

**REGIONAL DISTRICT OF NANAIMO
REGIONAL SOLID WASTE ADVISORY COMMITTEE MEETING**

**THURSDAY, MAY 14, 2015, 5:00 PM - 7:30 PM
RDN Board Chambers**

A G E N D A

PAGES

CALL TO ORDER

DELEGATIONS

Jan Hastings, Nanaimo Recycling Exchange.

MINUTES

- 3-5 Minutes of the Regional Solid Waste Advisory Committee meeting held February 19, 2015.
- 6-8 Minutes of the Regional Solid Waste Advisory Committee meeting held April 16, 2015.

BUSINESS ARISING FROM THE MINUTES

COMMUNICATIONS/CORRESPONDENCE

UNFINISHED BUSINESS

- 9-9 Option Identification Exercise Table from April 16, 2015 RSWAC meeting.
(to be circulated)

REPORTS

Local Governments Authority. (L. Gardner – to be circulated at meeting)

Table Top Exercise on Future Options

- The 2 R's – Reduce & Reuse
- The 3rd R – Recycling & End Uses
- Curbside Recycling

ADDENDUM

SOLID WASTE MANAGEMENT SELECT COMMITTEE MEETING MINUTES

- 10-27 Landfill Tip Fee Analysis Report (to be circulated)
- 28-30 Authority under the RDN's Solid Waste Management Plan to regulate Municipal Solid Waste. (to be circulated)
- 31-33 Disposal Facility Future Cost Projections. (to be circulated)

BUSINESS ARISING FROM DELEGATIONS OR COMMUNICATIONS

NEW BUSINESS

ADJOURNMENT

Distribution:

Alec McPherson	Chair, RDN Director	Michael Recalma	Qualicum First Nation
Jim Kipp	Deputy Chair	Chief & Council	Nanoose First Nation
Frank Van Eynde	Member at Large	Chief & Council	Snuneymuxw First Nation
Jeremy Jones	Business Representative	Al Metcalf	City of Parksville
Ed Walsh	Waste Management Industry	Al Cameron	Town of Qualicum Beach
Wally Wells	Business Representative	Fred Spears	District of Lantzville
Jan Hastings	Non Profit Representative	Charlotte Davis	City of Nanaimo
Jim McTaggart-Cowan	Member at Large	Al Leuschen	Ministry of Environment
John Finnie	Member at Large	Karen Muttersbach	Environment Canada
Craig Evans	Member at Large	Glenn Gibson	Island Health
Ellen Ross	Member at Large		
Gerald Johnson	Member at Large		
Michele Green	Member at Large		
Amanda Ticknor	Member at Large		
Rod Mayo	Institutional Waste Generator		

Larry Gardner	Manager, Solid Waste Services, RDN
Sharon Horsburgh	Senior Solid Waste Planner, RDN
Daniel Pearce	A/GM Transportation & Solid Waste Services, RDN
Jeff Ainge	Zero Waste Coordinator, RDN
Rebecca Graves	Recording Secretary, RDN

For information only:

Regional Board Members: CAO's: Paul Thorkelsson (RDN), Twyla Graff (District of Lantzville), Fred Manson (City of Parksville), Daniel Sailland (Town of Qualicum Beach), Ted Swabey (City of Nanaimo)

**REGIONAL DISTRICT OF NANAIMO
REGIONAL SOLID WASTE ADVISORY COMMITTEE MEETING
HELD ON THURSDAY, FEBRUARY 19, 2015
BOARD CHAMBERS**

Present:

Alec McPherson	Chair, RDN Director	Michael Recalma	Qualicum First Nation
Frank Van Eynde	Member at Large	Al Cameron	Town of Qualicum Beach
Jan Hastings	Non Profit Representative	Charlotte Davis	City of Nanaimo
Wally Wells	Business Representative	Glenn Gibson	Island Heath
Gerald Johnson	Member at Large	Michele Green	Member at Large
John Finnie	Member at Large	Amanda Ticknor	Member at Large
Craig Evans	Member at Large	Ellen Ross	Member at Large

Also in Attendance:

Larry Gardner	Manager of Solid Waste, RDN
Sharon Horsburgh	Senior Solid Waste Planner, RDN
Daniel Pearce	A/GM Transportation & Solid Waste Services, RDN
Rebecca Graves	Recording Secretary, RDN
Paul Thorkelsson	CAO, RDN
Teunis Westbroek	Mayor, Town of Qualicum
Paul Thompson	Manager, Long Range Planning, RDN

Regrets:

Chief & Council	Nanoose First Nation
Chief & Council	Snuneymuxw First Nation
Jeremy Jones	Business Representative
Rod Mayo	Institutional Waste Generator
Ed Walsh	Waste Management Industry
Fred Spears	District of Lantzville
Al Leuschen	Ministry of Environment
Karen Muttersbach	Environment Canada
Al Metcalf	City of Parksville
Jim McTaggart-Cowan	Member at Large
Brian Dietrich	Member at Large

CALL TO ORDER

The Chairperson called the meeting to order at 5:20 pm.

MINUTES

MOVED F. Van Eyde, SECONDED G. Johnson, that the minutes from the meeting of the Regional Solid Waste Advisory Committee regular meeting held December 11, 2014, be amended and adopted as per discussion.

CARRIED

REPORTS

Future Population and Demographics (P. Thompson)

P. Thompson presented the Future Population and Demographics presentation for the RDN. Other areas were referenced which included City of Parksville, Town of Qualicum, City of Nanaimo and 7 Electoral areas. The presentation included population growth, profile, distribution and housing comparisons within the RDN and City of Nanaimo. The projected stats are compiled from Census Canada and BC Stats.

F. Van Eynde questioned if there were any studies done for survival rates for the 40-50 year olds?

C. Davies asked if there was any information of the number of households that are receiving collection services from other municipalities?

G. Johnson questioned if there any statistics available to come up with assessed value by housing type?

P. Thompson commented that he could look into this and get back to Committee.

C. Evans questioned if there is any historical data that goes back 35 years that could show what occurred and then translate what the diversion rates were.

P. Thompson replied that it would be difficult to obtain those records as BC Stats do not date back that far.

Finalize Consultation Plan (L. Gardner)

L. Gardner informed the Committee that following the presentation by Maura Walker in December 2014, the Consultation and Communications Plan has been revised and submitted to the Ministry of Environment for comment. This Plan is our commitment to do consultation and how we will move forward.

MOVED G. Johnson, SECONDED J. Finnie, that the Consultation Plan be adopted.

The motion was amended to include a request by the Committee that public consultation should occur in Stage 2 as well as Stage 3.

CARRIED

Stage One Review & Update (S. Horsburgh)

S. Horsburgh gave an overview of the Stage One Report and discussed how it was presented at several public forums which included a Hauler's and Recycling Roundtable meeting, RDN Board Members Workshop, Zero Waste Community Workshop and two RSWAC meetings. Current system includes key programs, policies and infrastructure. A discussion occurred in regards to the Stage 1 process and to review issues and opportunities moving forward. The next step is to present the Stage One report and issues to the Select Committee and then to the RDN Board for approval.

Finalize the Issues (S. Horsburgh)

S. Horsburgh discussed the Issues and Work plan document that Committee members had received. The document outlines the issues captured from the results of the findings in the Stage One Existing System report and stakeholder meetings. The work plan reflects the issues identified to date.

Region Wide Newsletter & Survey Questions (S. Horsburgh)

S. Horsburgh gave a demonstration of the web based Solid Waste Management Plan survey and invited feedback on the newsletter & survey questions.

Future Waste Generation Projections (L. Gardner)

L. Gardner briefly outlined the presentation on why future waste generation projections were important. Forecasting future waste generation is effected by a number of variables such as regional growth, stewardship programs, waste export and consumerism.

