

Solid Waste Management Plan Update



Prepared for
Squamish Lillooet Regional District

Submitted by
Gartner Lee Limited

December 2007

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- 1 Squamish Lillooet Regional District**
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Gartner Lee Limited



December 10, 2007

Paul Edgington
Squamish Lillooet Regional District
Box 219
Pemberton, BC VON 2L0

Dear Mr. Edgington:

Re: GLL 60-717 – 2007 Solid Waste Management Plan

We are pleased to submit the updated Squamish Lillooet Regional District 2007 Solid Waste Management Plan. This Plan was subject to community consultation in November 2007 and was well received. As a result, the Technical Advisory Committee unanimously supported a motion that the SLRD Board approve this Plan for submission to the Minister of the Environment.

It has been a great pleasure to work with the SLRD staff and Board during the preparation of the Plan. Thank you for the opportunity to be of assistance.

Yours very truly,
GARTNER LEE LIMITED

Maura Walker
Senior Environmental Planner

Plan Summary

In 2006, the Squamish Lillooet Regional District (SLRD) achieved a recycling rate of 33% and had reduced the per capita disposal rate by 53% as compared to their 1990 disposal rate. This updated Solid Waste Management Plan, upon full implementation, will reduce the amount of waste disposed by an additional 30%, thereby achieving a reduction in the per capita disposal rate by 67% as compared to 1990. Key elements of the Solid Waste Management Plan include:

Waste Minimization Components:

- Waste minimization promotion and education activities, including a school program
- Continuation of existing recycling services
- Enhanced recycling in Lillooet
- In-vessel composting facility in Whistler
- Disposal bans on recyclable materials, yard waste and products covered under product stewardship programs
- Technical Assistance Program for commercial waste generators
- Task Force on Waste Diversion in Tourist Accommodations
- Recycling Assistance Program for construction waste generators
- Enhance product stewardship
- Reuse facilities

Residual Waste Components:

- Upgrading and expanding the Squamish Landfill to serve as a regional landfill for the southern SLRD
- New transfer stations in Pemberton (2006) and Whistler (2007)
- Continued use of the Lillooet Landfill
- Final closure of the Pemberton Landfills
- Elimination of open burning of wood waste (landclearing waste and construction wood waste) in the southern corridor
- Fund to support clean-up of illegal dumping and litter

The components of this plan are to be implemented progressively from 2008 to 2011 by the SLRD and member municipalities.

The SLRD expenditures for solid waste management will range from \$1.1 to 1.4 million per year to undertake the waste minimization programs, operate the Lillooet Landfill and the transfer stations (with the exception of the Whistler transfer station, which is the responsibility of the Resort Municipality of Whistler) and complete the closure of the Pemberton landfills. The new programs will result in a 5% increase in annual SLRD waste management expenditures.

The implementation and effectiveness of the measures outlined in the Plan will be assessed by a Plan Monitoring Committee. This committee will report directly to the Regional Board on an annual basis.

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1. Introduction

In 1989, the provincial government amended the BC *Waste Management Act* (now called the *Environmental Management Act*), requiring every regional district to prepare and submit for approval a regional solid waste management plan. Under this and subsequent amendments, the Act required regional districts to plan for the collection, handling, storage and treatment of recyclable materials and residual municipal solid wastes, including demolition, landclearing and construction wastes. Provincial guidelines also stipulated that the plans were to be developed in accordance with the provincial government's municipal solid waste management strategy, which called for reducing the per capita generation of waste requiring disposal by 50% by the year 2000, compared to the 1990 baseline. This objective was to be achieved using the sequential hierarchy of the 5Rs – reduce, reuse, recycle, resource recovery and residual management – with priority given to the first 3Rs.

The first Squamish-Lillooet Regional District Solid Waste Management Plan (SWMP, or Plan) received ministerial approval in 1996. The plan was subsequently amended in 1999 to allow for the continued use of the Squamish and Whistler landfills until 2008 for the disposal of residual wastes generated in the southern areas of the Squamish-Lillooet Regional District (SLRD). The Plan authorizes existing and planned major waste management facilities in the region, and directs regional waste reduction programming. The plan established a 50% waste reduction goal and outlined the waste reduction potential of 3Rs initiatives to 2016. Under this framework, as of 2005, the total amount of waste going to disposal in the SLRD has been reduced by 54% compared to the 1990 baseline.¹

Regional districts are expected to review and update their SWMPs every five years. The SLRD commenced updating its 1999 plan in 2004, with the aim of improving on the framework and accomplishments of the existing plan to meet the long-term needs and goals of the region.

1.1 Planning Process

The process to update the Plan began in 2004 and included the following undertakings, in chronological order:

- *May 2004:* To kick off the process, a series of workshops were held throughout the region with all solid waste management stakeholders to identify successes and challenges with the current waste management system and to discuss a vision for the future.
- *May 2004:* A review of the current solid waste management system was undertaken to identify all solid waste programs, policies and infrastructure in the regional district. This review of the current system is documented in the June 2004 Technical Memorandum *Existing Solid Waste*

¹ BC Ministry of Environment. 2006. *MSW Tracking Report 2003 – 2005*. Prepared by Recycling Council of BC.

Management System. (Note: The description of the existing system was updated in 2007 and is included as Appendix B to this document.)

- *June 2004:* Two Technical Advisory Committees, one for the Northern SLRD (Lillooet and area) and one for the southern SLRD (the Sea-to-Sky corridor and surrounding areas) were set up to provide input into the planning process. The committees are comprised of stakeholders from as broad a range of interests as possible (including environmental groups, local businesses, local government and waste management companies). The committees are responsible for reviewing information associated with solid waste management and the planning process, and provide input to staff and the Regional Board.
- *June 2004:* A waste composition study was conducted at the Whistler Landfill to determine the types of waste disposed by this resort community. The report, *Whistler Landfill Solid Waste Composition Study – Final Report*, was finalized in September 2004.
- *August 2004:* A series of options for waste reduction entitled, *A Zero Waste Framework* was presented to the Technical Advisory Committees. The results of these meetings were used to develop the Zero Waste components of the Solid Waste Management Plan.
- *November 2004:* A memorandum, *The Status of First Nations Solid Waste Management Operations in SLRD*, was prepared by consultants for use in the planning process.
- *2005 and 2006:* The Municipalities of Pemberton, Whistler and Squamish undertook community consultation with regards to their future residual waste disposal needs, with the following results:
 - Pemberton transfer station/recycling depot was sited and constructed.
 - Whistler decided to close its landfill and build a transfer station.
 - A Solid Waste Management Plan Amendment was submitted to the Ministry in October 2005 to address Whistler's landfill closure and the siting of a new transfer station. Approval of the amendment was received in June 2006.
 - In response to unsolicited proposals from waste-to-energy technology vendors, the SLRD asked their consultant to review options for residual waste treatment for the southern corridor. A report, *Residual Waste Treatment – Technology Options* was presented in November 2006.
 - Squamish selected upgrading and expansion of their landfill to become a facility to serve the southern SLRD.
 - The SLRD, southern municipalities, Ministry of the Environment and southern First Nations met regularly to discuss residual waste management and centralized composting in the southern corridor.
- *September 2006:* The SLRD directed their consultant to conduct a feasibility study for acquisition and relocation of the CORLP Composting Facility.
- *April 2007:* Whistler purchased the composting equipment and began construction of a composting facility adjacent to their new transfer station
- *August 2007:* The new Whistler transfer station began operation
- *August 2007:* With the future direction for residual waste management and centralized composting defined, the planning process can be completed. The two technical advisory committees were collapsed into one committee and the draft plan was prepared.

The final phase of the planning process will be a community consultation process to obtain input into the draft Plan. After consultation, the Plan will be finalized and submitted to the BC Minister of the Environment for approval, accompanied by a report detailing the consultation process.

1.2 Guiding Principles

The guiding principles for this Solid Waste Management Plan update were revised with input from a wide range of stakeholders in the SLRD, including the provincial and local governments, waste management industry, the business sector and public interest groups.

The guiding principles for the Plan are:

- The capacity of the environment to renew ecological resources and assimilate waste and pollution should not be exceeded.
- The principles of pollution prevention and resource conservation shall be integrated into policies, strategies and programs, and actively promoted to producers and consumers of products and services.
- The Polluter Pays Principle shall be implemented to the greatest extent possible, such that producers and consumers are responsible for the costs of managing the pollution and waste they generate.
- Strategies for achieving the objectives of this Plan shall be in accordance with the precautionary principle.
- The regional solid waste stream will be reduced to the greatest extent feasible, in accordance with the hierarchy of reduce, reuse, recycle, and consistent with local resources and the nature of the solid waste stream.
- The SLRD will consider and utilize any new methods of municipal solid waste (MSW) diversion that are environmentally and economically superior to current approaches. The Plan Monitoring Committee, in consultation with the Ministry of Environment, shall determine any such alternative's acceptability and the need for public consultation.
- Individuals, businesses and institutions will be enabled to make environmentally sound choices about consumption of resources and generation of waste through the provision of appropriate information, including user-pay and market-based incentives wherever possible.
- All policies, strategies, and facilities will be developed through public consultation, acceptable to the Ministry of Environment (MOE), and will be socially acceptable and cost effective, based on full accounting of costs and benefits, both monetary and non-monetary.
- Policies, strategies and programs will facilitate community economic health, to the greatest extent possible.
- Solid waste management strategies and programs will focus on achieving results and continuous improvements relative to Plan objectives, allowing for flexibility and adaptability in design and implementation.

1.3 Zero Waste Approach

In December 2003, the SLRD Board passed a motion to “investigate opportunities for adopting the concept of Zero Waste within the SLRD”. “Zero Waste” has also been adopted by the 2010 Olympic Committee as a guiding principle; and several regional districts in BC have adopted Zero Waste targets.²

Zero Waste has been defined as a “whole systems” approach that broadens the scope of solid waste management planning by taking into consideration the flow of products and materials from the initial stages of product and process design, through resource extraction, manufacturing, consumption and disposal. Within this whole systems perspective, waste generators are viewed more broadly as producers and consumers of products and materials. Products and materials typically defined as “wastes” are reconceptualized as resources in so far as they may have further value in secondary materials economies. Given this broader perspective, a Zero Waste approach aims to minimize the consumption of materials in the upstream stages of production and usage, and maximize the recovery of discards in the downstream stages of materials recovery. It is important to note that this approach is based on, and assumes, that there are biophysical and practical constraints limiting the possibilities for minimizing resource consumption and waste disposal. Key Zero Waste concepts include:

- Designing products and processes to minimize pollution and enhance durability and recyclability;
- Creating jobs and economic opportunities from the management of discards;
- Producer responsibility for the life cycle costs and impacts of their products; and
- Building and enhancing the infrastructure for reuse, recycling and composting.

This Plan Update is a first step in moving towards a Zero Waste approach. This Plan does not purport to achieve zero waste, but rather, in accordance with the Guiding Principles, the plan is intended to be a means of decreasing the quantity of discarded materials and furthering the shift from regarding discards as “waste” to seeing them as potentially valuable resources. This shift is expected to encourage creativity, develop a more sustainable local economy, and preserve our natural environment.

1.4 Objectives

Objectives, as defined here, refer to specific outcomes that will be achieved as a result of the Plan. These outcomes are based on the Guiding Principles and Zero Waste approach discussed in Sections 1.2 and 1.3; as well as input from stakeholder consultations. The following objectives have been identified for the Plan:

² *Regional District of Kootenay-Boundary, Regional District of Nanaimo, Cowichan Valley Regional District, Sunshine Coast Regional District, Capital Regional District and Greater Vancouver Regional District*

- The SLRD will define, communicate and promote a waste minimization approach in regional and municipal programs and services;
- The SLRD will move toward the goal of Zero Waste going to disposal;
- To finance the system, the SLRD is committed to working towards the implementation of a full user pay system; and
- The SLRD will monitor, analyze and report on the performance of programs, developing specific performance measures and indicators as necessary to enhance monitoring and improve performance.

1.5 Scope

The updated Plan covers products and materials defined as municipal solid waste under the BC Environmental Management Act. The Plan does not cover hazardous waste as defined in the Hazardous Waste Regulation, industrial waste or agricultural waste.

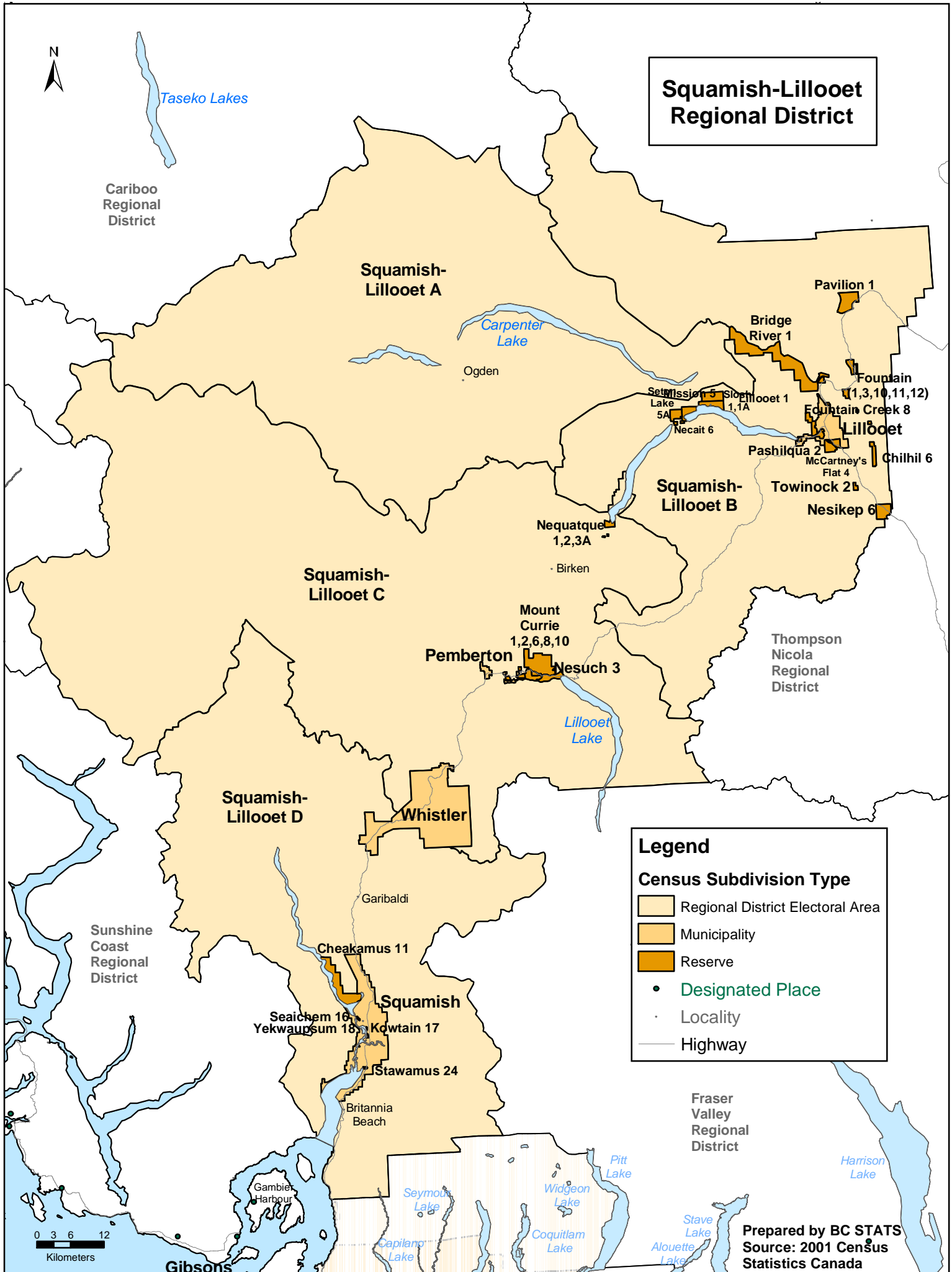
This updated Plan has an implementation time frame of five years, from 2008 to 2013. However because solid waste management infrastructure often requires long-term planning and lengthy amortization periods, the Plan is also intended to provide a long-range framework for solid waste management in the SLRD. Hence the Plan also anticipates the needs of the SLRD for at least the next twenty years.

1.6 Plan Area and Demographics

Figure 1-1 provides a map of the Plan Area. The plan area includes four incorporated municipalities and four unincorporated electoral areas, including:

- District of Squamish;
- Resort Municipality of Whistler;
- Village of Pemberton;
- District of Lillooet;
- Electoral Area A (Goldbridge, Bralorne and area);
- Electoral Area B (Yalakom, Bridge River, Seton/Shalalth, Texas Creek, Fountain Valley, Pavilion, Duffey Lake);
- Electoral Area C (Pemberton Meadows, Mt. Currie - D'Arcy corridor, Whistler-Pemberton Corridor (excluding municipalities); and
- Electoral Area D (Furry Creek, Britannia, Porteau, Upper Squamish, Upper Cheakamus, Ring Creek, Pinecrest/Black Tusk).

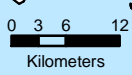
Squamish-Lillooet Regional District



Legend

Census Subdivision Type

- Regional District Electoral Area (light tan)
- Municipality (medium tan)
- Reserve (dark tan)
- Designated Place (green dot)
- Locality (black dot)
- Highway (black line)



Prepared by BC STATS
Source: 2001 Census
Statistics Canada

- First Nations within in the SLRD include the Xwisten (Bridge River), Shalath (Seton Lake), Sekw'elw'as (Cayoose Creek), T'itq'et (Lillooet), Ts'kw'aylaxw (Pavilion), Xaxl'ip (Fountain), N'Quatqua, Lytton, Mount Currie, and Squamish peoples.

