

Service Plan for Environmental Resource Management

2016-2019
(2019)

Capital Regional District

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1 Overview

1.1 Division & Service Summary

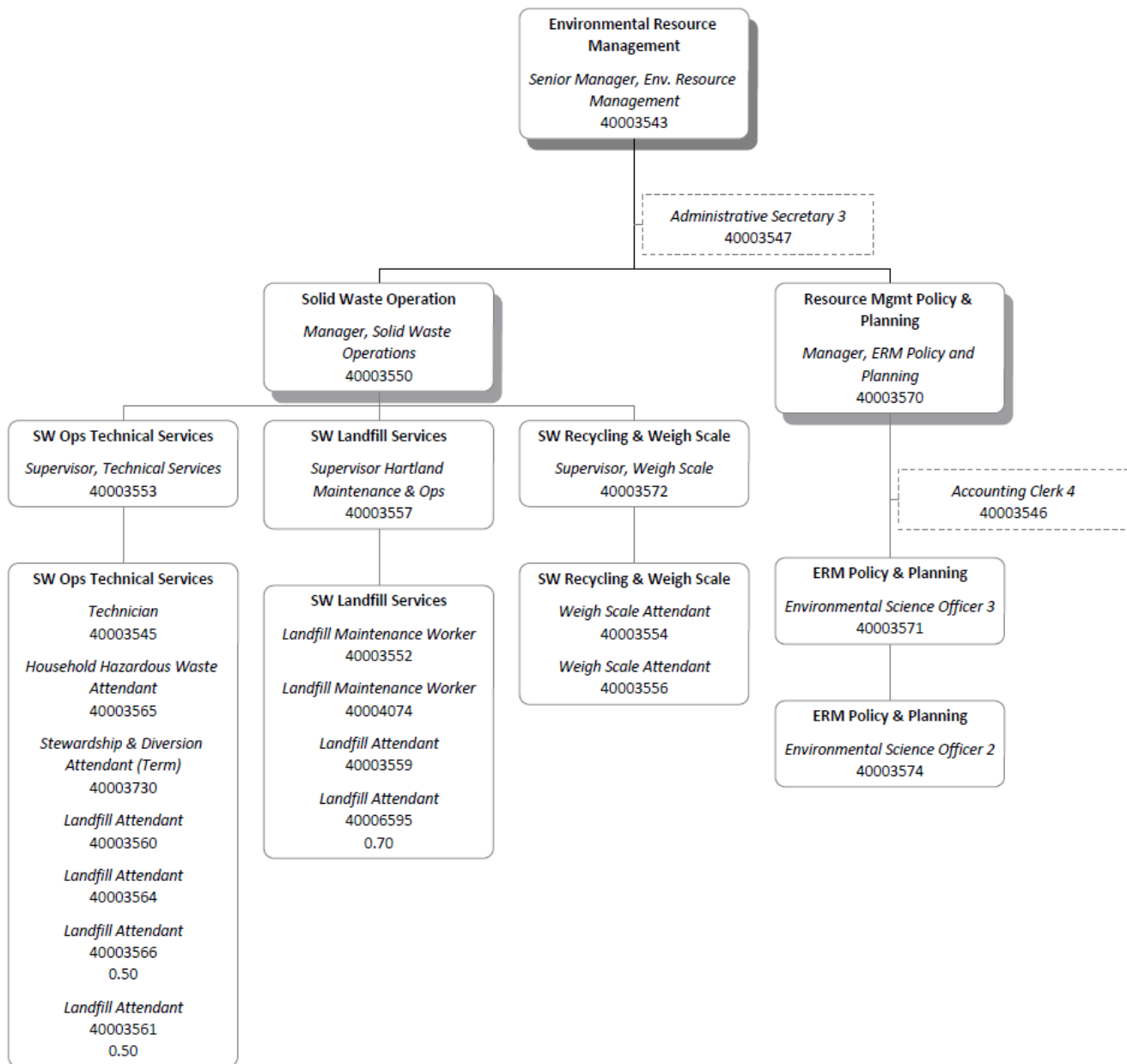
Environmental Resource Management's (ERM) mission is to efficiently and effectively manage the region's solid waste resources in an environmentally, socially and economically responsible manner. The ERM division is responsible for municipal solid waste management in the Capital Region, including waste reduction, recycling programs and operation of Hartland landfill.

The CRD sees waste as a commodity and seeks the highest and best use for these resources by applying the 5R hierarchy of Reduce, Reuse, Recycle, Resource Recovery and Residual Management. Services range from planning and policy development, bylaw and contract administration to landfill operations. The division is responsible for a new solid waste management plan, facility licensing, recycling and household hazardous waste collection programs, the regional kitchen scraps strategy, community education and support programs, landfill bans, as well as leachate and landfill gas management.

