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SAANICH PENINSULA WATER COMMISSION

Notice of Meeting on **Thursday, October 19, 2017 at 8:30 am**

Saanich Peninsula Treatment Plant Meeting Room, 9055 Mainwaring Road, North Saanich, BC

M. Williams
Z. King
M. Underwood

P. Wainwright
M. Lougher-Goodey
M. Weisenberger

R. Barnhart
C. Stock
R. Windsor

M. Doehnel
M. Thompson

AGENDA

1. Approval of Agenda
2. Adoption of Minutes of September 21, 2017
3. Chair's Remarks
4. Presentations/Delegations
 - No one has registered to speak
5. 2018 Service Plans Review Process (Report #SPWC2017-03)
6. 2018 Capital and Operating Budget (Report #SPWC2017-04)
7. Water Watch
8. New Business
9. Adjournment

Distribution:

Staff/Town Halls, etc.

R. Lapham
L. Hutcheson
N. Chan
A. Orr
G. Harris

T. Robbins
I. Jesney
M. McCrank
D. Puskas
D. Robson
S. Mason
M. Montague
Commission file

P. Robins, Central Saanich
R. Buchan, North Saanich
E. Toupin, North Saanich
T. Tanton, Sidney
R. Humble, Sidney

To ensure a quorum, advise Sharon at 250.474-9622 if you or your alternate cannot attend.

IWSS-928280410-5404



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MINUTES OF A MEETING OF THE SAANICH PENINSULA WATER COMMISSION
Held September 21, 2017 in the Saanich Peninsula Treatment Plant Meeting Room,
9055 Mainwaring Road, North Saanich, BC

PRESENT COMMISSIONERS: M. Williams, Z. King, R. Windsor, M. Doehnel, M. Thompson, M. Weisenberger, C. Stock, P. Wainwright, M. Underwood, S. Price

STAFF: T. Robbins, M. McCrank, I. Jesney, C. Lowe, S. Orr (recorder)

ABSENT: R. Windsor, M. Lougher-Goodey

The meeting was called to order at 8:31 am.

1. APPROVAL OF AGENDA

MOVED by Commissioner King, **SECONDED** by Commissioner Stock,
That the Saanich Peninsula Water Commission approve the agenda.

CARRIED

2. ADOPTION OF MINUTES

MOVED by Commissioner Stock, **SECONDED** by Commissioner Wainwright,
That the Saanich Peninsula Water Commission adopt the minutes of the May 18, 2017
meeting as distributed.

CARRIED

3. CHAIR'S REMARKS

The Chair stated that a budget meeting has been scheduled for October 19, 2017, at 8:30 am.

4. PRESENTATIONS/DELEGATIONS

There were no presentations/delegations.

5. GENERAL MANAGER'S REPORT

T. Robbins reported the following:

- The water supply outlook is good and the current capacity of the Sooke Lake Reservoir is at 73% even with the six week summer dry spell.
- The 25 km stretch of the premastran pipe replacement project on West Saanich Road started September 5th, and a hard hydrant is being installed as a post disaster water source. A First Nations cultural site may have been identified and a consultant has been retained to identify it as well as any other potential significant sites that may turn up during the project. A representative from the Tseycum First Nation is on site full time during the term of the project.
- The water quality lab at 479 Island Highway has been recognized by Canadian Association of Laboratory Accreditation Inc. for being approved to ISO standards which is a global standard used for environmental labs world-wide.

6. WATER WATCH

MOVED by Commissioner Price, **SECONDED** by Commissioner Stock,
That the Saanich Peninsula Water Commission receive the report for information.

CARRIED

7. NEW BUSINESS

A brief discussion took place about measuring carbon in agriculture.

There was no other new business.

8. ADJOURNMENT

MOVED by Commissioner Stock, **SECONDED** by Commissioner Thompson,
That the Saanich Peninsula Water Commission meeting be adjourned at 8:45 am.

CARRIED

CHAIR

**REPORT TO THE SAANICH PENINSULA WATER COMMISSION
MEETING OF THURSDAY, OCTOBER 19, 2017**

SUBJECT 2018 SERVICE PLANS REVIEW PROCESS

ISSUE

All departments of the Capital Regional District (CRD) are currently working on 2018 financial plans, to be presented to the Committee of the Whole in November. The financial planning process begins with service plans, which establish the work plans over a four year cycle; the current service plans cover 2016 through 2019. This cover report is developed to provide information on the planning process to all Standing Committees and various Commissions reviewing the service plans.

BACKGROUND

Reporting on the service and financial planning process began with a report to the September 6, 2017, Finance Committee, which provided a high level overview of organizational service planning and the themes that were prevalent thus far in the 2018 budget process (Appendix A).

The planning cycle is aligned with the four-year election cycle and includes multi-year budgets to establish a longer-term focus regarding the allocation of resources required to deliver the programs and services needed by the community, and to accomplish Board priorities.

Guided by the Board's strategic priorities, staff have developed multi-year service plans. Service plans outline core service information including key service drivers such as trends and assumptions, service levels, workforce considerations, and performance measures. These plans also highlight divisional initiatives and implications for the overall work program and budget for a specific area. This iterative process is intended to provide staff with an effective planning tool to deliver their work efficiently and enable the committees to assess proposed service levels and the implications of new initiatives. The presentation of service plans to the appropriate committee and commissions allows for a more detailed assessment of service delivery and programs. This process provides committees and commissions the opportunity to review work programs and recommend service level adjustments and/or initiatives. All adjustments and/or initiatives have been vetted organizationally with a focus on identifying opportunities to realign or reallocate resources and identify potential synergies or efficiencies between departments and services. Options to reduce service levels have also been reviewed as part of the service planning process.

Service plans drive the financial planning process and provide necessary information to evaluate overall organizational requirements, new initiatives, proposed service levels and implications for the budget and financial plan. Service plans are presented on an annual basis to all standing committees and commissions.

Under Board direction, the presentation of budgets is segregated between the Electoral Area Services Committee (EASC) or service commissions with delegated authority and the Committee of the Whole in November. The EASC and/or the service commissions are responsible for

reviewing and recommending approval to the Board for electoral area-only service budgets on November 1, 2017, while regional and sub-regional service budgets will be presented to the Committee of the Whole on November 29, 2017. Ultimately, the Board is responsible for approval of all of the service budgets.

ALTERNATIVES

Alternative 1

That the Saanich Peninsula Water Commission recommend to the Capital Regional District Board:

That the attached service plans be approved as presented.

Alternative 2

That the Saanich Peninsula Water Commission recommend to the Capital Regional District Board:

That the attached service plans be approved as amended.

IMPLICATIONS

2018 Financial Plans are being completed and will be presented for review and approval at the EASC and Committee of the Whole meetings in November. The Financial Plan will reflect the results of the committee review of service plans. The budget planning cycle is linked to the statutory five year financial plan which shows the planned contribution of operating revenue required to fund proposed capital projects together with planned borrowing and anticipated grants. The financial plan is developed to ensure consistency and alignment with the legislative authority of the various CRD services which, upon approval, provide the expenditure authority for the operations of the CRD.

Service plans being presented for approval are attached and outline additional resources required by department. Appendix B is a summary of additional FTE's being proposed and outlines the position and the source of funding.

CONCLUSION

The service and financial planning process are integral to providing ongoing service delivery. Departments have prepared service plans for presentation to the appropriate standing committee to provide a more detailed assessment and knowledge of service delivery and programs.

RECOMMENDATION

That the Saanich Peninsula Water Commission recommend to the Capital Regional District Board:

That the attached service plans be approved as presented.

Submitted by:	Ted Robbins, BSc, CTech, General Manager, Integrated Water Services
Concurrence:	Nelson Chan, MBA, CPA, CMA, Chief Financial Officer
Concurrence:	Robert Lapham, MCIP, RPP, Chief Administrative Officer

AD/TR:mm

Attachments:

Appendix A: 2018 Service Plan Summary Discussion report (September 6, 2017)

Appendix B: Service Plans Summaries

Appendix C: Service Plans

1. Infrastructure Engineering
2. Infrastructure Operations
3. Watershed Protection
4. Customer and Technical Services



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Appendix A

REPORT TO THE FINANCE COMMITTEE MEETING OF WEDNESDAY, SEPTEMBER 6, 2017

SUBJECT 2018 Service Plan Summary Discussion

ISSUE

A summary of organizational service planning information and themes that will be prevalent in the 2018 budget process is provided to allow for Finance Committee and Board discussion and to inform other Committees and Commissions.

BACKGROUND

The Capital Regional District (CRD) provides a broad range of services to businesses, institutions, organizations, visitors and over 378,000 residents of the region. Regional services are provided to the entire region; sub-regional services are provided to groups of participating municipalities, First Nations and three Electoral Areas; and local services are provided to individual municipalities, Electoral Areas or to defined areas within the region.

The planning process, which is outlined in Appendix A, begins with the development of the service plans covering a four year span, with the current service plans covering 2015-2019 and are updated each year to allow for changes, both internal and external to the organization. A service plan update summary is then developed to illustrate any deviations that have occurred from the previous year. The service plan summary outlines changes in assumptions, trends, and issues, highlights anticipated performance to budget, updates division initiatives, and outlines required service adjustments and staffing levels. The updated service plans and service plan summaries will be presented to committees and commissions throughout October and November

CRD services generally fall into one of three categories:

1. Regional services which have either been mandated due to regulatory requirements or established with clear advantages with respect to operating efficiency, planning and the ability to leverage and make effective use of capital investments;
2. Sub-regional services with oversight by commissions which recommend operating budgets (including transfers to reserve funds) and capital expenditure plans annually; and
3. Services that are provided to a defined area within the region, also with oversight by a Commission of volunteers.

The Priorities Dashboard tracks the implementation of Board and Corporate priorities. These priorities have resulted in investments for initiatives that accomplish Board objectives, respond to community needs, and improve efficiency while considering the overall fiscal capacity and maximizing the potential to leverage grants.

2018 Service Plan

The Corporate Service Plan Update Summary (Appendix B) provides an organizational overview of the service plan update summaries that will be reviewed by Committees and Commissions in October and November. Changes in Assumptions, Trends, and Other Issues categorizes the primary themes from all service plans into three groupings:

- a) Alignment to regulatory or legislative compliance,
- b) Impacts due to external situational factors, and
- c) Internal organizational impacts

Alignment to regulatory or legislative compliance

As the organization realizes continued growth, there is a need to realign the organization to reflect the scope and scale of similar local governments in administrative oversight, controls, regulatory and legislative frameworks.

The CRD is entering into increasingly complex partnering, operating, and third party agreements in support of strategic and corporate priorities. With Board endorsed policies on Climate Action, Risk & Asset Management as examples, the downstream impact of incorporating these emphases into all agreements is formidable. Furthermore, with many long term agreements expiring, there is a need to align renewed agreements with modern terms and conditions, and aforementioned Board supported policies and decisions. Through recent experiences this can result in challenging negotiations with existing providers.

There has also been an increase in recent years on the number of available grant opportunities in addition to the application, due diligence, and associated agreement requirements. Most funding programs require the recipient to adhere to stringent application, expenditure tracking and reporting guidelines, along with strict and often short deadlines.

Impacts due to external situational factors

External factors impacting the organization can have both positive and negative effects for the CRD and subsequently the municipalities and the region.

A strong and vibrant regional economy has resulted in a surge of development activity and population growth. The resulting direct and indirect impacts on current systems have led to a need for additional short and long term capital investment, various infrastructure improvements, and upgrades to maintain service levels within the region. Incremental ongoing operational maintenance, repairs and routine replacements will be required to support these systems as various services are impacted; for example, water connections and flow volume increases against current capacity. Subsequently, there is also an impact on internal staff capacity to maintain the pace of growth and expected service levels. Positively, development activity has resulted in additional revenue through increased volumes, in particular at Hartland landfill and wholesale water distribution.

Furthermore, a maturing organizational workforce combined with the capital region having one of the lowest unemployment rates in the country, will cause the CRD to continue to face challenges in staffing positions, especially those that require unique or specialized skills. This confluence will have both direct and indirect impacts on employee retention and turnover, vacancy duration, knowledge transfer, and transition periods of new personnel.

Internal organizational impacts

As the CRD has grown into a \$500M organization, it is well positioned to drive a renewed internal focus on organizational resilience in alignment with corporate and strategic priorities for effective and efficient service delivery.

In order to achieve this, an Organizational Development Plan was developed as a key deliverable and engagement tool to enhance organizational resilience and promote revitalization. The plan's

multi-year organization wide implementation is designed to ensure a high performing organization by building a culture that is engaged, responsive, adaptive and aligned with our service mandate. It supports the implementation of the 2015–2018 Corporate Plan and focuses on strengthening the foundational core of the organization through employee development, communication, and engagement.

In the third quarter of 2017, the Chief Administrative Officer was informed by the Auditor General for Local Government the CRD had been selected for a performance audit of the organization's business continuity and emergency plans and processes. The CRD plays a critical role in providing necessary services to the community and should be equipped to ensure a comprehensive, coordinated and organized approach to emergency management. The audit will assess the effectiveness of emergency management plans and programs and will focus on emergency management, business continuity management, and key elements including related policies and procedures. A key focus for the CRD will be on developing and refining business continuity and emergency planning systems, and will do so by following industry best practices that are relevant to the size and complexity of the organization.

Furthermore, there continues to be increases in the complexity of relationships with First Nations requiring further capacity building for CRD in deepening relationships. With current staffing levels, relationship building has been successful, but deeper engagement may be required for implementation of the Truth and Reconciliation Commission's (TRC) calls to action. There is also an operational need to involve First Nations in shared decision making moving forward.

IMPLICATIONS

Because of the size and complexity of the organization and distributed location of operations throughout the region, there are many agreements and contracts that are negotiated and held in different locations. There is currently no central repository for completed contracts, agreements, or records management. This creates a significant risk to the organization that agreements are or will expire without a renewed contract or that wording and language is outdated or in need of standardization. An appropriate system along with policies and procedures will safeguard the CRD and will improve the process of knowledge transfer and continuity.

Investing in the development of organizational systems and setting up relevant processes and procedures are necessary to manage business, financial and legislative risks. Creating standardized processes will also assist staff in supporting services in both efficiency and effectiveness. Optimal and even automated reporting procedures will contribute to reducing manual processes, reconciliations, and in turn decrease the risk of significant errors.

With the regional growth rate exceeding and expected to continue to exceed the national average over the next 25 years, the CRD must implement systems, infrastructure, and appropriate resources to meet the steady demand on mandated, directed, delegated, and contractual and emergency services. In response to these challenges, one avenue the CRD should consider is additional shared service opportunities among the municipalities, electoral areas, and partner agencies. There is ongoing engagement and discussion among the region's CAOs and staff to proactively identify such opportunities.

CONCLUSION

The service planning process is an integral component of implementing the Board's strategic priorities and providing ongoing service delivery. Service plans define the work that will be performed over a four year period and provide the foundation for building operating and capital budgets. This report has been developed to provide an overview of the themes that will be prevalent when reviewing the service plans and service plan summaries for 2018.

RECOMMENDATION

That the Finance Committee recommend to the Capital Regional District Board:

That the 2018 Service Plan Summary Discussion report be received for information and referred to Committees and Commissions for information as part of the 2018 service and financial planning process.

Submitted by:	Amber Donaldson, MA, CPA, CMA, Acting Senior Manager, Financial Services
Concurrence:	Nelson Chan, MBA, CPA, CMA, Chief Financial Officer
Concurrence:	Larisa Hutcheson, P.Eng., Acting Chief Administrative Officer

Appendix A: CRD Planning Process

Appendix B: Corporate Service Plan Update Summary

SERVICE NAME: Infrastructure Engineering

Changes in Assumptions, Trends, and Other Issues since 2017: (linked to section 1.3 and 1.4 of the detailed service plan)

The following are 3 major changes that are currently impacting service delivery:

Juan de Fuca Water Engineering and Planning

- This service is currently rolled up into Water Engineering and Planning and is serviced by a part-time manager (shared by Regional Water and local services). Prior to 2012, this group had a staff of 4 people, including a full time manager, a support engineer and two technical support staff. The service delivery was also restricted to the Juan de Fuca water (JDF) system only. It is recommended that the service be staffed by a full-time manager (also functions as review engineer), three technical support staff, and an administrative support person. Reasons for the change are:
 - The group now provides referral support services (both sewer and water) to all local services on the Southern Gulf Islands, as well as Port Renfrew.
 - The JDF system has grown dramatically over the past few years as growth in the West Shore communities has increased and is expected to continue to increase. This has resulted in increased referrals and development application reviews.
 - Additions to the JDF system have also become more complex due to the terrain now being developed with an increase in both reservoirs and pump stations. This results in more time being required to review technical submissions.
 - The software system that supports the service property and development data is no longer supported and the service is being changed over to new software (Tempest) that will require vast amounts of data entry to convert and ongoing data upkeep. There is also currently no front desk administrative support resulting in technical staff conducting filing and other administrative duties.
- To staff this service as suggested will require the addition of a management FTE (repurposed from elsewhere in IWS) as well as a FTE for the administrative support position.

Dam Safety (for all dams associated with CRD drinking water services)

- The dam safety function is currently provided in Water Engineering and Planning and provides service to all dams that are for the use of water provision, both regionally and for local services. Increased oversight by provincial regulators is resulting in more studies, designs, construction being carried out and resultant actions required to meet regulatory obligations. This results in increased funding for both operational and capital budgets. There is not a requirement for additional staff at this time since part of the current manager's time, which is allocated to the JDF system, will be available.

Wastewater Engineering and Planning

- This service currently serves the Core Area, Saanich Peninsula and local services as well as major project and technical support to Salt Spring Island. Staffing dedicated to this service consists of a manager, a senior engineer, a junior engineer (which is currently vacant) and a technical support person. Additional pressure on the service is the technical interaction with the delivery team for the Core Area Wastewater project. Besides not having enough staff to currently support the service, the service is being expanded with the addition of the McLoughlin treatment plant, major pumping stations at Clover Point and Macaulay, extensive conveyancing systems and ancillary works related to the project, which all began in 2017. Additional staff in the form of 2 FTE's are being requested in 2018. One is a draftsman/GIS technician that will lead the organization of the existing drawing system as well as incorporate the thousands of infrastructure design drawings expected from the project into the appropriate

system. The second is a junior engineer to support the operational and capital activities in all the wastewater systems that the service supports.

Overall 2017 Budget Performance: *(linked to budget forecast to year end)*

- There is a \$21,000 (5.2%) unfavourable variance due to additional efforts required to address regulatory demands that were not anticipated in the 2017 budget process. The unfavourable variance was partially offset by savings on salary costs, due to timing of filling a vacant position. This net overage is anticipated to be offset by higher than budgeted revenue from water sales within the RWS service.

Update to Division Initiatives: *(linked to section 3 of the detailed service plan)*

- There are no additional divisional initiatives to be added at this time.

Service Adjustments and Staffing Levels: *(linked to section 2 of the detailed service plan)*

- Proposed Staffing Changes (further justification provided in top box):
- 1 FTE Engineer 3 for Core Sewer Engineering Support to provide technical support for the ongoing Core Area wastewater projects including McLoughlin treatment plant, major pumping stations at Clover Point and Macaulay, extensive conveyancing systems and ancillary works related to the preceding. This FTE will be fully recovered from work on the Core Sewer operating and capital programs.
 - 1 FTE Draftsperson/GIS Technician for Core Sewer Engineering Support to develop and maintain drawing and GIS systems for current assets as well as the additional drawings and assets that will flow into the system from the Core Area wastewater project including McLoughlin treatment plant, major pumping station at Clover Point and Macaulay, extensive conveyancing systems and ancillary works related to the preceding which have started in 2017. This FTE will be fully recovered from work on the Core Sewer operating and capital programs.
 - 1 FTE Manager for Juan de Fuca Water Engineering and Planning to manage and lead the service as described in the top box in this document. This position is being repurposed from another division in IWS. This FTE will be fully recovered from work on the JDF Water Distribution operating budget.
 - 1 FTE Administrative Clerk for Juan de Fuca Water Engineering and Planning to provide administrative support and public interaction with the customers of the rapidly growing JDF water system. Also, to lead the implementation of Tempest as the new database system and monitor the new DCC collection process. This FTE will be fully recovered from work on the JDF Water Distribution operating budget.

Key Performance Indicators: *(linked to section 4 of the detailed service plan)*

Indicator Name	2017 Planned	2017 Projected	2018 Planned
	(Annual Target from Service Plan)	(Projected to year end)	(Revised/New Annual Target)
Service Goal: Reduce processing and response time	45 days	45 days	40 days

<p>Service Goal: Maintain strategic infrastructure investments</p>	<p>2015 – 3 plans 2016 – 4 plans 2017 – 5 plans 2018 – 4 plans</p>	<p>Previous 23 SAMP plans have been reduced to 16 plans with the elimination of Saltspring and the addition of SGI Harbours. Actual progress is: 2015 – 3 plans 2016 – 4 plans 2017 – 0 plans 2018 – 2 plans 2019 – 4 plans 2020 – 3 plans All 16 plans have been started and range in completion from 25% to 100%.</p>	<p>2015 – 100% 2016 – 100% 2017 – 0% 2018 – 100% 2019 – 100% 2020 – 100%</p>
<p>Service Goal: Ensure responsible delivery and completion of capital projects</p>	<p>80% of planned projects will have project plans and 90% will be delivered on budget and on schedule in accordance with the project plans</p>	<p>85% of planned projects will have project plans and 90% will be delivered on budget and on schedule in accordance with the project plans</p>	<p>85% of planned projects will have project plans and 90% will be delivered on budget and on schedule in accordance with the project plans</p>

Contact

Name: Ian Jesney

Title: Senior Manager, Infrastructure Engineering

Contact Information: 250.474.9502; ijesney@crd.bc.ca

SERVICE NAME: Infrastructure Operations

Changes in Assumptions, Trends, and Other Issues since 2017: (linked to section 1.3 and 1.4 of the detailed service plan)

- Wastewater: Infrastructure Operations is anticipating increased staffing requirements related to the large amount of wastewater infrastructure planned or under construction in the Core Area. This staffing requirement will begin to roll out in 2018 and continue through to full commissioning of the facilities, which is scheduled for the end of 2020. This will involve a combination of full-time permanent position development, as well as auxiliary positions in order to build the internal skill set in anticipation of hiring for permanent wastewater positions in 2019/20.
- Water: Stress on the operation and maintenance programs within the Greater Victoria Water Systems is being experienced. The Juan de Fuca Water Distribution system is experiencing a high rate of water infrastructure expansion to accommodate the high rate of development and population growth. The Regional Water Supply system infrastructure is aging which is resulting in an increased amount of maintenance attention.
- The Japan Gulch Water Treatment Plant upgrade will be completed in early 2018. The upgraded plant in addition to the recently commissioned emergency generator, will result in extra operating costs to the RWS.

Overall 2017 Budget Performance: (linked to budget forecast to year end)

- Regional Water Supply: There is an unfavourable variance of \$340,000 (9.7%) due largely to historically under-budgeted labour charges for Water Operations work performed in the service. This overage is anticipated to be offset by higher than budgeted revenue from water sales within RWS.
- Juan de Fuca Water Distribution: There is an unfavourable variance of \$292,000 (7.4%) as a result of the growing cost of inventory and supplies, and labour support from contractors for this service. This overage is anticipated to be offset by higher than budgeted revenue from water sales within JDFWD.
- Saanich Peninsula Water Supply: There is a \$36,000 (2.7%) favourable variance due mainly to projected underspends on overhead costs. Recommendation from the Commission is that year-end surpluses are to be transferred to the Capital Reserve Fund, which has a current balance of \$4,700,000.
- Saanich Peninsula Wastewater ~~Supply~~: There is a \$109,000 (3.3%) favourable variance due mainly to projected underspend on overhead costs, chemical, and waste sludge disposal. Recommendation from the Commission is that year-end surpluses are transferred to the Capital Reserve Fund, which has a current balance of \$3,695,000, except carry forward surplus to fund one time budget items in the following year.
- Core Area Wastewater: Anticipated year end budgets for Core Area are on track with an anticipated deficit of less than 1%.
- Local Service Areas (including SGI Harbours):
 - SGI Harbours – No significant variance to budget is anticipated.
 - SGI Water & Wastewater Utilities – There is a \$ 7,250 (5.4%) unfavorable variance in Lyall Harbour Boot Cove Water operating cost as a result of emergency maintenance. This will be offset with a reduction in transfer to capital reserves. The current balance of capital reserve is \$98,660. No other significant variances are expected in SGI services.
 - SSI Water & Wastewater Utilities – There is a \$15,000 (10.2%) unfavorable variance in Beddis Water operating cost and \$34,000 (13.1%) unfavorable variance in Highland / Fernwood Water as a result of emergency maintenance. This will be offset with an increase in transfer from maintenance reserve. No other significant variances are expected in SSI services.

- Juan de Fuca Electoral Area Utilities - No significant variance to budget is anticipated.

Revenue performance for the 3 Water Utilities:

- Regional Water Supply – Favourable revenue variance of \$405,000 (1.4%) due to higher water sales than budgeted. This additional revenue will be used largely to offset higher than anticipated total operating expenses in the service. Anticipated net surplus remaining of \$18,000 (0.06%) will be transferred to the services' Water Capital Fund per Commission direction.
- Juan de Fuca Water Distribution – Favourable revenue variance of \$750,000 (4.8%) due to higher water sales than budgeted. The additional revenue will be used to offset total operating and bulk water purchase overages. Anticipated net surplus of \$280,000 (1.8%) will be transferred to the services' Water Capital Fund.
- Saanich Peninsula Water Supply – Favourable revenue variance of \$27,345 (0.5%) due to higher water sales than budgeted. This additional revenue will be used to offset bulk water purchase overages. After operating cost savings, the anticipated net surplus of \$44,230 (0.7%) will be transferred to reserves per Commission direction.

