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REPORT TO CORE AREA LIQUID WASTE MANAGEMENT COMMITTEE MEETING OF WEDNESDAY, OCTOBER 7, 2020

SUBJECT 2019-2022 Wastewater Service Planning

ISSUE SUMMARY

To provide the Core Area Liquid Waste Management Committee with an overview of relevant initiatives undertaken by Integrated Water Services department in 2020 and planned for 2021 to deliver on approved Board Priorities and the Corporate Plan.

BACKGROUND

The CRD Board completed its strategic planning early in 2019 and approved the CRD Board Strategic Priorities 2019-2022.

The four priorities are:

1. Community Wellbeing – Transportation & Housing;
2. Climate Action & Environmental Stewardship;
3. First Nations Reconciliation; and
4. Advocacy, Governance & Accountability.

The priorities were confirmed at the annual check-in on May 13, 2020.

The 2019-2022 CRD Corporate Plan is aligned to the Board direction. It highlights the initiatives the CRD needs to deliver over the Board's four-year term to address the region's most important needs. The Corporate Plan identified six initiatives under the Wastewater initiative, that fall under the Core Area Liquid Waste Management Committee's mandate.

Appendix A *Community Need Summary - Wastewater 2021* is a summary of the planned activities for 2021. It contains details about core service levels, new initiatives proposed and performance metrics.

Appendix B *Wastewater - Initiatives Progress Report* provides insights into what has been delivered through the two delivery initiatives approved last year, for delivery in 2020.

The Service Planning process gathered information necessary to assemble a provisional budget for Committee and Board review. The purpose of this report is to explain how the adjustments to the work program connects to the Board Priorities, Corporate Plan and provisional budget.

ALTERNATIVES

Alternative 1

The Core Area Liquid Waste Management Committee recommends to the Capital Regional District Board:

That Appendix A Community Need Summary - Wastewater be approved as presented and advanced to the October 28, 2020 provisional budget review process.

Alternative 2

The Core Area Liquid Waste Management Committee recommends to the Capital Regional District Board:

That Appendix A Community Need Summary - Wastewater be approved as amended and advanced to the October 28, 2020 provisional budget review process.

IMPLICATIONS

Financial Implications

Initiatives identified in the Corporate Plan (including Board Priorities) cannot be undertaken without resourcing. The Board determines resourcing through its annual review and approval of financial plans. To support the Board's decision-making, staff, through the service planning process, provide recommendations on funding, timing and service levels.

During this years' service planning process, staff have been mindful of the fiscal challenges facing the region in the months ahead. To that end, budget increases or other impacts have been mitigated, where possible, however this has been particularly challenging with the preparation of a 'new' operating and capital budget for the service, given the uncertainties associated with the first year of operation of the McLoughlin WWTP. Although the majority of the new staff required to operate the new facilities were hired in 2019/2020, five staff positions were deferred to 2021 to help mitigate pre-operating costs and confirm operation and maintenance requirements and resource capacity.

Service Delivery Implications

The Community Need Summary provides an overview of all work that needs to be undertaken in order to meet our regulatory requirements, satisfy Board direction and meet the needs of the communities we serve.

Alignment with Board & Corporate Priorities

Staff have identified two initiatives that will have budget and/or staffing implications for 2021 (Table 1).

Table 1: Community Needs Summary - Wastewater, Delivery Initiatives

#	Initiative	Description	Year(s)	FTE impacts in 2021	Budget Impacts in 2021
8a-1.1	Wastewater Planning	Advance management of liquid waste management through a review and update of the core area liquid waste management plan	2021	0	Included in Provisional Budget
8a-1.1	Wastewater Management	Advance strategy for construction/maintenance of facilities	2021	4 Ongoing	Included in Provisional Budget
8a-1.2	Facilities Management Centralization Strategy	Facility operations and maintenance support for CAWTP facilities.	2021	1 Ongoing	Included in Provisional Budget
8a-1.3	Saanich Peninsula Liquid Waste Management Plan	Development of a detailed inflow and infiltration reduction program for the Peninsula	2021	0	Included in Provisional Budget

Blue highlighted areas are initiatives that directly address a Board Priority.

