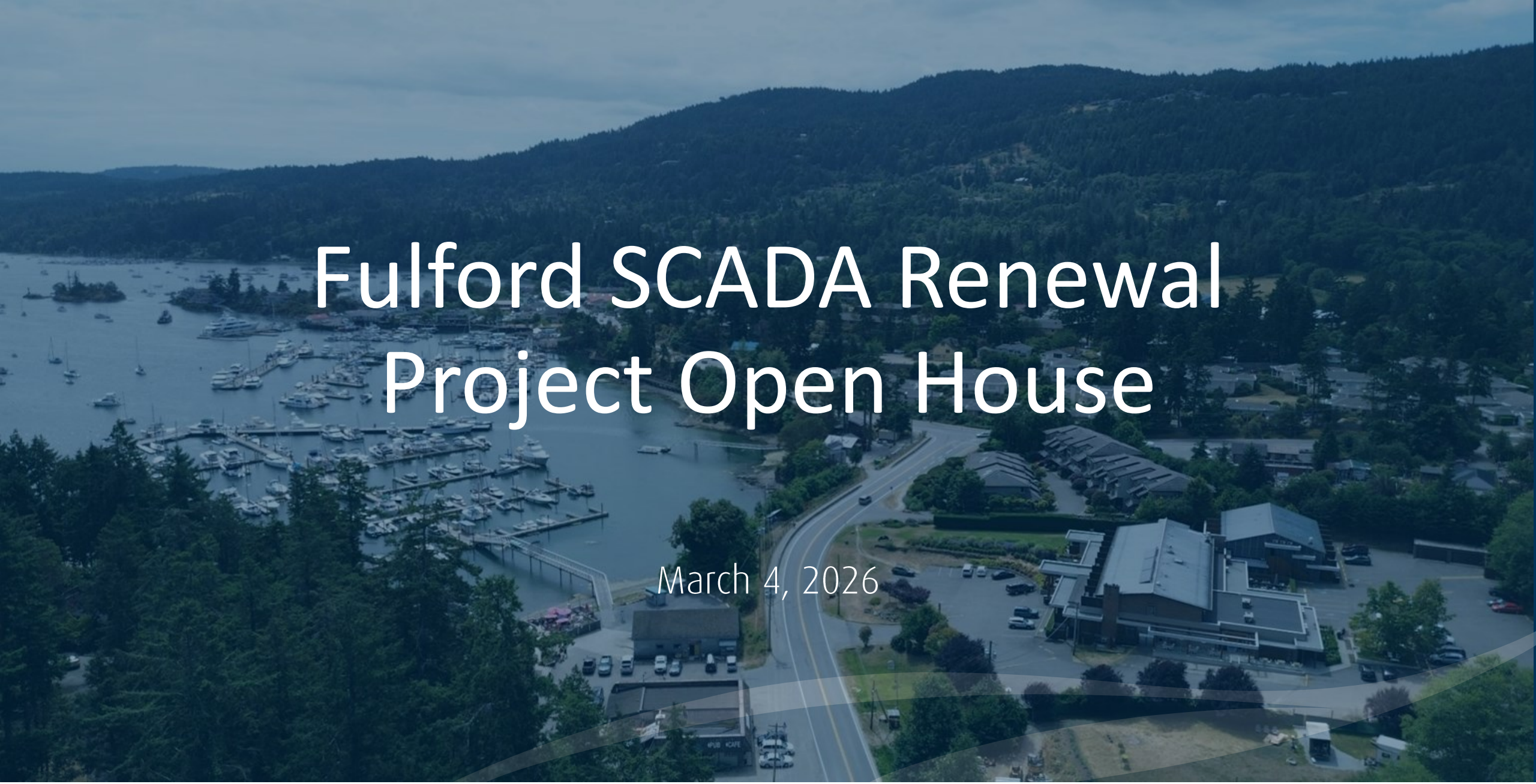
