

# SOLID WASTE MANAGEMENT PLAN UPDATE



**DRAFT Technical Memorandum No. 3:**

## **COST RECOVERY**

**July, 2022**

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Revisions:

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## Glossary of Terms

BC	British Columbia
NCRD	North Coast Regional District (formerly Skeena-Queen Charlotte Regional District)
EA	Electoral Area
ENV	Ministry of Environment and Climate Change Strategy
EMA	Environmental Management Act (formerly Waste Management Act)
Guide	A Guide to Solid Waste Management Planning
HWR	Hazardous Waste Regulation
IL	Islands Landfill
ISWAC	Islands Solid Waste Advisory Committee
ISWM	Islands Solid Waste Management
MARR	Major Appliance Recycling Roundtable
MSWAC	Mainland Solid Waste Advisory Committee [now RRAC]
MSW	Municipal Solid Waste
PRL	Prince Rupert Landfill
PTAC	Public and Technical Advisory Committee
RRAC	Regional Recycling Advisory Committee
SWWG	Solid Waste Working Group
SHA	Sperling Hansen Associates
SWM	Solid Waste Management
SWMP	Solid Waste Management Plan
TM	Technical Memo

# 1. INTRODUCTION

The North Coast Regional District (NCRD) is in the process of developing a new Solid Waste Management Plan (SWMP). The plan will guide the NCRD solid waste management services over the next five to ten years, providing direction on municipal solid waste (MSW) collection, disposal, reduction and recycling and service cost recovery. SWMPs are required for all regional districts in British Columbia under the Environmental Management Act (EMA). NCRDs first and only SWMP was adopted in 1996 under the former Skeena-Queen Charlotte Regional District and the many initiatives outlined therein have been implemented.

Sperling Hansen Associates (SHA) was hired in November 2021 to assist with the SWMP update to its final submission to the ENV in 2023. This Technical Memorandum (TM) is part of Task 2 (Develop and Finalize Technical Memos) as outlined in SHA's project proposal and aligns with Step 2 and Step 3 of the Province's 2016 Guide to Solid Waste Management Planning (Guide) and will be presented to the NCRD's Public and Technical Advisory Committee for review and discussion.

## 2. CONTEXT AND SCOPE

This third TM provides the following:

- Based on information provided by NCRD staff, current solid waste management system costs
- The topics chosen to be reviewed by PTAC relating to system costs
- Solid waste management system cost controls and recovery.

At the outset of this project, it was a priority to gather as much information as possible from the last 25 years to establish a clear picture of the current solid waste management system in the Islands and Mainland service areas including the successes, challenges and opportunities. This was completed using available Internet sources, conversations with the NCRD staff, and documents provided by the NCRD.

### 2.1 Principles, Goals and Targets

With amendments to the Waste Management Act (now Environmental Management Act) in 1989, the province required all Local Governments to develop a SWMP for approval by 1995 that would help British Columbia (BC) achieve a 50% reduction in municipal solid waste (MSW) disposal by the year 2000. As stated in the NCRD's approved 1996 SWMP, "Overall, the Stage One Report demonstrated that it would be very difficult for the Regional District to achieve the 50% reduction goal by 2000". Although an update or status review of the 1996 SWMP has not been undertaken to date, the NCRD has completed or is currently implementing 109 of their 137 initiatives outlined in the SWMP. Twelve of the initiatives were not completed and will be carried forward to the updated SWMP. The list of initiatives is presented in Appendix A with the following color coding:

Initiative Complete and Carried Forward
Initiative in Progress and Carried Forward
Initiative not Complete and Carried Forward
Initiative not Complete and Not Carried Forward

### 2.2 Guiding Principles for Waste Disposal

As reviewed in Technical Memo 1, the Guide outlines eight guiding principles for regional districts to follow in developing and updating their SWMP and encourages regional districts to include additional locally relevant principles. The following topics relating to cost recovery were put forward by the NCRD Public and Technical Advisory Committee (PTAC) early in the process:

1. Ensure that possible negative reactions to some plan policies are addressed during implementation
2. Ensure that the public and system users are participants in any modifications to this plan
3. Provide a framework to resolve disputes arising from implementation of the plan
4. Ensure that the entire system is funded to accomplish the goals of this plan
5. Focus the SWMP on the following:
  - a) Improving the operational and financial efficiency of the NCRD waste management systems
  - b) Investigating landfill gas utilization and carbon credits.

The above list is not exhaustive and can be modified prior to development of the draft SWMP and presentation to the public during consultation. Note that items 1, 2, 3, 5a, and 5 were included in TM1 and TM2.

## 2.3 Provincial and Local Targets

The ENV's current Service Plan outlines the following provincial targets for 2022 to 2025:

**Table 2-1: Provincial Service Plan Disposal Targets**

Target	2022/2023	2023/2024	2024/2025
Per capita municipal solid waste disposal (kg per person)	460	440	420
Per cent of population covered by an organic waste disposal restriction (%)	80	80	80

The ENV's long term goal for the per capita disposal rate is 350 kg/person. They are cognizant of the differing abilities and resources required for all regions in the province to achieve such goals, especially with respect to revenue generation, available revenue for disposal facility upgrades, transportation costs for marketable materials, and available markets for recyclable materials.

SHA compiled the tonnage information provided by NCRD staff and facility managers to help determine the quantity and types of material that are currently being transported and managed in the region and transported out of the region. The following table outlines the quantity of disposed MSW at the two landfills in the NCRD.



**Table 2-2: Disposed Quantities**

Location	Material Type	Source	Refined Source (SHA)	Refined Type (SHA)	Tonnes	Cubic Meters	Annual Waste Statistics
<b>Prince Rupert Landfill</b>							
	MSW	Rupert Disposal		Res/ICI/CRD	3,013		
	MSW	City		Res/ICI/CRD	57		
	Residential MSW	City Residents		Res	1,669		
	Commercial MSW	City Commercial		ICI	72		
	City MSW	City Public Works		ICI/CRD	47		
	MSW	Dist. Of Port Edward		Res	147		
	MSW	School District #52		ICI	64		
	MSW	Other commercial		ICI	1,142		
	MSW	Cash Customers		Res/ICI/CRD	5,123		
<b>Total Mainland Refuse</b>					<b>11,334</b>		
						<b>2021 Tonnes</b>	<b>11,334</b>
						<b>Mainland 2021 Census Population</b>	<b>13,510</b>
						<b>2021 tonnes/per capita/year</b>	<b>0.84</b>
<b>Islands Landfill</b>							
	Residential MSW	Big Red	Moresby Island	Res	404	2,021	
	Residential MSW	Old Massett Band (CC)	EA D	Res	124	620	
	Residential MSW	Masset TS (CC, Self Haul)	EA D/VoM	Res/ICI/CRD	297	1,485	
	Residential MSW	Skidegate TS (CC, Self Haul)	EA D/VoQC	Res/ICI/CRD	488	2,442	
		Skidegate Band (CC)	EA D	Res	-		
	Residential MSW	Landfill Self Haul	Haida Gwaii - as a whole	Res/ICI/CRD	101	505	
	Residential MSW	Sandspit TS	EA E	Res/ICI/CRD	107	533	
	MSW/ Mixed Load	Contractor	Haida Gwaii - as a whole	Res/ICI/CRD	34	172	
	Controlled Waste	Various	Haida Gwaii - as a whole	Res/ICI/CRD	4	21	
<b>Total Islands Refuse - not including C&amp;D that was used to build berm</b>					<b>1,560</b>	<b>7,799</b>	
						<b>2021 Tonnes</b>	<b>1,560</b>
						<b>Islands 2021 Census Population</b>	<b>4,582</b>
						<b>2021 tonnes/per capita/year</b>	<b>0.34</b>
<b>Total for NCRD</b>							
						<b>2021 Tonnes</b>	<b>12,894</b>
						<b>2021 Census Population</b>	<b>18,181</b>
						<b>2021 tonnes/per capita/year</b>	<b>0.71</b>

As seen above the disposal rate in the Islands service area is substantially lower than in the Mainland service area. It should be noted that these numbers depend on many factors that are interpreted differently from time to time and by different people. The data is dependent on good, well organized and consistent record keeping from year to year.

Figure 1 shows the facilities in the region and the distances between transfer stations and disposal and processing facilities (e.g., Islands Landfill and the NCRD Recycling Depot).

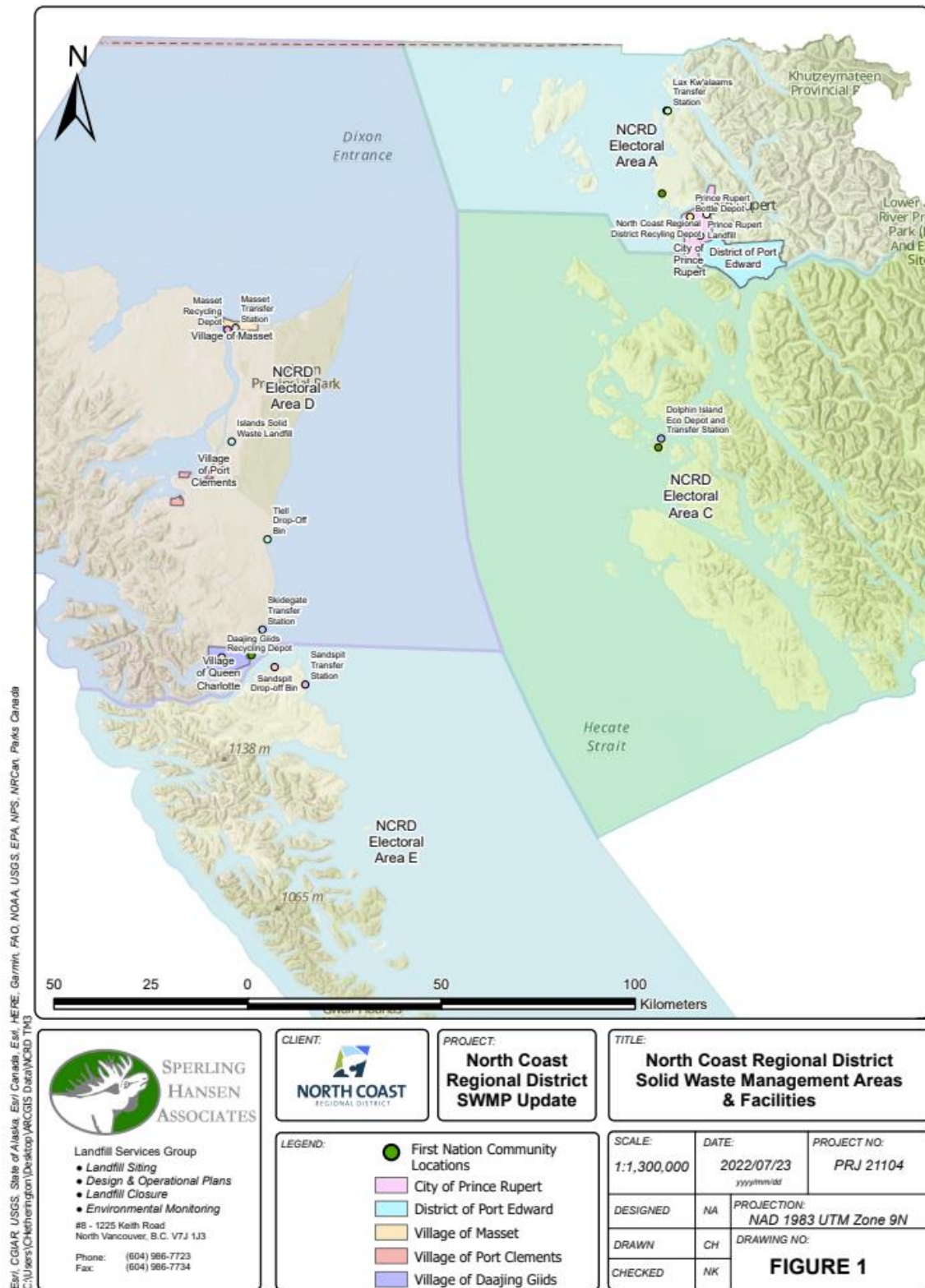


Figure 1: NCRD Solid Waste Disposal System Overview[NK1][NK2][NK3] - **DRAFT**

### 3. CURRENT SERVICES AND COSTS

The purpose of this section is to outline the current solid waste management services and sub-services in the region with specific attention to those that the NCRD provide. The costs are shown in tables as well as the revenues generated to cover the costs. More detailed examination of rates are also provided to indicate where revenues do not cover costs. The addition of SWMP strategies and the financial impact are shown in Section 4 and the five-year financial plan is provided in Section 5.

#### 3.1 Solid Waste Management Services and Provider

Location of facilities and collection programs plays an important part in regional solid waste management, particularly in understanding the costs associated with transporting materials from one facility to another and how these costs are dependent on fuel and ferry rates. The region has been divided into two services areas: Islands Service Area (ISA) and Mainland Service Area (MSA), including the programs and facilities listed in the table below. The numbers in brackets beside the programs and facilities represent the sub-services in the ISA as shown in the NCRD budget.

**Table 3-1: SWM Services and Provider**

Service	Location	Owned & Operated By
<b>Islands Service Area</b>		
Islands Garbage Collection (319) – 2,415 households billed quarterly (VDG/VPC), bi-monthly (VOM) and annually (NCRD), 404 T/yr, serves approx. 2,592 (2021) people [not incl OMVC & SBC]	Electoral Areas D and E and municipalities	NCRD program, operated by contractor
Old Massett Village Council Garbage Collection – 124 T/yr, serves approx. 260 households and 838 (2021) people	Old Massett Village	Band, trucks to Islands Landfill
Skidegate Band Council Garbage Collection – Quantity Unknown [incl in TS tonnage], serves approx. 340 households & 697 (2021) people	Skidegate	Band, trucks to Skidegate transfer station
Masset Transfer Station (315) – 297 T/yr, serves approx. 838 people (2021) [approx. 2,300 in the wider area]	East of Masset	Crown Lease (2005 – 2035) & operated by NCRD staff

Service	Location	Owned & Operated By
Skidegate Transfer Station (315) – 488 T/yr, serves approx. 1,951 people (2021) [VDG, Skidegate, Skidegate Band, Tlell and areas between]	North of Skidegate (Electoral Area D)	NCRD & operated by casual NCRD staff
Sandspit Transfer Station (315) – 107 T/yr, serves approx. 325 people (2021) [EA. E]	South of Sandspit (Electoral Area E)	NCRD leased & operated by contractor
Islands Landfill (317) – 1,560 T/yr, serves approx. 4,582 (2021) people	North of Port Clements	NCRD
Masset Recycling Depot (312) – Quantity Unknown, serves approx. 2,300 people in the wider Masset area (Masset Website)	Masset	<u>Rented</u> & operated by NCRD staff
Daajing Giids Recycling Depot (312) – Quantity Unknown, serves approx. 2,276 people [same as Skidegate + Sandspit TS service population]	Daajing Giids	<u>Rented</u> & operated by casual NCRD staff
Drop-Off Bins – Sandspit (311) – Quantity Unknown, serves approx. 296 (2016) people	Sandspit, Super Value	NCRD
Drop-Off Bins – Tlell (311) – Quantity Unknown, serves approx. 183 (2016) people	Tlell, Fire Hall	NCRD
Joe's Bottle Depot – Masset – Quantity Unknown, serves same area as TS & Recycling Depot, so approx. 2,300 people (Masset Website)	Masset	Private Owner/Operator
<b>Mainland Service Area</b>		
Prince Rupert Garbage & Recycling Collection – 1,665 T/yr (2020), serves approx. 5,000 dwellings (2021)	Prince Rupert	City of Prince Rupert owned & operated
Port Edwards Garbage Collection – 147 T/yr, serves approx. 196 dwellings (2021)	Port Edwards	Village of Port Edwards owned & operated
NCRD Recycling Depot – 2,171 T/yr (2021), processes material from the entire	Prince Rupert	NCRD

Service	Location	Owned & Operated By
<i>region with population of approx. 18,092 (2021)</i>		
Prince Rupert Bottle Depot – <i>Quantity Unknown, serves approx. 13,510 (2021) people</i>	Prince Rupert	Privately owned & operated
Prince Rupert Landfill – <i>11,334 T/yr (2021), serves approx. 13,510 (2021) people [PR, PE, EAs A/C]</i>	Prince Rupert	City of Prince Rupert owned & operated
Dolphin Island Transfer Station – <i>Quantity Unknown, serves approx. 295 (2021) people</i>	Kitkatla	Gitxaala Nation owned & operated
Lax Kw'alaam Transfer Station – <i>Quantity Unknown, serves approx. 627 (2021) people</i>	Lax Kw'alaams	Lax Kw'alaams Nation owned & operated
Metlakatla Transfer Station – <i>Quantity Unknown, serves approx. 88 (2021) people</i>	Metlakatla	Metlakatla Nation owned & operated
Hartley Bay – <i>Quantity Unknown, serves approx. 140 (2022) people</i>	Hartley Bay	Hartley Bay <i>(Unknown what the service consists of, but waste is shipped to Prince Rupert primarily)</i>

The following table outlines the NCRD 2022 adopted SWM budget including operating and capital expenses and the cost recovery methods and amounts. All services listed in blue font above are included in these budgets. Wages and support services from ISW General have been divided into the individual departments.