1.7 Population

As of 2006, the population of the Squamish Lillooet Regional District's jurisdiction was estimated to be 32,221 persons.³ An additional 3,004 people live on First Nations Reserves within the SLRD, for an area population of 35,225. Population data by area can be found in Appendix A.

The permanent resident population of the Resort Municipality of Whistler (RMOW) was 9,248 persons in 2006. However, due to the large number of annual visitors to the resort (approximately two million visitors every year), service planning is often done on an "equivalent population" basis. The 2006 estimated total equivalent population for Whistler was 28,289 (including permanent residents, visitors and employees).⁴ Using the population equivalent estimate for Whistler, the total annual population for the region is estimated to be 54,266 persons. A breakdown of the population is provided in Table 1-1.

Table 1-1. Population by Area, 2006

Area	2006 Population	
	Population ⁵	Per Cent of Regional Total
District of Lillooet	2,324	4.9%
Village of Pemberton	2,192	4.5%
District of Squamish	14,949	28.7%
Resort Municipality of Whistler ⁶ (equivalent population)	28,289	50.1%
Electoral Areas	3,508	11.7%
First Nations Reserves	3,004	
SLRD Total	54,266	100%

³ Statistics Canada. 2006 census data.

⁴ Resort Municipality of Whistler. *Facts and Figures – the Resort Municipality of Whistler at a Glance*. Accessed 08/2007 at www.whistler.ca/content/view/49/61/

⁵ Except as otherwise shown, source of all population data is: BC Stats. 2007. *BC Regional District and Municipal Population Estimates, 1996-2006*.

⁶ Resort Municipality of Whistler. *Facts and Figures – the Resort Municipality of Whistler at a Glance*.

1.7.1.1 Population Growth

A recent study of population trends in the region projects that the permanent population of the Squamish Lillooet Region District will nearly double over the 29 year period from 2003 – 2031, rising from 35,141 in 2003 to 68,153 in 2031.⁷ The study estimates that the annual growth rate will gradually increase from less than one percent in the near term to approximately 2.8% per year by 2016 before declining to 2.2% by 2031. The growth assumptions and projections used in the study only consider the permanent population of the region and do not include Whistler's "equivalent population" as shown in Table 1-1 above.

2. Waste Stream Characterization

This section provides an estimate of the composition of the SLRD's waste and data in regards to the quantity of waste disposed and recycled.

2.1 Waste Stream Characterization

The current composition of the SLRD waste stream is estimated based upon a 2002 waste composition study conducted in the Regional District of Kootenay Boundary (RDKB).⁸ The RDKB and the SLRD share some similar characteristics including a large rural area, a ski resort town and residential collection programs based primarily on depots. As such, the data from the RDKB study provides a good basis for characterizing the overall composition of waste disposed in the SLRD. The composition, shown in Table 2-1, indicates that the largest components disposed, by weight, are compostables (40%), plastic (14%), paper products (13%), and construction/demolition waste (17%).⁹

Because of Whistler's resort-nature and significant growth in recent years, the municipal solid waste stream is considered to be atypical of most BC municipalities. Consequently, a waste composition study was conducted at the Whistler landfill in 2004 to determine the composition of Whistler's unique waste stream. The findings of the study are shown in Table 2-1. The largest components of waste disposed in Whistler include: construction/demolition waste (27%), compostables (25%), paper products (17%), plastics (11%) and metal (8%).

⁷ Urban Futures Ltd. 2004. *A Region in Transition: Demographic and Housing Contexts for the Future of the Squamish Lillooet Regional District*. Prepared for the Squamish Lillooet Regional District. September 2004.

⁸ Brown, B. 2002. *Waste Composition Study*. Prepared for the Regional District of Kootenay Boundary

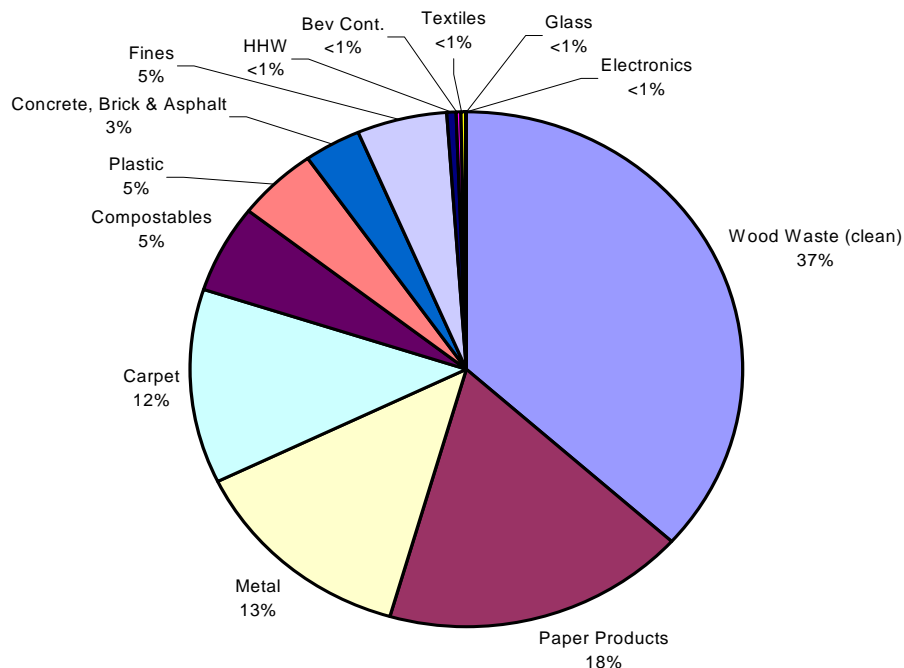
⁹ The category "compostables" includes food and yard waste

Table 2-1 Estimated Waste Composition for Whistler and SLRD

	SLRD	Whistler
Compostables	40%	25%
Construction/Demolition Waste	17%	27%
Plastic	14%	11%
Paper Products	13%	17%
Metal	3%	8%
Textiles	4%	3%
Composite Products	4%	3%
Glass	3%	1%
Household Hazardous Waste	1%	1%
Other	1%	4%
Totals	100%	100%

As shown in the Whistler landfill waste composition study, 27% of waste received was categorized as Construction and Demolition (C&D) material. A more detailed breakdown of the types of materials found in C&D loads is shown in Figure 2-1 below. The composition of C&D waste disposed at the Squamish landfill may be similar due to the similar level of construction activity.

Figure 2-1. Composition of Construction & Demolition Discards



2.2 Waste Generation, Diversion and Disposal Estimates

Regional solid waste generation is defined as the sum of the quantity of municipal solid waste diverted through recycling and composting *plus* the quantity of waste disposed in the region. For the SLRD, the total quantity of waste generated was estimated using best available information, including 2006 regional disposal data and 2004 regional waste diversion data.¹⁰ Based on this information, as shown in Table 2-2, an estimated 47,629 tonnes of waste were generated in 2006.

Table 2-2. Actual and Estimated Waste Generation in SLRD, 2003 - 2006¹¹

Year	Recycled / Composted	Disposed	Total Generated	Recycling Rate
	Tonnes	Tonnes	Tonnes	
2003	10,209	32,321	42,529	24%
2004	16,603	33,795	50,398	33%
2005	14,700**	29,848	44,550	33%
2006	15,700**	31,929	47,629	33%

Note: ** Tonnes recycled/composted were estimated based on 2004 reported data.

As shown in Table 2-2, the annual *recycling rate* was estimated to be 33% as of 2004, the most recent year for which actual recycling and composting data is available.¹² The 2004 data shows that there was a significant increase in waste diversion compared to 2003. This increase can be primarily attributed to the start up of the Carney's composting facility in 2004.

Figure 2-2 and Table 2-3 show the per capita quantity of waste disposed in the SLRD from 1999 to 2006, as compared to the baseline year of 1990. The amount of waste per capita disposed in the region was reduced by half during the 1990s, from 1.2 tonnes per person in 1990 to just over 0.6 tonnes per person in 1999. Per capita waste disposal remained relatively constant at approximately 0.6 tonnes per person per year through to 2005, while data for 2005/06 suggests a modest downward trend over the past two years.

¹⁰ Regional recycling data from 2005 or 2006 was unavailable as of August 2007. The regional waste diversion information includes recyclable and compostable materials as reported by municipal and private management waste operations, and does not include, among other things, recyclables privately collected by large commercial waste generators such as big box stores and processed out of the region (i.e., cardboard), or items reused at regional free stores and local private or non-profit second hand stores.

¹¹ Source: Recycling and disposal data for 2003 and 2004, and disposal data for 2005 and 2006 from SLRD Solid Waste Department. Amounts recycled in 2005 and 2006 were estimated based on 2004 recycling data.

¹² The Recycling Rate is calculated as follows: (tonnes of waste recycled + waste composted) / tonnes of waste generated.

Figure 2-2. SLRD Annual Waste Disposed Per Capita 1990, 1999-2006¹³

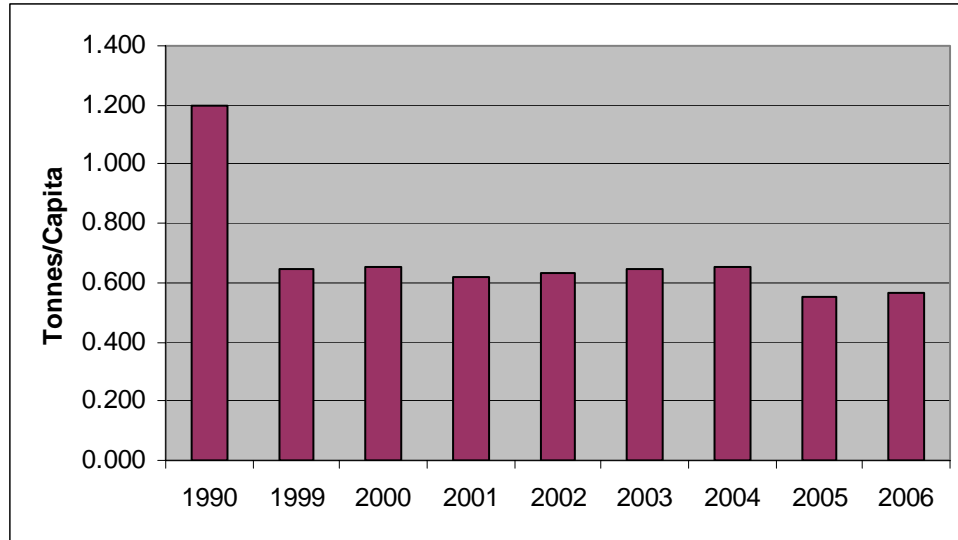


Table 2-3 Per Capita Disposal Estimates and Waste Reduction Rate, 1990 and 1999 - 2006¹⁴

Year	Population	Total Tonnes Disposed	Tonnes Disposed Per Capita	Waste Reduction Rate
1990	32,437	38,924	1.200	
1999	45,165	29,255	0.648	-46%
2000	45,523	29,655	0.651	-46%
2001	46,248	28,683	0.620	-48%
2002	46,601	29,376	0.630	-47%
2003	49,961	32,229	0.645	-46%
2004	52,058	33,846	0.650	-46%
2005	54,367	30,108	0.554	-54%
2006	56,444	31,929	0.566	-53%

¹³ Source of per capita disposal data for 1990, 1999 – 2005: BC Ministry of Environment. 2006. MSW Tracking Report 2003 – 2005. Prepared by Recycling Council of BC; and BC Ministry of Environment. 2002. MSW Tracking Report 2001 – 2002. Prepared by Recycling Council of BC. Source of 2006 data: Squamish Lillooet Regional District.

¹⁴ Source of population, per capita disposal data and waste reduction rates for 1990, 1999 – 2005: BC Ministry of Environment. 2006. MSW Tracking Report 2003 – 2005. Prepared by Recycling Council of BC; and BC Ministry of Environment. 2002. MSW Tracking Report 2001 – 2002. Prepared by Recycling Council of BC. Source of 2006 data: Squamish Lillooet Regional District.

3. Existing Waste Management System

A detailed description of the existing waste management system, including programs, bylaws and infrastructure is included in Appendix B. This report was originally submitted in June 2004 as a technical memo titled: *Existing Solid Waste Management System*. The 2004 version has been updated for inclusion in the Plan.

This section provides a brief outline of the solid waste management services and infrastructure in the SLRD:

Education and Outreach: The SLRD, member municipalities, environmental groups and private waste haulers participate in educating residents and businesses about proper waste management. The SLRD funds the Recycling Council of BC (RCBC) Recycling Hotline as an information service to the whole regional district.

Reuse: There are “free stores” at the Goldbridge, Devine and Pemberton transfer stations. There is a reuse centre in Whistler operated by a non-profit agency.

Backyard composting: The SLRD distributed 500 backyard composters and 100 worm bins, and provides information on how to compost at home.

Centralized Composting: Yard waste is composted at the Squamish landfill and the Whistler transfer station. Whistler is constructing an in-vessel composting facility that will process food waste, biosolids, yard waste and clean wood waste.

Recycling: All residential recycling is done through depot-based collection. For commercial generators of recyclable waste in the southern corridor, private collection services are available. Businesses can also use the recycling depot system.

Construction and Demolition (C&D) Waste: Construction waste is sorted for recycling at the Whistler transfer station. At the Squamish and Lillooet landfills, clean wood waste is stockpiled and burned. Gypsum is collected for recycling at the Whistler transfer station, Squamish landfill and Pemberton transfer station.

Residential Garbage Collection: There is curbside collection of residential garbage in the municipalities of Squamish and Lillooet. In Pemberton, residents can contract a private collection service. In all other areas, garbage is self-hauled to a local compactor station, transfer station or landfill.

Commercial Garbage Collection: Commercial waste generators must a private collection service or self-haul their garbage to a local disposal facility.

Garbage Disposal: There are two landfills in the SLRD – one in Squamish and one in Lillooet. Whistler has its own transfer station and ships waste to a landfill in Washington State (Rabanco). The communities of Furry Creek, Britannia Beach, Pemberton, Devine and Goldbridge have SLRD transfer stations. Garbage collected at these sites is hauled to one of the two landfills, or the Whistler transfer station.

4. The Plan: Waste Minimization Programs and Policies

This section describes the waste reduction and diversion programs that will be part of the future solid waste management system for the SLRD. It includes existing and proposed policies, programs and facilities aimed at minimizing the generation of waste in the region and maximizing recovery of discarded products and materials for reuse, recycling and composting. The section is organized as follows:

- Region-wide Policies and Programs;
- Residential Reuse, Recycling and Composting Programs;
- Industrial, Commercial and Institutional (ICI) Programs;
- Construction and Demolition Waste Programs;
- Recycling and Composting Facilities; and
- Diversion Potential.

Costs and staffing implications are provided for only those programs that will be undertaken by the SLRD.

4.1 Region-Wide Policies and Programs

This section describes existing and new policies and programs that have a region-wide application.

4.1.1 Promotion and Education

4.1.1.1 Communications Plan

The SLRD will develop a Communications Plan to define and coordinate delivery of the Regional District's waste reduction, reuse and recycling messages across the region. The Communications Plan will define the key messages needed to update the Regional District's existing 3Rs communications tools, including brochures, advertisements, special events and community outreach promotions, and the waste reduction pages on the Regional District web site. The Communications Plan will define and identify communications objectives and performance targets, key audiences, additional communications tools if necessary, and develop a coordinated annual and five-year implementation program for delivery of the key messages. The Plan will also provide a framework for monitoring and evaluating performance annually. Where relevant, key messages,

strategies and tools already developed in other jurisdictions will be used or adapted, with permission.

As the five-year timeframe for implementation of this solid waste management plan update extends into and beyond the 2010 Olympics, the Communications Plan will define and develop the Regional District's key messages and communications initiatives relevant to ongoing program delivery prior to, during and after this special event.

The communications plan will be reviewed and updated annually, based on the performance targets and evaluation framework provided

4.1.1.2 SLRD Solid Waste Management Web Site

Using messaging content developed in the Communications Plan, the Solid Waste section of the Regional District web site will be updated to include a section specifically focused on waste minimization. The overall objective of the web site section is to provide a one-stop web portal for local reuse and recycling program information, as well as tools and resources about waste prevention, reuse, recycling and composting relevant to all audiences in the region. The web site will be updated quarterly or as new information arises that is relevant to residents and businesses in the region. With respect to resources and tool kits, the web site will, with permission, draw on public information and documents already developed or hosted on web sites in other jurisdictions.

The web site will be promoted in all Regional District and municipal communications tools and initiatives associated with waste minimization and solid waste management. Local governments will facilitate promotion of this information portal by publishing the web address on municipal web sites and public and taxpayer outreach materials.

4.1.1.3 SLRD Print Media Update and Distribution

Using key messaging content, audience selection and distribution strategies developed in the Communications Plan, the SLRD will design, publish and distribute a Regional District general waste minimization/local programs/initiatives brochure(s) or similar print tool (i.e., post card) as defined in the Communications Plan. Update seasonal/quarterly newspaper advertising/news release copy with current messaging and revise publication scheduling based on Communications Plan.

4.1.1.4 Community and Event Outreach

Continue to conduct outreach at community events, including maintaining a booth and/or other means of presentation. Types of events to attend/participate in include Earth Day celebrations, local cultural and seasonal festivals, sporting events. Develop a waste minimization kit to support event outreach, and make kit available to local groups interested in facilitating awareness of the region's waste minimization initiatives at their events.

Implementation by: SLRD
 New Diversion Potential: Supports diversion programs
 Start Up: 2008
 Staffing Implications: 3 months of a full-time equivalent staff (FTE)
 Costs:

Promotion and Education		Capital	Operating
Communication Plan		\$8,000	
Website	Website development & maintenance	\$5,000	\$1,000
Community Outreach	Outreach Kit	\$1000	\$500
	Display Booth and Display materials	\$1,500	\$500
Print Media	Contract for brochure design	\$1,000	
	Printing of 15,000 brochures	\$2,000	
	Reprints/Distribution/Newspaper Ads		\$8,000
Total		\$18,500	\$10,000

4.1.2 School Program

The SLRD will deliver waste minimization education workshops to schools in the SLRD through a contracted educator. Existing program materials developed by other regional districts, such as the Cowichan Valley Regional District, will be used as the basis for the program.

