



# 2025 SERVICE PLAN

## Function 606 – Kelly Lake Sewer

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### **PURPOSE:**

The service function is intended to fund the operation and maintenance of the Kelly Lake wastewater treatment and collection system. Constructed in 1996, the system serves the community of Kelly Lake, located 50 km south of Dawson Creek in Area D, near the Alberta border. The system includes a 200 mm gravity main that channels wastewater to a lift station with two 15-horsepower pumps. These pumps transfer the wastewater through a 150 mm force main into the first of five lagoons. The lagoons are engineered to allow settling and treatment, with the final lagoon acting as a holding cell with a retention time of up to a year. Treated effluent is manually released into a constructed wetland for nutrient uptake before environmental discharge.

The system, designed for a population of 400 (136.4 cubic meters/day), currently has 22 connections. Operations and maintenance costs are funded through a parcel tax on all properties within the service area. A user fee bylaw will be implemented in 2025 to ensure connected properties cover the operation and maintenance costs associated with the actual usage of the system.

A 2021 condition assessment identified necessary capital repairs that were completed in 2022 followed by lagoon desludging in 2024.

### **OVERALL FINANCIAL IMPACT:**

The operating budget decreased to \$108,210 in 2025 compared to \$113,621 in 2024, which is a decrease of \$5,411 or 4.7% due to a decrease in operating expenses such as wages and allocations.

The capital budget decreased to \$180,666 in 2025 compared to \$267,910 in 2024, which is a decrease of \$87,244 or 32.56% due to a reduction in capital spending.

The total budget decreased to \$288,876 in 2025 compared to \$381,531 in 2024, which is a decrease of \$92,655 or 24.29% due to a reduction in capital expenses from 2024.

There are no changes proposed to the parcel tax for 2025. There are 22 parcels within the Kelly Lake Sewer Area and the estimated parcel tax per parcel is \$1,065.32.

General expenses have increased by 2.35% overall. Allocations (Fleet and Administration) have decreased by 39% due to a reduction in traveling and planning for operational efficiencies. A supplemental request for \$15,000 in Area D Fair Share is required to cover Repairs & Maintenance & Contract for Services expenses in 2025.

**SUPPLEMENTAL REQUESTS & CARRY FORWARD PROJECTS:**

Operating Supplemental

| <b>Project Description</b>   | <b>Prior Budget</b> | <b>Prior Spent</b> | <b>2025 Budget</b> |
|--|---------------------|--------------------|--------------------|
| Operating Expenses<br>(Repairs & Maintenance & Contract<br>for Services) |                     |                    | \$15,000           |
| <b>TOTAL OPERATING SUPPLEMENTAL<br/>REQUEST</b>                          |                     |                    | <b>\$15,000</b>    |

Capital Projects

| <b>Project Description</b>                                    | <b>Prior Budget</b> | <b>Prior Spent</b> | <b>2025 Budget</b> |
|---|---------------------|--------------------|--------------------|
| *Sewer System Infrastructure<br>Monitoring and SCADA Upgrades | \$0                 | \$0                | \$40,000           |
| *Kelly Lake Valve Replacements<br>and Interconnect Repairs    | \$0                 | \$0                | \$100,000          |
| 2024 Gas Tax Carry Forward                                    | \$67,910            | \$27,245           | \$40,666           |
| <b>TOTAL CAPITAL BUDGET</b>                                   |                     |                    | <b>\$180,666</b>   |

\*The Regional Board provided pre-budget approval for the Sewer System Infrastructure Monitoring and SCADA Upgrades project and the Kelly Lake Valve Replacements project for the 2025 Kelly Lake Sewer budget on December 6, 2024:

*MOVED, SECONDED and CARRIED,*

*That the Regional Board provide capital pre-budget approval for the 2025 supplemental requests/business cases:*

- 1. Sewer System Infrastructure Monitoring and SCADA Upgrades \$40,000*
- 2. Valve Replacements Interconnect Repairs Project \$100,000*

*funded by Electoral Area D Peace River Agreement Funds, Spending Item #9, and authorize the inclusion of the expenses in the Kelly Lake Sewer draft 2025-2029 PRRD Financial Plan.*

\*The Rural Budgets Administration Committee provided approval for the operating funding commitment on January 24, 2025:

*MOVED, SECONDED and CARRIED,*

*That the Rural Budgets Administration Committee approve a funding commitment in the amount of \$15,000 payable from Fair Share Reserve Fund, to be issued to Function 606 – Kelly Lake Sewer to cover operating expenses.*

## **SIGNIFICANT ISSUES & TRENDS:**

A user fee bylaw will take effect in 2025. These user fees are billable only to connected properties and will contribute funds to the overall operation and maintenance of the system. The system is not currently sustainably funded through parcel tax. The operational expenses are more significant than the current requisition and will continue to trend in that direction with inflation and increasing costs.

