gai consultants

Cranberry Office
600 Cranberry Woods Drive
Suite 400
Cranberry Township, Pennsylvania 16066

T 724.772.2011
F 724.772.2050

May 29, 2025

R220058.08

Ms. Brittany Craven
Ocala Electric Utility
201 SE 3rd St.
Ocala, FL 34471-2187
Attention: JD Purcell

Proposal
Ocala Electric Utility Shaw Substation TX #4 12 kV Distribution Addition Rev. 2
Ocala, Florida

TASK WORK ORDER #7

Dear Brittany Craven:

GAI Consultants, Inc. (GAI) is pleased to submit this Proposal to Ocala Electric Utility (OEU) for engineering support services to design a 12.47 kV distribution addition (Project) at Shaw Substation. This proposal is being submitted in response to an email submitted by Lisa Crouthamel on November 18, 2024.

Project Understanding

GAI understands that OEU is expanding its Shaw Substation and requires a new distribution bay to serve the community. This addition will incorporate a new 12.47 kV bus consisting of four distribution feeders, with underground exits, and a new 41.6MVA 69/12kV Transformer No. 4 (TX No. 4). A new 69 kV breaker (Bkr L) will be installed in the existing 69 kV ring bus to create a new transformer terminal, complete with an isolating transformer high side switch. The foundation slab for TX No. 4 was previously designed by GAI and excluded from this scope.

Scope of Services and Deliverables[1]

Based on our understanding of the project requirements/criteria provided to date by OEU, GAI will perform the Scope of Services described below:

1. Manage the Project including participating in up to four (4) conference calls.
2. Review OEU standards, applicable substation drawings, and documentation provided for the project.
3. Geotechnical Design Scope:
    - GAI proposes to advance test borings to investigate the subsurface conditions for the proposed substation. GAI assumes that landowner permission will be provided prior to mobilization.
    - Provide two (2) borings for geotechnical analysis of the soil composition to be used in foundation calculations. Standard penetration test (SPT) samples will be obtained at 3.0-foot intervals to a depth of 15 feet (or top of rock if rock is encountered in the upper 15 feet), and at five foot intervals below 15 feet in general compliance with ASTM International's (ASTM's) Designation D 1586, Standard Method for Penetration Test (SPT) and Split Barrel Sampling of Soils. All soil samples will be placed in glass jars and properly

[1] Deliverables to be submitted are marked with an asterisk.

labeled. Bag samples of soil from auger cuttings may also be collected for laboratory testing.

- GAI has assumed the boring locations are accessible to four-wheel drive trucks and a track mounted drill rig.
- Upon completion, the test borings will be backfilled with a combination of soil cuttings and bentonite chips. No other Site restoration is assumed to be necessary.
- A report will be prepared providing the findings from the subsurface investigation with recommendations for foundations including design parameters for shallow and deep foundations and anticipated settlement, includes LPILE and MFAD parameters slope stability evaluations of both temporary excavations and permanent slopes.
- GAI will coordinate with OEU for site access and provide advance notice for scheduling.

4. Packaged Substation Engineering (Distribution Infrastructure)
    - The distribution structure will be designed as a prefabricated substation by others, complete with potential transformers (PT), disconnect switches, bus work, connectors, jumpers, grounding connections, shield masts, etc. as needed to complete the full design and will be incorporated into the overall design by GAI.
        i. It is assumed that a specification for the distribution structures is available for GAI to use. One can be created, if necessary, for an additional fee.
        ii. This scope of work includes three (3) rounds of review with the selected vendor. Anything above that will result in a request for additional funds.
    - GAI will provide specifications for the structural steel to the vendors and in return it is expected the vendor will provide the steel calculations, foundation reactions, anchor bolt details, fabrication drawings, bill of materials, and erection drawings for the following items:
        i. 12.47 kV main bus structure
        ii. 12.47 kV transfer bus structure
        iii. 12.47 kV feeder termination structure
        iv. GAI will review and approve calculations and drawings provided by the vendor, but it is expected the vendor will sign and seal the calculations and drawings.
    - Design foundations for the following:
        i. 12.47 kV main bus structure
        ii. 12.47 kV transfer bus structure
        iii. 12.47 kV breakers
        iv. 12.47 kV feeder exit structure.
    - Install cable trench from main branch exiting control enclosure to new distribution area.
    - Install conduits from cable trench to new equipment, including breakers, instrument transformers, and new outdoor AC distribution panelboard.
    - Install conduit for feeder exits, to be stubbed outside of the fence line, to be picked up by others. Design of feeder exits beyond the fence line is not included in this scope.
    - Install new ground whips to new equipment and structures and grounding platforms for disconnecting switches.

i. No additions to the ground grid are expected and a grounding study is not included in this scope.

