

Maliview Wastewater Treatment Plant Upgrades

Open House
7 August 2025



Making a difference...together

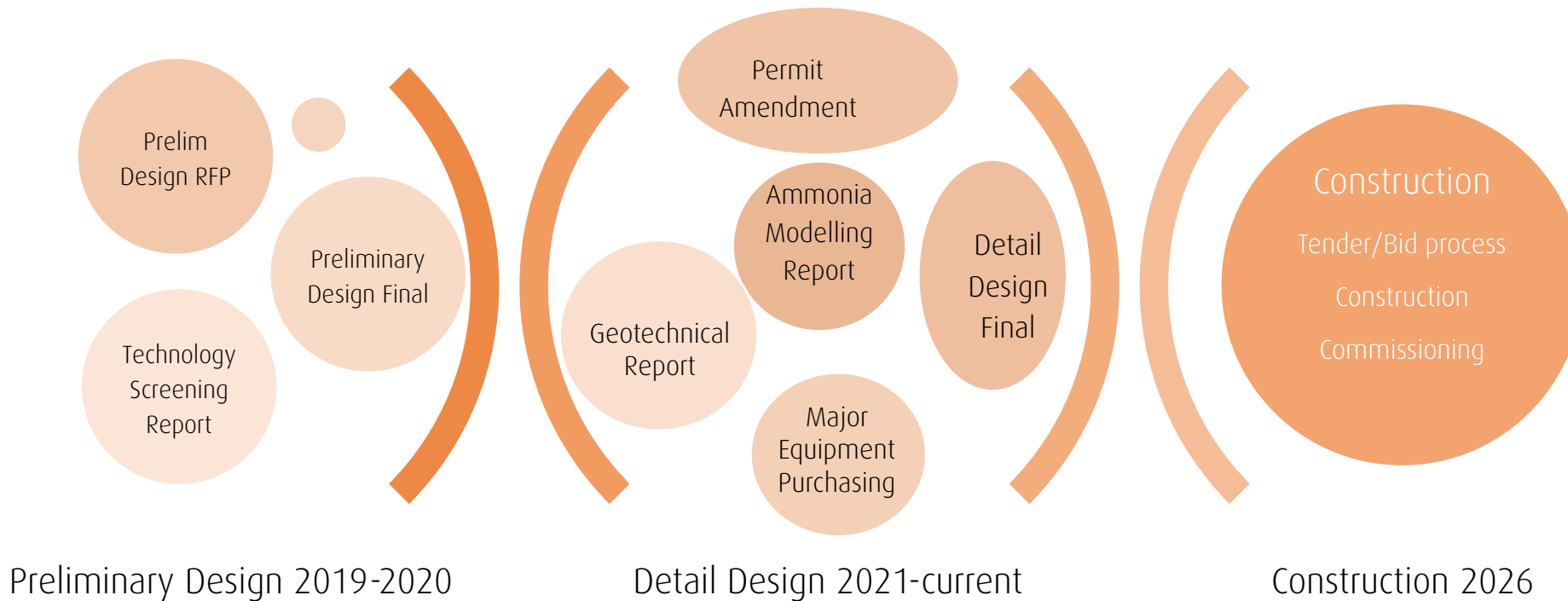


Maliview Wastewater System Upgrade

Brief history



- The system was built in the 1970s and transferred to CRD in 1979
- Original treatment plant provided primary treatment through a Spiragester.
- In 2005 the plant was retrofitted with Rotating Biological Contactor (RBC) to provide secondary treatment
- RBC capacity is 60 m³/d
- 2006 primary screening added to address higher flows through RBC



Maliview Wastewater System Upgrade

Why Upgrade is Required



- Most equipment at or near end of life
- No backup power
- Limited automated alarm or communication system with CRD operations base
- No nitrification capability
- Difficulty meeting MWR effluent limits and Federal Fisheries Act requirements