## **RESERVE SUMMARY:**

**Operating Maintenance Reserve:** Balance on November 30, 2024, \$967

**Capital Reserve:** Balance on November 30, 2024, \$77,860

Capital Reserve Purpose: To build a reserve for asset management purposes to provide capital maintenance, repairs, and replacement.



General Operating Fund

606 Kelly Lake Sewer

|  | 2024<br>Actuals    | 2024<br>Approved<br>Budget | 2025<br>1. Provisional Budget<br>Budget | 2024 to 2025<br>Budget<br>Change | 2024 to 2025<br>Budget<br>Change % |
|--|--------------------|----------------------------|---|----------------------------------|------------------------------------|
| <b>REVENUES</b>                                |                    |                            |   |                                  |                                    |
| 1-0010 Requisition                             |                    |                            |   |                                  |                                    |
| 02-1-0010-0012 Parcel Tax                      | (23,437.00)        | (23,437.00)                | (23,437.00)                             |                                  |                                    |
| <b>Total 1-0010 Requisition</b>                | (23,437.00)        | (23,437.00)                | (23,437.00)                             |                                  |                                    |
| 1-0020 Surplus/Deficit                         |                    |                            |   |                                  |                                    |
| 02-1-0020-0020 Surplus/Deficit                 |                    |                            |   |                                  |                                    |
| <b>Total 1-0020 Surplus/Deficit</b>            |                    |                            |   |                                  |                                    |
| 1-0060 User Fees                               |                    |                            |   |                                  |                                    |
| 02-1-0060-0060 User Fees                       |                    |                            | (6,710.00)                              | (6,710)                          |                                    |
| <b>Total 1-0060 User Fees</b>                  |                    |                            | (6,710.00)                              | (6,710)                          |                                    |
| 1-0070 Investment Income                       |                    |                            |   |                                  |                                    |
| 02-1-0070-0071 Interest on Reserves            | (47.34)            |                            |   |                                  |                                    |
| <b>Total 1-0070 Investment Income</b>          | (47.34)            |                            |   |                                  |                                    |
| 1-0140 Transfer from Reserves                  |                    |                            |   |                                  |                                    |
| 01-1-0140-0142 Fair Share Reserve              |                    |                            |   |                                  |                                    |
| 02-1-0140-0139 Operating Maintenance Reserve   |                    |                            |   |                                  |                                    |
| 02-1-0140-0142 Fair Share Reserve              | (60,565.84)        | (90,184.00)                | (78,063.00)                             | 12,121                           | (13.44%)                           |
| 02-1-0140-0144 Gas Tax Reserve                 |                    |                            |   |                                  |                                    |
| <b>Total 1-0140 Transfer from Reserves</b>     | (60,565.84)        | (90,184.00)                | (78,063.00)                             | 12,121                           | (13.44%)                           |
| <b>TOTAL REVENUES</b>                          | <b>(84,050.18)</b> | <b>(113,621.00)</b>        | <b>(108,210.00)</b>                     | <b>5,411</b>                     | <b>(4.76%)</b>                     |
| <b>EXPENDITURES</b>                            |                    |                            |   |                                  |                                    |
| 2-1000 General Expenditures                    |                    |                            |   |                                  |                                    |
| 01-2-1000-3020 Meals                           |                    |                            |   |                                  |                                    |
| 02-2-1000-1010 Wages - Full Time               | 30,807.70          | 33,000.00                  | 23,900.00                               | (9,100)                          | (27.58%)                           |
| 02-2-1000-1030 Benefits                        | 8,115.90           | 9,757.00                   | 7,199.00                                | (2,558)                          | (26.22%)                           |
| 02-2-1000-1040 WCB                             | 609.30             | 627.00                     | 454.00                                  | (173)                            | (27.59%)                           |
| 02-2-1000-2030 Phone/Internet                  | 154.08             | 200.00                     | 200.00                                  |                                  |                                    |
| 02-2-1000-2065 Insurance - Property            | 3,770.00           | 3,800.00                   | 4,600.00                                | 800                              | 21.05%                             |
| 02-2-1000-2070 Insurance - Liability           | 1,777.89           | 1,800.00                   | 2,000.00                                | 200                              | 11.11%                             |
| 02-2-1000-2130 R&M - Machinery                 | 1,273.42           | 4,968.00                   | 8,642.00                                | 3,674                            | 73.95%                             |
| 02-2-1000-2150 Electricity                     | 466.81             | 400.00                     | 400.00                                  |                                  |                                    |
| 02-2-1000-3010 Travel                          |                    | 364.00                     | 241.00                                  | (123)                            | (33.79%)                           |
| 02-2-1000-3016 Mileage                         |                    | 10.00                      |   | (10)                             | (100.00%)                          |
| 02-2-1000-3020 Meals                           | 404.77             | 221.00                     | 146.00                                  | (75)                             | (33.94%)                           |
| 02-2-1000-3030 Training & Development          | 956.55             | 1,004.00                   | 333.00                                  | (671)                            | (66.83%)                           |
| 02-2-1000-3040 Conferences & Seminars          |                    | 430.00                     | 284.00                                  | (146)                            | (33.95%)                           |
| 02-2-1000-3050 Memberships - Sewer             | 27.85              | 10.00                      | 30.00                                   | 20                               | 200.00%                            |
| 02-2-1000-3100 Contract for Services           | 998.55             | 21,000.00                  | 15,000.00                               | (6,000)                          | (28.57%)                           |
| 02-2-1000-4250 Charges/Permits                 |                    | 400.00                     | 400.00                                  |                                  |                                    |
| 02-2-1000-4425 Software and Software Licensing |                    | 460.00                     | 460.00                                  |                                  |                                    |
| 02-2-1000-5140 Minor Capital                   | 485.44             |                            | 16,002.00                               | 16,002                           |                                    |
| <b>Total 2-1000 General Expenditures</b>       | <b>49,848.26</b>   | <b>78,451.00</b>           | <b>80,291.00</b>                        | <b>1,840</b>                     | <b>2.35%</b>                       |
| 2-1150 Allocations                             |                    |                            |   |                                  |                                    |