- Revise and/or create the following:
  i. bill of material*
  ii. up to one (1) general arrangement/equipment plan drawings*
  iii. up to one (1) elevation drawings*
  iv. up to two (2) conduit plan, sections, and detail drawing; *
  v. up to one (1) foundation plan, and detail drawings; *
  vi. up to one (1) grounding plan and detail drawings*

5. 69kV Infrastructure Upgrades:
   - Install one 69 kV breaker in the ring bus to create a new transformer bay. The breaker disconnect switch stands are already in place and new switches will be installed with jumpers to the new breaker.
   - Install one manually operated transformer isolating switch on the 69 kV side of the transformer to allow the ring bus to remain intact during an outage.
   - Install bus work and connections as necessary to complete the design as from 69kV bus to isolating switch to the transformer. In addition, complete connection from low side of transformer to distribution structure. The design will be engineered to meet all utility and national standards.
   - GAI will provide specifications for the structural steel to the vendors and in return it is expected the vendor will provide the steel calculations, foundation reactions, anchor bolt details, fabrication drawings, bill of materials, and erection drawings for the following items:
     i. 69 kV switch stand (to be installed on high side of transformer)
     ii. GAI will review and approve calculations and drawings provided by the vendor, but it is expected the vendor will sign and seal the calculations and drawings.
   - Design foundations for the following:
     i. 69 kV breaker
        1. Disconnect switch stands are already in place.
     ii. Transformer high side switch
   - Install conduits from cable trench to new equipment, including breaker and transformer.
   - Install conduit connections to new equipment, including breakers, transformer, and instrument transformers.
   - Install new ground whips to new equipment and structures and grounding platforms for disconnecting switches.
     i. No additions to the ground grid are expected and a grounding study is not included in this scope.

- Revise and/or create the following:
    i. bill of material*
    ii. up to one (1) general arrangement/equipment plan drawings*
    iii. up to two (2) elevation drawings*
    iv. one (1) bus work connection details*
    v. up to two (2) conduit plan, sections, and detail drawing; *
    vi. up to one (1) foundation plan, and detail drawings; *
    vii. up to one (1) grounding plan and detail drawings*

6. Protection and Controls Design Scope:
    - The protection and control scope encompasses work in both the distribution and 69 kV systems as they have overlapping zones of protection.
    - Install new 69 kV bus differential protection scheme to protect the high side of the transformer utilizing a SEL-387 relay, lockout relays, test switches, and other associated equipment per OEU standards.
    - Install new transformer differential protection scheme utilizing a SEL-387 relay and backup overcurrent protection utilizing a SEL-351 relay, lockout relays, test switches, and other associated equipment per OEU standards.
    - Install new 12.47 kV bus differential protection scheme utilizing a SEL-351-6 relay, lockout relays, test switches, and other associated equipment per OEU standards.
    - Install new SEL-351 relay to provide breaker failure protection for Bkr L, lockout relays, control switches, test switches, and other associated equipment per OEU standards.
    - All new equipment will be placed in existing panel racks, either cut-in to existing panel fronts or whole panel fronts replaced when applicable.
    - All new 12.47 kV breakers to come with SEL-351 relays preinstalled. GAI will provide necessary external connections to those relays, including power and SCADA connections, as necessary.
    - Modify existing protection schemes with the addition of the new transformer bay, including but not limited to the following:
        i. TX #1 protection
        ii. Bkr K and M breaker failure schemes
    - Connect all new relays and equipment alarms to existing SCADA system per OEU standards.
    - Install a new AC panelboard in the yard, located on the new distribution structure, to service the new equipment.
    - The DC panelboard is expected to be modified to separate out the 230 kV equipment during a different project and will have space for the new addition. No upgrades are included in this scope for the DC system.
    - Revise and/or create the following:
        i. bill of material*
        ii. cable schedules*
        iii. one-line drawings*

iv. up to forty (40) schematic and wiring diagram drawings; *
v. up to twenty (20) demolition drawings; *
vi. up to five (5) other miscellaneous drawings, * including AC and DC panelboards.