Implementation by: SLRD
 New Diversion Potential: Contributes to long-term waste minimization behaviours
 Start Up: 2009
 Staffing Implications: 1 week/yr of an FTE for contract management
 Costs:

School Program		Capital	Operating
Production of educational materials		\$5,000	
Contracted educator	20 workshops/year @ \$400 per workshop		\$8,000

4.1.3 RCBC Recycling Hotline Funding and Promotion

The SLRD will continue annual financial support to the Recycling Council of BC Recycling Hotline for the provision of a call-in service for residents and businesses in the region seeking information on where to take products and materials for reuse, recycling, composting and disposal.

The SLRD and member municipalities will promote the RCBC Hotline toll free call-in service in all waste management-related communications.

Implementation by:	SLRD
New Diversion Potential:	Supports diversion programs
Start Up:	On-going
Staffing Implications:	None (all work done by RCBC)
Costs:	\$4,000 per year

4.1.4 Region-Wide User Pay Incentives

4.1.4.1 Variable Rate Tipping Fees

The SLRD, Squamish and RMOW will continue to maintain variable rate tipping fees at transfer stations and disposal facilities in the region to encourage source segregation of reusable, recyclable and compostable products and materials handled at these facilities.

4.1.4.2 Residential User Fee Charges and Volume Restrictions

For applicable residential waste collection services, the SLRD and member municipalities will continue to implement user fee charges and volume restrictions for residential solid waste collection services to encourage source segregation of reusable, recyclable and compostable products and materials.

Implementation by:	SLRD
New Diversion Potential:	Supports waste diversion programs
Start Up:	On-going
Staffing Implications:	None
Costs:	\$0

4.1.5 Extended Producer Responsibility/Product Stewardship

4.1.5.1 Advocate for Expansion of EPR Programs

As Extended Producer Responsibility (EPR) programs reduce the quantity of waste disposed in the region, provide appropriate management of hazardous wastes, and are intended to be implemented and operated at no cost to local government, the SLRD will continue to advocate for, and support, expansion of the range of products managed in EPR programs under BC's Recycling Regulation.

4.1.5.2 Monitor EPR Program Implementation

To facilitate the diversion of EPR products from local disposal facilities, the SLRD will inform appropriate stewardship agencies, and/or the BC Ministry of Environment on an ongoing basis of any problems associated with the implementation of existing and new EPR programs that have

been identified in the region, including, but not limited to, accessibility, consumer/public awareness, and costs to users and/or local governments.

4.1.5.3 *Participate on the BC Product Stewardship Council*

The SLRD will continue to participate on the BC Product Stewardship Council to share information and develop strategies for expanding and improving the delivery of EPR programs in the region. The BC Product Stewardship Council is a local government initiative that shares information and develops strategies and recommendations regarding EPR programs in BC.

4.1.5.4 *Consumer/Public Awareness Support*

The SLRD and member municipalities will continue to support stewardship agency efforts to raise awareness of their programs by including program information and links to stewardship agency web sites on the Regional District waste management web site, and municipal web sites where relevant. When garbage collection, recycling and disposal literature is due for updating, content will be revised to identify those products that are collected and managed in EPR programs rather than in local government programs. Draw from literature already developed in other jurisdictions in BC.

Implementation by:	SLRD
New Diversion Potential:	<1% (by weight) – though any stewardship program focus on waste products that have a high level of toxicity if released into the environment
Start Up:	2008
Staffing Implications:	Two weeks per year for an FTE
Costs:	\$0

4.2 Residential Programs

4.2.1 Backyard Composting Awareness Program

Using messaging developed in the Communications Plan, the SLRD will redevelop and implement a backyard composting awareness and outreach program. The program will be designed to provide seasonal and/or audience specific information, including a list of locations in the region where residents can purchase backyard compost bins, tools and resource materials. Educational material will include how to compost in a manner that is “Bear Aware”. The SLRD Solid Waste Management web site will be used as a clearinghouse for information. The SLRD brochure on backyard composting will be redesigned and updated to provide relevant information. The program may include working with local retailers or community groups to host/provide backyard compost training sessions.

Implementation by:	SLRD
New Diversion Potential:	<1% (10-15 tonnes per year)

Start Up: 2008
SLRD Staffing Implications: 2 weeks of a full-time equivalent staff (FTE)
Costs: \$1,000 in 2008 to update and print brochures, \$500 in subsequent years for reprints

4.2.2 Residential Reuse Exchange/Swap Board

The SLRD will implement a web-based reuse exchange or swap board for residential users in the region. The exchange would be hosted by the Recycling Council of BC through its on-line BC Reuses service.

Implementation by: SLRD
New Diversion Potential: <1%
Start Up: 2009
SLRD Staffing Implications: 1 week of a full-time equivalent staff in first year only
Costs: \$3,200 per year

4.2.3 Reuse Areas at Transfer Stations and Landfills

Continue to operate reuse areas/free stores for the exchange of reusable goods at the Goldbridge, D'Arcy/Devine and Pemberton Transfer Stations, and establish a reuse area at the Squamish and Lillooet Landfills.

The District of Squamish will pursue a reuse area as part of the design and construction of the regional landfill or a transfer station. Whistler will continue to support the Re-Use It Centre.

Implementation by: SLRD
New Diversion Potential: <1%
Start Up: 2007 for Lillooet Reuse Area
SLRD Staffing Implications: None. Operation to be done by existing contracted landfill staff.
Costs: No cost implications as Lillooet Reuse Area will be completed in 2007. Operating costs to be included in landfill operating contract.

4.2.4 Residential Recycling

4.2.4.1 District of Lillooet and Area

The SLRD and the District of Lillooet are in discussion with the Thompson Nicola Regional District (TNRD) to develop and implement a strategy for enhanced collection and processing of recyclables generated in the Lillooet area. Through this partnership, recyclables generated in Lillooet are expected to flow into the TNRD waste management system through a private collection contractor. The terms of the partnership are to be determined. The SLRD will continue to provide public recycling at the Lillooet Landfill as described in Appendix B.

Implementation by: SLRD
 New Diversion Potential: <1% (80 tonnes per year)
 Start Up: 2008
 SLRD Staffing Implications: 5 weeks of a full-time equivalent staff (FTE) in 2008 and 2 weeks annually thereafter

Costs:

Lillooet Recycling Collection		Capital	Operating
Recycling Program	Reusable Recycling Bags (\$2/household)	\$2,500	
	Information Package	\$2,000	
	Distribution of bags and information package	\$2,500	
	Collection/processing contract (\$20/household)		\$25,000
Total		\$7,500	\$25,000

4.2.4.2 Goldbridge, Bralorne and Area

The SLRD will continue to provide a public recycling depot at the Goldbridge Transfer Station.

Implementation by: SLRD
 New Diversion Potential: 0%
 Start Up: On-going
 SLRD Staffing Implications: Included in transfer station staffing requirements
 Costs: Included in transfer station operating contract

4.2.4.3 Devine/D'Arcy and Area

A multi-material recycling depot will continue to operate at the Devine Transfer Station. A contractor will continue to operate this facility.

Implementation by: SLRD
 New Diversion Potential: 0%
 Start Up: On-going
 SLRD Staffing Implications: Included in transfer station staffing requirements
 Costs: Included in transfer station operating contract

4.2.4.4 Pemberton and Area

The SLRD will continue to provide a full service public recycling depot at the Pemberton Transfer Station, and finalize development of a Product Care facility for paints, flammable liquids, pesticides and gasoline regulated under the BC Recycling Regulation. The SLRD will assess the need for, and feasibility of, providing a yard waste drop-off facility at the Pemberton Transfer Station, for yard waste to be hauled to a processing facility in the southern region.

Implementation by: SLRD
New Diversion Potential: <1% (10-15 tonnes per year)
Start Up: 2008 to assess need for yard waste depot
SLRD Staffing Implications: 2 weeks of a full-time equivalent staff (FTE) for assessment
Costs: Recycling included in transfer station operating contract costs

4.2.4.5 Resort Municipality of Whistler

The RMOW will continue to provide public recycling depots at the Nestor's and Function Junction compactor stations. The recycling depot at the Transfer Station will continue to accept yard waste and recyclables. The Whistler Transfer Station will continue to operate as a used paint depot and paint exchange under the Product Care Program.

Implementation by: RMOW
New Diversion Potential: Diversion potential included under "Disposal Bans"
Start Up: On-going service
SLRD Staffing Implications: None
Costs: RMOW service. No SLRD costs.

4.2.4.6 Pine Crest/Black Tusk Village

The communities of Pine Crest and Black Tusk Village will continue to receive privately managed recycling collection services.

Implementation by: Private
New Diversion Potential: Diversion potential included under "Disposal Bans"
Start Up: On-going service
SLRD Staffing Implications: None
Costs: Private service. No SLRD costs.

4.2.4.7 District of Squamish

The District of Squamish will continue to operate a system of public recycling depots at locations throughout the community. The District will be undertaking a feasibility study of curbside collection in 2007 and may decide that regular curbside collection of recyclables is a desirable service for households currently receiving curbside garbage collection. The residential recycling service will continue to be contracted out by the District of Squamish.

The District of Squamish will continue to provide a yard waste drop off facility at the Squamish Landfill unless a reasonable alternative facility is identified. The District would ultimately like to redirect yard waste to a facility where it can be recycled/composted.

Implementation by: District of Squamish
New Diversion Potential: Diversion potential included under "Disposal Bans"

Start Up: On-going service
SLRD Staffing Implications: None
Costs: Squamish service. No SLRD costs.

4.2.4.8 Furry Creek

The SLRD will continue to provide a recycling depot at the Furry Creek Transfer Station. Recycling costs are included in the transfer station operating costs. The SLRD will assess methods of collecting yard waste from the Furry Creek.

Implementation by: SLRD
New Diversion Potential: Diversion potential included under “Disposal Bans”
Start Up: On-going service
SLRD Staffing Implications: Included under transfer station staffing requirements
Costs: Included under transfer station costs

4.2.4.9 Britannia Beach

The SLRD will continue to provide a recycling depot at the Britannia Transfer Station. Recycling costs are included in the transfer station operating costs. The SLRD will assess methods of collecting yard waste from the Furry Creek.

Implementation by: SLRD
New Diversion Potential: Diversion potential included under “Disposal Bans”
Start Up: On-going service
SLRD Staffing Implications: Included under transfer station staffing requirements
Costs: Included under transfer station costs

4.2.4.10 Future Communities

The SLRD will provide recycling collection services (depot or curbside) at future communities in the unincorporated areas of the SLRD. The SLRD will work with developers of these communities to determine service levels and infrastructure requirements early in the site development process.

4.2.5 Residential Food Waste Collection

The RMOW plans to establish a centralized biosolids and organic waste processing facility at its Transfer Station property in the Callaghan Valley. If there is available capacity at this facility, the municipalities of Squamish and Whistler will individually assess the feasibility of establishing programs for collection of organic waste from their residents for processing at the centralized facility in Whistler.

Implementation by: District of Squamish and RMOW
New Diversion Potential: None, feasibility assessment only (at this time)
Start Up: Undetermined

SLRD Staffing Implications: None
Costs: No SLRD costs

4.3 Recycling and Organics Processing Facilities

4.3.1 Recycling Processors

Processing of recyclables will continue to be delivered by the private sector in the SLRD.

4.3.2 Lillooet Yard Waste Composting Assessment

The SLRD will assess the feasibility of yard waste composting at the Lillooet landfill.

Implementation by: SLRD
New Diversion Potential: <1%
Start Up: 2009
SLRD Staffing Implications: 3 weeks of an FTE in 2009
Costs: \$0

4.3.3 Squamish Landfill Yard Waste Composting Operation

The District of Squamish will continue to compost yard waste at the Squamish Landfill. Costs for this operation are included in the landfill operating costs. The District may discontinue composting at the landfill site if another local option for yard waste diversion is identified as a viable alternative. Any alternative location is expected to meet the requirements of the BC Organic Matter Recycling Regulation.

Implementation by: District of Squamish
New Diversion Potential: No additional diversion
Start Up: On-going
SLRD Staffing Implications: None
Costs: No SLRD costs

4.3.4 Whistler Composting Facility

The Whistler composting facility is 50 tonne per day in-vessel facility designed to compost biosolids, food waste, yard waste and wood chips. The facility is expected to be fully operational in 2008. Its primary role is to compost biosolids from Whistler's wastewater treatment facilities. However, some capacity for source-separated food waste is anticipated. The facility will require chipped wood waste and garden debris to act as "amendment" in the composting process.

To support the operation of this facility, the following initiatives are planned for Whistler:

- Setting tipping fees for source-separated food and yard waste at a level that is attractive to waste generators;
- If necessary, ban the disposal of commercially-generated food waste as garbage (e.g., food waste from grocery stores, banquet facilities, and restaurants) and yard waste;
- Ban the burning of yard waste and landclearing waste; and
- If necessary, ban the disposal of clean wood waste and landclearing waste as garbage.

In addition, to support the operation of the composting facility, provincial permits for open burning of wood waste that have been given to private operations in the Whistler vicinity, such as the permit given to Coastal Mountain Excavating, should be cancelled by the Province. Such cancellations should be done in consultation with the permit holder and RMOW, and should involve reasonable advance notice to allow these operations to change from burn operations to chipping/grinding operations.

Implementation by:	SLRD
New Diversion Potential:	Included under “disposal bans” (Section 4.4.1)
Start Up:	2008
SLRD Staffing Implications:	None
Costs:	No SLRD costs

4.3.5 Denbow Composting Facility

Associated with the construction of the Olympic Nordic and Sliding venues near Whistler, a composting facility was set up in the Callaghan Valley to manage the landclearing waste. This facility is privately owned and operated and is expected to comply with the BC Organic Matter Recycling Regulation throughout its lifespan.

4.4 Institutional, Commercial and Industrial (ICI) Programs

4.4.1 Disposal Bans

To encourage recycling by the ICI sector, the SLRD and member municipalities operating disposal facilities will implement disposal bans in a coordinated manner on:

- Readily recyclable materials such as cardboard, paper and metal
- Products covered under a product stewardship program (e.g., architectural paint, lubricating oil, beverage containers, tires, lead-acid batteries, pharmaceuticals, some electronic waste)
- Yard waste (where yard waste collection and composting facilities are available).

As local diversion opportunities for additional materials are identified, banning additional materials from disposal will be considered. For instance, Whistler may ban commercial food waste and wood waste from disposal as a means of encouraging these materials to be source-separated for composting.

The application of bans will be based on the accessibility and stability of diversion collection/depot drop off options in particular service areas and the capacity of local and regional processing facilities. The SLRD, in consultation with member municipalities and ICI stakeholders, will identify, prioritize and schedule the implementation of bans relevant to each service area and the associated transfer and disposal facilities.

Bans will be phased-in, starting with a six month (minimum) pre-ban education and promotion period led by the SLRD and/or the municipalities to raise awareness and allow businesses and organizations time to make arrangements for recycling collection services.

The primary approach to enforcement of the bans is to apply financial penalties at the point of disposal. Transfer station and landfill operators will be trained and required to scrutinize incoming loads of ICI waste. Loads found to be containing banned materials will be charged double the standard tipping fee. An enforcement phase-in period (e.g., of six months) will be granted during which formal notices rather than financial penalties will be issued to the hauler.

Implementation by: SLRD, District of Squamish (at landfill), RMOW (at transfer station)
 New Diversion Potential: 26%
 Start Up: 2009
 SLRD Staffing Implications: 2 months of an FTE in 2008 and 2009. One month per year in subsequent years

Costs:

Disposal Bans		Capital	Operating
Stakeholder Meetings and Staff Training	(\$100 each for refreshments)	\$800	
Promotion and Education	Mailer to generators	\$1,500	
	Newspaper advertising	\$2,000	
	Media materials (press release, briefing kit, web notice)	\$700	
	Flyers for retailers & SLRD solid waste facilities	\$500	
	On-going printing of promotional materials		\$500
	Stakeholder Support Materials (e.g., bin stickers)	\$1,000	
Infraction Notices	Printing	\$800	\$200
Digital cameras for landfill staff		\$1,000	
Total		\$8,300	\$700

4.4.2 ICI Technical Assistance Program

The SLRD will work with the ICI sector and member municipalities to design an ICI Technical Assistance program to support local businesses and organizations develop in-house waste diversion programs in compliance with the disposal bans. The program may include the following:

- Implementation of an ICI advisory service for on-site visits and to respond to web and telephone inquiries. This component will require additional staff resources, and may be designed as a temporary (one year) initiative to support disposal ban implementation.
- Development and distribution of an electronic ICI waste minimization Tool Kit, including examples of corporate waste diversion plans for banned materials, case studies, and key contacts in the region.
- Development of a public recognition program, possibly in concert with local Chambers of Commerce.

Implementation by: SLRD
 New Diversion Potential: 0%, in support of disposal bans and diversion infrastructure
 Start Up: 2008
 SLRD Staffing Implications: 3 months of an FTE in 2008 and 2009. One month per year in subsequent years

Costs:

ICI Technical Assistance Program	Capital	Operating
ICI Advisory Service	\$500	\$2,000
ICI Waste minimization Tool Kit (Development and Production – on-line and hardcopy)	\$7,500	\$1,000
Public Recognition Program	\$1000	\$500
Total	\$9,000	\$3,500

4.4.3 Task Force on Increasing Waste Diversion in Tourist Accommodations

To encourage visitor use of local recycling opportunities, including on-site recycling services, the SLRD, RMOW and District of Squamish will establish a task force charged with developing a coordinated approach to the delivery of recycling services in tourist accommodations. This initiative would aim for maximum consistency between properties, working with building managers and cleaning service companies to assess and resolve barriers to setting up in-suite programs.