General Operating Fund

606 Kelly Lake Sewer

|  | 2024<br>Actuals     | 2024<br>Approved<br>Budget | 2025<br>1. Provisional Budget<br>Budget | 2024 to 2025<br>Budget<br>Change | 2024 to 2025<br>Budget<br>Change % |
|--|---------------------|----------------------------|---|----------------------------------|------------------------------------|
| 02-2-1150-1160 Indirect Cost Allocation        | 1,424.00            | 1,424.00                   | 928.00                                  | (496)                            | (34.83%)                           |
| 02-2-1150-1190 PRRD Vehicles                   | 11,633.00           | 11,633.00                  | 6,991.00                                | (4,642)                          | (39.90%)                           |
| <b>Total 2-1150 Allocations</b>                | <b>13,057.00</b>    | <b>13,057.00</b>           | <b>7,919.00</b>                         | <b>(5,138)</b>                   | <b>(39.35%)</b>                    |
| 2-7000 Sewer Operations                        |                     |                            |   |                                  |                                    |
| 02-2-7000-4250 Charges - Sewer Oper            | 210.73              |                            |   |                                  |                                    |
| 02-2-7000-6010 Operations                      | 886.85              | 2,113.00                   |   | (2,113)                          | (100.00%)                          |
| <b>Total 2-7000 Sewer Operations</b>           | <b>1,097.58</b>     | <b>2,113.00</b>            |   | <b>(2,113)</b>                   | <b>(100.00%)</b>                   |
| 2-8100 Transfers to Reserve                    |                     |                            |   |                                  |                                    |
| 02-2-8100-8110 Capital Reserve                 | 20,000.00           | 20,000.00                  | 20,000.00                               |                                  |                                    |
| 02-2-8100-8115 Operating Maintenance Reserve   |                     |                            |   |                                  |                                    |
| 02-2-8100-8150 Interest on Reserves            | 47.34               |                            |   |                                  |                                    |
| <b>Total 2-8100 Transfers to Reserve</b>       | <b>20,047.34</b>    | <b>20,000.00</b>           | <b>20,000.00</b>                        |                                  |                                    |
| <b>TOTAL EXPENDITURES</b>                      | <b>84,050.18</b>    | <b>113,621.00</b>          | <b>108,210.00</b>                       | <b>(5,411)</b>                   | <b>(4.76%)</b>                     |
| OPERATING SURPLUS/DEFICIT                      |                     |                            |   |                                  |                                    |
| CAPITAL REVENUES                               |                     |                            |   |                                  |                                    |
| 7-0140 Transfers from Reserve                  |                     |                            |   |                                  |                                    |
| 02-7-0140-0144 Gas Tax Reserve                 | (27,244.53)         | (67,910.00)                | (40,666.00)                             | 27,244                           | (40.12%)                           |
| 02-7-0140-0145 PRA Reserve                     | (130,045.80)        | (200,000.00)               | (140,000.00)                            | 60,000                           | (30.00%)                           |
| <b>Total 7-0140 Transfers from Reserve</b>     | <b>(157,290.33)</b> | <b>(267,910.00)</b>        | <b>(180,666.00)</b>                     | <b>87,244</b>                    | <b>(32.56%)</b>                    |
| <b>TOTAL CAPITAL REVENUES</b>                  | <b>(157,290.33)</b> | <b>(267,910.00)</b>        | <b>(180,666.00)</b>                     | <b>87,244</b>                    | <b>(32.56%)</b>                    |
| CAPITAL EXPENDITURES                           |                     |                            |   |                                  |                                    |
| 8-8500 Capital Expenditures                    |                     |                            |   |                                  |                                    |
| 02-8-8500-8503 Engineering Structures          |                     |                            | 180,666.00                              | 180,666                          |                                    |
| 02-8-8500-8504 Building Improvements           | 157,290.33          | 267,910.00                 |   | (267,910)                        | (100.00%)                          |
| <b>Total 8-8500 Capital Expenditures</b>       | <b>157,290.33</b>   | <b>267,910.00</b>          | <b>180,666.00</b>                       | <b>(87,244)</b>                  | <b>(32.56%)</b>                    |
| <b>TOTAL CAPITAL EXPENDITURES</b>              | <b>157,290.33</b>   | <b>267,910.00</b>          | <b>180,666.00</b>                       | <b>(87,244)</b>                  | <b>(32.56%)</b>                    |
| CAPITAL SURPLUS/DEFICIT                        |                     |                            |   |                                  |                                    |
| SUMMARY  |                     |                            |   |                                  |                                    |
| OPERATING AND CAPITAL REQUISITION              |                     |                            |   |                                  |                                    |
| 02-1-0010-0012 Parcel Tax                      | (23,437.00)         | (23,437.00)                | (23,437.00)                             |                                  |                                    |
| <b>Total OPERATING AND CAPITAL REQUISITION</b> | <b>(23,437.00)</b>  | <b>(23,437.00)</b>         | <b>(23,437.00)</b>                      |                                  |                                    |
| <b>TOTAL BUDGET</b>                            | <b>241,340.51</b>   | <b>381,531.00</b>          | <b>288,876.00</b>                       | <b>(92,655)</b>                  | <b>(24.29%)</b>                    |

