A Waste Recycling Strategy for The Corporation of the Municipality of Magnetawan

October 2010

Written in compliance with the

Waste Diversion Ontario's
Continuous Improvement Fund
Guidebook for Creating a Municipal Waste Recycling Strategy:
Companion Template

This Project has been delivered with the assistance of Waste Diversion Ontario'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 authors, and Waste Diversion Ontario and Stewardship Ontario accept no responsibility for these views.

Table of Contents

Page

1. Introduction

This Waste Recycling Strategy was initiated by the Corporation of the Municipality of Magnetawan to develop a plan to increase the efficiency and effectiveness of its recycling program. Specifically, the purpose of this recycling strategy is to:

- Provide a structured way for Council and staff to critically appraise their waste recycling activities and to consider what are thought to be good and best practices in waste recycling programs;
- Elevate the position that waste diversion efforts have in the minds of Council, staff and residents;
- Provide a reference guide for future waste recycling activities, to be incorporated into the annual budgeting process;
- Establish specific targets so that actual recycling performance can be evaluated and adjustments to initiatives can be made on a timely basis.

When providing blue box recycling opportunities to the community, the Municipality must balance the financial and potential environmental cost of the program with the Municipality's super-ordinate goal of expanding the lifetime of existing landfill space. To this end, this Waste Recycling Strategy establishes the following specific targets:

- to reduce recycling costs per tonne of material marketed by 3% within four years;
- to increase the capture of blue box material by 10% within four years;
- to show continuous increases in the percentage of households participating in recycling.

The Municipality of Magnetawan is legislatively responsible for the management of residential solid waste generated within its boundaries and decisions regarding waste management in the Municipality must comply with certificates of approval issued for its landfill sites as well as the Environmental Protection Act and other regulations of the Ministry of the Environment. Under this legislation the Municipality is not required to operate a blue box waste management system, as its population falls well below the cut-off established in O.Reg 101/94 under the Environmental Protection Act for municipalities of this size. Although the Municipality's sphere of responsibility does not extend to the commercial and industrial sectors, the Municipality does provide waste disposal services to all commercial, industrial and institutional bodies within its borders.

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

- Pervasive societal views. Municipalities throughout the country face a common challenge: we are combating a "wastefulness mindset", part of our modern way of life, in which increasing public consumption is the driving force of our economy, and the accompanying creation of waste a secondary or minimal concern.

- Shrinking waste disposal site capacity. The considerable costs associated with opening, closing, and monitoring landfill sites coupled with the fact that no-one wants a new landfill site "opened in their backyard" makes existing landfill space quite a valuable resource. All municipalities in the local area face the challenge of balancing conservation of landfill space with the cost of diversion efforts.

- Size of the Municipality. By any measure the Municipality of Magnetawan, and indeed almost all of the municipalities in the Almaguin area, can be considered small. This makes it particularly difficult to design and implement efficient waste management systems, since any costs incurred must be borne by a small number of residents and the suite of material collected is largely dictated by the collection and processing capabilities of available contractors. The size of the Municipality is also the reason that employees responsible for waste management are not experts in this field, but rather are required to be jacks-of-all-trades whose time and efforts will often be diverted to matters of a more crisis nature.

This Waste Recycling Strategy was developed with financial support from Waste Diversion Ontario's Continuous Improvement Fund and using the Continuous Improvement Fund's *Guidebook for Creating a Municipal Waste Recycling Strategy* (hereinafter referred to as the CIF Guidebook).

2. Overview of the Planning Process

The Municipality of Magnetawan retained the services of a local municipal consultant to co-ordinate the preparation of this Waste Recycling Strategy. The plan was prepared with the assistance from municipal office and landfill staff from the Municipality of Magnetawan, the Township of Strong and other neighboring municipalities. In addition, because the reduction of waste in our municipalities was seen to depend ultimately on changes in consumer behavior – in effect in new learning on their part – the consultant secured advice on the design of a public education program from a regionally based emeritus professor of learning programs design.

A summary of the steps taken to complete the plan follows:

1. Municipal staff attended the Continuous Improvement Fund's one-day seminar focused on giving small municipalities the tools they would need to create a municipal waste recycling strategy. As part of this seminar, staff considered and discussed best practices options that could be applied in their own municipality.

2. About this time, it occurred to several municipalities that they might reduce costs by having the same person do the background research and writing required to prepare all the municipal plans, as well as identify common initiatives (e.g., development of public education documents) that they could later work on together.

3. In conjunction with the Township of Strong, Magnetawan engaged a consultant, a CMA/MBA and resident of the local area, to work with staff in preparing the Waste Recycling Strategy.

4. Research was undertaken by the consultant related to recycling and the recycling industry, WDO best practices, existing recycling programs in both the Almaguin region and larger urban centres in Ontario, and the current knowledge base of both municipal staff and residents. Based on this research it was quickly established that at least some degree of public education and staff training should be incorporated into the plan.

5. The possible opportunities and initiatives for managing recyclables suggested in the CIF Guidebook were reviewed and rated according to their suitability for the Municipality of Magnetawan, the Township of Strong and neighboring municipalities.

6. Additional consideration was given to how the more highly ranked opportunities could be implemented and how the program performance would be monitored and reported.

7. The above work was compiled into a generic Waste Recycling Strategy that was then customized for the Municipality of Magnetawan.

8. The Draft Waste Recycling Strategy was reviewed at an open Council meeting and subsequently adopted by Council by Resolution No. 2010-419.

The development and adoption of this initial plan represents the first phase in a series of activities to demonstrate good and best practices in the management of recyclables. The next step in this process will be to begin the implementation of the priority initiatives identified. As outlined in the Planned Initiatives section of this document, immediate attention must be given to:

- Staff review of the CIF's material regarding contracting GAPs and the incorporation of these ideas in the upcoming collection and processing negotiations;

- The distribution and subsequent analysis of a public survey designed to establish benchmarks and gain feedback on the specific implementation of priority initiatives;

- Approaching other municipalities in the Almaguin region in an effort to ascertain their immediate interest/to obtain an agreement regarding the sharing of costs related to the preparation and dissemination of initial educational material.

The public and local stakeholders were consulted throughout the planning process. For more details on our public consultation process, see Section 4.

3. Study Area

The study area for this Waste Recycling Strategy included the Municipality of Magnetawan and several neighboring municipalities. Magnetawan's strategy addresses the following sectors within the municipal boundaries from which the Municipality accepts solid waste:

- Residential single-family units;
- Residential multi-family units;
- Small commercial enterprises.

While the Municipality of Magnetawan accepts waste from the industrial, large commercial and institutional sectors, these sectors have not been targeted by this Waste Recycling Strategy.

4. Public Consultation Process

The public consultation options proposed in the CIF Handbook and possible public consultation points were considered in the research phase of the planning process. Staff and local resident interviews conducted early in the planning process revealed that, despite the fact that we have been recycling for two decades now, many people are still not confident in their knowledge about what is recyclable in their own municipality. When questioned about their opinion of the existing recycling system, without exception respondents focused on how easy/difficult it was for them and did not seem to consider the actual cost of the program or any environmental implications it might have. On the basis of these data, it was concluded that a general, up-front public discussion of waste management would not be of much help in the design of the plan – especially with the two critical tasks of developing an unequivocal and generally understandable waste classification scheme and setting reasonable municipal targets. It was also determined that public education and promotion would be a main component of this strategy and consequently the most meaningful public input could come as the plan was being implemented. In the immediate future a formal survey will be conducted (see Section 8) to gather information from the public.

As an alternative to group meetings it was decided to obtain focused information from one-to-one meetings with members of the public who could provide relevant knowledge about particular aspects of the recycling plan: system users, landfill attendants, participants in larger municipal systems and education specialists. Individual householders were interviewed about the categories employed in their own recycling practice, and their likely response to educational efforts to upgrade them. Comments from front-line landfill staff were solicited: these people have been fielding public comments on a routine basis and could identify existing problems with the way recyclables are currently treated in the home, current barriers to participation and possible reactions to changes in proposed programs.

Opinions from area visitors, who are residents of large Ontario centres such as Hamilton and London, were also solicited as both an indicator of the opinion of seasonal residents and to obtain feedback on the recycling programs offered in these larger municipalities. Finally, voluntary input was received from a specialist in the design of learning programs on the requirements for effective

public education programs, from a former designer of school curricula on curriculum development, and from an early childhood educator on how attitudes and practices supportive of the waste management process could be introduced for the earliest years into family discussions.

This informal public input is estimated to have involved at least 100 hours of one-to-one interviews and direct follow-up writing.

5. 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 endeavors can vary greatly and depends on a municipality's size, geographic location and population.

The Municipality of Magnetawan shares a number of common characteristics with other small communities in the Almaguin region that impact blue box recycling efforts:

1. It is located long distances from potential end-users of recycled material. In order to participate in recycling at all, waste that would otherwise be handled within the Municipality's boundaries must be shipped long distances, resulting in increased transportation costs and related environmental damage. This highlights the importance of ensuring that the recyclable material that is collected and shipped by the Municipality actually meets the criteria established by the end users/collection contractor and is not simply going to end up at a landfill site somewhere else.

