Waste Diversion Ontario
Continuous Improvement Fund

CIF Project # 170,
Town of Cochrane
Recycling Program Review and Program Development Evaluation

February 12th, 2010

Prepared by:

VisionQuest Environmental Strategies Corp.

15 Marsh Harbour, Aurora, Ontario, L4G 5Z2
T 416-570-4379,
VisionQuestESC@sympatico.ca
www.VisionQuestEnvironmental.com

Statement of Qualifications and Limitations

The attached Report (the "Report") has been prepared by VisionQuest Environmental Strategies Corp. ("Consultant") for the benefit of the client ("Client") in accordance with the agreement between Consultant and Client, including the scope of work detailed therein (the "Agreement").

The information, data, recommendations and conclusions contained in the Report:

are subject to the budgetary, time, scope and other constraints and limitations in the Agreement and the qualifications contained in the Report (the "Limitations"):

- represent Consultants professional judgement in light of the Limitations and industry standards for the preparation of similar reports;
- may be based on information provided to the Consultant which has not been independently verified;
- have not been updated since the date of issuance of the Report and their accuracy is limited to the time period and circumstances in which they were collected, processed, made or issued;
- must be read as a whole and sections thereof should not be read out of such context;
- were prepared for the specific purposes described in the Report and the Agreement.

Unless expressly stated to the contrary in the Report or the Agreement, Consultant:

- shall not be responsible for any events or circumstances that may have occurred since the date on which the Report was prepared or for any inaccuracies contained in information that was provided to the Consultant;
- makes no representations whatsoever with respect to the Report or any part thereof, other than that the Report represents Consultant's professional judgement as described above, and is intended only for the specific purpose described in the Report and the Agreement;

Except as required by law or otherwise agreed by Consultant and Client, the Report:

- is to be treated as confidential;
- may not be used or relied upon by third parties.

Any use of this Report is subject to this Statement of Qualifications and Limitations. Any damages arising from improper use of the Report or parts thereof shall be borne by the party making such use.

This Statement of Qualifications and Limitations is attached to and forms part of the Report.

This Project has been delivered with the assistance of Waste Diversion Ontario's Continuous Improvement Fund, a fund financed by Ontario municipalities and stewards of blue box waste in Ontario. Notwithstanding this support, the views expressed are the views of the author(s), and Waste Diversion Ontario and Stewardship Ontario accept no responsibility for these views.

Executive Summary

This initiative has been undertaken to evaluate the Town of Cochrane waste management and recycling program to assess opportunities to increase the diversion of waste through recycling and expand the level of service provided by the Town of Cochrane to both the residential and commercial sectors.

Key focus was placed on the potential to expand beyond the existing recycling depot system available to residents only as administered through the Cochrane Temiskaming Waste Management Board, to a full curbside recycling collection program administered by the Town of Cochrane.

Six independent scenarios were analysed, including:

Scenario One: Status Quo – Depot Recycling System for Residential Sector Only
Scenario Two: Status Quo Enhanced – Expansion of Depot to IC&I Sector
Scenario Three: Curbside & Depot Recycling for Residential Sector Only
Scenario Four: Curbside and Depot Recycling for Residential and IC&I
Scenario Five: Curbside Recycling for Residential & IC&I (No Depot Service)
Scenario Six: Curbside Recycling All Sector (no depot) – No high compaction trailer to transport recyclables

The results of each scenario ranged quite widely from a minimum 5% to a maximum 24% waste diversion depending upon whether the program included the resident and commercial sector. Costs also ranged from the existing program at $175 per tonne to a high of $239 per tonne.

Scenario		ONE	TWO	THREE	FOUR	FIVE	SIX
Garbage to landfill	Residential	1,118	1,016	932	932	932	932
	Commercial	946	804	946	710	710	710
	Total garbage (tonnes)	2,064	1,821	1,878	1,641	1,641	1,641
Recyclables to depot	Residential	108	210	22	22	0	0
	Commercial	0	142	0	0	0	0
	Total Recyclables - Depot (tonnes)	108	352	22	22	0	0
Recyclables to Curb	Residential			273	273	294	294
	Commercial			0	237	237	237
	Total Recyclables - Curb (tonnes)			273	509	531	531
Overall Diversion Rate		5%	16%	14%	24%	24%	24%
Total Waste Generated		2,172	2,172	2,172	2,172	2,172	2,172

Waste Management System Costs	Net System Costs - Cochrane (Garbage & Recycling)	$379,099	$467,259	$512,010	$520,204	$474,049	$483,760
	System Cost / Tonne to Cochrane	$175	$215	$236	$239	$218	$223
	Total Diversion	5%	16%	14%	24%	24%	24%

Based on the six scenarios assessed under existing circumstances and balancing the environmental benefits with economic feasibility, the most feasible scenario to the Town of Cochrane would be to consider the implementation of a curbside recycling collection program for both the residential and IC&I sector and the closure of the recycling depot (Scenario 5). Additionally, the on-site construction of a Transtor Transfer Unit combined with the purchase of a compaction trailer to transfer recyclable material to downstream markets offers the Town of Cochrane a very compelling solution.

However, given that the above scenario factors in substantial third party grants from Stewardship Ontario and there remains no long term guarantee that such funding support will remain in effect to support municipal waste diversion initiatives, it would be beneficial for the Town of Cochrane to consider a phased in approach as follows:

Year One:

- Transition to curbside collection of recyclables for the residential and commercial sector;
- Maintain recycling depot but provide twelve month notification to CTWMB of intentions to close the facility;
- Announce intentions to ban recyclables from landfill in twelve month timeframe;
- Restructure IC&I waste management & recycling costs to recover full costs;
- Implement on-site Transtor Transfer Unit, minus the High Compaction Trailer;
- Contract third party (ie Timmins) collection services for recyclables collected curbside;

Year Two:

- Implement and enforce landfill ban on recyclable materials;
- Close recycling depot;
- Assess recyclable capture rates and volumes processed through Transtor System;
- Assess downstream shipment frequency and associated third party costs;
- Assess opportunities to integrate other local jurisdiction recyclable material into Town of Cochrane program;
- Confirm continued availability of third party (ie Stewardship Ontario) grant funding support for capital purchases;
- Consider purchase of High Compaction Trailer by Town of Cochrane for direct ship opportunities;

Table of Contents

Tables

Appendices

1. Introduction

Waste Diversion Ontario (WDO) through the Continuous Improvement Fund, in conjunction with the Town of Cochrane (the Town), retained VisionQuest Environmental Strategies Corp. to assist the Town of Cochrane with a recycling program review and developing recommendations for program development.

With a focus on the opportunity to increase service levels for residents, consideration towards the implementation of a curbside collection of recyclables for the residential sector will be considered and compared to the existing depot based system from both a cost and incremental diversion assessment.

Photo One: Cochrane streetscape – garbage collection

Photo Two: Cochrane Recycling Depot

Additional consideration towards offering the existing commercial sector with the provision of recyclable collection services and / or access to the municipal recyclable depot will also be undertaken.

Photo Three: IC&I (hospital) Waste Collection

Photo Four: Commercial garbage storage area.

Potential improvements also to be considered in this report include the construction and operation of a recyclable materials transfer station for transfer of recyclables to a Materials Recovery Facility (MRF) for processing.

2. Town of Cochrane Existing Recycling Program – Depot Based System

Through the Municipal Operations Department, the Town of Cochrane presently offers residential and commercial curbside garbage collection throughout the year. Additionally, under the authority of the Cochrane Temiskaming Waste Management Board (CTWMB), the municipality offers a depot drop-off location (on Railway Street) for residents (only) to drop off recyclable materials, including: old corrugated cardboard (OCC), old boxboard (OBB), aluminum & steel cans, PETE & HDPE plastic containers.

Although the Town of Cochrane owns and maintains the recycling depot, the CTWMB funds all associated capital and operating costs through a per capita levy ($19.50).

Photo Five: Cochrane Recycling Depot signage.

Approximately 2,577 single family households and one hundred multi-family (apartment) units are able to access the local recycling depot (population 5,073). There is no curbside collection of recyclables offered to either residents or the approximately 210 industrial, commercial and institutional establishments within Cochrane.

The Recycling Depot consists of six bins placed on-site to contain the recyclable material. Four of the bins (each 6 cubic yards) are utilized to collect commingled fibre material including OCC, OBB and ONP. The two remaining bins are split into two separate chambers (each 2 and 4 cubic yards in size). All plastics are placed in the 4 cubic yard chambers while the metal cans (aluminum and ferrous) are commingled in the 2 cubic yard chambers.


Photo's 6 – 8: Depot collection containers for recyclable material (newsprint, cardboard, glass, metal, plastics).

In 2008, the Town of Cochrane collected 2,843 cubic yards (approximately 108 tonnes) of recyclable material through the drop-off centre as follows:

Table 1: Recyclable Material Collected at Depot by Volume (2008)

Material	Volume (cubic yards) 2008
All fibre (OCC, OBB, ONP)	2,260
Metal Cans (aluminum & ferrous)	168
Plastic (PETE & HDPE)	415
Total	2,843

Source: CTWMB 2008 Quarterly Collection Report.

The CTWMB tracks all recyclable material collected via volume, not tonnage. All fibre material (OCC, OBB, ONP) is contained in a container that is six cubic yards, while plastic are collected in a four yard container and metal cans in a two yard container.

The above conversion from volume to tonnage of recyclable material is based on a density of 80 kg / cubic metre of single stream material.

In total, CTWMB collected 16,097.5 cubic yards of recyclable material from the Northern Node of their territory. The Town of Cochrane share of 2,843 cubic yards represents approximately 17.7% of the total, with the remainder coming from Hearst, Mattice, Opasatika, Kapuskasing, Moonbeam and Iroquois Falls.

Transportation of Recyclable Bins (Haul All) to Kapuskasing

The on-site recycling bins at the Recycling Depot are collected on a regular schedule (see below). Each on-site container is dumped into a larger segregated chamber of a collection vehicle and transported to the MRF in Kapuskasing.

- Fibre containers collected twice per week - average of 8 bins collected per week (total of 416 in 2008);
- Plastic container collected once per week – average of 1 bin collected per week (total of 52 bins per year in 2008;
- Metal container collected once per week – average of 1 bin per week (total of 52 bins per year in 2008);
- Note: Plastic / Metal Bins are actually comprised of one 35 yard bin split with two equal compartments. Since there are two bins in total, analysis simply allocates one bin to each material.



Photo's 9 – 11: Haul-All Collection System (Cochrane Depot) – storage bin to collection vehicle.

Recyclable Materials Processing Options & Costs

The CTWMB has divided their jurisdiction to two nodes, specifically the Northern and Southern Nodes. The Town of Cochrane is located in the Northern Node, along with Hearst, Mattice-Val Cote, Opasatika, Moonbeam and Iroquois Falls. In total, 12,458 households are serviced via sixteen collection depots that collect approximately 612 tonnes / year of recyclables. All material collected is transported to the material recovery facility in Kapuskasing for processing.

The CTWMB charges each local jurisdiction a recycling levy based on a per capita charge. In 2008, the Cochrane Temiskaming Waste Management Board (CTWMB) charged the Town of Cochrane $47,580, or approximately $441 per tonne of recyclables collected and processed. All costs are net of revenue received by CTWMB for commodities sold.

This amount is based on a population of 2,440 for the Cochrane area. All funds generated are allocated towards capital (infrastructure) and operating costs associated with the recycling depot located in Cochrane. These costs were net of all transportation costs for the shipment of recyclable material to Kapuskasing as well as revenues received by CTWMB for the sale of recyclable commodities.

3. Town of Cochrane Existing Garbage Collection Program – Curbside

In 2008, the Town of Cochrane collected approximately 2,064 tonnes of garbage as weighed at the landfill, via their main fleet of one rear load (32 yd) waste collection vehicle as well as a smaller (5 tonne) Town owned vehicle used at peak times to supplement the main fleet .


Photo 12 – 13: Cochrane Garbage Collection Vehicle (rear packer)

Photo 14: Cochrane Five Tonne Vehicle

Sub-divided by sector, approximately 1,118 tonnes of garbage was collected from the residential sector and 946 tonnes of garbage from the commercial sector. All of this material was disposed of at the local (Town owned) landfill site, located in Fornier Township.

Photo 15: Residential garbage set-out

Photo 16: Commercial garbage

Photo 17: Municipal collection – IC&I

Collection frequency of garbage is:

- Residential: Monday, Wednesday, Thursday, Friday (weekly)
- Commercial: Tuesday plus ¼ of day during residential collection to high service IC&I clients (weekly)

The Town's waste generation rate (excluding commercial material) averages 476 kg / hhld / year, equal to 242 kg / capita / year of garbage. Based on a conservative estimate of 25% diversion of residential waste via recycling, approximately 186 tonnes of recyclable material remains in the existing garbage stream.

2008 Operating costs totalled $216,308 for wages, overtime and benefits (three staff). Vehicle repairs totalled $14,442 and fuel totalled $4000.

Landfill disposal fees of $3.75 per cubic metre are based on total design, build and closure costs of $1 million with a total capacity of 267,000 tonnes. Utilizing these parameters, 2008 garbage disposal costs (landfill) equate to approximately $97,000 / year or $160.59 per tonne.

