

SOLID WASTE MANAGEMENT PLAN UPDATE



RESIDUAL



DRAFT Technical Memorandum No. 2: RESIDUALS MANAGEMENT

May 2022

Submitted By: Sperling Hansen Associates

Revisions:

CONFIDENTIALITY AND © COPYRIGHT

This document is for the sole use of the addressee and Sperling Hansen Associates Inc. The document contains proprietary and confidential information that shall not be reproduced in any manner or disclosed to or discussed with any other parties without the express written permission of Sperling Hansen Associates Inc. Information in the document is to be considered the intellectual property of Sperling Hansen Associates Inc. in accordance with Canadian copyright law.

This report was prepared by Sperling Hansen Associates Inc. for the account of the North Coast Regional District. The material in it reflects the best judgment of Sperling Hansen Associates Inc. in the light of the information available to it, at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Sperling Hansen Associates Inc. accepts no responsibility for damages, if any, suffered by third party as a result of decisions made or actions based on this report.

TABLE OF CONTENTS

1	INTRODUCTION.....	1-1
2	CONTEXT AND SCOPE.....	2-1
2.1	Principles, Goals and Targets.....	2-1
2.1.1	Guiding Principles for Waste Disposal.....	2-1
2.2	Provincial and Local Targets.....	2-2
3	RESIDUALS MANAGEMENT SYSTEM OVERVIEW	3-1
3.1	Mainland and Islands Curbside Waste Collection	3-4
3.2	Collection and Facility Use Agreements	3-5
3.3	Disposal Facilities	3-6
3.3.1	Mainland and Islands Transfer Stations.....	3-6
3.3.2	Mainland and Islands Landfills.....	3-8
3.4	Bylaws	3-11
4	RESIDUALS MANAGEMENT STRATEGY OPTIONS AND INITIATIVES	4-1
4.1	Disposal Initiatives in Other Jurisdictions.....	4-1
4.2	NCRD Residuals Management Strategies.....	4-3
4.2.1	Administrative	4-3
4.2.2	Residuals Management	4-4
5	REFERENCES.....	5-1
6	DEFINITIONS	6-1
7	LIMITATIONS	7-1

Appendices

Appendix A – 1996 SWMP Initiatives Status

Appendix B – Islands Transfer Stations Agreements

Figures

Figure 1 - NCRD Solid Waste Disposal System Overview..... 2-5

Tables

Table 1 - Provincial Service Plan Disposal Targets..... 2-3

Table 2 - Disposed Quantities

Table 3 – Service Agreements..... 3-5

Table 4 - Controlled Waste Types Accepted at Landfills within the NCRD..... 3-10

Table 5 - Solid Waste Related Bylaws within the NCRD and Incorporated Areas..... 3-11

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 waste collection, waste disposal, recycling, waste reduction 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 several intended initiatives 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 second TM provides the following:

- Based on information provided by NCRD staff, current refuse collection and disposal programs, facilities, capacity and associated quantities managed
- The topics chosen to be reviewed by PTAC relating to residuals management
- Residuals management initiatives to be reviewed at the Public and Technical Advisory Committee (PTAC) meetings and added to the draft SWMP.

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 collection and disposal 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 implemented 88 of their 137 initiatives that relate to solid waste disposal as described further below. Nine of these initiatives are ongoing and will be carried forward to the updated SWMP. Five initiatives relating to waste disposal have not been completed but will be carried forward and six initiatives that have not been completed will not be carried forward. 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

2.1.1 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

waste disposal were put forward by the NCRD Public and Technical Advisory Committee (PTAC) early in the process:

1. Implement this plan in a way that will maximize convenience to residents
2. Ensure that possible negative reactions to some plan policies are addressed during implementation
3. Ensure that the public and system users are participants in any modifications to this plan
4. Provide a framework to resolve disputes arising from implementation of the plan
5. Ensure that the entire system is funded to accomplish the goals of this plan
6. Focus the SWMP on the following:
 - a) Improving the operational and financial efficiency of the NCRD waste management systems
 - b) Continuing to monitor solid waste management facilities and services
 - c) Maintaining and improving relationships with large waste generators
 - d) Improving service delivery to rural communities
 - e) Setting limits on municipal-type solid waste (MSW) from industry and outside the NCRD
 - f) Providing access to services/facilities in other service areas within the NCRD (e.g. industry and work camp waste)
 - g) Managing contaminated soil
 - h) Investigating landfill gas utilization and carbon credits
 - i) Considering strategies to assist in the prevention of illegal dumping
 - j) Setting parameters for acceptable liquid waste brought to NCRD solid waste facilities (e.g. sewage system grit, grease trap waste).

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 a) through d) are also considered under the waste diversion strategy options.

2.2 Provincial and Local Targets

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

Table 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

ENV collects disposal data from regional districts in BC on an annual basis through their Disposal Calculator program. The NCRD reported their MSW disposal rate in 2019 to be 628 kg per person per year compared to the provincial average of 501 kg. The 2021 disposal quantity is reported to be 12,894 tonnes as shown in Table 2 below. With a 2021 population of 18,181 based on the 2021 Census the current NCRD disposal rate is estimated to be **710 kg per person per year**.

Table 2 - Disposed Quantities

Location	Material Type	Source	Refined Source (SHA)	Refined Type (SHA)	Tonnes	Cubic Meters	Annual Waste Statistics
Prince Rupert Landfill							
	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		
Total Mainland Refuse					11,334		
						2021 Tonnes	11,334
						Mainland 2021 Census Population	13,510
						2021 tonnes/per capita/year	0.84
Islands Landfill							
	Residential MSW	Big Red	Moresby Island	Res	404	2,021	
		NCRD Curbside Collection	Village of Queen Charlotte	Res			
			Skidegate Landing	Res			
			Tlell	Res			
			Village of Port Clements	Res			
			Village of Masset	Res			
			EA D	Res			
	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	
Total Islands Refuse - not including C&D that was used to build berm					1,560	7,799	
						2021 Tonnes	1,560
						Islands 2021 Census Population	4,582
						2021 tonnes/per capita/year	0.34
Total for NCRD							
						2021 Tonnes	12,894
						2021 Census Population	18,181
						2021 tonnes/per capita/year	0.71

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.

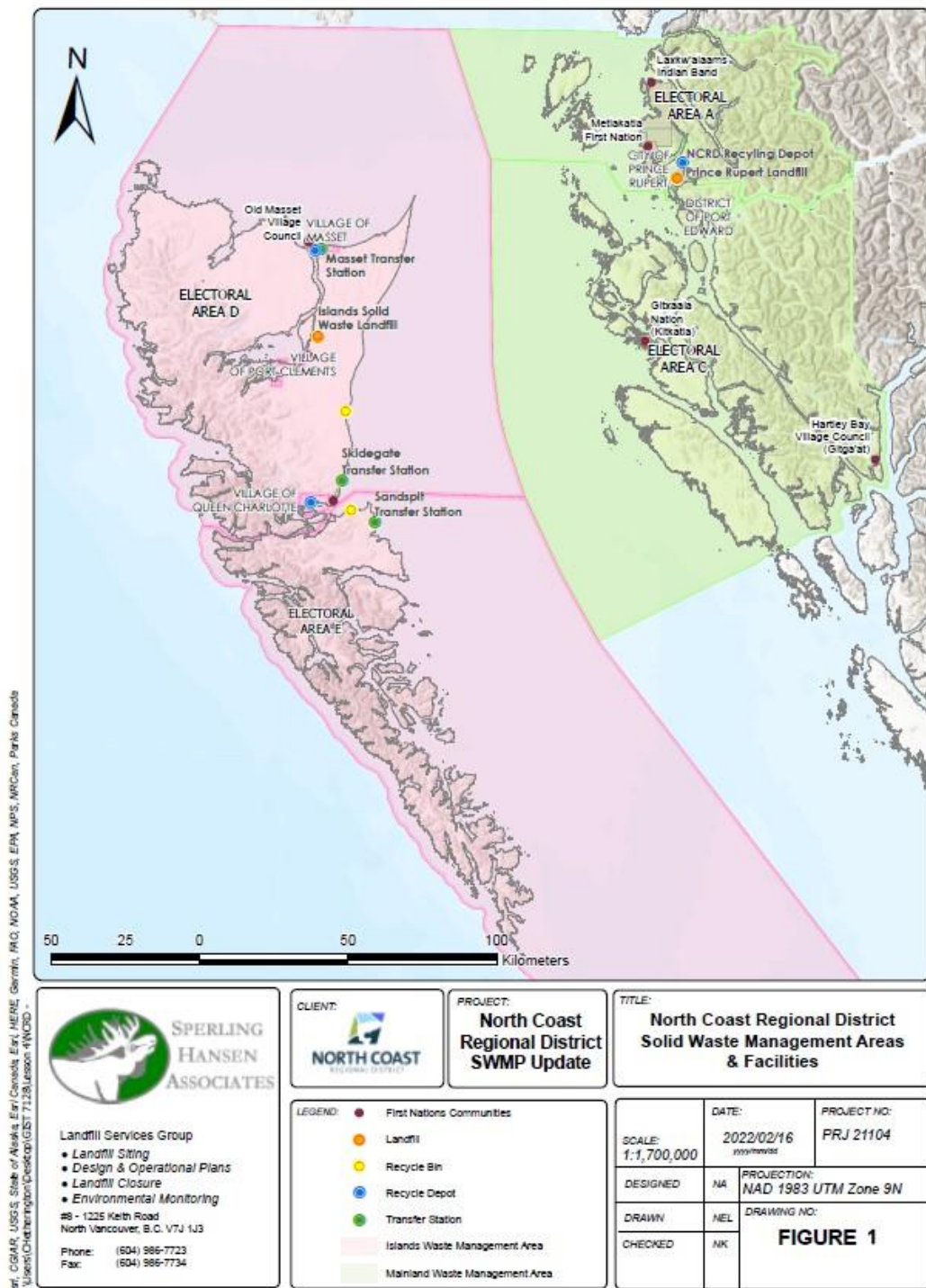


Figure 1 - NCRD Solid Waste Disposal System Overview

3 RESIDUALS MANAGEMENT SYSTEM OVERVIEW

Location plays an integral part in regional solid waste management, particularly in understanding the dominant solid waste disposal patterns of residents, businesses, and other contributing entities. For the purpose of this TM2, the two distinct service areas and waste facilities within the NCRD are divided and presented as Mainland and Islands, both having an NCRD manager responsible for all activities, programs and facilities.

The landfill sites in the NCRD consist of two options for residents; one located on the mainland in Prince Rupert and one on Graham Island of the archipelago of Haida Gwaii.

The mainland facility, Prince Rupert Landfill (PRL), primarily services the residents of the City of Prince Rupert, the District of Port Edward, and constituents of Electoral Areas A (Dodge Cove, Skeena River north), and C (Porcher Island, Kaien Island, Skeena River south).

The Islands Landfill (IL) services the residents of the Villages of Masset, Queen Charlotte, Port Clements, and Electoral Areas D (rural Graham Island), and E (Sandspit, Moresby Island).

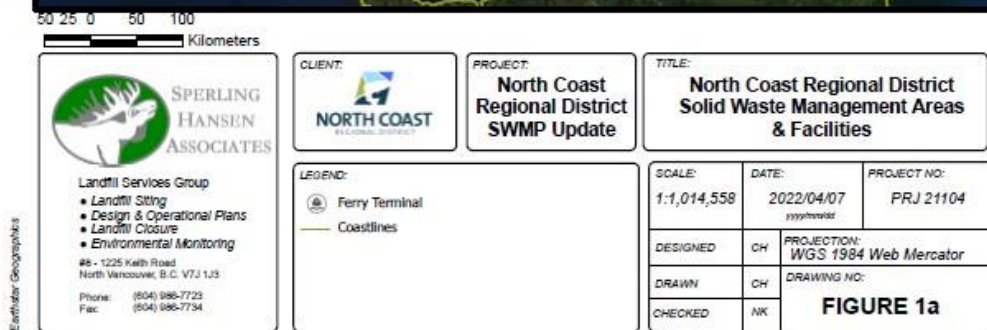
There are six transfer stations within the two service areas as summarized below:

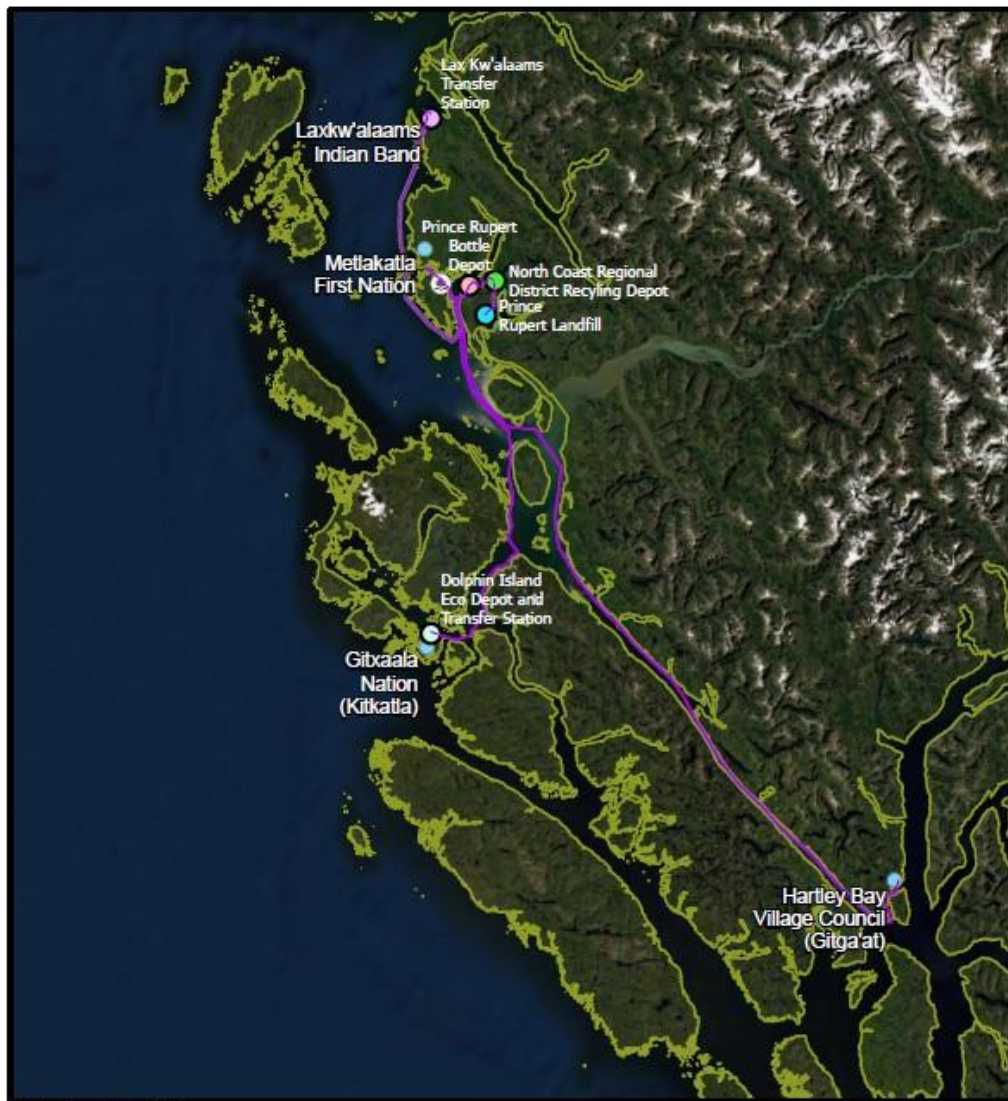
- Mainland service area: Dolphin Island Transfer Station (Gitxaala Nation), Lax Kw'alaams Band Transfer Station, and Metlakatla Transfer Station
- Islands service area: Masset Transfer Station, Skidegate Transfer Station, Sandspit Transfer Station.

