

Service Plan for Environmental Protection

2016-2019
(2018)

Capital Regional District

Date submitted: **August 28, 2017**



Making a difference...together

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1 Overview

1.1 Division & Service Summary

The programs and staff from the Environmental Partnerships and Environmental Protection Divisions are consolidated for 2018.

With an environmental management support role across the organization, the Division's focus will be on enhanced integration of (i) environmental regulatory oversight (sanitary sewers, storm water sewers, onsite systems), (ii) drinking water quality protection programs (water quality monitoring, demand management, cross-connection control), (iii) consolidation of all environmental monitoring and reporting, as well as (iv) integration of communication initiatives (planning, education, outreach, community engagement and program delivery) across the Parks & Environmental Services department.

The Division provides environmental management support and expertise to the organization, municipalities and electoral areas, with a key focus on climate action; drinking water quality and quantity; integrated watershed management; and contaminant reduction, monitoring and assessment associated with both liquid and solid waste treatment. Staff provide scientific, technical and regulatory expertise, and work with all internal departments and divisions, municipalities and electoral areas, external regulators and stakeholders, as well as community stewardship groups. The division assists the CRD's various services to meet human health and environmental protection requirements, support an environmental management context to multiple service delivery, and provide environmental data and research for local government commitments. The division is responsible for the preparation and management of the CRD liquid waste management plans. The division also has a strong communication focus that promotes resilient and sustainable communities within healthy natural environments.

Service Purpose , Role or Overview	Participants	Funding Sources	CRD Board Committee and/or Commission Reporting Structure
Regional Source Control Provides contaminant reduction oversight, monitoring, assessment and reporting related to the regional sanitary sewer service to meet regulatory requirements prescribed under provincial legislated frameworks	10 municipalities 3 electoral areas 4 First Nations 2 federal facilities	Requisition	Environmental Services Committee (ESC) Core Area Liquid Waste Management Committee (CALWMC) Saanich Peninsula Wastewater Commission (SPWWC) Ganges Sewer Local Service Commission (LSC) Highland Water and Sewer LSC Magic Lake Estates Water and Sewer LSC

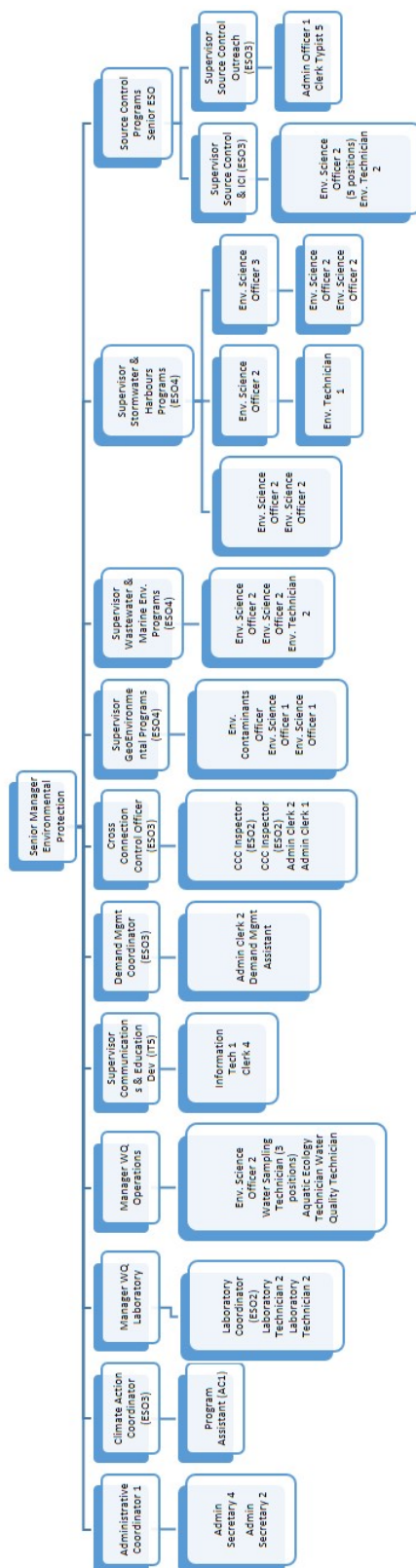
Service Purpose , Role or Overview	Participants	Funding Sources	CRD Board Committee and/or Commission Reporting Structure
Water Quality Provides monitoring, assessment, reporting and technical advice across the region, including the several local service areas, to meet regulatory requirements for safe and potable water quality	Municipalities of Regional Water Supply (RWS) area, JDF and various local service areas	Allocation from Integrated Water Services (IWS) and Local Service Areas (LSA)	Regional Water Supply Commission (RWSC) , Regional Water Advisory Committee (RWAC) and various LSA Commissions
	Municipalities of RWS area, JDF and various local service areas	Allocation from IWS and LSA	RWSC, RWAC and various LSA Commissions
	Municipalities RWS area, JDF and various local service areas	Allocation from IWS and LSA	RWSC, RWAC and various LSA Commissions
	Sidney, North Saanich, Central Saanich and Peninsula FN	Allocation from IWS and LSA	SPWWC
Wastewater & Marine Environmental Programs Provides oversight for wastewater planning, monitoring, assessment and reporting to meet regulatory requirements prescribed under both provincial and federal legislated frameworks	Core municipalities	Allocation from IWS	CALWMC
	Sidney, North Saanich, Central Saanich	Allocation from IWS	SPWWC
	Salt Spring Island	Allocation from IWS	Ganges Sewer LSC
	Salt Spring Island	Allocation from IWS	Highland Water and Sewer LSC
	Pender Island	Allocation from IWS	Magic Lake Estates Water and Sewer LSC
	Port Renfrew	Allocation from IWS	Port Renfrew Utility Services Committee
	Sidney, North Saanich, Central Saanich,	Allocation from IWS	SPWWC
	Salt Spring Island	Allocation from IWS	Ganges Sewer LSC
	Salt Spring Island, Pender Island, Mayne Island and Galiano Island	Allocation from IWS	Salt Spring Island Liquid Waste Disposal LSC