2. It has a small population and a low population concentration. These characteristics have a number of likely consequences:
   a) It takes a long time to accumulate quantities of material worthy of transport. As a result, it is important that the collected products are properly protected at the landfill sites while they await shipment. And it is particularly important that the products are clean when they are collected, so that there will be no foreign matter to decompose and attract animals while they await shipment.

   b) It is generally not economically feasible to invest in processing equipment or other large undertakings. Not only do the costs have to be borne by a small number of households, but due to obsolescence/technological improvements it is less likely that acquired infrastructure could be used to capacity before requiring replacement. Small municipalities generally must rely on a limited group of available external contractors to process and market their recyclables. This reduces their own ability to choose the suite of materials to be included in the program, as well as the way the materials are collected, as these are more likely to be tailored to the processing capabilities of the selected contractor.

c) It is much more convenient than in an urban environment to dump waste on the roadside. The imposition of garbage limits or mandatory recycling are less likely to be effective when people have the opportunity to dispose of their excess waste in this way without being detected.

3. It has a large number of seasonal residents. When engaging the community, note must be taken that seasonal residents will be accustomed to different waste disposal rules in their home municipality, and may not approach the recycling and environmental stewardship responsibilities with the same commitment as permanent residents.

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

- Waste Diversion Ontario requirements – the Municipality had not considered the need to develop a waste recycling strategy until it was made aware that not having such a plan would negatively impact the amount of WDO funding it could expect to receive;

- Conserving landfill space – extending the life of the Municipality's two landfill sites has been a municipal concern for a number of years. This is the main reason that the Municipality had undertaken blue box recycling and other diversion measures prior to the implementation of a formal plan;

- Improving cost/efficiency – preliminary work on the plan indicated that opportunities for cost savings/efficiency gains could likely be realized by making some effort to implement other good and best waste recycling practices. As the plan developed then, WDO funding considerations became a subordinate driver to the possibility of improving the existing recycling program within the budget constraints of the Municipality.

6. Goals and Objectives

The Municipality of Magnetawan has identified a number of goals and objectives that it hopes to achieve by implementing its Waste Recycling Strategy. These are summarized in the table below and discussed in Appendix B.

Waste Recycling Goals and Objectives	
Goals	**Objectives**
To expand the lifetime of existing landfill sites, at least in Ontario if not more globally	The Municipality cannot reasonably quantify a target for this goal. This is the super-ordinate goal of the Municipality with respect to waste recycling and diversion efforts more generally and its achievement will automatically flow from the attainment of the subordinate goals and objectives outlined below.
To improve the cost-effectiveness of recycling in our Municipality	To reduce recycling costs per tonne of material marketed by 3% within four years.
To increase capture rates of properly-handled blue box materials through existing and future programs	To increase capture of properly handled blue box municipal solid waste by 10% within four years, measured indirectly by a 13% increase in the quantity of recycled material marketed.
To increase proper participation in the recycling program	To determine the existing participation rate in the recycling program and show continuous improvements in this rate over the planning period.

Although these objectives may seem modest when compared to those suggested in the CIF Guidebook, it has to be recognized that the Municipality of Magnetawan cannot reasonably employ many of the initiatives that would allow larger municipalities to achieve more demanding targets. For example, the mix of recyclable material accepted in the blue box program is not, in any meaningful sense, controlled by the Municipality, but rather, is dependent on the collection and processing capabilities of its recycling contractor.

To achieve and measure the established objectives the Municipality intends to:

- Develop an effective promotion and education program for staff and residents to promote blue box recycling, other diversion efforts and waste reduction;
- Collaborate with neighboring municipalities in common recycling initiatives in order to minimize costs to each;
- Minimize reliance on external consultants to implement recycling initiatives;

- Establish a system to determine baseline participation rates in 2011 and to track participation thereafter.

As valuable as these initiatives will be, for at least two decades it has been recognized in Ontario and elsewhere that the growing problem of waste creation and disposal in human societies must be addressed by a three-stage process designated Reduce, Reuse and Recycle. From this perspective, the Blue Box and other diversion and waste disposal processes are dealing with potential waste that results in large part from the purchase of materials for show rather than need, and from people not making full use of these purchases – that is, from immature consumer behavior in the first two Rs. Although communities are not presently required to undertake a government-identified set of actions for these components, they are asked to encourage public initiatives.

It has to be recognized that Recycling, Reusing and Reducing require increasingly greater changes in public attitudes and behavior – i.e., in new consumer learning – which will in turn require increasingly more sophisticated and deliberate designs of public learning programs. To initiate long range thinking in this area, we asked our volunteer learning programs designer to briefly summarize the tasks that effective education programs must tackle (see Appendix C).

7. Current Solid Waste Trends, Practices and System and Future Needs

Community Characteristics

In 2008, the Municipality of Magnetawan had a population of 1,610. The Municipality is home to 700 households of which one is a multi-family household. There are also an additional 1,200 seasonal dwellings, which are generally occupied from mid-June to mid-September.

The data presented in the remainder of this section is based on estimation techniques outlined in the CIF Guidebook. Since the CIF Guidebook presents 2008 municipal data, the Municipality of Magnetawan's 2008 results are used as baselines below. It should be noted that the estimation techniques presume that there will be no perceptible change in the quantity of waste generated per household or in the composition of this waste over the ten-year planning period.

Current Waste Generation and Diversion

Currently, the Municipality is estimated to generate approximately 750 tonnes of residential solid waste per year. Of this, approximately 21%, or 160 tonnes is diverted through the blue box program. Currently the most common material recycled is paper, while the least is glass.

The table below summarizes the 2008 waste generation and blue box diversion rates.

Residential Solid Waste Generated and Diverted through Blue Box		
Residential Waste Stream/Blue Box Material	**Tonnes**	**Percent of Total Waste**
Total waste generated	750	-
Papers (ONP, OMG, OCC, OBB and fine papers)	119	15.9%
Metals (aluminum, steel, mixed metal)	11	1.5%
Plastics (containers, film, tubs and lids)	20	2.7%
Glass	10	1.3%
Total Blue Box material currently diverted	**160**	**21.4%**

As the table below indicates, the Municipality's 2008 diversion rate is slightly above average for the comparable WDO municipal groupings.

Average Blue Box Diversion Rate (year)	
The Municipality of Magnetawan	21.4%
Municipal Grouping: rural collection north	19.7%
Municipal Grouping: rural depot north	20.3%

Potential Waste Diversion

The Municipality's current waste composition was estimated using representative waste audit data from municipalities across Ontario.

A total of approximately 216 tonnes of blue box recyclable materials are available for diversion, of which approximately 56 are still currently in the waste stream. Estimates of blue box material available for diversion are listed in the table below.

Current and Potential Diversion			
Material	**Total Available for Diversion (tonnes/year)**	**Currently Recycled (tonnes/year)**	**Potential Increase (tonnes/year)**
Papers (ONP, OMG, OCC, OBB and fine papers)	132	119	13
Metals (aluminum, steel, mixed metal)	16	11	5
Plastics (containers, film, tubs and lids)	42	20	22
Glass	26	10	16
Total	216	160	56

Diverting the blue box material remaining in the Municipality's waste stream could raise its waste diversion rate to 28.7%.

Existing Programs and Services

Currently the Municipality has the following policies and programs in place to manage residential solid waste:

- Landfill passes – landfill passes are issued to all households and commercial enterprises within the Municipal boundaries. Access to municipal landfill sites is denied without a pass.
- Tipping fees – tipping fees are charged on selected bulky items and construction waste.
- Diversion programs – the Municipality offers a number of waste diversion programs in addition to its blue box program.

The Municipality's Overall Waste Diversion Plan, of which the blue box plan is one component, is presented in Appendix D.

Collection services of regular waste and recyclables are provided to approximately 150 households and small businesses (approximately 8% of all permanent and seasonal households) in the Village of Magnetawan via a collection contractor. Once collected, the recyclables are taken directly to a materials recycling facility in Bracebridge. The remaining ratepayers are required to drop off their waste at one of the Municipality's two landfill sites from where recyclables are accumulated and periodically transported by the contracted collector to the materials recycling facility in Bracebridge.

Disposal and recycling services are paid for primarily through the general tax base, with additional special area rates applied to the Village taxpayers to cover the cost of collection services.

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

- BFI Canada Inc. collection contract – BFI is currently contracted to collect waste and recyclables in the Village of Magnetawan and is also used for the collection of

recyclables from the Municipality's two landfill sites. This contract expires in December 2010. Municipal staff is currently in the process of preparing a request for proposal for collection services.

In 2008, the total net annual recycling costs for the Municipality were approximately $81,000. This amounts to approximately $500 per tonne, or $50 per capita. For WDO purposes, the Municipality of Magnetawan is classified in the municipal grouping Rural Collection North, and as the table below shows, net annual recycling costs for the Municipality are average when compared to this municipal grouping for the same time period. Since the majority of municipal recyclables are processed through a depot system, comparative data for this municipal grouping is also presented in the table. Compared to other rural depots, The Municipality of Magnetawan's net annual recycling costs are below average.

