

Final Report

CIF 259

Municipality of French River

Upgrades to Noelville Transfer Station & Public Access Depots



Final Project Report, Jan 16 2015

Municipality of French River

CIF Project number 259

Acknowledgement:

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1 PROJECT INFORMATION

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 local transfer station upgrades and the acquisition of upgraded transfer equipment.

The Municipality of French River is in the process of restructuring of its recycling collection depot at the landfill site as well as its Haul-All recycle waste bin sites. The goal of this project was to convert an area at the landfill site to accommodate 3 new 40 yard recycle bins for the recycle collection depot. The collection system will consist of these 3 bins, a ramp system with bin walls so that users may drive up to the bins and dispose of recyclables, as well as all the necessary infrastructure to support such a system. This will include guard rails, safety chains, chain link fence, a gate, and the binwalls. The new system increases the Noelville Landfill collection depot's capacity from 1 bin to 3, and offers users greater accessibility, safety, and encourage greater diversion of recyclables from the landfill. Greater capacity has reduced waste overflow, and reduced the amount of trips that haulers will have to make to and from the collection site, therefore reducing the collection depot's operating cost and impact on the environment.

This project also includes adding 2 new Haul-All recycle bins at 2 of its higher volume Haul-All bin sites in the town of Noelville. These sites take in a high volume recyclables from the residents of Noelville and the current system is having difficulty with the increasing quantity of materials being dumped at these sites. Two more bins at these sites will add significant capacity and help to control overflow.

The final report will include details of the following:

1. Description of the activities (construction and operations) undertaken for the project;
2. Analysis of operations including operation and usage of public recycling depot;

1.1 Project Summary

The upgrading of the loading ramp at the transfer facility is designed to improve the operation of the transfer of recyclables to the processing facility. These improvements are expected to yield operational savings in the amount of time needed to load trailers for transport and the new ramp will allow better compaction of materials during loading by increasing visibility and loader access. The overall number of trips needed to haul recycling for processing was expected to be reduced. The installation of the public drop off depot is a service enhancement for residents and will allow for the capture of materials that are currently either ending up in the garbage or being taken to a private company. Both of



Figure 1: Haul all bins

these upgrades resulted in greater program effectiveness through increased capture of materials and greater efficiency through reduced program costs.

This project consists of transfer station modifications including construction of a concrete loading ramp, installing an asphalt turn-a-round area with new entrances, supply and installation of chain link fencing, supply of 4 – 8 cu. yard recycling bins and directional signage.

The construction was completed by contractors between November 2010 and January 2014. Additionally the Municipality purchased multiple recycling bins directly from the manufacturer. Guardrails were installed to ensure safety for all users of the landfill site.

350m of fencing was installed by contractor ensuring no trespassing within the landfill site as well as site control for recycling, and bear management. Litter fencing was also installed to ensure the control of waste in the site from the elements, specifically wind.

1.2 Project Goals & Objectives

Goal 1: Increase diversion of Blue Box materials from Landfill

Objective 1: Better facilities

- a) Improved user experience & ease of recycling

Objective 2: Promotion & Education

- a) Increased participation
- b) Better recycling behaviours

Goal 2: Improve operational costs of landfill facility

Objective 1: Greater capacity on site

- a) improve annual hauling costs

Objective 2: Improved facility & litter containment

- a) Reduce staff time managing material
- b) Reduce costs of equipment



Figure 2: Side view of recycle bins. Safety barrier, concrete block retaining walls pictured.

2 IMPLEMENTATION

2.1 Construction

Construction of bin walls and purchase of Haul-All recycling bins at both the landfill site on Houle Rd as well as the high volume areas in Noelville were completed as planned. The fencing (both mobile and stationary) as well as a gate system was implemented as per the specified plan. There were no meaningful deviations from the stated plan. Staff and contractors installed the residential blue box recycling directional signage and the recycling drop-off service began in earnest in early 2012.

2.2 Budget

The project budget for implementing the updates to the TS are summarized in Table 1, left. Costs were as projected in the initial budget for this project, as there were no significant variations in the costs of each contract quote.

Table 1: Budget

Budget item	Cost
Chain link fencing	\$33,391.50
Retaining wall & concrete block	\$37,855.00
Recycling bins	\$34,306.80
Litter fencing	\$16,391.12
Signage	\$2,178.64
Total costs	\$124,123.06

3 RESULTS

3.1 Program performance

Impact on diversion – Tonnage up 12.5%

Diversion and participation in the program increased due to the installation of the recycling bins. Additionally, the Municipality created a promotion and education (P&E) program for the local & seasonal residents to promote the program and encourage participation. The P&E program focused on the value of recycling, as well as the costs to the Municipality (and their tax dollars) of placing recyclable items in the waste receptacles. During the summer, as the seasonal population rises, we see more activity (and thus more diversion) at the landfill site as well as at the Haul-All sites throughout the community. This is enhanced as our community is home to a vast seasonal population, who wish to make improvements or changes to their homes and cottages. The Municipality added an e-waste bin (pictured in appendix) and tire bins to allow for greater diversion at the landfill site and encourage good diversion behaviours in general.