Update to Division Initiatives: *(linked to section 3 of the detailed service plan)*

- Water Operations Review: Complete review of Operations and Maintenance programs for the water supply and distribution systems to determine the labour and cost balance between preventative maintenance programs for an increased quantity of assets and completing capital upgrades. (Regional Infrastructure Priority)

Service Adjustments and Staffing Levels: *(linked to section 2 of the detailed service plan)*

- 1.0 FTE (not additional): The service level and size of the Infrastructure Operations division is set to grow in the next 1-3 years with the addition of a large amount of wastewater infrastructure associated with the Core Area Wastewater Project. As a result, the Division will be divided in 2018 to have a service level focus – a) Water and b) Wastewater. This will result in an additional Senior Manager being hired such that there will be a Senior Manager, Water Infrastructure Operations and Senior Manager, Wastewater Infrastructure Operations. This exempt position will not impact the existing staff establishment chart as it is proposed that the previously approved Plant Manager position will be repurposed.
- Additional 1.0 FTE (no budget impact): McLoughlin WWTP Operations Supervisor – with the design, commissioning and operation of the new infrastructure beginning in 2017 and continuing into 2020, there is a need to hire a Supervisor of Operations for the WWTP. This FTE will be funded from committed funds from the CAWTP for the duration of the project. Noted in the bullet above is that the approved Plant Manager FTE will be repurposed, so the Plant Supervisor (CUPE position) is a new request.
- Additional 0.5 FTE: The Magic Lake Estates Water and Sewer Service requires an additional 0.5 FTE for an operator to complete the required operation and maintenance tasks for the new Water Treatment Plant and the aging wastewater infrastructure.
- Auxiliary and Student Seasonal Staff: The seasonal workload in the Core Water and Wastewater services require additional support staff in the form of students and auxiliary to complete operations and maintenance. In addition, the support staff will build internal knowledge base to potentially fill positions for the new core area wastewater treatment service.
- 2018-2020 Staffing and Service Increase: The staffing levels and new operations functions associated with the CAWTP infrastructure will begin to take effect in 2018 and into 2020. Though staffing levels are still to be finalized, this will result in approximately: 12 new operators for the WWTP; 2 new operators for the wastewater collection system; 2 new Electrical instrumentation and controls staff to support all new infrastructure; 2 new mechanical staff to support all new infrastructure.

- There is a noted need for a Facilities Maintenance Coordinator to develop and maintain operations and maintenance programs for the multitude of facilities within water and wastewater infrastructure operations.

Key Performance Indicators: (linked to section 4 of the detailed service plan)																																																			
Indicator Name	2017 Planned	2017 Projected	2018 Planned																																																
<p>Service Goal: Maintain high quality water and wastewater infrastructure.</p> <p>Maintenance: Planned Maintenance Completed</p>	94%	92%	96%																																																
<p>Service Goal: Ensure compliance with all regulatory requirements</p> <p>Regulatory Compliance: # Regulatory Contraventions for drinking water quality</p> <p>Regulatory Compliance: # Regulatory Contraventions for wastewater effluent quality exceedance</p>	<table border="1"> <tr><td>GVWS</td><td>0</td></tr> <tr><td>JDF EA</td><td>0</td></tr> <tr><td>SSI EA</td><td>0</td></tr> <tr><td>SGI EA</td><td>0</td></tr> </table> <table border="1"> <tr><td>SPWWTP</td><td>0</td></tr> <tr><td>JDF EA</td><td>0</td></tr> <tr><td>SSI EA</td><td>0</td></tr> <tr><td>SGI EA</td><td>0</td></tr> </table>	GVWS	0	JDF EA	0	SSI EA	0	SGI EA	0	SPWWTP	0	JDF EA	0	SSI EA	0	SGI EA	0	<table border="1"> <tr><td>GVWS</td><td>0</td></tr> <tr><td>JDF EA</td><td>0</td></tr> <tr><td>SSI EA</td><td>0</td></tr> <tr><td>SGI EA</td><td>0</td></tr> </table> <table border="1"> <tr><td>SPWWTP</td><td>0</td></tr> <tr><td>JDF EA</td><td>1</td></tr> <tr><td>SSI EA</td><td>5</td></tr> <tr><td>SGI EA</td><td>9</td></tr> </table>	GVWS	0	JDF EA	0	SSI EA	0	SGI EA	0	SPWWTP	0	JDF EA	1	SSI EA	5	SGI EA	9	<table border="1"> <tr><td>GVWS</td><td>0</td></tr> <tr><td>JDF EA</td><td>0</td></tr> <tr><td>SSI EA</td><td>0</td></tr> <tr><td>SGI EA</td><td>0</td></tr> </table> <table border="1"> <tr><td>SPWWTP</td><td>0</td></tr> <tr><td>JDF EA</td><td>0</td></tr> <tr><td>SSI EA</td><td>0</td></tr> <tr><td>SGI EA</td><td>0</td></tr> </table>	GVWS	0	JDF EA	0	SSI EA	0	SGI EA	0	SPWWTP	0	JDF EA	0	SSI EA	0	SGI EA	0
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<p>Service Goal: Ensure employees and contractors complete work safely</p> <p>Lost Time Incidents</p> <p># days lost</p> <p>Avg days lost per claim</p>	<p>≤ 8</p> <p>≤ 100</p> <p>≤ 12</p>	<p>6</p> <p>70</p> <p>12</p>	<p>≤ 7</p> <p>≤ 80</p> <p>≤ 10</p>																																																
<p>Financial Indicator: *</p> <p>Cost Recovery (Total Revenue/Total Cost) By Water Utility</p>	<table border="1"> <tr><td>RWS</td><td>1.000</td></tr> <tr><td>JDFWD</td><td>1.000</td></tr> <tr><td>SPWS</td><td>1.000</td></tr> </table>	RWS	1.000	JDFWD	1.000	SPWS	1.000	<table border="1"> <tr><td>RWS</td><td>1.001</td></tr> <tr><td>JDFWD</td><td>1.018</td></tr> <tr><td>SPWS</td><td>1.008</td></tr> <tr><td></td><td>32</td></tr> </table>	RWS	1.001	JDFWD	1.018	SPWS	1.008		32	<table border="1"> <tr><td>RWS</td><td>1.000</td></tr> <tr><td>JDFWD</td><td>1.000</td></tr> <tr><td>SPWS</td><td>1.000</td></tr> </table>	RWS	1.000	JDFWD	1.000	SPWS	1.000																												
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*data provided by Finance department

Contact

Name: Matt McCrank

Title: Senior Manager, Infrastructure Operations

Contact information: 250.474.9662; mmccrank@crd.bc.ca

SERVICE NAME: Watershed Protection

Changes in Assumptions, Trends, and Other Issues since 2017: (linked to section 1.3 and 1.4 of the detailed service plan)

- Preparation of the 2017 Regional Water Supply Strategic Plan has highlighted the need for detailed knowledge of the hydrological and biological parameters that affect future drinking water quantity and quality in the Leech Water Supply Area for the Regional Water Supply

Overall 2017 Budget Performance: (linked to budget forecast to year end)

- There is a one-time unfavourable variance of \$27,000 (1%) due to a contract wage increase related to USW Local-1937 (2013-2016). This variance may be offset by greater than expected revenue from staff on standby to the BC Wildfire Service.

Update to Division Initiatives: (linked to section 3 of the detailed service plan)

- Several projects in Resource Planning have been delayed, including the completion of the Watershed Assessment update, biological security strategy, and expansion of public and school tours of the GVWSA. Assistance in Resource Planning through the requested additional FTE would help ensure planned projects can be completed.
- The application for funding of a NSERC Network for Forested Drinking Water Source Protection Technologies was funded for 5 years with CRD as Strategic Network Partner.

Service Adjustments and Staffing Levels: (linked to section 2 of the detailed service plan)

- 1 FTE increase proposed for 2018 in Resource Planning for a Watershed Technologist/Information Officer to provide capacity for resource planning projects, hydrology field monitoring and public tour expansion.

Key Performance Indicators: (linked to section 4 of the detailed service plan)			
Indicator Name	2017 Planned	2017 Projected	2018 Planned
<p>Service Goal: Increase strategies and actions to protect the drinking water supply and improve access to catchment lands.</p> <ul style="list-style-type: none"> • Annual work on watershed roads: <ul style="list-style-type: none"> ○ Maintenance ○ Upgrades ○ Reclamation • Capital projects <ul style="list-style-type: none"> ○ % on time ○ % on budget 	<p>367 km 5 km 5 km</p> <p>100% on time 100% on budget</p>	<p>300 km 5 km 5 km</p> <p>73 % on time 73 % on budget</p>	<p>367 km 5 km 5 km</p> <p>100% on time 100% on budget</p>
<p>Service Goal: Increase public engagement and education efforts.</p> <ul style="list-style-type: none"> • Annual tours and participation 2015 = 682 	<p>23 tours 700 participants</p>	<p>29 tours 880 participants</p>	<p>36 tours 1080 participants</p>

Contact:

Name: Annette Constabel, MSc, RPF, PMP
 Title: Senior Manager, Watershed Protection
 Contact information: 250.391.3556, aconstabel@crd.bc.ca

<p>SERVICE NAME: Customer & Technical Services</p>
<p><i>Changes in Assumptions, Trends, and Other Issues since 2017:</i> (linked to section 1.3 and 1.4 of the detailed service plan)</p>
<p>The following are assumptions that have changed since 2017:</p> <ul style="list-style-type: none"> • The Safety Advisor position is being transferred to Human Resources as of 2018. The responsibility for the departmental safety program however will still reside within the CTS division and not with the Safety Advisor. • With the increased need for maintenance inspections of water and wastewater facility buildings, the assumption is that Facilities Management will provide support to Infrastructure Operations, and not Customer and Technical services.
<p><i>Overall 2017 Budget Performance:</i> (linked to budget forecast to year end)</p>
<ul style="list-style-type: none"> • Customer & Technical Services (CTS) and General Manager - There is a one-time favourable variance of \$199,000 (5%) due to underspending in consulting costs, contract for services, advertising, and wages and salaries due to one vacant position. This variance will be used to offset the unfavourable variance in the Central Fleet Program. • Central Fleet – There is a one-time unfavourable variance of \$140,000 (12.4%) due primarily to the timing of a 2016 expenditure (paid in 2017) related to the Maintenance Study funded as a one-time budget increase in 2016 and higher than normal costs for the Fleet Shop maintenance, safety, and vehicle transport. This variance will be offset by the positive variance in the CTS and General Manager budget above.
<p><i>Update to Division Initiatives:</i> (linked to section 3 of the detailed service plan)</p>
<ul style="list-style-type: none"> • Fleet Maintenance Study was completed in 2017 • Fleet Management Software is ongoing. Proposal received to review present systems functional capacity. • Fuel card implementation in progress. • Outstanding maintenance plans completed. • NWWBI 2015 data and reporting completed and 2016 draft data submitted.
<p><i>Service Adjustments and Staffing Levels:</i> (linked to section 2 of the detailed service plan)</p>
<ul style="list-style-type: none"> • 2018 – 1 FTE transferred to Human Resources. The safety advisor function will now report to the Safety Manager in Human Resources.

Key Performance Indicators: (linked to section 4 of the detailed service plan)			
Indicator Name	2017 Planned	2017 Projected	2018 Planned
<p>Service Goal: Increase knowledge and compliance with corporate fleet policies</p> <ul style="list-style-type: none"> Update 2007 Corporate Fleet Driver and Management policies and procedures 	Complete implementation plan	Appoint consultant	Complete policy review and update
<p>Service Goal: Contribute to corporate climate action objectives</p> <ul style="list-style-type: none"> GHG emissions data 	Implement a new data system using a Corporate-wide fuel card	Appoint service provider	Review system
<p>Service Goal: Maintain responsible management and maintenance of Corporate Fleet</p> <ul style="list-style-type: none"> Fleet Maintenance Study 	Issue a RFP for study and appoint consultant	Complete study	Implement relevant recommendations and standards

Contact

Name: Jan van Niekerk

Title: Senior Manager, Customer and Technical Services

Contact Information: 250.474.9655

Service Plan for Infrastructure Engineering

2016-2019

Capital Regional District

Date submitted: ~~October 7, 2015~~

Revised: ~~November 23, 2016~~ August 14, 2017



Making a difference...together

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1 Overview

1.1 Division & Service Summary

The Infrastructure Engineering Division provides water and wastewater utility planning, engineering services and capital project delivery for the Integrated Water Services Department. Technical services provided by the Division include:

- Strategic asset management planning
- Capital project delivery and project management
- Engineering design and drafting
- Survey and mapping
- Response to development servicing requests and underground utility referrals
- Engineering support to IWS Operations
- Dam safety inspections and administration
- Watershed hydrology and water supply planning

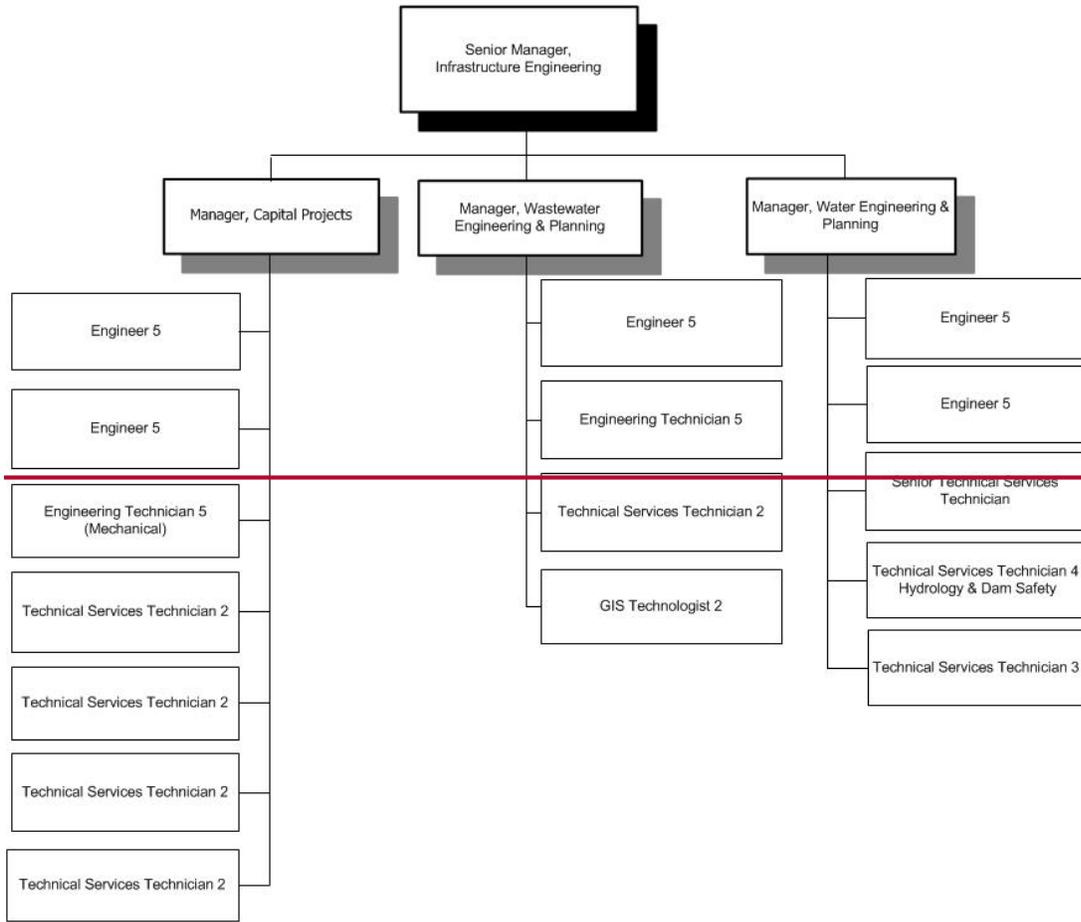
The above noted technical services are provided to the following CRD Services in the table below:

Service Purpose, Role or Overview	Participants	Funding Sources	CRD Board Committee and/or Commission Reporting Structure
Regional Water Supply Wholesale water supply to the 350,000 consumers in Greater Victoria supported through three key service areas: infrastructure planning, capital project delivery and engineering services.	<ul style="list-style-type: none"> • 4 Core Municipalities (Saanich, Victoria/Esquimalt, Oak Bay) • Saanich Peninsula • JDF Distribution 	Funded through bulk water sales revenue	Regional Water Supply Commission (Standing)
Juan de Fuca Water Distribution Retail water supply to 58,000 residents in the six municipalities in the Western Communities, Sooke, and 4 First Nations supported through three key service areas: infrastructure planning, capital project delivery and engineering services.	<ul style="list-style-type: none"> • 6 Municipalities (Langford, Colwood, View Royal, Metchosin, Sooke, portion of Highlands) • 4 First Nations • JDF Electoral Area 	Funded through retail water sales revenue	Juan de Fuca Water Distribution Commission (Standing)
Saanich Peninsula Water Wholesale water supply to residents in the three municipalities on the Saanich Peninsula supported through three key service areas: infrastructure planning, capital project delivery and engineering services.	<ul style="list-style-type: none"> • 3 Municipalities (Central Saanich, North Saanich, Sidney) 	Funded through wholesale water sales revenue	Saanich Peninsula Water Commission (Standing)

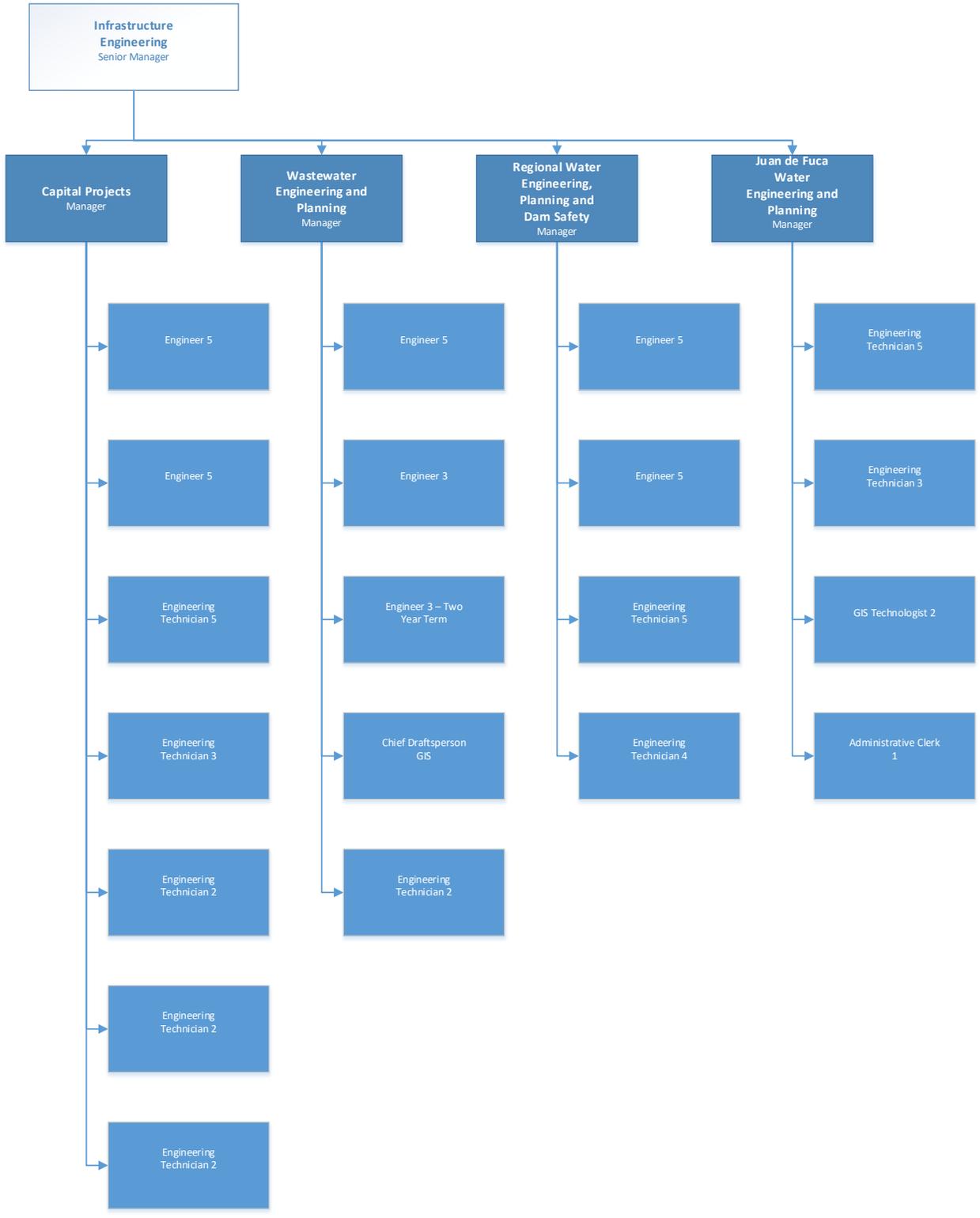
Service Purpose, Role or Overview	Participants	Funding Sources	CRD Board Committee and/or Commission Reporting Structure
<p>Core Area Wastewater Sub-regional wastewater conveyance, treatment, and disposal services in the Core Area supported through three key service areas: infrastructure planning, capital project delivery and engineering services.</p>	<ul style="list-style-type: none"> • 7 Municipalities (Colwood, Langford, Esquimalt, Oak Bay, Saanich, Victoria, View Royal) • Songhees Nation • Esquimalt Nation 	<p>Funded through tax requisition based on each participant's flow or design capacity</p>	<p>Core Area Liquid Waste Management Committee (Standing)</p>
<p>Saanich Peninsula Wastewater Sub-regional wastewater conveyance, treatment, and disposal services for the Saanich Peninsula municipalities, and other participants supported through three key service areas: infrastructure planning, capital project delivery and engineering services.</p>	<ul style="list-style-type: none"> • 3 Municipalities (Central Saanich, North Saanich, Sidney) • Peninsula First Nations • IOS and Victoria Airport 	<p>Funded through tax requisition based on each participant's flow or design capacity</p>	<p>Saanich Peninsula Wastewater Commission (Standing)</p>
<p>Local Services Local services in the JDF, SGI, and SSI Electoral Areas including 12 water systems, 4 sewer systems, 1 septage facility, 11 harbour facilities1-dock facility supported through three key service areas: infrastructure planning, capital project delivery and engineering services.</p>	<ul style="list-style-type: none"> • Small service area customers within JDF, SGI, and SSI Electoral Areas 	<p>Funded through parcel tax and user charges (fixed and variable)</p>	<p>Various Harbour, Water and Wastewater Local Service Commissions (Advisory Commissions)</p>

1.2 Organization Chart

~~Replace organization chart with new one below.~~



IWS Infrastructure Engineering



1.3 Key Trends, Issues & Risks – Service Specific

- **Infrastructure Renewal:** In general, sewer and water Infrastructure in North America has not been replaced at a sustainable rate. There is now an increased awareness of the “infrastructure deficit” and the need to replace system components, although funding is not in place for most services yet.
- **Climate Change:** As climate change occurs the summers are becoming hotter and drier and the winters are seeing more intense rain storms. This can lead towards water shortages in the summer and flooding and increased power outages in the winter. Therefore, water resources must be conserved and efficiently used throughout the region and infrastructure in flood prone areas needs to be designed with possible flooding in mind in addition to increased requirements for backup power.
- **Infrastructure Vulnerability and Emergency Preparedness:** As the region grows and the infrastructure networks age, key components of the system could become vulnerable to providing reliable service especially during an emergency situation. Plans need to be updated to mitigate risks, enhance reliability, and to be prepared.
- **Regulatory Changes:** Increased stringency of environmental, safety and electrical regulations are causing cost increases for capital projects and operating budgets. Of particular note are the Provincial requirements for dam safety and their impact on the variety of dams the service maintains and is required to improve.
- **Project Delivery:** To better meet the objectives and priorities of client’s needs and deliver more projects on time and on budget, the IE Division is exploring a number of procurement strategy options for capital projects. The design-build of the Japan Gulch Treatment Upgrade is an example of an alternative procurement option.
- **Infrastructure Growth:** To maintain client service at current levels, additional financial and personnel resources are required to meet rapid growth in a number of areas. Major growth areas that are now impacting the service are the rapid expansion of the Juan de Fuca water system and the addition of the Core Area Sewage facilities that are being delivered from now through 2020.

1.4 Link to Priorities

INTEGRATED WASTE MANAGEMENT

- realign resources to effectively deliver on Board directives relating to integrated waste management and develop an overarching integrated plan
- implement an assessment framework on integration opportunities, consider innovative approaches and report on the effectiveness of programs

CLIMATE CHANGE

- realign resources to effectively deliver on Board directives relating to climate change and implement policy and practices to demonstrate leadership in operations

DRINKING WATER

- protect and maintain an adequate supply of safe, reliable drinking water
- invest in the renewal and replacement of aging infrastructure to deliver an adequate supply of safe, reliable drinking water

REGIONAL INFRASTRUCTURE

- ensure that resources are available for investment in current and future infrastructure, demonstrating efficiency and value for money and meeting regulatory and service requirements
- develop and implement asset management planning framework and tools to continue proactive and responsible management of assets and infrastructure, both natural and engineered

CORPORATE DEVELOPMENT

- evaluate the use of innovative technologies and corporate support systems for continuous improvement and effective service delivery
- ensure CRD service delivery is effectively supported through the development of best practices
- enhance and ensure effective financial and audit reporting practices
- support continued investments in workforce education, training and development

2 Services

2.1 Service Levels

Service	Service Level Adjustments in Role/Scope				
	Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
Infrastructure planning	<ul style="list-style-type: none"> Complete long term Strategic Asset Management Plans (SAMP) for all service/systems. Plans to include modeling, capacity analysis, vulnerability assessment, emergency preparedness, infrastructure renewal plans, and financial plan for infrastructure replacement financing for 23 water and wastewater services. 	Complete 9 service SAMP	Complete 8 service SAMP	Review and Assess	Adjust to meet service delivery needs, as required
Capital project delivery and project management	<ul style="list-style-type: none"> Complete project design, procurement, and delivery of capital projects planned each year, on time and budget. 2015 capital program value for 23 services – approximately \$20 million 	Complete \$15M - \$20M program	Complete \$20M - \$25M program <u>Total capital program = \$34.2 M</u>	Complete \$20M-25M - \$25M-30M program <u>Total capital program = \$38.2 M</u>	Complete \$10M-25M \$20M-30M program <u>Program</u>
Engineering Design and Drafting	<ul style="list-style-type: none"> Ongoing services for development referrals; survey and mapping; engineering support to utility operations; Dam safety inspections and administration; Watershed hydrology and water supply planning 	Review and Assess	Adjust to meet service delivery needs, as required	Review and Assess	Adjust to meet service delivery needs, as required

2.2 Workforce Considerations

Service	Workforce (FTEs)				
	Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
Regional Water Engineering & Planning & Dam Safety	6.33	7.33	7.33	6.33 5.25	6.33 5.25
Juan de Fuca Water Engineering & Planning				5.25	5.25
Wastewater Engineering & Planning	5.33	5.33	5.33	5.33 6.25	6.25 5.33
Capital Project Engineering	8.33	8.33	8.33	8.33 8.25	8.25 8.33
Total	20	21	21	20 25	20 25

Supplemental Budget includes an allowance for retaining 1 staff on 2-year term engineer position to address upcoming workload demands over the next two years and including planning and execution the following initiatives/projects: Supply System Vulnerability Assessment, Strategic Asset Management Plans for all service areas, Japan Gulch Treatment Upgrade, and Ganges Wastewater Treatment Upgrade to support the growth in wastewater due to the Core Area Wastewater program. ~~—~~ The new 2-year term FTE is funded ~~entirely~~ from planned capital projects in various utility service areas operational and capital budgets related to wastewater. At the end of ~~2017~~2015, the current 5 year term engineer position (established for 5-year JDF fire flow upgrade program 2012-2016) ~~is proposed to be converted~~ into a permanent position.

