

DISTRICT OF SECHELT SEPTAGE FACILITY LONG-TERM PLAN



Technical Memorandum No. 1:

Summary of Available Information and Data Gaps

May 2023

Submitted by: Sperling Hansen Associates

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Glossary of Terms

BC	British Columbia
DoS	District of Sechelt
EA	Electoral Area
ENV	Ministry of Environment and Climate Change Strategy
EMA	Environmental Management Act (formerly Waste Management Act)
WRC	Water Resource Center
DRF	Dusty Road Facility
SHA	Sperling Hansen Associates
LTP	Long-Term Plan
TM	Technical Memo

1 INTRODUCTION

The District of Sechelt (DoS) is in the process of developing a septage receiving facility long-term plan (LTP) that will provide improved, sustainable septage disposal services for the region. The LTP will guide the DoS septage waste management services over the next fifty years, providing direction on septage collection, disposal, processing, and service cost recovery.

The process of completing the LTP project will be conducted in eight phases. This technical memorandum (TM) #1 summarizes the review of existing information provided to Sperling Hansen Associates (SHA) by the DoS, and identifies current data gaps that will be investigated as the project progresses.



Phase 1: Existing Information Review and Data Gap Analysis • Technical Memorandum #1
Phase 2: 50-year Septage Demand Forecast
Phase 3: New Septage Receiving Facility Statement of Requirements • Technical Memorandum #2
Phase 4: New Septage Receiving Facility Location Options • Technical Memorandum #3
Phase 5: Stakeholder Engagement
Phase 6: Conceptual Plan for New Septage Receiving Facility • Technical Memorandum #4
Phase 7: Septage Receiving Operational and Financial Plan • Technical Memorandum #5
Phase 8: Dusty Road Septage Receiving Facility Decommissioning Plan • Cost Estimates • Operations Transition Plan • Decommissioning Plan

2 BACKGROUND REVIEW

To develop a comprehensive overview and understanding of the DoS's current septage waste management system, SHA requested documents and information that would provide adequate context and detail. The list of items SHA requested was developed as more information was received and data gaps were identified. The current list is attached to this TM as Table 1; however, it should be noted that this list is not exhaustive and additional requests for information may be made throughout the project as needed. It is understood that the current information summary in Section 3 below will be refined as the project progresses and further information is gathered through research and engagement with stakeholders.

The initial information requested and provided includes:

- Engineering reports (memos, studies, record drawings)
- Maps
- Bylaws
- Property leases
- Pictures and videos of the current facility
- Discharge authorizations
- Rate schedules
- Operations and maintenance costs
- Disposal volumes, haulers, and billing records
- Financial information on capital project expenditures and operation and maintenance costs

3 CURRENT INFORMATION SUMMARY

At the outset of this project, it was a priority to gather as much information as possible from recent years to establish a clear picture of the current septage waste management system including its successes, challenges, and opportunities. This was completed using available Internet sources, conversations with the DoS staff, and documents provided by the DoS.

By synthesizing relevant information, the current septage waste system operated by the DoS has been characterized as a regional disposal facility that is owned and operated by the Sechelt municipality, but provides service for residents, businesses, and institutions in the broader Sunshine Coast Regional District (SCRD). The facility receives several categories of septage waste; septic tank and holding tank liquid, porta-pottie waste, brewery waste, grease trap waste, and treatment plant solids. This waste is collected and hauled by three local businesses based near Sechelt. The waste is hauled to the Dusty Road facility where the solids are separated so that the liquids can be directed to the wastewater collection system, and treated at the Water Resource Center (WRC). The region generates a high volume of septage relative to wastewater, and has the potential to impact the treatment process. Septage solids and the treatment plant biosolids are treated separately due to their impact on solids processing quality.



Figure 1: Dusty Road Septage Facility, facing northwest

The Dusty Road facility consists of portions of the former wastewater treatment facility, located on a Crown Land lease that will expire in 2031. Due to aging infrastructure, increased operations and capital costs, and the need for a new location, this LTP aims to establish the design criteria, determine a financially sustainable operating model, and conduct engagement activities for the siting of a new septage facility.

