



Consultant Services Authorization

Firm	Carollo Engineers, Inc.
Master Agreement No.	2024-007
CSA No.	2024-007-04
Project Name	SCADA Risk Assessment and Asset Management
Project Description	Consultant will provide services including project management, operational technology (OT) risk assessment, penetration testing, asset management coordination, and the resultant OT Cyber-security Incident Response Plan.
Projects Exhibits and Attachments	Exhibit "A"- Scope of Services Exhibit "B"-Fee Schedule (Master Agreement) Exhibit "C"-Reimbursable Cost Schedule (if applicable) Exhibit "D"-Insurance Documents
Duration (in days)	This authorization shall be in full force and effect until the Consultant completes all services as identified in Exhibit "A".
Compensation	\$ 293,666.00
Special Contract Conditions	NA
Insurance Requirements	Professional Liability
Liquidated Damages	\$ 0.00 Per Day
Budget Source/Availability	42113.680536150.5666000.6827007 (SCADA Cybersecurity Improvements)

IN WITNESS WHEREOF, the parties hereto have executed this CSA on this ___ day of _____, 20__ .


Attest:
STACY M. BUTTERFIELD

POLK COUNTY, a Political subdivision
of the State of Florida

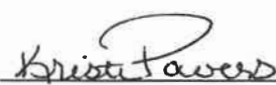
By: _____
Deputy Clerk

By: _____
Chairman
Board of County Commissioners

Date Approved by Board: _____

Review as to form and legal sufficiency


County Attorney's Office Date _____

Attest:

Corporate Secretary



Carollo Engineers, Inc
CONSULTANT COMPANY NAME

Mr Scott Rich
Authorized Corporate Officer

Scott Richards, Vice President
[Printed Name and Title]

SEAL

Date: 2/10/2026

Date: 2/11/2026

Exhibit A

Consultant Services Authorization

2024-007-04

SCADA Risk Assessment and Asset Management

Carollo Engineers, Inc., (Carollo) entered into a Master Consulting Agreement (Agreement) with Polk County, Florida (County) on January 9, 2024. Pursuant to this Agreement, the County has requested that the Consultant provide certain professional services in support of the Polk County SCADA Risk Assessment and Asset Management (Project) as further detailed in this Consultant Services Authorization.

A. Project Background and Description

Polk County Utilities (County) utilizes a Supervisory Control and Data Acquisition (SCADA) system to monitor and control its infrastructure for water treatment and distribution and wastewater collection and treatment. SCADA systems are highly technical and computerized systems that include technology and software that continue to change and evolve. Carollo performed an update to the County's Comprehensive Operational Technology (OT) Plan in June 2024. This plan included recommendations for assessing the risk of the existing system and OT penetration testing.

The County has requested the assistance of Carollo Engineers, Inc. (Carollo) to develop the risk assessment criteria, review the operational response to SCADA events that would result in automated control downtime, OT network penetration testing, and SCADA asset management support. The efforts of this project will primarily focus on the water production facilities (WPFs) and the collection system lift stations. Wastewater Treatment Facilities (WWTFs) are not included at this time as they are undergoing large scale facility upgrades having impacts on the SCADA system risks and assets.

The County has requested Carollo to provide a risk assessment of the County SCADA assets, key unit processes, vulnerability identification of the OT network in the form of penetration testing, and development of a SCADA incident response plan and table top exercise. The project will be accomplished by Carollo and its subconsultant KoreLogic by gathering data of existing critical SCADA/OT assets, performing a risk analysis of these assets, performing an operational assessment of key processes at the water treatment plants and lift stations, and

development of recommendations to reduce SCADA system risk. An OT penetration test will be completed in order to determine vulnerabilities in the OT/SCADA network and develop recommended mitigations to further harden this network. Carollo and KoreLogic will also provide assistance in coordinating SCADA assets with the County's overall asset management program, develop an OT/SCADA specific incident response plan, and develop and facilitate a table top incident response workshop.

Penetration Testing and Asset Management Coordination Recommendation Phase services will be provided in accordance with the scope of services set forth in a August 21, 2025 proposal prepared by KoreLogic (refer to Attachment A-3).