### 3.2 Cost Recovery Methods by Service

Costs are recovered through various methods as shown in Table 3-2. The two service area budgets allocate revenue under many different categories including the following:



**Table 3-2: Cost Recovery Methods by Service**

Service	Expenses, Including Capital (2022 Budget)	Cost Recovery Method & Amount (2022 Budget)
<b>Islands Service Area</b>		
ISW General (310) – primarily administration support	\$142,100 (includes \$29,500 transfers to reserves)	Taxation portion: \$41,351 User fees (Island services) portion: \$100,988 Investment income: \$2,500 Penalty for late payment: \$4,400 Spring Cleanup: \$5,500 Discounts: \$-12,450 Transfer from reserves: \$1,000
		<b>Sub-Total: \$143,289</b>
Commercial Recycling (311) – management and processing of material from community bins & dropped off material from businesses at 3 depots	\$152,380	Taxation portion: \$67,830 User fees (Island services) portion: \$47,961 Commercial User Fees: \$12,000 Drop off charges: \$6,000 MARR bulk recycling \$12,600 Recycling Agreements: \$2,500 Sale of materials: \$3,000
		<b>Sub-Total: \$151,891</b>
Residential Recycling (312) – operation of QC, Masset & IL depots incl capital	\$186,131	Taxation portion: \$46,077 User fees (Island services) portion: \$92,249 User Fees (processing): \$18,000 Stewardship Revenue: \$20,700 Recycling Agreements: \$10,000 [\$48,700 in budgeted revenue will not happen in 2022 due to delay in RecycleBC audit]
		<b>Sub-Total: \$187,026</b>
Hauling (313) – MSW on Roll Off Truck from Transfer Stations to Landfill & within Landfill & Landfill Depot recycling to QC Depot incl capital	\$371,705 [includes \$250,000 Haul Truck purchase]	Taxation portion: \$26,915 User fees (Island services) portion: \$72,134 Debt proceeds: \$250,000 [for Haul Truck] Budget shortfall (transfer from reserve): \$22,433
		<b>Sub-Total \$371,482</b>
Transfer Stations (315) – operation of Masset, Skidegate & Sandspit TSs incl capital	\$111,612 [includes \$3,000 transfer to reserve]	Taxation portion: \$35,814 User fees (Island services) portion: \$71,664 Septic Access Fees: \$3,400
		<b>Sub-Total: \$110,878</b>
Islands Landfill (317) – operation of	Operating: \$299,763 Capital (Solar Flare project): \$35,000	Taxation portion: \$79,543 User fees (Island services) portion: \$94,962

Service	Expenses, Including Capital (2022 Budget)	Cost Recovery Method & Amount (2022 Budget)
disposal facility incl capital	Transfer to Reserves: \$48,520 \$383,283	Budget shortfall (transfer from reserve) \$40,000 Tipping fees: \$108,630 User Fees (Commercial charges): \$6,000 Gas Tax Grant (for Solar Flare): \$50,000 Investment income: \$3,520
		<b>Sub-Total: \$382,655</b>
Islands Garbage Collection (319) – operation of curbside garbage collection service by contractor for Electoral Areas D & E, VoM, VDG, & VPC	\$207,130/year (contract expires June 1, 2023)	User fees (curbside garbage collection): \$204,303 Budget shortfall (transfer from reserve): \$2,827
		<b>Sub-Total: \$207,130</b>
<b>TOTAL</b>	<b>\$1,554,351</b>	<b>\$1,554,351</b>
<b>Mainland Service Area</b>		
NCRD Recycling Depot – operation (sorting, baling, collection, marketing, shipping) of the regional recycling depot in Prince Rupert incl capital	Operating: \$926,070 (includes \$77,970 transfer to reserve) Capital (roof replacement \$417,060 and renovation \$1,619,120) for total of \$2,036,180	Taxation: \$265,040 Grants-conditional (renovation): \$1,155,770 Grant in lieu of taxes: \$21,470 Sale of services: \$4,290 User fees (processing): \$128,650 Sale of materials: \$115,200 Stewardship revenue: \$144,450 Commercial charges: \$34,480 Rental revenue: \$9,900 Bulk recycling: \$31,200 Agreements: \$29,610 Investment: \$7,100 Transfer from reserves (roof replacement \$22,060, renovation \$463,350 and COVID reserve \$1,000): \$486,410 Transfer from surplus (budget shortfall): \$128,680 Debt proceeds (roof replacement): \$400,000
<b>TOTAL</b>	<b>\$2,962,250</b>	<b>\$2,962,250</b>

The budgets for the individual service areas and sub-services are complex and therefore the definitions of the expenses and revenue categories are important to clarify and understand so that service efficiency and reporting can be accomplished. For this reason, SHA is recommending that the NCRD consider revising the Island and Mainland budgets to show costs and revenues by facility and program, including the allocation of the ISW

General costs to each facility and program with common expenses and revenue categories for each. We realize this is a large task but over a five-year period may be possible.

SHA has put together a listing of the revenue categories for the NCRD's consideration (available on request) that can be consistent across the departments. Streamlining the categories ensures items such as the variety of fee categories, mean the same for each line item in the budgets. Other suggestions include breaking down each facility further to include all equipment that shows the age, replacement year and cost, will assist in finalizing an asset management plan for the Island services.

Costs for the private and other jurisdiction facilities are not presented in this report but for the purposes of comparing costs this paragraph shows the tipping fees and curbside garbage collection costs for the Island and Prince Rupert services. At the City of Prince Rupert's Landfill, residents and businesses not from within the boundaries of the City of Prince Rupert pay a tipping fee for regular MSW currently set at \$11.50 for up to six regular garbage bags if the scale is not available, or \$245/tonne with an \$11.00 minimum charge. The tipping fee currently set for regular MSW at the Island Landfill and transfer stations is \$2.00/bag and about \$11.68/tonne (converted from \$7.00 for 1.5 m<sup>3</sup> or \$4.67/m<sup>3</sup> and 0.4 tonnes/m<sup>3</sup> density) as shown in the following table. There is no minimum tipping fee set for using the Island Landfill or Transfer Stations.

Landfill	Minimum Fee for use of the facility	Household Solid Waste Tipping Fee
Island	N/A	\$11.68/tonne
Prince Rupert	\$11.50	\$140.75/tonne (Resident rate)

Recovery of costs through collecting more tipping fees is an option at disposal facilities that have an increasing capital requirement.

Compared to the City of Prince Rupert's curbside garbage collection program at \$518.04/year per household, the user fee in the Island service area is \$123/year per household and additional MSW service fees (general ISW, recycling, etc.) are an additional \$222/year for a total of \$345/year.

The Prince Rupert Landfill has been upgraded in recent years with lined expansion areas, a leachate treatment system, progressive closure, a stormwater pond and a new septic facility. The Island Landfill has the same regulatory requirements which have been monitored regularly by a qualified professional and has applied Community Works (Gas Tax) funding toward a landfill gas collection and flare system, primarily to work toward applying for and receiving offset credits. The facility does not have an updated Design, Operating and Closure Plan as required in the BC Landfill Criteria for Municipal Waste, 2016 therefore SHA recommends that funding be set aside to update current filling plans,



capital requirements and the landfill lifespan to assist with financial planning. This cost is estimated at \$50,000 and is shown in 2024 in the five-year financial plan.

### 3.3 Costs Per Household

The following table shows the costs per household by service using the rates set by the Islands and Mainland service establishment bylaws, the Island Solid Waste Management Regulation, Fees and Charges bylaw and user agreements (facility use and service agreements). Other revenues are shown combined for sale of service, grants and tipping fees, etc. Of note is the difference between the taxation plus user fees and the remaining costs to recover through the other methods in 2022 (this will vary year to year). Capital and transfer to/from reserves is not included.

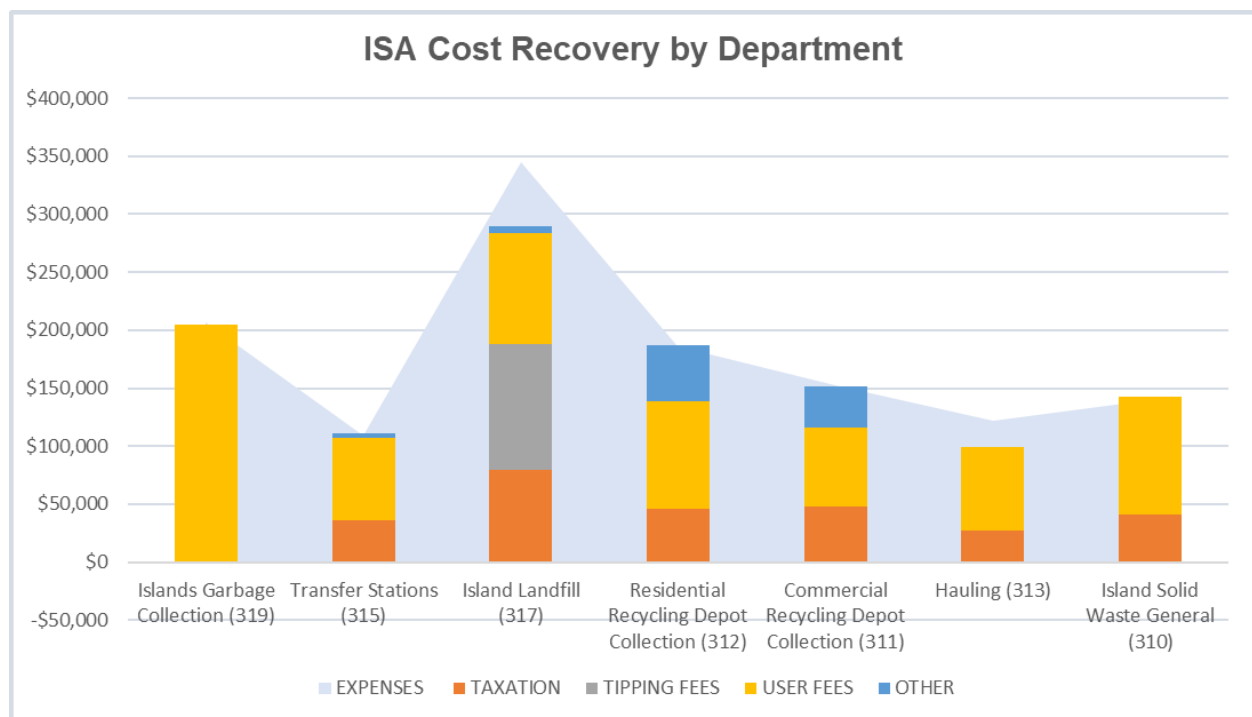
**Table 3-3: User Fees and Cost per Household**

Service (Budget Item)	Expenses (2022 Budget)	Islands Service Area [NK4][NK5][NK6]	Other Revenue <sup>3</sup>
<b>Islands Service Area</b> Taxation 2022: \$0.3189 per 1,000 (Bylaw - \$0.50 per 1,000)			
ISW General (310)	\$139,600	Island services user fees portion: \$100,988 ➤ \$45/year	\$41,351 -\$1,550
Commercial Recycling (311)	\$152,380	Island services user fees portion: \$67,830 ➤ \$30/year	\$47,961 \$36,100
Residential Recycling (312)	\$186,132	Island services user fees portion: \$92,249 ➤ \$41/year	\$46,077 \$48,700
Hauling (313)	\$121,705	Island services user fees portion: \$72,134 ➤ \$32/year	\$26,915 \$0
Transfer Stations (315)	\$108,612	Island services user fees portion: \$71,664 ➤ \$32/year	\$35,814 \$3,400
Islands Landfill (317)	\$344,763	Island services user fees portion: \$94,962 ➤ \$42/year	\$79,543 \$114,630 (-\$108,730 Tipping Fees)
Islands Garbage Collection (319)	\$207,130	Islands service user fees portion: \$204,303 ➤ \$123/year	N/A \$0
<b>Total</b>	<b>\$1,260,322</b>	<b>\$704,130 or \$345/year</b>	<b>\$277,661 \$168,280</b>

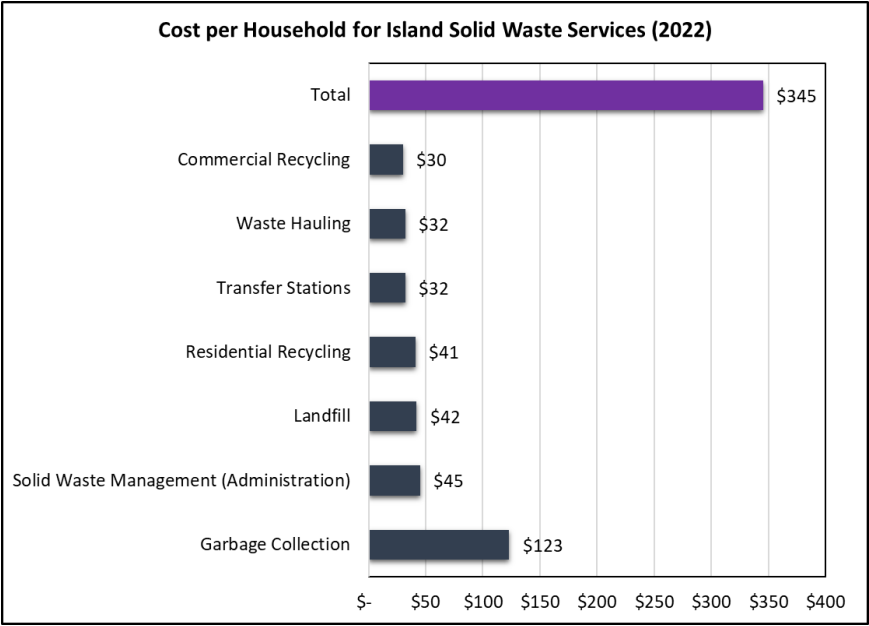
Service (Budget Item)	Expenses (2022 Budget)	Islands Household Use Expenses [NK4][NK5][NK6]	Islands Household Use Expenses [NK7]	Other Revenue <sup>3</sup>
<b>Mainland Service Area</b>				
Taxation 2022: \$0.0748 per 1000 (Bylaw - \$0.20 per 1,000)				
NCRD Recycling Depot	\$843,970	User fees (processing): \$128,650 Commercial charges: \$34,480 <hr/> \$163,130	\$265,040	\$356,120

1. Number of households used is total households billed for garbage collection and facility use agreements (Skidegate & Old Massett) by the NCRD – 2,261 households in the Island Service Area
2. Based on average home cost of \$147,113 (Masset), \$119,322 (Port Clements), \$246,278 (Daajing Giids), \$250,255 (EA D) & \$152,537 (EA E) on the Islands and \$365,491 (Prince Rupert), \$184,694 (Port Edward), \$99,664 (EA A) & \$99,833 (EA C) on the Mainland
3. Other revenue includes Steward & other agreements, sale of services, investments, tipping fees, sale of materials, loan proceeds, grants and interest

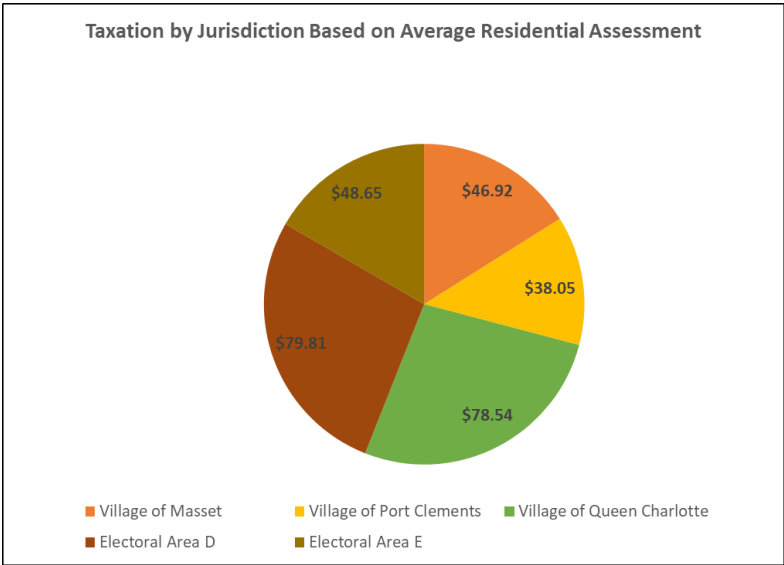
Graphically the above listed costs and revenues are presented below in Figures 2, 3, 4 and 5.



