



REQUEST FOR BOARD ACTION

ITEM NO. 19.

DATE OF MEETING: August 1, 2011

REQUESTED BY: Michael G. Mack, Director, PCU

SHORT TITLE: Resolution by the Board of Directors of the Rocky Point/Topsail Water & Sewer District Approving a Proposal from CITI, LLC. Systems Integrator to Upgrade the Existing SCADA System by Replacing All of the Outdated Analog Radios with New Digital-Date Radios and PLC Interface Converters and Authorizing a Purchase Order for this Service.

BACKGROUND: Since the original SCADA (Supervisory Control And Data Acquisition) system was purchased and installed during the construction of the NC Highway 117 Regional Sewer Lift Station, several additional remote PCU water locations have been added to the system piecemeal. In addition, the current analog radio technology has become obsolete and when PCU has a hardware failure due to the age of the equipment, it is extremely difficult and expensive to find viable replacements. One of the key benefits of having a SCADA system is the ability to monitor and control water and sewer pump stations and water storage tanks in real time. Unfortunately, PCU has been experiencing "Communication Failures" on average at least once every 36 hours over the last year. Once the SCADA system goes into "Com Fail", it can be up to 48 hours or more before the system is able to communicate again with all the stations, leaving staff without "real time" data and having to depend on manual observation and control at all the remote locations during this time to properly operate the systems.

CITI, LLC is a reputable and respected System Integrator firm specializing in non-proprietary SCADA hardware and software solutions. CITI, LLC has conducted a thorough diagnoses and evaluation of our current SCADA system and proposes to complete a system-wide hardware replacement of all analog radios and modems and miscellaneous system upgrades listed in the attached proposal for \$49,700 plus taxes. An additional cost of approximately \$10,000 will be required for a new stand-alone SCADA server as the centralized computer for the system

\$60,000 is available in the FY 12 Rocky Point/Topsail Water and Sewer Operating Budget and no additional appropriation is required. Staff is recommending the Board approve the resolution and authorize the Purchase Order.

SPECIFIC ACTION REQUESTED: To consider a resolution approving the proposal from CITI, LLC and authorizing an estimated Purchase Order in the amount of \$60,000 for the services rendered.

COUNTY MANAGER'S RECOMMENDATION

Respectfully recommend approval.

RB
Initial

RESOLUTION

NOW, THEREFORE BE IT RESOLVED by the Board of Directors of the Rocky Point/Topsail Water & Sewer District that:

the proposal from CITI, LLC for the upgrade of the SCADA system is approved and authorizes a Purchase Order in the amount of \$60,000 for the services.

The Chairman/County Manager is authorized to execute any/all documents necessary to implement this resolution.

070- 404500	Contracted Services - Sewer	\$10,000
072-404500	Contracted Services – Water	\$30,000
072-403308	Supplies – Water	\$10,000
072-407400	Capital Outlay	\$10,000

AMENDMENTS:

MOVED _____ SECONDED _____

APPROVED _____ DENIED _____ UNANIMOUS

YEA VOTES: Brown ___ Tate ___ Rivenbark ___ Ward ___ Williams ___

George R. Brown, Chairman 8/1/2011
Date

ATTEST 8/1/2011
Date



CITI PROPOSAL C211175

July 8, 2011

Bryan McCabe, PE
bmccabe@pendercountync.gov
 Pender County Utilities
 605 E. Fremont Street
 Burgaw, NC 28425

Ref: Pender County Telemetry System Upgrade

Dear Mr. McCabe:

After evaluation of your telemetry system by Mr. Leonardo Jurado and Heath Edwards CTO, we have prepared this proposal to address the radio communication issues currently present in your wireless network system.

With the proposed system modifications, this proposal addresses your radio communications failures and operational issues with your pump stations. In addition by replacing all your different types of analog radios and lease line modems with a single type of radio [Esteem digital data-radio], communication cable and PLC Interface converters we will bring consistency and uniformity to all your remote and master sites, making it easier to troubleshoot and maintain inventory of spare parts on your telemetry system. To minimize system downtime we will have multiple engineering crews implementing system upgrades.