Maliview Wastewater System Upgrade

Why Upgrade is Required

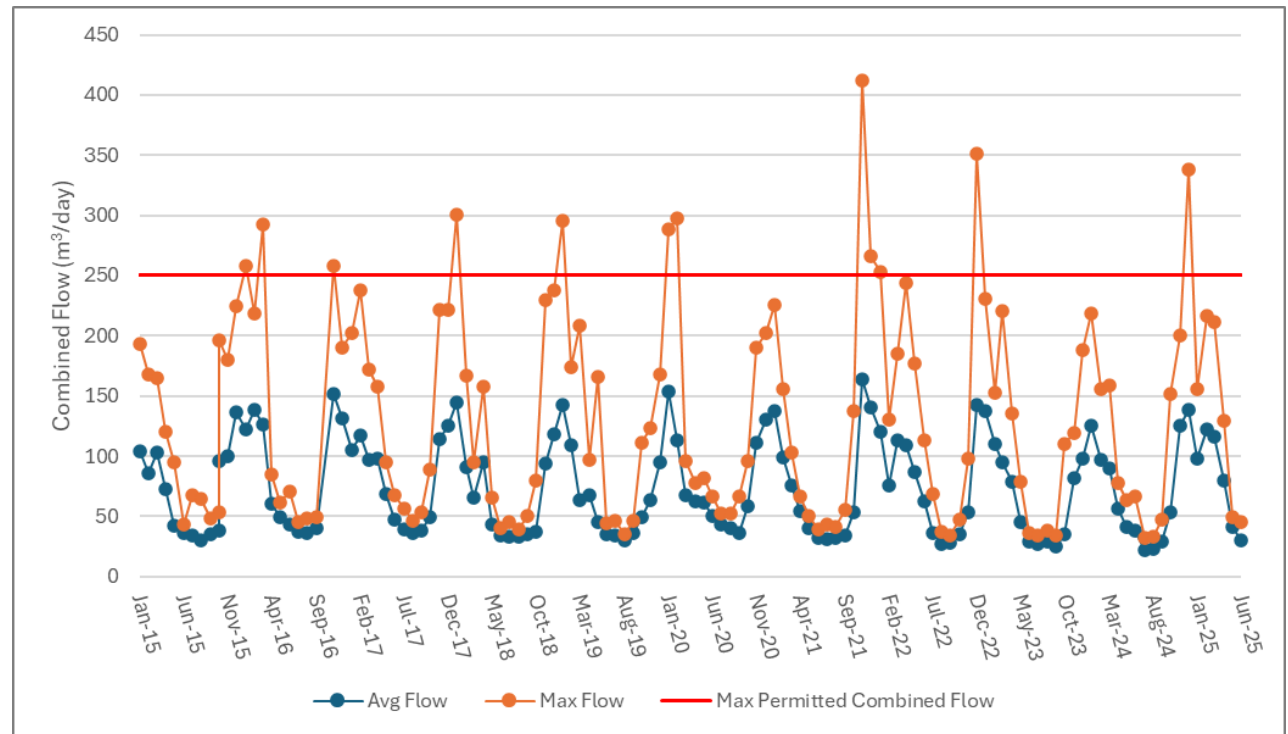
Why upgrades to existing wastewater system infrastructure are required:

- Provincial regulatory non compliances (both flows and effluent quality) from time to time.
Low flows occur during drier months which leads to a concentrated influent to the WWTP and resulting poor performance. High flow during winter months (mostly due to infiltration and inflows) cause excessive flows. Environmental Incident Report (EIR) are required to be filed with the regulators and corrective actions must be taken for exceedances to Permit conditions
A B.C. Effluent Permit amendment is necessary and underway for the WWTP Upgrades. It is currently in the screening process.
- Federal *Fisheries Act* requirements not met
Fisheries Act prohibits deposition of deleterious substance in water frequented by fish. Recent federal inspection, sampling and testing has shown that effluent from the Maliview WWTP failed toxicity testing and ammonia concentration is 150% higher than the acutely lethal concentration to rainbow trout.

Maliview Wastewater System Upgrade

Effluent Data

- WWTP effluent data suggests that provincial regulatory limits (both flows and effluent quality) are regularly exceeded.
- Flow exceedance occurred mostly during winter season where infiltration and inflows into the collection system pipes were high.