Net Recycling Cost (per tonne per year)	
Municipality of Magnetawan	$ 500
Municipal Grouping: Rural Collection North	$ 509
Municipal Grouping: Rural Depot North	$ 982

Anticipated Future Waste Management Needs

Solid waste generated rates in the Municipality are expected to grow by 8% over the next ten-year planning period. This was determined by trends in new housing construction in the Municipality which is estimated at 4% over 5 years. The table below depicts the expected growth rates for solid waste generation and blue box material recovery.

Anticipated Future Solid Waste Generation Rates and Available Blue Box Material			
	Current Year	**Current Year + 5**	**Current Year + 10**
Population	1,610	1,674	1,741
Total Waste (tonnes)	753	783	814
Blue Box Material Available (tonnes)	216	225	234

8. Planned Recycling System

Overview of Planned Initiatives

The Municipality reviewed a number of options suggested in the CIF Guidebook for consideration in its Waste Recycling Strategy. The options were then scored based on a number of criteria, which included:

- Economic feasibility;
- Accessibility to Public;
- Ease of Implementation;
- Contribution to WDO funding.

A summary of the options reviewed, their scoring and a brief discussion of the scoring criteria is provided in Appendix E.

Once scored, the top ranking Waste Recycling Strategy options were organized into Priority Initiatives and Future Initiatives. Priority initiatives were established based on the perceived urgency of implementing the initiative and work on these initiatives is expected to commence in 2010 and 2011. Future initiatives are not considered to be urgent: in some cases work on these initiatives would commence in 2012 and be phased in over the remainder of the planning period; in other cases they represent ideas that should be considered during each term of Council, but may not necessarily ever come to fruition. Appendix F provides details of the timing of planned initiatives and the Municipality's continuous improvement plan.

The total present value of the identified cost of implementing the initiatives is estimated to be approximately $55,000 over the ten-year period, a large component of which is the opportunity cost of having staff time diverted from other activities. It should be noted that these costs could be potentially reduced considerably by partnering with neighboring municipalities in the implementation of common initiatives. The table below provides a summary of the Priority Initiatives and Future Initiatives and their estimated costs. A review of these initiatives and their steps for implementation is presented on the following pages.

Priority and Future Initiatives			
Initiatives	**Net Implementation Costs**	**Annual Net Operation Costs**	**Total Net Cost over 10 Years**
Priority Initiatives			
GAP for Effective Procurement and Contract Management	$250	$100	$1,500
Public Survey	$800/survey	$0	$2,400
Suite of Educational Material	$1,500/document	$1,000	$22,000
Community Contest	$0	$1,500	$15,000
Intra-municipal committee	< $0	< $0	< $0
Future Initiatives			
Website	$1,000	$100	$1,900
Enhancement via signage and recycling bins	$10,000	$0	$10,000
Waste Specialist	not determinable at present		
Mandatory Recycling	$2,000	negligible	$2,000
School Curriculum	if pursued, work performed by volunteers		
Estimated Total Net Costs			**$54,800**

Priority Initiatives

Initiative 1: Following Generally Accepted Principles (GAP) for Effective Procurement and Contract Management

Overview: The Municipality contracts out the collection and processing of recyclables and this aspect of recycling represents a significant portion of the current overall recycling costs to the Municipality. Consequently it is important to ensure the Municipality obtains good value for its money by following GAP for effective procurement and contract management. Since the current collection and processing contract will end late in 2010, this initiative must be implemented immediately.

Implementation: The CIF Guidebook provides an overview of this generally accepted principle. The Public Works Superintendant will review the Guidebook material and incorporate, to the extent possible, the applicable aspects of GAP into the contract negotiation process. The Municipality's inquiries revealed that the choice of contractors available to the Municipality could be quite limited. However the Municipality of Magnetawan will:

- Attempt to obtain multiple bids;
- Use a RFP that is open to suggestions about the suite of materials collected, the amount of source-separation of materials, collection frequency and the term of the contract;

- Specifically identify services that the Municipality will require from the contractor to execute other aspects of this Waste Diversion Strategy. This will include ongoing monitoring and reporting on tonnage and residue rates, the periodic collection of participation rate data, the periodic review of specific Municipal education and promotion material and ongoing communication about opportunities for improvement.

The implementation of this initiative is not expected to add significantly to the time currently devoted to contract management duties. It is estimated to add $1,500 over the planning period.

Initiative 2: Distribution of Public Surveys and Analysis of Data

Overview: A key component in the development of this Waste Recycling Strategy is to obtain feedback from the Municipality's households that will then be used to refine other initiatives and to make revisions to future versions of the Municipality's Waste Recycling Strategy. A draft version of the survey that has been designed for this purpose is provided in Appendix A. There are two types of samples commonly used to sample public opinion and understanding. The "opportunity sample" determines the opinions of easily available groups (which in this case might be people who attended a public meeting or people that come to the landfill sites). While the use of such a sample is convenient, the resulting problem is that we never know how well the data they yield reflect overall public opinion. To overcome this problem the Municipality will use a "random sample", in which participants are drawn randomly from a list of taxpayers, surveys are mailed out, and some follow-up is made by municipal staff to ensure that selected taxpayers respond to the survey.

Implementation: Depending on the variability in the responses received, it is anticipated that a sample of approximately 50 householders would be sufficient to draw meaningful conclusions about the entire population. Such a sample will be taken immediately. Subsequent samples are anticipated at least once every four years (to coincide with planned updates to the Municipality's Waste Diversion Plan). The basic steps involved are:

- Prepare pilot test and modify the survey;
- Select the participants by way of a random sample from a list of taxpayers;
- Mail out the survey;
- Follow up on non-returns by way of a subsequent letter;
- Compile and analyse the data collected;
- Incorporate the results into the impacted diversion initiative.

The costs associated with each such survey are estimated to be approximately $800.

Initiative 3: Creation of a Standard Suite of Information Material as Part of a Public/Staff Education and Promotion Program

Overview: Staff and public education and promotion programs are seen to be critical for ensuring the effective and efficient operation of local recycling programs and in fact, on their own are considered to be fundamental best practices and contribute toward the amount of WDO funding a

municipality receives. Such programs are cited to lead to both higher rates of diversion and less contamination/residue rates in the recovered material. The Municipality currently has little promotional/education material available. Collection calendars are distributed annually to those residents with curb-side collection, but these: a) presume that the everyday user is versed in recycling jargon and symbolism; b) do not dissuade householders from recycling contaminated/non-usable items.

For these reasons, the creation, over time, of a collection of educational and motivational material has been determined to be an important initiative. A set of informational material is envisioned that would employ both survey information on the existing status of householder recycling knowledge and principles of adult learning identified in Appendix C. These might include:

- What to do with the waste you generate – this would include information on all of the diversion programs offered by the Municipality, including blue box recycling, as well as what residual waste is/is not accepted by the Municipality and why residents should participate;
- How you should participate – this would provide details on the benefits of specific diversion programs (specifically blue box and hazardous waste), the materials that are/are not accepted, and how these materials should be treated prior to setting them at the curbside or taking them to the depot (separate, condense, clean, etc.);
- The "ideal" recyclable – to provide an explanation of why the Municipality would like to see recyclable materials treated a certain way by the householders;
- Diversion opportunities provided by other local enterprises – this would provide information about diversion opportunities provided by non-municipal enterprises (such as the deposit return program offered by the LCBO, electronic depots, charitable organizations);
- How to conduct family discussions to ensure that all members understand and participate in the family's waste management strategy.

In accordance with adult learning principles all the designed material should include: i) an attention-getting or provocative stimulus that would prompt a householder to read it – an important consideration given the many brochures and leaflets in a typical day's mail; ii) a motivational message to encourage people to act on the information provided; and iii) an invitation for public feedback on the material and on waste matters more generally. Examples of the first element might be: "Did you know that our landfill site will cost municipal taxpayers hundreds of thousands of dollars over its lifetime?"; or "Waste Management: Every family's responsibility". The public comment elicitation might read "The Municipality welcomes your input into its waste management practices – please contact your municipal office with your comments or suggestions".

Implementation:

This initiative contemplates the initial in-house creation of a set of publications that could be used as-is or easily tailored to specific mediums and target audiences at a later date. For example the basic content could be reshaped and incorporated into signage, blue box labels, brochures, newspaper advertisements. The creation of each such publication would involve the following steps:

1. Define who the intended initial audience of the publication is (e.g., all ratepayers, specific target audience), the message medium and the initial distribution plan so the basic template can be geared to this;
2. Identify the intended learning objectives for the material and an outline of the content needed to achieve or support them – using survey information on the present level of recycling attitudes and behaviours;
3. Determine if existing material from other municipalities have adequate content: if not, have someone (paid or volunteer) produce the material;
4. Prepare the budget for the creation and initial distribution of the material;
5. Draft a copy of the publication, including any graphic design to be created in-house;
6. Have the content reviewed/approved by other Municipal staff;
7. Arrange for the production/graphic design if this is to be performed externally;
8. Roll-out the publication, including ensuring that all staff members are familiar with/versed in the content and could appropriately answer any questions from the public that may be fostered by the publication.

