

REQUEST FOR DECISION (RFD)

Date: June 16, 2026
To: Mayor Milligan and Members of Council
From: Jenny Weir, Director of Engineering & Public Works
Subject: Wastewater System Update

RECOMMENDATION

THAT Council approve an increase in the budget for the Wastewater Compliance Design Project by \$341,590.

AND THAT Council allocate \$152,730 to addressing Inflow & Infiltration (I&I), a set of additional Wastewater Projects for 2026, to address known areas of I&I into the City's collection system.

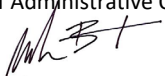
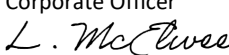
PURPOSE

The purpose of this report is to provide Council and the community with an update on the Wastewater Treatment System Compliance Design Project and the related emergent issues of increased stormwater getting into our wastewater system, exacerbating the City's known non-compliance with it's existing Permit to discharge treated wastewater to the Elk River.

BACKGROUND

This project has a multi-year history with substantial engineering efforts. Bi-annual Council Reports have provided insight into the project progress and contain significant background data. They can be accessed on the City's Website including:

- [March 2023](#) Committee of the Whole Project Update
- [November 2023](#) Committee of the Whole Project Update
- [September 24, 2024](#) Regular Meeting Project Update
- [April 2025](#) Committee of the Whole Project Update
- [May 20, 2025](#) Special Meeting of Council
- [December 2025](#) Committee of the Whole Project Update

Reviewed by:			
Chief Administrative Officer 	Corporate Officer 	Director of Finance 	Other:

DISCUSSION

The current issues facing the City's Wastewater Collection and Treatment System are complex and connected but generally fall under two streams:

Non-Compliance Under existing regulatory Permit, which is the reason for the extensive and ongoing Wastewater Treatment Compliance Design Project

The non-compliance is generally related to infrastructure at and the performance of the wastewater treatment plant, as opposed to the collection system that conveys the wastewater. The treatment plant non-compliances are largely related to the volume of treated outflow leaving the plant, the installed infrastructure on site, and the intermittent bypasses of the treatment system in emergency high-flow situations, among other less severe items identified by the British Columbia Ministry of Environment (MoE). The MoE is currently in the process of determining the Administrative Penalty (fine) that will be applied to the City to enforce compliance with the City's existing and outdated 1994 permit. As listed in the background section of this report, the City has invested almost \$1M over the last three years in preparing an application for registration under the Municipal Wastewater Regulation (MWR) to gain a new regulatory permit, plan for upgrades to its treatment plant and come into regulatory compliance.

Excessive Stormwater Getting into the system

The second major set of issues facing the Wastewater System is the combination of climate change creating short duration, high intensity storms more frequently, and aging pipes and manholes. These two factors are creating situations where large amounts of stormwater enter the wastewater system, increasing flows beyond conveyance and treatment capacities. The City's two biggest pump stations are unable to convey that flow out to the Treatment Plant, and has necessitated intermittent treatment bypasses, including 4 in the last 3 years – March 2026, twice in December 2025 and December 2023. This is tied to the non-compliance issue above, as bypassing the treatment is not permitted, but is differentiated from the set of issues above as it will not be solved by upgrades to the treatment plant or registration under modernized legislation.

Both of these issues have solutions that the City is making significant efforts to advance, but each involve complex regulatory approvals and design information requirements, and infrastructure projects that need high levels of investment and have long implementation timelines.

The focus of this report is providing updates to the efforts underway and planned in these two areas, and the resulting budgetary impacts.

1) Wastewater Treatment Compliance Design Project

Continued efforts to get registration under MWR have continued since the October 2025 submittal, which was described in detail at the December 16, 2025 Committee of the Whole Meeting. The City and our consultants have generated a plan to continue progress on this essential initiative through the next six months to achieve Registration under the MWR. It can be described through the completion of the following three scopes of work.

1.1 Ministry Review Phase (December 2025-Current)

Since the submission of the 2025 work plan deliverables to the Ministry, the City's consultant ISL Engineering (ISL) has been engaged with the Ministry through pre-screening review of the City's MWR Application. The work completed during this phase was funded by reallocating budget from the previously approved Wastewater Treatment Upgrades Design scopes and is being summarized here as a scope reconciliation of work that is complete and had to occur to keep the project on track, rather than a next step.

