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# 2017 Excellence Award Entry

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Special Waste Management

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Household Hazardous Waste Depots

Population: 431,346

Households: 184,160

Cost of Improvements: \$7.99CDN/household

Cost for Improvements: \$1.47M CDN

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## Executive Summary (150 words)

Niagara Region opened two new permanent household hazardous waste (HHW) depots in early 2016, to better service our residents. Prior to 2016, Niagara Region offered 14.5 event days (held on Saturdays) and one small permanent HHW depot servicing a portion of residents residing in the west end of Niagara.

With a capital budget of \$1.5M, Niagara Region was able to construct two new HHW depots using a **modular design**, rather than using a traditional construction approach. The concrete built modular HHW depots are the first of its kind in Ontario, Canada.

The two depots have been operating for over a year and a half. Based on the first-year results, below, compared to the previous year, opening the permanent depots has been an enormous improvement for Niagara Region and its residents.



↑15% Overall volume



↑98% Number of cars served



↓81% Hourly operational costs



↑4599% Annual hours of operations



↓2% Under capital construction budget

## Household Hazardous Waste Depots

### 1.) Design and Planning of Collection Facility

- **What considerations were included in the planning process?**

Recognizing that the 14.5 HHW (household hazardous waste) event days (117 hours), held on Saturdays between April and November, and one small permanent HHW depot at Niagara 12 Landfill Site (only available to 4 of 12 area municipalities due to operating license) did not provide a convenient means for residents to dispose of HHW, Niagara Region included appropriate funds in its nine-year capital forecast budget to construct permanent household hazardous waste depots. In 2012, Niagara Region began to research and further explore the construction of one additional permanent HHW depot to complement its Niagara Road 12 HHW depot.

In 2014, staff recommended that the Region reduce the number of HHW event days and that a second permanent HHW depot be pursued, based on the results of a cost benefit analysis. The cost benefit analysis considered two service options: the replacement of the HHW event days with: two (2) new permanent HHW depots and a partial service location, or one (1) new HHW permanent depot, a partial service location, and three (3) to eight (8) HHW event days (depending on the permanent depot location).

Staff assessed various alternative service delivery scenarios, including consideration of Regional ownership with contracted-out operations, and privately-owned and operated HHW depots. Staff undertook a comprehensive Expression of Interest (EOI) process to determine if third party owned and operated locations were feasible. Based on the results, it was determined not to be feasible to have a privately owned and operated HHW depot.

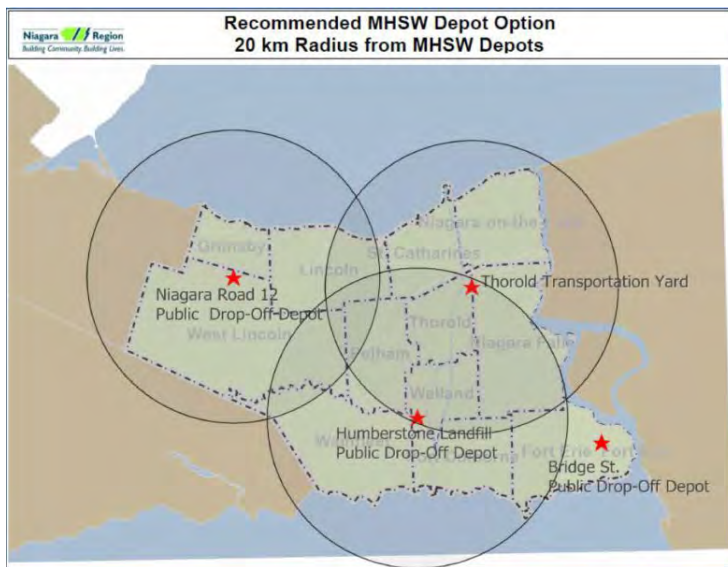
Following the results of the EOI process, Niagara Region decided to construct the HHW depots on Region-owned property and contract out the operations and transportation/disposal of the HHW in two separate contracts. Dillon Consulting provided a conceptual design and cost estimate to construct HHW depots at region-owned locations and with Council approval, proceeded to tender out the construction contract. The final options included constructing HHW depots at Humberstone Landfill in Welland, Thorold Transportation Yard in Thorold, and a partial service HHW depot (paints, oil, propane cylinders and batteries only) at the Bridge Street Landfill Public Drop-Off Depot in Fort Erie. The Region chose to move forward with a modular design which allowed two new HHW depot locations to be constructed for the same cost to build a single, permanent, traditional HHW building. This was not the lowest cost option, but provided a considerable increase in service level, consistent for all residents across the region. The rationale for the recommended service option is as follows:

Access, proximity and drive time for residents to Region sites is most effective under the two depot scenario:

- Thorold Yard HHW Depot could easily provide a convenient drop off location for residents living in Niagara Falls, St. Catharines, Thorold, Niagara-on-the-Lake, Humberstone Landfill would provide a convenient drop location for residents of Welland, Port Colborne, Wainfleet, partial Pelham and partial Fort Erie
- Bridge Street HHW depot in Fort Erie provides partial service for HHW items such as paint, oil, batteries and propane cylinders which represent approximately 60% of the HHW volume. This offsets the distance required to travel for the most common HHW items. Fort Erie residents

also have access to the permanent depot locations for other HHW material, with the closest location being approximately 30 km away.

