



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 a Services Agreement between the Town of Castle Rock and Burns & McDonnell Engineering for Oversight of the Phase V Ray Waterman Supervisory Control and Data Acquisition Master Plan Project**
[1282 Castle Oaks Dr., Castle Rock CO 80104]]

Executive Summary

Castle Rock Water (CRW) staff requests Town Manager approval for a services agreement with Burns & McDonnell Engineering Company, Inc. (B&McD) for oversight of the implementation of Phase V -Ray Waterman and its associated remote sites, of the Supervisory Control and Data Acquisition Master Plan (SCADA MP) project, for the not to exceed amount of \$234,495, (**see Attachment A**) with a 5% Town managed contingency of \$11,725, for a total authorization request of \$246,220. This agreement will run through July 31, 2028, which is the anticipated SCADA Master Plan Phase V oversight project completion.

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. Town Council approved the SCADA MP on December 17, 2019, which identified approximately \$12 million 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 over a modified ten-year implementation schedule was updated to approximately \$24.1 million.

SCADA MP costs from 2021-2023 totaled \$4,804,556, which included cybersecurity system segregation, Backhaul radio communications ring, SCADA System server, software, and equipment upgrades. In 2024 through 2025, the SCADA MP Phase IV Miller Water Treatment Plant (WTP) project was designed and implemented.

The table below shows the total approved expenditures to date on the SCADA MP by vendor, as well as the impact of anticipated approvals for the Ray Waterman project:

Project	PO	Vendor	Year	Amount
Projects 2021-2023 MP Phases I-III				\$4,804,556
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
Edge MQTT Device Purchase	3119	LSI	2025	\$30,210
Portable Lift Station Panel Purchase	n/a	EMC	2025	\$13,396
Phase V -Ray Waterman Design Project	3018	Burns & McDonnell	2025	\$479,759
Subtotal:				\$6,334,568
Completed Projects to Date				
Pending Projects				
Phase IV- Miller WTP & Remote Sites Upgrade	2934	LSI	2024	\$4,475,720
Phase V -Ray Waterman Oversight Project	pending	Burns & McDonnell	2025	\$234,495
Phase V -Ray Waterman Implementation Project	pending	LSI	2026	\$6,513,320
Phase VI -Meadows Upgrade Project	pending	Master Plan Estimate	2027	\$6,500,000
Total Expenses				\$24,058,103

Remaining estimated costs for full implementation of the SCADA MP include Meadows Water Treatment Plant - Phase VI and its remote sites, currently anticipated to cost on the order of \$6.5 million, this figure is included in the chart's Pending Projects cost estimate.

Notification and Outreach Efforts

This project is security-sensitive, and no public outreach is planned. Work will be performed at various CRW facilities and accessed only by authorized individuals and staff.

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

Castle Rock Water Commission was provided with a presentation on the SCADA MP on December 11, 2019, and voted to recommend Council approval. Town Council adopted the 2019 SCADA MP on December 17, 2019. The MP was updated and presented to Town Council on February 18, 2025.

Castle Rock Water Commission was provided with a presentation on the SCADA MP Phase III project on July 27, 2022 and voted to recommend Council approval. SCADA MP Phase III - Founders and Remote sites upgrade was approved by Town Council on August 16, 2022, and completed by Techneaux Technology Services in April of 2024.

Castle Rock Water Commission was provided with an informational update on the SCADA MP Phase IV on July 24, 2024. There was no motion made, but the Commission was generally interested in pursuing the project. Phase IV - Miller and Remote Sites Upgrade was approved by Council on September 3, 2024, with a projected completion date of April of 2026.

Castle Rock Water Commission was presented the proposed resolution approving the B&McD contract for oversight of the SCADA Part V MP at its October 22, 2025 meeting and voted unanimously 5_ to 0 to recommend Council approval of the resolution.

Discussion

The SCADA system is one of the most important systems that CRW maintains, and it is vital to the security and efficient operation of its water and wastewater facilities. In 2019, the SCADA MP was completed to review the system and create a plan for upgrading, maintaining, and operating the system. The SCADA MP was approved by the Town Council on December 17, 2019, and was updated by Tetra Tech in 2024.

The existing system at the Ray Waterman Regional Water Treatment Facility (Ray Waterman) and its remote sites is antiquated. Many of the components have been in service for up to 30 years. The scope of work for this project shall include, but not be limited to, the replacement of hardware, wiring, and software for SCADA control systems at Ray Waterman and various wells and other remote sites. This project will bring the system into compliance with modern cybersecurity and equipment standards and improve operator efficiencies, as recommended by our 2024 SCADA MP.

Staff is requesting assistance with the construction phase services for this project. B&McD created the Design and Request for Proposals (RFP) for the Phase V project and is familiar with the project scope. B&McD's principal electrical engineer and technical staff were instrumental in the creation and design of the SCADA MP RFP. Staff would like to utilize

B&McD, through an approved sole source justification, to maintain continuity and confidentiality in the MP implementation. Additionally, to maintain the cybersecurity aspect of the MP, B&McD has signed a non-disclosure agreement with the Town. Present-day security threats to Water Utilities demand that the number of contractors with knowledge of Operational Technology (OT) be concise and limited in size.

B&McD is a preferred engineering contractor and has provided key consulting services on various portions of the SCADA MP. They have also participated in multiple SCADA MP requests for proposals and have been relied upon for their knowledgeable oversight on many of these projects. B&McD is also our On-Call Plum Creek Water Purification Facility Operations Assistance Support consultant.

B&McD will provide oversight for the SCADA MP Phase V upgrades at the following sites:

- Ray Waterman
- 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 Interconnect
- Castle Oaks Valve Vault
- Well Site Heckendorf
- CR1 Diversion
- Central Well Field AL-1, 2, 8 & 9
- Central Well Field AL-16, 18, & 20
- Well Site CR 11, 12, 13
- Well Site 204
- Well Site 176

Included in the oversight project will be construction phase services. This includes progress meetings, submittal reviews, contractor work reviews, design and drawing reviews, request for information (RFI) reviews, site visits, substantial completion, punch list determination support, and project closeout services.

Budget Impact

Funds have been budgeted each year, through 2029, for the Master Plan Implementation. Funds for this project will be taken from the Water, Water Resources, and Wastewater capital implementation plan (CIP) SCADA System Improvements line items with phased expenditures per year, as follows:

Fund Name	Account Number	Cost	2025 Balance	2026 Balance	2027 Balance	2028 Balance
Water	210-4275-442.75-41	\$123,110	\$5,165,123	\$2,162,770	\$2,162,770	\$2,162,770
Water Resources	211-4375-443.75-41	\$61,555	\$519,024	\$1,081,385	\$1,081,385	\$1,081,385
Wastewater	213-4575-445.75-41	\$61,555	\$1,999,233	\$1,081,385	\$1,081,385	\$1,081,385
Total		\$246,220	\$7,683,380	\$4,325,540	\$4,325,540	\$4,325,540

Staff Recommendation

Staff recommends a services agreement with B&McD for oversight of the implementation of Phase V -Ray Waterman of the SCADA MP project, for the not-to-exceed amount of \$246,220.

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:	Agreement
Attachment B:	Sole Source Justification