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**SALT SPRING ISLAND LIQUID WASTE DISPOSAL LOCAL SERVICE COMMITTEE  
2009 ANNUAL GENERAL MEETING  
OPERATIONS REPORT  
9 NOVEMBER 2009**

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The following report is provided for information to residents and users of the Salt Spring Island Liquid Waste local service.

**GENERAL**

All Salt Spring Island septic tank waste and waste sewage sludge is accepted at the Burgoyne septage receiving station located off Burgoyne Bay Road. At the site, the waste is batched in steel tanks and processed through a Fournier press, which reduces the liquid waste to a solid waste product and a liquid filtrate. The solid product now is stored on site and then transferred by specially constructed bins to the Hartland landfill on Vancouver Island. The liquid filtrate is treated through a membrane treatment process to a very high quality and discharged to a ground disposal bed.

**VOLUME OF MATERIAL RECEIVED**

The Burgoyne facility receives septage primarily from Salt Spring Island but also from other Southern Gulf Islands. The facility also receives waste secondary sewage sludge from the Capital Regional District's (CRD) Ganges and Maliview wastewater treatment plants. The liquid is trucked to the site by private septage haulers. The haulers discharge at the receiving station, which consists of a 100mm (4") hose connection and piping. The flows pass through an electromagnetic flow meter, to measure the discharged volume, then through a bar screen, where larger solids, rocks and non-organic matter are manually raked out. The liquid then flows by gravity through a grit settlement tank, then to a lift station, where the flows are pumped to the equalization and mixing tanks. The Fournier press dewateres the material and the liquid filtrate is treated through the membrane treatment process. The dried solids are hauled to the Hartland landfill and the liquid is discharged to the ground disposal bed. See Attachment 1 - Burgoyne Bay Septage Facility Process Diagram.

There has been a continuous growth in volume of materials received for processing at the site:

- Total volume of material received in 2006 was 3,677 m<sup>3</sup> (808,915 Imperial Gallons)
- Total volume of material received in 2007 was 3,909 m<sup>3</sup> (859,959 IG), a 6% increase over 2006
- Total volume of material received in 2008 was 4,254 m<sup>3</sup> (935,857 IG), a 9% increase over 2007
- Total volume of material projected for 2009 is 4,600 m<sup>3</sup> (990,000 IG), approximately a 6% increase over 2008 or a 24% overall increase since 2006

**SOLIDS DISPOSAL**

Solids produced by the dewatering press continue to be batched and transported to Vancouver Island for final disposal at the Hartland landfill. The solids produced from the press are stored in covered bins and transported, sometimes weekly during summer peak periods, and every other week during the winter. The cost of bin rental, landfill tipping fees, together with the cost of transport to Vancouver Island, constitutes a large portion of the processing costs. In 2007, the dewatered solids handling process was modified with the objective of increasing dryness of the de-watered solids and reducing the amount and weight of material hauled to the landfill.

Waste Management of Canada Corp. provides bins and hauling services for transporting dewatered solids to the Hartland landfill near Victoria. The 2008 haul rate was \$428.85 per bin, or \$59 per tonne; the 2009 haul rate remains at the 2008 level through mutual agreement of the parties. The tipping fee at the Hartland landfill for controlled waste is currently \$100 per tonne, although an increase to \$115 per tonne is anticipated in January 2010. In 2008, 532.91 tonnes of dewatered solids were trucked and disposed at Hartland at a total cost of \$84,721. On average, the

volume of material disposed in 2008 was 12% of the volume received at the facility. In 2009 to 30 September, 340 tonnes of solids were disposed at Hartland, at a cost of \$53,532.09. The increase in dewatering performance over previous years (15%) is resultant of the improvements made in 2007 to press operation and de-watered solids handling facilities at the Burgoyne site.

**OPERATIONS**

The facility has been operated and maintained for several years by making incremental improvements that optimize and sustain existing processes, minimize safety risks, and maintain the reliability of equipment without requiring long-term (15-year) borrowing of capital. Operation also aims to minimize potential impacts on the surrounding area with respect to noise, odour, traffic and dust.

In 2007, the committee approved the expenditure of \$210,000 for electrical improvements, septage processing equipment improvements, design and construction of the pilot composting facility, and installation of a water well and distribution system. This work was funded by a five-year borrowing.

Despite these and earlier improvements, the system has suffered from diminishing performance and reliability of critical processes and equipment in 2008, including:

- Inadequate mixing in storage tanks for the increased volumes received
- Rapidly deteriorating performance of pressate filtration membranes
- Inadequate facilities for polymer preparation and storage
- Inadequate headworks facilities for separation of grit and debris
- Unsuitable facilities for protection of electrical and control systems

**MAJOR UPGRADE PROJECT**

Recognizing that the existing Burgoyne facility is struggling to provide reliable and cost-effective service, in July 2008 the committee decided to begin planning a major upgrade. On November 15, 2008, the electors of Salt Spring Island voted 75% in favour of adopting CRD Bylaw No. 3564, which enables the CRD to borrow up to \$2.1 million for upgrading the Burgoyne facility.