**Peace River Regional District - 2025 Tax Rate Sheet**  
**EXHIBIT 606**  
**Kelly Lake Sewer**

**Basis of Apportionment:** Parcel Tax  
**Defined Area of Electoral Area D**

**Tax Rate or Other Limitations:** \$ 23,437 exclusive of debt servicing costs  
*Bylaw No. 2366, 2019*

|                       | Requisition<br>Amount | Tax Rate<br>Per 1000 | Figures for<br>Apportionment | Percent |
|-----------------------|-----------------------|----------------------|------------------------------|---------|
| Area D - Defined Area | 23,437                |                      | Parcel Tax                   |         |
| <b>Total</b>          | <b>23,437</b>         |                      |                              |         |

|                                      | 2025    | 2024       | Change \$   | Change % |
|--------------------------------------|---------|------------|-------------|----------|
| Total Operating Budget \$            | 108,210 | \$ 113,621 | \$ (5,411)  | -4.76%   |
| Total Capital Budget \$              | 180,666 | \$ 267,910 | \$ (87,244) | -32.56%  |
| Total Budget \$                      | 288,876 | \$ 381,531 | \$ (92,655) | -24.29%  |
| Tax Per Parcel                       | 1065.32 | 1065.32    | \$ -        |          |
| Total # of Parcels                   | 22      | 22         | \$ -        |          |
| Total Parcel Tax \$                  | 23,437  | \$ 23,437  | \$ -        |          |
| Operating Maint Reserve at Nov 30 \$ | -       | \$ 975     |             |          |
| Capital Reserve at Nov 30 \$         | -       | \$ 78,501  |             |          |



## *Business Case*

### *Kelly Lake Valve Replacements and Interconnect Repairs*

#### Executive Summary

The Kelly Lake Sewer Infrastructure Valve Replacement Project aims to address the aging and deteriorating interconnect valves between the Kelly Lake Sewer treatment lagoons, which have reached the end of their useful life. These valves are essential for regulating the flow of wastewater between the lagoons and providing emergency flow control when needed. As the infrastructure nears failure, there is an increasing risk of operational disruptions, costly repairs, and potential environmental impacts.

This project will replace the five interconnect valves, ensuring improved operational efficiency, enhanced emergency response capabilities, and a significant reduction in the risk of system failure. By adopting a proactive asset management approach, the project will extend the lifespan of the lagoon infrastructure, minimize future maintenance costs, and prevent environmental contamination or service interruptions.