The Project will be completed through four (4) separate phases as described below.

B. Scope of Services

Upon authorization to proceed from the County, the Consultant will provide the following identified services. The Consultant shall ensure that all documents produced by the Consultant or their subconsultants for the County will be consistent with the Polk County Utilities Standards and Specifications Manual, latest edition, and other County requirements (as applicable). This authorization shall be in full force and effect until the Consultant completes all services as described in the Consultant Services Authorization and any subsequent modifications hereto.

Phase 100 – Project Management

Task 101 – Project Management

Carollo will provide overall management of the Project including contract administration, budget management, invoicing, monthly status reports, scheduling, and coordination with the County and Carollo's subconsultants.

Carollo will provide monthly progress reports that identify what work has been performed during the month and an itemized listing of work that will be anticipated in the upcoming month. These reports will be delivered as part of the monthly progress payment request.

A project schedule will be created and updated monthly and delivered as part of the monthly progress reports. Carollo will maintain a log of any modifications to the planned scope of services and provide the County with any required schedule or budget modifications. The schedule will be created and maintained in MS Project. Each task identified in the scope of work will be included in the project schedule, along with milestone dates.

Phase 200 – Operational Technology Risk Assessment

Phase 200 involves gathering data necessary for the execution of the project and development of the risk assessment for the SCADA assets. Specific items included in Task 2 are detailed in the subtasks described below.

Task 201 – SCADA Hardware Risk Assessment

Carollo will develop a SCADA/OT asset data request list of information that is not currently available from previous projects. This list would include major SCADA assets at the lift stations and WPFs. Using the existing data Carollo will perform the following:

1. Utilize the County's existing SCADA Asset information and create an asset list that includes (hardware, software, PLC's, servers etc.).
2. Classify assets into critical, important, supporting, and isolated assets to aid in the prioritizing of equipment. These tiers will be based on operational impact, safety impact, data for compliance, connectivity, and redundancy and reviewed by the County.
3. Development of a risk matrix for major OT SCADA assets that can be incorporated into the Asset Management System. The risk matrix will utilize the AWWA J100 standard for risk calculation. Assets will be defined using existing County templates as a base for data fields.
4. The risk matrix will include a threat and consequence analysis to develop the overall risk rating including likelihood and impact.
5. Mitigation measures and recommended actions will be developed to reduce risk.

Task 202 – Operational Assessment

Utilizing the data from Task 201 Carollo will work with the County to develop an operational assessment of the existing systems. The operational assessment will encompass reviewing the mission-critical processes for the lift station and the Water Production Facilities. The

assessment will review the operator workflows for critical processes at these facilities. The team will review the processes at the following locations and complete the tasks listed below:

1. Operator manual control requirements to maintain the unit process. Process will include the following:
 - a. One (1) Master Lift Station
 - b. One (1) Residential lift station
 - c. One (1) Regional Water Production Facility
 - d. One (1) Small Water Production Facility
 - e. One (1) Small Wastewater Treatment Facility
2. Review the operator alarm handling of the process and logging of critical data during the manual operation.
3. Staffing requirements to manually operate the system continuously 24/7.
4. Review Standard Operating Procedures (SOPs) for emergency manual override guidance.

Master lift stations will include a review of the VFD controls for the station and manual operations, with removal of excess flows using container trucks. Small WPF will include a review of the typical VFD, hydro tank, pressure gauges and controls necessary to maintain pressure and chemical feed to maintain residual chlorine. Regional WPF will include the similar components of the small WPF but also include additional pumps, complex processes, and SCADA equipment onsite. The results of the operational assessment will be outlined in a summary section including recommendations for the County to consider and implement. Wastewater Treatment Facilities will be limited to small package type WTFs. Regional WTFs are not included due to the major facility upgrades that are upcoming.

The results from this task will be detailed in an Operational Assessment Summary and will be included in the Incident Response Plan in Task 4.2

Phase 300 – Penetration Testing and Results

Task 301 – OT Network Penetration Testing

Carollo will work with our subconsultant Korelogic to perform a penetration test of the OT network. The test will utilize the data gathered in Task 200 and test the connections between the OT and IT networks. The task will identify vulnerabilities in the following areas:

1. External penetration testing from the Internet.
2. OT External testing from IT and remote site networks:
 - a. Isolation of OT and IT networks.
 - b. OT network controls to limit access from remote sites.
 - c. Hardening of network connected assets.
3. OT network security and ability to access OT devices.

