

WASTE MANAGEMENT MASTER PLAN

Township of Elizabethtown-Kitley

FINAL REPORT





Helping shape better communities

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Elizabethtown-Kitley

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Prepared for:

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EXECUTIVE SUMMARY

McIntosh Perry Consulting Engineers Ltd. (McIntosh Perry) was retained by the Township of Elizabethtown-Kitley to prepare a Waste Management Master Plan (WMMP)

This plan is designed to provide the Township with options for long-term management of wastes and recyclables that promote waste diversion, extend landfill life and ensures long-term environmental goals are met. The primary recommendations of the WMMP are:

- Evaluate the potential to amend the C of A for the existing Greenbush waste disposal site to expand and accept waste from the entire Township
- Proceed with an amendment to the C of A for the Greenbush waste disposal site
- *Solicit bids for long-term curbside collection and haulage of domestic waste with disposal at Greenbush and/or a private waste disposal site outside the Township as a means of assessing costs*
- Promote recycling and other forms of waste diversion in the Township
- Expand the curbside collection of recyclables (type and geographical extent of pickup)
- Explore and promote composting and SSO collection (individual or community)

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Acronyms and Definitions

C of A	Certificate of Approval
ED-19	Approved, but unopened, UCLG waste disposal site
EFW	Energy-from-waste plant
E-K	Elizabethtown-Kitley
E-waste	electronics waste
hhld	household
kg/hhld	kilograms per household
Greenbush	Greenbush Waste disposal site (Elizabethtown)
HHW	household hazardous waste
MPCE	McIntosh Perry Consulting Engineers Ltd. (McIntosh Perry)
MRF	materials recovery/recycling facility
OBB	Old boxboard
OCC	Old corrugated cardboard
ONP	Old newspaper
OVWRC	Ottawa Valley Waste Recovery Centre
PSA	public service announcement
REIC	Renewable Energy Institute of Canada
SSO	source separated organics
t	tonne (1000 kilograms(kg))
Township	Township of Elizabethtown-Kitley
UCLG	United Counties of Leeds and Grenville
WDO	Waste Diversion Ontario
WM	Waste Management, Inc.
WMMP	waste management master plan

1.0 INTRODUCTION

McIntosh Perry Consulting Engineers Ltd. (McIntosh Perry) was retained by the Township of Elizabethtown-Kitley to prepare a Waste Management Master Plan (WMMP) for the Township. This report represents a Final Version of the WMMP, including input from the Public, Council and other stakeholders.

A “Waste Management Master Plan” has never been completed for the Township. This Plan represents the first such plan for the present Township or the two Townships prior to amalgamation in 2001. Both the Waste Site Management and Environmental Conservation and Advisory Committees of the Township are supportive of the concepts of waste minimization, waste diversion and the development of an overall WMMP for the implementation of these strategies.

1.1 Background

The key to a successful waste management system is the recognition of the interrelationships of all of its components. Each part of the system is dependent upon, and affected by, all the other components. Too often, municipalities tackle waste management by making isolated changes to individual components as time and budget allow, and in doing so, miss out on the real opportunities to achieve an efficient and effective long term waste management system.

The reality is that the Township of Elizabethtown-Kitley (the “Township”) is currently in the very fortunate position of having an operating landfill site with remaining capacity. Once that site is full, they will be subject to substantially higher costs (either expanding the existing waste site by amending the Certificate of Approval, or building and operating a transfer site, hauling, and paying tip fees at a third party landfill site), all of which will be largely out of their control. Accordingly, each cubic metre of landfill space has a value that is much higher than what appears on the current municipal “bottom line”. This is a key reason why the Township needs to make sure that as much material that can be diverted *is diverted*, even if this presents some initial cost increases.

A related reality is that the existing waste disposal site is being operated under an outdated Certificate of Approval (C of A). This has the advantages of vagueness and simplicity, but the disadvantage that it only allows for waste from a portion of the Township; it limits remaining capacity, and could be called into question at any time. This is why the recommended approach starts with applying for a new C of A that will both extend the footprint and capacity of the site, and expand the service area to include the former Kitley Township.

A third reality is that the Ministry of the Environment is unlikely to be receptive to such an expansion request unless the Township can demonstrate that it is doing everything it can to

make sure that only true “garbage” will go into the site. This provides a distinct incentive to maximize waste diversion.

The remainder of the approach therefore focuses on how to accomplish these goals. The starting point, as recognized in the original Request for Proposal for this study, is the expiry of the currently Kitley garbage and recycling collection contract on May 30th, 2009. The Township evaluated potential changes to the “level of service”, to take effect in June of 2009, by issuing a Request for Proposal (RFP) for an expanded waste management program. A review of the proposals was intended to be able to evaluate costs for various options. It also allowed Council to assess the methods and costs associated with increasing diversion. This represented a means to address potentially obtaining a new C of A for expanded operations. During the fall of 2008, an RFP was prepared by the Township, with the consulting team, to assist in making decisions on levels of service. It was prepared such that:

- Township staff had sufficient time to prepare and issue the RFP,
- Contractors had sufficient time to respond,
- Township Council had sufficient time to award a contract, and
- The successful Contractor had sufficient time to gear up for the new services.

The RFP was structured to address two key questions, namely 1) whether the Township can afford to provide curbside service to Elizabethtown residents, and 2) whether the Township can afford to implement curbside organics collection to maximize diversion from the landfill.

1.2 Waste Management Planning to Date

The Township has been active on environmental issues since amalgamation (2001). The following initiatives with respect to waste management have been undertaken:

- Implementation of curbside pickup of recyclables (in the former Kitley Township) and creation of a recycling drop-off facility
- Consultations with WDO
- Exploration of other diversion options
- Review of the Greenbush waste disposal site and recycling facility
- Upgrading of the Greenbush recycling facility
- Assessment of the feasibility of amending the C of A for the Greenbush waste disposal site

- Consultation with other municipalities (lower and higher tier) on the subject of waste management planning

1.3 Location and Demographics

The Township of Elizabethtown-Kitley is located within the United Counties of Leeds and Grenville (Figure 1-1). The Township borders stretch from the shores of the St. Lawrence River northward to the southernmost limit of the former South Elmsley Township (now part of Rideau Lakes Township). The Township surrounds the City of Brockville. Within its borders are the population centres of Lyn, Tincap, New Dublin, Addison, Greenbush, Rocksprings, Frankville, Toledo, Bellamy's Mills, Jasper and Newbliss. Other communities in the Township include Bellamys, Bells Crossing, Bethel, Butternut Bay, Crystal, Eloida, Fairfield, Fairfield East, Forthton, Glen Buell, Hallecks, Hawkes, Hutton, Jellyby, Judgeville, Lehighs Corners, Lillies, Linden Bank, Lyn, Manhard, Redan, Rocksprings, Seeley, Sherwood Spings and Spring Valley.

Elizabethtown-Kitley is bordered to the west by the Townships of Front of Yonge, Athens, and Rideau Lakes and to the east by Augusta Township and Merrickville-Wolford Township. The Township has two administration offices - the main office at 6544 New Dublin Road in Addison, and the satellite office located in Toledo at 424 Highway 29.

The former Townships of Elizabethtown and Kitley amalgamated on January 1, 2001 to form the Township of Elizabethtown-Kitley. The amalgamated Township covers an area of 554.28 square kilometres

The current population is listed at 9,700 with an estimated 3,800 households (Elizabethtown-Kitley website). According to the [Canada 2006 Census](#), the population is 10,201. This represents an increase of 1.6% from [2001-2006](#). There are estimated to be 3,818 dwellings (households) in the Township. With an area of 554.24 km², it has a population density of 18.4 persons per km².

1.4 Public Consultation

During the course of the development of this Plan, two public consultation sessions (Open Houses) were held to discuss the WMMP. These consultations were held as follows:

- September 9, 2008 – Toledo Municipal Office
- September 10, 2008 – New Dublin Municipal Office

These evening Open House sessions were attended by members of the public, Councillors and the Mayor, Township Staff and members of the Waste Site Management Committee. During these two sessions, the working draft of the WMMP was presented and a discussion was held. A few general comments were raised and notes were taken.

1.5 Overview of Plan Concepts

The objective of the WMMP for Elizabethtown-Kitley is to provide for a long-term sustainable plan for the management of wastes in the Township. It recognizes the present differences in waste management practices between the former Townships of Elizabethtown and Kitley. This plan is to encompass all aspects of waste management that are currently undertaken by the municipality, or might reasonably be expected to be a part of their plan. The plan is designed to be implemented by the Township with minimal assistance from outside parties.

The overall objective of the WMMP is to more effectively management wastes by:

- Public awareness
- Increased waste diversion
- Maximizing the cost-effectiveness of the overall system
- Creating clear, defined procedures that residents are motivated to participate fully in, and be proud of

2.0 EXISTING WASTE MANAGEMENT PRACTICES

An overall summary of current waste management practices in the Township is presented in Table 2-1. As noted in this table, the practices differ between the two former Townships that now form Elizabethtown-Kitley. A more detailed discussion of the practices is presented below.

2.1 Waste Disposal

Waste disposal in the Township is governed by By-law Number 02-17 of the Corporation of the Township of Elizabethtown-Kitley (Township of Elizabethtown-Kitley, 2002). This By-law outlines activities, conditions and costs associated with both waste disposal and recycling throughout the Township.

The Township currently operates one active waste disposal site, commonly referred to as the “Greenbush Waste Disposal Site or Landfill”, located on Greenbush Road to the south of the community of Greenbush. The site is located at Concession 8, Part of Lot 25 (8468 County Road 7). It presently serves on the residents of the former Elizabethtown Township. The facility is operated under Certificate of Approval A 441502 (Dated July 11, 1980) and presented in Appendix A. This Approval was amended on September 12, 1990 to allow for the disposal of solid non-hazardous waste, as opposed to only domestic waste (Appendix A).

Residents of Elizabethtown bring their domestic waste (and recyclables) to the landfill or contract a private hauler for this purpose. The landfill operates on a ticket system whereby tickets must be purchased in advance for the disposal of all wastes at the site. Waste disposal site attendants check loads and punch tickets when residents arrive at the site to dispose of domestic waste. The waste disposal site is open on Monday, Wednesday, Friday and Saturday for disposal and recycling.

At the present time, assuming current rates of waste disposal (6,500 m³/year), it is estimated that there is in excess of 20 years of life in landfill (Jp2g, 2006 and Jp2g, 2008 (Appendix B)). This assumes no changes in diversion or disposal rates and no expansion of the landfill.

Domestic waste from the geographical region of the former Township of Kitley is presently being hauled and disposed outside the Township by a private contractor retained by the Township. Curbside pickup of waste (and recyclables) is provided in Kitley.

The Township also has jurisdiction over one closed landfill (the former Kitley Township landfill). There is reportedly no active management of this closed landfill.

2.2 Recycling

In Kitley Township, recyclables are collected curbside every second week, whereas Elizabethtown residents are required to bring their recyclables to the municipal recycling depot at the Greenbush waste disposal site. Some Elizabethtown households (perhaps a few hundred) pay one of three private haulers to collect their recyclables (and garbage) and bring it to Greenbush or another facility for them.

The recycling depot at Greenbush Waste disposal site is open Monday, Wednesday, Friday and Saturday from 8:00 am to 3:30 pm. The site has recently been improved in terms of layout and signage to make it easier for residents to know what to recycle where (Appendix C). A further improvement in operational layout is expected to be implemented in the fall of 2008. This includes a new recycling facility to accommodate larger and more accessible bins (Appendix C).

The Township collects a wide range of recyclable material, including:

- all plastics (#1 to 7)
- ferrous cans
- aluminum cans and foil
- aerosol cans
- glass
- corrugated cardboard
- boxboard
- newspapers
- fine paper

There are, however, some materials they are not collecting that are accepted at some material recycling facilities in eastern Ontario, including:

- polycoat (gable end milk and juice carton)
- aseptic packaging (drinking boxes)
- film plastic
- styrofoam

- paint cans

Slightly fewer than 1,000 Kitley households receive curbside collection of waste and recyclables. A total of 152 tonnes of recyclable material were collected in 2007 from these households, giving a capture rate of 154 kg/hhld.

In Elizabethtown, where residents do not have municipally-provided curbside service, the 2964 households brought a total of 235 tonnes to the recycling depot, for a capture rate of only 79 kg/hhld. Given that some households contract for private collection of recycling and garbage, this means the capture rate for households that are not purchasing this service is likely even lower. However, it should be noted that some residents in the southern portion of Elizabethtown are currently bringing their recyclables to depots in Brockville or their workplaces outside of the Township for reasons of convenience.

The combined recycling for the Township totaled 387 tonnes in 2007. On a per household basis, this translated to an average of 98 kilograms per household per year (kg/hhld), varying from 154 kg/hhld for Kitley residents (who get curbside recycling) to 79 kg/hhld for Elizabethtown residents (who either have to purchase curbside service or have to bring the material to the depot at the Greenbush Landfill site). Based on a number of provincial-wide waste composition studies in similar types of municipalities, it is estimated that each household generates approximately 300 kg of recyclables per year. The overall average recycling recovery rate in Elizabethtown-Kitley is therefore 33%. The higher recycling rate with the curbside service represents a 50% recovery rate. Some Ontario municipalities with a combination of rural and urban components are achieving an 80% recovery rate.