Service Purpose , Role or Overview	Participants	Funding Sources	CRD Board Committee and/or Commission Reporting Structure
Integrated Watershed Management Programs Provides environmental planning, monitoring and reporting for stormwater discharges associated with sub-regional liquid waste management plans; integrated watershed management, including rainwater management and contaminant reduction outreach and education; and facilitates community stewardship initiatives around key urban watersheds	Core municipalities (not Oak Bay) Oak Bay, Saanich, Victoria Core municipalities, Esquimalt FN and Songhees FN Sidney, North Saanich, Central Saanich and Peninsula FN Sidney, North Saanich, Central Saanich Salt Spring Island (SSI) Southern Gulf Islands Electoral Area (SGI) Juan de Fuca Electoral Area (JDF) Sooke	Requisition and Grants Direct invoice Requisition Requisition Requisition Requisition Requisition Requisition	ESC or CALWMC ESC or CALWMC ESC or CALWMC SPWWC SPWWC Salt Spring Island Director, Electoral Areas Services Committee (EASC) Southern Gulf Islands Director, EASC Juan de Fuca Director, EASC Sooke Council
GeoEnvironmental Programs Provides regulatory, scientific and technical oversight, monitoring, assessment and reporting for the solid waste service, various miscellaneous contaminant programs, contaminated sites and associated liability	All municipalities and electoral areas All municipalities and electoral areas Core municipalities, Ministry of Forests, Lands and Natural Resources Operations (cost-share)	Allocation from IWS and ES Allocation from ERM Capital project Requisition	ESC ESC ESC
Demand Management Provides public education, plans and promotes the efficient use of the regional drinking water supply	13 municipalities 3 electoral areas	Requisition through water rate	RWSC, RWAC

Service Purpose , Role or Overview	Participants	Funding Sources	CRD Board Committee and/or Commission Reporting Structure
Cross Connection Control Provides oversight, monitoring and reporting of potential sources of contamination that may flow in a reverse direction into the Regional Water Supply	13 municipalities 3 electoral areas	Requisition through water rate	RWSC, RWAC
Climate Action (mitigation and adaptation) Supports local governments in climate goals/commitments and supports CRD in corporate climate goals/commitments, liaises and advocates to senior levels of government Provides climate data and indicators, public education and outreach	All municipalities, electoral areas (EA) and First Nations (FN)	Requisitions and Grants	ESC
Onsite Program Provides regulatory oversight for onsite wastewater management (monitoring and compliance) for several local governments Provides education and outreach services for onsite treatment systems across the region	4 municipalities 13 municipalities 1 electoral area	Requisition Internal recoveries	CALWMC, ESC
Communications and Environmental Education Provides public education and engagement in the region to promote sustainable behavior through departmental campaigns, initiatives and services	13 municipalities 3 electoral areas	Internal recoveries	ESC