The NCRD provides curbside collection of refuse in the Islands service area, First Nations provide collection in their jurisdictions and Prince Rupert and Port Edwards provide curbside collection within their municipal boundaries.

Self haul and subscription services are also available in both services areas to a transfer or disposal facility on a user pay basis.

These facilities and programs are shown in Figures 1, 1a and 1b and are described in further detail below.





Earthstar Geographics

**SPERLING
HANSEN
ASSOCIATES**

Landfill Services Group

- Landfill Siting
- Design & Operational Plans
- Landfill Closure
- Environmental Monitoring

#8 - 1225 Keith Road
North Vancouver, B.C. V7J 1J3

Phone: (604) 986-7723
Fax: (604) 986-7734

CLIENT:

**NORTH COAST
REGIONAL DISTRICT**

PROJECT:

**North Coast
Regional District
SWMP Update**

TITLE:

**North Coast Regional District
Solid Waste Management Areas
& Facilities**

LEGEND:

- Ferry Terminal
- Coastlines

SCALE: 1:1,585,247	DATE: 2022/04/07 <small>yyyy/mm/dd</small>	PROJECT NO: PRJ 21104
DESIGNED CH	PROJECTION: WGS 1984 Web Mercator	
DRAWN CH	DRAWING NO: FIGURE 1b	
CHECKED NK		

3.1 Mainland and Islands Curbside Waste Collection

The majority of NCRD communities are provided with residential curbside collection services for refuse. Optional curbside collection is extended to commercial and industrial premises in some areas.

Mainland Curbside Collection

The Village of Port Edward has a weekly manual collection service, for refuse only, which is delivered to the PRL. The service is operated in-house and is regulated under Bylaw No. 666. The service allows for two 100L containers each week for residential dwellings, and 4 containers per week for commercial premises. The bylaw includes provisions for service to commercial and multi-home residential buildings with a container provided by the municipality; and for industrial premises to join the service under a contract.

The City of Prince Rupert has an automated weekly service for curbside collection of refuse and recycling. The service is operated in-house and is regulated under Bylaw No. 3480, which came into force on January 1, 2022 with the onboarding of the new recycling collection program. Recycling materials are transported to the NCRD recycling facility for processing and marketing. Refuse is collected in a 120L bin and residents have the option to request a larger 240L bin for a small change out fee. The bylaw includes provisions for commercial collection of two containers twice per week.

Electoral Area A and C do not receive curbside collection service. Approximately 34% of the dwellings in these electoral areas are occupied fulltime and some are located on islands. Self haul to the PRL is the main method of refuse management for residents and small businesses outside of Prince Rupert and Port Edward.

Industrial, commercial and institutional (ICI) waste is collected by private haulers under a subscription service or self hauled.

First Nations, including Lax Kw'alaams, Metlakatla, Gitxaala and Gitga'at collect refuse from their communities and transfer it to the PRL by barge or truck.

Islands Curbside Collection

Residential refuse in Electoral Area D and E is collected from all NCRD residential dwellings accessible by road under a manual collection contract with Big Red Enterprises. This contract includes service to the Village of Masset, Village of Port Clements and Village of Queen Charlotte. The contract specifically requires the following routes be serviced:

- (1) Moresby Island
- (2) Queen Charlotte City and Skidegate Landing

(3) Chinukundl Creek to Tiell, Port Clements to Nadu Road

(4) Village of Masset and Graham Island North/Towhill Road/South of Masset to Pure Lake.

Bagged refuse is collected in Regulation Garbage Receptacles provided by the occupant of a maximum capacity of 71L and weighing no more than 30kg. A maximum of two containers may be collected each week (additional garbage requires a Bag Tag available through Big Red Enterprises).

Old Masset Village Council provides weekly curbside collection service to their residents, and hauls to the Port Clements Landfill.

Skidegate Band Council provides weekly curbside collection service to their residents, and hauls to the Skidegate Transfer Station.

3.2 Collection and Facility Use Agreements

The following table provides information on the agreements between the NCRD and other jurisdictions using NCRD services.

Table 3 – Service Agreements

Entity	Service Area	Services
Old Massett Village Council	Islands	Use of Masset Transfer Station and the Islands Landfill for residential MSW drop-off and disposal Collection of user fees by the Old Massett Village Council on behalf of the NCRD
Skidegate Band Council	Islands	Use of Skidegate Transfer Station and the Islands Landfill for residential MSW drop-off and disposal and septage disposal
Big Red Enterprises NCRD Refuse Collection Service	Islands	Collection of MSW from residential dwellings, apartments and customers in the Islands Waste Management Area including: Moresby Island Queen Charlotte City and Skidegate Landing Chinukundl Creek to Tiell Port Clements to Nadu Road

Entity	Service Area	Services
		Village of Masset and Graham Island North/Towhill Road, South of Masset to Pure Lake
Village of Masset	Islands	Solid Waste Services including waste collection and recycling services Collection of user fees by the Village of Masset on behalf of the NCRD
Village of Port Clements	Islands	Solid Waste Services including waste collection and recycling services Collection of user fees by the Village of Port Clements on behalf of the NCRD
Village of Queen Charlotte	Islands	Solid Waste Services including waste collection and recycling services Collection of user fees by the Village of Queen Charlotte on behalf of the NCRD

3.3 Disposal Facilities

Brief descriptions of the waste disposal facilities currently in use in the NCRD are provided in this section.

3.3.1 Mainland and Islands Transfer Stations

A description of the Mainland and Islands transfer stations are provided below.

3.3.1.1 Mainland Transfer Stations

The NCRD does not own or operate any waste transfers stations on the Mainland, however there are two formal facilities owned and operated by First Nations as described below.

Dolphin Island Ecodepot and Transfer Station

This facility in Kitkatla is operated by the Gitxaala Nation. Refuse collection in the area was reduced from twice per week to once per week and is collected by Gitxaala Nation. Waste is picked up from the transfer station every three months by Wainwright Marine and is then offloaded at the Wainwright Marine yard by Rupert Disposal. Delivery is to the

PL by Rupert Disposal. Gitxaala Nation estimates a generation rate of approximately 5 tonnes/ 3months.

In 2016, Gitxaala staff were trained to strip pollutants from waste items such as fridges, freezers, and vehicles. This allows these items to be stored safely at the site and then sent to the mainland. These facilities were reported by the Indigenous Zero Waste Technical Advisory Group to be upgraded in 2019 to include bins for sorting and storing large metal items, construction debris, clean wood, and oversized items for transport off-island.

The current facility includes three bays with approximately 26 roll-off bins, a recycling shed, and a septic lagoon. Areas exist for scrap metal, whitegoods, tires, and auto hulks.

Lax Kw'alaam Transfer Station

SHA was unable to find information regarding this facility at the time of writing this TM but hopes to obtain details prior to development of the Draft SWMP.

Metlakatla Transfer Station

SHA was unable to find information regarding this facility at the time of writing this TM but hopes to obtain details prior to development of the Draft SWMP.

3.3.1.2 Islands Transfer Stations

The following brief descriptions are provided for the waste transfer stations on Haida Gwaii owned and operated by the NCRD. Licenses of Occupation and Operational Certificates are attached in Appendix B.

Masset Transfer Station

The Masset Transfer Station is located approximately 2 km east of Masset along Tow Hill Road in the Industrial Park. The site accepts residential materials and C&D waste and is equipped with a stump dump for all yard waste, bins for metal, and bins for MSW. Tires and white goods are accepted and separated during landfill deposition. A bin exists for C&D or dimensional lumber. Due to airport proximity, burning is not conducted at the Transfer Station.

Skidegate Transfer Station

The Skidegate Transfer Station is located approximately 10 km north of Skidegate (Miller Creek) on Highway 16 and accepts residential and C&D waste. The Transfer Station is equipped with two septage lagoons, and areas for tire storage, metal storage, and CFC containing appliances. Bins exist for MSW and C&D waste. The Transfer Station also serves the Skidegate Band who collect their own waste and drop it off. The facility is permitted to burn clean wood and has a burn pit designated for burning. A shipping container is located on site and stores waste oil recyclables. Septage lagoon

management includes rotating usage of the pits so that one remains active while the other dries out. Lagoon clean out occurs on a regular basis with the sludge being first dried on site and then delivered to the Islands Landfill where it is mixed with soil and used for landfill cover.

Sandspit Transfer Station

The Sandspit Transfer Station is located approximately 10 km down Copper Bay Mainline in Sandspit, BC. The Station is equipped with a two bin lock block ramp (note that only one bin is placed at a time due to volume and wildlife considerations). Designated storage areas exist for tires, scrap metal, autohulks, CFC materials, propane tanks. There is a burn area and a septic lagoon at the facility that are operated as per permit requirements.

3.3.2 Mainland and Islands Landfills

Two landfill sites are in operation in the region including the NCRD owned Islands Landfill (IL) and the City of Prince Rupert owned Prince Rupert Landfill (PRL) as described below.

Islands Landfill

Formerly the Port Clements Landfill and opened in 1993, this waste management facility is located at 71454 Highway 16, 9 km north of Port Clements, and is operated under Operational Certificate MR-7150. The IL is situated on Lot 401 of the Queen Charlotte District of Crown Subdivision Plan 24TR1-Queen_Charlotte PIN 2045921. Local and regional topography slopes to the southwest to Kumdis Slough. The site slopes gently in this southwest direction at a grade of approximately 5.6 %.

Bedrock geology under the site is documented as Upper Oligocene to Lower Pliocene aged sedimentary rock consisting of sandstone, conglomerate, siltstone, mudstone, shale, coal covered largely by Pleistocene glacial sediments. The nearest groundwater wells are located approximately 4 km to the south and 8 km to the north. Well logs indicate private domestic well use with stratigraphy ranging from sands, silts and clays to gravels ranging 22 mbgs to 40 mbgs. The site sits on an unmapped aquifer.

A surface water tributary exists approximately 125 m south of the site with drainage to the west marine area of the Kumdis Slough.

The NCRD took over management of the operation in January 1995 and at the same time developed a waste management plan with specific initiatives for the Islands area. The 2019 lifespan estimate completed by SHA predicts a final closure in 2041 (20 years as of 2021). This facility also includes the Islands Waste Management recycling facility staffed by two NCRD employees. Refuse and recyclable materials are received at this facility from the other NCRD depots and transfer stations on the Island.

The Masset, Skidegate and Sandspit Transfer Stations, First Nations communities and residents and businesses deliver MSW to the Islands Landfill under facility use

agreements, hauling contracts or self-haul where fees are collected and recorded by volume of load. Fees are charged for each load in accordance with the NCRD Bylaws.

The facility is open Monday to Friday (8:30 am – 3:30 pm) and Saturdays (8:00 am – 3:00 pm) and closed Sundays and Statutory Holidays.

Prince Rupert Landfill

The City of Prince Rupert Landfill (PRL), located on Kaien Island, was established in 1991 under the ENV Operational Certificate (OC) MR-7988. PRL is located on Kaien Island with the entrance at 500 Ridley Island Road 2 km off Hwy 16 and 12 km south of the Prince Rupert community on a small peninsula on the northern side of Wainwright Basin. The landfilling operations occupy two parcels described as District Lot 2220, Range 5, Coast District and District Lot 8034, Range 5, Coast District. The landfill property occupies 16.1 ha of rolling land with low relief and forested terrain.

The bedrock underlying the site is documented as Jurassic to Cretaceous aged metamorphic rock with lower amphibolite/kyanite grade metamorphic rocks. Surficial geology is composed of a veneer of colluvial and mass wasting deposits and includes muskeg. Local topography slopes to the south marine water, Wainwright Basin, located approximately 100 m downgradient of the site. The site slopes from 32 m in elevation at the gate down to sea level at the coastline. This proximity to the coastline puts the site within a tsunami flood risk area (Zone A, North Coast and Haida Gwaii).

There are no residences within 500 m of the Landfill and the closest proximity industry/businesses are resource extraction. Surface water receptors on the landfill property include Upper and Lower West Creek to the west and Upper and Lower East Creek to the east of the footprint both paralleling the current footprint of the landfill site.

The nearest climate station, Prince Rupert Airport Station, is located approximately 10.56 km from the site. Based on climate normals from 1981 to 2010, the average annual precipitation is approximately 2,619 mm with approximately 2,530 mm of rainfall and 92.4 cm of snowfall. The annual daily average temperature is 7.5°C. Maximum daily average temperatures are seen in August at 13.8°C whereas minimum daily average temperatures are seen in January at 2.4°C. The maximum average snowfall of 25.6 cm occurs in January.

The PRL, is open six days per week and receives waste from the City of Prince Rupert, District of Port Edwards, and First Nations, serving a population of approximately 13,500. The most recent Design, Operating and Closure Plan developed by SHA estimated a lifespan of 54 years (2076) on the current footprint. Currently, the OC does not place a limit on waste tonnage discharged annually, however the annual gate tonnage is currently about 10,000 tonnes. Landfill operations are conducted mainly by City of Prince Rupert staff.

The landfill accepts municipal solid waste at a small onsite Residential Drop Off designed with the intent to consolidate and provide easier access for residents. Prohibited waste for PRL is clearly identified on the landfill brochure with alternative local recycling options provided. Prohibited waste includes items that are deemed recyclable and include batteries (vehicle & household), fluorescent compact bulb and tube lights, solvents, household and marine paint, pesticides, gasoline and containers, home electronics, small home appliances, white goods, tires, used outdoor power equipment, used oil, filters and containers, used antifreeze and containers, propane cylinders, creosote treated wood and railway ties.