7. Relay Settings Scope:
   - Provide relay settings for the following relays:
     i. Two SEL-387 relays for transformer and bus differential protection
     ii. Five SEL-351A relays, including feeder protection and transformer overcurrent.
     iii. One SEL-351 relay for breaker failure protection
     iv. One SEL-351-6 relay for 12.47 kV bus differential protection.
   - OEU to provide existing ASPEN model and GAI will update using ASPEN software. It was stated in an email, dated 12/17/2024 from Zach Sieg, that an existing model does exist and could be provided. If the model cannot be provided or was not modeled in ASPEN, a new model will need to be created based on OEU provided fault data, and additional funds will be required.
   - OEU to provide existing RDB files to use a template for the new relays.
8. Submit an electronic copy of the Issued for Review (IFR) construction document package for review and comment. This package will include all the design drawings.
9. Receive comments from OEU on the IFR package and incorporate comments into the package to create an Issued for Construction (IFC) package. Meet with OEU technical leads as required to discuss comments.
10. Submit electronic copies of the IFC construction document package.
11. Prepare and submit Field Record Drawings after construction is completed.

Assumptions and Understandings

GAI's Scope of Services, Schedule, and Compensation as set forth above have been prepared based on the following assumptions and understandings:

1. We will retain a copy of the Project information related to this Request for Proposal for our records. This copy will be maintained in accordance with the Confidentiality Agreement.
2. One site visit is included in this estimate.
3. All deliverables will be electronic (.pdf and CAD compatible files).
4. GAI will submit three deliverables, 30% IFR, 90% IFR and IFC, for this scope of work. No partial or interim submissions are anticipated for this work. Should OEU require any additional or partial submissions, GAI will suspend work until authorization is provided by OEU for the additional fees required.
5. OEU comments to GAI products delivered for review should be provided within two weeks of the delivery date unless a separate agreement is reached by the applicable involved personnel in advance of GAI delivery for review.
6. The following items are not included in this Scope of Services: siting; environmental permitting; survey services; civil, transmission line or distribution engineering. Any services not explicitly stated in this proposal are not provided.

7. OEU has provided all its requirements for GAI's scope of services and all criteria and/or specifications that GAI should utilize at the time this Proposal is authorized. This includes any requirement for any statement of professional opinion or certification.
8. OEU will give GAI prompt notice whenever it observes or otherwise becomes aware of any development that affects the scope or timing of GAI's performance.
9. GAI's proposed compensation and schedule are based on receipt of authorization. GAI reserves the right to adjust its compensation if authorization to proceed is not received within (90) calendar days.
10. It is expected that information requested from OEU by GAI will be provided in a timely manner, otherwise there may be an impact to the schedule. Information includes, but not limited to, record drawings, CAD files, vendor files, equipment specifications, short circuit models, and RDB files.

Estimated Cost, Schedule, and Proposed Staffing

GAI will provide the services listed above on a Time and Material basis with a cost not to exceed $264,233.18. Pricing is based on the labor categories established in Exhibits A, B and C in the agreement between GAI and OEU which is attached, and the hours, and expenses breakdown below.

Job Classification	Labor Category	Hours	Rate	Cost
Business Sector Leader	E16	34	$297.13	$10,102.42
Senior Technical Manager 1	E14	285	$212.54	$60,573.90
Technical Manager	E12	215	$173.87	$37,382.05
Sr Project EIT 1	E07	717	$137.47	$98,565.99
Lead Designer	N10	164	$107.27	$17,592.28
Lead Construction Coordinator	N09	18	$190.02	$3,420.36
Designer	N08	56	$95.78	$5,363.68
Lead Technician	N05	375	$76.62	$28,732.50
Expenses				$2,500.00
Total				$264,233.18

Estimate Breakdown per Engineering Task		
Engineering Task	**Total Combined Hours**	**Cost**
Geotechnical Services	100	$19,084.32
Packaged Substation Engineering	210	$34,514.95
69kV Substation Engineering	410	$56,672.46
Protection and Controls Engineering	830	$100,638.73
Relay Settings	314	$50,822.72
Expenses		$2,500.00
Total		$264,233.18

GAI proposes two review packages.

- 30% Review Package – This is to include one-line diagrams, panel fronts, and general arrangements. This will ensure GAI and OEU agree on the design before proceeding onto the detailed design.

- 90% Review Package – All remaining drawings including any comments from the 30% review.

GAI also expects a deviation from the originally requested IFC date of March 10, 2025. It is our understanding that this project is subject to City of Ocala City Council approval and the actual notice to proceed date is unknown at this time. GAI is proposing a schedule based on duration instead of actual dates until the notice to proceed is confirmed. Our proposed timeline was developed using information provided by OEU from a vendor for a previously completed packaged substation. That document called for 10 weeks to receive foundation reactions and anchor bolt details which would be required for us to finish our foundation design.

GAI is not responsible for deviations to vendor schedules and any deviations will have a direct impact to our proposed schedule. A basic schedule, in addition to the deliverables table shown below, has also been attached further breaking down the impact of the vendor information.

