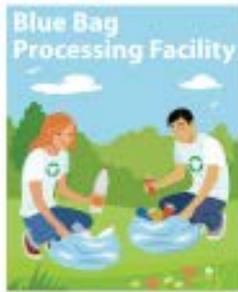
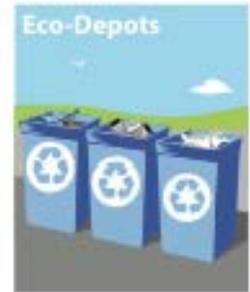




REGIONAL DISTRICT of NORTH OKANAGAN

Solid Waste Management

2011 PLAN UPDATE



FINAL DRAFT August 2011

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EXECUTIVE SUMMARY

As required under Provincial guidelines, the Regional District of North Okanagan (RDNO) has undertaken a review of its Solid Waste Management Plan (SWMP). The review began in January 2007.

The 2011 Plan Update restates the objectives of the original RDNO SWMP and identifies a number of initiatives that could be implemented to support the RDNO's goal to reduce the amount of municipal solid waste disposed in the region. The update also provides information on the status of the recycling and disposal facilities managed by the RDNO.

Upon approval by the Ministry of Environment, implementation of the strategies contained in the Plan Update will begin. This Plan Update does not replace the original RDNO SWMP or the 2002 Plan Update, but rather builds upon these earlier documents to ensure the RDNO is managing municipal solid waste within the region in an environmentally, economically and socially responsible manner.



A. INTRODUCTION

In accordance with the requirements of the *Environmental Management Act* (the Act), as amended, the RDNO has undertaken a review of its Solid Waste Management Plan (the Plan) for the second time. The following outlines the historical context of solid waste management planning in the RDNO:

1989:

The Act was amended to require that all regional districts submit a solid waste management plan on or before December 31, 1995, and the Province endorsed a municipal solid waste (MSW) management strategy, which called for reducing the amount of municipal solid waste requiring disposal by 50 percent (from 1991 levels) by the year 2000.

1992:

The Act was amended to include the following; reconfirm that regional districts must submit solid waste management plans by 1995; clarify the roles of local governments in MSW management planning; expand the definition of MSW to include demolition, land clearing and construction (DLC) waste; expand the scope of MSW management planning to include recyclable materials as well as MSW; and provide new enabling authority for regional districts to implement MSW management plans approved by the Minister of Environment. Guidance documents were prepared by the Ministry of Environment (the Ministry) to assist regional districts in developing and implementing MSW management plans.

1993 – 1996:

Associated Engineering assisted the RDNO Solid Waste Management Steering Committee, the Ministry, and the RDNO technical and public advisory committees in the development of the Plan, which was endorsed by member municipalities and the RDNO Board of Directors, and subsequently approved by the Ministry.

2000 – 2002:

As required under Provincial guidelines, the MSW Plan was reviewed with the assistance of Associated Engineering and the RDNO Solid Waste Management Plan Monitoring Committee, and subsequently an amendment was endorsed by member municipalities and the Board of Directors and approved by the Ministry.

The 2011 Plan Review was conducted in four phases. **Phase 1** started in January 2007 and was completed with the assistance of CH2M Hill and Regional Board committees.

Phase 1 included a review of the following:

- existing SWMP programs and policies
- Table 9 of the 2002 Plan Update (list of strategies)
- the Solid Waste Function’s Annual Reports including per capita waste disposal trends
- staff and stakeholder interviews
- the RDNO’s needs and opportunities.

The Board of Directors approved proceeding with Phase 2 of the Plan Review in October 2007. **Phase 2** of the Plan Review included the evaluation of priorities that were short listed from a long list of the 71 programs and policies to address the trends, needs, and opportunities generated in Phase 1 (2007).

Table 1 below lists the priorities evaluated by CH2M Hill. Appendix A contains an overview of the reports presented on each topic which are available upon request.

Table 1 – Short List PRIORITIES FOR PHASE 2 EVALUATION	
<i>Administrative</i>	<ol style="list-style-type: none"> 1. Assess the ways and means of using development cost charges for solid waste management infrastructure. 2. Assess the need and implementation of Enterprise Funds to financially assist waste reduction entrepreneurs. 3. Investigate a policy to formalize interregional cooperation in waste management including harmonizing tipping fees throughout the Okanagan Valley.
<i>Waste Reduction & Recycling</i>	<ol style="list-style-type: none"> 4. Evaluate eco-depot concepts and locations especially with respect to customer convenience and land use in the Region, including the economic efficiency and zoning issues associated. 5. Assess the existing Blue Bag processing system and facility, including evaluation of alternatives such as out-of region processing, private public partnership for a complete Material Recovery Facility (MRF) redesign, and re-tendering to resolve existing issues. 6. Evaluate the curbside Blue Bag Program and the Drop Centre Program (RDFs and Glass Collection Depots) to determine if the program should be expanded (number of locations, etc) and enhanced to include other materials such as textiles, fluorescents, agriculture plastics, and other plastic products such as toys and pipe. Also evaluate whether or not shredded paper should be included or sent to composting facilities. 7. Determine the best method for including businesses in the Blue Bag Recycling Program.

**Table 1 – Short List
PRIORITIES FOR PHASE 2 EVALUATION**

	<p>8. Determine the economic viability of a Universal Curbside Collection Program for all residential generated materials: garbage, compostables, and recyclables whether managed by the RDNO or by individual municipalities.</p> <p>9. Examine mechanisms for further diversion of DLC waste, including but not limited to, private and public resource recovery parks and partnerships with industry.</p>
<i>Composting</i>	<p>10. Determine the best management strategy for organic waste including wood and yard waste from the Demolition, Landclearing and Construction (DLC), Residential, Commercial, Industrial, and Agricultural sectors; and food waste from the Residential, Commercial, Industrial and Agricultural sectors.</p>
<i>Residuals Management</i>	<p>11. Examine efficiencies and environmental protection needs with respect to including in the SWMP the management of non-typical municipal solid wastes such as agricultural (e.g. plastics and slaughter waste) and industrial wastes (e.g. ash and wood), and water and wastewater treatment plant wastes.</p>

The following twelfth and thirteenth priorities were added by the Board of Directors in 2010 and 2011 respectively.

	<p>12. Examine the options for using waste-to-energy processes to manage solid waste in the RDNO.</p> <p>13. Examine the feasibility of implementing a municipal solid waste sorting process at the RDNO Recycling and Disposal Facilities to ensure all recyclable material is out of the waste stream before disposal.</p>
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Phase 3 of the Plan Review included public consultation and referral of the Draft 2011 Plan Update to member municipalities. Appendix C provides the feedback received and a written response to the comments and questions. The Final Draft 2011 Plan Update will be presented to the Board of Directors for endorsement and submission to the MOE.

Phase 4 includes finalizing the Draft 2011 Plan Update including highlighting the changes, a second referral to the member municipalities, approval by the Board of Directors and submission to MOE for review and ministerial sign off. Implementation of the Plan will be undertaken as individual strategies are approved by the RDNO Board of Directors.

B. PLAN REVIEW OBJECTIVES

The objectives of the Plan Review were to evaluate the status of current waste reduction initiatives and the quantity of waste currently being disposed, including any trends in waste management that may warrant consideration in the RDNO (Phase 1). An extensive list of 71 potential waste reduction initiatives was compiled, with eleven selected for in-depth evaluation (Phase 2). Two additional waste reduction initiatives were added by the Board of Directors during Phase 2. Since the original waste reduction target of reducing the amount of municipal solid waste requiring disposal by 50 percent (from 1991 levels) has not been achieved except from 1998 to 2002, the primary objective of Phase 2 was to identify initiatives aimed at reducing the per capita disposal rate from 0.63 to 0.55 tonnes.

Public involvement in the evaluation of the Phase 2 priorities was limited to attendance at Committee and Board meetings and by reviewing the reports which were posted on the RDNO website. All of the Phase 2 initiatives that have yet to be implemented or that were not rejected by the Board of Directors are included in the Draft 2011 Plan Update.

Public consultation was undertaken to generate feedback on a preliminary draft of the 2011 Plan Update (Phase 3). Feedback received during public consultation and from member municipalities has been incorporated into the final draft.

1. Waste Reduction Target

The 2002 Plan Update maintained the waste reduction target at 50% of 1991 disposal levels, specifically 0.55 tonnes per capita. The following table shows per capita disposal levels since 2000. The recommended waste reduction target for the 2011 Plan Update remains 0.55 tonnes disposed per capita annually. To achieve this target requires approximately 6,000 additional tonnes to be diverted from disposal annually in the RDNO, based on the 2009 disposal quantities.

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
0.54	0.52	0.55	0.59	0.72	0.66	0.65	0.68	0.64	0.64

Achievement of the waste reduction target is measured annually. An annual report is produced which provides the following information to the Board of Directors and members of the public:

- Solid Waste Management Plan Status
- Waste Reduction and Recycling Program Achievements and Plans
- Waste Disposal Program Achievements and Plans
- Administration Achievements and Plans.