Leachate is conveyed to primary and secondary lagoons where treatment occurs prior to discharge into Wainwright Basin. Treatment occurs in the secondary pond which contains aerated lava rock trickle filters, biomedica mats, an anoxic chamber, and discharge piping to Wainwright Basin. A new septage disposal facility is being constructed that will be tied to the leachate treatment system on site. Extensive environmental monitoring is conducted prior to discharge to ensure Operational Certificate limits are being met. On-site groundwater monitoring wells are monitored to confirm compliance as well.

The following table lists the materials that require special treatment and handling at the two NCRD landfills.

Table 4 - Controlled Waste Types Accepted at Landfills within the NCRD

Controlled Wastes at Landfills within the NCRD	
NCRD Islands Landfill	City of Prince Rupert Landfill
<ul style="list-style-type: none"> • Condemned foods • Screenings and sludge from municipal sewage treatment plants, pump stations and septic systems • Waste asbestos • Food processing waste • Dead animals • Bulky waste • Large tires • Contaminated soils* 	<ul style="list-style-type: none"> • Asbestos • Liquid Wastes and sludges including sewage • Dead animals and animal parts (including bones, feathers, skin, hair, nails and teeth) • Contaminated soils acceptable to the Director of Operations* • Non-contaminated water waste acceptable to the Director of Operations • Soot • Mobile Homes • Automobile bodies, automobile parts, or boat hulls • Tanks, barrels, drums, pails and other large liquid containers, that are empty • Gypsum • Lumber, timber, logs etc., longer than 3.6 metres • Cruise ship international garbage (low and high risk)

Controlled Wastes at Landfills within the NCRD

- Grain
- Sandblast sand
- Non-processed fish waste (salmon, crab, sea urchins etc.

**The Prince Rupert Landfill and Islands Landfill Operational Certificates authorize the disposal of contaminated soil with concentrations of contaminants that are less than hazardous waste as per the Hazardous Waste Regulation.

3.4 Bylaws

The NCRD has adopted bylaws for the management of solid waste, including service establishment bylaws, reserve establishment bylaws, and rates and regulation bylaws. A summary of these bylaws is included in the following table.

Table 5 - Solid Waste Related Bylaws within the NCRD and Incorporated Areas

Administration	Bylaw No.	Amending Bylaws	Bylaw Name	Service Area	Adoption Year
NCRD	263		Regional Solid Waste Management Plan	NCRD	1996
NCRD	270	270.1	Collection Service Establishment Bylaw	Mainland	1994
NCRD	271	271.1	Collection Service Establishment Bylaw	Islands	1994
NCRD	276	296, 308, 317, 333, 345, 351, 402, 415, 435, 466, 468, 513, 514, 520, 525, 536, 573, 584, 669	Islands Solid Waste Regulations, Fees, and Charges	Islands	1995
NCRD	568		Skeena-Queen Charlotte Regional District Recycling Reserve Fund Establishment Bylaw	NCRD	2013

Administration	Bylaw No.	Amending Bylaws	Bylaw Name	Service Area	Adoption Year
NCRD	569		Skeena-Queen Charlotte Regional District Islands Solid Waste Reserve Fund Establishment Bylaw	Islands	2013
NCRD	570		Skeena-Queen Charlotte Regional District Landfill Closure Reserve Fund Establishment Bylaw	NCRD	2013
NCRD	587		Skeena-Queen Charlotte Regional District Regional Recycling Fees and Charges Bylaw	NCRD	2014
NCRD	588		Regional Recycling Advisory Committee Bylaw	Mainland	2014
NCRD	643		North Coast Regional District Island Solid Waste Capital and Planning Reserve Fund Establishment Bylaw	Islands	2019
NCRD	644		North Coast Regional District Regional Recycling Capital and Planning Reserve Fund Establishment Bylaw	NCRD	2019
NCRD	660		North Coast Regional District Regional Solid Waste Management	NCRD	2019

Administration	Bylaw No.	Amending Bylaws	Bylaw Name	Service Area	Adoption Year
			Reserve Fund Establishment Bylaw		
NCRD	672		North Coast Regional District Five-Year Financial Plan Years 2021-2025 Bylaw	NCRD	2021
District of Port Edward	666		Refuse Rates & Regulations Bylaw	District of Port Edward	2015
City of Prince Rupert	3480		Solid Waste Management Bylaw	City of Prince Rupert	2021

4 RESIDUALS MANAGEMENT STRATEGY OPTIONS AND INITIATIVES

This section outlines the strategy options and initiatives for residuals management in the NCRD. With respect to waste disposal, the Province requires the following objectives and principles be met and considered:

- Manage residuals appropriately and in an environmentally responsible manner, including using best practices, available technology and infrastructure investment to recover any remaining materials and energy from the waste stream and protect the environment.
- Strengthen partnerships with interested parties to achieve regional targets such as with waste sector service providers, associations, neighboring jurisdictions and waste generators.

At this time the NCRD has sufficient disposal capacity to manage the residuals generated in both sub-regions. As discussed in TM1, waste diversion strategies, once implemented, will add to the lifespan of the existing disposal capacity.

According to NCRD staff, **waste to energy technology** has been reviewed for the region on two occasions. It is understood that these studies found that the quantity of waste available in the Islands sub-region and in the Mainland sub-region was not sufficient to make small scale waste to energy technology efficient. As technology changes and small scale incineration or other types of waste to energy technology becomes viable, this option should be again reviewed.

4.1 Disposal Initiatives in Other Jurisdictions

When looking at options and opportunities for waste disposal in the NCRD it is useful to examine what other coastal northern BC communities have included in their SWMPs. Kitimat-Stikine and Central Coast Regional Districts are two areas that have similar solid waste management planning challenges.

RDKS 2021 Solid Waste Management Plan

The Regional District of Kitimat Stikine has listed the following residuals management strategies for implementation in their recent SWMP update:

1. To improve residuals management at existing facilities:
 - a. Set limits on solid waste volumes accepted from outside service areas
 - b. Reduce greenhouse gas emissions
 - c. Effectively use landfill airspace

- d. Improve public accessibility to existing facilities
 - e. Deliver operational service in-house
 - f. Close selected small landfills and replace with transfer stations or other suitable waste management services (not applicable to NCRD)
 - g. Engage and communicate with citizens on waste management
 - h. Set limits and reporting requirements for liquid waste
 - i. Assist in the prevention of illegal dumping.
2. Strategies to expand the current service areas and for establishing new solid waste facilities in the new areas:
- a. Develop an agreement between the RDKS and the District of Kitimat, including provisions for use of the landfill at Forceman Ridge WMF
 - b. Include Dease Lake in the RDKS Service Area
 - c. Increase RDKS service area to include Telegraph Creek waste management.

CCRD 2017 Solid Waste Management Plan

The Central Coast Regional District lists in their 2017 SWMP the following residuals management goals:

1. Strive to meet the requirements of the new Landfill Criteria for Municipal Solid Waste where applicable, practical and financially viable (includes development of a Design, Operations and Closure Plan for the Thorson Creek Waste and Recycling Centre (formerly the Bella Coola Landfill).

Other waste diversion initiatives implemented in other regional districts that could be considered include the following:

1. Centralize facilities to reduce costs of operating several facilities within reasonable driving distances.
2. Consider reduced operating hours that can reasonably still service self-haulers on a weekly basis.

4.2 NCRD Residuals Management Strategies

The opportunities listed in this section are derived from the items discussed at the earlier PTAC meetings, items discussed with NCRD staff and those items carried forward from the original SWMP as listed in Appendix A

4.2.1 Administrative

The following strategies were listed in TM1 as they apply to both the waste diversion and residuals management systems in the region.

A-1: Improve the operational efficiency of the NCRD waste management system.

This general initiative will be outlined more thoroughly as part of Technical Memo 4. In short, it involves the regular examination of each solid waste management service to measure and refine processes, employees/contractors, technology and financials with the goal to continually improve these aspects to improve operational efficiency. It is recommended that a set of parameters be developed that can be assessed quarterly or annually by the service area manager in order to accomplish this task, including but not limited to, quantity of each type of material handled by source (jurisdiction) and type (Residential, ICI, CRD), costs (wages, utilities, maintenance, trucking, other), revenues and number of operating hours. Making this data available will help determine the cost per tonne of material managed, plan for changes to the services, manage assets and prepare cost/benefit analyses for Board decisions.

A-2: Continue monitoring solid waste management facilities and services. As described in A-1, this initiative can be accomplished through the collection of service specific data and will support operational efficiency improvements.

A-3: Improve service delivery to rural and underserved communities in the Island and Mainland service areas. Delivery of waste collection, processing and disposal services in the NCRD rural communities has undergone fairly recent improvements initiated by the NCRD directly and by other jurisdictions including increased access to facilities through management agreements and extended operating hours.

A-4: Develop cost recovery models. This initiative is the primary topic of Technical Memo 3 and will be covered in detail.

A-5: Establish a permanent Islands Solid Waste Advisory Committee. This initiative was implemented previously but discontinued due to changes to the governance of Islands services. It is a carry forward from the 1996 SWMP (I10.3.2). Reestablishment of the Islands Solid Waste Advisory Committee will assist with the management of the Islands Solid Waste service.

A-6: Expand the list of prohibited wastes. Expanding the list of waste prohibited at disposal facilities supports the diversion of materials for beneficial reuse or recycling and environmental protection, but must be done cautiously to ensure there are

environmentally sound, viable, sustainable and economical options available before they are banned.

A-7: Update Bylaws. Current bylaws do not restrict EPR materials from landfills and curbside programs and may be out of compliance with EPR agreements. For example, Bylaw No. 587 may be out of compliance with the MARR program as the bylaw includes charges for the disposal of major appliances. Recommend that this bylaw be amended to ensure compliance with EPR agreements.

4.2.2 Residuals Management

RM-1: Maintenance of Transfer Stations

This item is also from the original SWMP (I4.1.4) and recommends that maintenance of the transfer stations be included in the garbage collection contract. This initiative may ensure that the three Island transfer stations are regularly maintained or at least a report is provided to the NCRD on the condition of the site on a monthly basis so that any repairs and issues can be resolved on a pro-active basis. The cost of such would be minor unless there are labour and machinery costs for the work.

RM-2: Islands Collection Costs Review

From the original SWMP item I5.2.1 recommends that the estimated annual cost of the Islands garbage collection contract will be apportioned amongst the total number of collection units and applied to their quarterly bills. The costs apportioned currently reflect the Big Red Enterprises contract costs. Review of all costs for the garbage collection program could be reviewed in order to confirm all administrative and operational costs are included.

RM-3: Problem Waste Stockpiled at Facilities

According to NCRD staff, some recyclable materials can tend to accumulate to a large enough extent at some of the facilities that the stockpiles become problematic. Item I9.1.1 in the original SWMP identified this issue and it appears that it is still an ongoing problem. The initiative allows for funds to be withdrawn from a reserve to pay for the handling and shipping of these materials when they become problematic, and if stewards or contractors that normally would look after the material are not being responsive to the needs of the Island facilities in a reasonable manner. The most challenging feature of this item is the cost sharing with those recyclers that may not think it is worth their while or they consider the costs prohibitive. The cost to crush and truck auto bodies from Haida Gwaii to Prince George may be more than the metal recycler's revenue. This can change periodically so it is recommended that the NCRD regularly inquire as to the changes in costs and prices in order to respond quickly to an opportunity to reduce stockpile sizes.

RM-4: Illegal Dumping Management

As in the original SWMP (I10.2.2), and still pertinent to today, the NCRD 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
3. The adoption of an illegal dumping bylaw with a schedule of fines for various infractions.

Many, if not all, jurisdictions that manage solid waste have had to deal with illegal dumping. The attitude of illegal dumpers is something that no one can manage and that is the usual reason for people to dump waste in the environment; they don't care enough about the environment or doing the right thing.

An undertaking in many jurisdictions includes networking with the agencies and groups that could at least report the dumping to the NCRD if not help clean it up. The Regional District of North Okanagan organized a 'Meeting of the Minds' inviting organizations such as the Ministries of Environment, Forests, Lands and Highways, ATV and hiking clubs, and the RCMP. Member municipalities were included as they are responsible for their internal roadsides whereas in Electoral Areas the Province is responsible for roadside litter. Cooperative efforts were agreed on such as the following:

- a) Report all illegal dumping to the Solid Waste Manager
- b) Use social media to request witnesses where possible
- c) GPS each dump site to monitor trends/patterns
- d) Erect signs at each common dump site stating that the areas are under surveillance and illegal dumping is strictly enforced
- e) Assist community groups/clubs with cleanup by allowing free tipping with prior written approval
- f) Attempt to find evidence of who dumped the garbage when possible so that letters could be written to the illegal dumper with the threat of fines
- g) Work with local Conservation Officers to issue fines where possible.

The budget set aside for this program in the RDNO was \$10,000/year, but only a fraction of the budget was ever used for an area of 7,500 km².

5 REFERENCES

Case Study: Gitxaala Nation (n.d.). Indigenous Zero Waste Technical Advisory Group. Retrieved from <https://izwtag.com/recycling/case-studies/how-the-lilwat-nation-implemented-their-community-recycling-solution/>

Central Coast Waste Management Plan, Carey McIver & Associates and Maura Walker & Associates, February 28, 2017 - https://www.ccrd.ca/sites/default/files/docs/land-use-planning/Solid_Waste_Management_Plan_Final.pdf

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.

Lamm, Nicholas. 2019. Waste and Recycling Management in Haida Gwaii – A Qualitative and Quantitative Analysis. Capstone Project. British Columbia Institute of Technology. Burnaby.

Marine Planning Partnership Initiative. 2015. Haida Gwaii Marine Plan

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.

Solid Waste Management Plan for the Regional District of Kitimat-Stikine, Morrison Hershfield Limited, September 17, 2021
https://p1cdn4static.civicleve.com/UserFiles/Servers/Server_12415106/File/Services/Solid%20Waste/2021.09.17_RDKS%20SWMP_Ministry%20Review.pdf

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).

