

# **CAPITAL REGIONAL DISTRICT**

## **2025 BUDGET**

### **Environmental Resource Management**

#### **ENVIRONMENTAL SERVICES COMMITTEE REVIEW**

September 2024

**PARTICIPATION:**

All costs recovered through tipping fees & Sale of Goods and Services.

**MAXIMUM LEVY:**

No requisition

**MAXIMUM CAPITAL DEBT:**

Authorized:	LA Bylaw 3518	12,270,000
Borrowed:	SI Bylaw 3547	(2,000,000)
	SI Bylaw 3677	(2,500,000)
	SI Bylaw 3769	(2,200,000)

Remaining:	Expired May 14, 2013	<u>\$5,570,000</u>
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Total debt outstanding (LA3518) at Dec 31, 2023 \$546,598

Final debt payments (LA3518) in 2026.

Authorized:	LA Bylaw 4515	36,000,000
Borrowed:	SI Bylaw 4562	(7,450,000)
	SI Bylaw 4597	(4,300,000)

Remaining:		<u>\$24,250,000</u>
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Total debt outstanding (LA4515) at Dec 31, 2023 \$7,450,000

Final debt payments (LA4515) in 2038.

**COMMISSION:****OPERATING COSTS - REFUSE DISPOSAL:**

To be recovered through user fees & sale of goods and services

**RESERVE FUND:**

Solid Waste Refuse Disposal Reserve Fund, Bylaw No. 2164 (Sept. 8, 1993).

Waste Reduction Sustainability Operating Reserve Fund Bylaw No. 3867 (Nov 14, 2012).

**1.521 & 1.525 - ERM**

**GENERAL PROGRAM EXPENDITURES:**

Diversion Services  
Landfilling Services  
Energy Recovery Services

**TOTAL OPERATING COSTS**

\*Percentage Increase over prior year

**CAPITAL / RESERVE**

Transfer to Equipment Replacement Fund  
Transfer to Operating Reserve Fund  
Transfer to General Capital Reserve Fund  
Transfer to Landfill Closure Capital Reserve Fund  
Transfer to Millstream Remediation Debt

**TOTAL CAPITAL / RESERVES**

Debt Expenditures

**TOTAL COSTS**

\*Percentage Increase over prior year

Allocation Recovery

**OPERATING COSTS LESS INTERNAL RECOVERIES**

**FUNDING SOURCES (REVENUE)**

**Surplus / (Deficit)**

Balance C/F from Prior to Current year  
Sale of Renewable Natural Gas  
Revenue - Other  
Transfer from Operating Reserve

**TOTAL REVENUE**

**TIPPING FEE (based on inflation)**

PROJECTED TONNAGE (General Refuse)

\*Percentage Increase over prior year

**AUTHORIZED POSITIONS:**

On-going  
Term

**BUDGET REQUEST**

	2024 BOARD BUDGET	2024 ESTIMATED ACTUAL	2025 CORE BUDGET	2025 ONGOING	2025 ONE-TIME	2025 TOTAL	2026 TOTAL	2027 TOTAL	2028 TOTAL	2029 TOTAL
Diversion Services	22,718,789	20,950,656	28,130,424	329,200	213,750	28,673,374	26,763,711	26,920,510	27,274,712	27,635,787
Landfilling Services	12,345,185	11,595,904	13,163,957	102,123	1,723,639	14,989,719	13,881,968	13,958,954	14,290,573	14,580,314
Energy Recovery Services	1,568,723	1,229,728	1,408,309	2,809,050	-	4,217,359	4,331,215	4,381,344	4,473,018	4,566,593
<b>TOTAL OPERATING COSTS</b>	<b>36,632,697</b>	<b>33,776,288</b>	<b>42,702,690</b>	<b>3,240,373</b>	<b>1,937,389</b>	<b>47,880,452</b>	<b>44,976,894</b>	<b>45,260,809</b>	<b>46,038,303</b>	<b>46,782,694</b>
*Percentage Increase over prior year		-7.8%	16.6%	8.8%	5.3%	30.7%	-6.1%	0.6%	1.7%	1.6%
<b>CAPITAL / RESERVE</b>										
Transfer to Equipment Replacement Fund	200,000	200,000	204,000	-	-	204,000	204,000	204,000	204,000	204,000
Transfer to Operating Reserve Fund	356,635	356,635	1,011,772	-	-	1,011,772	1,224,040	-	-	-
Transfer to General Capital Reserve Fund	1,100,370	2,454,950	3,783,990	-	-	3,783,990	474,000	474,000	474,000	474,000
Transfer to Landfill Closure Capital Reserve Fund	455,120	455,120	464,222	-	-	464,222	473,507	482,977	492,637	502,489
Transfer to Millstream Remediation Debt	6,262	6,262	3,717	-	-	3,717	-	-	-	-
<b>TOTAL CAPITAL / RESERVES</b>	<b>2,118,387</b>	<b>3,472,967</b>	<b>5,467,701</b>	<b>-</b>	<b>-</b>	<b>5,467,701</b>	<b>2,375,547</b>	<b>1,160,977</b>	<b>1,170,637</b>	<b>1,180,489</b>
Debt Expenditures	1,229,666	1,135,336	2,026,178	-	-	2,026,178	2,718,145	2,764,022	2,770,731	2,797,561
<b>TOTAL COSTS</b>	<b>39,980,750</b>	<b>38,384,591</b>	<b>50,196,569</b>	<b>3,240,373</b>	<b>1,937,389</b>	<b>55,374,331</b>	<b>50,070,586</b>	<b>49,185,808</b>	<b>49,979,670</b>	<b>50,760,744</b>
*Percentage Increase over prior year		-4.0%	25.6%	8.1%	4.8%	38.5%	-9.6%	-1.8%	1.6%	1.6%
Allocation Recovery				(202,000)		(202,000)	(207,000)	(211,500)	(216,000)	(220,500)
<b>OPERATING COSTS LESS INTERNAL RECOVERIES</b>	<b>39,980,750</b>	<b>38,384,591</b>	<b>50,196,569</b>	<b>3,038,373</b>	<b>1,937,389</b>	<b>55,172,331</b>	<b>49,863,586</b>	<b>48,974,308</b>	<b>49,763,670</b>	<b>50,540,244</b>
<b>FUNDING SOURCES (REVENUE)</b>										
<b>Surplus / (Deficit)</b>										
Balance C/F from Prior to Current year										
Sale of Renewable Natural Gas	(495,000)	-	(8,889,250)	-	-	(8,889,250)	(8,810,066)	(8,746,722)	(8,693,936)	(8,651,707)
Revenue - Other	(10,254,750)	(10,238,922)	(13,300,320)	(329,200)	-	(13,629,520)	(13,664,520)	(13,664,520)	(13,664,520)	(13,664,520)
Transfer from Operating Reserve	(2,740,000)			(2,507,173)	(1,937,389)	(4,444,562)	-	(94,565)	(1,557,215)	(2,146,517)
<b>TOTAL REVENUE</b>	<b>(13,489,750)</b>	<b>(10,238,922)</b>	<b>(22,189,570)</b>	<b>(2,836,373)</b>	<b>(1,937,389)</b>	<b>(26,963,332)</b>	<b>(22,474,586)</b>	<b>(22,505,807)</b>	<b>(23,915,671)</b>	<b>(24,462,744)</b>
<b>TIPPING FEE (based on inflation)</b>	<b>(26,491,000)</b>	<b>(28,145,670)</b>	<b>(28,007,000)</b>	<b>(202,000)</b>	<b>-</b>	<b>(28,209,000)</b>	<b>(27,389,001)</b>	<b>(26,468,501)</b>	<b>(25,848,000)</b>	<b>(26,077,500)</b>
PROJECTED TONNAGE (General Refuse)	160,000	165,516	155,000			155,000	145,000	135,000	125,000	125,000
*Percentage Increase over prior year		6.2%	5.7%	0.8%	0.0%	6.5%	-2.9%	-3.4%	-2.3%	0.9%
<b>AUTHORIZED POSITIONS:</b>										
On-going	28.70	28.70	34.20			34.20	34.70	34.70	34.70	34.70
Term	1.00	1.00	1.00			1.00	1.00			

