



Grey Bruce Sustainability Network Inc.

Brockton Film Plastics Recycling Pilot Project

A report to the Brockton Environmental Advisory Committee

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Brockton Film Plastic Recycling Project

Introduction

The Municipality of Brockton is committed to maximizing the lives of its landfill site as a way of reducing landfill costs and enhancing protection of the environment. To that end, Brockton continues to develop new landfill diversion programs that preserve landfill capacity while ensuring diverted materials are routed to the appropriate recycling and reuse programs. Recent diversion and recycling programs have included e-waste; styrofoam; clamshell plastics; used clothing; agricultural bale wrap; additional scrap metal depot; binder deconstruction; landfill reuse trailer and mattress deconstruction. All of these programs have been widely embraced by the public and have resulted in a significant diversion of materials from local landfills.

This report will briefly profile Brockton's new pilot project, designed to collect and recycling film plastics. The report is authored by Grey Bruce Sustainability Network with financial assistance from Bruce Power.

What is Film Plastic?

Film plastics include a wide variety of material used in the packaging of common household products. The plastics will generally be marked with a Number 2 or 4 recycling code. Please refer to the list below, which categorizes the acceptable and non-acceptable plastics for the purpose of Brockton's film plastic recycling program.

Please remove all food residue, paper/receipts, stickers and rigid plastic.

Acceptable:

- Plastic grocery bags
- Plastic retail bags (remove string ties and rigid plastic handles)
- Newspaper / flyer bags
- Dry cleaning bags
- Bread bags
- Milk outer bags (no milk pouches)
- Produce and bulk food bags (remove food residue)
- Frozen vegetable bags identified by a #2 or #4 recycling symbol (rinse/remove food residue)
- Fresh vegetable bags identified by a #2 or #4 recycling symbol (rinse/remove food residue)
- Plastic zipper type bags (ZipLoc® bags) (rinse/remove food residue)

- Plastic water softener / salt bags (remove rigid plastic handles)
- Toilet paper, napkin and paper towel over wrap
- Diaper and feminine hygiene product outer bags
- Bottled water / pop case over wrap
- Electronic equipment plastic bags identified by a #2 or #4 recycling symbol

Unacceptable:

- Plastic bags identified with #7 recycling symbol
- Soiled plastic bags and plastic film (food, dirt)
- Plastic bags or plastic films that have been in contact with meat or dairy

- Biodegradable, degradable or compostable plastic bags and plastic film
- Cellophane (clear crinkly/non-stretch plastic)
- Food/cling wrap (e.g. Saran™ wrap)
- Cheese and meat wrap (packaging)
- Chip, cookie bags or chocolate bar wrapping
- Pasta bags

- Cereal and cracker box liners
- Beverage six pack plastic rings
- Plastic bubble wrap
- Plastic shrink wrap from boxed products
- Garden product bags (e.g., soil, mulch, etc.)
- Boat wrap
- Agricultural wrap

(Source: Brockton Waste Audit 2010)

Why should we recycling film plastics?

The average household in Brockton will generate 1 curbside garbage bag of film plastic each month. This represents approximately one sixth of all residential waste, by volume. ¹