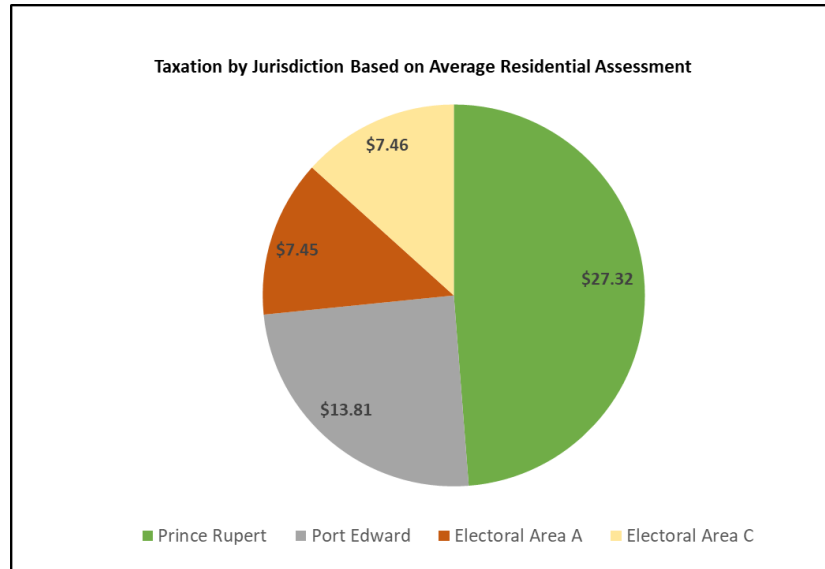
**Figure 2: Island Service Area Cost Recovery**



**Figure 3: User Fees Cost per Household for Island Service Area**



**Figure 4: Taxation by Island Jurisdiction and Average Residential Assessment**



**Figure 5: Taxation by Mainland Jurisdiction and Average Residential Assessment**

### 3.4 Agreements

The agreements and contracts that provide authority to recover costs and pay contractors have been compiled into a table which is attached in Appendix B providing the entity, service area and a description of the service and fees in detail. The following is the list of agreements outlined in Appendix B:

- Old Massett Village Council – use of Island disposal facilities
- Skidegate Band Council – use of Island disposal facilities
- Big Red Enterprises – garbage collection contract (Island Service Area)
- Gitga'at First Nation – acceptance, processing and transfer of recyclable materials at the NCRD Regional Recycling Depot
- Lax Kw'alaams Band - acceptance, processing and transfer of recyclable materials at the NCRD Regional Recycling Depot
- Metlakatla Governing Council – acceptance, processing and transfer of recyclable materials at the NCRD Regional Recycling Depot
- Village of Masset – collection of user fees on behalf of the NCRD
- Village of Port Clements – collection of user fees on behalf of the NCRD
- Village of Daajing Giids - collection of user fees on behalf of the NCRD
- Recycle BC – Packaging and Printed Paper processing at the NCRD Regional Recycling Depot

- GFL Post Collection Services – Packaging and Printed Paper processing at the NCRD Regional Recycling Depot
- Light Recycle – Authorized collection sites for the BC Lamps and Lighting Equipment Stewardship Program (LightRecycle) operated by Product Care
- MARR – for collection of Major Appliances containing refrigerant and other Major Appliances
- BC ElectroRecycle Program – under CESA and operated by Product Care, for the collection of waste electronic equipment, small appliances or other electrical products (non-bulky items).

These agreements are renewed regularly through negotiations or procurement process allowing opportunities to recover actual costs for services. For example, the Island Service Area curbside garbage collection contract was recently renewed as per the contract terms without negotiation of a fuel surcharge. With the fuel prices escalating in the current economy there are financial risks for the service provider and thus the NCRD.

For the most part, services provided for other jurisdictions and organizations are secured under agreement.

### 3.5 Staffing

Table 3-4 lists the current staffing for the solid waste management services provided by the NCRD. The total compliment of staff for the Islands service area is six (6) full time and three (3) casual and for the Mainland service area six (6) full time, one (1) part time, and one (1) casual including those on leave.

The ratio of staff per facility open hours are as follows:

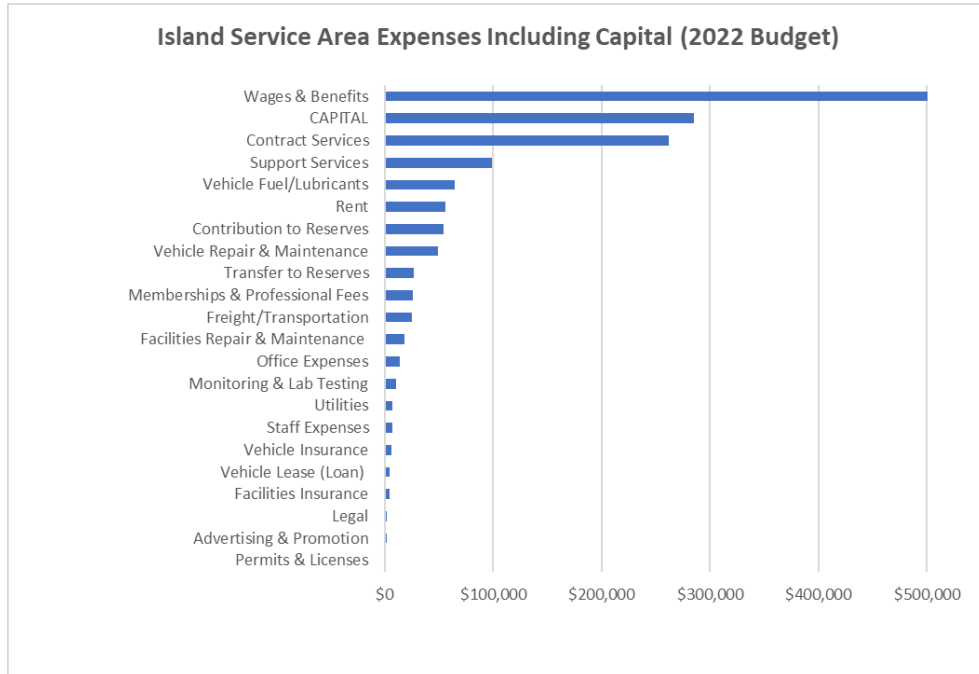
- Island Landfill and Recycling Depot – 3.67
- Sandspit Transfer Station – 1.00 (contractor)
- Skidegate Transfer Station – 1.00
- Masset Transfer Station – 1.00
- Daajing Giids Recycling Depot – 1.28
- Masset Recycling Depot – 1.00
- NCRD Recycling Depot – 5.08

The service area managers cover shifts as necessary for illness or time off.

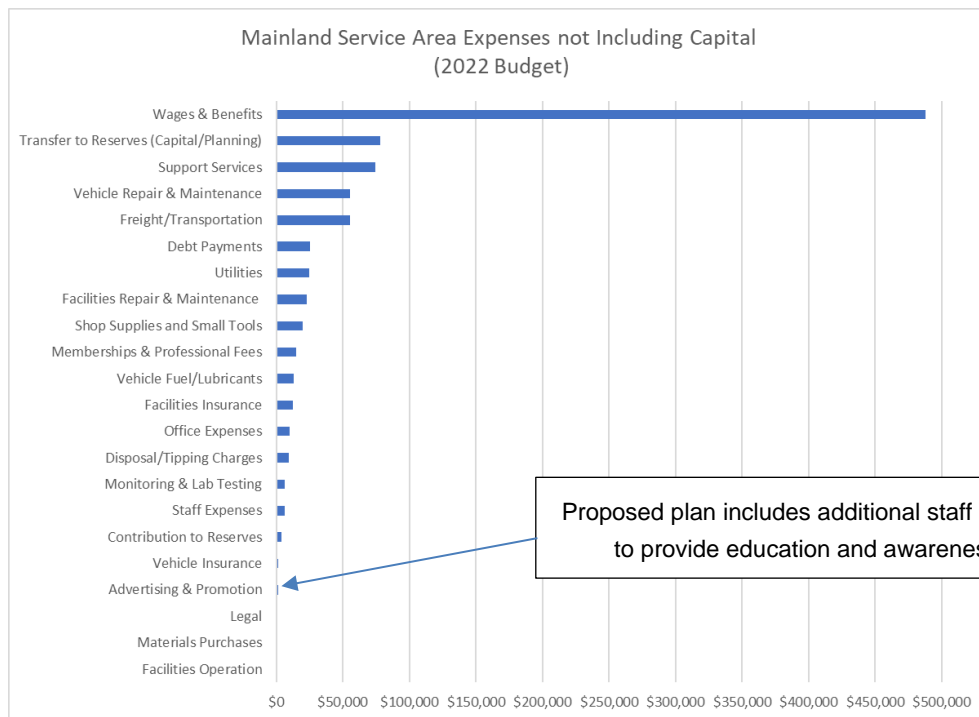
**Table 3-4: Facility Staffing**

Site	Operating Hours & Days	Facility Open Hours per Week	Staffing	Staffing Hrs per week
<b>ISA</b>				
Island Landfill	Open 7 hrs/day, Mon to Sat	42	FT Employees (4 Mon-Fri & 2 Sat)	154
Sandspit TS	Open 2 hrs/day, Tues & Sat	4	Contractor	
Skidegate TS	Open 4 hrs/day, Wed & Sat	8	Casual Employee	8
Masset TS	Open 4 hrs/day, Wed & Sat	8	FT Employee	8
DG Rec Depot	Open 6 hrs/day, Sun-Tues	18	Casual Employee (2)	23
Masset Rec Depot	Open 5.5 hrs/day, Thurs-Sat	16.5	FT Employee (1)	16.5
			<b>Total ISA</b>	<b>209.5</b>
<b>MSA</b>				
NCRD Rec Depot	Open 8 Hrs/day, Mon-Sat	48	FT Employee (4 M; 7 T & W; 6 Th; 6.5 Fri; 2 Sat );	
			Monday - 4 staff	29.5
			Tuesday - 7 staff	52
			Wednesday - 7 staff	52
			Thursday - 6 staff	44.5
			Friday - 6.5 staff	48.25
			Saturday - 2 staff	15
Recycling pickups	Tues-Friday (6 hours/day)	24	1 Recycling Truck Operator (6 hour/day Tuesday - Friday)	
			<b>Total MSA</b>	<b>241.25</b>

As can be seen in Figures 6 and 7, Wages and Benefits are the highest financial component for the solid waste management service.



**Figure 6: 2022 Budget Expenses, Island Service Area**



**Figure 7: 2022 Budget Expenses, Mainland Service Area**

### 3.6 Equipment Replacement

Equipment replacement if planned can avoid surprises in any given budget year. An asset management plan (AMP) was developed for the NCRD Regional Recycling Depot by SHA in 2015 to assist with planning for equipment replacement and budgeting. For both service area facilities, the information gathered from NCRD staff, and the 2015 AMP has assisted with the development of a spreadsheet that provides the type, make and model of the equipment, it's use, the estimated replacement year and the estimated cost for replacement. The full spreadsheet is provided in Appendix C. Table 3-5 provides a section of the full spreadsheet showing the replacements scheduled over the next five years and the costs associated with these replacements. These costs have been included in the five-year financial plan presented in Section 5.

**Table 3-5: Equipment Replacement Timeframe and Costs**

Site	Equipment	Use	Estimated Replacement Year	Estimated Cost
<b>ISA</b>				<b>Five Year Timeframe</b>
	Roll Off Containers for MSW (1)	Public drop off at landfill (garbage)	2025	\$30,000
	Roll Off Containers for MSW (1)	Switch bin on haul truck	2025	\$30,000
	Roll Off Containers for MSW (1)	spare bin	2025	\$30,000
	Roll Off Container for Metal	Metal	2023	\$15,000
	Baler 2 - OCC	Paper/Cardboard	2024	\$30,000
	ISW Pickup	Company truck for staff use	2025	\$105,000
Sandspit TS	Roll Off Containers for MSW (1)	Transfer MSW from TS to IL	2025	\$30,000
Skidegate TS	Roll Off Containers for MSW (1)	Transfer MSW from TS to IL	2025	\$30,000
	Roll Off Containers for MSW (1)	Transfer MSW from TS to IL	2025	\$30,000
Masset TS	Roll Off Containers for MSW (1)	Transfer MSW from TS to IL	2025	\$30,000
	Roll Off Containers for MSW (1)	Transfer MSW from TS to IL	2025	\$30,000
	Roll Off Container for Metal	Transfer Metal from TS to IL	2023	\$25,000
	Roll Off Container for Wood	Transfer Wood from TS to IL	2023	\$25,000
				<b>\$440,000</b>
<b>MSA</b>				
	Baler	OCC, single stream	2025	\$30,000
				<b>\$30,000</b>



### 3.7 Reserves

Table 3-6 lists the current financial reserves indicating the balances as of the end of 2021, the regular annual contribution if any, their purpose, the bylaw that authorizes the reserve and whether or not the reserve is restricted.

**Table 3-6: Reserves for both Service Areas**

Reserve Name	Balance at End 2021	Regular Annual Contribution	Purpose	Bylaw	Restricted	Sufficient
<b>ISA</b>						
ISW General Reserve	\$37,061.63		2022 budget shortfall	569		
ISW Equipment Reserve	\$36,535.14		\$29,698.37 to be used for 2022 budget shortfall	569		
COVID Reserve (Island Service)	\$91,396.85		Must be for COVID impacts		Yes	
ISW Capital and Planning Reserve	\$48,629.82		Must be for capital & planning	643	Yes	
Landfill Capital and Planning Reserve	\$351,828.31	\$72,000	For closure & post-closure costs	643	Yes	
<b>MSA</b>						
Recycling Depot General Reserve	\$152,357.24		\$18,698.80 earmarked for renovation (ICIP grant requirement)	568		
Recycling Depot Equipment Reserve	\$41,604.31		Equipment replacement	568		
COVID Reserve (Mainland Service)	\$73,117.47		Must be for COVID impacts		Yes	
Recycling Depot Building Reserve	\$128,497.82		Set up in 2019 - \$129,652.20 earmarked for renovation (ICIP grant requirement)	568		
Recycling Depot Capital and Planning Reserve	\$297,906.83	\$75,000	\$315,000 earmarked for renovation (ICIP grant requirement); \$22,060 earmarked for roof replacement; \$35,000 earmarked for roof inspection	645	Yes	

SHA recommends that an in-depth reserves analysis be conducted to determine the annual contributions needed for equipment replacements, building renovations, other large capital items and landfill closure and post-closure, such that the final column of Table 3-6 could be completed. As an example, SHA provides a high-level estimate for the Island Landfill closure and post-closure reserve requirements (required under the Environmental Management Act and Landfill Criteria for Municipal Solid Waste, 2016) summarized below.

**Table 3-7: Example of Reserve Sufficiency, Island Landfill Closure/Post-Closure**

Parameter		Comments
Lifespan	2046	2009 Estimate/confirmed in 2020
Years to build reserve	22	2046 – 2024

Parameter		Comments
Geomembrane cover system cost for Phase 6	\$327,000	\$70/m <sup>2</sup>
Post-Closure cost/year	\$17,500/yr	\$1.24/m <sup>2</sup> /year (14,000 m <sup>2</sup> )
Total Post-Closure cost for 50 years	\$868,000	Minimum period without a contaminating lifespan assessment
Current Reserve Balance (2021)	\$352,000	To be used for 2023 Phase 5 Closure
Funding needed by 2046	\$1,195,000	Not including for Phase 5 Closure
Recommended annual contribution after Phase 5 Closure	\$54,400	Not including interest

The above costs and timelines should be further refined as required by the NCRD' financial auditor. SHA recommends a detailed landfill liability spreadsheet be developed to track actual annual costs and revenues and capital program updates.

