Columbia Shuswap Regional District's Solid Waste Management Plan Draft 1

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DEFINITIONS AND ACRONYMS

Acronym	Meaning
Circular Economy	A circular economy is one that is restorative and regenerative by design, and which aims to keep products, components and materials at their highest utility and value at all times, distinguishing between technical and biological cycles[1].
C&D	Construction and demolition waste
CO_2e	Carbon dioxide equivalent
Disposal	Landfilling
Diversion	Activities that divert waste materials away from landfill disposal to alternatives such as recycling or composting.
DOCP	Design, Operation and Closure Plan for a landfill
DWMG	Debris Waste Management Guidance
EPR	Extended producer responsibility
Generation	The sum of all materials discarded that require management as solid waste, including garbage, recycling, and organic waste.
GHG	Greenhouse gas
ICI	Industrial, commercial, and institutional (also referred to as non-residential)
MoEP	BC Ministry of Environment and Parks
PPP	Residential packaging and paper product
PTAC	Public and Technical Advisory Committee
Residual Waste	The portion of the solid waste stream not managed through recycling, composting or recovery activities. It is commonly referred to as “garbage” or MSW. Residual waste typically requires disposal at a landfill.
SUP	Single use plastics
SWMP	Solid Waste Management Plan, also referred to as “the Plan”
TS	Transfer Station
5R	5R pollution prevention hierarchy (or simply waste hierarchy): reduce and reuse, recycle, energy recovery and residual waste management

[1] From the Ellen MacArthur Foundation. More information via URL: https://www.ellenmacarthurfoundation.org/circular-economy

1 INTRODUCTION

1.1.1 Plan History

The Environmental Management Act mandates for regional districts to prepare a Solid Waste Management Plan (SWMP). The Columbia Shuswap Regional District (CSRD) adopted its first SWMP in 1993, followed by an updated Zero Waste SWMP in 2009. The 2009 SWMP (or Plan) was reviewed in 2014, and the associated update was adopted by the CSRD Board of Directors in the spring of 2015.

In March 2018, the CSRD submitted the CSRD Solid Waste Management Plan Amendment: Salmon Arm Landfill Acquisition and Property Acquisition Guidelines, which was approved by the Ministry of the Environment and Parks (MoEP) in 2019. The Amendment's main purpose was to facilitate a future Salmon Arm Landfill site expansion through the acquisition of the Mounce property adjacent to the Salmon Arm landfill. Until the SWMP is replaced by a full plan renewal, all three reports remain active and relevant SWMP documents. The figure below shows an Plan history overview.

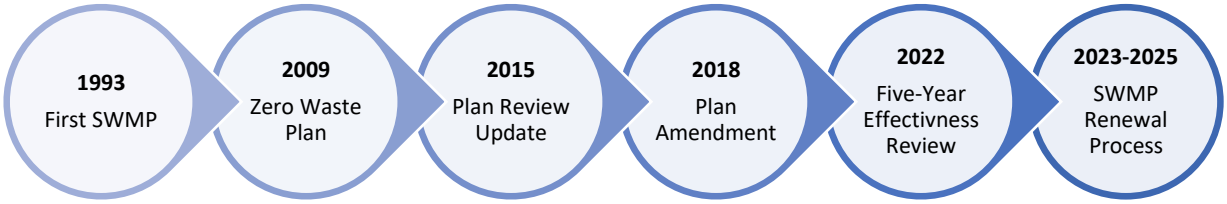


Figure 1: CSRD's Plan History

The 2015 Plan Update identified 26 priority options (recommended options), which fell into nine themes. The recommended options were brought forward for public consultation before they were finalized. The MoEP did not regard the Plan Update as a full Plan renewal process since it did not identify significant changes to the 2009 SWMP. The Plan Update simply revisited the 2009 strategies/initiatives and provided priorities for actions based on consultation feedback.

The CSRD is required to submit a full plan renewal to the MoEP before December 31, 2028. Morrison Hershfield , which is now part of Stantec, completed a Five-Year effectiveness review in 2022. It was determined that some of the identified issues may require substantial changes to the solid waste management system to solve and such changes would trigger a full Plan renewal process. In December 2022, the Board approved the resolution to initiate a full Plan review and update.

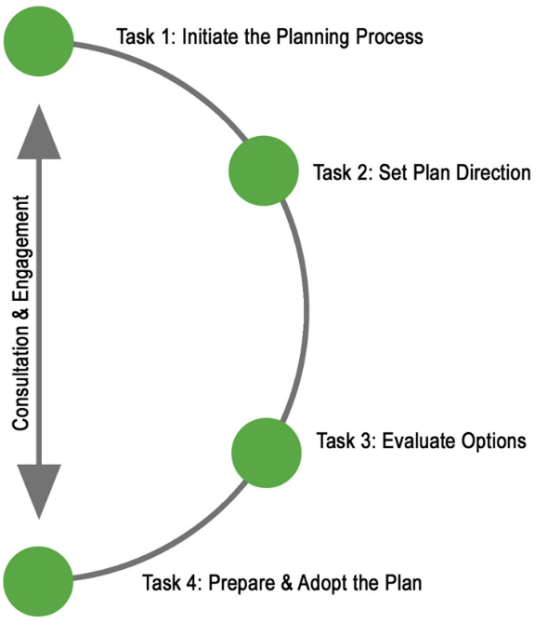


Figure 2: MoEP's Planning Steps

Plan Review & Update Process

The process for developing the new Plan followed the four-step process outlined in "A Guide to Solid Waste Management Planning", published by the Ministry of the Environment and Climate Change Strategy (MoEP) in 2016 (Figure 2).

The CSRD commissioned Stantec to support the development of an updated SWMP in 2023.

The planning process was initiated in 2022 resulting in the formation of the Public and Technical Advisory Committee (PTAC) in April 2023, the assessment of the current system as well as the development of the communication and engagement plan in June 2023. The current system and the engagement approach were discussed at the PTAC meeting on June 21, 2023, and at the Committee of the Whole meeting on June 22, 2023.

A list of issues and opportunities was summarized in the memo titled, "Emerging Issues and Opportunities – What we have heard from the Public and Technical Advisory Committee and the Committee of the Whole." In addition, an online survey on community priorities for the SWMP update was completed and the results were summarized in the memo titled, "Public feedback gathered August 15 – October 16, 2023, to inform the CSRD's SWMP update." The combined feedback documented in these two memos was considered as part of developing an updated SWMP.

Four separate PTAC meetings were held between January and June 2024 to discuss regional solid waste related topics:

- Potential waste prevention and diversion options for the CSRD's SWMP update, which was presented to PTAC on January 25, 2024.
- Potential institutional, commercial, and industrial (ICI) and construction and demolition (C&D) waste diversion options for the CSRD's SWMP update, which was presented to PTAC on March 7, 2024.
- Potential facility-focused options for the CSRD's SWMP update, presented to PTAC on May 2, 2024.

- Potential non-sector specific waste management options for the CSRD's SWMP update, which were presented to the PTAC on June 27, 2024.

Feedback from PTAC members and their priorities informed a report that summarized the preferred 13 strategies and actions. PTAC members had the opportunity to review and discuss this list at a meeting on October 9, 2024. Some strategies and actions were modified based on PTAC input. With support from the consulting firm, Stantec, CSRD staff reviewed all PTAC's preferred strategies and actions and re-organized them to a manageable number.

A total of eight strategies have been identified which are grouped under two overarching themes:

- Waste Prevention, Recycling and Diversion, and
- Waste Management.

This report presents the final list of proposed strategies and actions, which will be brought to the public for engagement and feedback later in 2025.

1.1.2 Plan Area

The CSRD, located in the Southern Interior of British Columbia, includes four member municipalities, seven rural electoral areas and several First Nations communities such as the Neskonlith Indian Band, Little Shuswap Lake Band, and Adams Lake Indian Band. The total population of the region is more than 57,000 people. The region is vast and diverse, encompassing 28,929 square kilometers from the rugged peaks and glaciers in the eastern edge through Golden and Revelstoke to the more temperate landscapes of lakes, rivers and valleys in the Shuswap.

Member Municipalities & Electoral Areas:

- Town of Golden
- City of Revelstoke
- City of Salmon Arm
- District of Sicamous
- Golden-Columbia (Area A)
- Revelstoke-Columbia (Area B)
- Sunnybrae, Tappen, White Lake, and Eagle Bay (Area C)
- Falkland-Salmon Valley-Ranchero (Area D)
- Sicamous-Malakwa (Area E)
- North Shuswap-Seymour Arm (Area F)
- Sorrento-Blind Bay-Notch Hill (Area G)

Figure 3 shows a map of the region that includes the member municipalities and electoral areas

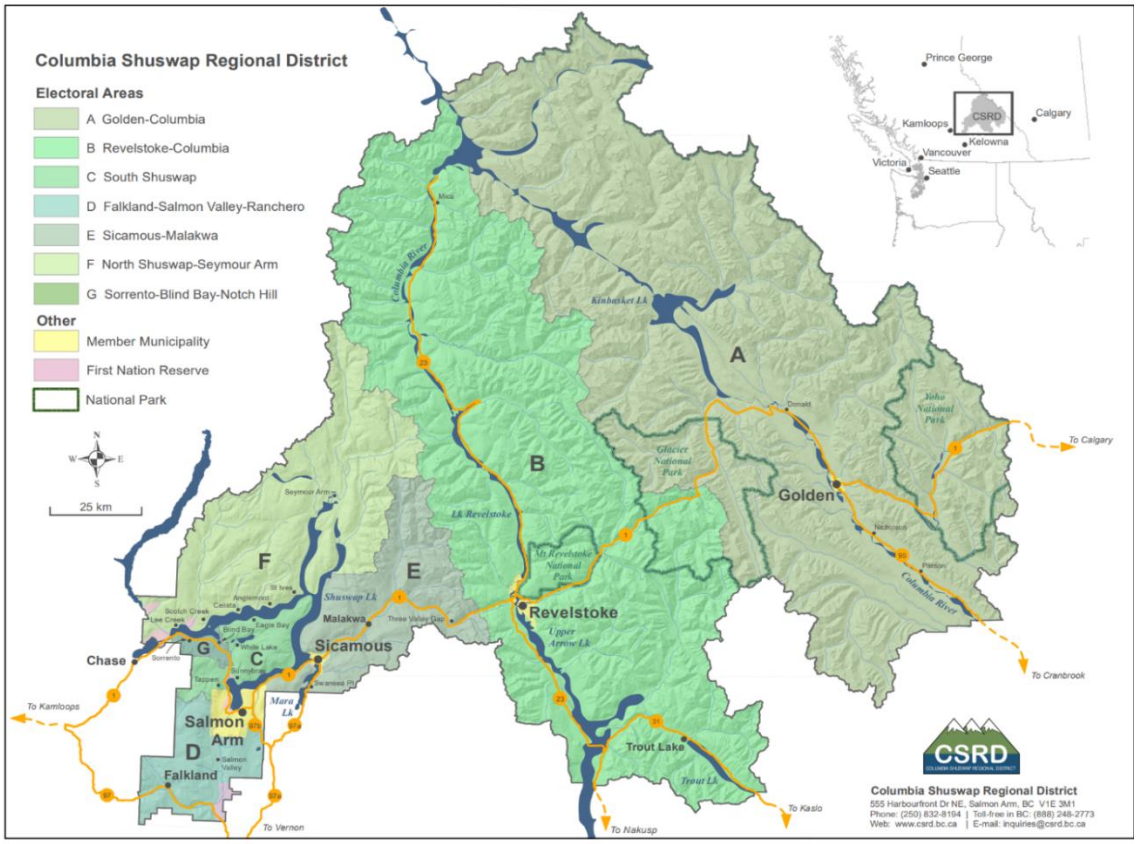


Figure 3: Map of Member Municipalities and Electoral Areas within the CSRD

1.1.3 Population and Growth Estimates

The CSRD is home to over 55,000 people with member municipalities accounting for approximately 60% of the population and 40% of the population residing in the surrounding electoral areas.

