

SOLID WASTE MANAGEMENT PLAN UPDATE



Technical Memorandum No. 4:

SOLID WASTE MANAGEMENT SERVICES REVIEW

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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 for the most part 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 3 (Develop and Finalize Strategies) as outlined in SHA's project proposal and Change Order #01. It 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 (PTAC) for review and discussion.

This TM provides background information on existing services and facilities and looks at how they may be consolidated and centralized to build efficiencies, reduce costs, and simplify management. The service change options provided herein are for discussion purposes at this stage to offer optional alternatives that could be considered to improve the economic viability, sustainability of the services, and potentially improve user convenience such as curbside collection versus drop off. For any changes to services that might reduce convenience, SHA has looked at options that the NCRD might implement to improve an existing service, minimize stakeholder push-back and minimize new costs.

2. CONTEXT AND SCOPE

This fourth TM provides the following:

- The outcomes of a study of consolidating and adding additional solid waste management (SWM) services on Haida Gwaii
- The outcomes of a study of cancelling the commercial recycling pick-up service in the Mainland and Island Service Areas
- The outcome of a study of septage and holding tank waste management at the Skidegate Transfer Station
- The process for considering transfer of ownership of the Prince Rupert Landfill to the NCRD.

Upon review of the Draft SWMP through public and internal staff consultations, a number of revisions and additions to the engagement strategies were recommended for consideration and inclusion in the second Draft of the SWMP (Draft 2). Upon revision, Draft 2 will be presented to the PTAC and then to the NCRD Board of Directors for approval before being released for round two of the stakeholder engagement and consultation process. Consequently, added to this TM is a revised version of the Public Consultation and Engagement Plan (Appendix A).

2.1 Guiding Principles for Waste Disposal

As reviewed in previous TMs, the Province's Guide to Solid Waste Management Planning (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 this TM were put forward by the NCRD 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.

The above list is not exhaustive and can be modified prior to development of Draft 2 and presentation to stakeholders during consultation.

Figure 1 shows the division of the NCRD into Electoral Areas A and C (Mainland Service Area), D and E (Islands Service Area), the facilities as they are dispersed in the region and the distances between transfer stations and disposal and processing facilities (e.g., Islands Landfill and the NCRD Recycling Depot).

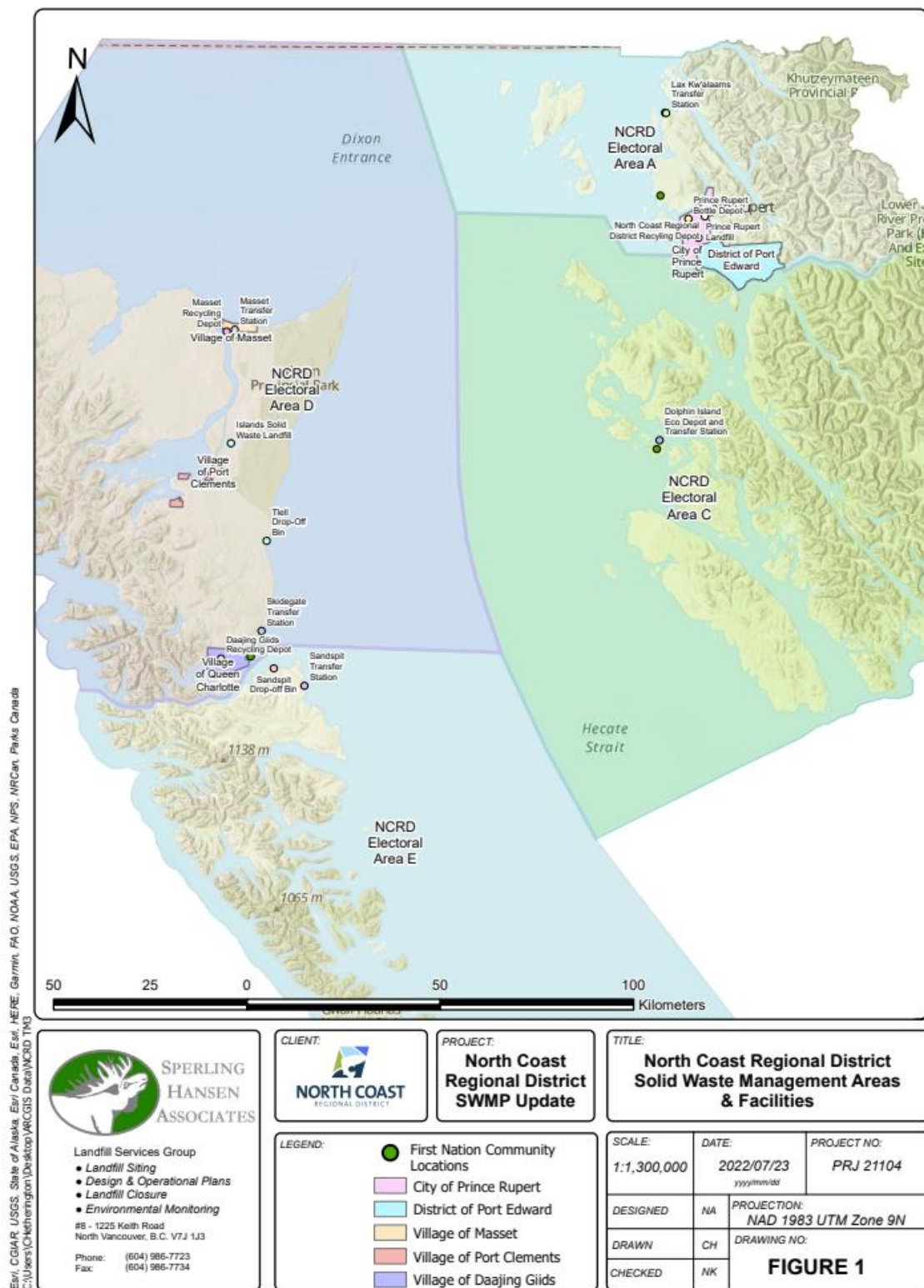


Figure 2-1: NCRD Solid Waste Disposal System Overview

2.2 Solid Waste Management Services and Provider

The programs and facilities listed in the table below show the services that are the subject of this review.