6 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 ◊ use ◊ 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

7 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

Report prepared by:

DRAFT

DRAFT

Nicole Kohnert, P.Eng.
Senior Environmental Engineer

Rahim Gaidhar, GIT
Project Coordinator

Report reviewed by:

DRAFT

DRAFT

Dr. Tony Sperling, P.Eng.
President

Roger Tooms, PMP
Senior Project Advisor

APPENDICES

APPENDIX A
1996 Solid Waste Management Plan Initiatives Status

NCRD Solid Waste Management Plan
Summary of Initiatives

Innitiative Complete and Carried Forward
Innitiative in Progress and Carried Forward
Innitiative not Complete and Carried Forward
Innitiative 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 mainaldn 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. http://www.princerupert.ca/city_hall/bylaws_policies/illegal_dumping 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 Initiatives

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: https://www.ncrdbc.com/services/waste/landfill-transfer-stations
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. https://www.ncrdbc.com/about-us/news-notice/village-masset-recycling-depot-opening-august-13-2021
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.

APPENDIX B
Islands Transfer Stations Agreements



March 4, 2020

Reference Number: 385303

Authorization Number: 16840

REGISTERED MAIL

NORTH COAST REGIONAL DISTRICT
14-342 3rd AVE W
Prince Rupert, BC V8J 1L5

Dear Operational Certificate Holder:

Enclosed is Amended Operational Certificate 16840 issued under the provisions of the *Environmental Management Act*. Your attention is respectfully directed to the terms and conditions outlined in the operational certificate. An annual fee will be determined according to the Permit Fees Regulation.

This operational certificate does not authorize entry upon, crossing over, or use for any purpose of private or Crown lands or works, unless and except as authorized by the owner of such lands or works. The responsibility for obtaining such authority rests with the operational certificate holder. It is also the responsibility of the operational certificate holder to ensure that all activities conducted under this authorization are carried out with regard to the rights of third parties, and comply with other applicable legislation that may be in force.

This decision may be appealed to the Environmental Appeal Board in accordance with Part 8 of the *Environmental Management Act*. An appeal must be delivered within 30 days from the date that notice of this decision is given. For further information, please contact the Environmental Appeal Board at (250) 387-3464.

Administration of this operational certificate will be carried out by staff from the Authorizations - South Region. Plans, data and reports pertinent to the operational certificate are to be submitted to the Regional Manager, Environmental Protection, at Ministry of Environment and Climate Change Strategy, Regional Operations, Authorizations - South Region, 1259 Dalhousie Dr., Kamloops BC V2C 5Z5.

Yours truly,

Luc Lachance, P.Eng
for Director, *Environmental Management Act*
Authorizations - South Region

Ministry of Environment and
Climate Change Strategy

Environmental Protection
Division

Authorizations - South Region
Authorization.South@gov.bc.ca

RECEIVED MAR - 9 2020

**MINISTRY OF ENVIRONMENT
AND CLIMATE CHANGE
STRATEGY**

OPERATIONAL CERTIFICATE

16840

Under the Provisions of the Environmental Management Act

NORTH COAST REGIONAL DISTRICT

14-342 3rd Avenue West/ Prince Rupert B.C. V8J-1L5

is authorized to discharge septage to the ground, and emissions to the air from open burning dry, clean wood at the Skidegate Transfer Station facility located near Skidegate, British Columbia, subject to the terms and conditions listed below. Contravention of any of these conditions is a violation of the *Environmental Management Act* and may lead to prosecution.


1. AUTHORIZED DISCHARGES

1.1 Open Burning

This section applies to the discharge of ash and air contaminants from the open burning of Dry Clean Wood.

- 1.1.1 The maximum authorized rate of Dry Clean Wood is 9m³/day, up to a maximum of 80m³/year.
- 1.1.2 The characteristics of the emissions shall be typical of those originating from the controlled open burning of clean wood wastes.
- 1.1.3 The location of the property where burning is authorized to occur is a burn pit dug out of a gravel pit approximately 50 metres from the septage lagoon area, on the site bounded by a line commencing at a point 1740 metres east and 211 metres north of the S.W. corner of Lot 467, P.L. 109, Queen Charlotte District; thence 201 metres east, thence 201 metres north, thence 201 metres west, thence 201 metres south to

Date issued: April 28, 2009
Date amended: March 4, 2020
(most recent)


Luc Lachance, P.Eng
for Director, *Environmental Management Act*
Authorizations - South Region

the point of commencement. Any open burning of Dry Clean Wood wastes shall be restricted to the designated open burning area as shown on Site Plan A.

1.2 Septage Management

This section applies to the discharge of septage into two treatment lagoons. The site reference number for this discharge is E220079.

- 1.2.1 The maximum rate of discharge is 150m³/ year.
- 1.2.2 The characteristic of the septage shall be typical of septic tank and holding tank sludges.
- 1.2.3 The authorized works are the exfiltration lagoons and related appurtenances approximately located as shown on Site Plan A.

1.3 Facility Entrance

This section applies to the Facility Entrance.

- 1.3.1 The authorized works are sign(s), gate, fence, weigh scale, attendant hut, waste and recyclable material drop-off and storage facilities, and related appurtenances approximately located as shown on Site Plan A.

2. GENERAL REQUIREMENTS


2.1 Glossary

Capitalized terms referred to in this authorization are defined in the Glossary below. Other terms used in this authorization have the same meaning as those defined in the *Environmental Management Act*, applicable regulations, and the Landfill Criteria.

“Dry Clean Wood”

means clean demolition debris consisting of lumber that has not been treated with wood preservatives or other chemicals and is not coated with paint, varnish, oil or other finishing material. Dry and clean wood may include hydrocarbon accelerants but excludes all other types of materials. For clarity, the materials listed in paragraphs (a) to (x) of the definition of "burning or incineration of prohibited material" in section 2 of Schedule 1 of the Waste

Date issued: April 28, 2009
Date amended: March 4, 2020
(most recent)



Luc Lachance, P.Eng
for Director, *Environmental Management Act*
Authorizations - South Region

Discharge Regulation are not included, nor can be used as accelerant material, in the open burning;

“Freeboard”

means the difference in elevation between the contained liquid level and the top of the containment works at its lowest point;

“Landfill Criteria”

means the Landfill Criteria for Municipal Solid Waste Second Edition June 2016, as amended or replaced from time to time;

“Septage”

means the liquid, solid, and semisolid material that results from wastewater pre-treatment in a septic tank;

“Septage Treatment Lagoon”

Means the pond area where raw septage is discharged to, and where the liquid component infiltrates to ground.

2.2 Emergency Procedures

In the event of an emergency, or condition beyond the control of the operational certificate holder which prevents continuing operation of the approved waste discharges, the operational certificate holder shall report the details of the non-compliance to the Report All Poachers and Polluters (RAPP) 1-877-952-7277.

The director may require additional controls on the waste discharges at any time based on the impacts to the receiving environment.


3. GENERAL REQUIREMENTS

3.1 Septage Treatment Lagoon Management Plan (STLMP)

3.1.1 The operational certificate holder must cause a qualified professional to certify and submit an up to date STLMP for the septage lagoons to the director, on or before July 1, 2020. The plan must be kept up to date and must include, but not be limited to, the following:

- a. The design of the lagoon treatment system including capacity, size/volume, construction details and rate of effluent treatment.

Date issued: April 28, 2009
Date amended: March 4, 2020
(most recent)


Luc Lachance, P.Eng
for Director, *Environmental Management Act*
Authorizations - South Region

- b. Operational aspects of the lagoons including: effluent treatment and management, surface water management, vegetation management, and any other lagoon management and maintenance required.
- c. Description of the receiving environment receptors and pathways that may be impacted by the septage lagoons operation. This STLMP must include a monitoring program for surface water and/or groundwater characteristics immediately upgradient and downgradient of the lagoon area, including applicable discharge quality standards for parameters of concerns.
- d. Description of contingency measures and actions planned in the event of accidental discharge or discharge quality standards exceedance.

The operational certificate holder must carry out the STLMP and design, construct, operate, inspect, maintain, monitor, and close the septage treatment lagoon, in compliance with the most recent STLMP and this operational certificate.

4. **OPERATION AND PERFORMANCE REQUIREMENTS**

4.1 **Operational Requirements for Burning**

4.1.1 **Quantity Timing and Duration of Discharge**

The maximum authorized quantity of Clean Dry Wood to be open burned during each event is that which has accumulated at the time of burn initiation. The pile shall be constructed so as to ensure a rapid and complete burn. Every reasonable alternative for reducing, reusing, or recycling wood residue has been pursued to minimize the amount of material to be combusted.


The maximum authorized duration of each burn shall be limited to the period between two hours after sunrise on the day of ignition, and sunset on the following day. Each open burn must be completely extinguished at the end of the authorized burn duration.

Ash resulting from combustion must be disposed of at an authorized facility.

4.1.2 **Favorable Weather for Smoke Dispersion**

Open burning shall not proceed unless the recorded Environment Canada Ventilation Index Forecast for the area is greater than 55 (GOOD) for the morning and afternoon of the proposed burn. In order to make this

Date issued: April 28, 2009
Date amended: March 4, 2020
(most recent)


Luc Lachance, P.Eng
for Director, *Environmental Management Act*
Authorizations - South Region

determination, the Environment Canada Ventilation Index Forecast for the area shall be obtained prior to ignition. The contact number for the forecast is 1-888-281-2992. Ventilation index forecasts can also be obtained from:

<https://www2.gov.bc.ca/gov/content/environment/air-land-water/air/air-pollution/smoke-burning/ventilation-index>

Open burning of Clean Dry Wood must not be initiated or continued if the local air flow will cause the smoke to negatively impact a nearby population or cause pollution. No burning shall occur during periods of fire hazard or when burning is prohibited by other agencies. Also, local weather conditions must be adequate to provide good smoke dispersion and burning must not be initiated or continued if the local air flow causes the smoke to reach nearby residential areas, or cause pollution to residential areas.

4.1.3 **Fire Accelerant**

A suitable amount of approved fire accelerant such as diesel fuel or commercial fire starter gel or a flame-thrower shall be used to ensure efficient and rapid ignition of the Dry Clean Wood.

4.1.4 **Minimization of Smoke**

The burn shall be tended in a manner that ensures minimization of smoke emissions. Measures to minimize smoke shall include, but not necessarily be limited to: stacking of waste in a manner that eliminates inclusion of dirt; waiting to burn until wastes are reasonably dry after any significant precipitation event; application of adequate forced air to ensure quick ignition; and using adequate equipment and staff.

4.1.5 **Smoke Minimization Plan**

Prior to burning, a contingency plan must be in place detailing how the open burn will be extinguished in the event of any of the following occurring:

- i) Inadequate smoke dispersion in the surrounding environment;
- ii) wood residue continues to smoulder after the authorized burn period; and
- iii) the director requires that the open burn be extinguished for environmental protection reasons.

Date issued: April 28, 2009
Date amended: March 4, 2020
(most recent)



Luc Lachance, P.Eng
for Director, *Environmental Management Act*
Authorizations - South Region

At a minimum, the plan must detail the actions to be taken to extinguish the open burn should any of the above conditions occur. The plan shall be made available to the director upon request.

4.1.6 Extinguishment

All combustion shall be completely extinguished at the end of the authorized period as set out in Section 4.1.1.

4.1.7 Fire Supervision and Suppression

An attendant shall be on-site to supervise the burn. The attendant shall inspect the burn pile regularly and ensure that it is burning well and not causing smoke as per Section 3.1.5. Adequate fire suppression equipment shall be available for the entire duration of the event and must be capable of extinguishing the fire if necessary.

4.1.8 Cessation of Burn

The operational certificate holder shall, at the discretion of the director, immediately extinguish any burn or refrain from igniting further burns for any time period specified by the director.

4.2 Operational Requirements for Disposal of Septage

4.2.1 Freeboard and Berms


A minimum freeboard of 50 centimeters shall be maintained at all times. The lagoon berms shall be maintained in good working order and the director shall be notified immediately of any failure or overflow.

4.2.2 Lagoon Closure

If the lagoons are to be closed, the sludge must be allowed to dewater to a moisture content that will support final cover. The lagoons must then be covered with a minimum of 1 meter of compacted soil and sloped to promote runoff, or as otherwise specified by the STLMP specified in section 3.1.

5. REPORTING REQUIREMENTS

Date issued: April 28, 2009
Date amended: March 4, 2020
(most recent)



Luc Lachance, P.Eng
for Director, *Environmental Management Act*
Authorizations - South Region

5.1 **Routine Reporting**

The operational certificate holder must submit all reporting required by this operational certificate by email to the Ministry's Routine Environmental Reporting Submission Mailbox at EnvAuthorizationsReporting@gov.bc.ca or as otherwise instructed by the director. For guidelines on how to properly name the files and email subject lines or for more information visit the Ministry website: <http://www2.gov.bc.ca/gov/content/environment/waste-management/waste-discharge-authorization/data-and-report-submissions/routine-environmental-reporting-submission-mailbox>

5.2 **Non-compliance Notification**

- (a) The operational certificate holder must immediately notify the director or designate by email at EnvironmentalCompliance@gov.bc.ca, or as otherwise instructed by the director of any non-compliance with the requirements of this authorization by the operational certificate holder and must take remedial action to remedy any effects of such non-compliance.
- (b) The operational certificate holder must provide the director with written confirmation of all such non-compliance events, including available test results within 24 hours of the original notification by email at EnvironmentalCompliance@gov.bc.ca, or as otherwise instructed by the director.

5.3. **Non-compliance Reporting**

- (a) If the operational certificate holder fails to comply with any of the requirements of this authorization, the operational certificate holder must, within 30 days of such non-compliance, submit to the director a written report that is satisfactory to the director and includes, but is not necessarily limited to, the following:
 - (i) all relevant test results obtained by the operational certificate holder related to the non-compliance;
 - (ii) an explanation of the most probable cause(s) of the non-compliance, and

Date issued: April 28, 2009
Date amended: March 4, 2020
(most recent)



Luc Lachance, P.Eng
for Director, *Environmental Management Act*
Authorizations - South Region


- (iii) a description of remedial action planned and/or taken by the operational certificate holder to prevent similar non-compliance(s) in the future.
- (b) The operational certificate holder must submit all non-compliance reporting required to be submitted under this section by email to the Ministry's Compliance Reporting Submission Mailbox at:
EnvironmentalCompliance@gov.bc.ca or as otherwise instructed by the director. For guidelines on how to report a non-compliance or for more information visit the Ministry website:

<https://www2.gov.bc.ca/gov/content/environment/waste-management/waste-discharge-authorization/data-and-report-submissions/compliance-reporting-mailbox>

5.4. **Annual Operations and Monitoring Report**

- (a) The operational certificate holder must submit an Annual Operations and Monitoring Report, for the preceding calendar year, to the director on or before March 31 of each year.
- (b) The Annual Operations and Monitoring Report must include the following information:
 - (i) Total annual volume of burned wood waste;
 - (ii) Total number of burn dates including venting forecast information;
 - (iii) Total annual volume of septage discharged to the septage ponds;
 - (iv) Summary of complaints and nuisances and description of remedial action planned and/or taken by the operational certificate holder to prevent similar complaints and nuisances in the future;
 - (v) Summary of non-compliance notifications and non-compliance reporting and description of remedial action planned and/or taken by the operational certificate holder to prevent similar non-compliance(s) in the future;

Date issued: April 28, 2009
Date amended: March 4, 2020
(most recent)



Luc Lachance, P.Eng
for Director, *Environmental Management Act*
Authorizations - South Region

- (vi) Annual status form in accordance with the instructions and template at the ministry website.