ADJOURNMENT

MOVED J. Hastings that the meeting be adjourned.

CARRIED

CHAIRPERSON

**REGIONAL DISTRICT OF NANAIMO
REGIONAL SOLID WASTE ADVISORY COMMITTEE MEETING
HELD ON THURSDAY, APRIL 16, 2015
BOARD CHAMBERS**

Present:

Alec McPherson	Chair, RDN Director	Amanda Ticknor	Member at Large
Fred Spears	District of Lantzville	Al Cameron	Town of Qualicum Beach
Jan Hastings	Non Profit Representative		
Charlotte Davis	City of Nanaimo		
Gerald Johnson	Member at Large		
John Finnie	Member at Large		
Craig Evans	Member at Large		
Jim McTaggart-Cowan	Member at Large		

Also in Attendance:

Larry Gardner	Manager of Solid Waste, RDN
Sharon Horsburgh	Senior Solid Waste Planner, RDN
Shelleen Schultz	Recording Secretary, RDN
Gary Fairbank	Waste Management Industry
Rod Leclerc	City of Nanaimo
Dave Ross	Waste Management Industry

Regrets:

Chief & Council	Nanoose First Nation
Chief & Council	Snuneymuxw First Nation
Jeremy Jones	Business Representative
Rod Mayo	Institutional Waste Generator
Ed Walsh	Waste Management Industry
Al Leuschen	Ministry of Environment
Karen Muttersbach	Environment Canada
Al Metcalf	City of Parksville
Brian Dietrich	Member at Large
Frank Van Eynde	Member at Large
Wally Wells	Business Representative
Michael Recalma	Qualicum First Nation
Glenn Gibson	Island Health
Michele Green	Member at Large
Ellen Ross	Member at Large

CALL TO ORDER

The Chairperson called the meeting to order at 5:12 pm.

MINUTES

Minutes of the Regional Solid Waste Advisory Committee meeting held on February 19, 2015 could not be motioned as there was no quorum.

BUSINESS ARISING FROM THE MINUTES

An update on the Solid Waste Management Plan Public Consultation activities was presented by S. Horsburgh. The activities underway and plans moving forward for the summer include:

- Revised consultation plan submitted to the MoE for comment
- Region-wide Solid Waste newsletter mailed
- Conducted Solid Waste survey
- Developed Static Displays
- Finalizing schedule of events to attend over the summer

REPORTS

L. Gardner presented a timeline review outlining, spring, summer and fall guidelines for the Consultation moving forward.

2 R's – Reduce, Reuse & RPR

M. Larson presented the report in a PowerPoint presentation on the Current Status of Reduce, Reuse & RPR in the RDN including the challenges and what the future role of the RDN in Reduce, Reuse & RPR will be.

3rd R – Recycling and end uses

S. Horsburgh presented a PowerPoint presentation outlining the Policy Framework and Current Status of Recycling in the RDN. The underlying policy that has contributed to the RDN's high diversion rate is the **"Zero Waste" policy** – *which continuously strives to reduce the amount of waste requiring disposal. Key policy drivers are as follows:*

- The RDN's material bans –treat garbage as a resource once a stable, alternative use is identified;
-Low hanging fruit: mattresses, organics, textiles, RPR materials
- High disposal fees
- Organics diversion strategy & construction/demolition (C&D) waste

Considerations for the future was also discussed as RDN's programs, policies, services and infrastructure indicative of an advanced solid waste management system such as RPR – new opportunities for private sector & residents.

- RDN not involved in delivering service to commercial sector - past success has been from policy and regulation
- Waste composition Study indicates more can be done within the current system to divert waste - what can we do better?
- Societal impact of consumerism makes reducing the per capita waste a challenge how do we address this?
- Waste composition Study indicates more can be done within the current system to divert waste - what can we do better?

Residential Curbside Collection Program Overview

C. Davies and J. Ainge presented a PowerPoint presentation outlining the Past, Present and future of curbside collection including City of Nanaimo and RDN curbside collection milestones, diversion through curbside budgets, MMBC, communication, challenges, future influences, achievements and looking ahead.

A timeline overview was also presented that covered options to consider moving forward:

Spring

- Feb – projected waste generation
- April - reduce, reuse, recycle and curbside
- May – resource recovery (presentation by NextUse); introduction on residual management
- June – WTE (presentation by Morrison Hershfield);Regulatory

Summer

- research options
- increased consultation/feedback

Fall

- review of research and feedback
- develop preferred options and system
- communications/consult/feedback
- revise preferred options and system
- Stage 2 Report

Group Exercise (L. Gardner/S. Horsburgh)

L. Gardner introduced a group activity to sit and discuss ways to improve the 3r's. Permission was also requested from the members to allow the 2 members of the public to participate and this was agreed upon by the members.

J. Hastings/J. Finnie requested ignoring the 3 group split up as the attendance was small. G. Johnson and A. McPherson agreed to proceed with the exercise as one united group.

A. McPherson provided an update on the AVICC. This committee focuses on Solid Waste issues and includes representatives from Vancouver Island regional districts. The next meeting will be held at the RDN. J. Kipp and myself have been appointed as representatives from the RDN. There may be representatives from Metro Vancouver in attendance.

L. Gardner was to update on the Regional Solid Waste Management Select committee, however due to time constraints this will be touched on at the next meeting.

J. Ainge commented that due to time constraints the group did not get to touch on the curbside aspect of the exercise which will be completed at the next meeting, however if anyone had any ideas regarding curbside collection they would like to share please feel free to approach the solid waste department.

ADJOURNMENT

Meeting adjourned at 7:50pm

OPTION IDENTIFICATION EXERCISE	
SUGGESTED OPTIONS	EXISTING SOLID WASTE MANAGEMENT PLAN
REDUCE/REUSE	
- Education	School Education Program
o encourage producers, retailers to reduce packaging	Guiding Principle # 4 & # 5. The RDN actively encourages the Province and product manufacturers to undertake stewardship initiatives and continues to promote expansion of EPR.
o target children and adult education	Zero Waste Education Program
o alternatives for reduction of materials not covered by EPR	Further research required
- Regulatory	
o Restrict the sale or use of some packaging; such as grocery bags	Further research required
o Require return to retail	User Pay Policy
o Bans on disposal	Material Bans to support EPR
- Financial	
o Increase cost for disposal	User Pay Policy
RECYCLE	
- RDN processing recyclables (RDN /MRF)	WSML Bylaw - 3 licensed MRF for recyclable material
- RDN drop off facilities for recyclables	Currently RDN has 2 recycling drop off depots located at regional facilities. There are 13 licensed facilities in the RDN
- Process waste received at landfill to recover recyclables	Further research required
- RDN warehousing of recyclables	Further research required
- Full cost accounting of disposal	User pay policy Review/Pay as you throw policy option. For the next SWMP more research would be required to update status.
- Enforce organics ban	Current material bans at regional facilities when enforced are double the tipping fees for loads containing banned material.
- Targets textiles, carpet and mattresses	New EPR programs proposed by the Ministry of Environment (MOE) and Canadian Council of Ministers of Environment (CCME)
- Free Shed	Further research required
CURBSIDE	
- Automated system	Next opportunity to review during next tender process for curbside contract
- Glass to be added back to curbside	Collection of glass from private sector depots, further research required locally. Further information available by visiting the following link: 2010 glass fact sheet