The project will be executed with careful planning to ensure minimal disruption to services, regulatory compliance, and cost-effectiveness. Total project costs are estimated at \$100,00 with projected annual savings of \$5,000 - \$15,000 in operational and maintenance costs. Additionally, the extended infrastructure lifespan and avoided emergency repairs offer a significant tangible benefit.

In summary, this project is a critical investment in the sustainability of the Kelly Lake Sewer system, ensuring long-term reliability, community safety, and financial stewardship.

#### **Business Need**

The Kelly Lake Sewer lagoon valves and interconnects have reached the end of their useful life and require repair to ensure continued, reliable service. Aging infrastructure risks service continuity and may result in costly emergency repairs. To align with the PRRD's asset management principles, this project mitigates the risk of infrastructure failures, reducing potential unanticipated repair costs, environmental hazards, and disruptions to residents and businesses. Ensuring the Kelly Lake Sewer infrastructure's longevity supports community resilience, environmental protection, and financial efficiency, aligning with broader organizational goals for sustainable asset management.

#### **Expected Outcome**

The replacement of the five interconnect valves between the Kelly Lake Sewer treatment lagoons will improve operational efficiency and enhance system reliability. This project will enable precise control over wastewater flow, supporting effective management during routine operations and providing a critical emergency response capability for flow redirection if needed.

By upgrading these key components, the project will reduce the risk of unplanned outages, lower maintenance costs associated with aging or malfunctioning valves, and extend the functional life of the lagoon infrastructure. These outcomes will collectively contribute to maintaining uninterrupted service to the community and optimizing long-term operational efficiency within the Kelly Lake Sewer system.



**Recommendation**

It is recommended to proceed with the replacement of the five interconnect valves at the Kelly Lake Sewer treatment lagoons. Given that the infrastructure has reached the end of its useful life, replacing these critical components is essential to maintaining reliable and safe wastewater management for the community.

Investing in this project will improve operational efficiency, reduce the likelihood of infrastructure failures, and provide emergency flow control capabilities that are crucial for effective lagoon management. This proactive replacement aligns with asset management best practices by prioritizing preventative maintenance, extending asset life, and minimizing costly reactive repairs. The project also supports long-term financial planning by mitigating potential future expenses related to emergency repairs or environmental liabilities.

Implementing this recommendation will strengthen the resilience of the Kelly Lake Sewer infrastructure, ensuring sustainable service continuity and environmental protection for years to come.

**Justification**

The Kelly Lake Sewer infrastructure requires critical upgrades due to the end-of-life status of its existing interconnect valves, which play a vital role in maintaining effective wastewater treatment and emergency response capabilities. As these valves continue to age, they pose an increasing risk of failure, which could lead to significant operational disruptions, environmental hazards, and costly emergency repairs.

Replacing the five interconnect valves aligns with asset management principles by focusing on preventative maintenance to extend the infrastructure's service life and improve operational efficiency. The project will allow for precise control of wastewater flow between treatment lagoons, supporting normal operations and enhancing emergency flow control capacity, thereby reducing the risk of overflow or contamination.

Proactively addressing this infrastructure need now will prevent future expenses associated with reactive maintenance and environmental liabilities. This replacement project is essential for protecting public health, ensuring regulatory compliance, and upholding the community's trust in the reliability of essential sewer services.

**The Team**

| Team Member                                      | Role  |
|--|---|
| <b>General Manager of Environmental Services</b> | To provide overall program oversight to provide direction and support for implementation, procurement policies, and budgetary considerations.   |
| <b>Environmental Services Manager</b>            | To provide a program outline, work with regulatory bodies to ensure compliance, and oversee the planning, implementation and execution and close out of the project work packages through contract management and operational oversight as well as prepare the budget for 2025. |
| <b>Environmental Services Foreman</b>            | To support the Environmental Services Manager with the project deliverables.  |
| <b>Environmental Services Coordinator</b>        | To support McElhanney with required data.   |





|                            |   |
|----------------------------|---|
| <b>Communications</b>      | To support project communications.                        |
| <b>Procurement Officer</b> | Assist with tendering processes and contract development. |

[Business Need Definition](#)

**Problem Statement**

The Kelly Lake Sewer treatment infrastructure is facing increased operational risks due to aging interconnect valves that have reached the end of their useful life. These five valves, which regulate the flow between treatment lagoons, are essential for maintaining efficient wastewater processing and providing critical emergency flow control. As they deteriorate, the likelihood of valve failure grows, leading to potential operational disruptions, unplanned maintenance costs, and environmental hazards.

Without timely replacement, these aging valves could compromise the system’s ability to manage wastewater effectively, risking overflow events, environmental contamination, and disruptions in service to the community. Current conditions also hinder long-term financial planning and prevent efficient asset management. This project seeks to address these issues by replacing the valves to ensure operational efficiency, regulatory compliance, and reliable service continuity.

