

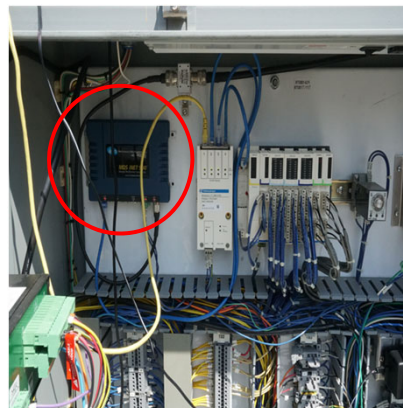
**DESIGN-BUILD AGREEMENT – FOR RFP NO. 1927 FOR WATER SCADA SECURE & OPTIMIZED COMMUNICATIONS SYSTEM PROJECT WITH SYSTEMS INTEGRATED IN THE AMOUNT OF \$1,313,286 AND A WORK ORDER IN THE AMOUNT OF \$1,550,222**

Board of Public Utilities  
June 24, 2019

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## BACKGROUND

1. Supervisory Control and Data Acquisition (SCADA) System
  - a. Controls and monitors
  - b. Remote operation
  - c. Provides critical data
  - d. Alerts system operators



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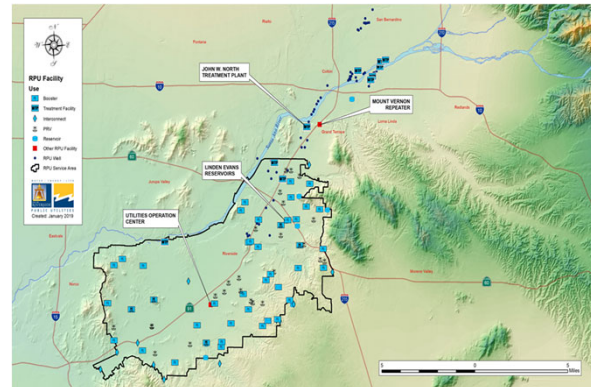


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## BACKGROUND (con't)

### 2. RPU Water System has many remote assets, including:

- a. 56 Wells
- b. 40 Booster pump facilities
- c. 16 Reservoirs
- d. 6 Treatment plants
- e. 3 Future sites



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## BACKGROUND (con't)

### 3. RPU Water SCADA System

- a. Installed in 2004
- b. Outdated communications
- c. Bandwidth limitations
- d. Discontinued components

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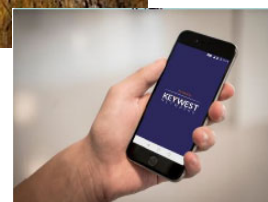


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## BACKGROUND (con't)

### Outdated Communications/Components

DIRECTORY				PRODUCTION WELL SUMMARY				MAIN MENU			
BUNKER HILL WATERMAIN				RIV N BASIN				RIV S BASIN			
SITE	GPM	SITE	GPM	SITE	GPM	SITE	GPM	SITE	GPM	SITE	GPM
STILES		FLUME 2	713	GAIN B	0	51-1	0	FILL ST	0	ALPINE 7	824
BRONCO	2075	FLUME 3	238	GAIN C	0	58-1	0	POINT ST	0		
GARDNER 1	0	FLUME 4	1561	GAIN D	0	58-2	0	FLUME 6	0		
GARDNER 4	0	FLUME 5		BRUNTON 1R	0	52-1	2327	MALBERRY	0	WIND DELIVERY GPM	
GARDNER 6	0	FLUME 7	1254	VALLEYVIEW	2325	52-2	0	OLIVEVIEW	0		
GARDNER 8	0			MOORE CREEK	0	52-3	0	PALMVIEW	0	GAIN CREEK	0
GARDNER 7	0			ELECTRIC ST.	0	59-1	2568	OLIVEVIEW 2	0	MCK CANY	2,238
COOLEY 4	0			TWIN SPRINGS	0	59-2	2545	PALM WELLS	N/A		
COOLEY 5	0										
COOLEY 7	0										
THORNE 12	1589										
RAUER 4R	0										
RAUER 5R	2758										
RAUER 6	0										
RAUER 7	1851										
RAUER 8	0										
WARREN 1	0										
WARREN 4	0										
HUNT 10	0										
9,451		JWIN PERM GPM	4,105								



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## BACKGROUND (con't)

### 4. Vulnerability Assessment (2016)

- Cyber threats
- Encrypted data transmission
- Expired support

**RIVERSIDE PUBLIC UTILITIES**  
Board Memorandum

DATE: FEBRUARY 5, 2016  
ITEM NO. 5  
File # 16-002 - C

**SUBJECT:** PROFESSIONAL SERVICES AGREEMENT FOR A VULNERABILITY ASSESSMENT REPORT FOR RIVERSIDE PUBLIC UTILITIES - FOR \$342,000

**ISSUE:**  
The issues for the Board of Public Utilities consideration are approval of a Professional Consulting Services Agreement with Securicon, LLC for a Vulnerability Assessment Report and approval of the related Work Order No. 1610130.

