussions within the JEA Transmission Standards Committee, 2000kcm copper EPR is the standard cable size JEA is using for all solid dielectric 69 kV circuits.

   2.3. The qualified Bidder shall perform all necessary services to design an underground duct bank to accommodate the JEA standard cable, spare conduit, communication conduit and grounding (if necessary).

   2.4. The qualified Bidder shall review the existing substation gantry and riser pole to determine if they are structurally and physically capable of carrying increased load from an additional set of cables. They shall include designs for additional attachments, equipment and materials where needed.

3. Mandatory Site Visit
   3.1. A mandatory site visit shall be required for all Bidders wishing to have their Bid considered under this Solicitation. All Bidders shall be aware of all existing conditions as well as new equipment being outlined for the design work in preparation of their Bids.

4. Selection Criteria
   4.1. JEA will select the most qualified Bidder receiving the highest overall scores based on the evaluation criteria in this section. All responses to this Bid must meet certain formatting requirements for the following reasons:

      4.1.1. To provide equivalent and uniform scoring via instruments of common grading thereby reducing the subjectivity of scoring as much as possible.

4.1.2. To expedite accurate scoring of the responses.

4.2. All Bid submissions must be received in the specific format as follows:

4.2.1. Each Bid shall be submitted in the format of a single, commonly bound report. The Bidder shall supply one original (bearing ink signatures in the appropriate locations) and three photocopies.

4.2.2. All documents shall be printed via a word processor, prepared on 8 ½" x 11" sheets printed no smaller than size 10 font with single spaced lines and no reduction in size.

4.2.3. Supplemental artwork, visual aids, films, live presentations, and other extraneous materials, unless requested by JEA, will not be accepted.

4.2.4. The Bid shall include a cover letter consisting of the title of this Solicitation, "Engineering Services for the 69kV Circuit 679 Reconductor" along with the Bidder's company name, local business address, city, state, zip code, telephone number, and facsimile number.

5. Ability of Professional Personnel / Personnel Experience

5.1. Application of Criterion: The application of this criterion shall include an assessment of the general capabilities of the firm or individuals that will be associated with this contract.

5.2. Qualities and indicators that will receive consideration generally include the following:

5.2.1. Various professional, technical, and educational achievements/registrations of the firm and individuals

5.2.2. Distance from JEA.

5.2.3. Diversification, depth of personnel, and overall experience of the firm.

5.2.4. Applicable experience of the proposed assigned staff and the specific experience gained on similar projects.

6. Engineering Scope of Work

6.1. The Engineering scope of work includes the pursuit of all surveys, site design, foundation design, electrical design, grounding design, and permitting related to the cable route. The route shall be located on existing ROW on Lane Avenue, Grace Lane, Verna Boulevard, and Ellis Road.

6.2. Although the current project route layout is "preliminary", Bidders should prepare their Bids on the Scope outlined in this Solicitation. Bidders shall specify number of hours and hourly rates needed to perform the detailed Task Plan below as separate line items for Project Executive, Project Manager, Senior Engineer, Junior Engineer, Field Support Engineer, Control Manager, and Clerical Support.

6.3. In addition to hours spent to execute the detailed Task Plan as shown in Section 7 below, the Bidder shall also provide, as a separate line item, hourly rates for all the expected staff to attend meetings, teleconferences, and site visits with JEA.

6.4. Bidder should have ability of producing all electronic engineering drawings in the latest version of AutoCAD. Furthermore, the Bidder shall also have the ability to modify Raster drawings utilizing the AutoCAD software.

7. Task Plan

7.1. Task 1 – Obtain Surveys

7.1.1. Topographical Survey

7.1.2. Property Survey

7.1.3. Wetland Survey

7.1.4. Geotechnical Survey

7.1.5. Underground facility locates

7.1.6. Any other surveys the Bidder deems necessary to complete all tasks.

7.2. Task 2 – Determine and obtain necessary permits.

7.2.1. Environmental permits: (SJRWMD, CEO, and FDEP) State and federal including wetland permitting, storm water discharge, hydrological study, protected species (gopher tortoise, birds, etc.) identification, and others as required.

7.2.2. City of Jacksonville: 10 set drawing review and approval, landscape/irrigation, tree clearing, tree removal, tree mitigation, maintenance of traffic and others as required.