RDN REPORT	
CAO APPROVAL	
EAP	
COW	
APR 14 2015	
RHD	
BOARD	✓

MEMORANDUM

TO: Daniel Pearce
A/General Manager, Transportation & Solid Waste Services

DATE: March 26, 2015

FROM: Larry Gardner
Manager, Solid Waste Services

FILE: 5360-00

SUBJECT: Landfill Tip Fee Analysis

PURPOSE

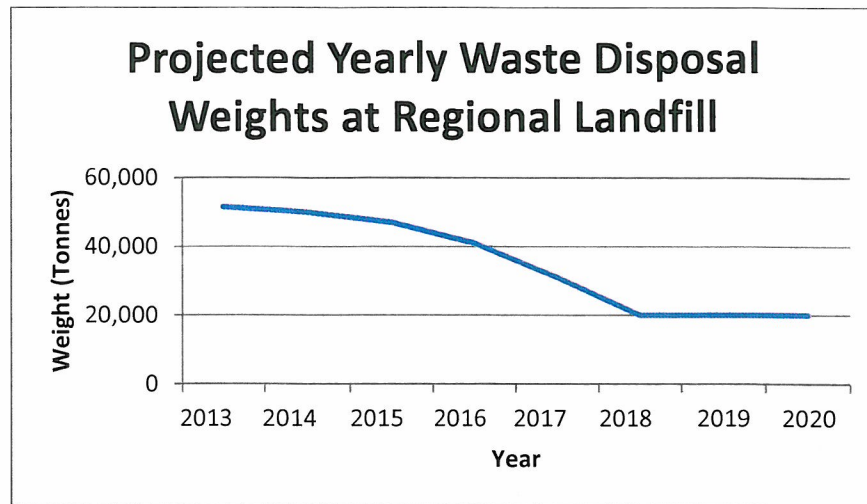
To request the Board consider a tip fee reduction in order to stabilize Solid Waste Services revenue while the Solid Waste Management Plan (SWMP) is under review. The SWMP will detail future services and associated costs and will be the basis for establishing revenue including the appropriate tip fees at the landfill and transfer station.

BACKGROUND

The Regional District's Solid Waste Services function is financed primarily by tipping fees. The proposed 2015 tax requisition of \$462,470 makes up about 6% of the overall annual revenue. Tip fee revenues for 2014 were \$850,000 less than originally projected in the 2014 budget. This lower amount can be attributed to a combination of influences including: 1) less waste generation due to economic factors; 2) higher use of waste stewardship and recycling programs; 3) reduction in packaging; and, 4) shipping of waste outside of region for low-cost disposal.

The last point, shipping out of region, is the greatest threat to future years tip fee revenue. Seven large commercial waste haulers operate in the region. In September 2013, two of the commercial waste haulers discontinued shipping waste to the Regional Landfill in favour of out-of-region disposal. Informal discussions with two of the other waste haulers have indicated that they are regularly solicited for waste disposal by large USA landfilling companies and, in order to compete for business, it may be necessary to also take advantage of this lower cost option.

In the Regional District of Nanaimo (RDN), in the worst case scenario, leakage could increase to the point that only waste sourced from curbside collection under the current control of the RDN would continue to go to the Regional Landfill. Even under such a circumstance, it is likely that there would continue to be some modest use of the Regional Landfill by the commercial sector for difficult to dispose of items like asbestos waste. Although the commercial sector is likely to increasingly target self-haul waste, some amount of self-haul waste would continue to be taken to the Regional Landfill. It is estimated that in such a worst case scenario, total tonnage received at the Regional Landfill would fall to approximately 20,000 tonnes. The following graph provides a plausible, if highly unlikely, projection and suggests that waste disposal, and commensurate tip fee revenue, could fall by 60% by 2018.



DISCUSSION

It appears that tip fees in the RDN have crossed the threshold where shipping to the USA has a cost advantage. Consequently, the RDN engaged Carey McIver and Associates (CMA) to undertake an analysis of: the extent to which waste export is occurring; what the motivation is for waste export; what barriers exist to waste export; and based on the foregoing, an opinion on whether or not waste export is likely to increase and on what timeline. The CMA report is attached (Appendix 1) and the major findings are summarized below:

1. Commercial hauling companies deliver the majority of Municipal Solid Waste (MSW) to RDN disposal facilities. The amount of MSW delivered by commercial haulers has declined by almost 25%. This significant reduction cannot be explained by increased diversion opportunities to the industrial/commercial/institutional (ICI) and multi-family sector or by economic factors. The reduction can be attributed primarily to two waste management companies that ship to the USA.
2. Based on discussions with the two companies, their motivation to waste export was not in response to high RDN tipping fees but was instead to internalize cost concerns as follows:
 - One of the companies is an international operation owning a large USA landfill. They made a corporate decision to internalize costs and ship waste to their landfill in Oregon.
 - The other company cited internal cost savings associated with equipment and labour costs. Specifically they cited an average tire repair cost of \$5,000 per month due to punctures as a result of the landfill conditions. Secondly they claimed to be experiencing average turnaround times at the landfill of at least 1 hour representing a labour cost in the order of \$30,000 annually. Their business is hauling roll-off containers, which makes it necessary to take single trips to the landfill as compared to a front load compactor truck making multiple pickups. Therefore, they historically accessed the landfill several times a day and much more often than a compactor truck. Tire damage and the cost impact of wait times are a function of the number of visits to the landfill and, therefore, why this company is particularly impacted and why the same complaint was not heard from all haulers. Costs to ship waste to the USA are claimed to be about \$140/tonne.

3. Discussions with two of the other major haulers indicate that they have no immediate intentions to export waste citing that they have not lost market share.

The CMA report concludes that it is unlikely that any of the large haulers will begin to export waste due to the low value of the Canadian dollar and the RDN has at least one year to consider options. The report further concludes that reduction in tipping fees is unlikely to encourage currently exported waste to return to RDN facilities.

It is worthy of note that scale records were reviewed for the hauler claiming long turnaround times. For the period between 2008 and 2014, average time at the landfill was approximately 20 minutes; for the 5 month period prior to commencing transport to the USA average times were 17.5 minutes with a maximum time of 21 minutes. Scale records do not include any line up times to enter the site.

Over the last year, informal discussions between RDN staff and area waste management representatives have suggested that the break-even point for waste export was somewhere between \$95 and \$110 per tonne. It is difficult to predict to what extent the recent fluctuation of the Canadian dollar, as well as fuel prices, have had on these estimates. CMA suggest export costs are \$140/tonne. It would be very difficult to determine a true value for waste export but the current range most likely lies somewhere between \$110 and a \$140/tonne. Certainly there is more risk to ship to the USA as demonstrated by fluctuations in the dollar and fuel prices, which remain a deterrent to export.

It is worthy of note that both the transportation and waste disposal industry benefit by increased quantities and lower unit cost, i.e., the more you ship the cheaper it is to ship. On this basis, if leakage does increase in the region, it starts the progression of falling unit costs to ship waste that further attracts more waste to be shipped out.

ALTERNATIVES

Alternative 1: Reduce tip fees for large waste haulers accessing the Regional Landfill and introduce a *Transaction Fee* at both the Regional Landfill and the Church Road Transfer Station.

Alternative 2: Continue with the status quo: leave the tip fees at current rates and continue to monitor out-of-region waste disposal trends.

Alternative 3: Establish an alternate fee structure as directed by the Regional Board.

FINANCIAL IMPLICATIONS

Alternative 1:

Alternative 1 proposes to reduce tipping fees for large loads received at the Regional Landfill with the intention of reducing or removing the disparity in costs between local waste disposal and waste export. Although there is some question as to what extent there is a disparity in costs, lowering disposal fees for large loads makes it less likely that other large commercial haulers will leave the system. If this were to happen, where another large hauler leaves the RDN waste disposal system, it would place a significant burden on the RDN to finance the service requiring an increase in tipping fees or a higher level of taxation.

The fee structure is contemplated to be a tiered rate ranging from \$110 to \$125/tonne for waste received at the Regional Landfill. A reduction in the tip rate would apply commensurate with the increasing mass of the load. The rationale being that large loads cost less to process on a unit basis than small loads. The fee reduction would not apply at the Church Road Transfer Station on the basis that: 1) RDN hauling costs for transporting waste from the transfer station to the landfill are about \$15/tonne plus the additional cost to handle the waste; and, 2) it encourages large load transporters to haul directly to the Regional Landfill resulting in overall system efficiency and lowering operational costs at the transfer station.

