

MEMORANDUM



May 1, 2025

TO: Ben Van Nostrand
CC: Tim Perepolkin
FROM: John Weninger
FILE: Columbia Shuswap Regional District
SUBJECT: Utilities Work Backlog and Staff Resources Review

INTRODUCTION

Due to an increasing work backlog within the CSRD Utilities department and growing pressure to acquire additional water systems, the General Manager of Environmental Services has engaged JW Infrastructure Planning Ltd. to conduct a review of the department and provide recommendations for addressing the current workload challenges.

The results of this memo were derived from meetings with each staff member and through a review of relevant CSRD documentation.

DEPARTMENT OVERVIEW

The CSRD Utilities Department currently employs three full-time staff members, in addition to the general manager, who allocates approximately 30% of his time to the department and 70% to other responsibilities within Environmental Services.

The job titles for each member of the department are listed below:

- General Manager (30% Utilities, 70% Environmental Services)
- Utilities Manager
- Utility Services Coordinator
- Field Technician

The Utilities staff are responsible for managing eleven water systems that serve more than 2,600 customers. These water systems represent approximately \$120 million worth of infrastructure that the CSRD is tasked with maintaining and replacing. Additionally, the department is responsible for several small water systems that serve various CSRD fire halls and a regional campground.

The department's general responsibilities fall into the following (8) general categories:

- Management and administration
- Reporting and regulatory compliance
- Customer service and outreach
- Information collection and management
- Asset Management Planning

- System planning
- Capital and maintenance projects
- Field services

A further breakdown of each category is provided as an attachment.

Most of the department's responsibilities are time sensitive in nature and cannot be deferred. For example, this would include regulatory related activities, customer inquiries, and active capital and maintenance projects.

With the addition of the new Scotch Creek system the departments internal staff resources are thinly stretched. Activities that are not time dependent have been getting deferred creating a backlog. This backlog, while not time sensitive, is still critically important to the long-term health and sustainability of the water systems.

CURRENT WORK BACKLOG

The primary areas of back log for the department falls into (5) areas:

- Cross connection control implementation and enforcement (currently not in compliance with IHA)
- Uni-directional flushing plans (it is the O&M contractor's responsibility to implement the flushing, but they require the plans)
- Preventative maintenance planning (important to avoid equipment failures, and increased cost and downtime)
- Water Metering implementation (requires the development of feasibility studies and business plans)
- Long-term capital and financial planning (5-10 year horizons)

Each of these areas is important to address and the continued deferral exposes the CSRD to risks such as increased capital and maintenance costs, service failures, risk to long-term financial sustainability and potential negative health consequences.

A brief description and discussion of each of these backlog areas is provided below:

CROSS CONNECTION CONTROL (CCC) PROGRAM

The CSRD adopted Bylaw 5726 in 2016, as a requirement of the system operating permits issued by Interior Health. This Bylaw commits the CSRD to the implementation and on-going maintenance of a CCC program. This program entails:

- Property surveys and record maintenance
- Back-flow prevention device installation and testing
- Compliance enforcement
- Training and public engagement

This work is partially completed, but additional effort is needed to comply with the Bylaw and meet Interior Health requirements. Because most of this work involves direct customer interactions, it is not suitable for outsourcing to consultants.

UNI-DIRECTIONAL FLUSHING

Uni-directional flushing (UDF) is crucial for maintaining water quality and system reliability. It removes accumulated sediment and debris, improves chlorine residual levels, and resolves issues like closed valves that can affect service. Although the actual flushing is the responsibility of the CSRD O&M contractor, the actual planning is the responsibility of the CSRD. The UDF planning will require:

- Up to date mapping of each water system
- Planning for how to isolate each water main
- Planning for discharge points and the collection, neutralization and disposal of the flushing water
- Calculations to ensure flushing velocities are achieved
- Communications and engagement with the contractor and community

Most of this work is not customer facing and would be suitable for outsourcing to an external engineering consultant.

PREVENTATIVE MAINTENANCE PLANNING

The implementation of a more robust preventative maintenance (PM) program requires:

- A detailed listing of all assets
- Asset risk assessment and prioritization
- Inspection and testing scheduling
- Spares planning and inventory management
- Information collection and analysis

A PM program is an ongoing activity that requires detailed knowledge of each water system and is therefore not suitable for outsourcing.