Table 2-1: SWM Services and Provider

Service	Location	Owned & Operated By
Islands Service Area		
Islands Garbage Collection	Electoral Areas D and E and municipalities	NCRD program, operated by contractor
Commercial Cardboard Collection	Island ICI sector	NCRD program, operated by NCRD staff
Masset Transfer Station	East of Masset	Crown Lease (2005 – 2035) & operated by NCRD staff
Skidegate Transfer Station	North of Skidegate (Electoral Area D)	NCRD leased & operated by casual NCRD staff
Sandspit Transfer Station	South of Sandspit (Electoral Area E)	NCRD leased & operated by contractor
Masset Recycling Depot	Masset	<u>Rented</u> & operated by NCRD staff
Daajing Giids Recycling Depot	Daajing Giids	<u>Rented</u> & operated by casual NCRD staff
Drop-Off Bins – Sandspit	Sandspit, Super Value	NCRD program, operated by NCRD staff
Drop-Off Bins – Tlell	Tlell, Fire Hall	NCRD program, operated by NCRD staff
Mainland Service Area		
Prince Rupert Landfill	Prince Rupert	City of Prince Rupert owned & operated
NCRD Regional Recycling Depot	Prince Rupert	Owned & operated by NCRD

3. TRANSFER STATIONS UNDER REVIEW

The waste transfer facilities and services provided by the NCRD that are the subject of this TM are described in this section, including the reason for their inclusion in the study.

3.1 Masset Transfer Station

The Masset Transfer Station (MTS), located on Towhill Road in the Industrial Park about 2 km east of Masset across from the Airport entrance, serves residents of the greater Masset area and is open two days per week: Wednesday 1:00 pm to 5:00 pm and

Saturday 11:00 am to 3:00 pm (8 hours/week). The Transfer Station serves Old Massett Village (Masset Indian Reserve No. 1) administered by the Old Massett Village Council (OMVC), that lies on the east side of Massett Sound with a 2021 population of about 475, (, the Village of Massett administered by Massett Village Council, with a 2021 population of 838, along with residents and businesses at the north end of Electoral Area D with a population of approximately 300. As reported for the 2021 Census, the number of dwellings served is approximately 241 in Old Massett, 518 in Village of Massett, and 195 in Electoral Area D, north.



As seen in the photo to the left, there are two bays for, 30 cubic yard roll off containers with lids at the site and safety railings to reduce risk for users. There are also two other bins on site as open stockpiling is not allowed due to the proximity of the MTS to the airport. The site is attended by an NCRD employee for four hours on Wednesday and four hours on Saturday. For this site, the operator, who also hauls the bins to the Islands Landfill, works on average 14 hours per week. The operator uses their vehicle for

protection from the weather as there is no gate house.

Waste deposited in the roll-off containers is transferred as-needed to the Islands Landfill north of Port Clements, about 32 km, or 25 minutes one way. This amounts to 15 to 20 m³ per week, or approximately 900 m³ per year. At an uncompacted density of 0.5 tonnes per m³, this equates to approximately 450 tonnes/year.

MSW is also self-hauled by residents and commercial waste haulers from the greater Massett area to the Islands Landfill. Contract haulers no longer use this Transfer Station. The Old Massett Village provides a curbside collection service for garbage in their community and the NCRD provides a curbside collection service for garbage in the Village of Massett and Area D (Graham Island North/Towhill Road and south of Massett to Pure Lake) and haul this material direct to the Islands Landfill.

Metal and wood are collected at the MTS in roll off bins and hauled to the Islands Landfill about once per month. The quantity is unknown. Tires and major appliances are added to these bins and sorted at the Islands Landfill. The older bins are coming to the end of their life and according to NCRD staff replacement is about \$25,000/bin, FOB Haida Gwaii.

Illegal dumping along the access road is not an issue, however since there is no fence around the site, scavenging occurs regularly with materials strewn through the treed area around the site. This is cleaned up several times per year. Along the same access road, the Village of Masset has a stump dump where yard clean-up wood is stockpiled. No dimensional wood is allowed. According to NCRD staff a fence to secure the site will cost in the order of \$75,000.

The cost to operate the MTS in 2022 was \$66,535 and the revenue was \$12,431. The cost breakdown is shown below in Table 3-1.

Table 3-1: Masset Transfer Station Expenses

	Expense/Year (\$)
Contract Services	2,810
Staffing	25,433
Bin Hauling	36,941
Maintenance	1,351
Total	\$66,535 \$

The Islands Service Area budget is not broken down by facility so the approved 2023 budget for this Transfer Station is estimated to be \$72,146.

3.1.1 Reason for Review and Possible Changes to the Service (MTS)

It is suggested by NCRD staff that the costs to operate the MTS would be better spent ensuring the Islands Landfill remains in compliance with regulations and all necessary safety and environmental precautions are implemented and monitored in one central location. This review looks at the optional closure of the MTS as soon as possible and enhancements to the existing curbside collection service.

The MTS no longer receives loads of refuse from commercial collection vehicles as they go direct to the Islands Landfill 25 minutes' drive south of Masset. Since the area has a curbside collection program in place, any additional non-program waste could be stockpiled until a full load is generated and therefore less frequent trips are made. Residents could feasibly also combine loads or hire a truck to pick up items for transport to the Islands Landfill. This demand for commercial collection services may generate jobs in the community.

Enhancements to the existing collection service to make this change more palatable to residents could include a bulky item pickup service provided biannually to residents

already receiving a curbside garbage collection service, primarily to assist with property clean-up and to assist those that are unable to transport heavy/large items to the Islands Landfill themselves. This service could occur annually or bi-annually at an estimated cost of \$6,000 per year per event (5 days x 6 hours/day x \$200/hour). The capital cost to purchase a trailer is estimated to be \$10,000. This trailer could be pulled by the Solid Waste truck.

Alternatively, the NCRD could offer 'free tipping days' at the Islands Landfill to encourage residents to bring their waste directly to the landfill instead of stockpiling on their property or illegally dumping it.

The costs to clean up potential illegal dumping until residents get used to the new system should be considered when services change. Also, costs of closing the MTS would need to be considered as well as the termination of agreements or contracts associated with the MTS. Sufficient notice to area residents and businesses should be provided (e.g., minimum six months). Operations staff could be reallocated to assist with program changes.

3.2 Sandspit Transfer Station

The Sandspit Transfer Station (SaTS), located off Copper Bay Road on Moresby Island about 10 km from the unincorporated community of Sandspit, serves residents of the greater Sandspit area, in Electoral Area E, and is open two days per week: Tuesday 11:00 am to 1:00 pm and Saturday 11:00 am to 1:00 pm (4 hours/week). As the only community on Moresby Island, Sandspit has accommodations, a campground, supermarket and an 85-berth harbour and airport to serve residents and visitors. The BC Ferry at Alliford Bay to Skidegate Landing on Graham Island has 12, 20 minute (one way) trips every day of the week and two Dangerous Goods sailings on Thursday to connect residents, businesses and visitors to Daajing Giids, the Islands Landfill and Masset. The return fare is \$9.30/adult passenger plus \$2.35/foot for commercial vehicles and \$21.60/standard vehicle.

Electoral Area E had a population of 325 as of the 2021 census with the vast majority living in Sandspit. The total number of private dwellings is listed at 251, with 161 occupied by usual residents. The Electoral Area is governed by the NCRD Board of Directors.