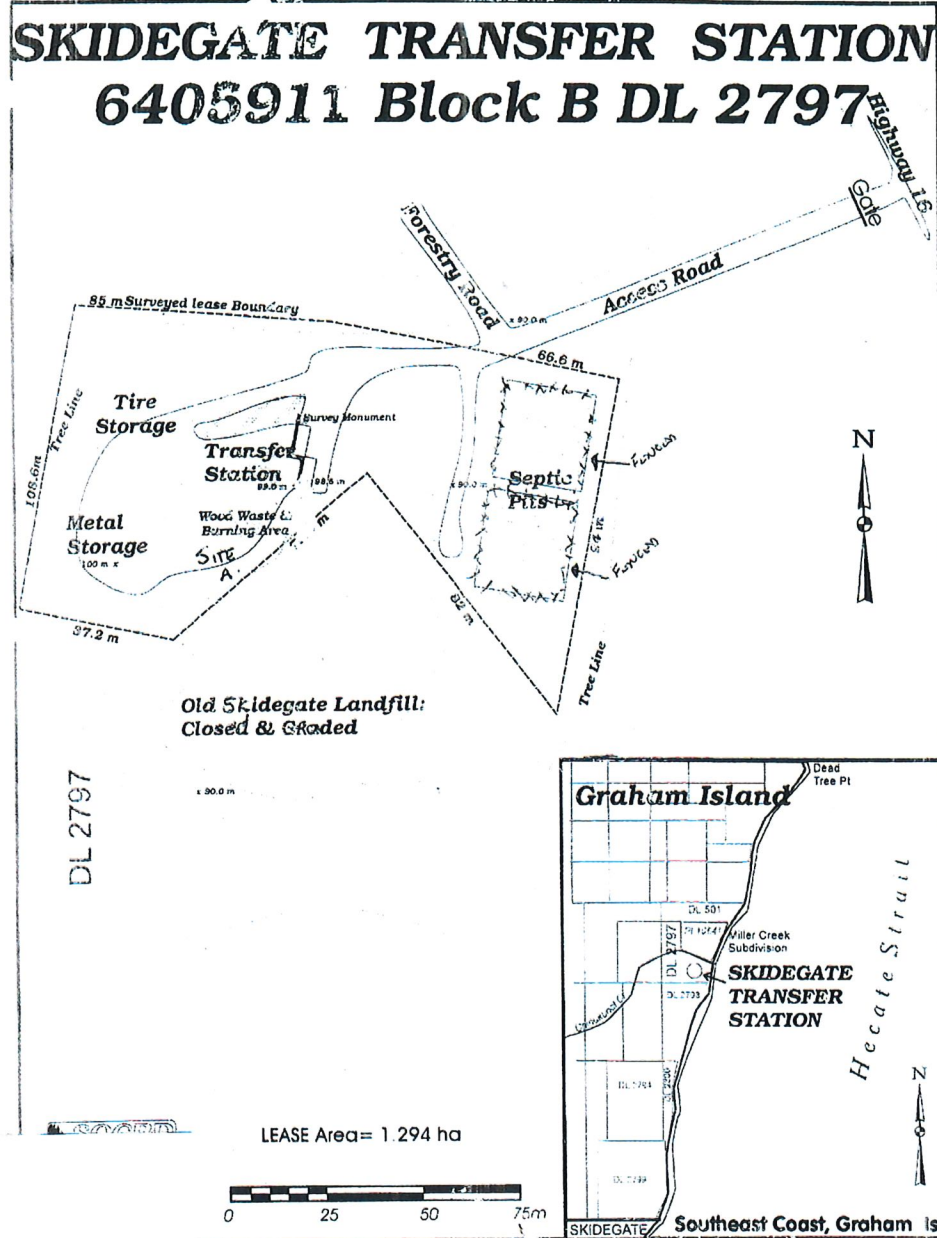
<https://www2.gov.bc.ca/gov/content/environment/waste-management/waste-discharge-authorization/data-and-report-submissions/annual-status-form>

Date issued: April 28, 2009
Date amended: March 4, 2020
(most recent)



Luc Lachance, P.Eng
for Director, *Environmental Management Act*
Authorizations - South Region

Site Plan A



Date issued: April 28, 2009
Date amended: March 4, 2020
(most recent)


Luc Lachance, P.Eng
for Director, *Environmental Management Act*
Authorizations - South Region



THIS AGREEMENT executed in triplicate and dated for reference the 15 day of May, 1987
IN PURSUANCE OF THE LAND ACT (Section 36).

LICENSE No. 719258

FILE No. 6402900

Between: HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF BRITISH COLUMBIA, represented by the Minister Responsible for Crown Lands, Parliament Buildings, Victoria, British Columbia;
(hereinafter called the "Owner") OF THE FIRST PART

and Robert Leonard Hamilton, Contractor,
having a mailing address at Post Office Box 48,
Sandspit, British Columbia V0T 1T0

(hereinafter called the "Licensee") OF THE SECOND PART

WITNESSES THAT WHEREAS the Owner has agreed to grant to the Licensee a license over that parcel of land described in the schedule attached entitled Legal Description (hereinafter referred to as the "Land");

NOW, THEREFORE, in consideration of the fee to be paid by, and the covenants of, the Licensee, the parties agree as follows:

Article I—Grant of License

- (1.01) The Owner, on the terms set forth herein, hereby grants to the Licensee a license to enter on the Land for the purposes described in the schedule attached entitled the Special Proviso Schedule (hereinafter called the "Special Proviso Schedule").

Article II—Duration

- (2.01) The duration of the license and the rights herein granted shall be for a term of 10 years commencing on the May 15, 1987 (herein called the "Commencement Date") unless cancelled in accordance with the terms hereof.

Article III—License Fee

- (3.01) The Licensee shall pay to the Owner, in advance, on the Commencement Date, the license fee as prescribed in the Fee Schedule attached.

Article IV—Licensee's Covenants

- (4.01) The Licensee covenants with the Owner
- to pay the license fee due at the address of the Owner first above written or at such other place as the Owner may specify from time to time;
 - to pay and discharge when due all applicable taxes, levies, charges and assessments now or hereafter assessed, levied or charged which relate to the Land or any improvements thereon (herein called "Realty Taxes") which the Licensee is liable to pay;
 - to observe, abide by and comply with all applicable laws, bylaws, orders, directions, ordinances and regulations of any competent governmental authority in any way affecting the Land and improvements situate thereon, or their use and occupation;
 - not to commit or suffer any willful or voluntary waste, spoil or destruction on the Land or do or suffer to be done thereon anything that may be or become a nuisance or annoyance to the owners or occupiers of adjoining land;
 - to deliver to the Owner from time to time, upon demand, proof of insurance provided for in subsection 4.01 (k), receipts or other evidence of payment of Realty Taxes, insurance premiums and other monetary obligations of the Licensee required to be observed by the Licensee pursuant to this license;
 - to indemnify and save the Owner harmless against all losses, damages, costs and liabilities, including fees of solicitors and other professional advisors arising out of
 - any breach, violation or non-performance of any covenant, condition or agreement in this license by the Licensee,
 - any personal injury, death or property damage occurring on the Land or happening by virtue of the Licensee's occupation of the Land,and the Owner may add the amount of such losses, damages, costs and liabilities to the license fee and the amount so added shall be payable to the Owner immediately;
 - to keep the Land in a safe, clean and sanitary condition satisfactory to the Owner and to make clean and sanitary any portion of the Land or any improvement that the Owner may direct by notice in writing to the Licensee;
 - to permit the Owner, or his authorized representative to enter upon the Land at any time to examine its condition;
 - to use and occupy the Land in accordance with the provisions of this license including those set forth in the Special Proviso Schedule;
 - on the expiration or at the earlier cancellation of this license
 - to quit peaceably and deliver possession of the Land to the Owner,
 - to remove all buildings, machinery, plant equipment and apparatus and all other improvements to or things on the Land, from the Land,

(iii) to restore the surface of the Land to its original condition, and to the extent necessary, this covenant shall survive the expiration or cancellation of this license;

- to effect and keep in force during the term, insurance protecting the Owner and the Licensee (without any rights of cross-claim or subrogation against the Owner) against claims for personal injury, death, property damage or third party or public liability claims arising from any accident or occurrence on the Land to an amount not less than \$ 1,000,000.00 PROVIDED, however, that the Owner may, in his sole discretion, waive the requirements of this subsection on the delivery to the Owner of evidence that the Licensee is self insured;
- notwithstanding subsection (k) of section 4.01, the Owner may from time to time notify the Licensee that the amount of insurance posted by the Licensee pursuant to that subsection be changed and the Licensee shall, within 60 days of receiving such notice, cause the amount of insurance posted, pursuant to subsection (k) of section 4.01 to be changed to the amount specified in the notice and deliver to the Owner written confirmation of the change except that when the Licensee is self-insuring this section shall not apply;
- not to interfere with the activities of any other person to enter on and use the Land under a prior or subsequent license granted by the Owner.

Article V—Assignment

- (5.01) The Licensee shall not assign this license or sublicense any part of the Land without the prior written consent of the Owner.

Article VI—Cancellation

- (6.01) In the event that
- the Owner requires the Land for his own use or in his sole discretion, considers that it is in the public interest to cancel the rights herein granted, in whole or in part;
 - the Licensee ceases to use the Land for the purposes permitted herein;
 - the Owner, in his sole discretion, considers that it is no longer necessary for the Licensee to use the Land for the purposes permitted herein;
- the Owner may on 90 days written notice to the Licensee, cancel this license and the rights herein granted, in whole or in part.
- (6.02) In the event that the Licensee fails to observe or perform any of the covenants, agreements, provisions or conditions contained herein, and such failure continues for a period of 60 days next after the giving of written notice by the Owner to the Licensee of the nature of the failure, the Owner may cancel this license in accordance with the Land Act and, notwithstanding subsection (4.01) (j), any buildings, machinery, plant equipment and apparatus and all other improvements to the Land shall become, at the discretion of the Owner, the property of the Owner.
- (6.03) In the event that
- the license hereby granted should be taken in execution or attachment by any person or the Licensee commits an act of bankruptcy, becomes insolvent or is petitioned into bankruptcy or voluntarily enters into an arrangement with his creditors;
 - the Owner discovers that the Licensee either in his application for this license or otherwise has, in the opinion of the Owner, misrepresented or withheld any fact material to the application;
- the Owner may on 90 days written notice to the Licensee, cancel this license and the rights herein granted.
- (6.04) Thirty days after the expiration or cancellation of this license, any improvements or fixtures that remain unremoved from the Land shall be absolutely forfeited to and become the property of the Owner and the Owner may remove them from the Land and the Licensee shall, on demand, compensate the Owner for all costs incurred by the Owner respecting their removal.

(6.05) The Licensee shall not be entitled to any compensation, whether for damages or otherwise, in respect of a cancellation of this license by the Owner under this Article.

Article VII—Security

- (7.01) The security in the sum of \$ 1,000.00 and all rights, privileges, benefits and interests accruing thereto delivered by the Licensee to the Owner (herein called the "Security") to guarantee the performance of the Licensee's obligations under this license shall be maintained in effect until such time as the Owner certifies in writing that such obligations have been fully performed; provided, however, that the Owner may, in his sole discretion, waive the requirements of this subsection.
- (7.02) In the event the Licensee should default in the performance of any of his obligations hereunder, it shall be lawful for the Owner, in his sole discretion, to sell, call in and convert the Security, or any part of it, and such Security shall be deemed to have been absolutely forfeited to the Owner.
- (7.03) The rights of the Owner under this Article shall be deemed to continue in full force and effect notwithstanding the expiration or earlier cancellation of this license.
- (7.04) Notwithstanding any amount of Security stated to be required under section 7.01 the Owner may, from time to time by notice to the Licensee, demand the amount to be changed to that specified in a notice and the Licensee shall, within 60 days of such notice, change the Security to that specified and provide the Owner with evidence of the change, except that when no Security is required under section 7.01 this section shall not apply.

Article VIII—Notice

- (8.01) Where service of a notice or a document is required under this license, the notice or document shall be in writing and shall be deemed to have been served if delivered to, or if sent by prepaid registered mail addressed to, the Owner and the Licensee at the addresses specified for each on the first page of this license, and where service is by registered mail the notice or document shall be conclusively deemed to have been served on the eighth day after its deposit in a Canada Post office at any place in Canada.
- (8.02) Either party may, by notice in writing to the other, specify another address for service of notices under this license and where another address is specified under this section, notices shall be mailed to that address in accordance with this Article.
- (8.03) Notwithstanding section 8.01, any written notice to be served or given by the Owner to the Licensee under this license shall be effectively given or served by posting the same in a conspicuous place on the Land.

Article IX—Miscellaneous

- (9.01) No term, condition, covenant or other provision herein shall be considered to have been waived by the Owner unless such waiver is expressed in writing by the Owner. Any such waiver of any term, condition, covenant or other provision herein shall not be construed as or constitute a waiver of any further or other breach of the same or any other term, condition, covenant, or other provision and the consent or approval of the Owner to any act by the Licensee requiring the consent or approval of the Owner shall not be considered to waive or render unnecessary such consents or approvals to any subsequent similar act by the Licensee.
- (9.02) No remedy conferred upon or reserved to the Owner is exclusive of any other remedy herein or provided by law, but such remedy shall be cumulative and shall be in addition to any other remedy herein or hereafter existing at law, in equity, or by statute.
- (9.03) This license is subject to:
- all subsisting grants to or rights of any person made or acquired under the Coal Act, Forest Act, Mineral Tenure Act, Petroleum and Natural Gas Act, Range Act, Water Act or Wildlife Act, or any extension or renewal of the same, whether or not the Licensee has actual notice of them;
 - the exceptions and reservations of rights, interests, privileges and titles referred to in section 47 of the Land Act; AND
 - any prior disposition made pursuant to the Land Act.
- (9.04) The Licensee acknowledges and agrees with the Owner that
- any interference with the rights of the Licensee under this license by virtue of the exercise or operation of the rights, privileges or interests described in section 9.03 shall not constitute a breach of the Owner's obligations hereunder and the Licensee releases and discharges the Owner from and against any claim for loss or damage arising directly or indirectly out of any such interference;
 - all costs and expenses, direct or indirect, that arise out of any interference by the Licensee with the rights, privileges and interests described in section 9.03 shall be borne solely by the Licensee;
 - he shall not commence or maintain proceedings under section 60 of the Land Act in respect of any interference with his rights hereunder arising directly or indirectly out of the exercise or operation of the rights, privileges or interests described in section 9.03; AND
 - all schedules referred to in this license form an integral part of this license.
- (9.05) This license shall not entitle the Licensee to exclusive possession of the Land, and the Owner may grant licenses to others to use the Land, for any purpose other than that permitted herein, so long as the grant does not materially affect the exercise of the Licensee's rights hereunder. The question of whether a grant materially affects the exercise of the Licensee's rights hereunder shall be determined by the Owner in his sole discretion.

