# Kenora

## Transfer Station Upgrades

### CIF Project 187

# Final Report

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**Disclaimer**

This report is provided as opinion for discussion only and is **not** designed to replace qualified engineering, architectural or legal advice in any way. Municipalities are cautioned to obtain qualified advice and certified/approved drawings and plans prior to undertaking or adopting any recommendations that may affect their programs or facilities.

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

The final report will include details of the following:

1. Description of the activities (construction and operations) undertaken for the project;
2. Analysis of 3 months operations including operational savings as a result of changes to operation;
3. Projections (estimations) of impact of improvements on the recycling program in 2011.

Project Summary

This project consists of the purchase of a compaction trailer and the design and construction of a covered loading bay for loading operations required to transfer recyclables to processing plants. Previously, Kenora stored collected recyclables until a sufficient quantity was available to fill a rented 53' walking floor trailer used to haul recyclables to Manitoba for processing.

Materials were transferred from a collection building to a single loading bay, shared with refuse loading operations, to fill a rented highway trailer and a contractor then hauled the loaded products to the MRF.

With the installation of a compaction trailer, Kenora will reduce handling costs by eliminating manual packing and reduce the lost quantities of recyclables due to wind, spillage, contamination and weather. Additionally, material quality delivered for processing is expected to improve.

Goals & Objectives

The redesign of the transfer station is expected to reduce handling costs as well as minimize quantities of product lost and contaminated by residues remaining from refuse loading. Previously, recyclables were moved up to three times to transfer them from the current recycling building to the loading building. This process involved two 3 yard bucket machines requiring approximately 3-4 hours per load to transfer and pack a trailer.

A packing ram on a loader was used to push the material into a rented walking floor trailer to increase load weights and reduce transportation costs. The handling time involved made this operation inefficient and costly. Additionally, quantities of lost material were significant due to wind, spillage and cross contamination with garbage.

The addition of a dedicated year round loading bay for recycling is expected to increase tonnes shipped to market as well as minimize handling costs on site. Wind, snow and wet weather greatly limit movement of materials on site.

Public misconceptions are very hard to overcome when they observe staff moving the recyclables into the garbage building for loading which was the only available operating procedure before the upgrades were completed.

## Project Description/Results

Description

The project consisted of the purchase and installation of a packing trailer compatible with similar equipment operated in cooperation with Dryden and a new covered loading bay. This project was designed to improve preload storage and loading conditions on the site and reduce transportation costs through increased load delivery weights and cooperative equipment utilization with the city of Dryden.

The project was designed and constructed over the period of December 2009 to December 2010. The design portion of the project was handled by KGS Group and DST Consulting Engineers. The construction portion of the project was done by Jarnel Contracting.

No major obstacles were encountered during the design and construction of the project. Images of the completed project and site plans are attached to this report under appendix "A".

The compaction transfer trailer was supplied by Nexgen Municipal. No major obstacles were encountered with the acquisition and commissioning of the compaction transfer trailer. As with any new equipment/facility implemented, operating procedures to optimize load weights (especially ONP) and labour reduction are still subject to adjustment.

Budget

The project budget approved by CIF was 50% of $497,666 for a total grant of $248,833. The actual project cost totalled $498,160.90 resulting in a small budget difference of 494.90. This difference was the result of an additional lighting standard installation required at the transfer station.

Results

Following commissioning of the project and equipment, operating costs and tonnages delivered for processing were monitored. The comparative results of operations for 2010 vs. 2011(extrapolated to year end) follow:

| | 2010 | 2011[1] | % Change |
|---|---|---|---|
| | | | |
| Hauling Costs[2] | $148,192 | $104,652.00 | -41.60% |
| Loads Shipped | 28 | 26 | -0.85% |
| Tonnes Shipped | 372 | 375 | +0.008% |
| Hours/Load[3] | 7 | 4 | -75.00% |
| | | | |
| | | | |

1. 2010 actual costs, 2011 actual plus projected costs to year end.
2. Fuel costs have increased above 23% year over year.
3. 2010, 2 staff 2 loaders 2011, 1 loader (co-mingled material)

Projected annual program impacts are:

- 75%, $99.00 per load for loader/operator time (+fuel saved)
- 41% haul cost decrease/load notwithstanding over 23% fuel cost increase (additional savings may be achieved when trailer compaction ratios are optimized permitting maximum weight per axle for ONP)
- Projected annual loading and transport savings = $43,540.00
- Decreased loader/trailer repairs to be determined.
- Decreased material contamination to be determined.

