

CVRD Solid Waste Management Plan Update – Meeting 3



June 21, 2018

Agenda

Financial Assessment and Strategies Selection

- Project Overview
- Solid Waste System Recap and Finance & Staff Overview
- Additional Planning Inputs
- Areas for Improvement
- Target Setting (kg/capita)
- Strategy Review
 - Diversion Potential
 - Implementation (e.g. cost and timeframe)
- Next Steps

Today's Goals

- Workshop Recap
 - Digest system information provided to date
 - Review new finance and staff-related information
- Review updated strategies factoring in diversion potential to finalize a kg/capita target
- Review and add input to initial cost and timeframe considerations

Questions or Comments?



- Questions?
- Comments?
- Clarifications?
- Corrections?

Project Overview

Re-Cap of Process



Solid Waste Management Plan

- All regional districts in BC are required to have Solid Waste Management Plans
- The Plan is comprehensive for the next 10 years, with vision for next 20-30 years
- Includes all material streams and aspects of solid waste management:
 - Collection
 - Recycling and Composting
 - Waste Reduction
 - Disposal
 - Financing
 - Education

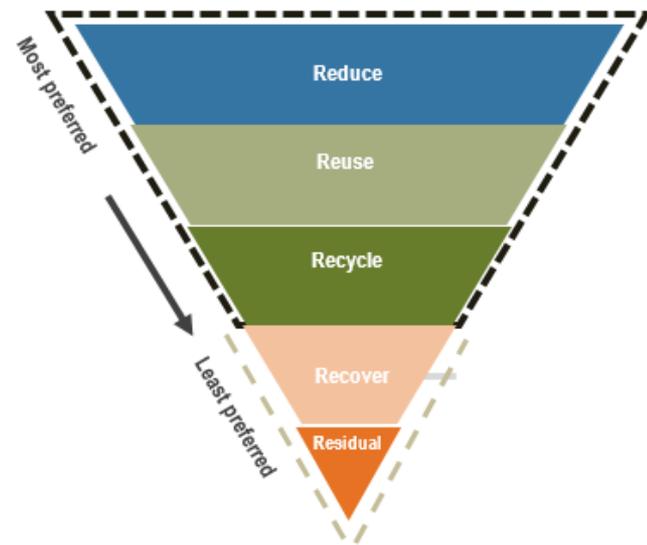
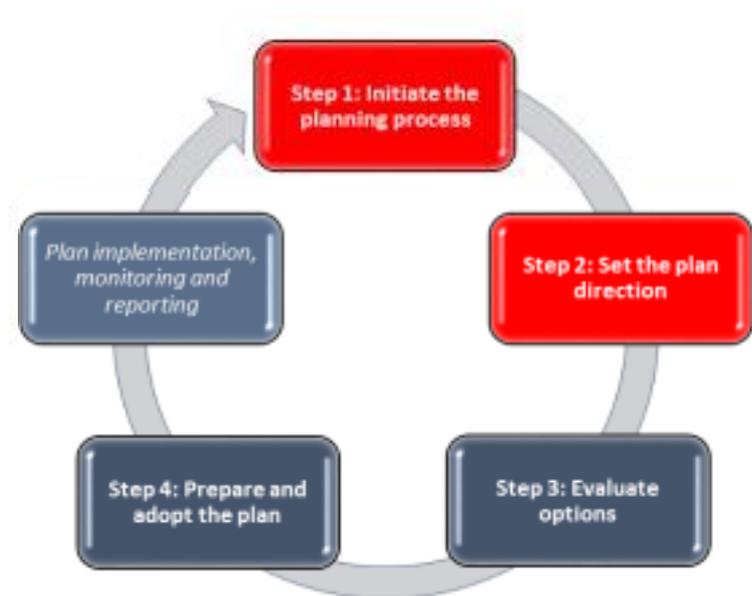


Figure 1-2: Waste Prevention Hierarchy

Steps 1 & 2: Initiate the Process & Set Direction

- 1) Committee and planning team established, scope of work identified
- 2) Current system status report issued for review



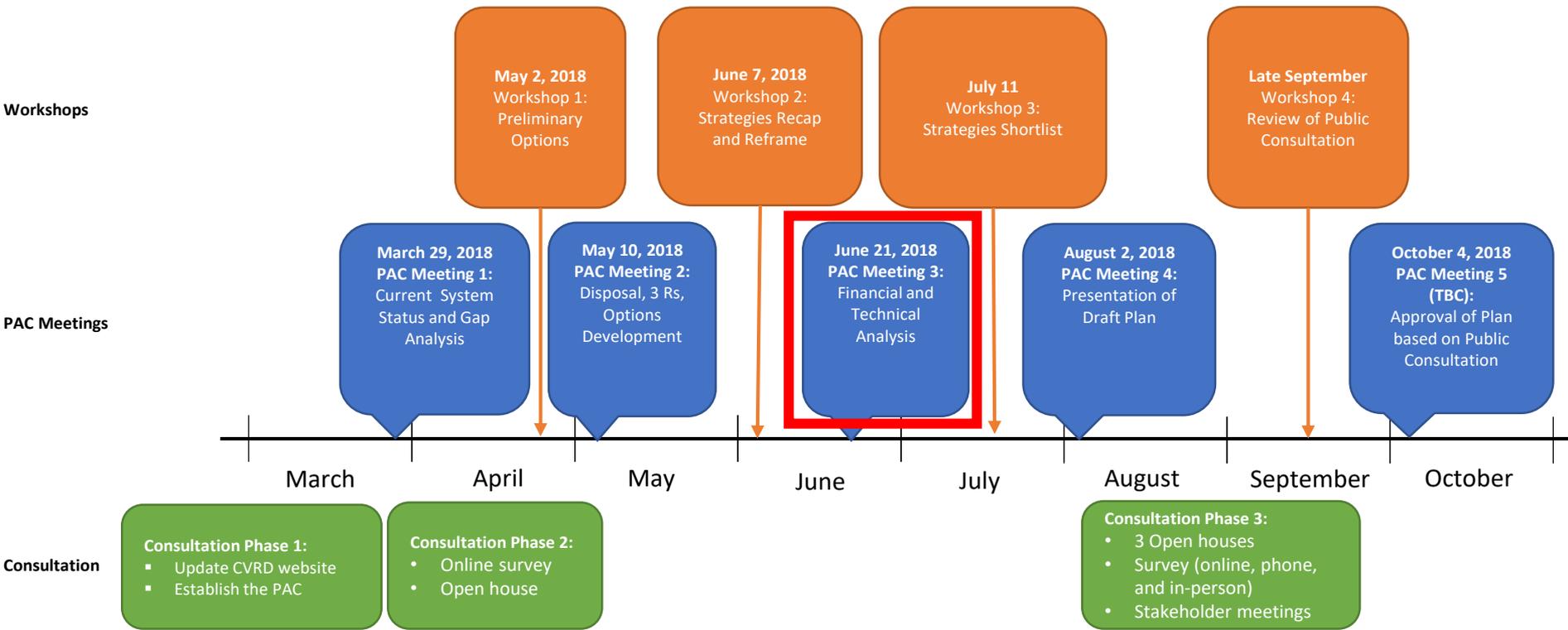


Step 3: Evaluate Strategies

- Develop strategies
- Assess financial and administrative impacts
- PAC Committee to review and provide ongoing feedback



Updated Schedule



October

- Board Approval
- Submit to Ministry

Questions or Comments?