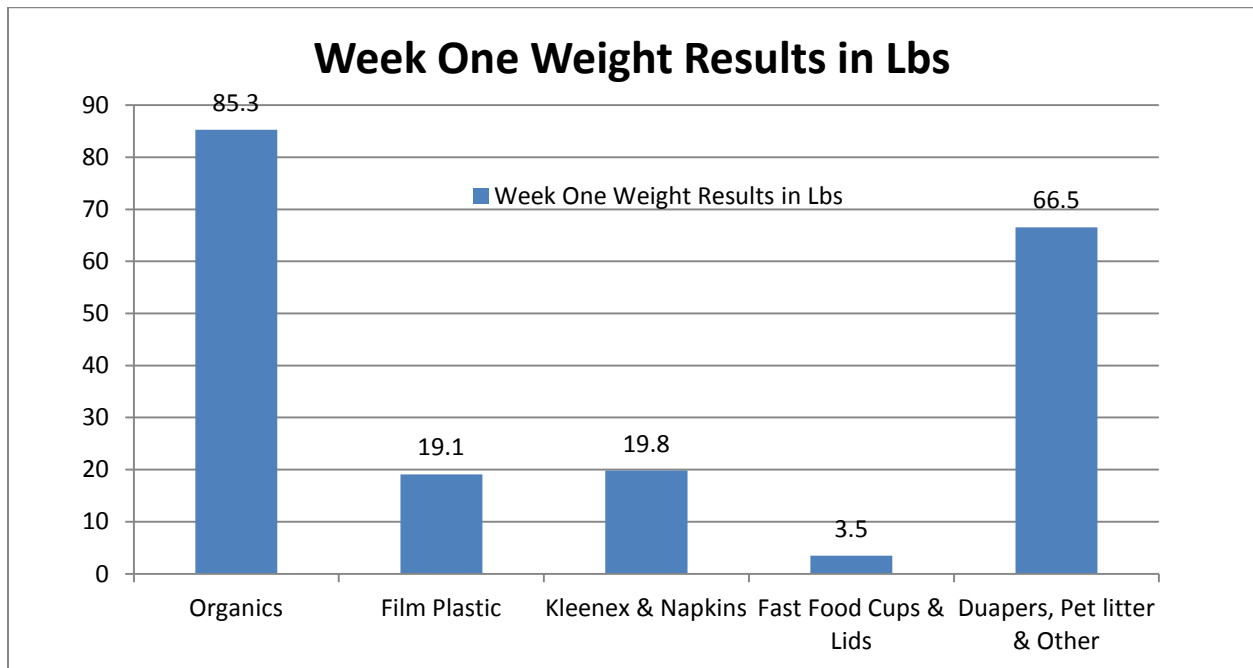


Figure 1 Brockton Waste Audit: Breakdown by Weight

¹ Brockton Waste Initiative 2010



Figure 2 Brockton Waste Audit: Breakdown by Bags

Currently, un-recycled film plastics consume a considerable volume of landfill capacity with a material that will not biodegrade for thousands of years. Film plastic waste poses a major threat to ecosystems and wildlife as remnants of plastic are consumed in the food chain. These plastics are routinely found in the digestive tracts of fish and birds which are ultimately consumed by human populations.

The following video gives a glimpse into the disastrous consequences of plastics in the environment.

World biggest garbage dump - plastic in the Ocean - VIDEO

Control **CLICK ON LINK:** <http://www.youtube.com/watch?v=XxNqzAHGXvs>



A number of communities throughout Ontario are currently recycling film plastics as individual municipalities or in regional collaborative programs. Brockton would be the first community in Bruce County to undertake a recycling program of this nature. Brockton residents are eager to participate in the recycling of film plastics provided that the program is cost effective and compliance is straight forward and easily achieved.²

Is There a Market for Film Plastics?

Film plastics are recycled throughout North America based on the commodity value of the material and stewardship funding. The stewardship funding, provided by Stewardship Ontario, is intended to offset some of the cost of recycling faced by municipalities. This funding is derived from the industrial manufacturers of the packaging material.

² Based on anecdotal discussion with users of current recycling depot.

Where are the film plastic recycling facilities?

There are 5 plastic recyclers in Southern Ontario with the majority located in the Greater Toronto Area (GTA). **EFS Plastics** is located in Listowel, Ontario 45 kilometres from Walkerton. EFS's new "state of the art" recycling facility is Brockton's best option for film plastics recycling. Currently, the plant accepts material from several municipalities throughout southern and central Ontario.

How would residential film plastic be collected?

There are two widely accepted methods for the collection of residential recyclables. The first of these is "**curbside pickup**" and secondly, "**deposit depots**". For the purpose of film plastics recycling in Brockton, both methods have been evaluated.

While curbside collection of film plastics would be the most convenient for residents, it does not appear to be a viable option for Brockton. In most municipalities where film plastics are recycled, the collection is included in the curbside "blue box" pickup. In Bruce County, blue box recycling is provided by the Bruce Area Solid Waste Recycling Association (BASWRA), which currently does not have the capacity to recycle film plastics. Curbside collection by a private contractor has been investigated with an estimated cost of \$700 per pickup for the Walkerton Ward alone³. The cost of curbside collection in the rural wards of Brant and Greenock would far exceed the per household costs in Walkerton, therefore making the program financially unsustainable.

The utilization of film plastic collection depots would appear to be the only financially sustainable option for film plastic recycling in Brockton. These depots could be incorporated into recycling collection sites currently in use at the Walkerton MTO Recycling Centre and the Brant and Greenock landfills. These sites currently host collection of recyclables and as a result no change in habits or behaviour would be required by residents with the addition of film plastic recycling, other than the source separation of the materials.

Film plastic collection containers will be provided by Trash Taxi, a local recycling company, at a cost of \$100 per collection site each month. See below:

"Grey-Bruce Trash Taxi Inc. will supply covered lockable 8 yard containers at 3 locations will provide minimum of 1 lift per month , bale the material and store and ship it from our facilities for total cost of \$100.00/bin. Any monies recovered from the sale of the material would be payable to the municipality. Lift charges could be reduced by \$20.00/lift if the municipality bought there own bins. Please let me know if I can be of any more help". (email from Murat Emiroglu, Grey-Bruce Trash Taxi Inc.)

Pre Transport Baling of Plastics

As film plastic has an extremely low "mass to volume" ratio, the material must be compacted in order to make shipping costs sustainable. Brockton does not currently have baling equipment and the cost of a

³ Trash Taxi quote.

suitable baler would range for \$30- \$35,000. The purchase of baling equipment is not feasible at this time and should not be considered until the Film Plastic Pilot Project has proven to be effective and sustainable during its first year of operation. During the pilot project, the baling of the film plastic would be undertaken by Trash Taxi at its facility near Elmwood, Ontario. The cost of baling will be included in the \$100 per month cost for collection and pickup of the bins.