For the purposes of this strategy, the cost to produce each such publication has been estimated at $1,500, representing an average of estimated costs for various approaches currently being considered. This excludes the cost of any direct distribution to householders: distribution is currently planned to be on an opportunistic basis (e.g., distributed by office staff at the municipal office and by landfill attendants at the landfill sites) so that costs associated with actual distribution can be minimized.

Initiative 4: Intra-Municipal Committee

Overview: Municipalities in the local area have formed an informal Clerk's group, who meet periodically to discuss issues of common interest. Most recently, a group of staff from thirteen local municipalities, including Magnetawan, pooled information, staff and financial resources to perform work related to the 2010 election. In the same way, the creation of a local municipal recycling committee would help to identify and coordinate opportunities for beneficial collaboration. By taking advantage of economies of scale, many of the other initiatives identified in this plan could be jointly implemented to the mutual benefit of participating municipalities.

Implementation: Many local municipalities have, or are in the process of, developing Waste Recycling Strategies of their own, and these plans will have identified initiatives common to all municipalities. Initially working through the informal Clerk's group, the Municipality of Magnetawan will gauge the interest of other local municipalities, most immediately the townships of Strong and McMurrich/Monteith and the Municipality of Whitestone, in the sharing of resources related to specific initiatives. If interest exists, representatives from each Municipality will meet periodically to discuss and coordinate the implementation of selected waste recycling initiatives.

The anticipated net cost of implementing this initiative is negative. That is, the additional staff time required to co-ordinate, meet, and carry out assigned tasks is expected to be more than offset by a reduction in the implementation costs of the other identified strategies. This is supported by the

fact that WDO data reveals that it is significantly less costly to operate regional recycling programs (1/3 to ½) than it is to operate independent rural programs.

Initiative 5: Community Contest

Overview: Research has shown that simply building the public's awareness through the static dissemination of information is not sufficient to change behaviour. A superior public outreach and education program would incorporate complementary programs to "create a buzz" in the community and get people actively participating in promoting the recycling message. To this end, an annual community contest will be organized: the first such contest could potentially have the theme of creating recycling signage that could then be displayed throughout the community (see Future Initiatives below).

Implementation: The basic steps involved in this initiative are:

1. Establish the terms of the contest (open or restricted invitation, theme, contest rules, prizes, how winners are to be determined);

2. Make people aware of the contest through some form of advertising;

3. Choose and announce the contest winners (possibly at a community event like a fall fair);

4. If applicable, take the steps necessary to use the contest output in the Municipality's operations (e.g., install the signs in chosen locations).

The contests should take place in the summer so that both permanent and seasonal residents could participate. It is estimated that the annual cost of this initiative would be $1,500.

Future Initiatives

Initiative 1: Website Distribution of Promotional Material

Overview: The Stewardship Ontario website has a "What Goes In" page that allows users to find out what can be recycled in their municipality (see Appendix G for Magnetawan's current listing and the Stewardship Ontario Blue Box Update form). It also provides a link to the Municipality's own website when this has been activated. The link is not currently active for Magnetawan, and there is little information available on the Municipality's own website regarding waste recycling. Further to Priority Initiative 3 (above), the Municipality will specifically customize some of the promotional/educational material for publication on the Municipality's website.

Implementation: Once the content of the informational publications noted in Initiative 3 have been developed they will be reshaped into a municipal website page, drawing on samples from other municipalities. The information will be updated on an ongoing basis as required. The

Stewardship Ontario information will be updated once the new collection contract has been established and thereafter updated annually as part of the WDO datacall procedure.

The initial website development costs are estimated to be $1,000. Annual ongoing maintenance is estimated to be $100.

Initiative 2: Enhancement of Landfill Sites (and other public places) via Signage and Provision of Recycling Bins

Overview: Signage/the provision of recycling bins in strategic public places can be used as permanent reminders to residents, vacationers and travellers to dispose of their waste properly. The following strategic locations, in order of priority, are being contemplated:

a) At the landfill sites: signage at the landfill sites should take two forms. First, specific instructions about what is acceptable/not acceptable should be provided at the locations where the recyclable material is collected. This should include a brief message about the "ideal" recyclable (not dirty, saturated, no mixed materials) and the fact that unless the item is specifically listed it should not be put in the recycling area. Second, a permanent recycling message should be located in a prominent location at the landfill site (e.g., gates or waste disposal area), possibly as part of an informational sign about all of the diversion programs offered (tires, electronics, hazardous/electronic waste, reuse areas if applicable). Magnetawan currently has the latter type of sign posted at its landfill entrances.

b) At public places (downtown areas, parks, tourist information centres, arenas/community centres). Recycling bins should be made available in public places wherever general garbage bins are provided to reinforce the message that recycling efforts should not end in the home. Furthermore, the bins should be appropriately identified and specific instructions should be provided. Depending on the location, instructions could include such things as: don't put general waste in the recycling bin--if the receptacle is full, consider taking your garbage home with you, or to another public disposal bin; don't contaminate the recyclables with general waste or containers with noticeable food particles; no food scraps; no hazardous waste; return refundable bottles and cans to the retailer.

c) Signs for Strategic locations. As part of a regional message, municipalities could consider the development of billboards to be posted at strategic locations (entrances to access highways, entrances to the municipalities, at municipal offices, Visitor Information Centres) that display an environmental message such as "Enjoying our natural environment? Then how about helping to preserve it? Be responsible when you dispose of your waste. And please remember to recycle".

Implementation: This initiative will be phased in over the ten-year planning period. The basic steps involved in implementation will be:

1. Identify the "strategic locations" within the Municipality and prepare an inventory of signage/receptacles currently available at each location and the medium that would be

most suitable to augment the existing inventory (e.g., signs, receptacles, signage for receptacles);

2. Prioritize the locations in terms of perceived impact on the amount/quality of recyclables collected;

3. Based on the current-year's budget constraints, choose locations to be augmented in the current year and prepare draft of required message including any graphic design;

4. Arrange for the production/installation of the medium;

5. Monitor/maintain on an ongoing basis.

Assigning an overall cost to this initiative is not feasible, since it clearly depends on the number of locations identified, what currently exists and what medium will be used to augment the existing facilities. As a minimum, landfill signage that provides specific recycling instructions must be developed. For the purposes of this plan an overall cap of $10,000 has been established for expenditures in this area.

Initiative 3: Intra-Municipal Waste Specialist/Employee

Overview: Many local municipalities, including the Municipality of Magnetawan, have assigned responsibility for waste disposal/diversion to their senior public works employees, who are not waste specialists, who may not have the opportunity to put waste at the top of their priority list, and who would not typically have a lot of free time to take on the additional waste diversion duties necessitated by this plan. Building on the success of less risky initiatives pursued jointly through the above-noted inter-municipal committee, at some point in the future the Municipality of Magnetawan *may* consider the hiring of a joint local waste specialist whose responsibilities could include such things as:

- Keeping abreast of waste-related legislation, diversion opportunities and funding opportunities on behalf of the municipal collective and ensuring the municipal policies comply with this legislation and take advantage of opportunities presented;
- Identifying opportunities for inter-municipal co-operation with respect to collection and processing of waste, recyclables and other diverted material;
- Preparing the annual WDO datacall for each participating municipality;
- Designing educational and promotional material for the municipal collective;
- Overseeing summer students hired to do waste-diversion work;
- Coordinating the monitoring/evaluation/reporting of recycling efforts and the periodic update of the Waste Recycling Strategy.

Implementation: The concept of a local waste specialist would only work if a sufficient number of local municipalities were interested in the idea. A logical starting point would appear to be The Armour, Ryerson and Burk's Falls TRI-R who recently hired a part-time waste specialist of their own,

and who may have some future interest in making her services available to other local municipalities through one of any number of possible arrangements.

For the purposes of this Waste Recycling Strategy the cost of this initiative has not been established. Inter-municipal work would necessitate some co-ordinating effort that would not be required with a municipal-specific employee. However, this would be expected to be recovered through the higher performance and responsiveness of a waste specialist over that of a jack-of-all-trades and the elimination of the duplication of effort that is currently required to keep up to date at the independent municipal level.

Initiative 4 – Mandatory Recycling

Overview: A fundamental best practice in waste recycling is to implement established and enforced policies that induce waste diversion. It is commonly understood that human beings are motivated to act through a combination of anticipated rewards for doing it (the "carrot") and anticipated punishments for not doing it (the "stick"). Mandatory recycling would work on the punishment side of the equation. Public opinion on this initiative will be collected in the initial public survey.