(9.06) The terms and provisions of this license shall extend to, be binding upon and enure to the benefit of the parties hereto and their successors and permitted assigns.

(9.07) Time is of the essence in this agreement.

Article X—Interpretation

- (10.01) In this license, unless the context otherwise requires, the singular includes the plural and the masculine includes the feminine gender and a corporation.
- (10.02) The captions and headings contained in this license are for convenience only and are not to be construed as defining or in any way limiting the scope or intent of the provisions herein.
- (10.03) Where in this license there is a reference to an enactment of the Province of British Columbia or of Canada, that reference shall include a reference to any subsequent enactment of like effect, and unless the context otherwise requires, all statutes referred to herein are enactments of the Province of British Columbia.
- (10.04) If any section of this license or any part of a section is found to be illegal or unenforceable, that part or section, as the case may be, shall be considered separate and severable and the remaining parts or sections, as the case may be, shall not be affected thereby and shall be enforceable to the fullest extent permitted by law.

IN WITNESS WHEREOF, the parties have executed this license as of the day and year first above written.

SIGNED, SEALED AND DELIVERED
on behalf of Her Majesty the Queen in
Right of the Province of British
Columbia by a duly authorized repre-
sentative in the presence of:

Louis L. Beatty
Bag 500
Smithers

[Signature]
Authorized Representative

SIGNED, SEALED AND DELIVERED
by Robert Leonard Hamilton

in the presence of:

Robert Leonard Hamilton

[Signature]
Signature of Licensee

SIGNED, SEALED AND DELIVERED
by

in the presence of:

Signature of Licensee

The Common Seal of

was hereunto affixed in the presence
of:

AUTHORIZED SIGNATORY

AUTHORIZED SIGNATORY

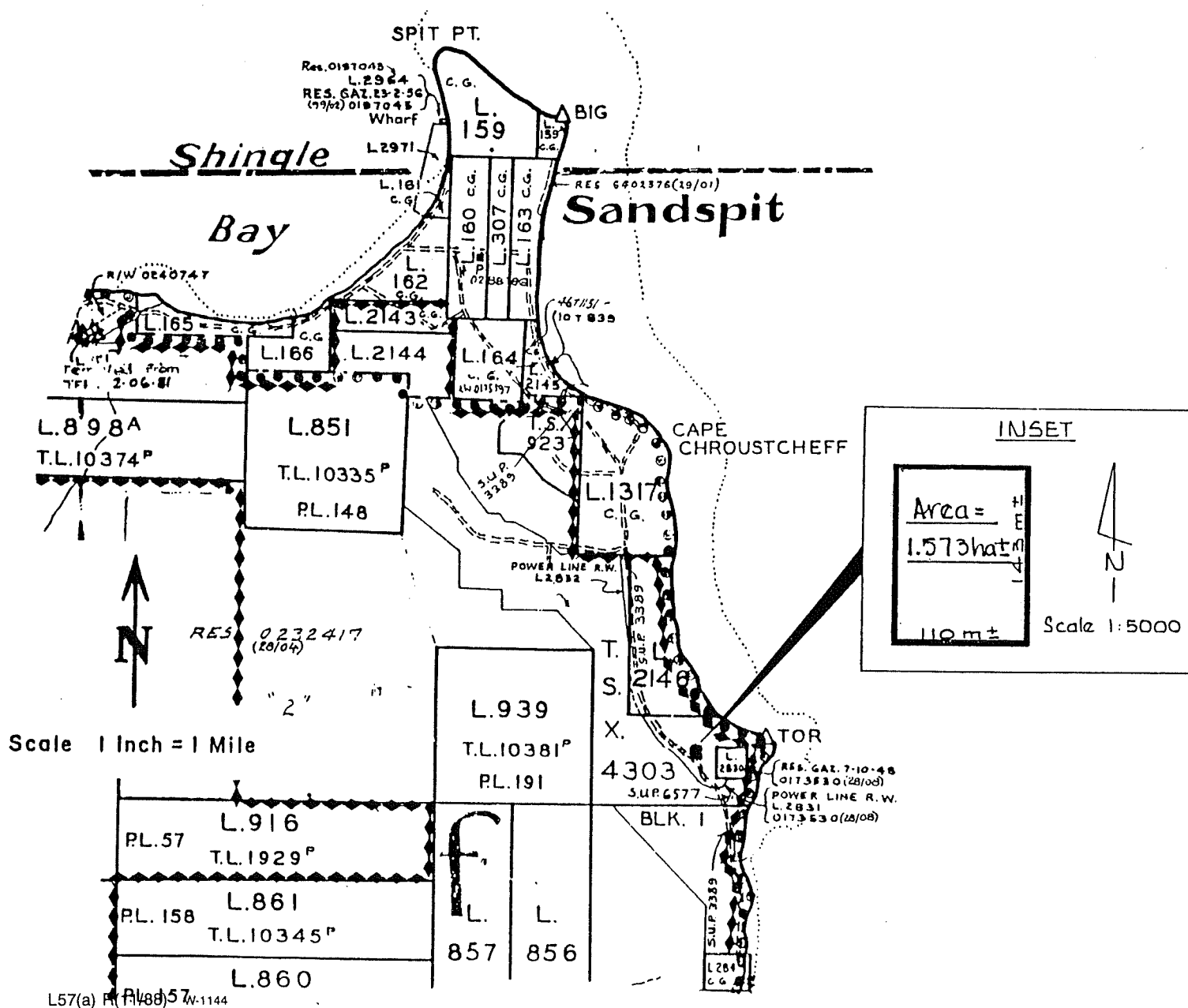
License _____ No. _____

FILE No. 6402900

1.1 Legal Description

all that parcel or tract of land situated in the vicinity of Lot 2830, Queen Charlotte District, more particularly shown outlined in red and containing 1,573 hectares more or less.

1.2 Sketch Plan





LICENSE No.

FILE No. 6402900

1.1 THE FEE FOR THE TERM SHALL BE

- (a) for the first year of the term a fee of \$ 200.00, payable in advance on the Commencement Date, AND
- (b) during the balance of the term, the greater of an annual fee determined by the Owner under this Schedule or \$200, payable in advance, beginning on the first anniversary of the Commencement Date and on each successive anniversary of that date.

1.2 In this Schedule

"Actual Land Value", in reference to the Land, means the actual value of the Land as determined by the British Columbia Assessment Authority;

"Notice", means a notice in writing to the Licensee under section 1.5;

"Rate", in reference to the calculation of the annual fee payable

- (i) during the second, third, fourth and fifth years of the term means 4.5%,
- (ii) during each successive five year period of the term thereafter, means a rate, expressed as a percentage, fixed by the Owner under this Schedule.

1.3 The annual fee payable under section 1.1 (b) shall be an amount equivalent to the product of the Rate multiplied by the Actual Land Value of the Land.

1.4 The Owner shall, from time to time, calculate the annual fee payable under section 1.1 (b) in accordance with section 1.3 and the calculation of the Owner shall be final and binding on the Licensee.

1.5 The Owner shall in each year of the term not later than 15 days before an anniversary of the Commencement Date during those years, give written notice to the Licensee specifying the annual fee payable for the immediately succeeding year of the term.

1.6 If the Owner does not give notice under section 1.5 of the annual fee payable under section 1.1 (b) for any succeeding year of the term after the first year, the annual fee for that year shall be equal to the annual fee calculated or in force during the immediately preceding year of the term.

1.7 The annual fee specified in a Notice shall constitute conclusive evidence of the annual fee payable for the year of the term specified in it.

1.8 The Owner may, for the purpose of calculating the annual fee payable during each successive five year period of the term beginning on the fifth anniversary of the Commencement Date, by notice in writing given to the Licensee not less than 15 days before the commencement of each of those five year periods, establish the Rate at a percentage that he, in his sole discretion, considers appropriate.

LICENSE NO.

FILE NO. 6402900

WASTE DISPOSAL SITE

1.1 Purpose

The Licensee shall use the Land only for the purpose of disposing of garbage of all kinds and of noxious, offensive or unwholesome substances.

1.2 Special Provision

The Licensee shall

- (a) not undertake any improvement of the Land, except as provided for in this license, without the prior written consent of the Owner;
- (b) adhere to the provisions of his Waste Management Plan issued by the Minister of Environment and Parks.

1.3 Additional Provisions

1.3.1 Notwithstanding anything to the contrary in this license, so long as:

- (i) the Licensee is not in default of any of the terms or conditions of this license and
- (ii) the Licensee has given the Owner, not more than 120 days prior to the _____5th_____ anniversary of the term herein granted, notice in writing of the Licensee's intention to terminate this license and apply for a new license of the Land,

the Owner may agree to terminate this license and offer a new license of the Land to the Licensee by notice to the Licensee, in writing, at the fee and on the terms and conditions determined by the Owner and contained in the notice;

1.3.2 The Licensee shall have a period of 60 days from the date of receipt of the notice from the Owner to accept a new license of the Land by executing the new license contained in the notice and delivering it to the Owner.

1.3.3 At the request of the Owner to have a boundary survey of the Land completed by a British Columbia Land Surveyor under instructions from the Surveyor General, which shall be completed within one year of the request and at the expense of the Licensee.



*Land and Water
British Columbia Inc.*

A corporation of the government of British Columbia



August 21, 2002
Our File: 6402900

James Allen Henry
Gail Yvonne Henry
PO Box 332
Sandspit BC V0T 1T0

Dear Mr. and Mrs. Henry:

Enclosed is an originally executed copy of Licence No. 635373 covering all that parcel or tract of land situated in the vicinity of District Lot 2830, Queen Charlotte District, containing 1.4 hectares, more or less.

This Licence is issued in the name of James Allen Henry and Gail Yvonne Henry for a term of ten (10) years commencing the 15th day of May, 1997 for a waste disposal site purposes.

This new Licence replaces Licence No. 633353, which has been noted as expired as of May 15, 1997.

For your information, I have inserted an updated Management Plan Schedule which reflects the dates of the Management Plan held on file in our office, (copy of the Management Plan is attached for your records).

Should you have any further questions, please contact me at (250) 847-7350.

Yours truly,

Barbara Edwards
Examiner
Land and Water Management
Skeena Region

Enclosure

BE/jg

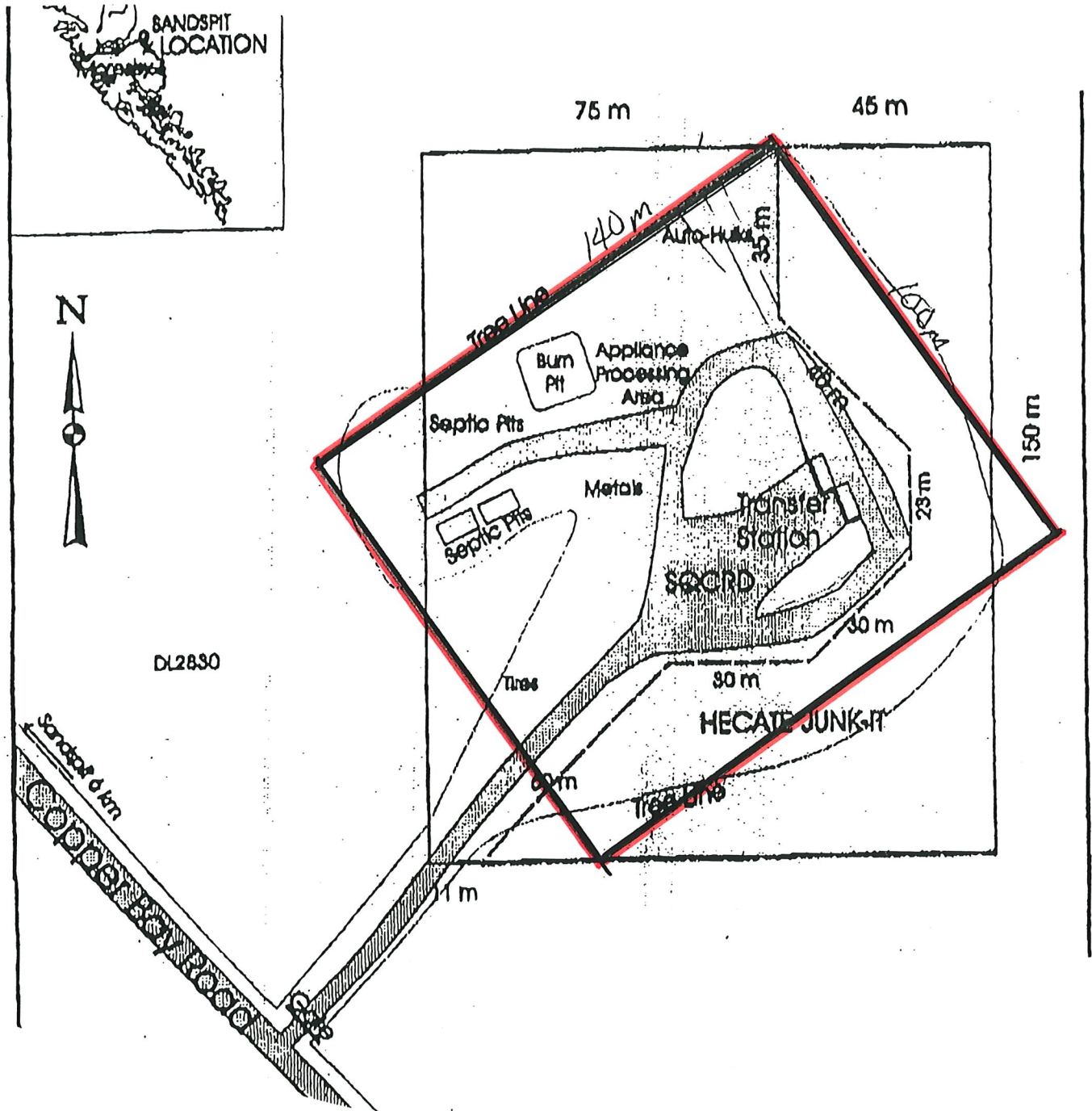
pc: Crown Land Registry Services, Victoria
BC Assessment Authority, Northwest
Regional District of Skeena-Queen Charlotte
Water Land and Air Protection, Pollution Prevention
Smithers, (Att: Frazer McKenzie)

? most recent (2002)
notation
of licensed
of occupation



LEGAL DESCRIPTION SCHEDULE

ALL THAT PARCEL OR TRACT OF LAND SITUATED IN THE VICINITY OF LOT 2830,
QUEEN CHARLOTTE DISTRICT, CONTAINING 1.4 HECTARES, MORE OR LESS

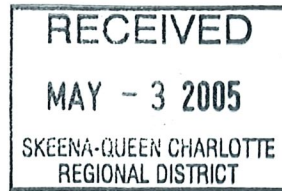




2035

Our File: 6405816

April 26th, 2005



Skeena-Queen Charlotte Regional District
100 1st Avenue E
PRINCE RUPERT BC V8J 1A6

Dear Sirs:

Re: LICENCE OF OCCUPATION — No. 705129

Enclosed is an originally executed copy of Licence of Occupation No. 705129 which replaces Licence of Occupation No. 634390 covering that part of the West 1/2 of District Lot 233 and unsurveyed Crown land, Queen Charlotte District containing .4600 hectares, more or less.