As seen in the photo to the left, there are two bays for 30 cubic yard roll off containers with lids at the site. There are also stockpiles for tires, scrap metal, scrap vehicles and clean wood, which is burned periodically, as well as a septage receiving pit. Refrigeration units are decommissioned (refrigerant removed) and then stockpiled with scrap metal. The site is attended by an NCRD contractor for the four hours per week. They use their vehicle for protection from the weather as there is no gate house. The contractor removes CFCs from refrigeration units, stacks and sorts metal and tires and maintains roads.

Residential self-haul and commercial waste deposited in the roll-off container is transferred to the Islands Landfill north of Port Clements, about 112 km, or 2.5 hours one way, including the ferry travel. Construction, renovation and demolition (CRD) waste is stockpiled on site and burned regularly by the contractor. The quantity of waste transported to the Islands Landfill in 2021 was estimated to be 533 m³, or approximately 107 tonnes per year. NCRD staff estimate bin hauling occurs four to five times per month. Tires are collected and recycled by Tire Stewardship BC and the MARR stewardship agency provides funding for the major appliances program. The NCRD provides a curbside collection service to the residences once per week for garbage and hauls this material direct to the Islands Landfill.

Even though the site is not fenced, according to NCRD staff, illegal dumping is not an issue. The septage pit is fenced.

The cost to operate the SaTS in 2022 was estimated to be \$49,961 and the revenue was \$28,445. The cost breakdown is shown below in Table 3-2.

Table 3-2: Sandspit Transfer Station Expenses

	Expense/Year (\$)
Land Lease/Rental	-
Contract Services	8,441
Bin Hauling	37,545
Maintenance	3,975
Total	\$49,961

The Islands Service Area budget is not broken down by facility so the approved 2023 budget for this Transfer Station is estimated to be \$55,841

3.2.1 Reason for Review and Possible Changes to Service (SaTS)

This review looks at operational enhancements and efficiencies for waste generated in the Sandspit area.

The SaTS does not receive loads of refuse from commercial collection vehicles as businesses self-haul their waste to the SaTS. The residential curbside garbage collection contractor for the NCRD hauls direct to the Islands Landfill. Providing an incentive for businesses to hire a commercial collection contractor that hauls direct to the Islands Landfill, as the NCRD's residential collection contractor does, could include the banning of commercial waste at the SaTS. This would result in substantially less bin hauling trips from the SaTS to the Islands Landfill, thereby reducing the NCRD costs. Local government typically does not provide waste collection services for the Industrial, Commercial and Institutional (ICI) sector unless local government has the capacity and costs are fully recovered. Local government provided services normally come at a lower cost as profit is not the driver.

Alternatively, if businesses wish to continue to use the SaTS, tipping fees should be reviewed and raised to support their use of the facility and ensure its economic viability and sustainability.

Convenience is a big factor when it comes to transport of waste to the next available disposal facility as the ferry schedule needs to be considered and the nearest landfill is a substantial distance from the ferry terminal. Business owners could feasibly combine loads or hire a truck to pick up items for transport to the Islands Landfill. This demand for commercial collection services may generate jobs in the community.

The costs of cleaning up illegal dumping until businesses get used to the new system should be considered when services change. Also, sufficient notice to area businesses should be provided (e.g., minimum six months).

3.3 Skidegate Transfer Station

The Skidegate Transfer Station (STS), built on a closed landfill, is located on Hwy 16 about 10 km north of the community of Skidegate, one of the two cultural centres of the Haida nation on the islands. The STS serves residents of the greater Skidegate area (Skidegate Band, Skidegate Landing, Miller Creek, and Daajing Giids), in Electoral Area D, and is open two days per week: Wednesday 1:00 pm to 5:00 pm and Saturday 11:00 am to 3:00 pm (8 hours/week). The Skidegate Band has an agreement with the NCRD to use the STS for residential tipping..

The service population as of the 2021 census is estimated to be 1941 (not including Sandspit and area). The total number of private dwellings is approximately 980, with

approximately 887 occupied by usual residents. The area is governed by the NCRD Board of Directors (Electoral Area D), Daajing Giids Village Council and Skidegate Band Council.



As seen in the photo to the left, there are two bays for 30 cubic yard roll off containers with lids at the site. There are also stockpiles for tires, scrap metal, and clean wood, which is burned periodically by a contractor, as well as a septage receiving pit. A small shipping container is used for the collection of used oil and filters. Refrigeration units are decommissioned (refrigerant removed by NCRD staff) and then stockpiled with scrap metal. The site is attended by an

NCRD casual employee for the eight hours per week (they average about five hours/day). There is a gate house for protection from the weather. An employee removes CFCs from refrigeration units, and during the burning event, the contractor stacks and sorts metal and tires and maintains roads with equipment (e.g., excavator) the NCRD does not have.

Waste deposited in the roll-off containers is transferred to the Islands Landfill north of Port Clements, about 60 km, or 46 minutes one way. The quantity of waste transported to the Islands Landfill in 2021 was reported to be 2,442 m³, or approximately 488 tonnes per year. NCRD staff estimate bins are hauled about two to three times per week to the Islands Landfill. Tires are collected and recycled by Tire Stewardship BC and the MARR stewardship agency provides funding for the major appliances program. The NCRD provides a curbside collection service to the residences in the Electoral Area and the municipality of Daajing Giids once per week for garbage and the contractor hauls this material direct to the Islands Landfill. Skidegate Band Council operates a residential collection service and materials are dropped off at the STS. The Skidegate Band Council also operates a commercial waste collection program in their community and this material is tipped at the STS without an agreement in place during non-open hours (they have a key for the gate).

Even though the site is not fenced except for the septage receiving area, according to NCRD staff, illegal dumping is not an issue, except for the commercial waste tipped in the bins by the Skidegate Band Council that has yet to be discussed and resolved.

The cost to operate the STS in 2022 was \$86,493 and the revenue was \$23,076. The cost breakdown is shown below in Table 3-3.

Table 3-3: Skidegate Transfer Station Expenses

	Expense/Year (\$)
Contract Services	3,822
Staffing	16,634
Bin Hauling	59,106
Maintenance	6,931
Total	\$86,493

*

The Islands Service Area budget is not broken down by facility so the approved 2023 budget for this Transfer Station is estimated to be \$87,623

3.3.1 Reason for Review and Possible Changes to the Service (STS)

This review looks at operational enhancements and efficiencies for disposal of waste generated in the Skidegate and Daajing Giids areas.

The STS receives loads of refuse from commercial collection vehicles operated by the Skidegate Band Council, and the NCRD residential curbside collection contractor hauls direct to the Islands Landfill 46 minutes' drive north, then west of the Skidegate community. To reduce the hauling costs for bins destined for the Islands Landfill, the Skidegate Band Council collection vehicle should go direct to the Islands Landfill just as the NCRD contractor does. It is possible that hauling costs will be substantially reduced if this were to be required by the NCRD.