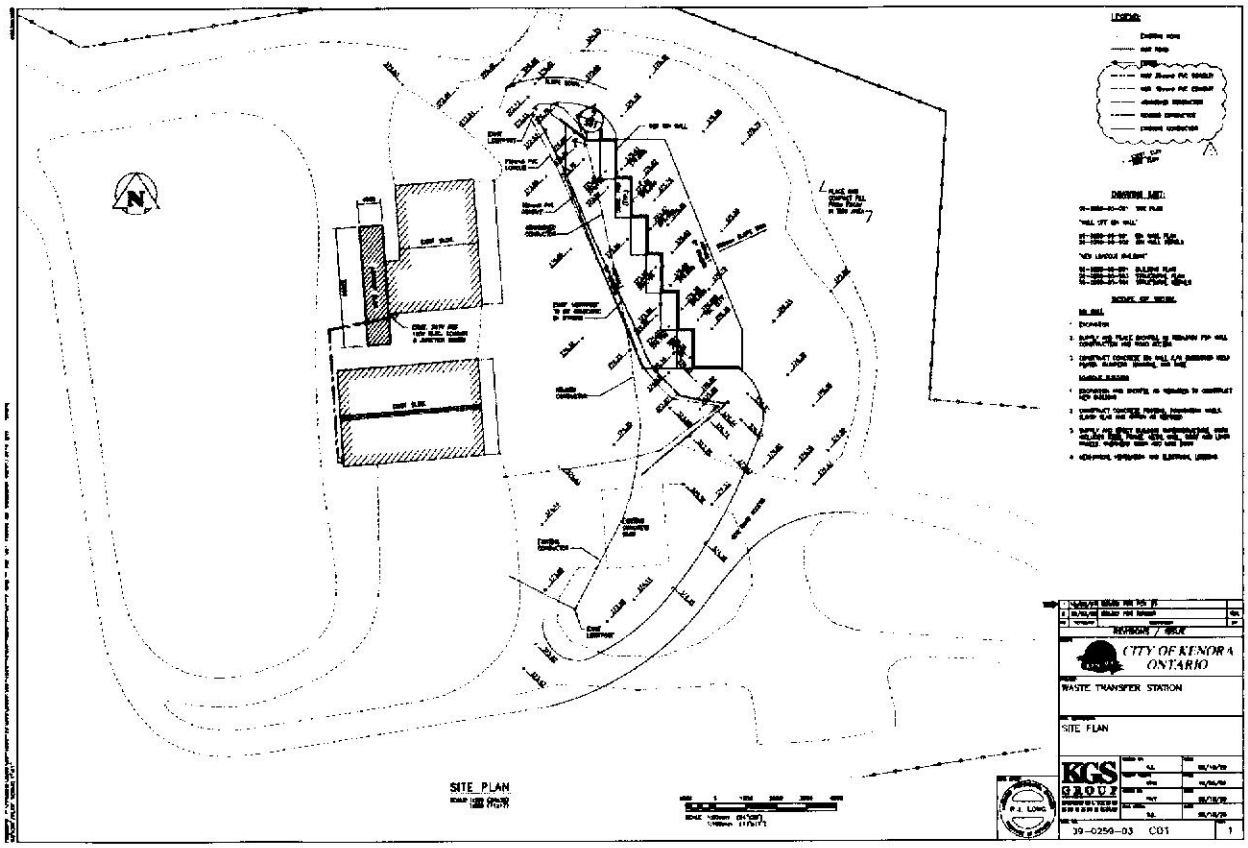
## Best Practices

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

- Optimization of operations in collections and processing
- Multi-municipal planning approach to collection and processing recyclables.

