REGIONAL DISTRICT OF NANAIMO

RDN REPORT
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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

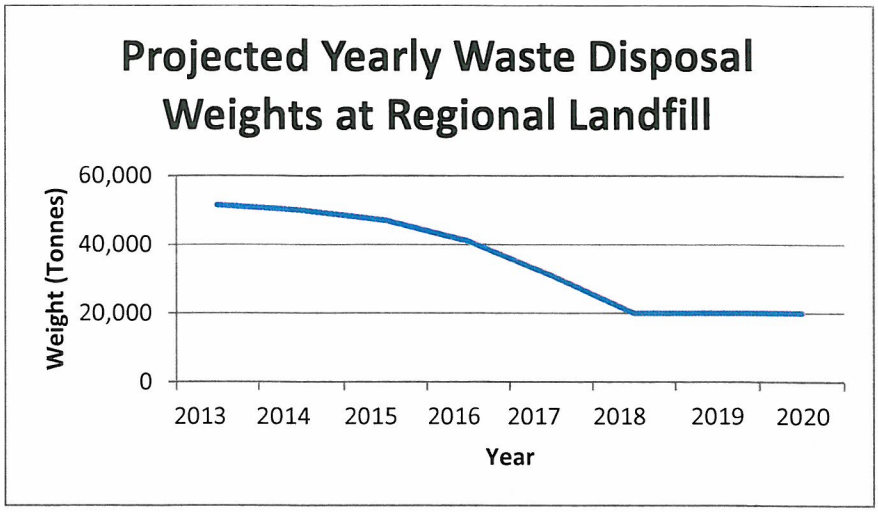
To request the Board consider a tip fee reduction in order to stabilize Solid Waste Services revenue while the Solid Waste Management Plan (SWMP) is under review. The SWMP will detail future services and associated costs and will be the basis for establishing revenue including the appropriate tip fees 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 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 of 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 tippling 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 rational 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 suggest 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 million[1]. 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 million[2].

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 area 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

for Daniel Pearce
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.

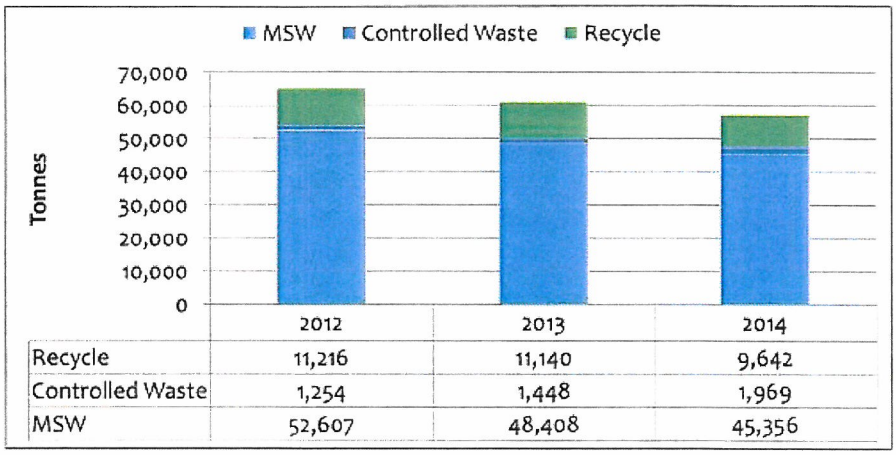
CMA undertook a detailed examination of GEOWARE generated scale data to determine the source of material loss by type and hauler. The following reports were generated by RDN staff and provide the basis for this analysis:

- 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



	2012	2013	2014
Recycle	11,216	11,140	9,642
Controlled Waste	1,254	1,448	1,969
MSW	52,607	48,408	45,356

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

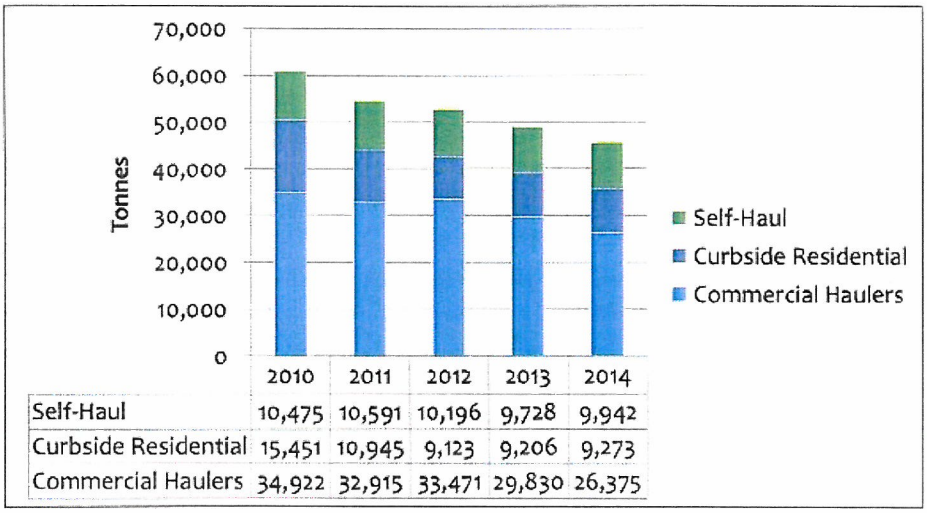
Table 1: Net Material Loss by Tonne

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



	2010	2011	2012	2013	2014
Self-Haul	10,475	10,591	10,196	9,728	9,942
Curbside Residential	15,451	10,945	9,123	9,206	9,273
Commercial Haulers	34,922	32,915	33,471	29,830	26,375

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.