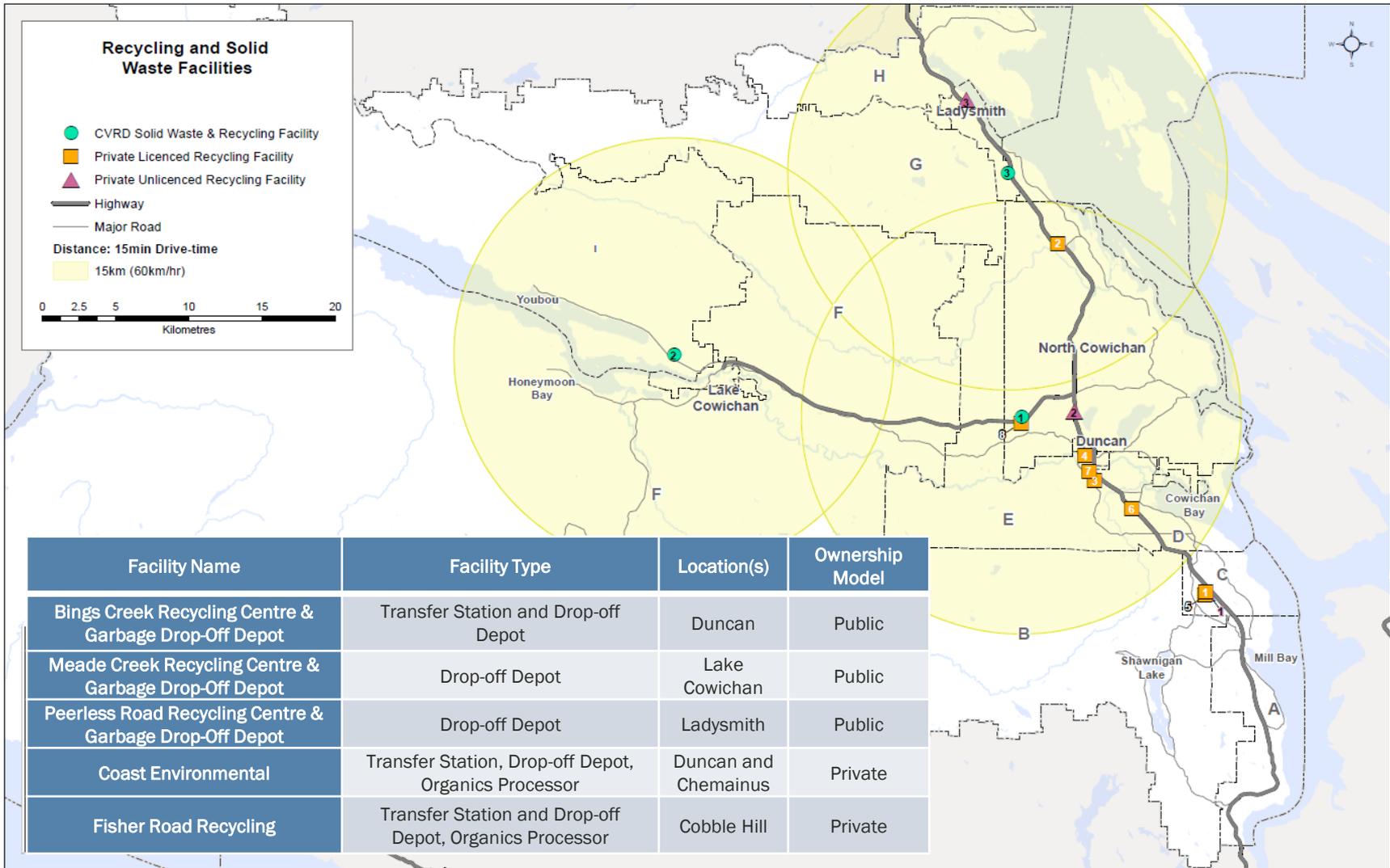


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Solid Waste Management System and Finance Overview