Photo 18 – 20: Cochrane Landfill Site

Note: The Town of Cochrane does not presently offer any centralized organics (food or yard) collection and / or processing program. Besides that material which is diverted through backyard composting (BYC), all organics feedstock is disposed of as waste in the local landfill.

3.1 Projected Curbside Recycling Collection Operating Costs

In 2008 / 2009, Waste Diversion Ontario through their Continuous Improvement Fund, in conjunction with the City of Timmins, commissioned the undertaking of an initiative to assess potential operational improvements to the

City's curbside recycling collection and processing program. The resulting report entitled City of Timmins Recycling Transfer Facility Evaluation & System Review (Project 129) March 2009 http://www.wdo.ca/cif/index.htm) assessed a variety of curbside recycling collection configurations for the City. Options examined included (based on single stream collection) single vs. split compartment vehicles (for co-collection) and manual vs. automated collection methodologies.

Considering that the report identified that the least intensive capital cost program is the split stream manual collection system option, this is the scenario that will be utilized to assess the above Cochrane Curbside Recycling Collection options (#3 – 5).

Analysis will also be based on the utilization of a rear-load collection vehicle and a minimum two municipal staff members (status quo) per vehicle. Any new vehicle will be based on a minimum split chamber size of 32 cubic yards to remain consistent with the existing fleet vehicle.

The 2008 budget provided by the Town of Cochrane is used as the baseline for cost projections associated with all new programs.

Existing spare trucks are assumed to be required in all program scenarios and are assumed to cost the same as was the case in 2008.

Collection vehicle costs range by manufacturer and vehicle specifications. For the basis of this evaluation, a rear load two chambered vehicle was estimated to cost $200,000 Cdn. (excluding taxes) and capital costs would be amortized over a period of ten years life expectancy of the vehicle, with zero residual value. Such costs do not account for any unique specifications that the Town may have.

4. Cochrane Recycling Option Scenario's Evaluation

4.1 Scenario One:

Status Quo

Curbside garbage collection for all sectors, residential depot service for recycling, no IC&I diversion;

Under the Status Quo (existing) program parameters, approximately 5% of residential waste is diverted via the recycling depot, while all commercial waste collected is disposed of in the landfill as garbage. In tonnage terms, while approximately 108 tonnes is recycled, 2,064 tonnes are land filled.

Photo 21: Depot Recycling Containers

Photo 22: Garbage dumped in Cochrane landfill.

The recycling depot operations are funded by the CTWMB, based on a per household levy of $19.50 charged to the Town of Cochrane, generating approximately $47,580 (2008) for the CTWMB to cover all depot capital costs, transportation of recyclables to Kapuskasing and recyclable processing costs.

In 2008, approximately 416 bins of recyclable material were collected and transported to the CTWMB processing facility (Kapuskasing). This equates to an average cost per bin of $118 containing 260 kg of material per bin. This equates to a cost per tonne of recyclables diverted of $441 per tonne. The Town of Cochrane does not receive any direct program funding from the WDO, under this scenario, the funding is supplied to CTWMB.

As the Town of Cochrane is responsible for all garbage collection and disposal costs for both residential and commercial sectors, the Town costs were approximately $379,000 in 2008 to collect and dispose of 2,064 tonnes of garbage, equating to a net cost of $161per tonne.

Overall, the total (net) waste management system cost totalled almost $379,000 ($175 per tonne) with 5% diversion (108 tonnes) from landfill through the centralized depot.

Table 2: Scenario One – Status Quo

Scenario		ONE
Garbage to landfill	Residential	1,118
	Commercial	946
	Total garbage (tonnes)	2,064
Recyclables to depot	Residential	108
	Commercial	0
	Total Recyclables - Depot (tonnes)	108
Overall Diversion Rate		5%
Total Waste Generated		2,172
CTWMB Costs to Cochrane	CTWMB HHLD levy - Waste Mgmt (2009 @ $19.50 per hhld)	$47,580
	Incremental Charges from CTWMB -Additional Collections *	$0
	Capital Costs - Additional Bins at Depot (based on $10 K per bin)	$0
	# Bin Collections	416
	Avg cost per bin pick-up	$114
	Avg tonnes collected per bin	0.26
	Net Depot Costs	$47,580

Garbage System Costs	Operation (Collection) wages	$216,308
	Vehicle Fuel Costs	$4,000
	Vehicle Repairs / Maintenance	$14,442
	Vehicle Capital Costs (status quo)	$0
	Number of Garbage Trucks	1
	Total Garbage Collection Costs	$234,750
	Garbage Disposal Costs (based at $3.75 per cubic metre)	$96,769
	Gross Garbage Costs	$331,519
	Net cost / tonne - garbage	$160.59
Total Costs / Diversion	Total cost - all recyclables (curbside & depot)	$47,580
	Overall Diversion via Recycling (tonnes)	108
	Overall Diversion (%)	5%
	Garbage to Landfill	2,064
Grants - Stewardship Ontario	Based on 33% reimbursement of eligible curbside recycling costs to Cochrane (33% via Stewardship Ontario) (excluding depot cost claimed by CTWMB) (20% ICI deducted)	$0
Waste Management System Costs	Net System Costs - Cochrane (Garbage & Recycling)	$379,099
	System Cost / Tonne to Cochrane	$175
	Total Diversion	5%

4.2 Scenario Two:

Status Quo Enhanced - Residential + IC&I Recycling at Depot plus Landfill Bans

Curbside garbage collection for all sectors, residential and IC&I depot service for recycling, landfill ban on recyclable material;

Under Scenario Two, the existing program parameters of the residential program do not change. However, the IC&I sector becomes obligated to divert specific recyclable material including OCC, OBB, ONP, metal food container (aluminum & steel), plastic packaging and glass (flint & amber) from landfill. Municipal bylaws are revised to include the banning of landfill disposal of the above materials to provide municipal collectors the ability to enforce the ban of material in the waste stream.

The recycling depot operations are funded by the CTWMB, based on a per household levy of $19.50 charged to the Town of Cochrane, generating approximately $47,580 (2008) for the CTWMB to cover all depot capital costs, transportation of recyclables to Kapuskasing and recyclable processing costs.

However, the tonnage of recyclable material tonnage received at the recycling depot is anticipated to increase to 352 tonnes (up from 108). Of this increase, 102 tonnes (42%) is from the residential sector due to the ban of recyclables in landfill. Given that this increase in tonnage will require approximately 521 additional bin collections, it is probable that the CTWMB will simply pass these incremental costs directly to the Town of Cochrane. Based on an average bin collection cost of $114 each (calculated by dividing the 416 bin collections in 2008 by the total $47,580 charges to the Town), the incremental charges may total approximately $59,579 per year additional cost to the Town. Note: This is likely the upside charge and could vary depending upon negotiations between the CTWMB and the Town of Cochrane.

An additional number of on-site storage bins (estimated at four) would be required to store the increased amount of recyclables. At an estimated cost of $10 K per bin, total capital costs to the Town of Cochrane would likely equate to an additional $40 k (one time) cost for four additional bins.

Overall, total depot costs to the Town of Cochrane are projected to increase rise from $47,580 to $147,159 based on a comparison to 2008 costs. This figure is based upon an additional cost of $59,579 associated with the additional 521 bin collections required @ $114 per bin (status quo). In addition, the Town of Cochrane would require an additional four collection bins at the depot (for a price of $10,000 per bin) to handle the additional volume of recyclable material collected from the IC&I sector. Considering that the present recycling levy charged by the CTWMB is for the handling of residential recyclable material only, the Town of Cochrane would most likely be required to cover any IC&I associated costs. This consideration could be negotiated between the CTWMB and the Town of Cochrane.

Specific to the collection of garbage, operation (collection costs) remain the same as the number of collection days and operators would remain consistent with the existing scenario, however, the diversion of approximately 352 tonnes of recyclable material out of the garbage stream to the recycling depots reduces waste disposal costs by approximately $11,419 per year. Overall system costs for garbage collection and disposal decrease from $332,000 to approximately $320,000 per year, however on a net cost per tonne increase from $161 to $176.

Overall, the total (net) waste management system cost estimate to cover all material totals almost $467,259 ($215 per tonne) with 16% (352 tonnes) diversion from landfill.

Table 3: Scenario Two – Enhanced Status Quo – Residential + IC&I Recycling at Depot, Landfill Bans

Scenario		TWO
Garbage to landfill	Residential	1,016
	Commercial	804
	Total garbage (tonnes)	1,821
Recyclables to depot	Residential	210
	Commercial	142
	Total Recyclables - Depot (tonnes)	352
Overall Diversion Rate		16%
Total Waste Generated		2,172
CTWMB Costs to Cochrane	CTWMB HHLD levy - Waste Mgmt (2009 @ $19.50 per hhld)	$47,580
	Incremental Charges from CTWMB -Additional Collections *	$59,579
	Capital Costs - Additional Bins at Depot (based on $10 K per bin)	$40,000
	# Bin Collections	937
	Avg cost per bin pick-up	$365
	Avg tonnes collected per bin	0.26
	Net Depot Costs	$147,159
Garbage System Costs	Operation (Collection) wages	$216,308
	Vehicle Fuel Costs	$4,000
	Vehicle Repairs / Maintenance	$14,442
	Vehicle Capital Costs (status quo)	$0
	Number of Garbage Trucks	1.0
	Total Garbage Collection Costs	$234,750
	Garbage Disposal Costs (based at $3.75 per cubic metre)	$85,350
	Gross Garbage Costs	$320,100
	Net cost / tonne - garbage	$175.80

Total Costs / Diversion	Total cost - all recyclables (curbside & depot)	$147,159
	Overall Diversion via Recycling (tonnes)	352
	Overall Diversion (%)	16%
	Garbage to Landfill	1,821
Grants - Stewardship Ontario	Based on 33% reimbursement of eligible curbside recycling costs to Cochrane (33% via Stewardship Ontario) (excluding depot cost claimed by CTWMB) (20% ICI deducted)	$0
Waste Management System Costs	Net System Costs - Cochrane (Garbage & Recycling)	$467,259
	System Cost / Tonne to Cochrane	$215
	Total Diversion	16%

4.3 Scenario Three:

Curbside + Depot Recycling for Residential Sector only, no IC&I Diversion

Curbside garbage collection for all sectors, curbside collection of residential recycling and depot service for residential recycling – no IC&I diversion initiatives;

Under Scenario Three, residential curbside recycling collection is provided to all residents, while the recycling depot remains open for residential drop off as well. The convenience of curbside collection is anticipated to result in the curbside collection of approximately 273 tonnes of recyclable material from the residential sector, with an additional 22 tonnes still being dropped off at the recycling depot. This represents an increase of approximately 165 tonnes of waste diverted through recycling over the present system. The IC&I sector continues to receive curbside collection of garbage as per the existing program and the tonnage remains consistent at 946 tonnes per year.

This scenario assumes that the recycling depot operation remains funded by the CTWMB, based on a per household levy of $19.50 charged to the Town of Cochrane, generating approximately $47,580 (2008) to cover operating and processing costs incurred by the CTWMB. However, the tonnage of residential recyclable material received at the recycling depot is anticipated to decrease substantially to 22 tonnes due to the added convenience of curbside collection and no IC&I diversion. Despite the fact that the number of bin collections will likely decrease for 416 down to 83, the costs to the Town of Cochrane remain fixed as they are based on a fixed per hhld charge (assumed at $19.50 per hhld).

The curbside collection assessment for recyclables is based on the utilization of a 30 yard (minimum) split chamber rear packer vehicle amortized over eight years. A quote provided by Universal Handling Equipment placed the cost of a Dual Tailgate Rear End Loader at approximately $110,000, excluding chassis. Factoring in a chassis at approximately $106,308, total vehicle cost estimates have be established at $225,000.

Under a co-collection scenario, labour (collection) costs could be split between garbage and recyclable material collection. Similarly, fuel costs could also be split between garbage and curbside recycling cost centres. This would result in a reduction of garbage specific collection costs by 50% from $216 K down to $108 K per year. The difference ($108 K) would now be attributed to recycling collection costs. The significance of this shift in cost allocation, would now enable the Town of Cochrane to report to the annual WDO datacall as a separate program outside of the CTWMB program or report to the datacall through the CTWMB and include all eligible costs for reimbursement back to the Town of Cochrane.

The increase in material diverted through curbside recycling would result in a reduction of garbage disposal costs, based on a savings of $3.75 per cubic metre of landfill space saved based on discussions with Cochrane officials. Under this scenario, the diversion of an incremental 186 tonnes of residential waste from landfill through recycling could save approximately $8,735 in landfill disposal capacity.

The curbside collection of recyclable material in a split truck, co-collected with garbage, would cost the Town approximately $108,154 in collection costs for recycling alone. However, those costs are already being realized under the existing curbside collection of refuse alone. Additionally, fuel costs could now be allocated between garbage and recycling Based on the split between garbage and recycling. Also, vehicle capital costs could also be split between garbage and recycling operations in a similar way.

Additional labour support of one person or one full time equivalent would be required to handle all administrative and reporting requirements undertaken to address the curbside recycling program responsibilities assumed by the Town. Detailed data and cost tracking would be crucial to the ability to provide reporting to Waste Diversion Ontario, specific to data call requirements and program grant support submissions.