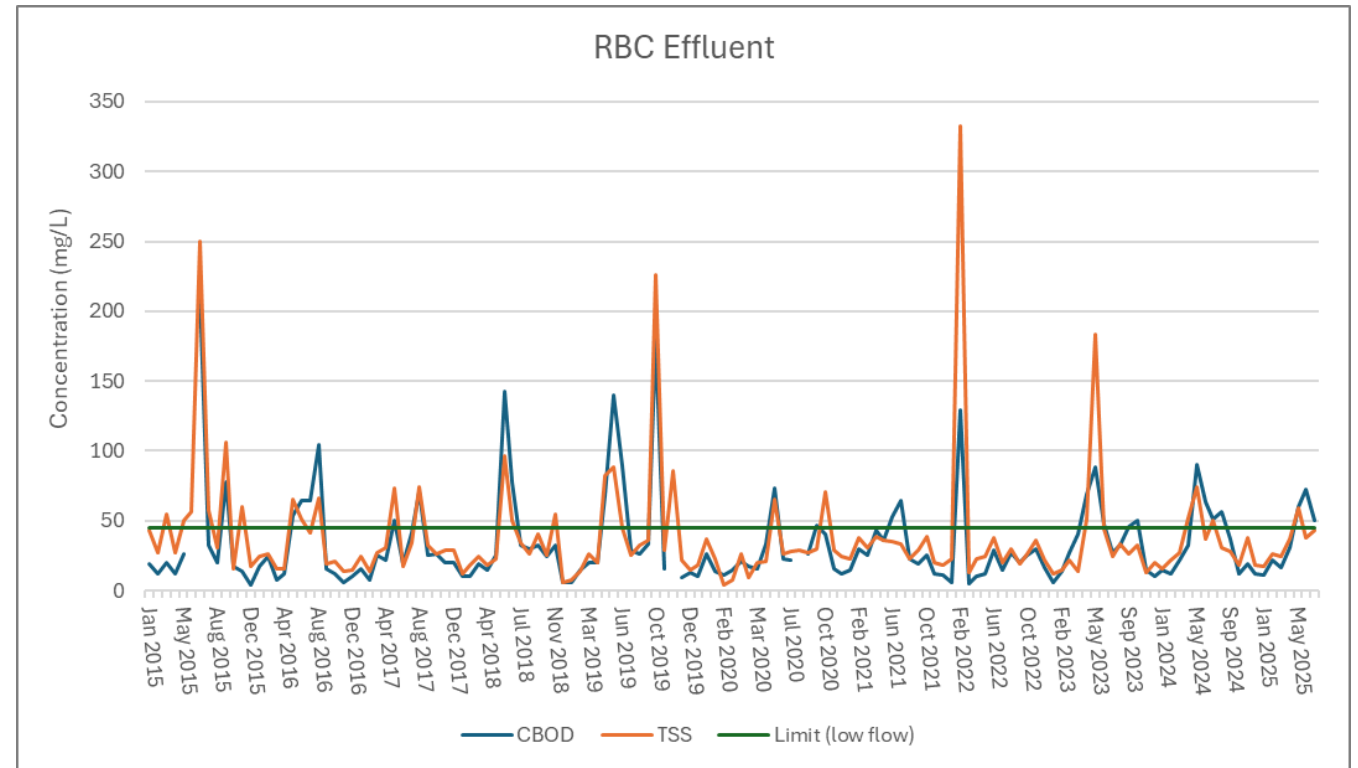
Average and Maximum Combined Flows (2015-2025)

Maliview Wastewater System Upgrade

Effluent Data

- WWTP effluent data suggests that provincial regulatory limits (effluent quality) are regularly exceeded.
- Effluent quality is mostly exceeded during summer months when flow is relatively smaller and influent organic concentration is higher.
- The Maliview sewer permit has limits for carbonaceous Biochemical Oxygen Demand (cBOD) and Total Suspended Solids (TSS)

Table E.1 – Permit Requirements for Maliview WWTP		
Maximum daily flow	250 m ³ /d	
	Flows up to 60 m ³ /d (Secondary Effluent)	Flows over 60 m ³ /d
Maximum BOD	45 mg/L (cBOD)	130 mg/L (TBOD)
Maximum TSS	45 mg/L	130 mg/L



RBC Unit Effluent cBOD and TSS Concentration (2015-2025)

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Current Facility Components



Instrumentation and
control/storage building



RBC Units, Screen, and
splitter box



Inside the RBC Unit (disk)