Facilities in CVRD



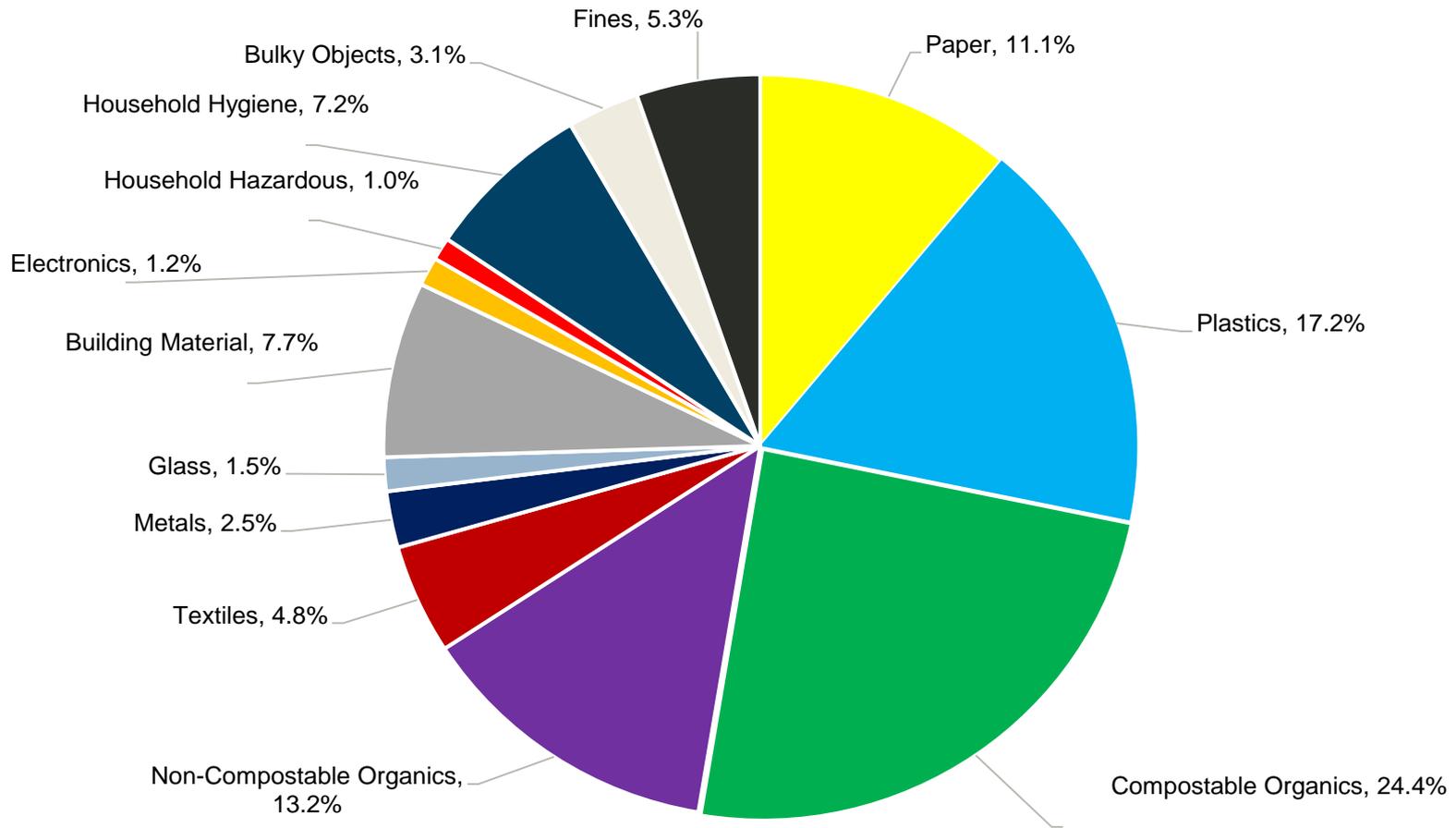
Disposal and Recycling Rates

Annual Disposal Rate	30,100 tonnes
Per Capita Disposal Rate	358 kg per capita
Annual Recycling Rate (partial)	44,000 tonnes
Per Capita Recycling Rate	525 kg per capita

Disposal Rates by Sector

Sector	Percent of Total Disposed Materials (Garbage Only)	Quantity of Disposed Materials (tonnes)
Single-Family (Municipalities)	9%	2,600
Single-Family (Electoral Areas)	14%	4,100
Multi-Family	6%	1,700
Industrial, Commercial, and Institutional	41%	12,800
Drop-off	12%	3,600
Construction and Demolition	18%	5,300
Total Disposal Rate	100%	30,100

Waste Composition Study



2017 Waste Composition Study Results

Diversion Potential and Target Setting

- Diversion potential was analyzed according to sector:
 - Single Family (Municipalities)
 - Single Family (Electoral Areas)
 - Multi-Family
 - Industrial, Commercial, and Institutional
 - Drop Off (Self-hauled) Waste
 - Construction and Demolition Materials
- Current Disposal in CVRD = 358 kg/capita
- BC Disposal Target = 350 kg/capita by 2020
- Long-term CVRD Disposal Target TBD = 180-300 kg/capita
 - 10 year target to be determined during this plan development process



Financial Plan – Initial Summary (2018)

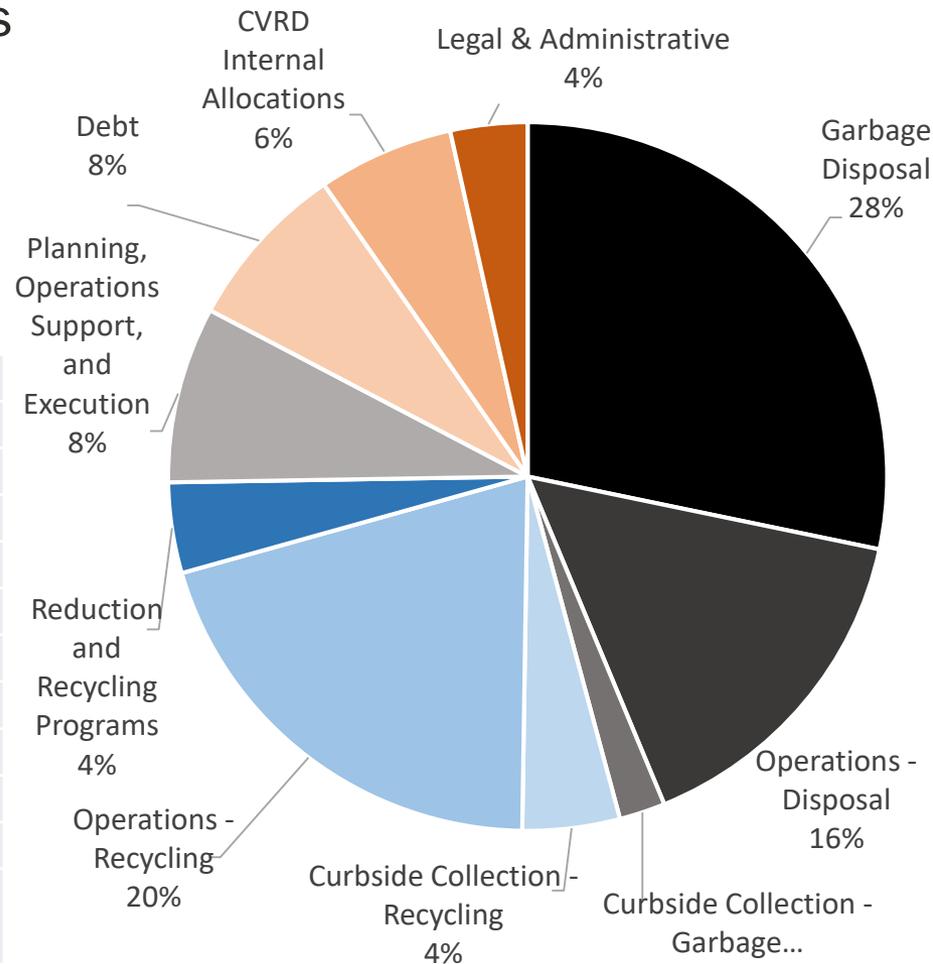
- Budget: \$9.6 million in two separate budgets (not including capital)
 - Solid Waste Management Complex
 - Curbside Collection
- Balanced revenue sources over time
- Capital budget of \$5.4 million in 2017 and \$3.9 million in 2018; no capital expenditures projected for 2019-2022

Budget	Budget Amount	Funding Sources
520 Solid Waste Management Complex	~8 million	<ul style="list-style-type: none"> • Requisition • Tipping fees
515 Curbside Collection	~1.6 million	<ul style="list-style-type: none"> • Annual User fees • Recycle BC

