

A Waste Recycling Strategy Plan for The Township of North Stormont



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1. Introduction

This Waste Recycling Strategy was initiated by the Township of North Stormont to develop a plan to increase the efficiency and effectiveness of its recycling programs and maximize the amount of blue box material diverted from disposal. Specifically, the purpose of this recycling plan is to reduce waste and maintain decent waste amounts to ensure the cleanliness of the Township in the future.

The Township of North Stormont is responsible for managing its residential solid waste by setting goals and initiatives to divert waste to blue box recycling.

The Township of North Stormont face a number of waste management challenges, which this Waste Recycling Strategy will help address. In particular, WDO requirements, population growth, improving cost /service efficiencies, lack of local markets and a small budget.

This Waste Recycling Strategy was developed with support from R.A.R.E., WDO, North Stormont Staff and using the Continuous Investment Fund's *Guidebook for Creating a Municipal Waste Recycling Strategy*, and the one day seminar regarding the strategy guidebook.

2. Overview of the Planning Process

This Waste Recycling Strategy was prepared through the efforts of the employees and council of the Township of North Stormont.

In July of 2010 three employees operated a booth at the Avonmore fair educating the public about recycling programs and having them complete a survey for a chance to win prizes that were donated by local businesses. There were approximately 150 people who participated in the survey, with both positive and negative results.

In August of 2010 two employees operated a booth at the Moose Creek Summer Fest with the same survey from the Avonmore Fair. There were only approximately 15 people who participated in the survey this time, and one prize available for them to win for completing it. There were not as many people who completed the survey the second time, which did not provide very good results.

The next steps in this process include:

- Create a survey on the website or some sort of feedback forum.
- Develop a P&E Program
- Meeting of local recycling managers
- Work with other municipalities to create an intra-municipal committee

To ensure the public and local stakeholders were able to participate in the preparation of this Waste Recycling Strategy, we went to the public to try and get a variety of different

perspectives from residents. For more details on our public consultation process, see Section 4.

3. Study Area

The study area for this Waste Recycling Plan includes Avonmore, Berwick, Crysler, Finch, Monkland & Moose Creek.

This Waste Recycling Plan will address the following sectors:

- Residential Families (Single and Multi)
- Small Businesses
- Schools

4. Public Consultation Process

The public consultation process followed in the development of this Waste Recycling Strategy consisted of the following activities:

- Stakeholder Interviews
- Newsletters and Newspaper Notices
- Surveys
- Phone calls from residents

Stakeholder groups included in this consultation included:

- The public
- Small businesses
- The Township of North Stormont
- CIF (Continuous Improvement Fund)
- WDO (Waste Diversion Ontario)
- RARE (Recyclage Alexandria Recycling (Équipe))
- The Provincial & Federal Government

The response from the public and stakeholders included a decent quantity of both positive and negative feedback. There were residents who currently recycle, embrace changes made to reduce waste, and were very much appreciative that the municipality was researching ways to improve recycling methods. On the other perspective there were the negative comments of the people who refuse to recycle. The number of positive comments definitely outweighs the negative ones. People were providing ideas such as: providing composters at cost or a reduced price than stores, the use of different styles of recycle bins

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

- WDO Requirements
- Population Growth
- Public Pressure
- Improving cost/service efficiencies
- Municipality land size
- Population size
- Ease of implementation

6. Goals and Objectives

This Waste Recycling Strategy has identified a number of goals and objectives for the Township of North Stormont. These are presented below.

Waste Recycling Goals and Objectives	
Goals	Objectives
To maximize capture rates of blue box materials through existing future programs	<ul style="list-style-type: none"> • Increase the capture of blue box municipal solid waste by 15% within 3 years
To improve the cost-effectiveness of recycling in our community	<ul style="list-style-type: none"> • Work together with other municipalities to create an intra-municipal committee
To increase participation in the recycling program	<ul style="list-style-type: none"> • Make recycling more appealing and create more education and P&E materials to educate the public

This Waste Recycling Strategy has also identified as series of broader community goals to which it can contribute. These broader community goals are presented below.