This alternative also suggests the introduction of a \$2 “transaction fee” that would apply to all loads regardless of size at both the transfer station and the landfill and offsets the fixed facility costs such as weigh scales and attendant staff. For small loads, i.e., <48 kg, this would essentially increase the minimum charge from the current \$6 to \$8. Approximately 155,000 self-haul, curbside and small commercial loads were processed at the solid waste facilities in 2014. A \$2 transaction fee would increase revenue by approximately \$300,000.

It is proposed the following tip fee structure be considered:

Fee	Regional Landfill	Church Road Transfer Station
Transaction Fee	\$2/load	\$2/load
Min. Load Charge (<48 kg)	\$6/load	\$6/load
≤ 5 tonnes	\$125/tonne	\$125/tonne
>5 to <6 tonnes	\$122/tonne	\$125/tonne
>6 to <7 tonnes	\$119/tonne	\$125/tonne
>7 to <8 tonnes	\$116/tonne	\$125/tonne
>8 to <9 tonnes	\$113/tonne	\$125/tonne
>9 tonne load	\$110/tonne	\$125/tonne

Rate applied to entire load, i.e., 9 tonne load at \$110/tonne = \$990 + \$2 = \$992.

The progressive tip fee reduction starting at 5 tonnes considers the range of primarily commercial traffic. Front load compactor trucks typically have a payload in excess of 9 tonnes. Roll off containers commonly range in the order of 5 to 10 tonnes. A progressive rate change softens the impact of the rate change at each of the rate thresholds.

Residential curbside collection trucks operated by the City of Nanaimo (City) and RDN contractors typically have payloads of 3 to 5 tonnes. Therefore, the net impact of the rate structure proposed here would be the addition of the transaction fee of \$2 per load. The City and the RDN curbside collection programs deliver approximately 1200 and 1900 loads respectively. Therefore the net increase would correspond to \$2400 and \$3800.

With a \$2 transaction fee and the \$6 minimum charge for waste, the minimum cost to customers at the RDN facilities would be \$8. The proposed transaction fee for RDN facilities is less in minimum cost than those of the Capital Regional District and Comox Valley Regional District and equal to that of the Alberni Clayoquot Regional District. The minimum charge for waste at the Regional Districts of Mount Waddington and Cowichan Valley is \$3 and \$5 respectively but this is for a smaller quantity of waste. Regional Districts on Vancouver Island have solid waste tip fees that vary between \$95 and \$140; therefore, the proposed tip fee structure falls within this range. A tip fee and minimum charge comparison is presented in *Appendix 2*.

The above rate structure is targeted to make local waste disposal competitive with USA disposal. The rate is likely not low enough to curb the current leakage from the region but merely intended to slow or halt the trend while the SWMP is under review. It is believed that the proposed rate structure will not be disruptive to the region's waste management industry whether they are using the Regional Landfill or hauling out of region. Furthermore, the proposed rate is still high enough that it continues to encourage zero waste policies.

Stabilizing the waste flow in the regions is expected to result in about 47,000 tonnes of waste per year requiring disposal for the next several years. Based on this rate structure, projected tip fee revenues are \$6.43 million¹. The addition of a \$300,000 received through Transaction Fees, results in a total combined revenue of \$6.76 million.

Alternative 2:

Alternative 2 contemplates continuing with the status quo, which is to leave the tip fees at current rates and continue to monitor out-of-region waste disposal trends.

The CMA report concluded that it is unlikely that any of the large haulers will begin to export waste in the near future and the RDN has at least one year to consider options. This timeline is consistent with the SWMP review that is currently underway and will be looking at options for future financing of waste management services.

However, even if one of the large haulers was to decide to export waste to the USA in the interim, the consequence would be a loss of 2000 to 10,000 tonnes of waste from the system with a revenue loss of between \$250,000 and \$1,250,000.

Assuming there is no further trend to waste export, under the status quo with tip fees at \$125/tonne, revenues are projected at \$6.8 million².

Analysis

The following table provides a comparison of Alternatives 1 and 2:

	Tonne Rate	2015 Projected Tonnes	Revenue	Total
Alternative 1				
Status Quo	\$125	47,000	\$6,800,000	\$6,800,000
Alternative 2				
Tiered Rate:				
>9 tonnes	\$110	16,700	\$1,837,700	
8-8.9 tonnes	\$113	2,700	\$305,100	
7-7.9 tonnes	\$116	2,400	\$278,400	
6-6.9 tonnes	\$119	2,300	\$273,700	
5-5.9 tonnes	\$122	3,500	\$427,000	
<5 tonnes and controlled waste	\$125 and \$250	19,400	\$3,350,830	
Transaction Fee	Fee per load \$2	Total transactions		

¹ Revenue projections are a combination of the base rate plus the premium rate for controlled waste.

per load		150,000	\$300,000	
Tiered Rate & Transaction Fee Total				\$6,762,730

STRATEGIC PLAN IMPLICATIONS

Changes to tipping fee rates as discussed in this report are consistent with the “user pay” principal, are still at such a level that promotes waste reduction and, therefore, are consistent with the current SWMP.

SUMMARY/CONCLUSIONS


The export of waste out of the region for disposal is a concern as it challenges the ability to finance the solid waste service. As solid waste services is managed primarily on a user-pay model, as the revenue is lost tip fees need to be increased to offset the loss. This only creates a greater disparity in the cost of local disposal and waste export. A further concern is that as waste export increases, the unit costs for transportation fall, widening the disparity. This has the potential for disposal costs to drop to such an extent that the RDN’s waste reduction success is eroded. As disposal cost drop, the financial incentive for alternatives to disposal are lost.

The content of this report presents some of the complexities in developing future projections for waste disposal and revenue. The amount of waste received at RDN facilities changes with the economy, with zero waste programs and export of waste outside of the region. It is the export of significant amounts of waste that have the most immediate and pronounced impact but also are most difficult to predict. The alternative to tier the tip fee and introduce a transaction fee could result in greater stability with a minimal change in revenue. This model better apportions the cost consistent with the “user-pay” principal and has the benefit of reducing the financial incentive to seek out cheaper waste export. In this regard, it is considered a lower risk option.


Staff recommend Alternative 1, to proceed with a tiered tip fee and introduction of a Transaction Fee. Should the Board support the recommendation, staff will prepare amendments to Bylaw 1531 for further consideration.

RECOMMENDATION

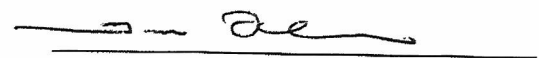
That staff be directed to proceed with bylaw preparation that establishes a tiered tip fee and introduction of a transaction fee while the Solid Waste Management Plan is under review.



 Report Writer



 A/General Manager Concurrence



 A/CAO Concurrence

APPENDIX 1



Carey McIver & Associates Ltd.

ENVIRONMENTAL CONSULTANTS

February 10, 2015

Larry Gardner
Manager Solid Waste Services
Regional District of Nanaimo
6300 Hammond Bay Road
Nanaimo, BC
V9T 6N2

Dear Larry,

Re: RDN Waste Export Analysis

The RDN has experienced a significant reduction in tipping fee revenue over the last two years. While the majority of this revenue loss is likely due to the export of residual waste out of the RDN by private haulers, additional waste diversion activity may also be contributing to the shortfall. The loss of revenue associated with waste flow out of the RDN has a significant impact on the financial sustainability of the RDN solid waste management system.

Consequently, the RDN engaged Carey McIver & Associates (CMA) to undertake a detailed analysis of: the extent to which waste export is occurring; what the motivation is for waste export; what barriers exist to waste export; and based on the foregoing, an opinion on whether or not waste export is likely to increase and on what timeline. The following letter report provides the results of this analysis.