The Ministry Review Phase consisted of the following activities:

- Meetings with MoE regarding the pre-screening submission and responses to their pre-screening information requirements.
- A technical readiness assessment (TRA) for Submerged Attached Growth Reactor (SAGR®) as a disinfection stage, which the Ministry did not accept and is the basis for the new UV disinfection design described in Section 1.2
- A TRA for scalability of the SAGR® system to provide Total Ammonia Nitrogen reduction for increased flows, which is currently with the Ministry for review.
- A reviewability determination submission to the Environmental Assessment Office, through which we confirmed the project is not a reviewable project under the Environmental Assessment Act.
- An updated TRA prepared in response to the Ministry's response to the originally proposed TRA for SAGR® scalability.
- An update to the proposed operational sampling scheme completed by Montrose.

Effort to date in the Ministry Review Phase is approximately \$68,000.

1.2 UV Disinfection System Design

As a result of the Ministry's response to the SAGR® disinfection TRA, the City and ISL have agreed that a UV disinfection system is required as part of the Wastewater Treatment Plant (WWTP) upgrades. ISL has already significantly progressed the UV design, and preparing to issue it for MoE review in mid-June, therefore this task also required funds from the existing Wastewater Treatment Upgrades Design that would have been used for upcoming tasks, to be allocated to this task. Completion of the UV design is the final outstanding item from the pre-screening phase. Once the UV design is issued for regulatory review, the entire WWTP upgrade design package will be at an "issued for regulatory review" level across all components, which provides the basis for subsequent constructability review, updated cost estimates, and stage-by-stage advancement. ISL's focus is primarily on the UV design through May and June 2026. The required budget for this task is \$161,590.

1.3 Ministry of Environment Engagement Support through Detailed Review

Following the conclusion of pre-screening, the Ministry is expected to advance the application into detailed review, which is anticipated to generate additional information requests. ISL will continue to support the City through this phase, providing technical responses to Ministry inquiries, attending meetings with the Ministry as required, and address technical questions related to the dilution modeling and EIS submitted as part of the MWR Application. The level of effort required to navigate this phase is unknown, but we have proposed a budget of \$60,000 which is line with the efforts required to move through pre-screening (excluding the UV Design).

1.4 Final Engineering Efforts in Support of MWR Registration

This task broadly includes advancing design drawings from “Issued for Regulatory Review” or approximately equivalent to a 75% complete design to final designs ready for tendering, updating the construction cost estimates, performing a constructability review and procurement preparation.

Beginning in July 2026, following the focus on UV design and overflow mitigation, ISL will turn its attention to the integration of the UV design with the broader WWTP design, updated cost estimates for the five-stage upgrade, and a constructability review. This phase will run through September 2026 to provide sufficient time for design integration, cost estimation, and collaborative review with the City. ISL will then engage with the City’s WWTP operations staff in a collaborative constructability review to address questions and complete planning for construction, commissioning, and start-up for work in the 5 stages of upgrades. The review will address sequencing questions such as how the P-Cells are drained, lined, and re-aerated while maintaining treatment continuity, the timing of interconnecting pipework installation, and the coordination of construction across stages. The output of this review will be a refined staging plan and a more detailed construction sequencing narrative for use in subsequent design phases. Following confirmation of the staging plan, ISL will advance Stage 1 (aeration system improvements, alum dosing system modifications, and new blower building) to a procurement-ready level of detail. The cost estimates will be ready in time for the 2027 utility rate and capital budget preparation.

1.5 Flow Meter Replacement

In response to, and as required by the MoE non-compliance report, the City will be installing a new flow meter in an improved configuration and implementing additional programming to improve the recording accuracy of the WWTP discharge flow. This flow meter will be repurposed during the planned WWTP upgrades.

2) Excessive Stormwater Getting into the system

The second major issue facing the City is the combination of climate change and an aging collection system of pipes and manholes, allowing more stormwater inflow and infiltration (I&I) to the sanitary sewer system.

Inflow is defined as storm runoff that enters the collection system via direct connections to the system or through manhole covers. The City has a known issue whereby homeowners have sump pumps, downspouts, and perimeter drains connected into to the sanitary sewer system. During

heavy rainfall, these types of cross connections can send large amounts of rainwater into the wastewater network, increasing the risk of backups and putting extra pressure on the system.

Infiltration is defined as stormwater flows that enter the collection system by percolating through the soil and then through defects or joints in pipes and manholes. The City's aged pipes and manhole system also allows large amounts of stormwater into the system.