C. GUIDING PRINCIPLES

Phase 2 of the Plan Review included prioritizing strategies to generate a Short List, including a number of strategies that were not implemented from the 2002 Plan Update; confirmation of the Plan principles; and the in-depth evaluation of the Short List of programs and policies for the next five to ten years. In November 2007, the Regional Services Committee reconfirmed the following guiding principles for the Plan as well as the Short List of priorities:

1. All solid waste management policy and program development decisions should consider, among other things, environmental, social and economic costs and benefits; impacts on RDNO strategic plans; and impacts on stakeholders, affected agencies, and the general public.
2. The RDNO should reduce disposal of municipal solid waste to the greatest extent possible, in accordance with the hierarchy of “reduce, reuse and recycle” and consider zero waste principles, including sustainability, when setting new targets.
3. The RDNO should consider climate change issues when making solid waste management decisions, including generation of greenhouse gases and use of alternative energy.
4. The RDNO should consider airshed and watershed issues when making solid waste management decisions.
5. Incentives used by the RDNO to encourage reduction, reuse, recycling and composting should include user-pay and market-based mechanisms.
6. The RDNO should ensure that program implementation is inclusive of all solid waste generation sectors where feasible, including Institutional, Commercial, and Industrial (ICI), Agricultural, Residential, Demolition, Landclearing, and Construction (DLC), and other non-typical municipal solid waste streams.
7. Implementation of Solid Waste Management Plan elements should be flexible and reflect the realities of the RDNO’s abilities to finance projects and programs, including the use of direct and non-direct servicing.

Greenhouse Gas (GHG) Commitments:

As a signatory to the Climate Action Charter, RDNO is working towards reducing GHG emissions derived from corporate operations which includes the transportation and diversion of solid waste. In working towards fulfilling the commitments of the Climate Action Charter, RDNO will conduct annual inventories of GHG emissions and seek opportunities for reducing emissions. With respect to solid waste management, RDNO will amend collection contracts to include fuel management reporting requirements to populate the corporate GHG emissions inventory and encourage the use of fuel efficient vehicles. Energy efficiency opportunities will also be investigated in facilities used in the diversion of solid waste.

The RDNO Regional Growth Strategy proposes to established regional GHG reduction targets of 15% by 2020 and 25% by 2030 from the 2007 baseline. Solid waste management makes up 4.6% of regional community GHG emissions, therefore initiatives that result in waste reduction, waste diversion or transportation reductions within the Solid Waste Management Plan will contribute to achieving these GHG reduction targets.

D. STRATEGIES AND IMPLEMENTATION

The following sections outline the strategies and policies that make up the 2011 Plan Update.

1. Development Cost Charges
2. Inter-Regional Solid Waste Management Committee
3. Eco-Depots
4. Blue Bag Processing Facility
5. Blue Bag Recycling Program Improvements
6. Blue Bag Recycling Program for Businesses
7. Universal Curbside Collection
8. DLC Waste Management Strategy
9. Organic Waste Management Strategy
10. Non-Typical Municipal Solid Waste Management

Additionally, Section E lists initiatives that were derived from the public consultation process.

All strategies pertaining to other initiatives which are listed in the original Plan and the 2002 Plan Update which have or have not been implemented to date are still applicable.



1.0 Development Cost Charges

Description of Review Topic	Diversion Potential	Implementation Period	Estimated Cost
Assess the ways and means of using development cost charges (DCCs) for solid waste management infrastructure.	N/A	5 yrs	N/A

1.1 Action Statement

Determine the process necessary to enable local governments to include solid waste management infrastructure in their Development Cost Charge (DCC) Bylaws and to initiate this process such that the Province amends the Local Government Act to include Solid Waste Management infrastructure in DCC Bylaws by 2016.

1.2 Potential Implementation

- a) The first step was to take a resolution to the Southern Interior Local Government Association (SILGA) to get support from other jurisdictions to have the Province amend the *Local Government Act* to authorize collection of DCCs for solid waste management infrastructure.
- b) The draft resolution that was supported by the RDNO Board of Directors at their regular meeting on March 2, 2011 was as follows:

“WHEREAS the Local Government Act (Section 932 – 937) allows municipalities and regional districts to collect development cost charges from developers, for municipal parks, water, sewage, drainage and highways but not for municipal solid waste infrastructure;

AND WHEREAS the costs to expand municipal solid waste infrastructure capacity or upgrade facilities to accommodate population growth are substantial and can be assessed;

AND WHEREAS there is precedence for this type of funding, specifically, there are several jurisdictions in the United States of America that allow municipalities to use a form of development cost charges to help fund solid waste management infrastructure;

THEREFORE BE IT RESOLVED that the Provincial Government amend the Local Government Act to authorize collection of development cost charges by municipalities and regional districts for municipal solid waste infrastructure.”

- c) The resolution was not presented at the SILGA so it will be forwarded to the Union of BC Municipalities for consideration at their conference in Spring, 2012.
- d) A positive outcome at UBCM may help push this issue onto the Provincial Government's agenda and result in an amendment to the Local Government Act.
- e) If legislation is changed, encourage member municipalities to develop DCC bylaws or amend current bylaws to include DCCs for waste management infrastructure.
- f) If there is no support through these channels, then the initiative should be dropped.

1.3 Performance Measurement

1. The Province agrees to consider amendments to the Local Government Act to allow DCCs for solid waste management infrastructure.
2. Identification of solid waste management infrastructure which would be eligible for funding through DCC's and amendment or establishment of the appropriate DCC Bylaws.



2.0 Inter-Regional Solid Waste Management Committee

Description of Review Topic	Diversion Potential	Implementation Period	Estimated Cost
Establish a formal interregional Solid Waste Management Committee to facilitate valley wide cooperation on solid waste management issues	N/A	2 yrs	N/A

2.1 Action Statement

Determine the level of interest on the part of solid waste management staff, municipal councils and regional district Boards of Directors to establish an interregional Solid Waste Management Committee to facilitate valley wide cooperation on solid waste management issues. If there is interest, RDNO Solid Waste Management staff will work cooperatively with other solid waste management staff in the southern interior to develop terms of reference for such a committee with the objective of having an Interregional Solid Waste Management Committee in place by the end of 2013.

2.2 Potential Implementation

- a) Invite other southern interior regional districts to participate in a workshop to determine the level of interest in establishing an interregional Solid Waste Management Committee.
- b) If there is sufficient interest in establishing such a committee from surrounding regional districts that a committee is warranted, establish a working group to develop and finalize a memorandum of understanding that lays out the terms of reference for the committee, including representation (staff and/or directors/councilors), meeting times, hosting, reporting, agenda development etc.

2.3 Performance Measurement

1. Scheduling of workshop to determine level of interest in establishing an interregional Solid Waste Management Committee
2. Development, distribution and adoption of memorandum of understanding between neighboring jurisdictions which includes terms of reference for Interregional Solid Waste Management Committee.



3.0 Eco-Depot Collection System

Description of Review Topic	Diversion Potential	Implementation Period	Estimated Cost
Evaluate eco-depot concepts and locations especially with respect to customer convenience and land use in the region	100 – 500 tonnes/year	2 – 5 yrs	\$200,000 capital (shared with Stewards)

3.1 Action Statement

Evaluate the technical and economic feasibility of establishing eco-depots at one or more locations in the regional district which would provide “one-stop-drop” locations for recyclable material managed by the RDNO and products managed by industry stewards under the BC Recycling Regulation by the end of 2013 and provide a recommendation to the Board of Directors with respect to the establishment of one or more eco-depots in the regional district by the end of 2016.

3.2 Potential Implementation

- a) Evaluate the technical and economic feasibility of establishing eco-depots at one or more locations in the regional district
- b) Determine the level of interest amongst product stewards to provide funding to establish one or more eco-depots at RDNO Recycling and Disposal Facilities and/or private depots.
- c) Develop a design and operating specifications for eco-depots to be located at one or more RDNO Recycling and Disposal Facilities and provide a business case analysis to the Board of Directors for consideration.
- d) Upon Board of Directors approval, develop operating agreements with the industry stewards and establish eco-depots at one or more RDNO RDFs based on a full cost recovery basis.
- e) Develop and implement a communication and education plan with the assistance of the stewards (financial and content) designed to maximize the amount of material diverted from disposal.

3.3 Performance Measurement

1. Evaluation of technical and economic feasibility of establishing eco-depots.
2. Finalization of operating agreements with industry stewards.
3. Establishment of eco-depots at one or more RDNO Recycling and Disposal Facilities, and/or private depots.
4. Increase in quantity of material collected, processed and recycled.