The penetration test will be coordinated with the operations and engineering group to help prevent any accidental downtime or activation of equipment. The testing will attempt to gain control and identify any OT vulnerabilities in a control system environment.

Carollo will review the overall system network topology and revise cybersecurity controls and recommendations made from the Comprehensive OT Plan. An update list of recommendations will be developed based on penetration testing results. Carollo will work with the County and develop a list of the vulnerabilities and recommendations for corrective action.

Phase 400 – Asset Management Coordination and Recommendations

The objective of the coordination task is for the Carollo team to work with the County asset management team to incorporate the SCADA assets into the Lucity Asset Management Platform. Carollo with assistance from our subconsultant will also develop an Incident Response Plan and a tabletop exercise.

Task 401 – Asset Management Coordination

Carollo will work with the County's Asset Management team to perform the following tasks:

1. Develop an asset hierarchy for the Lucity Asset Management system.
2. Develop a replacement and maintenance cycle for each asset identified for tracking.
3. Complete the asset table, based on the County's existing template, with all relevant data necessary for the team to track for replacement and maintenance.
4. Assist the team with the import of assets into Lucity.

Task 402 – Incident Response Plan

Based on the Information gathered from Tasks 200 and 300 Carollo and KoreLogic will develop an incident response plan. The plan will include the following:

1. Identification and notification of potential cyber events.
2. How are responses handled today.
3. Who leads and supports a response.
4. How internal and external communications are handled.
5. Identification of critical OT assets.
6. OT Recovery expectations.
7. Third party coordination with vendors that the County typically works with.
8. Recovery testing, validation, restoration and monitoring of the system during the recovery phase
9. Post incident review.
10. Required spare parts for key OT SCADA equipment.
11. Call list hierarchy during a cyber event

Carollo will combine the previous sections developed as part of this Project into a single document for County review, the report will include the following sections:

1. Executive Summary
2. Existing SCADA Asset List and Lucity Asset Management Data
3. Operational Assessment Review, Summary and Recommendations
4. Penetration Testing Results and Recommendations
5. Incident Response Plan
6. Summary and Recommendations

Task 403 – Table Top Incident Response Plan

The Carollo and Korelogic team will facilitate a tabletop exercise with the County to simulate a cyber event on the OT network affecting control system operation. The workshop will focus on the decision-making and communication processes that the County should follow during a cyber event including the following:

1. Detect and validate an incident
2. Response planning
3. Threat isolation
4. EOC activation or response escalation
5. County response

This workshop will also include the implementation of the OT Cybersecurity Incident Response Plan that will be developed as part of Task 402. During the workshop key Carollo and Korelogic staff will be involved and the workshop will present an incident scenario with progressive incident stages focusing on decision making and communication. The results from the workshop will be summarized in the meeting minutes and any changes to the Incident Response Plan will be incorporated.

C. DELIVERABLES

The Consultant shall prepare and submit to the County, including electronic format when applicable, the following deliverables:

Task	Activity	Deliverable
100	Meetings Monthly Progress Reports Project Management and Work Plan	Meeting agenda, minutes and monthly progress reports in Portable Document Format (PDF).
201-202	OT Risk Assessment	Draft/Final SCADA Asset List Draft/Final SCADA Asset Classification Draft/Final Operational Assessment Summary and Recommendation
301	Penetration Testing and Results	Penetration Test Report SCADA System Recommendations List
401-402	Lucy SCADA Asset List Draft/Final OT Cybersecurity Incident Response Plan Report	List of assets for the Lucy System (electronic, spreadsheet or pdf) Three (3) hard copies of the Final OT Cybersecurity Incident Response Plan; one (1) electronic copy (Portable Document Format) in Portable Document Format.