**Impacts**

Insufficient engineering plans and knowledge create risk for the PRRD including:

1. Liability Risk from potential breakdown of service or environmental degradation.
2. Financial risk - without adequate understanding of the infrastructure condition or needs there is significant exposure to financial risk that could be incurred by a breakdown or failure of the infrastructure.

[Project Overview](#)

**Project**

*Kelly Lake Valve Replacements and Interconnect Repairs*

**Project Description**

The Kelly Lake Sewer Infrastructure project involves the replacement of five aging interconnect valves between the Kelly Lake Sewer treatment lagoons. These valves are critical for regulating wastewater flow between the lagoons and enabling emergency flow control during unforeseen events. As the existing valves have reached the end of their useful life, their replacement is necessary to prevent system failures, improve operational efficiency, and enhance the reliability of the sewer infrastructure.

This project will extend the functional lifespan of the system, reduce maintenance costs, and minimize the risk of service disruptions or environmental impacts. By ensuring continuous, efficient wastewater management, the project supports long-term service continuity, environmental protection, and financial sustainability for the community.

**Project Budget**



Department: Environmental Services  
 Division: Environmental Services  
 Function: 606 – Kelly Lake Sewer

| Capital Expenses                          | 2025             | 2026 | 2027 | 2028 | 2029 | Summary         |
|---|------------------|------|------|------|------|-----------------|
| Valve Replacements & Interconnect Repairs | \$100,000        |      |      |      |      | \$100,000       |
| <b>TOTAL</b>                              | <b>\$100,000</b> | -    | -    | -    | -    | <b>\$100,00</b> |

| Capital Funding Sources            | 2025             | 2026 | 2027 | 2028 | 2029 | Summary          |
|------------------------------------|------------------|------|------|------|------|------------------|
| Area D Peace River Agreement Funds | \$100,000        |      |      |      |      | \$100,000        |
| <b>TOTAL</b>                       | <b>\$100,000</b> |      |      |      |      | <b>\$100,000</b> |

**Project Goals and Objectives**

1. Operational Efficiency: Replacing the interconnect valves will enhance the operational efficiency of the lagoon system, allowing for improved control over wastewater flow and facilitating smoother day-to-day operations.
2. Enhanced Emergency Response: The new valves will provide reliable emergency flow control between lagoons, reducing the risk of overflow events, especially during high inflow periods or unforeseen emergencies. This capability protects both the environment and the community.
3. Cost Savings: By replacing aging valves now, the project minimizes future repair and maintenance costs. Preventative replacement avoids the high expenses associated with emergency repairs, reactive maintenance, and potential environmental remediation.
4. Extended Asset Life: The new valves will extend the functional lifespan of the Kelly Lake Sewer infrastructure, aligning with asset management principles and allowing for continued service delivery without significant further investment in the short term.
5. Improved Environmental Protection: Reliable valve control reduces the risk of untreated wastewater releases, safeguarding local ecosystems and reducing potential environmental impacts, such as contamination of local water sources.
6. Regulatory Compliance: Upgraded infrastructure supports compliance with regulatory standards, helping to prevent penalties associated with potential environmental violations or public health risks.
7. Community Trust and Service Reliability: By proactively managing infrastructure, the project reassures the community of consistent, uninterrupted sewer service, reinforcing public trust in the municipality’s commitment to service quality and environmental stewardship.
8. Data Collection and Monitoring: New valve installations may offer an opportunity to integrate updated monitoring technologies, providing data that can further support predictive maintenance, real-time performance tracking, and improved asset management practices over time.

This project supports the long-term sustainability and reliability of the Kelly Lake Sewer infrastructure, aligning with organizational goals for efficient and responsible asset management.



### **Project Performance Indicators**

1. Valve Installation Completion Rate: Percentage of the five interconnect valves successfully installed within the project timeline.
2. Operational Efficiency Improvement: Reduction in operational delays or flow issues following valve replacement, measured by comparing pre- and post-project reports on system performance.
3. Emergency Flow Control Reliability: Successful testing and demonstration of emergency flow control capabilities, assessed by conducting flow redirection simulations and tracking response times.
4. Cost Savings on Maintenance: Reduction in unplanned maintenance costs compared to previous years, reflecting the effectiveness of preventative valve replacement in lowering reactive maintenance expenses.
5. Decrease in Service Disruptions: Number of unplanned service interruptions before and after project completion, indicating improved service continuity.
6. Extended Asset Life: Projected extension of lagoon infrastructure lifespan, measured by lifecycle assessments before and after valve replacement.
7. Environmental Compliance Incidents Number of environmental incidents or regulatory compliance issues reported, aiming for zero incidents post-installation.
8. Customer Satisfaction: Community feedback or satisfaction scores related to sewer service reliability, measured through post-project surveys or community engagement sessions.
9. Project Budget Adherence: Comparison of actual project costs to the approved budget, aiming for minimal or no budget overrun.
10. Project Timeline Adherence: Percentage of project milestones met on schedule, with the goal of completing the project within the established timeline.