Implementation: Mandatory recycling could be enforced by removing landfill privileges for households that do not participate in recycling or by making it an offense (enforceable through the Provincial Offences Act) not to recycle. It would involve:

- Creating a By-Law that makes "proper" recycling mandatory in the Municipality;
- Making the public aware of this by-law and how it will be enforced;
- Actually enforcing the By-Law. For households with curb-side collection, enforcement could be handled by accepting waste only from households that also have properly treated recyclables at the curb-side. At the landfill sites, landfill security (who already tracks the type of material entering the sites) could enforce the policy in the same way, denying access/issuing fines when recyclables are not separated from the other waste and the recyclables are not properly handled.

Given the existing collection and monitoring practices of the Municipality of Magnetawan, the incremental cost of enforcing this policy is considered to be negligible.

Initiative 5 – School Curriculum Assistance to Waste Management Initiatives

Overview – On a grand scale, the main problem facing municipalities with regard to waste management is that we are combating a "wastefulness mindset", part of our modern way of life, in which increasing public consumption is the driving force of our economy and the accompanying creation of waste a secondary or even minor concern. The general householder philosophy would appear to be "if I want it and I can afford it, I am entitled to have it". For waste management efforts to be successful in the long-run, the basic attitudes and habits required to realize the 3 Rs must be inculcated from the early years of life. This inescapable reality suggests that municipalities should, as a long-term project, negotiate a more comprehensive and cumulative treatment of 3R practices

in a compulsory school curriculum component that includes the learner's engagement and upgrading of both school and family waste management practices.

Because the likelihood of such an initiative is small and an adequate account of it lengthy, in order not to interrupt the follow of this document this account appears as Appendix H.

Contingencies

Even the best planning can be delayed by a variety of foreseen and unforeseen circumstances. Predicting and including contingencies can help to ensure that these risks are managed for minimum delay. The timely implementation of the planned initiatives rests largely on the availability of staff but will also require the necessary financial resources. The table below identifies contingencies for possible planning delays.

Waste Recycling Strategy Contingencies	
Risk	**Contingency**
Lack of available staff	Implementation of the plan will require that existing staff devote a greater proportion of their time to waste recycling efforts: this will only be possible if their workload in other areas is reduced. If this is not feasible, summer students or other part-time assistance can be used to augment existing staff. Alternatively, more urgency could be placed on engaging a local municipal waste specialist who can work with a municipal collective.
Insufficient funding	Collectively the planned initiatives are considered to be economically feasible. If insufficient funding is available to initiate the plan, consideration should be given to the following: temporarily diverting funds earmarked for landfill closure to implement the waste recycling initiatives; delaying expenditures in other areas of the Municipality's operations; approaching community-oriented organizations to volunteer time to assist with the implementation of the initiatives.
Unexpected public reaction to planned recycling initiatives	This strategy calls for ongoing public feedback, including: an invitation to comment on all developed promotional material; public surveys; discussion of initiatives in annual budget procedures; face-to-face interaction by office and landfill staff. If the initiatives are not having the desired effect on the program performance, Council may be required to become more active in the promotion and education program.
Problems with inter-municipal arrangements	When implementing multi-municipal initiatives, adhere to the principles reflected in the seven-step approach to implementation as outlined on page 86 of the CIF Guidebook.

9. Monitoring and Reporting

The monitoring and reporting of the Municipality's recycling program is considered a Blue Box program fundamental best practice, and in and of itself is a key component of the WDO funding formula and of this Waste Recycling Strategy. It is cost-prohibitive for the Municipality to implement formal qualitative/quantitative research in their monitoring program: once implementation of the strategy begins, the performance of the waste recycling system will be informally monitored and measured against the 2010 baseline established. Once the results are measured, they will be reported to Council and the public via the Municipality's annual "Performance Measurement Information Publication for Taxpayers", which, by Ontario Regulation, must be published annually. This is seen as the most cost-effective way to disseminate this information to Council and the public as the existing recycling information contained in the report would only have to been expanded.

The Municipality considered whether it could economically monitor/measure the program results when it selected the recycling targets outlined in the Goals and Objectives section of this document. The approach for monitoring the waste recycling program is outlined in the table below.

Recycling System Monitoring		
Monitoring Topic	**Monitoring Tool**	**Frequency**
Tonnes of recyclables marketed	Data supplied by contractor.	Ongoing, with annual tally done in conjunction with WDO data-call
Residue rates	Data supplied by contractor . Note that residue rates reported by contractor are averaged over the whole region and Municipal-specific data is not available. Consequently, even though reducing residue rates is important to the Municipality of Magnetawan, no specific target has been set in the Goals and Objectives section.	Annually in conjunction with WDO data-call
Program participation	Collection areas: monitoring set-out rates for one day two times a year-include as part of collection contract if possible or performed by Municipal staff. Non-collection areas: count of % of incoming vehicles (non-dedicated loads) by landfill security/attendants on an ongoing basis.	Ongoing, with annual tally done in conjunction with WDO data-call
Opportunities for improvement	Tracking calls/complaints received at the Municipal Office and Landfill Sites	Ongoing: already tracked as part of the MPMP data to be collected.
Planning activities	Review the recycling initiatives undertaken in the prior year and specific activities and associated cost estimate for current year.	Annually as part of the budgeting process.
Review of Recycling Plan	Council and responsible staff to review and revise, if appropriate, the existing Recycling Strategy to ensure that the selected initiatives are still appropriate and are being implemented, and to move forward with continuous improvement.	Once every four years- for each term of Council

10. Conclusion

The management of municipal solid waste, including the diversion of blue box materials, is a key responsibility for all municipal governments in Ontario. The Municipality of Magnetawan has used the CIF Guidebook to develop a waste recycling strategy that is consistent with the provincial expectations for waste recycling planning. By preparing the strategy the Municipality has:

- Clarified its waste recycling goals;
- Established specific targets against which actual program performance can be measured;
- Identified cost-effective solutions to increase blue box diversion;
- Produced a reference guide for future waste recycling activities to be incorporated into the annual budgeting process.

The strategy requires, at least in the short run, that a greater proportion of the Municipality's human and financial resources be devoted to waste recycling initiatives. The payoff will be long-term increase in the efficiency and effectiveness of the Municipality's waste recycling program.

Appendix A
RESIDENTIAL SOLID WASTE DIVERSION SURVEY

The creation and disposal of garbage is becoming a major problem for municipalities. It also has major consequences for all families in our community. For starters, meeting Government regulations for setting up, maintaining, monitoring and closing municipal landfill sites will typically cost hundreds of thousands or even millions of dollars over the life of the landfill site--money that will come out of the pockets of taxpayers, their children and grandchildren. But more than that, it is generally understood today that the creation of unnecessary waste, particularly waste that damages the environment, is simply the wrong thing to do.

The Municipality of Magnetawan recently adopted a waste diversion plan. In part, this was to ensure that the Municipality continues to qualify for the Government funding available for waste diversion purposes. More importantly, the Municipality is committed to doing its part to ensure that taxpayers have both the opportunity and the knowledge required to divert their waste to better purposes and that these opportunities are provided in a cost-effective manner.

The Municipality needs public feedback so it can now move on to implementing its plan. You have been randomly selected from a list of taxpayers to receive this survey. In order that our data be representative of the views of the community, it is important for you to take a few minutes to complete the survey and return it to your municipal office. If you are a seasonal resident, please answer the questions as they relate to what you do in the Municipality of Magnetawan.

Please note that survey responses will be kept anonymous, so you should feel free to answer the questions honestly.

1. In the table below, column headings represent different types of waste diversion programs commonly available in the region. Please circle the headings for those waste diversion programs you participate in. For those categories you have not circled, please tick the boxes that best reflect why you don't participate:

	Blue Box Recycling	Hazardous Waste	Electronics	Scrap Metal	Composting	LCBO/Beer Store
Not available in my municipality	☐	☐	☐	☐	☐	☐
I don't have this type of waste	☐	☐	☐	☐	☐	☐
I don't have the time	☐	☐	☐	☐	☐	☐
I don't have the storage space	☐	☐	☐	☐	☐	☐
I don't consider this important	☐	☐	☐	☐	☐	☐
Other (please specify) _____	☐	☐	☐	☐	☐	☐

2. Do you sort your potential waste material into categories before you dispose of it? If so, please list the categories that you currently use to sort your potential waste:

a) _____
b) _____
c) _____
d) _____
e) _____
f) _____
g) _____
h) _____
i) _____
j) _____

3. Blue box recycling is not mandatory in the Municipality of Magnetawan. Please check the box that you agree with:

I think mandatory blue box recycling should be enforced by the Municipality ☐

I think blue box recycling should be on a voluntary basis only ☐

4. Please indicate by ticking in the related box which of the following statements best represents what you would be willing to do in your own home in regard to waste management:

(a) I am satisfied with the way we deal with potential waste in my home and see no reason to modify our present practice. ☐

(b) I would be willing to make the effort to learn and use a new way of sorting potential household waste if it will save taxpayers money or better protect the environment. ☐

(c) In addition to (b), I would be willing to make the effort to use opportunities described to me to reduce the amount of potential garbage generated in my home, and to re-use or enable others to re-use items that we would normally just put in the municipal landfill site. ☐

5. If we were to send promotional/educational material to residents, which sources would you most likely to give your attention to? Please check those that would apply:

local newspaper (specify paper): _____	☐	handout at office or landfill site	☐
mail-out dedicated to the subject	☐	municipal website	☐
other (please specify) _____	☐	insert in tax bill	☐

6. Is there any specific waste diversion information that you would be interested in receiving? If so, please describe below:

_____

_____

7. Do you have any other comments you think we should consider in the implementation of our waste diversion plan. For example, can you suggest any "rewards" or "penalties" that would encourage you to participate in diversion programs? Do you have any suggestions about improvements that could be made to the diversion programs offered? Are you aware of other diversion opportunities in the area (e.g. people who are interested in receiving particular types of waste material)?

