



STAFF REPORT

To: Honorable Mayor and Members of Town Council

Through: David L. Corliss, Town Manager

From: Mark Marlowe, P.E., Director of Castle Rock Water
Shawn Griffith, Assistant Director of Operations
Nicolas Van Kooten P.E., SCADA Superintendent

Title: **Resolution Approving an Equipment and Services Acquisition Agreement between the Town of Castle Rock and Burns & McDonnell Engineering for Phase V of the SCADA Master Plan Design Project** *[Entire CRW service area]*

Executive Summary

Castle Rock Water (CRW) staff requests Town Manager approval for a services agreement with Burns & McDonnell Engineering Company, Inc. for assistance in creating the Supervisory Control and Data Acquisition Master Plan (SCADA MP) Phase V Ray Waterman and Remotes Sites System Design and Bid Phase Services project, for the not to exceed amount of \$437,303, (**see Attachment A**), with a 10% Town managed contingency of \$43,730, for a total authorization request of \$481,033.

The table below shows the total approved expenditures to date on the SCADA MP by vendor:

Project	PO	Vendor	Year	Amount
OWL Data Diode	2171	Rexel	2021	\$46,856
SCADA Backhaul & Radio Network Implementation	2252	Techneaux	2022	\$1,801,157
PLC Hardware for OT Upgrades	2305	Rexel	2021	\$91,066
Starwind Software for OT Server Upgrades	n/a	Starwind	2021	\$14,000
PCWPF PLC Replacements	n/a	Rexel	2021	\$19,573
Founders WTP & Remote Sites OT Equipment Upgrades	2352	Rexel	2022	\$32,905
Founders WTP & Remote Sites PLC Upgrades	2369	Rexel	2022	\$51,092
Founders WTP & Remote Sites Display Upgrades	2388	Rexel	2022	\$72,912

Dell SCADA Clients for PlantPAX	n/a	One Technology	2023	\$21,192
Founders WTP & Remotes Sites Upgrade	2474	Techneaux	2023	\$1,954,052
Founders Remote Tanks and Pump Station PLC Equipment	2595	Rexel	2023	\$78,568
Meadows WTP Remote Sites PLC Upgrade	2579	Rexel	2023	\$77,737
Founders WTP & Remote Sites PLC Upgrades	2602	Rexel	2023	\$61,838
OWL Data Diode Package	2666	Rexel	2023	\$136,523
Miller & Remotes Sites Design Project	2683	Techneaux	2023	\$180,000
P&ID Project	2737	Tetra Tech	2023	\$61,032
IP Address Update Project	2765	Tetra Tech	2023	\$29,338
SCADA Master Plan Phase IV	2787	Tetra Tech	2024	\$90,744
Screen Development	2797	LSI	2024	\$302,800
Miller WTP PLC Equipment	2805	Rexel	2024	\$124,750
O&M Building PLC Equipment	2833	Rexel	2024	\$46,327
OWL Data Diode Renewal & Historian	2843	Rexel	2024	\$31,704
Remote Sites Screen Development	2854	LSI	2024	\$102,630
RFP for SCADA Master Plan Phase IV	2860	Burns & McDonnell	2024	\$79,236
Founders Emergency Programming & Commissioning	2907	Techneaux	2024	\$72,450
SCADA Master Plan Phase IV Oversight	2937	Burns & McDonnell	2024	\$117,241
SCADA All Hazards Assessment	2979	Tetra Tech	2025	\$38,765
Subtotal: Completed Projects to Date				\$5,736,488
Phase IV- Miller WTP & Remote Sites Upgrade	pending	LSI	2024	\$5,689,632
Total Expenses				\$11,426,119

The SCADA system is crucial to the security and efficient operation of CRW's water and wastewater facilities. In 2019, the SCADA MP was completed to assess the system and develop a plan for its upgrade, maintenance, and operation. The Town Council approved the SCADA MP on December 17, 2019, which identified approximately \$12 million (M) in expenditures over seven years.

In late 2023, the SCADA MP implementation cost was reviewed and updated, revealing a 26% increase in equipment and implementation costs since 2019. Additionally, the update included newly identified work not previously covered in the 2019 scope. As a result, the revised estimated cost for full implementation of the plan in 2023 was approximately \$15M. An

additional update to the SCADA MP has been completed (2025 SCADA MP). Implementation costs have continued to rise as additional work requirements have been added. Total costs are now estimated at \$21M with estimated annual expenditures shown below through 2029.