Enhancements to the existing collection service to make this change more palatable to residents could include a bulky item pickup service and additional 'free tipping days', besides the regular 'clean up days' provided by local government as described above in Section 3.1.1.

Sufficient notice to area residents and businesses should be provided (e.g., minimum six months) for any program changes, e.g., direct haul of commercial loads from the Skidegate area to the Islands Landfill at potentially higher costs to the residents and businesses.

4. RECYCLING DEPOTS UNDER REVIEW

The recycling facilities and services provided by the NCRD that are the subject of this TM are described in this section, including the reason for their inclusion in the study.

4.1 Daajing Giids Recycling Depot

The Daajing Giids Recycling Depot (DGRD) is located at 1205 Oceanview Drive in Daajing Giids in the Ticker's Hauling & Storage building. The DGRD serves residents and businesses in the Village of Daajing Giids, communities of Skidegate and Sandspit, Electoral Area E, and Electoral Area D (south). It is open three days per week: Sunday, Monday and Tuesday 10:00 am to 4:00 pm (18 hours/week).

The population served by the DGRD is estimated to be 2,266 based on the 2021 Census, and the number of private dwellings is estimated to be 1,048 – 1,231 (the lower figure occupied by usual residents). The NCRD rents the depot portion of the building from the owner.



The DGRD, pictured to the left, is operated by one NCRD employee and is funded by the Recycle BC stewardship program effective January 31, 2023... Paint, used oil and oil containers, electronics, small appliances, smoke alarms, light bulbs, mercury thermostats and batteries are also accepted at the depot and these items are supported financially by stewardship agencies under agreement with the NCRD. The packaging and printed paper is baled and stockpiled to await shipping by transport trailer to Prince Rupert via BC Ferries. Stewardship agencies

are responsible for collecting and shipping materials and often will wait until enough material is stored before transport is economical to locations off Haida Gwaii.

The photo to the right shows stockpiled materials generated primarily by the stewardship programs and received for shipping from the Islands Landfill depot. Although this is a convenient location to stockpile materials to await a full transport load (48 skids) to the NCRD Recycling Depot in Prince Rupert the stewards do not contribute to the rent for the space. Securing enough storage for these materials can result in higher rental fees.,



Materials to be consolidated at the Islands Landfill depot are hauled on a regular basis by NCRD staff using the NCRD's van with a power tailgate. This same van transports material from the Islands Landfill recycling depot to be stockpiled for shipment via the Skidegate Landing ferry to Prince Rupert. The travel distance is about 77 km from the Landfill depot to the DGRD, or just over one hour, and the transport time is over eight hours from this depot to the NCRD Regional Recycling Depot (RRD) in

Prince Rupert via BC Ferries . The quantity of material is not tracked by facility in the Islands Service Area, nor do the Stewards report their quantities by depot.

Recycle BC has very recently established an agreement with the NCRD to fund and accept the collection of residential quantities of packaging and printed paper at the DGRD and Masset Recycling Depot (MRD). The NCRD is required to keep all commercial packaging and printed paper separate, including in stockpiles prior to shipping. Recycle BC materials generated in the ICI sector will be processed at the Islands Landfill recycling depot only. However, an additional baler outside of the depot is available at the DGRD if processing of ICI sector material is needed. It is not known at this time how much Recycle BC revenue will offset depot costs.

The cost to operate the DGRD in 2022 was \$96,872 and the revenue was \$2,884. The cost breakdown is shown below in Table 3-4.

Table 4-1: Daa'ing Giids Recycling Depot Expenses

	Expense/Year (\$)
Rental of equipment and building	30,150
Staffing	38,094

	Expense/Year (\$)
Materials Hauling	23,827
Maintenance	4,801
Total	\$96,872

The Islands Service Area budget is not broken down by facility so the approved 2023 budget for this Recycling Depot is estimated to be \$35,429

4.1.1 Reason for Review and Possible Changes to the Service (DGRD)

It has been suggested by NCRD staff that the number of recycling depots could be reduced and collection, processing and shipping could be centralized at the Islands Landfill where the depot is currently open Monday to Friday (10:00 am – 3:00 pm) and the first Saturday of each month (11:00 am – 3:00 pm) for drop off of all of the materials currently collected at the DGRD and the Masset Recycling Depot.

The costs to operate the DGRD far outweigh the revenue from taxation, user fees and stewardship agency funding. The rent cost alone is more than the revenue received. As the costs and revenues for the Islands Solid Waste Management service are for the most part amalgamated, existing fees and charges for other services cover the costs. However, the quantity of material diverted from disposal and managed at the facility is not considered worth the expense. Also, it has been suggested that the funding for this facility may be better spent upgrading the central recycling depot at the Islands Landfill if there is sufficient space available for additional infrastructure, and also spent on covering shipping costs to the NCRD Recycling Depot in Prince Rupert.

Additional user fees may be an option to make this facility more economically sound. Currently the Skidegate Band and OMVC do not pay into the recycling service on the Islands (only the disposal services). New agreements with these two communities may help recover some of the costs associated with the recycling service on the Islands.

An alternative to operating the DGRD is to implement a curbside recycling program for Recycle BC materials, including packaging and paper, on the same route or similar to that currently operated on the Islands for garbage collection, but every two weeks or less frequently. This is expected to increase the amount of material diverted due to the increased convenience. Collection trucks would haul direct to the Islands Landfill recycling depot where material is currently consolidated. Although the cost is estimated to be about \$70,000 per year for this curbside program, these costs could be reduced substantially with Recycle BC on-board and by procuring the carts using grants. Procurement of this additional service would need to be tendered as per the NCRD policies.

Although not currently acceptable to the Village of Daajing Giids who requested a recycling depot be provided by the NCRD in their community, packaging and printed paper materials not collected curbside could be dropped off at a community bin similar to the one at Sandspit and Tlell, including for OCC, paper, containers, Styrofoam, film plastic, and glass containers. The users would be expected to be from both the commercial and residential sector. Although stewards do not include collection and processing of commercial packaging and printed paper in their current programs, they will accept a certain percentage of commercially generated material mixed with the residential



material. It is recommended that this change in collection be implemented first should the DGRD be closed. To supplement self-haul of recyclables generated by businesses, commercial haulers should be encouraged to service businesses in the area with direct haul to the Islands Landfill recycling depot. These specialized collection containers could use megabags inside used or new shipping containers similar to those used in the Columbia Shuswap Regional District as shown in the photo to the left. The cost of these specialized containers is about \$6,000 (not

including shipping). The hauling of the material to the Islands Landfill recycling depot for processing and shipping would be similar to the cost incurred for the other two community bins and is estimated to be about \$3,000 per year.

