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CONSIDERATION OF HOUSEHOLD HAZARDOUS WASTE COLLECTION EVENTS

The Environmental Services Committee recommends the adoption of the recommendation contained in the following report dated August 18, 2009, from the Commissioner of Environmental Services.

1. RECOMMENDATION

It is recommended that:

1. Council continue to rely on permanent depots as the primary method of efficiently and cost-effectively diverting household hazardous waste from the residual waste stream for the residents of York Region.

2. PURPOSE

This report informs Council of the costs for holding single day household hazardous waste collection events. It also provides Council with an analysis of the current users of the Region's network of household hazardous waste depots and the quantity of household hazardous waste material that remains in the residual waste stream.

3. BACKGROUND

At the meeting of March 11, 2009, Solid Waste Management Committee received a deputation from a Town of Aurora resident and a communication from a Town Councillor requesting that York Region hold a one day household hazardous waste collection event in the Town of Aurora. Committee directed staff to investigate the costs and benefits of holding a single household hazardous waste collection event in Aurora, provide an analysis of the users of the Region's permanent household hazardous waste depots and present information on household hazardous waste in the residential residual waste stream.

4. ANALYSIS AND OPTIONS

Household hazardous waste represents 1% of the residual waste stream

Household hazardous waste incorrectly placed in the residual waste stream is a cause for concern due to the potential for release of potentially hazardous chemicals into the environment. Ensuring that household hazardous waste is properly collected and disposed of is an important element of York Region's waste management program. Waste audit

data obtained in December 2006 measured household hazardous waste at less than 1% by weight of the Region's residual waste stream.

Over almost 20 years York Region has progressed from an events-based household hazardous waste program to its current depot based program

York Region's household hazardous waste program began in the early 1990s' with mobile collection events held in different municipalities. One-day collection events were conducted to receive household hazardous waste from the public. Events ranged in frequency from one to several per season, often in different locations across the Region and usually held on weekends and evenings. Promotion and education for a given event was focused in the local community, generally drawing participation from nearby residents.

One of the goals of the household hazardous waste program is to make it more convenient for residents to dispose of their hazardous and special waste. Local single day events provide the potential for reduced travel-times compared to a more distant depot, but do not offer the schedule convenience of permanent depots with well-established hours of operation.

While many of the one day collection events were well attended, the events were frequently difficult to manage due to uncertainty regarding the number of residents that might attend. This often posed challenges in ensuring adequate staffing levels and traffic control to provide a suitable level of service while maintaining proper material handling requirements. These uncertainties have been eliminated since York Region began its permanent depot program.

Operation of mobile single day household hazardous waste events must meet stringent regulatory and safety requirements

To properly run a household hazardous waste event, York Region would be required to retain a third-party hazardous waste service provider with the following capabilities:

- Mobile Provincial Certificate of Approval to legally manage hazardous wastes;
- Staff trained, knowledgeable and qualified to receive, handle, package and transport hazardous materials;
- Emergency response plans, training, equipment and insurance;
- Equipment, containers and vehicles suitable for hazardous materials;
- Arrangements for transportation and treatment/secure disposal of recovered hazardous materials in accordance with regulations; and,
- Record-keeping and documentation.

The hazardous waste service provider will also assess the proposed event location to ensure suitability with respect to management of traffic and people, receiving of materials, placement of storage containers and off-site transport.

Scheduling one-day stand-alone household hazardous waste events days does not offer the opportunity to divert other recyclable materials as do some of the permanent depots and requires that residents adjust their schedules to participate. Permanent depots allow residents to dispose of their materials at the facilities on a regular basis eliminating the need to store household hazardous waste for a long period of time between events.

To address many of these issues associated with event-based collection of household hazardous waste, and improve the level of service and convenience offered to its residents, York Region has developed a network of depots. By doing so, York Region has also improved the overall effectiveness of its household hazardous waste program.

Four permanent household hazardous waste depots now service nine local municipalities

The program expanded in the late 1990's with the establishment of permanent depots in Georgina in 1997, Markham in 1998, East Gwillimbury in 1999 and Vaughan in 2005. York Region's household hazardous waste collection program accepts a broad range of discarded hazardous and special consumer products.