The Town of Cochrane would ideally allocate funds toward residential promotional and communication material to support the curbside recycling program. Recent studies undertaken by Stewardship Ontario, specifically the Blue Box Program Enhancement and Best Practices Assessment Project (May 2007) by R.W Beck and KPMG, determined that municipalities achieving a 60% diversion rate typically spend $1 per household per year but that municipalities undergo significant program change spent significantly more. However, in order to provide a cost estimate at of this evaluation, an amount of $1 per household has been maintained, but this should be considered as the low side of an estimate.

Depending upon the method of curbside placement of recyclable materials, there may be a requirement for the Town to purchase containers (ie. blue boxes). Subsequent year budgets will require additional (but substantially lesser) resources to cover program expansion and container replacement costs. One option to contain costs would be to provide initial recyclable collection container to each pick-up location at no charge but charge for any future replacements.

Under this scenario, the curbside collection of recyclables by the Town of Cochrane will require substantial capital and operating costs associated with the centralized collection (bulking) and on-site storage of recyclable material in preparation for shipment to downstream markets. This scenario has incorporated costing associated with the utilization of the Haul-All Transtor Transfer Station System as one option. The rationale for this decision is based on the implementation of this system in other similar jurisdictions including Dryden, Marathon and Timmins.
Based on the detailed and customized quotation provided by VQuip Inc., cost estimates have been subdivided into three specific categories, specifically:

1. Transtor Site Cost – Ground Level Installation @ $263,650 (Appendix A);
2. Haul-All Transtor Transfer Unit – Stainless Steel Body Shell $158,620 (Appendix B);
3. 4 Axle Compaction Trailer – 53’ Overall Length with Engine @ $188,699 (Appendix C).

Total associated capital and operating costs have been consolidated and amortized over a 15 year finance period . (Appendix D). On an annual basis, Transtor cost estimates totalled $116,434

The Town of Cochrane is located on the Trans Canada Highway (Hwy # 11) providing easy accessibility for transportation of recyclables across Ontario. The closest single stream MRF is located in Sudbury (approximately 380 km to the south. Beyond that, all other single stream MRF’s are located in Southern Ontario should long –haul options be considered.

The integration of a Transtor Transfer Station and the High Compaction Trailer enables the Town of Cochrane the opportunity to bulk recyclable material collected curbside for transportation to processing facilities. Transportation costs associated with the direct shipment of the recyclables (273 tonnes) would equate to approximately $43,754 per year ($160 per tonne) round trip from Cochrane to Sudbury.

The City of Greater Sudbury has provided detailed pricing of $89.61 per tonne (Appendix E) FOB Sudbury / net of revenue to process and market the recyclable material. Incoming feedstock will be accepted in a commingled single stream mix. Based on an anticipated tonnage of 273 tonnes of recyclables per year, processing costs are estimated at $24,440.

Note: Scenario # 6 investigates an alternative solution to this, whereby Cochrane does not purchase a high compaction trailer, but rather integrates with the City of Timmins infrastructure and all recyclable material is picked up at the Cochrane Transtor Station and transported directly to the Sudbury MRF along with Timmin's recyclable feedstock.

Overall waste diversion costs including both depot and curbside collection costs would increase to $383,421 (from $47,580) and diversion would increase by 186 tonnes per year to 14% (294 tonnes)compared to the present system. However, the Town of Cochrane would become eligible to apply to Stewardship Ontario for reimbursement of all eligible costs (up to 33%) associated with diverting recyclables from landfill. Reimbursement estimates via Stewardship Ontario grants are estimated at up to $88,662 per year under this scenario.

Taking into account all costs and grants, overall waste management system costs to the Town of Cochrane are estimated at $512,010 or $236 per tonne while achieving a 14% overall diversion of waste from landfill under this scenario.

Summary - Scenario Three: Curbside + Depot Recycling for Residential Sector only, no IC&I Diversion

Scenario		THREE
Garbage to landfill	Residential	932
	Commercial	946
	Total garbage (tonnes)	1,878
Recyclables to depot	Residential	22
	Total Recyclables - Depot (tonnes)	22
Recyclables to Curb	Residential	273
	Total Recyclables - Curb (tonnes)	273
Overall Diversion Rate		14%
Total Waste Generated		2,172
CTWMB Costs to Cochrane	CTWMB HHLD levy - Waste Mgmt (2009 @ $19.50 per hhld)	$47,580
	# Bin Collections	83
	Avg cost per bin pick-up	$573
	Avg tonnes collected per bin	0.26
	Net Depot Costs	$47,580
Garbage System Costs	Operation (Collection) wages	$108,154
	Vehicle Fuel Costs	$2,000
	Vehicle Repairs / Maintenance	$3,000
	Vehicle Capital Costs ($200 K @6.5% interest) over 8 years)	$16,063
	Number of Garbage Trucks	0.5
	Total Garbage Collection Costs	$129,217
	Garbage Disposal Costs (based at $3.75 per cubic metre)	$88,034
	Gross Garbage Costs	$217,251
	Net cost / tonne - garbage	$115.68
Recycling Collection	Operation (Collection) wages	$108,154
	Admin Costs - recycling	$50,000
	P&E Costs (Recycling)	$2,577
	Vehicle Fuel Costs	$2,000
	Vehicle Capital Costs ($200 K @6.5% interest) over 8 years)	$16,063
	Curbside Container Costs	$15,000
	Number of Collection Trucks	0.5
	Gross Curbside Recycling Collection Costs (including capital)	$193,794
Bulk & Ship of Recyclables (Transtor System)	On-Site Transtor Capital Costs including site development (amortized over 15 years)	44,141
	High Compaction Trailer (amortized over 15 years)	25,712
	Transtor Operating Costs (per year) based over 15 years	4,000
	Operating Costs (haulage of recyclables - Sudbury)	43,754
	Total Transtor Cost / Year (based over 15 year amortization)	117,607
	Transtor Cost per tonne (recyclables) (based over 15 years)	$431
	Recyclable Processing Fee / Tonne (FOB Sudbury)(Net of revenue).	$89.61
	Total Recyclable Processing Fee (Net of Revenue) - FOB Sudbury	$24,440
Total Costs / Diversion	Total cost - all recyclables (curbside & depot)	$383,421
	Overall Diversion via Recycling (tonnes)	294
	Overall Diversion (%)	14%
	Garbage to Landfill	1,878
Grants - Stewardship Ontario	Based on 33% reimbursement of eligible curbside recycling costs to Cochrane (33% via Stewardship Ontario) (excluding depot cost claimed by CTWMB) (20% ICI deducted)	$88,662
Waste Management System Costs	Net System Costs - Cochrane (Garbage & Recycling)	$512,010
	System Cost / Tonne to Cochrane	$236
	Total Diversion	14%

Table 4: Scenario Three – Curbside + Depot Recycling for Residential only, no IC&I recycling.

4.4 Scenario Four:

Curbside and Depot Recycling for Residential and IC&I Sectors – Landfill Bans

Curbside garbage and recycling collection for all sectors plus depot service for recycling for all sectors and landfill ban on recyclable material;

Under Scenario Four, residential curbside recycling collection is provided to all residents, while the recycling depot remains open for residential drop off as well, similar to Scenario Three. However, service is expanded as the IC&I sector now also receives both curbside garbage collection as well as curbside recycling collection and access to the recycling depot. The convenience of curbside collection of recyclables for the IC&I sector is anticipated to result in the curbside collection of approximately 237 tonnes of recyclable material from the IC&I sector with no additional material being dropped off at the recycling depot. Overall, this scenario would result in the capture of approximately 509 tonnes of recyclables from the curbside along with 22 additional tonnes of recyclables collected at the depot, for a total of 531 tonnes. This represents an increase of 423 tonnes of recyclables diverted per year above the current system.

The IC&I sector continues to receive curbside collection of garbage as per the existing program but the tonnage of garbage collected would reduced by 237 tonnes to 710 tonnes per year.

The depot costs would likely remain consistent with the status quo system due to the fact that the CTWMB levy is based on a per household formula (presently at $19.50 per hhld) and not dependent upon the tonnages of recyclable collected at the depot despite the fact that the number of bins requiring collection would likely decrease from 416 down to 83 per year.

Similar to Scenario Three, the utilization of a dual chamber collection vehicle would facilitate the concurrent collection of garbage and recyclables. Under a 50-50 cost share with recycling, garbage operating and capital costs would be reduced to $108,154, while fuel and maintenance fees would also split accordingly.

The diversion of 531 tonnes of recyclable material from landfill would equate to a savings of approximately $19,825 per year in avoided disposal costs. Net garbage collection and disposal costs would drop to $125.60 per tonne.

Curbside recycling costs would remain consistent with Scenario Three with the exception that additional $5000 would be required to fund the additional recycling containers utilized by the IC&I sector to place recyclables at the curb.

On-Site Transtor System costs would remain consistent to those costs within Scenario Three at $117,607 per year, but reduce to $231 per tonne given the additional 237 tonnes of IC&I recyclable material collected. However, net recyclable processing fee's (Sudbury) would increase to $45,641.

The integration of a Transtor Transfer Station and the High Compaction Trailer enables the Town of Cochrane the opportunity to bulk recyclable material collected curbside for transportation to processing facilities. Transportation costs associated with the direct shipment of the recyclables (509 tonnes) would equate to approximately $43,754 per year ($86 per tonne) round trip from Cochrane to Sudbury.

Overall, total costs to divert all recyclable material through both the depot and curbside collection system would increase to $409,622. Taking into account all costs and grants, overall waste management system costs to the Town of Cochrane are estimated at $520,204 or $239 per tonne while achieving a 24% overall diversion of waste from landfill under this scenario.

Summary Scenario Four: Curbside and Depot Recycling for Residential and IC&I Sectors – Landfill Bans

Scenario		FOUR
Garbage to landfill	Residential	932
	Commercial	710
	Total garbage (tonnes)	1,641
Recyclables to depot	Residential	22
	Commercial	0
	Total Recyclables - Depot (tonnes)	22
Recyclables to Curb	Residential	273
	Commercial	237
	Total Recyclables - Curb (tonnes)	509
Overall Diversion Rate		24%
Total Waste Generated		2,172
CTWMB Costs to Cochrane	CTWMB HHLD levy - Waste Mgmt (2009 @ $19.50 per hhld)	$47,580
	# Bin Collections	83
	Avg cost per bin pick-up	$573
	Avg tonnes collected per bin	0.26
	Net Depot Costs	$47,580
Garbage System Costs	Operation (Collection) wages	$108,154
	Vehicle Fuel Costs	$2,000
	Vehicle Repairs / Maintenance	$3,000
	Vehicle Capital Costs ($200 K @6.5% interest) over 8 years)	$16,063
	Number of Garbage Trucks	0.5
	Total Garbage Collection Costs	$129,217
	Garbage Disposal Costs (based at $3.75 per cubic metre)	$76,944
	Gross Garbage Costs	$206,161
	Net cost / tonne - garbage	$125.60
Recycling Collection	Operation (Collection) wages	$108,154
	Admin Costs - recycling	$50,000
	P&E Costs (Recycling)	$2,577
	Vehicle Fuel Costs	$2,000
	Vehicle Capital Costs ($200 K @6.5% interest) over 8 years)	$16,063
	Curbside Container Costs	$20,000
	Number of Collection Trucks	0.5
	Gross Curbside Recycling Collection Costs (including capital)	$198,794
Bulk & Ship of Recyclables (Transtor System)	On-Site Transtor Capital Costs including site development (amortized over 15 years)	44,141
	High Compaction Trailer (amortized over 15 years)	25,712
	Transtor Operating Costs (per year) based over 15 years	4,000
	Operating Costs (haulage of recyclables - Sudbury)	43,754
	Total Transtor Cost / Year (based over 15 year amortization)	117,607
	Transtor Cost per tonne (recyclables) (based over 15 years)	$231
	Recyclable Processing Fee / Tonne (FOB Sudbury)(Net of revenue).	$89.61
	Total Recyclable Processing Fee (Net of Revenue) - FOB Sudbury	$45,641
Total Costs / Diversion	Total cost - all recyclables (curbside & depot)	$409,622
	Overall Diversion via Recycling (tonnes)	531
	Overall Diversion (%)	24%
	Garbage to Landfill	1,641
Grants - Stewardship Ontario	Based on 33% reimbursement of eligible curbside recycling costs to Cochrane (33% via Stewardship Ontario) (excluding depot cost claimed by CTWMB) (20% ICI deducted)	$95,579
Waste Management System Costs	Net System Costs - Cochrane (Garbage & Recycling)	$520,204
	System Cost / Tonne to Cochrane	$239
	Total Diversion	24%

Table 5: Scenario Four Curbside + Depot Recycling for Residential and IC&I + Landfill Bans

4.5 Scenario Five:

Curbside and Depot Recycling for Residential and IC&I Sectors – Landfill Bans – No Depot Service

Curbside garbage and recycling collection for all sectors and landfill ban on recyclable material;

Under Scenario Five, both residential and IC&I sectors receive curbside garbage and recycling collection. However, neither sector has access to the recycling depot and the facility is closed to eliminate the levy charges applied by the CTWMB, resulting in a savings of $47,580 to the Town of Cochrane.

Overall, an estimated 531 tonnes of recyclable material will be collected via curbside recycling, representing an increase of approximately 423 tonnes of waste diverted through recycling over the existing scenario. Overall diversion would increase from 5% to 24%.