1. Scale Data Results – *What and Who?*

The RDN solid waste disposal system is funded primarily through tipping fees. Tipping revenue is calculated by multiplying tonnes of materials (municipal solid waste, controlled waste and recyclables) received at the Regional Landfill and Church Road Transfer Station (CRTS) by the corresponding fee for each specific material type. The RDN uses the GEOWARE Waste Management Information and Control System software to provide automated weight scale processing, waste management data collection and information management tasks.

CMA undertook a detailed examination of GEOWARE generated scale data to determine the source of material loss by type and hauler. The following reports were generated by RDN staff and provide the basis for this analysis:

- Material type reports for the last three years (2012, 2013, 2014);
- Hauler reports (curbside residential, commercial haulers and self-haul) for the last five years (2010-2015) categorized by for both waste and recyclables; and,
- Top Ten commercial hauler reports for the last five years (2010-2015).

Carey McIver & Associates Ltd., 1964 Crows Nest Lane, Nanoose Bay, BC V9P 9H7

The following Figure 1 provides a summary of the relative proportion of each major material type and tonnages for the last three years. A detailed material type and tonnage table is attached to this report as Appendix 1. As indicated in Figure 1, the vast majority of material delivered to RDN facilities is municipal solid waste (MSW).

Figure 1: Material Type Summary

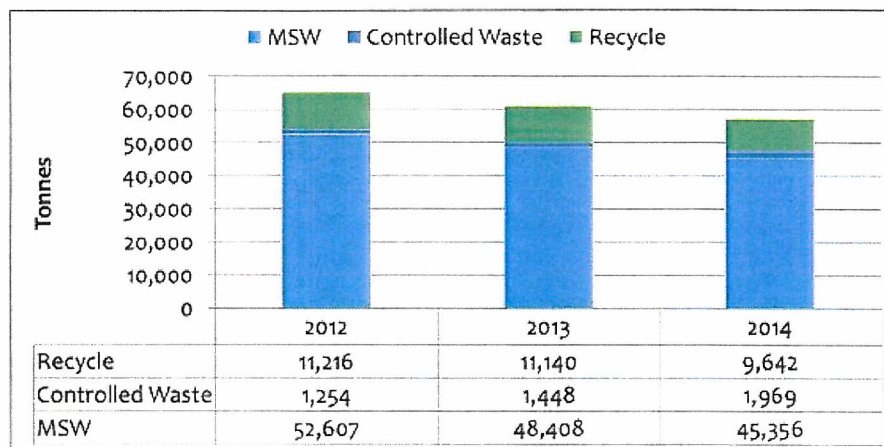


Table 1 summarizes the data in Figure 1 and indicates the net material loss by tonne for 2013 and 2014.

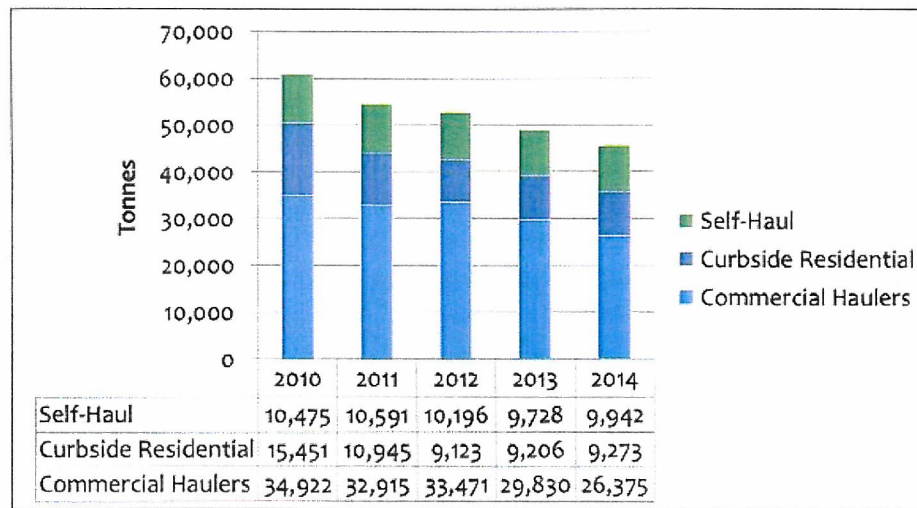
Table 1: Net Material Loss by Tonne

Type	2012 tonnes	2013 tonnes	Diff tonnes	2014 tonnes	Diff tonnes
MSW	52,607	48,408	-4,199	45,356	-3,052
Controlled Waste	1,254	1,448	+194	1,969	+521
Recycle	11,216	11,140	-76	9,642	-1,498
Total	65,077	60,996	-4,081	56,967	-4,029

As indicated in Table 1 the net material loss between 2012 and 2013 was 4,081 tonnes, with most of this loss attributed to MSW. The net loss between 2013 and 2014 was 4,029 tonnes however this amount would be less if the roughly 815 tonnes of food waste that City of Nanaimo delivered directly to the NOW composting facility rather than the Regional Landfill is taken into consideration.

Figure 2 illustrates who actually delivered MSW to RDN disposal facilities by self-haul, curbside residential and commercial haulers.

Figure 2: Business Type by Material Summary – 2010-2014



As indicated in Figure 2, commercial hauling companies delivered the majority of MSW to RDN disposal facilities. This material is primarily from industrial, commercial, institutional (ICI) and the multi-family housing sectors. Curbside residential haulers (single-family residential waste collected by the City of Nanaimo and RDN) and self-haul customers represent the remaining, almost equal portions of waste.

Since 2010, the amount of MSW delivered by self-haul customers has declined by 5%. This is likely due to increased diversion opportunities within the region. The amount of MSW delivered by curbside residential haulers (City of Nanaimo and RDN) has declined by 40%. This is primarily due to the introduction of the Green Bin food waste collection program. The amount of MSW delivered by commercial haulers has declined by almost 25%. This significant reduction cannot be explained by either increased diversion opportunities to the ICI and multi-family sector or by economic factors.

The GEOWARE Top 10 Customer report was used to determine which commercial haulers were responsible for the reduction in MSW delivered to RDN facilities. The following Table 2 illustrates MSW by customers ranked by total tonnes delivered in descending order for the years 2010-2014. Table 3 narrows this information down to three years (2012-2014) and identifies the gain or loss in MSW tonnes by customer. It is clear from these two tables that DBL Disposal Services (DBL) and Waste Management Canada (WM Nanaimo) are responsible for the majority of the reduction in MSW delivered to RDN facilities.

Table 2: Top 10 Customers 2010-2014

Customer	2010	2011	2012	2013	2014
BFI Canada	11,370	9,618	9,749	9,463	9,567
DBL Disposal	5,952	5,240	5,419	3,377	144
Waste Mgmt.	5,943	5,403	4,966	3,178	900
Haarsma Waste	4,215	4,916	5,365	5,710	6,104
SunCoast Waste	1,567	1,552	1,619	1,762	1,982
Emterra	1,440	1,589	1,491	1,529	1,509
Alpine	1,244	1,712	1,850	1,530	1,062
Super Save	802	833	754	854	812
Contain-a-Way	325	0	0	0	0
GLS Disposal	337	476	608	656	959
Milner	0	0	255	288	546
Ministry of Forests	0	0	0	0	1,306
Total	33,195	32,455	32,076	28,347	24,891

Table 3: Net Material Loss by Top 10 Customers 2012-2014

Customer	2012	2013	Diff	2014	Diff
BFI Canada	9,749	9,463	-286	9,567	104
DBL Disposal	5,419	3,377	-2,042	144	-3,233
Waste Mgmt.	4,966	3,178	-1,788	900	-2,278
Haarsma Waste	5,365	5,710	345	6,104	394
SunCoast Waste	1,619	1,762	143	1,982	220
Emterra	1,491	1,529	38	1,509	-20
Alpine	1,850	1,530	-320	1,062	-468
Super Save	754	854	100	812	-42
GLS Disposal	608	656	48	959	303
Milner	255	288	33	546	258
Ministry of Forests	0	0	0	1,306	1,306
Total	32,076	28,347	-3,729	24,891	-3,456

To summarize, RDN disposal facilities experienced a net reduction of 7,251 tonnes of MSW from commercial haulers over two years from 2013 to 2014. This equates to an average net loss of 3,625 tonnes annually. This reduction can be attributed primarily to two companies: DBL and WM Nanaimo.