## 4. STRATEGY OPTION COSTS

The strategies outlined in Technical Memorandums 1 and 2 have been costed in accordance with standard practice and SHA's experience. Table 4-1 presents the costs associated with each strategy which have been allocated to a given implementation year. These costs as well as equipment replacement costs (Table 3-6) are included in the five-year financial plan in Section 5.

### **Commercial Recycling Program**

SHA has examined the cost of the commercial recycling service the NCRD provides for 1,281 businesses and institutions in the greater Prince Rupert area. The service includes regular (varies with customer) pickup service in customer provided plastic bags of co-mingled office and other paper/fiber at a rate of \$15, \$20 or \$30 per pickup depending on the quantity of material per pickup and this service is conducted with a dedicated van and driver. The driver conducts the service Tuesday to Friday, six hours per day, and diverts approximately 42 tonnes of paper per year. Material is tipped at the NCRD Regional Recycling Depot and baled for shipping to market. This material is not baled with the RecycleBC program fiber at the RRD.

The following table summarizes the cost breakdown and provides an explanation of how the cost information was sourced. Note that the market price for this material is relatively low at this point so no commodity sales revenue has been included.

**Table 4-1: Commercial Recycling Program Costs**<sup>[NK8]</sup>

ANNUAL COST:		
Van replacement	\$ 10,000	Manager recommended \$50,000/10 yr replacement
Operating Costs (insurance/fuel/R&M)	\$ 14,228	Provided by Treasurer
Wage Costs (including benefits)	\$ 40,756	Provided by Manager
Cost for Truck & Driver	\$ 64,984	
Processing Cost (baling, shipping)	\$ 13,843	2021 costs/2019 tonnage @\$329.59/tonne office paper
<b>Total Cost</b>	<b>\$ 78,827</b>	
Collections in 2021	1281	
Average Cost per Collection	\$ 61.54	
Plus 10% - Admin	\$ 67.69	

For discussion purposes, SHA offers the following options to make the program more efficient:

1. Increase pickup fees (this could result in fewer customers wanting to participate)
2. Cancel the program and ask customers to drop off material at the NCRD Regional Recycling Depot instead (this could result in less diversion as convenience would decrease for the customer, and staff would have to be relocated)

3. Promote a private service (depending on their pricing structure and the convenience of the service, customers may not want to participate)
4. Use an alternative funding mechanism (e.g., increase taxation).

Consider engaging the customers on a preferred long-term strategy.

Costs for initiatives R-2, R-4, R-5, R-6, R-8, R-9 and I-1 and 1-2 are included in initiative R-1, Fund a Waste Reduction Coordinator. Filling this position (shared in the financial plan between the two service areas) would help implement many of the strategies listed. The position has been proposed as a full-time permanent position to be filled in 2023.

CRD-1 and RM-3 are listed as being implemented after the five-year SWMP timeframe, however as shown in the five-year financial plan, SHA recommends that management of the problem waste stockpiled at the Island Landfill be funded starting in 2023 by setting up an annually funded reserve. \$20,000 per year is shown in the five-year financial plan.

**Table 4-2: SWMP Strategy Costs and Timeline**

Initiative	Strategy Option	Total Capital Cost (\$)	Total Operating (\$)	Frequency	Year to Implement
A-1	Improve the operational efficiency of the NCRD waste management system				2024
A-2	Continue monitoring solid waste management facilities and services				2023
A-3	Improve service delivery to rural and underserved communities in the Island and Mainland service areas				
A-4	Improve transportation of materials between service areas				2024
A-5	Develop cost recovery models				2024
A-6	Establish a permanent Islands Solid Waste Advisory Committee				2023
A-7	Expand the list of prohibited wastes		\$2,200	per year	2024
A-8	Update Bylaws and Website (Island & Mainland)		\$12,300	once	2023
R-1	Fund a Waste Reduction Coordinator		\$93,693	per year	2023
R-2	Assist users and improve their participation in waste segregation and diversion programs				2023
R-3	Maximize compliance with new and existing stewardship programs	\$22,800			2025
R-4	Optimize recycling efficiencies by increasing diversion rates for residential materials or commercial generators that are below average				2023
R-5	Develop a strategy to reduce single-use items				2023
R-6	Develop a food waste reduction strategy		\$1,500	per year	2026
R-7	Collect household hazardous waste (HHW)	\$200	\$54,000	per year	2026
R-8	Encourage reuse such as thrift stores				2023
R-9	Work with local bicycle retailers for inclusion in the Tire Stewardship BC bicycle tire program				2023

**Table 4-2: Continued**

Initiative	Strategy Option	Total Capital Cost (\$)	Total Operating (\$)	Frequency	Year to Implement
I-1	Encourage initiatives for commercial organics diversion				2023
I-2	Enhance and enforce ICI solid waste source control				2023
I-3	Recover costs of ICI PPP processing				2024
CRD-1	Clean wood waste diversion and re-use		\$43,000	every 5 years	2028
RM-1	Maintenance of Transfer Stations		\$2,600	per year	2023
RM-2	Islands Collection Costs Review				2024
RM-3	Problem Waste Stockpiled at Facilities		\$150,000	every 5 years	2028
			\$45,000	Every 8 years	2028
RM-4	Illegal Dumping Management	\$462			2023

## 5. FIVE YEAR FINANCIAL PLAN

A five-year financial plan for the Solid Waste Management services will help the NCRD plan for future expenditures and revenues until a SWMP review is scheduled. The following two tables outline the 2022 budget and provide the strategy and equipment replacement items in their prospective implementation year shaded in green and yellow, including their resultant net costs for 2023 – 2027. An inflation factor of 4% was used for successive years for all line items that would inflate with the economic situation except for fuel. A 6% inflation rate was used for fuel costs.

As shown in Table 4-1 above, the Commercial Recycling Program has been reviewed with respect to capital and operating costs. The five-year financial plan shows the Commercial Charges item in the MSA not increasing in successive years to recover the costs of this program, however, once this service is reviewed by the PTAC recommendations will be included in the draft SWMP for public and stakeholder consultation.

The PTAC priorities for updating the SWMP are to ensure that the entire system is funded to accomplish the goals of the plan, to focus on improving the operational and financial efficiency of the NCRD waste management systems, and to investigate landfill gas utilization and carbon credits. These priorities will be reviewed with the PTAC during discussion of this Technical Memorandum and the cost recovery options available.

Tables 5-1 and 5-2 show a NET cost for years 2023 to 2027. The revenues have not been adjusted in order to show the costs of the waste diversion strategies, disposal capital requirements and equipment replacements more clearly over the next five years and to provide discussion opportunities with respect to recovering the costs. The line items highlighted green are the strategies and initiatives as listed above in Table 4-2. The yellow highlighted items are capital and equipment replacements required over the next five years as currently contemplated.

**Table 5-1: Mainland Solid Waste Five Year Financial Plan**

ITEM	2022	2023	2024	2025	2026	2027
<b>REVENUE</b>						
Tax Requisition	\$ 265,040	\$ 265,040	\$ 265,040	\$ 265,040	\$ 265,040	\$ 265,040
Grants	\$ 1,177,240	\$ 21,470	\$ 21,470	\$ 21,470	\$ 21,470	\$ 21,470
Sale of Services	\$ 4,290	\$ 4,290	\$ 4,290	\$ 4,290	\$ 4,290	\$ 4,290
Commercial Charges	\$ 34,480	\$ 34,480	\$ 34,480	\$ 34,480	\$ 34,480	\$ 34,480
Processing	\$ 128,650	\$ 128,650	\$ 128,650	\$ 128,650	\$ 128,650	\$ 128,650
Interest/Investment Income	\$ 7,100	\$ 7,100	\$ 7,100	\$ 7,100	\$ 7,100	\$ 7,100
Loan (Debt) Proceeds	\$ 400,000					
Recycling Agreements	\$ 29,610	\$ 29,610	\$ 29,610	\$ 29,610	\$ 29,610	\$ 29,610
Recycled Commodities Revenue	\$ 290,850	\$ 290,850	\$ 290,850	\$ 290,850	\$ 290,850	\$ 290,850
Rental and Lease Income	\$ 9,900	\$ 9,900	\$ 9,900	\$ 9,900	\$ 9,900	\$ 9,900
Transfer from Reserves	\$ 615,090	\$ -	\$ -	\$ 30,000	\$ -	\$ -
<b>TOTAL</b>	<b>\$ 2,962,250</b>	<b>\$ 791,390</b>	<b>\$ 791,390</b>	<b>\$ 821,390</b>	<b>\$ 791,390</b>	<b>\$ 791,390</b>
<b>EXPENDITURES</b>						
Wages & Benefits	\$ 488,070	\$ 554,440	\$ 576,617	\$ 599,682	\$ 623,669	\$ 648,616
R-1 Fund a Waste Reduction Coordinator		\$ 46,847	\$ 48,721	\$ 50,670	\$ 52,697	\$ 54,804
Support Services	\$ 74,660	\$ 82,946	\$ 80,752	\$ 83,982	\$ 87,342	\$ 90,835
A-8 Update Bylaws & Website		\$ 5,300				
Staff Expenses	\$ 6,600	\$ 6,864	\$ 7,139	\$ 7,424	\$ 7,721	\$ 8,030
Memberships & Professional Fees	\$ 15,000	\$ 15,600	\$ 16,224	\$ 16,873	\$ 17,548	\$ 18,250
Office Expenses	\$ 9,920	\$ 10,317	\$ 10,729	\$ 11,159	\$ 11,605	\$ 12,069
Freight/Transportation	\$ 55,300	\$ 57,512	\$ 59,812	\$ 62,205	\$ 64,693	\$ 67,281
Disposal/Tipping Charges	\$ 9,230	\$ 9,599	\$ 9,983	\$ 10,382	\$ 10,798	\$ 11,230
Materials Purchases	\$ 500	\$ 520	\$ 541	\$ 562	\$ 585	\$ 608
Shop Supplies and Small Tools	\$ 19,900	\$ 20,696	\$ 21,524	\$ 22,385	\$ 23,280	\$ 24,211
Facilities Repair & Maintenance	\$ 22,650	\$ 23,556	\$ 24,498	\$ 25,478	\$ 26,497	\$ 27,557
Facilities Operation	\$ -	\$ -	\$ -	\$ -	\$ 54,000	\$ 56,160
R-7 Collect HHW					\$ 54,000	\$ 56,160
Facilities Insurance	\$ 12,540	\$ 13,042	\$ 13,563	\$ 14,106	\$ 14,670	\$ 15,257
Monitoring & Lab Testing	\$ 6,650	\$ 6,916	\$ 7,193	\$ 7,480	\$ 7,780	\$ 8,091
Utilities	\$ 24,720	\$ 25,709	\$ 26,737	\$ 27,807	\$ 28,919	\$ 30,076
Legal	\$ 1,000	\$ 1,040	\$ 1,082	\$ 1,125	\$ 1,170	\$ 1,217
Advertising & Promotion	\$ 1,200	\$ 1,248	\$ 2,398	\$ 2,494	\$ 3,344	\$ 3,477
A-7 Expand List of Prohibited Waste			\$ 1,100	\$ 1,144	\$ 1,190	\$ 1,237
R-6 Develop a Food Waste Strategy					\$ 750	\$ 780
Vehicle Insurance	\$ 1,680	\$ 1,747	\$ 1,817	\$ 1,890	\$ 1,965	\$ 2,044
Vehicle Fuel/Lubricants	\$ 13,200	\$ 13,992	\$ 14,832	\$ 15,721	\$ 16,665	\$ 17,665
Vehicle Repair & Maintenance	\$ 55,500	\$ 57,720	\$ 60,029	\$ 62,430	\$ 64,927	\$ 67,524
Debt Payments	\$ 25,650	\$ 25,650	\$ 25,650	\$ 25,650	\$ 25,650	\$ 25,650
Transfer to Reserves (Capital/Planning)	\$ 77,970	\$ 77,970	\$ 77,970	\$ 47,970	\$ 77,970	\$ 77,970
Contribution to Reserves	\$ 4,130	\$ 4,130	\$ 4,130	\$ 4,130	\$ 4,130	\$ 4,130
<b>TOTAL</b>	<b>\$ 926,070</b>	<b>\$ 1,011,214</b>	<b>\$ 1,043,220</b>	<b>\$ 1,050,936</b>	<b>\$ 1,174,927</b>	<b>\$ 1,217,948</b>
<b>NET</b>	<b>\$ 2,036,180</b>	<b>\$ 219,824</b>	<b>\$ 251,830</b>	<b>\$ 229,546</b>	<b>\$ 383,537</b>	<b>\$ 426,558</b>
<b>CAPITAL</b>						
Mainland Recycling-Building Renovation	\$ 2,036,180					
R-3 Maximize Stewardship				\$ 80		
R-7 Collect HHW					\$ 200	
RM-4 Illegal Dumping Management		\$ 231				
Baler				\$ 30,000		
<b>TOTAL</b>	<b>\$ 2,036,180</b>	<b>\$ 231</b>	<b>\$ -</b>	<b>\$ 30,080</b>	<b>\$ 200</b>	<b>\$ -</b>
<b>NET</b>	<b>\$ -</b>	<b>\$ 220,055</b>	<b>\$ 251,830</b>	<b>\$ 259,626</b>	<b>\$ 383,737</b>	<b>\$ 426,558</b>