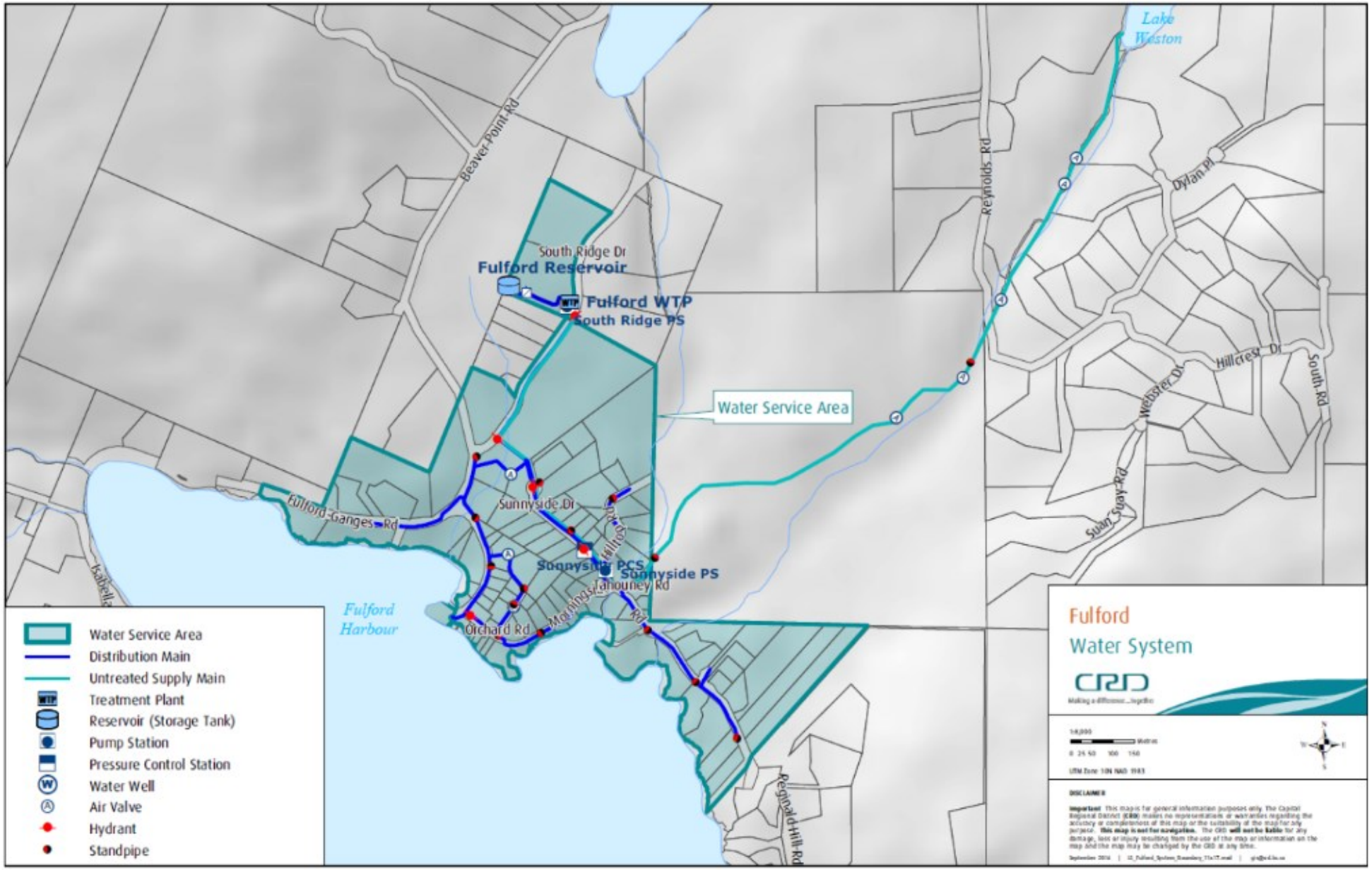