Delivery Initiatives

8a-1.1 Wastewater Planning

The recent changes to Core Area wastewater management need to be incorporated into an updated Liquid Waste Management Plan. The Plan was recently consolidated and audited and the next steps are to update the Plan (individual chapters) and revise the document in consultation with the regulator. This will also include some public consultation.

8a-1.1 Wastewater Management and 8a-1.2 Facilities Management Centralization Strategy

The CRD is responsible for implementing wastewater treatment in the Core Area. Construction of new and upgraded wastewater facilities will be completed in Q3 and Q4 of 2020. The new facilities will help protect the marine receiving environment by providing tertiary treatment for wastewater from the core area municipalities (Victoria, Esquimalt, Saanich, Oak Bay, View Royal, Langford and Colwood) and the Esquimalt and Songhees First Nations. This is the final stage of a large scale multi-year, capital project led by the CRD with funding assistance from the federal and provincial governments.

The operation of the new and upgraded facilities requires additional staff to ensure effective operations and maintenance of facilities going forward. To this end and building on new staffing

positions filled in 2019/2020, initiative 8a-1.1 seeks to create four ongoing positions in the Infrastructure Operations division and initiative 8a-1.2 seeks to create one additional position in the Facilities Management & Engineering Services division. These positions are critical to ensure adequate maintenance support for building systems, including safety inspections, and other operational duties. The positions will be filled between late 2020 and end of 2021.

8a-1.3 – Saanich Peninsula Liquid Waste Management Plan

A recent audit of the Saanich Peninsula Liquid Waste Management Plan has identified unfulfilled commitments to evaluate and manage inflow and infiltration (I&I) to the sanitary sewer. The Saanich Peninsula Wastewater system has not had any documented wet weather related overflows but inflow and infiltration increases as infrastructure ages so it would be prudent to manage this risk proactively.

This initiative seeks to develop a more detailed inflow and infiltration reduction program for the Peninsula. Developing flow calculations for each catchment area will allow the CRD and municipalities to plan and implement the most cost-effective capital upgrades/replacement program for the sanitary sewer infrastructure. This work will build on the 2020 work done to collect additional flow data and pinpoint areas with the highest inflow and infiltration levels in the Saanich Peninsula conveyance system.

CONCLUSION

Staff have been progressing initiatives and actions identified in the Corporate Plan, including Board Priorities. The Board determines resourcing through its annual review and approval of financial plans. As per previous years, to support the Board's decision-making, staff are providing recommendations on funding, timing and service levels through the service and financial planning processes. The comprehensive budget information for the Core Area Liquid Waste Management Service, including the above noted initiatives, is presented under a separate report to the Committee.

RECOMMENDATION

The Core Area Liquid Waste Management Committee recommends to the Capital Regional District Board:

That Appendix A Community Need Summary - Wastewater be approved as presented and advanced to the October 28, 2020 provisional budget review process.

Submitted by:	Ted Robbins, B. Sc., C. Tech., General Manager, Integrated Water Services
Submitted by:	Larisa Hutcheson, P. Eng., General Manager, Parks & Environmental Services
Concurrence:	Robert Lapham, MCIP, RPP, Chief Administrative Officer

ATTACHMENTS

Appendix A: Community Need Summary - Wastewater
Appendix B: Initiatives Progress Report - Wastewater

Wastewater

Strategy

Target Outcome

We envision efficient and effective management of the region's wastewater

Strategic Context

Strategies

- [Core Area Liquid Waste Management Plan](#)
- Transition to stable operation of McLoughlin Point Wastewater Treatment Plant and Residuals Treatment Facility
- Transition of residual solids from other wastewater treatment facilities to the Residuals Treatment Facility
- Continue to effectively operate and maintain the Saanich Peninsula Wastewater Treatment Plant.
- Continue to effectively operate and maintain five small wastewater systems in the Electoral Areas.