4.0 Improved Blue Bag Processing System and Facility

4

Description of Review Topic	Diversion Potential	Implementation Period	Estimated Cost
Continue to operate the current Blue Bag processing system and facility with minor capital improvement until such time as more details about the provincial EPR program for packaging and printed paper are known.	2,000 tonnes/year	1 – 2 yrs	\$3 Million (new building) capital plus \$250,000/year operating (depending on structure of agreement)

4.1 Action Statement

As soon as possible, award a three to five year contract to one of the proponents involved in the Request for Proposals (RFP) process started in 2010, to upgrade and operate the RDNO Material Recovery Facility (MRF) on Birnie Road, with the RDNO providing some funding towards short term capital improvements. Within the next three years, work with the packaging and printed paper industry stewardship agencies to ensure that at least the existing RDNO Blue Bag Recycling Program is maintained, and that in future, funding for the Program is provided through the stewardship agencies.

4.2 Potential Implementation

In May 2011, the Province announced that the Recycling Regulation had been amended to include packaging and printed paper and stewardship programs were to be implemented in three years. This changed the timeline on the MRF RFP process so the three proponents that submitted proposals as requested were asked to re-submit proposals for the operation of the existing facility for three to five years only, with minor capital improvement.

- a) Once evaluation of the proposals is completed, prepare a report for the Board of Directors with recommendations regarding contract award, and a short term funding strategy for the processing of Blue Bag Recycling Program material.
- b) Consult with the packaging and printed paper stewards to determine how materials collected in the RDNO will be processed in the future and if the RDNO MRF will be needed in any capacity (e.g. sorting and/or baling and marketing).
- c) If the RDNO's MRF is needed, develop a long term agreement with the stewardship agency(s) on a full cost recovery basis.
- d) Assess the need for a new MRF in the RDNO based on the long term needs of the stewardship agency(s).

4.3 Performance Measurement

1. Finalization of a short term agreement with a contractor that will operate and maintain the current MRF on Birnie Road with minor capital improvements.
2. Development of a long term agreement with the stewardship agency(s) to fund RDNO recycling programs.
3. Improved operational efficiency at the MRF in the RDNO to control per tonne processing costs and enhance the working environment for processing staff.
4. Increased quantities of recyclable material processed.



5.0(a) Expanded Recycling Programs - Textiles

Description of Topic Reviewed	Diversion Potential	Implementation Period	Estimated Cost
<p>Evaluate the curbside Blue Bag Program and the Drop Centre Program (RDFs and Glass Collection Depots) to determine if the program should be expanded (e) (number of locations, etc) and enhanced to include other materials such as textiles(a), fluorescents (b), agriculture plastics (c), and other plastic products such as toys and pipe (d). Also evaluate whether or not shredded paper should be included or sent to composting facilities.</p>	<p>0.027 tonnes per year per capita (2007)</p>	<p>2 – 5 yrs</p>	<p>\$70,000 capital and \$84,000 per year operating</p>

5.1 Action Statement

The RDNO will evaluate the technical and economic feasibility of implementing a textiles recycling program that would provide curbside and/or drop centre collection of old, unusable and unsoiled clothing, rags, linens, etc. for sorting and recycling at a regional MRF by the end of 2013. Present the Board of Directors with a business case analysis of such a program for their consideration, approval and implementation by the end of 2016.

5.2 Potential Implementation

- a) Within two years, investigate the used textiles market and evaluate the feasibility of a textiles recycling program including program design and operating costs, and if feasible provide a business case to the Board of Directors for approval.
- b) Upon approval, implement the program.
- c) Develop and implement a communication and education plan.

5.3 Performance Measurement

1. Increased annual quantity diverted from landfill once program initiated.
2. Increased quantity of recyclable material processed and shipped to market.



5.0(b) Expanded Recycling Programs – Agricultural Plastics

Description of Topic Reviewed	Diversion Potential	Implementation Period	Estimated Cost
See 5.0(a)	300 tonnes/year	2 – 5 yrs	\$130/tonne

5.1 Action Statement

Although not considered municipal solid waste, agricultural waste plastics will be managed by the RDNO to ensure proper disposal and recycling of this material. Therefore, within the next five years, the RDNO will undertake a pilot program to determine the diversion potential, operational considerations, and associated costs for a region wide agricultural plastic waste diversion and recycling program, and will make recommendations to the Board of Directors for implementation of such a program based on the results of the pilot program. If an EPR program is implemented for this material within the next three to five years by industry or the Province, the RDNO will support this program instead.

5.2 Potential Implementation

- a) Undertake agricultural waste recycling pilot program for two years.
- b) Evaluate results of pilot program and if feasible provide a business case to the Board of Directors for approval.
- c) Determine the locations that will be used for collecting agricultural plastics and the markets available for the material.
- d) Design the program, invite stakeholders to review the program design and then finalize the program.
- e) Add new operational requirements to the RDF site operator's contracts.
- f) Develop and implement a communication and education plan.
- g) Report to the Board of Directors after one and a half years with recommendations for continuation of the pilot, implementation of a formal program or discontinuation of the pilot (no future program).

5.3 Performance Measurement

1. Increased quantity of recyclable material processed and shipped to market.
2. Successful pilot program (good participation).



5.0(c) Expanded Recycling Programs – Bulky Plastic Products

Description of Topic Reviewed	Diversion Potential	Implementation Period	Estimated Cost
See 5.0(a)	unknown	2 – 5 yrs	Include in Eco-Depot cost or Agriculture Plastic Program costs

5.1 Action Statement

The RDNO will evaluate the feasibility of implementing a recycling program for bulky plastic products, starting with a drop off style program. If an Extended Producer Responsibility (EPR) program is implemented by the Province or voluntarily by industry within five years for these items, the RDNO will support this program instead.

5.2 Potential Implementation

- a) Within four years, staff will investigate markets for different types of bulky plastic products such as toys, tarps, furniture and drums, and if available and stable, determine a recycling program design and operating costs, and then provide a business case to the Board of Directors for approval.
- b) If EPR programs are implemented either voluntarily or under the Recycling Regulation, support implementation of such on a cost recovery basis.
- c) Upon approval, implement the program until EPR can take over.
- d) Encourage the private and not-for-profit sector to implement re-use programs, especially for refurbished toys.
- e) Develop and implement a communication and education plan.

5.3 Performance Measurement

1. Increased annual quantity diverted from landfill once program initiated.
2. Increased quantity of recyclable material processed and shipped to market.



5.0(d) Expanded Recycling Programs – Fluorescent Light Tubes and Bulbs

Description of Topic Reviewed	Diversion Potential	Implementation Period	Estimated Cost
See 5.0(a)	None (vapour only)	0 yrs	Processing - \$4,000/yr and hazardous waste landfill costs - \$200/year

5.1 Action Statement

The RDNO will continue to decrease the amount of mercury going to landfill by accepting commercially generated fluorescent light tubes and bulbs for processing at the GVRDF, but will not accept bulbs and tubes from the residential sector, since these are now handled through a Provincially approved stewardship program.

5.2 Potential Implementation

- Ensure residential fluorescent tubes and bulbs are on the list of Regulated Material (Schedule B) in the RDNO Municipal Solid Waste Management Bylaw (Bylaw).
- Continue to accept commercial quantities of fluorescent light tubes and bulbs at the Greater Vernon, Armstrong/Spallumcheen and Lumby Recycling and Disposal Facilities for processing and disposal.
- Direct all residents to drop off residential generated fluorescent tubes and bulbs at the Stewardship depots.
- Randomly inspect residential disposal of waste to determine if tubes and bulbs are being disposed and enforce the Bylaw accordingly.

5.3 Performance Measurement

- Increase in number of fluorescent tubes and bulbs dropped off at Recycling and Disposal Facilities for processing and prevented from being disposed.



5.0(e) Expanded Recycling Programs – Two New Drop Centres

Description of Topic Reviewed	Diversion Potential	Implementation Period	Estimated Cost
See 5.0(a)	Unknown	2 – 5 yrs	\$400,000 capital, 120,000 /yr operating

5.1 Action Statement

If a curbside program for collection of recyclable material for businesses within the RDNO is not implemented within three years by either member municipalities or the RDNO, the RDNO will consider expanding current recycling programs by adding two new drop off locations north of Enderby and north of Vernon, near the north end of Swan Lake. A primary objective is to partner with the private sector and Product Stewards where possible.

5.2 Potential Implementation

- a) If curbside recycling programs for businesses are not implemented within three years in all municipalities in the RDNO, staff will evaluate locations for two new drop centre facilities for Blue Bag recyclable material north of Enderby and north of Vernon.
- b) Determine the location costs through purchase or lease, determine the drop centre design and operating costs, and then provide a business case to the Board of Directors for approval.
- c) Upon approval, implement the drop centres and procure an operator.
- d) Develop and implement a communication and education plan.

5.3 Performance Measurement

1. Increased annual quantity diverted from landfill once program initiated.
2. Increased quantity of recyclable material processed and shipped to market.



6.0 Blue Bag Collection Program for Businesses

Description of Review Topic	Diversion Potential	Implementation Period	Estimated Cost
Determine the best method for including businesses in the Blue Bag Recycling Program.	500 tonnes/year	2 – 5 yrs	Cost recovery through collection contracts

6.1 Action Statement

Within three years, the RDNO will investigate the implementation of a region-wide Blue Bag Recycling Program for businesses. For those jurisdictions interested, the RDNO will assist, and if desired, add the service to the RDNO's existing residential curbside Blue Bag Collection Program. If an Extended Producer Responsibility (EPR) program is implemented by the Province or voluntarily by industry within three years for packaging and printed paper generated by the commercial sector, the RDNO will support this program instead.