Change in Budget 2024 to 2025  
Service: 1.521 & 1.525 ERM

Total Expenditure

Comments

2024 Budget 39,980,750

Change in Salaries:

Base salary and benefit change	81,744	Inclusive of estimated collective agreement changes
Step increase/paygrade change	(203,889)	
Other (explain as necessary)	(8,000)	
3.0 FTE Environmental Analyst & Attendant	304,011	2025 IBC 3a-1.3 Hartland 2100
2.0 FTE Managers	419,062	2025 IBC 1b-4.2 Innovative Projects Work Unit 2025
Reduction in auxiliary wages	(100,000)	
Total Change in Salaries	492,928	

Other Changes:

Trf to Capital Reserve Fund	2,683,620	To fund 2025 Capital Plan requirements
Contract for Services		
-Waste Diversion	1,220,000	Additional costs related to processing of materials contract (2024 IBC 3a-1.1 Hartland 2100)
	329,200	Additional costs related to kitchen scraps contract
	255,000	Additional costs related to curbside collection contract
	213,750	To provide the waste flow management consultant support (2025 IBC 3a-1.3 Hartland 2100)
-RNG Project	1,417,390	To fund for Annual O&M contract for the RNG Project
-Landfilling	1,700,000	To reflect the anticipated costs related to heavy equipment services and landfilling of standard refuse and controlled waste
Program Development	1,725,000	To fund for the Material Stream Diversion - Hauler incentive
	1,000,000	To fund for Solid Waste Management Plan - implement new programming
Electricity Costs	972,598	To fund for the electricity cost for the RNG Project
Standard Overhead Allocation	1,644,428	Increase in 2024 operating costs
Bylaw Allocation	86,778	2025 IBC 3a-1.3 Hartland 2100
Human Resources Allocation	25,987	Increase in 2024 salary budget; corporate safety resourcing
Insurance costs	16,850	Recognize growing insurance premiums
Building Occupancy	13,867	
Debt Expenditures	796,512	To fund 2025 Capital Plan requirements
Trf to Operating Reserve Fund	655,136	To mitigate fluctuations in tipping fee revenue
Other Costs	144,537	
Total Other Changes	14,900,653	

2025 Budget 55,374,331

Summary of % Expense Increase

2025 Base salary and benefit change	0.2%
2025 IBC Expense	5.6%
Waste Diversion	11.3%
RNG Project	6.0%
Capital Transfers	6.7%
Landfilling	4.3%
Standard Overhead Allocation	4.1%
Balance of increase	0.3%
% expense increase from 2024:	38.5%

% Requisition increase from 2024 (if applicable):

%

Requisition funding is (x)% of service revenue

Overall 2024 Budget Performance  
(expected variance to budget and surplus treatment)

'Overall Solid Waste Tipping Revenue for 2024 is forecasted to be higher than budget by \$1.6 million. Tipping fee revenues higher due to an increased quantity of solid waste being received. Recycling revenue for scrap metal (price fluctuates with the global commodity markets) is also higher than budgeted. Landfill Operations/Diversion Services/Energy Recovery services expenses are forecasted to be lower than budget for 2024 by \$2.8 million. The estimated surplus will be transferred for the Capital Reserve Fund.