According to the 2021 Census, the region's population increased 11% between 2016 and 2021, which equates to an increase of 2.2% every year[2] (refer to

Table 1). The region's population total population was 57,021 according to the 2021 Census.

In 2021, the CSRD had 24,595 private dwellings occupied by permanent residents, with an average of 2.3 people per household. Population density is 2.0 people per square kilometer, based on the 2021 Census data.

Table 1: Populated Areas within the Region (2021 Census)

[2] Statistics Canada 2021 Census of population: Profile table, Census Profile, 2021 Census of Population - Columbia-Shuswap, Regional district (RD) [Census division], British Columbia

Area	2016 Population	2021 Population	% Average Annual Growth
Town of Golden	3,708	3,986	1.5%
City of Revelstoke	7,562	8,275	1.9%
City of Salmon Arm	17,706	19,432	1.9%
District of Sicamous	2,429	2,613	1.6%
Area A	3,148	3,325	1.1%
Area B	583	663	2.7%
Area C[3]	7,921	8,919	2.5%
Area D	4,044	4,400	1.8%
Area E	1,185	1,388	3.4%
Area F	2,454	3,200	6.1%
Area G*	-	-	-
Columbia Shuswap Regional District[4]	51,366	57,021	2.2%

In the region's 2022 Housing Needs Assessments, a growing and aging population were identified as affecting Electoral Areas B, D and F.[5] Electoral Area F (North Shuswap) has seen a sharp (30%) increase in population between 2016 and 2021, along with a significant increase in full-time residency of secondary homes.

Population growth estimates for the region are regularly published by BC Stats. Based on November 2022 estimates, the regional population is projected to increase from 57,504 in 2021[6] to 69,183 by 2041, growing at an average rate of about 0.9% per year.[7]

The growing population will need to be met by the region's solid waste management infrastructure and services.

2 GUIDING PRINCIPLES AND PLAN TARGETS

The MoEP's guide to solid waste planning emphasizes the importance of the 5R pollution prevention hierarchy (Figure 4).

[3] In April 2022, a referendum determined that Area C will be split into two electoral areas, C and G. Electoral Area G will include the communities of Carlin, Balmoral, Blind Bay, Notch Hill and Sorrento.
[4] Regional District Population as per the Census 2021.
[5] Information from URL: https://www.csrd.bc.ca/news-notices/news/2022-04-14/reports-review-housing-needs-electoral-areas-b-d-f
[6] There are minor differences in the 2021 BC Stats population and Census data from 2021.
[7] BC Population Estimates & Projections available online

The pollution prevention hierarchy (also known as the waste hierarchy) refers to Reduce, Reuse, Recycle, Recover, Residuals Management. The CSRD has developed guiding principles, strategies and actions that are aimed at conserving resources and addressing the top of the hierarchy.

Figure 4: Pollution Prevention Hierarchy, as presented in the MoEP's Guide to Solid Waste Planning (2016)

2.1 Guiding Principles

The MoEP has developed eight provincial guiding principles for regional districts to follow for developing their SWMPs. Regional districts can also include additional locally relevant guiding principles in their plans.

After a discussion about the suitability of the MoEP's guiding principles with PTAC on November 2, 2023, all eight guiding principles were adopted in principle to guide the planning process and a ninth was added to better reflect the region's priorities. The following nine guiding principles helped to set the direction of proposed strategies in the new SWMP. Each of the guiding principles are described below.

1: Rethink waste, promote zero waste approaches and support a circular economy

- Promote waste reduction to help reduce consumption, minimize waste generation and enable the sustainable use and reuse of products and materials. Promote GHG mitigation and climate resilience and support a shift to thinking of waste as a resource rather than residual needing landfilling.

2: Focus on the first 3Rs with a priority for reducing waste (Reduce, Reuse, Recycle)

- Emphasize the importance of waste prevention and diversion by prioritizing the first 3 Rs (reduction, reuse, recycle) and focusing heavily on reducing waste.

3: Maximize the beneficial use of waste materials and manage residuals appropriately

- Maximize the beneficial use of waste materials through local solutions, when possible. Focus on increasing diversion options, such as repurposing, repairing items keeps them out of the landfill, as well as composting.

4: Support polluter & user-pay approaches and manage incentives to maximize behavior outcomes

- Support a system operated in accordance with the "user pay" principle, which requires a robust cost recovery system centered on the provision of user-fees. Work to see collective actions and a high degree of community ownership in finding solutions.

5: Prevent organics and recyclables from going into garbage wherever practical

- Discourage organics and recyclables from going into the garbage stream and the landfill and reinforce behaviours that align with the 3 Rs of the pollution prevention hierarchy, and provide access to services relating to reduce, reuse and recycling, wherever practical.

6: Develop collaborative partnerships with interested parties to achieve regional targets set in plans

- Collaborate and partner with interested parties during Plan implementation, such as member municipalities, Indigenous communities, non-profit organizations, waste and recycling sector service providers, local businesses (waste generators), product stewardship agencies, other regional districts. All parties are key contributors for achieving the region's targets. Identify opportunities to improve collaborations and partnerships to achieve regional targets.

7: Level the playing field within regions for private and public solid waste management

- Ensure all solid waste management facilities within a given region are subject to similar requirements. This could be done through regulations and consistent bylaw enforcement.

8: Develop a climate resilient solid waste management system

- Manage all waste materials to limit GHG emissions, protect the environment and improve the climate resilience of the solid waste management system.

9: Improve operational efficiency of the current solid waste system

- Improve the operational efficiency of the current regional solid waste system. System efficiency applies to all solid waste management services, facilities and other initiatives related to the waste hierarchy. For example, this includes access to facilities for residents and businesses, streamlining services, and assessing the need for capacity increases where necessary.

2.2 Provincial Disposal Target and CSRD's Proposed Targets

The Province of B.C. reports on the solid waste performance target relating to the effective protection of the environment (Objective 1) and to advance circular economy and clean communities (Objective 1.2). The performance target to lower the provincial solid waste disposal rate to 450 kg per person by 2027/28 is set out by the MoEP's service plan.[8]

Recognizing that all regional districts are faced with different challenges, the MoEP's Guide suggests that regional districts should set locally relevant targets when developing a SWMP.

An overview of CSRD's current performance is presented in Section 3. In 2024, the CSRD estimates a per-capita disposal rate of 696 kg per capita based on Census 2021 population and tonnages disposed at CSRD's four landfills. An analysis of the CSRD's disposed waste streams and composition suggests that the region could reduce their current disposal rate to 550 kg per capita by 2031 and the 450 kg per capita by 2036 (BC's overall disposal target) if the region implements the strategies and actions proposed in the Plan.[9]

In addition to reporting on the overall disposal rate, the CSRD will begin to report on disposal from residents and from the ICI sector separately. The CSRD's disposal rate is heavily influenced by economic developments in the region as the ICI sector contributes about half of the landfilled waste. Section 5.4 describes how the CSRD will monitor and report on SWMP implementation progress.

3 CURRENT WASTE MANAGEMENT SYSTEM

3.1 Roles and Responsibilities

This section describes the roles and responsibilities of the CSRD, member municipalities and other stakeholders as they relate to the region's waste management system. The roles are summarized in Table 2 below.

The CSRD plays a key role in providing services that can be delivered efficiently and effectively through region-wide, sub-regional or local services, including collaboration with the Secwépemc (the Shuswap people), member municipalities, economic and regional development agencies, and others.

Table 2: Stakeholder and User Solid Waste Management Roles

Stakeholder/System User	Role Description
Federal Government	Regulate waste management facilities under federal jurisdiction
Provincial Government	Various ministries have regulatory authority related to waste management
CSRD Administration	Develop a SWMP for the region and

[8] 2025/26 – 2027/28 Province of B.C. Service Plan, available via: https://www.bcbudget.gov.bc.ca/2025/sp/pdf/ministry/env.pdf

[9] The performance target only relates to disposed waste at CSRD's landfills expressed per-capita. There are no private landfills in the region as of 2025.

Stakeholder/System User	Role Description
	bylaws, policies and plans to support the SWMP implementation and SWMP goals and targets Own and operate (directly or via contract) regional landfills and transfer stations
Member Municipalities	Provide or contract curbside collection services Collaborate with and provides input to the CSRD on regional waste management issues Participate in solid waste planning committees Develop specific solid waste management strategies and applicable bylaws
Electoral Areas	Collaborate with and provide input to the CSRD Participate in solid waste planning committees
Indigenous Communities	Provides or contracts curbside collection services Owns and operates waste management facilities (e.g., the recycling depot operated by Little Shuswap Lake Band)
Product Stewardship Agencies	Provide reasonable and accessible collection services and facilities Provide and fund education and marketing Track and report on collection data Collect and process some products
Private Sector Service Providers	Provide solid waste management services
Non-profit Organizations	Accept reusable goods and materials and support reuse in the region
Neighbouring Regional Districts	There is currently no or limited collaboration between the CSRD and neighbouring regional districts. Thompson Nicola Regional District, Regional Districts of North Okanagan, Regional District of Central Kootenay, Regional District of East Kootenay, and Regional District of Fraser Fort-George will be invited to provide feedback on the Plan review and update.
Residents and Businesses	Use provided solid waste management services and facilities

3.2 How is Solid Waste Managed Currently in the Columbia Shuswap Region?

This section provides a summary of solid waste facilities, services and programs in the region.

The solid waste management system is described in detail in the Current System Review, presented to the PTAC on June 21, 2023. A list of all waste and recycling facilities in the region is included in Schedule A. An inventory of closed disposal facilities (landfills) is included in Schedule B.

3.2.1 Education and Promotion

Education is one of the key aspects of a comprehensive solid waste management system.

The following communication tools are currently used by the CSRD or municipalities within the Region for education and information:

- ***Website information.*** The CSRD's website has a frequently asked questions (FAQ) page with answers to key questions, provides a Recycling Directory for a comprehensive list of waste materials, and information on where to reuse, recycle or dispose of common waste materials/products, such as the "Reduce, Reuse, Recycle" page.[10] Additionally, the CSRD website directs users to their residing municipality's website:
  - Town of Golden
  - City of Revelstoke
  - City of Salmon Arm
  - District of Sicamous
- ***Social media platforms***, such as Facebook and Twitter for updates on food waste and waste reduction tips, etc.
- ***TV and radio commercials*** for specific events such as cleanup events, consultation opportunities, etc.
- ***Newspaper advertisements***
- ***Web news platforms****,* located within CSRD's website.
- ***CSRD Board Newsletter***
- ***Brochures*** distributed at transfer stations and landfills.
- ***Annual reports,*** outlining completed projects in past year and new projects and/or initiatives for the next year.
- ***Other Educational programs:*** *Wildsight Outreach Program, CRSD's landfill tour program, Food Waste Outreach programs in Revelstoke and Golden.*

3.2.2 Reduction and Reuse Initiatives

The CSRD and member municipalities encourage waste reduction and reuse initiatives, which are detailed on the websites for residents. These initiatives include:

- Clothing donation bins in partnership with Big Brothers and Big Sisters throughout region,
- Composting programs across the region, such as the home composting program,
- Re-Use Centres at nine regional facilities where residents can drop off and pickup reusable items to prevent them from entering the landfill.

[10] https://www.csrd.bc.ca/176/Reduce-Reuse-Recycle

3.2.3 Recycling & Diversion Initiatives

Recycling facilities and diversion services are provided to residents and businesses across the region. The recycling services available in the region include:

- Extended Producer Responsibility (EPR) programs,
- Curbside collection programs provided by member municipalities or by private companies offered to both residential and commercial customers,
- Organics diversion, via curbside collection or at drop-off locations, and processing (composting of food, yard and garden waste),
- Recycling drop-off at recycling depots and CSRD Facilities for EPR materials and non-regulated materials (see below for more information),
- Construction, demolition and renovation waste diversion.