Notification and Outreach Efforts

This project is security-sensitive and no public outreach is planned. Work will be performed at various CRW water treatment facilities and will be done out of the public eye.

History of Past Town Council, Boards & Commissions, or Other Discussions

CRW Commission was provided with a presentation on the Phase V project on January 22, 2025 and voted unanimously to recommend Town Council approval of the project.

Discussion

An engineering consultant is required to create a comprehensive SCADA system design for Phase V of the MP, which includes upgrades to the Ray Waterman Regional Water Treatment Facility (Ray Waterman) and 17 remote sites. The scope of work for this project encompasses complete SCADA system and electrical drawings, detailed scopes of work (SOW), equipment and Input/Output (I/O) lists, process and instrumentation diagram (P&ID) drawings, network diagrams, and site-specific control narratives. These deliverables are essential to ensure an accurate project estimate and proper implementation details. Additionally, the project will include bid-phase services.

Staff submitted a Request for Proposal (RFP) to three qualified consultants, in December of 2024, as shown in the chart below:

Consultant	Proposal Cost
Burns & McDonnell Engineering	\$437,303
Jacobs	Declined to Bid
Tetra Tech	\$588,051

Staff recommends selecting Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) as the design contractor for the MP Phase V project. Burns & McDonnell is a preferred contractor and has submitted a comprehensive quote detailing all the deliverables requested in the original RFP. The items outlined in their proposal are critical to the success and efficient execution of the MP Phase V project.

Burns & McDonnell has extensive experience providing key consulting services for various segments of the SCADA MP and has participated in multiple SCADA MP RFPs. Their team has been consistently relied upon for their expertise on numerous related projects. Additionally, their principal engineers and technical staff will be pivotal in the Phase V design.

Given the security-sensitive nature of the Cybersecurity portion of the MP, Burns & McDonnell has signed a non-disclosure agreement with the Town to ensure confidentiality and protect sensitive information.

Burns & McDonnell will conduct site investigations at each of the facilities listed below, in collaboration with staff. Based on these investigations, a SOW will be developed and summarized for bid inclusion, detailing the identified work at each facility:

- Ray Waterman Treatment Plant
- Well Site Castle Oaks 8
- Well Site Castle Oaks 7
- Well Site Castle Oaks 6
- Castle Oaks Lift Station
- Well Site Woodlands 1
- Well Site Canyons South
- Reservoir 3
- Black Pine PRV
- Pinery Flume
- Castle Oaks Valve Vault
- Well Site Heckendorf
- CR1 Diversion
- Well Site Central Well Field 1
- Well Site Central Well Field 2
- Well Site CR 11, 12, 13
- Well Site 204
- Well Site 176

This project will also include the following deliverables:

- Site investigations and data gathering
- Progress meetings and project management
- Technical Memorandum summarizing the SOW for each site
- SCADA programmable logical control (PLC) cabinet design requirements and drawings
- Individual Control Narratives for each site
- New P&ID drawings for each site, aligned with CRW standards
- Electrical site plans
- Instrumentation lists
- Input/Output (I/O) lists
- Electrical lists
- Network diagrams
- Design and project scope documents
- Bid Phase services

Burns & McDonnell has submitted a target completion date of July 21, 2025. Upon completion of the design phase, they will assist with bid-phase activities, including vendor selection and contractor award-related tasks.

Budget Impact

Funds have been budgeted each year, through 2029 for the MP Implementation. Funds for this project will be taken from the Water CIP SCADA System Improvements line items as follows:

Fund Name	Account Number	Cost	2025 Account Balance
SCADA System Improvements	210-4275-442.75-41	\$481,033	\$2,311,916

Staff Recommendation

Staff recommends a services agreement with Burns & McDonnell to create the SCADA MP Phase V Ray Waterman and Remotes Sites System Design and Bid Phase Services project, for the not to exceed amount of \$437,303, with a 10% Town managed contingency of \$43,730, for a total authorization request of \$481,033

Proposed Motion

"I move to approve the Resolution as introduced by title."

Alternative Motions

"I move to approve the resolution as introduced by title, with the following conditions: (list conditions)."

"I move to continue this item to the Town Council meeting on _____ date to allow additional time to (list information needed)."

Attachments

Attachment A:	Resolution
Exhibit 1:	Service Agreement