



May 2011

WASTE RECYCLING STRATEGY



TOWNSHIP OF ALFRED AND PLANTAGENET

Waste Recycling Strategy

Township of Alfred and Plantagenet
205 Old Highway 17, P.O. Box 350
Plantagenet, Ontario
K0B 1L0

Prepared with assistance from the Continuous
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APPENDIX A

Waste Recycling Strategy – Resident Survey and Summary of Responses



1.0 INTRODUCTION

Waste Diversion Ontario (WDO) has identified having a current waste recycling strategy as a Best Practice (KPMG, 2007) and has begun tracking whether municipalities have a current waste recycling strategy through its annual request for information on municipal recycling programs. Municipalities without a current waste recycling strategy will be penalized by receiving less annual Blue Box program funding. The waste recycling strategy helps the municipality plan how a municipal waste program will effectively and efficiently recycle its Blue Box materials into the future.

WDO defines a waste recycling strategy as being current if it has been prepared or updated within the past five years.

This Waste Recycling Strategy was developed by Golder Associates Ltd. (Golder) on behalf of the Township of Alfred and Plantagenet (the Township) and with financial support from the Continuous Improvement Fund (CIF) and based on the CIF's *Guidebook for Creating a Municipal Waste Recycling Strategy*.

The majority of statistics used for the calculation of the diversion rates in this report were sourced from the summary of the 2009 Municipal Datacall (2009 Datacall), published by the WDO and available on-line through the WDO website (www.wdo.ca).

1.1 Waste Recycling Strategy Purpose

This Waste Recycling Strategy was initiated by the Township to develop a plan to increase the efficiency and effectiveness of its recycling programs and maximize the amount of Blue Box material diverted from disposal.

Specifically, the purpose of the Waste Recycling Strategy is to:

- Maximize WDO Best Practice funding;
- Identify and evaluate practical options to increase diversion of Blue Box materials;
- Develop an implementation plan to reach defined Blue Box diversion targets, including monitoring of progress;
- Prepare for the closure of the Township's Ward 2 landfill site in 2012 and assess the potential to establish a recycling depot at the operating landfill (Ward 1);
- Preserve the remaining site life of the Township's Ward 1 landfill site by increasing waste diversion; and,
- Plan for future population growth.

1.2 Summary of Waste Management Programs

The Township currently provides curbside municipal collection of solid waste and comingled Blue Box materials through a private collection contractor. A weekly bag limit of five bags per unit applies to residential dwellings, while a ten bag limit per unit is enforced for commercial, institutional and farm premises.

Containers used for placing Blue Box materials at the curb must not weigh more than ten pounds when empty. The Township also accepts clear recycling bags as a substitute to the Blue Box container.

Currently there is no way to differentiate between residential and commercial waste generated within the Township delivered by the collection contractor. Based on the observations of the collection contractor, it is estimated that commercial waste constitutes approximately 10% of the total amount of waste collected in the Township.



Waste is currently disposed of directly in one of two municipally-owned landfills. The landfill site of the former Township of Alfred is used for residents of Ward 1 and 3 (the Ward 1 site) and the landfill site of the former Township of North Plantagenet is used for residents of Wards 2 and 4 (the Ward 2 site). Although there are currently two active landfills in the Township, the service life of the Ward 2 site is predicted to end in 2012 (Landfill Operations Report, 2009). With the closure of the Ward 2 landfill site, and only one active landfill site remaining (i.e. the Ward 1 landfill site), the Township acknowledges the value in preserving the remaining life of the Ward 1 site.

The Township's waste management by-law (#2009-55) imposes a user fee for the disposal of material brought directly to the landfills. The user fee is based on vehicle type according to Schedule "A" of the by-law. However, notwithstanding the above, there is no charge for domestic waste brought to the site on the last Saturday of each month as well as the complete week comprising the last Saturday of the months of May and September. Enforcement of the by-law is primarily the responsibility of the landfill attendant.

The Township has designated special disposal areas within each of the landfill sites for metals, tires and wood products; however there is currently no Blue Box recycling depot at either of the landfill sites. The Township is considering building a Blue Box recyclables depot as a potential future initiative.

Additional Township obligations for managing municipal waste include:

- One household hazardous waste collection event annually;
- One bulk waste (e.g. white goods) collection day annually (curbside pick-up);
- Free disposal of clean wood and brush (to be burned under circumstances described by Township permit); and,
- Scrap tire collection at each landfill (through Ontario Tire Stewardship).

The Township intends to construct enclosed areas at the Ward 1 landfill to receive tires, scrap metal, white goods and waste electrical and electronics equipment (WEEE). Clean wood and brush will be collected separately. Leaf and yard waste will also be received separately.

It is noted the Township does not accept organic materials for the purpose of composting at either of the landfill sites. Implementation of a composting program was considered by the Township, but the anticipated quantity of organic materials to be diverted from the landfill were determined inadequate at this time to justify the fees to amend the site Certificate of Approval and establish a composting facility.

The Township currently does not have a WEEE collection program in place. However, the Township will establish a WEEE collection program at both the Ward 1 and Ward 2 landfills in June 2011.

The Township currently faces a number of waste management challenges, which this Waste Recycling Strategy will help address. In particular:

- Low population density and a large service area;
- Fluctuating waste generation and diversion rates;
- Closure of the Ward 2 landfill site in 2012 (only Ward 1 site remaining active);
- Shrinking disposal capacity of remaining waste disposal site (Ward 1 site);



- Anticipated population growth, in particular in the Village of Wendover (i.e. approximately 15 semi-detached housing units are anticipated to be built in Wendover in 2011);
- Limited budget and personnel for waste management initiatives;
- Expiration of the Township's waste and recycling contract on March 31, 2012; and,
- Public and council pressure to improve waste diversion rates.

2.0 OVERVIEW OF THE PLANNING PROCESS

This Waste Recycling Strategy was prepared for the Township by Golder. Preparation of the Waste Recycling Strategy includes the following steps:

- A review of Township waste management documentation;
- Meeting with Township representatives: Marc Daigneault, Chief Administrative Officer (CAO) and Clerk, Monique Bastien, Deputy Clerk and Roch Hebert, Public Works and Roads Superintendent, to review documentation and discuss approach;
- Public notification of the Waste Recycling Strategy project through on-line survey link from Township website;
- Assessment of current waste management system and project future needs;
- Identification and evaluation of practical options for increased diversion;
- Preparation of a draft report, including an implementation plan;
- Submission of draft report to Township representatives for comment; and,
- Preparation of final report.

The next steps in this process include:

- Council endorsement of this Waste Recycling Strategy;
- Preparation of a communications plan (to receive Promotion and Education (P&E) funding); and,
- Implementation of preferred recyclable diversion initiatives.