Extended Producer Responsibility

Since 2004, B.C. has regulated many products for EPR under the Recycling Regulation. EPR requires producers (manufacturers, distributors and retailers) of designated products to take responsibility for the life cycle of their products, including collection and recycling. The Recycling Regulation aims to shift the responsibility from local and Indigenous governments and taxpayers to the producers and consumers of products.[11]

The CSRD has been developing partnerships with stewardship agencies to be able to offer recycling options for a wide suite of regulated EPR products and materials. Residential Packaging and Paper Product (PPP) is collected at 18 registered Recycle BC depots.

The CSRD offers a free year-round residential disposal option for hazardous materials at the Salmon Arm, Revelstoke and Golden Landfill sites. HHW includes used oil, paint, pesticides, and flammables.

For any EPR products that are not accepted, the CSRD promotes drop-off alternatives on its website where links to individual Stewardship Programs helps residents to locate a depot near them.

Curbside Collection

Approximately 60% of the region's population have access to curbside collection services, which are provided by the local jurisdictions. The service levels are different between the member municipalities of Salmon Arm, Revelstoke, Golden, and the curbside services are delivered using different service models (in-house vs contracted out). The CSRD currently does not operate curbside garbage or recycling collection programs.

Some municipalities provide garbage collection services to their residents, but recyclables, food and yard waste collection services vary. The various service levels are summarized in Table 3.

[11] More information via URL: https://www.canada.ca/en/environment-climate-change/services/managing-reducing-waste/overview-extended-producer-responsibility/introduction.html

Table 3: Overview of Curbside Collection Services in the CSRD

Service Area	Service Provider	Recycling	Organics	Garbage
Town of Golden	Municipality	Biweekly	N/A Yard-waste (twice a year)	Weekly
City of Revelstoke	Municipality	Biweekly	Food waste is planned for late 2025 Self Backyard Compost	Weekly
City of Salmon Arm	Municipality	Biweekly	Food Waste (Weekly) Yard-waste (twice a year)	Biweekly
District of Sicamous	Municipality	N/A	Yard-waste (annually)	N/A
All electoral areas	Private	Self-haul	N/A	Self-haul

Key areas without curbside collection include the District of Sicamous and Area G (including the community of Sorrento[12]), which is one of the higher density electoral areas. These residents showed low to moderate interest in a curbside program when consulted in 2018. The CSRD attempted to develop a curbside program in Electoral Area C, previous to the split in the area, and those efforts were not well received by residents. However, changing demographics in the area may be leading to more interest in the service and curbside programs should be revisited.

Organics Reduction & Diversion

The CSRD has made great strides with organic waste diversion. The efforts are underpinned by the Organics Diversion Strategy, developed in 2015, which outlines how the region plans to divert organic wastes (food waste, yard waste, clean wood, and compostable paper) from landfilling.

Figure 5: FreeGarden Earth TM Composter

The CSRD takes part in the Waste Reduction Week (part of Circular Economy Month), which demonstrates the commitment to food waste reduction.

Backyard composting is also encouraged on the CSRD's website and information is provided about the process and importance of composting locally. A Backyard Composter Incentive Program is available for residents. This program allows residents to apply for a discounted purchase of a FreeGarden Earth composter (Figure 5).[13]

The City of Salmon Arm, in partnership with the CSRD, implemented a curbside food waste collection program in 2020. This program has resulted in a 20% reduction in the amount of organic

[12] In April 2022, a referendum determined that Area C will be split into two electoral areas, C and G. Electoral Area G will include the communities of Sorrento, Blind Bay, Balmoral and Notch Hill.
[13] http://enviroworld.ca/environmental-products/freegarden-earth

waste being landfilled in Salmon Arm. Currently materials are transported to a composting facility in Kamloops for processing.

The development of a composting facility at the Revelstoke Landfill was completed in 2022 and efforts to divert food waste from the commercial sector began in 2023. The commercial program is open to restaurants, hotels, offices, schools, multi-family developments, daycares and any other commercial operation that produces food waste. The CSRD partnered with the Revelstoke Local Food Initiative, a non-profit group promoting food security and education, to assist businesses with making the transition to commercial composting. A few weeks later, the CSRD introduced direct drop-off of compostable waste at the site for local citizens. The goal of the program continues to be providing support to the City of Revelstoke to help transition to a residential curbside food waste collection service.

The City of Revelstoke is planning an organics curbside collection service, but roll-out has been delayed as they were unable to get Organics Infrastructure and Collection Program fundings from CleanBC. The City of Revelstoke continues to work towards implementing a curbside collection program however, no schedule has been set for rolling out the program to date.

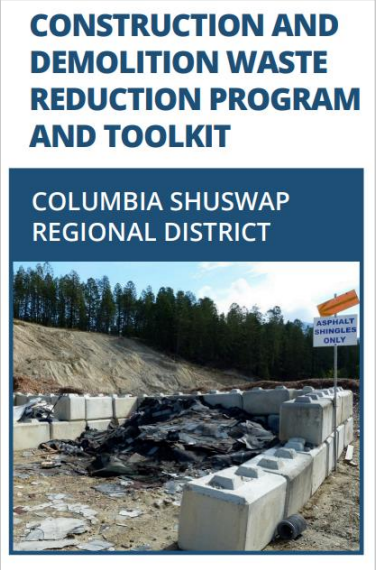
The CSRD trialled a rural food waste collection program in 2017. The CSRD established centralized drop-off bins within targeted rural communities at transfer stations or other centralized locations. Residents who registered received access using a key to the secure drop-off bin. Only 50 residents signed up and the trial was discontinued after some time. Due to the expensive and ineffective trial, it was decided not pursue this any further. Rural residents were, however, encouraged to divert organics through backyard composting.

There are still communities lacking access to composting facilities and organics collection.

Construction, Demolition and Renovation Waste Diversion

The CSRD promotes deconstruction and recycling of valuable material through a dedicated website.

Construction and demolition (C&D) materials are accepted for diversion at all four of CSRD's landfills. Materials diverted include, asphalt shingles, scrap metal, concrete, and wood waste (chipped and whole) for recycling and/or recovery. Some of the diverted materials are used as landfill cover or repurposed as road material.



A C&D waste reduction program and toolkit was developed in 2010 including a supporting brochure published in 2017. This toolkit was not used to its full potential.

The CSRD also undertook a pilot program for wood waste diversion that involved separation into three streams. However, there were no opportunities to manage treated (dirty) wood and they have since gone back to separating yard and clean wood waste for recycling and recovery.

There are no diversion options for gypsum board/drywall or treated wood in the CSRD.

Bylaws to Support Recycling and Diversion

Diversion has been incentivized through the implementation of differential tipping fees, which began in 2018 through the CSRD's Bylaw No. 5835, 2021. Once a waste stream is deemed "marketable" in an area, the waste generator pays a significant surcharge for bringing marketable wastes in a load of waste destined for landfilling. Marketable waste means the waste can be directed to a an EPR program, a regional district program or a commercial market through waste reduction, reuse or recycling opportunities (including composting).

As result of the last SWMP, the CSRD established the Waste Stream Management Information Reporting Bylaw No.5662 in 2013. This bylaw was developed to identify businesses involved in waste diversion and enable data collection on materials and quantities diverted. However, the CSRD still has not established an administrative structure to enable bylaw enforcement. As of 2024, there are still no facilities registered under this bylaw.

The SWMP identifies the immediate need for additional CSRD resourcing to ensure that waste diversion can effectively be encouraged and enforced.

The following is a list of the bylaws in place that govern regional solid waste management activities, as of May 2025:

- CSRD Refuse Disposal Facilities Tipping Fee and Regulation Bylaw No. 5859
- CSRD Waste Stream Management Information Reporting Bylaw No. 5662
- CSRD Illegal Dumping Regulation Bylaw No. 5615
- Town of Golden Waste Management and Collection Services Bylaw No. 1458

- City of Revelstoke Garbage Collection and Disposal Bylaw No. 2080
- City of Salmon Arm Curbside Collection of Refuse, Recycling, Food Waste & Yard Waste Bylaw No. 4281.

3.2.4 Existing Solid Waste Management Facilities

The CSRD has a network of solid waste management facilities shown in Figure 6. All facilities involved in managing recycling, organics and municipal solid waste in the region are listed in Schedules A and B.

There are 18 recycling depots, which are registered Recycle BC depots. The recycling of residential PPP is undertaken in partnership with the stewardship agency (Recycle BC).

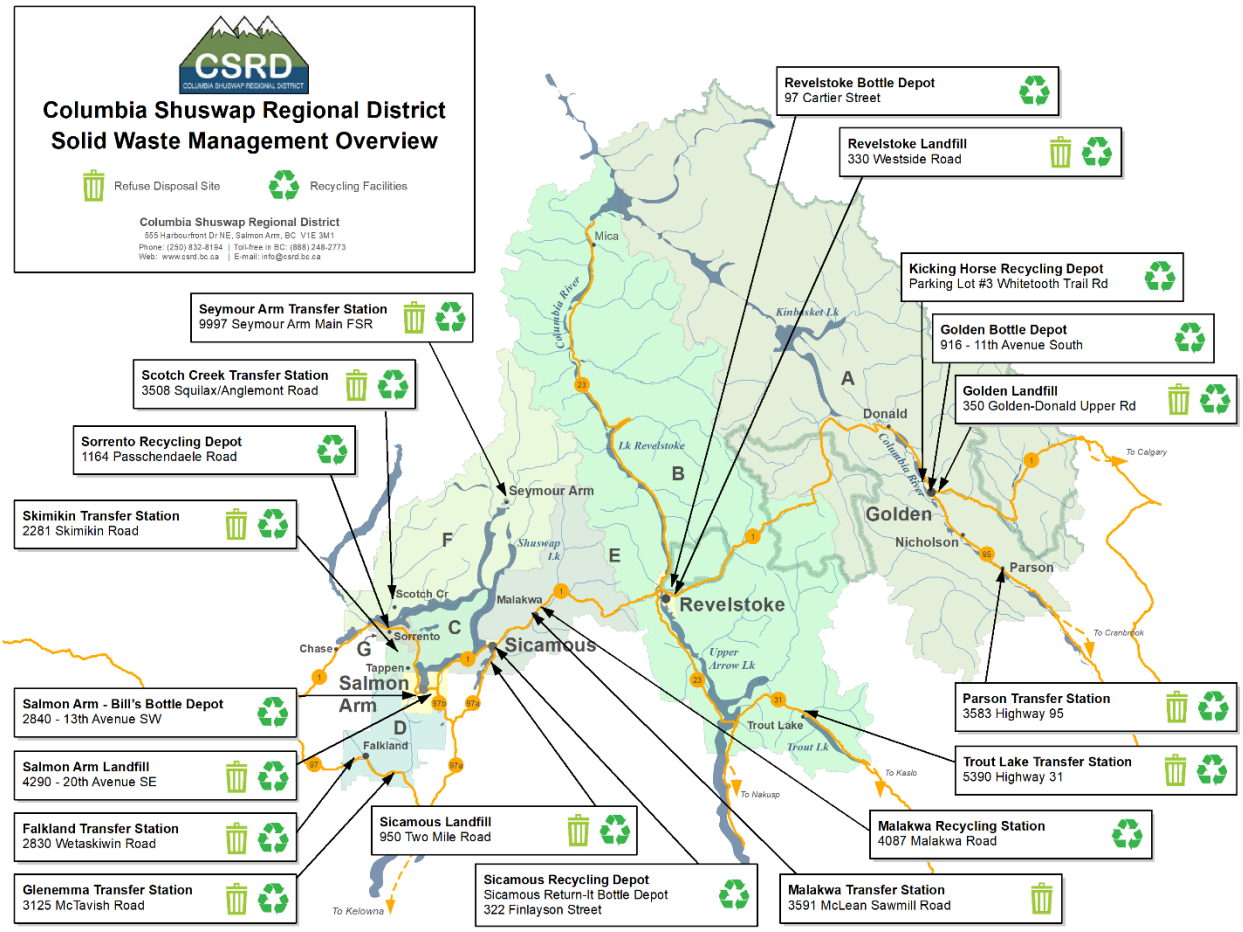


Figure 6: Map of Solid Waste Management Facilities with the CSRD

Some of the recycling depots are located at a disposal location (e.g., a landfill, transfer station or stand-alone recycling depots), while others can be found at private recycling facilities (e.g., Bill's Bottle Depot in Salmon Arm, Sicamous Recycling Depot, Golden and Revelstoke Bottle Depots), where PPP is collected on behalf of the CSRD.