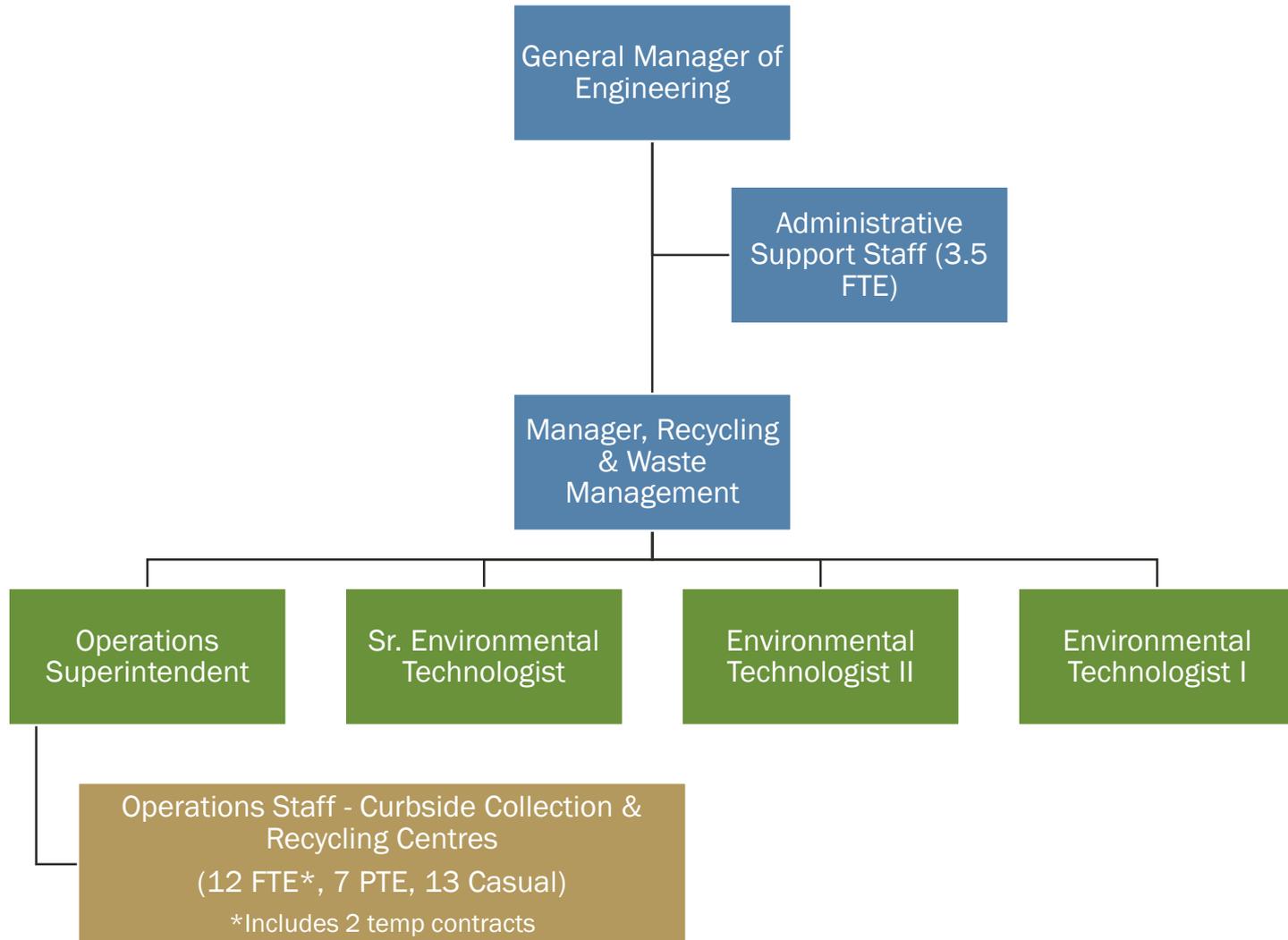
Expenditures (2018)

- 4% Reduction & Recycling Programs
- 28% Garbage Disposal
- 36% Facilities

Expense Categories	Total
Garbage Disposal	\$ 2,706,200
Operations - Disposal	\$ 1,482,232
Curbside Collection - Garbage	\$ 197,963
Curbside Collection - Recycling	\$ 418,563
Operations - Recycling	\$ 1,947,945
Reduction and Recycling Programs	\$ 395,145
Planning, Operations Support, and Execution	\$ 768,345
Debt	\$ 731,043
CVRD Internal Allocations	\$ 585,417
Legal & Administrative	\$ 331,245
Total	\$ 9,564,100



Staff Structure (2018)



Planning Inputs – SWM Participants

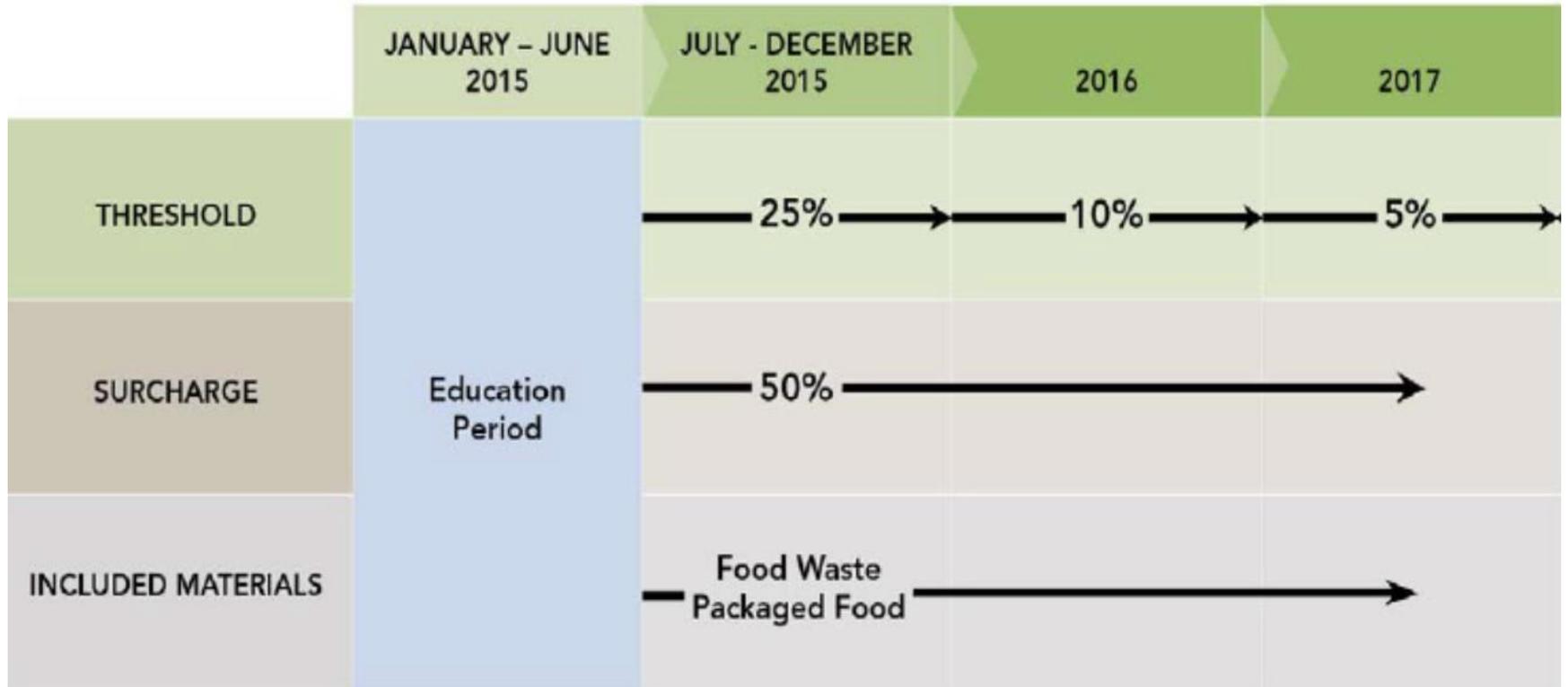
- Federal Government
- Provincial Government
- Regional District
- Municipalities
- Extended Producer Responsibility Producers and Agencies
- First Nations
- Non-profit Sector
- Residents and Businesses
- Neighbouring Jurisdictions