**CAPITAL REGIONAL DISTRICT**  
**FIVE YEAR CAPITAL EXPENDITURE PLAN SUMMARY - 2024 to 2029**

<b>Service No.</b>	<b>1.521</b>							
	<b>Environmental Resource Management</b>	<b>Carry Forward from 2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>	<b>2029</b>	<b>TOTAL</b>

**EXPENDITURE**

Buildings	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Equipment	\$0	\$455,000	\$385,000	\$385,000	\$385,000	\$385,000	\$1,995,000
Land	\$0	\$0	\$1,000,000	\$0	\$0	\$0	\$1,000,000
Engineered Structures	\$3,100,000	\$15,306,000	\$11,125,000	\$6,600,000	\$2,350,000	\$1,600,000	\$36,981,000
Vehicles	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	<b>\$3,100,000</b>	<b>\$15,761,000</b>	<b>\$12,510,000</b>	<b>\$6,985,000</b>	<b>\$2,735,000</b>	<b>\$1,985,000</b>	<b>\$39,976,000</b>

**SOURCE OF FUNDS**

Capital Funds on Hand	\$500,000	\$1,406,000	\$125,000	\$0	\$0	\$0	\$1,531,000
Debenture Debt (New Debt Only)	\$1,500,000	\$8,650,000	\$2,350,000	\$0	\$350,000	\$0	\$11,350,000
Equipment Replacement Fund	\$250,000	\$455,000	\$385,000	\$385,000	\$635,000	\$385,000	\$2,245,000
Grants (Federal, Provincial)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Donations / Third Party Funding	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Reserve Fund	\$850,000	\$5,250,000	\$9,650,000	\$6,600,000	\$1,750,000	\$1,600,000	\$24,850,000
	<b>\$3,100,000</b>	<b>\$15,761,000</b>	<b>\$12,510,000</b>	<b>\$6,985,000</b>	<b>\$2,735,000</b>	<b>\$1,985,000</b>	<b>\$39,976,000</b>

CAPITAL REGIONAL DISTRICT

5 YEAR CAPITAL PLAN

2024 - 2028

Service #:	1.521
Service Name:	Environmental Resource Management

				PROJECT BUDGET & SCHEDULE									
Project Number	Capital Expenditure Type	Capital Project Title	Capital Project Description	Total Project Budget	Asset Class	Funding Source	Carryforward from 2024	2025	2026	2027	2028	2029	5 - Year Total
16-06	Renewal	Replacing of Small Equipments	Replacing of Small Equipments	\$ 1,430,000	E	ERF		\$ 240,000	\$ 270,000	\$ 270,000	\$ 270,000	\$ 270,000	\$ 1,320,000
17-01	Renewal	Gas & Leachate Collection Pipe Extension	Gas & Leachate Collection Pipe Extension	\$ 2,550,000	S	Res		\$ 650,000	\$ 500,000	\$ 550,000	\$ 550,000	\$ 550,000	\$ 2,800,000
17-02	Renewal	Aggregate Production for Internal Use	Aggregate Production for Internal Use	\$ 15,485,000	S	Res		\$ 850,000	\$ 850,000	\$ 850,000	\$ 850,000	\$ 850,000	\$ 4,250,000
17-02	Renewal	Aggregate Production for Internal Use	Aggregate Production for Internal Use	\$	S	Cap							\$ -
17-04	Renewal	Progressive Closure of External Faces	Progressive Closure of External Faces	\$ 10,000,000	S	Res		\$ -	\$ 6,000,000	\$ 4,000,000			\$ 10,000,000
17-07	Renewal	Computer Equipment	Computer Equipment	\$ 71,000	E	ERF		\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 75,000
17-09	Renewal	Vehicle Replacements	Vehicle Replacements	\$ 500,000	E	ERF		\$ 200,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 600,000
17-12	Renewal	Hartland Environmental Performance Model	Hartland Environmental Performance Model	\$ 225,000	S	Cap		\$ -		\$ -	\$ -		\$ -
17-14	New	Landfill Gas Utilization	Landfill Gas Utilization	\$ 7,213,000	S	Debt							\$ -
17-14	New	Landfill Gas Utilization	Landfill Gas Utilization	\$	S	Cap							\$ -
17-14	New	Landfill Gas Utilization	Landfill Gas Utilization	\$ 23,718,000	S	Res							\$ -
18-01	New	Interim Covers	Interim Covers - West and North Slopes	\$ 1,000,000	S	Res				\$ 200,000	\$ 200,000	\$ 200,000	\$ 600,000
22-01	Renewal	Sedimentation Pond Relining	NW Sedimentation Pond Relining & Expansion	\$ 1,000,000	S	Res			\$ 1,000,000				\$ 1,000,000
22-07	Study	Recycling Area Upgrades	Recycling Area Upgrades	\$ 225,000	S	Res							\$ -
22-10	New	Storm Water Sedimentation pond Emergency Repairs	Storm Water Sedimentation pond Emergency Repairs	\$ 250,000	E	Res							\$ -
23-02	New	Contractor Workshop Relocation	Contractor Workshop Relocation	\$ 1,250,000	S	Res	650,000	\$ 650,000					\$ 650,000
23-02	New	Contractor Workshop Relocation	Contractor Workshop Relocation	\$	S	Cap	500,000	\$ 500,000					\$ 500,000
23-04	New	North End Commercial Access Improvements	North End Commercial Access Improvements	\$ 700,000	S	Res							\$ -
23-05	New	Existing Manual and Commercial Scale Upgrades	Existing Manual and Commercial Scale Upgrades	\$ 250,000	S	ERF	250,000				\$ 250,000		\$ 250,000
24-01	New	Cell 5&6 GRW	Cell 5&6 Gravity Retaining Wall Construction	\$ 2,000,000	S	Debt	750,000	\$ 750,000	\$ 1,250,000				\$ 2,000,000
24-02	Study	Hartland North Master Plan	Hartland North Master Plan	\$ 150,000	S	Res					\$ 150,000		\$ 150,000
24-05	New	Cell 5 Liner Construction	Cell 5 Liner Construction	\$ 7,900,000	S	Debt		\$ 4,900,000					\$ 4,900,000
24-06	New	Cell 1, 2 & 3 Transition Liner	Cell 1, 2 & 3 Transition Liner	\$ 4,000,000	S	Debt		\$ 2,000,000					\$ 2,000,000
24-07	New	Relocation of N. Toe Road Sedimentation Pond	Relocation of N. Toe Road Sedimentation Pond	\$ 500,000	S	Debt			\$ 500,000				\$ 500,000
25-01	New	NE & NW Aggregate Stockpile cover	NE & NW Aggregate Stockpile cover	\$ 750,000	S	Debt	750,000	\$ 750,000					\$ 750,000
25-02	Renewal	North End Wheel Wash	North End Wheel Wash	\$ 800,000	S	Res	200,000	\$ 400,000					\$ 400,000
25-03	New	Landfill Gas capture to meet New Federal Regs	Landfill Gas capture to meet New Federal Regs	\$ 250,000	S	Res		\$ 100,000	\$ 150,000				\$ 250,000
25-04	New	Hartland Operating Certificate Renewal	Hartland Operating Certificate Renewal	\$ 100,000	S	Res		\$ 100,000					\$ 100,000
25-05	New	Hartland Leachate Pipe Mods for Pigging	Hartland Leachate Pipe Mods for Pigging	\$ 150,000	S	Res			\$ 150,000				\$ 150,000
25-06	New	Quarry Wall liner	Quarry Wall liner	\$ 250,000	S	Res		\$ 250,000					\$ 250,000
25-07	New	Cell 4, 5A & 5B Construction Field QA/QC	Cell 4, 5A & 5B Construction Field QA/QC	\$ 500,000	S	Debt		\$ 250,000	\$ 250,000				\$ 500,000
25-08	New	RNG Optimization Projects	RNG Optimization Projects	\$ 831,000	S	Cap		\$ 831,000					\$ 831,000
25-08	New	RNG Optimization Projects	RNG Optimization Projects	\$ 1,000,000	S	Res		\$ 1,000,000					\$ 1,000,000
25-09	New	Hartland North - Willis P Driveway Upgrades	Hartland North - Willis P Driveway Upgrades	\$ 500,000	S	Res		\$ 500,000					\$ 500,000