To ensure the public and local stakeholders were able to participate in the preparation of this Waste Recycling Strategy, the Township made efforts to notify and solicit feedback from Township residents through an on-line survey and public notification of the Waste Recycling Project. For more details on our public consultation process, see Section 4.



3.0 STUDY AREA

The study area for this Waste Recycling Strategy is the Township of Alfred and Plantagenet, located in the United Counties of Prescott and Russell in eastern Ontario. The Township is approximately 392 square kilometres in area and has a population of approximately 8,113 residents (2009 Datacall). It is understood the population of seasonal residents is less than 10% and therefore all residents in the Township are considered to be full time residents. The majority of the residents are Francophone.

The Township is largely rural with a population centred mainly in the villages of Alfred, Plantagenet and Wendover. The Township also has smaller urban populations in the villages of Curran, Lefairve, Treadwell and Pendleton.

The municipal offices for the Township of Alfred and Plantagenet are located in villages of Alfred and Plantagenet.

The geographic area of the Township is shown in Figure 1.

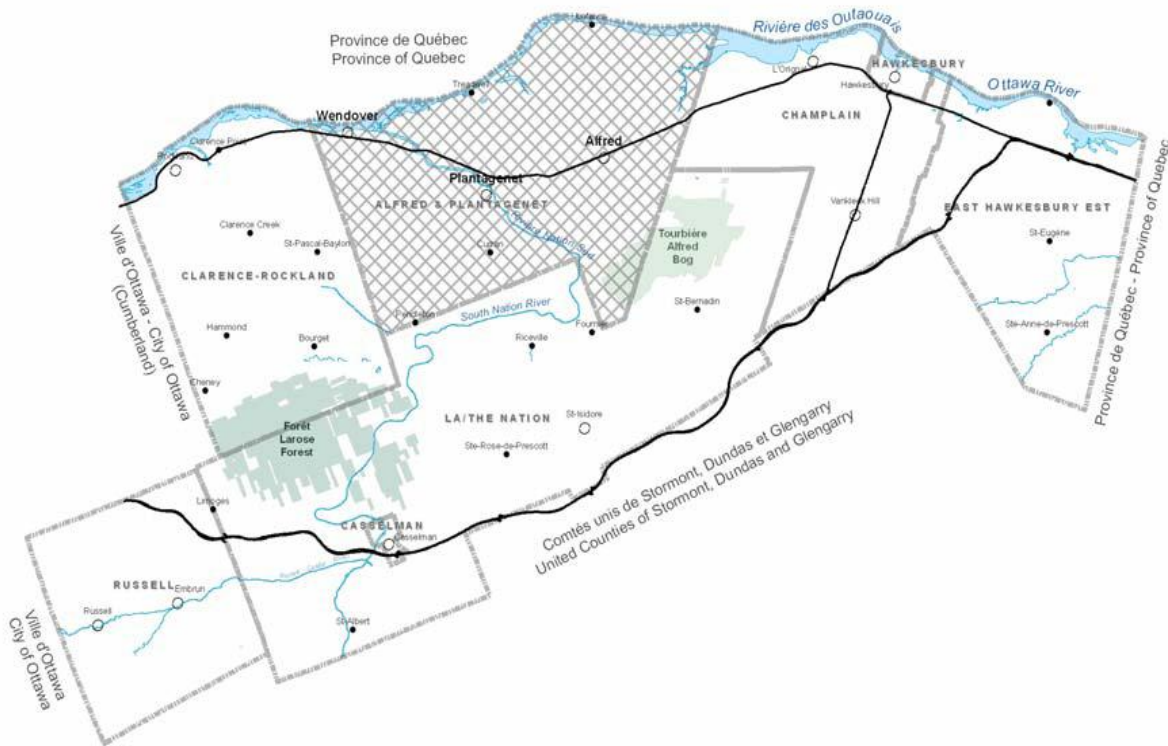


Figure 1: Township of Alfred and Plantagenet

Source: The Official Plan of the Urban Areas of the Township of Alfred and Plantagenet, BY-LAW 2010-74, July 2010



This Waste Recycling Strategy will address the following sectors:

- Residential single family dwellings (3,783 households, 2009 Datacall);
- Residential multi family dwellings (436 units, 2009 Datacall); and,
- Small local businesses.

It is noted that the number of multi-family units differs from the published 2009 Datacall numbers, which states there are 346 multi-family units, as a result of an error in the information submitted to WDO. As a result, the total number of dwellings in the Township is 3,783, not 3,693, as indicated by the 2009 Datacall.

4.0 PUBLIC CONSULTATION PROCESS

The public consultation process followed in the development of this Waste Recycling Strategy consisted of a number of activities as outlined below.

- 1) Posting of an on-line Blue Box survey, in both French and English, for residents through the Township's waste management website. Responses were accepted between March 14th and April 8th, 2011.
- 2) Submission of draft report to Township personnel and request for feedback.
- 3) Submission of final report for acceptance at Council.

Stakeholder groups included in this consultation included:

- Municipal staff;
- Township residents; and,
- Municipal Council.

4.1 Resident Blue Box Survey Responses

Only one resident responded to the Blue Box survey posted on the Township's website. A copy of this response is provided in Appendix A. The lack of response to the survey may be an indicator that not many residents frequent the Township website to obtain waste management information.

As we have observed in other small rural municipalities, electronic methods of communication (e.g. emails, websites) may not be an effective means of reaching all residents. Lack of access to a computer or the internet may be a potential reason for the low survey response and/or lack of website use.

Best practice considerations in terms of maximizing website traffic, if computer and internet access is available, include:

- Professional looking;
- Highly branded;
- Easy to navigate;
- Updated regularly;
- Easy to navigate; and,
- Highly advertised (e.g. in newspapers, flyers, etc.).



5.0 STATED PROBLEM

Management of municipal solid waste, including the diversion of Blue Box materials, is a key responsibility for all municipal governments in Ontario. The factors that encourage or hinder municipal Blue Box recycling endeavours can vary greatly and depend on a municipality's size, geographic location and population.

The specific challenges facing the Township include:

- Limited budget and personnel for waste management initiatives;
- Large geographic area and relatively small population;
- Fluctuating waste generation and diversion rates;
- Upcoming closure of the Ward 2 landfill site in 2012;
- Shrinking disposal capacity of the remaining Ward 1 landfill site;
- Anticipated population growth, in particular in the Village of Wendover (i.e. approximately 300 new units);
- Expiration of the Township's waste and recycling contracts on March 31, 2012; and,
- Public and council pressure to improve waste management programs.

5.1 Curbside Collection of Waste and Blue Box Materials

The Township currently implements a weekly curbside collection system for waste and comingled Blue Box materials generated by residents. The Township does not currently have a bag-tag or clear bag system in place; however, a bag limit program is enforced. Residents are allowed to set out a weekly maximum of five bags per unit, with the limit being increased to ten bags per unit for commercial, institutional and farm premises.