_____

_____

_____

_____

_____

_____

_____

_____

THANK YOU FOR YOUR ASSISTANCE
PLEASE RETURN THE COMPLETED SURVEY TO YOUR MUNICIPAL OFFICE IN THE ENCLOSED POSTAGE-PAID ENVELOPE

Appendix B

Waste Recycling Goals

The establishment of goals for the Municipality's waste recycling and diversion programs was considered to be an extremely important step in the development of this Waste Recycling Strategy. The stated goals will hopefully serve as a constant reminder for staff and residents of what the community is actually trying to achieve through its waste recycling and diversion efforts. In arriving at the goals stated in the Waste Recycling Strategy, careful consideration was given to the possibilities outlined in the Continuous Improvement Fund's Guidebook.

From the point of view of social betterment, the overall objective should be to reduce the amount of waste presently being created and treated in modern life: by reducing the quantity of waste, we reduce the harmful health and environmental consequences associated with it, and we reduce the financial resources required to deal with it. The big picture for this is to think about the waste stream that we create and try to deal with. This begins with the creation of potential waste through the things people purchase, can be reduced by things taken out of the stream and reused and finally culminates in potential waste that is either recycled through a blue box or other diversion program or permanently disposed of in a landfill site.

Thus the initiatives organized around this larger picture of the waste stream will serve a larger purpose that can be described as improvement of the community that could produce such tangible spinoffs as improved quality of the environment, improved public health, the creation of local employment and enhanced view of ourselves as stewards of a northern environment.

This larger picture tells us that there can be both positive and negative points to focusing on recycling as an end point. On the positive side, recycling helps to conserve landfill space and thereby allows us to spread the considerable initial landfill development costs and closure and post-closure costs over a longer period of time. It also will help to postpone the inevitable outcry when a new landfill site must be opened in "someone's back yard". At least for some products, recycling might help to conserve valuable raw materials. And since plastics never break down and will leach into the natural environment, removing plastics from the landfill and using them in recycled products reduces the amount of new plastic created and hence the overall accumulation of plastic in our environment.

But there are also significant negative sides to a limited focus on recycling. Aside from the obvious additional operating costs that must be incurred, research casts some doubt on whether recycling produces a net positive benefit on the environment and whether it ultimately conserves our non-renewable and renewable resources. Take as just one example the additional fuel burned in transporting recyclable materials: many argue that this in itself provides a net negative environmental impact and contributes to the depletion of oil at a faster rate. Perhaps most damaging, however, is the fact that many people don't understand the larger picture of waste creation and treatment. Consequently they don't feel badly about their own waste as long as it is recyclable and so make no effort to reduce and reuse—which in the final analysis may be the most critical elements in reducing the waste stream.

In the following pages we use this perspective to give a brief discussion of the goals outlined in the Continuous Improvement Fund's Guidebook.

To maximize diversion of residential/municipal solid waste through the blue box/recycling program

The Guidebook suggests that this should be a key target, with a specific objective such as "divert 25% of municipal solid waste through the blue box program". From the larger perspective of the total waste stream such a goal may actually discourage the reduce, reuse or other diversion possibilities. The emphasis should not be on the percentage of waste coming out of the stream from one particular diversion effort, but should be on reducing the amount that actually comes is into the stream in the first place.

To maximize capture rates of blue box materials through existing and future programs

Unlike "maximizing diversion", one interpretation of "maximizing capture rates" presupposes that the suite of acceptable blue box material has been predetermined and focuses on ensuring that these items are diverted from the landfill site. To clarify this point, a sample target for this goal might be "to ensure 50% of all aluminum cans entering the landfill site are diverted through blue box recycling". This goal is not inconsistent with the overall waste reuse and reduction philosophies. However, the problem with this wording is that, as stated, the objective ignores the contamination of the material captured via improper recycling procedures in the home (items not rinsed, etc.) and does not take into account that diversion efforts are restricted by available funding. To overcome this, the goal could be revised to read **"increase capture rates of properly-handled blue box materials through existing and future programs".**

To improve the cost-effectiveness of recycling in our community

It is understood that a basic municipal responsibility is to provide services to its residents in a cost-effective way. Since it has already been determined that recycling opportunities will be provided in the Municipality, it is important that the cost/unit of material processed through the recycling system is considered. Improving the cost effectiveness of recycling is consistent with the overall waste management goals stated at the beginning of this section.

To increase participation in the recycling program

Ultimately, the reduction of waste from modern living will come down to what the people who create the waste do, and for our purposes what the households in our community do. To the extent that there is agreement about and voluntary involvement with the whole process of waste creation and management, the more likely that municipally-initiated plans will be accepted.

Increased (voluntary) participation is an indication that more citizens are giving thought to the garbage that they create. The limited goal of increasing participation is should be changed to "increase proper participation in the recycling program" so that improper recycling habits are discouraged. This would include more accurate sorting of categories in use and the better preparation of the materials they take to the recycling site.

The larger goal, however, is to make people more aware of and participate more fully in the larger picture of waste creation and management. This has to proceed in small stages over a period of time so that people aren't overwhelmed and discouraged by the task (see Appendix C on effective learning programs).

To expand the lifetime of our landfill site

The motivation for recycling and all diversion efforts is to expand the lifetime of our landfill sites, the reasons for which have already been explained: any other goals can be seen as subordinate to this. Many taxpayers do not realize that part of the output of their recycling program may subsequently be removed to landfill sites in other localities. One reason is that the collectors will usually accept some residue—some proportion of materials that don't belong in the recycling system. Thus a restated objective to be included in the table would be "to expand the lifetime of all existing landfill sites, at least in Ontario, if not more widely".

To manage our waste in our community or as close to home as possible

This goal is not considered to be relevant to the recycling activities of the Municipality. Given the size and geographical location of the Municipality, it is not possible to participate at all in waste recycling in a cost-effective manner without violating this goal.

Appendix C
Basic Elements of Effective Education Programs

The achievement of the highest possible levels of performance in the Reducing, Reusing and Recycling components of personal, family and municipal waste management strategies will require that we all bring more sophisticated attitudes, knowledge, skills and habits to these components. These changes in behavior will require learning that is brought about by a public education program. Both research and life experience have shown that the most common strategy for "educating the public" about desired social behaviors--providing information and associated exhortation--has had little impact in such areas as risky sexual behavior, dangerous driving, smoking and unwise use of alcohol and drugs. So our best prediction is that it will, by itself, have little impact on waste management behavior.

Thus social agencies that want to significantly change behavior--i.e., to get people to learn new things--have themselves to think more deeply about the process of stimulating learning through instruction. The basic elements can be readily understood from our own life experiences as parents and from work. As an example of the former, consider how a parent teaches his child to wash his hands after using the toilet.

1. We recall the components of the process, probably as a minimum something like: soap the hands; scrub; rinse; dry.

2. We recognize increasing levels of maturity in each component. For the child, this might be simply to rub the front of the hands together a couple of times. Elements of increasing maturity or thoroughness would be: scrubbing the back of hands as well; scrubbing wrists; scrubbing between fingers; scrubbing under the finger nails, etc. When we have a set of levels of performance for each component, we have what some learning program designers call a "growth plan for hand washing".

3. When we want to upgrade a person's level in hand washing we first observe where his present performance locates him in this growth plan. This tells us what the immediate next step could be on any component.

4. This clarifies our immediate learning objectives, as follows:

   i) Our bottom line is that we want the person to habitually and independently perform at a now precisely-identified level on the growth plan;
   ii) One supporting objective is that he has the knowledge of the actions he has to take at that level (what is thought of as "know how");
   iii) Another is that he can carry out these steps in modestly varying circumstances (thought of as "skill");
   iv) Yet another is that he have the motivation to use this skill without constant reminder (i.e., that he has an appropriate attitude toward it).

5. In the actual learning encounter (called the learning cycle by some professional learning program designers), the "instructor" must first motivate the learner, then get the "know how" into his mind, then give enough monitored practice and feedback to ensure that the skill is in place and, finally, monitor actual performance to see that the skill is used when the proper occasion arises.