The IC&I sector continues to receive curbside collection of garbage as per the existing program but the tonnage collected is reduced by 236 tonnes to 710 tonnes per year, with the difference being recycled.

All garbage, recycling and Transtor system costs would remain consistent with those under Scenario Five with the exception that net Transort system costs would reduce slightly from $231 to $222 on a per tonnage basis due to the additional 22 tonnes of recyclables collected curbside from the residential sector.

The integration of a Transtor Transfer Station and the High Compaction Trailer enables the Town of Cochrane the opportunity to bulk recyclable material collected curbside for transportation to processing facilities. Transportation costs associated with the direct shipment of the recyclables (531 tonnes) would equate to approximately $43,754 per year ($82 per tonne) round trip from Cochrane to Sudbury.

Overall, total system costs to divert recyclable material through the utilization of the curbside collection option alone would total $363,978.

Taking into account all costs and grants, overall waste management system costs to the Town of Cochrane are estimated at $474,049 or $218 per tonne while achieving a 24% overall diversion of waste from landfill under this scenario.

Summary Scenario Five:
Curbside and Depot Recycling for Residential and IC&I Sectors – Landfill Bans – No Depot Service

Scenario		FIVE
Garbage to landfill	Residential	932
	Commercial	710
	Total garbage (tonnes)	1,641
Recyclables to Curb	Residential	294
	Commercial	237
	Total Recyclables - Curb (tonnes)	531
Overall Diversion Rate		24%
Total Waste Generated		2,172
Garbage System Costs	Operation (Collection) wages	$108,154
	Vehicle Fuel Costs	$2,000
	Vehicle Repairs / Maintenance	$3,000
	Vehicle Capital Costs ($200 K @6.5% interest) over 8 years)	$16,063

	Number of Garbage Trucks	0.5
	Total Garbage Collection Costs	$129,217
	Garbage Disposal Costs (based at $3.75 per cubic metre)	$76,944
	Gross Garbage Costs	$206,161
	Net cost / tonne - garbage	$125.60
Recycling Collection	Operation (Collection) wages	$108,154
	Admin Costs - recycling	$50,000
	P&E Costs (Recycling)	$2,577
	Vehicle Fuel Costs	$2,000
	Vehicle Capital Costs ($200 K @6.5% interest) over 8 years)	$16,063
	Curbside Container Costs	$20,000
	Number of Collection Trucks	0.5
	Gross Curbside Recycling Collection Costs (including capital)	$198,794
Bulk & Ship of Recyclables (Transtor System)	On-Site Transtor Capital Costs including site development (amortized over 15 years)	44,141
	High Compaction Trailer (amortized over 15 years)	25,712
	Transtor Operating Costs (per year) based over 15 years	4,000
	Operating Costs (haulage of recyclables - Sudbury)	43,754
	Total Transtor Cost / Year (based over 15 year amortization)	117,607
	Transtor Cost per tonne (recyclables) (based over 15 years)	$222
	Recyclable Processing Fee / Tonne (FOB Sudbury)(Net of revenue).	$89.61
	Total Recyclable Processing Fee (Net of Revenue) - FOB Sudbury	$47,577
Total Costs / Diversion	Total cost - all recyclables (curbside & depot)	$363,978
	Overall Diversion via Recycling (tonnes)	531
	Overall Diversion (%)	24%
	Garbage to Landfill	1,641
Grants - Stewardship Ontario	Based on 33% reimbursement of eligible curbside recycling costs to Cochrane (33% via Stewardship Ontario) (excluding depot cost claimed by CTWMB) (20% ICI deducted)	$96,090
Waste Management System Costs	Net System Costs - Cochrane (Garbage & Recycling)	$474,049
	System Cost / Tonne to Cochrane	$218
	Total Diversion	24%

Table 6: Scenario Five - Curbside Recycling for Residential and IC&I + Landfill Bans – No depot.

4.6 Scenario Six:

Curbside and Depot Recycling for Residential and IC&I Sectors – Landfill Bans – No Depot Service – No High Compaction Trailer - Material pick up via Timmins.

Scenario Six is almost equivalent to that of Scenario Five with diversion estimates remaining at 24% via the diversion of approximately 531 tonnes of residential and commercial recyclable material through curbside recycling. Again, under this scenario the recycling depot would be closed to eliminate the household levy charged by the CTWMB.

Waste would be collected curbside via a two compartment split truck (approximately 30 yard) utilizing existing collection crew (three person). The opportunity does exist to reduce the collection crew to two people should the Town of Cochrane wish to pursue this further (as would be the case for Scenario's 3 – 5 as well).

Under this scenario, the Town of Cochrane would proceed to purchase the Transtor Transfer Unit ($158,620). However, rather than purchasing a high compaction trailer to transfer recyclable material to downstream market(s), the Town of Cochrane would simply contract the collection service out to an existing service provider that could collect the recyclable material directly from the Town of Cochrane. For example, the City of Timmins is in the process of purchasing two trailers and would have the capability to pick up material directly from the Town of Cochrane.

Although the operating costs to transport recyclables to a downstream market (ie Sudbury) would be marginally higher (ie 10%) than if Cochrane were to undertake such requirements on their own, there would be no capital costs incurred by the Town of Cochrane to purchase a high compaction trailer. Contingency plans to address on-site storage of recyclable materials (beyond the 53 cubic yard capacity of the Transtor) are recommended to address a situation whereby any recyclable pickup was delayed.

Net Transort capital and operating costs would average $181 per tonnage amortized over fifteen years. Overall, total system costs to divert recyclable material through the utilization of the curbside collection option alone would total $ 342,641.

The Town of Cochrane would also be eligible to submit applicable costs incurred for the collection and processing of recyclable material for reimbursement through grants (estimated at 33%) from Stewardship Ontario. In this scenario, such reimbursement costs average approximately $65,000 per year.

Taking into account all costs and grants, overall waste management system costs to the Town of Cochrane are estimated at $483,760 or $223 per tonne while achieving a 24% overall diversion of waste from landfill under this scenario.

Curbside and Depot Recycling for Residential and IC&I Sectors – Landfill Bans – No Depot Service – No High Compaction Trailer - Material pick up via Timmins.

Scenario		SIX
Garbage to landfill	Residential	932
	Commercial	710
	Total garbage (tonnes)	1,641
Recyclables to Curb	Residential	294
	Commercial	237
	Total Recyclables - Curb (tonnes)	531
Overall Diversion Rate		24%
Total Waste Generated		2,172
Garbage System Costs	Operation (Collection) wages	$108,154
	Vehicle Fuel Costs	$2,000
	Vehicle Repairs / Maintenance	$3,000
	Vehicle Capital Costs ($200 K @6.5% interest) over 8 years)	$16,063
	Number of Garbage Trucks	0.5
	Total Garbage Collection Costs	$129,217
	Garbage Disposal Costs (based at $3.75 per cubic metre)	$76,944
	Gross Garbage Costs	$206,161
	Net cost / tonne - garbage	$125.60
Recycling Collection	Operation (Collection) wages	$108,154
	Admin Costs - recycling	$50,000
	P&E Costs (Recycling)	$2,577
	Vehicle Fuel Costs	$2,000
	Vehicle Capital Costs ($200 K @6.5% interest) over 8 years)	$16,063

	Curbside Container Costs	$20,000
	Number of Collection Trucks	0.5
	Gross Curbside Recycling Collection Costs (including capital)	$198,794
Bulk & Ship of Recyclables (Transtor System)	On-Site Transtor Capital Costs including site development (amortized over 15 years)	44,141
	High Compaction Trailer (amortized over 15 years)	0
	Transtor Operating Costs (per year) based over 15 years	4,000
	Operating Costs (haulage of recyclables - Sudbury)	48,129
	Total Transtor Cost / Year (based over 15 year amortization)	96,270
	Transtor Cost per tonne (recyclables) (based over 15 years)	$181
	Recyclable Processing Fee / Tonne (FOB Sudbury)(Net of revenue).	$89.61
	Total Recyclable Processing Fee (Net of Revenue) - FOB Sudbury	$47,577
Total Costs / Diversion	Total cost - all recyclables (curbside & depot)	$342,641
	Overall Diversion via Recycling (tonnes)	531
	Overall Diversion (%)	24%
	Garbage to Landfill	1,641
Grants - Stewardship Ontario	Based on 33% reimbursement of eligible curbside recycling costs to Cochrane (33% via Stewardship Ontario) (excluding depot cost claimed by CTWMB) (20% ICI deducted)	$65,042
Waste Management System Costs	Net System Costs - Cochrane (Garbage & Recycling)	$483,760
	System Cost / Tonne to Cochrane	$223
	Total Diversion	24%

Table 7: Scenario Six - Curbside Recycling for Residential and IC&I + Landfill Bans – No depot – No high compaction trailer.

5. CONCLUSIONS

The Town of Cochrane Recycling Program Review and Program Development Evaluation was undertaken for two primary reasons centering around improving performance (cost) efficiencies and enhancing service levels for both the residential and commercial stakeholders.

The existing program whereby the residential sector has access to a centralized recycling depot under CTWMB administration does provide for the lowest cost scenario when compared to the introduction of a curbside recycling collection program and the expansion to include recycling services to the industrial, commercial and institutional (IC&I) sectors. The overall net system cost for the collection, processing and disposal of all waste and recyclable material of $379,099 equates to $175 per tonne.

However, this existing (baseline) level of service also equates to the lowest level of waste diversion through recycling (5%) when compared to the other more comprehensive scenario's including both curbside recycling collection as well as expanded service to include the IC&I sectors. The simple exclusion of access to the recycling depot for the IC&I sector results in a significant amount of potentially divertible material being disposed of in the local landfill. Considering that the IC&I sector receives waste collection and disposal services as part of their standard tax assessment, there exists no financial incentive for the IC&I sector to participate in any recycling initiatives.

The expansion of the recycling depot services to include the IC&I sector – supported by a mandatory ban on recyclable material at the landfill enforced by the Town of Cochrane – has the potential to increase diversion via depot service only to 16%. However, the additional operating costs associated with the incremental collection requirements by the CTWMB would likely result in an increase of costs from $175 to $215 per tonne to handle the additional 244 tonnes of recyclables through the depot.

Curbside collection of recyclables for the residential sector would result in more than doubling the capture of applicable recyclable material - from 5% to 14% simply due to the convenience. However, costs to collect, bulk and transfer recyclable material to downstream markets would also increase above the avoided landfill cost savings, increasing overall costs by approximately $61 per tonne to $236 (from $175) while retaining the recycling depot for the residential sector.

The expansion to include curbside recycling collection to the IC&I sector has the potential to increase diversion through recycling by an additional 237 tonnes (10%). Due to the economies of scale that the IC&I sector provide with the additional tonnage diverted, the net increment increase in total system costs only increases marginally (by $3) above the costs to service the residential sector with curbside recycling.

Should the Town of Cochrane transition to a curbside recycling collection program for both the residential and IC&I sectors, the necessity to maintain the recycling depot and incur the CTWMB levy fee's comes into question. The Town of Cochrane maintains the option to close the recycling providing that the CTWMB is provided twelve month notification. The closure of the recycling depot would reduce the Town of Cochrane waste management system costs by $21 per tonne, down to $218 per tonne, while maintaining an overall recycling diversion rate of 24%.

The Town of Cochrane could also reduce overall capital costs associated with the on-site recycling infrastructure by not purchasing a high compaction trailer assessed at $25,000 per year amortized over fifteen years and contract out collection services. However, when factoring the reduction in potential capital grants through Stewardship Ontario to the Town of Cochrane, the overall system costs would potentially increase by $5 to $223 per tonne beyond those costs associated with the Town of Cochrane purchasing their own high compaction trailer and transporting recyclables to downstream markets.