The collection bins will have a capacity of 6 metres each. These bins will be similar to those used to collect corrugated cardboard at the MTO site. The bins will be locked on the top to prevent access or undesirable materials and will feature small, round portals on the sides for the depositing of film plastics. As these bins will remain permanently at the depots information describing acceptable materials will be directly attached to the containers.



Figure 3 Typical Bale of Film Plastic

Transportation to the Recycler

The transportation of the bale of film plastic will occur when a sufficient quantity of material has been collected to make cost as economical as possible. The transportation of the film plastic could be co-shipped with other recyclable materials such as corrugated cardboard or film plastic generated at industrial facilities within Brockton. It has been estimated that collection of a sufficient volume of film plastic for transport will take between 6 months and 1 year.

Program Costs

The major costs associated with the film plastics recycling pilot project include collection, baling and transportation to the recycler. The Brockton Environmental Advisory Committee (EAC) has agreed to fund the cost of the collection bins and baling for the first year of the program. These funds have been budgeted into EAC's 2014 Fiscal Year.

It is not anticipated that transportation costs will be incurred for at least 6 months after the start of the program. It is anticipated that these costs will be offset by funding from Stewardship Ontario which is currently in negotiation. Brockton does not currently receive financial support from Stewardship Ontario as BASWRA operates the Blue Box recycling program and therefore resources are directed towards BASWRA. The following letter (Figure 4) from BASWRA indicates that they do not currently intend to

operate a film plastics recycling program and would therefore have no objection to Stewardship funding flowing directly to Brockton for this project.

The commodity value of the recycled film plastic fluctuates and is not anticipated to be significant. Therefore, the program should not rely on the commodity value (\$) to offset costs.

While future funding from Stewardship Ontario is yet to be determined, it is anticipated that funding support will move towards 100% of recycling costs.

Pre-Program Promotion

Prior to the launch of the Film Plastics Recycling Project it is essential that information regarding the purpose and logistics of the program be effectively communicated to Brockton residents. This Pre Promotion should include a dedicated web page on the Brockton Website, including a list of acceptable and unacceptable materials, collection site locations, and the rationale behind the program. Additional outreach should be made through newspaper ads, radio and TV interviews, and social media opportunities. The program promotion should be underway for at least one month prior to the start of film plastic collection. Estimated start date for the film plastics program is between April 15 and May 1, 2014.

NOTE: See Figure 5 for pre program consultation detail.

Conclusion

The implementation of Brockton's Film Plastic Recycling Project will extend the life of local landfills and reduce overall Municipal waste management expenses. This program will also significantly reduce the quantity of harmful plastics released into the natural environment.

Prior to the launch of the pilot project, a comprehensive outreach and education program must be undertaken to ensure successful public compliance.

A Program Status Report should be delivered by the Fall of 2014 reviewing issues of public compliance, program funding, and the logistics of collection, baling, transportation and recycling.

The environmental health and economic prosperity of tomorrow can only be achieved through the positive steps we take today.

Figure 4 Letter from BASWRA



R.R. #1, 126 Concession 14 • Southampton, ON • N0H 2L0
Telephone (519) 797-5557 • Fax (519) 797-5472 • www.brucerecycling.com

January 23, 2014

Waste Diversion Ontario
4711 Yonge Street, Suite 1102
Toronto, Ontario
M2N 6K8

The Municipality of Brockton is proposing a pilot project whereby film plastics would be brought to their own facility and processed for recycling. The current blue-box program in Brockton is conducted by Bruce Area Solid Waste Recycling which encompasses many municipalities in Bruce County.

Bruce Area Recycling does not accept film plastics in the program at this time and although we may in the future, we encourage Brockton to conduct this test project.

Any funding that may be allowed through Waste Diversion Ontario for this project should go directly to The Municipality of Brockton.

Sincerely,

A handwritten signature in black ink, appearing to read "Vince Cascone".

Vince Cascone
General Manager
Bruce Area Solid Waste Recycling

Figure 5 - Pre Program Consultations

Pre Program Launch Consultations

The following organizations and agencies were consulted in advance of preparation of this report.

Brockton Environmental Advisory Committee (EAC)

Program planning, logistics and funding.

County of Bruce

Consultations regarding program logistics and possible County wide expansion of program.

Bruce Area Solid Waste Recycling Association (BASWRA)

Consultations regarding Stewardship Funding for non Blue Box recyclables.

Stewardship Ontario

Exploration of stewardship funding for film plastic recycling.

ESF Plastics

Discussion regarding acceptable recycling materials in municipal programs.

Trash Taxi

Developing an agreement for collection bins and baling of plastics.

Bruce Power

Partnership with GBSusNet in report development and potential County wide recycling programs.

Hanover Walkerton Waste Management Committee

Discussions regarding inclusion of joint Hanover Walkerton Landfill in the film plastics recycling program.

Energizer Canada

Hosted test-bale and discussion regarding potential co-shipping of film plastics for recycling.

Municipality of Kincardine

Discussions regarding participation in film plastics recycling program.

Bruce Sales

Investigation of the cost of curbside pickup of film plastics.

Grey Bruce Sustainability Network Inc.

Partnership with Bruce Power and EAC in development of film plastics proposal.