Community Goals and Objectives	
Goals	Objectives
To make our community a cleaner, greener place to live	<ul style="list-style-type: none"> • Create more opportunities for residents to get involved with recycling and waste diversion in their communities • More promotion for recycling at community events
To encourage a green economy	<ul style="list-style-type: none"> • Develop a promotional brochure on green purchasing
To enhance service/ value for our taxpayers	<ul style="list-style-type: none"> • Create more opportunities for recycling disposal besides roadside pick-up • Promote other waste diversion options

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

Community Characteristics

In 2007, North Stormont had a population of 6,239. The municipality is home to 3,055 total households or dwellings. Of these, 3,052 are single-family households and 3 are multi-family households. The number of seasonal dwellings is unknown.

Current Waste Generation and Diversion

Currently, North Stormont generates approximately 1,770.23 tonnes of residential solid waste per year. Of this, 421.32 tonnes, or 24% percent, 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 current 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	1770.23	-
Papers (ONP, OMG, OCC, OBB and fine papers)	330.56	19%
Metals (aluminum, steel, mixed metal)	31.95	2%
Plastics (containers, film, tubs and lids)	38.57	2%
Glass	20.24	1%
Total Blue Box material currently diverted	421.32	24%

As the table below indicates, North Stormont's current diversion rate is above average for its WDO municipal grouping.

Average Blue Box Diversion Rate (year)	
North Stormont	24.00
Municipal Grouping: Rural Collection- South	21.37

Potential Waste Diversion

To estimate North Stormont's current waste composition, we used information collected to compose the 2009 WDO Datacall.

A total of approximately 656.75 tonnes of blue box recyclable materials are available for diversion, of which approximately 235.44 tonnes are still currently in the waste stream. Estimates of blue box material available for diversion are listed in the table on the following page.

Current and Potential Diversion			
Material	Total Available in Waste Stream (tonnes/year)	Currently Recycled (tonnes/year)	Potential Increase (tonnes/year)
Papers (ONP, OMG, OCC, OBB and fine papers)	371.75	330.56	41.19
Metals (aluminum, steel, mixed metal)	37.17	31.95	5.22
Plastics (containers, film, tubs and lids)	99.13	38.57	60.56
Glass	148.70	20.24	128.46
<i>Total</i>	656.75	421.32	235.44

Diverting the blue box material remaining in North Stormont’s waste stream could raise its waste diversion rate to 37%.

Existing Programs and Services

Currently, North Stormont has the following policies and programs in place to manage residential solid waste:

- 2 bag limit
- Unlimited bi-weekly recycling pick-up
- Hazardous waste day
- Yearly tire pick-up with a limit of 8 tires
- Yard waste pick-up in villages 2 times a year
- Leave and tag policy
- Yearly recycling calendar with a new improved format with recycling educating materials
- Free replacement recycle bins, provision of free blue bins for new homes, extra blue bins available at cost.

Collection services of regular waste are provided bi-weekly to the residents using Municipal Collection at Laflèche landfill, while recycling services are provided by drop off at R.A.R.E. Disposal and recycling services are paid for primarily through the tax base. Once recyclable materials have been collected, they are taken to R.A.R.E. (Recyclage Alexandria Recycling (Équipe)), located in Alexandria, Ontario.

There are no upcoming important collection-related milestones that may affect how collection services are administered.

In 2009, the total net annual recycling costs for North Stormont were \$175,543. This amounts to \$417 per tonne, or \$28 per capita. As the table below shows, net annual recycling costs for North Stormont are above average for its WDO municipal grouping.

Net Recycling Cost (per tonne per year)	
North Stormont	417
Municipal Grouping: Rural Collection-South	419.64

Anticipated Future Waste Management Needs

Solid waste generated rates in North Stormont are expected to shrink over the next 10 year planning period. The Table below depicts the expected growth rates for solid waste generation and blue box material recovery (based on projected population growth rates of 0.5% per year).