**Table 5-2: Island Solid Waste Five Year Financial Plan**

ITEM	2022	2023	2024	2025	2026	2027
<b>REVENUE</b>						
Tipping Fees	\$ 108,630	\$ 108,630	\$ 108,630	\$ 108,630	\$ 108,630	\$ 108,630
User Fees - Collection Services	\$ 704,130	\$ 704,130	\$ 704,130	\$ 704,130	\$ 704,130	\$ 704,130
User Fees - Other	\$ 45,900	\$ 45,900	\$ 51,900	\$ 51,900	\$ 51,900	\$ 51,900
Tax Requisition	\$ 277,660	\$ 287,112	\$ 296,943	\$ 307,166	\$ 317,799	\$ 328,857
Early/Late Payment	-\$ 8,050	-\$ 8,050	-\$ 8,050	-\$ 8,050	-\$ 8,050	-\$ 8,050
Grants	\$ 50,000					
Interest/Investment Income	\$ 6,020	\$ 6,020	\$ 6,020	\$ 6,020	\$ 6,020	\$ 6,020
Sundry Income	\$ 5,500	\$ 5,500	\$ 5,500	\$ 5,500	\$ 5,500	\$ 5,500
Loan Proceeds	\$ 250,000					
Transfer from Reserves	\$ 65,260	\$ -	\$ -	\$ -	\$ -	\$ -
Transfer from COVID Reserve (310)	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000
Recycled Commodities Revenue	\$ 48,300	\$ 48,300	\$ 48,300	\$ 48,300	\$ 48,300	\$ 48,300
<b>TOTAL</b>	<b>\$ 1,554,350</b>	<b>\$ 1,198,542</b>	<b>\$ 1,214,373</b>	<b>\$ 1,224,596</b>	<b>\$ 1,235,229</b>	<b>\$ 1,246,287</b>
<b>EXPENDITURES</b>						
Wages & Benefits	\$ 530,790	\$ 598,869	\$ 622,823	\$ 647,736	\$ 673,646	\$ 700,592
R-1 Fund a Waste Reduction Coordinator		\$ 46,847	\$ 48,721	\$ 50,670	\$ 52,697	\$ 54,804
Support Services	\$ 98,450	\$ 109,388	\$ 106,484	\$ 110,743	\$ 115,173	\$ 119,779
A-6 Islands Solid Waste Advisory Committee						
A-8 Update Bylaws & Website		\$ 7,000				
Staff Expenses	\$ 7,000	\$ 7,280	\$ 7,571	\$ 7,874	\$ 8,189	\$ 8,517
Memberships & Professional Fees	\$ 25,510	\$ 10,930	\$ 61,368	\$ 11,000	\$ 11,440	\$ 11,898
Office Expenses	\$ 13,940	\$ 14,498	\$ 15,078	\$ 15,681	\$ 16,308	\$ 16,960
Freight/Transportation	\$ 25,200	\$ 26,208	\$ 27,256	\$ 28,347	\$ 29,480	\$ 30,660
Facilities Repair & Maintenance	\$ 18,250	\$ 18,980	\$ 19,739	\$ 20,529	\$ 21,350	\$ 22,204
Facilities Insurance	\$ 4,390	\$ 4,566	\$ 4,748	\$ 4,938	\$ 5,136	\$ 5,341
Permits & Licenses (315)	\$ 250	\$ 260	\$ 270	\$ 281	\$ 292	\$ 304
Monitoring & Lab Testing	\$ 10,830	\$ 11,263	\$ 11,714	\$ 12,182	\$ 12,670	\$ 13,176
Rent	\$ 56,380	\$ 58,635	\$ 60,981	\$ 63,420	\$ 65,957	\$ 68,595
Utilities	\$ 7,440	\$ 7,738	\$ 8,047	\$ 8,369	\$ 8,704	\$ 9,052
Legal	\$ 2,000	\$ 2,080	\$ 2,163	\$ 2,250	\$ 2,340	\$ 2,433
Advertising & Promotion	\$ 1,500	\$ 1,560	\$ 2,722	\$ 2,831	\$ 3,695	\$ 3,842
A-7 Expand List of Prohibited Waste			\$ 1,100	\$ 1,144	\$ 1,190	\$ 1,237
R-6 Develop a Food Waste Strategy					\$ 750	\$ 780
Vehicle Insurance	\$ 6,500	\$ 6,760	\$ 7,030	\$ 7,312	\$ 7,604	\$ 7,908
Vehicle Fuel/Lubricants	\$ 64,800	\$ 68,688	\$ 72,809	\$ 77,178	\$ 81,809	\$ 86,717
Vehicle Repair & Maintenance	\$ 49,000	\$ 50,960	\$ 52,998	\$ 55,118	\$ 57,323	\$ 59,616
Vehicle Lease (Loan) (313)	\$ 4,560	\$ 26,330	\$ 26,330	\$ 26,330	\$ 26,330	\$ 26,330
Contract Services	\$ 261,530	\$ 266,306	\$ 278,926	\$ 281,279	\$ 283,727	\$ 297,147
CRD-1 Clean Wood Waste Diversion and Re-Use						
RM-1 Maintenance of Transfer Stations		\$ 2,600	\$ 2,600	\$ 2,600	\$ 2,600	\$ 2,600
RM-3 Problem Waste - Auto Hulks						
RM-3 Problem Waste - Crushables						
Transfer to Reserves	\$ 27,000	\$ 27,000	\$ 27,000	\$ 27,000	\$ 27,000	\$ 27,000
Contribution to Reserves	\$ 54,020	\$ 74,020	\$ 74,020	\$ 74,020	\$ 74,020	\$ 74,020
Problem Waste (Auto Hulks, Crushables, Scrap Metal)		\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
<b>TOTAL</b>	<b>\$ 1,269,340</b>	<b>\$ 1,392,318</b>	<b>\$ 1,490,078</b>	<b>\$ 1,484,418</b>	<b>\$ 1,532,191</b>	<b>\$ 1,592,091</b>
<b>NET</b>	<b>\$ 285,010</b>	<b>-\$ 193,776</b>	<b>-\$ 275,706</b>	<b>-\$ 259,821</b>	<b>-\$ 296,962</b>	<b>-\$ 345,804</b>
<b>CAPITAL</b>						
Hauling (313)	\$ 250,000					
Landfill (317)	\$ 35,000					
R-3 Maximize Stewardship				\$ 22,720		
RM-4 Illegal Dumping Management		\$ 231				
OCC Baller			\$ 30,000			
Phase 5 Island Landfill Closure		\$ 600,000				
Roll Off Containers		\$ 65,000		\$ 240,000		
ISW Pickup				\$ 105,000		
<b>TOTAL</b>	<b>\$ 285,000</b>	<b>\$ 665,231</b>	<b>\$ 30,000</b>	<b>\$ 367,720</b>	<b>\$ -</b>	<b>\$ -</b>
<b>NET</b>	<b>\$ 10</b>	<b>-\$ 859,007</b>	<b>-\$ 305,706</b>	<b>-\$ 627,541</b>	<b>-\$ 296,962</b>	<b>-\$ 345,804</b>

## 6. REFERENCES

City of Prince Rupert Solid Waste Management Amendment Bylaw No. 3465, 2020.

Environmental Reporting BC. 2021. Municipal Solid Waste Disposal in B.C. (1990-2019). State of Environment Reporting, Ministry of Environment and Climate Change Strategy, British Columbia, Canada.

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Statistics Canada. 2022. (table). Census Profile. 2021 Census. Statistics Canada Catalogue no. 98-316-X2021001. Ottawa. Released February 9, 2022.  
<https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/index.cfm?Lang=E> (accessed February 9, 2022).

## 7. DEFINITIONS

**Advisory committee:** A committee established to support the development of the solid waste management plan or the implementation of the plan. May include a public advisory committee, technical advisory committee and a plan monitoring advisory committee

**Approved plan:** A solid waste management plan approved under section 24 (5) of the Environmental Management Act

**Circular economy:** An alternative to a traditional linear economy (make  $\diamond$  use  $\diamond$  dispose). The circular economy keeps resources in use for as long as possible, extracts the maximum value from them while in use, then recovers and regenerates products and materials at the end of their service life

**Collection facility** [Recycling Regulation, B.C. Reg. 449/2004]: A facility for collecting products and materials. May also be described as a “depot” in a plan.

**Composting** [Organic Matter Recycling Regulation, B.C. Reg. 18/2002]: The controlled biological oxidation and decomposition of organic matter

**Composting facility** [Organic Matter Recycling Regulation, B.C. Reg. 18/2002]: A facility that processes organic matter to produce compost

**CRD:** Construction, renovation, and demolition waste. This definition includes land clearing waste. Also sometimes referred to in literature as DLC (Demolition, Land Clearing and Construction) or C&D

**Director:** A person employed by the government and designated in writing by the minister as a director of waste management or as an acting, deputy or assistant director of waste management

**Disposal** [Hazardous Waste Regulation, B.C. Reg. 63/88]: The introduction of waste into the environment through any discharge, deposit, emission or release to any land, water or air by means of facilities designed, constructed and operated so as to minimize the effect on the environment

**Downstream environmental impacts:** Impacts created by the use of a product after its useful life

**EMA:** The Environmental Management Act, S.B.C. 2003, c 53

**Extended Producer Responsibility (EPR):** A management system based on industry and consumers taking life-cycle responsibility for the products they produce and use. Referred to as “product stewardship” under the B.C. Recycling Regulation

**Hauler [EMA]:** A person who picks up, delivers, hauls or transports municipal solid waste or recyclable material on a commercial basis (note under EMA the term 'Waste Hauler' is defined in section 26 for the purpose of section 26 only)

**Hauler license [EMA]:** A license issued by a regional district to a hauler, under the authority of a bylaw made under EMA section 25(3) (h) (i)

**ICI:** Industrial, commercial and institutional waste

**Interested parties:** Organizations, agencies and individuals with an interest in the planning process. This includes governments (including First Nations), private sector interests, non-government and community organizations, and the public at large

**Manage or management:** Includes the collection, transportation, handling, processing, storage, treatment, utilization and disposal of any substance

**Minister:** The B.C. Minister of Environment Ministry: The B.C. Ministry of Environment

**Municipal solid waste (MSW) [EMA]:** a) refuse that originates from residential, commercial, institutional, demolition, land clearing or construction sources, or b) refuse specified by a director to be included in a waste management plan

**Municipality:** The Guide uses the generally accepted definition of "municipality" as an incorporated area that is democratically elected, autonomous, responsible and accountable. Municipalities are members of the regional district in which they are located. (Note that section 1 of EMA defines "municipality" as including regional districts)

**Operational certificate (OC) [EMA]:** A certificate issued under section 28 [operational certificates] for the design, operation, maintenance, performance and closure of sites or facilities used for the storage, treatment or disposal of waste or recyclable material

**Pollution Prevention Hierarchy:** The 5 R provincial pollution hierarchy more fully described in Part A.1.1 of this Guide

**Processing:** Any activity necessary for preparing a component of the solid waste stream for reuse, recycling, recovery or residual management

**Product stewardship:** see Extended Producer Responsibility (EPR)

**Recovery:** The reclaiming of recyclable components and / or energy from the solid waste stream by various methods including but not limited to manual or mechanical sorting, incineration, distillation, gasification, or biological conversion other than composting

**Recyclable:** The Guide, refers to a product or substance, after it is no longer usable in its present form that can be diverted from the solid waste stream. (Note that "recyclable material" has a more specific definition in the EMA)

**Recycler license [EMA]:** A license issued by a regional district, under the authority of a bylaw made under EMA section 25(3) (h) (i), to the owner or operator of a site that accepts and manages recyclable material

**Recycling:** The collection, transportation and processing of products that are no longer useful in their present form and the subsequent use, including composting, of their material content in the manufacture of new products for which there is a market

**Reduction or reduce:** Decreasing the volume, weight or toxicity of municipal solid waste generated at source. Includes activities which result in more efficient reuse or recycling of primary products or materials, but does not include only compacting or otherwise densifying the waste

**Regional director:** Regional Director, Environmental Protection Division of the Ministry of Environment, or someone designated to carry out authorization duties on behalf of the Regional Director

**Regional district [EMA section 25(1)]:** (a) a regional district as defined in the Local Government Act, (a.1) except in section 26, the Northern Rockies Regional Municipality, or (b) the Greater Vancouver Sewerage and Drainage District constituted under the Greater Vancouver Sewerage and Drainage District Act

**Residual management:** The disposal in accordance with the EMA of what remains in the solid waste stream following reduction, reuse, recycling and recovery activities

**Reuse:** At least one further use of a product in the same form (but not necessarily for the same purpose)

**Site [EMA]:** Any site, including those identified specifically or by class, in an approved waste management plan for the management of municipal solid waste or recyclable material. (Note under EMA this term is defined in section 25 for the purpose of section 25 only)

**Solid waste management system:** The aggregate of all sites and facilities, services and programs for managing municipal solid waste within a region

**Solid waste stream:** The aggregate of all municipal solid waste and recyclable materials, and the process through which they move from generation to utilization or disposal

**Triple Bottom Line:** Economic, environmental and social cost considerations

**Upstream environmental impacts:** Impacts from the creation and transportation of a product to where it is

**Waste management facility** (facility) [EMA]: A facility for the treatment, recycling, storage, disposal or destruction of a waste, or recovery of reusable resources including energy potential from waste

**Waste management plan** [EMA]: A plan that contains provisions or requirements for the management of recyclable material or other waste or a class of waste within all or a part of one or more municipalities

**Waste stream management license** [EMA]: A license issued by a regional district, under the authority of a bylaw made under EMA section 25(3) (h) (i), to the owner or operator of a site that accepts and manages municipal solid waste

**Zero Waste approach:** as both a philosophy and a goal, aims to reduce and ultimately eliminate garbage

## 8. LIMITATIONS

This report has been prepared by Sperling Hansen Associates (SHA) on behalf of the North Coast Regional District in accordance with generally accepted engineering practices to a level of care and skill normally exercised by other members of the engineering and science professions currently practicing under similar conditions in British Columbia, subject to the time limits and financial and physical constraints applicable to the services.

The report, which specifically includes all tables and figures, is based on engineering analysis by SHA staff of data compiled during the course of the project. Except where specifically stated to the contrary, the information on which this study is based has been obtained from external sources. This external information has not been independently verified or otherwise examined by SHA to determine its accuracy and completeness. SHA has relied in good faith on this information and does not accept responsibility of any deficiency, misstatements or inaccuracies contained in the reports as a result of omissions, misinterpretation and/or fraudulent acts of the persons interviewed or contacted, or errors or omissions in the reviewed documentation.

The report is intended solely for the use of the North Coast Regional District. Any use which a third party makes of this report, or any reliance on, or decisions to be made based on it, are the responsibilities of such third parties. SHA does not accept any responsibility for other uses of the material contained herein nor for damages, if any, suffered by any third party because of decisions made or actions based on this report. Copying of this intellectual property for other purposes is not permitted.

The findings and conclusions of this report are valid only as of the date of this report. The interpretations presented in this report and the conclusions and recommendations that are drawn are based on information that was made available to SHA during the course of this project. Should additional new data become available in the future, Sperling Hansen Associates should be requested to re-evaluate the findings of this report and modify the conclusions and recommendations drawn, as required.

We appreciate the opportunity to work with the North Coast Regional District on this project. Please do not hesitate to contact the undersigned if you have any questions.

Sincerely,

SPERLING HANSEN ASSOCIATES

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## APPENDICES

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**APPENDIX A**  
**1996 Solid Waste Management Plan Initiatives Status**

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**NCRD Solid Waste Management Plan**  
**Summary of Initiatives**

Initiative Complete and Carried Forward
Initiative in Progress and Carried Forward
Initiative not Complete and Carried Forward
Initiative not Complete and Not Carried Forward

Initiative	Topic	Description	NCRD Comments
M1.1.1	Service Area	A local solid waste reduction service area be established to include Electoral Area A, Electoral Area C, District of Port Edward and the City of Prince Rupert	Yes - Bylaw No. 270
M1.1.2	Mainland Committee	A permanent Waste Management Committee (MSW AC) be established with representation from Electoral Area A, Electoral Area C, the City of Prince Rupert, District of Port Edward, and a representative from an environmental organization, to be responsible for administering the Mainland Solid Waste programs (Appendix M).	PTAC encompasses both areas and is established solely for the purpose of guiding plan development. MSWAC now Regional Recycling Advisory Committee (RRAC). RRAC members are all on the PTAC.
M1.1.3	Programs	Recycling, waste reduction education and composting programs be administered by the Mainland Solid Waste Management Advisory Committee (Appendix M2), which will in turn report to the Skeena-Queen Charlotte Regional District Board (the Board).	For now - yes. RRAC will continue to meet once this project is over. We've made this decision so as not to overwhelm RRAC members with meetings between PTAC and RRAC.
M1.1.4	First Nations Coordination	First nations organizations including Indian Villages and Tribal Councils will be invited to participate in various regional waste reduction initiatives including backyard composting.	Yes - the NCRD maintains service contracts with mainland FNs to transport materials from reserve to PR recycling depot for processing. NCRD also holds agreements with islands FNs for service. Agreements provided.
M2.1.1	Bag Limits	A 2 bag per week limit be established for Prince Rupert and Port Edward (defined in Appendix 3). This limit shall be reviewed annually by MSWAC.	2 bag limit in place in Haida Gwaii. CoPR was previously 2 bag but this has changed with new curbside bins. Residents now able to include as many bags as will fit in the provided bins.
M2.1.2	Fee for Extra Bags	Additional volumes be accepted when a pre-paid tag is attached. Tags will be circulated in a convenient manner determined by the City of Prince Rupert and the District of Port Edward.	Fees for additional bags charged on Haida Gwaii. Fees for larger garbage bins charged in CoPR.
M2.1.3	Use of Tag Fees	Encourage the City of Prince Rupert and the District of Port Edward to use the tag fees in the ways that will encourage waste reduction, provide relief to special groups requiring assistance for their waste disposal and recycling, disposal or for clean-up campaigns.	No work currently being done on this one.
M2.1.4	Tipping Fees	Volume based tipping fees described in Appendix M4 be collected at the landfill.	Yes.