Table # 8: Detailed Summary Comparison – Six Scenario Options:

Scenario		ONE	TWO	THREE	FOUR	FIVE	SIX
Garbage to landfill	Residential	1,118	1,016	932	932	932	932
	Commercial	946	804	946	710	710	710
	Total garbage (tonnes)	2,064	1,821	1,878	1,641	1,641	1,641
Recyclables to depot	Residential	108	210	22	22	0	0
	Commercial	0	142	0	0	0	0
	Total Recyclables - Depot (tonnes)	108	352	22	22	0	0
Recyclables to Curb	Residential			273	273	294	294
	Commercial			0	237	237	237
	Total Recyclables - Curb (tonnes)			273	509	531	531
Total Waste Generated		2,172	2,172	2,172	2,172	2,172	2,172
CTWMB Costs to Cochrane	CTWMB HHLD levy - Waste Mgmt (2009 @ $19.50 per hhld)	$47,580	$47,580	$47,580	$47,580	$0	$0
	Incremental Charges from CTWMB -Additional Collections *	$0	$59,579	$0	$0	$0	$0
	Capital Costs - Additional Bins at Depot (based on $10 K per bin)	$0	$40,000	$0	$0	$0	$0
	# Bin Collections	416	937	83	83	0	0
	Avg cost per bin pick-up	$114	$365	$573	$573	$0	$0
	Avg tonnes collected per bin	0.26	0.26	0.26	0.26	0.0	0.0
	Net Depot Costs	$47,580	$147,159	$47,580	$47,580	$0	$0
Garbage System Costs	Operation (Collection) wages	$216,308	$216,308	$108,154	$108,154	$108,154	$108,154
	Vehicle Fuel Costs	$4,000	$4,000	$2,000	$2,000	$2,000	$2,000
	Vehicle Repairs / Maintenance	$14,442	$14,442	$3,000	$3,000	$3,000	$3,000
	Vehicle Capital Costs ($200 K @6.5% interest) over 8 years)	$0	$0	$16,063	$16,063	$16,063	$16,063
	Number of Garbage Trucks	1	1.0	0.5	0.5	0.5	0.5
	Total Garbage Collection Costs	$234,750	$234,750	$129,217	$129,217	$129,217	$129,217
	Garbage Disposal Costs (based at $3.75 per cubic metre)	$96,769	$85,350	$88,034	$76,944	$76,944	$76,944
	Gross Garbage Costs	$331,519	$320,100	$217,251	$206,161	$206,161	$206,161
	Net cost / tonne - garbage	$160.59	$175.80	$115.68	$125.60	$125.60	$125.60

Recycling Collection	Operation (Collection) wages	0	0	$108,154	$108,154	$108,154	$108,154
	Admin Costs - recycling	0	0	$50,000	$50,000	$50,000	$50,000
	P&E Costs (Recycling)	0	0	$2,577	$2,577	$2,577	$2,577
	Vehicle Fuel Costs	0	0	$2,000	$2,000	$2,000	$2,000
	Vehicle Capital Costs ($200 K @6.5% interest) over 8 years)	0	0	$16,063	$16,063	$16,063	$16,063
	Curbside Container Costs	0	0	$15,000	$20,000	$20,000	$20,000
	Number of Collection Trucks	0	0	0.5	0.5	0.5	0.5
	Gross Curbside Recycling Collection Costs (including capital)	$0	$0	$193,794	$198,794	$198,794	$198,794
Bulk & Ship of Recyclables (Transtor System)	On-Site Transtor Capital Costs including site development (amortized over 15 years)	0	0.0	44,141	44,141	44,141	44,141
	High Compaction Trailer (amortized over 15 years)			25,712	25,712	25,712	0
	Transtor Operating Costs (per year) based over 15 years			4,000	4,000	4,000	4,000
	Operating Costs (haulage of recyclables - Sudbury)			43,754	43,754	43,754	48,129
	Total Transtor Cost / Year (based over 15 year amortization)			117,607	117,607	117,607	96,270
	Transtor Cost per tonne (recyclables) (based over 15 years)			$431	$231	$222	$181
	Net Recyclable Processing Fee / Tonne (FOB Sudbury)			$89.61	$89.61	$89.61	$89.61
	Total Recyclable Processing Fee (Net of Revenue) - FOB Sudbury			$24,440	$45,641	$47,577	$47,577
Total Costs / Diversion	Total cost - all recyclables (curbside & depot)	$47,580	$147,159	$383,421	$409,622	$363,978	$342,641
	Overall Diversion via Recycling (tonnes)	108	352	294	531	531	531
	Overall Diversion (%)	5%	16%	14%	24%	24%	24%
	Garbage to Landfill	2,064	1,821	1,878	1,641	1,641	1,641
Grants	Based on 33% reimbursement of eligible curbside recycling costs to Cochrane (Stewardship Ontario) (20% ICI deducted)	$0	$0	$88,662	$95,579	$96,090	$65,042
Overall System Costs	Net System Costs - Cochrane (Garbage & Recycling)	$379,099	$467,259	$512,010	$520,204	$474,049	$483,760
	System Cost / Tonne to Cochrane	$175	$215	$236	$239	$218	$223
	Total Diversion	5%	16%	14%	24%	24%	24%

6. Recommendations

If the Town of Cochrane's primary goal is to minimize overall waste management system costs than the existing system in place offers the most cost effective solution at a cost of approximately $380,000 per year or $175 per tonne. However, under this scenario, overall waste diversion remains very low at approximately 5% through the utilization of the depot for residential usage only. Additionally, under this minimal diversion scenario, the Town owned landfill will reach capacity much faster than if an aggressive diversion strategy were to be implemented. This will ultimately result in the Town of Cochrane having to address future landfill capacity considerations much sooner than if a higher emphasis where to be placed on diverting waste.

If the Town of Cochrane's primary goal is to maximize the diversion of waste from landfill through an aggressive recycling strategy, than the implementation of a curbside collection program would offer the best solution. In addition, the expansion of the Town of Cochrane recycling program to include the IC&I sector would also be key to increased diversion. Under such a scenario, the Town of Cochrane would likely achieve a 24% diversion of waste from landfill – an additional 423 tonnes per year. However, overall system costs to the Town of Cochrane would increase by up to $141,000 per year. However, this scenario would ultimately extend the life of the existing landfill and defer future costs associated with the closure (or expansion) of the existing facility and citing of a new facility.

Based on the six scenarios assessed under existing circumstances and balancing the environmental benefits with economic feasibility, the most feasible scenario to the Town of Cochrane would be to consider the implementation of a curbside recycling collection program for both the residential and IC&I sector and the closure of the recycling depot (Scenario 5). Additionally, the on-site construction of a Transtor Transfer Unit combined with the purchase of a compaction trailer to transfer recyclable material to downstream markets offers the Town of Cochrane a very compelling solution.

However, given that the above scenario factors in substantial third party grants from Stewardship Ontario and there remains no long term guarantee that such funding support will remain in effect to support municipal waste diversion initiatives, it would be beneficial for the Town of Cochrane to consider a phased in approach as follows:

Year One:

- Transition to curbside collection of recyclables for the residential and commercial sector;
- Maintain recycling depot but provide twelve month notification to CTWMB of intentions to close the facility;
- Announce intentions to ban recyclables from landfill in twelve month timeframe;
- Restructure IC&I waste management & recycling costs to recover full costs;
- Implement on-site Transtor Transfer Unit, minus the High Compaction Trailer;
- Contract third party (ie Timmins) collection services for recyclables collected curbside;

Year Two:

- Implement and enforce landfill ban on recyclable materials;
- Close recycling depot;
- Assess recyclable capture rates and volumes processed through Transtor System;
- Assess downstream shipment frequency and associated third party costs;
- Assess opportunities to integrate other local jurisdiction recyclable material into Town of Cochrane program;
- Confirm continued availability of third party (ie Stewardship Ontario) grant funding support for capital purchases;
- Consider purchase of High Compaction Trailer by Town of Cochrane for direct ship opportunities;

APPENDIX A

Transtor Site Cost Estimate – Ground Level Installation

VQuip Inc.

December 15, 2009

DRAFT FOR DISCUSSION

PRIVATE & CONFIDENTIAL

Haul-All Transtor ® Transfer Station
Town of Cochrane - Single Stream Recycling

DETAILED TRANSTOR COSTING

CAPITAL REQUIRED	Qty	Annual Payment Tax Extra	Year 1 Cost	Year 2 Cost	Year 3 Cost	Year 4 Cost	Year 5 Cost	Year 6 Cost	Year 7 Cost	Year 8 Cost	Year 9 Cost	Year 10 Cost	Year 11 Cost	Year 12 Cost	Year 13 Cost	Year 14 Cost	Year 15 Cost	15 Year Total	Pretax Capital Required
Finance Haul-All TS500 Transtors	1	$16,581	16,581	16,581	16,581	16,581	16,581	16,581	16,581	16,581	16,581	16,581	16,581	16,581	16,581	16,581	16,581	248,714	158,620
Finance Transtor Site Development	1	$27,560	27,560	27,560	27,560	27,560	27,560	27,560	27,560	27,560	27,560	27,560	27,560	27,560	27,560	27,560	27,560	413,401	263,650
Finance High Compaction Trailer	1	$25,712	25,712	25,712	25,712	25,712	25,712	25,712	25,712	25,712	25,712	32,110	32,913	32,913	32,913	32,913	32,913	428,081	188,699
TOTAL CAPITAL COSTS			69,853	69,853	69,853	69,853	69,853	69,853	69,853	69,853	69,853	76,251	77,054	77,054	77,054	77,054	77,054	1,090,197	610,969
OPERATING COSTS																			
Cost / Hour - Contracted Opn - Tractor & Trailer Mtce		$ 120	32,600	33,415	34,250	35,107	35,984	36,884	37,806	38,751	39,720	40,713	41,731	42,774	43,843	44,939	46,063	584,581	
Site Operator		$ -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Transtor and Site Maintenance	1	$ 4,000	4,000	4,100	4,203	4,308	4,415	4,526	4,639	4,755	4,874	4,995	5,120	5,248	5,380	5,514	5,652	71,728	
TOTAL OPERATING COSTS			36,600	37,515	38,453	39,414	40,400	41,410	42,445	43,506	44,594	45,708	46,851	48,022	49,223	50,454	51,715	656,309	
TOTAL COSTS			106,453	107,368	108,306	109,267	110,252	111,262	112,298	113,359	114,446	121,960	123,905	125,077	126,277	127,508	128,769	1,746,505	
Cost Per Tonne - Operating			$70.38	$72.14	$73.95	$75.80	$77.69	$79.63	$81.62	$83.67	$85.76	$87.90	$90.10	$92.35	$94.66	$97.03	$99.45	$84.14	
Cost Per Tonne - Capital			$134.33	$134.33	$134.33	$134.33	$134.33	$134.33	$134.33	$134.33	$134.33	$146.64	$148.18	$148.18	$148.18	$148.18	$148.18	$139.77	
Cost Per Tonne - Total			$204.72	$206.48	$208.28	$210.13	$212.02	$213.97	$215.96	$218.00	$220.09	$234.54	$238.28	$240.53	$242.84	$245.21	$247.63	$223.91	

EQUIPMENT PRICING	Price $$ Tax Extra			Transtors	Rolling Stock	
(1) 53 Yard TRANSTOR	$158,620	Demo Unit	Monthly Finance Factor	0.008711074	0.011354798	Paid Monthly In Arrears
(2) Transtor Site Development - Single Stream	$263,650	30% Cost Estimate	Term In Years	15	10	
(3) Compactor Trailer	$188,699	3 Axle, JD Engine	Interest Rate	6.50	6.50	Subject to Lender Review

Inflation 2.5% Compounding Annually

100.00%	102.50%	105.06%	107.69%	110.38%	113.14%	115.97%	118.87%	121.84%	124.89%	128.01%	131.21%	134.49%	137.85%	141.30%

DESIGN NOTES:

(1) Design Is Based Upon a Single Transfer Station, Using 110v Power for Lid Openers
(2) Transtor Site Development Includes Binwalls, Backfill, Grade Separation and Concrete Footings
(3) Site Development is An Estimate Only Subject to Local Cost Review and Overall Site Plan
(4) Compaction Trailer Hauls All Loads Using JD Diesel Engine

	Daily Yr 1	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	
Tonnes - Single Stream Recycling	2	520	520	520	520	520	520	520	520	520	520	520	520	520	520	520	
Total Tonnes		520	520	520	520	520	520	520	520	520	520	520	520	520	520	520	7,800
TONNES PER WORKING DAY		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
m3 per Year		6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	
Fluffed Incoming m3 To Transtor / Yr 20%		7,800	7,800	7,800	7,800	7,800	7,800	7,800	7,800	7,800	7,800	7,800	7,800	7,800	7,800	7,800	
Incoming m3 Per Week - Average		150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	
M3 Per Working Day - Average	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
Units / m3 Provided 1	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
Required System Empty Cycles Per Unit	1.5	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	6,002
Transtor System Loading %		65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	Cycles
Required Transfer Trailer Loads		30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
Trailer Load - % Volume Capacity Per Trip		60.8%	60.8%	60.8%	60.8%	60.8%	60.8%	60.8%	60.8%	60.8%	60.8%	60.8%	60.8%	60.8%	60.8%	60.8%	
Trailer Load - % Weight Capacity Per Trip		63.3%	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%	
Estimated Average Trailer Load Weight - Tonnes		17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	
Estimated Transfer Trailer Loads Per Day		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Average Trailer Turn Around Time - Hours Per Load		9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	
Annual Trailer Hours Required	1.0	272	272	272	272	272	272	272	272	272	272	272	272	272	272	272	
Annual Available Trailer Hours	8.0	2,080	2,080	2,080	2,080	2,080	2,080	2,080	2,080	2,080	2,080	2,080	2,080	2,080	2,080	2,080	
Tractor and Trailer Utilization %		13.1%	13.1%	13.1%	13.1%	13.1%	13.1%	13.1%	13.1%	13.1%	13.1%	13.1%	13.1%	13.1%	13.1%	13.1%	
Hauling Miles Per Truck and Trailer	444	23,100	23,100	23,100	23,100	23,100	23,100	23,100	23,100	23,100	23,100	23,100	23,100	23,100	23,100	23,100	
Total Estimated Hauling km	444	23,100	23,100	23,100	23,100	23,100	23,100	23,100	23,100	23,100	23,100	23,100	23,100	23,100	23,100	23,100	

Design Based Upon :