Table 2 highlights the impacts of the P&E campaign and the updates at the transfer station, specifically the tonnage of Blue Box materials, as reported in our annual WDO datacall, has increased 12.5% since this project began. We believe the actual 'amount' of material diverted to be even greater than what is reflected by tonnage; primarily due to light-weighting of material.

Table 2: Project results

Performance metric	2011	2012	2013
BB program costs ¹	\$55,404	\$72,992	\$70,848
Hauling costs ²	\$34,645	\$32,939	\$32,939
Processing costs ³	\$18,381	\$22,008	\$24,669
Depot operations ^{4,5}	-	\$15,615	\$10,963
Marketed tonnes ¹	168	180	189
BB program cost / tonne	\$329.80	\$405.51	\$374.86
Hauling costs / tonne	\$206.22	\$182.99	\$174.28

¹ WDO datacall information

² Hauling costs are a fixed contract rate per annum

³ Processing costs are a per tonne rate at the Sudbury municipal MRF

⁴ Costs to municipally staff the landfill site are allocated 34% to Blue Box

⁵ Costs to municipally staff the depot were not accounted for prior to 2012

Impact on Costs – Staff & Equipment savings of 30%

Costs to operate the municipal Blue Box program, as reported in the WDO datacall, have increased since 2011. This does not reflect actuality. Prior to 2012, the municipality did not account for costs to operate the municipal Blue Box services provided at the municipal landfill. This accounting began in 2012, the costs for landfill staffing were approximately \$46,000 of which 34% is now allocated towards Blue Box costs. After implementation of the site upgrades, the cost for 2013 dropped to approximately \$32,000; a savings of approximately 30%. The improved site design has transitioned the workload of properly putting materials into the recycling from staff to residents, which is paying dividends with lower staffing and equipment costs. Similarly, staff are spending less time collecting litter that escapes the Blue Box and landfill areas.

The municipality has benefitted from a decrease in the cost per tonne to haul the material from the landfill facility to the municipally run MRF in Sudbury. This is largely due to the increase in tonnage of materials captured and a constant contract price for hauling.

Our cost savings are reflective of improved efficiencies with regards to landfill cover, staff time, and equipment maintenance. The municipality expects to harness even greater efficiency as residents become better recyclers. For example, staff note that residents are not always breaking down or compacting large cardboard (and other fibre product) containers. This is a significant issue, as it is difficult to compact materials once they have been tossed in the bin short of having staff hop in the bins and do the packing themselves (which is not a current practice). The Township plans to address these behaviours through P&E in the near future, which will improve the utilization of collection container capacity on site.

3.2 Other impacts

Discussion of Litter Control

The Municipality installed both stationary and mobile fencing to the site. This has led to a large decrease in the amount of refuse that escapes the landfill property and enters neighbouring properties. There is also a positive in that there is less of an opportunity for this blown litter to infiltrate the groundwater system. The Municipality now also covers the landfill refuse in the coverage area on a daily basis to ensure further compliance to Ministry of the Environment standards, as well as to fulfill the terms of our Certificate of Approval. There is also a cost savings where staff do not need to enter the neighbouring properties (reducing liability on our part) to clean up the litter. Wildlife also tend to occupy these neighbouring areas, thus less staff time cleaning the refuge up also leads to increased health and safety.

Inclusion of Other Communities

The landfill accepts waste and recycling from residents of Burwash, Cox, Estaire, Hendrie, Secord, and Servos (all unorganized township) and this recycling diversion program have affected this relationship in a positive manner. Other communities have not been accepted to the landfill at this time, as this may affect the lifespan of our landfill facility, especially as we move forward with the phase 1, 2, and 3 of our landfill improvement program. The municipality had considered accepting Blue Box only materials from other surrounding municipalities, but the burden on staffing resources to ensure only recycling services were being utilized by specific individuals was deemed cost and logistics prohibitive at this time.



Figure 3: Moveable litter fencing

SUMMARY AND CONCLUSIONS

Cost savings in municipal operations of the landfill facility were initially projected to reach \$16,000 per year. The Municipality is nearly reaching this goal, as a savings of \$14,000 per year was reported in the most recent datacall; of which nearly \$5,000 is attributable to Blue Box programming. This savings in operations is primarily being achieved by having staff spend less time managing material on site and a decrease in equipment costs. Staff are equally pleased with the improvement in safety on site and the positive impact on the local environment.



Figure 4: Top view of recycle bins. Safety barrier, ramp, and signage pictured.

APPENDIX: PICTURES OF SITE



Figure 5: Electronic waste bins & signage



Figure 6: Electronic waste bins



Figure 7: Fencing surrounding compound



Figure 8: Top view of recycle bins. Safety chain, concrete retaining walls are pictured.