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THE MUNICIPALITY OF WHITESTONE
SOLAR POWERED COMPACTORS PROJECT
CIF Project #281

Executive Summary

Communities in the northern region of Ontario, specifically the Municipality of Whitestone, are confronted with unique waste management issues such as seasonally fluctuating populations, large rural road networks and long distances to recycling material processing facilities and markets. These obstacles present operational and economic challenges for the Municipality's recycling program. The Municipality of Whitestone, in association with Waste Diversion Ontario (WDO), The Continuous Improvement Fund (CIF) and Stewardship Ontario entered into an agreement to install equipment to improve efficiency and reduce transportation costs at the Municipality's Landfill sites.

Based on the costs of transporting recyclable materials for processing and the amount of trips required to satisfy the materials generated by the Municipality the following equipment additions were made at the Landfill Sites:

- 4 RJ 225 "Greenbilt" Solar Powered Compactors
- 8 40-yard Receiver Bins
- 2 Generators

These new additions dramatically increased the efficiency of the Municipality's recycling operations regardless of the fluctuating nature of the waste management variables in the Municipality. The key area of improvement is the reduction of transportation costs which has a desired corollary of reducing greenhouse gases.

Over a sample four month period during 2010 without the compactors and the same sample period during 2011 with the compactors the benefits of the new equipment has already paid huge dividends. When the two periods are compared, the Municipality moved significantly more recycling materials with fewer lifts with the new equipment installed. During the months without the compactors and new bins, the Municipality's invoices for recycling totalled \$12,353.38, contrasted by the four months with the compactors the Municipality's invoices for recycling totalled \$2,467.07 for a net savings during the period of \$9,886.31.

The chart below illustrates the four month comparison period:

DATE	RECYCLING FEES
January 2010	\$ 2,804.64
February 2010	\$ 2,243.97
March 2010	\$ 3,941.29
April 2010	\$ 3,363.48
TOTALS	\$12,353.38
January 2011	\$ 0.00
February 2011	\$ 0.00
March 2011	\$ 517.86
April 2011	\$ 1,949.21
TOTALS	\$ 2,467.07

Background:

The Municipality of Whitestone was formed on January 1, 2000 as a result of the Central Parry Sound District Restructuring Commission. The formation of the Municipality of Whitestone united Hagerman Township with the geographic townships of Burton, East Burpee, McKenzie, Ferrie and part of Croft.

The Municipality of Whitestone is a rural, residential and recreational municipality located on Highway 124 approximately 40 km northeast of Parry Sound.

The Municipality of Whitestone has a year round population of 1,030 persons with approximately 77% of the 1,678 households in the municipality being seasonal. The area of the Municipality is 91,937 hectares and consists of 106.45 kilometres of road. The Municipality is serviced by two landfill sites which are located at 5 Aulds Road and 52 York Street. The current landfill site hours are:

Landfill Site Hours
Summer Hours (May Long Weekend – Thanksgiving Weekend)
Tuesday, Thursday, Saturday 9 a.m. – 6 p.m.
Sunday & Holiday Monday 10 a.m. – 7 p.m.
Winter Hours (Thanksgiving Weekend – May Long Weekend)
Tuesday, Thursday, Saturday 12 noon – 5 p.m.

Maintenance:

Upon completion of the installation of the solar powered compactors and forty yard roll off bins a few trouble shooting initiatives took place. The compression rate of the compactors was adjusted to maximize capacity, as well as adjustments to the solar panels. The project proceeded and is operating without inefficiencies.

Labour:

The compactors do not directly reduce labour time. However, the compactors do allow our landfill site attendants to closely monitor the amount of material in the roll-off bins, which allows recycling lifts to be scheduled accordingly in a precise manner. Thus, the landfill site is not interrupted by BFI trucks removing roll-off bins at a high frequency and the bins are inconsistently filled.

Conclusion:

The purchase and installation of the solar powered compactors and forty yard roll-off bins will allow the Municipality to provide relief to the environment and recycling management budgets for years to come.