Curbside collection occurs once weekly, except when a normal collection day falls on a holiday. Commercial outlets are able to request a second weekly collection pick-up at their own expense, and are invoiced the actual amount charged by the contractor.

As per the Township's waste management by-law (#2009-55), the following recyclable materials are accepted as part of the Township's Blue Box collection program:

- Glass bottles and jars;
- Food and beverage cans, excluding frozen juices cans;
- Newspapers and inserts;
- Containers (PET) # 1;
- Plastic containers # 2;
- Corrugated cardboard;
- Box board;
- Brown paper bags;



- Fine paper; and,
- Aluminum trays and foil, except those soiled with food scraps or grease.

The Township supplies one free 14 gallon Blue Box container to its residents, which can be picked up at the Town Hall. Additional box containers are available to residents for a fee of \$10.00 per container. Clear recycling bags are also accepted as a substitute to the Blue Box container.

Based on observations of typical waste and recycling set outs, residents use a variety of Blue Box containers and/or clear blue bags. At the time of the visual inspection of curbside set outs, the typical set out of residential Blue Box material was approximately 1 to 2 boxes per household with an average participation rate of approximately 75%. Typical residential curbside layouts for waste and comingled recyclables are shown in Figures 2, 3 and 4.



Figure 2: Typical Curbside Set Out - Example 1



Figure 3: Typical Curbside Set Out - Example 2



Figure 4 Typical Curbside Set Out - Example 3

The collection of waste and comingled Blue Box materials is managed under a private collection contract with Mike's Waste Disposal. Waste is disposed at one of the Township's two operating landfills (Ward 1 site and Ward 2 site). Blue Box materials are taken to the Laflèche Environmental Inc. (Laflèche) Transfer Station in Moose Creek, Ontario, where the materials are loaded into larger trucks for transport to the Matrec Inc. (Matrec) recycling facility in St. Hubert, Quebec.



The Township has a contract set up with Mike's Waste Disposal for collection and haulage of the Blue Box recyclable materials.

The Township also has a contract with Matrec for the processing and sale of this material. As part of their agreement with Matrec, the Township has a cost-sharing agreement for the processing/sale of recyclable material, which provides them some revenue based on the market price of recyclable materials. The contract with Matrec is renewed on an annual basis.

It is noted the Township does not have a contract with Lafèche directly; the contract for use of the transfer station and hauling of the materials to the Matrec recycling facility in St. Hubert, Quebec is between Mike's Waste Disposal and Lafèche.

All waste collected at the curb is brought to one of the Township's waste disposal sites:

- Ward 1 landfill site, located at Alfred Concession 4; or,
- Ward 2 landfill site, located at Plantagenet Concession 9.

Both landfill sites are open to residents every Saturday and the Ward 1 landfill site is also open on Tuesdays. User fees based on vehicle type are charged to all residents who bring in garbage directly to the landfill sites; however, effective June 2011, the user fees charged at the landfills will be based on waste volume, rather than vehicle type. However, there is no charge for domestic waste coming from within the Township on the last Saturday of each month as well as for the week comprising the last Saturday of the months of May and September. Moreover, there is no charge for clean brush (which is burned on site).

5.2 Remaining Landfill Capacity

The Township currently owns and operates two active landfill sites located within the Township boundaries. The benefit of having Township owned landfill capacity includes access to predictable and reliable waste disposal in relatively close proximity to the waste generation source. Municipalities that no longer have operating waste disposal sites are reliant on other municipalities or private services to dispose of their waste, which may not be close to the municipality. Outsourcing waste disposal activities limits the control that municipalities have over the cost of waste disposal services that they are obliged to provide to their residents.

Based on the results of the most recent topographic survey (December 2009), the remaining capacity of the Ward 1 landfill is calculated to be 317,647 m³ (Stantec, 2010). The report uses an estimated fill rate of 1.0 m³ per person per year and a projected population growth of 1.3 percent per year to predict the remaining life of the landfill. Based on these assumptions, it is predicted that this landfill should service the Township until 2061 (Stantec, 2010). It is noted the estimated fill rate of 1.0 m³ per person per year is less than the volume of waste generated in 2009 (5,615 m³), which was 1.3 m³ per person (Stantec, 2010). A continued waste generation rate similar to 2009 would reduce the projected service life of the landfill.

The Ward 2 landfill site will be closed in 2012, and a Closure Plan is anticipated to be submitted to the MOE in September 2011 (Stantec, 2010b). With only one active landfill remaining after 2012, the Township hopes to raise public awareness on the importance of waste diversion. Increasing the amount of waste diverted from the Township's landfills will extend their operating life and preserve the Township's valuable remaining waste disposal capacity.



Of note, the Township previously owned and operated a third landfill site, which served residents from Ward 3, however this site closed in early 2005.

5.3 Township Waste Recycling Depots

The Township does not currently own or operate any waste recycling depots. Weekly curbside collection is the only means by which residents participate in Blue Box collection. The Township acknowledges the benefits of having a depot program in place, and may consider this as a potential future initiative.

Upon closure of the Ward 2 landfill site in 2012, the Township is considering rolling out a more intensive public Promotion and Education (P&E) program to educate their residents on the value of waste diversion and preserving their remaining landfill space. The roll-out of this new P&E program may provide the opportune time to simultaneously initiate the depot program.



6.0 CURRENT SOLID WASTE TRENDS, PRACTICES AND SYSTEM AND FUTURE NEEDS

6.1 Community Characteristics

The Township of Alfred and Plantagenet has a population of 8,113 residents (2009 Datacall). Given that seasonal residents represent less than ten percent of the population base, they are not required to be reported on in the Datacall. The Township has 3,783 total households: 3,347 single-family households and 436 multi-family units. (It is noted that the number of multi-family units differs from the published 2009 Datacall numbers, which stated there were 346 multi-family units, as a result of an error in the information submitted to WDO.) The population density is concentrated in the urban areas of Alfred, Plantagenet and Wendover. According to the Township's Official Plan of the Urban Areas of the Township of Alfred and Plantagenet (By-law 2010-74):

"Alfred, Plantagenet and Wendover's changing age composition will be a key component of future housing demand. The demand for single detached dwellings will continue in Wendover, but in Alfred and Plantagenet the demand for other forms of housing will increase. The demand for condominium/apartment units is anticipated to be limited in the short term, but should increase over the next two decades due to the aging population. More medium to high density dwelling units will also be required for a growing and changing population."

6.2 Existing Programs and Services

Currently the Township has the following policies in place to manage municipal solid waste:

- Bag limit enforcement (5 bags of garbage per week per residential household and 10 bags of garbage per week per commercial establishment); and,
- A tag and leave policy for unacceptable Blue Box set outs.