The septage liquid sent to the WRC from the Dusty Road facility is typically similar in quality to that of wastewater (Alpine Water and Energy, 2019), however the influent has not yet been analyzed. As part of the information gathering and assessment of current conditions, there is influent testing being undertaken to assess septage received at the Dusty Road facility, which will facilitate a comparison with typical reported septage characteristics. Once results are received, they will be reviewed and considered in the treatment options.

Septage volume tracking for the Dusty Road facility has been conducted by the DoS since 2017. SHA summarized this data to observe trends in volume records, which indicate peak disposal occurs between May and September, as illustrated by Figure 2 below. Figure 3 presents the trend in disposal for years with volume data, indicating that disposal is on a downward trend since 2017. This trend has been discussed and is in part attributable to haulers dewatering septage waste in their own tanks prior to disposal at Dusty Road, reducing the liquid volume.

These volumes will contribute to the forecast demand model to determine the scale and capacity a future facility would require to adequately service the current population as well as future users in the long term. The next step in the planning process is to engage stakeholders and obtain input on the future facility needs, and develop the forecast demand model for presentation and discussion in Technical Memo #2.

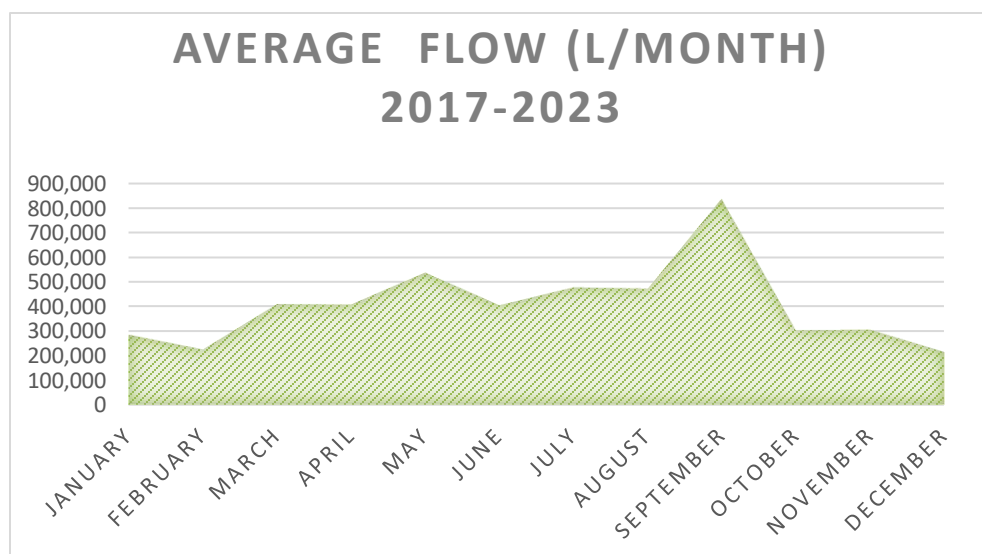


Figure 2: Average Monthly Septage Volumes

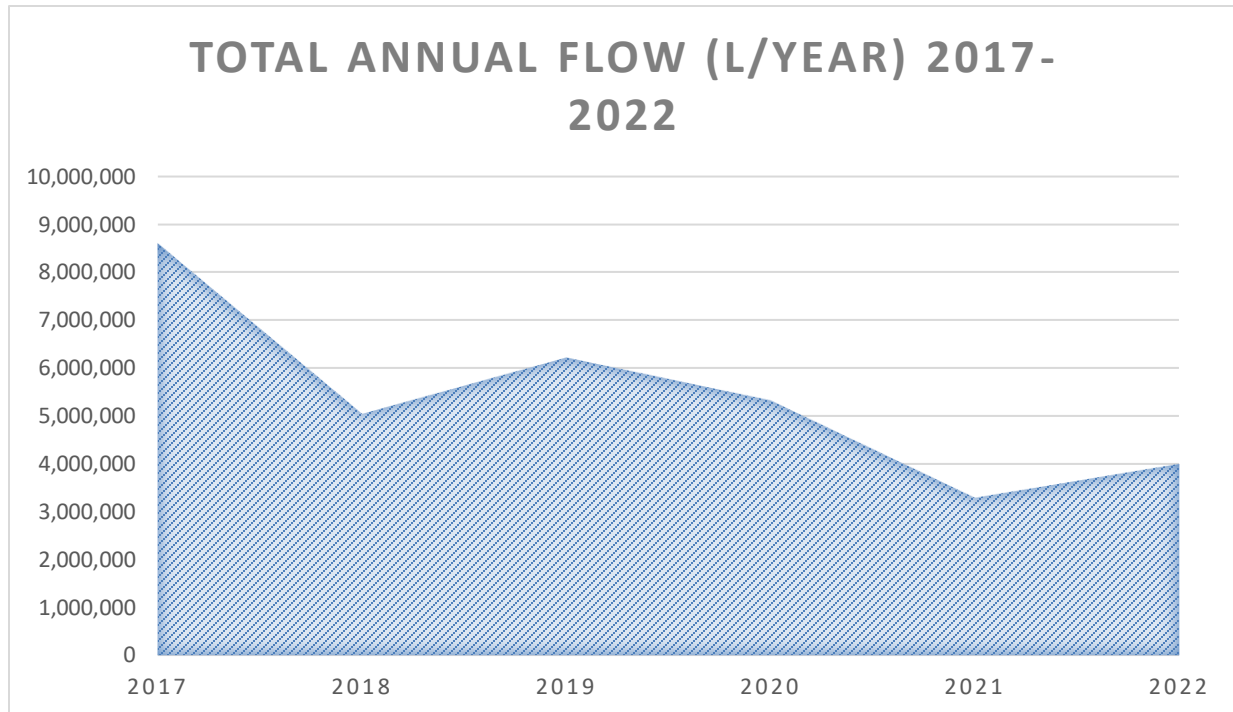


Figure 3: Total Annual Septage Volumes

4 ADDITIONAL INFORMATION REQUESTS

To enhance the current understanding of the project, additional information or analysis of information that has already been provided will be needed.

The current facility services a population of approximately 19,500 people. The DoS GIS database estimates 13,500 parcels are within the service area catchment. It should be noted that Sechelt and the Sunshine Coast region has an unquantified seasonal population that utilize services, primarily in the tourist season from April to October. Seasonal users occupy local and regional campgrounds and secondary residences, and use supermarkets, small businesses, and parks. These entities are serviced by the Dusty Road Facility by way of the two septage haulers, BonnieBrook and StarTek. To refine the forecast demand model as much as possible, SHA would like to break the parcel composition into residential, commercial, and institutional zoning designations. Additionally, the population growth rate used by the DoS planning department in other municipal infrastructure forecasts should be provided for comparison and to maintain consistency where possible.

The parcel zoning composition and results of influent and effluent testing are the last items remaining in the current information request list (Table 1). As noted earlier, this list may evolve over the course of the project and more questions will arise as discussions with stakeholders take place. SHA will continue to work with the DoS to refine the required information and advance the LTP.

5 LIMITATIONS

This report has been prepared by Sperling Hansen Associates (SHA) on behalf of the District of Sechelt 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 District of Sechelt. 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.