Fulford SCADA Renewal Project Open House

March 4, 2026

Territorial Acknowledgement

The CRD conducts its business within the Territories of many First Nations, including but not limited to Quw'utsun (Cowichan) Tribes, Halalt First Nation, Lyackson First Nation, MÁLEXEŁ (Malahat) Nation, BOḰEĆEN (Pauquachin) First Nation, Penelakut Tribe, Semiahmoo First Nation, Snuneymuxw First Nation, Stz'uminus First Nation, W̱JOŁEŁP (Tsartlip) First Nation, SȾÁUTW̱ (Tsawout) First Nation, Tsawwassen First Nation, W̱SIḴEM (Tseycum) First Nation, and Tsu'uubaa-asatx (Lake Cowichan) First Nation, and all of whom have a long-standing relationship with the lands and waters of Salt Spring Island from time immemorial that continues to this day.



Overview

The Fulford Water Treatment Plant (WTP) provides drinking water for the 102 properties in the Fulford Service area.

It was constructed in 2010 after the Fulford Service joined the CRD in 2004.

What is SCADA?

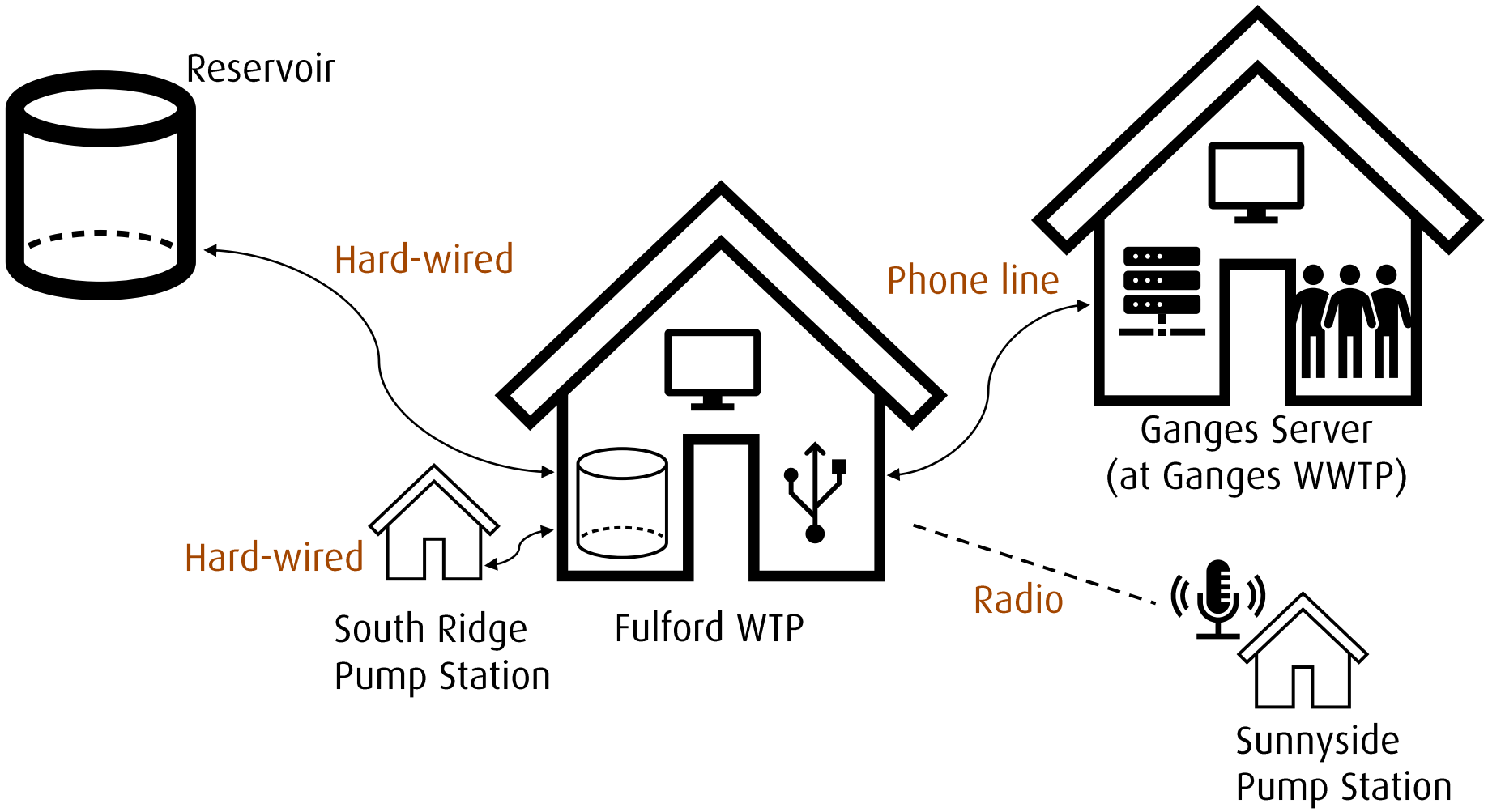
SCADA is Supervisory Control and Data Acquisition and includes hardware components such as a server computer to host data, a PLC, RTU for remote or standalone equipment and an HMI for operator interface

A **PLC** is a Programmable Logic Controller which is hardware equipment that contains a logic program which accepts inputs and gives outputs (I/O) to control equipment. Inputs can be from sensors and timers, and outputs can be to valves, switches and alarms.

An **HMI** is a Human Machine Interface that allows the operator to monitor and interact with the process and equipment through the PLC. The HMI can be used for monitoring or can be for resetting or adjusting setpoints and operating parameters.

An **RTU** is a Remote Terminal Unit that has minor control logic and I/O terminals to feed into a PLC.

Current System



- The WTP is controlled by a Programmable Logic Controller (PLC) locally, as it acquires signals from the equipment.
  - View only at Ganges
  - Equipment resets can only be done at site including following power outage
  - Trouble shooting and programming only at site including setpoints or adjustments by the CRD controls team, no remote access or data collection
  - Communications via a non-secure phone connection only each hour
- The SSI operations team operates and maintains the system for it to run 24/7 year-round.
  - Regular site visits to Fulford are three times per week for 1.5 hours each.

What we are upgrading

A PLC upgrade is required to improve communications. The current PLC and I/O cards are **obsolete with no available replacement**. There is also no expansion capacity for communications.

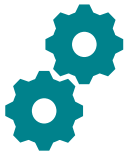
SCADA upgrades to internet communications at the WTP, and at the pump stations to allow **stable and secure communications** to the PLC and the Ganges server.