This Licence of Occupation is issued to Skeena-Queen Charlotte Regional District for a term of 30 years, commencing on the 2nd day of January, 2005, and expiring on January 2nd, 2035 for community solid waste transfer station purposes, as set out in the Management Plan.

Also, for your records, I have enclosed a copy of the approved Management Plan which reflects the one held on file in this office.

Should you have any further questions, please contact Heather Alderson at (250) 565-6402.

Yours truly,

A handwritten signature in cursive script that reads 'H. Alderson'.

Heather Alderson
Referrals Clerk

/ha
Enc.

p.c. BC Assessment Authority, Northwest
Regional District of Skeena-Queen Charlotte

Licence No.:

705129

File No.: 6405816

Disposition No.: 836365

THIS AGREEMENT is dated for reference January 2nd, 2005 and is made under the *Land Act*.

BETWEEN:

HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF BRITISH COLUMBIA, represented by the minister responsible for the *Land Act*, Parliament Buildings, Victoria, British Columbia

(the "Province")

AND:

SKEENA-QUEEN CHARLOTTE REGIONAL DISTRICT
100 1st Ave E
Prince Rupert, BC V8J 1A6

(the "Licensee")

The parties agree as follows:

ARTICLE 1 - INTERPRETATION

1.1 In this Agreement,

"Agreement" means this licence of occupation;

"Commencement Date" means January 2nd, 2005;

"disposition" has the meaning given to it in the *Land Act* and includes a licence of occupation;

"Fees" means the fees set out in Article 3;

"Improvements" includes anything made, constructed, erected, built, altered, repaired or added to, in, on or under the Land, and attached to it or intended to become a part of it, and also includes any clearing, excavating, digging, drilling, tunnelling, filling, grading or ditching of, in, on or under the Land;

“Land” means that part or those parts of the following described land shown outlined by bold line on the schedule attached to this Agreement entitled “Legal Description Schedule”:

THAT PART OF THE WEST 1/2 OF DISTRICT LOT 233 AND UNSURVEYED
CROWN LAND, QUEEN CHARLOTTE DISTRICT

except for those parts of the land that, on the Commencement Date, consist of highways (as defined in the *Highway Act*) and land covered by water;

“Management Plan” means the most recent management plan prepared by you in a form acceptable to us, signed and dated by the parties, and held on file by us;

“Realty Taxes” means all taxes, rates, levies, duties, charges and assessments levied or charged, at any time, by any government authority having jurisdiction which relate to the Land, the Improvements or both of them and which you are liable to pay under applicable laws;

“Security” means the security referred to in section 6.1 or 6.2, as replaced or supplemented in accordance with section 6.5;

“Term” means the period of time set out in section 2.2;

“we”, “us” or “our” refers to the Province alone and never refers to the combination of the Province and the Licensee: that combination is referred to as **“the parties”**; and

“you” or “your” refers to the Licensee.

- 1.2 In this Agreement, “person” includes a corporation, firm or association and wherever the singular or masculine form is used in this Agreement it will be construed as the plural or feminine or neuter form, as the case may be, and vice versa where the context or parties require.
- 1.3 The captions and headings contained in this Agreement are for convenience only and do not define or in any way limit the scope or intent of this Agreement.
- 1.4 This Agreement will be interpreted according to the laws of the Province of British Columbia.
- 1.5 Where there is a reference to an enactment of the Province of British Columbia or of Canada in this Agreement, that reference will include a reference to every amendment to it, every regulation made under it and any subsequent enactment of like effect and, unless otherwise indicated, all enactments referred to in this Agreement are enactments of the Province of British Columbia.

- 1.6 If any section of this Agreement, or any part of a section, is found to be illegal or unenforceable, that section or part of a section, as the case may be, will be considered separate and severable and the remainder of this Agreement will not be affected and this Agreement will be enforceable to the fullest extent permitted by law.
- 1.7 Each schedule to this Agreement is an integral part of this Agreement as if set out at length in the body of this Agreement.
- 1.8 This Agreement constitutes the entire agreement between the parties and no understanding or agreement, oral or otherwise, exists between the parties with respect to the subject matter of this Agreement except as expressly set out in this Agreement and this Agreement may not be modified except by subsequent agreement in writing between the parties.
- 1.9 Each party will, upon the request of the other, do or cause to be done all lawful acts necessary for the performance of the provisions of this Agreement.
- 1.10 All provisions of this Agreement in our favour and all of our rights and remedies, either at law or in equity, will survive the termination of this Agreement.
- 1.11 Time is of the essence of this Agreement.
- 1.12 Wherever this Agreement provides that an action may be taken, a consent or approval must be obtained or a determination must be made, then you or we, as the case may be, will act reasonably in taking such action, deciding whether to provide such consent or approval or making such determination; but where this Agreement states that you or we have sole discretion to take an action, provide a consent or approval or make a determination, there will be no requirement to show reasonableness or to act reasonably in taking that action, providing that consent or approval or making that determination.

ARTICLE 2 - GRANT AND TERM

- 2.1 On the terms and conditions set out in this Agreement, we grant you a licence of occupation of the Land for community solid waste transfer station purposes, as set out in the Management Plan. You acknowledge this licence of occupation does not grant you exclusive use and occupancy of the Land.
- 2.2 The term of this Agreement commences on the Commencement Date and terminates on the 30th anniversary of that date, or such earlier date provided for in this Agreement.

ARTICLE 3 - FEES

- 3.1 You will pay to us Fees of \$1.00, payable in advance on the Commencement Date and on each anniversary of the Commencement Date.
- 3.2 You acknowledge that we may, on written notice to you and in our sole discretion, change the Fees payable by you under this Agreement.

ARTICLE 4 - COVENANTS

- 4.1 You must
- (a) pay, when due,
 - (i) the Fees to us at the address set out in Article 10,
 - (ii) the Realty Taxes, and
 - (iii) all charges for electricity, gas, water and other utilities supplied to the Land for use by you or on your behalf or with your permission;
 - (b) deliver to us, immediately upon demand, receipts or other evidence of the payment of Realty Taxes and all other money required to be paid by you under this Agreement;
 - (c) observe, abide by and comply with
 - (i) all applicable laws, bylaws, orders, directions, ordinances and regulations of any government authority having jurisdiction in any way affecting your use or occupation of the Land or the Improvements, and
 - (ii) the provisions of this Agreement;
 - (d) in respect of the use of the Land by you or by anyone you permit to use the Land, keep the Land and the Improvements in a safe, clean and sanitary condition satisfactory to us, and at our written request, rectify any failure to comply with such a covenant by making the Land and the Improvements safe, clean and sanitary;
 - (e) not commit any wilful or voluntary waste, spoil or destruction on the Land or do anything on the Land that may be or become a nuisance or annoyance to an owner or occupier of land in the vicinity of the Land;
 - (f) use and occupy the Land only in accordance with and for the purposes set out in the Management Plan;
 - (g) not construct, place or affix any Improvement on or to the Land except as permitted in

the Management Plan;

- (h) pay all accounts and expenses as they become due for work performed on or materials supplied to the Land at your request, on your behalf or with your permission, except for money that you are required to hold back under the *Builders Lien Act*;
- (i) if any claim of lien over the Land is made under the *Builders Lien Act* for work performed on or materials supplied to the Land at your request, on your behalf or with your permission, immediately take all steps necessary to have the lien discharged, unless the claim of lien is being contested in good faith by you and you have taken the steps necessary to ensure that the claim of lien will not subject the Land or any interest of yours under this Agreement to sale or forfeiture;
- (j) not cut or remove timber on or from the Land without
 - (i) our prior written consent, and
 - (ii) being granted the right under the *Forest Act* to harvest Crown timber on the Land;
- (k) permit us, or our authorized representatives, to enter on the Land at any time to inspect the Land and the Improvements, provided that in regard to our inspection of the Improvements we take reasonable steps to minimize any disruption of your operations;
- (l) indemnify and save us and our servants, employees and agents harmless against all claims, actions, causes of action, losses, damages, costs and liabilities, including fees of solicitors and other professional advisors, arising out of
 - (i) your breach, violation or nonperformance of a provision of this Agreement, and
 - (ii) any personal injury, bodily injury (including death) or property damage occurring or happening on or off the Land by virtue of your entry upon, use or occupation of the Land,and the amount of all such losses, damages, costs and liabilities will be payable to us immediately upon demand; and
- (m) on the termination of this Agreement,
 - (i) peaceably quit and deliver to us possession of the Land and, subject to paragraphs (ii), (iii) and (iv), the Improvements in a safe, clean and sanitary condition,
 - (ii) within 90 days, remove from the Land any Improvement you want to remove, if

the Improvement was placed on or made to the Land by you and you are not in default of this Agreement,

- (iii) not remove any Improvement from the Land if you are in default of this Agreement, unless we direct or permit you to do so under paragraph (iv),
- (iv) remove from the Land any Improvement that we, in writing, direct or permit you to remove, other than any Improvement permitted to be placed on or made to the Land under another disposition, and
- (v) restore the surface of the Land as nearly as may reasonably be possible to the same condition as it was on the Commencement Date, to our satisfaction, but if you are not directed or permitted to remove an Improvement under paragraph (iv), this paragraph will not apply to that part of the surface of the Land on which that Improvement is located,

and all of your right, interest and estate in the Land will be absolutely forfeited to us, and to the extent necessary, this covenant will survive the termination of this Agreement.

4.2 You will not permit any person to do anything you are restricted from doing under this Article.

ARTICLE 5 - LIMITATIONS

5.1 You agree with us that

- (a) we are under no obligation to provide access or services to the Land or to maintain or improve existing access roads;
- (b) this Agreement is subject to
 - (i) all subsisting dispositions and subsisting grants to or rights of any person made or acquired under the *Coal Act*, *Forest Act*, *Mineral Tenure Act*, *Petroleum and Natural Gas Act*, *Range Act*, *Wildlife Act* or *Water Act*, or any extension or renewal of the same, whether or not you have actual notice of them, and
 - (ii) the exceptions and reservations of interests, rights, privileges and titles referred to in section 50 of the *Land Act*;
- (c) without limiting subsection 4.1(l), you must indemnify and save us and our servants, employees and agents harmless from and against all claims, actions, causes of action, losses, damages, costs and liabilities, including fees of solicitors and other professional advisors, arising out of any conflict between your rights under this Agreement and the

rights of any person under a disposition or under a subsisting grant to or right of any person made or acquired under the *Coal Act, Forest Act, Mineral Tenure Act, Petroleum and Natural Gas Act, Range Act, Wildlife Act or Water Act* (or any prior or subsequent enactment of the Province of British Columbia of like effect), or any extension or renewal of the same, whether or not you have actual notice of them, and the amount of all such losses, damages, costs and liabilities will be payable to us immediately upon demand;

- (d) you release us from all claims, actions, causes of action, suits, debts and demands that you now have or may at any time in the future have against us arising out of any conflict between your rights under this Agreement and the rights of any person under a disposition or under a subsisting grant to or right made or acquired under the enactments referred to in subsection (c), and you acknowledge that this Agreement and your rights under this Agreement are subject to those grants and rights referred to in subsection (c) whether or not you have actual notice of them.
- (e) we may make other dispositions of or over the Land;
- (f) you will make no claim for compensation, in damages or otherwise, in respect of a disposition made under subsection (e), where such disposition does not materially affect the exercise of your rights under this Agreement;
- (g) subject to subsection (f), all of your costs and expenses, direct or indirect, that arise out of any lawful interference with your rights under this Agreement as a result of the exercise or operation of the interests, rights, privileges and titles reserved to us in subsections (b) and (e) will be borne solely by you;
- (h) you will not commence or maintain proceedings under section 65 of the *Land Act* in respect of any lawful interference with your rights under this Agreement that arises as a result of the exercise or operation of the interests, rights, privileges and titles described in subsections (b) and (e);
- (i) you will not remove or permit the removal of any Improvement from the Land except as expressly permitted or required under this Agreement;
- (j) any interest you may have in the Improvements ceases to exist and becomes our property upon the termination of this Agreement, except where an Improvement may be removed under paragraph 4.1(m)(ii), (iii) or (iv) in which case any interest you may have in that Improvement ceases to exist and becomes our property if the Improvement is not removed from the Land within the time period set out in paragraph 4.1(m)(ii) or the time period provided for in the direction or permission given under paragraph 4.1(m)(iii); and
- (k) if, after the termination of this Agreement, we permit you to remain in possession of the

Land and we accept money from you in respect of such possession, a tenancy from year to year will not be created by implication of law and you will be deemed to be a monthly occupier only subject to all of the provisions of this Agreement, except as to duration, in the absence of a written agreement to the contrary.

ARTICLE 6 - SECURITY AND INSURANCE

6.1 On the Commencement Date, you will deliver to us security in the amount of \$0.00 which will

- (a) guarantee the performance of your obligations under this Agreement;
- (b) be in the form required by us; and
- (c) remain in effect until we certify, in writing, that you have fully performed your obligations under this Agreement.

