Municipalities of
Kenora and Dryden

Cooperative Recycling Haulage
CIF Project 288

Final Report

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Author

This Report has been prepared by:

Gary Everett,

The Emerald Group,
2-211 Pine Valley Dr.
London, ON. 6J 4W5
519-686-1211

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Background

Preamble

As part of the objectives of the CIF, which include a proactive approach to assisting municipalities to implement best practices in blue box recycling, the CIF has provided financial assistance for the development of geographic optimization of municipal recycling operations.

Project Description

This project consists of co-operative equipment operation between the Cities of Kenora and Dryden designed to optimize compaction and hauling recyclables on dedicated highway trailers. The project is intended to reduce hauling costs for participating municipalities.

The project is supporting the purchase of a highway tractor for Kenora used to haul dedicated recycling compaction trailers from Kenora and Dryden to the processor in Winnipeg. The project is also supporting an upgrade to Dryden's compaction trailer to make it compatible with Kenora's transfer facility and tractor.

An agreement was signed between Kenora and Dryden for haulage services which will result in cost savings for both Kenora and Dryden.

This final project report will include:

1. Detail of the different equipment purchased by Dryden and Kenora.

2. Summary and detail of 4 months haulage, including:

   -operations costs for haulage.

   -comparison of haulage costs for Dryden and Kenora for the same period in the year previous.

   -operations details, issues and lessons learned.

   -projections of savings for Kenora and Dryden in future.

Project Summary

Purpose

The purpose of this project is to decrease overall program costs by acquiring specialized equipment suitable for long haul delivery of recyclable materials to the current processor in Winnipeg. To accomplish multi-municipal participation in the project, specialized, compatible, compaction trailers and a highway tractor were required.

Equipment

Both Dryden and Kenora had long haul compaction trailers supplied by VQuip Inc. of Burlington Ontario. An upgrade to Dryden's existing compacting trailer to a newer, more efficient model, compatible with the new tractor and transfer station recently acquired by the City of Kenora was required. The new trailer loads from the opposite side of the unit it replaced.

In addition, a new tractor unit, required to operate compaction gear and tow both trailers, satisfies the necessary equipment package to set up a multi-municipal delivery system. Kenora and Dryden have co-operated to set up a suitable weekly schedule to pick-up and deliver Dryden's material as well as Kenora's loads. A list of the equipment acquired is shown in Schedule "A" below.

Financial Analysis

In 2010, Kenora averaged 3 loads of recyclable material a week or 150 trips per year toWinnipeg. The local hauler charged $848 per trip using contractor equipment, or $127,200 per year.

In 2010, Dryden generated a load a week of recyclables. Dryden paid $1200 per trip with a contractor hauling Dryden's trailer for a cost of $62,400 per year.

Kenora's tractor started service on Nov. 1, 2010 and annual operations/cost data follows in the table below:

Operating/Cost Comparison

Kenora

Period	Loads	Cost	Total	Tonnes
11/09-11/10	125	$848	$106,000	1100[3]
11/10-11/11	101[1]	$675[2]	$68,175	1581[3]
Change	**-24**	**-$173**	**-$37,825**	**481**
Percent	(-19%)	(-20%)	(-36%)	30%
Est 10 yr savings			**$370,000**	

1. increased compaction requires fewer loads
2. all inclusive costs/load
3. steel not included

Dryden

Period	Loads	Cost	Total	Tonnes
02/10-09/10	25	$1107	$27,675	384
02/11-09/11	43[1]	$820[2]	$35,260	679
Change	**18**	**-$287**	**-$11,767**	**295**
Percent	72%	(-26%)	(-26%)	77%
Est 10 yr savings			**$117,000**	

1. increased compaction requires fewer loads, Red Lake material included increased total loads
2. all inclusive costs/load

Operating Observations

Kenora's increased capture rate may be due to better public effort, increased and/or more effective P&E through such innovations as the www.KenoraReuses.com website or less onsite loss due to improved handling of materials at the upgraded transfer station.

Records show that the new system is capturing at least 10% more material. The numbers clearly show Kenora getting more weight per trip using the self compactors, on average 6.85 tonnes per load.

Operating issues have been experienced due to greater load frequency than initially projected from Dryden. Initial projections were based on Dryden generating one to one and a half loads every second week.

Dryden is now accepting Red Lakes' material and combined with greater than anticipated generation rates, almost double the number of loads has been hauled from Dryden than expected over the period (43 hauled vs. 21 expected.) Additionally, 77% more material has been hauled from

Dryden than expected.

These additional loads leave no room to schedule routine maintenance or allowance for breakdowns, bad road conditions etc. Additional unplanned loads require overtime costs that are reducing project savings and stressing the labour force and equipment.

During start-up, the trailers had an issue with excess axle load weights which has not been resolved by the trailer supplier. Dryden's loads are heavier than Kenora's due to the fact they do not ship paper separately, it is mixed in with the comingle product.

When loading Dryden's product the front 3 meters of the trailer cannot be utilized as the tractor drive axles will be overloaded when traveling into Manitoba due to lower road weight restrictions than Ontario. Future trailers will need to have "sliding rear axles" for maximum loads and optimum weight distribution.

Lessons Learned

This project appears to be a victim of its' own success. With the addition of other municipal material to the program, the system has no spare capacity. Additional equipment, i.e. another compaction trailer, is required immediately to regain enough capacity in the system to operate efficiently and avoid costly maintenance and overtime issues.

Alternatively, some relief may be available if equipment was provided to Red Lake so their material could be shipped to the Kenora transfer station where it could be stock piled to permit optimal scheduling to match existing equipment availability. This would necessitate additional equipment such as roll off bins etc. which, when combined with longer haul distances and increased transfer costs, may result in more costs long term than an additional compaction trailer. More study is needed and action is required immediately to resolve the issue.

Best Practices

This project fits within the following fundamental best practices as identified by the Blue Box Program Enhancement and Best Practices Assessment Project (2007).

- Multi-municipal planning approach to collection and processing recyclables.
- Optimization of operations in collections and processing.
- Following generally accepted principles for effective procurement and contract management.

Schedule “A”
Equipment List and Costs

Equipment Description	Supplier	Cost
1 x 51’ top loading compaction trailer with hydraulic controls.	Nexgen Municipal Inc. 4430 Mainway Drive Ontario, L7L 5Y5	155,361
1 x highway tractor 2011 T-800 Kenworth Complete with Hydraulic system to operate self compacting trailers	Custom Truck Sales Inc. 357 Oak Point Hwy. Winnipeg, Mb. R2R 1T9	152,659