# Appendix "A"
## Project Images

Site Plan



Structural Work in Progress

As Built

Bunkers Showing Trailer Loading Rear Access Door

Compaction Trailer and Tractor in Operation

# Appendix "B"
## Project Cost Summary

City of Kenora
Self Packing Trailer & Transfer Station Upgrade
Project#187

| Date | Supplier | Invoice # | Description | Amount (net of GST/HST rebate) |
|---|---|---|---|---|
| Dec 31/09 | KGS Group | 40763 | Design Services | $2,135.50 |
| Nov 30/09 | KGS Group | 40083 | Design Services | 2,174.00 |
| Oct 31/09 | KGS Group | 39543 | Design Services | 1,547.00 |
| Jan 31/10 | KGS Group | 40911 | Design Services | 8,367.00 |
| Mar 4/10 | Daily Miner & News | 90/086467 | Publication-Transfer Station Recycle | 197.12 |
| May 11/10 | City of Kenora | 2010-0083 | Building Permit | 627.00 |
| Apr 28/10 | Acklands | 6003 0304288 | Materials & Supplies | 14.83 |
| May 2/10 | Jim LeCain Electric | 6478 | Disconnect Wiring | 195.00 |
| Oct 13/10 | Nexgen Municipal | 001220 | Deposit for Trailer | 32,975.20 |
| | | 001220 | Balance of Trailer Purchase | 134,802.62 |
| Apr 28/10 | Larry Yanchishyn Building Supp | 347424 | Materials & Supplies | 203.52 |
| May 26/10 | Jarnel Contracting | 2614 | Progress#1-redesign recycling bldg | 47,500.00 |
| Apr 30/10 | KGS Group | 42229 | Design Fees | 3,073.00 |
| May 31/10 | KGS Group | 42614 | Design Fees | 4,187.00 |
| Jly 2/10 | Purolator | 409052594 | Freight charges | 27.08 |
| June 30/10 | DST Consulting Engineers | 93485 | Materials Testing & Inspection | 1,067.50 |
| June 30/10 | Jarnel Contracting | 2644 | Progress#2-redesign recycling bldg | 92,000.00 |
| July 28/10 | Jarnel Contracting | 2662 | Progress#3-redesign recycling bldg | 33,379.70 |
| Aug 30/10 | Jarnel Contracting | 2683 | Progress#4-redesign recycling bldg | 53,777.10 |
| Aug 31/10 | KGS Group | 44063 | Phase 3000 Contract Administration Services | 520.00 |
| Sept 30/10 | Jarnel Contracting | 2718 | Remove steel bin | 4,117.50 |
| Sept 30/10 | DST Consulting Engineers | 93756 | Materials Testing & Inspection | 87.77 |
| Oct 28/10 | CPL Systems Canada | 024/40017076 | Install Groeneveld Auto Greasing System | 3,225.76 |
| Oct 31/10 | Jarnel Contracting | 2750 | Progress#5-redesign recycling bldg | 64,012.87 |
| Nov 22/10 | Kenora Hydro | 0436 | Install Light Pole | 743.81 |
| Nov 26/10 | Jarnel Contracting | 2772 | Progress#6-redesign recycling bldg | 3,556.46 |
| Dec 16/10 | Jarnel Contracting | 2794 | Extra Work completed @ Transfer Station | 3,646.56 |
| Nov 26/10 | Jarnel Contracting | 2773 | Release of holdback | |
| | | | | 498,160.90 |

*** Expenses are net of GST/HST Rebate
Taxes on expenses incurred prior to July 1 are subject to 100% rebate
Taxes on expenses incurred on or after july 1 are subject to a 100% rebate on the Federal portion and 78% rebate on the Provincial portion

**End of Document**