The charts below summarize the recovery rate, expressed as total tonnage and kilograms per household for different material streams. The summary chart and graph compares the current recovery for 2007 with the estimated material that is generated. The chart also shows the level of recovery that is being achieved by typical high-recovery programs in Ontario. Characteristics of the high-recovery programs typically include the following:

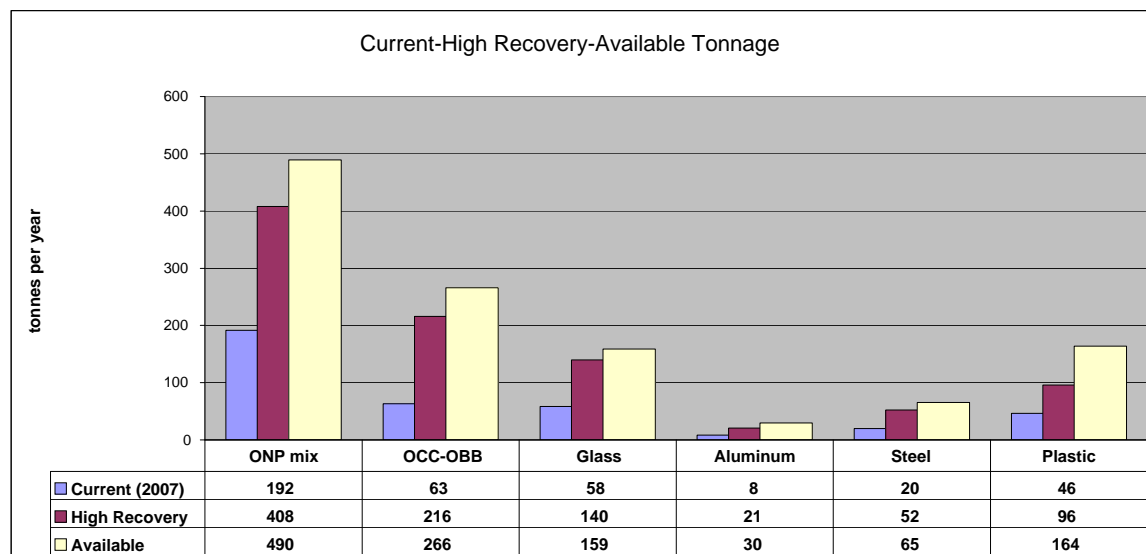
- Maximizing materials that can be set out
- Extensive promotion and education programs
- Limits to waste set outs, such as bag limits or user-pay garbage

Tonnes	OCC	Mixed paper	aluminum	steel	plastics	flint+coloured	mixed glass	Total
curbside	20	68	4	8	14		38	152
depot	43.11	123.5		16.04	32.15	20.3		235.1
Total	63.11	191.5	4	24.04	46.15	20.3	38	387.1

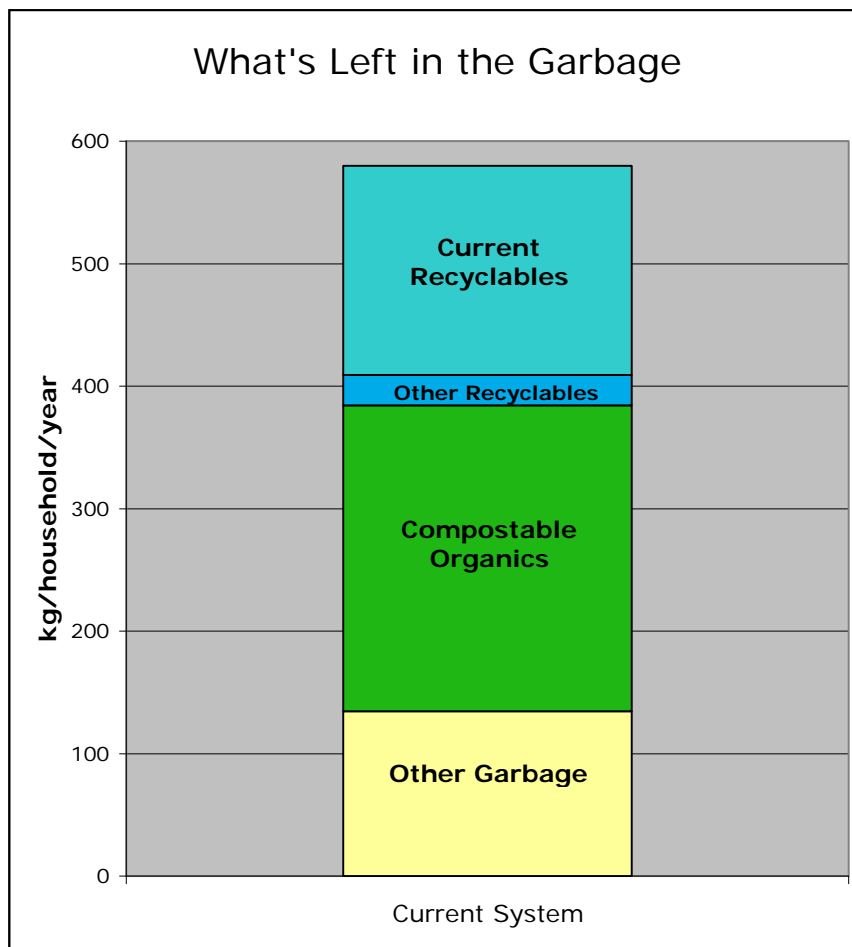
kg/hhld	OCC	Mixed paper	aluminum	steel	plastics	flint+coloured	mixed glass	Total
curbside	20.2	68.8	4.0	8.1	14.2	0.0	38.5	153.8
depot	14.5	41.7		5.4	10.8	6.8	0.0	79.3
Total	16.0	48.5	1.0	6.1	11.7	5.1	9.6	98.0

Summary Tonnes	OCC-OB	ONP mix	Aluminum	Steel	Plastic	Glass	% Recovery	Total Tonnes
Current (2007)	63	192	8	20	46	58	33%	387
High Recovery	216	408	21	52	96	140	79%	933
Available	266	490	30	65	164	159	100%	1,173

Based on WDO What-If Model



The chart below (What's Left in the Garbage) estimates the composition of the waste that is currently sent to landfill. Of the almost 600 kilograms per household per year that is disposed of, the largest single component is for compostable organics, which represents over 40% of the waste going to landfill. This is typical of other programs that have been analyzed in detail.



2.3 Other Practices – Promotion and Education

Currently, Kitley residents are given a one page curbside collection calendar each year with information on which areas are Monday versus Friday collection, and which weeks have recycling collection. General information on waste issues and the recycling depot are also provided on the Town's website.

2.4 Cooperation with other Municipalities

Currently, a number of other municipalities within the United Counties of Leeds and Grenville (UCLG) are dealing with similar issues to the Township of Elizabethtown-Kitley (see Appendix D). Such municipalities have faced closure, or are soon facing closure, of their municipal waste disposal sites. Contracts for waste haulage and disposal and collection of recyclables are also expiring with the next few years within some municipalities (e.g. City of Brockville).

It is recommended that municipalities in similar situations consider jointly evaluating waste management options to achieve economies of scale (e.g. more efficient waste collection, generation of large volumes of valuable recyclables). It has been reported that both haulers and licensed landfills may be able to provide lower costs if bidding on services for multiple municipalities. Similar, the collection and baling/packing of larger volumes of recyclables can lower costs to municipalities.

A number of municipalities from the UCLG have been contacted and surveyed regarding such possibilities for joint efforts relating to solid waste and recyclables management. From the current information collected, most municipalities are not looking to alter their services in the near future. A number of municipalities have contracts for collection and disposal in place which are do not expire in the near future, while others have their own active landfills for domestic waste disposal, which renders joint efforts more difficult. A few municipalities showed interest when the possibility for combining efforts for waste hauling contracts was mentioned.

3.0 REGULATORY FRAMEWORK

There are several applicable provincial Acts, Bills and associated Regulations and Guidelines which address issues associated with waste management (disposal and recycling). The following such Acts, Bills, Regulations and Guidelines are noted:

- Environmental Assessment Act (EAA)
- Environmental Protection Act (EPA)
- Ontario Water Resources Act (OWRA)
- Environmental Bill of Rights (EBR)
- Planning Act (PA)
- Nutrient Management Act (NMA)
- Clean Water Act (CWA)
- Bill 90, Waste Diversion Act
- Waste-General (O.Reg. 347) – EPA
- O.Reg. 101/94
- O.Reg. 299/94
- O.Reg. 232/98
- O.Reg. 101/07
- MOE Guideline B-7 and B-9
- Provincial Water Quality Objectives (PWQO)
- Provincial Policy Statement, 2005
- Air Pollution - Local Air Quality Regulation (O. Reg. 419/05) – EPA Section 9
- O. Reg. 267/03
- Wells Regulation (O. Reg. 903, Revised Regulations of Ontario 1990)

The development of this Waste Management Master Plan considered the implications of the requirements of these Acts, Regulations and Guidelines on long-term waste management planning. A more detailed discussion of the regulatory requirements is noted below.

Environmental Assessment Act

The Environmental Assessment Act (EAA) provides the legislative framework for assessing the potential environmental impact of major projects in a formal manner. An Environmental Screening Process (ESP) should be conducted in accordance with Ontario Regulation 101/07 (see below) under the *Environmental Assessment Act* (EAA). This regulation is directed partially at small, rural waste disposal sites and selected waste projects which are deemed exempt from Part II of the EAA if the environmental screening process is completed.

Environmental Protection Act

The Environmental Protection Act (EPA) provides the legislative framework for the establishment of waste management facilities. The establishment, operation, management, alteration, enlargement and/or extension of waste management facilities in the Province of Ontario requires a Certificate of Approval under Part 5, Section 27 of the EPA. To obtain approval for any **new** waste management system, transfer facility or landfill site, or for any **substantive change** to existing facilities or operations, the Ministry of the Environment requires an application for a Certificate of Approval. To confirm compliance with current regulations, applications must be accompanied by the following documentation, as a minimum:

- A legal survey and proof of ownership;
- An Operation Plan to guide operation and eventual closure of the facility, and;
- An impact assessment, which will confirm that the site can operate without significant environmental impacts to the environment and neighbouring properties.

In some instances the Ministry requires public consultation as part of the application process. For new landfills, or expansions of greater than 100,000 m³, public hearings are mandatory.

Ontario Regulation 347 (Waste Management – General Regulation under the EPA)

Regulation 347 (formerly Regulation 309) under the EPA is the primary regulation for controlling the handling, disposal and management of hazardous and non-hazardous wastes in Ontario.

Under this regulation, wastes are classified into categories that stipulate handling requirements. The Regulations specify control measures for disposal facilities. Standards for the location, maintenance and operation of landfill sites are stated in Section 11 of Regulation 347. Section 9 of the Regulation additionally outlines that the terms and conditions of the Certificate of Approval that can, on a site specific basis, over-ride the standards of the Regulation.

Ontario Regulation 101/94 (Recycling and Composting of Municipal Waste under the EPA)

Ontario Regulation 101/94 is also known as the 3Rs Regulations. This regulation, and accompanying regulations, became law on March 3, 1994. The regulations are a key component of Ontario's Waste Reduction Action Plan. The plan was aimed at reducing the amount of waste going to waste disposal sites by at least 50 per cent by the year 2000, compared to the base year of 1987. The objective was to be achieved through a strategy based on the 3Rs — reduction, reuse and recycling. The 3Rs Regulations were designed to ensure that industrial, commercial and institutional (IC&I) sectors, as well as municipalities, developed programs to reduce the amount of resources going to disposal.

Regulation 101/94 also requires specified municipalities to implement recycling programs, including collection of Blue Box wastes, home composting of organic wastes, and composting of leaf and yard waste. Municipalities with populations greater than 5,000 are required to establish blue box collection systems. These municipalities must also provide "backyard" composters at cost or less, along with educational material.

Municipalities of greater than 50,000 people must provide a central leaf and yard waste composting facility.

Ontario Regulation 299/94 (General Waste under the EPA)

Ontario Regulation 299/94 has potential relevance to the amalgamated Elizabethtown-Kitley Township. Regulation 299/94 amends Regulation 347 to allow the service area of a landfilling site to be expanded to the boundaries of a (new) municipality without the requirement of compulsory hearings. Compulsory hearings are a normal requirement for applications which effect a population of 1,500 or greater.

Ministry staff has interpreted this regulation to allow changes to a service area, but not to rate of fill. They have allowed that, as a rule of thumb, the service population may increase by 25% without the need for a new approval. This is based on an assumption that waste generation rates have decreased by that amount as a result of waste diversion initiatives. Increases in the

population serviced beyond 25% will still require a new application, but hearings are not compulsory.