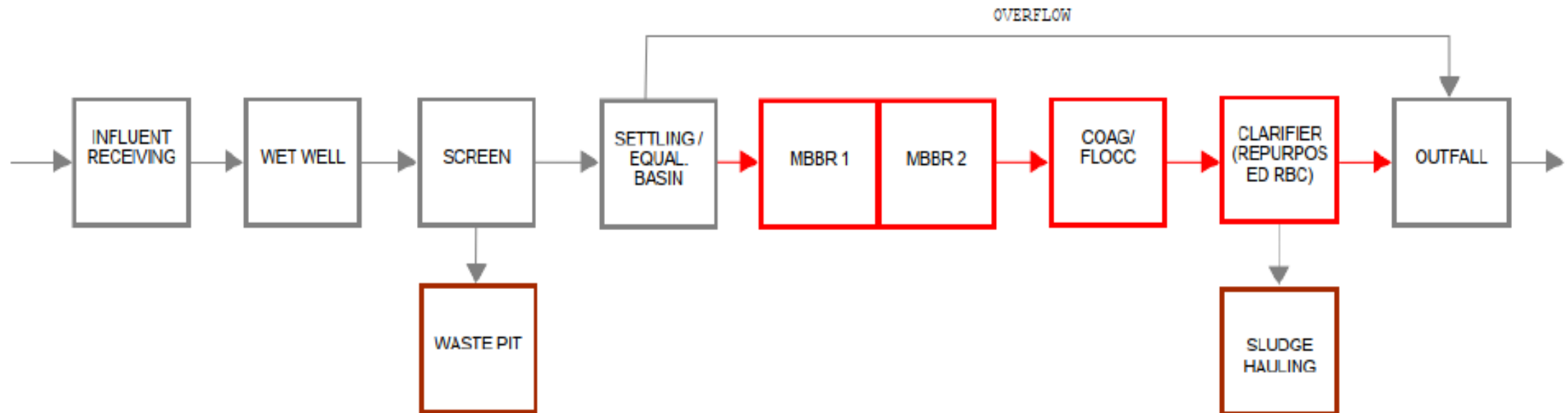


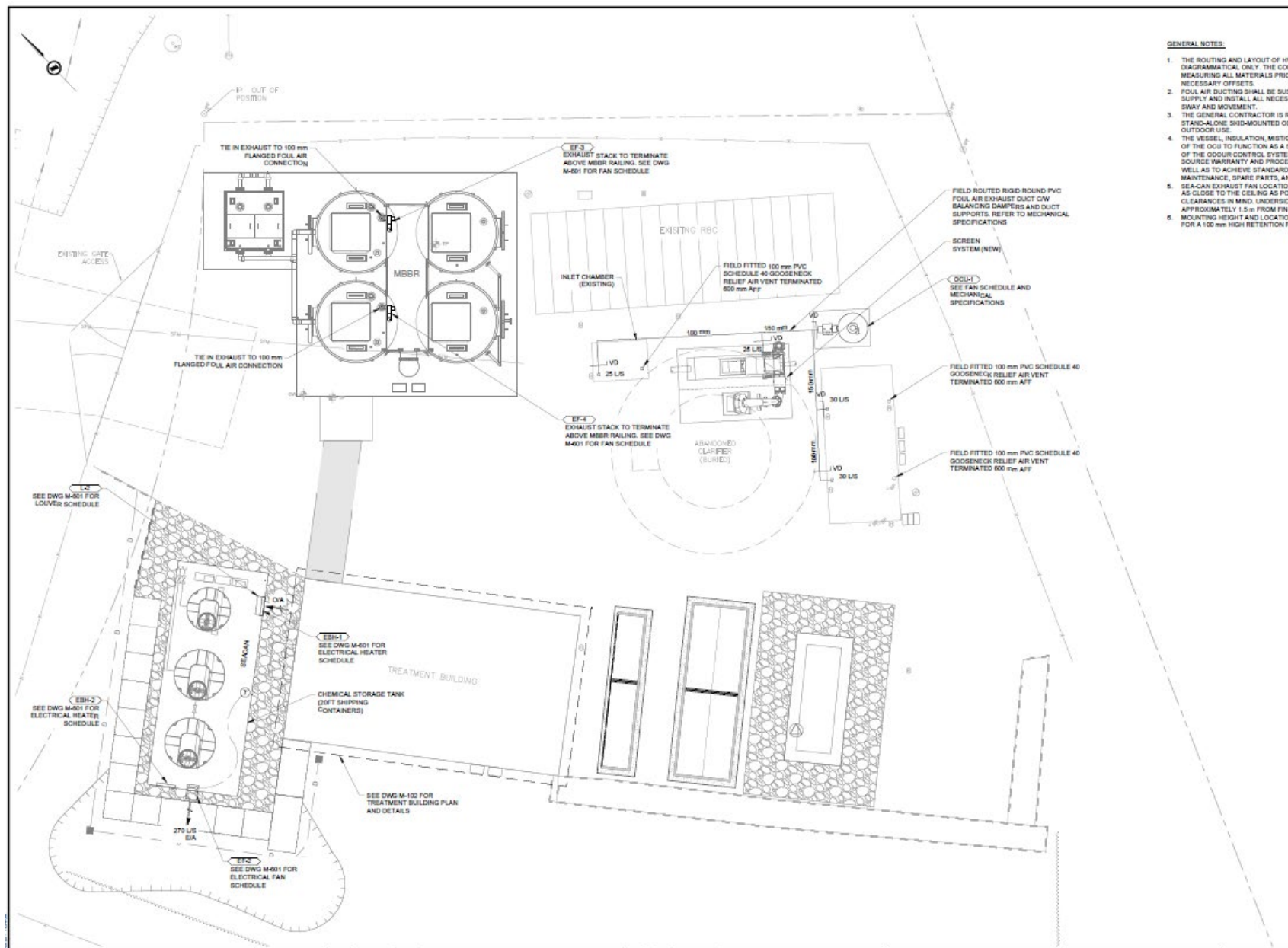
Clarifier

Maliview Wastewater System Upgrade

Upgraded Process Components

New process train (coloured items) to be intergraded into the existing treatment system.





Maliview Wastewater System Upgrade

Site Plan and Arrangement

Maliview Wastewater System Upgrade

Financial

How will the project be funded and how much debt borrowing is required?

The treatment plant upgrade project (\$4,948,040) will be funded by grants, debt and service's own reserve fund.

Projects	Funding Sources			
	Grant	Debt	Reserve	Total
• 21-03 Wastewater Treatment Plant Upgrade:				
Phase 1 – Study & Design (Completed)	\$343,620 *	\$0	\$38,420	\$382,040
Phase 2 - Construction	\$1,989,000**	1,950,000	\$47,000	\$3,986,000
Total 21-03	\$2,332,620	1,950,000	\$85,420	\$4,368,040
• 22-02 Collections System Renewal	\$0	\$460,000	\$0	\$460,000
• 23-02 Inflow and Infiltration Program	\$0	\$100,000	\$20,000	\$0
Total	\$2,332,620	\$2,510,000	\$105,420	\$4,948,040

*Community Works Fund (CWF)

**Rural and Northern Communities Infrastructure (RNC)

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Financial

How will the debt be approved?

Once the projects approved in the Five-Year Capital Plan through Financial Plan Bylaw by the CRD Board, the electors' approval for the debt is still required by petition, alternative approval process or referendum.

The petition process is the most cost-effective method for obtaining approval and is the only method which limits participation to property owners only.