Anticipated Future Solid Waste Generation Rates and Available Blue Box Material			
	Current Year	{Current Year + 5}	{Current Year + 10}
Population	6239	6397	6558
Total Waste (tonnes)	1770.23	1815.08	1860.77
Blue Box Material Available (tonnes)	656.75	673.41	690.36

8. Planned Recycling System

Overview of Planned Initiatives

North Stormont reviewed a number of options for consideration in its Waste Recycling Strategy. The options were then scored based on a series of criteria, which included:

- Public Education and Promotion Program
- Training of Key Program Staff
- Enhancement of Recycling Depots
- Provision of Free Blue Boxes
- Collection Frequency
- Multi-Municipal Collection and Processing of Recyclables
- Intra-Municipal Committee
- Assess Tools and Methods to Maximize Diversion
- Following Generally Accepted Principles for Effective Procurement and Contract Management

A summary of the options reviewed and their scoring are provided in Appendix A.

Once scored, the top ranking Waste Recycling Strategy options were organized into Priority Initiatives and Future Initiatives. The estimated cost for implementing the priority initiatives is estimated to be approximately \$9,165.00, while implementation of the future initiatives is estimated at \$3,055.00. The Table below presents the Priority Initiatives and Future Initiatives and their estimated costs. A review of these initiatives and their steps for implementation are reviewed on the following pages.

Priority and Future Initiatives		
Initiatives	Implementation Costs	Operation Costs
<i>Priority Initiatives</i>		
• Public Education and Promotion Program	9165	6110
• Optimization of Collection Operations	0	0
• Assess Tools and Methods to Maximize Diversion	0	0
• Provision of Free Blue Boxes	0	0
• Training of Key Program Staff	0	1527.50
<i>Estimated Total Cost (Priority Initiatives)</i>	9,165.00	1,527.50
<i>Future Initiatives</i>		
• Intra-Municipal Committee	0	\$0
• Enhancement of Recycling Depots	3055	3055
<i>Estimated Total Cost (Future Initiatives)</i>	3,055.00	3,055.00

Priority Initiatives

Initiative: Public Education and Promotion

Overview: The main benefits from implementing a public education and promotion program are: greater diversion levels and recovery rates, more resident involvement, create new behaviors, decrease confusion regarding accepted and non-accepted materials, increase collection efficiency, & less contamination of recyclables.

The P&E programs would support different types of diversion methods, such as hazardous waste, recyclables and composting. The promotion materials would consist of mixed media (ad mail, newsletters, newspaper ads, website, collection calendars, and information at community events).

Implementation: Increased information sent to residents regarding recycling opportunities, waste diversion. Better advertisement within the municipality in newspapers, mail-outs, and “booths” at fairs and recreation activities. The program would target children, youth and mothers to encourage family participation in recycling with focus on children, being the change for the betterment of the environment, and that every person adult or child can help make the difference in waste reduction. Another focal point of the recycling program is that it is simple, with co-mingled products in unlimited amounts. The promotion and education will also include packages for new residents with all sorts of recycling education materials as well as other waste diversion opportunities available to them. There will be incentive/ rewards for residents who actively participate in the recycling program.

Initiative: Provision of Free Blue Boxes

Overview: By providing free blue boxes to residents, diversion rates would increase, as well as resident involvement.

The municipality currently has a basic recycling program, so provision of an extra blue bin to each household per year would not be cost effective. The provision of free blue boxes to new residents with their recycling package, replacement or extra blue boxes for those who request them (with a set maximum so the program is not abused), to give away for promotion at community events, etc.

Implementation: Create a system for recording recycle bins given away which will track the participation in this part of the waste recycling strategy. Inform residents that extra bins are available for them to replace, or to increase their recycling.

Initiative: Optimization of Collection Operations

Overview: Optimization of Collections operations is a process of critically assessing collection and processing functions and making changes that have a net positive effect on recovery rates and/or cost. Optimized curbside collection operations maximize the quantity of target materials set out at each stop on collection day and minimize the amount of time required to collect that material, thereby minimizing the unit costs involved. Finding ways to lower costs of collection and increase resident participation is the main goal of optimizing collection operations.