2. Current Waste Exporters – How and Why?

DBL Disposal Services (DBL) is a locally owned and operated company that has provided waste disposal and recycling services to residential, commercial and industrial clients throughout Nanaimo and the surrounding area since 1954. Their business consists of 18 trucks and 400 roll-off bins, containers and compactors as well as recycling depot.

The recycling depot, located at 333 10th Street in Nanaimo, holds a facility license issued under RDN Waste Stream Management Bylaw 1386 in August 2012. The following Table 4 shows the materials and annual quantities approved under their facility license. The table also indicates the actual types and quantities of materials processed at the facility in 2014 as reported by DBL. A fee comparison between DBL and the RDN is also provided to illustrate the DBL business model.

Table 4: DBL Facility License, Actual Quantities and Fee Comparison 2014

Material	WSML tpy	Received tpy	Shipped tpy	DBL Fee	RDN Fee
Const. & Demo (mixed loads)	720	5,152		\$210	\$360
Wood (separated)	1,020	3,725	4,563	\$135	\$250
Metal	120	0	429	\$0	\$6
Gypsum	360	396	0	\$215	\$250
Asphalt Roofing	480	1,162	0	\$150	\$125
Yard Waste	72	766	766	\$52	\$55
Cardboard	180	0	194	\$0	\$6
Concrete (Clean)	72	1,072	0	\$35	NA
Concrete (with metal)	72	0	0	\$100	NA
Clean Fill	NA	548	1,620	\$30	NA
Co-mingled MSW	NA	2,160		\$150	\$125
Residual MSW	NA		7,226		
Total	3,096	14,992	14,799		

Under the RDN facility license, DBL has approval to operate a material recovery facility for mixed loads of construction demolition (CD) material. Prior to mid-2013, DBL shipped residual waste arising from their material recovery activities to the RDN landfill. However, in 2013 the company changed their business model to not only start accepting co-mingled loads of MSW (which is out-of-compliance with their RDN facility license), but to also to ship their residual waste the Columbia Ridge Landfill in Arlington Oregon owned by Waste Management Inc. Their major customer for co-mingled MSW is WM Nanaimo.

As indicated in the following Figure 3, co-mingled loads of MSW from the ICI sector are dumped outside of the DBL facility for manual sorting by DBL staff. Figure 4 represents a typical load of co-mingled MSW. Due to RDN disposal bans, this material is relatively free from putrescible material such as food and yard waste. This makes the loads relatively dry which in turn facilitates manual recovery of

recyclables such as metal, wood, and cardboard. According to DBL, their recovery rate for mixed loads of CD waste is 70%. The recovery rate for co-mingled loads of garbage is 40%. Based on DBL's 2014 material report, their overall recovery rate is 48%.

Figure 3: Truck Delivering Co-Mingled MSW to DBL Recycling Facility



Figure 4: Typical Load of Co-Mingled MSW



Although the DBL Recycling facility is currently out of compliance with their RDN facility license, it is not unreasonable to expect that the RDN would approve an amendment given that DBL is operating as a material recovery facility and not as a waste transfer station. This facility is consistent with the objectives of the RDN Solid Waste Management Plan and contributes not only to the high RDN diversion rate but also to local community economic development.

With respect to residual waste, DBL ships this material to the Columbia Ridge Landfill in trailers provided by Waste Management Inc. This is illustrated in Figure 5 below.

Figure 5: DBL Transfer Truck and Trailers



Based on discussions with DBL, the trailers are hauled to Duke Point for barging to Vancouver. From Vancouver the containers are hauled by truck to Portland Oregon where they are loaded onto rail cars for transfer to Columbia Ridge. According to DBL, the current cost for this service is \$132 CDN per tonne from Duke Point and closer to \$140 CDN per tonne if DBL loading and trucking costs to Duke Point are included.

Although, due to the value of the Canadian dollar, the cost to export waste to Columbia Ridge may have been closer to \$105 per tonne when DBL first started the practice in 2013, DBL claim that their motivation to ship their residual waste out-of-region was not lower tipping fees. Instead they strongly assert that they were motivated by internal cost savings associated with equipment and labour costs.

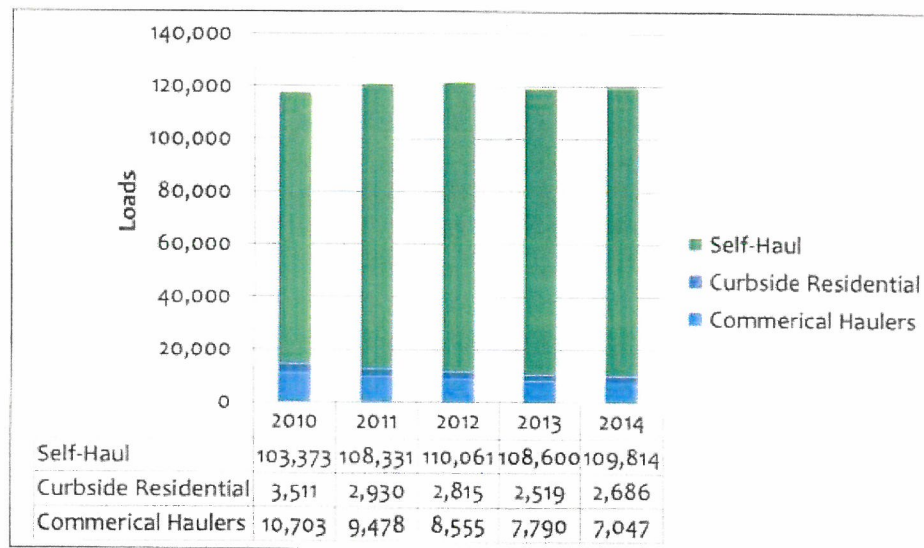
As discussed above, DBL has a fleet of 18 vehicles. Based on GEOWARE data, DBL delivered roughly 7 loads per day to the landfill in 2012. According to DBL, due to conditions at the working face, their tire repair costs were averaging \$5,000 per month. In particular, DBL claim that the use of ground CD waste or asphalt shingles for temporary road beds at the working face resulted in an unacceptable number of flat tires and associated down time. Over the years DBL has not been the only hauler to complain about excessive tire repair costs. WM Nanaimo has also been vocal regarding this issue.

With respect to labour costs, in 2012 DBL was experiencing average turn around times at the landfill of at least one hour. This includes time spent waiting at the in-bound and out-bound scale as well as dumping waste at the working face. This wait time is due to the number of self-haul customers using the facility. In 2012, based on 1,522 loads at \$20 per hour, this represented a labour cost of \$30,440.

As indicated in Figure 6, although self-haul customers represent 17% of the waste delivered to RDN disposal facilities, they represent over 90% of the loads. This dichotomy provides a customer service challenge in that the vast majority of customers provide the least revenue to this reverse retail operation.

Even though wait times were improved in 2006 with the introduction of a cash only policy for loads under \$10, and stored tare weights allow some commercial haulers to avoid the out-bound scale, the only practical solution to this problem is the provision of a dedicated commercial scale. An un-staffed, automated commercial scale had been discussed as part of the solid waste capital plan for several years.