The CSRD is responsible for four landfills and eight transfer stations, which are facilities located across four different waste sheds with one landfill servicing each waste shed. Table 4 outlines the main characteristics of each waste shed.

Table 4: The region's four waste sheds and characteristics

Waste Shed	Characteristics
Golden	▪ Serves the municipality of Golden, where residents have curbside collection of garbage and recycling (food waste collection is planned), and Electoral Area A. ▪ The service area has a combined service population of approximately 7,300 people. ▪ Includes the Golden Landfill and one unscaled transfer station (Parson Transfer Station)
Revelstoke	▪ Serves the City of Revelstoke, where residents have curbside collection of garbage and recycling (food waste collection is planned in near future), and Electoral Area B. ▪ The waste shed has a combined service population of approximately 8,900 people, however the population fluctuates throughout due to tourism. ▪ Includes the Revelstoke Landfill and one unscaled transfer station (Trout Lake Transfer Station).
Salmon Arm	▪ Serves the City of Salmon Arm, where residents have curbside collection of garbage, recycling and organics, Electoral Areas C, D, the community of Malakwa located in Electoral Area E, Area F, as well as the new Electoral Area G. ▪ The Salmon Arm waste shed is the largest waste shed in the CSRD and has a combined service population of approximately 36,400 people. ▪ Includes the Salmon Arm Landfill, two scaled transfer stations (Skimikin, Scotch Creek) and four unscaled transfer stations (Falkland, Glenemma, Malakwa, and Seymour Arm).
Sicamous	▪ Serves the District of Sicamous and Electoral Area E (except the community of Malakwa). ▪ Includes the Sicamous Landfill. ▪ The waste shed has a combined service population of approximately 3,400 people. The waste shed sees a large increase in summer-time population (often tripling). ▪ No municipal curbside collection is available, but some residents have private collection through subscription. ▪ Exclusively self-haul to landfill (some small commercial businesses, but mainly residential users of the landfill).

3.3 How is the Region Performing?

The following section describes how the CSRD is currently performing in terms of disposal, recycling and diversion.

Disposal includes waste buried in the four landfills. Diversion includes waste diverted from the landfill, and consists of materials recycled, composted, or reused.

Disposal

The amount of waste disposed of at the CSRD's four landfills between 2020 and 2024 is shown in the Table 5 below. In 2024 a total of 40,039 tonnes of waste were disposed at the CSRD's landfills. It should be noted that the CSRD saw a significant increase of waste in 2022 due to a large construction and remediation project.

Table 5: Tonnes of Waste Disposed at CSRD's Landfills 2020 -2024

Landfill	2020	2021	2022	2023	2024
Golden	5,462	5,089	5,331	6,345	5,558
Revelstoke	7,343	6,867	7,414	7,685	8,436
Salmon Arm	18,142	21,463	31,232	22,910	23,143
Sicamous	3,235	3,490	3,218	3,122	2,902
Total	**34,182**	**36,909**	**47,195**	**40,062**	**40,039**

Overall, the residential sector contributes 10% of the waste from curbside collection, the residential self-haul contributes about 30% of the overall waste, and the ICI sector contributes between 50% – 60% of the disposed waste in the region.

According to the MoEP, the average British Columbian disposed of 479 kg of waste in 2022. The average per-capita disposal rate in the CSRD has remained higher than the BC average and was 696 kg per capita in 2024 (assuming Census 2021 population). The seasonal population significantly contributes to the waste generation in many communities such as Sicamous and in the areas serviced by Scotch Creek and Skimikin Transfer Stations.

Recycling and Diversion

The CSRD is performing better than the provincial average for residential recycling. According to Recycle BC's most recent annual report for 2023[14], residents in the CSRD have access to 18 depots that are approved to accept residential PPP. In addition, residential curbside collection of PPP is provided in Revelstoke (including multifamily), Salmon Arm, and Golden. In 2023, an average of 45.5 kg of PPP was collected per capita serviced in the CSRD, which is higher than the provincial average of 42.5 kg per capita.

[14] 2021 Annual Report available on Recycle BC's website via URL: https://recyclebc.ca/wp-content/uploads/2022/06/RecycleBC_2021_Annual-Report_Final.pdf

In addition to PPP, several recyclable materials and products are diverted at CSRD facilities. The table below notes the diverted quantities at CSRD's four landfills.

Table 6: Tonnes of Waste Diverted at CSRD's Landfills (2024)

Landfill	2024 Diversion (tonnes)
Golden	3,250
Revelstoke	6,814
Salmon Arm	26,350
Sicamous	668
Total	**37,082**

Approximately 37,000 tonnes of scaled materials were diverted from landfilling at CSRD facilities in 2024.[15] Asphalt shingles, concrete, yard and garden and wood waste and soil are processed onsite and reused for beneficial use at the landfill. Other programs to manage diverted materials are hauled off-site for further processing.

Food waste is collected at CSRD facilities in Revelstoke and Salmon Arm. The CSRD has been collecting commercial food waste in Revelstoke since fall of 2023 and the facility is seeing increasing volumes. In 2023, there were 40 tonnes collected and in 2024 there were 113 tonnes collected.

Waste Characterization of Garbage Destined to Landfilling

The CSRD has conducted three comprehensive waste characterization studies since the 2009 SWMP was prepared. A waste auditing firm was retained in 2013, 2018 and 2023 to assess waste compositions for landfilled waste of the four waste sheds (Golden, Revelstoke, Salmon Arm, and Sicamous). The waste characterization studies were completed for waste disposed from the residential curbside, industrial, commercial, and institutional (ICI) sources, as well as residential drop off at CSRD's facilities.

Figure 7 provides an overview of the diversion potential of the garbage stream from residential curbside collection of single-family homes in Golden, Revelstoke, and Salmon Arm. The diversion potential represents the percentages of materials that are considered compostable, recyclable, or available for depot recycling. The total diversion potential for the single-family sector was 54% and consisted of 37% compostable materials, 9% recyclable materials, and 8% materials that can be recycled at a depot.

Garbage from Salmon Arm residents, who have access to a food waste curbside collection, only contained 11% compostable organics.

[15] Scaled materials with tipping fees. Materials are diverted by means of beneficial use at landfill sites, or sent for recycling (e.g., scrap metal).

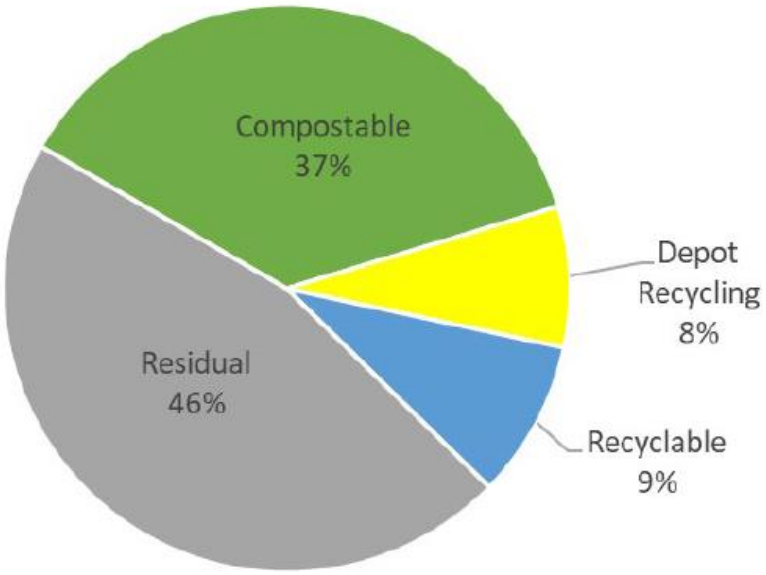


Figure 7: Waste Composition of landfilled waste from Single-family Residents (2023)

Figure 8 summarizes the diversion potential of the ICI garbage stream. The total diversion potential for the ICI sector was 57% and consisted of 26% compostable materials, 20% recyclable materials, and 11% materials that can be recycled at a depot.

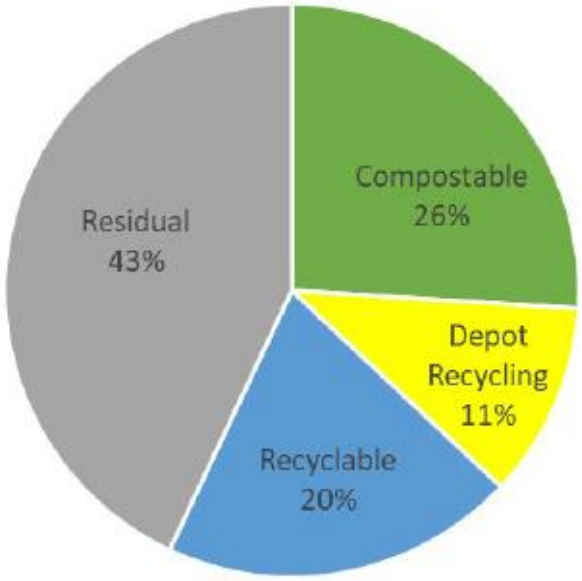


Figure 8: Waste Composition of landfilled waste from the ICI Stream (2023)

Figure 9 summarizes the diversion potential of the garbage stream from drop off customers at CSRD's facilities. The total diversion potential for the drop off waste was 36% and consisted of 21% compostable material, 9% recyclable material, and 6% materials that can be recycled at a depot.

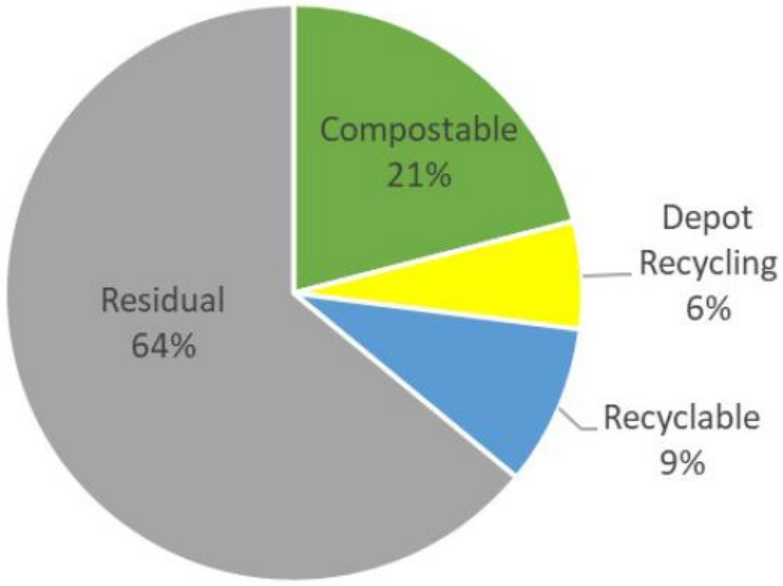


Figure 9: Waste Composition of landfilled waste from the Drop-Off Stream (2023)

4 NEW STRATEGIES

PTAC has met to discuss a range of specific issues and opportunities. Four separate meetings were held between January and June 2024 to discuss regional solid waste related topics:

- Potential waste prevention and diversion options for the CSRD's SWMP update, which was presented to PTAC on January 25, 2024.
- Potential institutional, commercial, and industrial (ICI) and construction and demolition (C&D) waste diversion options for the CSRD's SWMP update, which was presented to PTAC on March 7, 2024.
- Potential facility-focused options for the CSRD's SWMP update, presented to PTAC on May 2, 2024.
- Potential non-sector specific waste management options for the CSRD's SWMP update, which were presented to the PTAC on June 27, 2024.

