



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: **A Resolution Waiving Formal Written Bidding Requirements Based on Sole Source and Approving an Equipment and Services Agreement with Logical Systems, Inc. for the SCADA Master Plan Phase V Project Implementation**
[Entire Castle Rock Water Service Area]

Executive Summary

Castle Rock Water (CRW) staff requests Town Council approval of a Resolution (see **Attachment A**) approving an acquisition and services agreement with Logical Systems, Inc. (LSI) for the Supervisory Control and Data Acquisition (SCADA) Master Plan Phase V Ray Waterman and Remotes Sites Implementation project, for the not to exceed amount of \$5,921,200, with a 10% Town managed contingency of \$592,120, for a total authorization request of \$6,513,320.

The SCADA system is crucial to the security and efficient operation of CRW's water and wastewater facilities. In 2019, the SCADA Master Plan (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 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, as determined by CRW's engineering consultant, for full implementation of the plan is approximately \$24.1 million, and the schedule has been extended with completion expected within a ten-year period.

SCADA MP costs from 2021-2023 were \$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 Master Plan Phase IV Miller 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 estimated future expenditures:

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 water treatment 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. The Town Council adopted the Tetra Tech SCADA Master Plan Update 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. The SCADA Master Plan Phase III -Founders and Remote sites upgrade, was approved by 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. The Phase IV -Miller and Remote Sites Upgrade was approved by Council on September 3, 2024, with a projected completion date of April 2026.

Castle Rock Water staff presented this item to the Castle Rock Water Commission at their meeting held on October 22, 2025, and the Castle Rock Water Commission voted unanimously 5 to 0 to recommend Town Council approval of the Resolution as presented.

Discussion

The SCADA system is separate and segregated from other Town computer networks and is a stand-alone system by which many CRW assets are controlled remotely.

This project will replace software, hardware, and wiring for existing control systems at the Ray Waterman Regional Water Treatment Center (RWRWTC) and associated remote facilities. Contractor services will also include start up testing (with staff training) to ensure compatibility with existing equipment, for all SCADA control systems at these facilities.

A more robust Operational Technology (OT) system will address deficiencies within the existing systems and bring the systems into compliance with modern cybersecurity and equipment safety standards. It will also reduce network failure risk due to aging equipment, reduce costs of support by utilizing current, non-obsolete hardware and software, improve operator efficiency by standardizing equipment and procedures, and properly manage risk and resilience associated with process automation.

The SCADA MP specified that the importance of system standardization and integration is paramount. Staff typically provides several preferred integrators that bid on the implementation of the MP upgrades. CRW requested that their on-call SCADA support consultant, Burns & McDonnell Engineering (B&McD), conduct a review and provide written comments on the competitive bid process versus utilizing one consistent system integrator for the MP Phase V implementation. A synopsis of the B&McD report is listed below and the report is provided as ***Attachment B***:

Having multiple integration contractors, based on a low bid, provide Instrumentation and Control Services (I&C) implementation services results in:

- Non-uniform I&C components and designs
- Non-uniform I&C workflows
- Non-uniform programming
- Additional effort required to bring contractors up-to-speed on CRW preferences
- I&C standards may not be conveyed properly on drawings and specifications
- Initial cost savings may be provided by competitive bids
- This approach could potentially cause long-term operations and maintenance costs that exceed initial costs due to non-standardized implementation

Having one integrator provide I&C implementation services for MP implementation projects provides:

- Higher level of I&C system standardization
- Standardized I&C instrument programming
- Consistent programming that reflects an integrator's preferences (in accordance with CRW SCADA's standards)
- This approach may result in higher initial costs, but these costs will be offset by lower long-term programming, updating, instrument maintenance, and staff training costs

Staff would like to utilize LSI for the Phase V project through a sole source justification (see **Attachment C**) as they did high quality work on the MP Phase IV project and understand the specific I&C requirements of the Phase V scope. Given the security-sensitive nature of the Cybersecurity portion of the MP, LSI signed a non-disclosure agreement with the Town to ensure confidentiality and protect sensitive information. LSI was the low bidder on the Phase IV project as well as a number of other SCADA projects. LSI will come in on budget for Phase IV of the project. B&McD reviewed the proposed price provided by LSI for Phase V and determined the cost was a competitive cost and recommended award to LSI. Despite the recommendations of CRW's engineering consultant, CRW approached LSI and requested that they further refine their proposal to ensure that it is competitive. LSI was able to reduce the proposed cost another \$271,700 after consultation on scope of work with CRW and contingencies they had included in their price.

LSI will update the following facilities:

- | | |
|--------------------------------|-------------------------------------|
| • Ray Waterman Treatment Plant | • Pinery Interconnect |
| • Well Site Castle Oaks 8 | • Castle Oaks Valve Vault |
| • Well Site Castle Oaks 7 | • Well Site Heckendorf |
| • Well Site Castle Oaks 6 | • CR1 Diversion |
| • Castle Oaks Lift Station | • Central Well Field AL-1, 2 & 9 |
| • Well Site Woodlands 1 | • Central Well Field AL-16, 18 & 20 |
| • Well Site Canyons South | • Well Site CR 11, 12, 13 |
| • Reservoir 3 | • Well Site 204 |
| • Black Pine PRV | • Well Site 176 |

Once awarded, this project will take approximately 21 months to fully implement. Scheduling of LSI's work will be coordinated with CRW's operations and will require the majority of the work

to be completed during low-demand seasons (winters). Given these constraints, the goal is to complete this project by August of 2027.

Budget Impact

Funds have been budgeted each year, through 2028, for the SCADA MP Implementation. Funds for this project will be taken from the Water, Water Resources, and Wastewater 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	\$3,256,660	\$5,165,123	\$2,162,770	\$2,162,770	\$2,162,770
Water Resources	211-4375-443.75-41	\$1,628,330	\$519,024	\$1,081,385	\$1,081,385	\$1,081,385
Wastewater	213-4575-445.75-41	\$1,628,330	\$1,999,233	\$1,081,385	\$1,081,385	\$1,081,385
Total		\$6,513,320	\$7,683,380	\$4,325,540	\$4,325,540	\$4,325,540

Staff Recommendation

Staff recommends an acquisition and services agreement with LSI to complete the SCADA MP Phase V Ray Waterman and Remote Sites System Implementation project, for the not-to-exceed amount of \$5,921,200 with a 10% Town managed contingency for a total authorization of \$6,513,320.

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: Letter Report from B&McD
- Attachment C: Sole Source Justification