D. SCHEDULE

Consultant will proceed with the services identified herein immediately upon receipt of an executed copy of this Consultant Services Authorization and a formal Notice-to-Proceed from the County. The projected schedule for the performance of services described herein, in Gantt Chart format, is included as Attachment A-1. An updated electronic version of the Project schedule in Microsoft Project will be provided to the County within 10 working days from the issuance of the Notice-to-Proceed. Delivery of the schedule may be in other electronic formats so long as they accurately portray the approved scope of services with sufficient detail subject to staff approval. Should additional time be required beyond the schedule depicted in Attachment A-1, The Consultant will provide an updated Attachment A-1 (schedule) to the Utilities and Procurement Divisions. Following staff approval, the updated Attachment A-1 will be forwarded by Utilities staff to Procurement staff for inclusion in the contract file with no further administration action required for extension.

E. COMPENSATION

This Consultant Services Authorization establishes a not-to-exceed cost of \$293,666.00. Compensation for the services performed under this Consultant Services Authorization shall be on an hourly, not-to-exceed basis using the current hourly rate schedule as set forth in Master Consulting Agreement 2024-007. Other direct costs or expenses incurred in connection with this Consultant Services Authorization will not be invoiced as these expenses have been accounted for in the rate multiplier associated with the Master Consulting Agreement referenced above. A summary of the estimated labor costs is provided in Attachment A-2 for reference only. Each invoice submittal shall include a tabular summary of the originally estimated labor costs by phase in accordance with Attachment A-2, fees invoiced to date, and the balance remaining per phase. The transfer of funds between defined phases is not permitted unless approved in advance in writing by the County Utilities Director. To request consideration for such a transfer, the Consultant must submit satisfactory written justification to transfer unused funds from phases with completed tasks or tasks clearly tracking under budget to phases with tasks requiring additional funding. In addition, the transfer of funds shall not exceed the total authorized fee for the Project.

The not-to-exceed cost for this Consultant Services Authorization includes contingency funds in the amount of \$15,000.00. The contingency funds authorized for use on this Consultant Services Authorization may only be expended upon written approval from the County's Utilities

Director. Adequate justification must be provided by the Consultant for the release of contingency funds. Any out-of-scope services performed requiring the release of contingency funds will be considered at-risk and may not be compensated until, or if, written approval is granted by the County's Utilities Director.

The Consultant will minimally provide a consultant invoice summary with each invoice, based on a mutually agreed-upon breakdown of phases and tasks in Attachment A-2 that reflect the effort and deliverables submitted to the County. The summary will depict the overall phases, associated budgets, amounts invoiced to date, and balance remaining. Invoices for compensation submitted by the Consultant will include the reviewed and approved consultant invoice summary, an updated Project schedule, notarized affidavits (as applicable), and the monthly status report.

The Consultant agrees that, in the event that design errors and / or omissions are discovered during construction, all services rendered by the Consultant to correct said design errors and / or omissions will be considered out-of-scope services and shall not be invoiced to the County.

F. COUNTY RESPONSIBILITIES

Because of the nature of this project, certain assumptions apply to this Scope of Services. To the extent possible, these assumptions are stated within this document and are reflected in the budget. If the project task requirements are different from the assumptions presented in this Scope of Services, or if the County desires additional services, the resultant change in scope will serve as a basis for amending this project assignment or initiating the development of a new project assignment as agreed to by both the County and Carollo. The following assumptions and County responsibilities apply to this project:

- Carollo shall be entitled to rely upon the accuracy of the data and information supplied by the County without independent review or evaluation.
- The County shall attend all workshops and review meetings to maintain the progress of the project according to the schedule.
- The County will provide the Consultant with access to treatment facility and distribution/collection system sites for data gathering and data validation.
- The County will assist with field testing and verification as necessary, including accompanying Carollo on site visits.

- The County will provide all required information within the period established in the schedule contained in this Scope of Services. The schedule is based on timely receipt of data from the County. The County shall review Draft deliverables and provide comments to Carollo within a two-week period.