1.2 Organization Chart

Interim Org Chart – to be revised for 2018



1.3 Key Trends, Issues & Risks – Service Specific

Climate Action Demand: In 2008, the region and corporation set greenhouse gas emission (GHG) reduction (mitigation) targets for 2020 and beyond; however, community and corporate GHG trends remain stagnant. The region should also anticipate climate change effects (adaptation), such as shifting weather patterns and sea level rise in the coming decades. *Demand for climate action support will continue to increase* as energy prices increase, deadlines for emission reduction targets approach, impacts on local services and assets are identified, and regulatory direction from higher levels of government are implemented. Impacts to service delivery across the organization need to be considered in upcoming service plans.

Meeting Regulatory Requirements: Open transparent data and regulatory reporting amidst changing regulatory frameworks continue to focus our program delivery. The updated Contaminated Sites Regulation has implications for contaminated sites and property management, but also all contaminant management programs. Proposed regulatory changes (i.e., new landfill criteria) or landfill upgrades (expansion or expanded services) have the potential to significantly impact the level of monitoring required for both operational and compliance requirements. Further, additional requirements may result from planning and implementation of integrated waste management decisions as they relate to the liquid waste management project for the core area municipalities. Finally, federal wastewater monitoring requirements are dependent upon flow volumes. Currently, the Macaulay and Clover systems require weekly monitoring, but the flow volumes of these two facilities are approaching the threshold that would require monitoring three times per week. *If this flow threshold is exceeded in the 2016-2019 time period, additional funds would be required for the extra wastewater monitoring.* Federal-provincial harmonization of the wastewater regulatory framework is underway and may also have implications for monitoring and reporting requirements in advance of the new core area treatment plant.

Changing Service Needs: The dynamic regulatory framework will require additional resources for some programs. For example, corporate liability and reporting requirements, along with remediation of contaminated sites within our service scope require additional resources for the division. A review of the drinking water protection regulation indicates additional monitoring requirements for local governments that have asked the CRD to provide this service on their behalf. Increased demolition waste, as a result of a booming local construction industry, requires increased resources to ensure worker health and safety at the landfill. New federal funding will allow technical staff to support abandoned boat grant applications. And finally, there is interest in regional coordination of invasive species management and an amended ~~new~~ service is being presented for Board consideration. Strategic planning initiatives (e.g., Regional Drinking Water Strategic Plan update, Regional Climate Action Strategy, Integrated Resource Management, Emergency Planning) and major capital projects (e.g., core area wastewater treatment plant, drinking watershed dam upgrades, drinking water treatment plant, ~~Hartland north development~~) will influence modifications to ongoing work plans.

Lab Accreditation: The analytical labs will seek accreditation to *ISO 17025: General Requirements for the Competence of Testing and Calibration Laboratories* to meet current industry standards and maintain regulatory and public confidence in our drinking water quality. To provide more efficient and effective support to CRD-owned systems on Salt Spring Island and the Southern Gulf Islands, the laboratory services will also bring most analyses in-house. This will lead to an increase in overall workload by 30%, making *expansion and updating of the CRD Water Quality Labs a key issue for 2016-2019.*

Communication: Various strategies and initiatives related to public and targeted outreach, education and incentives to improve environmental stewardship associated with key service delivery will be required in the areas of climate action, water quality and quantity protection, contaminant reductions, marine conservation and watershed stewardship. Partnerships with multiple agencies and community groups is a key focus for the Division's mandate.

Link to Board Strategic Priorities

The Division will provide support to all departments 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:

ENVIRONMENTAL PROTECTION

- undertake research, monitoring, reporting and communication to support decision-making and management of natural resources related to regional services

CLIMATE CHANGE

- focus climate change projections on key service delivery and lead the implementation of the Regional Climate Action Strategy

DRINKING WATER

- protect and maintain an adequate supply of safe, reliable drinking water
- assist with risk management of vulnerable infrastructure

BIODIVERSITY & ECOSYSTEM HEALTH

- provide research, information, and data to support regional responsibilities to protect biodiversity and support advocacy to senior levels of government

PUBLIC ENGAGEMENT & COMMUNICATIONS

- develop education, outreach and various campaigns to promote sustainable, resilient communities within healthy natural environments

INTEGRATED WASTE MANAGEMENT

- provide direct and indirect planning, research, monitoring and assessment of liquid and solid waste management