As previously discussed, waste disposal services for waste and recyclables are provided to the residents through weekly curbside collection, but no residential drop off depots currently exist. Disposal and recycling services are paid for primarily through general tax revenues. A cost-sharing agreement for the processing/sale of recyclables material has been in effect since April 2009 (as per By-law # 2009-37) with Matrec Inc. and provides some revenue based on the marketed price of recyclables collected from the Township.

Upcoming important collection-related milestones that may affect how collection services are administered include:

- Change in user fee policies (June 2011);
- Closure of the Ward 2 landfill (September 2011);
- Re-tendering/renewal of the waste and recyclables hauling contract with Mike's Disposal (March 31, 2012); and,
- Re-tendering/renewal of recyclables processing contract with Matrec (December 31, 2011).



6.3 Current Waste Generation and Diversion

The per capita annual waste generation rate in the Township for 2009 is estimated to be 1.3 m³ per year (Stantec, 2010), based on the fill rate of the Ward 1 landfill. Based on a waste density of 0.6 tonnes/cubic metre, the Township is estimated to dispose of 3,369 tonnes of waste and cover material per year. However, there are uncertainties about the waste density assumptions used to derive the annual disposal rate tonnage from the topographic surveys of the Township landfills. It is also noted that landfill waste volumes contributed by businesses (e.g. IC&I waste) are not differentiated from residential waste.

Because the Township does not have weigh scales at its waste disposal sites, they do not report the annual tonnage of residential waste generated. The 2009 Datacall assumes a total residential waste generated for the Township calculated based on a waste per capita rate for similar municipalities. Based on this assumption, the 2009 Datacall reports the Township landfilled 2,909 tonnes of waste in 2009, or 358.54 kilograms per person.

For consistency with the 2009 Datacall, the remainder of this report uses an annual total waste generation rate for the Township of 2,909 tonnes of waste per year.

A summary of the other waste quantities, as reported by the Township in 2009 to the WDO, are presented in the table below.

Table 1: Waste Recycling Materials Managed in 2009

Waste Material Category	Quantity (Tonnes)	Source
Waste	2,228	Calculated (2009 Datacall)
Recyclables (Residential Deposit Return)	44.70	Calculated (2009 Datacall)
Recyclables (Blue Box)*	404.44	Reported by Township (2009 Datacall)
Scrap Metal	64.55	Reported by Township (2009 Datacall)
Municipal Hazardous Solid Waste (MHSW)	14.06	Reported by Township (2009 Datacall)
Leaves	65.00	Reported by Township (2009 Datacall)
Yard Waste	22.00	Reported by Township (2009 Datacall)
Bulky Goods	3.00	Reported by Township (2009 Datacall)
Wood	25.00	Reported by Township (2009 Datacall)
Tires	70.00	Reported by Township (2009 Datacall)
Total**	2,941	--

*The Township reported the total tonnage of recyclable material collected at curbside in 2009 as 507.28 tonnes. Of this material, the audited 2009 Datacall indicates a total of 404 tonnes of Blue Box material was marketed. The marketed tonnage was used in the remainder of the calculations for consistency.

**This number generally agrees with the estimated 2009 waste generation rate of 2,909 tonnes (2009 Datacall).

Of the total amount of waste generated, 404 tonnes, or 13.9%, is diverted through the Blue Box program. Currently, the most common material recycled is paper (11.4% by weight), while the remainder is a combination of glass (1.4% by weight), aluminum and steel (0.7% by weight), and plastics (0.4% by weight).



The table below summarizes the current waste generation and Blue Box diversion rates

Table 2: Residential Solid Waste Generated and Diverted through Blue Box (2009)

Residential Solid Waste Generated and Diverted through Blue Box		
Residential Waste Stream/Blue Box Material	Tonnes	Percent of Total Waste
Total waste generated	2,909	-
Papers (ONP, OMG, OCC, OBB and fine papers)	331	11.4%
Metals (aluminum, steel, mixed metal)	20	0.7%
Plastics (containers, film, tubs and lids)	12	0.4%
Glass	42	1.4%
Total Blue Box material currently diverted	404	13.9%

As the table below indicates, the Township’s current diversion rate is less than the average for its WDO municipal grouping.

Table 3: Average Blue Box Diversion Rate (2009)

Average Blue Box Diversion Rate (year)	
Township of Alfred and Plantagenet	13.9 %
Municipal Grouping: Rural Collection - South	21.4 %

In 2009, the total net annual recycling cost for the Township was reported as \$216,530.17 (2009 Datacall).

A summary of all costs associated with the Blue Box program, including the 3% administration costs eligible for funding, is presented in the table below.

Table 4: Township Blue Box Recyclable Program Costs (2009)

Item	Cost
Blue Box Curbside Collection Costs	\$ 143,123.22
Processing Cost	\$ 56,483.31
Promotion and Education Costs	\$5,727.00
Administration Costs (3%)	\$ 6,611.36
Gross Residential Cost	\$ 216,680.17
Revenue from Sale of Recyclables	(\$ 150.00)
Net Costs	\$ 216,530.17

This amounts to \$535.38 per tonne, or \$26.69 per capita. As the table below shows, net annual recycling costs for the Township are above average for its WDO municipal grouping.

Table 5: Recycling Cost per Tonne (2009)

Net Recycling Cost (per tonne per year)	
Township of Alfred and Plantagenet	\$ 535.38
Municipal Grouping: Rural Collection- South	\$ 419.64



6.4 Potential Waste Diversion

In the absence of waste audit data from the Township, the Township’s waste composition was calculated using the waste audit sample generated through WDO from the Town of the Blue Mountains (Rural Collection - South) provided in the *Guidebook for Creating a Municipal Waste Recycling Strategy*. It was noted that the Town of the Blue Mountains is similar to the Township due to its large geographic area and dispersed population centred in multiple towns (e.g. Collingwood).

Table 6 outlines the estimated quantities of the various Blue Box materials, based on waste composition data established for the Town of Blue Mountains. As shown, an estimated 1,542 tonnes of Blue Box material is available in the waste stream generated in the Township.

Table 6: Estimated Potential Available Blue Box Material (2009)

Material	Composition (%) (from Town of Blue Mountains)	Total Residential Waste Generated (tonnes/year)	Total Blue Box Material in Waste Stream (tonnes)
Papers (ONP, OMG, OCC, OBB and fine papers)	30	2,909	873
Metals (aluminum, steel, mixed metal)	3		87
Plastics (containers, film, tubs and lids)	8		233
Glass	12		349
Total	53	2,909	1,542

The *Guidebook for Creating a Municipal Waste Recycling Strategy* has recommended a target capture rate for the Township’s WDO grouping (Rural Collection – South) of 70% (i.e. capturing 70% of the available Blue Box materials in the total waste stream).