Service #:

1.521

Service Name:

Environmental Resource Management

				PROJECT BUDGET & SCHEDULE									
Project Number	Capital Expenditure Type	Capital Project Title	Capital Project Description	Total Project Budget	Asset Class	Funding Source	Carryforward from 2024	2025	2026	2027	2028	2029	5 - Year Total
25-10	New	Hartland North Electrical	Hartland North Electrical	\$ 750,000	S	Res		\$ 750,000					\$ 750,000
25-11	New	Hartland Environmental Monitoring and Containment Projects	Hartland Environmental Monitoring and Containment Projects	\$ 75,000	S	Cap		\$ 75,000					\$ 75,000
26-01	New	Cell 4& 5 Bottom Lift Gas Wells / Leachate Drain	Cell 4 Bottom Lift Gas Wells / Leachate Drain	\$ 700,000	S	Debt			\$ 350,000		\$ 350,000		\$ 700,000
26-02	New	Hartland 5 year DOCP update	Hartland 5 year DOCP update	\$ 125,000	S	Cap			\$ 125,000				\$ 125,000
26-03	New	ERM Land Acquisition	ERM Land Acquisition	\$ 1,000,000	L	Res			\$ 1,000,000				\$ 1,000,000
26-04	New	RTF Biogas Tie-In to RNG	RTF Biogas Tie-In to RNG	\$ 1,000,000	S	Res				\$ 1,000,000			\$ 1,000,000
													\$ -
													\$ -
			GRAND TOTAL	\$ 89,198,000			\$ 3,100,000	\$ 15,761,000	\$ 12,510,000	\$ 6,985,000	\$ 2,735,000	\$ 1,985,000	\$ 39,976,000

Service: 1.521 Environmental Resource Management

Project Number	16-06	Capital Project Title	Replacing of Small Equipments	Capital Project Description	Replacing of Small Equipments
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Project Rationale Replacement of small equipments that have reached their end of life

Project Number	17-01	Capital Project Title	Gas & Leachate Collection Pipe Extension	Capital Project Description	Gas & Leachate Collection Pipe Extension
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Project Rationale To meet BC Ministry of Environment regulations, gas wells and leachate collectors are installed in each lift of refuse and have to be connected to the existing header system to collect methane gas. Well heads, valves, condensation traps, monitoring points, and piping has to be installed to each gas well and leachate collector. The gas is then conveyed to the gas plant, and the leachate is conveyed to the lined storage lagoons and then discharged into the municipal sewer. Cost estimate is derived from historical construction information and includes consulting costs to layout pipe design/headers.