GENERATION DATA		TRANSTOR DATA		TRAILER LOAD DATA		Incoming Material Density			
Average Incoming MSW Density - Lb/Yd	80.0	30	m3 TRANSTOR	8,182	Tractor Weight - kg		kg/m3	Ave mt/Day	Tonnes/Yr
WORK CYCLE		**TRAILER DATA**		20,455	Trailer Weight - kg				8000
Working Days Per Week	5			56,000	State Weight Loading - kg	Single Stream	80	2.00	520
Working Days Per Year	260	75	m3 Compacting Trailer	27,364	Net Available Payload - kg	-	0	-	-
Weekly Available Trailer (Hours)	40	5.70	Compaction Factor	365	kg/m3 for Max Payload			2.00	520
Load and Unload Time (Hours)	0.5	428	m3 Effective Trailer Capacity	5.70	Max Compaction Factor	Average Incoming Density in kg/m3			
Landfill Travel & Return (km)	770	1	Number of Trailers Required				80		
Average Trailer Speed - km/hr	90		Based Upon Utilization Above			Fluffed Density Into Trailer in kg/m3			
Planned Trailer Cycles Per Day	1						64		

APPENDIX B

Haul-All Transtor Transfer Unit Cost Estimate

VQuip Inc.
4430 Mainway Drive
Burlington, Ontario
Canada L6K 3N3

Tel: 800-567-0103
Fax: 905-336-3035
doug.vanderlinden@vquip.com

VQuip
TURNING VISION INTO VALUE ™

SALES QUOTATION

For: **Town of Cochrane**

Date: Dec 13, 2009
Salesman: Doug Vanderlinden

Job Site : Town of Cochrane Single Stream Recycling Transfer

Qty.	*Model*	*Description*	*Unit Price*	*Extended Price*
1	**TS500S**	**HAUL-ALL TRANSTOR Transfer Unit - Stainless Steel Body Shell** ***Standard Features:*** * 53 Cubic Yard Volumetric Capacity * 27,000 lb. Lift Capacity - Up to 500 Lbs/Cubic Yard Material Density * Over Center Hydraulic Dumping Using Twin Series Mounted 6" Hydraulic Cylinders * Capable of Top Loading 13' 6" Transfer Trailers * Dupont Powder Painted Frame and Galvaneel Steel Panels * Dual Function Split Lid Accomodates Full Size Truck Unloading * 3 Minute Cycle Time with 18 gpm Hydraulic Flow * Complete with 2 TS960 Footing Plates Ready for Concrete Casting	**$105,168**	**$105,168**
		Standard Additional Equipment:		
1	**7359/7358**	3/4" Twist-On Quick Couplers (1 Male, 1 Female) c/w Dust Caps	**$221**	**$221**
1	**TS-072**	115 Volt AC Pumping Unit For Lid with TS086 - 17FLA Motor @ 110 volts	**$4,965**	**$4,965**
1	**TS-4703**	Immersion Oil Heater c/w Thermostat for TS072 Lid Opener - 750 Watts @ 110 volts	**$565**	**$565**
		All Transtors Painted Transtor Grey		
		Single Drop Chute - Door Size 20" x 50" With Rain Seal Kit	**NC**	**NC**
1		Low Profile Loading Kit With Electric Open and Close Controls	**$19,300**	**$19,300**
1		Freight From Lethbridge Factory to Job Site	**$2,800**	**$2,800**
1		Field Installation Charge	**$25,600**	**$25,600**
		TOTAL		**$158,620**

Warranty:
Haul-All One Year Parts & Labour
FOB Transfer Site - Ontario

Terms: This Quotation Binding for 120 days
All Pricing in Cdn Funds, Taxes Extra Where Applicable
Payment: 35% Deposit with Order, 55% Due Upon Completion At Factory, 10% Balance Due at Delivery to Designated Staging Area or Stored At Factory Staging Area
Surcharge: Price Valid for 180 Days
Ordering: Order Units with 6 Month Total Project Lead Time
Allow 4.5 Months for Production and 45 Days for Installation and Startup

Notes: This quotation is for the supply of Transtor product only.
Customer is responsible for all construction costs including excavation, reinforcing bar and footings, binwall, electrical services, conduit, wiring, terminations and civil work.

APPENDIX C

4 Axle Compaction Trailer – Cost Estimate

VQUIP Inc.
4430 Mainway Drive
Burlington, Ontario L7L 5Y5
Canada, L7L 5Y5
Tel: (800) 567-0103
Fax: (905) 336-3035

Equipment Quotation

For: Town of Cochrane

Date: December 13, 2009
By: Doug Vanderlinden

Single Stream Recycling Transfer Program

			Price		Total
1	**4 Axle Compaction Trailer - 53' Overall Length With Engine**	$	90,287	$	90,287
1	Engine Preparation Mount Kit With Front Locking Access Doors	$	2,105	$	2,105
1	Engine Kit - John Deere 49hp c/w 30 Gallon Fuel Tank, Sauer	$	19,300	$	19,300
	Hydrualic Pump, Trailer Air Compressor and Block Heater				

STANDARD FEATURES:

General	13'6" Overall Height, 102" Wide
Walls	Semi- Elliptical Wall - 1/8" Steel, Fully Welded
	6" x 4" Reinforced Top Wall Beam With Flared Posts
Floor	3/16" AR360 Steel Floor
	14" Steel I Beam Underframe Rails With 5" I Beam Crossmembers
Roof	1/8" AR 500 Steel Fully Welded
Ram	AR Construction Curved Face Ram
	AR Construction Guide Tracks
	Double Acting Trunion Mounted Telescoping Cylinder
	Intermediate Travelling Cylinder Support
Brakes	Midland Grau Air Brake System with 16 1/2" Asbestos Brake Linings
	Q Type Brake Shoes
	Anchorlok Gold 30-30 Spring Brakes with Haldex Auto Slack Adjusters
King Pin	HD 1/2" King Pin Place with Holland SAE 2" King Pin
Landing Gear	Holland 200,000lb Capacity with Driver Side Two Speed Crank
Lighting	Front Wall Mount 7 Way ATA Receptacle with Air Connections
	Sealed Wiring Harness with LED Mounted Tail Lights and Intermediate Side Signals
Other	Quick Disconnects to Connect Trailer On Board Hydraulic Tank to Local Power Source
	Mudflaps - 1 Pair Mounted Behind Rear Whee.
	Document Holder and Conspicuity Treatment
	Hub Pilotted Wheels
	Power Package Return Block Valve with Relief and Pressure Gauge Indicator
Paint	Trailer Sandblasted and Painted One Color Polyurethane - Surcharge for Red and Orange

Required Options:

1	Tridem Hendrickson HT250 Air Ride Fixed Suspension With Axle and 11R22.5 Dual Tires	$	26,007	$	26,007
1	Hendrickson HT250 Air Ride Fixed Suspension With Steerable Axle, 385 Single Tires	$	13,838	$	13,838
1	14.5' Front Hydraulic Roof Opening to Accept Transtor Complete With Cylinders	$	12,030	$	12,030
1	Hydraulic Lid Lock System	$	2,089	$	2,089
1	Tire Upgrade to Bridgestone 16 Ply	$	370	$	370
1	ABS Brake Kit - Haldex 2S1M	$	1,525	$	1,525
1	Battery Operated Remote Control with Trailer Mounted Receiver, Wired to Valves	$	4,450	$	4,450
1	Tail Gate Rubber D Seal	$	482	$	482
1	Left and Right Side Access Doors with Ladders and Lock Tabs	$	783	$	783
1	Holland Landing Gear - 200,000 lb. With Rollers and 2 Speed Crank	$	466	$	466
1	Front Mounted Fall Arrest Cage	$	511	$	511
1	Roof Anti-Slip Coating and Tie Down Clips	$	193	$	193
1	Transtor Auxilliary Connection Manifold	$	399	$	399
1	Trailer Mounted 150 USG Oil Tank, c/w AW22 Oil Fill and 110v Oil Heater	$	5,192	$	5,192
1	Delivery Charge to Customer Jobsite or Staging Area, With 2 Days Training	$	1,940	$	1,940

Other Options:

1	Trailer Autopack Program c/w Single Button Operation, Radar Blade Position Sensor, Sauer PLC Control, Programmable to Adjust Compaction Rate to Commodity	$	6,733	$	6,733
	TOTAL QUOTATION			$	188,699

TERMS AND CONDITIONS:

All Amounts Quoted in Cdn Dollars, FOB Your Facility
All Provincial, Federal, Local Taxes Extra
35% Deposit, Balance On Delivery
Warranty - 12 Months Parts and Labor, FOB Burlington, Ontario
Delivery 90 Days, Subject to Confirmation at Order Date

APPENDIX D

Haul-All Transtor Transfer Station Costs Estimate

VQuip Inc.

December 15, 2009

DRAFT FOR DISCUSSION

PRIVATE & CONFIDENTIAL

Haul-All Transtor ® Transfer Station
Town of Cochrane - Single Stream Recycling

DETAILED TRANSTOR COSTING

CAPITAL REQUIRED	Qty	Annual Payment Tax Extra	Year 1 Cost	Year 2 Cost	Year 3 Cost	Year 4 Cost	Year 5 Cost	Year 6 Cost	Year 7 Cost	Year 8 Cost	Year 9 Cost	Year 10 Cost	Year 11 Cost	Year 12 Cost	Year 13 Cost	Year 14 Cost	Year 15 Cost	15 Year Total	Pretax Capital Required
Finance Haul-All TS500 Transtors	1	$16,581	16,581	16,581	16,581	16,581	16,581	16,581	16,581	16,581	16,581	16,581	16,581	16,581	16,581	16,581	16,581	248,714	158,620
Finance Transtor Site Development	1	$27,560	27,560	27,560	27,560	27,560	27,560	27,560	27,560	27,560	27,560	27,560	27,560	27,560	27,560	27,560	27,560	413,401	263,650
Finance High Compaction Trailer	1	$25,712	25,712	25,712	25,712	25,712	25,712	25,712	25,712	25,712	25,712	32,110	32,913	32,913	32,913	32,913	32,913	428,081	188,699
TOTAL CAPITAL COSTS			69,853	69,853	69,853	69,853	69,853	69,853	69,853	69,853	69,853	76,251	77,054	77,054	77,054	77,054	77,054	1,090,197	610,969
OPERATING COSTS																			
Cost / Hour - Contracted Opn - Tractor & Trailer Mtce		$ 120	32,600	33,415	34,250	35,107	35,984	36,884	37,806	38,751	39,720	40,713	41,731	42,774	43,843	44,939	46,063	584,581	
Site Operator		$ -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Transtor and Site Maintenance	1	$ 4,000	4,000	4,100	4,203	4,308	4,415	4,526	4,639	4,755	4,874	4,995	5,120	5,248	5,380	5,514	5,652	71,728	
TOTAL OPERATING COSTS			36,600	37,515	38,453	39,414	40,400	41,410	42,445	43,506	44,594	45,708	46,851	48,022	49,223	50,454	51,715	656,309	
TOTAL COSTS			106,453	107,368	108,306	109,267	110,252	111,262	112,298	113,359	114,446	121,960	123,905	125,077	126,277	127,508	128,769	1,746,505	
Cost Per Tonne - Operating			$70.38	$72.14	$73.95	$75.80	$77.69	$79.63	$81.62	$83.67	$85.76	$87.90	$90.10	$92.35	$94.66	$97.03	$99.45	$84.14	
Cost Per Tonne - Capital			$134.33	$134.33	$134.33	$134.33	$134.33	$134.33	$134.33	$134.33	$134.33	$146.64	$148.18	$148.18	$148.18	$148.18	$148.18	$139.77	
Cost Per Tonne - Total			$204.72	$206.48	$208.28	$210.13	$212.02	$213.97	$215.96	$218.00	$220.09	$234.54	$238.28	$240.53	$242.84	$245.21	$247.63	$223.91	

EQUIPMENT PRICING	Price $$ Tax Extra			Transtors	Rolling Stock	
(1) 53 Yard TRANSTOR	$158,620	Demo Unit	Monthly Finance Factor	0.008711074	0.011354798	Paid Monthly In Arrears
(2) Transtor Site Development - Single Stream	$263,650	30% Cost Estimate	Term In Years	15	10	
(3) Compactor Trailer	$188,699	3 Axle, JD Engine	Interest Rate	6.50	6.50	Subject to Lender Review

Inflation 2.5% Compounding Annually

100.00%	102.50%	105.06%	107.69%	110.38%	113.14%	115.97%	118.87%	121.84%	124.89%	128.01%	131.21%	134.49%	137.85%	141.30%

DESIGN NOTES:

(1) Design Is Based Upon a Single Transfer Station, Using 110v Power for Lid Openers
(2) Transtor Site Development Includes Binwalls, Backfill, Grade Separation and Concrete Footings
(3) Site Development is An Estimate Only Subject to Local Cost Review and Overall Site Plan
(4) Compaction Trailer Hauls All Loads Using JD Diesel Engine