Feedback from PTAC members and their priorities formed the basis of a list of preferred strategies and members had an opportunity to review and discuss the list at a meeting on October 9, 2024. Some strategies and actions were modified based on PTAC input. With support from the consulting firm, Stantec, CSRD staff reviewed all PTAC's preferred strategies and actions and re-organized them to a manageable number.

A total of eight strategies have been identified as shown in Figure 10. These are grouped under two overarching themes:

- **Waste Prevention, Recycling and Diversion**: strategies 1, 2, 3, and 4, and
- **Waste Management**: strategies 5, 6, 7 and 8.

These strategies are proposed in addition to the existing programs and initiatives currently undertaken by the CSRD. Each strategy has a set of actions to implement.

Section 4 presents each strategy with information on:

- The key issues or opportunities behind each strategy.
- A description of each proposed action.
- The implementation time frame: short-term (within the first five years of the Plan implementation, or in the long-term (after 5 years and beyond), or throughout the next ten years as an on-going action.
- Annual costs associated with an action, including the timing of capital costs.

Section 5 summarizes the overall financial and administrative (resourcing) impact of the new strategies and actions. The updated SWMP is assumed to cover an implementation period of 2026 to 2036.

Figure 10: Overview of the new strategies for the updated SWMP

4.1 Key to Success

The CSRD manages eight transfer stations, two compost facilities (the Revelstoke Compost Facility and a yard and garden compost at the Salmon Arm Landfill), 18 Recycle BC depots and four landfills. As of 2025, there are only four staff who are responsible for administering the CSRD's waste reduction and solid waste management programs (Manager of Environmental Services, a waste reduction coordinator, a facilities superintendent, and a finance accountant managing the SWMP programs). A summer student is also employed each year to support the team.

In the SWMP development, it has become clear that the CSRD is unable to take on the new strategies and actions, above the current programs without additional staff. For example, the 2025 staffing levels are not sufficient to enable effective bylaw enforcement of incoming loads at the CSRD facilities.

Impacts on staffing were estimated for each action and has informed a request for two additional full-time equivalent (FTE) staff to support the updated SWMP.

Two new roles will support the following main Plan components:

1. **An Education and Outreach Coordinator** for efforts relating to education, partnership, working group relating to the strategies under Waste Prevention, Recycling and Diversion. This additional FTE staff will be essential to deliver the outlined strategies and associated actions.

   PTAC's suggestion to make this into a shared community position is not practical, and the CSRD believes that it will be more efficient to have the role within the regional district. In this way, residents are not paying twice via municipal fees and regional district taxes.

2. **A Waste Reduction and Management Coordinator** for efforts aimed to complement the educational role and to reduce waste disposal through tipping fee enforcement at facilities, working with contractors on applying consistent tipping fees, and with member municipalities on construction/demolition and bylaws. This coordinator will also work to better manage waste materials from large projects (e.g., underpass material, railway waste), commercial hazardous waste and commercial recycling. The role will be important for improving services at CSRD facilities through operational and capital upgrades. An additional FTE staff will be required to address all of these important areas relating to strategies under Waste Management.

4.2 Waste Prevention, Recycling and Diversion

The following four strategies relate to waste prevention (waste reduction, repair and reuse), as well as waste diversion and recycling of key materials, including construction and demolition waste (C&D waste). The strategies specifically relate to the guiding principles 1, 2, 3, 5, 6, and 7 (refer to Section 2.1).

STRATEGY 1: Encourage Waste Prevention

This strategy is focused on waste prevention efforts by outlining how the CSRD and member municipalities can better encourage the reduction of waste generation, enhance reuse and repair opportunities, and view waste as a resource.

Supporting Waste Prevention and Diversion Initiatives Through Grant Funding

Local businesses, organizations, and non-profits can have a large impact on waste prevention and diversion through implementing initiatives in the communities. Multiple regional districts in BC have implemented similar funding programs. Funding can be provided to support community groups, and organizations such as non-profits, and school groups for projects that contribute to waste reduction. Grants can be provided to organizations that can help residents and businesses to prevent waste and increase waste diversion through different campaigns.

The CSRD wants to develop an on-going grant program that supports local waste reduction and reuse initiatives. This will be prioritized to begin in the first part of the plan and the effectiveness of the grant program can be assessed after five years, where funding levels can be adjusted as needed.

Waste Prevention Through Sharing, Reuse, Repair

Recognizing the strong public support for more reuse options, the CSRD wants either uundertake or support reuse or repair programs or events in partnership with local non-profits and organizations involved in these areas.

The CSRD can use successful household waste reduction, repair, and diversion campaigns, which are available at low cost, such as Metro Vancouver's Think Thrice campaign with a focus on clothing waste reduction. Depending on partnerships in the region, the CSRD can pilot programs, such as the give-away weekends, swap days, re-use fairs or expand repair cafés[16] in suitable areas, in partnership with local organizations.

Summary of New Actions to Encourage Waste Prevention

A summary of the proposed new actions related to this strategy are shown in the table below:

Proposed New Actions	Timeframe	Additional Costs
1A: Establish grant funding to support local waste prevention and diversion initiatives.	Year 1-5	$50,000[17] each year
1B: Undertake or support reuse or repair programs or events in partnership with local organization and expand if deemed feasible.	Year 1-10	$5,000[18] in year 1, 3 and 6

STRATEGY 2: Improve Access to Three-Stream Curbside Collection and Diversion Capacity

This strategy relates to the improvement of the current curbside collection services, supporting the development of organics processing capacity in the region and increased diversion capacity at the regional depots.

Residential Curbside Collection

Residential curbside collection programs are provided by local governments (refer to Section 3.2 for more information). Where a curbside service is not available by local governments, subscription-based recycling collection by private companies is sometimes offered to residential and commercial customers.

The CSRD currently does not operate curbside garbage or recycling collection programs. Curbside recycling collection options are still limited or not available in some areas of the region and residents are required to self-haul materials to the depot/ transfer station.

Approximately 60% of the region's population has access to curbside collection for garbage. The town of Golden and City of Revelstoke offer 2-stream curbside collection, while Salmon Arm offers 3-stream curbside collection to its residents. Waste composition studies have shown that Salmon

[16] Repair Café is a foundation that was started in Amsterdam and has locations worldwide, include throughout Canada. Residents can bring broken items from their home and, with specialists who are experienced, repair the items. Repair Café FAQ - Frequently Asked Questions (repaircafe.org)
[17] Assumes that the CSRD provides funding of $50,000 per year.
[18] Assumes $5,000 in implementation costs in year 1, 3 and year 6. Different areas can be targeted, based on needs and partnerships.

Arm has the lowest proportion of organics in the garbage, which can be attributed to being the only area that offers curbside organics collection.

The District of Sicamous and all the electoral areas do not have curbside programs, and only some areas have access to private curbside collection services, but not to for all three streams.

The CSRD wants to support the District of Sicamous, Golden, and Revelstoke to implement three-stream curbside collection. There is also opportunity to assess providing curbside collection services to households that do not yet have mandatory curbside recycling, organics, and garbage collection, with priority in areas that meet Recycle BC funding criteria. Currently Electoral Area G potentially meets the Recycle BC funding criteria, however, the District of Sicamous may need to partner with Salmon Arm as their population does not meet current Recycle BC criteria.

Although curbside collection provides improved accessibility and convenience for recycling, a curbside recycling program would only accept materials currently accepted under the Recycle BC Stewardship Programs (paper products and containers (e.g., plastic/tin)). Under the current system, other recyclables (e.g., flexible plastics, Styrofoam and glass) would still have to be self-hauled to a depot. Recycle BC is moving towards accepting more items in the curbside collection.

Organics Processing Capacity

Although the region has made great strides in organic waste diversion to-date, additional diversion hinges on establishing more organics processing capacity and a subsequent expansion of curbside collection programs for compostable organics.

As was voiced by the public in the 2023 survey on the SWMP update and by the PTAC members, identifying local organics processing options for communities without a curbside organics collection program is a priority for the region.

Revelstoke Composting facility: Located at the Revelstoke Landfill, this facility opened in the fall of 2022 and accepts both commercial and residential food, yard and garden waste.

The CSRD has worked with local partners and the Town of Golden to identify a suitable organics processing facility in this area. Golden has a population of approximately 4,000 (2021 Census) and the community is often isolated in the winter due to road closures. In 2024 it was concluded that there are no suitable sites for a facility and moving forward, the CSRD is interested in better utilizing the Revelstoke composting facility and expand its capacity to accept organics from Golden. Curbside organics from residents in Golden can be accepted at a transfer station and then hauled to the Revelstoke composting facility. This option provides opportunities for backhauling of finished compost back to the community. If this is not feasible, organic waste will need to be hauled to third party facility, either in or out of the region. The CSRD wants to support further assessment of organics processing options. The development of suitable organics diversion options needs to consider GHG impacts relating to hauling in the context of what is diverted from landfill.

When processing facilities are established, the CSRD has the ability to charge the higher disposal fees for mixed loads, as food and yard waste can be deemed marketable (refer to Strategy 3 for further information on new education and enforcement efforts).

Diversion Capacity

For recycling capacity, the CSRD wants to continue to offer current or improved recycling services at CSRD facilities, where appropriate. The CSRD has been very progressive in developing partnerships with stewardship agencies to be able to offer recycling options for a wide suite of regulated EPR products and materials. The CSRD is currently offering recycling services for EPR materials as well as many materials that are not yet covered by EPR programs, such as used clothing, books, mattresses, and children's car seats at many of CSRD's facilities.

Access to recycling services has long been a focus of the CSRD, even though some of the services have not been fully subsidized by the stewardship agencies. The CSRD wants to continue to offer recycling services at CSRD facilities for EPR materials and continue to offer recycling options for non-regulated materials, where appropriate. Potential new materials to accept (initially at targeted sites) include more types of hazardous products, propane cannisters, recyclables from ICI and C&D sector, textiles, durable plastics, etc.

The CSRD is a member of the BC Product Stewardship Council, a body that advocates on behalf of local government for effective EPR programs. Regional district staff regularly engage with stewardship agencies to discuss how access to their recycling programs can be improved in the region. The CSRD continues to advocate for EPR programs to be fully funded by the producers.

Private bottle depots are valuable and play an important role in the collection system for recycling. The CSRD will continue to support and work with bottle depots to improve collection. Support can involve subsidies or grants, if funding from EPR programs is not sufficient for bottle depots.

Summary of New Actions to Access to Three-Stream Curbside Collection and Diversion Capacity

A summary of the proposed new actions related to this strategy are shown in the table below:

Proposed Actions	Timeframe	Additional Costs
2A: Support member municipalities to establish organics processing capacity and implement three-stream curbside collection programs, if deemed feasible.	Year 1-5	$20,000[19] in year 1 and, 2
2B: Implement three-stream curbside collection programs with priority on areas that meet Recycle BC's funding criteria.	Year 3-5	$40,000[20] in year 3

[19] Assumes that the CSRD can contribute funding ($20,000 in years 1 and 2) to support collection and organics capacity-related studies. Municipal costs to provide curbside collection are not included.
[20] One study assumed in year 3 and does not include costs associated with implementing recommendations. A curbside collection would need to be funded through user-pay fees.

Proposed Actions	Timeframe	Additional Costs
2C: Increase capacity of the Revelstoke composting facility.	Year 1-5	$750,000 in year 1, and annual operating costs[21]
2D: Continue to support recycling depots through subsidies or grants.	Year 1-10	$100,000[22]
2E: Continue to advocate for increased stewardship support to improve accessibility to recycling and cover recycling costs.	Year 1-10	-

STRATEGY 3: Encourage Waste Diversion

Regulatory requirements for waste diversion, such as disposal bans, and waste management bylaws only result in significant improvements to diversion and disposal rates if all parties involved are well informed about waste diversion options and if the regulatory requirements are well enforced.