Project Number	17-02	Capital Project Title	Aggregate Production for Internal Use	Capital Project Description	Aggregate Production for Internal Use
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Project Rationale Producing aggregate annually from shot rock that was quarried to make airspace provides the CRD with a number of benefits including: prolonging the landfill life (creating landfilling airspace), providing aggregate for on-site needs, effective interception of shallow groundwater inflows, cost and space savings by not having to import aggregate, and reduced social and environmental impacts by not having to truck in aggregate. Cost estimate is derived from historical tender data.

Project Number	17-04	Capital Project Title	Progressive Closure of External Faces	Capital Project Description	Progressive Closure of External Faces
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Project Rationale As specified under the BC Ministry of Environments Landfill Criteria for Municipal Solid Waste, completed landfill areas and slopes must be closed with a progressive closure system on an annual basis. The closure system consists of a clay or synthetic cover placed over a gravel drainage layer This progressive closure system stays in place until economies of scale makes it cost effective to proceed with installation of a final closure system. The completion of Cell 3 in 2025/2026 requires closure of the areas that will not be filled against going forward.



Service:

1.521

Environmental Resource Management

Project Number 17-07

Capital Project Title

Computer Equipment

Capital Project Description Computer Equipment

Project Rationale Replacement of computer equipment due to end of life cycle

Project Number

17-09

Capital Project Title

Vehicle Replacements

Capital Project Description

Vehicle Replacements

Project Rationale Replacement of vehicle due to end of life cycle

Project Number 17-12

Capital Project Title

Hartland Environmental Performance Model

Capital Project Description Hartland Environmental Performance Model

Project Rationale The CRD is interested in developing a site-specific computer model that integrates engineering design with environmental performance for the Hartland Landfill. In 2016 the BC MOE made revisions to the BC Landfill Criteria. Many of Hartland's design and operations are already compliant, however a preliminary review identified additional conformance requirements for Hartland under the status quo. The model will enable the CRD to better demonstrate technical justification and environmental conformance over the lifespan of the landfill.

Project Number 17-14

Capital Project Title

Landfill Gas Utilization

Capital Project Description Landfill Gas Utilization

Project Rationale The landfill gas is currently utilized as fuel to power a generator system to generate electricity and sold to BC Hydro. The excess landfill gas which is approximately 50% currently generated from the landfill is destructed by burning. ERM and EE have initiated a project to process the landfill gas to a higher quality could be utilized as natural gas. Fortis BC is interested to purchase the processed landfill gas from the CRD. The projected gas revenues from Fortis is significantly higher than the current arrangement with BC Hydro. This project is to carry out the feasibility study, preliminary engineering, and conduct business case and triple-bottom-line analysis, if the project proved to be feasible the detailed design and implementation will be followed.

Service: 1.521 Environmental Resource Management

Project Number	18-01	Capital Project Title	Interim Covers	Capital Project Description	Interim Covers - West and North Slopes
Project Rationale	Following Golder's Leachate Management Plan, once an active landfilling cell is completed, but hasn't reached future filling contours, tarping is required to shed rainwater and divert to the freshwater collection system to prevent it from entering the leachate collection system and overwhelming the leachate storage ponds. Cost estimate is derived from historical in-house cost data.				

Project Number	22-01	Capital Project Title	Sedimentation Pond Relining	Capital Project Description	NW Sedimentation Pond Relining & Expansion
Project Rationale	To prevent leakage and fines from migrating off site into the north freshwater drainage area, the sedimentation pond must be relined. In addition the sedimentation pond must be enlarged to meet MOE requirements for retaining 24 hrs of precipitation from a 100 year storm event. Finally, the sedimentation pond requires inlet valving and piping to permit flows to be diverted to the upper lagoon in the event there is an onsite spill that must be contained and diverted from fresh water courses.				

Project Number	22-07	Capital Project Title	Recycling Area Upgrades	Capital Project Description	Recycling Area Upgrades
Project Rationale	The project has been set up to conduct a design review of the existing recycling area at Hartland and investigate changes relating to efficient accessibility due to growing public interest in the depot and to include safety considerations such as protection from the sun during hot weather.				

Project Number	22-10	Capital Project Title	Storm Water Sedimentation pond Emergency Repairs	Capital Project Description	Storm Water Sedimentation pond Emergency Repairs
Project Rationale	Leachate has been detected getting into the fresh water sedimentation pond. This project has been set up to explore sources of contamination and make remedial works to the pond, incoming pipes and outgoing infrastructure as necessary to ensure containment of any contaminants. This project also includes the installation of any new monitoring wells, including consulting fees to locate , prove/commission and report findings/recommendations.				

Project Number	23-02	Capital Project Title	Contractor Workshop Relocation	Capital Project Description	Contractor Workshop Relocation
Project Rationale	The current contractors workshop is located in the future Cell 5 of the landfill and must be relocated so critical landfill infrastructure can be completed for Cell 4, 5 and 6. This project includes removal of the existing structure and reuse (if economical) in a new location adjacent to future cells so the operations contractor can conduct repairs on large landfill operations equipment (Packer, Bull-Dozer, excavators etc).				

<b>Service:</b>	<b>1.521</b>	<b>Environmental Resource Management</b>
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<b>Project Number</b>	23-04	<b>Capital Project Title</b>	North End Commercial Access Improvements	<b>Capital Project Description</b>	North End Commercial Access Improvements
<b>Project Rationale</b>	This project includes necessary improvements to ensure the North Entrance and Scales are equipped for fully automated commercial access off Willis Point Road when Cell 4 is ready for filling. Improvements include landscaping, scale house improvements, automated gates, staging lanes, card readers/scanners, RFID systems, scale safety rails, bollards, radio intercoms, sidewalks, signage, etc.				