Sincerely,

SPERLING HANSEN ASSOCIATES

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APPENDIX A

Document and Information Request List

Document Number	Document or Data Requested	Provided	SHA Notes	DoS Notes
1	1991 Stage 1 Secret Cove to Wilson Creek Wastewater Management Plan – Dayton & Knight	Yes		
2	2000 Stage 2 Liquid Waste Management Plan – Associated Engineering	Yes		
3	2005 Wastewater Strategy Report – Urban Systems	Yes (found on DoS webpage)		
5	2010 Preliminary Report Biosolids Processing Options – Urban Systems	Yes	Final Biosolids Management Plan, Oct 2010	Biosolids Processing Options Preliminary Report
6	2011 District of Sechelt Official Community Plan	Yes	2010, from website	PDF provided: Official-Community-Plan-Bylaw-492-2010, if any GIS data is needed from this we are happy to provide as needed
7	2012 Design Memorandum Septage Handling – Tetra Tech	Yes		
8	District of Sechelt’s Zoning Bylaw 580	Yes	From website	Zipped .shp file can provide a different format if preferred
9	2019 District of Sechelt, Dusty Road Septage Receiving Facility Site Operations Review and Medium-Term Planning – Alpine Water and Energy	Yes		
10	2020 Testing Results - Biosolids Only	Yes	pdf COA	
11	Any compiled groundwater (excel), surface water sampling or monitoring data	n/a	Not provided, assumed none exist	
12	Reports for any non compliances	n/a	Not provided, assumed none exist	
13	Census Canada Data relating to regional growth (if readily available)	Yes - more information required. Please provide population growth rate used by planning department.	(Statistics Canada 2021-2016 population comparison)	
14	Dusty Road Crown Lease	Yes		Lease #237729
15	Related bylaws other than 536 and 532	Yes	Bylaw 112 - consolidated march 2019, SCRD Bylaw 428	
16	Most recent Provincial discharge authorizations for wastewater (we have one dated Jan 20, 2015, and Sept 23 2013) Auth#106667	Yes	need to confirm	See Operational certificates below, 2013 represents original authorizations whereas 2015 includes reclaimed water
17	Record of Provincial (monthly and annual) and Federal (annual?) wastewater reporting	n/a	Not provided, assumed none exist	
18	Effluent testing prior to discharge to sanitary sewer for Dusty Road – excel if available	In progress - waiting for results.		
19	Any related existing building plans (construction drawings)	Yes	Dusty Road and WRC, Others needed?	
20	Current cost recovery model for Dusty Road	Yes - costs provided. No cost recovery model in place at this time.	Financial liability outlined in 2017 DOCP, but current reserve funds and contributions are needed	
21	DoS to provide a video of Dusty Road	Yes		Pictures/videos found in- Videos and Pictures of Dusty Road Septage Facility folder
22	Dusty Road influent & effluent sampling data – Water Resource Centre monitoring parameters	No		

23	Dusty Road budget – Capital & Operating Revenues and Expenditures	Yes	Capital costs outlined in DOCP, no operating costs	
24	2019 Alpine Water & Energy report provides some Dusty Road volume estimates	Yes	Alpine report indicates some septic sludge was disposed in the sewer system directly via manhole - Need to confirm volumes in 2019	
25	Average and peak flows for the service area for Municipal water supply system	Not Required	Average flow available on website, no minimum or peak flow data	
26	Parcel inventory of all known users of the Dusty Road Facility	Yes - but further information required. Please provide composition of parcel inventory by user type/zoning designation.	Residential, commercial, industrial breakdown - Request Business Licences to determine land use and expected discharge	# of parcels include 13,500. A shapefile can be given if requested. Methodology included taking all parcels within the sunshine coast and subtracting bare land as well as parcels on municipal sewer systems.
27	DoS to sample a few random trucks under a cross section of land use – Residential, Commercial, Light Industrial - provide data	In progress - waiting for results.		
28	Influent disposal volumes for Dusty Road – Mag Meter & Hauler reported information	Yes		
29	As-builts for Dusty Road	Yes	IFC - Including upgrade drawings	WWTP_Dusty Rd_upgrade_1999/Sechelt_WPCC_And_Pump_Station_1993
30	Provincial Lease Agreement expiring in 2031	Yes		LSE - Lease - Land - Agreement with DISTRICT OF SECHELT for DUSTY ROAD WASTEWATER TREATMENT PLANT valid until 09-26-2031
31	Operations and Review Sechelt WRC - Alpine 2019	Yes		
32	Figure of Sanitary Sewer lift and pump stations - 2021	Yes		
33	Water Resource Centre deisgn report	Yes		1-2013-03-08-REP-Operating Plan Final
34	Water Resource Centre Operational Certificate Original	Yes		106667 acceptance MWR Registration 2013
35	Water Resource Centre Operational Certificate amendment with reclaimed water	Yes		Sechelt-MWR Registration Request/RE-106667 Amendment approval letter
36	Lease Investigation Summary	Yes		