Regulation 299/94 potentially affords Elizabethtown-Kitley flexibility in terms of using the Greenbush Waste disposal site to service the waste disposal needs of Kitley residents without amending the existing C of A. This has been accomplished in the Township of South Frontenac after amalgamation (TSH, 2008).

Ontario Regulation 232/98 (Landfilling Sites under the EPA)

Ontario Regulation 232/98 (and its accompanying Guideline) specifies a comprehensive standard for landfill design, operation, monitoring and closure. O. Reg. 232/98 came into effect on August 1, 1998 and applies to all new or expanding waste disposal sites, or any site with a capacity of greater than 40,000 m³. Ministry staff relies heavily on the Guidelines associated with this regulation when reviewing Certificate of Approval applications. New Certificates issued since 1998 have generally required compliance with this standard. O. Reg. 232/98 imposes a much higher and more detailed standard on waste site management than did the preceding regulation (O. Reg. 347), and, for landfill sites, O. Reg. 232/98 takes precedence.

O Reg. 347 is still relevant to previously approved sites of less than 40,000 m³ in size and to waste management facilities that are not landfills.

Bill 90, Waste Diversion Act

Bill 90 is an Act to promote the reduction, reuse and recycling of waste which was given Royal Assent on June 27, 2002. The Act created Waste Diversion Ontario (WDO), a non-crown corporation. WDO was established to develop, implement and operate waste diversion programs for a wide range of materials. The Act empowers the Minister of the Environment to designate a material for which a waste diversion program is to be established.

Once the Minister has designated a material through a regulation under the Waste Diversion Act, the Minister asks Waste Diversion Ontario, working co-operatively with stewards, to develop a diversion program. The Minister has designated Blue Box Waste, Used Tires, Used Oil Material, Waste Electronic and Electrical Equipment and Municipal Hazardous or Special Waste under the WDA. The Minister has indicated that the Used Oil Material designation has been set aside and development of a diversion program for Used Tires has been deferred.

The Blue Box Program Plan was approved by the Minister on December 22, 2003 and commenced on February 1, 2004. WDO is currently developing diversion programs for Waste Electronic and Electrical Equipment and Municipal Hazardous or Special Waste.

Ontario Regulation 101/07 (Waste Management Projects under EAA)

Ontario Regulation 101/07, the Waste Management Project Regulation made under the Environmental Assessment Act, makes it easier for municipalities to find viable solutions for managing waste. The regulation sets out the EA requirements for waste diversion and disposal facilities.

Accompanying regulations under the Environmental Protection Act are intended to streamline the approval process for recycling certain materials. The regulations include the following components:

- Recycling facilities of any size will not have to go through the EA process provided that just 1,000 tonnes per day of residual waste ends up going to disposal.
- Small rural landfills or expansions of between 40,000 and 100,000 cubic metres would go through an environmental screening process, saving municipalities' time and money during the process.
- Proponents can pilot new waste technologies without having to undergo an EA providing they are small and can meet the ministry's air emission standards.
- It will be easier to recycle certain wastes that currently do not meet existing exemption criteria. Included are waste paint, crumb rubber, batteries and electronics.
- Converting certain wastes into alternative fuels will no longer require waste management approvals but still must meet air emission standards.

MOE Guidelines B-7 and B-9

MOE Guideline B-7 is also known as the "Reasonable Use Concept". In essence, Guideline B-7 allows a property owner to impact groundwater that flows off of its property, but only to a predefined amount (concentration). In no instance is a landowner allowed to pollute the groundwater to an extent that it becomes non-potable.

Guideline B-7 is an important concept for rural waste disposal sites. All wastes disposal sites generate leachate. Rural sites are typically "naturally attenuated" which means that the leachate

is weakened to an acceptable level within the site boundaries. This often involves purchase of additional lands, which become the “contaminant attenuation zone”.

Guideline B-9 is titled “Resolution of Groundwater Interference Problems”. Guideline B-9 applies to old, closed waste sites. B-9 is less onerous than B-7 because it allows the polluting property owner to consider probable off site uses of the groundwater. If the neighbouring property is undevelopable, a wetland for example, then contamination in excess of Ontario’s Drinking Water Standards may be allowed.

Although B-7 and B-9 are guidelines, Ministry staff has successfully defended their enforcement at hearings. For site owners, the simple existence of a guideline can be better than no guideline at all.

Provincial Water Quality Objectives

Leachate generated by a landfill may also impact surface waters. If this occurs, the impact will be compared to Ontario’s Provincial Water Quality Objectives (numerical criteria). This can potentially be more onerous than a groundwater impact, as surface water impacts cannot be mitigated by purchasing the impacted lands.

Provincial Policy Statement, 2005 (Under the Planning Act)

Section 1.6.8 of the Provincial Policy Statement on land-use planning, issued under the authority of Section 3 of the Planning Act, states that:

“Waste management systems need to be provided that are of an appropriate size and type to accommodate present and future requirements, and facilitate, encourage and promote reduction, reuse and recycling objectives. Waste management systems shall be located and designed in accordance with provincial legislation and standards.”

Ontario Regulation 419/05 (Air Pollution - Local Air Quality Regulation (EPA Section 9))

O Reg. 419/05 under the EPA sets out criteria and standards for contaminants in air and the requirements for approval of all emissions of contaminants (vapour, gases, dust, noise and vibration) to the air. In the context of waste disposal, this regulation may apply to landfill gas, dust from grinding operations or fugitive emissions from treatment processes (waste processing).

Ontario Regulation 267/03 (Nutrient Management Act)

The enabling Regulation under Nutrient Management Act (NMA) may impact waste management activities as it regulates nutrient use in the environment. Some wastes (typically sewage sludge) are land-applied and such practices are controlled by the NMA. Similarly, some organic processing by-products from composting may be land-applied and are potential subject to regulation under the NMA.

Ontario Regulation 903 (Wells Regulation under the OWRA)

The wells regulation applies to both water supply wells and monitoring wells in Ontario. The owners of such wells are required to maintain wells in good condition or, if they are no longer being used, abandon them properly. As the Greenbush landfill, and possibly the former Kitley Township waste disposal site, have monitoring wells that may be used for years into the future, it is essential that they be maintained, or be properly abandoned to reduce the potential for groundwater contamination.

Other Regulations

Waste management facilities, particularly new waste landfill sites, may also be subject to approval under the Environmental Assessment Act and the Ontario Water Resources Act. There are some exemptions to the requirements of the EAA for small waste disposal sites and waste transfer facilities. Operating waste disposal sites must comply with requirements of the Federal Fisheries Act.

4.0 OPTIONS ASSESSMENT

4.1 Disposal

At the present time (2008) there are a number of options available for disposal of waste from Elizabethtown-Kitley. As already noted, the Greenbush waste disposal site in Elizabethtown is presently active and accepting waste from Elizabethtown only. There has been some discussion as to whether or not the Greenbush waste disposal site could accept waste from all of Elizabethtown-Kitley (Appendix A). At the present time there is estimated to be more than 20 years of disposal life remaining (at current rates) based on two recent surveys (Appendix B). Assuming that disposal of Kitley waste began at the Greenbush facility, then it is anticipated that the life expectancy would be reduced to ~15 years, again assuming no changes in per capita rates, or expansion of the landfill.

The following are potential disposal options for household (domestic) and solid non-hazardous industrial waste from the Township of Elizabethtown-Kitley:

1. Continue use of Greenbush waste disposal site (for Elizabethtown waste only) with Kitley waste going to private landfill
2. Apply for an amendment to the C of A for Greenbush (expand and accept all Township waste)
3. Dispose of waste at any one of several private landfills (see Figure 4-1)
 - a. Waste Management (Carp)
 - b. Waste Management (Napanee)
 - c. Waste Services Inc. (Navan) – cannot accept domestic waste
 - d. Lafleche Environmental (Moose Creek)
 - e. Other private waste sites (Ontario, Quebec or USA)
4. Enter into an agreement for disposal at another municipal waste landfill
5. Begin construction and operation of United Counties of Leeds and Grenville (UCLG) ED-19 landfill in Edwardsburgh-Cardinal Township
6. Ship waste to an energy-from-waste plant (e.g. Plasco Energy (Ottawa), southern Ontario facilities)

7. Include Kitley waste disposal at Greenbush waste disposal site (with or without C of A amendment)

These options are presented in order of simplicity and likelihood of implementation. Options 1 and 3 are presently undertaken and can likely be continued until the landfill is full, with or without Options 2 and 7. Kitley waste disposal at the Greenbush landfill is a possibility without an amendment to the existing C of A (see Appendix A and O.Reg. 299/94), however without expansion, the life expectancy of the landfill would be shortened, thereby increasing the need for other options. However, if the entire Township went to full curbside recycling and organics collection, this may increase diversion enough to extend the landfill life significantly even without expansion and possibly without a C of A amendment (Appendix B).

An application for amendment of the existing C of A (Option 3) would likely be required to expand the physical limits of the Greenbush waste disposal site and to begin accepting waste from the entire Township, without increased diversion. This process may take months to years to accomplish, however disposal of Elizabethtown waste could continue. Option 3 can be conducted for some, or all, of Elizabethtown-Kitley's waste.

A proposed landfill site that is owned by the United Counties – referred to as ED-19 – is located in the Township of Edwardsburgh/ Cardinal. This landfill site has been approved, but has not yet been opened. The Ministry of Environment issued a Certificate of Approval for the use and operation of a 14-hectare landfill area (within a total site area of 66 hectares) after a lengthy process that took place between 1990 and 1998 and involved participation from many agencies, organizations and individuals. This approval is for the disposal of municipal, commercial, non-hazardous solid industrial and institutional waste from within the UCLG municipalities. This site would be located roughly 50 kilometres from the geographical centre of the Township of Elizabethtown-Kitley. This location would be slightly less convenient for Elizabethtown-Kitley waste disposal compared to an expended Greenbush landfill.

The initial reason that Option 6 (ED-19 landfill) has not yet been undertaken is that the municipalities in the UCLG found it more cost-effective to use private landfills than to bear the cost of the construction and operation of a new municipal landfill. ED-19 is approved and can be constructed and operated if financial considerations are met. However, questions remain as to whether or not the existing C of A for this facility (now more than eight years old) would require updating or amendment before the construction and operation of this landfill begins.

It is anticipated that more municipalities in the United Counties of Leeds and Grenville and elsewhere will be seeking disposal elsewhere at private landfills as municipal landfills close and before a site such as ED-19 begins operation (i.e. becomes economically viable). It has been

noted by other municipalities (e.g. Edwardsburgh/Cardinal and Augusta) that expansion of existing landfills is difficult, time-consuming and costly.

4.2 Recycling

There are a number of initiatives that could be undertaken to improve both the participation rate (the number of residents that actively recycle) and capture rate (the percentage of available recyclables that are captured). These initiatives are discussed below.

4.2.1 Expand Curbside Collection to Elizabethtown

The household capture rates in the curbside collection portion of the Township (Kitley) are almost twice that in the depot portion (Elizabethtown), figures which are borne out by studies in other rural municipalities throughout the province. Accordingly, by expanding municipal curbside blue box recycling to Elizabethtown, without making any of the other improvements outlined below, one might anticipate that the amount of recyclables recovered would increase by approximately 216 tonnes. This is calculated by multiplying the difference between the current curbside and depot capture rates ($154-79=73$ kg/hhld/yr) times the number of Elizabethtown households.

4.2.2 Expand Range of Materials Collected

There are material recycling facilities in Eastern Ontario (e.g. Quinte, Kingston, Ottawa Valley Waste Recovery Centre) that collect materials not currently collected in Elizabethtown-Kitley, including some or all of:

- polycoat (gable end milk and juice carton)
- aseptic packaging (drinking boxes)
- film plastic
- styrofoam
- paint cans

When issuing the next tender for recycling services, it would be possible to include at least an option for the addition of some or all of these materials. One incentive for collecting these admittedly high volume, low value materials is that WDO funding is geared towards programs that are showing leadership by collecting the broadest possible range of materials. This means that some of the incremental costs associated with these materials may be offset by increased

funding from WDO. Unfortunately, given the state of flux of WDO funding, it is not possible to estimate what that amount might be.

4.2.3 Move to Two-box Fibre/container System

Increasingly, municipalities are providing residents with a second, different coloured recycling box, and tendering for an alternate week fibre/container system. There are a number of advantages to this system, the most important of which being that it allows the contractor to pick up efficiently and cost-effectively with simple, one-compartment packer trucks. There is no sorting at the curb, and the equipment is low tech and suitable to smaller independent rural contractors. A second advantage is that the resident is provided with more storage space (through the second container) and a very simple sorting protocol. This combination of space and simplicity tends to increase capture rates. This system works only when there is a material recycling facility that can handle a pure two stream system (glass mixed in with containers). It also involves initial capital expenditures on second curbside containers.