Using the 70% capture rate as a target, it is calculated that a total of approximately 1,079 tonnes of Blue Box recyclable materials are available for diversion, of which approximately 675 tonnes are still currently in the waste stream. Estimates of Blue Box material available for diversion are listed in the table below.

Table 7: Potential Available Blue Box Materials (Assuming a 70% Capture Rate)

Current and Potential Diversion			
Material	Total Available in Waste Stream (tonnes/year)	Currently Recycled (tonnes/year)	Potential Increase (tonnes/year)
Papers (ONP, OMG, OCC, OBB and fine papers)	611	331	280
Metals (aluminum, steel, mixed metal)	61	20	41
Plastics (containers, film, tubs and lids)	163	12	151
Glass	244	42	203
Total	1,079	404	675



Diverting the Blue Box material remaining in the Township’s waste stream could raise its overall waste diversion rate for the Township to 37.1%.

6.5 Anticipated Future Waste Management Needs

The Township Official Plan (Alfred and Plantagenet, 2010) suggests an increase in the proportion of multi-residential units within the Township, based on a demographic shift towards an older populace.

The landfill capacity predictions use a predicted population growth rate of 1.3% per year (Stantec, 2010).

Based on a population of 8,113 in 2009 (2009 Datacall) and a predicted annual growth rate of 1.3 percent per year, Golder calculated a population in 2015 of 8,767 and a population in 2020 of 9,352. Seasonal residents, which are understood to represent less than 10 percent of the Township’s population, were excluded from this population projection analysis.

Based on the growth rate assumption of 1.3 percent per year, solid waste generated rates in the Township are expected to grow over the next 10 year planning period. The Table below depicts the expected growth rates for solid waste generation and Blue Box material recovery (assuming a 70% target capture rate).

Table 8: Anticipated Future Waste Management Tonnages

Anticipated Future Solid Waste Generation Rates and Available Blue Box Material			
	2011	2016	2021
Population	8,113	8,767	9,352
Total Waste (tonnes)	2,909	3,143	3,353
Blue Box Material Available (tonnes)	1,079	1,166	1,244



7.0 GOALS AND OBJECTIVES

The key drivers that led to the development of this Waste Recycling Strategy include:

- Maximize Best Practice funding for the Blue Box program;
- Increase the Blue Box material capture rate; and,
- Preserve landfill capacity by eliminating landfilling of Blue Box recyclables.

Table 9: Waste Recycling Goals and Objectives

Waste Recycling Goals and Objectives	
Goals	Objectives
To increase the capture rate of the Blue Box recycling program	To monitor current capture rate with the aim of increasing Blue Box capture rate to: <ul style="list-style-type: none"> ■ 50% in 2 years ■ 60% in 5 years ■ 70% in 10 years
To increase diversion of Blue Box materials from landfill	<ul style="list-style-type: none"> ■ Divert 26.5% of municipal solid waste through the Blue Box program in 2 years ■ Divert 31.8% of municipal solid waste through the Blue Box program in 5 years ■ Divert 37.1% of municipal solid waste through the Blue Box program in 10 years

1. The CIF Guidebook suggests a Blue Box 70 % capture rate of potential Blue Box materials. The Township is currently achieving a capture rate of approximately 26.2%.
2. The Township is currently achieving a Blue Box diversion rate of 13.9%.



8.0 PLANNED RECYCLING SYSTEM

8.1 Overview of Planned Initiatives

During the Project Initiation Meeting, the Chief Administrative Officer (CAO) and Clerk, and the Deputy Clerk were solicited for input with respect to the Waste Recycling Strategy. As a means of facilitating this input, the group completed the Continuous Investment Fund's *Guidebook for Creating a Municipal Waste Recycling Strategy* Overview of Waste Recycling Options (Worksheet 8). The list of Best Practice / Options were scored based on a series of criteria, which included:

- Proven results;
- Reliable market / end use;
- Economic feasibility;
- Accessibility to the public; and,
- Ease of implementation

Based on the relative score received by each of the best practice options presented in the table, a relative ranking was made of each of the potential initiatives. The top five best practices identified for the Township through this exercise are:

- 1) Training of Key Program Staff (score of 25 out of 25);
- 2) Optimization of Processing Operations (score of 25 out of 25);
- 3) Public Education and Promotion Program (score of 23 out of 25);
- 4) Enhancement of Recycling Depots (score of 21 out of 25); and,
- 5) Optimization of Collection Operations (score of 21 out of 25).

Additional options the Township staff requested for consideration as part of the Waste Recycling Strategy included:

- Reduction of the garbage pick-up bag limit from 5 bags per household;
- Development of an enhanced P&E program to be rolled out simultaneous to the closing of the Ward 2 landfill;
- Provision of a second free Blue Box to each household;
- Consideration of the benefits of two stream versus single stream curbside collection;
- Improvement of contract efficiencies (e.g. bundling services, etc.); and,
- Development of a recycling depot for recovering additional recyclables at the landfill (Ward 1).



As part of the Waste Recycling Strategy, a number of Priority Initiatives were identified. The estimated cost for implementing all of the suggested Priority Initiatives is approximately **\$110,500**. Consideration of additional future initiatives will be contemplated following a review of the recycling capture rates in the first 2 years following implementation of the Priority Initiatives.

The Table below presents the Priority Initiatives and their estimated costs. These initiatives, their costs and their steps for implementation are reviewed on the following pages.

Table 10: Priority Initiatives

Priority Initiatives		
Initiatives	Implementation Costs	Operation Costs
Reduction of the bag limit to 3 bags per week	n/a	n/a
Provision of an additional Blue Box to each household	\$28,000	n/a
Training of Key Program Staff	\$2,500	n/a
Increasing expenditure of promotion and education (P&E) to \$2/household	n/a	\$10,000*
Development of Recycling Depot at Ward 1 Landfill	\$20,000	\$50,000**
Review of current collections and processing contracts	\$0	n/a
Estimated Total Cost (Priority Initiatives)	\$50,500	\$60,000

Notes:

*It is noted that the Township has submitted an expression of interest to the CIF for funding towards promotion and education, which is not reflected in the P&E costs above.

**Funding is also available through the CIF for upgrading recycling depots. The Township may be eligible to receive some funding towards setting up the recycling depot at the Ward 1 landfill.



8.2 Priority Initiatives

8.2.1 Reduction of Garbage Pick-up Bag Limit

In conjunction with the closing of the Ward 2 landfill, and as part of a broader P&E campaign, the Township is considering reduction of the weekly residential set out limit of 5 bags to 3 bags per week. The feedback from the Township personnel and the one response received through the survey of the Township website, as well as observations made during the site visit, suggest the majority of residents put less than 3 bags of garbage at the curb on a weekly basis. However, reducing the bag limit would signal a change in the Township's waste management program and encourage residents to participate in the Township's recycling program.