I&I is causing issues with the ability of the City's current lift stations and pumps to convey that much water to the treatment plant, and when the City does temporarily convey the highest volumes the systems will allow, there is a lack of capacity to properly treat those higher flows at the plant.

I&I has been a known issue for over a decade, with the previous studies in 2010-2014 also identifying a need to address I&I and sizing of the 2015 upgrades to handle high volumes of I&I. Recent severe storms resulted in emergency events in December 2025 & March 2026 highlighting the impacts of these problems. During these events the conveyance systems were overwhelmed - bypass of the treatment facilities was a last resort and was necessary to prevent catastrophic failure of the lift station facilities, pumps and treatment lagoon berms, that would have resulted in a prolonged inability to treat wastewater and put the public and environment at risk of further increased harm.

The solutions to this set of issues are also complex and resource intensive to implement, with action needed both from the City and the public.

Action Underway and Recommended Related to Inflow & Infiltration

Staff are currently working on a comprehensive plan of action to address the I&I issues, with additional information coming through the year. Some of the now recommended actions were not included in the 2026 budget as they have emerged as a priority due to the rain events as discussed earlier in this report. The next steps, some already funded and underway and some requiring additional funding include the following:

2.1 Overflow Mitigation Update and Design

Parallel with the WWTP upgrade work, ISL is supporting the City by performing an analysis of wet weather events from December 2025 and March 2026 in attempt to better understand what caused the severe system issues and identify solutions. Utilizing new data from flow monitors in place during the storm, as well as the already underway sanitary system modelling described below, they are updating the City's existing overflow mitigation plan and providing concept level designs for potential future upgrades to the City's Main Sewage Lift Station (MSLS) and Riverside Lift Station (RLS). This work was actioned as it demonstrates the City's efforts to prevent future contraventions or our permit and future treatment bypasses, which the MoE is assessing as they prepare for enforcement. The report will be ready by the end of June. Work completed so far on this update has been funded by reallocating budget from the previously approved WWTP design scope.

2.2 Sanitary System Modelling

Staff and consultants have updated the sanitary collection system model with pipe network updates to match current development, zoning updates and calibration from flow monitoring data collected since Nov 2025. The calibration is critical to ensure our design parameters accurately represent current conditions. The model results help us better understand the collection system capacity constraints, where to focus I&I reduction efforts, and where to permit sustainable development.

2.3 Communication & Education

As a result of the intensity and complexity of these two emerging wastewater priorities, staff engaged a communications consultant to assist us in preparing a clear and concise summary of the recent emerging issues and current actions underway to address them. They will prepare a Wastewater 101 - providing a foundational baseline of public understanding of municipal wastewater systems, and focused information about cross connections. Additionally, a long-form timeline and summary on how we got to our current position in relation to our permit non-compliances will be prepared. This focused communication will be presented on the City's platforms in the coming weeks.

2.4 Cross-Connection Discovery & Governance:

The cross-connection discovery program will encourage residents to report known cross-connections such as sump pumps connected to the sanitary sewer, so the City can provide guidance on options to deal with stormwater and ground water responsibly. The City will develop policy and bylaws to govern and enforce cross-connection disconnection. This is a high value exercise if there is public cooperation, as it will address the known issue of homeowners pumping stormwater and groundwater into our sanitary system. In the next Quarter, staff will provide more information on the specifics of the action plan and timing in this area.

2.5 Manhole Sealing

We're currently investigating manhole repair options and propose to contract repair services to limit stormwater entering the system through manholes in the worst offender neighborhoods as identified by our ongoing manhole inspections during rain events and aligned with the updated sanitary system model study recommendations. We have developed the budget to repair 10 manholes this year. This will provide staff with an opportunity to assess the sealant application and effectiveness before applying it at a larger scale. The goal is to have the contractor teach our staff how to apply the sealant if possible.

2.6 Sanitary System CCTV

We will be conducting a camera inspection (CCTV) of the identified priority mains from the updated 2025 Integrated Infrastructure Capital Plan (IICP) to confirm condition and prioritize the 2028 replacement program. This investigation will also further inform I&I locations for potential repair where replacement is not yet warranted.

INTERNAL CIRCULATION

This report has been reviewed by the Communications team.