Additionally, more substantial annual roundups (supplementary to existing electronics roundup) could be implemented in Daajing Giids for only the items supported by stewards (e.g., batteries, oil, paint, pesticides, etc). If not supported both financially and physically by stewardship agencies NCRD would need to haul materials collected to the Islands Landfill for processing and shipping with due consideration given to transporting Hazardous Waste. This cost is estimated at \$2,500 per year (2 events). To make these events attractive to residents and businesses, other activities could be encouraged such as 'repair cafes', trunk sales or flea markets, farmers markets, and other community activities. These events also provide opportunities for setting up educational booths organized by the NCRD and member municipalities to promote services offered not only with respect to solid waste management but also concerning other services such as emergency response, etc.

Costs to close the DGRD would need to be considered as well as the termination of agreements or contracts associated with the DGRD. Sufficient notice to area residents and businesses should be provided (e.g., minimum six months). Operations staff could be reallocated to assist with program changes such as for processing of potentially more materials at the Islands Landfill depot.

4.2 Masset Recycling Depot

The NCRD opened the Masset Recycling Depot (MRD) in August 2021 to service the north Islands area. It is located at 1730 Hodges Road in the Greater Massett Development Corporation building, and is open Thursday, Friday and Saturdays from 9:00 a.m. to 3:30 p.m. The materials accepted at this depot are the same as those accepted at the other two NCRD depots on Haida Gwaii. They are transported from the MRD to the Islands Landfill depot for baling and then to the DGRD for stockpiling prior to shipment off Island. The depot is operated by NCRD staff, including transport of material to the other two depots.

The cost to operate the MRD in 2022 was \$82,515 and the grant revenue was \$58,768. The cost breakdown is shown below in Table 4-2.

Table 4-22: Masset Recycling Depot Expenses

	Expense/Year (\$)
Rental of building	14,365
Staffing	40,951
Materials Hauling	22,856
Maintenance of building and equipment	1,575
Total	\$82,515

The Islands Service Area budget is not broken down by facility so the approved 2023 budget for this Recycling Depot is estimated to be a shortfall of \$16,283.

4.2.1 Reason for Review and Possible Changes to the Service (MRD)

It has been suggested by NCRD staff that the number of recycling depots could be reduced and collection, processing and shipping could be centralized at the Islands Landfill where the recycling depot is currently open Monday to Friday (10:00 am – 3:00 pm) and the first Saturday of each month (11:00 am – 3:00 pm) for drop off of all of the materials currently collected at the DGRD and the Masset Recycling Depot. As the costs and revenues for the Islands Solid Waste Management service are for the most part amalgamated, existing fees and charges for other services cover the costs. However, the quantity of material diverted from disposal and managed at the facility is not considered worth the expense. Also, it has been suggested that the funding for this facility may be better spent upgrading the central recycling depot at the Islands Landfill and spent on covering shipping costs to the NCRD Recycling Depot in Prince Rupert.

Additional user fees may be an option to make this facility more economically sound. Currently the Skidegate Band and OMVC do not pay into the recycling service on the Islands (only the disposal services). New agreements with these two communities may help recover some of the costs associated with the recycling service on the Islands.

As outlined above for the DGRD, an alternative to operating the MRD is to implement a curbside recycling program for Recycle BC materials, including packaging and paper, on the same route or similar to that currently operated on the Islands for garbage collection, but every two weeks or less frequently. This is expected to increase the amount of material diverted due to the increased convenience. Collection trucks would haul direct to the Islands Landfill recycling depot where material is currently consolidated. Although the cost is estimated to be about \$70,000 per year for this new Islands curbside program (includes Daajing Giids, Port Clements and Masset), these costs could be reduced substantially with Recycle BC on-board and by procuring the carts using grants.

It is our understanding that the OMVC is currently looking to implement curbside recycling in the Village. As part of this, the OMVC would require a location to process the material collected and ship it off the Island. If the NCRD provided this service, the most practical location would be the Islands Landfill depot where other materials are consolidated. Handling these materials twice, if the MRD were to be used, would not be cost efficient. Also, in order to cover these costs, consideration would need to be given to cost recovery agreements.

As discussed above for the southern Island area, packaging and printed paper materials not collected curbside could be dropped off at a community bin like the one at Sandspit and Tlell, including for OCC, paper, containers, Styrofoam, film plastic, and glass containers. The users would be expected to be from both the commercial and residential sector. It is recommended that this change in collection be implemented first if the MRD is closed. To supplement self-haul of recyclables generated by businesses, commercial haulers should be encouraged to service businesses in the area with direct haul to the Islands Landfill recycling depot. Although stewards do not include collection and processing of commercial packaging and printed paper in their current programs, they will accept a certain percentage of commercially generated material mixed with the residential material. These specialized collection containers could use megabags inside used or new shipping containers like those pictured above that are used in the Columbia Shuswap Regional District. The cost of these specialized containers is about \$6,000 not including shipping. The hauling of the material to the Islands Landfill recycling depot for processing and shipping would be similar to the cost incurred for the other two community bins and is estimated to be about \$3,000 per year using the current van or a flat deck truck and/or trailer.

Additionally, more substantial annual roundups (supplementary to existing electronics roundup) could be implemented in Masset for only the items supported by stewards (e.g., batteries, oil, paint, pesticides, etc). If not supported both financially and physically by stewardship agencies NCRD would need to haul materials collected to the Islands Landfill

for processing and shipping with due consideration given to transporting Hazardous Waste. This cost is estimated at \$2,500 per year (2 events). To make these events attractive to residents and businesses, other activities could be encouraged such as 'repair cafes', trunk sales or flea markets, farmers markets, and other community activities. These events also provide opportunities for setting up educational booths organized by the NCRD and member municipalities to promote services offered not only with respect to solid waste management but also concerning other services such as emergency response, etc.

Costs to close the MRD would need to be considered as well as the termination of agreements or contracts associated with the MRD. Sufficient notice to area residents and businesses should be provided (e.g., minimum six months). Operations staff could be reallocated to assist with program changes such as the processing of potentially more materials at the Islands Landfill depot.

4.3 Commercial Cardboard Collection – Island Service Area

The NCRD provides a curbside collection service to the ICI sector on Haida Gwaii for large generators such as schools, stores, restaurants, the hospital and the airports to prevent them from filling up the community bins on the Island. A one cubic meter bag is provided to their 34 customers and a pickup fee of \$20/pickup is charged currently for an unlimited amount of material and billed to the customers on a monthly basis. Staff operate a van dedicated to hauling recyclables on the Island and services the route to these customers about twice per week. Some ICI customers, approximately 12, haul their own material to the DGRD for a fee of \$10 per full pickup truck load (\$5.00 for ½) on the honor system. The site is not secured.

The cost to operate the Islands ICI program in 2022 was \$77,232 and the revenue was \$33,500. The cost breakdown is shown below in Table 4-1.