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Attachment A-1
Project Schedule - SCADA Risk Assessment and Asset Management
 (Calendar Months Following Notice to Proceed)

Task No.	Task Description	2026												2027				
		3	4	5	6	7	8	9	10	11	12	1	2	3				
100 101	Project Start Up Project Management																	
200 201 202	OT Risk Assessment SCADA Hardware Risk Assessment Operational Assessment																	
300 301	Penetration Testing and Results OT Network Penetration Testing and Results																	
400 401 402 403	Asset Management Coordination and Recommendations Asset Management Coordination Incident Response Plan Table Top Incident Response Plan Workshop																	

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Polk County Utilities
MASTER AGREEMENT FOR PROFESSIONAL SERVICES - AGREEMENT NO.
SCADA Risk Assessment and Asset Management DRAFT
 Carollo Proposal #2024-007-04
 Attachment A-2

Table A.1. Total Budget Summary

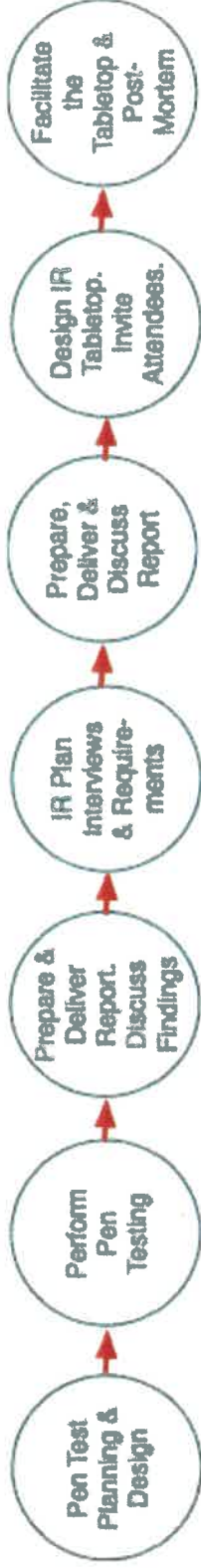
Task	Task Description	Labor Categories						Subconsultant	Carollo Totals	
		Senior Professional	Lead Professional	Project Professional	Professional	Professional (ES I)	Labor Hours		Labor Fee	Total Fee
	Straight Time Billing Rate	\$303.00	\$240.00	\$175.00	\$150.00	\$140.00	\$105.00			
100	Project Management	12	52	0	0	0	8	72	\$16,956.00	\$16,956.00
101	Project Management	12	52				8	72	\$16,956.00	\$16,956.00
200	OT Risk Assessment	78	64	0	40	0	12	250	\$58,650.00	\$58,650.00
201	SCADA Hardware Risk Assessment	30	40		16			86	\$21,090.00	\$21,090.00
202	Operational Assessment	48	24		24		12	108	\$25,164.00	\$25,164.00
203	OT Operational Meetings and Workshops	12	24		20			56	\$12,396.00	\$12,396.00
300	Penetration Testing and Results	16	12	0	0	0	0	28	\$87,728.00	\$87,728.00
301	OT Network Penetration Testing and Results	16	12					28	\$7,728.00	\$7,728.00
400	Asset Management Coordination and Recommendations	64	72	0	56	0	12	204	\$115,332.00	\$115,332.00
401	Asset Management Coordination	8	40		24			72	\$15,624.00	\$15,624.00
402	Incident Response Plan	32	24		16		12	84	\$19,116.00	\$49,116.00
403	Table Top Incident Response Plan Workshop	24	8		16			48	\$11,592.00	\$50,592.00
									Owner Contingency	\$15,000.00
									Project Total	\$293,666.00

Attachment A-3

August 21, 2025

Cybersecurity Services for Polk County Utilities (“Polk”)

The following summarizes the proposed project workflow for the delivery of OT penetration testing, OT incident response plan development and an OT cyber tabletop exercise. All services will be delivered remotely from KoreLogic facilities.



For the penetration testing task, KoreLogic will simulate a skilled adversary who will attempt to compromise systems (rather than performing an automated vulnerability scan. Penetration testing focusing on finding exploitable vulnerabilities to gain access to a target application, system, network or to target data. The test helps determine the business impact of any exploitable vulnerabilities found -- can an attacker take advantage of the vulnerabilities to gain access (e.g., pivot to other systems)? KoreLogic will avoid testing Polk-identified systems that are excluded from testing and will not conduct any active denial-of-service (DoS) attacks that could risk a disruption of service.