The proposed upgrade will replace much of the existing facility with a permanent, fully enclosed dewatering facility. If a composting pilot is successful in the next two years, the upgrade will also include a permanent, fully enclosed composting facility. The proposed work includes the following major components:

<i>Proposed Work</i>	<i>Estimated Cost</i>
Construct permanent process building, roughly 200m <sup>2</sup> with integral spill containment and odour control systems	\$300,000
Procure and install new receiving station, including aerated grit channel, auger screen, grit and screenings washing, card reader and magnetic flow meter for automated billing	\$350,000
Upgrade storage tanks to provide more effective mixing	\$200,000
Refurbish and relocate existing dewatering press, and procure and install additional press	\$250,000
Procure and install new membrane system for treatment of separated water	\$160,000
Upgrade electrical service to site	\$50,000
Construct permanent composting facility (currently on hold)	\$300,000
Engineering, project management, regulatory approvals and contingency (30% of bare construction cost)	\$490,000
<b>Total Estimated Cost</b>	<b>\$2,100,000</b>

In September 2009, staff visited the de-watering site with Dayton and Knight Engineering, successful bidder of the public tendered contract to provide engineering design and project administration for the project.

When the dewatering upgrade (all work except the permanent composting facility) is completed, the dewatering process will contain noise, odours and runoff from processing operations. A truck bay will enable haulers to discharge loads into the facility through a card-lock system similar to those used in commercial fuelling facilities. Dewatered biosolids will be conveyed to bins for composting or transportation. Although some of the existing tanks and process equipment are expected to be retained, much of the existing equipment will be hauled offsite for recycling. The completed facility will efficiently and cost-effectively dewater current and projected quantities of sludge, septage and grease trap waste in full compliance with BC regulations. The dewatering upgrade is expected to be completed in 2011.

The permanent composting facility, if concluded, would include odour and runoff containment systems. The facility would produce a compost product suitable for a wide range of uses under the BC *Organic Matter Recycling Regulation*, fulfilling the original mandate of the Salt Spring Island liquid waste local service. The operation would meet the CRD requirements under *Composting Facilities Regulation Bylaw* (Bylaw 2736).

No increase in taxes or fees is expected to be necessary to finance the facility's upgrade project. Although the CRD has borrowed \$2.1 million to complete the work, the entire cost of servicing a 15-year loan under the Municipal Finance Authority (MFA) can be accommodated at the current tax level for the Salt Spring Island liquid waste local service. A revenue increase is not needed to finance the project because loans that were used to finance previous upgrades are coming to term in the next three years, making sufficient revenue available to service the new debt. However, operating costs in 2008 and 2009 have increased sharply as the existing facility has aged. As a result, tipping fees are expected to increase significantly in 2010.

#### Pilot Biosolids Composting Project

The original 1993 mandate of the Salt Spring Island liquid waste disposal local service included the production of a compost product that would have beneficial use on the island and eliminate the hauling of biosolids off the island. If all material currently trucked to the Hartland landfill can be composted, the cost of trucking and tipping fees at the landfill, approximately \$100,000 annually, could be applied to the compost operation, while providing a much more beneficial use of the product. A full-scale pilot composting operations is planned to commence in 2010, in order to develop design and operating parameters for a permanent facility.

#### 2009/2010 BUDGET

The Salt Spring Island Liquid Waste budget funds all operations, maintenance, and capital improvements for the Burgoyne Bay processing facility.

Unplanned expenses incurred in November and December 2008 resulted in a 2008 year-end operating deficit of approximately \$74,522, representing a closing deficit balance of \$29,942.

The core operating budget is funded predominantly by tipping fees. Tipping fees were increased in September 2008 from \$0.225 per imperial gallon to the Greater Victoria market rate of \$0.240 per imperial gallon, to reflect the increasing cost of operation. A further tipping fee increase at the Burgoyne septage facility is being considered to offset rising operating costs, and will be discussed at the upcoming budget meeting in November.

The core operating budget for the service for 2009 is \$340,054. For 2010, the budget for core operations will increase to \$397,968 due to the anticipated January 2010 15% tipping fee increase for solid waste at the Hartland landfill and an increase in labour costs to operate the facility. The budget for operating labour was increased by 2% to \$165,661 to reflect the additional labour needed to keep the existing facility operating until the upgrades are completed.

Postponement of the pilot composting operation and the need to develop a closure plan for the original septage lagoons increased the overall facility operating expense in 2009 by an estimated \$16,000. These unexpected

expenses will require the use of the full 2009 contingency to balance out the budget.

The funding plan for the upgrade project relied on carrying forward a surplus from 2009 in order to maintain the current parcel tax rate of \$42.11 until at least 2013. The parcel tax remained unchanged in 2009 at \$42.11. The parcel tax revenue, currently \$224,720 is based on 5,616 taxable folios, and is used predominantly to finance capital expenditures. By 2013, the parcel tax will be almost fully committed to servicing the new MFA debt required for the major upgrade project.

A copy of the financial statement for the Salt Spring Island Liquid Waste function for 2008, as produced by CRD Finance Department is attached.



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Attachments: 2

# CAPITAL REGIONAL DISTRICT

## SEWER REVENUE FUND STATEMENT OF FINANCIAL ACTIVITIES (UNAUDITED) For the year ended December 31, 2008

	SSI (705) Septage Disposal Facilities
<b>REVENUES</b>	
Transfers from government	\$ 224,720
Sale of services	214,746
Other revenue from own sources:	
Interest earnings	620
Other revenue	96
Grants in lieu of taxes	133
	<u>440,315</u>
<b>EXPENDITURES</b>	
General government services	6,860
Other	499,872
	<u>506,732</u>
<b>NET REVENUES</b>	
<b>(EXPENDITURES)</b>	(66,417)
Transfers to own funds:	
Sewer Capital Fund	8,105
Reserve Funds	-
Equipment Replacement Fund	-
Transfers from own funds:	
Sewer Capital Fund	-
Reserve Funds	-
	<u>(74,522)</u>
<b>CHANGE IN FUND BALANCE</b>	(74,522)
Opening balance	44,580
<b>CLOSING BALANCE</b>	<u>\$ (29,942)</u>