Table 4-3: Commercial Cardboard Collection Program Expenses

	Expense/Year (\$)
Staffing (Hauling)	32,858
Materials Hauling	31,521
Maintenance	12,853
Total	\$77,232

The Islands Service Area budget is not broken down by facility so the approved 2023 budget for the ICI service is estimated to be \$13,185 (this budget assumes that a portion

of the ICI hauling charges off-Island will be paid by Recycle BC as the loads will be combined for transfer to the RRD).

The program was implemented in 2015 when the ICI sector requested it, and the costs have not been adjusted since then. The user fees cover about 25% of the costs for this program. Staff have recommended an increase of \$20/bag instead of per pickup.

4.3.1 Reason for Review and Possible Changes to the Service

This service is reviewed in the TM to determine if it is self-sustaining with current user fees or if changes need to be made to the user fees, to the way the service is operated, or if it needs to be eliminated altogether to be replaced with a privately managed service.

It is the staff's recommendation that the commercial cardboard collection program be self-sustaining. Therefore, at an estimated cost of \$102,170 in 2022 for the program, and 3,264 pickups per year for the 34 businesses, the rate should be increased to at least \$32/pickup. For a large generator that appreciates the convenience of this service, their average increase in annual cost would be about 60% or \$1,152/year to \$3,072/year. The drop off customers should also have a rise in fees to support the program, but not as steep, to cover the increasing costs for wages, fuel, processing and shipping. The other funding mechanism is taxation, however, all businesses would need to be taxed and an 'opt out' policy implemented if they do not generate this material. With RBC coming online in 2023 these costs may change somewhat for the percentages of this ICI recycling stream that they will cover. Actual costs will be forthcoming once the stewardship portions of the service become clear.

Alternatively, if this service were to instead be operated by a private company and not managed by the NCRD, either using door-to-door service or container service, the commercial hauler would still bring the material to the Islands Landfill recycling depot for processing (or to the DGRD if the outdoor baler is put into service). Depending on the profit the private service providers want, the customer's costs could rise from current levels since all the above costs would still be incurred as well. Since the NCRD does not have to make a profit, the customer would be in a safer financial position.

Alternatively, eliminating the service could potentially result in negative consequences with respect to both collection and disposal of the material. As witnessed prior to implementation of the ICI collection program, the community bins could overflow regularly, or quantities at the DGRD could become unwieldy from businesses self-hauling to the depot. Also, unless this material is banned or prohibited at the Islands Landfill, businesses could feasibly decide to dispose of the material instead of recycling it, and the goals of the NCRD solid waste management plan would not be met.

Whichever option is approved, the NCRD would need to notify their customers of the changes, including substantial lead time, especially if the service elimination option is chosen.

4.4 Commercial Office Paper Collection – Mainland Service Area

The NCRD currently provides a door-to-door office paper collection service with 1,281 ICI pickups per year in the greater Prince Rupert area (approximately 50 customers). 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. This service is conducted with a dedicated van and driver. The driver conducts the service Tuesday to Friday, six hours per day. The service diverts approximately 42 tonnes of paper per year from disposal. Material is tipped at the RRD and baled for shipping to market but notwith the Recycle BC program material at the RRD.

This program is not budgeted separately so a cost estimate has been developed with several assumptions. 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 4-4: Commercial Recycling Program Costs

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
Total Cost	\$ 78,827	
Collections in 2021	1281	
Average Cost per Collection	\$ 61.54	
Plus 10% - Admin	\$ 67.69	

Using the highest cost level of \$30/pickup, this price alone is less than half the price needed to make the program self-sustaining.

The benefits of the NCRD managing and operating this collection program include the following:

- Customer costs can be kept at a reasonably manageable level as local government does not have to make a profit when delivering a service.
- A door-to-door service is substantially more convenient than if the business must drop off the material at the RRD.
- The City of Prince Rupert can prohibit the material from disposal at their landfill and still rely on a service to replace disposal.

4.4.1 Reason for Review and Possible Changes to the Service

This service is reviewed in this TM to determine if it is self-sustaining with current user fees or if changes need to be made to the user fees, to the way the service is operated, or if it needs to be eliminated altogether to be replaced with a privately managed service.

It is the staff's recommendation that the commercial cardboard collection program be self-sustaining. Therefore, at an estimated cost of \$78,827 for the program, and 1,281 pickups per year, the rate should be increased to at least \$68/pickup. For a large generator that appreciates the convenience of this service, their average increase in annual cost would be about 127%. Drop off ICI customers are currently not charged a fee. This could also change to a rate that covers the cost of sorting, processing and shipping. The fees could be similar to that which is charged to the City of Prince Rupert for their collected material (\$179/tonne). Monitoring the users on a daily basis to determine if they are from the ICI sector may be challenging, that is, all the facility users may have to be asked/required to check in with an attendant.

Alternatively, if this service were to instead be operated by a private company and not managed by the NCRD, either using door-to-door service or containers, the commercial hauler would still bring the material to the RRD for processing unless they developed their own facility. This user could be easily monitored and charged an appropriate fee. Depending on the profit the private service providers want, the customer's costs could rise from current levels since all the current costs would still be incurred as well. Since the NCRD does not have to make a profit, an NCRD provided service would leave the customer in a safer, and feasibly more dependable, financial position.

Alternatively, eliminating the service could potentially result in negative consequences with respect to both collection and disposal of the material. As witnessed prior to implementation of the ICI collection program, the community bin could overflow regularly, or quantities at the RRD could become unwieldy from businesses self-hauling to the depot. Also, unless this material is banned or prohibited at the Prince Rupert Landfill, businesses could feasibly decide to dispose of the material instead of recycling it, and the goals of the NCRD solid waste management plan would not be met.

Whichever option is approved, the NCRD would need to notify their customers of the changes, including substantial lead time, especially if the service elimination option is chosen.

5. POSSIBLE PRINCE RUPERT LANDFILL TRANSFER TO NCRD

Throughout engagement to date, the possibility of accepting ownership of the Prince Rupert Landfill (PRL) from the City of Prince Rupert has been raised. The Board of Directors agreed to participate in and share the cost of a workshop to learn more about the Landfill. This initial meeting is expected to be the first of several to discuss the pros and cons of the request. A second meeting to provide detail on projected operating and capital costs is planned for early Fall 2023.

With respect to the Draft SWMP, both parties have agreed that the SWMP Update should only include text that introduces the initiative and states that the transfer of the Landfill to the NCRD is currently under review.

During the second round of public consultation to engage the public and stakeholders on the above revisions to the 2022 Draft SWMP, SHA will ensure that all comments referring to this initiative are recorded for future review if or when a Landfill ownership transfer process is started.