4.2.4 Increasing Collection Frequency to Weekly

In order to encourage recycling and discourage garbage generation, it is normally recommended that recycling frequency be at least that of garbage. The concern with the current bi-weekly recycling is that if a resident misses a recycle collection date, they will have accumulated four weeks of recyclables before the next collection. This may lead some residents to stop recycling once their blue box is full, and put remaining recyclables in the garbage until there is once more space in their blue box. However, increasing the frequency of collection to weekly will involve a cost premium. The alternative, reducing garbage frequency to bi-weekly, is not normally seen as a politically viable option (at least in summer), unless a source-separated organics program is in place to remove the odorous organic component.

4.2.5 Improve Promotion and Education Programs

Currently, Elizabethtown-Kitley provides only a basic information program on recycling options to residents. It lets people who want to recycle know how to do it, but does not actively *encourage* recycling. That is where a professional promotion and education program comes in. It targets the people who either are not recycling, or are only recycling some materials some of the time, and encourages them to get more involved. Typically, such a program is centered around an InfoCard that goes out door-to-door, and explains in bold graphic ways why, and how, to recycle. This card needs to be sufficiently durable and interesting to prompt all residents (not just “keeners”) to keep it handy on their fridge or bulletin board. It is typically augmented with newspaper ads, tax bill notices, short radio ads and easy to access web resources. Although this also involves an initial and ongoing outlay of financial resources, experience has

shown that it is one of the most cost effective ways of increasing program participation and capture rates, and therefore efficiencies.

4.3 Other Waste Diversion Options

Organic waste is by far the largest part of what is left in the Township's waste stream, and therefore holds the greatest potential for substantial increase in diversion rates. There are two main approaches to diverting organic waste, as outlined below.

4.3.1 Backyard Composting

Backyard composting is the most cost-effective approach, but typically yields much lower diversion rate. This is because it requires more active involvement by the householder (hence tends to have a lower participation rate) and because there are some portions of the organics waste stream that it does not handle well (meat, dairy products, processed food). However, it has been shown to be an effective way of diverting the yard waste and kitchen scrap portion of the waste stream of those households that are prepared to backyard compost. The beauty of backyard composting is that the municipality has only to provide the compost bins – the resident does the diversion and processing, and then happily uses the finished material.

Like most municipalities in Ontario, Elizabethtown-Kitley distributed backyard composters during the 1990's, at a time when the provincial government was funding two-thirds of the cost of backyard composters. Some municipalities in Ontario have continued to promote backyard composting passively (bulk purchasing units and making them available to residents at cost) or actively (making backyard composters available to residents at truckload sale events at subsidized priced). We understand that this program is not presently available in Elizabethtown-Kitley. Other municipalities, such as those in the Quinte and Port Colborne area provided composters to all residents for free, although both of those programs happened back in the 1990's, when the provincial subsidy was in place.

4.3.2 Curbside Organics Collection

Curbside organics collection programs (sometimes referred to as Source Separated Organics, or SSO) became the next wave of organics diversion in around 2005, lead by the City of Toronto. This waste diversion component involves giving residents a kitchen pail and a cart in which to put all their organic materials, including kitchen scraps, meat and dairy products, processed foods, non-recyclable fibres, and in some cases pet waste and/or diapers. The carts are set out at the curb, where they are picked up, usually weekly, and taken to an organics processing facility.

Although this was initially seen as a solution for larger urban centres that had the density to ensure relatively cost-effective collection systems, its success has prompted a number of smaller towns and rural municipalities to also implement curbside organics collection programs (e.g. Simcoe and Dufferin and Peterborough Counties). The Town of Perth also appears to be on the threshold of launching such a program in November of this year. They will process the material at their own low-tech outdoor windrow processing site at their landfill. Interested staff and Council may wish to arrange for a site visit to the Perth Landfill compost site, and to discuss the issue of organics collection and processing with Town staff.

It is suggested that, if the Township elects to seek an amendment to the C of A for the Greenbush waste disposal site, that the amendment include provision for an outdoor windrow composting facility at the Greenbush site. This would enable organics that are collected at curbside to be managed within the Township and to potentially provide for a marketable by-product.

4.3.3 Other Options

Although much less significant on a volume or weight basis than organics or recyclables, household hazardous waste (HHW) and electronic waste (computers, printers, televisions, monitors, etc) are deemed important parts of the waste stream to divert from landfill due to their toxicity (organic and heavy metal components). The Township continues to organize annual household hazardous waste depots, where it typically collects up to 15,000 litres of materials from between 250 and 300 households. In addition, there are County-wide HHW days that are open to Township residents. Industry recently came up with a plan for cost-shared funding of HHW programs, but this has been rejected by the Minister of the Environment who has asked industry to fund 100% of the costs.

The Township has not had specific programs in place for electronic waste diversion, which means that much of it ends up in the waste stream, although experience in other communities indicates that there is likely a large stockpile of waste electronics in basements and storerooms. In December of 2004, the provincial environment minister directed Waste Diversion Ontario to work with industry to come up with a plan to internalize program costs associated with collecting and recycling or safely disposing of this stream. Draft plans have been submitted and are being reviewed, but it will likely be 2009 before there will be clarity regarding the mechanics of how the resulting diversion program will be funded and implemented.

It is understood that some electronic waste is presently in the storage facility at the landfill. Historically, some of this waste was sent to private contractors, but nothing has been conducted recently, except the accumulation of such waste.

Given that provincially both the HHW and electronic waste programs are in a state of flux from a regulatory and funding standpoint, it likely does not make sense for the Township to take active leadership with new programs at this time. Rather, both waste streams should be re-examined in 6 months, once there is more certainty regarding what is happening provincially in this regard.

4.4 Survey of Waste/Recycling Services

A preliminary survey of private waste management companies in Eastern Ontario was conducted to examine the different opportunities for waste haulage and waste disposal locations offered to Elizabethtown-Kitley. Since no specifics were discussed with the service providers, general answers were obtained. Haulers were ready to enter into contracts for roughly 3 to 10 years in length, while landfills could enter into contract for accepting waste for up to 20 years. The services that could be offered to the township are curbside pickup of waste and haulage to a municipal landfill or a private landfill, management of a municipal landfill, and management of a transfer station for solid waste or recyclables. With respect to recycling services, curbside pickup could also be offered for a large range of standard items (aluminum, steel, plastics, and fibres). Curbside pickup of Source-Separated Organics (SSO) could also be offered by several waste service providers.

4.5 Public Consultation

Two Open Houses were held in September of 2008 to discuss possible changes to waste management practices in the Township with the public. These Open Houses also provided a chance for public input. A record of the discussions during the two Open Houses is presented in Appendix F.

5.0 WASTE MANAGEMENT PLAN COMPONENTS

The proposed initial implementation is presented in Section 6.0 and a series of “checklists” are presented in Appendix E to assist the Township with ongoing waste management plans. It is intended that these checklists be used on an annual basis. The following is a bullet summary of the WMMP components that are recommended for the Township. Items noted in *italics* have been completed.

5.1 Household and Commercial Waste Collection

- *Continue with the status quo until May 2009*
- During this period, evaluation expansion of the Greenbush waste disposal site
- *Prepare a tender which includes an option of curbside collection of household waste for all Township residents*

5.2 Recycling

- Actively promote the How and Why of recycling
- *Prepare a tender which includes an option of curbside collection of recyclables for all Township residents, including an expanded range of materials*

5.3 Composting

- Promote backyard composting
- Evaluate the possibility of curbside SSO collection
- If amending the waste disposal site C of A, include a provision for an outdoor windrow composting operation at the Greenbush site

5.4 Household Hazardous Waste

- Continue HHW days for Township residents
- Promote reduction and re-use of these products

5.5 Waste Disposal

- Prepare an application for amendment to the Greenbush C of A (expansion, acceptance of waste from entire Township, construction of a composting facility)

5.5.1 Management of Active Waste Disposal Site

- Continue effective monitoring and management of Greenbush waste disposal site

- Prepare for more stringent requirements to operation and monitoring of landfill
- Review, and adjust as necessary, the establishment of an adequate reserve fund for eventual closure of the landfill

5.5.2 Management of Closed Waste Disposal Site

- Review need for a monitoring program for Kitley landfill
- Maintain the site as a closed facility, but consider it as a potential environmental liability

5.6 Other Technologies

- Prepare a plan for constructing a composting facility at the Greenbush waste disposal site (as part of the C of A amendment process)

5.7 Financial Issues

- *Evaluate waste disposal costs with increased diversion*
- Evaluate long-term costs for disposal:
 - With the present use of Greenbush landfill
 - With an expanded Greenbush landfill
 - Using private landfill(s)
 - Using other disposal facilities (ED-19, EFW)
 - Examine economics of wider range of recyclable pickup and larger volumes

5.8 Public Consultation and Education

- *Conduct Open Houses with residents to discuss waste management options*
- As noted above, promote diversion/recycling on a more consistent and clear basis to residents

5.9 Consultation and Cooperation with Other Municipalities

- Continue dialogue with other UCLG municipalities on waste diversion/recycling issues to promote economies of scale and efficiencies in both waste disposal and recycling

6.0 RECOMMENDED ACTION PLAN

The following is a summary of proposed actions to implement the Waste Management Master Plan for the Township of Elizabethtown-Kitley. This includes a general plan for implementation of actions prior to the expiry of waste and recycling haulage and disposal contracts in May of 2009 (Completed items in *italics*) and/or for moving forward with actions in the future.

1. *Prepare a tender that requests prices for the following service options:*
 - a. *Bi-weekly (effectively alternate week) curbside collection of garbage, source-separated organics, recyclable fibres and recyclable containers to Elizabethtown and Kitley residents*
 - b. *Weekly curbside collection of garbage, and alternate week collection of recyclable fibres and recyclable containers to Elizabethtown and Kitley residents*
 - c. *Bi-weekly (effectively alternate week) curbside collection of garbage, source-separated organics, recyclable fibres and recyclable containers to Kitley residents only*
 - d. *Weekly curbside collection of garbage and alternate week collection of recyclable fibres and recyclable containers to Kitley residents only*
2. *The tender would specify that the Township would provide residents with the following containers, depending on which options were selected:*
 - a. *residents of Kitley (in 2 a, b, c and d) and Elizabethtown (in 2 a and b) would get a second different coloured blue box to use for recyclable fibres*
 - b. *if/when the curbside organics option is implanted, residents in Kitley (in 2 a and b) and Elizabethtown (in 2 a) would get a kitchen organics pail and a ~40 litre wheeled organic cart*
3. *The tender would request a price for collection of garbage plus hauling and tipping at the Greenbush waste disposal site, and a second per tonne price for additional hauling and tipping should the Greenbush site not be available for whatever reason (e.g. the site fills up, the C of A to allow Kitley waste to come to Greenbush is not approved by contract commencement, etc). This means the contractor has to assume that, at least until Greenbush can accept all Township waste, they have to arrange truck routing such that Kitley routes are kept separate from Elizabethtown routes.*
4. *The tender would request a price for collection of organics plus hauling and tipping at a compost site to be established at the Greenbush waste disposal site, and a second per tonne price for additional hauling and tipping at an external licensed compost site. If the per tonne price for export is quite high, the municipality would likely delay the start of the*

compost program until such time as a municipal compost site were in operation at the Greenbush waste disposal site.

5. *The tender would request a price for collection of recyclables, and that price would include hauling and tipping of the material at a licensed Material Recycling Facility. It will be the contractors' responsibility to negotiate the location, pay for any processing fees and accept any revenues that might be associated with the recyclable materials. The contractor will be requested to provide a price for accepting the full range of recyclable materials (including some not currently being collected in the Township), but will also be able to indicate a discounted rate if they are able to delete selected materials.*
6. *The tender would allow the municipality to begin the term of contract with the 2b or 2d prices, but then phase in the organics collection component at any time during the contract (with adequate notice), at which time the 2a or 2c prices would take effect.*
7. If the Township selects 2c or 2d, which do not include curbside services for Elizabethtown residents, they would continue to offer residents depot garbage and recycling services at the Greenbush waste disposal site. The Township would negotiate first with a material recycling facility in the region to accept their materials, which would then determine what materials are accepted and what level of sorting is required at the depot. They would then issue a request for quotes for the transportation of the recyclable materials from the depot to the designated Material Recycling Facility.
8. The Township would develop a comprehensive promotion and education campaign to begin approximately a month before the start of a new contract with different waste management features. This should include one or more information cards, a newsletter, a sticker (at the time of distribution of boxes and/or pails and carts), as well as newspaper ads, press releases, public service announcement coverage and articles in community newsletters. The campaign should also include dedicated web pages on recycling, composting, garbage, HHW, etc, grouped under a waste management home page, which in turn should be accessible directly from the Township's website home page.
9. In the future, the Township can use the RFP process to solicit costs and develop possible plans for enhanced waste management with increased diversion.
10. Various recommendations in Sections 4 and 5 of this plan can be implemented at any time to enhance waste management programs in the Township.
11. Commence work on a request for a C of A for an expanded landfill site, including space for a windrow compost site, and at the same time, requesting that the site be authorized to accept materials from all of the Township, not just the former Elizabethtown Township.
12. Review waste management plan checklists on an annual basis (Appendix E).