Tracking these performance indicators will ensure the project achieves its goals of improving efficiency, reliability, environmental protection, and cost savings for the Kelly Lake Sewer infrastructure.

### **Assumptions**

1. Current Infrastructure Condition
2. Budget Availability
3. Project Timeline Feasibility
4. Supply Chain Reliability
5. Skilled Workforce Accessibility
6. Operational Downtime
7. Regulatory Compliance
8. Improved Performance and Extended Lifespan
9. No Major Environmental Events

These assumptions form the basis for project planning and implementation, providing a foundation for project expectations and outcomes. Adjustments may be needed if any assumption proves inaccurate.

### **Constraints**

1. Budget Limitations
2. Timeframe Restrictions:
3. Regulatory and Environmental Compliance
4. Operational Continuity
5. Weather and Seasonal Constraints
6. Supply Chain and Material Availability



7. Site Access and Safety:
8. Qualified Workforce Availability
9. Community and Stakeholder Expectations
10. Infrastructure Compatibility
11. Limited Downtime for Installation

These constraints define the boundaries within which the project team must operate, guiding decision-making and planning to ensure that objectives are achieved despite these limitations.

### **Project Milestones**

1. January 2025 -Issue Valve Replacement Tender
2. February 2025 – Award Contract for Valve Replacements
3. July 2025 – Start Construction on Valve Replacement project
4. September 2025 – Complete Project Close Out for Valve Replacement

### [Strategic Fit](#)

Organizational Effectiveness

### [Cost Benefits Analysis](#)

The Kelly Lake Sewer Infrastructure Project presents a clear financial and operational benefit, with a high return on investment. The project is expected to pay for itself within several years through reduced maintenance, avoided repair costs, and other savings. Additionally, it mitigates risks of environmental contamination and regulatory non-compliance, supporting sustainable service delivery and community well-being. Based on the significant cost savings and benefits, the project is a sound investment that aligns with long-term asset management and financial planning principles.

### [Alternatives Reviewed](#)

Business as Usual is an alternative option. Given the risk and lack of operations and maintenance programs, this alternative was rejected.

### [Approvals](#)

Regional Board Approval Resolution.



## Business Case

### Sewer System Infrastructure Monitoring and SCADA Upgrades

#### Executive Summary

##### Business Need

Ensuring that the sewer system infrastructure is properly monitored is critical for maintaining the continuity of service, ensuring its reliability, maximizing its effectiveness in managing wastewater, and preventing disruptions.

##### Expected Outcome

The project will produce a comprehensive report detailing the necessary next steps for overhauling the sewer systems, including a preliminary cost estimate, scope of work, and implementation schedule. This report will serve as the foundation for developing a tender package to solicit bids for the proposed upgrades.

##### Recommendation

Staff recommends procuring a consulting firm with expertise in wastewater infrastructure and SCADA systems. The consulting firm will conduct a thorough assessment, identify required improvements, and provide the PRRD with detailed information to support an informed decision regarding SCADA upgrades and system enhancements.

##### Justification

A comprehensive approach to upgrading the sewer infrastructure is critical. This approach minimizes the risk of cost overruns, ensures the inclusion of the latest technology, and leverages opportunities for enhanced system efficiency, ultimately providing greater value to customers and stakeholders by avoiding potential service interruptions and costly retrofitting.

#### The Team

| Team Member                               | Role   |
|---|--|
| General Manager of Environmental Services | To provide overall program oversight and provide direction and support for implementation, policy and procedure, procurement policies, and budgetary considerations.                 |
| Environmental Services Manager            | To provide a program outline, work with regulatory bodies to ensure compliance, and oversee the implementation of the project through contract management and operational oversight. |
| Field Services Foreman                    | To manage any Field Services support during dyke deconstruction.   |
| Environmental Services Coordinator        | To update/create site operation plans to reflect the addition of the equipment.  |



|                             |   |
|-----------------------------|---|
| <b>Procurement Officer</b>  | Assist with contracts and purchases.  |
| <b>IT Manager</b>           | Assist in the coordination and implementation of assessment and recommended technological improvements. |
| <b>City of Dawson Creek</b> | Coordinating access and providing historical data on the systems.                                       |

## Business Need Definition

### Problem Statement

Currently, the SCADA systems for the Charlie Lake, Kelly Lake, Rolla, Harper and Chilton Sewer systems are disjointed, lack reliable communication alerts, and are challenging to manage. Some of the systems rely on old Information technologies.