	Daily Yr 1	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	
Tonnes - Single Stream Recycling	2	520	520	520	520	520	520	520	520	520	520	520	520	520	520	520	
Total Tonnes		520	520	520	520	520	520	520	520	520	520	520	520	520	520	520	7,800
TONNES PER WORKING DAY		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
m3 per Year		6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	6,500	
Fluffed Incoming m3 To Transtor / Yr 20%		7,800	7,800	7,800	7,800	7,800	7,800	7,800	7,800	7,800	7,800	7,800	7,800	7,800	7,800	7,800	
Incoming m3 Per Week - Average		150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	
M3 Per Working Day - Average	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
Units / m3 Provided 1	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
Required System Empty Cycles Per Unit	1.5	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	6,002
Transtor System Loading %		65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	Cycles
Required Transfer Trailer Loads		30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
Trailer Load - % Volume Capacity Per Trip		60.8%	60.8%	60.8%	60.8%	60.8%	60.8%	60.8%	60.8%	60.8%	60.8%	60.8%	60.8%	60.8%	60.8%	60.8%	
Trailer Load - % Weight Capacity Per Trip		63.3%	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%	
Estimated Average Trailer Load Weight - Tonnes		17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3	
Estimated Transfer Trailer Loads Per Day		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Average Trailer Turn Around Time - Hours Per Load		9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	
Annual Trailer Hours Required	1.0	272	272	272	272	272	272	272	272	272	272	272	272	272	272	272	
Annual Available Trailer Hours	8.0	2,080	2,080	2,080	2,080	2,080	2,080	2,080	2,080	2,080	2,080	2,080	2,080	2,080	2,080	2,080	
Tractor and Trailer Utilization %		13.1%	13.1%	13.1%	13.1%	13.1%	13.1%	13.1%	13.1%	13.1%	13.1%	13.1%	13.1%	13.1%	13.1%	13.1%	
Hauling Miles Per Truck and Trailer	444	23,100	23,100	23,100	23,100	23,100	23,100	23,100	23,100	23,100	23,100	23,100	23,100	23,100	23,100	23,100	
Total Estimated Hauling km	444	23,100	23,100	23,100	23,100	23,100	23,100	23,100	23,100	23,100	23,100	23,100	23,100	23,100	23,100	23,100	

Design Based Upon :

GENERATION DATA		TRANSTOR DATA		TRAILER LOAD DATA		Incoming Material Density			
Average Incoming MSW Density - Lb/Yd	80.0	30	m3 TRANSTOR	8,182	Tractor Weight - kg		kg/m3	Ave mt/Day	Tonnes/Yr
WORK CYCLE		**TRAILER DATA**		20,455	Trailer Weight - kg				8000
Working Days Per Week	5			56,000	State Weight Loading - kg	Single Stream	80	2.00	520
Working Days Per Year	260	75	m3 Compacting Trailer	27,364	Net Available Payload - kg	-	0	-	-
Weekly Available Trailer (Hours)	40	5.70	Compaction Factor	365	kg/m3 for Max Payload			2.00	520
Load and Unload Time (Hours)	0.5	428	m3 Effective Trailer Capacity	5.70	Max Compaction Factor	Average Incoming Density in kg/m3			
Landfill Travel & Return (km)	770	1	Number of Trailers Required				80		
Average Trailer Speed - km/hr	90		Based Upon Utilization Above			Fluffed Density Into Trailer in kg/m3			
Planned Trailer Cycles Per Day	1						64		

APPENDIX E

GREATER SUDBURY RECYCLING AGREEMENT

THIS RECYCLABLES ACCEPTANCE AGREEMENT made in triplicate this “day of”

B E T W E E N:

CITY OF GREATER SUDBURY

hereinafter called the "City”

OF THE FIRST PART

A N D

INTERESTED ORGANIZATION

hereinafter called the “Organization"

OF THE SECOND PART

WHEREAS the City provides certain recycling collection and processing services for the benefit of residents of the City of Greater Sudbury, as part of its waste management program;

AND WHEREAS the City sells its processed recyclables to recover part of the cost of operating its recycling centre;

AND WHEREAS the Organization is a municipality which provides recycling collection services for the benefit of inhabitants within its municipal boundaries, but does not provide recycling processing services;

AND WHEREAS the Organization has requested the City accept all those recyclable materials collected by the Organization within its municipal boundaries, which are of a type then being processed by the City;

AND WHEREAS the City is authorized to accept such recyclables on the terms set out herein;

THEREFORE IN CONSIDERATION OF THE TERMS HEREINAFTER STATED, THE CITY AND THE ORGANIZATION AGREE AS FOLLOWS:

Definitions

1. In this agreement:

   (a) "Manager" means the Manager of Environmental Services and includes his or her authorized designate;

   (b) "Processing Rate" means the rate per tonne payable by the Organization for Recyclables accepted by the City plus overhead;

   (c) "Recyclables" means recyclable materials determined in accordance with the City's Waste Management Bylaw in effect from time to time;

   (d) "Recycling Centre" means the City's recycling centre located at 1825 Frobisher Street, Sudbury; and

   (e) "Term" includes renewal term.

   (f) "Organization" to which the organization provides recyclable collection services are outlined on the sketch attached hereto as Schedule "A".

Accept Recyclables

2. During the term of this agreement (or until the agreement is earlier terminated) the City agrees to accept Recyclables from the Organization, in accordance with the terms and conditions of this agreement and policies and procedures implemented by the City from time to time.

Recyclables

3. The City will accept Recyclables of a type set out in Schedule “B” attached or as otherwise determined by the City from time to time in its sole discretion. The City will advise the Organization from time to time of changes in Recyclables by way of a letter signed by the Manager attaching a copy of the Schedule “B” being substituted for Schedule “B” attached hereto and delivered in accordance with the provisions for notice in this agreement.

City - Exclusive Processer of Recyclables

4.(1) The Organization agrees that the City will be its exclusive provider of recyclable processing services and further that it will provide to the City, in accordance with the terms and conditions of this Agreement, all Recyclables collected within its geographic limits. In the event that the Organization does not collect all of the categories of Recyclables identified on Schedule “B”, the Organization shall provide evidence satisfactory to the Manager identifying the categories of Recyclables it does collect and shall notify the Manager of any changes from time to time of the Recyclables it collects.

Education Program

(2) The Organization further agrees that it will promote recycling within its collection area by implementing an effective educational program which encourages the diversion of Recyclables from waste materials; advises which materials are Recyclables; and alerts individuals to the importance of separating all non-Recyclables from Recyclables set out for delivery.

No Contamination of Recyclables

5. The Organization shall be responsible to ensure Recyclables delivered to the Recycling Centre for processing are not intermingled with non-Recyclables. The Organization acknowledges and agrees that the City will not approve for acceptance shipments of Recyclables which are intermingled with non-Recyclables.

Delivery of Recyclables

6. (1) The Organization shall be responsible to deliver all Recyclables to the Recycling Centre at its sole cost and expense. All deliveries of Recyclables shall be made to the location within the Recycling Centre and in the manner determined by the Manager from time to time and communicated to the Organization (as detailed in the Receiving Protocol).

(2) The Organization shall arrange for all deliveries of Recyclables to be made between 8:00 a.m. and 10 a.m. during the days that the City is open for business at the Recycling Centre, as posted at the Recycling Centre from time to time or such other hours as the Manager may advise from time to time. The Organization acknowledges and agrees that the City may change the days of operation of the Recycling Centre and the permitted times of delivery from time to time without advance notice to the Organization. The City will endeavour to notify the Organization in writing in advance of such changes.

(3) No shipment of Recyclables shall be left at the Recycling Centre until the shipment has first been approved for acceptance by the City, in the manner

established by the Manager from time to time and communicated to the Organization.

(4) The Organization acknowledges and agrees that its employees, contractors and agents on site at the Recycling Centre must comply with any by-laws, guidelines and protocols then effect governing the Recycling Centre.

(5) The Organization agrees that no Recyclables shall be deposited or left anywhere in the City except at the Recycling Centre and in accordance with this Agreement.

Rejected Shipment

7.(1) The City shall be entitled to reject in whole or in part any shipment of materials by the Organization which the Manager, in his or her sole discretion, determines is not compliant with the requirements of this agreement.

(2) The Organization shall be responsible to promptly remove or have removed from the Recycling Centre and from the City at its own cost and expense, any shipment of materials or part thereof not accepted by the City

(3) Should the Organization fail to remove from the Recycling Centre or the City, any shipment of materials not approved by the City for acceptance or such part as may not be approved, or should the Organization deposit, leave or abandon materials within the City limits contrary to this Agreement, the City shall have the right, but not the obligation to arrange to have the rejected shipment of materials or part thereof left or abandoned by the Organization, returned to the Organization, at the cost of the Organization. All costs associated with gathering, collecting and returning the shipment of materials or any left or abandoned materials to the Organization shall be a debt owing to the City, due and payable in accordance with an invoice rendered by the City, and if unpaid, shall bear interest at the rate established by By-law as the rate payable on overdue amounts owing to the City. Any such debt may be enforceable by any means open to the City at law. The obligation to pay any such amount shall survive the expiry or earlier termination of this agreement. This right shall be in addition to any other remedy available to the City under this Agreement.

<u>Fee and Payment</u>

8.(1) During the term of this Agreement, the Organization agrees to pay the City for each shipment of Recyclables approved by the City for acceptance at the Recycling Centre, a fee equal to the total of the Processing Rate set out in Schedule “C” times the number of tonnes of Recyclables in that shipment. Where a part tonne is delivered, the Processing Rate shall be prorated appropriately. All fees hereunder shall be subject to Goods and Services Tax.

(2) Despite anything to the contrary, herein, the City shall have the right to change the Processing Rate from time to time in its sole discretion. The City will advise the Organization from time to time of changes in the Processing Rate by way of a letter signed by the Manager attaching a copy of the Schedule “C” being substituted for Schedule “C” attached hereto and reflecting the newly established Processing Rate. The letter and substituted Schedule “C” will be delivered in accordance with the provisions for notice in this Agreement.

(3) The tonnage of the Recyclables delivered shall be determined using the weigh scale at the Recycling Centre. In the event that the weigh scale at the Recycling Centre is not operational for any reason at the time of delivery of the Recyclables, the City will advise of an alternate location at which weighing can take place prior to delivery of the Recyclables.

(4) The City shall invoice the Organization monthly for the fees incurred for approved Recyclables delivered for processing and accepted by the City, and any other amounts owing under this agreement

(5) Payment shall be due on the date specified in the invoice. Any unpaid amounts owing to the City shall be a debt to the City, and bear interest from the date due until payment in full, at the interest rate established by the City by By-law from time to time as the rate chargeable on outstanding amounts and may be enforceable by any means available to the City at law.

(6) The obligation under this Section 8 shall survive any expiry or other termination of this agreement.

Title to Recyclables

9. The Organization represents and warrants that at the time of delivery of Recyclables to the Recycling Centre for processing, it will have all right, title and interest to the Recyclables and will at that time, have the right to dispose of same. The parties agree that ownership of the Recyclables shall pass to the City upon approval and acceptance of the Recyclables by the City. The Organization acknowledges being advised that City will be processing the Recyclables and subsequently selling the processed Recyclables. The Organization acknowledges and agrees that it has no right, claim or interest in any revenues received by the City as a result of the sale of Recyclables received from the Organization.

Risk

10. (1) The Organization, its officers, employees, contractors and agents enter on the Recycling Centre at its and their own risk.

(2) The Organization hereby agrees that the City, its elected and non-elected officials, employees, agents and those for whom the City is at law responsible, shall not be liable for any personal injury to, bodily injury to (including death of) or for any damage or loss to any property (including loss of use thereof) or for any incidental, indirect, special or consequential damages or any loss of use, revenue or profit arising out of or in any way related to the use or occupation of the Recycling Centre or lands on which same are situate, which is or may be suffered or incurred by the Organization, or its officers, employees or agents for

any reason whatsoever, unless caused by or resulting from the negligence or willful misconduct of the City, its employees or agents while acting within the scope of his or her employment or agency respectively. The City agrees to indemnify and to save harmless, the Organization, its officers, employees and agents from and against all costs, claims, actions, loss, injury, expense, damages, fines, judgments or recoveries made, brought or recovered against the Organization, its officers, employees and agents resulting from any willful misconduct or negligence of the City, or its elected or non-elected officers, employees or agents while acting in the course of his or her employment or agency and arising out of the Organization's authorized use and occupation of the Recycling Centre.

Indemnification

11.(1) The Organization agrees to indemnify and to save harmless, the City, its elected and non-elected officers, employees and agents from and against all costs, claims, actions, loss, injury, expense, damages, fines, judgments or recoveries made, brought or recovered against the City, its elected or non-elected officers, employees and agents resulting from any act or omission, any wilful misconduct or errors of the Organization or its officers, employees or agents in connection with the delivery of Recyclables pursuant to this Agreement or the use and occupation of the Recycling Centre and such indemnity shall include all legal costs incurred by the City (including fees and disbursements) and any administrative costs incurred by the City.

(2) This provision shall survive the termination or expiry of this Agreement.

Insurance

12. (1) The Organization shall ensure that all insurance coverage required pursuant to this agreement are in place prior to the delivery of any shipments of Recyclables to the City.

