

# CIF 881

## Municipality of West Elgin Depot Upgrade



MUNICIPALITY OF  
**West Elgin**

Final Project Report, November 1, 2019

Municipality of West Elgin

CIF Project number 881

Acknowledgement:

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This Project has been delivered with the assistance of Resource Productivity and Recovery Authority's Continuous Improvement Fund, a fund financed by Ontario municipalities and stewards of blue box waste in Ontario. Notwithstanding this support, the views expressed are the views of the author(s), and Resource Productivity and Recovery Authority and Stewardship Ontario accept no responsibility for these views.

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## Executive summary

This is the final report of a depot upgrade initiative implemented by the Municipality of West Elgin. Financial and technical assistance was provided by the Continuous Improvement Fund (CIF) through CIF project #881 in completing the project.

The municipality operates a depot collection system for blue box materials at the West Elgin landfill site as a compliment to the residential curbside collection program. Historically, this system had been contracted out to a service provider who rented the municipality bins for onsite collection and hauled materials to the local material recovery facility for processing. The municipality completed a financial analysis of the operations and identified an opportunity to reduce costs if the service was brought in house. Transition to the municipally run program began in 2015.

The municipality began site preparation work at the landfill during the spring/summer of 2015 and purchased the 30-yard recycling collection bins in 2016. New signage was developed and installed at the site and on the bins to help residents participate in the blue box program. The total costs of completing the work amounted to \$49,000, approximately \$1,200 over budget due to additional costs incurred in the site preparation process. Two key learnings specific to the projects that were unexpected by staff:

- Bin modifications were required to allow fiber materials to slide out unencumbered during tipping;
- New two-step moveable platforms were purchased and are in use to help older and/or disabled residents drop off materials into the bins.

Staff are pleased with the new system which allows West Elgin to utilize staff and equipment in a more cost effective manner and has had the impact on reducing blue box program costs. Resident feedback on the new program has been very positive and this is evidenced by the jump in diversion of blue box materials at the site which has risen nearly 20%. The new system is estimated to have saved the municipality \$16,000 annually resulting in a payback on the investment in just over 3 years.

The municipality of West Elgin would like to thank the Continuous Improvement Fund, and Stewardship Ontario for their support in upgrading the blue box depot collection program operated at the West Elgin landfill site. The project has been a resounding success, improving diversion of blue box materials while reducing program costs.

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# 1 BACKGROUND

## 1.1 Community profile

The rural municipality of West Elgin is located in the southwest of the province approximately 70 km southwest of London Ontario. The two main population centres within the township are Rodney and West Lorne. Additionally, the municipality also includes the smaller communities of Churchville, Clachan, Crinan, Eagle, Kintyre, New Glasgow, Port Glasgow and Twin Valleys.

## 1.2 Waste management system

In late 2014, Municipal Staff began re-organizing how solid waste is managed throughout the Municipality of West Elgin. Municipal Staff is currently implementing the reorganization of Solid Waste Management practices in a way that is cost-effective, environmentally sound and socially acceptable to meet the needs of the community.

With a combined population of 5,200 in the villages and in the rural parts of the municipality, West Elgin has taken steps to unify garbage and recycling services. A two stream blue box curbside service is now offered to residents in the villages of Rodney and West Lorne, while rural residents have access to a blue box depot service at the local landfill. Materials from both the curbside and depot program are delivered to the City of London owned material recovery facility (MRF) for processing and marketing services. Waste Connections of Canada is contracted by the municipality to complete the collection of blue box recycling from households.

In 2015, the municipality restructured landfill operations, taking over operation of the West Elgin landfill from a private contractor to complete solid waste management using municipal staff and equipment. The depot collection program had previously been operated by the contractor and now too would be operated by municipal staff.



Figure 1: Municipality of West Elgin highlighted in Red

### *1.3 Program challenges*

The depot collection program had previously been operated by the contractor in charge of landfill operations. This system included the collection of materials as described:

- Glass was stored in steel ‘tubs’ that had to be scooped out and loaded in a truck for transport
- Cardboard (OCC) was stored in a pile (not sheltered from the elements), then compacted into bales and loaded in a van trailer for transport
- Newspaper was kept separate in steel bins which had to be placed in trailer for storage/shipping
- Plastic and cans were stockpiled in large bunkers until there was enough for a dump trailer load and then shipped

Following a financial review of the program, municipal staff determined it would be more cost effective to bring this service in house, by purchasing 30-yard recycling bins and then hauling blue box materials using existing vehicles, equipment and staffing.

The municipality submitted an application to the Continuous Improvement Fund (CIF) in the spring of 2015 for financial support in completing this transition. CIF project 881 provided grant funding to the municipality for the purchase of the new bins, site upgrades at the landfill, and new signage to support resident participation in the blue box program.



*Figure 2: Cardboard stored in open area under previous system*

## 2 RESULTS

### 2.1 Implementation

In the spring of 2015, staff completed site upgrades at the West Elgin landfill to facilitate the new bin collection program. General site improvements, including the stripping and levelling of the site using heavy equipment and adding aggregates to finish the pads where bins would be placed were completed by municipal staff during the months of May and June.