6.2 Implementation

- a) Determine which member municipalities wish to implement a curbside Blue Bag Recycling Program for businesses and if they would like RDNO assistance in implementing such programs.
- b) Provide options and estimated costs to interested member municipalities.
- c) Prepare a report for the Board of Directors outlining the options for provision of the service to businesses.
- d) If a specific option is approved, implement the option and if not, the initiative should be dropped.
- e) Develop and implement a communication and education plan if a new program is initiated.

6.3 Performance Measurement

1. Implementation of expanded Blue Bag collection program for businesses in all jurisdictions to further divert recyclables from landfill.
2. Increased quantity of recyclable material processed and shipped to market.



7

7.0 Universal Curbside Garbage and Recyclable Material Collection Program

Description	Diversion Potential	Implementation Period	Estimated Cost
Determine the economic viability of a Universal Curbside Collection Program for all residential generated materials: garbage, compostables, and recyclables whether managed by the RDNO or by individual municipalities.	5,000 tonnes/year	2 – 5 yrs	Cost recovery through collection contracts (saving to customers: 20% per household/month)

7.1 Action Statement

Within the next three years and when requested by member municipalities and Electoral Areas, the RDNO will assist with the implementation of a universal garbage collection service through a regional or sub-regional tendering process, with the member municipalities having the option to manage contracts themselves. The RDNO will investigate implementing automated curbside collection, using carts, for all areas currently being served by the Blue Bag Recycling Program.

If implemented, universal collection will reduce the number of self-haulers driving to RDFs through many neighborhoods, in turn reducing the number of vehicles on the road and their associated GHG emissions. This will contribute to regional and local GHG reduction targets that are set within the Regional Growth Strategy and Official Community Plans. This type of universal program would also potentially assist with reducing the amount of solid waste burned in the rural areas and increase the amount of compostable and recyclable material diverted from landfill.

7.2 Potential Implementation

- a) Evaluate the results of the garbage collection survey distributed to Electoral Areas B, C and D and prepare a report with recommendations for the Board of Directors outlining options for universal curbside collection.
- b) If the Board of Directors approves implementation of a universal curbside collection program in the Electoral Areas, invite stakeholders to a meeting to discuss implementation, develop a draft tender document and issue the tender.
- c) Implement a communication and education plan regarding universal curbside collection.

7.3 Performance Measurement

1. Increased diversion of recyclable material from landfill.
2. Reduced lineups at the RDFs by reduction of self hauler traffic with associated decreased service complaints from self haulers.
3. Decreased number of open burning fires.
4. Decreased wear and tear on roads and increased safety on roads (anecdotal).



8.0 Construction and Demolition Waste Management Strategy

Description of Review Topic	Diversion Potential	Implementation Period	Estimated Cost
Examine mechanisms for further diversion of demolition, landclearing and construction (DLC) waste, including but not limited to, private and public resource recovery parks and partnerships with industry.	13,400 tonnes/year	1 – 5 yrs	Potential additional grinding costs if material does not go to private Resource Recovery Facility (RRF) and \$22,000/year education/promotion

8.1 Action Statements

The following initiatives for demolition, landclearing and construction waste types will be considered for implementation within the next five years:

Concrete:

If private diversion alternatives become available, ban concrete from RDFs to divert the material to these facilities.

Plastics & Fibre:

Implement disincentives for including this material in loads when recycling alternatives are available.

Metal:

Implement more disincentives for including this material in loads when recycling alternatives exist.

Asphalt:

Separate all used asphalt and use for hard surfacing areas where needed at RDFs.

Clean Wood:

Encourage reuse as much as possible (e.g. firewood). Separate clean from dirty wood where possible. Chip and use for composting, mulch, and/or co-gen.

Contaminated Wood:

Separate clean from dirty wood where possible. Chip and use for roads, tipping pads and for daily cover mixed 50/50 with soil. Recognize potential for airborne hazardous particles. Consider supplying co-gen facilities where possible.

Mixed Demolition:

Strongly encourage deconstruction wherever and whenever possible. Require hazardous waste assessment prior to demolition. Implement more disincentives for not pre-sorting recyclable material. Consider a sorting operation at some RDFs.

Mixed Construction:

Implement more disincentives for not pre-sorting recyclable material. Consider a sorting operation at some RDFs.

Landclearing:

Encourage stump cleaning before arrival. Chip and use for composting, mulch, and/or co-gen.

8.2 Potential Implementation

- a) Within the next five years, develop a program design including operating costs for each initiative and seek approval from the Board of Directors.
- b) Upon approval, implement the program.
- c) Design and implement a communication and education plan for any new DLC waste management programs.

8.3 Performance Measurement

1. Increased diversion of DLC waste materials from landfill.
2. Reduced import of materials for day to day operations (i.e. road base etc.).



9.0 Organic Waste Management Strategy

9

Description of Review Topic	Diversion Potential	Implementation Period	Estimated Cost
Determine the best management strategy for organic waste including wood and yard waste from the Demolition, Landclearing and Construction (DLC), Residential, Commercial, Industrial, and Agricultural sectors; and food waste from the Residential, Commercial, Industrial and Agricultural sectors.	4,750 – 7,050 tonnes/year	1 -10 yrs	Gas Tax Grant for new yard waste composting facility: \$1M plus \$125,000/year operating; \$50,000 capital for north Vernon depot and \$47,500 /year operating; and cost recovery through collection contracts

9.1 Action Statements

The following initiatives and programs for organic waste management will be considered for implementation within the next ten years:

Within 0 – 2 Years:

- 1 **Natural Landscaping and Yard Care Program** Invest in increasing the profile of its existing program through a renewed educational and promotional program, including cooperation with landscape professionals, garden centres and ‘big box’ hardware stores.
- 2 **Master Composter Program** Develop a program possibly with neighboring regions and host ‘Train the Trainer’ type workshops.
- 3 **Backyard Composter/ Vermicomposter Incentive Program (including review)** Determine the effectiveness of the existing Composter Sale held bi-annually to see if more subsidized sales are warranted.
- 4 **Mandatory Yard Waste Separation** Periodically inspect loads of refuse to determine if yard waste is being disposed and apply surcharges as per the Municipal Solid Waste Management Bylaw.
- 5 **Expanded Yard Waste Drop Off Network** Determine feasibility of providing three new drop off depots: Coldstream, Enderby & north end of Vernon.

Within 0 – 2 Years:

- | | | |
|----|---|---|
| 6 | Expanded Christmas Tree Collection | Determine feasibility of providing a drop off service in Enderby, Lumby, Spallumcheen and Armstrong. |
| 7 | Improved Wood Waste Segregation Program | Segregate wood and yard waste at RDFs into its most useful components for existing operations and programs: small debris for composting directly, large branches, clean wood, dirty wood, stumps and logs. |
| 8 | Regional Yard Waste Composting Facility | Construct the planned facility at the GVRDF and produce a good quality marketable product. Cost recovery through GVRDF user fees should be the primary funding mechanism. |
| 9 | Promote Development of Private Facilities | Provide waste characterization information to private food waste composting facility developers, and establish policies and bylaws to provide a framework for facilities to operating within (e.g. Waste Stream Management Licenses). |
| 10 | Mulch Production (feasibility study only) | Assess the demand for mulch in the region and if positive then determine feasibility of filling the demand using clean wood waste received at RDFs. |
| 11 | Regional Coordination of Wood Waste Management | Work with adjacent jurisdictions to coordinate wood waste uses and supply contracts to reduce competition for existing markets. |

Within 3 – 5 Years:

- | | | |
|----|---------------------------------------|---|
| 12 | Periodic Yard Waste Collection | Facilitate curbside collection in all population centres, including expanding the collection period and ensuring consistent specifications. |
|----|---------------------------------------|---|

Within 5 – 10 Years:

- | | | |
|----|--|--|
| 13 | Seasonal Yard Waste Collection | Facilitate enhanced curbside collection in all population centres, including expanding the frequency (more seasons) and adding other organics such as food waste. |
| 14 | Expanded Regional Composting Initiative for Food Scraps | Once the regional yard waste composting facility is functioning well, determine the feasibility of adding other organics such as specific food scraps to this facility or if a separate facility should be built or used on a contract basis (private facility). |

Initiatives that will result in diversion of solid waste from landfills, especially a reduction in organic waste, will contribute to a reduction in landfill derived GHG emissions and contribute to achieving regional and local GHG reduction targets that are set within the Regional Growth Strategy and Official Community Plans.

9.2 Potential Implementation

- a) In the short term, consult with the member municipalities to determine if more frequent yard waste collection can occur in their jurisdictions, instead of just twice per year and encourage this for their next garbage collection contracts.
- b) Develop a program design, including operating costs, for each initiative and seek approval from the Board of Directors to implement.
- c) Upon approval, implement the program.
- d) Design and implement a communication and education plan.