Implementation by: SLRD, District of Squamish, RMOW
 New Diversion Potential: 3% starting in 2009 (assuming increased recycling services and promotion in tourist accommodations result from taskforce)
 Start Up: 2008

SLRD Staffing Implications: 1 month of an FTE in each 2008 and 2009. One week per year in subsequent years
Costs: \$2,000 for outreach, meetings, workshops

4.5 Construction and Demolition (C&D) Waste

4.5.1 Construction Waste Recycling

RMOW will continue to provide a drop off facility for construction waste at the Whistler Transfer Station and have the waste recycled by a private recycling operation.

Variable tipping fees and possibly disposal ban will be used by the SLRD and municipalities in the southern corridor to encourage construction waste to go to a recycling facility¹⁵ rather than to the Squamish Landfill.

4.5.2 Construction Waste Recycling Assistance Program

Based on the findings of the Construction and Demolition Waste Management Study prepared for the SLRD in 2004, the focus of construction and demolition waste management in the region will be on increasing the diversion of recyclable construction waste in the southern corridor. The major types of materials to be targeted will include clean wood waste, cardboard, gypsum wallboard and scrap metals. Working with local construction associations, the SLRD will conduct a needs assessment to determine what assistance is required to enhance diversion of C&D waste.

The SLRD will work with the construction sector and member municipalities to design a program that will support local builders and contractors implement on-site (job site) waste diversion programs. The program *may* include the following:

- Initial workshop and consultation outreach to construction sector.
- Development of recommended on-site waste diversion targets for designated materials (clean wood waste, cardboard, drywall and metals).
- Implementation of an advisory service for on-site visits and to respond to web and telephone inquiries.
- Development and distribution of an electronic Waste minimization Tool Kit, including examples of job site waste diversion plans for recyclable materials, case studies, and key contacts in the region.
- Distribution of voluntary waste diversion plans and education materials as part of municipal construction/building permit packages.
- Development of a public recognition program.

¹⁵ At the time of preparing this plan, there is one known construction waste recycling facility, located in Squamish, in the SLRD.

- Development of a financial incentives program for the construction sector.
- Develop an on-line exchange/reuse system for construction/renovation/deconstruction discards

The effectiveness of this program in increasing diversion will be monitored and assessed. Based on the assessment of the program in 2011, consideration may be given to implementing mandatory diversion requirements in bylaws to improve effectiveness.

Implementation by:	SLRD
New Diversion Potential:	In support of disposal bans and diversion infrastructure
Start Up:	2009
SLRD Staffing Implications:	2 months of an FTE in 2009 and 2010. One month per year in subsequent years
Costs:	\$5,000 per year

4.5.3 Promote Green Building Standards

To facilitate waste reduction in design, the SLRD will work with local planning and permitting departments to adopt “green” building standards such as LEED or Whistler Green in the southern region. In support of such building standards, the SLRD will identify and promote local green/LEED projects. Information on green building standards and local initiatives will be posted on the SLRD website.

Implementation by:	SLRD, DOS, RMOW
New Diversion Potential:	2%
Start Up:	2010
SLRD Staffing Implications:	One week per year of an FTE
Costs:	\$0

4.6 Diversion Potential

Table 4- 1 shows the estimated *new* diversion from landfill with implementation of all of the Waste minimization components of this plan. With the additional 30% diversion, the per capita disposal rate is reduced from 0.57 tonnes/capita/year to 0.39 tonnes/capita/year¹⁶. This will result in an overall reduction of the amount going to disposal by 67%, as compared to the 1990 per capita disposal rate.

¹⁶ 0.39 tonnes per capita per year = 1.08 kg per capita per day

Table 4-1 Estimated Diversion Potential of Plan Components

WASTE MINIMIZATION PLAN COMPONENT	New Diversion Potential*	
	Tonnes	% of waste disposed
REGION-WIDE PROGRAMS		
Waste minimization Promotion and Education	Support	
RCBC Recycling Hotline Funding and Promotion	Support	
Region-Wide User Pay Incentives	Existing	
Extended Producer Responsibility/Product Stewardship	Existing	
RESIDENTIAL PROGRAMS		
Backyard Composting Awareness	60	0.2%
Residential Reuse Exchange/Swap Board	10	0.0%
Reuse Areas at Transfer Stations and Landfills	30	0.1%
Recycling Collection Programs		
District of Lillooet and Area	80	0.1%
Goldbridge, Bralorne and Area	Existing	
Devine/D'Arcy and Area	Existing	
Pemberton and Area	Existing	
Resort Municipality of Whistler	Existing	
District of Squamish	Existing	
Furry Creek	10	0.0%
Britannia Beach	15	0.0%
INSTITUTIONAL, COMMERCIAL, INDUSTRIAL WASTE PROGRAMS		
Disposal Bans	8,400	26.3%
ICI Technical Assistance Program	Support	
Task Force on Increasing Waste Diversion in Tourist Accommodations	600	1.9%
CONSTRUCTION AND DEMOLITION WASTE PROGRAMS		
Construction Waste Recycling	Existing	
Construction Waste Recycling Assistance Program	Support	
Green Building Standards	200	1.9%
TOTAL NEW DIVERSION FROM DISPOSAL	9,405	30.6%

* New diversion from disposal, based on 2006 diversion data

5. The Plan: Residual Waste Management

The waste that cannot be eliminated or diverted through composting or recycling is referred to as “residual waste,” and ultimately requires disposal. The Residual Waste Management Strategy addresses the long-term disposal needs of the region and aims to minimize social, environmental and financial impacts and risks.

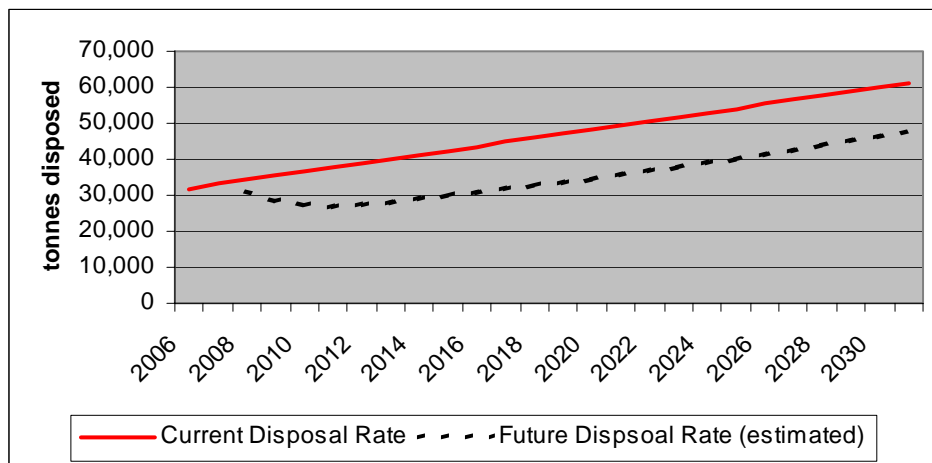
The components of the residual waste management system includes:

- collection of waste from of the point of generation (households, businesses, etc.);
- the disposal system;
- bear-human conflict management;
- household hazardous waste management;
- landclearing waste management;
- illegal dumping prevention and
- backyard burning prevention.

5.1 Quantity of Residual Waste

The quantity of residual waste generated over the life of this Solid Waste Management Plan is primarily dependent on the growth of the population and the success of the Waste minimization programs and policies. Figure 5-1 shows the estimated future waste disposal requirements for the SLRD under two scenarios – the first shows no additional waste reduction/diversion is achieved, and the second shows the impact of the implementation of this Plan. The disposal needs are based on population growth projections from BC Stats and assumes that there is no further waste reduction due to the development of waste-to-energy facilities in the SLRD.

Figure 5-1 Future Disposal Requirements



5.2 Collection

The existing residual waste collection system will be maintained in its current configuration as described in Appendix B.

Significant population growth and subdivision in the southern SLRD is anticipated over the next ten years. Consequently, there may be a need for the SLRD to take on provision of residential waste collection services in areas currently unserved. As new collection services are required, the collection will be contracted out. The collection will be financed through the development of local service areas.

In the northern SLRD, the District of Lillooet may expand its curbside garbage collection service area. The extent of this service delivery will be assessed and implemented by the municipality.

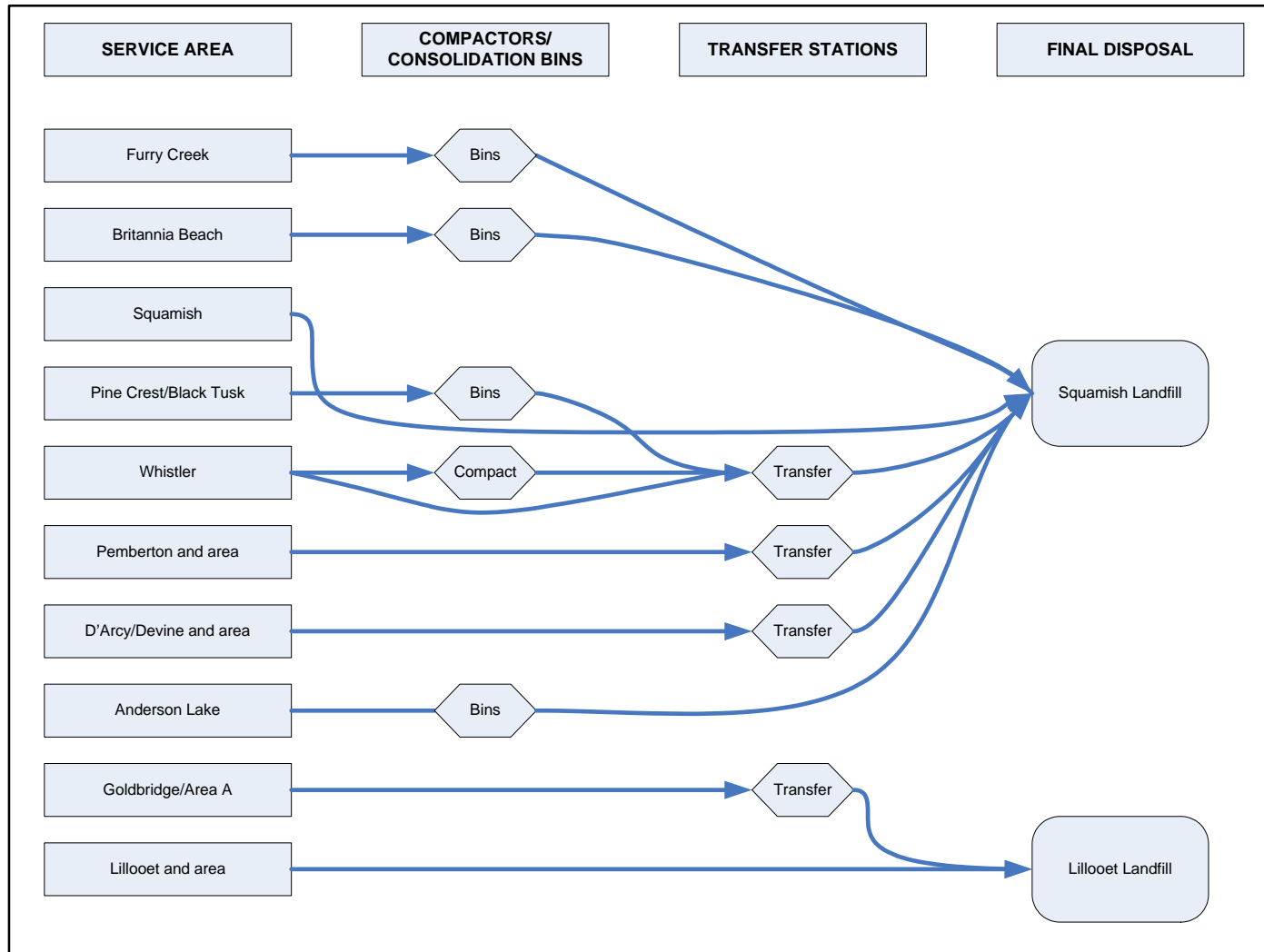
5.3 Resource Recovery

At this time, there are no resource recovery/waste-to-energy facilities in the SLRD, however there is a willingness to explore energy recovery options as part of an integrated approach to residual waste management. The use of any such option would be subject to an assessment of social, environmental and financial implications, as well as public consultation. A Solid Waste Management Plan amendment may be required, as directed by the Ministry of Environment.

5.4 Disposal

The disposal system refers to the flow of residual waste to disposal. The disposal infrastructure servicing the communities of the SLRD is a combination of transfer stations and landfills. Figure 5-2 outlines the disposal system for each community upon full implementation of this Solid Waste Management Plan. The primary change in the flow from current conditions is that all residual municipal solid waste in the southern SLRD will be disposed of at a regional landfill in Squamish.

Figure 5-2. Residual Waste Disposal System – Upon Full Plan Implementation



5.4.1 Britannia Beach

The SLRD will continue to provide Britannia Beach with an unstaffed transfer station for disposal of waste. The transfer station will continue to be serviced by a contractor.

Implementation by:	SLRD
Start Up:	On-going
Staffing Implications:	One week per year of an FTE
Costs:	\$32,000 (2008) for servicing contract

5.4.2 Furry Creek

The SLRD will continue to provide Furry Creek with an unstaffed transfer station for disposal of waste. The transfer station will continue to be serviced by a contractor.

Implementation by:	SLRD
Start Up:	On-going
Staffing Implications:	One week per year of an FTE
Costs:	\$39,000 (2008) for servicing contract

5.4.3 District of Squamish

The Squamish Landfill will become a regional disposal facility for all communities and First Nation reserves in the southern corridor (from the Pemberton Valley south to Porteau Cove). This residual waste disposal option for the southern corridor was selected over waste export because:

- it is the lowest cost option;
- it maintains local control over waste management and costs; and
- since landfills are developed in phases rather than constructed all at once, an assessment of alternative options (as they become available) such as waste-to-energy, can be done prior to investing in the next phase of the landfill.

The landfill will undergo significant infrastructure and operational improvements beginning in 2008. Improvements include:

- closure of the existing landfilling areas;
- construction new lined landfill areas;
- leachate collection and treatment;
- landfill gas collection and treatment¹⁷;
- cessation of the burning of wood waste;
- cessation of the use of the septage lagoons;

¹⁷ Landfill gas collection and treatment supports the objectives of the Sea to Sky Air Quality Management Plan

- composting of yard waste (may occur off-site);
- set up of a “reuse area” for reusable goods and materials; and
- improving the recycling drop-off area.

The expanded landfill is anticipated to provide disposal capacity for the southern corridor of the SLRD until 2054, based on current growth estimates and disposal rates.¹⁸ The landfill will be developed in four phases¹⁹:

- Phase 1 will provide 338,4440 m³ of gross air space on a footprint of 5.2 ha.
- Phase 2 will provide 923,681 m³ of gross air space
- Phase 3 will provide 876,870 m³ of gross air space
- Phase 4 will provide 1,703,012 m³ of gross air space
- The net capacity of Phase 1 is 247,132 m³ for waste and operational cover. Phases 2, 3 and 4 will have a combined net air space of 3,386,685 m³.

The landfill will be used by all municipalities and electoral areas in the southern SLRD. The facility will continue to be operated under contract by a private firm.

The first phase of the lined landfill will be constructed on top of the existing landfill. The second phase, however, will require that the landfill expand beyond its existing boundary onto adjacent Crown land. The District of Squamish has applied to the Crown for this land.

The timeline for the development of the regional landfill is:

- | | |
|------|--|
| 2008 | <ul style="list-style-type: none">• Confirm landfill design and costs• Obtain additional land from Crown• Tender closure of old landfill and construction of new landfill. |
| 2009 | <ul style="list-style-type: none">• Closure of old landfill.• Construction of new landfill. |
| 2010 | <ul style="list-style-type: none">• New regional landfill operational. |

Should the land not be made available to the District of Squamish for the expanded landfill, the District of Squamish, in conjunction with the SLRD, will assess the viability of constructing only Phase 1 of the landfill, which is expected to provide six years of capacity for the southern SLRD. This option would be compared to the alternative of constructing a transfer station and exporting waste to the United States (in the short term). It is expected that BC-based residual waste management options will become available in the future and these options would be explored as an alternative to shipping waste to the U.S.

¹⁸ It is anticipated that the growth in population contributing to the waste stream will be countered by increasing waste diversion activities. Consequently, current landfill space usage rates have been applied to the estimates of remaining landfill life.

¹⁹ Sperling Hansen Associates. *Squamish Landfill Design and Operations Plan (Draft Report)*. 2006.

It is anticipated that regardless of the type of residual waste management infrastructure developed in Squamish, the operation of the facility will be handled by a private sector contractor.

Implementation by:	District of Squamish
Start Up:	2008
Staffing Implications:	Not expected to impact on SLRD staffing
Costs:	No anticipated SLRD costs

5.4.4 Whistler

In 2006, the RMOW closed its landfill site and sited a new transfer station. Residual waste generated in the Resort Municipality of Whistler is now delivered to the new Whistler transfer station located in the Callaghan Valley.

The waste is transported to a permitted landfill outside of the regional district. Once the Squamish Landfill receives an operational certificate from the Ministry of the Environment, Whistler will transport its waste to the Squamish Landfill for disposal.

The Whistler transfer station includes recycling and yard waste drop-off areas. The facility is owned by the RMOW and operated under contract by a private firm.

Implementation by:	RMOW
Start Up:	On-going
Staffing Implications:	No impact on SLRD staffing
Costs:	No SLRD costs

5.4.5 Pemberton and Electoral Area C

Residual waste generated in Pemberton and Area C will be delivered to the transfer station located in the Pemberton Industrial Park. This facility is privately owned and operated under contract to the SLRD. Waste collected at the transfer station is transported to the Squamish Landfill for disposal.