Since establishing the permanent depots, the program has experienced considerable growth in its effectiveness. From 2005 to 2008, the household hazardous waste program experienced a 71% increase in participation and a dramatic 90% increase in tonnage collected. These trends provide a strong indication of the growing public awareness of the problems associated with improper management of household hazardous waste and increasing effectiveness of York Region's program in removing household hazardous waste from the residual waste stream.

The Region's four permanent household hazardous waste depots service residents from all nine local municipalities. Table 1 illustrates the number of facility users based on their local municipality of residence and also shows the municipality of origin as a percentage of the total depot users.

Table 1
Household Hazardous Waste Depots Users by Local Municipality,
May 2008 to May 2009

	Markham Depot		East Gwillimbury Depot		Vaughan Depot		Georgina Depot		Total
Aurora	356	7.8%	4,095	89.2%	21	0.5%	116	2.5%	4,588
East Gwillimbury	66	2.1%	2,835	89.4%	3	0.1%	266	8.4%	3,170
Georgina	17	0.6%	905	34.6%	1	0.0%	1,697	64.8%	2,620
King	357	26.3%	758	56.0%	220	16.2%	21	1.5%	1,356
Markham	18,951	99.5%	32	0.2%	57	0.3%	4	0.0%	19,044
Newmarket	487	5.3%	8,329	91.2%	63	0.7%	253	2.8%	9,132
Richmond Hill	2,281	52.1%	839	19.2%	1,201	27.4%	58	1.3%	4,379
Vaughan	364	3.2%	58	0.5%	10,795	96.2%	8	0.1%	11,225
Whitchurch-Stouffville	1,455	48.6%	1,338	44.6%	134	4.5%	68	2.3%	2,995
Total Users	24,334	41.6%	19,189	32.7%	12,495	21.4%	2,491	4.3%	58,509

Table 1 shows that the majority of users of the Markham, Vaughan, and Georgina depots are residents of those local municipalities. The East Gwillimbury depot is used most heavily by residents from the Towns of Newmarket and Aurora. At the present time, each depot operates two days per week, with the exception of the Georgina depot, which opens twice a month. Plans are currently in place to increase the number of operating days per week at the Region's four permanent household hazardous waste depots. It is anticipated that the increased hours and days of operation will commence prior to the end of the year.

Permanently located depots offer residents the opportunity to dispose of household hazardous waste at their convenience throughout the year, rather than having to schedule to participate in a particular event day. Some of York Region's depots also provide the opportunity to dispose of other non-household hazardous waste materials such as electronics, scrap metal, and other recyclable materials.

Richmond Hill Community Environmental Centre will provide an additional permanent household hazardous waste depot location to further reduce driving distances

The Region is working to establish a new Community Environmental Centre within the Town of Richmond Hill. This location will permit the drop off of residential household hazardous waste as well as re-usable materials, recyclables and residual waste. This project has been selected to receive \$6.5 million in funding from the federal and provincial economic stimulus package.

Region's depots provide reasonable service coverage of the most populous areas

Attitudinal studies and client tracking questionnaires have shown that many residents are willing to drive between 10 to 15 kilometres (one way) to access waste management services. Attachment 1 shows the minimum 10 kilometre driving radius for York Region's four permanent household hazardous waste depots and the planned Richmond Hill Community Environmental Centre. Considering that York Region's current and future population distribution is most densely concentrated along the east-west Highway 7 corridor in the south and along the north-south Yonge Street corridor, Attachment 1 shows that the Region's depots provide reasonable service coverage of the most populous areas. Approximately 82% of the Region's population lives within 10 kilometres of one of the four existing permanent household hazardous waste depots.

York Region expanding operating days to improve service levels at depots

In September 2008, York Region staff surveyed users of the household hazardous waste depot to obtain information on the preferred days and hours of operation. Approximately 42% of respondents indicated additional operating days would provide improved convenience. At the present time, each depot is open two days a week with the exception of the Georgina depot which operates two days per month. Staff are preparing to increase operations at the East Gwillimbury, Markham and Vaughan depots to five days per week, Thursday to Monday, and the Georgina depot will expand its hours to operate every Saturday. The expanded hours of operation for these four depots will be implemented by November of 2009. Funding to expand the days and hours of operation was approved in the 2009 operating budget.