Deliverable	Date
Notice to Proceed (NTP)	TBD
Issue for Review – 30% Package: One-line Diagram, Panel Fronts, and GA	4 weeks after NTP
Issue for Review – 90% Package	10 weeks after 30% IFR
Issue for Construction Package	3 weeks after 90% IFR
Issue final As-Built Drawings (6 weeks after receipt of redline mark-ups)	Est. 2026

Please do not hesitate to contact me at 412.399.5364 or s.anthony@gaiconsultants.com if you have any questions or wish to discuss this Proposal. If this Proposal is acceptable, please sign where indicated below and return one copy for our file. This also will serve as authorization for GAI to proceed.

Sincerely,
GAI Consultants, Inc.

Chaz Teetzen, P.E.
Senior Engineering Manager

Stephen P. Anthony

Digitally signed by Stephen P. Anthony
DN: E=S.Anthony@gaiconsultants.com, CN=Stephen P. Anthony
Location: Cranberry, PA
Reason: I am approving this document
Contact Info: 301-646-3067
Date: 2025.05.29 12:48:36-04'00'

Stephen Anthony, P.E
Vice President

SPA/CRT/RCO/mms

REQUESTED AND AUTHORIZED BY:

Ocala Electric Utility

BY: _____

PRINTED NAME: _____

TITLE: _____

DATE: _____

Consultant shall provide full -service design and construction management of electric substation, transmission, and distribution facilities and related services.

Each facet of a project shall be handled by a qualified individual in a cost-effective manner. Consultant shall be responsible for design, engineering and construction management in one or more of the following areas:

1. 230 kV and 69 kV transmission utilizing steel and concrete transmission pole and foundation constructions.
2. 230kV, 69kV and 12 kV overhead and underground constructions.
3. 230 kV, 69 kV and 12 kV substation constructions.

Consultant Responsibilities:

1. Be familiar with policies and procedures of the necessary permitting agencies including Florida Department of Environmental Protection, Corps of Engineers, Florida Department of Transportation, Marion County, and others that may apply.
2. Acquisition of easements from private and public entities, including condemnation.
3. Complete management of project from inception to completion of construction including, but not limited to, establishment of project schedule, budgeting, obtaining permits, obtaining easements, creating bid documents for construction, review of bids and shop drawings, inspection services during construction and review of construction contractor pay items.
4. Consultant shall be expected to provide material lists for order using the City's system of construction assemblies. Construction assembly lists for transmission and distribution work shall be provided in a format (Excel or Access) to allow import into the City's work order system and includes work order number, project number, workstation, assembly name, alternate conductor, zone, quantity, action, conductor length, pole ID, and conductor stock numbers. Alternately, Consultant may be required to enter material directly into the City's work order system, on-site at the City's facilities in Ocala.
5. Consultant shall be expected to provide material lists and specification for substations for bid purposes. One- line diagrams, elementary wiring diagrams and relay settings shall be provided for all substation projects by Consultant.
6. It is anticipated that Consultant shall meet with the City's staff initially to establish procedures and become familiar with the City's standards and procedures and then every two weeks (weekly meetings may be required based upon project needs) to discuss design and/or construction issues through the life of assigned project(s).
7. Consultant must be capable of performing assigned project(s) using its area staff. Consultant may include a sub-consultant on a project team subject to City approval.
8. The City prefers Consultant be headquartered or have a regional office in Florida. Consultant must be capable of addressing critical construction issues during the construction phase within a reasonable period so as not to delay construction.

Exhibit B - Consultant Loaded Rate Sheet
GAI Consultants, Inc.

Job Classification	ID #	Unit	Loaded Rates
Business Sector Leader	E16	HOUR	$ 297.13
Business Development Director	E15	HOUR	$ 323.39
Special Project Technician 1	E15	HOUR	$ 306.48
Special Project Technician 2	E15	HOUR	$ 245.18
Special Project Technician 3	E15	HOUR	$ 198.60
Director	E15	HOUR	$ 289.77
Engineering Director	E15	HOUR	$ 266.90
Senior Engineering Manager 1	E14	HOUR	$ 213.51
Senior Engineering Manager 2	E14	HOUR	$ 210.71
Senior Technical Manager 1	E14	HOUR	$ 212.54
Senior Technical Manager 2	E14	HOUR	$ 212.50
Technical Manager 1	E12	HOUR	$ 191.55
Technical Manager 2	E12	HOUR	$ 173.87
Technical Manager 3	E12	HOUR	$ 172.40
Technical Manager 4	E12	HOUR	$ 154.77
Engineering Manager	E12	HOUR	$ 182.04
Assistant Technical Leader 1	E11	HOUR	$ 275.83
Assistant Technical Leader 2	E11	HOUR	$ 191.55
Assistant Technical Leader 3	E11	HOUR	$ 169.45
Project Manager 1	E09	HOUR	$ 162.08
Assistant Engineering Manager 1	E09	HOUR	$ 154.72
Assistant Engineering Manager 2	E09	HOUR	$ 152.17
Senior Project Design Technical Specialist	E09	HOUR	$ 130.58
Senior Project Technical Specialist 1	E08	HOUR	$ 156.19
Senior Project Technical Specialist 2	E08	HOUR	$ 154.71
Senior Project Technical Specialist 3	E08	HOUR	$ 151.67
Senior Project Technical Specialist 4	E08	HOUR	$ 147.35
Senior Project Technical Specialist 5	E08	HOUR	$ 139.98
Senior Project Technical Specialist 6	E08	HOUR	$ 132.61
Senior Project Technical Specialist 7	E08	HOUR	$ 127.19