Implementation by:	SLRD
Start Up:	On-going
Staffing Implications:	One week per year of an FTE
Costs:	\$171,000 (2008) for contractor

5.4.6 Pemberton Landfill Closure

The Pemberton Landfill, located 10 km south of Pemberton, ceased receiving waste in 1998. The site requires permanent closure. Closure planning occurred in 2006 and 2007 and final closure is expected to occur in 2008. The site will be subject to on-going monitoring, as per Ministry of Environment requirements.

Implementation by: SLRD
Start Up: 2008
Staffing Implications: Two weeks of an FTE in 2008
Costs: \$41,000 for engineering
\$225,000 for construction
Monitoring costs are included in the Pemberton transfer station operations budget

5.4.7 D’Arcy, Devine, Birken and Electoral Area C

The Devine transfer station serves Electoral Area C and residents living in the communities of Birken, D’Arcy and Devine. The transfer station is administered by the SLRD and will continue to operate under contract by a private firm. Waste delivered to the transfer station is transported to the Whistler Transfer Station.

Implementation by: SLRD
Start Up: On-going
Staffing Implications: One week per year of an FTE
Costs: \$41,000 (2008) for servicing contract

5.4.8 Goldbridge, Bralorne and Electoral Area A

The Goldbridge transfer station receives small loads of residential and commercial waste primarily from Electoral Area A users. The transfer station, which does not have a scale, is administered by the SLRD and will continue to operate under contract to a private firm. Waste delivered to the transfer station will be weighed at Ainsworth Lumber Ltd before being hauled to Lillooet for disposal.

Implementation by: SLRD
Start Up: On-going
Staffing Implications: One week per year of an FTE
Costs: \$63,000 (2008) for servicing contract

5.4.9 Lillooet

The Lillooet Landfill is owned by the SLRD and is operated by a contractor. The landfill serves the District of Lillooet and Electoral Areas A and B. The site does not have leachate or gas collection due to the small volume received at the site each year and the dry climate in the area. According to a 2004 site assessment, residual waste and soil cover consume roughly 5,555 cubic metres of air space per year. At this consumption rate, the site is estimated to have 95 years of landfill life and will reach capacity in 2102.²⁰

²⁰ *Sperling Hansen Associates. Lillooet Landfill Phase 2 Operational Assessment. 2004*

Implementation by:	SLRD
Start Up:	On-going
Staffing Implications:	3 weeks per year for an FTE
Costs:	\$172,000 (2008) for operating contract, closure fund and monitoring

5.4.10 Seton, Portage and Electoral Area B

Residual waste generated in Seton, Portage and Electoral Area B will continue to be delivered directly to the Lillooet Landfill for disposal.

5.4.11 Importation of Waste for Disposal

Import of waste from outside the Regional District to regional or municipal disposal facilities (landfills and transfer stations) is not allowed with the exception of temporary, emergency circumstances. Under such circumstances, written permission from the owner of the facility must be obtained in advance of any delivery of waste materials to the facility. If permission is granted, the SLRD shall be notified by the owner of the facility, including the reason for the importation, the type of waste being imported, anticipated quantities and the period of time that the importation will occur. "Temporary, emergency circumstances" are not to exceed one year.

5.5 First Nations Solid Waste Management

In 2004, the SLRD undertook a review of the status of the landfills on the First Nations' lands within the SLRD boundary to determine if there were any impending changes that would need to be addressed in this Plan update. Although no significant changes were identified, many landfills serving the First Nations communities are slated to close in the near future. As a result, the SLRD will maintain dialogue with the First Nation communities and Indian and Northern Affairs Canada so that the SLRD can plan for the future disposal needs of these communities as well as identify opportunities where the SLRD can provide recycling and composting services.

5.6 Bear-Human Conflict Management

Human-bear conflict is considered a major concern in this Regional District. One of the major causes of bear-human conflict is improper waste management practices. Consequently, all waste management facilities and programs in the region must take measures to reduce the attraction of bears to waste. Such measures include:

- effective bear fencing for all residual waste facilities (landfills and transfer stations) and composting operations;

- mandatory containerization of residential waste set out for curbside collection in rigid, lidded containers;
- mandatory bear-proof outdoor litter containers in public and private spaces;
- mandatory lidded and bear-proof commercial collection containers for generators of putrescible waste, such as food waste;
- increasing resident and visitor awareness of proper waste management in a bear-populated area; and
- maintaining “Bear Aware” committees that will monitor and comment on the effectiveness of the various measures.

Implementation by:	SLRD and member municipalities
Start Up:	On-going
Staffing Implications:	one week per year of an FTE
Costs:	\$1,500

5.7 Household Hazardous Waste

The SLRD will continue to promote the use of existing stewardship programs for the disposal of household hazardous wastes (HHW). The SLRD will work with stewardship agencies to ensure that opportunities for returning HHW, including electronic wastes, exist throughout the SLRD. Additionally, the SLRD will work with senior governments, local governments, product producers and retailers to encourage the expansion of stewardship programs to include additional products and materials.

5.8 Land Clearing Waste

Land clearing waste, such as stumps, tree trunks and large branches, will be managed in one of two ways:

1. As land is cleared, the waste is ground at the site and chips are left in situ; or
2. The waste is hauled to a wood waste disposal facility.

For environmental and human health reasons and in support of the Sea to Sky Air Quality Management Plan, the SLRD aims to eliminate the burning of all wood waste that is in the municipal solid waste stream. However, at present, there are limited viable options or facilities to manage all of the land clearing waste generated in the SLRD.

In the *southern* SLRD, stumps will not be allowed to be burned as long as alternative operations, such as facilities that chip stumps and wood waste for hog fuel or composting are available. If no such facility is available, the SLRD, in consultation with member municipalities, will consider the allowance of burning operations on a case-by-case basis. All facilities that receive landclearing

waste for the purposes of disposal by burning must have a discharge permit from the BC Ministry of the Environment.

In the *northern* SLRD, stumps can be brought to the Lillooet landfill where they will be stockpiled burned as required.

All properties that conduct on-site burning of landclearing waste must comply with the local bylaws and conduct themselves in accordance with the BC *Open Burning Smoke Control Regulation*.

5.9 Illegal Dumping

Illegal dumping of waste is a common affliction of rural areas in the SLRD. To reduce the impact of illegal dumping, the SLRD and member municipalities will:

- provide a fund to support organizations cleaning up litter and illegal dumping sites; and
- develop a regional bylaw that will prohibit illegal dumping and allow for enforcement of the bylaw.

Implementation by:	SLRD
Start Up:	2008 for fund, 2009 for regional bylaw
Staffing Implications:	one week of an FTE per year for fund management; 2 weeks of an FTE to develop bylaw in 2010
Costs:	\$3,000 per year for organizations cleaning up litter and illegal dumping sites \$2,000 for bylaw development

5.10 Backyard Burning

Due to human health and fire risks associated with open burning of waste materials and to support the objectives of the Sea to Sky Air Quality Management Plan, the SLRD aims to minimize the amount of this practice.

Burning of Garbage

A region-wide bylaw that prohibits the open burning of municipal solid waste (garbage) will be developed. Associated with the bylaw will be an awareness campaign.

Burning of Yard Waste

Once yard waste collection and composting facilities are in place, the SLRD will work with member municipalities encourage municipal bans on open burning of yard waste within municipal boundaries. Burning of yard waste in electoral areas must be conducted in compliance with the BC Open Burning Smoke Control Regulation. The SLRD will develop promotional materials to encourage use of alternative options for managing yard waste

Implementation by:	SLRD
Start Up:	2009
Staffing Implications:	2 weeks per year of an FTE
Costs:	\$3,000 to develop bylaw and awareness materials \$1,500 per year for on-going costs

5.11 2010 Olympic Games

The Vancouver 2010 Organizing Committee (VANOC) estimates that the Olympic Games and the commissioning/decommissioning of the events will generate roughly 4,530 tonnes of waste between the venues in Whistler and Vancouver. They anticipate reusing, recycling and composting 85% of the waste, resulting in an estimated residual waste of 679 tonnes that will require disposal. Using VANOC's overall waste disposal estimates, a rough estimate of the amount of waste that will require disposal at the Squamish Landfill is one-third of the total disposal requirement of the events, or 226 tonnes, less than 1% of the waste disposed in the southern corridor on an annual basis. Therefore, the Olympic Games are not expected to have a significant impact on the lifespan of the landfill. For more detail on VANOC's Integrated Waste Management Plan for the games, a document prepared by VANOC that outlines their plan is included in Appendix C.

6. Plan Implementation

6.1 Waste Reduction Performance Target

As noted in the Introduction, the 1999 Plan established a 50% per capita waste reduction goal as the primary goal of the plan. In keeping with this approach, this updated Plan sets estimates that an additional 30% diversion of waste away from landfill can occur with the implementation of the Plan's Waste minimization components.

The 2006 disposal rate was 1.56 kg/capita/day. Based on the objective of continued waste minimization, the following targets are established for this plan:

By the end of 2008	The per capita disposal rate will be 1.40 kg/capita/day.
By the end of 2010	The per capita disposal rate will be 1.25 kg/capita/day.
By the end of 2013	The per capita disposal rate will be 1.08 kg/capita/day.

6.2 Schedule

The components listed in this plan will be implemented from 2008 to 2010. The anticipated implementation time frame for each component is provided in Table 6-1.

6.3 SLRD Expenditures and Cost Recovery

Table 6-2 presents the estimated SLRD expenditures on solid waste management from 2008 to 2013. Municipal and private sector costs are not identified in the table. The addition of new programs will result in an increase of expenditure of \$50,000 to \$80,000 per year, which is equivalent to an increase of roughly 5%.

Cost recovery mechanisms that will be utilized to fund the Plan's implementation include:

- User rates;
- Tipping fees;
- Taxation;
- Sponsorship; and
- Grants.

Reflecting the guiding principles of this Plan, user-pay and market-based incentives will be applied to the provision of solid waste services wherever possible. As appropriate, opportunities for sponsorship and grants will be utilized to assist in the funding of programs.

Table 6-1 Implementation Schedule

<p>On-going Components</p>	<ul style="list-style-type: none"> • Recycling Hotline (through RCBC) • Region-wide user pay incentives • Extended producer responsibility/product stewardship • On-going support by RMOW for Whistler Re-Use It Centre • Recycling collection depots and transfer stations in Goldbridge, Devine, Pemberton, Whistler, Squamish, Furry Creek, Britannia • Yard waste collection and composting in Squamish and Whistler • Construction waste recycling depot at Whistler transfer station • Operation of the Lillooet Landfill • Bear-Human Conflict Management
<p>2008 Implementation</p>	<ul style="list-style-type: none"> • Waste minimization promotion and education • Backyard composting awareness program • Recycling program in Lillooet • In-vessel composting facility opens in Whistler • ICI technical assistance program • Task force on increasing diversion in tourist accommodations • Closure of Squamish’s current landfill and development of an upgraded regional landfill in Squamish • School program • Reuse area at Lillooet Landfill • Final closure of Pemberton landfills • Discontinue burning of landclearing waste in southern SLRD (assumes alternative management facilities available) • Illegal Dumping Clean-Up Fund
<p>2009 Implementation</p>	<ul style="list-style-type: none"> • Residential reuse exchange (electronic swap board) • Reuse area at Squamish and Lillooet landfills • Assess yard waste composting at Lillooet Landfill • Implementation of disposal bans on recyclables, yard waste, and stewardship products in areas where alternatives are readily available • Construction waste recycling assistance program • Region-wide ban on the burning of garbage • Illegal Dumping Bylaw
<p>2010 Implementation</p>	<ul style="list-style-type: none"> • Promote green building standards

Table 6-2 Estimated SLRD Expenditures

Year	2008	2009	2010	2011	2012
ZERO WASTE - REGION-WIDE PROGRAMS					
Zero Waste Promotion and Education					
Capital	\$18,500	\$0	\$0	\$0	\$0
Operating	\$4,000	\$10,000	\$10,000	\$10,000	\$10,000
School Program					
Capital		\$5,000	\$0	\$0	\$0
Operating		\$8,000	\$8,000	\$8,000	\$8,000
RCBC Recycling Hotline					
Capital	\$0	\$0	\$0	\$0	\$0
Operating	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000
ZERO WASTE - RESIDENTIAL PROGRAMS					
Backyard Composting Awareness					
Capital	\$1,000	\$0	\$0	\$0	\$0
Operating		\$500	\$500	\$500	\$500
Residential Reuse Exchange/Swap Board					
Capital	\$0	\$0	\$0	\$0	\$0
Operating	\$0	\$3,200	\$3,200	\$3,200	\$3,200
Lillooet Reuse Area					
Capital	\$0	\$5,500	\$0	\$0	\$0
Operating	Included in landfill contract				
Lillooet Recycling Program					
Capital	\$7,500	\$0	\$0	\$0	\$0
Operating	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000
Goldbridge, Devine, Pemberton, Furry Creek and Britannia Recycling Depots					
Included in transfer station contracts					
ZERO WASTE - ICI PROGRAMS					
Disposal Bans					
Capital	\$0	\$8,300		\$0	\$0
Operating	\$0	\$0	\$700	\$700	\$700
ICI Technical Assistance Program					
Capital	\$7,500	\$1,500	\$0	\$0	\$0
Operating	\$0	\$3,500	\$3,500	\$3,500	\$3,500
Task Force on Increasing Waste Diversion in Tourist Accommodations					
Capital	\$0	\$0	\$0	\$0	\$0
Operating	\$1,000	\$1,000	\$0	\$0	\$0
ZERO WASTE - C&D PROGRAMS					
Construction Recycling Assistance Program					
Capital	\$0		\$0	\$0	\$0
Operating	\$0	\$5,000	\$5,000	\$5,000	\$5,000
RESIDUAL WASTE MANAGEMENT					
Britannia Beach Transfer Station					
Capital					
Operating	\$35,000	\$35,000	\$35,000	\$35,000	\$35,000
Furry Creek Transfer Station					
Capital					
Operating	\$38,868	\$39,684	\$40,841	\$42,034	\$42,034
Pemberton Transfer Station					
Capital					
Operating	\$170,800	\$176,110	\$181,392	\$186,835	\$186,835
Pemberton Landfill Closure					
Capital	\$266,000				
Operating					
Devine Transfer Station					
Capital					
Operating	\$39,648	\$40,876	\$42,142	\$43,445	\$44,518
Gold Bridge Transfer Station (Area A)					
Capital					
Operating	\$62,974	\$64,334	\$66,249	\$68,221	\$68,221
Lillooet Landfill					
Capital					
Operating	\$261,757	\$172,369	\$175,437	\$179,584	\$183,872
Bear-Human Conflict Management					
Capital					
Operating	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
Illegal Dumping					
Capital		\$2,000			
Operating	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000
Backyard Burning					
Capital		\$3,000			
Operating			\$1,500	\$1,500	\$1,500
GENERAL OPERATIONS					
Operating	\$431,390	\$442,806	\$454,565	\$466,677	\$477,938
TOTAL CAPITAL	\$300,500	\$25,300	\$0	\$0	\$0
TOTAL OPERATING	\$1,078,937	\$1,035,879	\$1,060,026	\$1,086,196	\$1,102,818
ANNUAL SLRD EXPENDITURE*	\$1,379,437	\$1,061,179	\$1,060,026	\$1,086,196	\$1,102,818
CURRENT SOLID WASTE EXPENDITURES	\$1,310,937	\$980,679	\$1,001,626	\$1,027,796	\$1,044,418
INCREASE IN EXPENDITURE	\$68,500	\$80,500	\$58,400	\$58,400	\$58,400

6.4 SLRD Staffing

Table 6-3 outlines the staffing requirements to implement the Plan. As shown, from 2008 onwards, staffing requirements are estimated to range from 1.0 to 1.5 full-time equivalent employees (based on 48 weeks / 1800 hours per year for each FTE). Contract staff, co-op students and consultants will be hired as needed to meet additional staffing requirements.

Table 6-3 SLRD Staffing Requirements

Year	2008	2009	2010	2011	2012
ZERO WASTE - REGION-WIDE PROGRAMS					
Zero Waste Promotion and Education	13	13	13	13	13
School Program	1	1	1	1	1
RCBC Recycling Hotline	0	0	0	0	0
Product Stewardship	2	2	2	2	2
ZERO WASTE - RESIDENTIAL PROGRAMS					
Backyard Composting Awareness	2	2	2	2	2
Residential Reuse Exchange/Swap Board	1	0	0	0	0
Lillooet Reuse Area	0	3	0	0	0
Lillooet Recycling Program	5	2	2	2	2
Pemberton Yard Waste Collection Assessment	2	0	0	0	0
ZERO WASTE - PROCESSING FACILITIES					
Lillooet Landfill Composting Assessment	0	3	0	0	0
ZERO WASTE - ICI PROGRAMS					
Disposal Bans	9	9	4	4	4
ICI Technical Assistance Program	13	13	4	4	4
Task Force on Increasing Waste Diversion in Tourist Accommodations	4	4	1	1	1
ZERO WASTE - C&D PROGRAMS					
Construction Recycling Assistance Program	0	9	9	4	4
Promote Green Building Standards	0	0	1	1	1
RESIDUAL WASTE MANAGEMENT					
Britannia Beach Transfer Station	1	1	1	1	1
Furry Creek Transfer Station	1	1	1	1	1
Pemberton Transfer Station	1	1	1	1	1
Pemberton Landfill Closure	2	0	0	0	0
Devine Transfer Station	1	1	1	1	1
Gold Bridge Transfer Station (Area A)	1	1	1	1	1
Lillooet Landfill	3	3	3	3	3
Bear-Human Conflict Management	1	1	1	1	1
Illegal Dumping	1	1	3	1	1
Backyard Burning	2	2	2	2	2
TOTAL FTE REQUIREMENT (weeks)	66	73	53	46	46
TOTAL FTEs (based on 48 weeks per year)	1.4	1.5	1.1	1.0	1.0

7. Monitoring and Measurement

7.1 Plan Monitoring Committee

7.1.1 Plan Monitoring Committee

The Plan Monitoring Committee will monitor the implementation on the Plan and report directly to the Regional Board. Committee members will:

- review and become familiar with the Solid Waste Management Plan;
- review and become familiar with the existing solid waste management system in the SLRD;
- identify methodologies to be employed in the monitoring and evaluation of the Plan's implementation;
- monitor the implementation of the Plan and annually report to the Board on the effectiveness of the SWMP at achieving its objectives; and
- make recommendations to increase the effectiveness of the Plan or the solid waste management system.