7.2.3. State of Florida DOT permits: Maintenance of traffic and others as required.

7.2.4. Storm water management control permits.

7.3. Task 3 – Soil Boring Data

7.3.1. Bidder to acquire soil borings as needed.

7.4. Task 4 – Routing

7.4.1. Design the general routing layout of the circuit after consulting with the JEA Transmission Engineering department.

7.4.2. The design shall include, but not be limited to, the following: overall route site plan, segmented locations, pipe depths with crossing utilities, manhole locations, cable spans lengths, monuments, landmarks, etc.

7.5. Task 5 – Civil and Structural

7.5.1. Bidder will design the cable system as well as any site clearing, grading, pavement (to include COJ and FDOT standards), silt fencing, landscaping, etc.

7.5.2. The Bidder will design all foundations and thrust blocks as needed.

7.5.3. The Bidder will review existing Substation Gantry and Riser Pole, make recommendations and develop a design to accommodate new circuit geometry.

7.6. Task 6 – Detailed Electrical Design

7.6.1. The Bidder shall design the duct-bank and cable system to accommodate the required 140MVA load on the circuit.

7.7. Task 7 – Grounding Design

7.7.1. The Bidder shall perform the grounding design as needed. Grounding details shall be included.

7.8. Task 8 – Conduit Design

7.8.1. The Bidder shall design the duct-bank system to include the necessary 69kV cable with additional spares, communications, and grounding if needed. The design shall include the use of open trenching where feasible. The Bidder will provide the final cable and conduit schedule.

7.9. Task 9 – Develop Engineering Specifications

7.9.1. The Bidder shall work with the JEA project manager to create a set "Civil Specification."

7.9.2. The Bidder shall work with the JEA Project Manager to create an "Electrical Specification."

7.9.3. The Bidder shall work with the JEA project manager to create a "Specific Instructions." JEA's general Specific Instruction template will be modified by the Bidder to reflect the unique conditions of the site and confirmed by the project manager.

7.10. Task 10 – Engineering Assistance During Construction

7.10.1. The Bidder will provide engineering assistance during the construction of the project on an as-requested basis attending pre-construction meetings with relay technicians and be available to resolve any field issues.

7.10.2. This task shall be listed as a separate line item for each Bid response. This line item shall not be a lump sum amount but shall be used on an as needed basis during the construction phase of this project. The Bidder shall quote minimum of fifty (50) hours.

7.11. Task 11 - Engineering Drawings

7.11.1. The following is a list of drawings that the Bidder will need to provide. All drawings shall be placed in JEA Construction Title Blocks, specifically, those containing the "BORDER" cell, used for batch printing. The use of reference files are recommended to avoid widespread conflicts due to changes that may arise during submittal reviews and other means, but final electronic submittals shall be self-contained with all references deleted. Note that the list below is not intended to be complete:

7.11.1.1. Cover Sheet
7.11.1.2. General Notes
7.11.1.3. Demo/Removal Plan
7.11.1.4. Site Plan
7.11.1.5. Segmented Plan and Profile
7.11.1.6. Conduit Details
7.11.1.7. Conduit Schedule
7.11.1.8. Silt Fence and Clearing Plan
7.11.1.9. MOT Plan and Access
7.11.1.10. Driveways and Roadway - Standards and Details

7.11.1.11. Landscaping - Plan and Details
7.11.1.12. Terminations Structures - Plan and Details
7.11.1.13. Manhole Details
7.11.1.14. Cable Schedule
7.11.1.15. Grounding - Plan and Details

8. Deliverables

8.1. Complete set of civil and electrical drawings for construction.

8.1.1. Provide hard copies as follows: Four (4) sets of 24" x 36" and two (2) sets of 11" x 17" drawings.

8.1.2. Provide electronic files in AutoCAD as specified above. Provide PDFs scalable to 11" x 17" as well as 24" x 36" including a combined PDF of the drawing set.