LEGAL/STATUTORY AUTHORITY

N/A

LEGAL/STATUTORY PROCEDURAL REQUIREMENTS

N/A

COMPLIANCE WITH CORPORATE STRATEGIES & POLICIES

These recommended budget additions will enable the Engineering and Public Works department to progress a core Council objective of providing a Livable Community with sustainable infrastructure.

FINANCIAL/BUDGETARY CONSIDERATIONS

Table 1 below summarizes the cost of each of the items recommended to continue action on addressing these two sets of wastewater issues in the remainder of this year. Items highlighted in red represent the additional costs and recommended budget adjustments.

Table 1 – Budget Summary by Task

Task	Existing 2026 Budgeted Cost	Additional Costs in 2026
1.0 Wastewater Treatment Compliance Design Project		
1.1 Pre-Screening Ministry Review Phase (Complete)		\$68,000
1.2 UV Disinfection System Design (Underway)		\$161,590
1.3 Ministry of Environment Engagement for Detailed Review		\$60,000
1.4 Phase 2 Engineering Efforts in Support of MWR Registration (July - December 2026)	\$244,990	
1.5 Flow Meter Installation		\$52,000
Sub total	\$244,990	\$341,590
2.0 Addressing Inflow & Infiltration		
2.1 Overflow Mitigation Updates and Lift Station Pump Upgrades Design (Underway)		\$56,480
2.2 Sanitary System Modelling (Underway)	\$99,000	
2.3 Communications & Education (Underway)		\$15,000
2.4 Cross-Connection Discovery & Governance	\$15,000	
2.5 Manhole Sealing		\$81,250

2.6 Sanitary System CCTV	\$40,000	
Subtotal	\$154,000	\$152,730
Total	\$398,990	\$494,320

The 2025 budget estimate for advancing the Wastewater Treatment System Compliance Design Project was \$959,000 – \$685,000 of which was spent in 2025, \$274,000 was rolled into 2026 to finish the design project. There is currently \$217,000 remaining of the project budget. No additional budget was requested at the time of the 2026 Wastewater Budget development as we could not quantify the unknown emerging challenges that would impact the project progress and budget.

To complete the Wastewater Treatment Compliance Design additional scopes, we require an additional \$341,590 – this is largely driven by the three significant unanticipated scopes of work items 1.1, 1.2, and 1.3 in Table 1, that were required in response to the Ministry pre-screening and anticipated in the MoE detailed review.

To complete the recommended tasks to start addressing inflow and infiltration we would require \$152,730.

There is currently \$975K in WW Reserve - \$220K still earmarked for WWTP Upgrades based on the 10% 2026 utility fee increase. Based on the currently set wastewater utility rate, there will be a contribution of \$1,039,000 to the wastewater reserve in 2027. This rate was set to fund the high priority IICP projects, knowing at the time of setting it that facilities are not included in the IICP and there were upcoming significant investments also required at the WWTP.

Once staff receive the updated Cost Estimates for the WWTP Upgrades, the funding strategy development will begin, and will be presented to Council at the time of the 2027 budget.

Staff will prepare the effect on the planned 5-year IICP projects at budget time, at which point we also expect to have the updated WWTP Cost estimates to help inform the required level of funding.

PERSONNEL IMPLICATIONS

Staff continue to dedicate significant time to the wastewater system portfolio, working to address these issues. Continued prioritization of these projects are recommended.

EXTERNAL AGENCY/PUBLIC COMMENTS

N/A

COMMUNICATION CONSIDERATIONS

The communications considerations are discussed above in section 2.3.

OPTIONS

Options for Council are to approve or deny the funding requests as recommended, or ask for additional information.

CONCLUSION

Protecting public health and the environment remains the City's top priority. The City has demonstrated commitment to resolving this suite of issues and we have capable and qualified staff and consultants to execute the necessary steps – through this report we recommend increased and continued investment and dedicated staff time. We're focused on long-term solutions, including infrastructure planning and repair, updated system modelling, and education initiatives to reduce stormwater entering the wastewater system. We'll continue progressing through the regulatory process to facilitate upgrades that will modernize our treatment processes to ensure impacts to the Elk River are mitigated. There is need to sustain the commitment to urgently pursuing this path to regulatory compliance with the next key step being development of a funding strategy for the necessary upgrades.

Respectfully submitted,

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and



Jenny Weir, P.Eng., Director of Engineering & Public Works