Increase in the availability of return to vendor opportunities

With the designation of household hazardous waste under the *Ontario Waste Diversion Act, 2002* and Stewardship Ontario acting as the Industry Funding Organization, private industry has recently provided additional drop off locations for some household hazardous waste materials. For example, Home Depot stores take back items such as paint, batteries and compact fluorescent light bulbs; and Jiffy Lube centres take back antifreeze, lubricating oil and oil filters. Over the last year, there has been an increasing trend of return to vendor opportunities within the industry. Return to vendor locations represents additional opportunities to properly dispose of household hazardous waste.

York Region promotes household hazardous waste program to raise awareness and increase diversion

York Region runs a successful promotion and education campaign to raise resident awareness and encourage participation in the household hazardous waste program. In 2007, York Region was recognized by the Solid Waste Association of North America as the winner of its Gold Communication Award for its household hazardous waste promotional campaign. Annually, approximately \$60,000 is spent advertising the program to the public. A household hazardous waste commercial was developed that has run for approximately 10 weeks in both 2008 and 2009 on Rogers Cable TV. Colour advertisements are published in several local newspapers and information pamphlets on our Household Hazardous Waste programs are distributed at retail outlets and public events. Each of the Local Municipalities dedicates space in their waste collection calendars to provide detailed household hazardous waste depot information.

Municipal Hazardous and Special Waste Program – a shared responsibility model

Commencing in 2006, the Provincial government prescribed Municipal Hazardous and Special Waste (MHSW) as a designated waste under the *Ontario Waste Diversion Act, 2002* and directed Stewardship Ontario to act as the Municipal Hazardous and Special Waste Industry Funding Organization.

In 2007, Stewardship Ontario submitted its proposed plan for the management of Municipal Hazardous and Special Waste. The plan was approved by the Minister of the Environment on February 21, 2008.

In April 2008, York Region entered into a shared agreement with Stewardship Ontario which allows the Region to be eligible for reimbursement of a portion of the post-collection costs of phase 1 materials (paints, aerosols, pressurized cylinders, organic chemicals, oxidizers, oil filters, antifreeze, dry cell batteries, pesticides, fertilizers and fungicides) that are currently collected at York Region's depots.

The Municipal Hazardous and Special Waste stewardship program provides for payment against post-collection costs for phase 1 materials collected at mobile events. In addition, Stewardship Ontario will provide a fixed mobilization fee for each event which covers a portion of the service provider transportation costs to and from the event and set up and tear down time.

Electronic recycling events help alleviate short term storage concerns at York Region's depots with no additional program costs

In 2008, Waste Diversion Ontario (WDO) implemented a stewardship program for Waste Electronic and Electric Equipment (WEEE). The program allowed York Region to expand its electronics recycling program to include televisions. The Waste Electronic and

Electric Equipment plan provides a unique opportunity to York Region and its current Waste Electronic and Electric Equipment service provider to enter into an agreement to manage 100% of York Region's electronic waste at no cost.

Due to the growing awareness about electronics recycling and the addition of televisions in York Region's electronic recycling program, collection depots have been receiving large quantities of electronics, specifically large screen televisions that present challenges for storage and handling.

In an effort to assist residents in clearing their homes of large quantities of old electronics, and to prevent a backlog of materials at the Region's drop off depots, a series of public drop off events for electronics is being considered across the Region. Under the Region's current electronics recycling contract, electronics recycling events can be arranged at no additional cost to the Region. These events will assist with effective management of waste electronics at the permanent drop off depots.

Requirements for operating single day collection events for electronics, due to the nature of the materials, are much simpler than those for household hazardous waste mobile events. An electronic waste single day collection event requires less staff to handle materials that are less hazardous than Household Hazardous Waste; there is no requirement for a Mobile Provincial Certificate of Approval; operating staff do not require the costly safety equipment for storage and handling that a Household Hazardous Waste event involves; and the electronic stewardship program allows the Region to operate a collection event without incurring additional program costs. These events will assist staff in effectively managing future electronic recycling quantities at the permanent depots, while clearing the stock piles of bulky waste electronics that currently exist in many York Region homes.

