



SCADA Master Plan Partnership - Alberta Community Partnership Grant & Project Endorsement

Electoral Division: All

File: 1025-450

Date:	November 12, 2024
Presenter:	Desiree Vetter, Acting Manager of Utility Services
Department:	Utility Services

REPORT SUMMARY

This report is for Council's consideration to approve the Rocky View County and Town of Crossfield partnership for the Supervisory Control and Data Acquisition (SCADA) Master Plan as a requirement of application to the Alberta Community Partnership – Intermunicipal Collaboration Grant which is administered by Alberta Municipal Affairs.

SCADA systems are used for controlling, monitoring, and analyzing Rocky View County's water and wastewater system devices and processes. The system consists of both software and hardware components and enables remote and on-site gathering of data. The County submitted the ACP application on the deadline October 1, 2024. The Town of Crossfield Council approved the partnership for the SCADA Master Plan by resolution of Council on October 15, 2024.

ADMINISTRATION'S RECOMMENDATION

THAT Rocky View County supports the Town of Crossfield and Rocky View County's application under the Alberta Community Partnership (ACP) program for the development of a Supervisory Control and Data Acquisition (SCADA) Master Plan.

THAT Council designates Rocky View County as the managing partner for the Supervisory Control and Data Acquisition (SCADA) Master Plan Alberta Community Partnership (ACP) program application.

BACKGROUND

The SCADA system is integral for controlling, monitoring, and analyzing devices and processes at the County's water and wastewater facilities. The system consists of both software and hardware components and enables remote and on-site gathering of data. SCADA systems ensure the safe and efficient operation of water and wastewater facilities, and continuity of service to utility customers. Comprised of field devices, controllers, communication networks, and a human-machine interface (HMI), a SCADA system collects and analyzes real-time data allowing municipalities to:

- Control processes locally or at remote locations;
- Monitor, gather, and process real-time data;
- Directly interact with devices, such as sensors, valves, pumps, motors, and more through human-machine interface (HMI) software;
- Record events into log files; and
- Create reports for provincial legislative requirements.

SCADA Master Plan Partnership - Alberta Community Partnership Grant & Project Endorsement

In 2023, a condition assessment was performed on the County's water and wastewater automation and control systems. The assessment identified areas of improvement for better water and wastewater system controls, monitoring, and reporting by upgrading components of the SCADA system. The Alberta Community Partnership (ACP) Grant is a funding source which can be applied to the cost of developing a SCADA Master Plan, the planning and engineering portion of the project.

The ACP Grant program has an intermunicipal collaboration stream that focuses on projects pursuing regional approaches to service delivery with strong economic benefits. The intermunicipal collaboration stream provides funding to partnerships of two or more municipalities to develop regional projects, frameworks, and regional service delivery efficiencies.

If endorsed by two municipalities, the ACP Grant provides up to \$200,000 for engineering design studies that would identify the needs, feasibility, and cost of upgrades to the SCADA systems used to control, monitor, and report on the processes of the County's water and wastewater systems.

The County submitted the ACP application on the deadline October 1, 2024. The Grant requires supporting resolutions from both Councils but does not require matching funds from either municipality. The Town of Crossfield Council approved the partnership for the SCADA Master Plan by resolution of Council on October 15, 2024.

ANALYSIS

Rocky View County and the Town of Crossfield have a history of collaborating on shared municipal service delivery in such areas as regional land use, emergency management, transportation, water and wastewater management, and recreation. The partnership recognizes the importance of technology and the significant role it plays in all areas of municipal service delivery, most especially in water and wastewater delivery. The development of a new and enhanced SCADA Master Plan for Rocky View County will inform and guide optimal new and enhanced water and wastewater monitoring service delivery to our customers and offer a collaborative approach of sharing project data and best practices with our regulators and partners in the region. The County's SCADA Master Plan will help to identify gaps in the Town of Crossfield's own SCADA system and position them to better develop their own SCADA master plan in the future.

The partnership will undertake the following activities:

1. Stakeholder consultation.
2. Data collection, review and analysis of existing system architecture, flow diagrams, and panel drawings.
3. Review and analysis of policies and procedures, and industry best practices and trends.
4. Complete gap assessment of water and wastewater SCADA systems that includes requirements and risk analysis, and an evaluation matrix of development options that includes:
 - a. system architecture design, and supporting requirements
 - b. acquisition parameters
 - c. cybersecurity risk analysis
 - d. licensing requirements
 - e. disaster recovery strategy
 - f. alarm and event management options
5. Detailed design, cost models, and implementation strategy.
6. Share project data and best practices including the final SCADA Master Plan and cost models.

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The expected project outputs are:

1. Stakeholder consultation summary report.
2. Engineering analysis and evaluation of technology options and required state recommendations.
3. SCADA options analysis and recommendations.
4. SCADA Master Plan for the region including detailed design, cost models, and an implementation strategy.

The development and efficient delivery of core municipal services such as water and wastewater are critical to the viability, economic stability, and quality of life in the region, and is a critical consideration for growth and attracting investment to the region. Additional to this is the fact that Rocky View County has an agreement with Mountain View Regional Water Services Commission that allocates 2.68 million m³/year of treated water to the County. The point of use for this water is limited to the Crossfield area. This license allocation is not currently in use but allows for potential future opportunities in this region of the County.

COMMUNICATIONS / ENGAGEMENT

No communication or engagement is required.

IMPLICATIONS

Financial

The condition assessment included a total cost estimate of \$745,000 to implement all planning and engineering recommendations highlighted in the report. This total has been budgeted and spread over a 5-year period, commencing in 2025. Funding sources for 2025 include \$200,000 from the ACP Grant and \$307,000 from the East Rocky View Water and Utility Reserves. The subsequent 4 years would require a tax contribution, and a Master Rate increase of \$1.89 to the monthly water and wastewater Flat Fee. With support of the \$200,000 Grant the monthly Flat Fee increase is reduced to approximately \$0.99.

STRATEGIC ALIGNMENT

Key Performance Indicators		Strategic Alignment
Effective Service Delivery	<p>SD2: Services are resourced and delivered to specific groups as intended, and citizens are satisfied with the outcomes</p> <p>SD2.2: Citizens satisfied with the County's defined service levels</p>	<p>To provide sustainable and safe water and wastewater services lessening the contamination risk and enhance quality of life for all residents in the region. Data from the SCADA has the ability to be readily shared with relevant stakeholders.</p> <p>SCADA infrastructure is a critical component to preserve and identify long-term water and wastewater service delivery trends.</p>

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Key Performance Indicators		Strategic Alignment
Effective Service Delivery	SD4: Services are continually assessed for improvements in cost efficiency, effectiveness, and customer experience	SD4.1: Services that are assessed annually for innovation opportunities and have demonstrable efficiency improvements
Financial Prosperity	FP2: Ensuring County remains financially sustainable for future generations	FP2.1: Assets that are incorporated in an Asset Management Plan
		<p>Will provide operational and technical strategies that will enable quick responses and corrective measures before it impacts end-users.</p> <p>SCADA infrastructure maintenance and upgrades will:</p> <ul style="list-style-type: none"> -Ensure asset security. -Lead to identification of potential operational and cost efficiencies which can be downloaded to residents. -Identify proactive maintenance measures to anticipate and eliminate system failures before they become an issue.

ALTERNATE DIRECTION

No alternative options have been identified for Council's consideration.

ATTACHMENTS

No attachments.

APPROVALS

Manager:	Desiree Vetter, Acting
Executive Director/Director:	Byron Riemann
Chief Administrative Officer:	Reegan McCullough