Implementation: Regular assessment of resident concerns and current collection process. Explore different opportunities that the municipality would be able to take advantage of, which are cost effective.

Initiative: Assess Tools and Methods to Maximize Diversion

Overview: There are many different tools municipalities can use to maximize their waste diversion. It is essential that programs that are already in place are assessed to determine areas of improvement, or potential ideas to increase waste diversion. Continuous assessment of P&E programs, garbage restrictions, and diversion opportunities will provide feedback to managers and employees of the municipality to improve diversion percentages.

Implementation: Evaluation of the current tools and methods and trial & error in changes of the current activities within North Stormont are the basics of the assessment of tools and methods to maximize diversion.

Initiative: Training of Key Program Staff

Overview: The training of key program staff would: provide better customer service, create a more knowledgeable staff, increase efficiency, give staff and policy makers a better understanding of responsibilities, enhance municipal image, increase resident attraction and participation, develop new methods, ideas, strategies and long term goals, increase safety and decrease risk of accidents.

Implementation: The training would include courses provided by WDO, AMO, and other municipal and waste diversion associations. Some of the topics would include best practice, WDO Datacall, and other waste diversion opportunities.

Future Initiatives

Initiative: Intra Municipal Committee

Overview: The creation of an intra-municipal committee would help create economies of scale, increase resident participation/satisfaction, optimize program funding, share staff/time/costs/skills/equipment, improve client/supplier relations, reduce the need for management supervision, increased capacity to adopt new technologies and methods, material markets and pricing advantages, yielding higher revenues, increased innovation in strategies, services and products, shared risk management, shared capital requirements. Municipalities within the area all share the same issues regarding rural recycling collection. There would be greater

Implementation: Create contacts with other municipalities in SD&G and determine who would like to become part of the committee. Meet regularly, with set agendas and topics for collaboration.

Initiative: Enhancement of Recycling Depots

Overview: The main benefits of enhancing the recycling depots are: improving convenience increased waste diversion.

Recycling collection is currently on a bi-weekly cycle. This is cost efficient and effective for collection. There are some people who miss their recycling day, or residents who have done `spring cleaning` there would be another option available for them to dispose of the recycling materials, they would be able to drop it off instead of holding on to it until the following recycling day. By increasing recycling options, there is a greater chance for increased diversion.

There would be two collection sites, central in both the East and West portions of the municipality, and would be operated by the current township staff. Recycling collection is co-mingled so there would not be any specified bins or sections of a building needed to sort materials. There would have to be easy-to-read signage with drop off times and specified information and directions.

Implementation: Pass through council the idea of a recycling depot. Find cost effective ways to maintain and organize the depot. Evaluate areas that would best suit a building/ drop off area to accommodate residents.

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 table below identifies contingencies for possible planning delays.

Waste Recycling strategy Contingencies	
Risk	Contingency
Insufficient Funding	Apply for other funding
	Delay lower-priority initiatives
	Increase some portions of the municipal budget to waste management
Lack of Staff	Develop goals and initiatives: date, department and implementation specific
	Spread the work through various departments
	Employ student(s) during the summer
Council Approval	Ensure that sufficient research is done, so that council can be appropriately informed with initiatives
	Get council involved with WDO information sessions, funding opportunities

9. Monitoring and Reporting

The monitoring and reporting of North Stormont's recycling program is considered a Blue Box program fundamental best practice and will be a key component of this Waste Recycling Strategy. Once implementation of the strategy begins, the performance of the Waste Recycling System will be monitored and measured against the baseline established for the current system. Once the results are measured, they will be reported to Council and the public.

The approach for monitoring North Stormont's waste recycling program is outlined in the table below.