1.4 Service Levels

		Service Level Adjustments in Role/Scope				
Service		Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
Regional Source Control	Sanitary Sewer – Source Contaminant Reduction Planning, compliance monitoring and assessment, reporting, education and outreach	Conduct inspections, monitoring and enforcement for 2,000 businesses and institutions connected to sanitary sewer	No change	Review & Assess	Adjust to meet service delivery needs, as required	Review & Assess
		Deliver 55 outreach campaigns, events and educational initiatives for residents, businesses and schools	No change	Review & Assess	Adjust to meet service delivery needs, as required	Review & Assess
Water Quality	Drinking Water Quality Monitoring Source water and distribution system monitoring, assessment and reporting	Provide monitoring, assessment, reporting and operation support services to the Greater Victoria Regional Water System, the JDF, SSI and SGI local service areas	Review and Assess	Adjust to meet service delivery needs, as required.	Review and Assess	Adjust to meet service delivery needs, as required.
	Drinking Water Quality (Main) Laboratory Services Physical and chemical analytical services, assessment and reporting	Provide laboratory analytical and reporting services to the Greater Victoria Regional Water System, the JDF, SSI and SGI local service areas, and Regional Parks campgrounds and regional trail fountains	Laboratory accreditation 30% increase in workflow through in-house LSA monitoring	Consolidation with SPWWTP Lab	Review and 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)
	Drinking Water Quality Aquatic Ecology (AE) Laboratory Services Biological analytical services, assessment and reporting	Provide laboratory analytical and reporting services to the Greater Victoria Regional Water System, the JDF, SSI and SGI local service areas, Regional Parks campgrounds and regional trail fountains	Laboratory accreditation 30% increase in workflow through in-house LSA monitoring	Review and Assess	Adjust to meet service delivery needs, as required.	Review and Assess
	SPWWTP Laboratory Analytical Services Physical and chemical analytical services, assessment and reporting	Provide laboratory analytical and reporting services for SPWWTP, and CRD-operated wastewater treatment facilities and outfalls on SSI and SGI	Review and Assess	Consolidation with main WQ Lab	Review and Assess	Adjust to meet service delivery needs, as required.
Wastewater & Marine Environmental Programs	Core Area – Sanitary Sewer Outfalls(2) Compliance monitoring, assessment and reporting 5-year dynamic monitoring cycle	Provide wastewater compliance monitoring and reporting and marine outfall monitoring, assessment and reporting services	Review and Assess	Adjust to meet service delivery needs, as required.	Review and Assess	Adjust to meet service delivery needs, as required.
	Saanich Peninsula - Sanitary Sewer Outfall (1) Compliance monitoring, assessment and reporting 4-year dynamic monitoring cycle	Provide wastewater compliance monitoring and reporting and marine outfall monitoring, assessment and reporting services	Review and Assess	Adjust to meet service delivery needs, as required.	Review and 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)
	Electoral Areas (JDF, SGI, SSI) Sanitary Sewer Outfalls (5) Compliance monitoring, assessment and reporting 4-year dynamic monitoring cycle	Provide wastewater compliance monitoring and reporting and marine outfall monitoring, assessment and reporting services (wastewater assessment monitoring – Ganges Harbour only)	Review and Assess	Adjust to meet service delivery needs, as required.	Review and Assess	Adjust to meet service delivery needs, as required.
	Biosolids Monitoring (Saanich Peninsula, Electoral Areas facilities) Compliance monitoring, assessment and reporting Annual monitoring program	Sludge assessment monitoring	Review and Assess	Adjust to meet service delivery needs, as required.	Review and Assess	Adjust to meet service delivery needs, as required.
Integrated Watershed Management	Stormwater Discharges (Core Area) Compliance monitoring, assessment, reporting, education and outreach	Monitor 650 discharges	Review and Assess	Adjust to meet service delivery needs, as required.	Review and Assess	Adjust to meet service delivery needs, as required.
		Hold 6 IWM inter-municipal meetings	Review and Assess	Adjust to meet service delivery needs, as required.	Review and Assess	Adjust to meet service delivery needs, as required.
		Monitor all high public-use beaches in winter for enterococci	Review and Assess	Complete sampling project	n/a	n/a
	Stormwater Discharges (Saanich Peninsula)	Monitor 290 discharges	Review and Assess	Increased efforts to locate sources of contaminants and additional non-regulatory contaminant	Increased efforts to locate sources of contaminants and additional non-regulatory contaminant	Increased efforts to locate sources of contaminants and additional non-regulatory contaminant