9.3 Performance Measurement

- 1. Increased diversion of organic waste from landfill.
- 2. Decreased greenhouse gas emissions from RDFs.
- 3. Marketable end use compost to offset costs.



10.0 Non-Typical Municipal Solid Waste Disposal Policy

10

Description of Review Topic	Diversion Potential	Implementation Period	Estimated Cost
Examine efficiencies and environmental protection needs with respect to including management of non-typical municipal solid wastes such as agricultural (e.g. plastics and slaughter waste) and industrial wastes (e.g. ash and wood), and water and wastewater treatment plant wastes in the SWMP.	N/A	1 – 5 yrs	May require additional handling costs at RDFs

10.1 Action Statement

The following materials should be listed as acceptable for the purposes of disposal, recycling or reuse at RDNO Recycling and Disposal Facilities and authorized as such in the Solid Waste Management Plan, 2011 Update:

1. Hydrocarbon impacted soil
2. Agricultural plastics
3. Asbestos
4. Fibreglass manufacturing waste

Disposal, recycling or reuse options require appropriate recycling and disposal fees to be set that reflect the amount of landfill capacity used and the operational requirements to manage each waste type.

10.2 Implementation

- a) Determine the changes required in RDF Operational Certificates to incorporate non-typical municipal solid waste and request amendments from the Ministry of Environment.
- b) Encourage the Province to develop Extended Producer Responsibility programs, especially for agricultural plastics, and if programs are implemented either voluntarily or under the Recycling Regulation, support implementation of such on a cost recovery basis.
- c) Confirm that RDNO bylaws are sufficient to accommodate extra costs and practices associated with the four material types.

10.3 Performance Measurement

1. Receipt of accurate and updated Operational Certificates from Ministry of Environment.
2. Tipping fees that reflect management costs of the non-typical materials.
3. Reduced disposal of non-typical material types at RDFs

E. ADDITIONAL STRATEGIES DERIVED FROM PUBLIC CONSULTATION

During the public consultation and municipal referral phase of the Plan Review, a number of other initiatives were highlighted that could be implemented in the short term.

E1. More Frequent Free Styrofoam Collection Events

Action Statement:

The RDNO will consider increasing the number of free Styrofoam collection events until Styrofoam packaging becomes part of an industry stewardship program.

Implementation:

Determine the costs associated with implementing more collection events and include in the annual Solid Waste Management budget. If approved in the budget organize the events.

Performance Measurement:

Increased amount of Styrofoam processed by RDNO

E2. Implement a 'One Bag/Can Limit'

Action Statement:

Within the next three years and before the next tendering cycle for garbage collection in each jurisdiction, a one bag/can per residence per week limit should be set in each garbage collection contract. Since 1996 the limit has been set at two bags/cans per residence per week. Unless stickers are purchased and attached to extra bags/cans set out, extra bags/cans will not be picked up. Fifteen years later, there are many more opportunities to reduce, reuse and recycle, and with stickers available for purchase, the lower limit should not be a hardship on large families.

Implementation:

RDNO will meet with member municipalities to discuss the change from a two bag/can limit to a one bag/can limit as soon as possible to encourage inclusion of such in existing or new garbage collection contracts. If the RDNO takes on the role of tendering and/or setting tendering specifications for collection services for member municipalities and electoral areas, the lower bag/can limit will be included in the specifications to help reduce the amount of waste being disposed and conserve landfill capacity, as encouraged under the Regional Solid Waste Management Memorandum of Understanding, to which all member municipalities are a signatory.

Performance Measurement:

Reduction in quantity of residential garbage being disposed by member municipalities and anecdotal acceptance of the lower bag/can limit.

E3. Enhanced Service at GVRDF for Commercial Haulers

Action Statement:

Evaluate the economic and operational implications of providing enhanced service for commercial haulers at the GVRDF. Enhanced service could potentially include a 7:00 a.m. opening for commercial customers only to help them avoid lineups at the scale. Enhanced service could also include a commercial only inbound lane at the GVRDF to reduce the amount of time large commercial customers spend waiting in line. Commercial haulers account for a small percentage of the total number of customers at the GVRDF (<20%), yet they account for more than 75% of total revenue.

Implementation:

Review the current level of service provided to commercial haulers and evaluate short term, medium term and long term option to improve the level of service. Undertake a cost/benefit analysis or such service level improvements.

Performance Measurement:

Improvement in commercial customer satisfaction – anecdotal.

E4. Audits for Large Waste Generators

Action Statement:

Consider offering a comprehensive waste audit to the 15 largest waste generators in the Region.

Implementation:

Assess who the fifteen largest waste generators in the RDNO might be and write to them requesting that they assist RDNO waste reduction staff in performing a waste audit. Conduct the audits using material already available on the RDNO web site or something similar used by other jurisdictions/agencies. Document the audits and provide recommendations to the generator.

Performance Measurement:

Reduction in amount of waste disposed by the individual generators.

E5. Upgrade Communication Tools

Action Statement:

Upgrade the RDNO web site and other communication tools to help residents, businesses and others determine what can be recycled in the RDNO and where, ensuring to the greatest extent possible that content and any cost recovery comes from the agencies involved (especially industry stewards).

Implementation:

Working with Information Systems staff, determine the best way to direct the public to Solid Waste Management information posted on the RDNO web site using the current web site. When the web site is upgraded, ensure the Extended Producer Responsibility (EPR) links are all still functioning well. Continue to include all EPR programs in newsletters and other publications going to the public. Look for other ways to help inform the public about EPR programs and provide this service on a cost recovery basis.

Performance Measurement:

Less complaints regarding where, how and when to recycling products in the RDNO.

E6. Monitor Waste to Energy Technology**Action Statement:**

The RDNO will monitor waste to energy technology as it becomes accessible to small communities in Canada. An unsolicited proposal from CanKor-Pacific Waste & Energy Ltd. was received by the Board of Directors on July 6, 2011 to install a multi-million dollar incinerator in the Enderby area on Splotsin Indian Band land. A thorough review of waste to energy as part of Phase 2 of the Plan Review indicated the RDNO is not in a position at this time to change course from landfilling municipal solid waste, but the Board of Directors would like to review this technology after five years.

F. RECYCLING AND DISPOSAL FACILITIES STATUS

Refer to Table 1, Appendix B, for a comprehensive outline of the status of RDNO's Recycling and Disposal Facilities (RDF).

With respect to RDF works, initiatives that capture landfill gas will contribute to a reduction in landfill derived GHG emissions and contribute to achieving regional and local GHG reduction targets that are set within the Regional Growth Strategy and Official Community Plans.

G. ANNUAL REPORTING OF PERFORMANCE

Prepare and submit a report to the Board of Directors signed off by the General Manager each year by May 1 outlining the following:

A. Solid Waste Management Plan Status

1. Implementation status of each initiative listed in the original Plan and all subsequent Plan Updates
2. Diversion target achievement
3. Plan monitoring process used
4. Waste diversion contingency plan if diversion target not achieved
5. Plan financing required

B. Waste Reduction and Recycling

1. Data Tracking
2. Work Plan Implementation
3. Financial Information
4. Communication and Education
5. Priority Plans for 20XX

C. Waste Disposal

1. Data Tracking
2. Work Plan Implementation
3. Financial Information
4. Communication & Education
5. Priority Plans for 20XX

D. Administration

1. Staffing
2. Training
3. Occupational Health and Safety
4. Emergency Preparedness

A very similar outline has been used annually since 2001.

If a Solid Waste Management Plan Monitoring Committee is formed, they should be tasked with reviewing the annual report before it is submitted to the Board of Directors so that a list of recommendations may be developed if necessary to ensure the Plan is being implemented as intended.