In the CSRD, differential tipping fees have been used since 2018 to incentivize waste diversion through Bylaw No. 5859. Once a waste stream is deemed "marketable"[23] in an area, the waste generator pays a significant surcharge for bringing marketable wastes in a load of waste destined for landfilling (referred to as refuse in the bylaw). The Bylaw is updated on an as-needed basis.

Marketable Waste, as per Bylaw No. 5859:

"Waste which can be directed to a Provincial Product Stewardship Program, a Regional District program or a commercial market through waste reduction, reuse or recycling opportunities," including composting.

The current bylaws and fee structure supports diversion, but staffing resources are limited making enforcement difficult. In 2022, approximately 25% of the loads accepted at the scaled sites were mixed loads (comprising 15% by total weight). At the Sicamous Landfill only 1% of the loads were recorded as mixed loads (4% by weight).

The 2023 waste composition study showed that approximately half (49%) of the disposed waste stream was made up of paper (13%), plastic (17%), and compostable organics (19%) across all

[21] Assumes $750,000 in year 1 for capital equipment and site upgrades and expansion including a compost cover building, mixer/conveyor, tractor, and potential impermeable surface and leachate collection. Annual operating costs (5% of capital) assumed.
[22] Assumes support via grant or subsidies. .

[23] Marketable waste means the waste can be directed to a provincial product stewardship program, a regional district program or a commercial market through waste reduction, reuse or recycling opportunities (including composting).

waste streams. Inadequate staffing has been noted as a major factor in effectively encouraging waste diversion through education and bylaw enforcement.

Waste Diversion Education

The CSRD wants to partner with local, private waste service providers, to improve the education of residents, including schools, and businesses on existing diversion options and bylaws. It is important that all parties can work together to understand the barriers limiting success and how to overcome these barriers.

For the roll-out of changes to tipping fees in new areas (Revelstoke, Golden or Sicamous when food waste can be considered a marketable waste material) or new bylaws, waste haulers play a particularly important role as they become the on-the-ground bylaw enforcers.

If deemed necessary, the CSRD can create an ICI waste diversion working group for developing and dispersing resources and education.

Improved Enforcement

The CSRD wants to review options how it can improve bylaw enforcement. The CSRD wants to explore the following areas and make changes, when it is deemed beneficial:

- Review contractor incentives for facilities operated by contractors:

  Although CSRD facilities are managed by the CSRD, they are operated by about 10 different contractors (2025). The CSRD wants to assess if the contractors are sufficiently incentivized to encourage waste diversion amongst facility users and support bylaw enforcement.

- Review contractor vs. in-house facility operations:

  Longer term, the CSRD is interested in exploring the costs and benefits of moving operations of CSRD's facilities from contractors to CSRD staff. The benefits of having CSRD staff on the front-line at the CSRD landfills instead of contractors makes it easier to ensure consistent staff messaging and enforcement of site users. The CSRD will have to consider the cost for this transition. Moving to an in-house model would involve a significant change which would require a large expansion of the department.

- Assess need for a clear bag requirement for landfill disposal, or use of AI technology The CSRD wants to consider alternative options to simplify enforcement, such as using smart technology or clear bags for landfill disposal.

Review Regulatory Options

In the long-term, the CSRD wants to assess the suitability of other regulatory options if the improved education and enforcement of the incentive-based tipping fees is not effective.

This could include regulatory options shown in Figure 11. By the time of the five-year effectiveness review other regional districts may have data to demonstrate how effective additional regulations are.

The use of new regulatory tools would need to be included in a regional district's SWMP and would also require approval under the Local Government Act.

Waste Stream Management Information Reporting Bylaw No. 5662

- Revisit Bylaw No. 5662 as it is intended to enforce standards for solid waste facilities to prevent improper garbage disposal, but currently is not fulfilling that as it is limited to a reporting system.

Disposal Bans

- Review of whether the use of disposal landfill bans would be more effective. Material Bans can help by simplify enforcement and lets the hauler deliver the message to the generator that they cannot accept their waste for collection.

Mandatory Waste Source Separation

- Consider suitability of a bylaw for waste sorting. This is timely when organics diversion options become readily available with access to processing and collection throughout the region.
- The Regional District of Nanaimo (RDN)'s Mandatory Waste Source Separation bylaw requires all ICI and Multi-Family buildings to have a system to separate their waste into organics, recycling, and garbage containers for collection.

Waste Hauler Licensing

- Consider the suitability of a Waste Hauler Licensing Bylaw.
- RDN has a Waste Hauler Licensing Bylaw, waste haulers will receive reduced tipping fees if the volume of recyclables and/or organics in their loads is below a determined threshold. The RDN anticipates that these savings in tipping fees charged to haulers will be passed on to their customers – incentivizing both generator and hauler to separate their waste.

Figure 11: Regulatory options to improve waste diversion

Summary of New Actions to Encourage Waste Diversion

A summary of the proposed new actions related to this strategy are shown in the table below. The establishment of a new position will be essential for the CSRD to increase its education and enforcement capacity beyond current 2025 levels. Refer to Section 4.1. for more information about staffing needs for Plan implementation.

Proposed New Actions	Timeframe	Additional Costs
3A: Partner with local, private service providers and organizations to provide better education on existing diversion opportunities and bylaws	Year 1-5	$10,000[24] per year
3B: Review options to simplify enforcement and improve waste diversion, and implement if deemed feasible	Year 1-10	$15,000[25] in year 2 and 5
3C: Review effectiveness of current regulations and assess suitability to amend current bylaws and/or implement additional regulatory requirements, including waste hauler licensing and mandatory waste sorting.	Year 5-10	$30,000[26] in year 5

STRATEGY 4: Improve C&D Waste Diversion

The CSRD promotes deconstruction and recycling of valuable C&D material through a dedicated website. See Section 3.2.3 for more information on the CSRD's C&D waste diversion efforts.

Review Regulatory Options

The Local Government Act provides for local governments to regulate construction, alteration, repair and demolition of buildings. Construction and demolition of buildings are regulated by the CSRD or by the member municipalities. However, the CSRD does not have any such regulation or bylaw.

To advance C&D waste prevention and diversion through source segregation, recycling, and recovery, the CSRD wants to undertake a feasibility study with member municipalities to determine what C&D regulatory approaches are best suited in the region and implement the most suitable ones.

Municipalities will need to administer and enforce new regulations. The study would identify opportunities for municipalities to fund enforcement, such as with the fees associated with the demolition permit application process. The study would determine what steps are involved in implementing options, and highlight the need for harmonizing regulations across the region.

Actions to support C&D Diversion

The CSRD wants to support C&D diversion through the implementation of successful campaigns and initiatives that specifically target local demolition businesses and residents. Action 1A, to establish grant funding to support local waste prevention and diversion initiatives, can also target C&D materials (refer to strategy 1 for more information) and involve targeted initiatives with

[24] Recurring costs for education and campaigns ($10,000 per year) between year 1 to 5. Costs can also cover materials targeting C&D waste diversion (refer to action 4B to implement successful C&D waste diversion campaigns and initiatives targeting local demolition businesses and residents.
[25] Assumes a third-party study in year 5.
[26] A third-party study assumed in year 5 at the time of the five-year effectiveness review, which is mandated by the MoEP.

organizations like LightHouse (e.g., Building Material Exchange), ReUse People of Canada, and Build Reuse.

The CSRD also wants to develop and undertake a pilot for C&D waste material separation in which mixed C&D materials are sorted and diverted from landfilling. Options for beneficial recycling of materials should be prioritized rather than downcycling when processed materials are used as landfill cover. A pilot could be set up and operated by the CSRD on property at a landfill, or by a third-party, where the materials are then transferred to the appropriate facility. Tipping fees will need to be lower than the fees for landfilling.

The CSRD is interested in collaborating with other regional districts to explore what opportunities are available for energy recovery of non-recyclable waste.

As well, for long-term support, the region may want to develop a C&D working group with representatives from member municipalities, industry, and other C&D actors. This working group could be beneficial in developing and implementing new C&D regulations, and educational information,. The need to develop such a working group can be reviewed when the CSRD undertakes the five-year effectiveness review.

Summary of New Actions to Improve C&D Waste Diversion

A summary of the proposed new actions related to this strategy are shown in the table below:

Proposed New Actions	Timeframe	Additional Costs
4A: Collaborate with member municipalities to conduct a feasibility study to determine what C&D regulatory approaches are best suited in the region and implement the most suitable ones.	Year 1-5	$30,000[27] in year 4
4B: Implement successful C&D waste diversion campaigns and initiatives targeting local demolition businesses and residents.	Year 1-5	-[28]
4C: Pilot C&D waste material separation to sort mixed C&D materials and divert them from landfilling through a third-party or the CSRD.	Year 1-5	$100,000[29] in year 3
4D: Collaborate with other regional districts to identify opportunities for energy recovery for non-recyclable materials, such as wood waste.	Year 1-5	$15,000[30] in year 5
4E: If deemed necessary, develop a C&D working group for developing and dispersing resources, education, and developing new resources.	Year 5-10[31]	-

[27] Assumes that the CSRD can contribute $30,000 to municipal studies in year 4.
[28] Will be covered as part of action 3 B to partner with local, private service providers and organizations to provide better education on existing diversion opportunities and bylaws.
[29] Assumes the cost of a pilot in year 3. This does not include costs if deemed feasible to implement large-scale.
[30] Assumes a third-party study assumed in year 5.
[31] Assess need at the 5-year effectiveness review.

4.3 Waste Management

The following four strategies relate to issues that involve other waste management aspects, including waste transfer, waste disposal and system funding. All strategies relate to the overall improvement of waste management in the region, improved efficiency and cost recovery and support guiding principles 4, 6, 8 and 9 (refer to Section 2).

STRATEGY 5: Improve Transfer Station Network to Increase Operational Efficiency & Level of Service to Users

During the planning process, members of the public and PTAC have voiced strong support for improving the transfer station network in the region, specifically wanting better access to facilities. Through a solid waste survey conducted in the fall of 2023 as part of the plan update, residents commented on concerns related to hours of operations, signage at facilities and levels of service.

The CSRD wants to make changes to its transfer station network to manage waste materials more efficiently and enhance services to facility users. Some of the specific improvements that have been identified as emerging needs include:

- Accommodating the growing populations in Areas C and G.
- Amalgamating and developing a larger, more centralized facility with increased services for:
  - Skimikin Transfer Station, Sorrento Recycling Depot, and Tappen Co-Op Recycling Depot.
  - Falkland and Glenemma Transfer Stations.
- Consolidate the Malakwa Recycling Depot with the Malakwa Transfer Station.
- Developing a larger facility for Scotch Creek as the transfer station is often operating over capacity during the summer months.

Within the first couple of years of Plan implementation, the CSRD wants to assess user demands at all facilities and standardize operational hours at selected sites to improve access and meet demands. For example, by extending the hours outside of typical working hours (e.g., the weekend) or on weekends. As well, having consistent hours across the region can make it easier for residents to access facilities and understand when and where they can bring waste and recycling. This is also important for addressing seasonal fluctuations in facility users to ensure the facility capacity matches the demand. The CSRD may also want to pilot alternative ways to collect materials such as community pop-ups or collection events.

Some potential benefits of amalgamating transfer stations include:

- Having 'one stop drop' transfer stations with increased services.
- Reducing costs by having fewer transfer stations, but with more services, and reducing overall transportation costs.
- Improved traffic controls (in bound and out bound scales).
- Improved hours of operation.
- Having an impact on illegal dumping by making facilities more accessible through increased services and hours of operations to meet the demands.