Service Purpose, Role or Overview	Participants	Funding Sources	CRD Board Committee and/or Commission Reporting Structure
Diversion Services Planning, Policy Recycling Programs	All jurisdictions in region	Landfill tipping fees Funding from product stewardship programs	Environmental Services Committee (ESC)
Landfilling Services Disposal Services and Environmental Compliance	All jurisdictions in region	Landfill tipping fees	ESC
Recovery Services Landfill gas recovery and electricity generation	All jurisdictions in region	Landfill tipping fees Sale of electricity	ESC

1.2 Organization Chart

Environmental Resource Management



1.3 Key Trends, Issues & Risks – Service Specific

Landfill tipping fee revenues cannot consistently be relied upon to fully cover the costs of both landfill operations and diversion programs. A long-term model for financial sustainability of the CRD solid waste function is required.

Diversion Services

- In the past couple of years, the CRD's per capita disposal rate has aligned with the Ministry's new waste disposal service target of 350kg/capita by 2020. The challenge will be to maintain the CRD's low disposal rate, as the recent economic growth in the region has resulted in increased tonnages at the landfill.

- The CRD has a mature solid waste management system with successful diversion programs. The remaining waste materials in the landfill will be more difficult and costly to divert.
- Lifecycle management of consumer products is shifting from local governments to producers through Extended Producer Responsibility (EPR) programs, but not always at full cost recovery. There are opportunities to divert more stewardship materials from the landfill.
- Planning and development of in-region or near region kitchen scraps processing capacity is ongoing (annual kitchen scraps diversion appears to have plateaued at 6,500 tonnes).
- A new Solid Waste Management Plan (SWMP) will provide direction for the future.
- A decrease in kitchen scraps tonnage is projected to be received at the Hartland transfer station in 2018 from 7,500 down to 6,500 tonnes/year. An increase in kitchen scraps tipping fees has resulted in kitchen scraps volumes being taken to lower-cost alternatives.
- Recent international marketplace changes, such as the National Sword policy implemented by China, which severely restricts importation of recyclable materials, may result in a reduction of the level of domestic recycling until alternative markets are established.

Landfilling Services

- The potential movement of garbage out of region for disposal remains a concern due to possible loss of revenue and reduced environmental oversight.
- Residual material is becoming more costly and difficult to manage as WorkSafe BC identifies an increasing variety of materials that need to be managed with heightened worker safety standards.
- Increasing waste volumes and tipping fee revenue due to healthy local economy and real estate market.
- General refuse tonnage received at Hartland landfill is anticipated to be 140,000 tonnes in 2019 due to sustained strong construction activity and Highwest landfill taking only selective customers.

Recovery Services

- Staff are continually investigating new integration and recovery opportunities to optimize landfill gas recovery and maximize resource recovery revenue.
- Board to consider the procurement of in-region or near region kitchen scraps processing capacity
- Board directed staff to further develop alternatives to optimize landfill gas utilization for approval and funding consideration through the 2019 budget process.

1.4 Link to Board Strategic Priorities

The Division has a link to the following strategic priorities:

INTEGRATED WASTE MANAGEMENT

- The CRD Board directed staff to focus on discrete Integrated Resource Management procurement opportunities in lieu of comprehensive technology procurement for integrated processing of all solid and liquid waste residuals.
- Integrated solid waste solutions are being explored through processing landfill gas into Renewable Natural Gas (RNG) and potential RNG synergies with the anaerobic digestion of kitchen scraps/yard waste.

CLIMATE CHANGE

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

AGRICULTURAL LAND AND FOOD SECURITY

- Review opportunities for regional agricultural incentives and initiate food security educational programming

PUBLIC ENGAGEMENT AND COMMUNICATIONS

- Develop public participation strategies, including implications and performance metrics, as a part of all major initiatives and implement more options for two-way dialogue
- Develop and execute an extensive public consultation plan to build public support for a major revision of the Solid Waste Management Plan