		Service Level Adjustments in Role/Scope				
Service		Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
Integrated Watershed Management	Compliance monitoring, assessment, reporting, education and outreach			source control work	source control work	source control work
		Monitor all high public-use beaches in winter for enterococci	Review and Assess	Complete sampling project	n/a	n/a
	Stormwater Discharges Source Control (Saanich Peninsula) Compliance monitoring, assessment, reporting, education and outreach	Monitor and oversee all industrial and commercial connections to the Saanich Peninsula stormwater sewer system	Review and Assess	Increased inspection and communication efforts. Increased chemical contaminant monitoring.	Increased inspection and communication efforts. Increased chemical contaminant monitoring.	Increased inspection and communication efforts. Increased chemical contaminant monitoring.
	Stormwater Discharges (Salt Spring Island) Compliance monitoring, assessment and reporting	Support watershed protection initiatives as required through the Salt Spring Watershed Protection Authority	Review and Assess	Adjust to meet service delivery needs, as required.	Review and Assess	Adjust to meet service delivery needs, as required.
	Stormwater Discharges - Southern Gulf Islands Compliance monitoring, assessment and reporting	Monitor 80 discharges	Review and Assess	Adjust to meet service delivery needs, as required.	Review and Assess	Adjust to meet service delivery needs, as required.
	Stormwater Discharges (Juan de Fuca) Compliance monitoring, assessment and reporting	Monitor 97 discharges	Review and Assess	Service suspended per Director's request	Service suspended per Director's request	Service suspended per Director's request

		Service Level Adjustments in Role/Scope				
Service		Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
	Stormwater Discharges (Sooke) Compliance monitoring, assessment and reporting	Provide monitoring services Modify program to meet Ministry of Environment (MOE) requirements for Sooke	Year 1 – 5 year cycle	Year 2 – 5 year cycle	Year 3 – 5 year cycle	Year 4 – 5 year cycle
	Harbours & Watersheds (Core Area) Facilitation of multi-stakeholder engagement, education and outreach for Bowker Creek Initiative, Gorge Waterway Initiative, Esquimalt Lagoon Initiative, Victoria and Esquimalt harbours	Provide monitoring, assessment, reporting and coordination services for 5 harbour systems and various multi-use watersheds	Review and Assess	Adjust to meet service delivery needs, as required.	Review and Assess	Adjust to meet service delivery needs, as required.
	Elk & Beaver Lake Watershed Coordination Facilitation of multi-stakeholder engagement for Elk/Beaver Lake watershed	n/a	Develop and implement a watershed management plan	Review and Assess	Adjust to meet service delivery needs, as required.	Review and Assess
Geo-Environmental Programs	Environmental Contaminants Reduction Compliance monitoring, assessment, reporting and education for Trucked Liquid Waste, Controlled Waste, Septage and Odour	Manage 1 septage disposal contract servicing approximately 30 truck liquid waste service providers	Review and Assess	Adjust to meet service delivery needs, as required.	Review and 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)
	(Regional Trunk System)					
	Hartland Landfill Environmental Compliance monitoring, assessment and reporting Operational support	Regulatory compliance monitoring at 178 locations	Review and Assess	Adjust to meet service delivery needs, as required.	Review and Assess	Adjust to meet service delivery needs, as required.
	Millstream Meadows Contaminated Site (Remediation) Monitoring, site management and reporting	Implement remediation and investigation to achieve Certificate of Compliance Rezoning	Review and Assess	Adjust to meet service delivery needs, as required.	Review and Assess	Adjust to meet service delivery needs, as required.
Demand Management	Drinking Source Water Conservation Monitoring, assessment, reporting, education and outreach	Deliver 24 water conservation educational workshops	No change	Review & Assess	Adjust to meet service delivery needs, as required	Review & Assess
		Conduct 5-10 water audits for local businesses	10 water audits/yr	Review & Assess	Adjust to meet service delivery needs, as required	Review & Assess
Cross Connection Control	Drinking Water Contamination Prevention Monitoring, assessment and reporting	Conduct 350 facility audits for backflow prevention devices	500/yr	Review & Assess	Adjust to meet service delivery needs, as required	Review & Assess
		Monitor and track 20,000 back flow prevention devices	23,000/yr	25,000/yr	28,000/yr	30,000/yr