3 Divisional Initiatives & Budget Implications

This section highlights important divisional initiatives over the next four years, including those initiatives related to delivery of 2015 – 2018 Board Strategic Priorities.

Title & Estimated Completion Date	Description	Priority Reference (if applicable)	Budget Implications
2016			
Wastewater Asset Management Plans	Complete Strategic Asset Management Plans for Core Area system and generate prioritized asset replacement in consideration of treatment program	Integrated Waste Management Regional Infrastructure Corporate Development	Capital Budgets
Small System Asset Management Plans	Complete Strategic Asset Management Plans for 9 Small Water and Wastewater Systems, generate prioritized asset replacement list; identify funding model for long-term asset replacement plans	Integrated Waste Management Drinking Water Regional Infrastructure Corporate Development	Capital Budgets
Saanich Peninsula Water System Asset Management Plan	Complete plan to establish long term strategy for infrastructure upgrades and financial plan	Integrated Waste Management Regional Infrastructure Corporate Development	Capital Budgets

Title & Estimated Completion Date	Description	Priority Reference (if applicable)	Budget Implications
JDF Water Distribution System Asset Management Plan	Plan to establish long term strategy for annual main and service replacement program, fire flow related upgrades, pump station and reservoir upgrades	Drinking Water Regional Infrastructure Corporate Development	Capital Budgets
JDF Water Distribution Water Audit	Complete system water audit that will review metering program and strategy, non-revenue water sources and quantification, demand analysis and water balance	Drinking Water	Capital Budgets
Regional Water Supply System - Strategic Plan	Complete studies to prepare for treatment and transmission sections of 2018-2019 strategic plan for water supply, including supply main condition assessment and replacement plan, hydraulic modeling and supply forecasting, water quality and filtration study, post disaster water supply requirements, supply system vulnerability update and dam safety improvements.	Drinking Water Corporate Development Regional Infrastructure	Capital Budgets
RWSC Upgrade Disinfection Process at Japan Gulch	Implement new methods of adding chlorine and ammonia to water for disinfection	Regional Infrastructure	Capital Budgets
2017			
Municipal Water and Wastewater Service Agreements	Establish master water and wastewater service agreements with municipalities across region.	Drinking Water Integrated Waste Management Corporate Development	Capital Budgets
Small System Asset Management Plans	Complete Strategic Asset Management Plans for 8 Small Water and Wastewater Systems, generate prioritized asset replacement list; identify funding model for long-term asset replacement plans	Integrated Waste Management Drinking Water Regional Infrastructure Corporate Development	Capital Budgets
2018			
Regional Water Supply Strategic Plan	Work with other IWS divisions in completion and release of plan	Drinking Water Regional Infrastructure Corporate Development	Capital Budgets
2019			
Utility Infrastructure Replacements	Update service capital and financial plans with 2016-2018 asset management plan recommendations	Regional Infrastructure	Capital Budgets

4 Goals & Performance Indicators

Service Goals	Indicators or Measures
Reduce processing and response time	<ul style="list-style-type: none"> Annual processing and response time for development servicing applications and utility referrals (baseline in 2015: response provided within 65 days of receipt). Target response within 60 days in 2016; 50<u>45</u> days in 2017; 40 days in 2018; and 30 days in 2019.
Maintain strategic infrastructure investments	<ul style="list-style-type: none"> Number of infrastructure replacement projects* Total value of infrastructure investment annually* Strategic asset management plans in place* (baseline in 2015: 6 plans). Target completion of 9 plans in 2016 and 8 plans in 2017.
Ensure responsible delivery and completion of capital projects	<ul style="list-style-type: none"> Percentage of capital projects completed on time and on budget* (target minimum 85% annually)

*Corporate indicator – multiple divisions may contribute to this measure

Please see revised table below.

KEY PERFORMANCE INDICATORS

Indicator Name	2016 <u>2017</u> Planned	2016 <u>2017</u> Projected	2017 <u>2018</u> Planned
	(Annual Target from Service Plan)	(Projected to year end)	(Revised/New Annual Target)
Reduce processing and response time	60 <u>45</u> days	50 <u>45</u> days	45 <u>40</u> days
Maintain strategic infrastructure investments	2015 – 6 <u>3</u> plans 2016 – 9 <u>4</u> plans 2017 – 8 <u>5</u> plans <u>2018 – 4 plans</u>	Previous 23 SAMP plans has been reduced to 16 plans with the elimination of Saltspring and the addition of SGI Harbours. Actual progress is: 2015 – 3 plans 2016 – 4 plans 2017 – 5 <u>0</u> plans 2018 – 4 <u>2</u> plans <u>2019 – 4 plans</u> <u>2020 – 3 plans</u> All 16 plans have been started and range in completion from 25% to 100%	2015 – 100% 2016 – 100% 2017 – 100 <u>0</u> % 2018 – 100% <u>2019 – 100%</u> <u>2020 – 100%</u>
Ensure responsible delivery and completion of capital projects	85% of capital projects completed on time and on budget <u>80% of planned projects will have project plans and 90% will be delivered on budget</u>	80 <u>85</u> % of planned projects will have project plans and 90% will be delivered on budget and on schedule in accordance with the project plans	<i>85% of planned projects will have project plans and 90% will be delivered on budget and on schedule in accordance with the project plans</i>

	<i>and on schedule in accordance with the project plans budget</i>		
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Contact

Name: Ian Jesney

Title: Senior Manager, Infrastructure Engineering

Contact information: 250.474.9502; ijesney@crd.bc.ca

Service Plan for Infrastructure Operations

2016-2019

Capital Regional District

Date submitted: October 7, 2015

Revised: ~~November 23, 2016~~ August 2017



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	Contact	9

1 Overview

1.1 Division & Service Summary

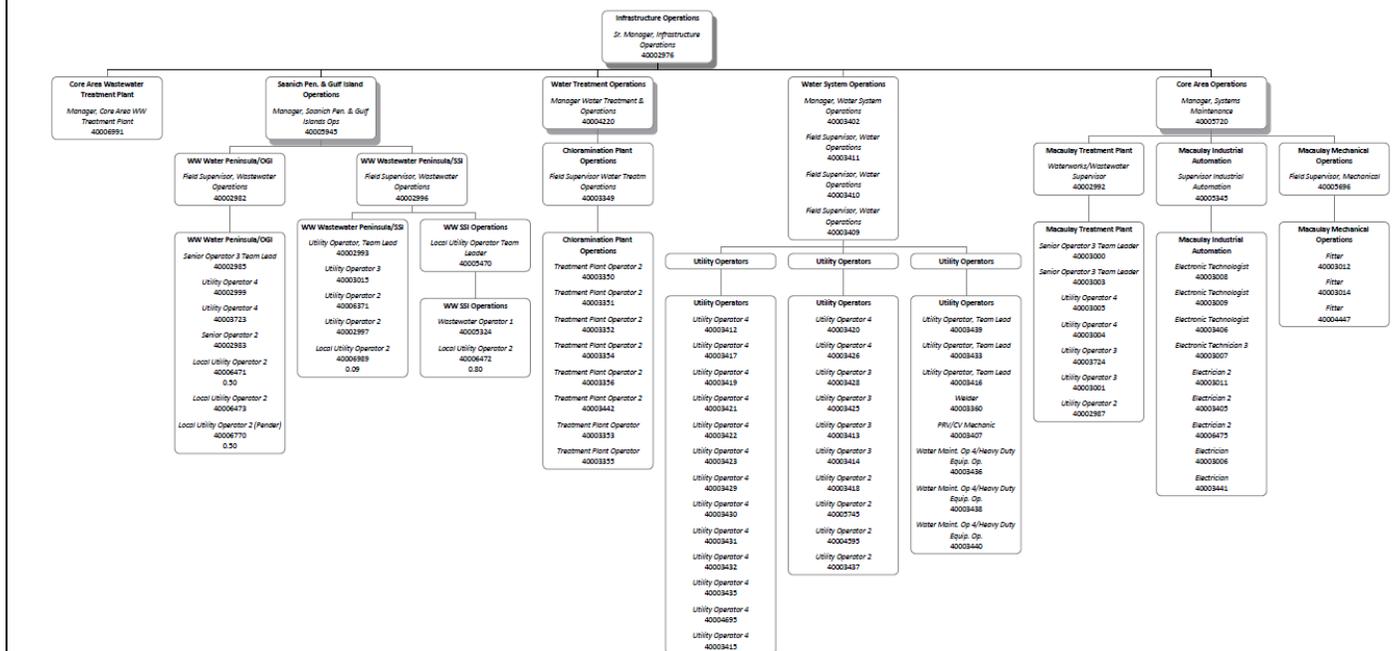
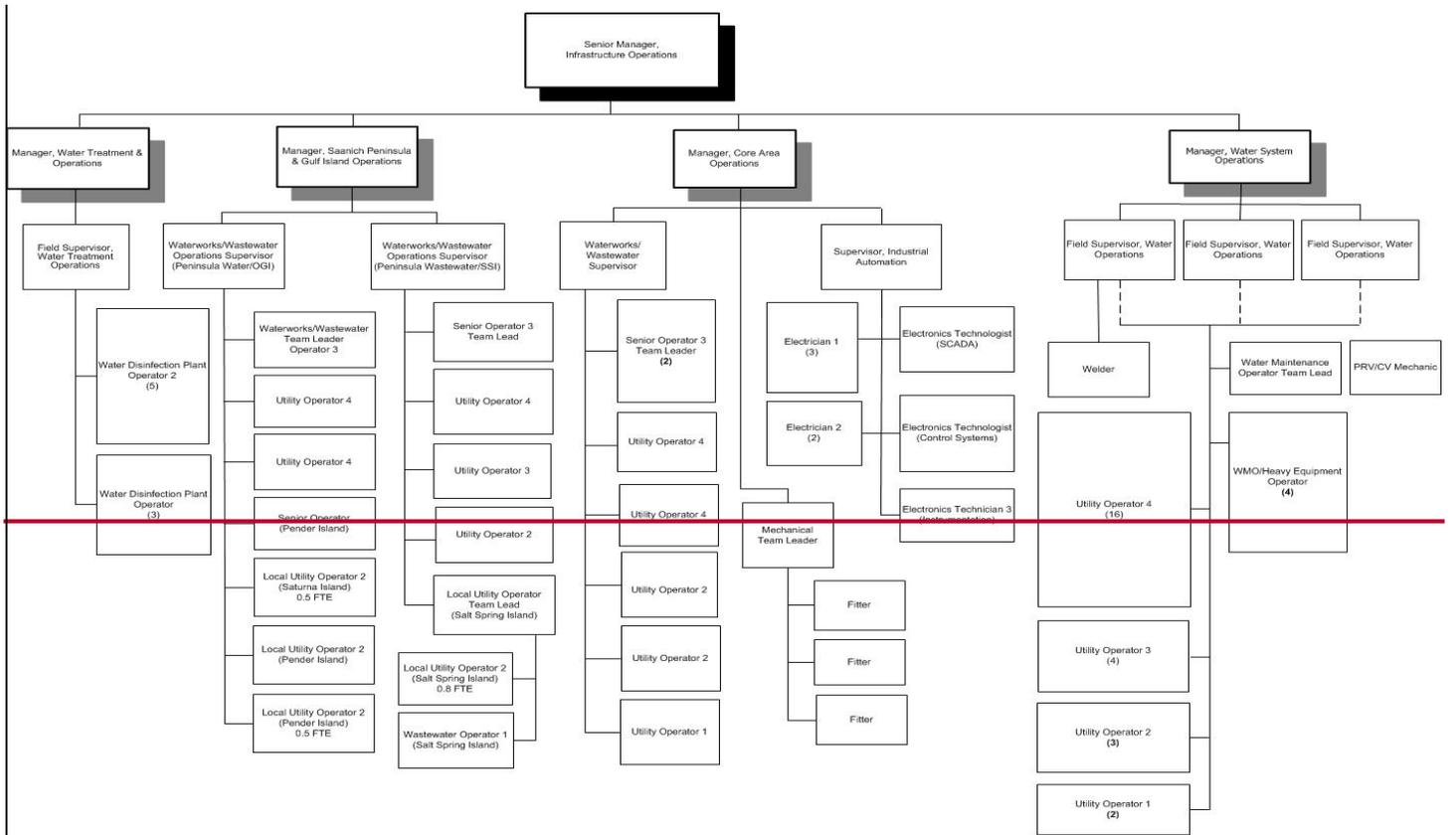
The Infrastructure Operations Division operates a number of drinking water and wastewater systems across the Capital Region, with a focus on providing clean and safe potable water, and wastewater collection and disposal services, while ensuring compliance with public health and environmental regulations.

The Division operates and proactively manages our infrastructure assets that exist in the following service areas: Regional Water Supply System, Juan de Fuca Water Distribution System Saanich Peninsula Water Supply System, Regional Trunk Wastewater, Saanich Peninsula Wastewater System, as well as 18 Local Service Area Small Water and Wastewater Systems in the electoral areas.

Service Purpose, Role or Overview	Participants	Funding Sources	CRD Board Committee and/or Commission Reporting Structure
<p>Regional Water Supply Wholesale water supply to the 350,000 consumers in Greater Victoria supported through four key service areas: Water and Wastewater System Operations, Water and Wastewater System Maintenance, Emergency Response/System Failure, and Capital Works.</p>	<ul style="list-style-type: none"> 4 Core Municipalities (Saanich, Victoria/Esquimalt, Oak Bay) Saanich Peninsula JDF Distribution 	<p>Funded through bulk water sales revenue</p>	<p>Regional Water Supply Commission (Standing)</p>
<p>Juan de Fuca Water Distribution Retail water supply to the 58,000 residents in the six municipalities in the Western Communities, Sooke, and 4 First Nations supported through four key service areas: Water and Wastewater System Operations, Water and Wastewater System Maintenance, Emergency Response/System Failure, and Capital Works.</p>	<ul style="list-style-type: none"> 6 Municipalities (Langford, Colwood, View Royal, Metchosin, Sooke, portion of Highlands) 4 First Nations JDF Electoral Area 	<p>Funded through retail water sales revenue</p>	<p>Juan de Fuca Water Distribution Commission (Standing)</p>
<p>Saanich Peninsula Water Wholesale water supply to residents in the three municipalities on the Saanich Peninsula supported through four key service areas: Water and Wastewater System Operations, Water and Wastewater System Maintenance, Emergency Response/System Failure, and Capital Works.</p>	<ul style="list-style-type: none"> 3 Municipalities (Central Saanich, North Saanich, Sidney) 	<p>Funded through wholesale water sales revenue</p>	<p>Saanich Peninsula Water Commission (Standing)</p>

Service Purpose, Role or Overview	Participants	Funding Sources	CRD Board Committee and/or Commission Reporting Structure
<p>Core Area Wastewater Sub-regional wastewater conveyance, treatment, and disposal services in the Core Area supported through four key service areas: Water and Wastewater System Operations, Water and Wastewater System Maintenance, Emergency Response/System Failure, and Capital Works.</p>	<ul style="list-style-type: none"> • 7 Municipalities (Colwood, Langford, Esquimalt, Oak Bay, Saanich, Victoria, View Royal) • Songhees Nation • Esquimalt Nation 	<p>Funded through tax requisition based on each participant's flow or design capacity</p>	<p>Core Area Liquid Waste Management Committee (Standing)</p>
<p>Saanich Peninsula Wastewater Sub-regional wastewater conveyance, treatment, and disposal services for the Saanich Peninsula municipalities, and other participants supported through four key service areas: Water and Wastewater System Operations, Water and Wastewater System Maintenance, Emergency Response/System Failure, and Capital Works.</p>	<ul style="list-style-type: none"> • 3 Municipalities (Central Saanich, North Saanich, Sidney) • Peninsula First Nations • IOS and Victoria Airport 	<p>Funded through tax requisition based on each participant's flow or design capacity</p>	<p>Saanich Peninsula Wastewater Commission (Standing)</p>
<p>Local Services Local services in the JDF, SGI, and SSI Electoral Areas including 12 water systems, 4 sewer systems, 1 septage facility, and 4 dock facility <u>11 harbour facilities</u> supported through four key service areas: Water and Wastewater System Operations, Water and Wastewater System Maintenance, Emergency Response/System Failure, and Capital Works.</p>	<ul style="list-style-type: none"> • Small service area customers within JDF, SGI, and SSI Electoral Areas 	<p>Funded through parcel tax and user charges (fixed and variable)</p>	<p>Various <u>Harbour</u>, Water and Wastewater Local Service Commissions (Advisory Commissions)</p>

1.2 Organization Chart



1.3 Key Trends, Issues & Risks – Service Specific

Core Area Wastewater Treatment Project – it is anticipated that Infrastructure Operations staff will be involved in the project, providing design input from an operational perspective in the early phases, to eventual commissioning and operation of the new facilities in the completion phases. Staffing requirements will increase as new facilities are completed.

Infrastructure Operations is anticipating increased staffing requirements related to the large amount of wastewater infrastructure planned or under construction in the Core Area. This staffing requirement will begin to roll out in 2018 and continue through to full commissioning of the facilities which is scheduled for the end of 2020. This will involve a combination of full time permanent position development as well as auxiliary positions in order to build the internal skill set in anticipation of hiring for permanent wastewater positions in 2019/20.

Local Service Area Operations and Capital Improvements – It is anticipated that Infrastructure Operations staff will be directly involved in the planning and completion of the many infrastructure improvement projects that are required across the Local Service Area water and wastewater systems, to address failing/aging infrastructure. The expected level of involvement will have an impact on available staff resources.

Worker Safety Regulatory Changes – Increasing worker safety regulatory changes result in increased training and certification requirements (ie. crane safety training and certification, fleet service vehicle driver training) and operating procedural changes (ie. confined space work procedures and safe excavation requirements) that have an impact on field productivity, but are critical to the work environment.

Workforce Planning – A focus on divisional workforce planning will be important to identify knowledge transfer opportunities and staffing levels necessary to operate new facilities requiring higher levels of EOCP certification and to backfill retirements in operating areas.

Water Operations: Additional financial resources are required to maintain the current level of service of operation and maintenance programs within the Greater Victoria Water Systems. The Juan de Fuca Water Distribution system is experiencing a high rate of water infrastructure expansion to accommodate the high rate of development and population growth. The Regional Water Supply system infrastructure is aging which is resulting in an increased amount of maintenance attention.

Water Treatment Operations: The Japan Gulch Water Treatment Plant upgrade will be completed in early 2018. The upgraded plant in addition to the recently commissioned emergency generator, will result in extra operating costs to the RWS.

1.4 Link to Priorities

CLIMATE CHANGE

- realign resources to effectively deliver on Board directives relating to climate change and implement policy and practices to demonstrate leadership in operations
- develop a climate framework to guide decision-making, establish a working group to identify climate change priorities and maximize partnerships

INTEGRATED WASTE MANAGEMENT

- realign resources to effectively deliver on Board directives relating to integrated waste management and develop an overarching integrated plan
- implement an assessment framework on integration opportunities, consider innovative approaches and report on the effectiveness of programs

DRINKING WATER

- protect and maintain an adequate supply of safe, reliable drinking water
- invest in the renewal and replacement of aging infrastructure to deliver an adequate supply of safe, reliable drinking water

REGIONAL INFRASTRUCTURE

- ensure that resources are available for investment in current and future infrastructure, demonstrating efficiency and value for money and meeting regulatory and service requirements
- develop and implement asset management planning framework and tools to continue proactive and responsible management of assets and infrastructure, both natural and engineered

CORPORATE DEVELOPMENT

- evaluate the use of innovative technologies and corporate support systems for continuous improvement and effective service delivery
- ensure CRD service delivery is effectively supported through the development of best practices
- enhance and ensure effective financial and audit reporting practices
- support continued investments in workforce education, training and development

2 Services

2.1 Service Levels

	Service Level Adjustments in Role/Scope				
Service	Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
Water and Wastewater System Operations	<ul style="list-style-type: none"> • Water and wastewater treatment; • supply and distribution system operation; • collection and transmission system operation; • system monitoring; • customer service 	Review and Assess	Adjust to meet service delivery needs, as required	Review and Assess	Adjust to meet service delivery needs, as required

Service	Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
Water and Wastewater System Maintenance	<ul style="list-style-type: none"> System and facility maintenance Consumables management Component preventative maintenance 	Review and Assess	Adjust to meet service delivery needs, as required	Review and Assess	Adjust to meet service delivery needs, as required
Emergency Response / System Failure	<ul style="list-style-type: none"> Water main breaks; wastewater overflows; unplanned service interruptions 	Review and Assess	Adjust to meet service delivery needs, as required	Review and Assess	Adjust to meet service delivery needs, as required
Capital Works	<ul style="list-style-type: none"> Main installations; equipment replacement; capital projects support 	Review and Assess	Adjust to meet service delivery needs, as required	Review and Assess	Adjust to meet service delivery needs, as required

2.2 Workforce Considerations

Service	Workforce (FTEs)				
	Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
Water Operations	36.5	36.5	36.5	36.5 37	36.5 37
Core Area Wastewater Operations	23.5	23.5	23.5	23.5 25	23.5 25
Saanich Peninsula & Gulf Islands Operations	16.8	16.8	16.8	16.8 17.3	16.8 17.3
Water Treatment Operations	10	10	10	10	10
Total	86.8	86.8	86.8	86.8 89.3	86.8 89.3

Note: Senior Manager FTE split 0.5 (Water Operations) and 0.5 (Core/Saanich Peninsula Operations)

3 Divisional Initiatives & Budget Implications

Title & Estimated Completion Date	Description	Priority Reference (if applicable)	Budget Implications
2016 - 2019			
Water and Wastewater Asset Management Plans To be completed by end of <u>2017-2020</u>	As part of the comprehensive asset management planning work, develop long term operations and maintenance plans and corresponding financial plans for each utility – JDF Water, Saanich Peninsula Water, Core Area Wastewater, 18 local services.	Integrated Waste Management Drinking Water Regional Infrastructure	Core Budget

Disaster Response Plan for water supply and distribution To be completed by end of 2017	Establish and implement disaster response plan and emergency water supply and distribution plan in collaboration with Infrastructure Engineering	Drinking Water Regional Infrastructure Protective Services	Capital Budget
<u>Title & Estimated Completion Date</u>	<u>Description</u>	<u>Priority Reference (if applicable)</u>	<u>Budget Implications</u>
<u>2016 - 2019</u>			
Cross Sectional Training and Development Project To be completed annually though 2019	Work with employees that are interested in opportunities to enhance their skills and abilities in other Infrastructure Operations work sections.	Corporate Development	Core Budget
Standard Master Operating Procedure Manuals To be completed by end of 2019	Develop master operating procedure manuals for the major and small utility systems – Regional Water Supply System, Juan de Fuca Water, Saanich Peninsula Water, Core Area Waste Water, Saanich Peninsula Waste Water, Local Service Areas	Drinking Water Regional Infrastructure	Core Budget
<u>Water Operations Review</u>	<u>Review of Operations and Maintenance programs to determine balance between preventative maintenance and capital projects in terms of labour and costs.</u>	<u>Drinking Water</u> <u>Regional Infrastructure</u>	<u>Core Budget</u>

4 Goals & Performance Indicators

Service Goals	Indicators or Measures
Maintain high quality water and wastewater infrastructure	<ul style="list-style-type: none"> • Sustainable asset funding plans in place* • Complete 94% planned maintenance projects annually • Reduce the number of unplanned non-weather related wastewater overflows/bypasses annually (target no more than 1 overflow/bypasses annually by 2019) • Reduction in number of unplanned interruptions to water services each year* (baseline 2015)
Ensure compliance with all regulatory requirements	<ul style="list-style-type: none"> • Annual volume of drinking water supplied in compliance with water quality guidelines and regulations* • 100% Compliance with Island Health, Provincial and Federal drinking water health guidelines in all water service areas

	<ul style="list-style-type: none"> • 100% Compliance rate with operating permit conditions for all wastewater system operating permits
Contribute to integrated resource management objectives	<ul style="list-style-type: none"> • Qualitative observations on demonstrated progress toward integration of liquid and solid wastes*

*Corporate indicator – multiple divisions may contribute to this measure

Please see updated table of Performance Indicators below.

KEY PERFORMANCE INDICATORS

Indicator Name	2016-2017 Planned	2016-2017 Projected	2017-2018 Planned																								
Maintenance: Planned Maintenance Completed	94%	90% 2%	96 %																								
Regulatory Compliance: ¹ # Regulatory Contraventions for drinking water quality	<table border="1"> <tr><td>GVWS</td><td>0</td></tr> <tr><td>JDF EA</td><td>0</td></tr> <tr><td>SSI EA</td><td>0</td></tr> <tr><td>SGI EA</td><td>0</td></tr> </table>	GVWS	0	JDF EA	0	SSI EA	0	SGI EA	0	<table border="1"> <tr><td>GVWS</td><td>0</td></tr> <tr><td>JDF EA</td><td>1</td></tr> <tr><td>SSI EA</td><td>0</td></tr> <tr><td>SGI EA</td><td>1</td></tr> </table>	GVWS	0	JDF EA	1	SSI EA	0	SGI EA	1	<table border="1"> <tr><td>GVWS</td><td>0</td></tr> <tr><td>JDF EA</td><td>0</td></tr> <tr><td>SSI EA</td><td>0</td></tr> <tr><td>SGI EA</td><td>0</td></tr> </table>	GVWS	0	JDF EA	0	SSI EA	0	SGI EA	0
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Regulatory Compliance: ¹ # Regulatory Contraventions for wastewater effluent quality exceedance	<table border="1"> <tr><td>SPWWTP</td><td>0</td></tr> <tr><td>JDF EA</td><td>0</td></tr> <tr><td>SSI EA</td><td>0</td></tr> <tr><td>SGI EA</td><td>0</td></tr> </table>	SPWWTP	0	JDF EA	0	SSI EA	0	SGI EA	0	<table border="1"> <tr><td>SPWWTP</td><td>0</td></tr> <tr><td>JDF EA</td><td>01</td></tr> <tr><td>SSI EA</td><td>45</td></tr> <tr><td>SGI EA</td><td>09</td></tr> </table>	SPWWTP	0	JDF EA	0 1	SSI EA	4 5	SGI EA	0 9	<table border="1"> <tr><td>SPWWTP</td><td>0</td></tr> <tr><td>JDF EA</td><td>0</td></tr> <tr><td>SSI EA</td><td>0</td></tr> <tr><td>SGI EA</td><td>0</td></tr> </table>	SPWWTP	0	JDF EA	0	SSI EA	0	SGI EA	0
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SPWWTP	0																										
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SGI EA	0																										
Safety: ² Lost time incidents ² # days lost ² Avg days lost per claim	\leq 40 8 \leq 420 100 \leq 45 12	8 6 400 70 43 12	\leq 8 7 \leq 400 80 \leq 42 10																								
<u>Financial:</u> ³ Cost Recovery (Total Revenue/Total Costs)	<table border="1"> <tr><td><u>RWS</u></td><td><u>1.0</u></td></tr> <tr><td><u>JDFWD</u></td><td><u>1.0</u></td></tr> <tr><td><u>SPWS</u></td><td><u>1.0</u></td></tr> </table>	<u>RWS</u>	<u>1.0</u>	<u>JDFWD</u>	<u>1.0</u>	<u>SPWS</u>	<u>1.0</u>	<table border="1"> <tr><td><u>RWS</u></td><td><u>1.0</u></td></tr> <tr><td><u>JDFWD</u></td><td><u>1.0</u></td></tr> <tr><td><u>SPWS</u></td><td><u>1.0</u></td></tr> </table>	<u>RWS</u>	<u>1.0</u>	<u>JDFWD</u>	<u>1.0</u>	<u>SPWS</u>	<u>1.0</u>	<table border="1"> <tr><td><u>RWS</u></td><td><u>1.0</u></td></tr> <tr><td><u>JDFWD</u></td><td><u>1.0</u></td></tr> <tr><td><u>SPWS</u></td><td><u>1.0</u></td></tr> </table>	<u>RWS</u>	<u>1.0</u>	<u>JDFWD</u>	<u>1.0</u>	<u>SPWS</u>	<u>1.0</u>						
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¹ Note that these KPI's have been updated from % compliance to number of Regulatory Contraventions.