APPENDIX A

Phase 2 Overview - Technical Reports

PHASE 2 OVERVIEW - Technical Reports

RDNO Solid Waste Management Framework for Next Ten Years – Updated: February 14, 2011

Reports Prepared by Consultant (2)	Description	Waste Diversion Potential (tonnes/year) (3)	Implementation Time Line	Costs (1)
Administrative				
<p>Use development cost charges for solid waste management infrastructure Presented Oct 6/10 to COTW; COTW recommended Oct 6/10 that BOD endorse for inclusion in Draft 2010 Update – was not endorsed, however meeting called instead with Directors Lippert, Hansma & Acton</p>	<p>Report on the ability to use DCCs for solid waste management infrastructure. <i>[Action: investigation required by RDNO staff – requires changes to LGA, so lobby for the change if any appetite on Govt's part]</i></p>	N/A	5 yrs	N/A
<p>New Enterprise Fund - to financially assist waste reduction initiatives Presented Oct 23/08 to COTW & Public; COTW recommended Nov 20/08 that BOD support in principle – Dec 10/08 BOD supported in principle</p>	<p>Report on the establishment of a fund for municipal solid waste reduction projects/programs initiated by the private and non-profit sector. <i>[Action: application program already established – annual undertaking]</i></p>	5 – 10 tonnes/year	complete	\$10,000 /yr
<p>Improved interregional waste management cooperation Presented Oct 6/10 to COTW; COTW recommended Oct 6/10 that BOD endorse for inclusion in Draft 2010 Update – endorsed</p>	<p>Report on the feasibility of setting up an interregional municipal solid waste management committee similar to OBWB. <i>[Action: establish interregional MOU - develop Terms of Reference for a Committee and list of interregional issues to work through]</i></p>	N/A	2 yrs	N/A

Reports Prepared by Consultant (2)	Description	Waste Diversion Potential (tonnes/year) (3)	Implementation Time Line	Costs (1)
Waste Reduction and Recycling				
<p>NEW TOPIC ADDED by BOD 2010:</p> <p>Sorting Facility at RDFs Presented Feb 2/11 to COTW; NOT endorsed to include in Plan Update</p>	Investigate the feasibility of implementing pre-disposal sorting of all garbage entering RDFs	6% of garbage stream	N/A	\$85/tonne operating; Capital unknown
<p>New eco-depot collection system Presented Oct 23/08 to COTW & Public; COTW recommended Nov 20/08 that BOD support in principle – Dec 10/08 BOD supported in principle</p>	<p>Report on the implementation of an eco-depot collection system for EPR and other recyclable material at one or two locations in the RDNO (one-stop-drop).</p> <p><i>[Action: staff to consult with all recyclers in RDNO to see if there is appetite for an eco-depot that is funded by Product Stewards – if so, develop design and operations plan in cooperation with all partners]</i></p>	100 – 500 tonnes/year	2 – 5 yrs	\$200,000 capital (shared with Stewards)
<p>Improved Blue Bag processing system and facility Presented Oct 23/08 to COTW & Public; Tabled pending CFO review; RFP process for replacing MRF approved by BOD Sept 2/09; RFP issued Feb 11/11</p>	<p>Report on the establishment of a new, renovated or out of region Blue Bag material processing facility.</p> <p><i>[Action: Board decision to solicit proposals to build on current site (Birnie Road) – draft and release RFP]</i></p>	2,000 tonnes/year	1 – 2 yrs	\$3 Million (new building) capital plus \$250,000/year operating (depending on revenue share agreement)

Reports Prepared by Consultant (2)	Description	Waste Diversion Potential (tonnes/year) (3)	Implementation Time Line	Costs (1)
<p>Improved curbside Blue Bag and drop center programs</p> <p>Presented Feb 2/11 to COTW; endorsed by BOD Feb 2/11; COTW wants more in-depth report on Ag Plastics Program; see detailed recommendations in BOD report</p>	<p>Report on upgrades needed to the current Blue Bag curbside and depot collection programs to improve efficiency and increase quantity recycled. <i>[expanded into EA F already – 2008/2009]</i></p> <p><i>[Action: design programs for textiles, fluorescents, agriculture plastic, bulky plastic items collection; and increase recycling program coverage (2 more depots)]</i></p>	2,100 tonnes/year	2 – 5 yrs	\$557,500 capital, 253,500/yr operating (bulk of cost is for 2 new depots primarily)
<p>New Blue Bag recycling program for the business sector</p> <p>Presented Feb 2/11 to COTW; endorsed by BOD Feb 2/11; see detailed recommendation in BOD report</p>	<p>Report on implementation of a Blue Bag recycling program for the business sector. <i>[City of Vernon started program in 2009 for all businesses in City]</i></p> <p><i>[Action: determine collection zones in the region (e.g. Armstrong, Vernon, Lumby, Enderby) and develop RFP with franchise options.]</i></p>	500 tonnes/year	2 – 5 yrs	Cost recovery through collection contracts
<p>New Regional universal curbside garbage and recyclables collection program</p> <p>Presented Feb 2/11 to COTW; endorsed by BOD; see detailed recommendation in BOD report</p>	<p>Report on amalgamating all Blue Bag, garbage and yard waste collection programs in the RDNO. <i>[developed Waste Management MOU between member municipalities and RDNO]</i></p> <p><i>[Action: develop new waste-shed collection areas and tender collection of Blue Bag and garbage together in all areas currently receiving Blue Bag collection (assess split truck option and adding yard/garden waste).]</i></p>	5,000 tonnes/year	2 – 5 yrs	Cost recovery through collection contracts (saving to customers: 20% per hh/mo)

Reports Prepared by Consultant (2)	Description	Waste Diversion Potential (tonnes/year) (3)	Implementation Time Line	Costs (1)
<p>New C&D waste management strategy</p> <p>Presented Oct 23/08 to COTW & Public; COTW recommended Nov 20/08 that BOD support in principle – Dec 10/08 BOD supported in principle</p>	<p>Report on establishment of a construction and demolition waste management strategy for the region. [increased tipping fee for mixed demolition waste – effective July 2010]</p> <p><i>[Action: implement strategy at all RDFs, including voluntary initiatives, regulatory & policy requirements, and economic incentives and disincentives.]</i></p>	13,400 tonnes/year	1 – 5 yrs	Potential additional grinding costs if matl does not go to private RDF and \$22,000/year education/promotion
<p>New organic waste management strategy</p> <p>Presented Oct 23/08 to COTW & Public; COTW recommended Nov 20/08 that BOD support in principle – Dec 10/08 BOD supported in principle</p>	<p>Report on establishment of an organic waste (including food waste) management strategy for the region.</p> <p><i>[Action: implement strategy including the Regional Yard Waste Composting Facility, conduct feasibility study for food waste composting primarily with private sector, expanded backyard composting education, mandatory yard waste separation, expanded yard waste collection programs, expanded mulch production program, and improved wood waste segregation.]</i></p>	4,750 – 7,050 tonnes/year	1 -10 yrs	Gas Tax Grant for RYWCF: \$1M plus \$125,000/year operating; \$50,000 capital for north Vernon depot and \$47,500 /year operating (and cost recovery through collection contracts)
Waste Disposal				
<p>New non-typical municipal solid waste disposal policy</p> <p>Presented Oct 6/10 to COTW; COTW recommended Oct 6/10 that BOD endorse for inclusion in Draft 2010 Update – endorsed</p>	<p>Report on adding non-typical municipal solid waste to the RDNO Solid Waste Management Plan, including collection, recycling and disposal of agricultural and industrial waste in the RDNO's integrated waste management system.</p> <p><i>[Action: where Board and MOE approve, specify acceptance of renderable & non-renderable materials, agriculture wastes, treated biomedical waste, asbestos waste, contaminated soil, and</i></p>	N/A	1 – 5 yrs	May require additional handling costs at RDFs

Reports Prepared by Consultant (2)	Description	Waste Diversion Potential (tonnes/year) (3)	Implementation Time Line	Costs (1)
	<i>fibreglass manufacturing waste in SWMP since these materials are coming to the RDFs already but are not considered MSW.]</i>			
New waste to energy options for the RDNO Presented Nov 17/10 to BOD – recommending no WTE in SWMP but review Plasma Gasification technology in 5 years	Report on the feasibility of establishing a municipal solid waste to energy facility in the North Okanagan. <i>[Action: where Board approves conduct a siting and feasibility study for a WTE facility in the RDNO.]</i>	N/A	5 – 10 yrs	Capital recovery and operating: \$50/tonne and \$115/tonne

NOTES:

1. Staff time is not included in the costs
2. Items in bold have been presented to the RDNO Board of Directors and the public
3. Additional tonnes compared to current diversion level

APPENDIX B

Recycling and Disposal Facilities Status 2011

Greater Vernon - Operational Certificate MR-15286				
<p>Year Open: 1980 Closing: 2034</p> <p>Closure Reserve: Bylaw 2438</p>	<p>Owner: RDNO (from 2007)</p> <p>Operator: Ansell Construction</p> <p>Current Contract: 2007 - 2011</p> <p>Equipment used: loader, compactor, roll off truck, water tank/pump</p>	<p>Filling Rate: 39,000 tonnes / year</p> <p>Materials Diverted: wood, yard waste, drywall, concrete, masonry, ceramics, asphalt, batteries, propane tanks, scrap metal & appliances, asphalt roofing, tires, Styrofoam, mercury in bulbs, Blue Bag material, glass jars/bottles</p>	<p>O&C Plan Status: Completely revised in 2007; Draft for approval with MOE</p>	<p>Planned Works (5 – 10 yrs):</p> <ul style="list-style-type: none"> - New perimeter primary haul road - Fire water supply - Expanded entrance - Storm water management - Landfill gas collection system - Site building(s) [disposal reduction] - Composting facility - Drop off facility upgrade - Phased closure
Armstrong/Spallumcheen - Operational Certificate MR-15284				
<p>Year Open: 1910 Closing: 2034</p> <p>Closure Reserve: Bylaw 2438</p>	<p>Owner: RDNO (from 2000)</p> <p>Operator: Ansell Construction</p> <p>Current Contract: 2007-2011</p> <p>Equipment used: loader, compactor, roll off truck, water tank/pump</p>	<p>Filling Rate: 12,000 tonnes / year</p> <p>Materials Diverted: wood, yard waste, drywall, concrete, masonry, ceramics, asphalt, batteries, propane tanks, scrap metal & appliances, , tires, Styrofoam, mercury in bulbs, Blue Bag material, glass jars/bottles</p>	<p>O&C Plan Status: Completely revised in 2010; Draft for approval with MOE</p>	<p>Planned Works (5 – 10 yrs):</p> <ul style="list-style-type: none"> - Storm water management - Landfill gas migration mitigation - Drop off facility upgrade - Alternative daily cover system - Berm installation - Hybrid poplar tree plantation expansion - Property acquisition - Phased closure - Haul road upgrade