It is assumed that the implementation cost associated with the project would be entirely P&E related, and is therefore included under the cost of P&E.

8.2.2 Provision of an Additional Blue Box to Residents

It is understood the Township currently supplies each household with an initial free Blue Box and one replacement Blue Box at no cost. In addition to reducing the garbage bag set-out limit, the Township could consider providing each household with an additional Blue Box to provide residents with adequate capacity to sort their recyclable materials.

Should the Township wish to consider implementing a two stream recycling program (e.g. fibres collected separately from containers), the provision of an additional Blue Box would facilitate the separation of these materials by residents.

Municipalities have received funding in the past from the CIF to subsidize the cost for the purchase of larger (e.g. 22 gallon) Blue Boxes to encourage the diversion of additional materials. The Township may wish to seek input from the CIF on whether part of this cost may be covered through CIF funding.

8.2.3 Training of Key Program Staff

There are a number of resources available through the WDO to provide training on implementing and improving Blue Box recycling programs to waste management staff. While these courses are offered free to municipalities, the costs of travel and accommodation are borne by the municipalities. In addition, the majority of these course offerings are held in southern Ontario. Therefore, the costs of this initiative assumed a requirement for staff to travel to southern Ontario and pay for accommodations.

This initiative is key to educating "front line" staff about the municipal recycling program and minimizing the amount of contamination in recyclable materials.

This is also a key initiative in support of the establishment of a recyclable depot at the landfill. In a report entitled *Evaluation of Best Practices of Rural Recycling Depot Programs* prepared for Quinte Waste Solutions by SGS Lakefield Research Limited (April 2006), it was identified that the depot attendant is a key factor in:

- Preventing material contamination;
- Promoting the waste diversion program;
- Encouraging proper material; and,
- Increasing the perceived and actual effectiveness of the diversion program.

All of these contribute to a higher rate of community participation and overall capture rate.



8.2.4 Public Promotion and Education

A well-designed and implemented P&E program can have positive effects on virtually all aspects of the Blue Box system, including planning, collection, processing, marketing and policy development. Moreover, having a P&E plan contributes toward the amount of WDO funding a municipality receives as identified in the Best Practices section of the WDO municipal data call.

Ideally, P&E programs should begin with the development of a current and effective communications plan, which include a statement of goals and objectives, target audiences, key messages, tactics, timing, and plans for monitoring and evaluation. The CIF offers municipalities free assistance in the development of a Communications Plan for their Blue Box recycling strategy (see following section on resources).

It is anticipated that the implementation of this initiative will result in the following Key Benefits and Outcomes:

- Increased community involvement in the Blue Box diversion program;
- Proper separation of recyclables from landfilled waste;
- Lower residue rates at processing facilities resulting in higher recovery rates, lower costs, and potentially higher revenue for marketed material; and,
- Higher waste diversion rates overall.

It has been found that successful P&E programs employ a mix of media, including:

- Print (calendar, newspaper inserts, utility bill inserts, paid ads, brochures, newsletters);
- Broadcast (radio ads, Public Service Announcements, TV ads);
- Electronic (regularly updated and highly branded website, emails);
- Outreach (special events, presence at community celebrations, school visits, facility tours for students, community education centres, door to door campaigns, landfill/depot contract, etc.); and,
- Icons & Incentives (magnets and other gifts, community mascots, etc.).

The effectiveness of each of these best practices is community specific, and should be evaluated through a Township P&E plan.

As previously described, different forms of communication should also be targeted towards residents belonging to different demographics. As an example, electronic communication may be a much more powerful tool for targeting younger residents and families than residents who are retired.

A statistical analysis of P&E spending in 2005 (as analyzed by KPMG for the *Blue Box Enhancement and Best Practices Assessment Project, 2007*) suggests that there is a correlation between P&E spending and heightened diversion, even though the correlation is somewhat weak. According to this report, many communities that were achieving 60% diversion of Blue Box materials in 2005 spent between \$0.83 and \$1.18 per household on recycling P&E. Supporting this conclusion is the *U.S. Curbside Value Partnership* (www.recyclecurbside.org), which used \$1/per household as a general spending guide for existing recycling programs, but recommends spending levels of up to \$3 or \$4 per household when implementing new programs or major program changes.



It is noted the Township has applied for funding through the CIF Request for Expressions of Interest (REOI) for \$5,000 of funding for general Blue Box material promotion and education and \$4,000 of funding (up to 60% of the total cost) for promotion and education related specifically to capture of Blue Box material plastics. In order to receive this funding, the Township is required to create a Communications Plan. Assistance in creating this plan is available through the CIF.

8.2.5 Development of Recycling Depot at Ward 1 Landfill

As identified in the KPMG Blue Box Assessment and Best Practices Report (July, 2007), drop-off depots are a Best Practice to collect overflow Blue Box materials and additional recyclable materials, for which curbside collection is not practical or cost-effective. This report also identified a number of key attributes for effective recycling depots, including:

- Safe and accessible location and convenient to use;
- Designed to limit the potential for contamination and illegal dumping;
- Trained and knowledgeable staff;
- Attractive and well maintained (removal of materials with adequate frequency);
- Appropriate signage and clear instructions for residents;
- Robust record keeping process; and,
- Optimized container design and transportation system.

It is recommended that the depot program should be promoted in high traffic areas (e.g. local grocery store, community centre, schools).

Compacting and co-mingling material at the site reduces the frequency of collection from the depot site and increases the potential for a municipality to haul a greater distance at a lower cost. However, it has also been shown that co-mingled materials can lead to a higher degree of contamination, resulting in a lower market price for material and landfilling of more residuals.

If the Township is concerned that the initial purchase of capital equipment is cost-prohibitive, it is recommended that they consider leasing or renting collection containers.

With respect to appropriate signage, the report notes that signs should be biased towards graphics, photos or displays of acceptable and unacceptable items, rather than text. The signs should use bright colours and complement the depot appearance. Each bin should be clearly labelled to indicate the types of materials it can receive.

The report entitled *Optimizing Peterborough County's Recycling Depots (September 2009)*, prepared for the County of Peterborough by 2cg Inc. and available on Stewardship Ontario's website (www.stewardshipontario.ca/bluebox/pdf/eefund/reports/326/326_final_report.pdf) also noted the use of excessive text on and around the County of Peterborough's recycling depot bins was not as effective as visual graphics/pictures displaying the correct materials for each bin.



Examples of the graphics-based container labels from this report are in shown below.