		Service Level Adjustments in Role/Scope				
Service		Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
Climate Action	Mitigation and Adaptation	Advance local and regional climate mitigation and adaptation goals	Accelerate corporate climate action efforts (planning, implementation, reporting).	Review and Assess	Review and Assess	Adjust to meet service delivery needs, as required.
	Research, planning, monitoring, reporting, stakeholder engagement, education and outreach	Facilitate regional coordination	Engage in 2 climate mitigation or adaptation projects			
Onsite Wastewater Management	Onsite Septic Systems	80% compliance with bylaw	No change	Review & Assess	Adjust to meet service delivery needs, as required	Review & Assess
	Compliance monitoring, assessment and reporting (4 municipalities under bylaw) and regional education and outreach	Deliver outreach to 27,000 households with onsite sewage systems	No change	Review & Assess	Adjust to meet service delivery needs, as required	Review & Assess
		Deliver pilot maintenance assessment program (25 system assessments)	No change	No change	Review & Assess	Adjust to meet service delivery needs, as required
Communications and Environmental Education	Communications	Deliver outreach and education through participation in 52 facility tours and 74 school presentations	40 tours & 59 presentations	Review & Assess	Adjust to meet service delivery needs, as required	Review & Assess
	Planning, implementation, assessment and reporting	Deliver Hotline service – currently 7 hours per day	Deliver Hotline service 3.5 hours/day	Review & Assess	Review & Assess	Review & Assess

2 Services

2.1 Service Levels

	Work force (FTE) including all supplementary and term				
Service	Base year 2015	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
Senior Manager	2	2	2*	1 ^a	1
Administration	3	3	3	3	3
Regional Source Control	8	8	8	8	8
Water Quality Operations and Laboratories	10	11	11	12 ^b	12
Wastewater & Marine Environmental Program	3.6	3.6	3.6	3.6	3.6
Integrated Watershed Management Program	6	6	6.5	7 ^c	7
GeoEnvironmental Programs	4	4	4	5.1 ^d	5.1
Demand Management	2.6	2.6	2.6	2.6	2.6
Cross Connection Control	3.6	3.6	4.6	4.6	4.6
Climate Action Program	2.5	1.7	1.7	2 ^e	2
Onsite Wastewater Management	3	3	3	3	3
Communications and Environmental Education	3	2.32	2.32	2.32	2.32
TOTAL FTE	51.3	51.5	53	54.9	54.9
2018 FTE Variance				1.9³	

2018 FTE Variance:

- a. *divisions combined under one Senior Manager July 2017, decrease 1 FTE
- b. Water Quality Operations will increase by 1 FTE
- c. IWMP will increase by 0.5 FTE
- d. Geo-E will increase by 1.1 FTE (0.6 – contaminated sites officer; 0.5 – clean waste tech)
- e. Climate Action Program will increase by 0.3 FTE, lifting existing Program Asst. to 1.0

3 Divisional Initiatives & Budget Implications

Title & Estimated Completion Date	Description	Priority Reference	Budget Implications
2016			
Support Board Strategic Priorities for Climate Action Ongoing	Provide additional support to address Board Strategic Priorities on topic of climate action	Climate Change	\$26,000 continuous supplemental for 0.2 FTE
Millstream Meadows Remediation Land Management Planning & Implementation To be completed in 2020	Plan and implement property improvements (temporary property use and long-term rezoning) to balance remediation costs and prepare the property for sale; implement remediation plan and investigations to achieve Certificate of Compliance	Environmental Protection	Capital budget
Harbours Inventory Ongoing	Updating of 1999-2000 habitat survey of Core harbours sub-surface and intertidal zones	Biodiversity & Ecosystem Health	\$20,000 continuous supplemental – 4 years (2016-2019)
Elk/Beaver Lake Watershed Coordination To be completed in 2019	Establishment of a part-time coordinator to develop and implement a management plan for multi-use watershed integrated natural resource management to improve water quality and reduce algae blooms in Elk and Beaver Lakes	Biodiversity & Ecosystem Health Economic Development	\$122,000 continuous supplemental for 0.5 FTE - 4 years (2016-2019)
Stormwater Quality on the Saanich Peninsula ongoing	Increase efforts to identify contaminant sources and work with municipalities to resolve issues	Environmental Protection	\$10,000 continuous supplemental at direction of Saanich Peninsula Wastewater Commission
Water Quality Analytics Ongoing	Increase capacity of operational and analytical service levels	Drinking Water	\$70,250 continuous supplemental for 1 FTE
Laboratory Equipment Upgrade To be completed in 2016	Replacement and upgrading of essential analytical equipment	Drinking Water Environmental Protection	\$60,000 single supplemental Capital budget