CVRD Bylaws – Disposal Ban Expansion

- 3716 – Smoke Control Regulation Bylaw
- 2020 – Landclearing Management Regulation Bylaw
- 2570 – Waste Stream Management Licencing Bylaw
- 1958 – Garbage and/or Recyclable Materials Collection Bylaw
- 2108 – Solid Waste Management Charges and Regulations Bylaw
- Disposal Bans
 - Haulers become partners to support diversion efforts
 - Diversion becomes “business as usual”



Organics Disposal Ban - Phased Implementation



Areas for Improvement– Reduce, Reuse, Recycle

- Opportunities exist to improve waste management at the top of the waste reduction hierarchy
 - Reducing wasted food
 - Enhance and improve reuse
- More than half of the garbage from ICI and MF generators is recyclable or compostable; disposal bans are not fully enforced
- Over 18,000 residents are not within 15 minutes of a public depot
- Over 33,000 residents in the CVRD do not have mandatory organics collection; more than 20,000 do not have mandatory garbage collection



Areas for Improvement – Processing of Recyclables

- As the quantity of organics being processed in CVRD increases, odour complaints may worsen
- No facilities for commingled ICI recyclable materials
- No mandate for C&D recycling



Areas for Improvement – Disposal and Operations

- No local disposal capacity; waste is shipped to USA (risk mgmt re \$\$ and border)
- Illegal dumping occurs throughout CVRD
- Limited options for difficult-to-dispose items
- Historic Disposal Sites for Monitoring
- No disaster management plan



Questions or Comments?

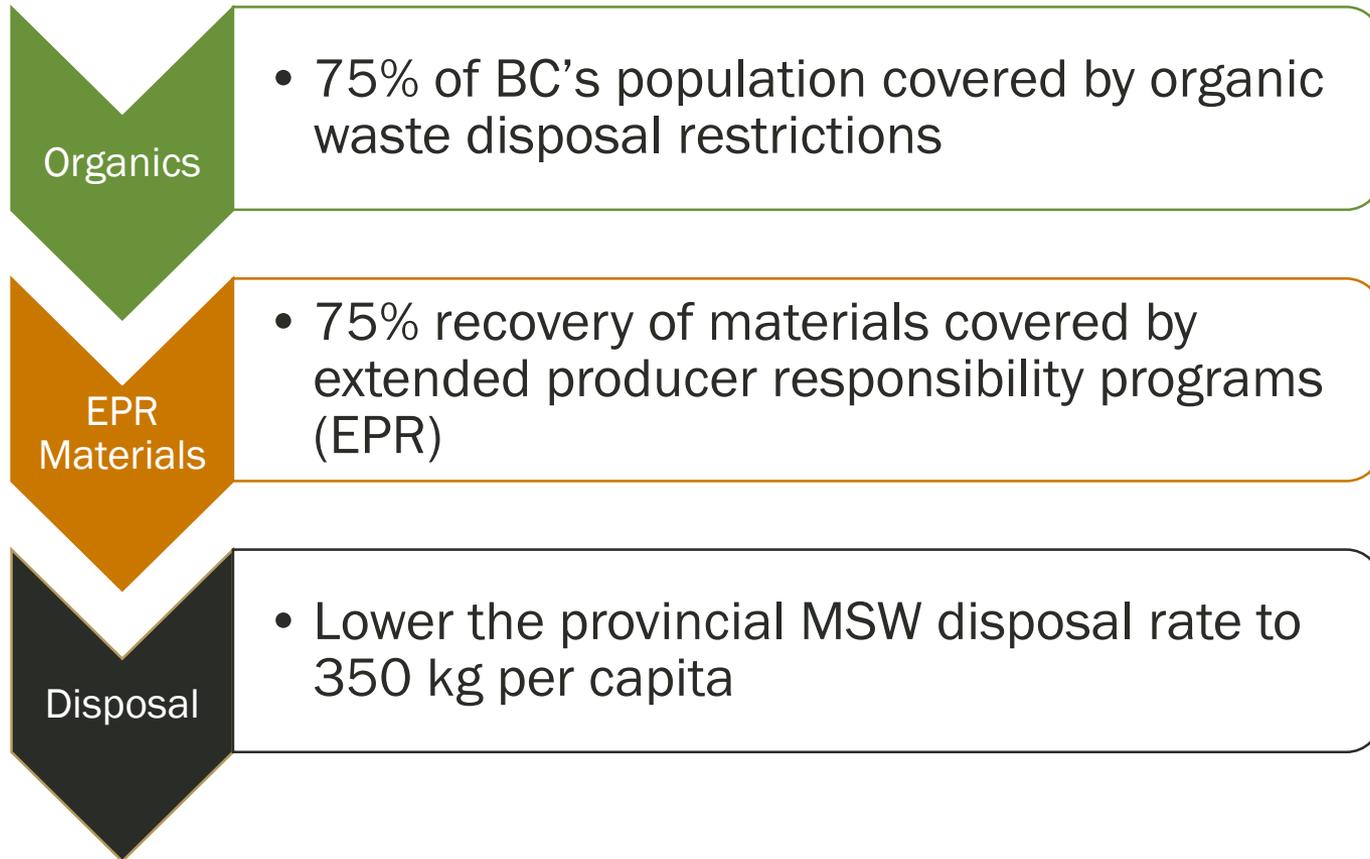


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Targets and Goals



Provincial Targets for 2020



Target Setting – Kg/Capita

Set a Target Regional Disposal Rate (180 to 300 kg/capita)