<b>Project Number</b>	23-05	<b>Capital Project Title</b>	Existing Manual and Commercial Scale Upgrades	<b>Capital Project Description</b>	Existing Manual and Commercial Scale Upgrades
<b>Project Rationale</b>	The South Entrance Commercial scale approach/exit ramps are in poor condition. This project includes sawcutting and removal of old scale ramps and pouring new concrete with Rebar to eliminate further safety hazards to trucks and employees. The South Entrance Manual Scale deck is in poor condition. It requires replacement and/or major repair. This project accounts for all work that needs to be done after detailed assement to ensure life of the existing manual and commercial scales can continue reliably for the next 20 years.				

<b>Project Number</b>	24-01	<b>Capital Project Title</b>	Cell 5&6 GRW	<b>Capital Project Description</b>	Cell 5&6 Gravity Retaining Wall Construction
<b>Project Rationale</b>	This project will allow for the construction of a new mounded structural earth berm north of cell 1&2 at 5 corners intersection to serve as the new toe of cells 5 & 6. As part of this berm, the project includes installation of a critical sub-grade landfill leachate containment system (grout wall/curtain) and raising the clay containment berm from 130mAsl to 135mASL to ensure leachate capture from future landfill cells 4, 5 & 6. The project also includes relocation of any existing infrastructure (LFG, Leachate, Water, electrical etc) that currently resides in the future footprint of the MSE berm.				

<b>Project Number</b>	24-02	<b>Capital Project Title</b>	Hartland North Master Plan	<b>Capital Project Description</b>	Hartland North Master Plan
<b>Project Rationale</b>	With the recent completion of the new Residuals Treatment Facility and associated access and new scales at Hartland North, this design project will ensure that there is adequate future planning and integration with the existing landfill site				

<b>Project Number</b>	24-05	<b>Capital Project Title</b>	Cell 5 Liner Construction	<b>Capital Project Description</b>	Cell 5 Liner Construction
<b>Project Rationale</b>	A new drainage and liner system will ensure effective removal of leachate from within the new Cell 5 area and prevent any off site migration. The liner will also include an underdrain which will relieve pore pressure and ensure fresh ground water does not contribute to ongoing leachate collection and processing. Improvements include all temporary and permanent access road and related infrastructure to allow refuse to be deposited in Cell 5.				

<b>Project Number</b>	24-06	<b>Capital Project Title</b>	Cell 1, 2 & 3 Transition Liner	<b>Capital Project Description</b>	Cell 1, 2 & 3 Transition Liner
<b>Project Rationale</b>	A new drainage and liner system will ensure effective removal of leachate above Cells 1 & 2 from garbage placed ontop of it from cells 4, 5 and 6. This liner provides continuity, separation and acts as a transition between old cells of the landfill and cells 4-6. The liner will also include an underdrain which will relieve pore pressure and ensure leachate from Cell 1, 2 & 3 can properly drain to heal basin or the upper lagoon. Also included is an access road to anchor the transition liner.				

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Project Number	24-07	Capital Project Title	Relocation of N. Toe Road Sedimentation Pond	Capital Project Description	Relocation of N. Toe Road Sedimentation Pond
Project Rationale	The North Toe Road fresh water sedimentation collection pond sits on top of Cell 1 garbage. The future Gravity Retaining Wall will be constructed on top of the pond so it must be relocated.				

Project Number	25-01	Capital Project Title	NE & NW Aggregate Stockpile cover	Capital Project Description	NE & NW Aggregate Stockpile cover
Project Rationale	This project allows for mitigation measures needed to protect the environment from minerals that may runoff the stockpiles from precipitation. Mitigation includes the deployment of a temporary impermeable membranes overtop the NE and NW, installation of ground/surface monitoring wells, improvement projects intended to intercept and convey impacted ground/surface water to leachate disposal collectors, including any consultant work required to design/direct staff on the mitigation measures.				

Project Number	25-02	Capital Project Title	North End Wheel Wash	Capital Project Description	North End Wheel Wash
Project Rationale	This project accounts for a new commercial truck wheel wash system to be installed on the North End to ensure trucks don't track mud onto Willis Point Road. Project includes a temporary wheel wash needed until the final Cell 5 access roads are ready to be utilized.				

Project Number	25-03	Capital Project Title	Landfill Gas capture to meet New Federal Regs	Capital Project Description	Landfill Gas capture to meet New Federal Regs
Project Rationale	Environment & Climate Change Canada has released a proposed Landfill Methane Regulation that is expected to come into force in Q1/Q2 of 2024, with the intent of reducing fugitive landfill emissions across the country. The regulation sets thresholds for surface emissions at landfills emitting more than 10,000 tonnes of CO2e per year (Hartland exceeds this). Based on required monitoring events, any surface methane concentrations that exceed proposed levels require a corrective action plan and mitigation within a specified timeframe. Based on current surface emissions data, it is expected that Hartland will need to implement additional controls, improve gas collection, or repair infrastructure to reduce surface methane concentrations to achieve compliance with these proposed limits.				

Project Number	25-04	Capital Project Title	Hartland Operating Certificate Renewal	Capital Project Description	Hartland Operating Certificate Renewal
Project Rationale	Hartland's Operating Certificate (OC) has not been modified since January 27, 2010. CRD has committed to updating its OC in light of recent MOE discussion and approval of ERM's SWMP. This project covers staff time and consultant/legal fees to assist the CRD in updating the OC with the MOE.				

Project Number	25-05	Capital Project Title	Hartland Leachate Pipe Mods for Pigging	Capital Project Description	Hartland Leachate Pipe Mods for Pigging
Project Rationale	Leachate design, materials and installation to modify the leachate piping between HB-15 and the new RTF Centrate Line to reinstate pigging of the section of pipe between HB-15 and the Centrate return line).				