13. With respect to landfills, the following recommendations are presented:

- Greenbush Waste Disposal Site
 - Continue good housekeeping practices (grinding, compaction)
 - Assess expansion opportunities ((1) above)
 - Design composting facility ((1) above) as part of amendment process
- Closed Kitley Waste Disposal Site
 - Maintain as a closed facility, but consider as a potential environmental liability

6.1 May 2009 Update

As per the above recommendations, and in order to give the Township prices on which to base decisions regarding the appropriate level of service, the consulting team worked closely with municipal staff to prepare an RFP for the collection of waste, recyclables and/or organics. It provided for the various options outlined above, and was released in December of 2008.

Three contractors elected to bid on some or all of the options provided for in the RFP. The consulting team prepared detailed spreadsheets outlining the comparative costs, net system costs, and cost implications of the various bids and options, and presented that to staff and councilors in early March of 2009.

7.0 REFERENCES

Jp2g Consultants Inc., May, 2006. Memo to Township of Elizabethtown-Kitley from Jp2g dated May 16, 2006 (Greenbush Landfill Site - Preliminary Site Capacity Assessment and Application for Amended Certificate).

Jp2g Consultants Inc., August, 2008. Memo to Township of Elizabethtown-Kitley from Jp2g dated August 6, 2008 (Greenbush Landfill Site - 2006 Site Capacity Study).

Totten Sims Hubicki Associates (TSH), 2008. South Frontenac Waste Management Plan Study, prepared for the Township of South Frontenac (Draft April 8, 2008).

Township of Elizabethtown-Kitley, 2002. By-law Number 02-17 of the Corporation of the Township of Elizabethtown-Kitley (Passed May 27, 2002).

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TABLES

Table 2-1
Summary of Waste Management Practices
Summer 2008
Elizabethtown-Kitley

	Status	
	Elizabethtown	Kitley
<i>Waste</i>		
Municipal curbside pick-up?	No	Yes
By	Residents take waste to Landfill	C. Kelly and Sons Cartage
Disposal	Greenbush Landfill (ticket system)	Waste Management, Inc. (WM) Landfill - Carp (\$59/tonne)
Contract	Some contracts exist between private waste haulers and individuals (unsure of amounts and destination) - assumed to be the Greenbush landfill, but some residents take waste out of the Township to places of employment or directly to other locations	Kelly contract has been extended since 2005 (until May 31, 2009)
	Landfill C of A is dated 1980 (no significant conditions (Elizabethtown waste only)); amended in 1990 to accept solid non-hazardous industrial waste. Estimated 20 years life expectancy based on present rates (from 2008).	To May 31, 2009 (open negotiations for extension 6 months prior to this)
<i>Recyclables</i>		
Municipal curbside pick-up?	No	Yes
By	Residents take waste to recycling facility at the Landfill (facility is being upgraded) - again, some residents may take recyclables outside the Township to their places of employment or directly to Waste Management, Inc. facility in Brockville	C. Kelly and Sons Cartage provides curbside pick-up
Destination	Waste Management, Inc. Facility - Brockville via the transfer station at Greenbush (not known if private contractors handle recyclables separately)	Waste Management, Inc. Facility - Brockville? (contract allows disposal at facility of their choice (must report quantities to Township))
Contract	None	?

Note: Practices are essentially the same in 2009 except new contractor and new configuration of Greenbush Landfill

FIGURES



Figure 1-1 Elizabethtown-Kitley in Eastern Ontario

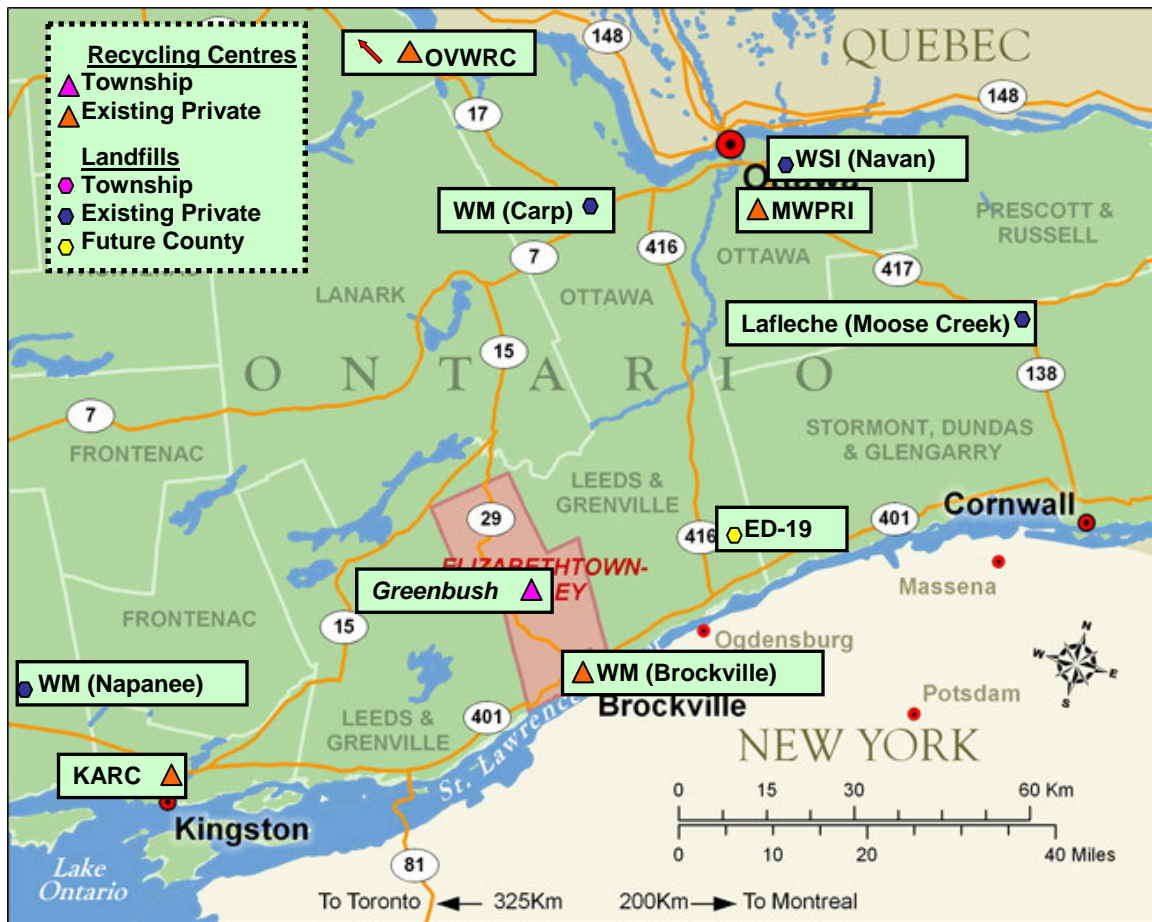


Figure 4-1 Waste Disposal Sites in Eastern Ontario

APPENDIX A

Greenbush Waste Disposal Site C of A Discussion concerning amendment to C of A



Ontario

Ministry
of the
Environment

Provisional Certificate No. A 441502

PROVISIONAL CERTIFICATE OF APPROVAL WASTE DISPOSAL SITE

Under The Environmental Protection Act, 1971 and the regulations and subject to the limitations thereof, this Provisional Certificate of Approval is issued to:

Corporation of the Township of Elizabethtown
R. R. # 2
Addison, Ontario
K0E 1A0

for the use and operation of a 15.0 hectare landfilling site

all in accordance with the following plans and specifications: 1. Sketch entitled "Elizabethtown Township, Lot 25, Conc. VIII". 2. General location map entitled "Elizabethtown Township".

Located: S. Part of Lot 25, Concession 8
Township of Elizabethtown
County of Leeds

which includes the use of the site only for the disposal
of the following categories of waste (NOTE: Use of the site for additional categories of wastes requires a new application and amendments to the Provisional Certificate of Approval) domestic waste

and subject to the following conditions:

1. No operation shall be carried out at the site after sixty days from this condition becoming enforceable unless this Certificate including the reasons for this condition has been registered by the applicant as an instrument in the appropriate Land Registry Office against title to the site and a duplicate registered copy thereof has been returned by the applicant to the Director.

THIS IS A TRUE COPY OF THE
ORIGINAL CERTIFICATE MAILED

ON JUL 15 1980

WA

Signed

Ontario

Environment

TO: Corporation of the Township of Elizabethtown
R. R. # 2
Addison, Ontario

You are hereby notified that Provisional Certif.
Approval No. A 441502 has been issued to you subject to the conditions outlined:

The reasons for the imposition of these conditions are as follows:

The reason for the condition requiring registration of the Certificate is Section 46 of The Environmental Protection Act, 1971 prohibits any use be made of the lands after they cease to be used for waste disposal purposes within a period of twenty-five years in which such land ceased to be used the approval of the Minister for the proposed use has been given. The purpose of this prohibition is to protect future occupants of the site and the environment from any hazards which might occur as a result of waste being disposed of on the site. This prohibition and potential hazard should be drawn to the attention of future owners and occupants by the Certificate registered on title.

You may by written notice served upon me and the Environmental Appeal Board within 15 days after receipt of this Notice, require a hearing by the Board.

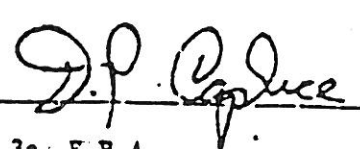
This Notice should be served upon:

The Secretary,
Environmental Appeal Board,
1 St. Clair Ave. West,
5th Floor,
Toronto, Ontario.
M4V 1K7

AND

The Director,
Section, 3a, E.P.A.
Ministry of the Environment,
135 St. Clair Ave. W.
Toronto, Ontario
M4V 1P5

DATED 11th day of July , 19 80 .


Director,
Section, 3a, E.P.A.
Ministry of the Environment.



Ontario

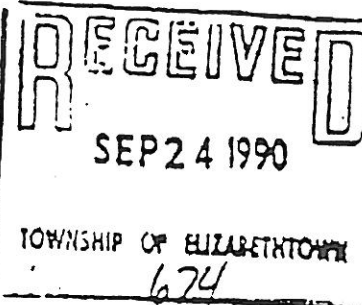
Ministry
of the
Environment

Ministère
de
l'Environnement

Notice Avis

T O:

Corporation of the Township of Elizabethtown
R.R. #2
Addison, Ontario
K0E 1A0



You are hereby notified that Provisional Certificate of Approval No. A 441502 dated July 11, 1980 is amended to allow for the disposal of solid non-hazardous waste in the landfill site providing the quantity of solid non-hazardous waste accepted for disposal does not exceed five percent (5%) of the total domestic waste currently being disposed at the site.

The reason for this amendment is to facilitate the disposal of small quantities of solid non-hazardous waste which would have no significant impact on the operation or life of the waste disposal site.

All other terms and conditions of Provisional Certificate of Approval A 441502 remain in effect.

You may by written notice served upon me and the Environmental Appeal Board within 15 days after receipt of this Notice, require a hearing by the Board. Section 122a of the Environmental Protection Act, R.S.O. 1980, c. 141, as amended, provides that the Notice requiring the hearing shall state the portions of each term or condition in the approval in respect of which the hearing is required and the grounds on which you intend to rely at the hearing.

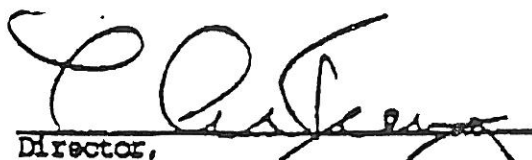
This Notice should be served upon:

The Secretary
Environmental Appeal Board
112 St. Clair Ave. West
Suite 502
Toronto, Ontario M4V 1N3

AND

The Director
Section 38, E.P.A.
Ministry of the Environment
250 Davisville Ave.
Toronto, Ontario M4S 1H2

Dated at Toronto this 12th day of September, 1990.



Director,
Section 38, E.P.A.
Ministry of the Environment.

With respect to the Elizabethtown-Kitley (E-K) Township Waste Management Master Plan (WMMP), some regulations from the Ministry of the Environment (MOE) will need to be studied in order to evaluate the possible scenarios for waste management. Currently E-K has one landfilling site, which is located at 8468 County Road #7 (Greenbush Road). The Corporation of the Township of Elizabethtown was accorded a Provisional Certificate of Approval for a Waste Disposal Site (1980) for the use and operation of a 15.0 hectare landfilling site. The site uses included only the disposal of domestic waste. This Certificate of Approval was amended (1990) to allow for the disposal of solid non-hazardous waste in the landfill site providing the quantity of solid non-hazardous waste accepted for disposal did not exceed five percent (5%) of the total domestic waste being disposed of at the site at the time. The reason for this amendment was to facilitate the disposal of small quantities of solid non-hazardous waste which would have no significant impact on the operation or life of the waste disposal site. The Certificate of Approval for this site is of an older and more open type in comparison with those being issued to newer or expanding landfilling sites.