Task	Description	LOE	Price
External Penetration Testing	Attempt to gain unauthorized access to Polk's Internet-facing systems and the remote VPN site. Determine if Internet-exposed systems, services, and infrastructure are securely configured and resistant to an Internet-based attack?	3-week testing & reporting (2 Senior Penetration Testers)	\$80,000.00
IT <> OT Penetration testing	The testing has following primary objectives: <ul style="list-style-type: none"> Is the OT network effectively isolated from the IT network? Do OT network access controls limit access from remote sites? Are OT network servers, work stations resistant to attack (i.e., hardened)? 		

Task	Description	LOE	Price
Develop an OT Cybersecurity Incident Response (IR) Plan	<p>See below for an overview of the OT environment.*</p> <p>The OT Incident Response Plan is a written document, approved by the senior management, that will help guide Polk before, during, and after a cyber security incident. The Plan will clarify roles and responsibilities and provide guidance on key response activities.</p> <p>KoreLogic will collect information about how responses are handled today; who leads and supports a response, how internal and external communications are handled; identification of critical OT assets; and OT recovery expectations.</p>	<p>2-3 week duration to gather requirements, develop a draft Plan, review the Plan with Polk, and finalize it. (1 Senior Security Consultant)</p>	\$30,000.00
Design and facilitation of a tabletop IR exercise for the Operations Division.	<p>KoreLogic will develop a simulated OT-relevant cyber incident.</p> <p>Facilitated by KoreLogic, the IR Team will explore how it would detect & validate the incident; how it would plan its response (including loss of SCADA); how it would contain (isolate) the threat; how it would activate their EOC and how would it respond as a County.</p> <p>Rather than cyber or technology deep dive, the exercise will focus on decision-making and communication in a collaborative setting. It will also be an opportunity to “exercise” the newly developed OT Cybersecurity Incident Response (IR) Plan and, potentially, the results from the penetration test.</p>	<p>2-3 week duration to design an effective scenario, review the scenario with the Polk lead, facilitate the tabletop, & conduct exercise post-mortem. (2 Senior Security Consultants)</p>	\$39,000.00
		Total Estimate	\$150,000.00

*The OT network consists of approximately 35 WPPs, 5 WWTFs, and 350 lift stations. All liftstations communicate on private cellular, WPPs and WWTFs use a combination of cellular, ISP, and Microwave radio. All sites are networked together with firewalls in parts of the network going back to a central SCADA application. There are other systems on the overall network as well such as a separate physical security network and a trust built with IT for data sharing. SCADA platform is VTScada and most PLCs are Modicon M340 with a mixture of Modbus TCP and DNP3 on the network.

Exhibit "B"

Board of County Commissioners of Polk County
Utilities Design Services and Regulatory Support Services
RFP 23-448
Carollo Engineers, Inc.
Rate Schedule

Personnel Classification	Range of Direct Labor Rates				Range of Hourly Billing Rates			
Assistant Professional	\$	29.84	\$	44.59	\$	91.00	\$	135.99
Professional	\$	44.60	\$	56.06	\$	136.03	\$	170.99
Project Professional	\$	56.07	\$	69.18	\$	171.00	\$	210.99
Lead Professional	\$	69.19	\$	83.99	\$	211.03	\$	256.17
Senior Professional	\$	84.00	\$	99.60	\$	256.20	\$	303.78
Technician	\$	26.56	\$	38.03	\$	81.00	\$	115.99
Lead Technician	\$	38.03	\$	60.98	\$	116.00	\$	185.99
Senior Technician	\$	60.98	\$	64.92	\$	186.00	\$	198.00
Admin/Clerical	\$	15.08	\$	28.19	\$	46.00	\$	85.99
Document Processing	\$	28.20	\$	41.64	\$	86.00	\$	127.00

Exhibit B

**Board of County Commissioners of Polk County
Utilities Design Services and Regulatory Support Services
RFP 23-448
Carollo Engineers, Inc.
Labor Multiplier Classification**

Direct Labor	1.00
Employee Benefits	0.60
Overhead/General and Administration	1.30
Subtotal	<u>2.9</u>
Profit	0.10
Other Direct Costs	0.05
Total Labor Multiplier including Profit	<u>3.05</u>