**NCRD Solid Waste Management Plan**  
**Summary of Innitiatives**

M2.1.5	Problem Wastes	Fees will be collected for tires, white goods and other problem wastes specified in Appendix 4. Fees should be set high enough to recover costs associated with processing these materials.	Yes. MARR stewardship program,
M2.1.6	Special Waste List Review	MSWAC shall review Appendix 4 annually and recommend changes to the Regional District Board and its member municipalities.	Information requested from the City of PR on January 20, 2022.
M2.2.1	Material Bans & Surcharges	Once adequate recycling or reuse options exist, MSWAC will consider applying material bans and surcharges for certain items or materials of the waste stream identified in Appendix M4.	Yes - completed through bylaws.
M3.1.1	Education	A Mainland Waste Reduction Coordinator be contracted to organise regular solid waste and recycling waste reduction education programs for schools, local government and other interested groups.	No. This was last completed with additional grant funding in 2014(?).
MR.1.2	Education Funding	All mainland areas participating in the waste reduction service area identified in Policy M1.1.1 will participate in the funding of education program. Funding will be limited by bylaws as established in appendix M2.	Not currently. 2014 was last educational program for recycling on mainland.
M3.1.3	Provincial Support	Apply to BC Environment for funds to assist in support in providing waste reduction education.	No.
M4.1.1	Backyard Composters	Backyard composting will be encouraged and subsidised from time to time with funds provided by the Provincial Government and from levy assessed from property taxes from the Mainland area.	No.
M4.1.2	Cooperation with other Areas	To reduce shipping costs and increase the frequency of backyard composter distribution, other jurisdictions be invited to participate in sharing shipments of composters. These include all Indian villages with the Mainland area (and Kincolith), the Queen Charlotte Islands and, if necessary, communities with the Kitimat Stikine Regional District.	To my knowledge this was not undertaken.
M4.1.3	Other Composting Initiatives	MSWAC will encourage initiatives for commercial and backyard composting operations by having the education coordinator provide information on composter design and operation and any existing operations that will accept compostable materials.	No.
M5.1.1	Recycling Participation	All mainland areas participating in the waste reduction service area identified in Policy M1.1.1 will participate in the funding of a Mainland Regional Recycling Service. Funding will be limited by bylaws as established in appendix M2.	Yes.
M5.1.2	Recycling Service	Recycling services to be provided to residents in the Mainland area according to: 1) equitable access to recycling services for all area residents.; 2) materials that will provide the greatest waste reduction; 3) materials that would cause adverse environmental impacts if disposed of by alternate methods; all from the funding provided in policy M5.1.1. Current service specifications and materials accepted are specified in Appendix M5.	Yes.
M5.1.3	Additional Services	Additional services that facilitate recycling or reuse may be established from time to time on a fee for service basis	Drop off bins available in remote locations.
M5.1.4	Envirocenter	Consider establishing a convenient facility that will combine local recycling services with provincially regulated recycling and reuse programs such as paint recycling and beverage container returns. Extra costs associated with the provincial programs would be recovered from associated revenues.	Yes.

**NCRD Solid Waste Management Plan**  
**Summary of Initiatives**

M5.1.5	Recycling Staff	Staff be hired to provide Recycling Services in Appendix 5. An operations manager will be responsible for the day to day operations of the service, including hiring any other staff required. The Manager will report to MSWAC and the Regional District Administrator.	Yes.
M5.1.6	Review of Service	The Operations Manager will continuously monitor the performance of the Recycling Service and market conditions affecting it, and will recommend changes to MSWAC for approval. MSWAC will recommend the Regional District Board ratify any changes to services outlined in Appendix M5.	Yes - periodically. Has been awhile since changes have been recommended.
M5.1.7	Recycling Capital Expenditures	A Recycling Capital Reserve be established. An amount, set in the annual budget, will be established for transfer into the capital reserve to be used to replace existing equipment and purchase new equipment according to the Regional Districts five year capital expenditure program. Any surplus funds resulting from operations will be deposited in this fund.	Yes.
M5.2.1	Problem Waste Recycling	Wastes requiring special handling such as white goods (fridges, stoves etc.), tires, batteries, auto hulks and other materials described in Appendix 4 will be considered for recycling by 1) private enterprise with coordination provided by the Regional District or 2) by the Regional Recycling service on a fee for service basis.	Yes.
M5.2.2	Problem Waste Coordinator	A Regional District employee will be designated as Problem Waste Coordinator. He/She will facilitate the proper disposal of problem wastes by coordinating existing public and private disposal methods.	Yes. Currently undertaken by Tim and Rob in their respective roles.
M5.2.3	Special Skills Required	If available and affordable, a member of the Recycling service staff will be given appropriate training to handle any problem wastes included in Appendix M4. This may include skills required to remove ozone depleting substances from refrigerators, air-conditions units and freezers. Alternatively handling of problem wastes may be contracted to a skilled operator.	Yes.
M5.2.4	White Goods Recycling	The Regional District (all areas participating) consider purchasing a portable white goods/auto hulk compactor. Once sufficient materials (accepted materials listed in Appendix M4) have been accumulated at any landfill within the Regional District, the portable compactor and skilled operator will be available to process and arrange to recycle these materials. Any ozone depleting substances will be removed prior to compaction. The cost of this service is to be recovered from user charges described in policies from the sale of scrap metal.	This service is contracted.
M5.2.5	Salvage Rights	Request the City of Prince Rupert grand exclusive salvage rights to a contractor to recycle any additional materials deposited in the landfill. The successful contractor would pay the City an annual fee, document and report the weight of material diverted and operate according to conditions established by the City.	City of PR contracts this as well.
M6.1.1	Landfill Operation	Local authorities to continue to operate landfill sites and other waste disposal facilities in accordance with BC Environmental Standards.	Yes.
M6.1.2	Daily Cover	Consider using geotextile tarps as an alternative to fill for use to meet daily cover requirements.	

**NCRD Solid Waste Management Plan**  
**Summary of Initiatives**

M6.1.3	Recyclables Storage	Provide areas at landfill facilities for temporary storage of bulky recyclables such as fridges, stoves, water heaters etc. (white goods)	Yes.
M6.1.4	White Goods Compactor	Provide space at the Prince Rupert Landfill or another site for a white goods auto hulk compactor.	City contracts this work.
M6.1.5	Automotive Hulks	Temporary storage areas should be provided for auto hulks at all landfills except at Prince Rupert. Consideration will be given to establishing an auto hulk marshalling yard in the Prince Rupert - Port Edward area.	(list as blue due to no update from NCRD)
M6.1.6	Wood and Demolition Waste	Encourage the City of Prince Rupert to purchase a tub grinder that could process wood waste and demolition waste to be suitable for cover material.	Not taking place.
M6.1.7	Tires	Investigate the possibility of utilizing a tub grinder for processing tires. If Feasible, establish a site for tire storage and a trailer container at the Prince Rupert landfill or another site.	Not been completed.
M6.2.1	Landfill Closure	In accordance with Ministry of Environment solid waste disposal guidelines, sites are to be closed with the assistance from BC Environment.	Yes.
M6.3.1	Capital Costs-Prince Rupert	Pay for the initial capital costs of the Prince Rupert Landfill by applying a portion of tipping fees according to a formula derived from the expected capacity of the landfill as outlined in Appendix M4. Establish a reserve fund to which funds will accumulate pay for landfill capital costs.	Yes.
M6.3.2	Operating Costs	Annual operating costs be funded by user fees (tipping fees) as established by the City of Prince Rupert after consideration of transfers to the capital reserve fund described in Appendix M4.	Yes.
M6.3.3	Closure Costs	Apply a portion of the tipping fees to pay for expected closure costs according to a formula derived from the expected capacity of the landfill as outlined in Appendix M4. All such funds are to be directed to the capital reserve fund described in Policy M6.3.1.	Yes.
M6.3.4	Review of Capital Transfers	Review transfers of the Capital Reserve fund in Appendix M4 whenever: 1) the estimated life of the landfill is changing because of revised operating practices; 2) financing charges are revised or; 3) closure requirements are changed resulting in the need for revised closure costs.	Yes.
M6.4.1	Transfer of Permit	Consider transfer of the waste management operation permit for the Prince Rupert landfill facility to the Skeena-Queen Charlotte Regional District.	No.
M7.1.1	Collection Coordination	Similar standards be established for collection services in Prince Rupert and Port Edward.	Yes - garbage. Recycling curbside not provided in DoPE.
M7.1.2	Collection Administration	The City of Prince Rupert and the District of Port Edward continue to administer their own collection services.	Yes.
M7.2.1	User Fees	Include tipping fee costs when calculating collection user charges	Yes.
M8.1.1	Schedule	Implement the plan according to the Schedule presented in Figure 4	Yes - to the best of NCRD ability.
M8.1.2	Responsibility	Responsibility for implementing various components of the plan will be set according to Figure 5	Yes.

**NCRD Solid Waste Management Plan**  
**Summary of Initiatives**

M8.2.1	Public Reporting	Encourage the public to report any incidents of illegal dumping to the appropriate jurisdiction. If incident cannot be investigated in a timely manner by the appropriate jurisdiction, the Education Coordinator will record the incident and forward a detailed report to the appropriate authority.	Yes - complaints taken. Education coordinator position not established.
M8.2.2	Anti-Dumping Bylaws	Encourage the City of Prince Rupert and the District of Port Edward to harmonise their illegal dumping bylaws and make illegal dumping a ticket-able offense. If illegal dumping becomes a problem on Digby Island or any other Regional District administered area the Regional Board consider adopting a similar bylaw.	Believe so. Was not able to find information on DoPE. Will follow up. <a href="http://www.princerupert.ca/city_hall/bylaws_policies/illegal_dumping">http://www.princerupert.ca/city_hall/bylaws_policies/illegal_dumping</a> Dumping has not been an issue in other areas of the RD thus far.
M8.2.3	Education to Prevent Illegal Dumping	The Education Coordinator will work in cooperation with the Prince Rupert Civic Pride manager to publicize incidents of illegal dumping together with the public costs and fines that could be expected.	No.
M8.2.4	Funding Assistance	MSWAC will apply for funding to BC Environment or any other jurisdiction that we assist in the enforcement of their legislation.	As required.
M8.3.1	Public Comments	Regional District staff will keep a record of all suggestions and comments from the public and will ensure that MSWAC is kept informed of this information.	Yes.
M8.3.2	MSWAC Meetings	MSWAC will meet monthly, to review the operations of the Waste Management System and to consider comments from the public. Quarterly meetings will be open to the public.	No. RRAC was meeting quarterly prior to the PTAC establishment.
M8.3.3	Special Meetings	Special public meetings will be held to consider major changes to this plan.	Yes - as is currently taking place.
M8.4.1	Disputes	When disputes arise between any of participating communities, the Regional District and/or contractors hired to implement the system, it should be resolved by: 1) MSWAV, which may refer the dispute to 2) participating Regional District directors and any delegates they may choose to invite, who may refer the dispute to 3) the entire Regional District Board.	Yes - disputes have been few and far between.
M8.5.1	Funding Sources	Required funds are to be raised from (figure 6): 1) Property taxes ; 2) User charges from: a) Quarterly unit fees b) Volume based tipping fees c) Bag tags; and d) Special handling levies 3) Senior Government grants.	Yes. Bylaw provided.
I1.1.1	Service Area	A local solid waste service area be established to include Electoral Area D, Electoral Area E, Village of Masset and the Village of Port Clements (figure 7)	Yes.
I1.1.2	Service Agreements	Establish service agreements with the Old Masset Band Council and the Skidegate Band Council for solid waste collection and disposal.	The NCRD administers garbage collection in all civic and rural communities on Haida Gwaii. FN communities provide their own collection to the transfer stations.



**NCRD Solid Waste Management Plan**  
**Summary of Innitiatives**

11.1.3	Islands Committee	A permanent Waste Management Islands Committee be established with representation from Electoral Area D, Electoral Area E, the Village of Masset, Village of Port Clements, Old Massett, Skidegate and representatives from environmental organizations, to be responsible for administering the Islands Solid Waste System. (Appendix I-I)	No. Not currently. Would like to see this revisited as a recommendation in the updated SWMP.
11.1.4	Contract Administration	All contracts to the operation of the Islands Sub-Regional Waste Management System be administered by the Islands Solid Waste Management Advisory Committee (ISWAC), which will in turn report to the Skeena-Queen Charlotte Regional District Board (the Board).	Contracts are being administered directly by the NCRD.
11.2.1	Landfill Construction	Develop the landfill site according to the "Port Clements Sub-Regional Landfill and Operations Plan" (Landfill Plan), Appendix I-2 of this plan.	Yes. Complete.
12.1.2	Landfill Operation	Operate the landfill site according to the Landfill Plan.	Yes.
12.1.3	Landfill Construction & Operation Contract	Tender the construction and the operation of the landfill to private contracts and include a renewal clause for the landfill operation based on performance criteria specified in the Landfill Plan.	Yes.
12.1.4	Landfill Site	Purchase the existing Port Clements Landfill from the Village of Port Clements and re-imburse them for their capital items that will be used for the regional site.	Yes.
12.1.5	Environmental Monitoring	Establish environmental monitoring contracts(s) to measure water quality, stream flow and ground water levels as set out in the Landfill Plan.	Yes.
12.1.6	Review	Review the data from the Environmental Monitoring program and determine whether amendments are required to Appendix I-2	Yes. Periodically.
12.2.1	Landfill Closure	In accordance with Ministry of Environment solid waste disposal guidelines existing sites are to be closed with the assistance of BC Environment.	Yes.
12.2.2	Transfer of Sites and Permits	Prior to the final closure plans have been prepared Skidegate and Sandspit Landfills, the Regional District will negotiate with the Skidegate Band Council, Hecate Junk-it, and the Ministry of Environment for a transfer of all or part of the permits for those sites.	Yes. Skidegate landfill and Sandspit landfill closed. Transfer stations, septic pits maintained at sites.
12.2.3	Transfer Site Permits	Negotiate with the Ministry of Environment for an amendment of the transfer site permits for the following uses: 1) Transfer sites for temporary storage of municipal waste 2) Septage disposal (Sandspit only) 3) Burning sites for some categories of demolition waste 4) Other demolition wastes that could be used on site as fill or cover material. 5) Temporary storage areas for auto hulks, tires and white goods	Yes.
12.3.1	Capital Costs-Prince Rupert	Requisition money from the General Assessment from Assessment Area 750 (Area "D" and "E"), Port Clements and Masset to pay for the initial capital costs for the landfill and for a Capital Reserve Fund to pay for closure. This amount is to be reduced by funds collected from Old Massett and Skidegate for their share of the costs, which will be apportioned according to the total Islands population utilizing to the most recent census data.	Yes. Note that Queen Charlotte was not a municipality at this point in time.



**NCRD Solid Waste Management Plan**  
**Summary of Initiatives**

12.3.2	Operating Costs	Annual operating costs be funded by user fees as listed in Appendix I3. If the user fees are insufficient in any given year, the difference shall be temporarily funded from the capital reserve fund and be replenished the following year from the source identified in Policy I2.3.1.	Yes. Updates to rates and charges last done in 2020. May need further revision based on actual costs.
12.3.3	Review of User Fees	User fee levels shall be reviewed annually by ISWAC which shall recommend any changes to the Board.	User fees reviewed last in 2020 by NCRD staff. Inflationary adjustments made to costs.
12.3.4	Closure Fund Review	The annual level of funding to the closure capital reserve shall be reviewed every 5 years or whenever there are operational changes proposed by 1SW AC or B.C. Environment.	Reviewed by NCRD staff and Board, auditors.
13.1.1	Collection List	All occupied residences and active commercial establishments (collection units) be enumerated and entered on a list that will be updated on an ongoing bases by the Islands Waste Coordinator.	Yes - to the best of NCRD ability.
13.1.2	Other Users	Invite BC Parks and the Ministry of Highways participate in the regular collection service for their roadside refuse containers.	
13.1.3	Weekly Service	All collection units enumerated will be provided with a weekly refuse collection service.	Yes. All units accessible by road.
13.1.4	Service Areas	Local refuse collection systems be established for the following service areas (Fig 8): 1) Moresby Island 2) Queen Charlotte City/Skidegate including all areas south of Chinukundl Creek 3) Port Clements/Tlell including all areas south of including Nadu Road to north of Chinukundl Creek 4) Masset/Old Massett including areas north of Nadu Road and Tow Hill Road.	Yes.
13.1.5	Opting Out	Skidegate, Old Masset and incorporated Municipalities may opt out of the collection system prior to collection contracts being awarded. Incorporated Municipalities may only opt out if: 1) They provide an alternative compulsory collection service to all their residents; 2) They have the same level of fee surcharges for additional volumes of garbage as stated in the plan; and 3) A portion of extra levies collected for additional volumes, as listed in Appendix I-3, be paid to the Regional District to pay for disposal costs.	Yes. Municipalities participating.
13.1.6	Service Area Revisions	If the majority of potential users in any service area defined in I3.1.4 are "opted-out", ISWAC may consider combining the remnant area with another area.	N/A
13.1.7	Collection Contract	Tender each local service area for weekly refuse service.	Yes - agreement provided.
13.1.8	Collection Specification	Specifications for the local collection service, including container sizes, transfer station use, equipment requirements shall be outlined in the contract in Appendix I-4	Yes.
13.1.9	Sub-Contracting	Contractors may arrange to sub-contract portions of their system to other contractors. The prime contractor will be responsible for fulfilling condition of the contract.	Yes. Currently working with contractor solely.