The townships of Elizabethtown and Kitley amalgamated on January 1st 2001 to form the township of Elizabethtown-Kitley. Currently the landfill is accepting waste only from the area in the former township of Elizabethtown, while the waste from the geographical region of the former township of Kitley is being hauled and disposed of at the Waste Management landfill in Carp, ON. It was understood through talks with current township officials that the Greenbush landfill could not accept waste from the geographical region of the former township of Kitley due to its C of A. Following an analysis of the acts and regulations pertaining to landfills and waste disposal in Ontario, it has been found that the landfill might be able to accept waste from all regions of the township.

Since this is not a new or expanding landfill, Ontario Regulation 232/98 2.(1) does not apply to it. The landfill then falls under R.R.O. 1990, REGULATION 347, which states under section 5.2 (O. Reg. 299/94 s.1) that the "service area" with respect landfill sites, (the geographical area from which the site is permitted under the provisional certificate of approval to accept municipal waste) can be increased if the additional area from which the site will receive municipal waste is,

- (a) within the boundaries of the local municipality in which the site is located or, if the upper tier municipality in which the local municipality is located is exercising the power to provide land filling sites for the local municipality, within the boundaries of that upper tier municipality;
- (b) within the boundaries of the municipality that owns or operates the site;

Under section 5.2, the increase in the additional area from which the site can receive municipal waste would be exempt of section 27, 30 and 32 of the Act (Environmental Protection Act, 1990). This signifies that the change in the area serviced by the landfill would not need to undergo a Tribunal hearing for this type of change to be made.

It is also stated in R.R.O. 1990, REGULATION 347, section 5.2 (3) (O. Reg. 299/94 s.1) that:

A municipality that owns or operates a landfilling site is exempt from sections 30 and 32 of the Act with respect to an increase in the rate at which municipal waste may be received at the site from areas within its service area. O. Reg. 299/94, s. 1.

It is understood that this type of change to the service area was undertaken in the township of South Frontenac. In that case, multiple landfill sites were located within the township, and due to O. Reg. 299/94 s.1, residents were allowed some flexibility with respect to which landfill they would attend, since they were not bound in their traditional service areas. Important to note is the fact that the MOE interpreted O. Reg 299/94 in that case in such a way that even though the service area could be increased to accept waste from other parts of the township, the rate of fill of the landfill had not changed. They allowed as a rule-of-thumb that the service population could be increased by 25% without the need for a new approval. This was based on the idea that waste diversion rates had increased to a point where waste generation was lower by such an amount. If the population were to be increased higher than the 25% stipulated, then a new application would be required, but this without a compulsory hearing.

The case of E-K is similar, and if Kitley could fall under the "service area" of the Elizabethtown landfill, this would prove to be an avenue which needs to be studied as being part of the E-K WMMP.

APPENDIX B

Landfill Capacity Memos



Jp2g Consultants Inc.

ENGINEERS • PLANNERS • PROJECT MANAGERS
Ottawa • Pembroke

J.M. Janota, P. Eng., M.Sc.
J.E. Hunton, M.C.I.P., R.P.P.

August 6, 2008

Township of Elizabethtown-Kitley
6544 New Dublin Road
R.R. #2
Addison, Ontario
K0E 1A0

Attention: Mr. Dale Kulp

Re: **Greenbush Landfill Site**
Preliminary Site Capacity Assessment and
Application for Amended Certificate
Our Project No. 2043004E

Dear Dale:

In accordance with the 2006 Work Plan dated February 4, 2008 and as instructed March 2008, Jp2g Consultants Inc. has conducted a site survey as part of the supporting documentation for the above captioned project. The results of the survey has permitted a comparison of the last field survey of the waste mound to determine the existing total waste disposal volume, and to develop a design to achieve the maximum landfilling capacity for the site. Pending further input from the municipality these drawings will be included in a Site Design and Operations Report to support an Application for an Amended Certificate of Approval, and should be considered in the development of the Township's Waste Management Master Plan currently underway.

Background

The site is operating under Provisional Certificate of Approval No. A441502 dated July 11, 1980 for the use and operation of a 15.0 hectare landfilling site. Over the past 15 years site capacity and life expectancy calculations have been prepared to address various objectives.

Site Plan – Totten Sims Hubicki Associates March 1986
Topographic Survey – Kaldeway / Bennett Surveying Ltd. March 29, 1990
Capacity Study – The Greer Galloway Group Inc. February 1995
Design and Operations Report – The Greer Galloway Group Inc. October 1996
Proposed Design to 119m Contour – Jp2g Consultants Inc. October 23, 2002
Site Capacity Assessment – Jp2g Consultants Inc. March 29, 2004
2006 Site Capacity Study – Jp2g Consultants Inc. May 17, 2006

A copy of the 2006 Site Capacity Study is included in Appendix A which was submitted to MOE in response to a MOE Site Inspection Report dated October 5, 2005. Under the current Certificate there are no defined limits for the landfilling area or an approved 'total waste disposal volume' (TWDV) for the site. TWDV as defined in O. Reg. 101/07 is the maximum volume of waste including the volume of daily and intermediate cover, extending from the base of the waste pile zone to the bottom of the final cover.

Limits of Landfilling Area

Based on the proceeding documents it is assumed the proposed landfilling area will maintain the following separation distances to the 15 ha. property limits.

- 30m to the north
- 100m to the east, County Road 7
- 150m to the south, Centreline of Mud Creek
- 30m to the west

Given the excessive slope along the 150m setback from Mud Creek, the southerly limit of the landfilling area will actually be defined by the limits of historical waste disposal. The landfilling area has been reported to be between 3.6 ha and 4.0 ha, this will be confirmed in final design.

In-place TWDV

Based on previous capacity assessments and the recent field survey, the following summarizes the results:

Period	In-place m ³	Average per year m ³	Source
1970 to Nov. 1994	81,000	3,375	GGG (1995)
to Oct. 2001	34,530	4,990	Jp2g (2004)
to April 2006	17,830	3,962	Jp2g (2006)
to June 2008	9,500	4,560	Jp2g (2008)
In-place TWDV	142,860		

In the past, annual landfilling rates have been reported between 6,185m³ to 10,790m³ (GGG, 1995). More recent landfilling values are in the order of 4,000m³/year (Jp2g, 2006) and 4,560m³/year (Jp2g 2008). The recent survey covered a more extensive area, which included sections of the site (i.e. final cover area and historical brush disposal area) that had not been well surveyed in the past. The brush disposal area is heavily treed and quite difficult (and dangerous) to walk. Coverage of this area is still somewhat limited.

Proposed Remaining Capacity

Based on the June 2008 survey an Existing Conditions Plan, 2008 has been generated. In order to determine the remaining capacity, a preliminary Site Development Plan has been generated in consideration of the following general design parameters:

- illustrate final design contours without the application of final cover 0.45m (0.3m earth + 0.15m topsoil)
- limits of southerly disposal area defined by historical waste deposit
- side slopes not to exceed 4:1 (25%)
- top slope 5% to permit equipment operation

The proposed remaining landfill capacity as of June 2008 is approximately 265,000 m³. (Note, this value to be confirmed during the final design).

Summary

The theoretical maximum site capacity for the Greenbush Landfill Site was estimated to be 334,200m³ (Jp2g 2006). According to this submission the In-place TWDV of 142,860m³ and remaining capacity of 265,000 m³ equates to a value that is slightly greater than first anticipated (i.e. ~ 405, 000 m³)

Assuming an average 6,500m³ annual landfilling rate, the site's life expectancy will be in excess of 20 years.

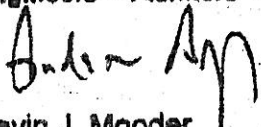
Next Steps

In order to proceed with preparation of the Site Design and Operations Report it is recommended that an on-site and/or committee meeting be arranged to discuss:

- feasibility of achieving the proposed design contours
- confirm staging of landfilling to accommodate stockpiling of cover material and access to the active working face
- confirm landfilling operation procedures
- review proposed waste diversion facilities and programs
- liaison with MOE to confirm Application requirements
- determine public consultation requirements

I am available after August 20, 2008 upon my return from holidays.

Yours truly,
Jp2g Consultants Inc.
Engineers • Planners • Project Managers

For 
Kevin J. Mooder
Senior Project Planner

KJM/dr

Jp2g Consultants Inc.

ENGINEERS • PLANNERS • PROJECT MANAGERS
Ottawa • Pembroke

J.M. Janota, P.Eng., M.Sc.
J.E. Hunton, M.C.I.P., R.P.P.

May 17, 2006

COPY

MOE
Kingston District Office
133 Dalton Avenue
Kingston, ON K7L 4X6

Attention: Mr. Craig Dobriech

Re: Greenbush Landfill Site
2006 Site Capacity Study
Our Project No. 2043004C

Dear Sir:

In response to a MOE Inspection Report conducted September 20, 2005 under correspondence dated October 5, 2005 the Township was asked "to submit all documentation to support capacity assessment results, whereby the site capacity has increased from approximately 78,000m³ to approximately 100,000m³". Furthermore the Council of the Township of Elizabethtown-Kitley has requested confirmation on the estimated life expectancy of the waste site.

This submission has been prepared to clearly define the limits of site capacity under the current Certificate of Approval and to estimate the remaining capacity under two (2) different designs proposed for the waste mound.

DEFINITIONS

The Greenbush Landfill is operating under Provisional Certificate of Approval No. A441502 dated July 11, 1980 as amended under Notice dated September 12, 1990 ("the Certificate"). According to available records the Certificate was issued in response to an Application for a Certificate of Approval made by the Township of Elizabethtown December 1, 1970. The amendment was intended to permit the disposal of industrial solid non-hazardous waste which would not exceed 5% of the total domestic waste disposed at the site.

Theoretical Maximum Site Capacity – In the absence of any disposal limits noted on the Certificate and the Application the landfill capacity determination (MOE December, 1993) protocol assumes that:

- the area of fill is defined by applying a minimum 30 m buffer inside the site boundary, or in consideration of other restrictions
- the below grade quantity calculation is based on typical past disposal practices and can be assumed to be vertical
- the above grade quantity is calculated using a 4:1 side slope from existing ground to a roughly pyramidal peak

The theoretical maximum site capacity determination for the Greenbush Landfill is as follows:

- the waste fill area is the 3.6 ha area defined by a 30 m buffer to the west and north, a 100 m buffer to the east (from County Road 7) and a 150 m buffer from Mud Creek
- assume on average a 3.0 m depth of waste below original ground (note there are areas of very shallow overburden, but other areas which have received well over 4.0 metres of waste by trenching or over the bank disposal)
 $36,000 \text{ m}^2 \times 3.0 \text{ m} = 108,000 \text{ m}^3$
- the area within a pyramidal peak applying a 4:1 side slope is roughly estimated to be $226,200 \text{ m}^3$.

The total theoretical maximum site capacity for the Greenbush Landfill Site is estimated to be approximately $334,200 \text{ m}^3$.

Total Waste Disposal Volume – means for a landfilling site, the maximum volume of waste, including the volume of any daily or intermediate cover, to be deposited at the site in the space extending from the base of the waste fill zone or the top of any engineered facilities located on the base of the site to the bottom of the final cover.

Waste Fill Area or Landfilling Area – means the area on the surface of the landfilling site beneath which or above which waste is disposed of by landfilling.

Waste Fill Zone or Waste Mound – means the three-dimensioned zone in which waste is disposed of by landfilling.

The latter definitions, (MOE Landfill Standards 1998) are based on site capacity figures typically detailed in a Site Design and Operations Report approved under a Certificate of Approval.

The following site capacity designs were developed to address MOE reporting requirements and to assist the Township with improvements to site operations at the site. They were not intended to obtain an approved total waste disposal volume.

CAPACITY STUDY 1995

Under the Waste Management Improvement Program the Township authorized The Greer Galloway Group Inc. to complete a capacity assessment of the landfill site.

- based on November 1994 survey it was estimated that a 2.7 ha area had received waste within the 3.6 ha waste fill area
- assumed $81,000 \text{ m}^3$ landfilled
- remaining capacity $71,700 \text{ m}^3$ based on fill height 113 m shown on a Kaldeway/Bennett O.L.S. plan dated March 29, 1990
- assumed fill rate range of $6,185 \text{ m}^3$ to $10,790 \text{ m}^3$ the remaining life expectancy to be 7 to 12 years

1996 DESIGN

The Greer Galloway Group Inc. redesigned the waste disposal operations within the 3.6 ha fill area to a maximum elevation of 113 m (including final cover). A Site Development Plan dated October 1996 was prepared which applied 4:1 side slopes along the entire waste fill area. In comparison to the November 1994 survey it was estimated that there was a remaining capacity of 104,500m³ (contours including final cover) or 85,000m³ for landfilling. Permanent stakes were erected to define the limits of the landfilling area.

2002 DESIGN

To implement phased closure, to improve landfilling operations and use the existing access road on site a design to a 119 m contour elevation was prepared, and grade markers were re-established at the site by Jp2g Consultants Inc. A copy of the plan as Figure 1 of 1 dated January 2002 accompanied our October 23, 2002 proposed design (copy attached). It was estimated that an additional 30,000m³ of capacity could be achieved, if landfilling proceeded accordingly.