LONG TERM CAPITAL AND FINANCIAL PLANNING

The Utilities department currently develops capital and financial plans that extend 5 years. While very useful a 5-year planning horizon isn't adequate for long term system planning.

The development of long-term capital and financial plans will require:

- An up-to-date asset inventory
- Estimates for future system water demand, development plans and user base
- Engineering studies to identify deficiencies in system capacity, fire flows and water quality
- Development of capital plans for each system together with accompanying financial plans

The development of long-term capital and financial plans is an on-going process requiring in-depth system knowledge. In-house development is preferred with input/support from engineering consultants when required.

WATER METERING

The implementation of universal water metering is a goal for the CSRD. In order to move this goal, forward several activities are required including:

- Feasibility studies
- Business case development
- Technology review and selection
- Community engagement

Many aspects of this work would be suitable for outsourcing to an engineering consultant.

ADDITIONAL CONSIDERATIONS

The majority of the backlog activities require specific knowledge, education and experience. Outside of the General Manager only the Utilities Manager and Utilities Coordinator possess the needed skillset to address the current backlog areas.

An addition concern is the pending retirement of the Utilities Manager. Although no date has been firmly established this is expected to occur within the next 2 years. This would significantly reduce the departments capacity to complete the time sensitive activities and would slow and likely halt the completion of the existing backlog.

NEW SYSTEM ACQUISITIONS

The CSRD Board has approved a moratorium on new water systems pending a review of the water system acquisition strategy. Adding new water systems requires substantial staff time, worsening the department's backlog. There are currently (7) acquisition applications awaiting the removal of the moratorium.

RECCOMENDATIONS

Based on the above information my recommendations are as follows:

Short Term (6-9 months)

- Continue with execution of existing workplan
- Focus on satisfying the IHA with respect to the CCC program
- Consider outsourcing the UDF planning
- Seek Board approval for an addition FTE (Eng. Tech with 2-5 years exp.)
- Maintain acquisition moratorium

Medium Term (9 -24 months)

- On-board new FTE
- Focus on addressing PM and Long-term system planning
- Remove moratorium (1 system per year maximum)

After conducting this review, I have determined that the Utilities Department needs additional resources. This is necessary not only to manage the current backlog of work but also in light of the impending retirement of a senior team member. It is advisable to maintain the acquisition moratorium until the department is adequately staffed.

I would be pleased to discuss the contents of this report and its conclusions at your convenience.

Sincerely,

A handwritten signature in blue ink, appearing to be 'John Weninger', written over a circular stamp.

JW INFRASTRUCTURE PLANNING LTD.

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ATTACHMENT

MANAGEMENT AND ADMINISTRATION (Ben / Tim)

- Annual budgeting and tracking
- Staff coordination and general administration
- Communications with CSRD board
- Coordination with finance
- Review of planning and zoning applications
- Strategic planning

REPORTING AND COMPLIANCE (Scott / Jared)

- Monthly IHA reporting
- Annual reporting to the Province
- IHA site inspections
- Other regulatory reporting and compliance

CUSTOMER SERVICE AND OUTREACH

- Service inquiries
- General questions and inquiries
- New service applications
- Bylaw enforcement
- Conservation outreach
- Billing inquiries

ASSET MANAGEMENT PLANNING

- Asset inventory and mapping
- Asset valuation
- Asset replacement forecasting
- Replacement funding calculations
- Service level development

INFORMATION COLLECTION AND MANAGEMENT (Scott / Jared)

- Maintenance and operations tracking
- Asset management and maintenance data
- GIS information
- Survey and mapping updates
- SCADA information and monitoring

SYSTEM PLANNING (Tim/ Scott)

- Cross connection control
- Water metering and conservation planning
- Asset management
- Uni- directional flushing
- Maintenance planning (reservoir cleaning, hydrants, other)
- Long term capital and financial planning

FIELD SERVICES (Jared)

- Water quality sampling
- Service locates
- Meter reads
- Leak detection
- Operational data collection
- Inspections and call outs

CAPITAL AND MAINTENANCE PROJECTS (Tim /Scott/ Jared)

- Coordination with O&M contractor
- Coordination for hydrant maintenance
- Project planning and budgets
- Procurement of equipment and services
- Budget and schedule control and tracking