Figure 5: Example of Paper/Cardboard Depot Bin Signage



Photo Source: http://www.stewardshipontario.ca/bluebox/pdf/eefund/reports/326/326_final_report.pdf

Figure 6: Example of Plastic/Cans Depot Bin Signage



Photo Source: http://www.stewardshipontario.ca/bluebox/pdf/eefund/reports/326/326_final_report.pdf

Additional Resources: The KPMG report (July 2007) notes that additional examples of depot graphics and signage examples are available through the 'Recyclers' Knowledge Network'.

(www.recyclersknowledgenetwork.ca)



8.2.6 Review of Contracts

In a typical Blue Box recycling program, the curbside collection function is the most expensive program element. A well designed and efficiently run collection program can have positive impacts on all aspects of waste management, including but not limited to:

- Improved utilization of capital (trucks and processing equipment);
- Increased recovery of materials and diversion from the landfill;
- Improved separation of materials, lower processing costs and increased revenues from the sale of recyclables;
- Increased participation in recycling; and,
- Enhanced aesthetic appeal of containers at the curb.

The Township's collection contract is set for expiry in 2012. As a result, it is important they consider best practices associated with contract procurement and management as the performance of the contractor has a substantial impact on program delivery, cost and sustainability. Several positive outcomes of a well designed and executed procurement and management process according to the Best Practices Report (KPMG, 2007) include but are not limited to:

- High quality service to specified requirements;
- Flexibility to address changing needs;
- Incentives to maximize participation, tonnage and material revenues;
- Offers opportunities for innovation; and,
- Cost savings due to increased competition, economies of scale and properly structured contract terms.

In order to implement an effective procurement and contract management schedule, the Township should consider the following steps;

- 1) Precisely define services to be contracted;
- 2) Determine contractor pool and your market position;
- 3) Prepare a detailed, unambiguous Request for Proposal (RFP) or Tender;
- 4) Employ a fair and transparent contractor selection process;
- 5) Negotiate a partnership-oriented contract; and,
- 6) Maintain partnership approach in contract administration and monitoring throughout the entire contract term.

Additional resources are available to municipalities to assist in contract development and tendering through the CIF and WDO. Additional information on the steps described above is available in the Best Practices Report (KPMG, 2007).



8.3 Other Considerations

The following section discusses additional considerations for the Township with respect to the Blue Box recycling program.

8.3.1.1 Multi-unit Residential Recycling Programs

It is understood the Township is expecting an increase in the number of multi-residential buildings within the next 10 year timeframe (Township, 2010). Establishing and maintaining a recycling program for multi-residential buildings presents unique challenges that the Township should take into consideration in the development of these buildings and the design of a P&E program for these buildings.

In a study carried out for the City of Stratford, Ontario, with funding from the CIF, on the enhancement of multi-residential recycling programs (2cg Inc., 2011), a number of barriers to recycling were identified, including:

- Degradation of labels (identifying accepted materials) on recycling carts and/or no or little signage;
- Large distances between the buildings and carts;
- Limited container capacity for high volume recyclables (e.g. paper);
- Insufficient recycling capacity, particularly for large buildings; and,
- Lack of opportunity to recycle cardboard/boxboard.

The report recommended that uniform recycling carts be made available to residents and that they be properly labelled and replaced when cracked or broken. It was also recommended that the City increase the recycling capacity with the goal of 50 litres per unit and that in-unit Blue Boxes be provided to all residents (2cg, 2011).

In multi-storey multi-unit residential buildings recycling programs often struggle because of the:

- presence of garbage chutes on each floor, but only central storage for recyclable material; and,
- lack of direct accountability for the cost of waste collection (through taxes).

It has been found that the participation and support of building managers and superintendents is critical to the success of recycling programs in multi-unit residential buildings (*Genivar, 2010*).

Best practices for the collection of recyclables in multi-unit residential buildings include:

- Provide tenants with different coloured bags for Blue Box recyclables and garbage, which can be placed down the chute. Bags can then be sorted into different bins according to colour.
- Financial incentive programs or reward programs provided to tenants may be valuable for building in areas with waste levies.
- Clauses may be added to a renter's lease which requires tenants to participate in multi-unit building recycling programs.

By incorporating ways to facilitate recycling in the design of new multi-unit residential buildings, it can lead to an increase in participation and hence diversion. Such programs for Blue Box recyclables in new buildings may include multi-chute systems built into each floor or an automated carousel system.



8.3.1.2 Multi-Municipal Planning Approach

It is noted that 8.3% of the Best Practice portion of the WDO funding is allocated based on a positive response to the WDO Datacall question regarding the use of a multi-municipal approach to implementing the Blue Box recyclable program. The Township may wish to explore opportunities to work with neighbouring municipalities in support of improving efficiencies in its Blue Box recyclables program.

It is commonly understood that efficiencies of scale and economy are achievable when activities are carried out on a large scale. This principle applies to all aspects of business, and recycling programs are a good example of where this principle can be applied. In fact, according to the Best Practices Report (KPMG, 2007), it is considered a “fundamental best practice for municipalities to explore a multi-municipal approach to planning recycling activities,” and a “considerable amount of industry research and data analysis indicate that nearly all municipalities can benefit from a co-operative approach to planning and/or providing recycling services”.

Some of the benefits of a co-operative planning approach include, but are not limited to:

- Economies of scale;
- Optimized program funding;
- Shared costs/staff/time;
- Improved supplier/contract relations;
- Increased capacity to adopt new technologies and methods;
- Material markets and pricing advantages; and,
- Shared risk management and capital requirements.

A seven step approach for the implementation of this best practice is defined in the Best Practices Report (KPMG, 2007), along with potential challenges and suggested solutions. For example, if the Township is concerned about the potential for loss of autonomy, the suggested solution is to clearly document roles and responsibilities, such that control is not lost, but economies are gained.

8.3.1.3 Two Stream Recycling

The Township currently operates a single stream collection Blue Box program, which means that both fibres (e.g. paper, cardboard) and containers (e.g. plastics, metals, glass) are comingled or combined in the Blue Box containers (or clear recycling bags). The Township is considering the benefits of two stream (e.g. separate containers for fibres and containers) versus single stream curbside collection.

According to the KPMG Report (July, 2007), as programs grow in the number of designated recyclables collected and in the recovery of those materials, they usually move to providing multiple boxes to residents, often one for fibres and one for loose containers. Two stream collection (fibres and containers) methods capitalize on the initial labour provided by residents at the curb. Therefore, municipalities with a high participation rate can benefit from this type of collection. Two stream collection also facilitates screening for contamination by collection staff at the curb.