The committee membership will strive to have a broad representation of interests including local government, First Nations, the waste management industry, environmental organizations, the business sector, the residential sector and senior governments. Additionally, selection of members will attempt to create a committee with a balance of representation geographically, demographically, and with a variety of interests and perspectives.

In general, there will be three meetings per year of the committee with the provision for additional meetings, workshops or other presentations at the committee's discretion.

7.2 Waste Flow Tracking and Reporting

On an annual basis, SLRD staff will compile data that reflects the status of the Plan's implementation and progress toward waste reduction targets. This data will be provided to the Plan Monitoring Committee and the regional office of the Ministry of the Environment. To monitor the effectiveness of the solid waste management system, all municipal, non-profit and private solid waste management facilities will be expected to share data with the SLRD on the quantity of materials received from waste generators and haulers within the SLRD area. Any requirements for confidentiality will be respected by the SLRD.

8. Plan Amendments

8.1 Process for Authorizing New Facilities

All facilities not currently authorized in the Solid Waste Management Plan that are involved, or propose to be involved, in the handling of Municipal Solid Waste or recyclable materials, be it processing or disposal, shall file an application for authorization in the Plan with the Regional District. In the Squamish Lillooet Regional District (SLRD) this includes the following:

- a) a disposal facility;
- b) a transfer station;
- c) a material recovery facility;
- d) a storage facility;
- e) a brokering facility;
- f) a composting facility;
- g) a land clearing/ demolition waste facility (including burn sites);
- h) pet crematoria;
- i) waste-to-energy facility (including the manufacturing facilities of refuse-derived fuel)
- j) any proposal for the beneficial use of waste;
- k) any other facility the Ministry of Environment requires.

The Director of Waste Management of the Ministry of Environment shall determine if a given or proposed facility or process can be authorized to the Plan using this procedure (as per Section 8.1.2), or a SWM Plan Amendment is required.

8.1.1 Pre-Application Meeting

Prior to investing significant time and effort in the compilation of a formal application, it is required that the applicant discuss plans with BC Environment and meet with SLRD staff to identify any immediate concerns.

8.1.2 Form of Application

An application shall be filed at the Regional District office in the form prescribed by the SLRD and copied to both the host municipality, if applicable, and the Director of Waste Management of the Ministry of Environment. Applications submitted to the Regional District will not be accepted unless accompanied by the application fee specified in Section 8.1.3. The Regional District will prepare a letter to the Director of Waste Management of the Ministry of Environment to determine if the proposed facility or process can be added to the Plan using the procedure found in Section 8.1, or a SWM Plan Amendment is required.

8.1.3 Application Fee

In keeping with the user-pay principles outlined in Section 1.2, every person who files an application shall pay to the Regional District, on application, a posted fee reflecting the technical review and administrative costs necessary to process these applications. SLRD member municipalities (Squamish, Whistler, Pemberton and Lillooet) shall be exempt from all application fees, as they are already contributing funds to the Solid Waste Management budget through disposal fees and tax requisition.

8.1.4 Application Enclosures

The application shall contain the following enclosures:

8.1.4.1 Operating Plan

The applicant shall submit an Operations Plan including, but not limited to:

- a) the legal description and civic address of the facility;
- b) the name of the owner of the land on which the facility is located or proposed to be located;
- c) the full name and address of the operator of the facility;
- d) a brief and complete description of the activity to be carried out and the municipal solid waste or recyclable material to be handled at the facility;
- e) maximum annual tonnage of material to be handled at the facility;
- f) the maximum amount of material or product (by type) to be stored at the facility at any one time;
- g) maximum discharge to air, water or land, if applicable;
- h) other information as requested by the Regional District.

8.1.4.2 Approval of Host Municipality

The applicant shall obtain written approval from the Municipal Administrator or designate of the municipality in which the facility is proposed to be located. This approval shall state that the facility meets all zoning bylaws and business licensing requirements and that the municipality endorses (at least in-principle), inclusion of this facility in the Plan. The Regional District shall not process an application if, in a report submitted to the Regional District, the municipality states that it does not approve of the application.

8.1.4.3 Ministry of Environment Concerns

All facilities must meet the British Columbia standards for environmental protection, and the applicable processes for the establishment of such facilities. If higher standards exist in the host jurisdiction, those standards must be met. A letter from the Director of Waste Management of the Ministry of Environment will be required,

8.1.5 Preliminary Approval by Regional District Board

Once the Director of Waste Management of the Ministry of Environment has determined that the proposed facility can be added to the Plan using the procedure found in Section 8.1, and upon receipt of an application, the application fee and the application enclosures (Sections 8.1.3 and 8.1.4, respectively), the application shall be submitted to the SLRD Board of Directors for approval *to continue with the application process*.

8.1.6 Preliminary Evaluation of Plan Authorization Application

Having obtained the approval (at least in-principle) of both the host municipality and the Regional District Board of Directors, the application is subject to review by Regional District staff. In reviewing the application, Regional District Staff may consider the following:

- a) the potential risk posed to the environment and public health;
- b) protection of the environment (i.e. security considerations);
- c) Ministry of Environment concerns;
- d) compliance with Municipal or Regional District zoning and land use designations;
- e) effects on other facilities identified in the Plan;
- f) the report of the Municipal Council and other municipal concerns;
- g) effects on the local community resulting from, but not limited to: transportation, odour, noise and aesthetics;
- h) any environmental impact assessment and any other investigations, test, surveys or any other action taken;
- i) any other information submitted to the Regional District;
- j) operating plans submitted to the Regional District;
- k) closure plans submitted to the Regional District;
- l) the payment of any annual fees for operation or reporting of quantities as required by the Regional District;
- m) compliance with the guiding principles of the Solid Waste Management Plan; and
- n) any other matter which the Regional District considers relevant.

If the reports and technical studies indicate that the facility may be acceptable, (subject to addressing BC Environment concerns), the applicant will be directed by Regional District staff to proceed with public consultation.

8.1.7 Public Consultation Procedure

The applicants shall, at their own cost, and within 30 days of receiving Regional District direction as per Section 8.1.6:

- (1) Publish two (2) successive notices in a newspaper that is distributed at least weekly in the area where the facility is located or proposed to be located. In the event that a newspaper does not service the area, the application shall be posted in a manner acceptable to the Regional District.

The notice must be SLRD-approved and entitled SOLID WASTE MANAGEMENT PLAN - REQUEST FOR A NEW FACILITY AUTHORIZATION. The notice must be at least 10 cm in width, at least 100 square centimetres in area (i.e. equivalent to 4"x 4"), and include at least the following information:

- a) the legal description and civic address of the facility;
 - b) the name of the owner of the land on which the facility is located or proposed to be located;
 - c) the full name and address of the operator of the facility;
 - d) a brief and complete description of the activity to be carried out and the municipal solid waste or recyclable material to be handled at the facility;
 - e) that any concerns should be addressed in writing to the SLRD; and
 - f) other information considered necessary by the Regional District.
- (2) Post a readable copy of the application, at the discretion of the Regional District, in a conspicuous place at all main road entrances to the land on which the facility is located, or proposed to be located, and/or erect a full-size sign in a location visible to the general public and keep these posted for a period of not less than 30 days.
- (3) Serve a written notice that an application has been filed, on all neighbours, commercial or residential, within 50 metres from any lot line of the subject property. The written notice shall contain the information set out in paragraph (1) a) to f) above. In cases where there will be a significant discharge to the environment, or considerable financial impact on the Plan's current solid waste facilities, the applicant may be required, at their own cost, to additionally complete the following:
- (4) Arrange for a public meeting(s) as directed by the Regional District, in the municipality in which the facility is located, or proposed to be located.
- (5) Publish a notice of the specifications set out in paragraph (1) a) to f) in all major newspapers of the Squamish Lillooet, at the discretion of the Regional District.
- (6) Publish the subject application in The British Columbia Gazette, under the heading Waste Management Application.
- (7) Serve a written notice that an application has been filed, on any tenants, commercial or residential, within 1 km of the proposed facility that the Regional District considers affected. The written notice shall contain the information set out in paragraph (1) a) to f).
- (8) Forward copies of the application to the following agencies for circulation and review:
- a) Environment Canada;
 - b) Ministry of Health;
 - c) Ministry of Environment
 - d) Council of Host Municipality; and
 - e) Any other government agencies the Regional District or Director of Waste Management of the Ministry of Environment consider necessary.
- (9) Additional Public Consultation as recommended by the Director of Waste Management of the Ministry of Environment.

8.1.8 Final Evaluation of Application

Upon receipt of the required documents indicating the appropriate Public Consultation Process has been completed, Regional District Staff shall complete a comprehensive Technical Review of the proposed facility. If the review indicates the proposed facility is feasible, all concerns have been addressed, and the Director of Waste Management of the Ministry of Environment is satisfied that the application meets Ministry requirements for environmental protection, Staff will prepare a Final Evaluation Report to be presented to the Regional District Board. With the Final Evaluation Report, the application will be presented to the Board of Directors for final authorization and inclusion in the Plan. Board approval of the proposed application shall take into account the following:

- 1) Approval of the application by Regional District staff and the Plan Monitoring Advisory Committee.
- 2) Presentation on proposed facility by the applicant to the SLRD;
- 3) Written notice from the Director of Waste Management of the Ministry of Environment, stating the application meets Ministry requirements for environmental protection;
- 4) Payment in full of the Application Fee as determined by the SLRD under Section 8.1.3;
- 5) The results of the Public Consultation Process and Technical Review; and
- 6) If the facility is to be situated within a municipality, the final approval of the Host Municipality, after receiving the completed application, as per Sections 8.1.2, 8.1.4, and 8.1.6.

8.1.9 Final Approval by Regional District Board

Upon approval of an application by the Regional District Board of Directors, the facility shall be considered authorized in the Plan. As a condition of this Final Approval, the Board, in accordance with the Environmental Management Act, shall require an interim Operational Plan for the facility. The Director of Waste Management of the Ministry of Environment, in accordance with the Environmental Management Act, may issue an Operational Certificate (OC) for the facility. If an OC is issued by MOE, it will supersede the previous interim Operational Plan required by the Board. Prior to operational start-up of the facility, the Regional District shall receive a copy of the OC, or other Operational Plan documents as required by the Board.

8.1.10 Notification of Agencies

On approval of an application, the Regional District shall notify, in writing, the following agencies: a) Environment Canada; b) Ministry of Environment c) Ministry of Health; d) any other government agencies the Regional District considers necessary; e) Council of Host Municipality; and f) the Applicant.

8.2 Procedure for Changing Operating Conditions for Plan Facilities

If there are minor changes to operating conditions for solid waste management facilities listed in this Plan, notice of the change shall be provided by the facility owner in writing to the SLRD General Manager of Utilities and Environmental Services (General Manager). If the General Manager determines that the change does not affect the objectives of the SLRD Solid Waste Management Plan, he/she will provide written acceptance of the change of operation to the facility owner and provide a copy of this notice to the Plan Monitoring Committee. If the General Manager determines that the change in operational conditions has a negative impact on the objectives of the Plan, he/she will notify the facility owner that the change in operating conditions will require a Plan Amendment.

8.3 Dispute Resolution

The following procedure should be employed in the event that there is a dispute involving interpretation of a statement of provision in the Plan or any other issue related to the implementation of the Plan:

Disputes will be settled using the following procedure:

- The parties will initially attempt to resolve the dispute without outside intervention.
- If the parties cannot resolve the dispute on their own, the Plan Monitoring Committee (PMC) will be utilized as a mediator between the parties. Any member of the PMC directly involved (employed *or* otherwise) with the parties in dispute will not be granted voting/motioning privileges, but will remain as an active participant in all discussions. All attempts will be made to reach an agreement.
- If the dispute cannot be resolved with the assistance of the PMC, a mediator may be assigned, the cost to be shared between both parties. The PMC will write a report that details the dispute and have it approved by the dissenting parties. The report will be given to the mediator. The mediator will review the report and make any inquiries he/she feels necessary to resolve the dispute. The mediator decision will then be submitted to the PMC in writing. The dispute will be considered resolved if the PMC approves the mediator's decision and the dissenting parties agree to it.

The goal of this procedure is to have disputes settled quickly, without the need for mediation. The cost sharing of an mediator will hopefully be a deterrent to reaching this step.

8.4 Plan Flexibility

Costs provided in this plan are estimates and may not reflect actual costs at the time of implementation. As a result, programs and infrastructure may undergo further assessment, including an assessment of costs and continued community support, by the Plan Monitoring Committee prior to implementation. The Plan implementation schedule will be flexible enough to reflect the variability in priorities and available funding of the ACRD and its member municipalities.

9. Plan Approval

This Plan was unanimously approved by the SLRD Board by the following resolution on December 17, 2007:

“That the Board endorse the Solid Waste Management Plan and submit the plan to the Ministry of Environment for approval.”

A copy of this resolution, certified by the Deputy Secretary is included in Appendix D.

Appendix A

2006 Population Data by Area – Census Canada

2006 Population Data by Area – Census Canada

SLRD Area	2006
Lillooet	2,324
Squamish	14,949
Whistler	9,248
Pemberton	2,192
Squamish-Lillooet Electoral Area A	207
Squamish-Lillooet Electoral Area B	575
Squamish-Lillooet Electoral Area C	1,887
Squamish-Lillooet Electoral Area D	839
SLRD Subtotal	32,221
Indian Reserves	
Bridge River 1	208
Cayoosh Creek 1	52
Cheakamus 11	82
Chilhil 6	51
Fountain 1	165
Fountain 10	0
Fountain 11	10
Fountain 12	5
Fountain 1B	0
Fountain 3	5
Fountain Creek 8	5
Kowtain 17	34
Lillooet 1	195
McCartney's Flat 4	49
Mission 5	51
Mount Currie 1	114
Mount Currie 10	181
Mount Currie 2	15
Mount Currie 6	799
Mount Currie 8	72
Necait 6	16
Nequatque 1	154
Nequatque 2	10
Nequatque 3A	10
Nesikep 6	0
Nesuch 3	116
Pashilqua 2	39
Pavilion 1	56
Seaichem 16	54
Seton Lake 5	5
Seton Lake 5A	0
Slosh 1	227
Slosh 1A	0
Stawamus 24	96
Towinock 2	5
Waiwakum 14	103
Yekwaupsum 18	20
Indian Reserve Subtotal	3004
Area Total	35,225

Appendix B

Existing Solid Waste Management System

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Appendix B

B-1. Existing Solid Waste Management System

This appendix describes the major infrastructure, services, programs and policies in place in the SLRD that currently contribute to the management of solid waste.

B-1.1 Regional Waste Reduction Information and Outreach

This section lists the main waste reduction information and education programs and activities initiated by the SLRD since the 1996 SWMP.

B-1.1.1 Information Tools and Initiatives

- The SLRD continues to support the Recycling Council of BC (RCBC) Recycling Hotline as this service provides SLRD residents and businesses with access to consolidated information on waste management programs in the region.
- The SLRD published and distributed six brochures covering 'smart gardening', worm composting, backyard composting, household hazardous waste, recycling in Whistler, and recycling in Pemberton.
- The SLRD corporate website hosts a limited amount of information about waste reduction and recycling in the region, as well as posting information about transfer and disposal facility operating hours, tipping fees and prohibited materials.
- The SLRD runs ads in local papers to publicize holiday hours of operation at its transfer and disposal facilities. These ads typically contain waste reduction messages relevant to the season or holiday.

B-1.1.2 Community and School Outreach

- The SLRD has conducted outreach, including workshops, to schools throughout the region on the issues of recycling, composting, household hazardous waste, e-waste, and air and water quality.
- The SLRD conducts outreach at community events.
- Private and non-profit organizations in the region also engage in 3Rs related education and promotion activities. For example, Carney's Waste Systems often participates in community events, and AWARE (Association of Whistler Area Residents for the Environment) has initiated and provided funding for two compost demonstration gardens in the Whistler area.

B-1.2 Reduction and Reuse Programs

B-1.2.1 Reuse

'Free' stores are operated at the Goldbridge, D'Arcy/Devine and Pemberton transfer stations. The salvage area at the Lillooet landfill will be upgraded to a free store in 2007 with the addition of a building for storage of salvageable goods. In addition, there are a number of commercial and non-profit reuse stores in the region, such as the Whistler Reuse-It Centre, located at the Function Junction transfer station.

B-1.2.2 Residential Composter Distribution

The SLRD operated a subsidized residential composter distribution program until 2005, selling more than 500 backyard compost units and 100 worm bins. Backyard compost units continue to be sold privately at local hardware and garden centres in the region.