Recycling System Monitoring		
Monitoring Topic	Monitoring Tool	Frequency
Total Waste Generated/ Disposed (by type and by weight)	Measure of waste delivered to local Lafleche landfill by the Township and Residents & recyclables delivered to RARE.	Each Load
Diversion Rates achieved (by type and by weight)	Formula: (Blue box material + other diversion) / Total waste generated * 100%	Annually
Program Participation/ customer satisfaction/	Create an internet survey available on our website	Every 2 years
Opportunities for improvement	Tack phone calls & in person complaints, internet comments and concerns	On-Going
Planning activities	Describe what initiatives have been fully or partially implemented, what will be done in the future	Annually
Review of Recycling Plan	A periodic review of the North Stormont Recycling Plan to monitor and report on progress, to ensure that the selected initiatives are being implemented, and to move forward with continuous improvement.	Every 5 years

10. Conclusion

The Township of North Stormont falling under the classification of Rural Collection-South is above average when it comes to waste diversion percentages as well as its cost effectiveness per tonne. Even though the municipality exceeds its municipal grouping, there is still room for improvement to increase the efficiency and effectiveness of its waste diversion programs.

There are currently several programs in place to encourage residents to divert their waste to recycling. They currently aid in diverting 24% of waste or 421.32 tones from 1770.23 total waste. The recycling plan initiatives are expected to increase waste diversion by 5% per year or 15% in the next three years to eventually reach a goal of 37% of waste diverted to recycling.

The following initiatives are what North Stormont plans to adopt: Public Education and Promotion, provision of free blue boxes, optimization of collection operations, assess tools and methods to maximize diversion, & training of key program staff. The future initiatives North Stormont would like to consider are: creation of an intra-municipal committee and enhancement of recycling depots. The methods that are implemented will be tracked through various monitoring systems.

It is necessary for the municipality to increase diversion levels, and by implementing the above initiatives along with set dates and monitoring system, North Stormont should become more cost effective with their recycling program.

References

Township of North Stormont WDO Datacall (2010). Waste Diversion Ontario Municipal Datacall.

Trow. (2010). Guidebook for Creating a Municipal Waste Recycling Strategy

Appendix A

Appendix A: Waste Recycling Option Scores

Suitable? Y/N	Description of Options/Best Practices (For more information: <i>More information: Blue Box Program Enhancement and Best Practices Assessment Project Final Report, Volume 1</i>)	Criteria (Score out of 5)						Total Criteria Score
		% Waste Diverted	Proven Results	Reliable Market/ End	Economically Feasible	Accessible to Public	Ease of implementation	
Promotion and Outreach								
Y	Public Education and Promotion Program	3	4	3	5	5	5	25/30
Y	Training of Key Program Staff	3	4	4	5	4	5	23/30
Collection								
Y	Optimization of Collection Operations	4	5	4	5	5	5	28/30
N	Bag Limits	0	0	0	0	0	0	0/30
Y	Enhancement of Recycling Depots	4	4	4	3	4	4	23/30
Y	Provision of Free Blue Boxes	4	5	4	3	3	3	23/30
Y	Collection Frequency	3	3	3	3	3	2	17/30
Transfer and Processing								
N	Optimization of Processing Operations	0	0	0	0	0	0	0/30
Partnerships								
Y	Multi-Municipal Collection and Processing of Recyclables	4	5	4	4	3	3	23/30
N	Standardized Service Levels and Collaborative Haulage Contracting	0	0	0	0	0	0	0/30
Y	Intra-Municipal Committee	3	5	4	4	4	4	24/30
Additional Research								
N	Assess Tools and Methods to Maximize Diversion	4	5	4	4	4	4	25/30

Suitable? Y/N	Description of Options/Best Practices (For more information: <i>More information: Blue Box Program Enhancement and Best Practices Assessment Project Final Report, Volume 1</i>)	Criteria (Score out of 5)						Total Criteria Score
		% Waste Diverted	Proven Results	Reliable Market/ End	Economically Feasible	Accessible to Public	Ease of implementation	
<i>Administration</i>								
N	Following Generally Accepted Principles for Effective Procurement and Contract Management	2	3	3	3	2	3	16/30
<i>Other Options</i>								

Appendix B

Appendix C

Appendix D

Appendix E