2 Services

2.1 Service Levels

Service Level Adjustments in Role/Scope		
Service	Base Year	Year 4 (2019)
Diversion Services		
Planning and Policy Development	SWMP development (currently at Stage 2)	Preparation of new SWMP for submission to Minister of Environment
	Administer 49 agreements and contracts	Adjust to meet service delivery needs, as required
	Administer 4 licensed transfer stations on Salt Spring under the Transfer Station Bylaw	Review and Assess
	Administer Compost Facilities Bylaw (no licensed facilities as of June 2014)	Review and Assess
Recycling Programs Delivery	Curbside collection of packaging & printed paper (PPP) and glass	New 2019 Recycle BC agreement may result in further service level changes
	Curbside collection from 123,000 households (HH)	Adjust to meet service delivery needs, as required
	PPP collection from 6 Electoral Area depots	Review of Recycle BC agreements may result in further service level changes
	Hartland recycling facility collects over 80 items from 28 product categories	Review and Assess
	Education to support all recycling programs	Adjust to meet service delivery needs, as required
	Kitchen scraps strategy in place (15,000 tonnes diverted in 2014)	Review and Assess
	Household Hazardous Waste (HHW) program (Hartland, mobile events on Salt Spring and Gulf Islands, as well as off-site pickup of orphan HHW materials)	No change
Landfilling Services		
Disposal services	Administer five contracts and agreements	Adjust to meet service delivery needs, as required

	Residential service at bin area (Mon – Fri 9 am to 5 pm, Sat 9 am to 2 pm) 45,000 vehicles	Adjust to meet service delivery needs, as required
	Commercial service at active face (Mon – Fri 7 am to 5 pm, Sat 9 am to 2 pm) 120,000 tonnes @\$110/tonne	Tervita landfill (Highlands) is reaching capacity. Construction & demolition tonnage at Hartland may increase.
	Controlled waste 7,500 tonnes @\$157/tonne	Review and Assess
Environmental Compliance	Leachate management (meet or exceed Regional Source Control Program)	No change
	Environmental monitoring (meet or exceed Ministry requirements)	No change
Recovery Services		
Provide Recovery Services	Landfill gas capture (current capture rate 55%)	Review and Assess
	Electricity generation equivalent to powering 1,100 homes	Review and assess Develop landfill gas utilization project , based on Board direction

2.2 Workforce Considerations

Workforce (FTEs)					
Service	Base Year	Year 1 (2016)	Year 2 (2017)	Year 3 (2018)	Year 4 (2019)
Diversion	12.25	12.25	12.25	12.25	12.25
Landfilling	8.26	8.26	8.26	8.26	8.26
Recovery	1.19	1.19	1.19	1.19	1.19
Total FTE		21.7	21.7	21.7	21.7
Supplementary Term (counted above)	1.7	1.0	1.0	1.0	1.0

- *In the 2013 budget, there were two 3-year term positions created. One was a 0.7 FTE Landfill Breaks position to provide daily break relief for up to six landfill employees. The second was a 1.0 FTE Stewardship and Diversion Attendant to address an increasing number of stewardship commodities collected at the Hartland Depot, as well as conduct on-site maintenance.*
- *For 2016, the 0.7 FTE Landfill Breaks position has been added as a permanent position. There is a demonstrated ongoing need to provide break relief to maintain service levels during regular operating hours.*
- *For 2016, the 1.0 FTE Stewardship and Diversion Attendant has been continued for a further 4-year term, renewed annually, and will now provide labour in relation to stewardship commodities, as well as*

the operation of the new Kitchen Scraps Transfer Station at Hartland. The work associated with this position will continue at a full-time capacity, and be extended annually until 2019.

Anticipated workforce adjustments in 2020:

- Ongoing workload associated with waste diversion initiatives will likely result in this position converting from a term to full-time permanent Waste Diversion Attendant. Increased customer volume, site workload and Hartland being a six-day-a-week operation have resulted in an ongoing and consistent need for auxiliary staff. Continued evaluation of Hartland staffing requirements will occur in 2019 to confirm the anticipated need for 2 regular part-time landfill attendants starting in 2020.

3 Divisional Initiatives & Budget Implications

Title & Estimated Completion Date	Description	Priority	Budget Implications
2019			
Solid Waste Management Plan	Conduct public consultation and complete plan for approval by Board and Ministry	Integrated Waste Management	Core budget
Hartland North Improvements	Make necessary capital improvements and operational adjustments at Hartland Landfill to facilitate siting of the sewage project's waste digestion facility at Hartland North	Integrated Waste Management	To be determined

4 Goals & Performance Indicators

Service Goals	Indicators or Measures
Diversion Services Manage solid waste in an environmentally, socially and economically responsible manner	<ul style="list-style-type: none"> • Adoption of Solid Waste Management Plan by Board and approval of plan by provincial ministry in 2019 • Revenue to cost ratio ≥ 1 by 2020 (current ratio is <1) • Decrease waste disposal per capital (target <350 kg)
Landfilling Services Continue to optimize landfill operations	<ul style="list-style-type: none"> • Optimize use of landfill cover material at Hartland (target 5:1 garbage to cover ratio) • Increase compaction rate at Hartland (target minimum 850kg/m³)
Recovery Services Optimize landfill gas resource recovery at Hartland	<ul style="list-style-type: none"> • Percentage of methane gas captured at Hartland Landfill (75% target)

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