Trends, risks and issues

- Monitoring programs for new wastewater infrastructure in the Core Area to be implemented
- Enhanced Key Manhole study to inform CRD source control initiatives and wastewater operations to be completed 2021-2022.
- Biosolids short-term implementation, and long term planning, options analysis and pilot testing
- Transition of residual solids from other wastewater treatment facilities to the Residuals Treatment Facility
- Optimization of operation and maintenance of new infrastructure in the Core Area
- Continued onboarding of new staff to operate and maintain the new infrastructure
- Continue to operate and maintain the other wastewater infrastructure in the Core Area, Saanich Peninsula, and the Electoral Areas. This infrastructure is of various ages and in several cases large scale infrastructure renewal is required.
- Facilities Management's role in supporting maintenance of superstructures in wastewater is evolving.

Services

Core Services Levels	
Service	Levels
Core Area, Saanich Peninsula Wastewater Systems and Small Wastewater Systems in the Electoral Areas Services include wastewater conveyance and tertiary treatment for Core Area, and conveyance and secondary treatment for Saanich Peninsula, and the small wastewater systems in the Electoral Areas.	
Wastewater System Operations Wastewater treatment collection and transmission system operation and monitoring. System and facility maintenance, consumables management and preventative maintenance	<ul style="list-style-type: none"> Wastewater treatment System operation, monitoring and maintenance Consumables management
Emergency Response/System Failure Wastewater overflows and unplanned service interruptions	<ul style="list-style-type: none"> Wastewater overflows and public and environmental health protection Unplanned service interruptions
Capital Project Delivery and Works Project design, procurement and delivery of projects planned each year, on time and budget. Installations, equipment replacement and capital projects support	<ul style="list-style-type: none"> Capital program value for seven services Infrastructure renewal and upgrades Capital project support
Infrastructure planning Strategic asset management for all services/systems including modeling and capacity analysis, vulnerability assessment, infrastructure renewal plans.	<ul style="list-style-type: none"> Asset management Plans Manage capital plans for seven wastewater services
Engineering services Support of Infrastructure Operations through engineering services such as process, civil, electrical and mechanical troubleshooting	<ul style="list-style-type: none"> Engineering support of utility operations for the seven wastewater services.
Environmental Protection Regulatory and non-regulatory services and a support role across the organization that focuses on contaminant reduction, monitoring and assessment associated with liquid waste treatment.	
Regional Source Control Administration, monitoring, and reporting of compliance with regional bylaw	<ul style="list-style-type: none"> Inspect, monitor and enforcement for businesses and institutions connected to sanitary sewer Promote contaminant reduction associated with sanitary and stormwater systems.

Core Services Levels	
Service	Levels
<p>Core Area and Saanich Peninsula Wastewater & Marine Environmental Program</p> <p>Oversight for wastewater monitoring and assessment and reporting to meet regulatory requirements</p>	<ul style="list-style-type: none"> • Marine outfall monitoring, assessment and reporting services to demonstrate compliance with federal and provincial legislation • Update of Liquid Waste Management Plans
<p>Residuals Treatment Facility</p> <p>Administration of the Project Agreement for operation of the RTF and biosolids beneficial use strategy</p>	<ul style="list-style-type: none"> • Monitoring and compliance reporting
<p>Onsite Wastewater Management</p> <p>Regulatory oversight for onsite wastewater systems and education and outreach services across the region</p>	<ul style="list-style-type: none"> • Promote and monitor compliance with regional bylaw
<p>Septage Service</p> <p>Administration, monitoring and reporting of regional septage service</p>	<ul style="list-style-type: none"> • Negotiate and manage one septage disposal contract servicing the capital region
<p>Watershed Management Program</p> <p>Promote environmental stewardship associated with sanitary and stormwater systems, contaminants and flows</p>	<ul style="list-style-type: none"> • Promote public awareness and stewardship initiatives • Public education and engagement in the region to promote sustainable behavior through campaigns, initiatives and services
<p>Support Services</p> <p>The core services listed rely on the support of several corporate and support divisions to effectively operate on a daily basis. These services are reported on in the Accountability Community Need Summary.</p>	<ul style="list-style-type: none"> • Services include Human Resources & Corporate Safety, Corporate Communications, Asset Management, Financial Services, Information Technology & GIS, Information Services, Legislative Services, Facility Management, Fleet Management, Legal Services, Risk & Insurance and Real Estate Services.