² Note that these KPI's have been updated from only Lost Time Injuries to additional metrics to reflect the severity of the incident.

³ Note that this financial indicator is presented for each of the three Water Utility services, and is not limited solely to Infrastructure Operations. It relates to the expected financial performance of the relevant service as a whole.

Contact

Name: Matt McCrank
 Title: Senior Manager, Infrastructure Operations
 Contact information: 250.474.9662; mmccrank@crd.bc.ca

Service Plan for Infrastructure Operations

2016-2019

Capital Regional District

Date submitted: October 7, 2015

Revised: ~~November 23, 2016~~ August 2017



Making a difference...together

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Making a difference...together

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1 Overview

1.1 Division & Service Summary

The Infrastructure Operations Division operates a number of drinking water and wastewater systems across the Capital Region, with a focus on providing clean and safe potable water, and wastewater collection and disposal services, while ensuring compliance with public health and environmental regulations.

The Division operates and proactively manages our infrastructure assets that exist in the following service areas: Regional Water Supply System, Juan de Fuca Water Distribution System Saanich Peninsula Water Supply System, Regional Trunk Wastewater, Saanich Peninsula Wastewater System, as well as 18 Local Service Area Small Water and Wastewater Systems in the electoral areas.

Service Purpose, Role or Overview	Participants	Funding Sources	CRD Board Committee and/or Commission Reporting Structure
<p>Regional Water Supply Wholesale water supply to the 350,000 consumers in Greater Victoria supported through four key service areas: Water and Wastewater System Operations, Water and Wastewater System Maintenance, Emergency Response/System Failure, and Capital Works.</p>	<ul style="list-style-type: none"> 4 Core Municipalities (Saanich, Victoria/Esquimalt, Oak Bay) Saanich Peninsula JDF Distribution 	<p>Funded through bulk water sales revenue</p>	<p>Regional Water Supply Commission (Standing)</p>
<p>Juan de Fuca Water Distribution Retail water supply to the 58,000 residents in the six municipalities in the Western Communities, Sooke, and 4 First Nations supported through four key service areas: Water and Wastewater System Operations, Water and Wastewater System Maintenance, Emergency Response/System Failure, and Capital Works.</p>	<ul style="list-style-type: none"> 6 Municipalities (Langford, Colwood, View Royal, Metchosin, Sooke, portion of Highlands) 4 First Nations JDF Electoral Area 	<p>Funded through retail water sales revenue</p>	<p>Juan de Fuca Water Distribution Commission (Standing)</p>
<p>Saanich Peninsula Water Wholesale water supply to residents in the three municipalities on the Saanich Peninsula supported through four key service areas: Water and Wastewater System Operations, Water and Wastewater System Maintenance, Emergency Response/System Failure, and Capital Works.</p>	<ul style="list-style-type: none"> 3 Municipalities (Central Saanich, North Saanich, Sidney) 	<p>Funded through wholesale water sales revenue</p>	<p>Saanich Peninsula Water Commission (Standing)</p>

Service Purpose, Role or Overview	Participants	Funding Sources	CRD Board Committee and/or Commission Reporting Structure
<p>Core Area Wastewater Sub-regional wastewater conveyance, treatment, and disposal services in the Core Area supported through four key service areas: Water and Wastewater System Operations, Water and Wastewater System Maintenance, Emergency Response/System Failure, and Capital Works.</p>	<ul style="list-style-type: none"> • 7 Municipalities (Colwood, Langford, Esquimalt, Oak Bay, Saanich, Victoria, View Royal) • Songhees Nation • Esquimalt Nation 	<p>Funded through tax requisition based on each participant's flow or design capacity</p>	<p>Core Area Liquid Waste Management Committee (Standing)</p>
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1.3 Key Trends, Issues & Risks – Service Specific

Core Area Wastewater Treatment Project – it is anticipated that Infrastructure Operations staff will be involved in the project, providing design input from an operational perspective in the early phases, to eventual commissioning and operation of the new facilities in the completion phases. Staffing requirements will increase as new facilities are completed.

Infrastructure Operations is anticipating increased staffing requirements related to the large amount of wastewater infrastructure planned or under construction in the Core Area. This staffing requirement will begin to roll out in 2018 and continue through to full commissioning of the facilities which is scheduled for the end of 2020. This will involve a combination of full time permanent position development as well as auxiliary positions in order to build the internal skill set in anticipation of hiring for permanent wastewater positions in 2019/20.

Local Service Area Operations and Capital Improvements – It is anticipated that Infrastructure Operations staff will be directly involved in the planning and completion of the many infrastructure improvement projects that are required across the Local Service Area water and wastewater systems, to address failing/aging infrastructure. The expected level of involvement will have an impact on available staff resources.

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Workforce Planning – A focus on divisional workforce planning will be important to identify knowledge transfer opportunities and staffing levels necessary to operate new facilities requiring higher levels of EOCP certification and to backfill retirements in operating areas.

Water Operations: Additional financial resources are required to maintain the current level of service of operation and maintenance programs within the Greater Victoria Water Systems. The Juan de Fuca Water Distribution system is experiencing a high rate of water infrastructure expansion to accommodate the high rate of development and population growth. The Regional Water Supply system infrastructure is aging which is resulting in an increased amount of maintenance attention.

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- ensure CRD service delivery is effectively supported through the development of best practices
- enhance and ensure effective financial and audit reporting practices
- support continued investments in workforce education, training and development

2 Services

2.1 Service Levels

	Service Level Adjustments in Role/Scope				
Service	Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
Water and Wastewater System Operations	<ul style="list-style-type: none"> • Water and wastewater treatment; • supply and distribution system operation; • collection and transmission system operation; • system monitoring; • customer service 	Review and Assess	Adjust to meet service delivery needs, as required	Review and Assess	Adjust to meet service delivery needs, as required

Service	Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
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Emergency Response / System Failure	<ul style="list-style-type: none"> Water main breaks; wastewater overflows; unplanned service interruptions 	Review and Assess	Adjust to meet service delivery needs, as required	Review and Assess	Adjust to meet service delivery needs, as required
Capital Works	<ul style="list-style-type: none"> Main installations; equipment replacement; capital projects support 	Review and Assess	Adjust to meet service delivery needs, as required	Review and Assess	Adjust to meet service delivery needs, as required

2.2 Workforce Considerations

Service	Workforce (FTEs)				
	Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
Water Operations	36.5	36.5	36.5	36.5 37	36.5 37
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Note: Senior Manager FTE split 0.5 (Water Operations) and 0.5 (Core/Saanich Peninsula Operations)

3 Divisional Initiatives & Budget Implications

Title & Estimated Completion Date	Description	Priority Reference (if applicable)	Budget Implications
2016 - 2019			
Water and Wastewater Asset Management Plans To be completed by end of <u>2017-2020</u>	As part of the comprehensive asset management planning work, develop long term operations and maintenance plans and corresponding financial plans for each utility – JDF Water, Saanich Peninsula Water, Core Area Wastewater, 18 local services.	Integrated Waste Management Drinking Water Regional Infrastructure	Core Budget

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Cross Sectional Training and Development Project To be completed annually though 2019	Work with employees that are interested in opportunities to enhance their skills and abilities in other Infrastructure Operations work sections.	Corporate Development	Core Budget
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<u>Water Operations Review</u>	<u>Review of Operations and Maintenance programs to determine balance between preventative maintenance and capital projects in terms of labour and costs.</u>	<u>Drinking Water</u> <u>Regional Infrastructure</u>	<u>Core Budget</u>

4 Goals & Performance Indicators

Service Goals	Indicators or Measures
Maintain high quality water and wastewater infrastructure	<ul style="list-style-type: none"> • Sustainable asset funding plans in place* • Complete 94% planned maintenance projects annually • Reduce the number of unplanned non-weather related wastewater overflows/bypasses annually (target no more than 1 overflow/bypasses annually by 2019) • Reduction in number of unplanned interruptions to water services each year* (baseline 2015)
Ensure compliance with all regulatory requirements	<ul style="list-style-type: none"> • Annual volume of drinking water supplied in compliance with water quality guidelines and regulations* • 100% Compliance with Island Health, Provincial and Federal drinking water health guidelines in all water service areas

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1 Overview

1.1 Division & Service Summary

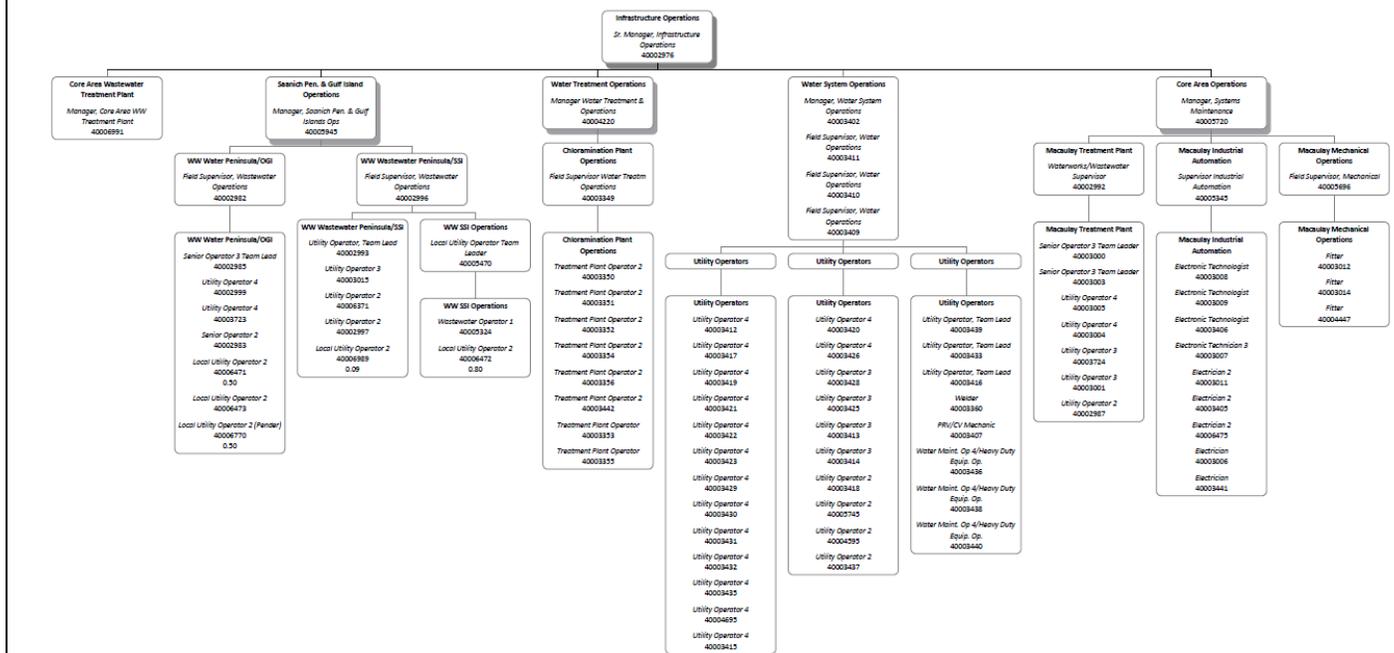
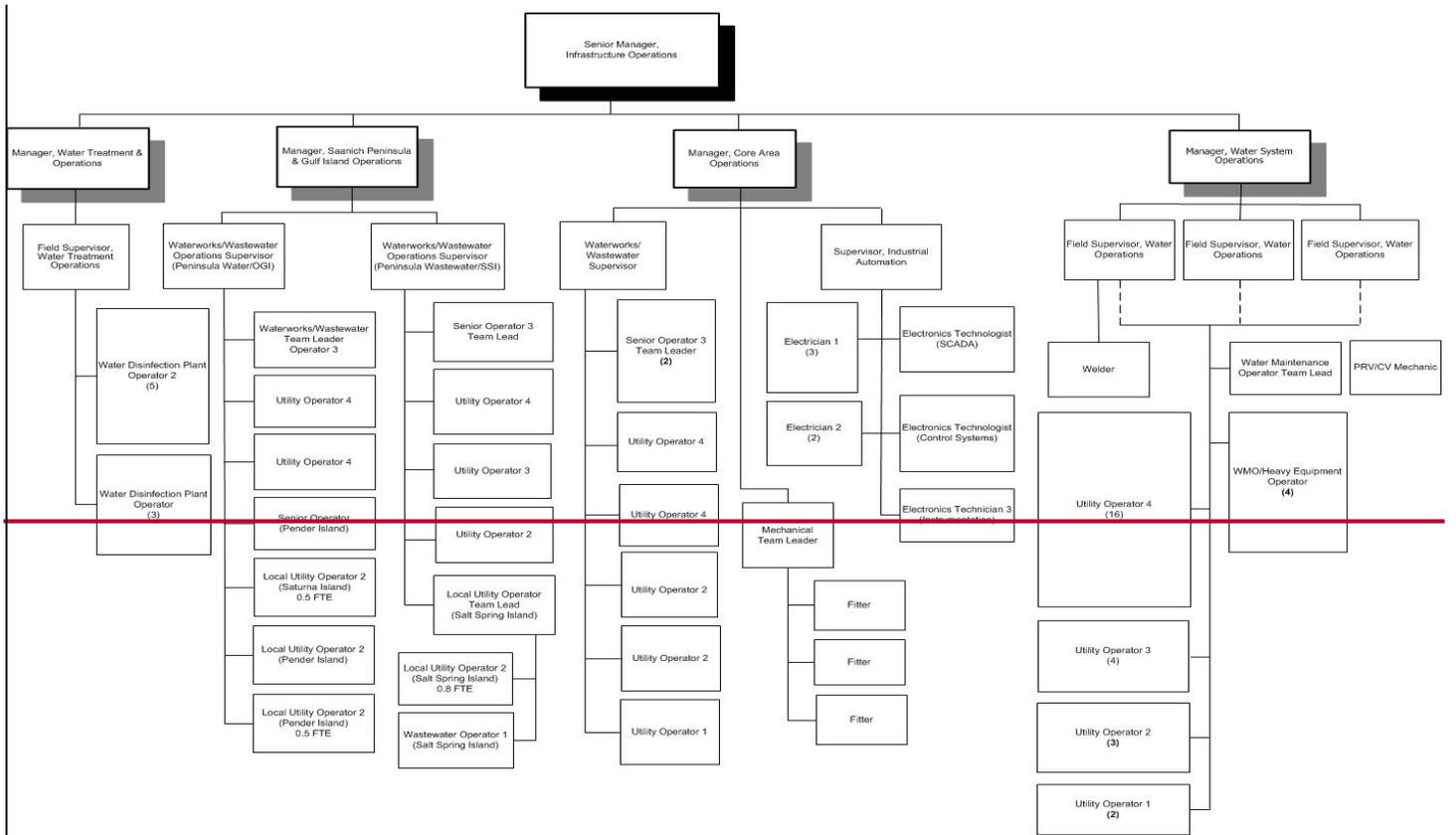
The Infrastructure Operations Division operates a number of drinking water and wastewater systems across the Capital Region, with a focus on providing clean and safe potable water, and wastewater collection and disposal services, while ensuring compliance with public health and environmental regulations.

The Division operates and proactively manages our infrastructure assets that exist in the following service areas: Regional Water Supply System, Juan de Fuca Water Distribution System Saanich Peninsula Water Supply System, Regional Trunk Wastewater, Saanich Peninsula Wastewater System, as well as 18 Local Service Area Small Water and Wastewater Systems in the electoral areas.

Service Purpose, Role or Overview	Participants	Funding Sources	CRD Board Committee and/or Commission Reporting Structure
<p>Regional Water Supply Wholesale water supply to the 350,000 consumers in Greater Victoria supported through four key service areas: Water and Wastewater System Operations, Water and Wastewater System Maintenance, Emergency Response/System Failure, and Capital Works.</p>	<ul style="list-style-type: none"> 4 Core Municipalities (Saanich, Victoria/Esquimalt, Oak Bay) Saanich Peninsula JDF Distribution 	<p>Funded through bulk water sales revenue</p>	<p>Regional Water Supply Commission (Standing)</p>
<p>Juan de Fuca Water Distribution Retail water supply to the 58,000 residents in the six municipalities in the Western Communities, Sooke, and 4 First Nations supported through four key service areas: Water and Wastewater System Operations, Water and Wastewater System Maintenance, Emergency Response/System Failure, and Capital Works.</p>	<ul style="list-style-type: none"> 6 Municipalities (Langford, Colwood, View Royal, Metchosin, Sooke, portion of Highlands) 4 First Nations JDF Electoral Area 	<p>Funded through retail water sales revenue</p>	<p>Juan de Fuca Water Distribution Commission (Standing)</p>
<p>Saanich Peninsula Water Wholesale water supply to residents in the three municipalities on the Saanich Peninsula supported through four key service areas: Water and Wastewater System Operations, Water and Wastewater System Maintenance, Emergency Response/System Failure, and Capital Works.</p>	<ul style="list-style-type: none"> 3 Municipalities (Central Saanich, North Saanich, Sidney) 	<p>Funded through wholesale water sales revenue</p>	<p>Saanich Peninsula Water Commission (Standing)</p>

Service Purpose, Role or Overview	Participants	Funding Sources	CRD Board Committee and/or Commission Reporting Structure
<p>Core Area Wastewater Sub-regional wastewater conveyance, treatment, and disposal services in the Core Area supported through four key service areas: Water and Wastewater System Operations, Water and Wastewater System Maintenance, Emergency Response/System Failure, and Capital Works.</p>	<ul style="list-style-type: none"> • 7 Municipalities (Colwood, Langford, Esquimalt, Oak Bay, Saanich, Victoria, View Royal) • Songhees Nation • Esquimalt Nation 	<p>Funded through tax requisition based on each participant's flow or design capacity</p>	<p>Core Area Liquid Waste Management Committee (Standing)</p>
<p>Saanich Peninsula Wastewater Sub-regional wastewater conveyance, treatment, and disposal services for the Saanich Peninsula municipalities, and other participants supported through four key service areas: Water and Wastewater System Operations, Water and Wastewater System Maintenance, Emergency Response/System Failure, and Capital Works.</p>	<ul style="list-style-type: none"> • 3 Municipalities (Central Saanich, North Saanich, Sidney) • Peninsula First Nations • IOS and Victoria Airport 	<p>Funded through tax requisition based on each participant's flow or design capacity</p>	<p>Saanich Peninsula Wastewater Commission (Standing)</p>
<p>Local Services Local services in the JDF, SGI, and SSI Electoral Areas including 12 water systems, 4 sewer systems, 1 septage facility, and 4 dock facility <u>11 harbour facilities</u> supported through four key service areas: Water and Wastewater System Operations, Water and Wastewater System Maintenance, Emergency Response/System Failure, and Capital Works.</p>	<ul style="list-style-type: none"> • Small service area customers within JDF, SGI, and SSI Electoral Areas 	<p>Funded through parcel tax and user charges (fixed and variable)</p>	<p>Various <u>Harbour</u>, Water and Wastewater Local Service Commissions (Advisory Commissions)</p>

1.2 Organization Chart



1.3 Key Trends, Issues & Risks – Service Specific

Core Area Wastewater Treatment Project – it is anticipated that Infrastructure Operations staff will be involved in the project, providing design input from an operational perspective in the early phases, to eventual commissioning and operation of the new facilities in the completion phases. Staffing requirements will increase as new facilities are completed.

Infrastructure Operations is anticipating increased staffing requirements related to the large amount of wastewater infrastructure planned or under construction in the Core Area. This staffing requirement will begin to roll out in 2018 and continue through to full commissioning of the facilities which is scheduled for the end of 2020. This will involve a combination of full time permanent position development as well as auxiliary positions in order to build the internal skill set in anticipation of hiring for permanent wastewater positions in 2019/20.

Local Service Area Operations and Capital Improvements – It is anticipated that Infrastructure Operations staff will be directly involved in the planning and completion of the many infrastructure improvement projects that are required across the Local Service Area water and wastewater systems, to address failing/aging infrastructure. The expected level of involvement will have an impact on available staff resources.

Worker Safety Regulatory Changes – Increasing worker safety regulatory changes result in increased training and certification requirements (ie. crane safety training and certification, fleet service vehicle driver training) and operating procedural changes (ie. confined space work procedures and safe excavation requirements) that have an impact on field productivity, but are critical to the work environment.

Workforce Planning – A focus on divisional workforce planning will be important to identify knowledge transfer opportunities and staffing levels necessary to operate new facilities requiring higher levels of EOCP certification and to backfill retirements in operating areas.

Water Operations: Additional financial resources are required to maintain the current level of service of operation and maintenance programs within the Greater Victoria Water Systems. The Juan de Fuca Water Distribution system is experiencing a high rate of water infrastructure expansion to accommodate the high rate of development and population growth. The Regional Water Supply system infrastructure is aging which is resulting in an increased amount of maintenance attention.

Water Treatment Operations: The Japan Gulch Water Treatment Plant upgrade will be completed in early 2018. The upgraded plant in addition to the recently commissioned emergency generator, will result in extra operating costs to the RWS.

1.4 Link to Priorities

CLIMATE CHANGE

- realign resources to effectively deliver on Board directives relating to climate change and implement policy and practices to demonstrate leadership in operations
- develop a climate framework to guide decision-making, establish a working group to identify climate change priorities and maximize partnerships

INTEGRATED WASTE MANAGEMENT

- realign resources to effectively deliver on Board directives relating to integrated waste management and develop an overarching integrated plan
- implement an assessment framework on integration opportunities, consider innovative approaches and report on the effectiveness of programs

DRINKING WATER

- protect and maintain an adequate supply of safe, reliable drinking water
- invest in the renewal and replacement of aging infrastructure to deliver an adequate supply of safe, reliable drinking water

REGIONAL INFRASTRUCTURE

- ensure that resources are available for investment in current and future infrastructure, demonstrating efficiency and value for money and meeting regulatory and service requirements
- develop and implement asset management planning framework and tools to continue proactive and responsible management of assets and infrastructure, both natural and engineered

CORPORATE DEVELOPMENT

- evaluate the use of innovative technologies and corporate support systems for continuous improvement and effective service delivery
- ensure CRD service delivery is effectively supported through the development of best practices
- enhance and ensure effective financial and audit reporting practices
- support continued investments in workforce education, training and development

2 Services

2.1 Service Levels

	Service Level Adjustments in Role/Scope				
Service	Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
Water and Wastewater System Operations	<ul style="list-style-type: none"> • Water and wastewater treatment; • supply and distribution system operation; • collection and transmission system operation; • system monitoring; • customer service 	Review and Assess	Adjust to meet service delivery needs, as required	Review and Assess	Adjust to meet service delivery needs, as required

Service	Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
Water and Wastewater System Maintenance	<ul style="list-style-type: none"> System and facility maintenance Consumables management Component preventative maintenance 	Review and Assess	Adjust to meet service delivery needs, as required	Review and Assess	Adjust to meet service delivery needs, as required
Emergency Response / System Failure	<ul style="list-style-type: none"> Water main breaks; wastewater overflows; unplanned service interruptions 	Review and Assess	Adjust to meet service delivery needs, as required	Review and Assess	Adjust to meet service delivery needs, as required
Capital Works	<ul style="list-style-type: none"> Main installations; equipment replacement; capital projects support 	Review and Assess	Adjust to meet service delivery needs, as required	Review and Assess	Adjust to meet service delivery needs, as required

2.2 Workforce Considerations

Service	Workforce (FTEs)				
	Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
Water Operations	36.5	36.5	36.5	36.5 37	36.5 37
Core Area Wastewater Operations	23.5	23.5	23.5	23.5 25	23.5 25
Saanich Peninsula & Gulf Islands Operations	16.8	16.8	16.8	16.8 17.3	16.8 17.3
Water Treatment Operations	10	10	10	10	10
Total	86.8	86.8	86.8	86.8 89.3	86.8 89.3

Note: Senior Manager FTE split 0.5 (Water Operations) and 0.5 (Core/Saanich Peninsula Operations)

3 Divisional Initiatives & Budget Implications

Title & Estimated Completion Date	Description	Priority Reference (if applicable)	Budget Implications
2016 - 2019			
Water and Wastewater Asset Management Plans To be completed by end of <u>2017-2020</u>	As part of the comprehensive asset management planning work, develop long term operations and maintenance plans and corresponding financial plans for each utility – JDF Water, Saanich Peninsula Water, Core Area Wastewater, 18 local services.	Integrated Waste Management Drinking Water Regional Infrastructure	Core Budget

Disaster Response Plan for water supply and distribution To be completed by end of 2017	Establish and implement disaster response plan and emergency water supply and distribution plan in collaboration with Infrastructure Engineering	Drinking Water Regional Infrastructure Protective Services	Capital Budget
<u>Title & Estimated Completion Date</u>	<u>Description</u>	<u>Priority Reference (if applicable)</u>	<u>Budget Implications</u>
2016 - 2019			
Cross Sectional Training and Development Project To be completed annually though 2019	Work with employees that are interested in opportunities to enhance their skills and abilities in other Infrastructure Operations work sections.	Corporate Development	Core Budget
Standard Master Operating Procedure Manuals To be completed by end of 2019	Develop master operating procedure manuals for the major and small utility systems – Regional Water Supply System, Juan de Fuca Water, Saanich Peninsula Water, Core Area Waste Water, Saanich Peninsula Waste Water, Local Service Areas	Drinking Water Regional Infrastructure	Core Budget
<u>Water Operations Review</u>	<u>Review of Operations and Maintenance programs to determine balance between preventative maintenance and capital projects in terms of labour and costs.</u>	<u>Drinking Water</u> <u>Regional Infrastructure</u>	<u>Core Budget</u>

4 Goals & Performance Indicators

Service Goals	Indicators or Measures
Maintain high quality water and wastewater infrastructure	<ul style="list-style-type: none"> • Sustainable asset funding plans in place* • Complete 94% planned maintenance projects annually • Reduce the number of unplanned non-weather related wastewater overflows/bypasses annually (target no more than 1 overflow/bypasses annually by 2019) • Reduction in number of unplanned interruptions to water services each year* (baseline 2015)
Ensure compliance with all regulatory requirements	<ul style="list-style-type: none"> • Annual volume of drinking water supplied in compliance with water quality guidelines and regulations* • 100% Compliance with Island Health, Provincial and Federal drinking water health guidelines in all water service areas

	<ul style="list-style-type: none"> • 100% Compliance rate with operating permit conditions for all wastewater system operating permits
Contribute to integrated resource management objectives	<ul style="list-style-type: none"> • Qualitative observations on demonstrated progress toward integration of liquid and solid wastes*

*Corporate indicator – multiple divisions may contribute to this measure

Please see updated table of Performance Indicators below.