(2) During the Term of this Agreement, and any renewal or extension thereof, the Organization will, at its expense (including the cost of deductibles) maintain in effect, with an insurer licensed in Ontario:

(a) a contract of general liability insurance for its operations, with limits of not less than Five Million ($5,000,000.00) Dollars, in addition to coverage for defence and claimants' costs, all for any one occurrence, including coverage for:

(i) Personal injury including death;
(ii) Property damage or loss (direct or indirect and including loss of use thereof);
(iii) broad form property damage;
(iv) contractual liability;
(v) non-owned automobile liability;
(vi) Owner's and contractors' protective coverage;
(vii) Products - completed operations;
(viii) Contingent employer's liability;
(ix) Cross liability;
(x) Severability of interest; and
(xi) Blanket contractual liability.

all of standard wording. The policy of insurance shall name the City of Greater Sudbury as an additional insured with respect to its interest in the operations of the Organization; and

(b) Where the Organization is the registered owner of motor vehicle used in the delivery of Recyclables, a policy of motor vehicle liability insurance of standard wording, covering:

(I) motor vehicles owned, leased or operated by or on behalf of the Organization, in connection with the Services provided or to be provided under this Agreement, with coverage of not less than One Million ($1,000,000) Dollars per claim; and

(ii) equipment leased, borrowed, rented or operated by or on behalf of the Organization, with coverage of not less than One Million ($1,000,000) Dollar

Each policy of insurance shall provide that the policy shall be non-contributing with, and shall apply only as primary and not as excess to any other insurance available to the City. Every policy of insurance shall contain a deductible amount which is reasonable considering the financial circumstances of the Organization. The Organization shall be responsible to pay all deductible amounts.

Each policy of insurance shall also provide that neither the Organization nor the insurer shall cancel, materially change or allow the policy to lapse without first giving the City thirty days prior written notice, or in the case of automobile insurance, fifteen days prior written notice.

The Organization shall provide or cause to be provided to the City a certificate from its insurer, in the City's standard form, which shows that the policy or policies placed and maintained by it complies with the requirements of this agreement. No review or approval of any such insurance certificate by the City shall derogate from or diminish the City's rights or the Organization's obligations contained in this Agreement.

(3) If at any time the City is of the opinion that the insurance taken out by the Organization is inadequate in any respect, it shall forthwith advise the Organization of its reasons for such request and the Organization shall forthwith take out additional insurance satisfactory to the City.

(4) The taking out of insurance shall not relieve the Organization of any of its obligations under this agreement or limit its liability hereunder.

(5) It shall be the responsibility of the Organization to provide the necessary Workers' Compensation insurance for employees and agents of the Organization on site at the Recycling Centre.

Term

13(1) This Agreement shall have a term of one year, commencing "Date" and including "Date" and subject to Subsection 13(2) at the end of the term (and each renewal term) and unless either party gives notice of its election to not renew the term of the agreement at least thirty (30) days prior to the expiration of the then current term, the Agreement shall, subject to Subsection 13(2) automatically renew for a further term of one year.

(2) Despite subsection 13 (1), there shall be no more than eight (8) renewal terms.

(3) Each renewal term of this Agreement shall be on the same terms and conditions as are in effect on the last date of the immediately prior term, save and except that the Schedule "C" in effect in the immediately prior term shall be replaced by a Schedule "C" to be provided by the City's General Manager. In the event that the City's General Manager does not provide the Organization the form of Schedule "C" to be in effect for the renewal term, prior to the renewal date, the Organization shall continue to pay the City at the same Processing Rate as set out in the form Schedule "C" in effect in the immediately prior term, until such time as the replacement Schedule "C" is provided, and thereafter, the Organization shall pay the City fees calculated in accordance with the Processing Rate set out in the replacement Schedule "C".

(4) In the event that the processing rate established in any replacement Schedule "C" is not acceptable to the Organization, the Organization shall have the right to give 30 days notice of termination in accordance with the provisions in this Agreement, provided such notice is given within 30 days of delivery of that replacement Schedule "C".

Early Termination - Without Cause

14. This Agreement may be terminated by either party, without liability to the other, on sixty (60) days notice in writing to the other party given in accordance with this agreement.

Termination for Material Breach

15. Either party may, at its option, terminate this Agreement in the event of a material breach of this Agreement by the other party. Any such termination may be effected through a written notice to the other party, specifically identifying the breach or breaches on which termination is based. Following receipt of such notice, the party in breach shall have 14 days to cure such breach or breaches to the satisfaction of the non-defaulting party and this Agreement shall terminate in the event that such cure is not made by the end of such period. The failure of the Organization to pay any fee or other amount owing to the City shall always constitute a material breach of this Agreement.

Third Party Observance

16.(1)The Organization shall take all reasonable measures to ensure that its officers, directors, employees, contractors and agents are made aware of and are bound

to observe the terms of this Agreement. The Organization shall be responsible to ensure that any agreement it enters into with a contractor or agent to provide on its behalf, services related to this Agreement contains terms no less favorable to the City than set out herein to the extent that they are applicable to the work contracted or subcontracted.

Notice

17.(1) Any demand, notice or other communication to be given in connection with this Agreement shall be given in writing and may be given by personal delivery or by registered mail, courier or facsimile transmission, addressed to the recipient as follows:

(a) Notices to the City:

City of Greater Sudbury
PO Box 5000, Stn A
200 Brady Street
Sudbury, Ontario, P3A 5P3
Attention: Manager of Environmental Services
Phone Number: 705-674-4455 Ext. 4327
Fax: (705)-671-1148

(b) Notices to the Organization:

Name of Organization
Address
Telephone:

or to such other address or facsimile number as may be designated by notice by either party to the other. Any such notice if given by personal delivery shall be conclusively deemed to have been given on ththe deposit thereof in the mail; if by courier, on the second day after delivery to the courier; and if by facsimile transmission, on the same day if sent prior to 4:00 p.m. on a day the recipient is open for business and on the next following working day of the recipient if sent after 4:00 p.m. or if sent on a day the recipient is not open for business. If the party giving any notice knows or ought reasonably to know of any difficulties with the postal system which might affect the delivery of mail, any such notice shall not be mailed but shall be given by personal delivery, courier or facsimile transmission.

MOE Approval

18. The agreement may be subject to the approval of the Ministry of the Environment, and any other Provincial or Federal authority having jurisdiction in matters relating to recycling and the environment. In such event, this agreement shall come into effect upon every such approval being granted. It shall be the responsibility of the City to apply for any such approval at its own cost and expense.

Relationship

19. Nothing in this Agreement shall be read or construed as conferring upon the Organization, its officers, directors, employees or agents, the status of employee, or agent of, or partner or joint venturer with the City.

Schedules

20. All terms and conditions of Schedules “A”, “B” and “C” are incorporated into this Agreement except where they are inconsistent with this Agreement, in which case the agreement shall prevail.

Assignment

21. The Organization shall not assign this Agreement, or any part thereof, without the prior written approval of the City, which approval may not be unreasonably withheld by the City in its sole discretion or may be given subject to such terms and conditions as the City may impose.

Entire Agreement

22. This agreement and the attached Schedules “A”, “B” and “C” embody the entire Agreement and supercede any other understanding or agreement, collateral, oral or otherwise, existing between the parties at the date of execution.

Amendment

23.(1) Except as expressly provided to the contrary in this agreement, this agreement may be amended only by amending agreement signed by both parties.

(2) Despite subsection 23(1) either or all Schedules to this Agreement may be replaced or substituted from time to time by way of letter attaching the replacement Schedule or Schedules, signed by the Manager.

Governing Law

24. This Agreement shall be governed by and construed in accordance with the laws of the Province of Ontario.

MFIPPA

25. The Organization acknowledges that this agreement and any information or documents provided by the Organization may be released pursuant to the provisions of the *Municipal Freedom of Information and Protection of Privacy Act*, R.S.O. 1990, c. M.58, as amended and consents to the release of such information.

Rights and Remedies Cumulative

26. The rights and remedies of the Parties to this Agreement are cumulative and are in addition to and not in substitution for any rights and remedies provided by law or in equity.

Headings

27. Headings or descriptive words at the commencement of the various sections are inserted only for convenience and are in no way to be construed as a part of this agreement or as a limitation upon the scope of the particular section to which they refer.

Number and Gender

28. In this agreement the use of the singular number includes the plural and vice versa and the use of any gender includes all genders.

Non-Waiver

29. No condoning, excusing or waiver by any party hereto of any default, breach of, non-observance by any other party hereto, at any time or times with respect to any covenant or condition herein contained, shall operate as a waiver of that party's rights hereunder with respect to any continuing or subsequent default, breach or non-observance and no waiver shall be inferred from or implied by any failure to exercise any rights by the party having those rights.

Force Majeure

30. The City shall not be liable for any failure to perform its obligations hereunder if the non-performance is due to lightning, tempest, explosion, earthquake, acts of God, mob violence, acts of the Queen's enemies, strike, lockout, or other labour disruption, or any catastrophic cause beyond its control.

Binding Effect

31. This agreement shall ensure to the benefit of and be binding upon the parties hereto, their heirs, legal personal representatives, successors and permitted assigns.

IN WITNESS WHEREOF the parties hereto have hereunder affixed their respective corporate seals attested to by the hands of their proper officers duly authorized in that behalf as of the day and year first above written.

CITY OF GREATER SUDBURY

_____

Manager of Environmental Services

ORGANIZATION

_____

Name, Title

_____

Name, Title

I/We have authority to bind the Corporation

SCHEDULE “A”

TO A RECYCLABLES ACCEPTANCE AGREEMENT BETWEEN

CITY OF GREATER SUDBURY AND INTERESTED ORGANIZATION

GEOGRAPHIC BOUNDARIES OF THE INTERESTED ORGANIZATION

SCHEDULE "B"

TO A RECYCLABLES ACCEPTANCE AGREEMENT BETWEEN

CITY OF GREATER SUDBURY AND INTERESTED ORGANIZATION

City of Greater Sudbury Recyclable Program

Plastic Containers

If one of these numbers appears on the bottom of a plastic container, place it in your Blue Box.

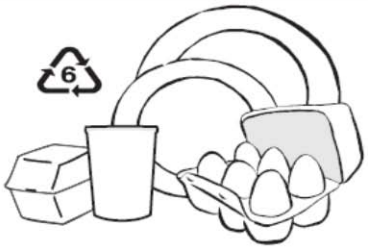
1 2 5

Do not recycle. Put these items in your regular garbage.
Containers that don't have a number, containers that have a 3 or 7 stamped on the bottom, plastic dishes and utensils, plastic toys.

Paper

Almost all types of paper can be recycled.

Do not recycle. Put these items in your regular garbage.
Diapers, facial tissue and paper towels, tissue paper, cookie bags, paper drinking cups, waxed paper.



Polystyrene Foam

- Foam egg cartons, meat trays, plates and cups
- Take-out food containers
- Solid white foam used for packing.
  Break large pieces into smaller sections (maximum 2 ft. x 3 ft. x 1 ft.)

Do not recycle. Put these items in your regular garbage.
Small foam "peanuts" used in packing, dirty foam, foam treated with fire retardant for thermal insulation.

Plastic Bags

Now you can recycle all types of plastic bags.

- Turn bags inside out to empty.
- Stuff empty bags into one and tie at the top.
- Place in your Blue Box.

When shopping, choose reusable cloth bags.

Do not recycle. Put these items in your regular garbage.
Bubble wrap, plastic food wrap, granola bar wrappers.

Cardboard & Boxboard

Remove bags, tissue paper and other liners from inside the boxes. Flatten all boxes and fold to a maximum size of 30" x 30". Place either beside or inside your Blue Box.

Do not recycle. Put these items in your regular garbage.
Coffee cups, waxed cardboard, wooden fruit crates.

Return for Refund!

Return wine and liquor containers to The Beer Store for a refund. The Beer Store will refund deposits paid for wine or liquor in glass bottles, plastic bottles, Tetra Pak and bag-in-box containers. Deposits range from 10 to 20 cents, depending on the size of the container.

Glass Bottles & Jars

Please empty and rinse before placing in your Blue Box.
Leave labels on bottles and jars.
Leave plastic lids on bottles.
Metal lids should be taken off bottles or jars and placed in your Blue Box.

Do not recycle. Put these items in your regular garbage.
Drinking glasses and other dishes, light bulbs, broken glass, window panes, flower pots and ceramics, mirrors.

TO A RECYCLABLES ACCEPTANCE AGREEMENT BETWEEN

CITY OF GREATER SUDBURY AND INTERESTED ORGANIZATION

City of Greater Sudbury Recyclable Program

Metal Containers

- Aluminum foil, pie plates, roast pans, etc.
- Food cans (Push the lids inside the can)
- Juice and pop cans

Do not recycle. Put these items in your regular garbage.
Coat hangers, pots and pans, wire.

Empty Aerosol Cans & Dry Paint Cans

- Empty paint cans or cans with dried up paint inside. Remove lids and place in Blue Box.
- Aerosol cans ("spray" cans) that are empty

Do not recycle.
Cans with wet paint inside and aerosol cans that are not empty are **Hazardous Waste.**
See instructions in this flyer on page 7.

Beverage Boxes & Cartons

- Broth and Soup
- Milk and Cream
- Juice boxes (drinking boxes)

Please empty and rinse before placing in your Blue Box. Remove straws and put in your regular garbage.

Recycle cardboard cans

Recycle cardboard containers for refrigerated dough, frozen juice, chips, nuts, powdered drink mixes and powdered cleansers in your Blue Box.

Include both metal ends in your Blue Box. Discard the plastic pull-off strip and/or peel-off seal with regular household waste.

SCHEDULE "C"

TO A RECYCLABLES ACCEPTANCE AGREEMENT BETWEEN

CITY OF GREATER SUDBURY AND INTERESTED ORGANIZATION

PROCESSING RATES

FOR THE TERM FROM "DATE" TO "DATE"

As of the date of this Agreement, the Processing Rate per tonne of Recyclables accepted by the City plus overhead is $89.61

The Processing Rate is subject to change in accordance with the Agreement.