**RECOMMENDATIONS:**  
That the Board of Public Utilities:  
1. Approve Work Order No. 1610130 in the amount of \$342,000; and  
2. Approve a Professional Services Agreement with Securicon, LLC located in Alexandria, Virginia, for preparation of the Vulnerability Assessment Report.

**BACKGROUND:**  
Riverside Public Utilities (RPU) is requesting approval for the services of a professional consulting firm to conduct a vulnerability assessment and to develop guidelines for the City's physical and cyber security environments. In accordance with the latest best practices and generally accepted methodologies for physical and cyber security, the consultant will develop physical and cyber security guidelines. The guidelines will establish standards for personnel and asset protection, physical security and continuity of operations of water, electric and power generation systems, and the operation and maintenance of control systems. In addition, a checklist will be developed to document existing security features, vulnerabilities, and needed improvements.

The consulting firm will evaluate RPU's current policies and guidelines, and will assess all critical facilities including water wells, water treatment plants, water storage reservoirs, pump stations, power generation plants, electric substations, major electric supply transmission points, major communication hubs, and office buildings. The firm will conduct a gap analysis outlining deviations in the current implementation against the new guidelines, and will document vulnerabilities that could lead to reduced integrity, confidentiality, or availability of the City's critical data. Recommendations will be made to address not causes of any identified vulnerabilities to reduce future risk, with planning and cost estimates for implementing physical and cyber security enhancements.

The need for such an assessment stems from increased cyber and physical security threats to the utility environment. Physical security threats, such as copper theft, have been known for years. However, more sophisticated threats have emerged, illustrating the need to continue to develop and enhance guidelines and practices to prepare for such attacks.

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## BACKGROUND (con't)

### 4. Procurement History

- a. Traditional Process RFP No. 1750 – September 9, 2017
  - i. Cancelled - Scope Refinement
- b. Design-Build RFQ No. 1870 – November 1, 2018
  - i. 4 Qualified
- c. Design-Build RFP No. 1927 – March 4, 2019
  - i. 3 Proposals Submitted
  - ii. Scored & Interviewed



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## DISCUSSION

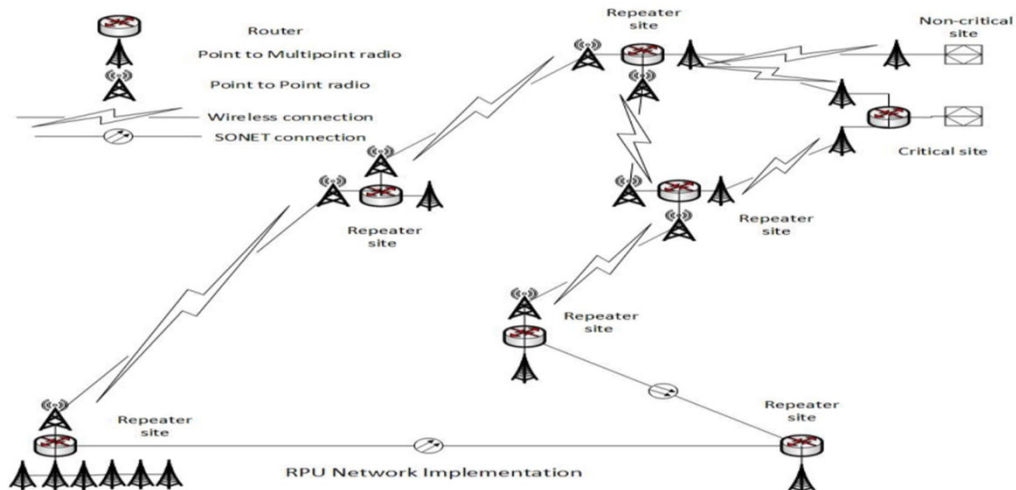
- 1. Wireless Radio Installations
- 2. Smart-Phone App
- 3. Onsite Troubleshooting
- 4. Real Time Performance Check



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## DISCUSSION (con't)



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## DISCUSSION (con't)

### Design-Build Team Selected

1. Technical expertise/experience
2. Eliminate single points of failure
3. Install high speed radios
4. Standards-based system
5. System will support future projects

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## DISCUSSION (con't)

1. Existing Infrastructure
  - a. Electric Energy SONIT
  - b. Poles/Mast (where possible)
2. Increase Speed
  - a. Reliability of better than 99.9%
3. Multiple Layers of Back-up
  - a. All data encrypted
  - b. Two radios installed on critical sites



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## RECOMMENDATIONS

That the Board of Public Utilities:

1. Approve a Design-Build Agreement with Systems Integrated, LP, of Orange, California, in response to RFP No. 1927 for the Water SCADA Secure & Optimized Communications System Design-Build Project, in the amount of \$1,313,286;
2. Authorize change order authority for the Systems Integrated Design Build Agreement in the amount of 10% or \$131,329 for RFP No. 1927;



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## RECOMMENDATIONS (con't)

3. Approve Work Order No. 1909378 for a capital expenditure in the amount of \$1,550,222, which includes all consulting services, design, construction, and inspections change order authority costs for the Water SCADA Secure & Optimized Communications System Project; and
4. Authorize the City Manager, or designee, to execute the Design-Build Agreement with Systems Integrated, LP, including making minor non-substantive changes necessary to effectuate the agreement.