Depots offer better environmental control, greater efficiency in collection and greater cost effectiveness than mobile events

5. FINANCIAL IMPLICATIONS

Collection of household hazardous waste at York Region's permanent depots is projected to cost approximately \$315 per tonne in 2009

Across the Region's four permanent drop-off depots, close to 1,700 tonnes of household hazardous waste were collected and processed in 2008. The costs of operating the four depots totalled approximately \$1,034,000. The gross cost per tonne for the household hazardous waste program in 2008 was \$609 per tonne. Taking into account the industry funding provided through Stewardship Ontario for post-collection costs of phase 1 materials and projecting 2009 costs, it is estimated that the net operating costs for managing household hazardous waste at the permanent drop off depots will be approximately \$315 per tonne.

Collection of household hazardous waste at a one day event is estimated to cost between \$1,300 and \$2,000 per tonne

For comparison purposes, estimates of the costs and potential material recovery of a one day household hazardous waste event were prepared. The estimate of the cost of an event was based on information gathered from other municipalities that have recently held mobile events, contract service providers that conduct household hazardous waste events and consideration of funding contributions from stewards.

Given uncertainties associated with public participation in household hazardous waste events, a number of assumptions were required to estimate the potential number of attendees and quantity of materials that could be recovered. Based on data from events in other municipalities and taking into account service population as well the presence of permanent depots, it is estimated that the quantity of household hazardous waste material expected to be recovered at a single event would be in the range of 15 to 25 tonnes. This range of recovered material quantities corresponds with an event servicing up to roughly 700 participants in one day, which is considered typical for a well attended event. Service provider costs were obtained from Hotz Environmental Services, York Region's current hazardous waste contractor.

Table 2 shows the breakdown of costs for conducting a one day event based on household hazardous waste material recovery in the range of 15 to 25 tonnes.

Table 2
Cost Breakdown for One Day Household Hazardous Waste Event

Item	Anticipated Range of Costs for One Day HHW Event	
	(15 tonnes)	(25 tonnes)
Household Hazardous Waste collection costs (collection, packing, shipping, processing, recycling/disposal)	\$11,200	\$17,300
Stewardship Ontario funding contribution	(\$6,600)	(\$10,000)
Quoted service provider fee (approvals, insurance, staff, set up/tear down)	\$11,100	\$11,100
Advertising	\$14,000	\$14,000
Total Event Cost	\$29,700	\$32,400
Cost per tonne	\$1,980	\$1,296

A single household hazardous waste event recovering 15 to 25 tonnes of material would contribute 0.9 to 1.5% of additional household hazardous waste to the total household hazardous waste collected by the Region's four depots at a unit cost four to six times

greater than the unit cost for depot operations. Contribution to York Region's Waste Diversion Ontario Diversion rate from a single household hazardous waste event would be negligible.

6. LOCAL MUNICIPAL IMPACT

The existing household hazardous waste drop off depot network provides residents with consistent and continuous access to safely manage those hazardous materials that should not be placed in the residual waste stream. Region and local municipal waste management staff continue to promote participation in the household hazardous waste program to residents.

7. CONCLUSION

Permanent household hazardous waste depots are a cost effective and convenient way to divert household hazardous waste from residual waste. Permanent depots are recommended to continue to be the primary location for providing household hazardous waste disposal services to the residents of York Region.

York Region currently operates four permanent household hazardous waste drop off depots. Growing rates of participation and tonnage recovery at these facilities indicate that the public is becoming increasingly aware of the importance of dealing with household hazardous waste in an environmentally sound manner. With the planned addition of the Richmond Hill Community Environmental Centre, the Region will have five permanent depots providing service coverage to much of the Region. Expanded hours of operation at the existing four permanent depots and return to vendor opportunities will also provide added convenience for public participation in the household hazardous waste program.

For more information on this report, please contact Laura McDowell, Director of Environmental Promotion and Protection at extension 5077.

The Senior Management Group has reviewed this report.

(The attachment referred to in this clause is attached to this report).