The CSRD also wants to undertake a comprehensive transfer station review to assess the costs and implications of improving facilities, establishing new facilities, and amalgamating some of the current sites. The review can inform future planning and siting and help identify hauling and operational efficiencies. The review must consider the need to increase capacity for commercial recycling at CSRD facilities, and how facilities are impacted by the expansion of curbside programs. When more communities introduce curbside collection, the demand for their local transfer stations may decrease.

The CSRD will be mindful to strike a balance between providing facilities to increase accessibility and the level of services provided at these facilities.

Without knowing which transfer stations will be impacted, the CSRD has assumed that two transfer station locations will be upgraded over the 10-year SWMP. Capital costs are estimated based on typical facility costs in BC. At existing transfer sites, the CSRD wants to look at improving efficiency by establishing standards in operations for contracted equipment (hauling, compactor, wheel loaders), developing software system for sites without scales, as well as setting out best practices for handling and disposal of hazardous materials.

Summary of New Actions to Improve Transfer Station Network to Increase Operational Efficiency & Level of Service to Users

A summary of the proposed new actions related to this strategy are shown in the table below:

Proposed New Actions	Timeframe	Additional Costs
5A: Assess user demands at all facilities, standardize operational hours at selected sites, and pilot pop-up events to improve access and meet demands.	Year 1-5[32]	$300,000[33]
5B: Conduct a transfer station assessment with siting and design options for sites that justify being amalgamated into centralized upgraded transfer station facilities.	Year 1-5	$100,000[34] in year 2.
5C: Upgrade two transfer stations, where deemed feasible.	Year 3-10	Design support in year 3 and 4 and $1.5M in year 5 and 6[35]
5D: Improve operational efficiency and adopt best practices for handling of waste materials	Year 1-10	NA

STRATEGY 6: Responsibly Manage CSRD's Landfills and Maximize Landfill Capacity

The CSRD's transfer stations are located across four different waste sheds with one landfill servicing each waste shed (refer to Section 3.2.4).

The CSRD has experienced ongoing compliance issues at its landfills over recent years. One significant compliance issue that applies to all four landfills is exceedances of groundwater quality limits at or beyond the landfill property boundaries. The Golden, Revelstoke and Sicamous Landfills are all natural attenuation sites, and this is not an uncommon issue for natural attenuation (unlined) landfills. The Salmon Arm Landfill is the only regional landfill with engineered cells / phases.

In the short term, the CSRD continues to work on improving monitoring through the use of additional offsite groundwater monitoring wells. Regional district staff will collaborate with the MoEP to find solutions for compliance issues related to natural attenuation landfills. Regional district staff have emphasized the need to standardize requirements on landfills in BC (e.g., litter control, wildlife management) as the enforcements of regulatory requirements appear to be inconsistent between different regions.

In the long term, the CSRD would likely require major capital upgrades to convert these sites to engineered (lined) landfills. New regulatory standards in the updated Landfill Criteria for Solid Waste issued in 2016 require new landfills to be lined. Lining landfills incurs new and significant capital costs as well as new and ongoing operational costs to treat the leachate that is collected by the liner systems. Often these costs are too high for smaller and remote landfills, resulting in their eventual closure with transfer to larger facilities.

[32] Assumes an internal review of user demands in year 1.
[33] Assumes increased annual operational costs from increasing hours/access to meet demands at the CSRD facilities. It can also cover piloting alternative ways to collect materials such as community pop-ups or collection events
[34] Assumes third-party study in year 2.
[35] $200,000 consulting support to plan and design two transfer stations in year 3 and 4, and $1.5 million for each transfer station, including engineering and construction administration cost, in year 5 and 6.

The updated Landfill Criteria identifies the installation of an engineered liner and leachate collection system for any of the following scenarios:

- A new landfill,
- Lateral expansion of an existing landfill beyond the approved waste permit, or
- A new landfill phase the extends the limit of waste within the approved waste footprint.

The CSRD is facing significant cost increases, either through increasing fines from the MoEP, costs to address compliance issues, or future engineering and design requirements for landfill expansions. Table 7 shows upcoming capital projects relating to the CSRD's landfills as of May 2025.

In light of the MoEP's move to impose more stringent requirements on naturally attenuating landfills (i.e. non-engineered landfills), the CSRD may be forced to close landfills in the CSRD. Furthermore, when Design, Operation and Closure Plans (DOCPs) are updated on a five year cycle, development around the landfill or changing conditions in groundwater monitoring results, may also dictate a recommendation to move to close landfills and convert to a transfer station model. Lastly, design constraints of the existing landfills and/or capital funding requirements may make landfill operations unattainable. Hence, the regional district may be forced to instead establish one or more transfer station(s) offering the same or better level of service to facility users.

Table 7: Status of CSRD's Landfills with Planned Closures

Landfill	Planned Closure and Estimated Costs
Golden	The Golden DOCP is being updated in 2025 and the preliminary plan offers two options: full landfill build-out including lateral expansion (41 years remaining life) and Phase 1 and 2 build-out with no lateral expansion (11 years remaining life). The full build-out with lateral expansion will require an engineered liner, leachate collection system, onsite leachate storage and a connection to the Town of Golden wastewater treatment plant. Phase 1 closure cost in 2025 is $1.7M. Additional estimated capital costs, assuming full landfill build-out, within the SWMP implementation period starting in 2026 are: ▪ Phase 3 expansion liner, leachate pond, and sanitary tie-in (2033): $2.6M ▪ Phase 2 closure cost (2034): $0.8M Estimated capital costs, assuming full landfill build-out, beyond the SWMP implementation period: ▪ Phase 4 Liner and leachate collection system (2040): $1.1M ▪ Phase 3 closure cost (2041): $0.5M ▪ Phase 5 Liner and leachate collection system (2040): $1.1M ▪ Phase 4 closure cost (2041): $0.6M ▪ Phase 5 closure cost, transfer station construction, surface water pond (2055): $4.7M

Landfill	Planned Closure and Estimated Costs
Revelstoke	Updated phasing concept in 2024 DOCP. The North Site will continue to operate as a natural attenuation site through to closure. The North Site has landfill capacity until 2038. Future landfill development of the South Site includes an engineered base liner and leachate collection system. Filling of the South Site is expected to commence in 2039 with an expected life of 41 years. Estimated capital costs within the SWMP implementation period: ▪ Phase 2 closure cost (2027): $1.3M – North Site ▪ Phase 3 closure cost (2034): $1.5M – North Site Estimated costs beyond the SWMP implementation period: ▪ Phase 5 construction (2038): 6.5M – South Site ▪ Phase 5 closure cost (2071): $3.8M – South Site ▪ Phase 6 construction (2070): 2.1M – South Site ▪ Phase 6 closure cost (2080): $2.4M – South Site
Salmon Arm	Phase 3A has landfill capacity until 2027/28. Full build out of Phase 3 includes a planned expansion at the west end of Phase 3A in 2025 and construction of Phase 3B in 2027-2028 with an additional landfill capacity of 15 years. The updated landfill lifespan including all phases is therefore estimated to be 62 years with final landfill closure in 2087. Estimated capital costs within the SWMP implementation period: ▪ Phase 3B construction (2027-2028): $3.4M
Sicamous	A full build of all phases provides landfill capacity until 2062. The CSRD is planning to continue this landfill operation as per the 2023 DOCP. The DOCP (2023) identifies an option to close the landfill earlier and save the landfill for emergency events only. This option will be revisited during the SWMP implementation. A transfer station would need to be established at the closed landfill site or at a different site in Sicamous. Estimated capital costs within the SWMP implementation period: ▪ Phase 1A Closure (2029): $0.29M – Biocover system ▪ Phase 1B Closure (2032): $0.10M – Biocover system Estimated costs beyond the SWMP implementation period: ▪ Phase 1C Closure (2042): $0.16M – Biocover system ▪ Phase 1D Closure (2063): $0.13M – Biocover system

Since engineered landfills are expensive to establish and to operate, the CSRD is interested in regularly looking at innovative technologies to reduce the need for landfilling. Some other regional districts have in BC has successfully shredded and compacted waste for landfill disposal. The

CSRD will review the success of other local governments and decide if any approaches are suitable at the regional landfills.

The CSRD can also review energy recovery options that help to reduce landfill space consumption and limit GHG emissions. This could include using tipping fees with the intent of redirecting specific material flows to private entities that use waste materials as fuel.

Landfill Closure Liability & Closure Fund

Under the provincial guidelines, there is a requirement for closure and post-closure care of solid waste landfill sites. The CSRD has established the Landfill Closure Special Reserve Fund specifically for the landfill liability. The funds available in the reserves were $1.2M (as of December 31, 2024). The total asset retirement obligation the CSRD is facing for the eventual closure of all of its landfills is estimated to be more than $49 M.

During the SWMP implementation, the CSRD is working to increase taxation to cover future landfill closure costs. Refer to strategy 8 relating to financial sustainability.

The cost of landfill closure and post-closure liability is significant. If the risks are perceived as too large and closure costs are too significant, the CSRD may want to consider alternatives, such as early landfill closures. Costs associated with closures and liabilities would change if the CSRD decides to expand or close a specific landfill.

Over the SWMP implementation, the CSRD will determine the feasibility of various long-term disposal options. Options include upgrading existing landfills to fully engineered landfills, or closing one or more landfills, converting these to transfer stations and hauling waste to larger engineered landfills within reasonable hauling distance.

Summary of New Actions to Responsibly Manage CSRD's Landfills and Maximize Landfill Capacity

A summary of the proposed new actions related to this strategy are shown in the table below:

Proposed New Actions	Timeframe	Additional Costs
6A: Continue to dispose of waste at CSRD's landfills in accordance with operational certificates.	Year 1-10	Capital costs scheduled within next 10 years are identified in Table 7.
6B: Regularly review new energy recovery options that can help to maximize landfill capacity and GHG emission reductions from landfills.	Year 1-5	-

STRATEGY 7: Improve Overall Waste Management and Climate Resiliency

This strategy covers various aspects of waste management and how the waste management system can become more resilient to disasters and climate change.

System Resilience

As a result of recent years with extreme weather events and natural disasters leading to emergencies such as forest fires and flooding, there has been acknowledgment of the need to prepare for future events. The CSRD is currently supporting Firesmart community cleanups to help reduce the risk of wildfires by waving tipping fees.

On November 8, 2023, the Emergency and Disaster Management Act came into force, replacing the Emergency Program Act. The updated legislation reflects the realities of the modern world including global pandemics, security threats and climate change, and shifts from focusing on emergency response to the four phases of emergency management: mitigation, preparation, response, and recovery.

Under the Emergency and Disaster Management Act, communities are required to develop and implement plans which consider all four phases of emergency management, including a regional disaster debris framework, as well as municipal plans to build regional resilience.

Locally, the CSRD is part of a joint program, the Shuswap Emergency Program (SEP), with the City of Salmon Arm, District of Sicamous, and Areas C, D, E, F, and G. Revelstoke and Area B. The SEP ensures that residents are prepared and informed for extreme weather events to keep residents safe. The Town of Golden and Electoral Area A conduct their own emergency management planning.[36]

The CSRD is developing a regional disaster debris framework to manage unpredictable surges in waste materials, including hazardous wastes resulting from extreme weather events and other emergencies. The CSRD wants to work with the three member municipalities to develop the regional framework that builds on existing programs, such as the FireSmart program, so that the CSRD's landfills are not the default location for cleanup materials. The FireSmart program has resulted in increased waste volumes being accepted at CSRD's facilities for free. The funding of this program needs to be revisited so that it continues to support cleanup efforts but without allowing uncontrolled dumping of waste materials that are not related to fire-incidents.

The CSRD will regularly update a regional disaster debris framework and emergency response plans for its solid waste facilities. Plans developed by the CSRD's Emergency Response/Protective Services department will have input from the Environmental Services staff to advise on waste management options.

[36] Shuswap Emergency Program | CSRD, BC

Wildlife Management

Odorous waste can attract wildlife into a community, which is dangerous for both residents and wildlife. Interactions can range from pests, birds, and dogs, to bears accessing improperly stored or set-out containers and becoming habituated to garbage or organics.