2006 REMAINING CAPACITY ESTIMATES

On April 27, 2006 Jp2g Consultants Inc. conducted a field elevation survey of the Greenbush waste fill area. A copy of the existing conditions plan is attached as Figure 2. A comparison of an October 2001 survey and the April 2006 survey was conducted which noted an increase in the waste mound of 17,830m³. This is equivalent to approximately 4,000m³ per year.

The remaining capacity for landfilling (not including final cover) between the existing ground and the 113 m and 119 m contour design plans was calculated and an estimated life expectancy is provided.

113 m Design - remaining capacity 53,585 m³ – life expectancy 13 years
119 m Design - remaining capacity 86,688 m³ – life expectancy 21 years

Trusting this is satisfactory.

Yours truly,
Jp2g Consultants Inc.
Engineers • Planners • Project Managers

Kevin J. Mooder
Senior Project Planner

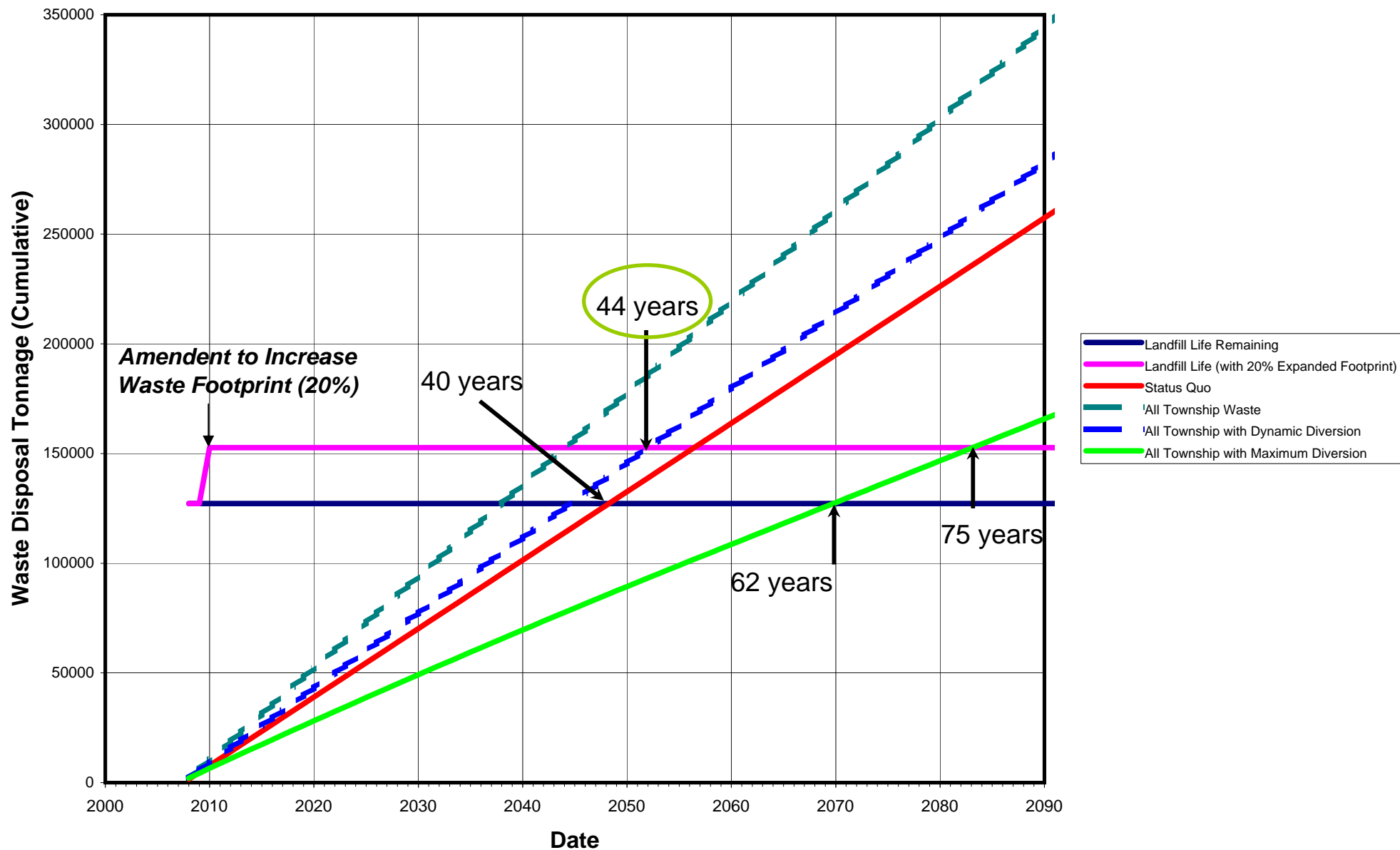
KJM/dr

Encl.

c.c.: - Dale Kulp

Diversion Scenarios and Greenbush *ESTIMATED* Landfill Life Expectancy

(based on Jp2g August 2008 information)



APPENDIX C

Landfill Information (Photos, Plan and Guide)



Photo 1 Sign at entrance of Greenbush facility

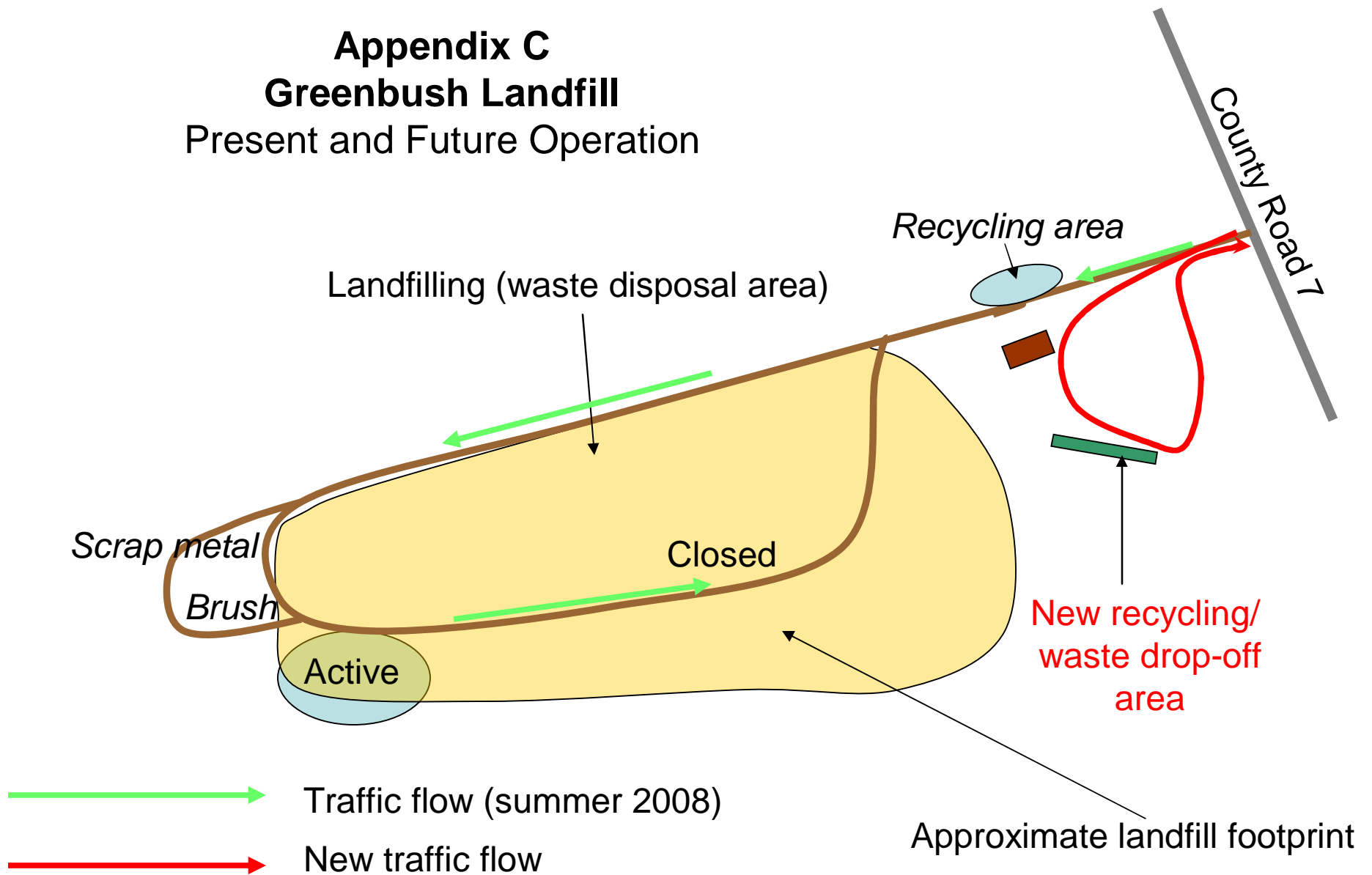


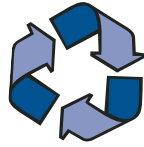
Photo 2 Solid waste at the Greenbush landfill



Photo 3 New roll-off docks for use with bins at Greenbush facility

Appendix C
Greenbush Landfill
Present and Future Operation





TO ALL RESIDENTS OF ELIZABETHTOWN-KITLEY

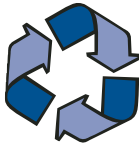
UPDATED RECYCLING GUIDE

2005

www.elizabethtown-kitley.on.ca



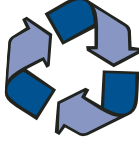
TO BE RECYCLED	WHAT TO DO	NOT RECYCLABLE	SUGGESTIONS
<u>PAPER PRODUCTS:</u> Newspapers, Magazines, Plain White Paper & Envelopes, Catalogues, Phone books, Boxboard (i.e. cereal, tissue & cracker boxes, paper towel rolls, etc.), Fibre Egg Cartons or Coffee Trays, Corrugated Cardboard	<u>CLEAN, DRY AND FLATTENED.</u> Remove all plastic from envelopes, tissue boxes, etc. Corrugated cardboard must be flattened and bundled.	Milk and Juice Cartons, Large Cardboard Tubes (i.e. Carpet Tubes), Waxed Cardboard, Styrofoam Products	Reuse paper on both sides before recycling. Avoid buying Styro-foam products (i.e. bring your own mug to meetings, work, coffee shops).
<u>GLASS:</u> Clear and Coloured Glass Bottles and Jars	<u>CLEAN</u> Separate glass at landfill.	All other Glass (i.e. Light Bulbs, Fluorescent Tubes, Window Panes)	
<u>PLASTIC:</u> ALL Plastic Containers with #’s 1-7 in the Recycling Symbol ONLY (1,2,3,4,5,6,7) (i.e. Pop Bottles, Shampoo, Food Containers, Bleach Bottles, etc.)	<u>CLEAN</u>  #’s 1-7	Numbers other than 1-7 or Plastic with No Number, Plastic Bags, Styrofoam, Motor Oil Containers	Check containers for number prior to buying-buy alternative item that is recyclable. Use cloth bags for grocery shopping-available at the township office.
<u>STEEL, TIN & ALUMINUM:</u> Food and Drink Cans, Aluminum Pie Plates and Clean Aluminum Foil. Scrap Metal (i.e. Bicycles, Lawnmowers, Ductwork, Chimneys, etc.)	<u>CLEAN</u> Scrap Metal-as is.	Paint Cans	Used paint, motor oil and batteries (car & household) are collected on hazardous waste day each fall.



TOWNSHIP OF ELIZABETHTOWN-KITLEY

LAYOUT OF LANDFILL SITE

Located at 8468 County Rd. #7 Phone: 924-9934



STOP #1

RECYCLING AREA (refer to list on reverse)

STOP #2

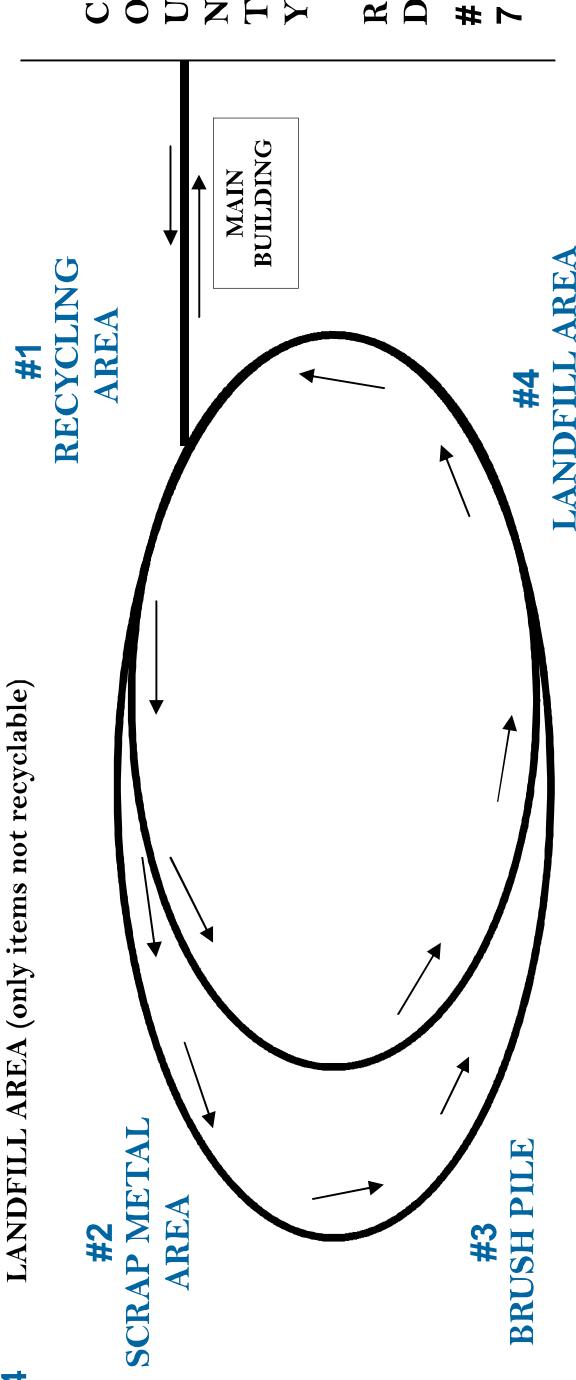
SCRAP METAL AREA (i.e. bicycles, lawn mowers, duct work, chimneys, etc.)