6. SEPTAGE WASTE MANAGEMENT

During the last year it has become evident that upgrades to the Septage Receiving Facility at the Skidegate Transfer Station are needed. In December 2022 SHA submitted a proposal to the NCRD Manager of Operations to prepare a Skidegate Septage Treatment Lagoon Management Plan (Plan) to meet the requirements of Section 3.1 of the facility's Operational Certificate No. 16840 (OC). The facility is authorized to receive 150 m³ per year of septic tank and holding tank sludges for which the septage treatment lagoon was considered to be adequate. However, the facility is currently receiving waste from the Skidegate Band Council's Waste Water Treatment Plant, the Kwuna Ferry system, the BC Ferries office, Skidegate Landing and from a number of local portable toilets. The NCRD asked that the Plan be developed for the following two options:

- authorized waste only
- authorized waste plus other wastes that are currently being disposed.

The primary reason the NCRD has asked that this facility be included in the SWMP is that the sludge removed from the lagoon, as part of regular lagoon maintenance, is dried and made ready for transport to the Islands Landfill where it can be used for operational purposes. Also, consultation on the Plan could be piggybacked onto the SWMP second round of consultation that will occur in the summer of 2023.



As seen in the photo to the left, the facility consists of two lagoons surrounded by a perimeter fence with locking gate and sludge drying beds between the lagoons and the Transfer Station.

The site is accessed daily by private contractors and is open to the public two days per week (Transfer Station is open on Wednesdays and Saturdays). The current treatment method is to fill

one lagoon and then let the free liquid dissipate while the second is being filled. The sludge is removed to one of three drying beds outside the fence and mixed with woodchips to aid in drying and to control runoff. Any free water from the drying beds drains towards lagoon 2 and the low areas below the lagoons at the tree line. There are no known groundwater monitoring or drinking water wells in the vicinity or surface water monitoring stations.

The Plan is anticipated to be completed in 2023. This Plan will identify the upgrades required, the service area, the operational requirements, and the costs to protect the environment, provide a sustainable well operated facility to Island stakeholders, and to comply with the OC.

7. REFERENCES

Statistics Canada. 2017. North Coast [Economic region], British Columbia and Canada [Country] (table). Census Profile. 2016 Census. Statistics Canada Catalogue no. 98-316-X2016001. Ottawa. Released November 29, 2017.

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).

8. 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

9. 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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APPENDIX A
Public Consultation and Engagement Plan (Revision 1)

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1 INTRODUCTION

Between 2021 through 2023, the North Coast Regional District (NCRD) is undertaking a review and update of its 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). The NCRD's 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.

A key part of this planning process is the public engagement and consultation, which is to be initiated during the Draft SWMP creation in accordance with the BC Guidelines for Solid Waste Management Planning. Throughout the SWMP process, the NCRD Public Technical Advisory Committee (PTAC), a group with technical, non-technical, First Nation, public, community interest, and elected official representation, meet to discuss the objectives, strategies, options, and progress of the SWMP. PTAC provides recommendations to the NCRD Board of Directors for consideration. The organizations that form the current PTAC are listed below.



To engage with other stakeholders within the NCRD, including area First Nations, a strategy has been created with the aim of engaging the public early in the process so that their input and feedback can be part of the plan development. This early engagement is critical to the success of our planning efforts. This Consultation Plan presents the proposed initiatives to reach the broadest audience and receive constructive feedback with which to inform the SWMP.

After the first round of consultation was completed, changes to the Draft SWMP were requested. This Consultation Plan has been modified to include additional consultation and engagement during the summer of 2023 to ensure the changes are broadly discussed, with the general public, stakeholders and First Nations before the SWMP is finalized by the Board.

For the NCRD planning process, we envision the most effective means of communication to conduct consultation, includes local media, online social platforms, and the NCRD website. The in-person engagement component will also be essential for stakeholders to better understand the plan objectives and options. Open houses will take place after the second Draft SWMP has been submitted to the PTAC for review and comment, and the NCRD Board of Directors have released the Draft for consultation. In addition, we propose the use of a digital online survey, which will provide the NCRD with extensive data and feedback on solid waste issues and concepts.

Aside from engaging the public early, other objectives of the consultation process are to provide consistent information throughout the project phases and create the opportunity for residents and businesses to comment on the draft plan. Most, if not all, of the engagement in the consultation periods will allow direct quantification of viewership and engagement with consultation materials. Specifically, with online viewership, we will be able to tally the following:

- Number of webpage visits
- Number of surveys completed
- Number of different individuals visiting the webpage
- Document downloads
- Facebook page visits and comments.

Best practices in regional solid waste management planning requires that adequate public review and consultation of the SWMP must be completed. In addition, the public consultation process was designed to meet elector approval requirements for any borrowing of funds required to implement the plan once it is approved.

1.1 Background and Consultation Objectives

The NCRD's first solid waste management planning process was initiated prior to the 1995 SWMP, which was approved by the Ministry of Environment and Climate Change Strategy (ENV) and subsequently adopted by the RD Board in 1996. Most of the 1996

plan was implemented by the NCRD and some items will carry forward under the new Plan.

The objectives of public consultation associated with the current planning process are as follows:

- To ensure requirements under the Environmental Management Act (EMA) are met
- To ensure the public consultation considerations outlined in the Guide to Solid Waste Management Planning are addressed
- To engage the PTAC and public early in the process and provide sufficient time to consider the feedback received during the preparation of the plan
- To provide interested parties with open, transparent information throughout the planning process and prior to RD Board recommendations
- To provide opportunities for input and feedback during the process and once the draft Plan is released.

2 PLAN INITIATION

The SWMP review process was identified as a priority project by the NCRD Board. The process was initiated in 2021 with the tendering and selection of the project consultant, Sperling Hansen Associates, (SHA) to guide the process and complete required background data collection, development of Technical Memoranda, and presentations to PTAC and the Board, followed by development and presentation of the first and second draft SWMP.

Following these steps, the public portion of the planning process can be initiated with the finalization and implementation of this Consultation Plan.

3 PUBLIC CONSULTATION – THE PLAN

The public consultation process is to be executed in three phases:

- Phase 1 - Prior to drafting of the SWMP (July 2022 – September 2022)
- Phase 2 - Following completion of the draft SWMP (October – December 2022)
- Phase 3 (new) – Following update and approval by the Board of the second draft SWMP (June – August 2023).

The first, second and third phases include a survey which are intended to find out how the public is using the current system, gauge their satisfaction and convenience levels, identify areas they would like to see contemplated through the SWMP review process, and provide an opportunity to comment on the initiatives presented in the draft SWMP. It

is important to first fully understand the public's priorities prior to developing the SWMP as opposed to presenting them with a plan and then asking what they think about it. As a result, great weight is being put on the early phase of consultation with the intention that the draft plan would consider and reflect this input from the public.