The overall management of bears and other wildlife is the responsibility of the province and the Conservation Officer Service (COS) can serve fines for the intentional or unintentional feeding of our bears or any wildlife. Reporting is encouraged via the Report a Poacher and Polluter (RAPP) hotline.

The City of Revelstoke, Town of Golden, and Salmon Arm all have aspects of bylaws that outline specifications for waste collection containers and wildlife attractants, to reduce wildlife interaction with garbage.

The CSRD is interested in collaborating with member municipalities, WildSafeBC and the BC Conservation Officer Service to increase community awareness around wildlife attractants. This can be done by developing education campaigns for community outreach and support the organization of info sessions for community members, who live in wildlife-rich areas. Education efforts should be focused on prevention, rather than be reactionary.

Illegal Dumping

The CSRD has several initiatives to discourage illegal dumping. The CSRD tracks issue areas and has in the past placed educational signs around commonly dumped areas. The CSRD waives tipping fees and has budget to aid community groups that organize cleanup of illegal dumps. Typically, the CSRD receives one or two requests for support annually.

Residents are encouraged to report illegal dumping by contacting the RAPP hotline by phone or using an online form that is linked on the website. The CSRD also developed bylaw No. 5615 strictly for illegal dumping.[37] Illegal dumping is a ticketable offense and anyone that contravenes with the bylaw can be ticketed by a CSRD bylaw Enforcement Officer, as defined in bylaw No. 5296.[38] BC Conservation Services can issue fines as well. However, as of 2025 the CSRD does not have any Bylaw Enforcement staff available to respond to illegal dumping complaints.

The CSRD wants to advocate for the Province to increase WildSafe BC funding and Conservation Officer enforcement capacity, which would help to address both wildlife management conflicts and illegal dumping.

[37] Bylaw-Number-5615-PDF (csrd.bc.ca)
[38] Bylaw-Number-5296-PDF (csrd.bc.ca)

Summary of New Actions to Overall Waste Management and Climate Resiliency

A summary of the proposed new actions related to this strategy are shown in the table below:

Proposed Actions	Timeframe	Additional Costs
7A. Regularly update the regional disaster debris framework and emergency response plans for CSRD's solid waste facilities.	Year 1-2	$50,000[39] in year 1
7B. Work with member municipalities and the province to ensure support for emergency management programs, such as FireSmart.	Year 1-5	-
7C. Work with member municipalities and other related parties on reducing wildlife interactions related to waste management, and illegal dumping.	Years 1-10	-
7D. Advocate to province to increase WildSafe BC funding and Conservation Officer enforcement capacity.	Years 1-10	-

STRATEGY 8: Ensure CSRD's Solid Waste Management Financial Sustainability

This strategy and related actions aim to improve the current cost recovery and financial sustainability in the region.

CSRD's Solid Waste Management Budget

The Solid Waste Management budget is divided into two functions: Recycling (Function 218) and Solid Waste (Function 219). The Recycling function is funded through a combination of tipping/user fees, tax requisition, and EPR/Stewardship funding while the Solid Waste function is solely funded through tipping/user fees.

The budget for the Solid Waste function, which covers landfill and transfer station operations, is almost three times larger than the budget for Recycling.

Future Funding Gaps

The high capital costs and landfill liability have resulted from more stringent provincial requirements related to the MoE Landfill Criteria for Municipal Solid Waste updated in 2016. The regional district will see some large capital costs in the next 10 years and beyond associated with closures of landfill cells and new cell construction (refer to strategy 6). In order to adequately fund these necessary landfill capital works projects, while continuing to provide the same or better levels of service, tipping fee increases are expected. Furthermore, the Asset Retirement Obligations on local governments, to address landfill closure costs beyond final landfill closures, are expected to be covered by the taxation element of the budget that was introduced and approved by the Board in 2024. CSRD staff will continue to monitor and plan for adequately funding all costs associated with the administration of the new Solid Waste Management Plan.

[39] Assumes costs to engage a third-party in year 1.

The CSRD has established the Landfill Closure Special Reserve Fund specifically for the landfill liability. The funds available in the reserves were $1.2M in 2024. The total landfill liability recorded for the estimated closure and post-closure costs was $49M for the four landfills in 2024. The current reserve funds are inadequate and do not meet future landfill liabilities.

The CSRD wants to improve its long term financial planning and asset management system by regularly reviewing its cost recovery model and transition to greater reliance on taxation.

Summary of New Actions to Ensure Cost-Effective Waste Management and Long-term Financial Sustainability

A summary of the proposed new actions related to this strategy are shown in the table below:

Proposed Actions	Timeframe	Additional Costs
8A: Regularly review cost recovery model to provide fair cost sharing through taxation and adjust tipping fees to cover costs and encourage waste diversion.	Years 1-10	$10,000[40] in year 1, 3 & year 5.

5 FINANCE AND ADMINISTRATION

5.1 CSRD Staffing Impact

Currently there are only four staff who are responsible for administering the CSRD's waste reduction and solid waste management programs with temporary support by a summer student each year.

All new strategies and actions, which have been identified so far as part of the SWMP update, will require additional staff resources to implement.

Adequate resourcing is essential for a successful Plan implementation. If all actions in this report are pursued, the regional district would need to hire approximately 2 additional full time equivalent (FTE) positions dedicated to strategies and new actions for Plan implementation.

As outlined in Section 4.1, two new positions have been identified as crucial for the success of the SWMP.

5.2 Cost Impact

Capital and operating costs have been identified for each strategy with information on the approximate timing of the expenditures. The estimated cost of existing initiatives and new strategies are presented in Schedule C.

All new strategies involving municipal costs will need to be defined and approved by each municipality. Costs provided in this Plan are estimated in 2025 dollars and may not reflect actual costs at the time of implementation due to inflation.

[40] $10,000 for consulting fees in years 1, 3 and 5 to determine tipping fees and taxation levels.

The Plan includes a number of feasibility assessments and reviews that will take place during the Plan implementation period. These reviews may result in new capital costs if the assessments deem a specific initiative as feasible. The capital costs will be identified when the reviews are complete, and these can be included as part of the five-year effectiveness review or as part of the next SWMP update. Where suitable, the CSRD may decide to obtain approval for capital spending as part of the annual budgets process and proceed with the new initiative within the current five-year period.

5.3 Cost Recovery

During Plan implementation, the CSRD will assess options to improve cost recovery for the two functions (refer to Strategy 8). The CSRD will continue to use both tipping fees and taxation to fund implementation of the strategies in the SWMP. As indicated in the guiding principles, the CSRD is committed to supporting polluter and user-pay approaches and focus on incentive-based tipping fees that encourage segregation of materials and waste diversion rather than landfill disposal.

As a part of the planning process, the CSRD developed a financial model for tipping fees and taxation to help identify and develop a sustainable short- and long-term funding model for the region. During the SWMP implementation, the CSRD will regularly update the funding model and adjust the tipping fees and taxation levels accordingly.

The standard five-year financial planning model will be applied to the development of financial projections and budgets for the implementation of the Plan, as part of the ongoing budget process for the CSRD' two solid waste management functions.

5.4 Monitoring and Measurement

Implementation monitoring and governance will be supported by a Plan Monitoring and Advisory Committee (PMAC), made up of representation from various stakeholders, such as member municipalities, regional district staff, First Nations representatives within the region, CSRD's waste management contractors or partners, public agencies such as the MoEP, private and non-profit sectors, industry, institutional representatives, and the general public.

To establish the PMAC, the CSRD will revisit the previous Terms of Reference, and recruit members through direct contact, as well as general open invitations. The selected members of the PMAC will be confirmed by the CSRD Board.

The PMAC will provide input to the CSRD staff and the Board as appropriate, monitor the implementation progress and effectiveness of the Plan, and identify concerns and issues that may arise in the implementation process.

Progress towards the targets presented in Section 1.1.4 will be assessed on an annual basis. The per capita disposal will be measured using the quantity (in tonnes) of solid waste sent for disposal at CSRD landfills. This quantity will be divided by the estimated or known population as defined either by BC Stats Census data and population projections or internal population projections. The CSRD will prepare information in annual reports for PMAC input and consideration by the Board. The reports will also be made available to the public through the CSRD website. Additionally, disposal data will be entered into the Province's municipal solid waste disposal tracker.

For the monitoring of the Plan's success, the CSRD will consider alternative metrics in addition to the regional per-capita waste disposal. These can be finalized in collaboration with PMAC. Alternative metrics may include:

- Disposal rate expressed as residential landfilled waste per capita. This would exclude landfilled waste from ICI which fluctuates based on industrial activities, major projects, etc.
- Success on delivering programs outlined in the SWMP (# of actions completed, in-progress, not started)
- Recycling rates as per Recycle BC
- Divertible portion of waste in landfilled waste as per waste composition.
- No of waste streams accepted at CSRD facilities.

The CSRD is committed to undertaking an effectiveness review after five years of Plan implementation in accordance with the MoEP guidance and budget has been allocated to engage a third-party to undertake the review.

5.5 Plan Flexibility

This SWMP represents the current understanding and approach to the solid waste management challenges being faced by the CSRD. The version of the Plan that is formally adopted will be considered a "living document" that may be amended to reflect new considerations, technologies, and issues.

Costs provided in this SWMP are estimates as of 2025 and may not reflect actual costs at the time of implementation. Significant programs and infrastructure projects may undergo further assessment, including an assessment of costs and continued community support, by the PMAC prior to implementation.

The Plan's implementation schedule included in Schedule D is intended to be flexible to allow for changes in priorities and available funding. The contents of this Plan are subject to legal requirements and, as a result, guidance and the direction from the Ministry will be sought in regard to the level of flexibility, as appropriate.

The five-year effectiveness review will report on the Plan's implementation status and effectiveness and will identify if there is a need to amend any parts of the Plan. Amendments are needed if there are significant changes, for example, if there are plans to open a new waste management facility that manages wastes currently covered by the existing SWMP.

The CSRD will review the major actions identified in the SWMP as circumstances and priorities change over time. This review will occur either on an as-needed basis or on an annual basis, whichever is most appropriate for the specific change.

The Plan amendment procedure applies to major changes to the solid waste management system that would include:

- The opening, or changes to the location or status, of a site or facility, unless changes are resulting from the SWMP implementation.
- The importation/exportation of waste which would significantly impact the regional district's or neighbouring solid waste systems, or not conform to provincial legislation, goals and/or targets.
- A change of disposal targets or reductions in reduce, reuse, and recycling programs.
- A change in the boundary of the plan, which would significantly change the amount of solid waste to be managed under the plan or significantly change the population of the plan area.
- The addition, deletion or revision of policies or strategies related to the conditions outlined in the Minster's approval letter.
- Major financial changes that warrant seeking elector assent.

If any of the information in the schedules needs to be amended during the 10-year lifespan of the plan, approval from the Minister and engagement with the public may be required. The requirements depend on the type of change. Unless the change is considered major, in accordance with the guide, a change to a schedule should not require submission of the entire SWMP for review and approval.

When a Plan amendment becomes necessary, the CSRD will undergo a public consultation process and submit an amended plan to the Minister for approval, along with a detailed consultation report.

5.6 Dispute Resolution

A dispute resolution was developed by Stantec as part of the Five-year effectiveness review of the SWMP. Schedule E includes the dispute resolution that was approved by the CSRD Board and submitted to the MoEP in 2023.

6 PLAN APPROVAL

Once the updated SWMP is approved by the Board of Directors, include the resolution date and resolution #.

To include once the DRAFT SWMP is available for public engagement.

SCHEDULE A: LIST OF WASTE AND RECYCLING FACILITIES IN THE REGION

SCHEDULE B: LIST OF CLOSED DISPOSAL FACILITIES

SCHEDULE C: EXPENDITURES FOR PLAN IMPLEMENTATION

SCHEDULE D: IMPLEMENTATION SCHEDULE

SCHEDULE E: DISPUTE RESOLUTION