CITI Scope Summary

Qty	Description of materials
14	Esteem UHF High power radio (preset to 30Watts) for the following locations: 1 Master PLC 2 Topsail Tank 3 Sloop Point BPS 4 Hampstead Tank 5 Hwy210 BPS 6 St. Helena BPS 7 Hwy210 LS 8 Rocky Point Tank 9 Hwy117 LS 10 Hwy133 LS 11 Del Labs LS 12 Wallace BPS 13 Spare 1 14 Spare 2
18	New Lightning Arrestor to replace damaged or missing surge protectors for all radio connections to feed lines
1 Lot	9 to 25 pin communication cables to connect SLC/503, Micrologix 1200, Micrologix 1000 and SLC/505 PLCs to new radios.
1 Lot	Radio to Lightning Arrestor pigtail cables
1	Radio Programming Cable
2	Allen Bradley Advanced Interface Converter
1	Final documentation with PLC and HMI programming applications on CD

ITEM 1 - Subtotal material cost excluding sales taxes \$ 33,200



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Evaluation Services	
1	Trip to Pender County by Leonardo Jurado to diagnose telemetry issues and upload Main PLC program for future reference
1	Trip to Pender County by Heath Edwards to diagnose telemetry issues and upload all telemetry PLC programs for troubleshooting proposes
1	Main PLC SLC5/05 partial documentation

ITEM 2 - Subtotal evaluation services \$ 3,600

Implementation and Startup Services	
Qty	Description of services
1	450MHz Radio propagation computer study
1	Factory functional demonstration test in our Charlotte facility <ul style="list-style-type: none"> • Stage radio link in Lab to confirm communication settings and cabling requirements • Pre-program all Esteem radios for site installation
1	Field modifications: <ul style="list-style-type: none"> • Install new 1761-NET-AIC and 1761-CBL-AM00 cable at Topsail Tank and Hampstead Tank • Remove all MARC leased line modems, leave any dialup modems in place • Remove unneeded cables • Reuse Comm. cable "A" if in good condition • Replace LMR400 male connector on main feed line at Wallace BPS and Rocky Point Tank
1	Configuration Services: <ul style="list-style-type: none"> • Program Wallace BPS for standalone pressure mode • Program St. Helena for standalone pressure mode • Misc. programming and scada changes for corrections and cleanup • Radio upgrade, (replace radio, pigtail, lightning arrestor, etc) • Radio signal strength test and commission

ITEM 3 - Subtotal implementation and startup services \$ 16,500

Cost summary:

ITEM 1 - Subtotal materials excluding taxes.....	\$ 33,200
ITEM 2 - Subtotal evaluation services.....	\$ 3,600
ITEM 3 - Subtotal implementation and startup services.....	\$ 16,500
CREDIT for ITEM 2.....	(\$ 3,600)
TOTAL Services and materials excluding taxes.....	\$ 49,700



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CITI Proposal C211175
Pender County Telemetry System Upgrade
July 8, 2011
Page 3 of 3

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Clarifications:

1. The scope of this proposal **excludes** the following:
 - Antennas, radio feed lines or grounding kits;
 - Materials not listed above;
 - Services not listed above;
 - Radio frequency Licensing or permits;
2. We will begin our installation and startup services no later than August 22nd.
3. All existing 12VDC power supplies will be re-used with the new Esteem radios; if new power supplies are required it will be charged separately.
4. The purchase order for our scope of supply is subject to the attached CITI, LLC "Conditions of Sale". Shipping is FOB factory, freight cost allowed. Payment terms for this project are net 30 days after the date of each invoice. This proposal is valid for 90 days.
5. All materials are warranted for 12 months after delivery.

If you have any questions about our scope of supply please call us. Thank you for your consideration.

CITI, LLC

Leonardo Jurado
Raleigh Office Manager

Attachment: CITI, LLC Conditions of Sale

CC: Marco Varela, CITI, LLC