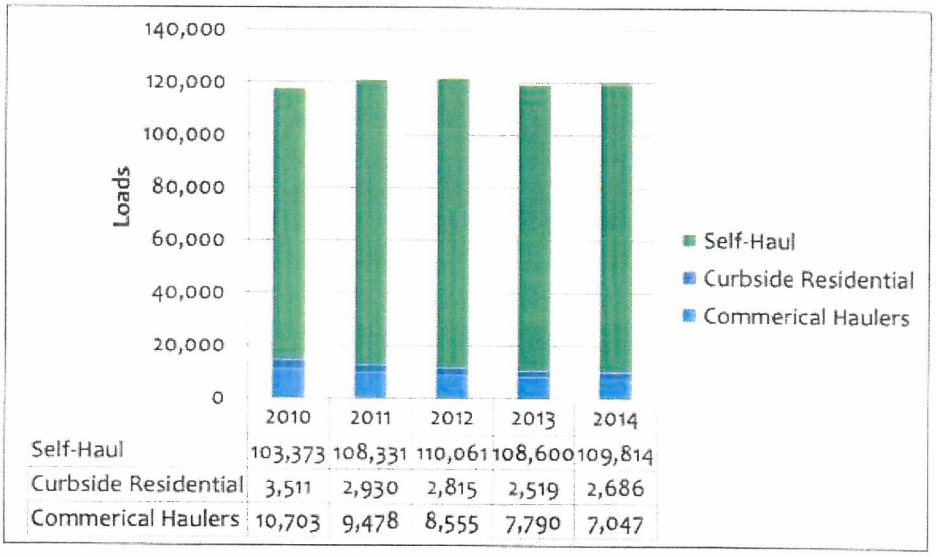
As discussed above, DBL has a fleet of 18 vehicles. Based on GEOWARE data, DBL delivered roughly 7 loads per day to the landfill in 2012. According to DBL, due to conditions at the working face, their tire repair costs were averaging $5,000 per month. In particular, DBL claim that the use of ground CD 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



	2010	2011	2012	2013	2014
Self-Haul	103,373	108,331	110,061	108,600	109,814
Curbside Residential	3,511	2,930	2,815	2,519	2,686
Commerical Haulers	10,703	9,478	8,555	7,790	7,047

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.

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.

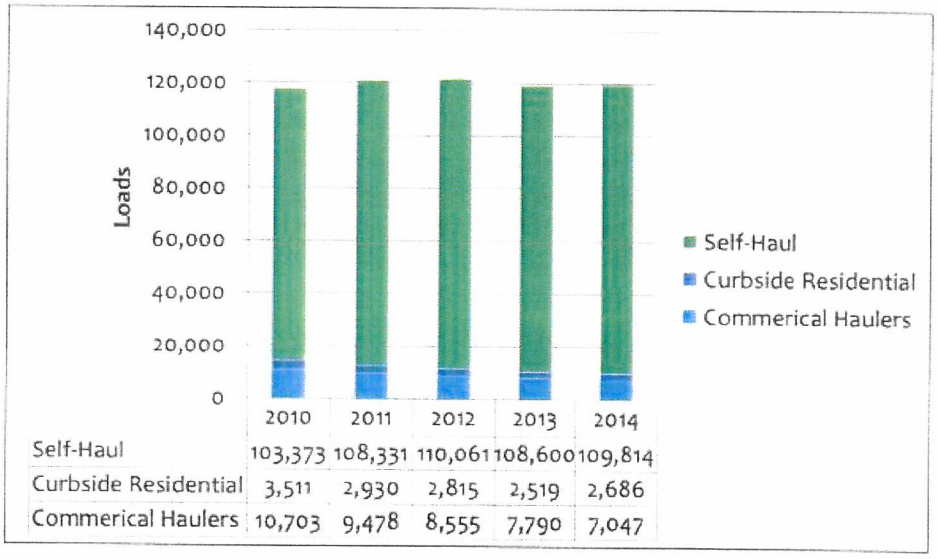
As discussed above, DBL has a fleet of 18 vehicles. Based on GEOWARE data, DBL delivered roughly 7 loads per day to the landfill in 2012. According to DBL, due to conditions at the working face, their tire repair costs were averaging $5,000 per month. In particular, DBL claim that the use of ground CD 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



	2010	2011	2012	2013	2014
Self-Haul	103,373	108,331	110,061	108,600	109,814
Curbside Residential	3,511	2,930	2,815	2,519	2,686
Commerical Haulers	10,703	9,478	8,555	7,790	7,047

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.

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	*Proposed $2 fee on all loads*
Regional District of Mount Waddington	$125	$3 per bag	NA
Cowichan Valley Regional District	$140	$5 up to 25 kg	NA