6.2 Despite section 6.1, your obligations under that section are suspended for so long as you maintain in good standing other security acceptable to us to guarantee the performance of your obligations under this Agreement and all other dispositions held by you.

6.3 We may use the Security for the payment of any costs and expenses incurred by us to perform any of your obligations under this Agreement that are not performed by you or to pay any overdue Fees and, if such event occurs, you will, within 30 days of that event, deliver further Security to us in an amount equal to the amount drawn down by us.

6.4 After we certify, in writing, that you have fully performed your obligations under this Agreement, we will return to you the Security maintained under section 6.1, less all amounts drawn down by us under section 6.3.

6.5 You acknowledge that we may, from time to time, notify you to

- (a) change the form or amount of the Security; and
- (b) provide and maintain another form of Security in replacement of or in addition to the Security posted by you under this Agreement;

and you will, within 60 days of receiving such notice, deliver to us written confirmation that the change has been made or the replacement or additional form of Security has been provided by you.

6.6 You must

- (a) without limiting your obligations or liabilities under this Agreement, at your expense,

effect and keep in force during the Term Comprehensive/Commercial General Liability insurance protecting us as an additional insured in an amount of not less than \$1,000,000.00 inclusive per occurrence insuring against liability for personal injury, bodily injury (including death) or property damage, and claims for liability assumed under contract, arising from all accidents or occurrences on the Land or the Improvements;

- (b) on the Commencement Date and immediately upon demand, deliver to us a completed "Province of British Columbia Certificate of Insurance" for all insurance required to be maintained by you under this Agreement;
- (c) ensure that all insurance required to be maintained by you under this Agreement is
 - (i) placed with insurers licensed in British Columbia,
 - (ii) primary and does not require the sharing of any loss by any insurer that insures us, and
 - (iii) endorsed to provide us with 30 days' advance written notice of cancellation or material change; and
- (d) deliver or cause to be delivered to us, immediately upon demand, certified copies of all policies of insurance required to be maintained by you under this Agreement.

6.7 You acknowledge that we may, from time to time, notify you to

- (a) change the amount of insurance set out in subsection 6.6(a); and
- (b) provide and maintain another type or types of insurance in replacement of or in addition to the insurance previously required to be maintained by you under this Agreement;

and you will, within 60 days of receiving such notice, cause the amounts and types to be changed and deliver to us a completed "Province of British Columbia Certificate of Insurance" for all insurance then required to be maintained by you under this Agreement.

6.8 Despite subsections 6.6(a) to (d) and section 6.7, your obligations under those sections are suspended for so long as we in our sole discretion accept your decision to self insure in respect of the matters covered by those sections.

If we no longer accept your decision to self-insure in respect of the matters covered by subsections 6.6(a) to (d) and section 6.7, we will provide notice to you of our decision and you must, within 30 days of such notice, obtain the insurance described in section 6.6(a).

ARTICLE 7 - ASSIGNMENT

- 7.1 You must not sublicense, assign, mortgage or transfer this Agreement, or permit any person to use or occupy the Land, without our prior written consent, which consent we may withhold in our sole discretion.
- 7.2 For the purpose of section 7.1, if you are a corporation, a change in control (as that term is defined in subsection 2(3) of the *Business Corporations Act*) will be deemed to be a transfer of this Agreement.
- 7.3 Section 7.2 does not apply to a corporation if the shares of the corporation which carry votes for the election of the directors of the corporation trade on a stock exchange located in Canada.
- 7.4 Prior to considering a request for our consent under section 7.1, we may require you to meet certain conditions, including without limitation, that you submit to us a "site profile", "preliminary site investigation" or "detailed site investigation" (as those terms are defined in the *Environmental Management Act*) for the Land or other similar type of investigation of the Land.

ARTICLE 8 - TERMINATION

- 8.1 You agree with us that
- (a) if you
 - (i) default in the payment of any money payable by you under this Agreement, or
 - (ii) fail to observe, abide by and comply with the provisions of this Agreement (other than the payment of any money payable by you under this Agreement),and your default or failure continues for 60 days after we give written notice of the default or failure to you,
 - (b) if, in our opinion, you fail to make diligent use of the Land for the purposes set out in this Agreement, and your failure continues for 60 days after we give written notice of the failure to you;
 - (c) if you
 - (i) become insolvent or make an assignment for the general benefit of your creditors,
 - (ii) commit an act which entitles a person to take action under the *Bankruptcy and*

Insolvency Act (Canada) or a bankruptcy petition is filed or presented against you or you consent to the filing of the petition or a decree is entered by a court of competent jurisdiction adjudging you bankrupt under any law relating to bankruptcy or insolvency, or

- (iii) voluntarily enter into an arrangement with your creditors;
- (d) if you are a corporation,
 - (i) a receiver or receiver-manager is appointed to administer or carry on your business, or
 - (ii) an order is made, a resolution passed or a petition filed for your liquidation or winding up;
- (e) if you are a society, you convert into a company in accordance with the *Society Act* without our prior written consent;
- (f) if this Agreement is taken in execution or attachment by any person; or
- (g) if we require the Land for our own use or, in our opinion, it is in the public interest to cancel this Agreement and we have given you 90 days' written notice of such requirement or opinion;

this Agreement will, at our option and with or without entry, terminate and your right to use and occupy the Land will cease.

8.2 If the condition complained of (other than the payment of any money payable by you under this Agreement) reasonably requires more time to cure than 60 days, you will be deemed to have complied with the remedying of it if you commence remedying or curing the condition within 60 days and diligently complete the same.

8.3 You agree with us that

- (a) you will make no claim for compensation, in damages or otherwise, upon the lawful termination of this Agreement under section 8.1; and
- (b) our remedies under this Article are in addition to those available to us under the *Land Act*.

ARTICLE 9 - DISPUTE RESOLUTION

9.1 If any dispute arises under this Agreement, the parties will make all reasonable efforts to resolve the dispute within 60 days of the dispute arising (or within such other time period

agreed to by the parties) and, subject to applicable laws, provide candid and timely disclosure to each other of all relevant facts, information and documents to facilitate those efforts.

- 9.2 Subject to section 9.5, if a dispute under this Agreement cannot be resolved under section 9.1, we or you may refer the dispute to arbitration conducted by a sole arbitrator appointed pursuant to the *Commercial Arbitration Act*.
- 9.3 The cost of the arbitration referred to in section 9.2 will be shared equally by the parties and the arbitration will be governed by the laws of the Province of British Columbia.
- 9.4 The arbitration will be conducted at our offices (or the offices of our authorized representative) in Prince George, British Columbia, and if we or our authorized representative have no office in Prince George, British Columbia, then our offices (or the offices of our authorized representative) that are closest to Prince George, British Columbia.
- 9.5 A dispute under this Agreement in respect of a matter within our sole discretion cannot, unless we agree, be referred to arbitration as set out in section 9.2.

ARTICLE 10 - NOTICE

- 10.1 Any notice required to be given by either party to the other will be deemed to be given if mailed by prepaid registered mail in Canada or delivered to the address of the other as follows:

to us

Land and Water British Columbia Inc.
200-1488 4th Avenue
Prince George, BC V2L 4Y2;

to you

Skeena-Queen Charlotte Regional District
100 1st Ave E
Prince Rupert, BC V8J 1A6;

or at such other address as a party may, from time to time, direct in writing, and any such notice will be deemed to have been received if delivered, on the day of delivery, and if mailed, 7 days after the time of mailing, except in the case of mail interruption in which case actual receipt is required.

- 10.2 In order to expedite the delivery of any notice required to be given by either party to the other, a concurrent facsimile copy of any notice will, where possible, be provided to the other party

but nothing in this section, and specifically the lack of delivery of a facsimile copy of any notice, will affect the deemed delivery provided in section 10.1.

- 10.3 The delivery of all money payable to us under this Agreement will be effected by hand, courier or prepaid regular mail to the address specified above, or by any other payment procedure agreed to by the parties, such deliveries to be effective on actual receipt.

ARTICLE 11 - MISCELLANEOUS

- 11.1 No provision of this Agreement will be considered to have been waived unless the waiver is in writing, and a waiver of a breach of a provision of this Agreement will not be construed as or constitute a waiver of any further or other breach of the same or any other provision of this Agreement, and a consent or approval to any act requiring consent or approval will not waive or render unnecessary the requirement to obtain consent or approval to any subsequent same or similar act.
- 11.2 No remedy conferred upon or reserved to us under this Agreement is exclusive of any other remedy in this Agreement or provided by law, but that remedy will be in addition to all other remedies in this Agreement or then existing at law, in equity or by statute.
- 11.3 The grant of a sublicense, assignment or transfer of this Agreement does not release you from your obligation to observe and perform all the provisions of this Agreement on your part to be observed and performed unless we specifically release you from such obligation in our consent to the sublicense, assignment or transfer of this Agreement.
- 11.4 This Agreement extends to, is binding upon and enures to the benefit of the parties, their heirs, executors, administrators, successors and permitted assigns.
- 11.5 If, due to a strike, lockout, labour dispute, act of God, inability to obtain labour or materials, law, ordinance, rule, regulation or order of a competent governmental authority, enemy or hostile action, civil commotion, fire or other casualty or any condition or cause beyond your reasonable control, other than normal weather conditions, you are delayed in performing any of your obligations under this Agreement, the time for the performance of that obligation will be extended by a period of time equal to the period of time of the delay so long as
- (a) you give notice to us within 30 days of the commencement of the delay setting forth the nature of the delay and an estimated time frame for the performance of your obligation; and
 - (b) you diligently attempt to remove the delay.
- 11.6 You agree with us that

- (a) we are under no obligation, express or implied, to provide financial assistance or to contribute toward the cost of servicing, creating or developing the Land or the Improvements and you are solely responsible for all costs and expenses associated with your use of the Land and the Improvements for the purposes set out in this Agreement; and
- (b) nothing in this Agreement constitutes you as our agent, joint venturer or partner or gives you any authority or power to bind us in any way.

11.7 This Agreement does not override or affect any powers, privileges or immunities to which you are entitled under any enactment of the Province of British Columbia.

The parties have executed this Agreement as of the date of reference of this Agreement.

SIGNED on behalf of **HER MAJESTY
THE QUEEN IN RIGHT OF THE
PROVINCE OF BRITISH COLUMBIA** by
Land and Water British Columbia Inc.,
authorized representative of the
minister responsible for the *Land Act*



Authorized Signatory of
Land and Water British Columbia Inc.

SIGNED on behalf of **SKEENA-QUEEN CHARLOTTE REGIONAL DISTRICT**
by its authorized signatories



Authorized Signatory

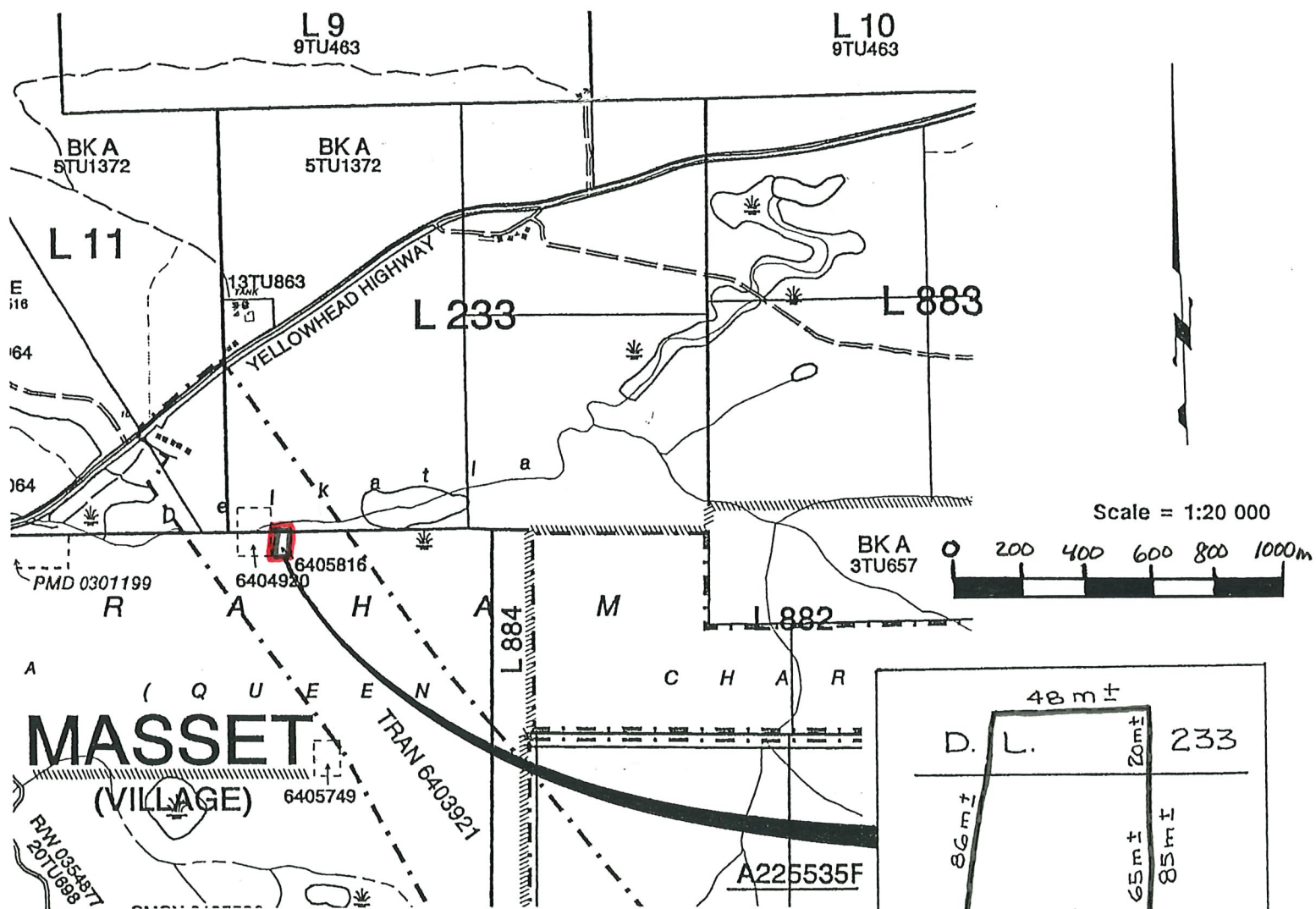


Authorized Signatory

LEGAL DESCRIPTION SCHEDULE

THAT PART OF THE WEST 1/2 OF DISTRICT LOT 233 AND UNSURVEYED CROWN LAND,
QUEEN CHARLOTTE DISTRICT

705129



016158290.002037821

103 K. 010

6405814

Page 16 of 16