- BC's goal is 350 kg/capita for 2020; CVRD currently at 358 kg/capita
- Diversion potential shows that if 50% of recyclable materials that are currently going to landfill were diverted, resulting disposal rate is 250 kg/capita

Diversion Potential

Sector (Contribution to Landfill %)	Diversion Potential out of Landfill (kg/capita)
Single-Family (Municipalities) 9%	3.4
Single-Family (Electoral Areas) 14%	15.3
Multi-Family 6%	3.7
Industrial, Commercial & Institutional 41%	49.7
Drop Off 12%	4.3
Construction & Demolition 18%	1.0
Potential Additional Diversion from Landfill	77.7
Estimated Annual Disposal (assuming 358 kg/capita)	280.3

Sector (Contribution to Landfill %)	Material Type	Diversification Potential out of Landfill (%)	Diversification Potential out of Landfill ¹ (kg/capita)
Single-Family (Municipalities) 9%	Curbside Recyclables	10%	0.3
	Depot Recyclables	20%	0.5
	Wasted Food	30%	1.2
	Inedible Organic Materials	10%	0.6
	Building Materials	20%	0.2
	Textiles	30%	0.7
	Bulky Objects	10%	0.0
Single Family (Municipalities) Diversification Potential			3.4
Single-Family (Electoral Areas) 14%	Curbside Recyclables	30%	1.2
	Depot Recyclables	50%	1.6
	Wasted Food	60%	5.7
	Inedible Organic Materials	50%	5.8
	Building Materials	30%	0.6
	Textiles	10%	0.3
	Bulky Objects	20%	0.0
Single Family (Electoral Areas) Diversification Potential			15.3
Multi-Family 6%	Containers and Mixed Paper Recyclables	30%	0.9
	Depot Recyclables	10%	0.2
	Wasted Food	30%	1.0
	Inedible Organic Materials	30%	1.3
	Building Materials	10%	0.0
	Textiles	20%	0.2
	Bulky Objects	30%	0.0
Multi-Family Diversification Potential			3.7
Industrial, Commercial & Institutional 41%	Containers and Mixed Paper Recyclables	40%	7.8
	Depot Recyclables	20%	1.7
	Wasted Food	50%	26.3
	Inedible Organic Materials	40%	11.0
	Building Materials	20%	0.8
	Textiles	30%	2.0
	Bulky Objects	20%	0.1
ICI Diversification Potential			49.7
Drop Off 12%	Containers and Mixed Paper Recyclables	20%	0.4
	Depot Recyclables	30%	0.0
	Wasted Food	10%	0.3
	Inedible Organic Materials	10%	0.1
	Building Materials	20%	0.3
	Textiles	10%	0.8
	Bulky Objects	20%	0.7
Drop Off Diversification Potential			4.3
Construction & Demolition 16%	Containers and Mixed Paper Recyclables	10%	0.1
	Depot Recyclables	20%	0.0
	Wasted Food	30%	0.4
	Inedible Organic Materials	10%	0.0
	Building Materials	20%	0.0
	Textiles	30%	0.0
	Bulky Objects	10%	0.0
C&D Diversification Potential			1.0
Potential Additional Diversification from Landfill			77.7
Estimated Annual Disposal (assuming 355 kg/capita)			280.3

1. Note some materials with 0 estimated – based on the waste composition study – may still show up in these material categories by sector.

Diversion Potential – Single Family

Sector (Contribution to Landfill %)	Material Type	Diversion Potential out of Landfill (%)	Diversion Potential out of Landfill ¹ (kg/capita)
Single-Family (Municipalities) 9%	Curbside Recyclables	10%	0.3
	Depot Recyclables	20%	0.5
	Wasted Food	30%	1.2
	Inedible Organic Materials	10%	0.6
	Building Materials	20%	0.2
	Textiles	30%	0.7
	Bulky Objects	10%	0.0
Single Family (Municipalities) Diversion Potential			3.4
Single-Family (Electoral Areas) 14%	Curbside Recyclables	30%	1.2
	Depot Recyclables	50%	1.6
	Wasted Food	60%	5.7
	Inedible Organic Materials	50%	5.8
	Building Materials	30%	0.6
	Textiles	10%	0.3
	Bulky Objects	20%	0.0
Single Family (Electoral Areas) Diversion Potential			15.3

Diversion Potential - MF and ICI

Sector (Contribution to Landfill %)	Material Type	Diversion Potential out of Landfill (%)	Diversion Potential out of Landfill ¹ (kg/capita)
Multi-Family 6%	Containers and Mixed Paper Recyclables	30%	0.9
	Depot Recyclables	10%	0.2
	Wasted Food	30%	1.0
	Inedible Organic Materials	30%	1.3
	Building Materials	10%	0.0
	Textiles	20%	0.2
	Bulky Objects	30%	0.0
Multi-Family Diversion Potential			3.7
Industrial, Commercial & Institutional 41%	Containers and Mixed Paper Recyclables	40%	7.8
	Depot Recyclables	20%	1.7
	Wasted Food	50%	26.3
	Inedible Organic Materials	40%	11.0
	Building Materials	20%	0.8
	Textiles	30%	2.0
	Bulky Objects	20%	0.1
ICI Diversion Potential			49.7

Diversion Potential – Drop Off and C&D

Sector (Contribution to Landfill %)	Material Type	Diversion Potential out of Landfill (%)	Diversion Potential out of Landfill ¹ (kg/capita)
Drop Off 12%	Containers and Mixed Paper Recyclables	20%	0.4
	Depot Recyclables	30%	0.0
	Wasted Food	10%	0.3
	Inedible Organic Materials	10%	0.1
	Building Materials	20%	0.3
	Textiles	10%	0.8
	Bulky Objects	20%	0.7
Drop Off Diversion Potential			4.3
Construction & Demolition 18%	Containers and Mixed Paper Recyclables	10%	0.1
	Depot Recyclables	20%	0.0
	Wasted Food	30%	0.4
	Inedible Organic Materials	10%	0.0
	Building Materials	20%	0.0
	Textiles	30%	0.0
	Bulky Objects	10%	0.0
C&D Diversion Potential			1.0

Questions or Comments?