Title & Estimated Completion Date	Description	Priority Reference	Budget Implications
Laboratory Accreditation To be achieved in 2017 with maintenance ongoing	Accreditation to the internationally recognized standard, <i>ISO 17025 General Requirements for the Competence for Testing and Calibration Laboratories</i>	Environmental Protection Corporate Development	\$30,000 single supplemental (\$20,000 continuous supplemental 2017) Capital budget
EQIS Database Enhancements To be completed in 2017 with maintenance ongoing	Develop functional improvements to the existing water quality database	Corporate Development	\$31,000 single supplemental (\$15,000 continuous supplemental 2017) Capital budget
Chlorine Residual Online Monitoring To be completed in 2017	Install two additional chlorine online monitors per year for assessing adequate water quality in the Juan de Fuca Electoral Area and Regional Water Supply area	Drinking Water	\$30,000 single supplemental each year - 2 years Capital budget
Water Quality Sampling and Operational Support Ongoing	Increase role in reviewing and recommending on IWS activities	Drinking Water Environmental Protection	\$10,000 continuous supplemental
Drinking Water Safety Plan (DWSP) To be completed in 2016-2017 Moved forward from 2017-2018	Develop and implement a DWSP for JDF and RWS as "best management practice" for efficiently addressing risks in a water system; Phase 1	Drinking Water	2017: \$40,000 single supplemental 2018: \$30,000 single supplemental Capital budget
Cross Connection Control Audits To be completed in 2020	Complete the first round of Cross Connection Control facility audits and undertake the re-audits of severe hazard facilities	Drinking Water	\$174,000 continuous supplemental - 4 years (2017-2020)
2017			
Stormwater Saanich Peninsula Stormwater Source Control Saanich Peninsula Ongoing	Increased efforts to locate sources of contaminants and additional non-regulatory contaminant source control work Increased inspection and communication efforts. Increased chemical contaminant monitoring.	Environmental Protection	\$30,000 continuous supplemental to be reassessed in 2020 \$15,000 continuous supplemental to be reassessed in 2020.

Title & Estimated Completion Date	Description	Priority Reference	Budget Implications
2018			
New Permitting Requirements for Residential Construction and Demolition Waste Ongoing	Position: Clean Demo Permit Technician (J11) Support new ERM policy requiring permitting of residential clean demolition waste loads to manage Hartland employees health and safety risks	Integrated Waste Management	\$64,000 continuous supplemental for 0.5 FTE Position requested and fully funded by ERM
Contaminated Sites Support to Regional Infrastructure To be completed in 2020	Position: Contaminated Sites Environmental Science Officer 1 (J15) Provide additional support to manage CRD contaminated sites liability identified through asset management activities.	Regional Infrastructure	\$90,000 continuous supplemental for 0.6 FTE - 4 years (2018-2020) Position funded by already committed capital projects
Support Regional Climate Action Strategy (RCAS) reporting and implementation Ongoing	Provide additional support to address Board Strategic Priorities on topic of climate action (increase hours for Climate Action Program Assistant from 0.7 to 1.0 FTE)	Climate Change	\$38,000 continuous supplemental for 0.3 FTE
Regional Coordination of Ecosystem Protection Ongoing	Position: Ecosystem biologist/planner (J16) Provide additional support through Regional Coordination for invasive species management As requested by municipalities and stakeholders, and directed by CRD Board (August 2017)	Biodiversity & Ecosystem Health Regional Climate Action Strategy IWMP Implementation Strategy	\$95,000 from existing core budgets plus provincial grants (no budget increase for 2018) Position funding to be reviewed in 2019
Expansion of Municipal Sampling Program Ongoing	Position: Water Quality Sampler (J12) Provide additional support and water sampling/testing services to the bulk water customer municipalities to achieve compliance with legislation.	Drinking Water	\$105,000 continuous supplemental for 1 FTE and \$25,000 for additional laboratory costs (funded from reserve)
Abandoned Boat Program Coordination	Coordinate funding application and assessment/removal of abandoned boats in regional waters	Environmental Protection	<u>Up to a total of \$1,050,000 (amount pending grant approval): \$50,000 in Abandoned Boat Education and Awareness funding (with CRD contribution of \$16,667)</u>