Design of the PLC/SCADA system is underway, funded by reserves. CRD experts in house are assisting in the design.

Benefits of SCADA Upgrades

The improved communications will allow for remote assessment and reset, potentially less site visits, including following power outages.

The improved hardware will prevent system failure due to I/O card failure. This is a current risk for operations. Manual operation is not supported.



Improved operation modes and data collection will be possible with an upgraded PLC and I/O.

Security Fencing

The Fulford reservoir security fencing project is also proposed as part of the borrowing.

Fencing around potable water plants is **best practice** to protect the valuable assets and ensure safe drinking supply

The Design Guidelines for Drinking Water Systems in British Columbia, 2024, Section 5 recommends, *"Human access should be through controlled locations only. Intrusion deterrence measures (e.g. physical barriers such as fences, window grates and security doors; traffic flow and check-in points; effective lighting; lines of sight; etc.) should be incorporated into the facility design to protect critical assets and security sensitive areas."*

From Reservoir Section 17, *"Fencing, locks on access manholes, and other necessary precautions (e.g. alarms and security cameras) should be provided to prevent trespassing, vandalism, and sabotage. Consideration should be given to the installation of high strength, cut resistant locks or lock covers to prevent the direct cutting of a lock."*

Vandalism has been occurring at the reservoir. The reservoir contains treated water (clear well) that will be conveyed directly to ratepayers.

How we are funding

Project	Funding Source	Budget (2026)
WTP SCADA Upgrades	Debt	$ 230,000
	Grant (CWF)	$ 80,000
WTP Security Improvements	Debt	$ 40,000

- $230,000 debt funding is required to support the finances of this project plus $40,000 for the Security Fence project for a **total of $270,000 of debt borrowing.**
- Community Works Funds (CWF) are available to supplement the SCADA Upgrades project ($80,000).
- A loan authorization bylaw and **participating area approval** is required prior to adopting a loan
  - Participating area approval will be determined through **electoral assent** (petition)

Borrowing options

Borrowing Amount	$270,000				
Borrowing term (years)	10	15	20	25	30
Indicative Interest Rate*	4.10%	4.59%	4.83%	4.83%	4.83%
Cost of Borrowing ($)	342,452	397,340	450,791	498,175	546,851
Annual Debt Payment ($)	34,245	26,489	22,540	19,927	18,228
Annual Parcel Tax per taxable folio ($) **	336	260	221	195	179
Representative monthly payment ($)	28	22	18	16	15

MFA Indicative Market Rates used for analysis, taken from MFA Website, December 19, 2025.

** Calculated parcel tax assuming no change in total folios, set at 2025 level of 102 folios.*

- **A 15-year term has been chosen by the Commission** to optimize payments, cost of borrowing and interest rate
- Over the term of the debt, the annual repayment of the debt, including principal and interest payments, will be collected through annual Property Taxes
- The actual cost of borrowing will be dependent on the loan amount, actual interest rates at the time of borrowing and refinancing, and the amortization term selected.

Elector Assent Options

Petition

- Only property owners may participate (one vote per property).
- 50% approval threshold representing at least 50% of taxable value of land and improvements
- Highest likelihood of approval success

Cost $5,000 est.

Petition process has been selected to reduce expense on ratepayers and expedite issue resolution

Alternative Approval Process

- Commonly used in relation to long-term borrowing bylaws
- Borrowing initiative can be quashed if more than 10% of electors sign a counter-petition opposing the bylaw.
- A referendum must be held within 80 days if the need to proceed with the borrowing is still required.
- Less expensive than a referendum

Cost $20,000 est.

Referendum

- Majority of the valid votes are counted in favour of the bylaw to fund a project.
- A referendum question is developed and then reviewed by the inspector of Municipalities at the province, requesting the electors to approve the borrowing of a specified amount of funds for the project.
- Must wait at least six months before seeking elector assent on another bylaw for the same purpose in a referendum
- More expensive than an Alternative Approval Process

Cost $60,000 est.

Next Steps

- Complete the petition process with ratepayers
- Petition results certified
- Proceed with the loan authorization process
  - CRD Board approval required
  - Debt financing will be provided through the Union of BC Municipalities (UBCM) at favourable interest rates.
- Initiate construction tendering process
- Field construction, installation and commissioning of the equipment
- Key Performance Indicator (KPI) monitoring to ensure project success

Comments and feedback

Thank you for attending this Open House on the Fulford SCADA Upgrades project.

Questions and/or comments may be submitted in person at the SSI CRD Administration Office, located at #8-121 McPhillips Avenue, or by email at saltspring@crd.bc.ca

Please subscribe to your water commission page to be notified of commission meetings. And check out your water service page regularly for project updates at https://www.crd.ca/Fulford-ws