KEY PERFORMANCE INDICATORS

Indicator Name	2016-2017 Planned	2016-2017 Projected	2017-2018 Planned																								
Maintenance: Planned Maintenance Completed	94%	90% 2%	96 %																								
Regulatory Compliance: 1 # Regulatory Contraventions for drinking water quality	<table border="1"> <tr><td>GVWS</td><td>0</td></tr> <tr><td>JDF EA</td><td>0</td></tr> <tr><td>SSI EA</td><td>0</td></tr> <tr><td>SGI EA</td><td>0</td></tr> </table>	GVWS	0	JDF EA	0	SSI EA	0	SGI EA	0	<table border="1"> <tr><td>GVWS</td><td>0</td></tr> <tr><td>JDF EA</td><td>1</td></tr> <tr><td>SSI EA</td><td>0</td></tr> <tr><td>SGI EA</td><td>1</td></tr> </table>	GVWS	0	JDF EA	1	SSI EA	0	SGI EA	1	<table border="1"> <tr><td>GVWS</td><td>0</td></tr> <tr><td>JDF EA</td><td>0</td></tr> <tr><td>SSI EA</td><td>0</td></tr> <tr><td>SGI EA</td><td>0</td></tr> </table>	GVWS	0	JDF EA	0	SSI EA	0	SGI EA	0
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Regulatory Compliance: 1 # Regulatory Contraventions for wastewater effluent quality exceedance	<table border="1"> <tr><td>SPWWTP</td><td>0</td></tr> <tr><td>JDF EA</td><td>0</td></tr> <tr><td>SSI EA</td><td>0</td></tr> <tr><td>SGI EA</td><td>0</td></tr> </table>	SPWWTP	0	JDF EA	0	SSI EA	0	SGI EA	0	<table border="1"> <tr><td>SPWWTP</td><td>0</td></tr> <tr><td>JDF EA</td><td>01</td></tr> <tr><td>SSI EA</td><td>45</td></tr> <tr><td>SGI EA</td><td>09</td></tr> </table>	SPWWTP	0	JDF EA	0 1	SSI EA	4 5	SGI EA	0 9	<table border="1"> <tr><td>SPWWTP</td><td>0</td></tr> <tr><td>JDF EA</td><td>0</td></tr> <tr><td>SSI EA</td><td>0</td></tr> <tr><td>SGI EA</td><td>0</td></tr> </table>	SPWWTP	0	JDF EA	0	SSI EA	0	SGI EA	0
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Safety: 2 Lost time incidents 2 # days lost 2 Avg days lost per claim	\leq 40 8 \leq 420 100 \leq 45 12	8 6 400 70 43 12	\leq 8 7 \leq 400 80 \leq 42 10																								
<u>Financial:</u> <u>3 Cost Recovery (Total Revenue/Total Costs)</u>	<table border="1"> <tr><td><u>RWS</u></td><td><u>1.0</u></td></tr> <tr><td><u>JDFWD</u></td><td><u>1.0</u></td></tr> <tr><td><u>SPWS</u></td><td><u>1.0</u></td></tr> </table>	<u>RWS</u>	<u>1.0</u>	<u>JDFWD</u>	<u>1.0</u>	<u>SPWS</u>	<u>1.0</u>	<table border="1"> <tr><td><u>RWS</u></td><td><u>1.0</u></td></tr> <tr><td><u>JDFWD</u></td><td><u>1.0</u></td></tr> <tr><td><u>SPWS</u></td><td><u>1.0</u></td></tr> </table>	<u>RWS</u>	<u>1.0</u>	<u>JDFWD</u>	<u>1.0</u>	<u>SPWS</u>	<u>1.0</u>	<table border="1"> <tr><td><u>RWS</u></td><td><u>1.0</u></td></tr> <tr><td><u>JDFWD</u></td><td><u>1.0</u></td></tr> <tr><td><u>SPWS</u></td><td><u>1.0</u></td></tr> </table>	<u>RWS</u>	<u>1.0</u>	<u>JDFWD</u>	<u>1.0</u>	<u>SPWS</u>	<u>1.0</u>						
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¹ Note that these KPI's have been updated from % compliance to number of Regulatory Contraventions.

² Note that these KPI's have been updated from only Lost Time Injuries to additional metrics to reflect the severity of the incident.

³ Note that this financial indicator is presented for each of the three Water Utility services, and is not limited solely to Infrastructure Operations. It relates to the expected financial performance of the relevant service as a whole.

Contact

Name: Matt McCrank
 Title: Senior Manager, Infrastructure Operations
 Contact information: 250.474.9662; mmccrank@crd.bc.ca

Service Plan for Watershed Protection

2016-2019

Capital Regional District

Date submitted: October 15, 2015

Revised: September 8, 2016

Revised: November 23, 2016

Revised: July 25, 2017



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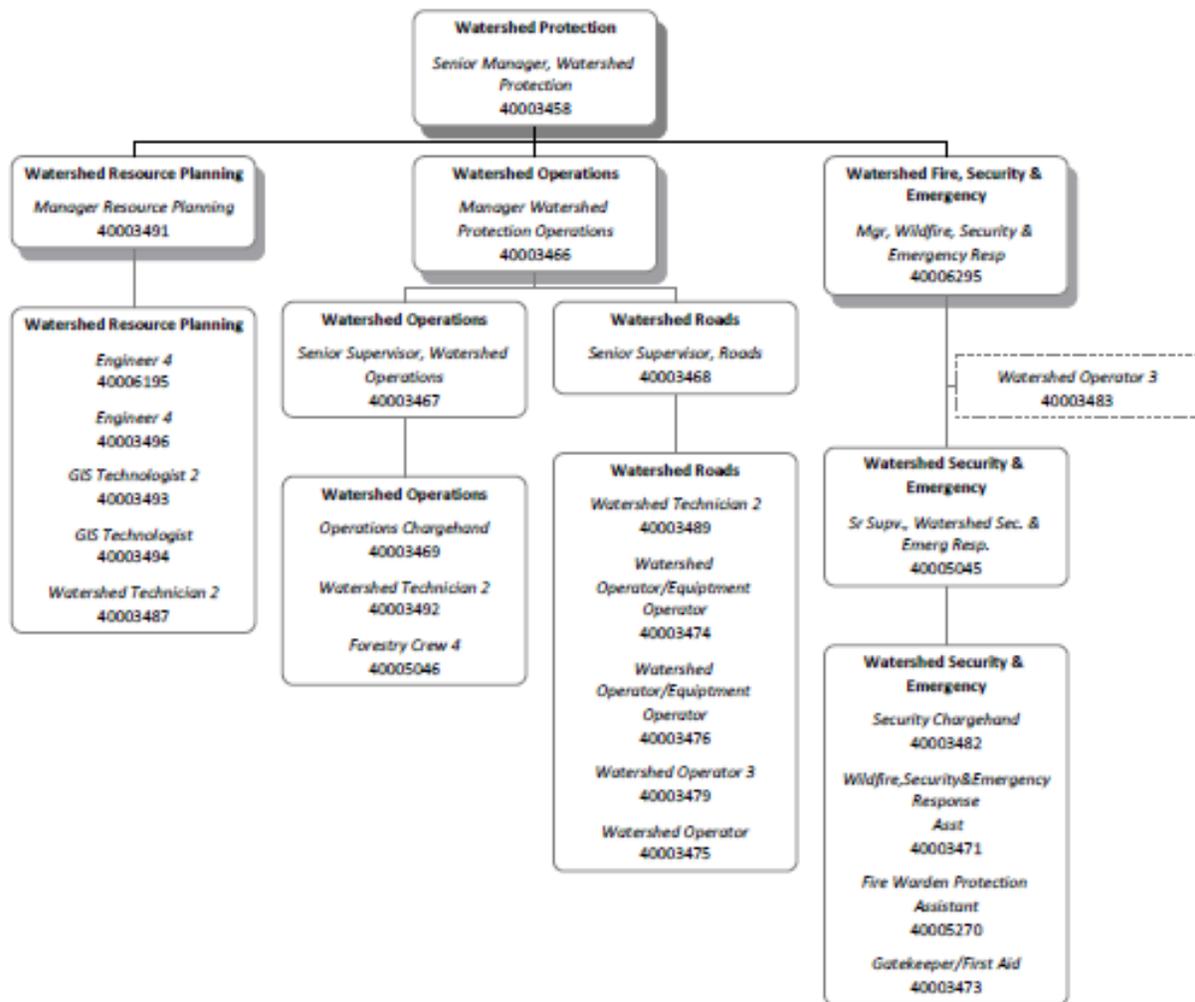
1 Overview

1.1 Division & Service Summary

The Watershed Protection Division provides forest land management of the 20,550 hectares of the Greater Victoria Water Supply Area to ensure high quality source drinking water for the Regional Water Supply System. The Division provides management in the following areas:

Service Purpose , Role or Overview	Participants	Funding Sources	CRD Board Committee and/or Commission Reporting Structure
Wildfire, Security & Emergency Response: <ul style="list-style-type: none"> • Watershed security • Wildfire and spill preparedness, prevention and response 	Regional Water Supply Service All municipalities	Bulk water rate	Regional Water Supply Commission; Water Advisory Committee
Watershed Operations <ul style="list-style-type: none"> • Silviculture, forest health and forest fuel management • Invasive plant management • Vegetation management (previously referred to as Facilities maintenance) • Road maintenance, upgrades and rehabilitation 	Regional Water Supply Service All municipalities	Bulk water rate	Regional Water Supply Commission; Water Advisory Committee
Resource Planning <ul style="list-style-type: none"> • <u>Wildlife management</u> • <u>Watershed hydrology</u> • Ecological inventories and analyses • Risk assessment and management • GIS and data management • Research and monitoring 	Regional Water Supply Service All municipalities	Bulk water rate	Regional Water Supply Commission; Water Advisory Committee

1.2 Organization Chart



1.3 Key Trends, Issues & Risks – Service Specific

- **Closure of the Leech Water Supply Area (WSA)** to unrestricted access through amendment of the Greater Victoria Water Supply Area Protection Bylaw no. 2804 is expected to be the predominant issue for 2016 – 2019. Decisions made by the RWSC whether to fully close, allow recreational access by permit and other decisions will require implementation and may require new ways of doing business for Watershed Security.
- Preparation of the 2017 Regional Water Supply Strategic Plan has highlighted the need for detailed knowledge of the hydrological and biological parameters that affect future drinking water quantity and quality in the Leech Water Supply Area for the Regional Water Supply System.
- **First Nations** are increasingly interested in access into the GVWSA. There is uncertainty regarding the applicability of Douglas Treaty rights and the degree to which interests can be accommodated. Accommodation will require resources to implement. Negotiations between Regional Parks and First Nations may influence expectations for access to the GVWSA.
- The **opening of the Trans Canada Trail and Sea to Sea Regional Park** will increase trespass pressure and require greater security monitoring and infrastructure. Increased risk of trespass, wildfire, invasive species and other issues from changes in ownership, development and activities on adjacent lands (catchment and non-catchment) from sale of private forest lands and First Nations treaty settlements.
- **Climate Change** is expected to provide a longer period of high/extreme fire danger conditions and greater fuel availability within the GVWSA. Firefighting equipment upgrades will continue and there will be more emphasis in staff readiness (training, fitness and experience) for initial attack, and leadership development by gaining firefighting experience with the provincial Wildfire Management Branch. A warming climate also increases the risk of a large wildfire affecting the quality of source water. The large proportion of young stands in the Leech, and younger stands in the Goldstream and Sooke Water Supply Areas will continue to accumulate forest fuels in the short and medium term. Forest fuel management is laborious and therefore costly. There will be continued effort in the next 4 years to create fuel breaks in strategic locations to protect Sooke Lake Reservoir. Climate change has the potential to increase threats to water quality and forest health in the GVWSA and the potential for undesirable species to invade or expand their populations. Climate change will be considered in the watershed assessment and integrated into the risk assessment framework developed to protect water quality and ecosystem integrity in the GVWSA.
- There is a lack of comprehensive training and practical experience in responding to **hazardous materials spills** into water. Although the likelihood of a large spill into a source reservoir or main tributary is low, the potential consequences dictate a renewed emphasis on training and preparedness in the next four years.
- The effort and cost of **management of invasive plant and animal species** that may have a detrimental effect on water quality continues to rise. Public awareness and expectation regarding invasive species management is also growing in the Region. Greater emphasis will be placed on prevention of new species from entering and existing species from being spread within the GVWSA

1.4 Link to Priorities

FIRST NATIONS

- prepare agreements to enable traditional uses of CRD lands and identify First Nations partnership opportunities for economic development activities

CLIMATE CHANGE

- realign resources to effectively deliver on Board directives relating to climate change and implement policy and practices to demonstrate leadership in operations
- develop a climate framework to guide decision-making, establish a working group to identify climate change priorities and maximize partnerships

DRINKING WATER

- protect and maintain an adequate supply of safe, reliable drinking water
- invest in the renewal and replacement of aging infrastructure to deliver an adequate supply of safe, reliable drinking water

REGIONAL INFRASTRUCTURE

- ensure that resources are available for investment in current and future infrastructure, demonstrating efficiency and value for money and meeting regulatory and service requirements
- develop and implement asset management planning framework and tools to continue proactive and responsible management of assets and infrastructure, both natural and engineered

BIODIVERSITY & ECOLOGICAL HEALTH

- assess service needs, respond to issues that threaten ecological health such as wildlife and invasive species, and profile best practices
- integrate a climate lens in our land acquisition strategies

PUBLIC ENGAGEMENT & COMMUNICATIONS

- develop public participation strategies, including implications and performance metrics, as part of all major initiatives and implement more options for two-way dialogue and engagement
- share stories of collaboration and accomplishments

EDUCATION, OUTREACH & INFORMATION

- expand on successful education partnerships and program delivery to include innovative in-person outreach and educational programs
- demonstrate transparency and increase visibility through the provision of accessible, relevant, timely and usable data and information

3.2 Services

3.12.1 Service Levels

Service Level Adjustments in Role/Scope					
Service	Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
Wildfire, Security & Emergency Response	<ul style="list-style-type: none"> • Goldstream gate security and first aid: weekdays 7:30 – 4:30 • Watershed emergency duty officer (WEDO) standby: 24h/day 365/year • Security patrols: weekends and holidays year round • Maintenance of 11 km of security fencing and > 50 gates • Wildfire detection/suppression patrols during ≥ moderate fire hazard: daily • Wildfire suppression standby ≥ moderate fire hazard: daily • Wildfire detection air patrol: 1 – 2 times daily during high and extreme fire hazard • Monitoring and distribution of fire weather data and preparedness: daily May to Oct. • Delivery of capital projects 	<ul style="list-style-type: none"> • Transition Emergency Preparedness Asst to Security Asst 	<ul style="list-style-type: none"> • Addition of First Nations Environment and Culture Monitoring 	<ul style="list-style-type: none"> • Adjust to meet service delivery needs, as required 	<ul style="list-style-type: none"> • Adjust to meet service delivery needs, as required
Watershed Operations	<ul style="list-style-type: none"> • Winter road maintenance: 94km • Summer road maintenance: 367 km • New road construction: 1–2 km • Roads brushed: 125 km • Roads assessed and managed for danger trees: 210 km • Roads upgraded: 5 km • Roads reclaimed: 5 km • New bridges installed: 2 • Culverts installed/replaced: 25 	<ul style="list-style-type: none"> • Review & Assess 	<ul style="list-style-type: none"> • Adjust to meet service delivery needs, as required 	Additional road maintenance for Leech WSA: <ul style="list-style-type: none"> • 95 kms of road • 19 major drainage structures • 525 culverts 	<ul style="list-style-type: none"> • Adjust to meet service delivery needs, as required

Service Level Adjustments in Role/Scope					
	<ul style="list-style-type: none"> • Crossings maintenance: 20 bridges, 479 stream culverts and 1,122 drainage culverts • Invasive plants: 15-20 sites treated twice annually • Silviculture surveys: 50 ha per year • Silviculture brushing: 10 ha/year • Brushing: 18 ha dams and infrastructure <u>once or</u> twice per year <u>as required</u>; • Brushing/fire smarting facilities: 5 ha • Dams and reservoirs – inspection and removal of woody debris accumulations: monthly on 38 booms, dams, spillways • Delivery of capital projects 				
Resource Planning	<ul style="list-style-type: none"> • Ecosystem information updates e.g. wetland mapping, TEM, forest cover. • Orthophotography update: every 2 years • Forest health survey: annual • Risk assessment and management planning • Partnering in climate change and other research in the GVWSA. • Monitoring of weather station fire weather data: daily May to October • Monthly monitoring and management of beaver • Monitoring and management of American bullfrogs: 3 times weekly for 6 months • Monitoring and management of Canada geese: daily for 6 months • Plan and oversee implementation of actions from Greater Victoria Water Supply System Strategic Plan • Public Tours – 18 tours over 6 days 	<ul style="list-style-type: none"> • Update of the Watershed Assessment • GVWSA Climate change adaptation strategy • <u>Biosecurity strategy</u> • Expanded public tours – 36 tours within a 3 to 4 month period • Adjust to meet service delivery needs, as required 	<ul style="list-style-type: none"> • Update of the Watershed Assessment • GVWSA Management Plan • <u>Assist with Regional Water Supply Strategic Plan</u> • Plan forest hydrology program • Fish stream assessments • Adjust to meet service delivery needs, as required 	<ul style="list-style-type: none"> • <u>Update of the Watershed Assessment</u> • State of the GVWSA Report • <u>Regional Water Supply Strategic Plan</u> • <u>Biosecurity strategy</u> • <u>Expanded public, First Nations and school tours program</u> • Implement forest hydrology program • <u>Fish stream assessments</u> 	<ul style="list-style-type: none"> • Report out on State of the GVWSA • <u>Regional Water Supply Strategic Plan</u> • <u>Expanded public, First Nations and school tours program</u> • <u>Fish stream assessments</u> • <u>forWater Network project implementation</u> • Adjust to meet service delivery needs, as required

Service Level Adjustments in Role/Scope					
				<ul style="list-style-type: none"> • forWater Network project planning • Adjust to meet service delivery needs, as required 	

3.22.2 Workforce Considerations

Service	Workforce (FTEs)				
	Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
Wildfire, Security & Emergency Response	8.33	8.33	7.33	7.33	7.33
Watershed Operations	11.33	11.33	11.33	11.33	11.33
Resource Planning	6.33	6.33	6.33	7.33	7.33
Total	26 FTE	26 FTE	25 FTE	26 FTE	26 FTE

- 1.0 FTE decrease in 2017 in Wildfire, Security & Emergency Response with Resident Caretaker position moved to ~~Customer and Technical Services~~ the Infrastructure Engineering division.
- 1.0 FTE increase in 2018 in Resource Planning for a Watershed Technologist ~~and~~ Information Officer ~~position~~ to provide capacity for resource planning projects, hydrology field monitoring and public tour expansion.

3 Divisional Initiatives & Budget Implications

Title & Estimated Completion Date	Description	Priority Reference (if applicable)	Budget Implications
2016			
Amendment of the Greater Victoria Water Supply Area Protection Bylaw no. 2804 April 2016	The Leech Water Supply Area is not included in Bylaw 2804. An amendment would incorporate the Leech WSA, make provision for authorized activities in the Leech and clarify existing Bylaw language.	Drinking Water	Core budget
Traditional Use Access Agreement April 2016	A traditional use access agreement is being developed with a local First Nation for the Leech WSA while not in use for drinking water supply.	First Nations	Core budget
Security upgrade – Goldstream Entrance to the GVWSA November 2016	The Goldstream entrance to the GVWSA was re-designed in 2015 and will be constructed in 2016 to address security and biosecurity needs.	Regional Infrastructure Biodiversity & Ecological Health Drinking Water	Capital
Climate Change Adaptation Strategy for the GVWSA December 2016	Using a common framework, an adaptation strategy for climate change will be developed for the GVWSA. The strategy will become part of the larger climate change strategy for the Regional Water Supply System.	Climate Change Drinking Water	Core budget and external funding (assistance from 3 month intern position which is grant funded through Pacific Institute for Climate Solutions)
Biosecurity Strategy for the GVWSA December 2016	Increasing new and existing invasive species may affect drinking water quality. This strategy will provide new tools and standards for preventing the establishment of undesirable species in the GVWSA.	Biodiversity & Ecological Health Drinking Water	Core budget

Title & Estimated Completion Date	Description	Priority Reference (if applicable)	Budget Implications
Public tours expansion June 2018	The current model of offering tours to the public during only one week relying on senior staff to lead the tours has remained unchanged for 26 years. A revised model of tour offerings over several months a year will provide more tour opportunities at better times for the public and schools for lower overall cost.	Public Engagement & Communications Education, Outreach & Information	Continuous supplementary budget request for 1.0 FTE in Resource Planning.
Leech Watershed Restoration Dec 2016	Upgrade of Weeks Main north • Deactivation of Survey Main (year 1) • <u>Construction of Horton Connector and Worley Lake access</u>	Regional Infrastructure	Capital
Forest Fuel Management Projects 2016 - 2019	Establishment and maintenance of forest fuel breaks to help protect Sooke Lake Reservoir from the effects of large scale wildfire.	Climate Change	Core budget
2017			
<u>Security upgrade – Goldstream Entrance to the GVWSA</u> <u>November 2016</u>	The Goldstream entrance to the GVWSA was re-designed in 2015 and will be constructed in 2016 to address security and biosecurity needs.	<u>Regional Infrastructure</u> <u>Biodiversity & Ecological Health</u> <u>Drinking Water</u>	<u>Capital</u>
<u>Climate Change Adaptation Strategy for the GVWSA</u> <u>December 2016/7</u>	<u>Using a common framework, an adaptation strategy for climate change will be developed for the GVWSA. The strategy will become part of the larger climate change strategy for the Regional Water Supply System.</u>	<u>Climate Change</u> <u>Drinking Water</u>	<u>Core budget and external funding (assistance from 3 month intern position which was grant funded through Pacific Institute for Climate Solutions)</u>
Update Watershed Assessment Dec 2017	Update the 1999 Watershed Assessment	Drinking Water Biodiversity & Ecological Health	Core budget

Title & Estimated Completion Date	Description	Priority Reference (if applicable)	Budget Implications
Watershed Management Plan Nov 2017	The management of the GVWSA will be documented and results of the watershed assessment and biosecurity and climate change strategies will be incorporated.	Drinking Water Regional Infrastructure Climate Change Biodiversity & Ecological Health	Core Budget
Assessment of Streams in the GVWSA 2017-2019	A three year program to assess the fish habitat potential, channel stability, and proper functioning condition of streams in the GVWSA.	Biodiversity & Ecological Health	Capital
Leech Watershed Restoration Dec 2017	Upgrade of Weeks Main running surface and minor culverts <ul style="list-style-type: none"> • <u>Deactivation of Survey Main year 2</u> • <u>Cragg Creek Bridge upgrade</u> • <u>Upgrade of Cragg Main and Horton Main running surface and minor culverts</u> 	Regional Infrastructure	Capital
Waugh Creek Bank Stabilization Oct 2017	Waugh Creek is under cutting the fill slope of Kapeer Main which is the primary access to Sooko Lake Dam and the Water Supply Area. A stabilization project (rip rap placement and slope reinforcement) is required to prevent further damage.	Regional Infrastructure Drinking Water	Capital
2018			
Regional Water Supply Strategic Plan 2018 – 2019	The Resource Planning section will provide significant support to the department in developing a new strategic plan.	Drinking Water	Core budget with supporting studies funded by Capital

Title & Estimated Completion Date	Description	Priority Reference (if applicable)	Budget Implications
<u>Biosecurity Strategy for the GVWSA</u> <u>December 20168</u>	<u>Increasing new and existing invasive species may affect drinking water quality. This strategy will provide new tools and standards for preventing the establishment of undesirable species in the GVWSA.</u>	<u>Biodiversity & Ecological Health</u> <u>Drinking Water</u>	<u>Core budget</u>
<u>Public tours expansion</u> <u>June 2018</u>	<u>The current model of offering tours to the public during only one week relying on senior staff to lead the tours has remained unchanged for 26 years. A revised model of tour offerings over several months a year will provide more tour opportunities at better times for the public. First Nations and schools for lower overall cost.</u>	<u>Public Engagement & Communications</u> <u>Education, Outreach & Information</u>	<u>Continuous supplementary budget request for 1.0 FTE in Resource Planning.</u>
<u>Security upgrade – Goldstream Entrance to the GVWSA</u> <u>November 2018</u>	<u>The Goldstream entrance to the GVWSA was re-designed in 2015 and will be constructed in 20168 to address security and biosecurity needs.</u>	<u>Regional Infrastructure</u> <u>Biodiversity & Ecological Health</u> <u>Drinking Water</u>	<u>Capital</u>
<u>Update Watershed Assessment</u> <u>Dec 2018</u>	<u>Update the 1999 Watershed Assessment</u>	<u>Drinking Water</u> <u>Biodiversity & Ecological Health</u>	<u>Core budget support from supplementary budget request for 1.0 FTE in Resource Planning</u>
<u>State of the GVWSA Report</u> <u>Dec 2018</u>	<u>Development of a set of sustainability indicators for the health and management of the GVWSA.</u>	<u>Drinking Water</u> <u>Climate Change</u>	<u>Core budget</u>
<u>Leech forest hydrology monitoring network</u> <u>Nov 2018</u>	<u>Implementation of a network of hydrology monitoring stations in the Leech WSA</u>	<u>Regional Infrastructure</u>	<u>Capital and Core budget support from supplementary budget request for 1.0 FTE in Resource Planning</u>
<u>Leech Watershed Restoration</u> <u>Dec 2018</u>	<u>Development Assessment and planning of Lazar Mainroad infrastructure in north Leech</u> <u>Leech road maintenance</u>	<u>Regional Infrastructure</u>	<u>Capital and continuous supplementary request for \$7550,000 for Leech road maintenance.</u>

Title & Estimated Completion Date	Description	Priority Reference (if applicable)	Budget Implications
Leech River/Weeks Main Bridge replacement Oct 2018	The Leech River crosses Weeks Main through a large culvert. The culvert is undersized and needs to be replaced with a concrete bridge to restore proper water flow and safe road passage.	Regional Infrastructure	Capital
<u>Replacement of Goldstream Main bridge</u> <u>Oct 2019</u>	<u>The existing bridge is undersized and poses a risk to water quality and fish habitat and should be replaced with a longer concrete structure with greater clearance.</u>	<u>Regional Infrastructure</u>	<u>Capital</u>
<u>Waugh Creek Bank Stabilization</u> <u>Oct 2017</u>	<u>Waugh Creek is under cutting the fill slope of Kapoor Main which is the primary access to Sooke Lake Dam and the Water Supply Area. A stabilization project (rip-rap placement and slope reinforcement) is required to prevent further damage.</u>	<u>Regional Infrastructure</u> <u>Drinking Water</u>	<u>Capital</u>
2019			
Leech Watershed Restoration Dec 2019	Leech road maintenance West Leech road upgrades/deactivation	Regional Infrastructure	Core budget (continuous supplemental request of \$5075 ,000 in 2018) Capital
Replacement of Goldstream Main bridge Oct 2019	The existing bridge is undersized and poses a risk to water quality and fish habitat and should be replaced with a longer concrete structure with greater clearance.	Regional Infrastructure	Capital
<u>Leech River/Weeks Main Bridge replacement and Weeks North Bridge construction</u> <u>Oct 2018</u>	<u>The Leech River crosses Weeks Main through a large culvert. The culvert is undersized and needs to be replaced with a concrete bridge to restore proper water flow and safe road passage.</u> <u>Upgrade of Weeks Main north access</u>	<u>Regional Infrastructure</u>	<u>Capital</u>

4 Goals & Performance Indicators

Service Goals	Indicators or Measures
Increase strategies and activities to protect the drinking water supply and improve access to catchment lands	<ul style="list-style-type: none"> • Bylaw 2804 Amended - Leech entrances secured and new enforcement procedures in place. • Increase the number of staff with fire suppression fitness and training as well as qualified and experienced initial attack crew leaders by 2018 (baseline 2015 levels) • # of kilometres of roads maintained, upgraded or reclaimed associated with drinking watershed operations annually* • Number of watershed forest fuel management projects completed annually* • % of capital projects completed on time and on budget* • Completion of Biosecurity Strategy by end of 2018<u>6</u>.
Enhance information and data collection activities to support resource planning	<ul style="list-style-type: none"> • Completion of Watershed Assessment by end of 2017<u>8</u>.
Contribute to corporate and regional climate action objectives	<ul style="list-style-type: none"> • Completion of GVWSA climate change adaptation strategy by end of 2016<u>7</u>.
Increase public engagement and educational efforts	<ul style="list-style-type: none"> • <u>Total P</u>articipation <u>rates</u> in <u>CRD-watershed</u> public tours annually*

*Corporate indicator – multiple divisions may contribute to this measure.