Figure 6: Business Type Load Summary



Nevertheless, based on a total cost impact of over \$90,000 per year in equipment and labour costs, DBL decided to look for alternatives to the RDN landfill. Although DBL report that they were in negotiations with both Republic Services for transfer to the Roosevelt Regional Landfill in Roosevelt, Washington and Waste Management Inc. for transfer to the Columbia Landfill in Arlington Oregon, they settled on Waste Management Inc.

With respect to WM Nanaimo, according to Nanaimo staff, they were directed by senior management to internalize their disposal costs and send their waste, through DBL, to Columbia Ridge. This was in part in response to reduced landfill tonnages as a result of successful diversion programs in Washington and Oregon.

Consequently, based on discussions with DBL and WM Nanaimo their motivation for waste export was not in response to high RDN tipping fees but instead to internal cost concerns.

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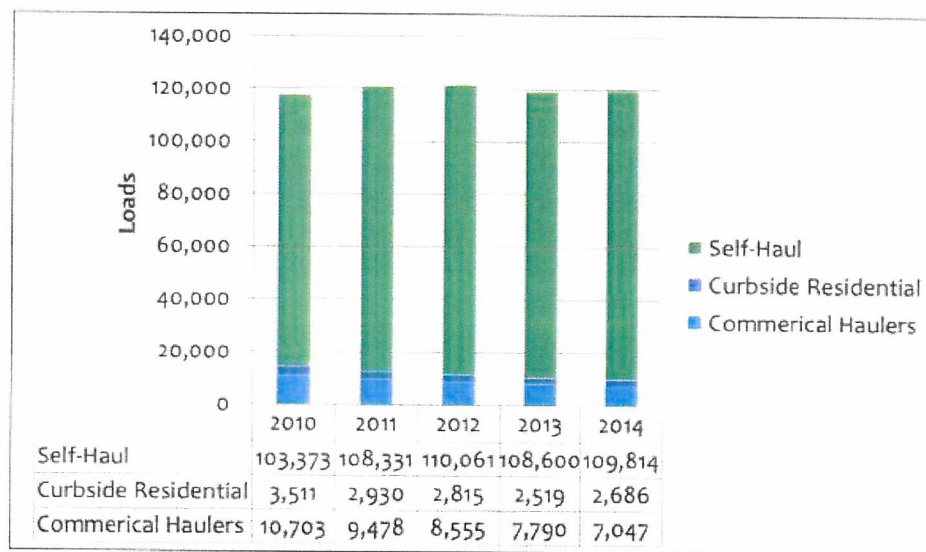
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APPENDIX 2

Tipping Rate Summary Table			
Regional District	MSW Tonne Rate	Minimum Charge	Transaction Fee
Alberni Clayoquot Regional District	\$95	\$8 up to 84 kg	NA
Capital Regional District	\$110	Commercial loads accessing face \$10	Additional \$10 for public drop-off access
Comox Valley Regional District	\$120	\$6 up to 100 kg	Site access fee \$4 for all vehicles over scales
Regional District of Nanaimo	\$125	\$6 up to 50 kg	<i>Proposed \$2 fee on all loads</i>
Regional District of Mount Waddington	\$125	\$3 per bag	NA
Cowichan Valley Regional District	\$140	\$5 up to 25 kg	NA

TO: Daniel Pearce
A/General Manager, Transportation and Solid Waste

DATE: March 27, 2015

FROM: Sharon Horsburgh
Senior Solid Waste Planner

Meghan Larson
Special Projects Assistant

FILE: 5365-00

SUBJECT: Authority under the RDN's Solid Waste Management Plan to Regulate Municipal Solid Waste

PURPOSE

To bring forward a report on information regarding flow management as a measure to regulate Municipal Solid Waste (MSW) generated in the Region.

BACKGROUND

The RDN has experienced a significant reduction in tipping fee revenue over the last two years. While the majority of this revenue loss is likely due to the export of residual waste out of the Regional District of Nanaimo (RDN) by private haulers, additional waste diversion activity may also be contributing to the shortfall. The loss of revenue associated with waste flow out of the RDN has a significant impact on the financial sustainability of the RDN solid waste management system. The recent trend in regional government has been to consider flow management as a regulatory tool to maintain the sustainability of current regional solid waste management systems.

In February 2015, the RDN hired Carey McIver & Associates to undertake a detailed analysis of the extent to which waste export is occurring, what the motivation is for waste export, what barriers exist to waste export and, based on the foregoing, an opinion on whether or not waste export is likely to increase and on what timeline. The RDN has experienced a significant reduction in tipping fee revenue since 2012. Based on a detailed examination of RDN scale data, RDN disposal facilities experienced a net reduction of 7,251 tonnes of MSW from commercial haulers over two years from 2013 to 2014. This equates to an average net loss of 3,625 tonnes annually. Indicators, as noted above, suggest that the amount of waste being transferred out of region, referred to as "leakage," has the potential to increase if the RDN does not consider options to address the loss of revenue to RDN disposal facilities.

One option under consideration is the authority to regulate waste flow by local governments. On October 17, 2014 the Minister of Environment denied approval of Metro Vancouver's proposed Bylaw 280, which would have regulated waste flow to prevent leakage. In denying approval of the Bylaw, the Minister cited concerns of creating a monopoly, increased illegal dumping, negative effects on recycling of packaging and printed paper and destabilizing private sector collection and handling. This decision by the Minister has the potential to exacerbate leakage in both Metro and the RDN.

Metro Vancouver concluded that without regulatory controls on waste export, if large loads continue to be charged at a rate higher than the competitive market, commercial haulers will exit the regional system at an increasing rate. They also noted that large loads subsidize small loads because the cost of managing large loads is less on a per tonne basis than small loads. As a result, on February 14, 2015, Metro Vancouver responded to the risk of increasing leakage by adopting Bylaw 288 (Tipping Fee Bylaw) that reduces the tip fee for large loads. They have also introduced a Transaction Fee recognizing there are fixed costs regardless of load size, e.g. scales, tip floor, attendant staff. The basis of the fee structure is as follows:

- Previous Rate:
 - \$109 per tonne for all loads
 - Minimum \$10 load per load
- Bylaw 288 Rates:
 - Transaction Fee: \$5 per load + per tonne charge
 - Minimum Fee including Transaction Fee: \$15 per load
 - Per Tonne Charge:
 - Small Loads < 1 tonne: \$130 per tonne to a max of \$109
 - Medium Loads < 9 tonnes: \$109 per tonne to max \$720
 - Large Loads > 9 tonnes: \$80 per tonne

Metro Vancouver believes this rate structure is still high enough to encourage waste diversion and that waste currently being exported will return to the Metro system over the next five years. Continuing with a user pay model, fees are forecasted to increase over the next five years as follows: small loads at \$157/tonne, medium loads at \$138/tonne and large loads at \$85/tonne. Had Metro continued with a set rate of \$109/tonne for large loads, tip fees were forecasted to increase to over \$200/tonne under a user pay model for the same period, which would only serve to exacerbate waste export and further increases to tip fees. Metro Vancouver recognized the uncertainties with the alternatives explored but concluded that adjusting the tip fees is a necessary step to address long term sustainability of the solid waste function.

Discussion

One of the major issues identified for review in the 2015 Solid Waste Management Plan (SWMP) is how to finance the Solid Waste Management System in the RDN. Currently, the majority of funding for the Solid Waste function is drawn from RDN tipping fees. Since 2014, expenses are exceeding revenues with the deficit being funded by increasing the tax requisition. Private waste export of MSW was identified during Stage 1 of the SWMP Review as an issue that could destabilize the current RDN waste management system.