At this time, a new municipal roll-off vehicle was ordered that could handle tasks for various departments within the municipality including the hauling of blue box materials to the MRF. Procurement of this new roll-off system vehicle was made through Viking Cives Ltd. and took approximately one year to get the truck for municipal services. The vehicle was received in March, 2016 and bins were manufactured by a local company, Wire-Tie Manufacturing Company Ltd, to be supplied for April, 2016. All four of the recycling bins purchased were in use as of May, 2016.

To help ensure strong and effective participation in the program, new signage was prepared and installed on the collection bins. (see figure 3 below). The depot collection program, similar to the curbside, collects materials in two streams – containers and paper products. The new signage was developed using photographs of common recyclables entering the program provided by the City of London.



Figure 3: New bin signage for two stream program

## 2.2 Project tracking – Measuring & Monitoring

Over the course of the implementation period, the costs of operating the depot collection program have been monitored to identify the financial impact of the project. Additionally, the amount of material collected through the program has also been tracked.

During 2016, the municipality transitioned to a new accounting system which more specifically identifies the costs of managing blue box materials.

## 2.3 Project results

West Elgin tracks labour, amortization, and vehicle operating costs for the blue box depot program and further breaks this information out to identify the costs of moving materials from the landfill to the MRF for recycling. Table 1, below, presents these costs on a per tonne basis over the monitoring period. During 2017 and 2018 (to date) 76 and 71 tonnes of blue box materials have been collected from the depot site, respectively.

*Table 1: Calculation of savings generated from new bin system implementation.*

	Description	Per tonne
Pre	Previous contract	\$ 438.56
Post	Since implementation of new bins	\$ 221.44
Per tonne savings		\$ 217.12
Estimated annual tonnes of recycling		73.5
Estimated annual savings		\$ 16,067
Project costs		\$ 49,024
Payback period (years)		3.05

Feedback from the City of London and their MRF operating contractor have confirmed the material collected from our depot site is at the required low contamination standards and as such the municipality has incurred no penalties.

The calculated payback period on the costs of purchasing the recycling bins, signage and completing site preparation work is estimated at 3.05 years.

## 2.4 Analysis of results

Staff are pleased with the financial returns of the project, but are more encouraged by the participation of residents in the enhanced depot program. The previous collection bins were not aesthetically pleasing and as a result participation in the program may have suffered. Public feedback on the new collection system has been only positive. The new site, bins, and promotion and education has been well received and the tonnage of blue box materials diverted from landfill reflects this. Prior to the new system, typically the municipality would receive/collect approximately 60 tonnes of blue box materials at the depot. This has increased nearly 20% to the levels observed in 2017 and 2018.



## 2.5 Learnings

Problems were encountered in the first few months of using the fiber bins. When material was brought to the MRF for tipping, the back of the bin container roof would hold onto cardboard and not let it fall freely to the floor. Staff had to enter the bin to dislodge this material which presented a safety concern and meant potentially material could be stuck in the bin in future tips. The two fiber bins were returned back to the manufacturer company who built them for modifications. The manufacturer retrofitted the doors of the bins such that part of the roof actually swings with the doors when they open. Now there are no catch points for material to get stuck when tipped.

While the bins are ergonomically accessible for most residents, we have received feedback from some older residents that the bin access is higher than comfortable. To help older residents and/or people of disabilities, new yellow two step moveable platforms were purchased and are now in use on site.

## 3 Project budget

The budget for the depot site upgrades under CIF project 881 at the West Elgin landfill and the actual costs incurred to complete the work are presented in table 2, below. For the most part, the project was completed on budget. However, the costs to complete site preparation work were greater than anticipated as the site levelling process required greater resources than estimated.

*Table 2: Budgeted project costs versus actual costs incurred.*

Items	Budget	Actual
29 yd collection bins	\$ 40,000	\$ 38,131
Signage	\$ 2,000	\$ 629
Site work clearing, grading and aggregates	\$ 3,000	\$ 9,764
Monitoring, measurement and final report	\$ 500	\$ 500
Contingency	\$ 2,275	
<b>total</b>	<b>\$ 47,775</b>	<b>\$ 49,024</b>

The recycling bin cost includes the purchase cost and additional costs around \$600 to modify the bins to allow for fiber products (old corrugated cardboard) to slide out when tipping materials at the MRF. Signage was prepared to CIF best practices, but was purchased at a better price thanks to a cost effective local supplier the municipality often works with for projects of this nature.

## 4 Conclusions

In conclusion, the Municipality would like to thank the Continuous Improvement Fund, and Stewardship Ontario for supporting the depot upgrade and purchasing the new recycling collection containers for the blue box depot program located at the West Elgin landfill location.

Staff are very pleased with the outcomes of the project as more blue box material is being diverted from landfill and program costs have improved with the use of the new bins and other changes in management of the operation.

Resident feedback on the program has been overwhelmingly positive. The move to the new bins has drastically improved the aesthetics, and therefore reduced perceived barriers, of the depot program.



*Figure 4: Upgraded depot recycling program.*