- Questions?
- Comments?
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- Corrections?

Strategies Review and Diversion Potential



Strategies List

1. Explore Reduce and Reuse Opportunities
2. Reduce Disposal from Multi-Family Residential and ICI
3. Reduce Disposal from Residential Sector
4. Improve Organics Processing
5. Investigate Processing and Transfer Capacity for Recyclables
6. Improve Management of Construction and Demolition Materials
7. Explore Options for Local Disposal
8. Reduce Illegal Dumping
9. Collection/Drop Off for HHW, Bulky Items and Organics Debris
10. Monitor Historic Disposal Sites
11. Create an Asset Management Plan
12. Create a Disaster Debris Management Plan
13. Education and Behaviour Change Considerations

Strategy 1: Reduction and Reuse Opportunities

– Local Reuse

Issue:

- Opportunities exist to enhance the CVRD's programs at the top of the waste prevention hierarchy (reduction and reuse)



Components:

- A. Reduce Wasted Food from RES and ICI
- B. Explore Reduction and Reuse Opportunities
- C. Support Bans on Single-Use Items
- D. Advocate for Expansion of EPR Programs



Strategy 2: Reduce Disposal from Multi-Family Residential and ICI Sectors

Issues:

- Easily recyclable materials in disposal streams:
 - 13% from the ICI sector
 - 15% from the multi-family residents (compared to 9% in the single-family sector)
- Compostable organic materials in disposal streams:
 - 52% from the ICI disposal stream
 - 39% from the multi-family stream (compared to 23% from the single-family sector)
- Nearly one-third (9,250 tonnes) of waste comes from the multi-family and ICI sectors.

Strategies:

- A. Mandate Multi-Family and ICI Source Separation Requirements
- B. Collection Services Review
- C. Organics and Existing Material Disposal Ban Enforcement



Strategy 3: Reduce Disposal from Residential Sector

Issues:

- Not all residents (over 18,000 residents) are within a 15-minute drive of a publicly funded Recycling Centre
- Many residents in Electoral Areas are not provided with curbside garbage collection.
- Over 33,000 Residents in the CVRD do not have organics collection. Residents without organics collection have 13% more organics in the garbage than in areas with organics collection.

Strategies:

- A. Provide Equal Access to Publicly Funded Recycling Programs
- B. Expand Universal Curbside Collection Services to Be Consistent Across the Region



Strategy 4: Improve Organics Processing

Issues:

- Several organic processing facilities are generating odour that are impacting residents and businesses
- Processing quantities continue to grow
- Facilities might be processing more organics than originally designed for and generating unacceptable odours

Strategies:

- A. Best Management Practices for Odour Management
- B. Ensure Priority for Locally-Generated Organics Processing
- C. Standardize Design Criteria and Limits to Protect Environment and Public



Strategy 5: Investigate Processing and Transfer Capacity for Recyclables

Issues:

- Recyclable materials are hauled to out of region to material recovery facilities (MRFs) because there is no MRF in the CVRD
- No facilities in the CVRD that accepts comingled ICI recyclable materials (typically hauled out-of-region or not collected at all)

Strategies:

- A. Feasibility Assessment for a Material Recycling Facility (MRF)
- B. Feasibility Assessment for Transfer Capacity for ICI Recyclables



Strategy 6: Improve Management of Construction and Demolition (C&D) Materials

Issues:

- Despite related disposal bans, there is still a significant portion of C&D materials in the garbage
- Limited disposal capacity for hazardous C&D materials (asbestos, gypsum wallboard) and costly to manage and properly dispose of these materials

Strategies:

- A. Monitor C&D Disposal and Recycling Activities in the Region
- B. Develop a C&D Waste Management Strategy
- C. Reduce Barriers to Disposing Hazardous Materials (asbestos, gypsum wallboard)



Recovery and Residuals Management



Strategy 7: Residuals Management

Explore Options for Disposal

Issues:

- The CVRD has one of the highest tipping fees in British Columbia.
- The solid waste is exported to the Roosevelt Regional Landfill in Washington State, and the CVRD is responsible for transportation costs and the USD exchange rates.

Strategy	Description
Export Off Island	<ul style="list-style-type: none"> - Currently waste is shipped to WA state @ \$130/tonne - Other Island or BC options
Disposal at Comox Valley Regional Landfill	<ul style="list-style-type: none"> - New landfill recently opened in Comox Valley - Explore feasibility of disposal here
Waste to Energy (WTE) (Public Facility)	<ul style="list-style-type: none"> - Two recent studies have deemed that a WTE facility is not feasible - The 2018 SWMP could revisit this
Waste to Energy (Private Facility)	<ul style="list-style-type: none"> - A new private WTE facility may be built in Cowichan Valley - Explore feasibility of disposal here
New CVRD Landfill Development	<ul style="list-style-type: none"> - CVRD last tried to site a landfill in the mid-1990s but was unsuccessful

Strategy 8: Augment Illegal Dumping Prevention Strategies

Issue:

- Illegal dumping of materials occurs throughout the CVRD.

Background:

- A campaign was conducted in 2016 to reduce illegal dumping in Hillcrest
- A “Free Tipping” policy was implemented in the early 2000s to provide financial incentives to non-profit organizations who clean up public lands
- CVRD may wish to analyze costs and ubiquity of illegal dumping to determine whether changes should be made



Strategy 9: Collection/Drop-off for HHW, Bulky Items and Organic Debris

Issues:

- Limited options for residents to safely dispose of household hazardous materials that are not managed by EPR programs
- CVRD has subsidized drop off but does not subsidize curbside collection for bulky items, such as furniture and mattresses, which may contribute to illegal dumping

Issues:

- A. Round Up Event for Household Hazardous Waste
- B. Collection for Bulky Items
- C. Effective Ways to Reduce Open Burning of Wood Waste



Strategy 10: Monitor Historic Disposal Sites

Issues:

- The CVRD has a number of closed disposal sites that require ongoing monitoring and attention
 - Koksilah Sanitary Landfill
 - Koksilah Road Incinerator Ash Landfill
 - Peerless Road Incinerator Ash Landfill
 - Meade Creek Incinerator Ash Landfill (ash landfill closure is in progress at the time of writing).

The CVRD needs to continue monitoring and assessing the state of these historic disposal sites



Operational Improvements



Strategy 11A: Asset Management Plan

Issues:

- The CVRD owns mobile (trucks/ equipment) and stationary (buildings) assets
- Important to understand the CVRD's assets and options to manage sustainably

An asset management planning process could be conducted to document the future needs and identify resource requirements of the solid waste management system.