8.1.3. Provide as-built drawing set (hard copy and digital as directed by JEA Project Manager) per field mark-ups.

8.2. Electronic file of all surveys specified in Task 1 in PDF and AutoCAD.

8.3. Electronic file of detailed soil boring finding report.

8.4. Electronic file of foundation, grounding, pulling tensions and all other applicable calculations.

8.5. Completed permits as specified in Task 2.

9. Engineering Review and Schedule Requirements

9.1. Bidder shall submit 10%, 30%, 60%, 90%, and 100% design documents and drawings as shown in Table 1 below. The milestone schedule will be refined and finalized during the first few initial design meetings/teleconferences:

Milestone	**~Due Date**	**Design Documents to be Submitted for Review (not all inclusive)**
10%	6/3/2019	Site Plan
30%	TBD	Segmented Plan and Profile, Demo Plan, Clearing Plan, Silt Fence Plan, Termination Structures - Plan and Details, Grounding – Plan and Details
60%	TBD	Driveways and Roadway - Plan and Details, Cable and Conduit Schedules
90%	TBD	Landscaping – Plan and Details, Conduit Details, Manhole Details, MOT Plan and Access
100%	9/30/2019	Final construction package to include all project drawings, specifications, calculations, etc.

The minimum qualifications shall be submitted in the format attached. The references shall be presented in the order described below. In order to be considered a qualified supplier by JEA you must meet all the criteria listed and be able to provide all the services listed in this specification. Submit with Bid or Proposal in accordance with the requirements of the solicitation.

Company shall ensure listed references can be contacted to verify minimum qualifications compliance. If JEA cannot contact the submitted reference, JEA may request an additional point of contact from the same reference, however, will not allow the Company to change references. If the reference cannot be verified, JEA may reject the submitted Bid or Proposal.

RESPONDENT INFORMATION

COMPANY NAME:_____

BUSINESS ADDRESS:_____

CITY, STATE, ZIP CODE:_____

TELEPHONE:_____

FAX:_____

E-MAIL:_____

Company must have successfully completed at least two (2) similar projects within the last five (5) years, ending March 30, 2019, that demonstrate experience in planning, design, and post design services for 69 kV or greater underground circuit reconductor projects.

To demonstrate the required experience, the similar projects completed must include work that meets all of the requirements listed below. **More than two (2) projects can be submitted to meet these requirements.**

- 69kV or above and have been solid dielectric cable in a conduit or ductbank system.
- Minimum length 500’.
- Installation of a underground reconductor project where the Company performed at least eighty percent (80%) of the total design package (for construction) with its own employees.
    - As a part of the minimum qualification submittal, the Proposer shall submit General Arrangement Drawings for each Minimum Qualification project on 11X17 paper.

Reference ____ of ____

Primary Nature of Service Provided: _____

Location: _____

Customer: _____

Reference Name: _____

Reference Phone Number: _____

Email Address: _____

Project Value: _____

Description of Project:

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COMPANY INFORMATION:

COMPANY NAME:_____

BUSINESS ADDRESS:_____

CITY, STATE, ZIP CODE:_____

TELEPHONE:_____

FAX:_____

EMAIL OF CONTACT:_____

PROJECT MANAGER PROXIMITY

In order to receive points for this criterion, Company's office must be occupied and staffed with at least three (3) employees for a duration of six (6) months prior to the Proposal Due Date stated in the RFP.

Check the box to confirm Company meets criterion □ YES □ NO

The Company shall submit one (1) original Proposal, three (3) duplicates (hardcopies), and four (4) CDs or USB drives. If there is a discrepancy between the electronic copy and hard copy, the hard copy will prevail. JEA will not accept Proposals transmitted via email.

Company's Certification

By submitting this Proposal, the Proposer certifies that it has read and reviewed all of the documents pertaining to this RFP and agrees to abide by the terms and conditions set forth therein, that the person signing below is an authorized representative of the company, that the company is legally authorized to do business in the State of Florida, and that the company maintains in active status an appropriate license for the work. The company certifies that its recent, current, and projected workload will not interfere with the company's ability to Work in a professional, diligent and timely manner.

The Proposer certifies, under penalty of perjury, that it holds all licenses, permits, certifications, insurances, bonds, and other credentials required by law, contract or practice to perform the Work. The Proposer also certifies that, upon the prospect of any change in the status of applicable licenses, permits, certifications, insurances, bonds or other credentials, the Company shall immediately notify JEA of status change.

We have received addenda _____through_____

_____ _____

Signature of Authorize Officer of Company or Agent Date

_____ _____

Printed Name & Title Phone Number