Please see revised table below

KEY PERFORMANCE INDICATORS

Indicator Name	201 7 <u>6</u> Planned	201 7 <u>6</u> Projected	201 7 <u>8</u> Planned
Watershed roads:			
Maintained	367 km	340 <u>340</u> km	367 km
Upgraded	5 km	5 km	5 km
Reclaimed	5 km	6 <u>5</u> km	5 km
Capital projects			
% on time	100% on time	73 % on time	100% on time
% on budget	100% on budget	73 % on budget	100% on budget
Participation rates in CRD public tours annually 2015 = 682	234 <u>234</u> tours 700 participants	222 <u>222</u> tours 696 <u>880</u> participants	233 <u>233</u> tours 700 <u>1080</u> participants

Contact

Name: Annette Constabel, MSc, RPF, PMP
 Title: Senior Manager, Watershed Protection
 Contact information: 250-391-3556; aconstabel@crd.bc.ca

Service Plan for Customer and Technical Services

2016-2019

Capital Regional District

Date submitted: October 7, 2015

Revised: ~~August~~ November 23, 2017~~6~~



Making a difference...together

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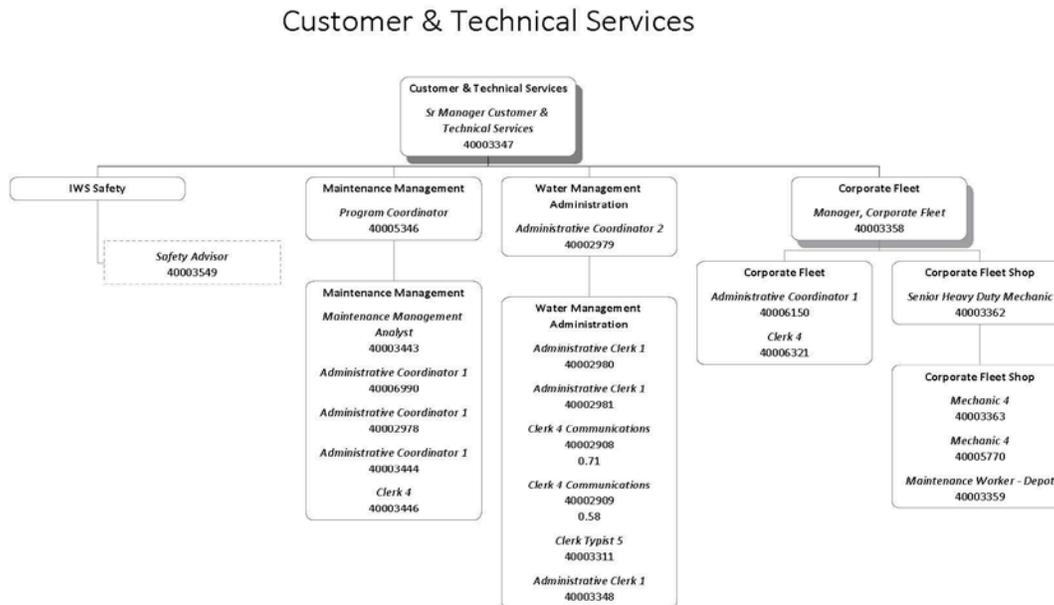
1 Overview

1.1 Division & Service Summary

Customer and Technical Services Division provide a range of services to support Integrated Water Services and other departments of the Capital Regional District, including Fleet Management Services, Maintenance Management Services, Integrated Water Services Administrative Support Services and Safety ~~Advisor Services~~ Program Support.

Service Purpose, Role or Overview	Participants	Funding Sources	CRD Board Committee and/or Commission Reporting Structure
<p>Administrative Support Services: ensures administrative standards and staff needs are achieved, including administration of records system, document processing, scheduling and recording meetings, and the scheduling and tracking of compliance and professional development training courses and hours.</p>	<p>All IWS Divisions, Local Service Committees/Commissions, and other CRD staff at 479 Island Hwy.</p>	<p>Internal recoveries through allocations</p>	<p>Through various standing service Commissions and Committees as required.</p>
<p>Fleet Management Services: management of 300 vehicles and equipment to achieve a well maintained, compliant, economical and reliable fleet. This service includes managing vehicle and equipment procurement and disposal; preventive maintenance and repair programs for vehicles and equipment; monitoring driver abstracts, review collisions, vehicle and driver files, perform commercial vehicle inspections and arrange training to provide a Fleet Safety program; data entry, review and reporting; development of policy, procedures and standards for fleet usage and upkeep.</p>	<p>CRD Departments</p>	<p>Internal recovery through allocations to IWS divisions and labour rates</p>	<p>Through various standing service Commissions and Committees as required.</p>
<p>Maintenance Management Services: maintenance management and purchase order processing to maintain assets, inform decision-making, and to assign work and costs appropriately. This is service includes: managing data for infrastructure and equipment; work order creation and completion; Preventative Maintenance (PM) planning; processing purchase orders; data entry, analysis and reporting; monitor user activities and data integrity; and user support and training.</p>	<p>IWS Operations and Centralized Fleet section</p>	<p>Internal recoveries through allocations</p>	<p>Through various standing service Commissions and Committees as required.</p>
<p>Safety Advisor Services Program Support: Providing Occupational Health and Safety support to ensure required documentation is in place and informed decisions are made. This service includes: developing policy and procedures; assisting in incident investigations and hazard assessments; participating in JOH&S meetings; researching OH&S regulations, Workers Compensation Act and industry; completing required documentation for variances and other permits.</p>	<p>CRD Departments</p>	<p>Internal recoveries through allocations</p>	<p>Through various standing service Commissions and Committees as required.</p>

1.2 Organization Chart



E & O. E. Regular Positions Only

1.3 Key Trends, Issues & Risks – Service Specific

There is an increasing demand by CVSE Inspectors for accurate and well maintained records and safety programs that meet the requirements of the BC Motor Vehicle Act division 37 and National Safety Code. At present there are not enough resources in Fleet to meet this demand.

The growth and renewal of assets, the changing needs of managers, supervisors and users and the requirement to update and maintain the asset data and preventative maintenance programs results in an increased demand on staffing resources. The opportunity exists (with appropriate resourcing) to expand the service provided through the section to include other corporate assets.

~~Ongoing changes to the requirements of the Workers Compensation Act and Occupational Health and Safety Regulations impact workload and place a financial burden on operating running a risk that compliance could be sacrificed in favour of providing a minimum service to meet budget constraints.~~

Assumption that the department safety program will still reside within the CTS division

Assumption that Facilities Management will provide support to Infrastructure Operations with the increased need for maintenance inspections of water and wastewater facility buildings.

1.4 Link to Board Strategic Priorities

The Division will provide support to all divisions within the IWS Department across a variety of services on corporate projects and in support of core service delivery, and as such may have a role in supporting numerous priorities. Specifically the division has a direct link to the following priorities:

CLIMATE CHANGE

- realign resources to effectively deliver on Board directives relating to climate change and implement policy and practices to demonstrate leadership in operations
- develop a climate framework to guide decision-making, establish a working group to identify climate change priorities and maximize partnerships

CLIMATE ACTION

- continue to use a climate lens when making decisions on vehicle replacements and policies that demonstrate how decisions align with CRD's ~~consider~~ GHG reduction target, climate action objectives and strategic priorities.
- Establish a fleet management approach that includes: GHG footprint calculations and reports when possible and install monitoring system to gather data on vehicle operation and utilization
- Use a climate lens for reduction of GHG emissions in existing buildings, facilities and infrastructure. ~~when replacing vehicles and working on the vehicle policies related to GHG reductions~~

REGIONAL INFRASTRUCTURE

- ensure that resources are available for investment in current and future infrastructure, demonstrating efficiency and value for money and meeting regulatory and service requirements
- develop and implement asset management planning framework and tools to continue proactive and responsible management of assets and infrastructure, both natural and engineered

CORPORATE DEVELOPMENT

- evaluate the use of innovative technologies and corporate support systems for continuous improvement and effective service delivery
- ensure CRD service delivery is effectively supported through the development of best practices
- enhance and ensure effective financial and audit reporting practices
- support continued investments in workforce education, training and development

2 Services

2.1 Service Levels

Service	Service Level Adjustments in Role/Scope				
	Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
Administrative Support	<ul style="list-style-type: none"> • Maintains over 5200 files in the record system; • Processing of correspondence documents for over 35 employees and approx. 70 staff reports per year. 	Review & Assess	Adjust to meet service delivery needs, as required.	Review & Assess	Adjust to meet service delivery needs, as required.

Service Level Adjustments in Role/Scope					
Service	Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
	<ul style="list-style-type: none"> Scheduling and record minutes for more than 30 IWS teams and committees. (139 internal and 41 external meetings per year). Provide training coordination and tracking for more than 120 employees 				
Fleet Management	<ul style="list-style-type: none"> Manage 95% of CRD fleet procurement & disposal. Manage 85% of CRD fleet preventive maintenance and perform repairs. Provide a limited fleet safety program of establishing driver records, provide driver training and collision review (2015: 270 files for CRD drivers created of which 6% are complete) 	<p>Manage 100% of CRD fleet procurement and disposal</p> <p>Review & Assess</p> <p>Complete driver record setup and driver abstract review.</p>	<p>Review & Assess</p> <p>Manage 100% Perform 50%</p> <p>Maintain driver records and implement a fleet safety policy and program.</p>	<p>Adjust to meet service delivery needs, as required.</p> <p>Manage 100% Perform 75%</p> <p>Administer a comprehensive fleet safety program</p>	<p>Adjust to meet service delivery needs, as required.</p> <p>Manage 100% Perform 75%</p> <p>Maintain compliance</p>
Maintenance Management	<ul style="list-style-type: none"> Maintain 36,000 asset records by collecting, reviewing and entering information. Maintain 19,000 work orders per year. Maintain 3,500 preventative maintenance plans. Data entry, analysis, monitoring and reporting Process 6,000 purchasing transactions per year. User support and training 	Eliminate existing back log of 720 hrs of data collection and review	Eliminate existing back log of 740 hrs of data input and maintenance plan creation	Maintain asset records and maintenance plans	Review & Assess
Safety Advisor Support	<ul style="list-style-type: none"> <u>Provide Safety Program support to the department</u> Guidance and advice, research, site visits and procedure development 	Review & Assess	Adjust to meet service delivery needs, as required.	Review & Assess	Adjust to meet service delivery needs, as required.

2.2 Workforce Considerations

Service	Workforce (FTEs)				
	Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
Administrative Support	7.29	7.29	8.29	8.29	8.29
Fleet Services	7	7	7	7	7
Maintenance Management	5	6	6	6	6
Safety Advisor	1	1	1	1 04	4
Total	20.29	21.29	22.29	22 1.29	22 1.29

2016

Fleet Clerk (No new FTE pending use of IWS Custodian position)

The administration required to maintain records for regulatory compliance, policy and maintenance planning requires an additional FTE. Areas of current noncompliance include driver records and hours of work for drivers, areas of backlog include vehicle records, maintenance data and asset data.

Maintenance Management Clerk

A Maintenance Management Clerk is required to maintain asset information and a related maintenance plan, provide transactional reports, monitoring and improve user support and documentation. This position will be essential to ensure the backlog of a maintenance plan setup is eliminated with all assets requiring operation and maintenance being included in the management system, then working closely with operations staff to administer the maintenance planning and maintenance work flow moving forward.

2017

1 FTE transferred from Watershed Protection to Customer & Technical Services (the total FTE count for IWS remains the same).

2018

1 FTE transferred from Customer & Technical Services to Human Resources.

3 ~~3~~ Divisional Initiatives & Budget Implications

Title & Estimated Completion Date	Description	Priority Reference (if applicable)	Budget Implications
2016			
Fleet Maintenance Study <u>On-schedule-complete</u>	Under take a study of industry practices to optimize best practices for CRD fleet maintenance.	Climate Change Regional Infrastructure Corporate Development	\$60,000 single supplementary
Fleet Management Software to be completed in 2018	To facilitate all aspects of fleet management in one platform. Review Fleet requirements and ability of existing ERP system to meet the needs and implement.	Climate Change Regional Infrastructure Corporate Development	\$150,000 capital project
Fleet Card (fuel/maintenance) on schedule <u>for completion in 2017</u>	Implement a single source fuel/maintenance procurement card system to improve fuel use tracking and reporting and management of external service provider agreements	Climate Change Regional Infrastructure Corporate Development	\$25,000 set up costs single supplementary and \$3.25 per month per vehicle continuous supplementary.
Maintenance Plans Completion - ongoing	The maintenance management clerks are responsible to ensure that each of the five service area's that use SAP PM receives the support needed to maintain assets and make informed decisions regarding maintenance programs. Create maintenance management plans for all assets in backlog. Improve access, reliability and effectiveness of SAP PM documentation, estimates on work orders Assist in SAP PM development projects such as effective use of Syclo, electronic document management and ongoing development and testing.	Climate Change Regional Infrastructure Corporate Development	\$80,000 continuous supplementary (1 x FTE for new Maintenance Management Clerk)
National Water and Wastewater Benchmarking Initiative (NWWBI)	Benchmark the Regional Water System and Juan De Fuca Distribution system to 45 utilities across Canada.	Regional Infrastructure	Core Budget

Title & Estimated Completion Date	Description	Priority Reference (if applicable)	Budget Implications
Ongoing initiative to be started	The benchmarks represent business outcomes that are feasible, practical and useful to attain such goals as protection of the environment, reliable service and assets and meet service levels and economic efficient standards.		
2017			
Asset Data and Maintenance Plans completed	Capture and enter all data associated with critical IWS equipment, and associating preventative Maintenance scheduling (1,500hrs of combined backlog)	Climate Change Regional Infrastructure Corporate Development	Core budget (\$15,000 Labour allocation from IWS Ops to collect data and auxiliary resource to enter data)
2018			
Fleet Safety Program	Design, implement and administer a comprehensive Fleet Safety Program to ensure vehicle and driver records and training meet regulatory compliance. <u>Review with the input from the Corporate Safety Manager.</u>	Corporate Development	Funding requirements TBD in 2018 . following 2016 Fleet Safety Program Review
2019			
Continuation of projects as above			

4 Goals & Performance Indicators

Service Goals	Indicators or Measures
Contribute to corporate climate action objectives	<ul style="list-style-type: none"> Number and impact of projects and partnerships that demonstrate support for reductions in greenhouse gas (GHG) emissions and for increased climate resiliency* Annual GHG emissions of corporate fleet* (baseline year 2016)
Increase knowledge and compliance with corporate fleet policies	<ul style="list-style-type: none"> Complete CRD Central Fleet Policies and Strategic Plan by end of 201<u>8</u>6
Maintain high quality support to IWS and other CRD divisions	<ul style="list-style-type: none"> Increase administrative and business process documentation for divisional support to the IWS department annually (baseline 60% in 2015) Measure internal customer satisfaction rates with Administration, Centralized Fleet, Maintenance Management and Safety <u>in 2018</u> (target minimum of 75% satisfaction rate annually)

*Corporate indicator – multiple divisions may contribute to this measure

Please see revised table below

KEY PERFORMANCE INDICATORS

Indicator Name	2016 Planned	2016 Projected	2017 Planned
Vehicle and equipment Policies and Procedures	Complete update of policies	Complete 10 Fleet policies related to GHG and a Green Fleet.	<u>Appoint consultant to complete</u> Complete Fleet management policies
GHG emissions	Fuel card implementation to measure fuel use	Complete business case for implementation	Complete fuel card implementation
<u>Fleet</u> Maintenance Study	Complete study		Develop <u>corporate initiatives standards</u> from study results <u>in 2018</u>

Contact

Name: Jan van Niekerk
 Title: Senior Manager, Customer and Technical Services
 Contact information: 250.474.9655; jvanniekerk@crd.bc.ca

**REPORT TO SAANICH PENINSULA WATER COMMISSION
MEETING OF THURSDAY, OCTOBER 19, 2017**

SUBJECT 2018 CAPITAL AND OPERATING BUDGET

ISSUE

This report provides an overview of the 2018 Saanich Peninsula Water Service operating and capital budget, highlighting the changes from the 2017 budget and the proposed 2018 budget figures. The report generally follows the sequence of information provided in the attached draft budget document (Attachment 1).

BACKGROUND

2017 Operating Expenditures and Revenue

The actual 2017 operating expense is projected to be \$36,010 under budget. The actual bulk water purchase expense is estimated to be higher than budget by \$19,125, due to the projected higher than budget demand volume at year end 2017. This corresponds with water sales revenue that is estimated to be \$27,345 higher than budget. The net revenue surplus is projected to be \$8,220 after the bulk water purchase expense is deducted. To balance the budget at year end, the proposed transfer to the capital reserve fund has been increased by \$44,230 to \$321,430.

2018 Operating Expense

An increase in the 2018 operating expense in the amount of \$37,415 is planned and results primarily from non-discretionary expense adjustments such as wage/salary increases and administration costs.

The bulk water purchase expense, based on the proposed 2018 Regional Water Supply wholesale water rate and the 2018 budget demand volume, has been set at \$4,185,720.

2018 Capital Budget

The planned transfer to the capital reserve fund in 2018 is \$450,000. At year-end 2017, the capital reserve fund balance is estimated to be \$4,668,979, which is available to fund major capital projects. The planned transfer to the equipment replacement fund in 2018 is \$50,000. At year-end 2017, the equipment replacement fund balance is estimated to be \$1,627,939, which is available to fund minor capital and operating machinery and equipment replacements. The value of the five-year (2018-2022) capital plan is currently \$4,775,000, including a \$1,500,000 (2018 phase) budget allowance to replace the 400mm diameter Deep Cove water supply main. With the current reserve fund balance, and the planned contributions over the next five years, based on the current capital plan, there will be sufficient funding in reserves for the five-year capital plan, while maintaining a positive balance for unplanned expenditures, without the need for borrowing. The service currently does not carry any debt.

There are no new projects planned in 2018 under the Development Cost Charge (DCC) program., however, completion of the program review and update has been delayed and is now expected to be finalized by year end. As reflected in the DCC capital plan, it is anticipated that the program update will confirm the need to construct additional storage at the Bear Hill Reservoir, currently planned for 2021 with a budget of \$1,000,000. Once the DCC program update is finalized, the DCC infrastructure plan, funding requirements, rates and bylaw, will be updated accordingly. At year-end 2017, the DCC reserve fund balance is estimated to be \$1,363,627.

2018 Budget Demand Volume

Water demand in the service area has been relatively stable even with regional water demand being influenced by less indoor consumption related to household conversions to low flow fixtures and high efficiency appliances. However, beginning in 2015, actual annual demand in the service area has exceeded budget demand. Again in 2017, water demand is projected to exceed budgeted demand, primarily due to increased demand resulting from unseasonal warm and dry weather this past summer and fall. In 2017, the budgeted demand is 6,270,000 cubic metres and the actual demand is projected to be 6,300,000 cubic metres. The proposed 2018 Saanich Peninsula water rate has been calculated using a budget demand of 6,300,000 cubic metres.

2018 Water Rates

The 2018 CRD Regional Water Supply wholesale water rate of \$0.6644 per cubic metre, a 4.22% increase over the 2017 rate, has been recommended by the Regional Water Supply Commission Budget Subcommittee. The 2018 agricultural rate of \$0.2105 per cubic metre has also been recommended. A summary of the agricultural water demand across the region is attached for information (Attachment 2).

The recommended Saanich Peninsula Bulk Rate is \$0.9621 per cubic metre, a 5.60% increase over the 2017 rate. The increase in annual bulk water cost for the average household using 235 cubic metres per year would be \$11.99.

The Agricultural Research Station Rate has been set at \$0.9973 per cubic metre.

The Saanich Peninsula Water rate and Regional Water Supply rate history and projection is attached (Attachment 3). The rates may be adjusted in the future to reflect actual revenue and expenditure circumstances and water demand volumes.

RECOMMENDATION

That the Saanich Peninsula Water Commission recommend that the CRD Board:

1. Approve the 2018 operating and capital budget;
2. Approve the 2018 Saanich Peninsula bulk water rate of \$0.9621 per cubic metre, and the Agricultural Research Station water rate of \$0.9973 per cubic metre, adjusted if necessary by any changes in the CRD Regional Water Supply wholesale water rate;
3. Balance the 2017 actual revenue and expense on the transfer to capital reserve fund; and
4. Amend the Bulk Water Rates Bylaw accordingly.

Submitted by:	Ted Robbins, BSc, CTech, General Manager, Integrated Water Services
Concurrence:	Ben Semmens, BCom, CPA, CMA, Senior Financial Advisor, Financial Services
Concurrence:	Nelson Chan, MBA, CPA, CMA, Chief Financial Officer, Financial Services
Concurrence:	Robert Lapham, MCIP, RPP, Chief Administrative Officer

TR:mm
Attachments: 3

CAPITAL REGIONAL DISTRICT

2018 BUDGET

Saanich Peninsula Water Supply

COMMISSION REVIEW

OCTOBER 2017

Service: 2.610 / 615 **Saanich Peninsula Water Supply**

Committee: Saanich Peninsula Water

DEFINITION:

To purchase water and to acquire, design, construct, reconstruct, purchase, maintain and operate facilities and to acquire property easements, licences and authorities for the supply of water to Central Saanich, North Saanich, and Sidney, for distribution by the municipalities. Letters Patent, December 22, 1976; revised Sept. 27, 1984. Amended SLP April 27, 1978 and March 19, 1986.

SERVICE DESCRIPTION:

This program provides for the purchase of bulk water for supply to Central Saanich, North Saanich, and Sidney, for distribution within their municipalities. Included in the program is the responsibility to provide design, construction, operation and maintenance, licenses, and water quality monitoring to the service area.

PARTICIPATION:

Central Saanich/North Saanich/Sidney

MAXIMUM LEVY:

MAXIMUM CAPITAL DEBT:

As established by Inspector of Municipalities.

COMMISSION:

Saanich Peninsula Water Commission established by Letters Patent to advise the Board with respect to this function.

FUNDING:

Water rates and debt cost allocation to be established by bylaw, charged to the individual municipalities.

Bulk Water Rate

To cover 100% of operating costs, billed monthly to each municipality.

Requisition

To cover 100% of debt costs by formula: levy of \$0.115 / \$1,000 of total hospital assessments for all members plus 1/3 of balance on each of members: number of connections, specified area school assessments and population.

CAPITAL DEBT:

All Bylaws have expired.