### Impacts

- Reduction In service response times during equipment failures and emergency events.
- Unnecessary overtime to physically check alarms and system alerts.
- When communications fail, staff must be dispatched, leading to Increased time and costs, and If not addressed promptly It can also result In equipment failure or overflow events.
- Equipment loss - \$25,000 minimum for a pump plus labour.
- Fines for spills and unsanctioned discharges.

## Project Overview

### Project

Sewer System Infrastructure Monitoring and SCADA Upgrades

### Project Description

Proper monitoring of the sewer system infrastructure is essential to ensure uninterrupted service, reliability, and efficiency in wastewater management, preventing costly disruptions. This project aims to assess the existing sewer infrastructure and recommend an overhaul. This will enable the PRRD (Peace River Regional District) to implement necessary SCADA (Supervisory Control and Data Acquisition) system upgrades for improved monitoring and control, enhancing overall service reliability.

### Project Budget

Department: Environmental Services

Division: Environmental Services



PEACE RIVER REGIONAL DISTRICT

Function: 601 – Charlie Lake Sewer, 602 – Chilton Sewer, 605 Harper-Imperial Sewer, 606 – Kelly Lake Sewer, 607 – Rolla Sewer

| Capital Expenses                     | 2025             | 2026     | 2027     | 2028     | 2029     | Summary          |
|--------------------------------------|------------------|----------|----------|----------|----------|------------------|
| Function 601 – Charlie Lake Sewer    | \$40,000         |          |          |          |          |                  |
| Function 602 – Chilton Sewer         | \$40,000         |          |          |          |          |                  |
| Function 605 – Harper Imperial Sewer | \$40,000         |          |          |          |          |                  |
| Function 606 – Kelly Lake Sewer      | \$40,000         |          |          |          |          |                  |
| Function 607 – Rolla Sewer           | \$40,000         |          |          |          |          |                  |
| <b>TOTAL</b>                         | <b>\$200,000</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>\$200,000</b> |

| Capital Funding Sources  | 2025             | 2026     | 2027     | 2028     | 2029     | Summary          |
|--|------------------|----------|----------|----------|----------|------------------|
| Function 601 – Charlie Lake Sewer –<br>Area C Community Gas Tax            | \$40,000         |          |          |          |          |                  |
| Function 602 – Chilton Sewer<br>Area B Peace River Agreement Funds         | \$40,000         |          |          |          |          |                  |
| Function 605 – Harper Imperial Sewer<br>Area B Peace River Agreement Funds | \$40,000         |          |          |          |          |                  |
| Function 606 – Kelly Lake Sewer<br>Area B Peace River Agreement Funds      | \$40,000         |          |          |          |          |                  |
| Function 607 – Rolla Sewer<br>Area B Peace River Agreement Funds           | \$40,000         |          |          |          |          |                  |
| <b>TOTAL</b>   | <b>\$200,000</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>-</b> | <b>\$200,000</b> |



### **Project Goals and Objectives**

- Increase communication efficiency
- Modernize infrastructure monitoring Infrastructure and software
- Reduce response costs
- Reduce infrastructure breakdown response costs

### **Project Performance Indicators**

Report deliverables by September 2025 within the allocated budget.

### **Assumptions**

- Information is readily available.
- Adequate tender responses.
- The allocated budget is sufficient to cover the project costs.
- Project team capacity is sufficient to support the project.

### **Constraints**

- Systems are spaced geographically sparse.
- Availability of necessary resources (e.g., skilled personnel, equipment, materials) can limit the pace and scale of the project.
- Stakeholder Expectations – Managing the needs, concerns, and input of stakeholders, which may impact decision-making and the project’s direction.
- Compliance and Regulations – Adhering to legal, environmental, and safety regulations that might impose additional requirements and influence project plans.
- Technology – Access to or limitations in technology can affect project choices, timelines, and methods, especially when specific technical solutions are required.
- Location – Geographic and environmental factors, such as accessibility and climate, which can pose logistical challenges or constraints in project execution.

### **Project Milestones**

|                 |  |
|-----------------|--|
| March 2025-     | Procurement Opens                        |
| April 2025      | Contract Award                           |
| May 2025        | Contract Kick-Off                        |
| May - September | Execution of Scope of Work               |
| September 2025  | Presentation of Recommendations to Board |





### Strategic Fit

#### Organizational Effectiveness

#### Cost Benefits Analysis

The cost of these items are to support reduce liability and increase operational efficiency.

#### Alternatives Reviewed

1. Maintain Business as Usual for the SCADA Assessments.

#### Approvals

Regional Board Approval Resolution