STOP #3

BRUSH PILE (no other wood)

STOP #4

LANDFILL AREA (only items not recyclable)



THE FOLLOWING ITEMS MAY BE DROPPED OFF AT THE MAIN BUILDING - TO BE DONATED TO THE CANADIAN DIABETES ASSOCIATION: GOOD USED CLOTHING, DISHES, POTS & PANS AND PRINTER INK CARTRIDGES

*This publication has been produced in cooperation with
The Environmental and Conservation Advisory Committee*

APPENDIX D

Municipal Waste Management Survey

Leeds and Grenville (U.C.)				Present Domestic Waste Management			Present Recycling				Future Plans		
Municipality		Contact Person	Contact Info	Curbside Pickup	Disposal Location	Contract Until	Curbside Pickup	What is Collected	Destination	Contract Until	Domestic Waste	Recycling	Notes
Athens	Twp.		613-924-2044 (office)	yes, Village of Athens only (elsewhere - transport to transfer station)	Waste Management picks up bins at transfer station	Limerick Environmental Services - until 2010/2011 (not sure)	yes, Village of Athens only	large range	transfer station, then Limerick Environmental responsible, not sure of destination	2012			no landfill
Augusta	Twp.	Richard Bennett	613-925-4231 x103 cao@augusta.ca	no, residents transport to transfer site or to municipal landfill, no need for tags	landfill and transfer station managed by Fast Eddie's	Contract with Fast Eddie's until Dec. 31st 2009	no, same as with domestic waste	large range, including, 1 to 7 resins, coloured & clear glass, light bulbs, oil & paint, batteries, antifreeze	landfill and transfer station then marketed by Fast Eddie's	Contract with Fast Eddie's until Dec. 31st 2009	North Augusta landfill has only 3/4 years left, interested in discussion about ED-19 or waste-to-energy possibilities	status quo	
Brockville	City	Valerie Harvey - Supervisor Transit/Solid Waste	Tel: 613-342-8772 x8231 Fax: 613-342-5035 vharvey@brockville.com	yes, by WSI	to WSI transfer station and then to Lafleche landfill	Sept. 31 2010	yes	full range except SSO			too far to tell	too far to tell	
Edwardsburgh/Cardinal	Twp.	Kowalewski, Chris	613-657-4606 ckowalewski@edwardsburghcardinal.ca	yes (Waste Services Inc.)			yes (Waste Services Inc.)	large range					small landfill
Front of Yonge	Twp.	William Patterson - Superintendent	613-923-5074 or the office @ 613-923-2251	yes, but only for Mallorytown residents (~150 households), by Xstreme	municipal landfill, which only accepts waste from inside it's township	contract with Xstreme until 2010	yes, but only for Mallorytown residents	fibres, 1 to 7 resins, metal cans. Glass collected, crushed and used as fill material for landfill	municipal landfill first and then picked up by Waste Management and not sure from there	open ended (not sure)	status quo	status quo	small landfill, prediction of 35 to 40 years left before full
Gananoque	Town	Jim Guest	613-382-4360 ext. 112 jguest@townofgananoque.ca	yes (Waste Services Inc.)			yes (Waste Services Inc.)	large range					
Leeds and the Thousand Islands	Twp.	James Lolley	james@lolley.ca	no, residents transport to one of 3 waste sites			no, residents transport to one of 3 waste sites						three landfills
Merrickville-Wolford	Twp.	Ryan Morton Manager, Environmental Services	613-269-3247 environment@merrickville-wolford.ca	yes, for village only (1\$/tag) ; others bring in their own or hire local contractor (0.50\$/tag)	own landfill	Limerick, not sure about contract end date	yes, every 2 weeks	standard range (fibres, 1&2 resins, metal, etc.) no coloured glass	Gouldbourn (most likely, not sure)	Limerick, not sure about contract end date	Status quo	Status quo, SSO maybe, but not brought up to council or nothing	small landfill (rated for between 10 and 30 years, depending on MOE interpretation)
North Grenville	Twp.	Jim Beeler	jbeeler@magma.ca	yes, Goulbourn Sanitation			yes, Goulbourn Sanitation						
Prescott	Town	Hans Van Helden or Clyde Salomon (maybe Sullivan)	613-925-4312 (Hans) hvanhelden@prescott.ca 613-925-2812 (Clyde)	yes, for residential by Kelly's Cartage	Lafleche (Moose Creek)	Pick-up contract up in 2/3 years. Contract with Lafleche up in about 3 years	yes, blue box, by Canadian Waste Services	standard range (fibres, 1&2 resins, metal, etc.)	Canadian Waste Services (Brockville)	just renewed, due up in 3 years	Status quo, unless Lafleche changes, but unlikely	status quo	no SSO organics for now due to high probable cost and small municipality
Rideau Lakes	Twp.	Michael A. Touw	1-800-928-2250 x230 mtouw@twprideaulakes.on.ca	yes, by township staff and equipment and brought to the townships 2 transfer station	WSI hauls to WSI's facility from transfer station, then sorts/compacts and hauls to Lafleche	2011	yes, by township	large range	brought to transfer station and from there Waste Management hauls recyclables away	2013			

APPENDIX E

Waste Management Plan Checklists

Waste Management Plan Checklist

Municipality Elizabethtown-Kitley **Year** _____ **Completed by** _____

Waste Disposal

		C of A Compliance	Monitoring Report	Operations and Development	Capacity Calculations	Remaining Capacity	Compliance Issues	Financial Liabilities	Notes
Landfill	Greenbush								
	Kitley								

	Collection?	Data Compiled?	Reported?	Compliance Issues	Notes
Household Hazardous Waste					

	Collection?	Data Compiled?	Reported?	Compliance Issues	Notes
Tires					

	Collection?	Data Compiled?	Reported?	Compliance Issues	Notes
Other "non-landfill" items					

Waste Management Plan Checklist

Municipality Elizabethtown-Kitley
Year _____
 Completed by _____

Recycling		<i>Greenbush</i>			<i>Curbside</i>		
		Collection?	Data Compiled?	Reported?	Collection?	Data Compiled?	Reported?
Blue Box	Paper						
	Cardboard						
	Plastic						
	Steel						
	Aluminum						
	Other						
	Scrap metal	<i>At landfill</i>					
Other	Composting						
	Leaf and yard waste						
	Other						

Notes:

Waste Management Plan Checklist

Municipality Elizabethtown-Kitley Year Completed by

Public Education	<i>Conducted?</i>	<i>Feedback?</i>	<i>Evaluation</i>	<i>Notes</i>
Website				
Newspaper				
Flyers				
Schools				
Other				

Waste Management Plan Checklist

Municipality Elizabethtown-Kitley
Year
Completed by

Reporting	<i>Material</i>	<i>Tonnage Date Compiled?</i>	<i>Diversion Calculated?</i>	<i>Data to WDO?</i>	<i>Notes</i>
Waste Disposal - Greenbush					
Waste Disposal - Elsewhere					
Waste Disposal - Private					
Recyclables					
Other					

APPENDIX F

Open House Notes

Elizabethtown-Kitley Waste Management Master Plan (WMMP)

**NOTICE
(Website and Newspapers)**

Meeting Schedule

OPEN HOUSE/PUBLIC MEETING TO DISCUSS WASTE SITE MASTER PLAN

You are invited to attend a public meeting/open house to discuss the Waste Site Master Plan. Township staff, members of the Waste Site Management Committee and consultants will be on hand to describe the project and answer questions you might have.

September 9th from 6:30 – 8:30 at Toledo Municipal office 424 County Rd 29
September 10th from 6:30 – 8:30 at New Dublin Municipal office 6544 New Dublin Road

Follow-up from Open Houses on September 9 and 10, 2008

AVM – Alfred con Mirbach
MP – Mark Priddle

September 9 (Kitley) – Toledo Office

Staff, Committee and 4 residents (2 were actually Elizabethtown residents) were in attendance

Presentation and discussion lasted for most of the 2 hours from 6:30 to 8:30 pm

There was general agreement with the proposed approach by those in attendance.

Key questions/comments raised:

What about the impact of the landfill on the environment?
Is it fair to long-term residents?
What does a C of A amendment mean?
How are impacts monitored?

Staff noted that regular monitoring is conducted around the landfill and the MOE reviews all the reports.

MP noted that the proposed amendment will be to potentially expand the ~4 ha waste footprint within the 15 ha approved area.

How do we promote and educate an illiterate public?

AVM responded that a reasonable budget for promotion is always essential. Much of the promotion includes pictures and can be targeted to younger persons.

What might costs be?

AVM responded that in Perth, SSO collection amounted to ~\$1.50/household per month. We need to tender before we can provide accurate costing for other portions of the proposed plan.

General comments:

We should look after our own waste and we should not accept others waste

We should contact the Frontenac Arch Biosphere Reserve people about possible joint promotion

Personal communication of changes may be necessary to reach all residents

E-K should take the lead and assist other municipalities in catching up. There are not enough municipalities in the same situation as E-K (i.e. contracts expiring next year, an active municipal landfill etc.).

Landfill attendants should be more vigilant in keeping recyclables about of the landfill

September 10 (Elizabethtown) – New Dublin Office

Staff, Committee, Mayor and 5 residents were in attendance

Presentation and discussion lasted for most of the 2 hours from 6:30 to 8:30 pm

There was general agreement with the proposed approach by those in attendance.

Key questions/comments raised:

Do we really want to open the C of A?

The Township may have no choice anyway! The MOE may subject the Landfill to more scrutiny regardless.

How long will it take and how much will it cost to amend the C of A?

MP suggested that it might take up to two years and cost between \$25000 to \$50000.

What are the overall capital costs for dynamic diversion?

Very rough estimates:

\$100,000 for supplying everyone with cart and pail

\$40,000 for bins for all residents (E & K)

\$10,000 for promotion and education

Need to carefully consider how to promote and educate the public with something very new such as SSO collection?

AVM noted that other programs have been successful with a coordinated effort through various media forms. When the new carts and pails are distributed, a concise sheet should be provided.

How does Greenbush stack up with respect to size for a municipal landfill in eastern Ontario?

MP suggested that it was slightly larger than many municipal landfills service the same size municipality.

Have other municipalities opened up old C of A's for amendment to EXPAND?

MP was not sure. Yes, some municipalities have opened their C of A, but not necessarily for expansion.

How simple will the composting be?

AVM explained that it should be quite simple and can likely be conducted with available manpower and equipment. The overall benefits of composting were also discussed (greatly reducing volume of wastes being landfilled, production of a usable by-product). Curbside SSO collection can also take much more than backyard composters (i.e. meat and dairy, pumpkins etc.).

Other general comments/questions

Do we want to use a carrot or stick approach

Have we considered avoidance costs (i.e. if Township does not increase diversion)?

Summary of input

Both evenings – a total of 7 respondents

Six (6) stated that curbside recycling and garbage should be extended to all Township residents. One (1) was not sure.

Six (6) stated that the recycling program should be expanded to collect a broader range of recyclables. One (1) was not sure.

Six (6) stated that municipality should consider implementing a curbside organics collection program. One said the municipality should not.

Actions:

- Waste Site management committee to review report and discuss Open Houses at their next meeting (September 11, 2008)
- Council to discuss the Draft WMMP at their next meeting(s)
- Committee to recommend to Council and direct MPCE in proceeding with recommendations in draft Plan
- MPCE to prepare a rough budget for assisting the Township in preparing a tender and evaluating it, based on the options in the Draft WMMP. Submit this to the Committee.
- MPCE to obtain answers to a few outstanding questions

Notes compiled by Mark Priddle (McIntosh Perry Consulting Engineers Ltd.

Ref. Notes on E-K WMMP Open Houses.doc