An online survey format has been found to be the most efficient and cost-effective way of conducting regional surveys. Additionally, with the reach of digital media and the internet, online surveys can connect to a greater audience.

Survey #1 has been developed using previously successful templates provided by SHA. Understanding that the Island and Mainland regions of the NCRD are two very different solid waste systems, questions have been modified to apply to both areas while still requesting the same information. The survey was created using Survey123 and is available at the following link: <https://arcg.is/88T04>.

The initial survey was sent to emails subscribed to the NCRD newsletter. In addition, it was posted to the NCRD SWMP page, the NCRD Facebook page, and several other Facebook groups that contain membership in NCRD communities. These include:

- District of Port Edward (Facebook page with 721 followers)
- Prince Rupert (private Facebook group of 3,200 members)
- Haida Gwaii Communities (private Facebook group of 1,900 members)
- Haida Gwaii Observer (Facebook page with 5,049 followers)

The survey was also distributed to local media via a news release. Newspaper outlets include:

- The Haida Gwaii Observer (online only)
- Prince Rupert Northern View.

Webpages to be contacted about displaying the surveys on their platform include:

- Council of the Haida Nation <https://www.haidanation.ca/news/>
- Lax Kw'alaams Band <https://laxkwalaams.ca/>
- Metlakatla First Nation <http://www.metlakatla.ca/>
- Gitga'at Nation <http://gitgaatnation.ca/>
- Gitxaala Nation <https://www.gitxaalanation.com/>
- Kitselas Nation <https://kitselas.com/>
- Skidegate Band Council <http://www.skidegate.ca/>
- Old Masset Village Council <https://oldmassetvillagecouncil.com/>
- Kitsumkalum Band <https://kitsumkalum.com/>
- District of Port Edward <https://www.portedward.ca/>
- City of Prince Rupert <https://www.princerupert.ca/>
- Village of Port Clements <https://portclements.ca/>
- Village of Masset <http://massetbc.com/>
- Village of Daajing Giids <https://www.daajinggiids.ca/> .

The number of households recorded for the Island area is 2,128, and 5,361 for the Mainland. At a response rate of 30%, which is considered typical for regional online surveys, the target number of household responses is 638 and 1,608 respectively.

It is envisioned that the surveys will remain open for two (2) months, after which time the submitted responses will be compiled and the data analyzed and presented to the PTAC.

From the Survey #1, there were several key findings:

- Geographic location of survey respondents (i.e., electoral area, First Nation, city, district, or village)
- Percentage of respondent's satisfaction and level of convenience with the current garbage, recycling, and organics management programs
- Percentage of respondent's desire for composting options
- Degree to which residents travel to reach solid waste facilities and how far they are willing to travel to get these services – Level of convenience
- Percentage of respondents that support a user-pay system for waste disposal
- Education and awareness level regarding collection/return to retail provided by the private sector and Extended Producer Responsibility Programs (EPR, regulated end of life management programs) in the NCRD
- Priorities for future waste management programs (i.e., cost, environmental protection, convenience, job creation, etc.)
- Support for new programs and initiatives.

The results of Survey #1 were shared with the PTAC, compiled in a Survey Summary, and widely shared with the public. Based on the Survey #1 responses, Survey #2 was built on areas of concern and further gauged support for potential initiatives presented during public consultation.

Phase 2 - Follow-Up Survey: Draft Solid Waste Management Plan “What do you think?” (Survey #2)

To collect feedback from the public, a second survey was drafted and reviewed by the PTAC prior to distribution and after the draft SWMP was made available to the public. This second survey was distributed in the same way and to the same outlets as Survey #1. Results from the second survey were shared, and presented to the PTAC.

Phase 3 - Follow-Up Survey: Second Draft Solid Waste Management Plan “What do you think?” (Survey #3)

To collect feedback from the public, a third survey will be drafted and reviewed by the PTAC prior to distribution and after the second draft SWMP is made available to the public. This third survey will be distributed in the same way and to the same outlets as Survey #1 and #2. Results from the third survey will be shared and presented to the PTAC and used to finalize the SWMP.

4 PUBLIC MEETINGS

For round one of consultation SHA recommended that three open houses and/or pop-up booths be implemented: one open house each in Masset, Daajing Giids and Prince Rupert at the end of September 2021 (19th to 23rd) and pop-up booths within the same week in all municipalities if possible.

The difference between a pre-arranged and advertised open house and a spontaneous pop-up booth is the open house is usually inside, advertisements are distributed, and story boards can be set up around the room attended by staff and consultants to receive and record input. The Masset Library, Daajing Giids Community Club and Prince Rupert Library Multi-Purpose Room were spaces that were considered useful for this type of two-to-four-hour evening event.

A pop-up booth would be spontaneous and at locations where residents frequent on a regular basis such as a grocery store over a four-to-six-hour period. The booth attendees would speak to residents as they passed by with the hope of providing information about the draft SWMP and gaining feedback and support for the initiatives portrayed on posters at the booth. This one-on-one engagement can often be just as good as a public meeting in a room of a few attendees.

SHA prepared the story boards and announcements for public distribution, attended all events and recorded input. A record of the public meetings was kept and consolidated into the final Public Consultation Report. SHA also arranged a virtual public meeting, distributed the announcement through the NCRD website and local social and regular media and presented a Power Point Presentation to the Zoom Meeting attendees.

For the second round of consultation, SHA envisions similar engagement as round one. Because attendance was considered very low, we will first consult with the PTAC members to garner ideas and suggestions to increase participation. Potential examples include the consultation team attending member municipalities' and First Nation's council meetings where the public is invited, organizing 'café talks' at several establishments with extensive pre-publication of these events, and/or attending public events that are already planned for communities such as farmers markets and festivals. The specific events will be finalized with the PTAC members and NCRD staff after release of the second draft SWMP.

It will also be important to re-engage all elected officials and stakeholders individually with a written request as soon as the second draft SWMP is released, asking them for individual feedback on the revised initiatives. It is our impression that the new initiatives will entice more input and feedback as they involve changes to services that may not be broadly palatable.

5 STRATEGY DECISIONS AND LEVEL OF PUBLIC SUPPORT

It is envisioned that the results of surveys, public meetings and individually solicited feedback will help solidify the direction of the final SWMP strategies and initiatives. The feedback from the public, elected officials and stakeholders will be used to help inform the level of potential change to the solid waste management services that will be implemented over the next 10 years.

Following the final SWMP development, a Public Consultation Report will be completed outlining the steps taken to ensure adequate and effective consultation. This report will accompany the SWMP for final submission to ENV.

6 PLAN IMPLEMENTATION

After the SWMP is approved by the Minister, it is recommended that a Plan Monitoring Advisory Committee (PMAC) monitor the implementation of the plan and make regular recommendations to the NCRD Board of Directors to increase Plan effectiveness.