Through the petition process, owners of at least 50% of the properties must consent and those properties must represent at least 50% of the net taxable value in the service area. If the petition is not successful, an alternative approval process will be initiated at further cost to the Maliview Service ratepayers.



If the petition is unsuccessful additional funding will be required to support an Alternative Approval Process or Referendum. These costs would be born by the rate payers.



Maliview Wastewater System Upgrade

Financial

When will the borrowing occur and what will it look like on our property tax?

Short-term borrowing will be authorized through the Temporary Borrowing Bylaw under terms specified in the adopted Loan Authorization Bylaw. Converting temporary borrowings to long-term debt issuances will be phased in throughout the project with the last issue near or at the project completion when the total borrowing amount is finalized. The staggered debt payment schedule will allow the full cost to be reflected on **property tax** notices in a phased in manner over a few years.

For analytical purposes only, using the indicative interest rate of 4.74% and the recommended maximum 30-year amortization period, the simulated annual debt cost per taxable folio is approximately \$1,779. The actual borrowing cost can only be determined with the interest rate at the time of debt issuing and refinancing intervals. The estimated \$1,779 will be phased in and not be fully realized until the full debt amount is converted possibly in a few years.

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Contact Information

For more information on the project, visit:

www.crd.ca/maliview

or contact Carolyn Hopp chopp@crd.bc.ca

Return your signed petitions to the CRD office in town #108-121 McPhillips or drop in the mail.

ing date of the petition is **18 August 2025**.