York Region's Household Hazardous Waste Depots

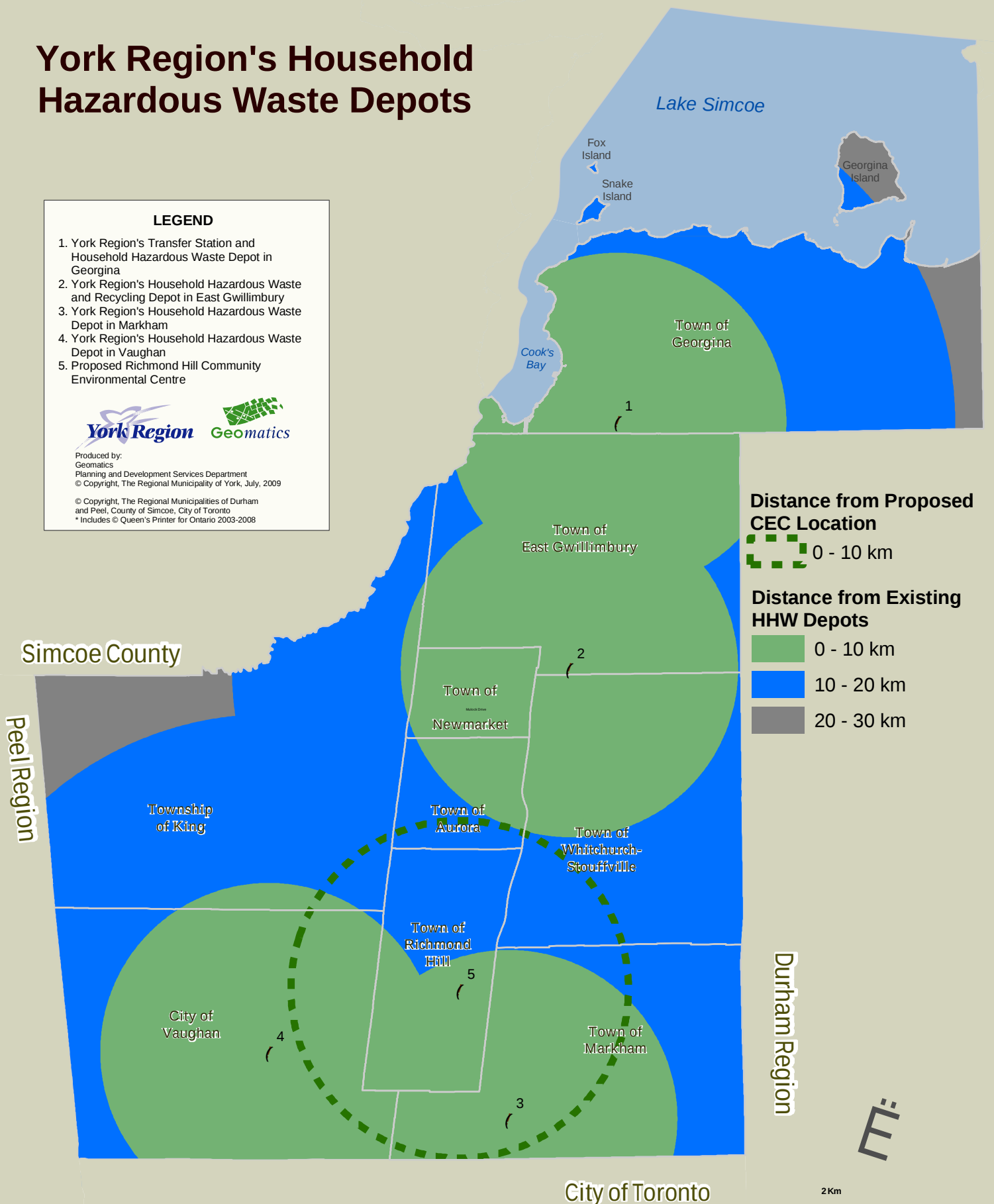
LEGEND

1. York Region's Transfer Station and Household Hazardous Waste Depot in Georgina
2. York Region's Household Hazardous Waste and Recycling Depot in East Gwillimbury
3. York Region's Household Hazardous Waste Depot in Markham
4. York Region's Household Hazardous Waste Depot in Vaughan
5. Proposed Richmond Hill Community Environmental Centre



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Note:

York Region's Depots provide reasonable service coverage of the most populous areas.