CAPITAL REGIONAL DISTRICT

Program Group: CRD-Saanich Peninsula Water Supply SUMMARY	2018 BUDGET REQUEST						FUTURE PROJECTIONS			
	2017 BOARD BUDGET 2	2017 ESTIMATED ACTUAL 3	CORE BUDGET 4	ONGOING 5	ONE-TIME 6	TOTAL (COL 4, 5 & 6) 7	2018 8	2019 9	2019 10	2019 11
OPERATING EXPENDITURES:										
OPERATING - OTHER	1,344,060	1,308,050	1,381,475	-	-	1,381,475	1,416,420	1,444,754	1,473,640	1,502,524
TOTAL OPERATING EXPENDITURES	1,344,060	1,308,050	1,381,475	-	-	1,381,475	1,416,420	1,444,754	1,473,640	1,502,524
*Percentage increase over prior year board budget			2.78%			2.78%	2.53%	2.00%	2.00%	1.96%
TOTAL BULK WATER EXPENDITURES	3,997,125	4,016,250	4,185,720	-	-	4,185,720	4,331,946	4,521,985	4,705,058	4,896,438
CAPITAL EXPENDITURES & TRANSFERS										
TRANSFER TO CAPITAL RESERVE FUND	277,200	321,430	450,000	-	-	450,000	600,000	700,000	800,000	900,000
TRANSFER TO EQUIPMENT REPLACEMENT FUND	100,000	100,000	50,000	-	-	50,000	50,000	50,000	50,000	50,000
TOTAL CAPITAL EXPENDITURES & TRANSFERS	377,200	421,430	500,000	-	-	500,000	650,000	750,000	850,000	950,000
DEBT SERVICING										
DEBT-INTEREST & PRINCIPAL	-	-	-	-	-	-	-	-	-	-
TOTAL DEBT SERVICING EXPENDITURES	-	-	-	-	-	-	-	-	-	-
TOTAL EXPENDITURES	5,718,385	5,745,730	6,067,195	-	-	6,067,195	6,398,366	6,716,739	7,028,698	7,348,962
SOURCES OF FUNDING-OPERATIONS										
REVENUE -WATER SALES	(5,712,585)	(5,739,930)	(6,061,215)	-	-	(6,061,395)	(6,392,566)	(6,710,939)	(7,022,898)	(7,343,162)
REVENUE -OTHER	(5,800)	(5,800)	(5,800)	-	-	(5,800)	(5,800)	(5,800)	(5,800)	(5,800)
TOTAL SOURCES OF FUNDING FROM OPERATIONS	(5,718,385)	(5,745,730)	(6,067,015)	-	-	(6,067,195)	(6,398,366)	(6,716,739)	(7,028,698)	(7,348,962)
SOURCES OF FUNDING-REQUISITION										
PROPERTY TAX REQUISITION FOR DEBT	-	-	-	-	-	-	-	-	-	-
TOTAL REQUISITION	-	-	-	-	-	-	-	-	-	-
TRANSFER FROM PRIOR YEAR	-	-	-	-	-	-	-	-	-	-
TRANSFER TO FOLLOWING YEAR	-	-	-	-	-	-	-	-	-	-
TOTAL CARRY FORWARD (SURPLUS)/ DEFICIT	-	-	-	-	-	-	-	-	-	-
TOTAL SOURCES OF ALL FUNDING	(5,718,385)	(5,745,730)	(6,067,015)	-	-	(6,067,195)	(6,398,366)	(6,716,739)	(7,028,698)	(7,348,962)
Percentage increase over prior year's board budget			6.10%			6.10%	5.46%	4.98%	4.64%	4.56%

SAANICH PENINSULA WATER SUPPLY

2018 Demand Estimate

Retail Demand

Years	Actual Demand cu.metre	Budgeted Demand cu.metre
2012	6,642,265	6,677,710
2013	6,412,785	6,544,156
2014	6,485,594	6,600,000
2015	6,645,312	6,270,000
2016	6,600,000	6,270,000
2017	6,300,000*	6,270,000

2018 Demand Estimate

6,300,000

* Projected consumption for 2017

SAANICH PENINSULA WATER SUPPLY

Summary of Retail Water Rates to Participating Municipalities

	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>Change</u>	<u>% change</u>
Retail (direct) water rate							
Sannich Peninsula Retail cost per cu.m.	\$0.8464	\$0.8898	\$0.9073	\$0.9111	\$0.9621	\$0.0510	5.60%
Agricultural Research Station cost per cu.m.	\$0.8816	\$0.9250	\$0.9425	\$0.9463	\$0.9973	\$0.0510	5.39%

Summary of Bulk Water Purchase Rates from Regional Water Supply

	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>Change</u>	<u>% change</u>
CRD Bulk water purchase cost per cu.m.	\$0.5994	\$0.6254	\$0.6375	\$0.6375	\$0.6644	\$0.0269	4.22%

SAANICH PENINSULA WATER SUPPLY

Summary of Retail Water Rates to Participating Municipalities

	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>Change</u>	<u>% change</u>
Retail (direct) water rate							
Unit cost per cu.m.	\$0.8464	\$0.8898	\$0.9073	\$0.9111	\$0.9621	\$0.0510	5.60%

Retail Water Rate Increase Impact on Participating Municipalities Water Bill

Average consumption:		235.0	cubic meters	
<u>Charge for Twelve Months Consumption</u>	<u>Year</u>	<u>Annual charge</u>	<u>2016 Annual Change \$</u>	
Average Consumption	2017	\$ 214.11		
	2018	\$ 226.10	\$	11.99
Half Average Consumption	2017	\$ 107.05		
	2018	\$ 113.05	\$	6.00
Twice Average Consumption	2017	\$ 428.22		
	2018	\$ 452.20	\$	23.99

Schedule A
Asset Useful Life Assignments - PSAB

<u>Classes:</u>	<u>Code</u>	<u>Asset Categories</u>	<u>Useful Life, Years</u>
Land	LAND	Land & Rights of Way * (Note 1)	N/A
Building	BLDG	Building, Permanent	50
	BLOT	Building, Temporary/ Portable	20
	BLFX	Building fixture (<i>sprinklers</i>)	20
Equipment	BOAT	Boats & Marine Equipment	10
	COMP	Computer Equipment (<i>includes software</i>)	5
	ELEC	Electronic Equipment(<i>hydromet, weather stn eqpt</i>)	5
	FIRE	Fire & Safety Equipment	10
	GENT	Generator	20
	HYDR	Hydrants and Standpipes	20
	HYDY	Hydrology	10
	MTRS	Meters	20
	OFFE	Office Equipment	5
	OFFF	Office Furniture	10
	SCDA	SCADA Equipment	10
	SCRN	Intake Screens/Membranes (<i>stop logs</i>)	20
	SHOP	Shop Equipment	10
	TELE	Telecommunication Eqpt (<i>radios, phone systems</i>)	10
	WEQP	Water Works Eqpt(<i>W. Quality lab, Wshed eqpt</i>)	10
	NEW GRP	Weather stn & communication tower	15
Vehicle	VEHC	Vehicles	8
Engineering	BRDG	Bridge	50
Structure	CANL	Canal	50
	DAMS	Dam Structures	100
	PIPE	Pipelines, includes Vaults, Kiosks, Valve chambers	75
	PIPF	Pipelines, fittings	20
	PLPV	Parking lot paved	40
	PSEQ	Pump Station Equipment	20
	PSHS	Pump Station Housing	50
	PRVS	Valves, Flushes & PRV's	20
	RDGR	Roads gravel	20
	RDPV	Roads paved	40
	RESS	Reservoirs (steel & concrete)	50
	REST	Reservoirs (tower/tank)	35
	TANK	Storage tank	40
	TELP	Telephone and Power Lines	50
	TUNN	Tunnel, Culvert and Diversions	50
	WATP	Water Treatment Plant	25
	WELL	Wet well/ Well	50
Other Assets	CSTU	Capital Management Studies	5
	FENC	Fences	15
	LIMP	Land & Yard Improvements	20

Note 1: Land is not depreciated so a useful life assignment is not applicable

CAPITAL REGIONAL DISTRICT
FIVE YEAR CAPITAL EXPENDITURE PLAN SUMMARY - 2018 to 2022

SCHEDULE B

Service No. 2.610 Saanich Peninsula Water Supply	Carry Forward from 2017	2018	2019	2020	2021	2022	TOTAL
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EXPENDITURE

Buildings	\$150,000	\$1,650,000	\$0	\$0	\$0	\$0	\$1,650,000
Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Land	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Engineered Structures	\$1,000,000	\$1,455,000	\$620,000	\$350,000	\$1,350,000	\$350,000	\$4,125,000
Vehicles	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	\$1,150,000	\$3,105,000	\$620,000	\$350,000	\$1,350,000	\$350,000	\$5,775,000

SOURCE OF FUNDS

Capital Funds on Hand	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Debenture Debt (New Debt Only)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Equipment Replacement Fund	\$0	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$250,000
Grants (Federal, Provincial)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Donations / Third Party Funding	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Reserve Fund	\$1,150,000	\$3,055,000	\$570,000	\$300,000	\$1,300,000	\$300,000	\$5,525,000
Short Term Loans	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	\$1,150,000	\$3,105,000	\$620,000	\$350,000	\$1,350,000	\$350,000	\$5,775,000

CAPITAL REGIONAL DISTRICT CAPITAL PLAN

**CAPITAL BUDGET FORM
2018 & Forecast 2019 to 2022**

Service #: 2.610
Service Name: Saanich Peninsula Water Supply

Proj. No.
The first two digits represent first year the project was in the capital plan.

Capital Exp. Type
Study - Expenditure for feasibility and business case report.
New - Expenditure for new asset only
Renewal - Expenditure upgrades an existing asset and extends the service ability or enhances technology in delivering that service
Replacement - Expenditure replaces an existing asset

Funding Source Codes
Debt = Debenture Debt (new debt only)
ERF = Equipment Replacement Fund
Grant = Grants (Federal, Provincial)
Cap = Capital Funds on Hand
Other = Donations / Third Party Funding

Funding Source Codes (cont)
Res = Reserve Fund
STLoan = Short Term Loans
WU - Water Utility

Asset Class
L - Land
S - Engineering Structure
B - Buildings
V - Vehicles
E - Equipment

FIVE YEAR FINANCIAL PLAN

Proj. No.	Capital Exp.Type	Capital Project Title	Capital Project Description	Total Project Budget	Asset Class	Funding Source	Carry Forward from 2017	2018	2019	2020	2021	2022	5 - Year Total
SYSTEM UPGRADES AND REPLACEMENTS													
Planning													
16-01	New	Strategic Asset Management Plan	Develop an asset management plan to determine future projects to maintain expected level of service.	\$100,000	S	Res	\$100,000	\$100,000	\$0	\$0	\$0	\$0	\$100,000
Capital													
16-02	Replacement	Air Valve Replacement Phase 5	Replacement of non-functioning air valves and renewal so that they can be safely maintained.	\$150,000	B	Res	\$125,000	\$125,000	\$0	\$0	\$0	\$0	\$125,000
16-03	Renewal	Decommission Elk Lake Main	Develop a report to inform future costs in decommissioning the Elk Lake water main.	\$100,000	B	Res	\$25,000	\$25,000	\$0	\$0	\$0	\$0	\$25,000
16-04	Renewal	Replace Deep Cove Permastran Main, 2300m	Replacement of 400mm diameter permastran pipe before it fails.	\$3,400,000	B	Res	\$0	\$1,500,000	\$0	\$0	\$0	\$0	\$1,500,000
16-05	Renewal	Dean Park Upper Reservoir Rehabilitation	Rehabilitation of the leaking Dean Park Upper Reservoir.	\$485,000	S	Res	\$350,000	\$350,000	\$0	\$0	\$0	\$0	\$350,000
16-06	Replacement	Implement Asset Replacement (SAMP) Recommendations	Implementation of recommendations from the 16-01 project, Strategic Asset Management Plan.	\$1,500,000	S	Res	\$200,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$1,500,000
17-01	New	Reservoir Seismic Isolation Valves	Assessment, design and installation of seismic isolation valves at 7 of the reservoirs.	\$400,000	S	Res	\$350,000	\$350,000	\$0	\$0	\$0	\$0	\$350,000
18-01	New	Remote Read Bulk Meters	Upgrade bulk meter sites to have remote read equipment to reduce costs associated with confined space entry required.	\$150,000	S	Res	\$0	\$150,000	\$0	\$0	\$0	\$0	\$150,000
18-02	New	Site Security Assessment & Improvements	Assess the security of facilities and make improvements for the public and operators	\$250,000	S	Res	\$0	\$80,000	\$170,000	\$0	\$0	\$0	\$250,000
18-03	New	Stelley's PS Assessment	Assess the requirement for the Stelley's PS.	\$175,000	S	Res	\$0	\$75,000	\$100,000	\$0	\$0	\$0	\$175,000
Sub-Total System Upgrades & Replacements				\$6,460,000			\$1,150,000	\$3,055,000	\$570,000	\$300,000	\$300,000	\$300,000	\$4,525,000
ANNUAL PROVISIONAL ITEMS													
17-02	Renewal	Provisional Equipment Replacements	Funds to conduct emergency and unplanned repairs outside of normal Operations.	\$250,000	S	ERF	\$0	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$250,000
DEVELOPMENT COST CHARGE (DCC) PROGRAM													
16-08	New	Bear Hill Reservoir	Construct the Bear Hill Reservoir	\$1,010,000	S	Res	\$0	\$0	\$0	\$0	\$1,000,000	\$0	\$1,000,000
Sub-Total Development Cost Charge				\$1,010,000			\$0	\$0	\$0	\$0	\$1,000,000	\$0	\$1,000,000
GRAND TOTAL				\$7,720,000			\$1,150,000	\$3,105,000	\$620,000	\$350,000	\$1,350,000	\$350,000	\$5,775,000

Service: 2.610 **Saanich Peninsula Water Supply**

Proj. No. 16-01	Capital Project Title Strategic Asset Management Plan	Capital Project Description Develop an asset management plan to determine future projects to maintain expected level of service.
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Asset Class Engineered Structures	Board Priority Area Other	Corporate Priority Area Drinking Water
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Project Rationale *A comprehensive study will be undertaken to consolidate recent studies including the hydraulic and water main condition assessment studies. The document will create an inventory, describe the characteristics and condition of infrastructure assets (pumps, water mains, pressure control stations, storage tanks, etc.), the expected levels-of-service, planned actions to ensure the assets are providing the expected level-of-service, and financing strategies to implement any proposed future capital improvements.*

Proj. No. 16-02	Capital Project Title Air Valve Replacement Phase 5	Capital Project Description Replacement of non-functioning air valves and renewal so that they can be safely maintained.
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Asset Class Buildings	Board Priority Area Other	Corporate Priority Area Drinking Water
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Project Rationale *A review of the existing air valves was undertaken in 2010 after a safety incident occurred involving an air valve that could not be properly isolated in order to complete the required maintenance. A number of safety issues regarding confined space have also been identified and most of the existing air valves have deteriorated to the point that failures are likely in the near future.*

Proj. No. 16-03	Capital Project Title Decommission Elk Lake Main	Capital Project Description Develop a report to inform future costs in decommissioning the Elk Lake water main.
------------------------	---	--

Asset Class Buildings	Board Priority Area Other	Corporate Priority Area Drinking Water
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Project Rationale *The existing Elk Lake Main is no longer used and should be disconnected from the system. The SPWC approved an initial capital project "Decommission Plan Elk Lake Main" for \$50,000 which is progressing and it is proposed to assess the entire length of the main from Elk Lake to the Victoria International Airport and result in a report of work to be completed to appropriately decommission and abandon existing assets. This report will inform future capital expenditures/budgets, but in the short-term it is proposed to terminate two existing connections in 2017 that are potential health and liability risks. In addition the Mt. Newton and Keating Cross Road water main connections need to be decommissioned for an additional \$50,000.*

Service: 2.610 **Saanich Peninsula Water Supply**

Proj. No. 16-04	Capital Project Title Replace Deep Cove Permastran Main,	Capital Project Description Replacement of 400mm diameter permastran pipe before it fails.
Asset Class Buildings	Board Priority Area Other	Corporate Priority Area Drinking Water

Project Rationale *Replace existing 400mm diameter Permastran supply main along West Saanich Road, starting at Deep Cove Pump Station and extending 2,300m north. Permastran pipe material is an inferior material type and subject to failure.*

Proj. No. 16-05	Capital Project Title Dean Park Upper Reservoir Rehabilitat	Capital Project Description Rehabilitation of the leaking Dean Park Upper Reservoir.
Asset Class Engineered Structures	Board Priority Area Other	Corporate Priority Area Drinking Water

Project Rationale *The Upper Dean Park storage tank has been identified as leaking and an initial engineering assessment indicated that the tank can remain in service, but remedial work should be completed. Detailed design is complete and remedial works will take place late 2016 and early 2017.*

Proj. No. 16-06	Capital Project Title Implement Asset Replacement (SAMP)	Capital Project Description Implementation of recommendations from the 16-01 project, Strategic Asset Management Plan.
Asset Class Engineered Structures	Board Priority Area Other	Corporate Priority Area Drinking Water

Project Rationale *The asset replacement study will create a prioritized list of assets that need to be replaced over time, including meters, tanks and pump stations. It is proposed to include the funding amounts in the capital budget until such time that specific system improvements are identified by the Strategic Assessment Management Plan.*

Service: 2.610 **Saanich Peninsula Water Supply**

Proj. No. 17-01	Capital Project Title Reservoir Seismic Isolation Valves	Capital Project Description Assessment, design and installation of seismic isolation valves at 7 of the reservoirs.
Asset Class Engineered Structures	Board Priority Area Other	Corporate Priority Area Drinking Water

Project Rationale *The Commission has indicated a desire to include seismic valves on each of the 8 Saanich Peninsula Water System reservoirs. At present, the Dean Park Middle Reservoir is the only reservoir equipped with a seismic valve. In summary a seismic valve is a simple actuated system to shut the outlet valve(s) automatically if a seismic event (of a specific magnitude) is experienced. Each site is unique and installation complexity and associated costs will vary. The first task in this project will be to further define the proposed solution and budget for each site. The resulting detailed project will be reviewed in conjunction with the Strategic Asset Management Plan for the system to confirm affordability and value prior to initiating construction works.*

Proj. No. 18-01	Capital Project Title Remote Read Bulk Meters	Capital Project Description Upgrade bulk meter sites to have remote read equipment to reduce costs associated with confined space entry required.
Asset Class Engineered Structures	Board Priority Area Other	Corporate Priority Area Drinking Water

Project Rationale *Several of the bulk meters used for billing are in confined spaces and require costly confined space entry to read and maintain. To reduce costs associated with the monthly meter readings it is proposed to replace the meters with meters that have remote read heads. Funds are required to design and install remote read meters.*

Proj. No. 18-02	Capital Project Title Site Security Assessment & Improvement	Capital Project Description Assess the security of facilities and make improvements for the public and operators
Asset Class Engineered Structures	Board Priority Area Other	Corporate Priority Area Drinking Water

Project Rationale *The Saanich Peninsula Water system is comprised of various pump stations, pressure control stations, meter facilities and storage tanks. The facilities have varying levels of security with no consistent intent. A site security assessment is proposed to secure all facilities so that operators can safely maintain the sites and keep the public and infrastructure safe. Funding is required to assess all facilities and conduct improvements to secure them.*

Service: 2.610 **Saanich Peninsula Water Supply**

Proj. No. 18-03	Capital Project Title Stelley's PS Assessment	Capital Project Description Assess the requirement for the Stelley's PS.
Asset Class Engineered Structures	Board Priority Area Other	Corporate Priority Area Drinking Water

Project Rationale *The Stelley's Pump Station was constructed in 1988 but has rarely been operated. The flow meter within the pump station is the only piece of equipment utilized. Due to the electrical service size considerable amount of Operations time is required to maintain the electrical service. It is proposed to undertake an assessment of the need for the pump station and plan out reducing the electrical service size. Funds are required to carry out the assessment and decommission the pump station if it is found to be redundant.*

Proj. No. 17-02	Capital Project Title Provisional Equipment Replacements	Capital Project Description Funds to conduct emergency and unplanned repairs outside of normal Operations.
Asset Class Engineered Structures	Board Priority Area Other	Corporate Priority Area Drinking Water

Project Rationale *Replace various system equipment that may fail during the year that is not specifically identified and funded through the operating and capital budgets.*

Proj. No. 16-08	Capital Project Title Bear Hill Reservoir	Capital Project Description Construct the Bear Hill Reservoir
Asset Class Engineered Structures	Board Priority Area Other	Corporate Priority Area Drinking Water

Project Rationale *The previous development cost charge update of 2006 included several projects of which the remaining project is to provide additional storage at Bear Hill. It is proposed to conduct a specific assessment of this previous recommendation to inform development cost charge bylaw review update. Although the previous DCC report estimated the storage tank to cost \$4.62M (2006) an amount of \$1,000,000 is included in 2021 until the work is further defined.*

**2.610 Saanich Peninsula Water
Summary Schedule
2018 - 2022 Financial Plan**

Asset Profile

Saanich Peninsula Water

One of the 16 CRD drinking water systems across the region, Saanich Peninsula Water Supply obtains treated drinking water from the Regional Water Supply System and is responsible for the bulk trunk water supply systems for Central Saanich, Sidney & North Saanich. Assets include land, 46 kilometres of water supply mains, nine balancing reservoirs, nine pumping stations, two pressure reducing stations, nine supply meters and two rechlorination stations. Total historical asset values as at December 31, 2016 is \$35.3M.

Reserve/Fund Summary

	Estimate	Budget				
	2017	2018	2019	2020	2021	2022
DCC Reserve Account	1,363,627	1,513,627	1,663,627	1,813,627	963,627	1,113,627
Equipment Replacement Fund	1,627,939	1,627,939	1,627,939	1,627,939	1,627,939	1,627,939
Capital Reserve	4,668,979	3,213,979	3,243,979	3,643,979	4,143,979	4,743,979
Total	7,660,545	6,355,545	6,535,545	7,085,545	6,735,545	7,485,545

**2.610 Saanich Peninsula Water
Development Cost Charges
2018 - 2022 Financial Plan**

Development Cost Charges Reserve Schedule

Reserve Fund: Saanich Peninsula Water Development Cost Charges (Bylaw # 3208)

Fund: 1009 Fund Center: 101353- DCC Water System only	Estimate	Budget				
	2017	2018	2019	2020	2021	2022
Beginning Balance	1,191,627	1,363,627	1,513,627	1,663,627	1,813,627	963,627
Transfers from Reserve based on DCC-capital plan	-	-	-	-	(1,000,000)	-
DCC's received from Member Municipalities	150,000	150,000	150,000	150,000	150,000	150,000
Interest Income*	22,000					
Ending Balance \$	1,363,627	1,513,627	1,663,627	1,813,627	963,627	1,113,627

General Comments:

Saanich Peninsula Water Development Cost charges (DCC's) was adopted in 2005 for the purpose of providing funds to assist with the capital costs of providing, constructing, altering or expanding the Districts water & wastewater systems that services the Member Municipalities.

The above cash flow only reflects DCC Reserve information for Water System only (Wastewater's information will be provided in the Wastewater budgets). These Reserve funds are received from member municipalities as Development Cost Charges (DCC's) to provide for the capital costs of water capacity system improvements within the service areas.

Future years DCC's are difficult to predict, due to unknown development activity in the Municipalities, influenced by market conditions. A conservative estimate of \$150,000 per year has been used, based on historical annual collections of DCCs.

* Interest should be included in determining the estimated ending balance for the current year. Interest in planning years nets against inflation which is not included.

**2.610 Saanich Peninsula Water
Equipment Replacement Reserve Schedule
2018 - 2022 Financial Plan**

Equipment Replacement Reserve Schedule

Reserve Fund: Saanich Peninsula Water-Equipment Replacement Reserve (covered by CRD-ERF Bylaw)

Fund: 1022 Fund Center: 101452	Estimate	Budget				
	2017	2018	2019	2020	2021	2022
Beginning Balance	1,554,939	1,627,939	1,627,939	1,627,939	1,627,939	1,627,939
Equipment purchases (Based on Capital Plan)	(50,000)	(50,000)	(50,000)	(50,000)	(50,000)	(50,000)
Transfer from Operating Budget	100,000	50,000	50,000	50,000	50,000	50,000
Interest Income*	23,000					
Ending Balance \$	1,627,939	1,627,939	1,627,939	1,627,939	1,627,939	1,627,939

General Comments: The fund is used to replace water system infrastructure throughout the system as failing components are identified and not funded through operating budgets.

* Interest should be included in determining the estimated ending balance for the current year. Interest in planning years nets against inflation which is not included.

**2.610 Saanich Peninsula Water
Capital Reserve Fund
2018 - 2022 Financial Plan**

Capital Reserve Fund Schedule

Reserve Fund: Saanich Peninsula Water Capital Reserve Fund (Bylaw #1397)

Fund: 1009 Fund Center: 102159	Estimate	Budget				
	2017	2018	2019	2020	2021	2022
Beginning Balance	5,937,556	4,668,979	3,213,979	3,243,979	3,643,979	4,143,979
Transfers from Reserve based on capital plan	(2,250,000)	(1,905,000)	(570,000)	(300,000)	(300,000)	(300,000)
Transfer unspent capital funds from LA funds	607,223					
Transfer from Operating Budget	277,200	450,000	600,000	700,000	800,000	900,000
Interest Income*	97,000					
Ending Balance \$	4,668,979	3,213,979	3,243,979	3,643,979	4,143,979	4,743,979

General Comments:

Saanich Peninsula Water Capital Reserve Fund was adopted in 1985 for the purpose of capital payments including planning, engineering and legal costs for providing, latering or expanding water system infrastructure related to the Saanich Peninsula Water Supply System.

The fund is used for the purpose of funding the Service Capital infrastructure related directly or indirectly to water facilities, (excluding DCC) capital expenditures.

* Interest should be included in determining the estimated ending balance for the current year. Interest in planning years nets against inflation which is not included.