Exhibit B - Consultant Loaded Rate Sheet
GAI Consultants, Inc.

Job Classification	ID #	Unit	Loaded Rates
Senior Project Technical Specialist 8	E08	HOUR	$ 117.88
Senior Project Engineer	E08	HOUR	$ 132.61
Project Design Technical Specialist	E08	HOUR	$ 108.89
Senior Project EIT 1	E07	HOUR	$ 137.47
Senior Project EIT 2	E07	HOUR	$ 132.61
Senior Project EIT 3	E07	HOUR	$ 121.36
Senior Technical Specialist 1	E07	HOUR	$ 109.04
Senior Technical Specialist 2	E07	HOUR	$ 107.27
Project Technical Specialist 1	E06	HOUR	$ 128.19
Project Technical Specialist 2	E06	HOUR	$ 117.88
Project Technical Specialist 3	E06	HOUR	$ 115.55
Project Technical Specialist 4	E06	HOUR	$ 114.93
Project Technical Specialist 5	E06	HOUR	$ 113.46
Project Technical Specialist 6	E06	HOUR	$ 107.56
Project Technical Specialist 7	E06	HOUR	$ 106.09
Project Technical Specialist 8	E06	HOUR	$ 98.83
Project EIT 1	E06	HOUR	$ 125.24
Project EIT 2	E06	HOUR	$ 119.46
Project EIT 3	E06	HOUR	$ 118.88
Project EIT 4	E06	HOUR	$ 117.88
Project EIT 5	E06	HOUR	$ 113.46
Project EIT 6	E06	HOUR	$ 112.46
Lead Designer 1	N10	HOUR	$ 107.27
Lead Designer 2	N10	HOUR	$ 97.31
Lead Construction Coordinator 1	N09	HOUR	$ 198.60
Lead Construction Coordinator 2	N09	HOUR	$ 190.02
Lead Construction Coordinator 3	N09	HOUR	$ 186.95
Lead Construction Coordinator 4	N09	HOUR	$ 183.89
Lead Construction Coordinator 5	N09	HOUR	$ 179.29
Senior Lead CAD Operator 1	N09	HOUR	$ 107.59
Senior Lead CAD Operator 2	N09	HOUR	$ 107.46

Exhibit B - Consultant Loaded Rate Sheet GAI Consultants, Inc.			
Job Classification	**ID #**	**Unit**	**Loaded Rates**
Senior Designer 1	N09	HOUR	$ 103.13
Senior Designer 2	N09	HOUR	$ 88.57
Senior Designer 3	N09	HOUR	$ 86.44
Designer 1	N08	HOUR	$ 95.78
Designer 2	N08	HOUR	$ 82.75
Designer 3	N08	HOUR	$ 82.17
Distribution Designer 1	N08	HOUR	$ 88.16
Distribution Designer 2	N08	HOUR	$ 85.81
Distribution Designer 3	N08	HOUR	$ 76.62
Senior CAD Operator 1	N06	HOUR	$ 85.81
Senior CAD Operator 2	N06	HOUR	$ 76.62
Senior CAD Operator 3	N06	HOUR	$ 63.77
Lead Technician 1	N05	HOUR	$ 76.62
Lead Technician 2	N05	HOUR	$ 67.58
Lead Technician 3	N05	HOUR	$ 61.30
Lead Technician 4	N05	HOUR	$ 59.40
Technician	N02	HOUR	$ 61.30
Intern 1	N01	HOUR	$ 58.23
Intern 2	N01	HOUR	$ 52.10

GAI Consultants, Inc.'s submitted proposal

is available for inspection and copying at:

City of Ocala, Procurement and Contracting

110 SE Watula Avenue

Ocala, Florida, 34471