The KPMG Report states that two-stream collection is generally the preferred collection method for programs that collect (and process) between 10,000 to 40,000 tonnes of material per year, and that as program tonnages approach 40,000, single stream collection (and processing) may become more feasible. Moreover, there is new data that suggests that two stream recycling may be more cost effective than single stream (Solid Waste & Recycling Magazine, Dec2009/Jan2010)

Other key issues to consider with two-stream systems include:

- Concerns from end markets over product quality, particularly from the fibre end-markets;
- Increased residue quantities that must be managed in the Material Recovery Facility (MRF); and,
- Potential increase in labour costs, and overall processing costs,

It is noted that some of the potential cost increases can be off-set by alternating materials pick up from week to week (e.g. fibre pick up one week, container pick up the next week). Implementation of such an alternating pick up schedule would require a P&E campaign and likely development of a calendar to successfully inform residents of the pick up schedule.

8.4 Implementation Plan and Program Monitoring

It is the Township's intent to implement the Priority Initiatives listed in the previous sections during 2011. As such, the milestones for monitoring progress relative to the Township's set targets (see Table 10) will be in 2013, 2016 and 2021, respectively.

To track and measure the effectiveness of the Priority Initiatives and to meet the requirements as set out in the WDO Municipal Datacall question "Does your plan include a monitoring and evaluation component?", the Township will implement a measurement plan.

The model adopted for direct measurement is based on the process developed by Stewardship Ontario, for use by local partners, to measure the impacts from various advertising campaigns. This approach includes the following steps:

- 1) Populating a spreadsheet to track recycling system performance (through collected and marketed recyclables);
- 2) Completing an annual report that provides comments on the performance outcome; and,
- 3) Providing a summary of other measures (e.g. website hits, user surveys, etc.) generated after discreet promotional events.

The Township currently tracks its outgoing recyclable waste quantities through both weigh bills provided by Mike's Waste Disposal, for material brought to the transfer station, and through a materials processing record provided by Matrec.

Beginning in 2011, the Township will track outgoing recycling tonnages and review the data on a bi-annual basis to determine trends and what impact the implementation of Priority Initiatives may be having on the tonnage of recyclables being captured.

The spreadsheet will include:



- Collected tonnage;
- A conversion of this data into kilograms per household served; and,
- A calculation of the percentage change in kilograms per household, as compared with the previous 6 months.

In addition, spreadsheet data (both tonnes collected and kilograms per household) will be charted for comparison with the previous two years of similar data.

The Township will also review the data on an annual basis to determine the influence of other factors on the performance of the recycling program, including:

- Introduction of additional initiatives;
- Revision of Township waste management policies;
- Addition of new residences (single or multi-residential), or commercial or institutional buildings; and,
- Changes to the collection or processing systems (e.g. single stream versus two stream collection).

At the end of each calendar year, the Township will prepare a brief summary for Council to update them on the progress of the Township towards their stated diversion goals (Table 10).

After 2 years, a summary will be created by the Township to comment on the progress made towards reaching their stated diversion goals of 50% capture rate for Blue Box materials (Table 10).

After 5 years, a summary will be created by the Township to comment on the progress made towards reaching their stated diversion goals of 60% capture rate for Blue Box materials (Table 10). At this time this Waste Recycling Strategy will be updated and the current 10 year goal of 70% (Table 10) will be evaluated and revised accordingly.

As part of increasing the Township's ability to track the amount of waste generated within the Township, the installation of weigh scales at the Ward 1 landfill should be considered. The benefits of this investment would include the ability to more accurately monitor the quantities of waste being disposed of by the Township on an annual basis, rather than calculating the annual waste generation tonnage through an average per capita disposal rate determined by WDO. As a result, the Township could track waste diversion effectiveness and the efficiency of the use of the remaining landfill capacity.



9.0 AVAILABLE RESOURCES

There are a number of resources available to municipalities to support their Blue Box recycling programs through WDO, CIF and Stewardship Ontario.

Some specific examples of resources are provided in the following sections.

9.1 Public Promotion and Education (P&E)

There are a number of resources available to help the Township design and implement a cost-effective and successful P&E program. Several resources include:

- CIF's 'One-stop P&E Shop for Small Programs':
 - FREE P&E material & program guidance
- CIF's Multi-residential P&E program Materials:
 - FREE P&E material for the multi-res sector
- WDO CAN/OCNA Advertising Program:
 - FREE newspaper lineage
- WDO 'Ad Bank':
 - FREE P&E sample ads and graphics
- P&E module on the 'Recyclers' Knowledge Network' (<http://vubiz.com/stewardship/Welcome.asp>):
 - Best practices and program guidance
 - Municipal P&E Workbook
- E & E Fund Approved Communication and Education Projects

For information on promoting the importance of the P&E budget with Council, visit http://www.stewardshipontario.ca/bluebox/pdf/eefund/reports/68/PE_Workbook.pdf

9.2 Staff Training Opportunities

The following resources are available to provide training to depot staff:

- E&E Fund: Ontario Blue Box Recycler Training; and
- FREE two-day P&E course, developed by MWA.

For more information contact: Carrie Nash at carrie@municipalwaste.ca



Report Signature Page

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REFERENCES

2cg, 2011. *CIF 124: City of Stratford Multi-Residential Program Enhancement Project*. 2cg Waste Management Consulting Services, February, 2011.

Alfred and Plantagenet, 2010. *The Official Plan of the Urban Areas of the Township of Alfred and Plantagenet (By-law 2010-74)*, The Corporation of the Township of Alfred and Plantagenet, (approved August, 2010 by the United Counties of Prescott and Russell), July, 2010.

GENIVAR, 2010. *Maximizing Residential Waste Diversion in Connection with the Mayor's Tower Renewal Pilot Feasibility Study*. Report No. MA-09-445-00-MA. GENIVAR Consultants LP, May, 2010. <
http://www.toronto.ca/city_manager/pdf/tr_waste_diversion.pdf>

KPMG, 2007. KPMG, R.W. Beck, *Blue Box Program Enhancement and Best Practices Assessment Project*, Final Report, Volume 1, July 31, 2007.

Stantec, 2010. *Township of Alfred and Plantagenet, Ward 1 Landfill Operations Report 2009*, Stantec Inc., March 2010.

Stantec, 2010b. *Township of Alfred and Plantagenet, Ward 2 Landfill Operations Report 2009*, Stantec Inc., March 2010.



APPENDIX A

Waste Recycling Strategy – Resident Survey and Summary of Responses

At Golder Associates we strive to be the most respected global company providing consulting, design, and construction services in earth, environment, and related areas of energy. Employee owned since our formation in 1960, our focus, unique culture and operating environment offer opportunities and the freedom to excel, which attracts the leading specialists in our fields. Golder professionals take the time to build an understanding of client needs and of the specific environments in which they operate. We continue to expand our technical capabilities and have experienced steady growth with employees who operate from offices located throughout Africa, Asia, Australasia, Europe, North America, and South America.

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