**SAANICH PENINSULA WATER COMMISSION
Agricultural Water Rate Funding Comparisons 2011 - 2016**

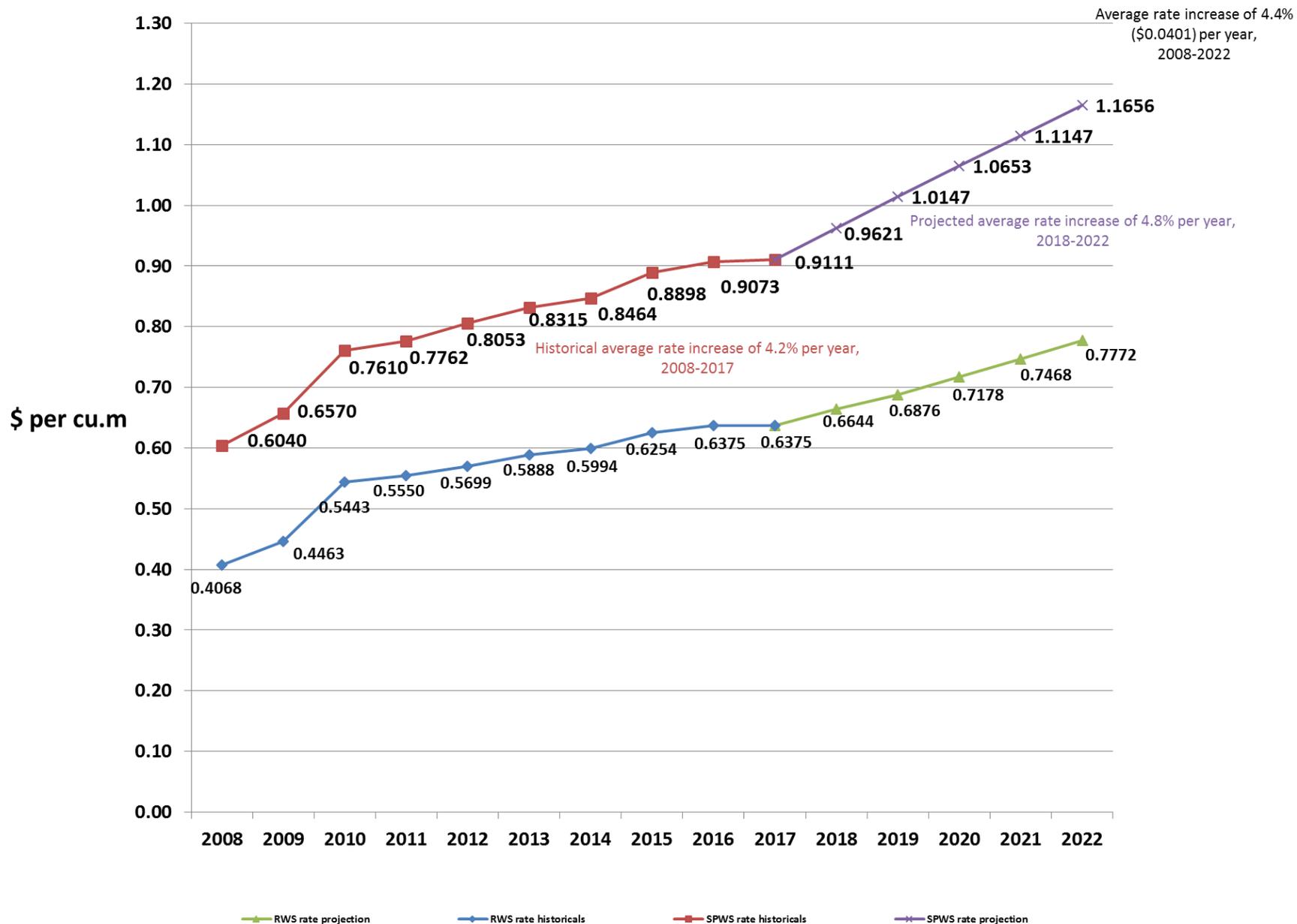
	No. of AR Accounts	No. of AG Accounts	AR Volume m3	AG Volume m3	Avg AR Volume m3 (Vol/Accts)	Avg AG Volume m3	Agri Rate Consumption Costs	Agri Fixed Charge Costs	Total Agri Subsidy Paid out (Cons + Fixed)	Avg Agri Cost \$ (Paid/Accts)	%age of Total Paid out	Rate Differential		
												Municipal Rate m3	Agri Rate m3	Muni-CRD Diff m3
												A	B	A - B
Western Communities & Sooke *														
2016	80	11	41,248	8,652	516	787	\$ 84,950	\$ -	\$ 84,950	\$ 934	5.9%	\$ 1.9129	\$ 0.2105	\$ 1.7024
2015	79	11	33,537	7,078	425	643	\$ 64,968	\$ -	\$ 64,968	\$ 722	5.1%	\$ 1.8101	\$ 0.2105	\$ 1.5996
2014	79	11	29,419	9,074	372	825	\$ 60,769	\$ -	\$ 60,769	\$ 675	5.6%	\$ 1.7892	\$ 0.2105	\$ 1.5787
2013	80	11	25,532	5,578	319	507	\$ 46,438	\$ -	\$ 46,438	\$ 510	4.7%	\$ 1.7032	\$ 0.2105	\$ 1.4927
2012	79	13	23,617	5,932	299	456	\$ 40,828	\$ -	\$ 40,828	\$ 444	4.3%	\$ 1.5922	\$ 0.2105	\$ 1.3817
2011	75	11	27,910	4,893	372	445	\$ 43,641	\$ -	\$ 43,641	\$ 507	5.2%	\$ 1.5409	\$ 0.2126	\$ 1.3283
Central Saanich														
2016	297	51	446,241	303,419	1,502	5,949	\$ 879,396	\$ 7,191	\$ 886,587	\$ 2,548	61.1%	\$ 1.5139	\$ 0.2105	\$ 1.3034
2015	294	51	412,060	246,292	1,402	4,829	\$ 739,282	\$ 7,144	\$ 746,426	\$ 2,164	58.4%	\$ 1.4582	\$ 0.2105	\$ 1.2477
2014	294	49	361,801	190,895	1,231	3,896	\$ 596,515	\$ 6,808	\$ 603,323	\$ 1,759	55.7%	\$ 1.4033	\$ 0.2105	\$ 1.1928
2013	296	45	321,518	194,848	1,086	4,330	\$ 542,837	\$ 4,186	\$ 547,023	\$ 1,604	55.7%	\$ 1.3799	\$ 0.2105	\$ 1.0525
2012	280	41	325,663	210,906	1,163	5,144	\$ 518,454	\$ 5,658	\$ 524,112	\$ 1,633	55.6%	\$ 1.2841	\$ 0.2105	\$ 0.9662
2011	210	38	312,702	169,206	1,489	4,453	\$ 462,183	\$ 5,244	\$ 467,427	\$ 1,885	56.1%	\$ 1.2867	\$ 0.2126	\$ 0.9667
North Saanich **														
2016	100	12	148,450	36,774	1,485	3,065	\$ 230,697	\$ -	\$ 230,697	\$ 2,060	15.9%	\$ 1.4560	\$ 0.2105	\$ 1.2455
2015	106	14	151,656	38,066	1,431	2,719	\$ 230,948	\$ -	\$ 230,948	\$ 1,925	18.1%	\$ 1.4278	\$ 0.2105	\$ 1.2173
2014	98	14	133,853	30,372	1,366	2,169	\$ 194,919	\$ -	\$ 194,919	\$ 1,740	18.0%	\$ 1.3974	\$ 0.2105	\$ 1.1869
2013	102	13	141,845	30,647	1,391	2,357	\$ 200,004	\$ -	\$ 200,004	\$ 1,739	20.4%	\$ 1.3700	\$ 0.2105	\$ 1.1595
2012	99	13	117,497	45,227	1,187	3,479	\$ 188,679	\$ -	\$ 188,679	\$ 1,685	20.0%	\$ 1.3700	\$ 0.2105	\$ 1.1595
2011	101	13	106,393	34,921	1,053	2,686	\$ 163,558	\$ -	\$ 163,558	\$ 1,435	19.6%	\$ 1.3700	\$ 0.2126	\$ 1.1574
Saanich														
2016	71	53	36,409	139,764	513	2,637	\$ 237,745	\$ 10,056	\$ 247,802	\$ 1,998	17.1%	\$ 1.5600	\$ 0.2105	\$ 1.3495
2015	75	51	74,841	129,225	998	2,534	\$ 226,276	\$ 9,727	\$ 236,003	\$ 1,873	18.5%	\$ 1.5420	\$ 0.2105	\$ 1.3315
2014	72	53	46,230	177,633	642	3,352	\$ 213,981	\$ 9,883	\$ 223,863	\$ 1,791	20.7%	\$ 1.4560	\$ 0.2105	\$ 1.2455
2013	65	50	35,745	122,456	550	2,449	\$ 179,004	\$ 9,655	\$ 188,659	\$ 1,641	19.2%	\$ 1.3420	\$ 0.2105	\$ 1.1315
2012	68	47	38,212	138,455	562	2,946	\$ 180,466	\$ 9,235	\$ 189,701	\$ 1,650	20.1%	\$ 1.2320	\$ 0.2105	\$ 1.0215
2011	71	46	101,235	121,896	1,426	2,650	\$ 149,584	\$ 9,118	\$ 158,703	\$ 1,356	19.0%	\$ 1.1530	\$ 0.2126	\$ 0.9404
Totals														
2016	548	127	672,348	488,609	1,227	3,847	\$ 1,432,788	\$ 17,247	\$ 1,450,036	\$ 2,148	100%			
2015	554	127	672,094	420,661	1,213	3,312	\$ 1,261,474	\$ 16,871	\$ 1,278,344	\$ 1,877	100%			
2014	543	127	571,304	407,973	1,052	3,212	\$ 1,066,184	\$ 16,691	\$ 1,082,874	\$ 1,616	100%			
2013	543	119	524,640	353,529	966	2,971	\$ 968,283	\$ 13,841	\$ 982,124	\$ 1,484	100%			
2012	526	114	504,989	400,520	960	3,513	\$ 928,426	\$ 14,893	\$ 943,320	\$ 1,474	100%			
2011	457	108	548,240	330,916	1,200	3,064	\$ 818,967	\$ 14,362	\$ 833,329	\$ 1,475	100%			

* Western Communities does not charge a fixed charge

** North Saanich charges the fixed charge on property taxes

*** AR - Agriculture/Residential customers receive a rebate on consumption over 455 cubic meters annual as the meter feeds both premise and land.
AG - Agriculture customers receive a rebate on the entire consumption annually as the meter is dedicated only for land.

RWS & SPWS Water Rate, Historicals & Projections



CAPITAL REGIONAL DISTRICT - INTEGRATED WATER SERVICES
Water Watch

Issued October 10, 2017

Water Supply System Summary:

1. Useable Volume in Storage:

Reservoir	October 31 5 Year Ave		October 30/16		October 8/17		% Existing Full Storage
	ML	MIG	ML	MIG	ML	MIG	
Sooke	65,945	14,508	68,750	15,125	64,817	14,260	69.9%
Goldstream	6,195	1,363	7,282	1,602	6,165	1,356	62.8%
Total	72,140	15,871	76,032	16,727	70,982	15,616	69.2%

2. Average Daily Demand:

For the month of October	126.2 MLD	27.77 MIGD
For week ending October 08, 2017	126.0 MLD	27.72 MIGD
Max. day October 2017, to date:	139.5 MLD	30.70 MIGD

3. Average 5 Year Daily Demand for October

Average (2012 - 2016)	110.1 MLD ¹	24.23 MIGD ²
-----------------------	------------------------	-------------------------

¹MLD = Million Litres Per Day ²MIGD = Million Imperial Gallons Per Day

4. Rainfall October:

Average (1914 - 2016):	170.0 mm
Actual Rainfall to Date	11.5 (7% of monthly average)

5. Rainfall: Sep 1- Oct 8

Average (1914 - 2016):	97.7 mm
2017	47.8 (49% of average)

6. Water Conservation Action Required:

To avoid possible leaks this spring, now is the time to winterize your sprinkler system

Check our website at www.crd.bc.ca/water for more information.

If you require further information, please contact:

Ted Robbins, B.Sc., C.Tech
 General Manager, CRD - Integrated Water Services
 or

Deborah Walker
 Demand Management Coordinator

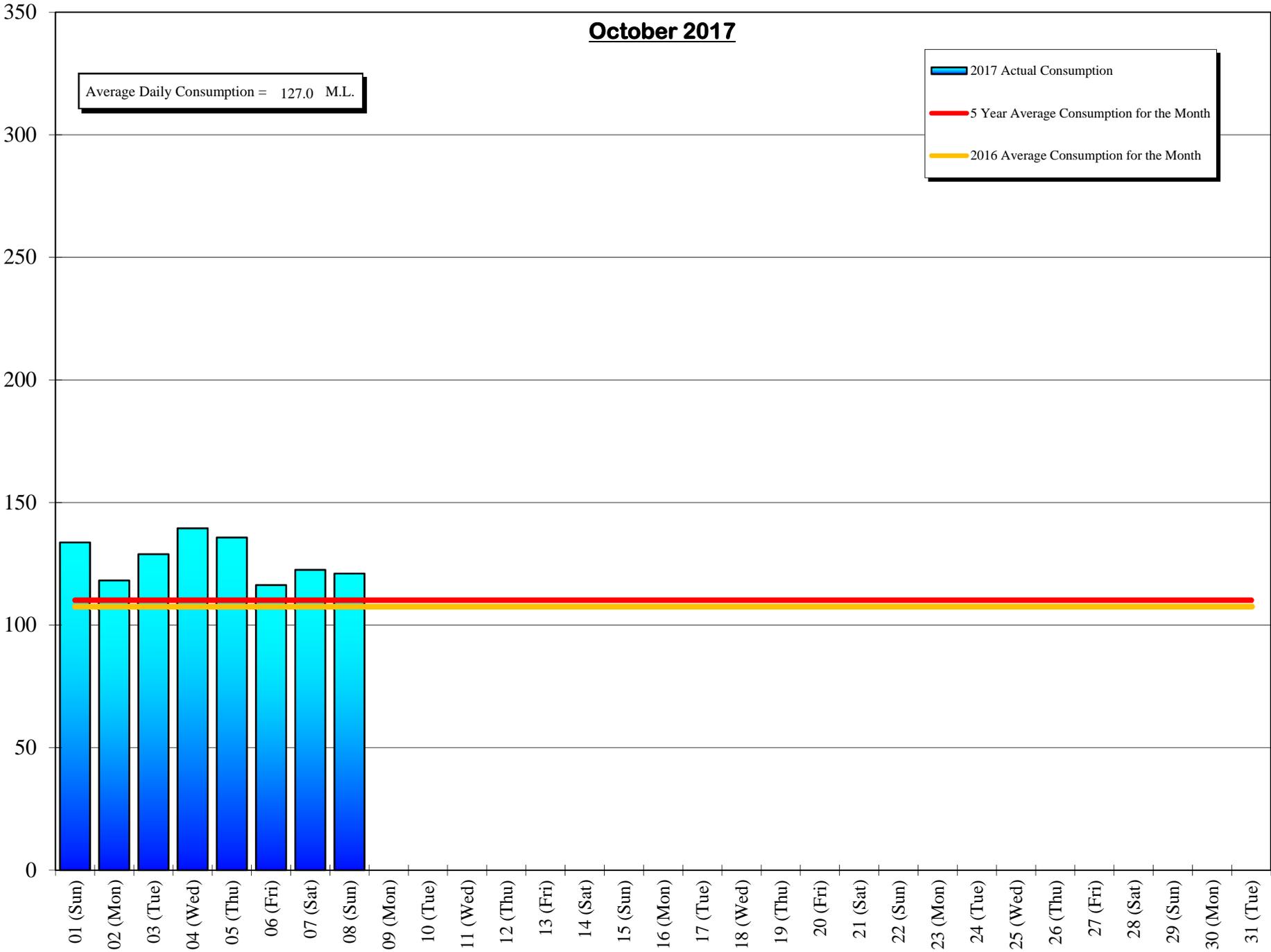
Capital Regional District Integrated Water Services
 479 Island Highway
 Victoria, BC V9B 1H7
 (250) 474-9600

October 2017

Average Daily Consumption = 127.0 M.L.

2017 Actual Consumption
5 Year Average Consumption for the Month
2016 Average Consumption for the Month

Consumption (Million Litres)



Day

Daily Consumptions: - October 2017

Date	Total Consumption		Air Temperature @ Japan Gulch		Weather Conditions	Precipitation @ Sooke Res.: 12:00am to 12:00am		
	(ML)	(MIG)	High (°C)	Low (°C)		Rainfall (mm)	Snowfall (mm)	Total Precip.
01 (Sun)	133.7	29.41	16	7	Sunny	0.0	0.0	0.0
02 (Mon)	118.2	26.00	16	6	Sunny	0.0	0.0	0.0
03 (Tue)	128.9	28.37	18	6	Sunny	0.0	0.0	0.0
04 (Wed)	139.5 <=Max	30.70	18	6	Sunny	0.0	0.0	0.0
05 (Thu)	135.7	29.85	18	5	Sunny	0.0	0.0	0.0
06 (Fri)	116.3 <=Min	25.58	14	6	Cloudy / Showers	11.2	0.0	11.2
07 (Sat)	122.5	26.94	13	7	Sunny / Cloudy / Showers	0.3	0.0	0.3
08 (Sun)	121.0	26.61	14	5	Sunny / P.Cloudy	0.0	0.0	0.0
09 (Mon)								
10 (Tue)								
11 (Wed)								
12 (Thu)								
13 (Fri)								
14 (Sat)								
15 (Sun)								
16 (Mon)								
17 (Tue)								
18 (Wed)								
19 (Thu)								
20 (Fri)								
21 (Sat)								
22 (Sun)								
23 (Mon)								
24 (Tue)								
25 (Wed)								
26 (Thu)								
27 (Fri)								
28 (Sat)								
29 (Sun)								
30 (Mon)								
31 (Tue)								
TOTAL	1015.8 ML	223.46 MIG				11.5	0	11.5
MAX	139.5	30.70	18	7		11.2	0	11.2
AVE	127.0	27.93	15.9	6.0		1.4	0	1.4
MIN	116.3	25.58	13	5		0.0	0	0.0

ML = Million Litres MIG = Million Imperial Gallons

Average Rainfall for October (1914-2016)	170.0
Actual Rainfall: October	11.5
% of Average	7%
Average Rainfall (1914-2016): Sept 01 - Oct 09	97.7
Actual Rainfall (2017): Sept 01 - Oct 09	47.8
% of Average	49%

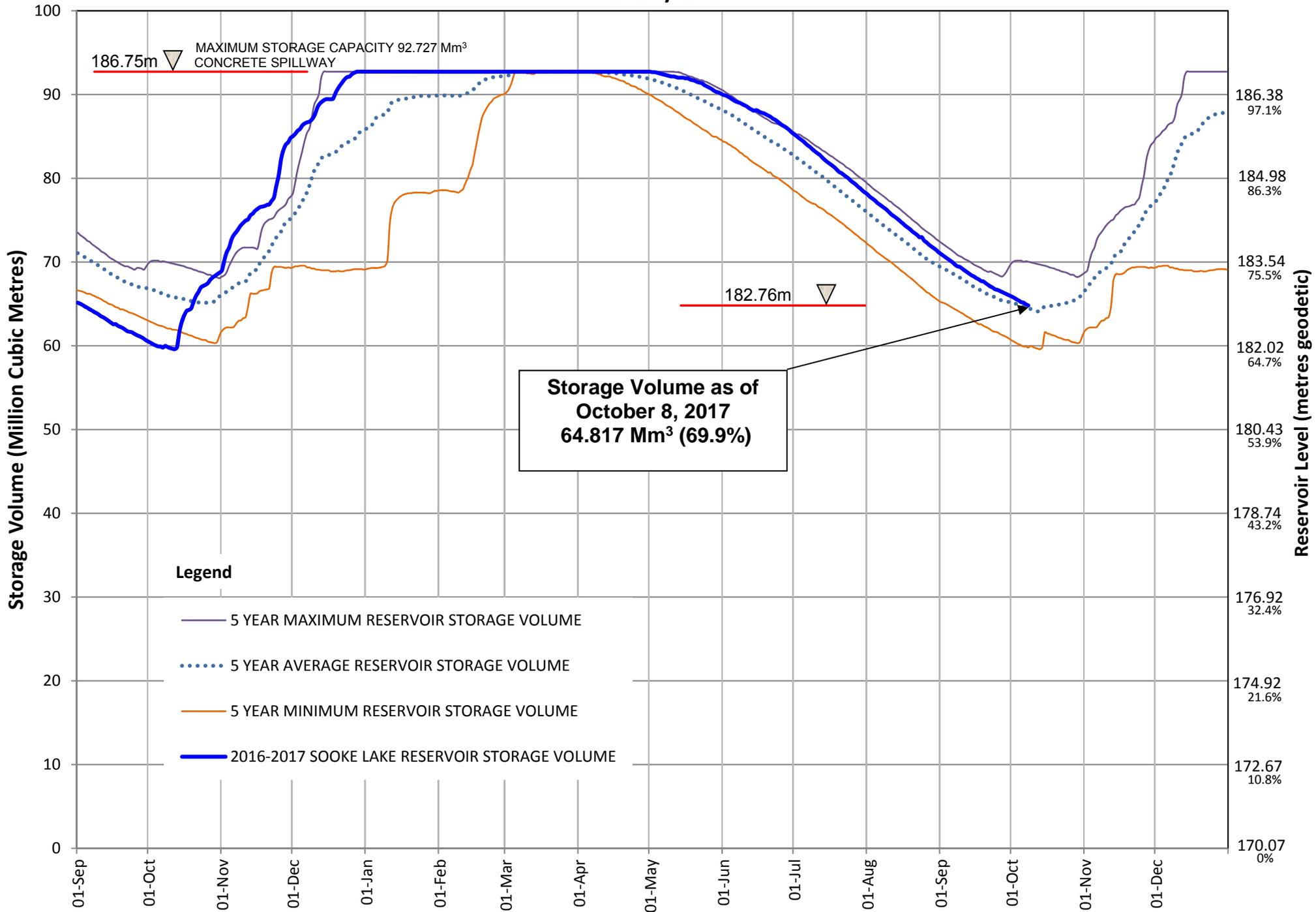
Number days with precip. 0.2 or more
2

Note: 10% of Snow depth applied to rainfall figures for snow to water equivalent.

Water spilled at Sooke Reservoir to date = 0.00 Billion Imperial Gallons
 = 0.00 Billion Litres

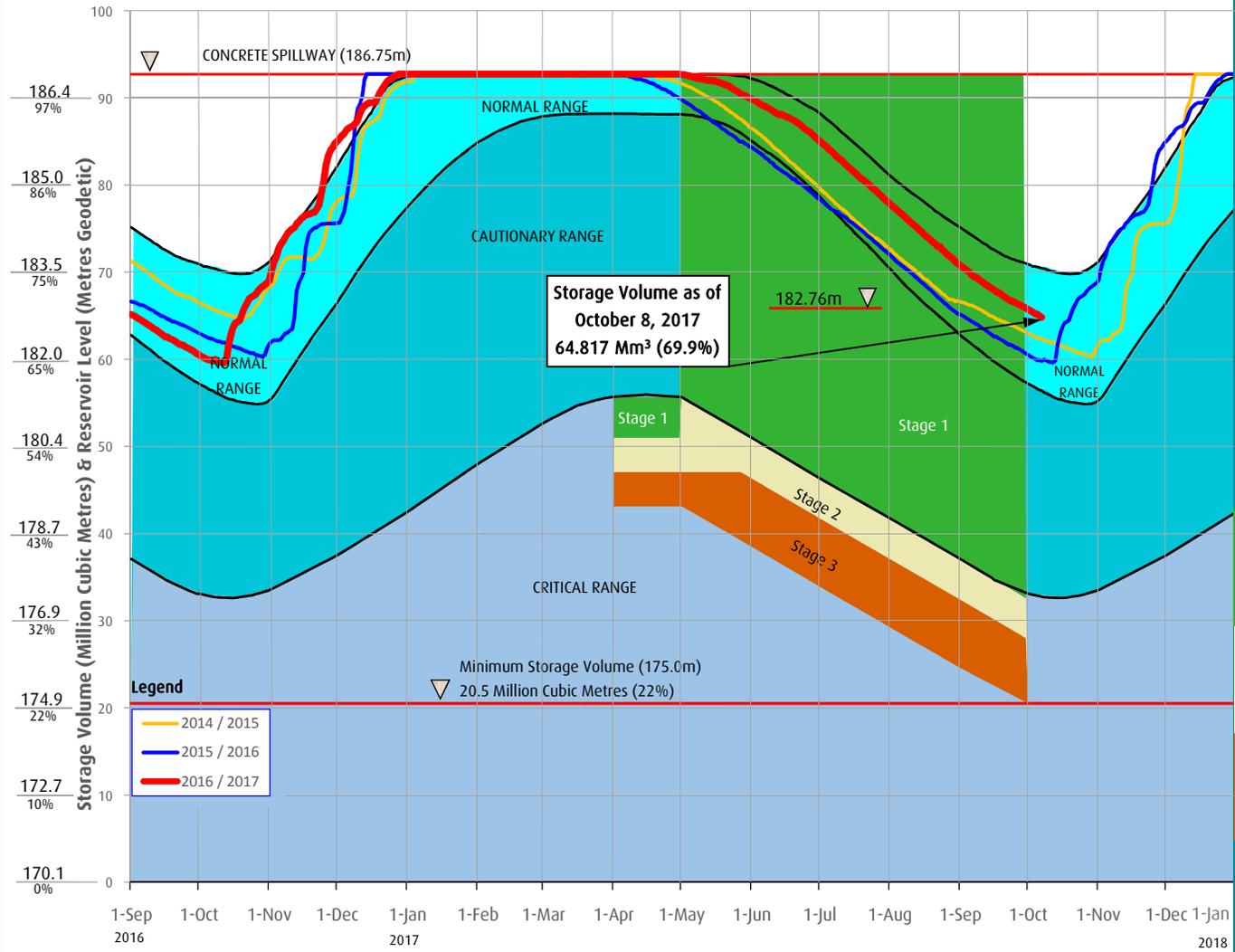
SOOKE LAKE RESERVOIR STORAGE SUMMARY

2016 / 2017



Sooke Lake Reservoir Storage Level

Water Supply Management Plan



FAQs

How are water restriction stages determined?

Several factors are considered when determining water use restriction stages, including,

1. Time of year and typical seasonal water demand trends;
2. Precipitation and temperature conditions and forecasts;
3. Storage levels and storage volumes of water reservoirs (Sooke Lake Reservoir and the Goldstream Reservoirs) and draw down rates;
4. Stream flows and inflows into Sooke Lake Reservoir;
5. Water usage, recent consumption and trends; and customer compliance with restriction;
6. Water supply system performance.

The Regional Water Supply Commission will consider the above factors in making a determination to implement stage 2 or 3 restrictions, under the Water Conservation Bylaw.

At any time of the year and regardless of the water use restriction storage, customers are encouraged to limit discretionary water use in order to maximize the amount of water in the Regional Water Supply System Reservoirs available for nondiscretionary potable water use.

Stage 1 is normally initiated every year from May 1 to September 30 to manage outdoor use during the summer months. During this time, lawn watering is permitted twice a week at different times for even and odd numbered addresses.

Stage 2 is initiated when it is determined that there is an acute water supply shortage. During this time, lawn water is permitted once a week at different times for even and odd numbered addresses.

Stage 3 is initiated when it is determined that there is a severe water supply shortage. During this time, lawn watering is not permitted. Other outdoor water use activities are restricted as well.

For more information, visit www.crd.bc.ca/drinkingwater