All that has been said above about raising the level of hand washing applies with equal force to raising the level of performance in each of the 3Rs. Although developing growth plans may seem an impossibly challenging task, the fact is that most of the municipal employees that would have "instructional roles" in regard to the recycling plan could easily relate to--if not devise from their shared experience--a growth plan for the recycling behavior with the following levels:

Level 1: Deposits potential waste in the most immediately accessible place (e.g., on own property or along the roadside).

Level 2: Takes all potential waste, without sorting, to the landfill site or curbside collection point.

Level 3: Makes a sorting of household waste that is incomplete or erroneous, according to the existing municipality classification scheme.

Level 4: Makes a complete sorting, but does not prepare the material adequately for receipt (e.g., does not clean properly or compact).

Level 5: Goes beyond Level 4 to prepare material adequately.

Level 6: Does some processing of potential waste that results in a higher proportion being available for blue box diversion (e.g., takes apart compound material whose components are blue box recyclable).

Sketches of growth plans for the processes involved in Reducing and Reusing are contained in a longer account which applies the principles described in previous paragraphs to the development of a comprehensive public education program for waste management that spans the range from the preschool to the adult years. This document entitled "Outline For A Public Education Program For Waste Management" is available on request from levieux@onlink.net.

The present account has several implications for the conduct of a public education program aimed at raising general levels of performance in each and all of the "Three Rs":

1. It is important to establish where adult householders presently stand in the growth plan for the component of current interest, presently Recycling. Although this is most effectively done by personal interview and observations, municipalities lack sufficient resources to do this on anything but a very limited scale, and so will have

to rely on systematic mail surveys supplemented by such face-to-face opportunity as arise spontaneously.

2. The survey must be designed to yield data that will allow at least a rough idea of present community recycling mentality.

3. Since educational material should be geared to attained level, more than one version may be required for each topic addressed. In light of the need for monitoring and feedback in the instructional cycle, waste site attendants and those who pick up garbage may play the critical instructional role, with written materials serving as a resource which fosters motivation and know how.

4. For people at the most immature levels of recycling behavior, motivational prompts at either site or pickup locations would make more explicit use of possible punishment (e.g., fines, refusal to accept). Already conforming households may be motivated to reach the highest levels by appeals to such principles as stewardship, doing one's bit for community betterment and even acting in accord with their ethical/religious beliefs.

5. In the ideal, municipal employees who interact one-to-one with householders in regard to their potential garbage – site attendants, curbside collectors and selected municipal office staff – not only need to have skill in classifying this material according to the Municipality's sorting scheme. They must as well have skill in roughly assessing where the individual they are dealing with is located in the recycling growth plan, of reinforcing performance at that level when it is satisfactory, and of stimulating movement to a higher level when needed.

Appendix D
The Corporation of the Municipality of Magnetawan
Overall Waste Diversion Plan

The creation and disposal of garbage is becoming a major problem for municipalities. It also has major consequences for all families in our community. For starters, meeting Government regulations for setting up, maintaining, monitoring and closing municipal landfill sites will typically cost hundreds of thousands or even millions of dollars over the life of the landfill site--money that will have to come out of the pockets of taxpayers, their children and grandchildren. But more than that, it is generally understood today that the creation of unnecessary waste, particularly waste that damages the environment, is simply the wrong thing to do and can no longer be tolerated.

Every family in our community needs to practice to a higher level the Reduce, Reuse and Recycle philosophy that has been with us for at least two decades now. The following table explains the kind of waste management activities families need to think about and the assistance the Municipality provides in each category.

DIVERSION PROGRAM	WHAT WE OFFER
Blue Box Diversion	The Municipality operates a blue box diversion program and in 2010 adopted a Waste Recycling Strategy. The following specific waste recycling targets were established in the strategy: to reduce recycling costs per tonne of material marketed by 3% within four years; to increase capture of blue box material by 10% within four years; to show continuous improvements in the program participation rate over the ten-year planning period. Actual performance will be measured against the baseline established for 2010 and results will be reported annually to Council and ratepayers.
Household Hazardous (or Special) Waste	Batteries and propane tanks are collected at both of the Municipality's landfill sites during regular operating hours. The Municipality schedules one annual hazardous waste day to collect other hazardous material.
Waste Electrical and Electronic Equipment (WEEE)	The Municipality accepts electronic waste at its landfill sites during regular operating hours. Collected items are stored and periodically shipped to a material recovery facility.
Tires	The Municipality participates in the Ontario Tire Stewardship Program, a tire collection and recycling program.
Composting of Biodegradable Materials (leaves, grass, vegetable/flower garden residues, home-generated biodegradable materials)	The Municipality does not offer composting at its landfill site. It encourages all residents to participate in home-based composting.
Scrap Metals	Scrap metals are separated at the landfill sites and are recycled.
White Goods (items containing freon)	The Municipality removes the freon at no charge and recycles the scrap metal.
Clean Wood (untreated and unpainted wood)	The Municipality burns brush and other clean wood at its landfill sites.
Other Construction and Demolition Waste	The Municipality reuses some material for landfill cover and diverts others for recycling.
Waste Reduction	Beyond the measures described above, the greatest reduction in the amount of waste will in the long run come from the first two Rs. The first is to reduce the amount of potential garbage that is created after we are finished with the stuff we use in everyday life. The second is to reuse materials as much as we can instead of simply throwing them away or replacing them with new materials. As a long-range policy, the Municipality intends to promote the reduce and reuse theme as part of its public education. At the present time, a special area of the landfill site is set aside where residents can bring items of potential free use to others. In addition, several community social agencies (e.g., churches, libraries) collect reusable items and materials.
Residual Waste	Tipping fees apply to selected bulky items. The Municipality currently accepts unlimited quantities of all other waste free-of-charge to households, businesses and institutions within its municipal boundaries. Ratepayers in the downtown area receive curbside collection, for which a special area levy is charged. As part of its Waste Recycling Strategy the Municipality will give future consideration to the implementation of mandatory participation in the diversion programs offered by the Municipality.

Appendix E
WASTE RECYCLING OPTION SCORES

Suitable? Y/N	Description of Options/Best Practices	Criteria				Total Criteria Score
		Economically Feasible	Accessible to Public	Ease of Implementation	Contributes to WDO funding	
Promotion and Outreach						
Y	Public Education and Promotion Program					100
N	Training of Key Program Staff (beyond that contemplated in public education)					0
Collection and Processing						
N	Optimization of Collection and Processing Operations					0
Y	Bag Limits (in conjunction with bag tags)	2	1	2	5	10
Y	Mandatory Recycling	3	2	3	5	13
Y	Enhancement of Recycling Depots/Other public places (signage)	3	5	5	0	13
N	Provision of Free Blue Boxes					0
N	Collection Frequency					0
Partnerships						
Y	Multi-Municipal Collection and Processing of Recyclables	3	3	1	2	9
N	Standardized Service Levels and Collaborative Haulage Contracting					0
Y	Intra-Municipal Committee	4	5	4	0	13
Y	Intra-Municipal Waste Specialist	5	5	1	0	11
Additional Research						
Y	Assess Tools and Methods to Maximize Diversion (Public Survey)	4	4	4	0	12
Administration						
Y	Following Generally Accepted Principles for Effective Procurement and Contract Management	5	5	5	3	18
Other Options						
N	None considered at the present time					0

Use of the Evaluation Table

The following provides some information regarding how the evaluation table was used by the Municipality.

1. Early in the planning process it was determined that some degree of public education would be an essential component of this strategy. Consequently, this option was rated with an overall score of 100 to ensure it was included in the Municipality's strategy. Public education and promotion includes the following initiatives detailed In the Planned Recycling System section of the Waste Recycling Strategy: Creation of a Standard Suite of Information Material as Part of a Public/Staff Education and Promotion Program; Website Distribution of Promotional Material; Community Contest; School Curriculum Assistance to Waste Management Initiatives.

2. After reviewing the options information section of the CIF Guidebook, the other options were rated for their suitability to the Municipality. An option was rated **suitable** and worthy of further consideration only if something in excess of what is currently taking place (or was tried in the past) could be implemented in a cost-effective way. That is, an option was suitable only if the necessary work was expected to lead to a reduction in the net cost per tonne of recyclable material marketed.

3. For those options rated as suitable, the Municipality considered the options evaluation criteria proposed in the CIF Guidebook and modified or employed them as follows:

a) % of waste diverted - this criteria was not used to score the options. As noted above, only options expected to contribute to the efficiency of the recycling program were rated as suitable. Efficiency explicitly takes into account an options' effect on the amount of waste diverted.

b) Proven results - all of the options being considered are in common practice across Ontario and are considered to be among best recycling practices. Therefore, an equal value would be assigned to each option under consideration, thus rendering the criteria redundant.

c) Reliable market/end use - At the present time the Municipality is not considering changing the mix of material accepted in the recycling program. So this criteria was not relevant in this planning process.

d) Economically feasible - this criteria is considered to be the most critical to the Municipality.

e) Accessible to public - this has been interpreted to mean that the option would not be prohibitively difficult or time-consuming for residents and would not encourage other undesirable resident behaviour.

f) Ease of implementation - this criteria is considered to be intrinsically linked with d (above). The main concern of the Municipality is that it must be possible for the plan to be executed by existing Municipal staff, possibly complemented by summer students. Reliance on external consultants should be minimized.

g) WDO funding - some options in themselves are given weighting in the WDO funding formula, presumably because they are considered to be more effective/efficient than others. The Municipality considered this in their ranking as it is intrinsically linked with d (above).