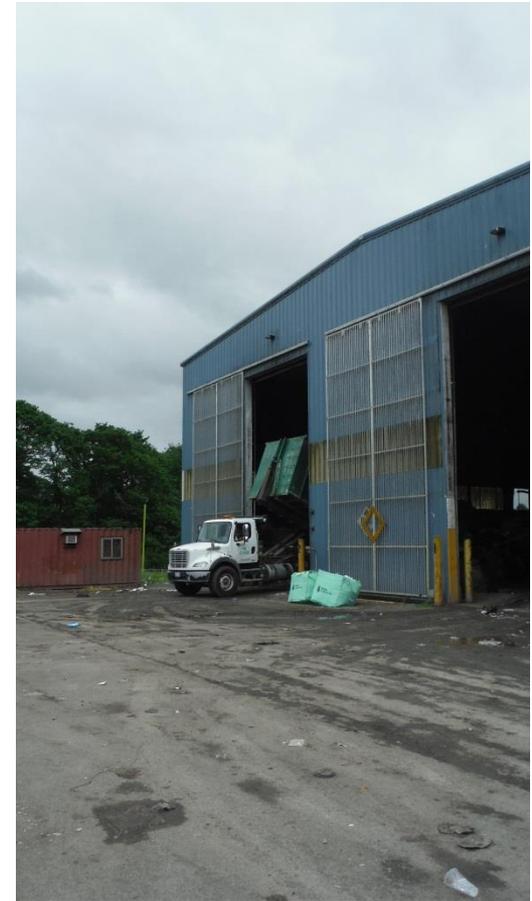
Strategy 11B: Bings Creek Transfer Station 10-Year Plan

Issues:

- Bings Creek receives most of the CVRD's waste. Future function and capacity to be determined.
- Bings Creek does not receive ICI sector recyclables.
- Facility not equipped with compactors or balers that may lead to operational efficiencies.

Future plans for the Bings Creek Transfer Station needs to be determined. Consider:

- Type and amount of material to be received
- Processing that could occur on site
- Condition assessment of the structures



Strategy 12: Disaster Debris Management Plan

Issues:

- The CVRD currently does not have a disaster management plan for solid waste in the event of a natural disaster
- Several Canadian municipalities, such as Fort McMurray, interior BC, and Calgary, were affected by fires or floods

Consideration should be given to developing an Disaster Debris Management Plan for public waste management facilities.



Strategy 13: Education and Behaviour Change

- Beyond information
- Community-based social marketing
- Tools
 - Commitments
 - Prompts
 - Norms
 - Social Diffusion
 - Communication
 - Incentives
 - Convenience



Target Setting – Diversion Potential

Sector (Contribution to Landfill %)	Diversion Potential out of Landfill (kg/capita)
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Additional Goal

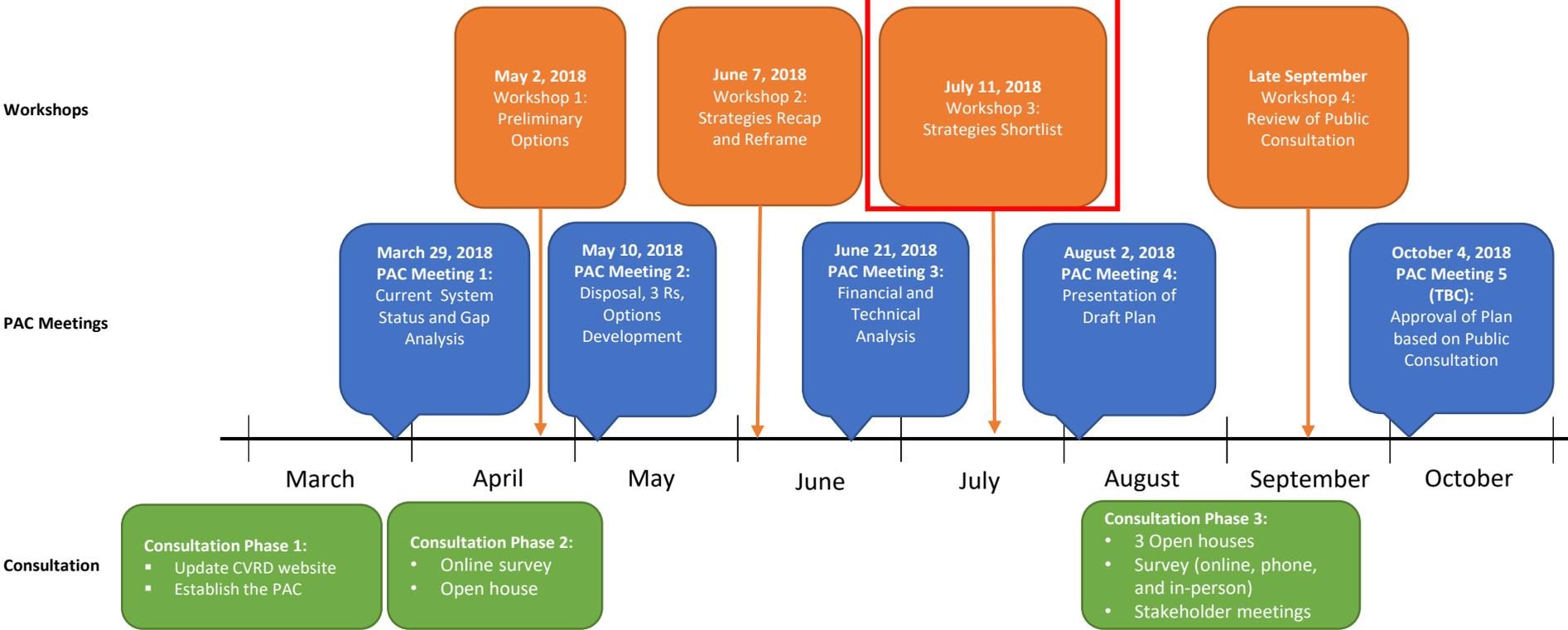
Adopt “Zero Waste” as a goal for the plan

- Zero Waste means moving towards a circular economy, wherein ‘waste’ is viewed as a resource, and maximum value is extracted from all resources before they are eventually recovered or regenerated
- Encourage systematic redesign and management of products and processes
 - Avoid volume and toxicity of waste
 - Conserve and recover all resources
 - Don’t bury or bury resources

Next Steps



Updated Schedule



October

- Board Approval
- Submit to Ministry

Next Steps

- Workshop 3 – July 11, 2018 (proposed)
 - Strategies Shortlist
 - Consensus building/voting
 - Consultation Plan Recap
- PAC Meeting 4 – August 2, 2018 (proposed)
 - Presentation of Draft Plan
 - Consultation Implementation Plan Update