Service: 1.521 Environmental Resource Management			
Project Number	25-06	Capital Project Title	Quarry Wall liner
Capital Project Description	Quarry Wall liner		
Project Rationale	A portion of Cell 4 liner could not be installed due to accessibility during construction. The project includes implementing a seal between the bedrock quarry wall bench and the existing liner in Cell 4 in toutle valley. The construction will be conducted when waste filling has reached the elevation of the area to allow safe installation by Contractors. The project includes the supply, installation, QA/QC needed to install the small section of liner.		
Project Number	25-07	Capital Project Title	Cell 4, 5A & 5B Construction Field QA/QC
Capital Project Description	Cell 4, 5A & 5B Construction Field QA/QC		
Project Rationale	Cell 4, 5 and 6 and related incrastructure construction will occur over multiple years. The project requires that the engineer of record be onsite during critical milestones throughout the construction project to ensure the construction is installer per the design. The original design budget contemplated a 1 year installation of all capital improvements for Cell 4, 5 & 6 projects. However, logistics and filling plans required phasing of the projects over a number of years which stretches the QA/QC budget over a longer period. The funds are to allow all travel, coordination meetings, onsite QA/QC field review, design		
Project Number	25-08	Capital Project Title	RNG Optimization Projects
Capital Project Description	RNG Optimization Projects		
Project Rationale	Scope change to include additional cost and scope that were not originally contemplated in the original RNG project. Improvements include new transformer, Lock Block retaining wall, tie-in and relocation of existing infrastructure that interfere with the new facility and other improvement projects required to enhance the safety, operation and profitability of the facility.		
Project Number	25-09	Capital Project Title	Hartland North - Willis P Driveway Upgrades
Capital Project Description	Hartland North - Willis P Driveway Upgrades		
Project Rationale	The project includes all design and construction work to ensure there is sufficient passing room for large trucks to turn off Willis Point (WP) road onto the Hartland North Driveway and safely pass large trucks leaving the facility at the same time. Improvements include driveway widening, paving, realignment of fencing/gates, culvert extensions, lighting, signage, Overhead electrical improvements (if required), pavement markings, delineators and any other improvements needed to ensure the safety of the public, contractors and employees accessing the site.		
Project Number	25-10	Capital Project Title	Hartland North Electrical
Capital Project Description	Hartland North Electrical		
Project Rationale	The electrical power for the new scale Building at Hartland North is fed from a temporary system from the RTF. Additional loads are required to accommodate the relocation of the contractor shop, new truck wash, kitchen scrap transfer station, thermal pilot plant etc. There is no formal agreement or capacity for the RTF to provide power for the growing power demands at Hartland North. This project entails all electrical design and construction to service the power requirements needed for Hartland North (aformentioned projects), including power poles/lines, transformers and underground conduit/cabling. The scope also includes a backup power generator to ensure business continuity for the scale building during frequent power outages.		

Service: **1.521** **Environmental Resource Management**

<b>Project Number</b>	25-11	<b>Capital Project Title</b>	Hartland Environmental Monitoring and Containment Projects	<b>Capital Project Description</b>	Hartland Environmental Monitoring and Containment Projects
<b>Project Rationale</b>	To ensure compliance with BC Ministry of Environment regulations, an active review of current and future environmental controls is necessary. This project accounts for consultant studies, contractor environmental mitigation controls required to review and enhance the current environmental monitoring program at the Hartland landfill and ensure compliance with MOE regulations.				

<b>Project Number</b>	26-01	<b>Capital Project Title</b>	Cell 4& 5 Bottom Lift Gas Wells / Leachate Drain	<b>Capital Project Description</b>	Cell 4& 5 Bottom Lift Gas Wells / Leachate Drain
<b>Project Rationale</b>	To meet BC Ministry of Environment regulations, gas wells and leachate collectors are installed in each lift of refuse and have to be connected to the existing collection systems to collect methane gas. Well heads, valves, condensation traps, monitoring points, and piping has to be installed to each combination gas well and leachate collector. The leachate is then conveyed to the lined storage lagoons and then discharged into the municipal sewer. Estimate is derived from historical costs.				

<b>Project Number</b>	26-02	<b>Capital Project Title</b>	Hartland 5 year DOCP update	<b>Capital Project Description</b>	Hartland 5 year DOCP update
<b>Project Rationale</b>	Hartland's Operating Certificate (OC) issued by the BC Ministry of Environment requires adherence to the BC Landfilling criteria which requires updates to the Landfill DOCP every 5 years. The last DOCP was finalized and submitted to the MOE on May 2022. A new update is required by May 2027. The project includes the procurement of a consultant to complete the DOCP to meet submission requirement.				

<b>Project Number</b>	26-03	<b>Capital Project Title</b>	ERM Land Acquisition	<b>Capital Project Description</b>	ERM Land Acquisition
<b>Project Rationale</b>	ERM's long term plan to maximize recycling and diversion opportunities for the region requires the acquisition of land/facilities to accommodate the growing needs of the region. This project includes those activities needed to secure land or facilities for future diversion, recycling or waste management requirements of the region.				

<b>Project Number</b>	26-04	<b>Capital Project Title</b>	RTF Biogas Tie-In to RNG	<b>Capital Project Description</b>	RTF Biogas Tie-In to RNG
<b>Project Rationale</b>	The Residual Solids Treatment facility currently reuses the biogas produced during operation to minimize energy requirements for the facility. However there remains an excess of biogas that is currently flared and contributes to the CRD's carbon footprint. There is opportunity to divert the unused gas to Hartland's newly constructed Renewal Natural Gas plant for to purify the gas and sell it to Fortis over its 20 year sale agreement with the CRD. This project includes the design, procurement and installation of all infrastructure needed to take advantage of this opportunity.				