**NCRD Solid Waste Management Plan**  
**Summary of Initiatives**

I3.1.10	Fee Collection	Tender contracts for collection of fees from all areas except Skidegate and Old Massett. Incorporated communities shall have the option of collecting fees for their residents for a rate that will cover their costs.	Yes - municipalities and FNs collect fees within their jurisdiction. Rural areas collected by the NCRD. Copies of agreements with Villages provided.
I3.1.11	Unit Cost	The total contract costs for all participating service areas plus 5% contingency be summed and divided by the number of collection units to arrive at an overall collection unit fee - this fee will then be divided to determine a quarterly collection billing fee.	Not currently used as practice for determining rates. Collection rates were increased based on inflationary cost adjustments in 2020. Prior to that, I'm not aware of any rate changes for this fee.
I3.1.12	Collection Administration	The Islands Waste Coordinator be responsible for handling enquiries, field complains, ensuring the billing list is kept up to date and to administer the collection contracts.	Yes.
I3.1.13	Unpaid Bills	All user fees that remain unpaid on December 31st shall be added to the property owners taxes or taxes in arrears as provided for in the Municipal Act.	Yes.
I3.1.14	Hardship	Reduced rates may be set for those on low or fixed income. ISWAC will show the criteria necessary to obtain these rates and will establish set rates according to their annual budget.	This is currently not being done. 10% discount is available for early payment of fees.
I3.2.2	Optional Commercial Collection	Successful bidders for local collection contracts be given the option of having the Regional District collect fees for additional services that: 1) revenue equivalent to the volume (less the regular contract) at the transfer station or landfill will be added to the contract payment; and 2) adequate notification and records are provided to the Islands Waste Coordinator.	The NCRD continues to contract curbside garbage collection. The NCRD collects annual garbage utility billing. I will include a copy of the most current agreement. In my opinion, there is work that needs to be done to refine the number of customers in each service area. This agreement with Big Red has been extended into 2023 (additional year), while we complete these plan updates.
I4.1.1	Transfer Station Sites	Provide facilities open to the general public during hours in Appendix 4 at the following locations (figure 8): 1) Mas set Transfer Station 2) Port Clements Regional Landfill 3) Skidegate Transfer Station 4) Sandspit Transfer Station	Hours for facilities are as follows: <a href="https://www.ncrdbc.com/services/waste/landfill-transfer-stations">https://www.ncrdbc.com/services/waste/landfill-transfer-stations</a>
I4.1.2	General Specifications	Design the transfer station to be durable, resist bears and vermin, low maintenance facilities for limited public use (Appendix 1-5).	Yes - transfer stations are fairly low maintenance.
I4.1.3	Standard Size	The transfer stations shall be designed to accommodate 50 yd3 roll-off bins.	The NCRD owns the roll off bins.
I4.1.4	Maintenance	Maintenance of the transfer stations (as specified in Appendix 1-5) is to be part of the contract awarded for local collection.	

**NCRD Solid Waste Management Plan**  
**Summary of Innitiatives**

14.1.5	Haulage	The maintenance contractor shall contact the haulage contractor when the bins require emptying.	Yes. This varies in terms of length of time before emptying is needed. Rough schedules apply but may be varied based on fullness.
14.1.6	Problem Waste Storage	Storage areas will be designated for the temporary storage of auto hulks, tires and white goods at all transfer station sites.	Not all transfer station sites. See previous notes.
14.1.7	Sandspit Septage Disposal	The Septage disposal area will continue to be permitted at the Sandspit Transfer Station.	Yes.
14.1.8	Wood Waste	Burning areas for wood waste and other combustible, non-putrescible wastes will be designated at all the transfer station sites. Controlled burning of such waste will occur when permitted by the Ministry of Forest and the Ministry of Environment.	
14.1.9	Collection of Fees	The miniatous contractor shall collect fees from the public as specified in Appendix I-3.	Yes.
14.2.1	Use of Fees	Fees collected shall be applied in accordance with Appendix I-3	
14.2.2	Capital Cost	The initial capital costs of the transfer stations be funded by: 1) Provincial Rural Waste Management Grants; 2) Taxation; and 3) Grants from Skidegate and Old Massett as determined by the formula in Policy 1-2.3.1	Unsure if this is how capital costing for initial setup worked.
14.2.3	Depreciation	Additional funds will be collected from taxation and Grants from Skidegate and Old Massett as specified in Policy 1-2.3.1 to be deposited in the Capital Reserve account according to Appendix 1-3.	Yes - see provided agreements.
14.2.4	Operating Costs	Operating costs for the Transfer station will be paid from: 1) user charges according to Policy 1-4.2.2; and 2) monthly charges applied to all collection units as in Policy 1-3.1.6.	Yes. Current cost recovery may not be adequate.
14.2.5	Review	ISW AC shall annually review the transfer station fee appendix and the Capital Reserve transfer and make recommendations for changes to the Regional District Board.	Last reviewed in 2020. Not being reviewed by ISWAC; instead NCRD staff.
15.1.1	Haulage Contract	One contract be awarded to haul waste from the transfer stations and the Port Clements public drop-off to the active face of the Regional Landfill as specified in Appendix I-6.	NCRD hauling waste.
15.1.2	Hours	A schedule of hauling hours will be established by the contractor and the landfill contractor to minimize cover requirements at the landfill. This schedule is to be reviewed on an ongoing basis by the Islands Coordinator.	
15.1.3	Bin Ownership	The Regional District will provide the necessary numbers of transfer bins. The contractor will be responsible for all other equipment required (Appendix I-6).	Yes.
15.2.1	Funding	The estimated annual cost of the haulage contract will be apportioned amongst the total number of collection units and applied to their quarterly bills.	
15.2.2	Annual Review	ISW AC will annually review actual and projected costs and make recommendations regarding upward/downward adjustments.	ISWAC not currently meeting. This is not taking place.

**NCRD Solid Waste Management Plan  
Summary of Innitiatives**

16.1.1	Recycling Fund	A Recycling and Waste Reduction Reserve fund be established.	No. General reserve, landfill closure reserve and capital & planning reserve exist for this service.
16.1.2	Bag Limits	A bag limit, defined in Appendices I-7, be established for each collection unit. This limit shall be reviewed annually by ISWAC.	Yes. 2 bags.
16.1.3	Fee for Extra Bags	Additional volumes be accepted when a pre-paid tag is attached. Tags will be available at convenient locations as determined by the Waste Coordinator and the Local Collection Contractor with fees allocated according to Appendix I-7.	Yes.
16.1.4	Relief from Fee	No fee will be required for bags gathered during organized cleanups provided prior arrangements are made with ISWAC.	Yes. Not sure something of this nature has taken place on the islands but we have done this organizationally in the past, specifically around earth day cleanups, etc.
16.1.5	Use of Tag Fees	A portion of the tag fees, as outlined in Appendix I -7, will be directed to the Recycling Reserve.	No recycling reserve established.
16.1.6	Tipping Fees	Volume based tipping fees described in Appendix I-3 will be collected at the landfill and transfer stations (see Policies I~2.3.2 to I-2.3.4, I-4.2 and I-4.2.3 for more information).	Yes.
16.1.7	Problem Waste List Review	ILSWAC shall review Appendix I-3 annually and recommend changes to the Regional District Board.	Wastes are reviewed periodically. Has been awhile. ISWAC not currently established.
16.2.1	Material Bans & Surcharges	Once adequate recycling or reuse options exist, ISWAC may recommend to the Regional District Board the implementation of material bans or surcharges for certain items of the waste stream.	Yes.
17.1.1	Education	The Island Coordinator will organize regular solid waste and recycling waste reduction education programs for schools, local government and other interested groups.	No.
17.1.2	Funding	Apply to BC Environment for funds to assist in support in providing waste reduction education.	No.
18.1	Backyard Composters	Backyard composting will be encouraged and subsidized from time to time with funds provided by the Provincial Government and from the Recycling Reserve.	No.
18.2	Other Composting	ISWAC will encourage initiatives for commercial and backyard composting operations by providing information on composter design and operation.	No.
19.1.1	Problem Waste Recycling	When sufficient problem waste materials (Appendix I-3) have been accumulated (as determined by the Waste Coordinator funds may be withdrawn from the Recycling Fund to pay for the handling and shipping of recyclable materials.	No.
19.1.2	Problem Waste Coordinator	The Islands Coordinator will facilitate the proper disposal of problem wastes by : a) being conversant with regulations governing the storage and haulage of special waste; and b) referring persons to the responsible agency. The Islands Coordinator is to receive training in the storage and handling of problem waste.	To some degree.

**NCRD Solid Waste Management Plan**  
**Summary of Initiatives**

19.1.3	General Recycling Support	ISWAC shall encourage Recycling by providing information on nearest available recycling facilities and by providing grants to volunteer recycling groups from the Recycling Fund.	No recycling groups per se. The NCRD is largely coordinating recycling services on island.
19.1.4	Recycling Capital Expenditures	ISWAC will consider a capital grant from the Capital Fund towards the cost of recycling facilities, when it can be demonstrated that operation of such facilities will significantly reduce waste and to extend the life of the landfill, and/or that the originator has a viable marketing and transportation plan in place.	Yes this takes place. We most recently opened a recycling facility in Masset using some capital reserve funds to purchase the needed equipment. <a href="https://www.ncrdbc.com/about-us/news-notice/village-masset-recycling-depot-opening-august-13-2021">https://www.ncrdbc.com/about-us/news-notice/village-masset-recycling-depot-opening-august-13-2021</a>
19.1.5	Public Subsidies	ISWAC will maintain and review Appendix 1-7, which lists all items that will be recycled with public subsidies.	Yes. Waste watcher's directories provided.
19.1.6	Recycling at Landfill and/or Transfer Stations	ISWAC will consider inviting interested parties to operate recycling facilities in specified areas at the Landfill and at transfer stations. Terms of operation will be determined by the Waste Coordinator in conjunction with the local collection contractor.	No. NCRD coordinating recycling activities.
19.1.7	Salvage Rights	The landfill contractor shall have exclusive salvage rights at the Port Clements Regional Landfill and the local collection contractors shall have exclusive salvage rights at Transfer Stations that they are responsible for maintaining.	Yes.
110.1.1	Schedules	Implement the plan according to the schedules presented in Fig 9	Yes - for the most part.
110.1.2	Responsibility	Responsibility for implementing various components of the plan will be according to Figure 10	Yes.
110.2.1	Illegal Dumping	Encourage the public system contractors to report any incidents of illegal dumping to the appropriate jurisdiction. If Incident cannot be investigated in a timely manner by the appropriate jurisdiction, the coordinator will record the incident and forward a detailed report to the appropriate ministry.	Yes.
110.2.2	Strategies to Prevent Illegal Dumping	ISWAC will review incidents of illegal dumping and recommend the implementation of one or all of the following strategies: 1) publish photos of incidents; 2) identify the owners of the illegally dumped refuse and bill them for the proper disposal; and 3) the adoption of an illegal dumping bylaw with a schedule of fines for various infractions.	Not currently taking place. ISWAC not meeting.
110.2.4	Enforcement	ISWAC will apply for funding in BC Environment or any other jurisdiction that requires assistance from the Waste Coordinator to enforce their legislation.	No.
110.3.1	Public Comments	The Islands Coordinator will keep a record of all suggestions and comments from the public and will ensure that ISWAC is kept informed of this information.	Yes.
110.3.2	ISWAC Meetings	ISWAC will meet regularly, not less than quarterly, to review the operations of the Waste Management System and to consider comments from the public. Quarterly meetings will be advertised and open to the public. Meeting dealing with personnel, wages and contract matters may be closed.	No.

**NCRD Solid Waste Management Plan**  
**Summary of Initiatives**

I10.3.3	Special Meetings	Special public meetings will be held to consider major changes to this plan.	Yes - as needed and currently taking place.
I10.4	Dispute Resolution	When disputes arise between any of participating communities, The Regional District and/or contractors hired to implement the system, it should be resolved by: 1 )ISW AC, which may refer the dispute to 2)Participating Regional District directors and any delegates they may choose to invite, who may refer the dispute to 3) the entire Regional District Board."	Yes - disputes in ISW service have not arisen during my tenure.
I10.5.1	Funding Sources	Required funds are to be raised from (figure 11): 1) Property taxes ; 2) User charges from: a) Quarterly unit fees b) Volume based tipping fees c) Bag tags; and d) Special handling levies 3) Senior Government grants.	Yes.
I10.5.2	Coordinator	Funding the cost of an Islands Waste Coordinator will be provided by a unit surcharge applied to the landfill operating fee.	Yes.

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## **APPENDIX B**

### **Agreements**

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## APPENDIX B: List of Agreements and Rates

Agreements and Rates		
Entity	Service Area	Services
<p>Old Massett Village Council</p> <p>April 1, 2022 to March 31, 2023 Agreement</p>	Islands	<p>Use of the Islands Landfill for residential MSW collected by the First Nation (drop-off and disposal)</p> <ul style="list-style-type: none"> <li>- Provide NCRD with list of dwellings annually (April) – 260 in 2022</li> <li>- Annual user fee: monthly pick-up rate as per Bylaw 276 as amended reduced by \$6.50/mo/dwelling [2022 = \$21.50/mo/dwelling x 12 months]</li> <li>- Contribution to landfill operations: \$100/dwelling/year (2022)</li> </ul>
<p>Skidegate Band Council</p> <p>April 1, 2022 to March 31, 2023 Agreement</p>	Islands	<p>Use of Skidegate Transfer Station for residential MSW collected by the First Nation (drop-off and disposal)</p> <ul style="list-style-type: none"> <li>- Provide NCRD with list of dwellings annually (April) – 340 in 2022</li> <li>- Annual user fee: monthly pick-up rate as per Bylaw 276 as amended reduced by \$3.50/mo/dwelling [2022 = \$24.50/mo/dwelling x 12 months]</li> <li>- Contribution to landfill operations: \$100/dwelling/year (2022)</li> </ul> <p>Use of Skidegate Septage Lagoons</p> <ul style="list-style-type: none"> <li>- Contribution to septic pit remediation \$2,000 annually</li> </ul>
<p>Big Red Enterprises</p> <p>July 2, 2019 – June 30, 2022; extended , for one year to June 20, 2023</p>	Islands	<p>Collection of MSW from residential dwellings, apartments and customers in the Islands Waste Management Area including:</p> <ul style="list-style-type: none"> <li>- Moresby Island</li> <li>- Queen Charlotte City and Skidegate Landing</li> <li>- Chinukundl Creek to Tlell, Port Clements to Nadu Road</li> <li>- Village of Masset and Graham Island North/Towhill Road, South of Masset to Pure Lake</li> </ul> <p>Scope of Work:</p> <ul style="list-style-type: none"> <li>- Collect MSW from residential dwellings</li> <li>- 2 regulation garbage receptacles weekly (excess must have a prepaid 'bag tag' affixed to the bag)</li> <li>- Report violations of sanitary laws to the Manager</li> <li>- Clean up garbage spilled during operation</li> <li>- Answer all complaints courteously and promptly</li> </ul>