B-1.3 Recycling

A range of discarded products and materials are collected in public and private recycling facilities and programs throughout the region, notably cardboard, newspaper, office paper, mixed paper, rigid containers (glass, plastic, metal), appliance (white goods) and scrap metal. However, the types of products and materials collected vary considerably by region and community. The development of recycling programs in the southern part of the SLRD has been facilitated by the relatively close proximity of these communities to high demand processing and end markets in Greater Vancouver, as well as by the presence of the intermediate recycling facility (materials recovery facility, or MRF), located in Squamish, which is privately owned and operated by Carneys Waste Systems. In the northern part of the SLRD, notably Electoral Areas A, B and the District of Lillooet, low population densities and extensive distances to MRFs and end markets have limited the development of programs in these areas to date.

B-1.3.1 Public Recycling Programs by Community

This section briefly describes public recycling collection facilities and programs managed by the SLRD or member municipalities.

B-1.3.1.1 Furry Creek

The SLRD provides the residents of Furry Creek with a multi-material recycling depot located at the Furry Creek Transfer Station. The recycling bins are serviced under contract by Carney's Waste Systems.

B-1.3.1.2 Britannia Beach

The SLRD provides a multi-material recycling depot at the Britannia Beach Transfer Station. The recycling bins are serviced under contract by Carney's Waste Systems.

B-1.3.1.3 District of Squamish

The District of Squamish provides residents and small businesses with a depot system consisting of three unstaffed drop off facilities and a drop off depot at the Squamish Landfill. Additionally, there is a full-scale drop off facility at Carney's Recycle Centre, located in the Squamish Industrial Park. These facilities accept cardboard, newspaper and fine paper, glass, tin, aluminum and plastic containers, and plastic film. The recycling depot program is managed under contract by Carney's Waste Systems. In addition to recyclables, Carney's Recycle Centre operates the Product Care depot that takes in paint, pesticides, fuel and solvents for recycling and/or proper disposal. Yard waste is accepted at the Squamish Landfill.

B-1.3.1.4 Pine Crest/Black Tusk Village

The Electoral Area D communities of Pine Crest and Black Tusk Village, located south of Whistler, have recycling collection services provided by the corporate owners of these residential areas.

B-1.3.1.5 Resort Municipality of Whistler

In Whistler, most businesses, multi-family dwellings and tourist accommodations provide on-site recycling collection facilities, serviced under contract by private operators. Public recycling depots are located at the Function Junction and Nester's transfer stations, as well as at the Whistler Transfer Station. The recycling depots are owned by the Resort Municipality of Whistler and operated under contract by Carney's Waste Systems. The Function Junction and Nester's recycling depots are unstaffed facilities that handle small quantities of recyclable materials such as cardboard, paper, glass, plastic and metal, as well as lead acid batteries. The recycling depot at the transfer station handles a comprehensive range of materials, including: office paper, cardboard, tires, car batteries, yard debris, gypsum wallboard, scrap metal and appliances. The facility is also a service point for the Product Care program, handling left over paint.

B-1.3.1.6 Pemberton and Area

Pemberton area residents and businesses have access to a recycling depot at the SLRD's Pemberton Transfer Station, located in the Pemberton Industrial Park. The site has controlled accessibility and is currently open 29 hours per week. Newsprint, mixed paper, cardboard and containers (glass, plastic, metal) are accepted free of charge. In 2007, the SLRD established a Product Care facility at the depot to handle left over paint, flammable liquids and pesticides free of charge to residents.

B-1.3.1.7 Devine/D'Arcy

Residents and businesses of the Devine/D'Arcy corridor have access to a limited drop off facility at the Devine Transfer Station. This is a small collection service provided by a local resident at no charge to users. Materials collected include newsprint, mixed paper, cardboard and containers (glass, plastic, metal).

B-1.3.1.8 Goldbridge, Bralorne and Area

The Goldbridge Transfer Station is an SLRD-provided service operated by a contractor. The facility currently handles recyclable cardboard, lead acid batteries, used oil/filters/containers, appliances (white goods), steel, auto hulks, tires, cooking oil. Cardboard, which is received at no charge to residents, is hauled by a private hauler to Lillooet for consolidation and shipment to market. A collection depot for used oil, oil filters and containers was established at the transfer station in 2006 under the BC Used Oil Management Association (BCUOMA) product stewardship program. Users are not charged tipping fees to drop off used oil/oil filters/containers. The SLRD has an arrangement with a BCUOMA registered hauler for collection of these products. Tipping fees are charged for handling tires and lead acid batteries.

B-1.3.1.9 Lillooet and Area

In the District of Lillooet and area, recycling opportunities are primarily limited to the recycling facilities at the Lillooet landfill. The SLRD-owned landfill handles scrap metal, appliances, tires and lead-acid batteries. As well, a collection program for used oil, oil filters and containers was established at the facility under the BC Used Oil Management Association (BCUOMA) product stewardship program.

B-1.3.2 Private Industrial, Commercial and Institutional (ICI) Recycling Initiatives

Throughout the region, commercial corrugated cardboard collection is available through private contract. In the southern portion of the region, businesses and institutions can arrange for on-site collection of a broader range of recyclables through services offered by private firms.

B-1.3.3 Construction and Demolition (C&D) Waste Recycling

In the southern region, the RMOW operates a waste sorting and processing yard at the Whistler Transfer Station, facilitating increased diversion of recyclable and compostable C&D materials including clean wood waste, cardboard and steel.

Carney's Waste Systems provides a C&D recyclable waste collection and sorting service to the construction industry. The service includes supplying roll off containers for the collection of mixed loads of clean wood, metal and cardboard, and the sorting and marketing of these materials at the Carney's C&D sorting yard in Squamish.

Gypsum wallboard is banned from disposal in the southern regional district. Source-separated gypsum can be dropped off at disposal facilities for a fee. Collected gypsum is shipped to the Lower Mainland for recycling.

At the Goldbridge transfer station, reusable fixtures, such as bathroom sinks, may be salvaged and set aside for reuse.

B-1.4 Composting

B-1.4.1 Yard Waste

Yard waste drop-off facilities for residential and commercial users are provided at the Squamish Landfill and the Whistler Transfer Station. Yard waste received at the Squamish landfill is composted on-site. Yard waste collected at the Whistler Transfer Station is currently being stockpiled for composting at their in-vessel composting facility, which is scheduled to be operational in 2008.

A private facility in Squamish receives yard waste for a tipping fee. This material is blended with wood chips and used as hog fuel.

B-1.4.2 Centralized Compost Facility

A 50-tonne per day, privately owned and operated in-vessel composting facility operated in Squamish from 2004 to 2006 to process food waste, as well as clean wood waste, yard waste and biosolids. The Resort Municipality of Whistler subsequently purchased the composting equipment in 2007 for the purpose of processing biosolids and food waste. It has been relocated to the Whistler Transfer Station site.

B-1.5 Residual Waste Management

Residual waste management refers to the collection, transfer and disposal of municipal solid waste that is not composted or recycled. Major elements of the residual waste management system established in the SLRD are briefly described in this section. In general, the publicly managed disposal system currently consists of five full transfer stations and two landfills located in Lillooet and Squamish. Figure B-1-1 illustrates the system configuration and flow of residual wastes accounted for in the public transfer and disposal system. Table B-1-1 presents the amount of waste disposed by community in 2006, and quantities disposed in region or exported via the Whistler Transfer Station.

Table B-1-1. Waste Disposal by Community, 2006

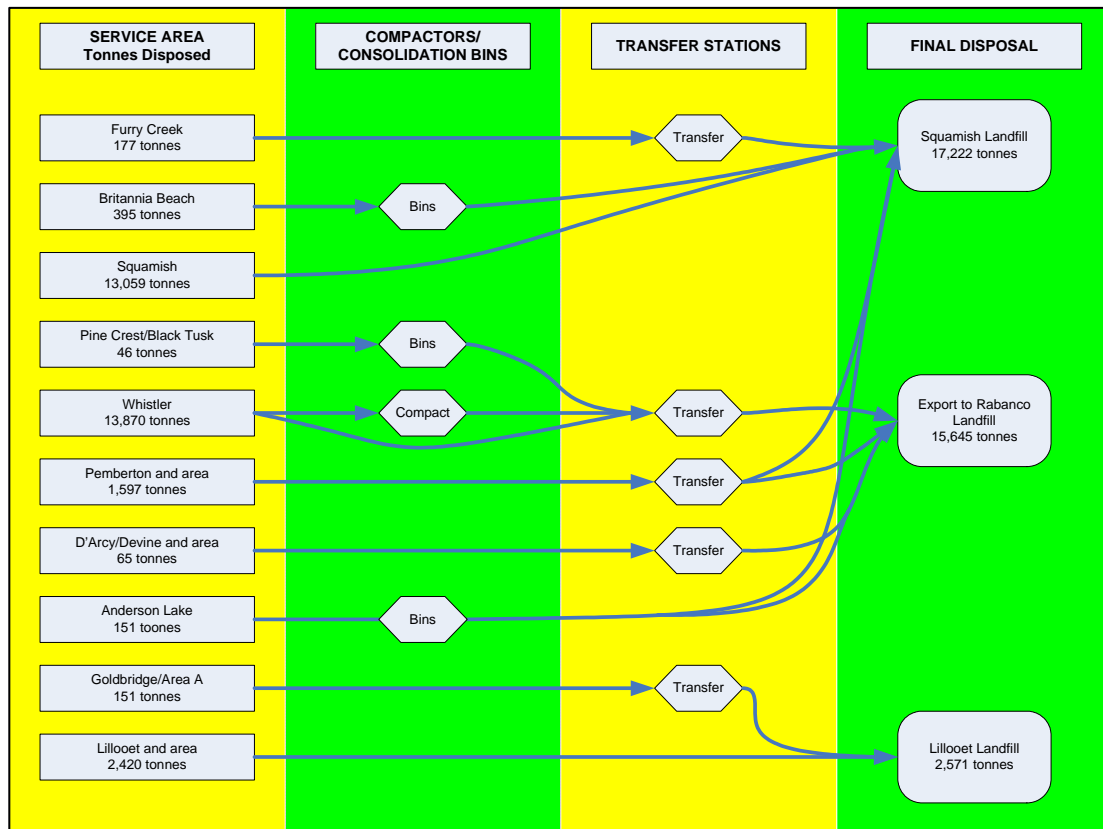
Community	Disposed in Region (tonnes)	Exported via Whistler Transfer Station (tonnes)	Total (tonnes)
Furry Creek	177		177
Britannia Beach	395		395
Squamish	13,059		13,059
Pine Crest and Black Tusk		46	46
Whistler		13,870	13,870
Pemberton	144	1,453	1,597
Anderson Lake (N'Quatqua)	10	140	151
D'Arcy		65	65
Area A	151		151
Lillooet	2,420		2,420
Total	16,345	15,574	31,929
% of Total	51%	49%	100%

B-1.5.1 Collection Services

The District of Squamish provides curbside garbage collection to single family homes in its jurisdiction. In 2006, the District implemented an automated collection service and provided each household with a 65 gallon plastic wheeled container with a lid. In Lillooet, the municipality provides curbside garbage collection in Central Lillooet. These two garbage collection services are currently contracted out to private haulers. Residents living in areas unserved by curbside collection are required to self-haul their garbage to a community bin, transfer station or landfill or arrange for private collection. Privately operated curbside collection services are available to individual residents in Lillooet and Pemberton for a fee.

The collection of waste generated in the ICI and C&D sectors is managed privately. Companies and organizations typically contract with hauler for on-site waste collection services, or they may self-haul their waste to a transfer station or disposal facility.

Figure B-1-1. SLRD Residual Waste Flows (2007)



B-1.5.2 Transfer Stations

The SLRD has established transfer stations at Goldbridge, Devine, Pemberton, Britannia Beach and Furry Creek. The RMOW operates a transfer station, as well as two compactor facilities. In the community of Pine Crest/Black Tusk, residents currently have access to community disposal bin systems provided by the community's corporate owners.

B-1.5.2.1 Goldbridge Transfer Station

The Goldbridge transfer station receives small loads of residential and commercial waste primarily from Electoral Area A users. The transfer station, which does not have a scale, is administered by the SLRD and operated under contract by a private firm. Waste delivered to the transfer station is weighed at Ainsworth Lumber Ltd before being hauled to Lillooet for disposal. The station received a 151 tonnes of waste in 2006.

B-1.5.2.2 Anderson Lake

The Anderson Lake transfer facility is owned by the N'Quatqua Band. The facility transferred 151 tonnes of waste to the RMOW transfer station and the Squamish Landfill in 2006.

B-1.5.2.3 Devine Transfer Station

The Devine transfer station primarily serves Electoral Area C residents living in the communities of Birken, D'Arcy and Devine. The transfer station, which does not have a scale, is administered by the SLRD and operated under contract by a private firm. Waste delivered to the transfer station is transported to the Whistler Transfer Station. Commercial loads of refuse are not accepted. The transfer station received 65 tonnes of waste in 2006.

B-1.5.2.4 Pemberton Transfer Station

The Pemberton transfer station, located in the Pemberton Industrial Park, receives small loads of residential and commercial waste primarily from the Village of Pemberton and Electoral Area C residents. Large commercial loads of refuse are not accepted at the transfer station. The station, situated on leased land, is administered by the SLRD and is operated under contract by a private firm. The station received 1,597 tonnes of waste in 2006. Waste received at the transfer station is transported to the Squamish Landfill.

B-1.5.2.5 Whistler Transfer Station

The Whistler Landfill was closed in 2006, at which point the RMOW established a temporary transfer station. A new permanent transfer station is situated at a site in the Callaghan Valley south of Whistler and opened in 2007. Waste discharged at the transfer station is currently exported to the Roosevelt Landfill in Washington State, which is a private facility owned by Rabanco Services. The RMOW's contract with Rabanco expires in 2011, with an option to renew. In 2006, the Whistler Transfer Station received 15,574 tonnes of waste, which includes waste from Whistler, Pine Crest/Black Tusk, Anderson Lake, and D'Arcy/Devine.

B-1.5.3 Landfills

B-1.5.3.1 Lillooet Landfill

The Lillooet Landfill, located on Moha Road in Lillooet, is owned by the SLRD and operated under contract by a private firm. The landfill serves the District of Lillooet and Electoral Areas A and B. It is also increasingly being used by First Nations communities in the area that are facing closure of on-reserve disposal sites. The landfill received 2,420 tonnes of waste in 2006.

B-1.5.3.2 Squamish Landfill

The Squamish Landfill, located on the Squamish Valley Road in Squamish, is owned by the District of Squamish and operated under contract by a private firm. The landfill receives waste primarily

from the District of Squamish and the communities of Furry Creek, Britannia Beach and Pemberton. The landfill received 13,784 tonnes of municipal solid waste in 2006 from these communities. In addition, 653 tonnes of biosolids and 87 tonnes of MSW from the Village of Lions Bay (in the GVRD) were disposed at the Squamish Landfill in 2006.

This landfill was originally permitted in 1978. For most of its life, it was operated as a trench landfill where garbage was buried in excavated trenches. In 2002, the trenching areas were exhausted so that the operation was changed to an area fill on top of the filled trenches. This landfill received roughly 10,000 tonnes of waste per year for most of its life until 2003 and 2004 when the amount received increase to 15,000 tonnes of waste annually. The landfill consumes about 10,300 m³ of air space per year. The long-term average in-situ density of waste placed in the landfill is estimated to be 0.92 tonnes/m³.¹

B-1.5.4 Construction and Demolition Waste

Construction and demolition waste is primarily clean wood waste. In the SLRD, there are several operations that manage C&D waste:

- the Lillooet landfill stockpiles C&D waste and burns it on a regular basis;
- at the Whistler Transfer Station, the material is sorted for recycling. Clean wood waste is stockpiled for use in the composting facility. “Dirty” wood is ground for hog fuel.
- at the Squamish landfill, the wood component of the C&D waste is stockpiled and burned; and
- near Whistler, Coast Mountain excavating is permitted to receive wood waste for burning.

B-1.5.5 Landclearing Waste

Landclearing debris is accepted at the Squamish and Lillooet Landfills and at Coast Mountain Excavating (Whistler). At all of these locations, the material stockpiled and burned.

In Squamish, a private operation receives clean wood waste for a tipping fee and chips the material for use as hog fuel.

The SLRD does not administer or monitor the activities of private wood waste disposal facilities.

B-1.6 Product Stewardship Programs

In BC, industry-led product stewardship is a strategy intended to shift the costs and responsibilities associated with end-of-life product management from government to producers, and to ensure that these products are managed in accordance with the waste management hierarchy (reduce, reuse,

¹ Information on the historic development of the Squamish Landfill is from Sperling Hansen's "Squamish Landfill Draft Design and Operations Plan" (2006)

recycle). Consistent with this strategy, seven product stewardship programs have been implemented under the BC Recycling Regulation:

- ready to drink beverage containers, except milk and milk substitutes;
- architectural paints;
- flammable liquids, gasoline and pesticides;
- used lubricating oil, oil filters and containers;
- pharmaceuticals;
- electronic equipment; and
- passenger car and light truck tires.

The provincial government also operates the Transportation Incentives Program (TIPS) for the recovery of lead acid batteries. There are also voluntary or non-regulated product stewardship programs offered by industry associations or individual companies to take-back discarded products and/or packaging waste. Examples of products taken back at stores or other locations under voluntary initiatives include: rechargeable batteries; mobile phones; dairy containers; toner cartridge return programs and plastic bag recycling receptacles at some grocery stores.

Table B-1-2 presents the number of product return facilities currently provided in the SLRD by producers of products covered under the BC Recycling Regulation.