Title & Estimated Completion Date	Description	Priority Reference	Budget Implications
			<u>and \$1,000,000 in Abandoned Boat Assessment and Removals funding (with CRD contribution of \$333,333) Up to \$50,000 from ERM Sustainability Fund</u>
JDF Distribution System Lead/Metal Investigation To be completed in 2018	Provide additional sampling and testing to identify potential lead/metals hot spots in the JDF Distribution System for evaluation of health risk to the public.	Drinking Water	\$2,000 single supplemental
Goldstream Reservoir Water Quality Study	Evaluation of annual water quality conditions for secondary drinking water source potential	Drinking Water	\$15,000
Capital Projects Monitoring Study	Develop pre- and post-monitoring programs for significant capital projects in the drinking watershed	Drinking Water	\$5,000
Supply Management Modelling Study	Model development to investigate climate projections on near-term drinking water supply	Regional Infrastructure	\$75,000
Laboratory Renovations To be completed in 2018	In preparation for combining the water and wastewater laboratories, the laboratory space at 479 Island Hwy will be redesigned to accommodate both labs and SPWWTP equipment will be moved as necessary	Environmental Protection Regional Infrastructure	\$75,000 single supplemental Capital budget
Paperless Data Management	Pilot study to integrate direct lab data entry to drinking water quality database	Drinking Water	\$15,000
2019			
Nutrient Analyzer To be completed in 2019	Expand and improve capital for internal analysis	Environmental Protection Regional Infrastructure	\$60,000 single supplemental Capital budget
pH and Corrosion Study To be completed in 2019 Moved from 2016	Undertake a pH and corrosion study of distribution system to evaluate risks to infrastructure and compliance with Drinking Water Guidelines	Regional Infrastructure Environmental Protection	\$30,000 single supplemental Capital budget
2020			
2021			

Title & Estimated Completion Date	Description	Priority Reference	Budget Implications
Development of a Water Quality System Model To be completed in 2022	Develop a hydraulic model for the Regional Supply System, the JDF System and the Saanich Peninsula System to enable CRD to simulate water quality emergencies, model chlorine residual distribution and other relevant water quality parameters.	Drinking Water	\$105,000 single supplemental

4 Goals & Performance Indicators

Service Goals	Indicators or Measures
Contribute to community and corporate climate action goals	<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*
Provide specialized information and technical support	<ul style="list-style-type: none"> Percentage of environmental water quality sampling plans reviewed and updated* Achieve lab accreditation to ISO 17025 Provide monitoring for streams with continuous flows and/or water flows annually (target 9 streams by 2019) 90% of sewer odor monitoring assessment stations monitored and reported on annually
Maintain regulatory compliance monitoring activities for government agencies, member municipalities or other stakeholders	<ul style="list-style-type: none"> Provide sampling, analysis and reporting of in-house drinking water samples within 5 business days 95% of the time. 100% of operational and compliance samples (outfall, stormwater, landfill) collected, analyzed and reported on annually Conduct a minimum of 4 landfill gas ambient, foundation and perimeter well monitoring activities annually Percentage of businesses in compliance with Sewer Use Bylaw Requirements* 80% or better compliance rate with bylaw for Type 1, 2 and 3 onsite systems
Maintain assessment requirements for government agencies, member municipalities or other stakeholders	<ul style="list-style-type: none"> 90% of sludge assessment samples collected and reported 20% of all stormwater discharges sampled annually 80% of all high-rated stormwater discharges investigated annually Reduction in days of blue-green algae blooms compared to previous years at Elk/Beaver Lake 15% of businesses inspected annually as a part of Stormwater Source Control on Saanich Peninsula Conduct a minimum of 12 controlled waste audits annually Annual % reduction in water consumption by ICI sector Inspect 33% of all food service facilities annually for compliance with source control bylaw Decrease or maintain priority contaminant loadings to the core area marine environment on results of 3-5 year trend assessment cycles Target of 0 or no annual backflow incidents reported in Regional Water Supply

	<ul style="list-style-type: none"> • Target of 900 cross-control audits conducted annually
Increase community and municipal engagement opportunities	<ul style="list-style-type: none"> • Number of community outreach events the CRD participates in and/or supports annually* • Number of CRD educational workshops delivered or partnered on annually * • Number of stakeholders engaged through educational programming on biodiversity and ecological health issues * • Number of volunteer hours leveraged in restoration or stewardship activities (target 300 hours annually) • Increased participation in Onsite Wastewater Management workshops over 2015 levels

* Corporate indicator – more than one division may contribute to this measure.

Contact

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