Appendix F
The Corporation of the Municipality of Magnetawan
Continuous Improvement Plan

Financial and human resource limitations prevent the Municipality from implementing all of the initiatives identified in the Waste Recycling Strategy at one time. Rather, the Municipality's plan is to work on items considered most critical first and to build on the work done in each successive year. In this way, a cumulative body of public/staff educational and promotional material, as well as an increasing presence in the Municipality can be built. The Municipality has quantified efficiency and effectiveness targets to be achieved within the first four years of plan implementation. With work/costs skewed towards the first three years of the plan, it is anticipated that initially the efficiency of the Municipality's recycling program will decrease and that the calculated efficiency will not improve until the fourth year of the program. Each successive revision of the Waste Recycling Strategy will move forward with more demanding and challenging targets.

The following Table provides a proposed timetable of important steps required to achieve the goals identified in the Goals and Objectives section of the Waste Recycling Strategy.

Progress Steps to achieving goals	Timeframe	Comments
Approve annual recycling plan budget and work to be performed in year	Annually during Municipal Budget Process	Target budget of $10,000/year for first three years with total of approximately $55,000 over ten years.
Monitor program results and ensure movement towards objectives	Annually when preparing WDO datacall	
Council review of Mandatory Recycling	Each term of Council until adopted	Realistically, more demanding waste recycling targets cannot be achieved unless some form of punishment is attached to not recycling.
Comprehensive Review of Recycling Plan	Each term of Council	Includes review of progress to date to ensure that selected initiatives are achieving expected results and to incorporate more demanding targets if feasible.
Completion of public survey	Year 1, Year 4, Year 8	Immediately and prior to each comprehensive Recycling Plan Review
Establish Intra-Municipal Committee	Year 1	
Develop initial suite of promotional and educational material and begin distributing on an opportunistic basis to residents	Year 1	
Enhancement projects undertaken	Year 1 - Year 10	Landfill signage in Year 1.
Development of additional promotional material moving towards the reduce and reuse theme. Distribution on a more systematic basis.	Year 2 - Year 10	Communication on ongoing basis rather than in one large "blitz". In Year 2 identify and target key tourist-based organizations (such as campsites).
Joint Municipal Waste Specialist	Option reviewed each term of Council.	

Appendix G
Stewardship Ontario's "What Goes In"

Thinking beyond the box

Stewardship Ontario

SEARCH GO

WeRecycle login

Who We Are | Recycling Programs | Resources & Archives | Newsroom | Blog

What Goes In

To find out what can be recycled in your community, choose from the list below

Select your location:

Addington Highlands - Ward 1
Addington Highlands - Ward 2
Admaston/Bromley, Township of
Ajax, Town of
Alfred and Plantagenet, Township of
Algonquin Highlands, Township of
Amaranth, Township of
Armour, Township of
Arnprior, Town of
Ashfield-Colborne-Wawanosh, Township of

Magnetawan, Municipality of

Visit Municipal Website (http://www.magnetawan.com)

These Items CAN Be Recycled Here

Glass Bottles and Jars
Empty Paint Cans
Aluminum Cans
Aluminum Foil
Steel Cans
Tubs and Lids (e.g. containers for spreads, yoghurt, cottage cheese)
Plastic Film (e.g. grocery or shopping bags)
Styrofoam containers (Foam containers like coffee cups, or egg cartons)
HDPE Plastic #2 (e.g. heavier, often coloured bottles used for shampoo, detergent and cleaning products)
PET #1 (light-weight, clear plastic typically used in pop and water bottles)
Aseptic Cartons (juice, broth and wine boxes)
Gable Top Containers (e.g. milk and juice cartons)
Household papers (e.g. letters, envelopes, and bulk mailings)
Newspapers, magazines and catalogues
Boxboard Cartons (e.g. cereal, tissue and detergent boxes)
Corrugated Cardboard

These Items CANNOT Be Recycled Here

Empty Aerosol Cans
Clear polystyrene #6 (Clear bakery clam-shells)
Plastic Bottles #3-7

Plastic, plastic everywhere...

Most municipalities tell you what kind of plastics they accept by number, e.g., PET#1 or HDPE plastic#2. You're probably familiar with the symbols on the bottles you recycle, but did you know that this coding convention (which identifies resin content and doesn't relate to ease of recycling) was introduced in 1988 by the Society of the Plastics Industry to meet recyclers' needs while giving manufacturers a consistent identification system. Confused about what the numbers and symbols mean? Check out Plastics 101 (/consumers/what-we-do/plastics_101) to make sense of the different symbols and types.

What's New

Municipal Webcast
June 30th 11 am
Read the letter (http://www.stewardshipontario.ca/corporate/pdf/2010/06/Letter-Municipalities.pdf) and fact sheet (http://www.stewardshipontario.ca/corporate/pdf/2010/06/Fact%20Sheet-Municipalities.pdf) sent to municipal partners and view the archived webcast (http://www.stewardshipontario.com/event/?event_id=977).

Questions?
Call a member of our Steward Services Team or e-mail us at here (mailto:serviceprovider@stewardshipontario.ca) . (/node/385)

Thinking Beyond The Box Video
Watch Stewardship Ontario's Thinking Beyond The Box Video to learn more... read more > (/node/355)

(/consumers/what-we-do/ohowen/environmental-fees)

Eco Fees
Eco fees help ensure products are collected, recycled, reused or disposed of in the most environmentally friendly way.
read more > (/consumers/what-we-do/ohowen/environmental-fees)

Reader Poll

How much waste has Ontario diverted from landfill through Blue Box?:

- 800,000 tonnes
- One million tonnes
- 3.6 million tonnes
- 5.5 million tonnes

Vote

Thinking beyond the box

Stewardship Ontario

Blue Box Update Form

Please let us know if any of your municipal Blue Box recycling information has changed by filling out the form below.

Community: *

select...

Contact Email: *

Please provide us a contact email in case there are questions regarding your submission.

Municipal Website:

http://

Items that can be recycled:

Items that can't be recycled:

Blue Box pick up locations (#)

Location:

Location Detail:

Location:

Location Detail:

Location:

Location Detail:

Additional Location Information:

Appendix H

The Implementation of School Curriculum Assistance to Waste Management Initiatives

In Ontario, the provincial ministry responsible for elementary and secondary education publishes mandatory curriculum guidelines that set out general program goals and the compulsory objectives schools are expected to achieve in relation to these goals. School staffs are required to develop and employ teaching strategies that are sufficient to achieve these objectives.

Regional school boards have the right to add objectives to the mandatory curriculum. We expect that an analysis of current guidelines would show existing openings for inculcating attitudes, knowledge and habits supportive of the 3R philosophy. These are most likely to be found in environmental studies (man/environment interaction), geography (land use studies), home economics (the creation and disposal of home-generated potential waste) and newly emerging "virtues" programs. What is needed in the long run is for the disconnected bits to be organized, around clearly defined growth paths for Reducing, Reusing and Recycling, into a cumulative program that promotes progressively higher levels of waste management performance.

The prospects for the potential impact of such programs are quite exciting. For starters, the school population creates immense amounts of potential waste, and understanding and adhering to the school's waste diversion strategy could be part of the school's Code of Conduct. These understandings and habits would have a good chance of being Community based projects, including voluntary service in the Municipality's recycling plan would qualify for the social service contribution now required of secondary school students. School prizes and awards could be made for exemplary 3R performance. More able students could enter their innovative ideas for improvements in school and regional science fairs.

Systematic curriculum assistance for long range waste management, and especially the Reduction component, will have to be initiated in provincial level curriculum guidelines that espouse and expect schools to support the 3R philosophy through cumulative curriculum components. This may take several decades, if it ever happens at all.

Meanwhile, a group of municipalities, acting together, could make more limited progress that is nonetheless beneficial to their own waste management progress. Once such an alliance was formed, plausibly a result of the present collaboration on the recycling component, the following steps could be pursued:

1. Identify and enlist the support of environmental protection enthusiasts and other potential regional champions of waste management who have the time and motivation to contribute volunteer time.
2. Recruit any teachers from this group to identify opportunities within existing guidelines to teach elementary and secondary students 3R-relevant skills and attitudes.
3. Have this group, possibly aided by other volunteers with a background in program design, make up a sketch for a growth-plan-based prototype instructional unit that fits into the existing curriculum of each of the school's four divisions.

4. Negotiate support for a systematic 3R emphasis from the Near North District School Board, in particular enlisting in advance the support of any members of the community who have been teachers.
5. Identify and recruit innovative practicing teachers to test the efficacy of these proposed interventions on student 3R behaviour.
6. Use the positive results to disseminate these interventions more widely and to broaden support for a more comprehensive curriculum.