Lumby and Area D - Operational Certificate MR-15282				
<p>Year Open: 1972 Closing: 2075</p> <p>Closure Reserve: Bylaw 2438</p>	<p>Owner: RDNO</p> <p>Operator: RDNO (2 staff)</p> <p>Current Contract: 2007- 2011</p> <p>Equipment used: Loader/ compactor combo, fire tank</p>	<p>Filling Rate: 1,700 tonnes / year</p> <p>Materials Diverted: wood, yard waste, drywall, concrete, masonry, ceramics, asphalt, batteries, propane tanks, scrap metal & appliances, tires, mercury in bulbs, Blue Bag material, glass jars/bottles</p>	<p>O&C Plan Status: Completely revised in 2010; Draft for approval with MOE</p>	<p>Planned Works (5 – 10 yrs):</p> <ul style="list-style-type: none"> - Recyclable material drop off facility upgrade - Storm water management system - Leachate management system - Haul road upgrade
Cherryville - Operational Certificate MR-15285				
<p>Year Open: 1976 Closed: 2008 (final cap required)</p> <p>Closure Reserve: Bylaw 2438</p>	<p>Owner: RDNO [crown lease # 331763]</p> <p>Operator: Otteson Logging</p> <p>Current Contract:: 2008 – 2011</p> <p>Equipment used: Roll off – contractor</p>	<p>Garbage Transfer Rate: 280 tonnes / year</p> <p>Materials Diverted: wood, yard waste, concrete, batteries, propane tanks, scrap metal & appliances, tires, mercury in bulbs, e- waste, Blue Bag material, glass jars/bottles</p>	<p>O&C Plan Status: Closure Plan revised in 2008</p>	<p>Planned Works (5 – 10 yrs):</p> <ul style="list-style-type: none"> - Drop off facility upgrade

Kingfisher/Hupel - Operational Certificate PR-15289				
<p>Year Open: 1974 Closed & capped: 2005</p> <p>Closure Reserve: For post-closure monitoring only, Bylaw 2438</p>	<p>Owner: RDNO</p> <p>Operator: Dan's Bobcat</p> <p>Current Contract: 2008 - 2011</p> <p>Equipment used: Roll off – contractor</p>	<p>Garbage Transfer Rate: 150 tonnes / year</p> <p>Materials Diverted: wood, yard waste, concrete, batteries, propane tanks, scrap metal & appliances, tires, mercury in bulbs, e- waste, Blue Bag material, glass jars/bottles, paint</p>	<p>O&C Plan Status: Approved by MOE in 2004</p>	<p>Planned Works (5 – 10 yrs): - Drop off facility upgrade</p>
Pottery Road RDF - Operational Certificate PR-15289				
<p>Year Open: 1972</p> <p>Closed: 1986 – cap still pending but planned for 2012</p> <p>Closure Reserve: Bylaw 2438</p>	<p>Owner: RDNO [Crown Lease # 331818]</p> <p>Operator: N/A</p> <p>Current Contract: N/A</p> <p>Equipment used: N/A</p>	<p>Filling Rate: 0 tonnes / year</p> <p>Materials Diverted: N/A</p>	<p>O&C Plan Status: Original approved by MOE in 2000</p> <p>Closure Plan due October 2011</p>	<p>Planned Works (5 – 10 yrs): - Landfill cap - Leachate, storm water, and landfill gas management system - Property acquisition</p>

Ashton Creek - Operational Certificate PR-6048				
<p>Year Open: 1970</p> <p>Closed: 1985, capped in 1997</p> <p>Closure Reserve: Bylaw 2438 – post closure only</p>	<p>Owner: RDNO [Crown Licence of Occupation # 3401320]</p> <p>Operator: N/A</p> <p>Current Contract: N/A</p> <p>Equipment used: N/A</p>	<p>Filling Rate: 0 tonnes / year</p> <p>Materials Diverted: N/A</p>	<p>Closure Plan Status: Original approved by MOE in 1994</p>	<p>Planned Works (5 – 10 yrs): N/A</p>
Silver Star Mountain Transfer Station				
<p>Year Open: 2000</p> <p>Closed: N/A</p> <p>Closure Reserve: N/A</p>	<p>Owner: RDNO [Crown Licence of Occupation 3409889]</p> <p>Operator: Art Devries</p> <p>Current Contract: 2011 - 2014</p> <p>Equipment used: Roll off truck – Contractor's, and compactor</p>	<p>Garbage Transfer Rate: 260 tonnes / year</p> <p>Materials Diverted: Blue Bag material, glass jars/bottles</p>	<p>O&C Plan Status: N/A</p>	<p>Planned Works (5 – 10 yrs): - New concrete floor</p>

APPENDIX C

Public Consultation Response

Strategy		Comments From Open Houses			Online Comments & Responses To Questionnaire		Response	
		Priority Vote	Armstrong - May 4	Vernon - May 11	Lumby - May 17	Gary Haas		Author Unknown
1	DCCs	11				Districts should work together to open a major center to accommodate the recyclign of all materials		The DCC initiative remains part of the 2011 Plan Update.
2	Inter-Regional Cooperation	6				If areas use the same formula to develop a plan the costs will be equal among participants		The Interregional Solid Waste Management Committee remains part of the 2011 Plan Update, including development of the terms of reference.
3	Eco Depots	10		Establish 'one-stop-drop' in central convenient location	Include styrofoam at haz waste roundups; battery drop off locations not well known; have more collection points for EPR products (don't want to go to Vernon all the time)	It is important that all towns & villages have a one stop recycle available and that they use it. This should be checked until all people realize it is in the better good for all the people.	Good positive opportunity to markedly improve access availability and convenience, hopefully with enhanced open hours and more convenient disposals locations.	For Styrofoam see 5c below. RDNO continues to work with Stewardship agencies through the BC Product Stewardship Council. Location of depots is a priority as is communication and education. The eco-depot initiative remains an important part of the 2011 Plan Update.
4	BB MRF	8				It is more economical to do curbside source separation and pick up different items on different days to make sorting easier. RD should work with major stores to get them on board. Use of large compactors should be stopped - use of small containers could drive development of a major business.		The RFP for a new MRF has been reissued to shorten the term to 3 to 5 years due to the change in BC EPR programs and the inclusion of packaging and printed paper. All Blue Bag material from residences and businesses will become the responsibility of industry in three years. RDNO has an auditing prg or request.
5a	BB Improve -Textiles	2		Great idea	Blue Bag Pgm in rural areas ridiculous as bags are torn open by animals	Include dirtied items that can be disposed of in an appropriate way.		There are methods to manage collection in rural areas. The RDNO can assist upon request. It is unlikely soiled textiles will be included as this can be a health hazard.
5b	BB Improve - Ag Plastics	9	Ag plastics waste should go back to retailer			We should be doing this now and retailers should take back used plastic. Could create a new company that picks up and delivers recycling.		An industry stewardship program is being developed for this material - Clean Farms - but in the mean time this is included as a 2011 Plan Update initiative.
5c	BB Improve - Bulky Plastics	13	Want monthly styrofoam pickup	Like the idea of cleaning and re-using toys		Should be a drop off service.		EPR for toys is imminent, however RDNO may consider supporting re-use initiatives implemented by the private or not-for-profit sector.
5d	BB Improve - CFLs	9				Should not be a curbside pickup program.		This continues to be a drop off program at the RDNO RDFs for commercial bulbs and tubes. Industry Stewards manage drop off cepts for residential quantities.
5e	BB Improve - Drop Centres	2				In favour since the more opportunities the better luck of having people dropping items off.		Additional depots is included in the 2011 Plan Update draft.
6	BB for Businesses	17				Should have been started by now. Businesses should take the lead as they are selling items that will need to be recycled.		The Blue Bag Recycling Program for businesses initiative remains an important part of the 2011 Plan Update. In 3 to 5 years industry will be responsible for managing packaging and printed paper from the commercial sector.

