

## **CIF Project #880 – Beaumen Waste Management Systems**

### **Project Background**

With CIF funding support, Beaumen Waste Management Systems (BWM) undertook a project to modernize its private sector MRF in Eastern Ontario by increasing and upgrading its mechanical processing abilities. Currently serving an area of approximately 4,750 square kilometres in Eastern Ontario, the objective of the project was to provide local municipalities with cost competitive and stable processing capacity.

The project involved replacing a primarily manual sortation operation with modern, mechanized sortation equipment and increasing its operating capacity to approximately 30,000 tonnes per year. The new configuration was intended to allow the facility to take both single and dual stream materials.

As part of the funding agreement, BWM was to provide municipalities with a \$0 per metric tonne processing fee (subject to not accepting expanded polystyrene or plastic film) for a 5-year period. This, in turn, was expected to result in a savings (on average) of \$60 per tonne processing fee for feeder municipalities. CIF's financial contribution to the project was \$50,000.

### **Summary of Results**

The MRF was reconfigured to include separate tip floors for receiving dual stream and comingled feedstocks. When processing dual stream material, the fibres would be processed on the new fibre line separating the various grades of paper while removing outthrows and prohibitives. As well, the container stream would be processed first by a new screen to separate any fibre material (and direct it to the fibre process), followed by magnetic, optical and manual sorting of the remaining containers. In this configuration, the MRF could operate at 17 tonnes/hour. Similarly, when processing single stream feedstock, the material would be processed via the container line following the same process but at a slower speed (10 tonnes/hour) to ensure adequate material separation and recovery. By comparison, the previous manual configuration operated at a rate of 3.5 tonnes/hour.

Rather than procuring new processing equipment, BWM, in consultation with an independent consultant, purchased used equipment. The installed equipment consisted of fibre screens, optical sorting equipment (for plastics), a trommel (for glass clean-up) along with various conveyors and electrical equipment.

While the acquisition process of used equipment saved BWM significant costs, the installation encountered some engineering challenges. It is recommended, therefore, that operators considering the use of used equipment ensure they have knowledgeable support to overcome initial installation issues. Consideration should also be given to the fact that used equipment can be expected to have higher equipment maintenance costs over its life expectancy than if the equipment was purchased new.

Comparing the first year of operation of the retrofitted MRF to that of the last year of operation prior to the retrofit, the MRF went from processing 3,750 tonnes annually to over 15,000 tonnes. The retrofitted MRF now has the capability of processing both dual and single stream feedstocks, provides operational flexibility and has been successful in offering lower processing costs to local municipalities who opt to utilize the facility.

Over the 5-year term of the agreement between CIF and BWM, this investment is expected to result in approximately \$565,000 in savings for Eastern Ontario municipalities.