The regulatory provisions of the Provincial *Environmental Management Act*, extend authority to Regional Districts to regulate Solid Waste according to the region's SWMP. If the Board chooses to include flow management in the draft SWMP, there are two options: (i) prepare a Bylaw for approval with the draft plan; or (ii) submit the plan for approval to the Minister and prepare a Bylaw that would require consultation and later be submitted to the Province for final adoption.

Authority to manage municipal solid waste and recyclable material generally referred to as "flow control" can cover:

- the types, quality or quantities of municipal solid waste or recyclable material that may be brought onto or removed from a site;
- the burning of any class or quantity of municipal solid waste or recyclable material;

- set fees for the services of a waste hauler and require waste haulers to act as agents of the regional district to collect and remit fees.

Staff will be providing the Board with updates on the SWMP as the stakeholder and public consultation processes are completed, including information on options to move forward with flow management in the both the short and long term.

ALTERNATIVES

There are no alternatives for this report.

FINANCIAL IMPLICATIONS

There are no financial implications with this report.

STRATEGIC PLAN IMPLICATIONS

Solid Waste flow management impacts the RDN Strategic Plan's ability to consider future options for waste management, disposal and facility development to meet the needs of a growing population.

SUMMARY / CONCLUSIONS

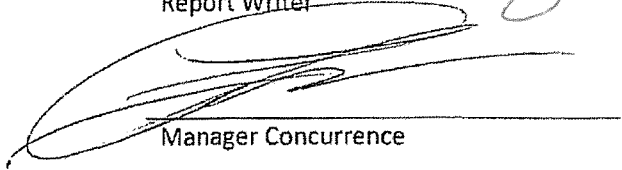
The regulatory provisions of the Provincial *Environmental Management Act* extends authority to Regional Districts to regulate Solid Waste. The RDN is proposing to review waste flow management options as part of the SWMP process and to potentially develop a Bylaw designed to ensure waste generated in the RDN is handled at a regional facility. The intent of the Bylaw will be to create a level playing field for participants, ensure a cost effective and equitable solid waste management system, support future waste diversion targets and promote private sector innovation and economic opportunities.

RECOMMENDATIONS

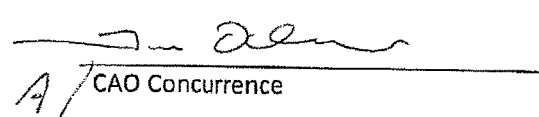
That the Board receive this report for information.


Report Writer


Report Writer


Manager Concurrence


A/General Manager Concurrence


A/CAO Concurrence

TO: Daniel Pearce
A/General Manager, Transportation and Solid Waste

DATE: March 27, 2015

FROM: Jane MacIntosh
A/Superintendent of Landfill Operations

FILE: 5365-00

SUBJECT: Disposal Facility Future Cost Projections

PURPOSE

To bring forward a report on information regarding *Disposal Facility Future Cost Projections* based on two potential scenarios.

BACKGROUND

Over the past two years the Regional District of Nanaimo (RDN) has experienced a decreasing trend in the volume of waste being delivered to the Regional Landfill. The road to Zero Waste, as per our Solid Waste Management Plan, has included many initiatives to divert materials from the landfill for re-use, recycling, etc.; however, the magnitude of this decrease is attributed more to the current practice of commercial waste export than the success of waste diversion programs.

Management of the lifespan of the landfill includes the evaluation of available airspace for waste filling, a predicted annual tonnage of waste material and an overall compaction rate for the waste. What is developed is called a fill-plan that basically tells us how much waste can be fit in the space available. Based on historical events the public preference is to maximize the life of the existing landfill rather than construct a new landfill. Given this general mandate, engineers have developed a fill-plan that includes various expansions to the landfill over time to expand the available footprint and achieve the longest lifespan possible for the site. In addition to the operating costs of the landfill, there are also capital costs associated with various projects to complete engineered expansions such as berms.

There are currently no mechanisms in place to control the destination of waste generated within the RDN. Given the recent commercial practice of exporting waste outside of the RDN, the tonnages delivered to the landfill from 2010 to 2014 have dropped from approximately 70,700 metric tonnes (MTs) to 51,400 MTs. The loss of revenue associated with this change in tonnage is approximately \$2,412,500. With no means to control the leakage of residual waste from the district, the ability to forecast future projections and generate an engineered fill-plan becomes increasingly challenging.

Looking ahead, there are a number of scenarios that could occur at this point. The observed decreasing trend could continue or, conversely, management directives or changes in market conditions could result in a return of waste to the landfill. The development of the landfill site must allow for either option to ensure the landfill is prepared and there is a place for the waste should the volumes return to a "normal level." The RDN tasked the engineers to review a number of options, three of which are discussed in more detail in the following paragraphs.

Scenario 1: This scenario evaluated the effects of a continued decreasing trend in waste volume. It assumes there are no mechanisms in place to control the flow of waste from the district and the continued success of waste diversion programs would drop the annual tonnage to approximately 20,000 MTs. At this volume and with current tipping fees, which include allowances for general inflation, growth rates for garbage generation and interest rates, the landfill life could extend until the year 2075. The net present value for the site until closure in 2075 and including 25 years post-closure care is -\$67.9 million.

Scenario 2: This scenario evaluated the outcome if the Zero Waste Program achieved an 80% diversion rate and assumes 10% of waste generated is exported outside the region. At our current volume and existing tipping fees, which include allowances for general inflation, growth rates for garbage generation and interest rates, the landfill life could extend until the year 2052. The net present value for the site until closure in 2052 and including 25 years post closure care is -\$47.9 million.

Scenario 3: This scenario evaluated the outcome if the Zero Waste Program achieved an 80% diversion rate and flow control measures directed all RDN generated waste to the local landfill. At our current volume and existing tipping fees, which include a 2% tip fee increase over inflation, growth rates for garbage generation and interest rates, the landfill life could extend until the year 2048. The net present value for the site until closure in 2048 and including 25 years post-closure care is \$12.4 million.

Normalizing Net Present Values: To aid with comparing each scenario, net present values were normalized for a 25 year period (2015 to 2050). The results are summarized below:

Scenario	Alternative Description	Closure Year	Net Present Value (25 year period)	Net Present Value (closure + 25 years)
1	Waste Volume Decrease - 22,000 tonnes, no flow control	2075	-\$40.4 million	-\$67.9 million
2	80 percent waste diversion, <u>no</u> flow control in place (10% waste export)	2052	-\$37.9 million	-\$47.9 million
3	80 percent waste diversion, flow control in place	2048	-\$3.7 million	\$12.4 million

While the landfill may last a much longer time if the annual tonnage drops and waste continues to leave the district, the financial implications are stark. Each scenario has implications to waste management practices to mitigate the cost such as closing the landfill, constructing a transfer station and also exporting waste off-Island for final disposal.

ALTERNATIVES

There are no alternatives for this report.

FINANCIAL IMPLICATIONS

There are no financial implications with this report.

STRATEGIC PLAN IMPLICATIONS


Flow Management impacts the ability of the RDN Strategic Plan to consider future options for waste management, disposal and facility development to meet the needs of a growing population.


SUMMARY / CONCLUSIONS

The operation of the Regional Landfill requires preparing future fill-plan options for maximizing the use of air-space and landfill life. The fill-plan guides the day-to-day operation of the site and development of expansion areas to achieve optimal capacity within a defined footprint space. Decreasing trends in waste volumes over the past few years have generated a concern in the ability to adequately predict the future development and costs associated with operating the landfill. Realistic scenarios that evaluate the status quo and flow control measures generate significantly different cost implications and indicate further attention to managing solid waste in the district is economically imperative to the district.

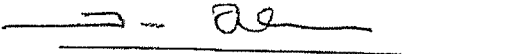
RECOMMENDATIONS

That the Board receive this report for information.


Report Writer *Jane McIntosh*


Manager Concurrence


A/General Manager Concurrence


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