Strategy		Comments From Open Houses				Online Comments & Responses To Questionnaire		Response
		Priority Vote	Armstrong - May 4	Vernon - May 11	Lumby - May 17	Gary Haas	Author Unknown	
7	Universal Collection	14		Go to 1 can limit per week then to 1 can every other week		Residents should be able to opt out of curbside collection (flag on the house) and not pay taxes for the service. This should be checked to make sure people not paying are disposing properly. If a pgm is mandatory, a new flat rate should be developed that is similar to all other areas. Pickup should be reduced to one day per week with all trucks operating in all areas on the same day.		The Universal Garbage Collection initiative remains part of the 2011 Plan Update and a new initiative for one bag/can limit has been added: "Within the next three years and before the next tendering cycle for garbage collection in each jurisdiction, a one bag/can per residence per week limit should be set in each garbage collection contract." Regardless of whether or not all jurisdictions have a collection program in 3 to 5 years, RDNO will continue to promote true user pay programs (pay as you throw), which could include automated collection using the cart system, in those jurisdictions that do have a universal collection program.
8	DLC Management Strategy	9				This should be happening now if businesses want to be known as responsible. Contracts should include how waste is managed - hand out brochures to this end.		This DLC initiative remains part of the 2011 Plan Update which includes education and awareness.
9	Organics Management Strategy	15				We should be doing this now and product should be available to communities in all areas.		Yard waste management remains an important part of the 2011 Plan Update. RDNO will encourage more frequent yard waste collection in all future tenders in jurisdictions with collection programs. Food scraps diversion is included in the Organics Management Strategy in the 5 - 10 year period, however if the private sector takes the initiative RDNO will support a viable alternative. RDNO-Gro will be made available for sale in 2012.
10	Non-Typical MSW	7			These materials should not go into landfills - where will they go?	The ag community should come up with a viable way to treat all the animal waste so it doesn't leach into the water chain. The meat industry should have a recycle program even if they work with the RD to develop one.		Acceptance of non-typical MSW remains part of the 2011 Plan Update on a controlled basis through MOE approvals and public consultation where needed. With non-typical MSW in the SWMP, the RDNO would work with the ag sector to help reduce disposal.
	Other			Open scales earlier for commercial haulers				Enhanced service for commercial haulers has been added as a new initiative to the 2011 Plan Update: "Evaluate the economic and operational implications of providing enhanced service for commercial haulers at the GVRDF."
	Other						[paraphrased] Improve access (more hours, better location, less or no fees, less restrictions) to help reduce illegal dumping and protect environment.	This is going backward in time and away from controlled disposal to protect the environment. Author provided no data/information on quantity of illegal dumping, litter or hazardous waste not properly disposed.
	Other						[paraphrased] Reconsider focus on capturing all waste in environment instead of having good well managed facilities.	Again, this would be going backward and away from controlling the impacts of disposal on the environment. No data/information provided on quantity waste management programs are not capturing and what the impacts are on the environment.
	Other			Why are tipping fees so much higher than Kelowna?				It is the RDNO's understanding that the City of Kelowna has sufficient closure reserves whereas the RDNO does not at this time. A substantial portion of the tipping fees is designated for landfill closure and capital works.

Strategy		Referral Comments From Member Municipalities				Response
		City of Vernon	City of Armstrong	Township of Spallumcheen	District of Coldstream	
1	DCCs		would be willing to implement a DCC bylaw for SWM as long as uses for such are clearly defined			The DCC initiative remains part of the 2011 Plan Update.
2	Inter-Regional Cooperation		supports this and would like to see an elected representative from each jurisdiction on such a committee			The Interregional Solid Waste Management Committee remains part of the 2011 Plan Update, including development of the terms of reference.
3	Eco Depots					
4	BB MRF		Do we need to build a new MRF? Consider processing BB matt outside the region.			The RFP for a new MRF has been reissued to shorten the term to 3 to 5 years due to the change in BC EPR programs and the inclusion of packaging and printed paper. All Blue Bag material will become the responsibility of industry in three years.
5a	BB Improve -Textiles		All #5 items: agrees with wholeheartedly - take care not to take on responsibility of stewards - set up an education plan for EPR items (to keep out of landfills)	Request that this not apply to Spallumcheen as residents are encouraged to support not-for-profit societies due to the potential a universal pgm may negatively impact their organizations (Kindale, Armstrong Ladies Auxilliary).		EPR is complex and some programs are still having growing pains and the new ones have yet to be fully developed, with the public being confused and frustrated from time to time. The RDNO is represented on the BC Product Stewardship Council and as such continues to 'lobby' for smooth transition to 100% industry responsibility, including financial. New programs designed by RDNO will consider the impacts on not-for-profit organizations and small business.
						Improved communication has been added as a new 2011 Plan Update initiative: "Upgrade the RDNO web site and other communication tools to help residents, businesses and others determine what can be recycled in the RDNO and where, ensuring to the greatest extent possible that content and any cost recovery comes from the agencies involved (especially industry stewards)."
5b	BB Improve - Ag Plastics			Spallumcheen supports efforts towards recycling of Ag plastics.		An industry stewardship program is being developed for this material - Clean Farms - but in the mean time this is included as a 2011 Plan Update initiative.
5c	BB Improve - Bulky Plastics					
5d	BB Improve - CFLs					
5e	BB Improve - Drop Centres					
6	BB for Businesses	RDNO should coordinate recycling for businesses not individual jurisdictions	agrees with wholeheartedly; exhaust all avenues under #6 before moving on item 5e; very much in support of BB collection for businesses			The Blue Bag Recycling Program for businesses initiative remains an important part of the 2011 Plan Update. In 3 to 5 years industry will be responsible for managing packaging and printed paper from the commercial sector.

Strategy		Referral Comments From Member Municipalities				Response
7	Universal Collection		has concerns with jurisdictions not having universal collection - garbage should be managed in this day and age!	The Township would like to maintain its individuality in regards to refuse and recycling collection and not be included in the Universal Curbside Program	supports including the option of a 'per bag fee' if and when considering universal collection	The Universal Garbage Collection initiative remains part of the 2011 Plan Update and a new initiative for one bag/can limit has been added: "Within the next three years and before the next tendering cycle for garbage collection in each jurisdiction, a one bag/can per residence per week limit should be set in each garbage collection contract." Regardless of whether or not all jurisdictions have a collection program in 3 to 5 years, RDNO will continue to promote true user pay programs (pay as you throw), which could include automated collection using the cart system, in those jurisdictions that do have a universal collection program.
8	DLC Management Strategy					
9	Organics Management Strategy	address yard waste pickup throughout the growing season more sufficiently (self haul not acceptable)	supports investigation of all avenues to divert organics from disposal - this should be a high priority including food waste diversion			Yard waste management remains an important part of the 2011 Plan Update. RDNO will encourage more frequent yard waste collection in all future tenders in jurisdictions with collection programs. Food scraps diversion is included in the Organics Management Strategy in the 5 - 10 year period, however if the private sector takes the initiative RDNO will support a viable alternative.
10	Non-Typical MSW					
	Other	address GHGs through modeling exercise, setting individual targets, and collaboration mechanisms		The SWMP has been a successful pgm, extending the life span of the local landfill sites by 15 years.		GHG language has been added to the 2011 Plan Update similar to that in the Regional Growth Strategy.
	Other		Guiding Principles: consider offering a waste audit to the 15 largest generators in the region.	RDNO is continually looking to expand its services under the SWMP.		Waste audits for large waste generators has been added to the 2011 Plan Update as a new initiative: "Consider offering a comprehensive waste audit to the 15 largest waste generators in the Region."
	Other				supports the RDNO forming a standing cmtee to review the SWM Plan in accordance with requirements under EMA	A Plan Monitoring Committee is specified in the original plan and first Plan Update (2002), so the formation of such could be recommended to the Board of Directors at any time.
	Other	address waste management at multi-family and mixed use developments as densification occurs		The Township wants to ensure it retains the ability to support the local organizations in regards to the recycling of goods.		Waste management at commercial and multi-family residential buildings is considered in the original plan and first Plan Update (2002): "The RDNO will encourage its member municipalities to develop bylaws requiring that new multi-unit and/or multi-family developments (greater than four units in one building) provide adequate space for integrated waste management. This could also be a business license requirement for commercial buildings. The space would include areas for storage of waste, recyclables and compostables."
	Other				advocates increased deposit/return charges for beverage containers	As a member of the BCPSC, the RDNO continues to advocate for higher deposit/return charges on beverage containers to help increase the amount of this product diverted from landfill.

Strategy	Referral Comments From Member Municipalities				Response
Other			Spallumcheen Garbage Services have been providing excellent services and have held the garbage & recycling contract for many years.		RDNO does not doubt the abilities of a local service provider but seeks efficiencies and protection of infrastructure as much as practically and politically possible.
Other				consider sponsoring a 'freecycle' program where used household items would be placed at the curb for reuse	Along with other garbage collection initiatives being promoted, the RDNO will consider promoting the addition of 'free-cycle' events for future collection tenders.
Other			There is concern that the SWMP attempts to take away smaller communities' individuality in regards to garbage collection and recycling of materials.		The SWMP attempts to foster efficiencies where possible, including economies of scale and enhanced service levels without cost burden increases. RDNO is cognizant of protecting solid waste management infrastructure and complying with regulations, therefore must set standards for waste management in the region.