1.521 Environmental Resource Management  
Capital Reserve Fund Schedule - ERM  
2025 - 2029 Financial Plan

**Capital Reserve Fund Schedule - ERM**

**Capital Reserve Fund ERM - Landfill Closure Portion, Capital Reserve Portion, and Recycling Depots Portion**

**Capital Reserve Fund Schedule**

Bylaw 2164 established a Solid Waste Refuse Disposal Reserve Fund for the ERM Service (was called Solid Waste Service). There are three portions in the Reserve Fund: Landfill Closure, restricted funds to cover the liability of closing Phase 2 - 3 and post-closure maintenance. Capital Reserve is working capital and not restricted.

Landfill Closure Portion Fund: 1020 Fund Centre: 101363	Estimate	Budget				
	2024	2025	2026	2027	2028	2029
Beginning Balance	13,670,125	14,227,150	14,691,373	9,164,880	5,647,857	6,140,493
Planned Capital Expenditure (Based on Capital Plan)	-		(6,000,000)	(4,000,000)		
Transfer to/from Ops Budget	455,120	464,222	473,507	482,977	492,637	502,489
Interest Income*	101,905	-	-	-	-	-
<b>Ending Balance \$</b>	<b>14,227,150</b>	<b>14,691,373</b>	<b>9,164,880</b>	<b>5,647,857</b>	<b>6,140,493</b>	<b>6,642,982</b>

**Assumptions/Background:**

Liability reserve to fund closure of Phase 2-3 and post closure maintenance.

\* 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.

### Capital Reserve Fund Schedule

Capital Reserve Portion Fund: 1020 Fund Centre: 101364	Estimate	Budget				
	2024	2025	2026	2027	2028	2029
Beginning Balance	12,211,415	9,267,416	8,797,406	5,617,406	3,487,406	2,207,406
Planned Capital Expenditure (Based on Capital Plan)	(5,750,000)	(4,250,000)	(3,650,000)	(2,600,000)	(1,750,000)	(1,600,000)
Transfer to/from Ops Budget	2,450,950	3,779,990	470,000	470,000	470,000	470,000
Interest Income*	355,051	-	-	-	-	-
Ending Balance \$	9,267,416	8,797,406	5,617,406	3,487,406	2,207,406	1,077,406

#### Assumptions/Background:

\* 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.



### Capital Reserve Fund Schedule

Recycling Depots/Compost Center Reserve Portion Fund: 1020 Fund Centre: 102102	Estimate	Budget				
	2024	2025	2026	2027	2028	2029
Beginning Balance	15,918	19,918	23,918	27,918	31,918	35,918
Planned Capital Expenditure		-	-	-	-	-
Transfer to/from Ops Budget	4,000	4,000	4,000	4,000	4,000	4,000
Ending Balance \$	19,918	23,918	27,918	31,918	35,918	39,918

#### **Assumptions/Background:**

Reimburse operating budget for capital expenditures spent by Compost Center.

**1.521 Enviromental Resource Management**  
**Operating Reserve Summary**  
**2025 - 2029 Financial Plan**

**Profile**

**Enviromental Resource Management**

Bylaw 3867 - established Operating Reserve for the ERM Service to be used by the service for: mitigating fluctuations in tipping fee revenue and for covering operational expenditures as required, including debt servicing.

**Operating Reserve Schedule**

Operating Reserve Schedule Fund: 1500 Fund Center 105509	Estimate	Budget				
	2024	2025	2026	2027	2028	2029
Beginning Balance	22,707,937	8,669,820	8,893,860	8,799,295	7,242,080	5,095,563
Planned Purchase - RNG project	(12,381,000)	(1,000,000)				
Planned Capital Expenditure (Based on Capital Plan)	(3,500,000)					
Transfer to/from Ops Budget	1,011,772	1,224,040	(94,565)	(1,557,215)	(2,146,517)	-
Interest Income*	831,111			-	-	-
<b>Total projected year end balance</b>	<b>8,669,820</b>	<b>8,893,860</b>	<b>8,799,295</b>	<b>7,242,080</b>	<b>5,095,563</b>	<b>5,095,563</b>

**Assumptions/Background:**

Reserve for rate stabilization

\* 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.

**1.521 Enviromental Resource Management**  
**ERF Reserve Fund Schedule**  
**2025 - 2029 Financial Plan**

**ERF Reserve Fund Schedule**

**ERF:** ERM ERF or PERS Fund for Equipment

Equipment Replacement Fund Fund: 1022 Fund Centre: 101447	Estimate	Budget				
	2024	2025	2026	2027	2028	2029
<b>Beginning Balance</b>	2,285,782	2,115,744	1,864,744	1,683,744	1,502,744	1,071,744
<b>Planned Purchase (Based on Capital Plan)</b>	(285,166)	(455,000)	(385,000)	(385,000)	(635,000)	(385,000)
<b>Transfer to/from Ops Budget</b>	115,128	204,000	204,000	204,000	204,000	204,000
<b>Interest Income*</b>		-	-	-	-	-
<b>Ending Balance \$</b>	<b>2,115,744</b>	<b>1,864,744</b>	<b>1,683,744</b>	<b>1,502,744</b>	<b>1,071,744</b>	<b>890,744</b>

**Assumptions/Background:**

ERF Reserve to fund replacement of computer equipment and for PERS (Priority Equipment Replacement) type equipment that lasts less than 15 years

\* 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.