Table B-1-2. Product Stewardship Return Facilities in SLRD, 2007

Beverage containers	Non-alcohol containers, except milk and milk substitutes Wine, spirits, imported be	Encorp Pacific Canada	Up to 24 containers per person per day with refund at retail outlets. Unlimited returns with full refund at Encorp depots: <ul style="list-style-type: none"> ■ Squamish (1 depot); ■ Whistler (1 depot); ■ Pemberton (1 depot); and ■ Lillooet (1 depot).
	Domestic beer, cider and cooler containers	Brewers Distributors Limited	Unlimited returns for full refund at retail outlets for domestic beer.
Oil	Oil, filters, containers	BC Used Oil Management Association	Individuals can return used oil, filters and containers to: <ul style="list-style-type: none"> ■ Squamish (3 automotive shops); ■ Whistler (1 shop); ■ Pemberton (2 shops); ■ Lillooet Landfill; ■ Lillooet (1 shop); and ■ Goldbridge Transfer Station.
Hazardous Wastes	Flammable liquids Pesticides Gasoline	Product Care	<ul style="list-style-type: none"> ■ Squamish (Carney's Recycle Centre); ■ Pemberton Transfer Station.
Paint	Architectural paints	Product Care	<ul style="list-style-type: none"> ■ Lillooet (1 retailer); ■ Pemberton Transfer Station; ■ Whistler Transfer Station; and ■ Squamish (Carney's Recycle Centre).
Medications	Prescription drugs, vitamins	Post Consumer Phar	<ul style="list-style-type: none"> ■ Lillooet (2 pharmacies); ■ Pemberton (1 pharmacy); ■ Whistler (3 pharmacies); ■ Squamish (2 pharmacies); and ■ Garibaldi Highlands (1 pharmacy).
Tires	Passenger, light truck and medium truck tires	Tire Stewardship BC	<ul style="list-style-type: none"> ■ Gold Bridge Transfer Station (1); ■ Lillooet Landfill; ■ Lillooet (3 retailers); ■ Pemberton Transfer Station (1); ■ Pemberton (4 retailers); ■ Whistler (3 retailers); and ■ Squamish (12 retailers/wreckers).
E-Waste	Computers, televisions, peripherals	Electronics Stewards by Encorp)	<ul style="list-style-type: none"> ■ Whistler (1 depot); and ■ Squamish (1 depot).

B-1.7 Regulations and Policies

A range of local policies and regulations support the regional solid waste management system, including user pay systems, tipping fees, material bans, and burning restrictions.

B-1.7.1 User Pay

User pay policies are intended to shift the costs of garbage collection and disposal directly to the waste generator as an incentive to reduce the amount of waste disposed. The primary application of user pay as a public policy in the SLRD at present is in the form of tipping fees, where users pay a disposal fee at a transfer station or landfill based on the quantity and type of waste disposed. Fees may be reduced, or eliminated altogether, for products and materials that are recyclable.

Tipping fee bylaws are in effect for the Goldbridge,² Pemberton,³ and Whistler⁴ Transfer stations, and the Lillooet⁵ and Squamish⁶ landfills. Tipping fees are not charged at the Devine, Britannia or Furry Creek Transfer Stations or at the Whistler compactor sites. The system of fees and charges varies considerably across the region, with the base per tonne tipping fee ranging from \$65.50 per tonne at the Lillooet Landfill to \$110 at the Whistler Transfer Station. Users of these facilities are not charged tipping fees to drop off designated recyclables, such as cardboard.

B-1.7.1.1 Bag Tag and Volume Restrictions

The SLRD implemented a bag tag program in Electoral Area A/Goldbridge in 2005, allowing non-commercial residents to dispose of two bags of garbage per week (up to 104 bags per year) at the Goldbridge Transfer Station at no charge. They are charged the standard residential waste tipping fee to dispose of untagged or additional bags of garbage. The District of Squamish, which implemented an automated garbage collection service in 2006, requires residents to only set out as much garbage as will fit in their 121 litre wheeled containers.

B-1.7.2 Material Disposal Bans and Surcharges

Through the application of bylaw bans, automobile hulks and oversized tires are prohibited from disposal at the Lillooet Landfill and automobile hulks are prohibited at the Squamish Landfill. Gypsum wallboard is not specifically prohibited from disposal in the region, but operational policies at the Whistler Transfer Station and Squamish Landfill require source segregation of large loads for the purpose of recycling, and bylaws support this through the application of specific tipping fees

² *Squamish Lillooet Regional District Refuse Disposal Site Tipping Fee Amendment Bylaw No 936, 2004. (Schedule e – Goldbridge Transfer Station)*

³ *SLRD Refuse Disposal Site Tipping Fee Amendment Bylaw No 935, 2005. (Schedule C – Electoral Area C and Village of Pemberton)*

⁴ *Resort Municipality of Whistler. Consolidated Bylaw No 1455, 1999. A Bylaw to Provide for the Control and Disposal of Garbage. Schedule A. Bylaw 1724, 2004 – Solid Waste/Recycling Rates Amendment.*

⁵ *SLRD Refuse Disposal Site Tipping Fee Amendment By-law No. 904-2004 (Schedule A – Lillooet Landfill)*

⁶ *District of Squamish. Refuse Collection and Disposal and Sanitary Landfill Site By-Law No. 1083, 1992*

that cover the costs of transportation and discharge at recycling facilities in Greater Vancouver. The RMOW Garbage Bylaw applies a 50% surcharge to loads of waste containing more than 10% cardboard. Hazardous and special wastes are typically not accepted at municipal waste landfills.

B-1.7.3 Burning Restrictions

Most developed areas of the SLRD prohibit open air burning of household refuse and restrict burning of landclearing waste, construction and demolition debris and residential yard waste. The District of Squamish has a complete ban on all forms of waste burning. The Resort Municipality of Whistler prohibits burning of residential yard waste and landclearing debris except during specified periods in the spring and fall, as determined by the Fire Chief. A permit, issued by the Fire Department, is required. Permits are also required to conduct backyard burning in the Village of Pemberton and District of Lillooet, and seasonal restrictions or bans may be implemented at the discretion of the local Fire Chief. In unincorporated areas, backyard burning and burning of landclearing waste is not regulated at the local government level, though local fire restrictions and the BC *Open Burning Smoke Control Regulation* may apply.

B-1.7.4 Solid Waste Equalization Agreement

In accordance with the 1999 Solid Waste Management Plan, commencing in 2000, the SLRD entered into an eight year “equalization agreement” with the Resort Municipality of Whistler and the District of Squamish. RMOW and Squamish agreed to compensate the SLRD for the additional operation and transportation costs at the Pemberton and Devine transfer stations resulting from the amendment to the 1996 SLRD Solid Waste Management Plan by which residual waste would not be shipped out of the region. The agreement sets out the method for calculating annual payments, using 1998 tonnages and costs at the Pemberton and Devine transfer stations as a baseline. The reimbursement costs are apportioned between the RMOW and Squamish based on the relative amount of solid waste received at each of their respective landfills. The Equalization Agreement with Whistler and Squamish ends on December 31, 2008.

B-1.8 First Nations Landfills

First Nations are responsible for providing their own waste management systems, as regulated under the federal *Indian Reserve Waste Disposal Regulations*. In the SLRD, some communities have their own on-site landfills, while others contract with commercially available collection and disposal services or they self-haul their MSW to SLRD facilities. Some First Nations landfills in the region may be reaching capacity or may soon be required to close by Indian and Northern Affairs Canada.


B-1.9 Closed Landfills

There are three closed landfills known to the SLRD:

1. The recently closed Whistler Landfill (MOE file # MR-04692(03)) which is owned by the Resort Municipality of Whistler;
2. One landfill in Pemberton (MOE file # PR-01587(01)) which is the responsibility of the SLRD; and
3. One landfill located 10 km south of Pemberton (MOE file # PR-07272(05)) which is the responsibility of the SLRD. This site has not undergone full closure. Final closure design and monitoring are underway.

Appendix C

Vancouver 2010 Olympics Integrated Waste Management Plan



**Integrated Waste Management Planning
for the 2010 Olympic and Paralympic
Winter Games**

Presentation by
David Crawford
February 2007

Presentation Outline

- Introduction
- Organizational commitments
- Historical information
 - 2002 Salt Lake City Winter Olympic and Paralympic Games
 - 2006 Torino Winter Olympic and Paralympic Games
- Estimated 2010 Winter Games solid waste generation
- Integrated waste management system design
- Collaboration



VANOC Commitments

Sustainability

VANOC Vision:
A stronger Canada whose spirit is raised by its passion for sport, culture and sustainability

Key Sustainability Outcomes for VANOC:

1. Raise awareness and inspire action
2. Make a material difference at the Games
3. Build the Olympic and Paralympic brands

Sustainability

VANOC's Sustainability Performance Goals:

1. Environmental Footprint Reduction
2. Social Inclusion and Accessibility
3. Unprecedented Aboriginal Participation
4. Economic Value-Add and Competitiveness
5. Accountability - Performance Management & Reporting
6. Sport for Sustainable Living

Environmental Footprint Reduction

5 Key Focus Areas

1. Biodiversity & Habitat– minimize footprint
2. Energy & Climate Change – aim for carbon neutral
3. Water Quality & Conservation – non-toxic, low-flow
4. Air Quality – minimize emissions
5. Waste Management – aim for zero waste

Definition of the term 'solid waste'

- Solid waste includes:
 - Non-hazardous materials that are
 - Reusable
 - Recyclable
 - Compostable
 - Garbage

Zero Waste

VANOC is committed to moving toward Zero Waste – a decision-making process that prioritizes the following integrated solid waste management activities:

1. Source reduction
2. Reuse
3. Recycling (including composting)
4. Waste-to-energy
5. Disposal at landfill

Current policy:

Develop and implement VANOC's cleaning and waste processes to help avoid and manage spills, minimize use of toxic substances and maximize diversion of waste from landfills.



Historical Context Solid Waste Management at Other Games

2002 Salt Lake City Winter Games

Total solid waste generation from Games-Time

Activity	Tonnes	Percentage
Games-Time: Olympics & Paralympics	1,450	40%
Commissioning & Decommissioning	2,180	60%
Total	3,630	100%

- No documentation from land clearing or construction activities - waste reduction and recycling took place

2002 Salt Lake City Winter Games

1,450 tonnes solid waste generation from Games-Time
When and where was solid waste generated?

Activity	Percentage
Olympics	57%
Paralympics	12%
Park-&-Rides (during Games-Time) and all sites 10 days prior to Games (fit-out)	31%
Total	100%

2002 Salt Lake City Winter Games

Solid Waste Breakdown by Material

Material	Tonnes	Percentage
Cardboard	117	8%
Plastic	80	6%
Aluminum	4	.25%
Other metal	9	.75%
Organic material	801	55%
Waste sent to landfill	344	24%
Wood	49	3%
Contaminated recyclables	46	3%
Total	1,450	100%

2006 Torino Winter Games

Solid Waste Breakdown by Material

Material	Tonnes	Percentage
Paper	118	10%
Plastic	29	2%
Organic material	115	9%
Glass and metal cans	10	1%
Wood	21	2%
Waste sent to landfill	0	0%
Waste-to-Energy	920	76%
Total	1,213	100%

2002 and 2006 Winter Olympic Games

Solid Waste Streams	Salt Lake City (Tonnes)	Torino (Tonnes)
Composted, Recycled or Reused	1,106	293
Waste-to-Energy	0	920
Landfill	344	0
Total	1,450	1213

Learning from Past Games

- Similar generation per spectator during Olympic Games and Paralympic Games
- Salt Lake City's generation of organic materials was ten times greater than Torino's

Why?

- Food type and service method at the Villages in Torino significantly reduced food wastage
- Most of the food waste is generated at the Villages



Vancouver 2010 Solid Waste Generation Estimate

2010 Solid Waste Generation Estimation

We know that:

- 2010 uses Salt Lake City's commissioning and decommissioning process as a planning guide
- 2010 food services will be more like Torino than Salt Lake City

2010 Solid Waste Generation Estimation

Total solid waste generation estimate from September 2009 to May 2010 is calculated as follows:

$$\begin{aligned}
 &\text{Salt Lake City's Commissioning and Decommissioning Waste Generation} \\
 &\quad \mathbf{2,180 \text{ tonnes}} \\
 &\quad + \\
 &\quad \text{Torino's per spectator Games-time Generation} \\
 &\quad \text{(1.3 kg/ticket – includes all workforce \& operations)} \\
 &\quad \text{x 2010 Winter Games event tickets (1.8M)} \\
 &\quad \mathbf{2,350 \text{ tonnes}} \\
 &\quad = \\
 &\mathbf{2010 Games-Time Estimated Total Solid Waste Generation} \\
 &\quad \mathbf{4,530 \text{ tonnes}}
 \end{aligned}$$

2010 Winter Games – Waste Management Targets

- Minimum 85% diversion from the landfill for all solid waste generated between September 2009 and June 2010
 - 2010's operational phase
- This is complemented by 2010's land clearing and construction waste diversion and recycling activities

2010 Solid Waste Generation Estimation

Solid Waste Streams (Tonnes)	Commissioning & Decommissioning	Games-time	Total
85% Reuse, Compost, Recycle & Waste-to-Energy	1,853	1,998	3,851
15% Maximum Potential Landfill	327	352	679
Total	2,180	2,350	4,530

Regional Context

Total Generation of Recyclables and Waste

Location	Tonnes per Year	Tonnes per Day
GVRD	3,090,000	8,466
RMOW	23,360	64
Total	3,113,360	8,530

2010 Games total solid waste generation estimate = 4,530 tonnes

Equivalent to:

- 0.00145 percent of the annual generation of both the GVRD and RMOW combined
- Solid waste generated every ~13 hours in both the GVRD and RMOW combined



2010 Winter Games Integrated Waste Management System

Integrated Waste Management System Design

- Functional Business Plan to address integrated waste management, snow removal, cleaning, portable toilets and litter
 - Director starts work today
- Some key deliverables include:
 - Set standards and expectations
 - Create venue specific plans
 - Purchase or rent collection containers, rent waste handling equipment, contract waste processing and recycling service providers
- Control inputs and outputs
 - BuySmart program

“Buy Smart” Procurement Program

- To help VANOC achieve its sustainability and Aboriginal participation commitments
- Work with suppliers to leverage sustainability impacts and increase innovation, trade and investment in the sustainability and Aboriginal participation sector.

Campus 2010

- Workplace best practices in:
 - Reuse
 - Recycling
 - Composting
- Paper use guidelines toward reduction
- Staff awareness and education

Pre-Games

Venue construction phase (2005 to 2008)

- Reuse/refurbishment of building and equipment components
- Comprehensive recycling e.g. metal, wood, plastic, glass, concrete
- LEED green building standards
- Wood waste re-use initiatives at mountain venues



Commissioning

Back of House:

Multiple streams

- Metal
- Plastic
- Wood
- Organics
- Wire and cable
- Temporary signage

Direct linked to asset management and post-Games destination & disposal

- Life cycle management



Games-time

Front of House:

Two-stream system

1. Beverage containers
2. Everything else

Colour code each waste stream

- Bins, bags, collection containers, signs

Directly tied to food and beverage decision-making



System Design Summary

1. Commissioning phase

2009 to January 2010

Similar to current industrial, commercial and institutional recycling activities

2. Games-Time Phase

February and March 2010

Very unique, controlled by VANOC

3. Decommissioning phase

April to June 2010

Work we do now will bear fruit post Games



Logistics and Materials Management

How will VANOC track its integrated waste management activities?

- Asset management software and other data management systems:
 - Track end of use / post-Games destination for all items we control:
 1. Source reduction
 2. Reuse
 3. Recycling (including composting)
 4. Waste-to-energy
 5. Disposal at landfill
- We will know the ultimate destination for all items before the Games begin
- Sustainability Management and Reporting System

Working with Others

Opportunities for Collaboration – Beyond reducing Games-time impact can we:

- Raise awareness
- Inspire action

Operational Interface Issues

- RMOW
- City of Vancouver
- GVRD
- SLRD

Dialogue with Environmental NGOs

RMOW Strategic Framework for the 2010 Olympic & Paralympic Winter Games

- To use the Games to accelerate Whistler's journey toward sustainability and ensure that sustainability principles are included in their planning and delivery.
- To deliver municipal services required for an extraordinary Games.

RMOW 2010 Strategic Framework

- **Strategic Objective I – Accelerating Our Journey Toward Sustainability**
- Support the development and implementation of an environmentally and socially responsible procurement program for products and services used in the 2010 Games. 2006-2010 is listed as the timeframe for accomplishing this Deliverable.
- p) Investigate the feasibility of expanding recycling opportunities in Whistler Village during and after the Games. 2009/2010 is listed as the timeframe for accomplishing this Deliverable.

RMOW 2010 Strategic Framework

- **Strategic Objective J – Delivery of Municipal Services**
- i) Waste Management Plan – develop and implement a Waste Management Plan to ensure a high standard of materials stream management during the Games, and effective implementation of the Plan. 2007 is listed as the timeframe for accomplishing this Deliverable.

Timeline of Activities

- 2007 – Initial planning, determine scope and operational requirements
- 2008 – Issue tenders, select service providers
- 2009 – Activate the plan
- 2010 – Operations, post-Games documentation and shared learning
- Internal: VANOC Sustainability Management and Reporting System
- External: Annual VANOC Sustainability Report

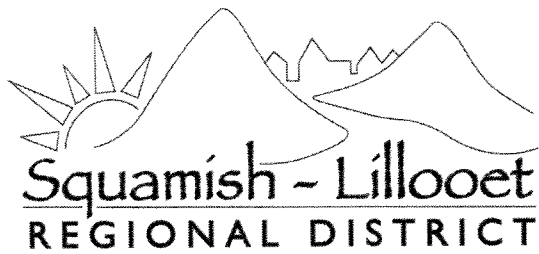


**THANK YOU
MERCI**

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Appendix D

Board Resolution to Approve the Plan December 17, 2007



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RESOLUTION

Solid Waste Management Plan Update Approval

It was moved and seconded:

THAT the Board endorse the Solid Waste Management Plan and submit the Plan to the Ministry of Environment for approval.

CARRIED

Certified a true and correct resolution of the Squamish-Lillooet Regional District Board, passed unanimously on December 19, 2007.

Allison Macdonald
Deputy Secretary