Agreements and Rates		
Entity	Service Area	Services
		<ul style="list-style-type: none"> <li>- Inform Manager of additions and deletions to customer list</li> <li>- Do not trespass and interfere with traffic needlessly</li> <li>- Provide good and workable vehicles that are cleaned, washed and disinfected regularly</li> <li>- Complete monthly statistical reports detailing the volume hauled and supply a list of customers invoiced[NN1][NK2]</li> <li>- Invoice the NCRD monthly for a sum equal to the product of customer unit price times the number of units</li> <li>- The NCRD will make available 'bag tags' which may be purchased for \$105.00 per 100 tags that the contractor may sell to customers and service groups for \$2/tag</li> <li>- "Checklist" tags will be provided at no charge for placement on rejected garbage</li> </ul> <p>Fees:</p> <ul style="list-style-type: none"> <li>- For the term of the contract, the NCRD agrees to pay the Contractor a sum not exceeding \$621,396 including all disbursements</li> <li>- Effective July 1, 2019 the rate per unit is \$10.25 (May 2022 the number of units was 1,684)</li> </ul>
Gitga'at First Nation  (Hartley Bay)  July 1, 2021 – June 30, 2024	Mainland	Recycling services, including the acceptance, processing and transfer of recyclable materials to the NCRD Regional Recycling Depot <ul style="list-style-type: none"> <li>- The Band shall pay a sum of \$800 per recycling container as a processing and handling fee for services and invoiced by NCRD</li> <li>- Material must be sorted by cardboard/boxboard; mixed paper/magazines; newsprint; tin/aluminum; type 2 coloured plastic and milk jugs; mixed plastics #1 - #7 incl clam shells and plastic bags together</li> <li>- Provide notice prior to delivery to the facility</li> <li>- Remove the container within 72 hours after delivery</li> <li>- The Band is responsible for all deliver and removal costs</li> <li>- \$150/tonne will be charged for unsorted material</li> <li>- The Band will be charged for disposal of contaminated material</li> <li>- The Band is responsible for providing Megabags, pallets and containers</li> </ul>
Lax Kw'alaams Band	Mainland	Recycling Services including the acceptance, process and transfer of recyclable material at the NCRD

Agreements and Rates		
Entity	Service Area	Services
April 14, 2016 – termination (year to year)		<p>Regional Recycling Depot from the Lax Kw'alaams recycling facility (at R 1)</p> <ul style="list-style-type: none"> <li>- The agreement shall remain in force together with updates and amendments until terminated by either Party with 1 year written notice</li> <li>- Service rates shall be reviewed and amended as required every 2 years</li> <li>- The recycling service rate is \$250/tonne for recyclable materials transferred from Lax Kw'alaams</li> <li>- The NCRD will invoice the Band semi-annually</li> <li>- Advise the NCRD of any planned expansion of the recycling service on reserves</li> <li>- 48 hours notice must be given via email for material delivery</li> <li>- Materials are to be sorted by: comingled printed paper, cardboard and poly containers; comingled plastic packaging containers; metal packaging</li> </ul>
<p>Metlakatla Governing Council</p> <p>April 1, 2013 – to termination (year to year)</p>	Mainland	<p>Recycling services, including the acceptance, processing and transfer of recyclable materials to the NCRD Regional Recycling Depot</p> <ul style="list-style-type: none"> <li>- 30 days written notice required for amendments and termination</li> <li>- The Band shall pay a sum of \$600 per recycling container as a processing and handling fee for services and invoiced by NCRD</li> <li>- Material must be sorted by cardboard/boxboard; mixed paper/magazines; newsprint; tin/aluminum; type 2 coloured plastic and milk jugs; mixed plastics #1 - #7 incl clam shells and plastic bags together</li> <li>- Provide notice prior to delivery to the facility</li> <li>- Remove the container within 72 hours after delivery</li> <li>- The Band is responsible for all deliver and removal costs</li> <li>- \$150/tonne will be charged for unsorted material</li> <li>- The Band will be charged for disposal of contaminated material</li> </ul> <p>The Band is responsible for providing Megabags, pallets and containers</p>
<p>Village of Masset</p> <p>January 31, 2022 – December 31, 2022</p>	Islands	<p>Collect User Fees on behalf of the NCRD from property owners within the Village of Masset (VOM) for solid waste services provided by the NCRD</p> <ul style="list-style-type: none"> <li>- Collection Handling Charge paid by NCRD to VOM - \$1.52/customer/month</li> <li>- Receive customer inquiries and handle complaints</li> </ul>

Agreements and Rates		
Entity	Service Area	Services
		<ul style="list-style-type: none"> <li>- Bi-monthly accounting of customers and remittance to NCRD</li> </ul>
Village of Port Clements  January 31, 2022– December 31, 2022	Islands	Collect User Fees on behalf of the NCRD from property owners within the Village of Port Clements (VPC) for solid waste services provided by the NCRD <ul style="list-style-type: none"> <li>- Collection Handling Charge paid by NCRD to VPC - \$1.52/customer/month</li> <li>- Receive customer inquiries and handle complaints</li> <li>- Quarterly accounting of customers and remittance to NCRD</li> </ul>
Village of Daajing Giids  January 31, 2022– December 31, 2022	Islands	Collect User Fees on behalf of the NCRD from property owners within the Village of Daajing Giids (VDG) for solid waste services provided by the NCRD <ul style="list-style-type: none"> <li>- Collection Handling Charge paid by NCRD to VDG - \$1.52/customer/month</li> <li>- Receive customer inquiries and handle complaints</li> <li>- Quarterly accounting of customers and remittance to NCRD</li> </ul>
Recycle BC  Master Service Agreement including Statements of Work for the 'Mainland Regional Recycling Depot'  Nov 30, 2013 - December 31, 2023 (plus 2 further 1 year periods with 30 days written notice by RBC)  Change Order-Feb 1/22	Mainland	Scope of Work for NCRD Principal Depot to process Household In-Scope PPP for Recycle BC <ul style="list-style-type: none"> <li>- Not entitled to fees for ICI material</li> <li>- NCRD must not charge customers for the material</li> <li>- Scavenging is forbidden</li> <li>- NCRD responsible for all risk</li> <li>- NCRD can collect other material as long as it does not interfere with RBC collection and there is no mixing</li> <li>- No exclusive access to customers in proximity to the depots</li> <li>- Deposit beverage containers comingled are deemed to be In-Scope PPP</li> <li>- Service level failures include lack of spillage cleanup outside depot, greater than 3% by weight of Not Accepted Materials in a load, or delivery of In-Scope PPP to any other facility or person than the designated Post-Collection Service Provider (including disposal site) without written authorization</li> </ul> CO-Feb 1/22: for Depot Collection in a Community with PPP Curbside/Multi-Family Collection and Additional Incentive if Baled (\$/per tonne) <ul style="list-style-type: none"> <li>- Cat. 1,2,3b [paper/cardboard] - \$60 (+\$110 if baled)</li> <li>- Cat. 3a,6,7 [containers] - \$90 (+\$110 if baled)</li> <li>- Cat. 4 [overwrap/bags] - \$1,250 (+\$660 if baled)</li> </ul>

Agreements and Rates		
Entity	Service Area	Services
		<ul style="list-style-type: none"> <li>- Cat. 5 [foam pckging] - \$2,000</li> <li>- Cat. 8 [glass bottles/jars] - \$90</li> <li>- Cat. 9 [flexible plastic] - \$1,250 (+\$660 if baled)</li> </ul> <p>Education Top Up: 4,315 x \$0.75/Depot Only Household/Yr</p>
<p>GFL – Post Collection Services</p> <p>NCRD Recycling Depot</p> <p>Statement of Work, January 30, 2020</p> <p>Agreement September 1, 2021 –August 31, 2025</p>	Mainland	<p>NCRD as Subcontractor, for GFL Scope of Work for Recycle BC materials:</p> <ul style="list-style-type: none"> <li>- Receive inbound PPP</li> <li>- Weigh inbound PPP and upload data daily</li> <li>- Process/bale inbound PPP</li> <li>- Store baled inbound PPP</li> <li>- Load baled material into transport carriers as directed by GFL North Vancouver incl bill of lading &amp; manifest</li> <li>- Enter all necessary inbound, transfer and/or outbound data into AMCS as required (daily, weekly and monthly reporting)</li> <li>- Ensure all material audits as set by Recycle BC for the new stream of material area taken as required</li> </ul> <p>Other materials:</p> <ul style="list-style-type: none"> <li>- Receive, weigh, process/bale, store and load all PPP from all depots and other communities within the NCRD, including the Kitimat Bottle Depot and any other depots and/or communities which may be appointed by Recycle BC at any time over the course of the contract</li> </ul> <p>Bale single stream (Cat 1,2,3a,3b,6,7) - \$180 per tonne</p>
<p>Light Recycle (Product Care)</p> <p>September 6, 2012 – renewed annually until termination by either party</p>	NCRD	<p>Authorized collector for the BC Lamps and Lighting Equipment Stewardship Program (LightRecycle) operated by Product Care (PCA) for end of life lamps (lights and bulbs)</p> <ul style="list-style-type: none"> <li>- PCA to provide collection containers, signage and spill kit, media communications and provide transportation services</li> <li>- NCRD to provide collection services as per the Collection Guidelines: ensure staff is trained; accept lamps at no charge; fill containers to their maximum</li> <li>- 30 days written notice prior to annual renewal date required for termination of agreement</li> <li>- PCA shall provide 120 days written notice of change in rates</li> </ul> <p>Fees:</p>

Agreements and Rates		
Entity	Service Area	Services
		<ul style="list-style-type: none"> <li>- Fluorescent Tubes - \$0.03/linear foot</li> <li>- CFL, LED, Incandescent and Halogen Lamps - \$0.05/unit</li> <li>- HID and Other - \$0.10/unit</li> <li>- Monthly payment in accordance with records of shipments</li> </ul>
MARR	NCRD	For collection of Major Appliances containing refrigerant and Other Major Appliances (White Goods)
<p>B.C. ElectroRecycle Program under the Canadian Electrical Stewardship Association (CESA)</p> <p>By Program Manager: Product Care Association (PCA)</p> <p>Term??</p>	NCRD	<p>Authorized collector for collection of waste electronic equipment, small appliances or other electrical products (non-bulky items)</p> <ul style="list-style-type: none"> <li>- Agreement automatically renewed annually after initial 36 months unless terminated by either party with 90 days written notice prior to the current term</li> <li>- Non-exclusive (other collectors can be appointed)</li> <li>- Act in accordance with the Program Operational Manual and the Regulations: not charge a fee; not knowingly collect non-program products; not scavenge; store and prepare materials using the Collection Supplies for pick-up by transporter and provide reasonable notice to transporter</li> <li>- Provide notice for facility changes</li> <li>- Ensure all employees are trained and all incidents promptly reported</li> </ul> <p>Fees:</p> <ul style="list-style-type: none"> <li>- 2022 - \$245/tonne</li> <li>- Geography multiplier – 1.2</li> <li>- De Minimis Benefit</li> <li>- Annual fee review</li> </ul>

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**APPENDIX C**  
**Equipment Replacement**

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NCRD 2022 Equipment Inventory and Replacement Schedule

Site	Equipment	Make/Model	Use	Estimated Replacement Year	Comments	Estimated Cost
ISA						Five Year Timeframe
Island Landfill (including recycling depot)	Roll Off Truck	Mack, 2013	Hauls bins from TSs to IL, all bins at IL RDO to tipping face/stockpiles and consolidated recyclables from IL to QC Rec Depot for shipping to Mainland (backhauls Skidegate TS bins to IL)	2022	Bandstra contracted to haul consolidated recyclables from QC Rec Depot to NCRD Rec Depot in Prince Rupert. Provide depot with a trailer that depot operator loads.  Life expectancy of the truck: 5 years (due to salt/wear and tear on truck body) - new truck ordered for 2022 (budgeted \$250,000)  288,542 km at June 2022	In 2022 budget
	Roll Off Containers for MSW (1)	48.8 cubic yard, lidded, Stand Wall (bin unfit for highway)	Public drop off at landfill (garbage)	2025	8 total 48.8 cubic yard bins [Purchased at various times]	\$30,000
	Roll Off Containers for MSW (1)	48.8 cubic yard, lidded, Stand Wall	Switch bin on haul truck	2025		\$30,000
	Roll Off Containers for MSW (1)	48.8 cubic yard, lidded, Stand Wall	spare bin	2025		\$30,000
	Roll Off Container for Metal	20 cubic yard (unfit for highway use)	Metal	2023	Metal (Purchased 1999/2000)	\$15,000
	Baler - Plastic Bags	Marathon V-3620	Bales plastic bags	2041	Purchased in 2021	
	Baler 2 - OCC	2-HY-PAC horizontal	Paper/Cardboard	2024	Purchased early 1990s (when we first started recycling)	\$30,000
	Baler - Mixed Paper	Owatoona 26"	Bales Mixed Paper	2034	Purchased from Super Valu 2019	
	Recycle Truck (cube van)	Ford Econoline (2017)	Hauls recyclables bulk from Masset Rec Depot to IL	2032	Life expectancy - 805,000 km [purchased in 2020 - 79028 in June 2022]	
	ISW Pickup	Chev 2500 (2010)	Company truck for staff use	2025	Life expectancy - 320,000 km [purchased in 2018 - 97000 km in June 2022]	\$105,000
	Excavator	Caterpillar 320D (2008)	Compaction and construction at the IL	2034	Life expectancy - 20,000 hours (approximately 4300 hours)	
	Farm Tractor	Kubota L3400DT (2008)	Moving materials in yard, road repairs, plowing, etc	2036	Purchased 2017 (approximately 1500 hours)	
Sandspit TS	Roll Off Containers for MSW (1)	48.8 cubic yard, lidded, Stand Wall	Transfer MSW from TS to IL	2025	Haida Gwaii Ties contractor service 4 hrs per week	\$30,000
Skidegate TS	Roll Off Containers for MSW (1)	48.8 cubic yard, lidded, Stand Wall	Transfer MSW from TS to IL	2025		\$30,000
	Roll Off Containers for MSW (1)	48.8 cubic yard, lidded, Stand Wall	Transfer MSW from TS to IL	2025		\$30,000
Masset TS	Roll Off Containers for MSW (1)	48.8 cubic yard, lidded, Stand Wall	Transfer MSW from TS to IL	2025		\$30,000
	Roll Off Containers for MSW (1)	48.8 cubic yard, lidded, Stand Wall	Transfer MSW from TS to IL	2025		\$30,000
	Roll Off Container for Metal	30 cubic yard bin	Transfer Metal from TS to IL	2023	Metal (Purchased 1999/2000)	\$25,000
	Roll Off Container for Wood	30 cubic yard bin	Transfer Wood from TS to IL	2023	Wood (Purchased 1999/2000)	\$25,000
Masset Rec Depot (MRC)	Baler - OCC	R-M 30HD 30" Harmony	Bales OCC	2035	Purchased 2017	
	Baler, Vertical - Plastic	Harris V5HD 480V, 3 Phase (2017)	Bales Plastic	2031	Purchased in 2021	
	Forklift	Yale (1986)	Loads bales, etc	2029	Life expectancy 8,000 - 20,000 hours (purchased in 2014 from Tickers) - meter doesn't work	
Daajing Giids Rec Depot (DGRC)	Baler, Vertical - OCC		Bales OCC		Belongs to Tickers' facility	
	Baler - Plastic	Harmony MH30HD	Bales plastics	2029	Plastic containers only (Purchased before 2009)	
	Forklift	Doosan (2014)	Loads bales, etc	2029	Life expectancy 8,000 - 20,000 hours (approximately 10000 hours - meter is not working)	
Tiell & Sandspit Supervalu Community Drop-Off	Recycling Collection Bins	4 bay stationary containers (2)	Collects paper, plastic bags, cardboard and containers	2028	Year?	
					TOTAL	\$440,000
MSA						
NCRD Rec Depot	Cube Van	Sierra (2013)	Conducts commercial recycling pickups	2028	Purchased in 2015 (87,027 km as at June 2022)	
	Glass Crusher	DS Glass Crusher	Crushes glass jars, bottles & refundables	2030	Purchased in 2002	
	Vertical Balers	Maren	Plastic film	2028	Purchased in 1994/1995 (used)	
	Vertical Baler	Harmony 10-60	Encorp processing alum & plastic	2032	Purchased in 1998	
	Baler	Gemini, Extreme (2012)	OCC, single stream	2025	Purchased in 1999	\$30,000
	Forklift 1	Toyota 8FGU25 (2018)	Loads bales, etc	2030	life expectancy - 20,000 hours [4,605 hours as at June 2022]	
	Forklift 2	Toyota 8FGU25 (2021)	Loads bales, etc	2033	life expectancy - 20,000 hours (329 hours as at June 2022)	
	Vertical Baler	Maren	Flexible Packaging	2028	Purchased in 1994/1995 (used)	
	Vertical Baler	Maren	Commerical Plastic film	2028	Purchased in 1994/1995 (used)	
	Vertical Baler	Maren	Commerical Plastic	2028	Purchased in 1994/1995 (used)	
	Vertical Baler	Maren	Spare baler	2028	Purchased in 1994/1995 (used)	
	Weigh scale			2036	Installed in 2021	
					TOTAL	\$30,000