2021 Summary

Initiatives					
Ref	Initiative	Description	Year(s)	Status	2021 impacts
8a-1	Wastewater Management through LWMP	Advance management of wastewater & storm water through liquid waste management planning & construction/ maintenance of facilities Update of Core Area and Saanich Peninsula liquid waste management plans	2020	Absorbed in Core, see 8a-1.1-3 for follow-on initiatives	
8a-1.1	Wastewater Management	New resources to support Core Area Wasterwater Treatment facility coming into service at the end of 2020 Biosolids short-term implementation, and long term planning, options analysis and pilot testing	2021	NEW Not started	4.0 Ongoing
8a-1.2	Facilities Centralization Strategy – FMW (CAWTP)	New facility operationas and maintenance support for Core Area Wasterwater Treatment facility coming into service at the end of 2020	2021	NEW Not started	1.0 Ongoing
8a-1.3	Saanich Peninsula Liquid Waste Management Plan – I&I	Develop detailed inflow and infiltration reduction program for the Peninsula	2021	NEW Not started	

*New – Initiatives not in the 2019-2022 Corporate Plan

Initiative approved in prior years which have now been delivered or absorbed in Core Services:

- 8a-2 – Stormwater Contaminant Sources

Business Model

Funding

Who contributes

- Core Area Municipalities (Colwood, Esquimalt, Langford, Oak Bay, Saanich, Victoria, View Royal) and Songhees and Esquimalt First Nations
- Saanich Peninsula Municipalities (Central Saanich, North Saanich, Sidney) and Saanich Peninsula First Nations Bands
- Local Wastewater Service Areas in the Electoral Areas
- Support Services: varies per service

Funding Sources

- Requisitions

Reporting Structure

- [Core Area Liquid Waste Management Committee](#)
- [Saanich Peninsula Wastewater Commission](#)

Community Need Key Performance Indicator (KPI)

Discussion

Link to Target Outcome

The following KPIs link to the CRD's goals of safe, resilient and environmentally sound wastewater conveyance and treatment for our customers in the Capital Region and protection of the environmental and public health. These KPIs are being established with new performance targets that will be reported in future service plans.

- Compliance with provincial and federal regulatory requirements and operational certificates
- Total volume of wastewater collected and treated
- Operating cost per megaliter of wastewater collected and treated
- Energy use per megalitre of wastewater treated
- Volume/percent of biosolids beneficially used
- Utilization of gas generated at the Residuals Treatment Facility
- Annual number of wet-weather related sanitary sewer overflow events from CRD systems (resulting in near-shore discharges/beach closures)
- Delivery of annual capital program
- Number of complaints related to operation (noise/odour)

Wastewater

Initiatives approved in 2020 Budget		
Ref	Initiative	Progress to date
8a-1	Wastewater Management through Liquid Waste Management Plan (LWMP)	<p>Progressing</p> <ul style="list-style-type: none"> Regulatory approval of new wastewater infrastructure discharges (McLoughlin WWTP and RTF) Implementation of short-term biosolids plan, initiated planning for long-term biosolids management. Audit of Core Area LWMP, to be followed by review and update of LWMP chapters.
8a-2	Stormwater Contaminant Sources	Part of core service delivery

* New - Initiatives not in the 2019-2022 Corporate Plan