- Improved convenience – recommended locations for HHW depots would provide direct access to Waste and Recycling Drop-off Depots that accept other material that residents need to dispose of or recycle providing a one-stop drop location.
- All HHW depots will have open access for residents from any municipality within approximately 20 km or 25 minute drive time.
- HHW service will be comparable to that provided by other jurisdictions in Ontario.



The development of two (2) HHW depots supported the Region’s goal to provide year-round access for proper disposal of HHW with minimal impact to the operating budget. In addition, a second HHW depot increased the hours of access and greater convenience to a facility designed to manage the safe disposal of hazardous materials and reduce the risk of environmental impact related to illegal disposal of hazardous substances; as a result, all HHW event day were eliminated in 2016.

**How did you decide on the system or program design?**

Modular design options were considered over permanent building structures to ensure a cost effective service could be provided. The modular design options were required to meet regulation and storage requirements for Fire Codes and Ministry of Environment and Climate Change (MOECC). Heating, venting, fire and explosion construction, spill containment, separation of material types, foundation and safety requirements were all considerations in the design.

The new HHW depots included modular type hazardous waste storage units set up with a receiving area to facilitate receipt and storage of HHW. Staff worked closely with the consultant to ensure the design would include the necessary operational requirements and meet the Region’s legislative responsibility. The conceptual design and cost included:

- Supply of modular hazardous waste storage system unit
- Integration of HHW operation into existing site
- Traffic flow
- Site works including utilities, installation, roads
- Capacity (various size of storage units)

- **What factors did you consider to be most important?**

Increased service for residents and reduced operational costs were the most important factors considered when transitioning from HHW event days to permanent depots. Research showed that based on the approved budget, the Region would be able to substantially increase operating hours and the ability to conveniently serve residents, provide a more convenient and consistent service level for the same or less cost. Increased accessibility would lead to increase diversion of HHW from landfill.

In combination with the existing Niagara Road 12 HHW depot, the addition of two HHW depots would provide an effective and consistent service for all residents in Niagara. The selected locations would also allow residents to conveniently combine the drop-off of HHW with other materials that require disposal or recycling at, or immediately adjacent to, existing Waste & Recycling Drop-off Depots.

The locations and service recommended offered the most effective coverage and provided an improved service to residents, in addition to:

- Consistent service level across Niagara region;
- Residents look to government to provide proper disposal options for their HHW; a long term solution will be provided with permanent depot service;
- Environmental improvements by diverting more HHW through improved access, as people are less likely to dump hazardous waste in the garbage, down the drain or illegally;
- Greater access at minimal cost impact to residents;
- High level of customer service delivery through quick, efficient service with little to no wait time.

- **For permanent facilities, describe the facility design.**

The operating hours for both HHW depots mirror the permitted Waste and Recycling Drop-off Depot operating hours from Monday to Friday 8 a.m. to 5 p.m., Saturday and statutory holidays 8 a.m. to 4 p.m. The HHW depots are open for a maximum number of 312 days per year (6 days per week for 52 weeks a year).

The HHW depots consist of a concrete modular hazardous waste storage units designed and constructed to store hazardous waste that has been packaged for final shipment. The design features of the unit include:

- Meet all regulations and codes for storage of hazardous waste including but not limited to:
  - Ontario MOECC Guidelines for Environmental Protection Measures at Chemical and Waste Storage Facilities, National Fire Code, Ontario Fire code, and National Fire Protection Association complaint (NFPA)
- Fire Safety – two-hour fire rated construction
- Built in spill containment with removable grating for access and cleaning – containment volume will include 10% of the total capacity plus capacity of largest container
- Chemical compatibility separation with minimum three internal compartments with separate access doors

- Electrical outlets and lighting equipment to meet NFPA
- Emergency eye/face wash stations in each compartment
- Dry chemical fire extinguishers in each compartment
- Lockable doors for security
- Emergency lights
- Exterior lighting for security
- Insulated
- Heater to prevent freezing
- Ventilation to exterior
- Exterior grounding
- Shelves for storage of supplies and materials
- No smoking signs

Each site is equipped with the following features:

- Outdoor fenced compound for storage of compressed cylinders (e.g. propane) and lead acid (vehicle) batteries
- Concrete pad where the modular hazardous waste storage unit, fenced compound, oil tank and working area will be located on
- Drive through lanes for easy public drop-off of HHW
- Covered outdoor area in front of the HHW storage unit for receiving, sorting and lab packing HHW under
- A kiosk office with phone that is heated/cooled for the HHW depot attendant

**Humberstone HHW Depot**

The HHW depot location was contoured with the surrounding area to ensure appropriate visibility, connection to existing road network, safety and storm water flow. The storm water at the new depot flows into the existing drainage ditches to the existing stormwater system.



Depot storage capacity of:

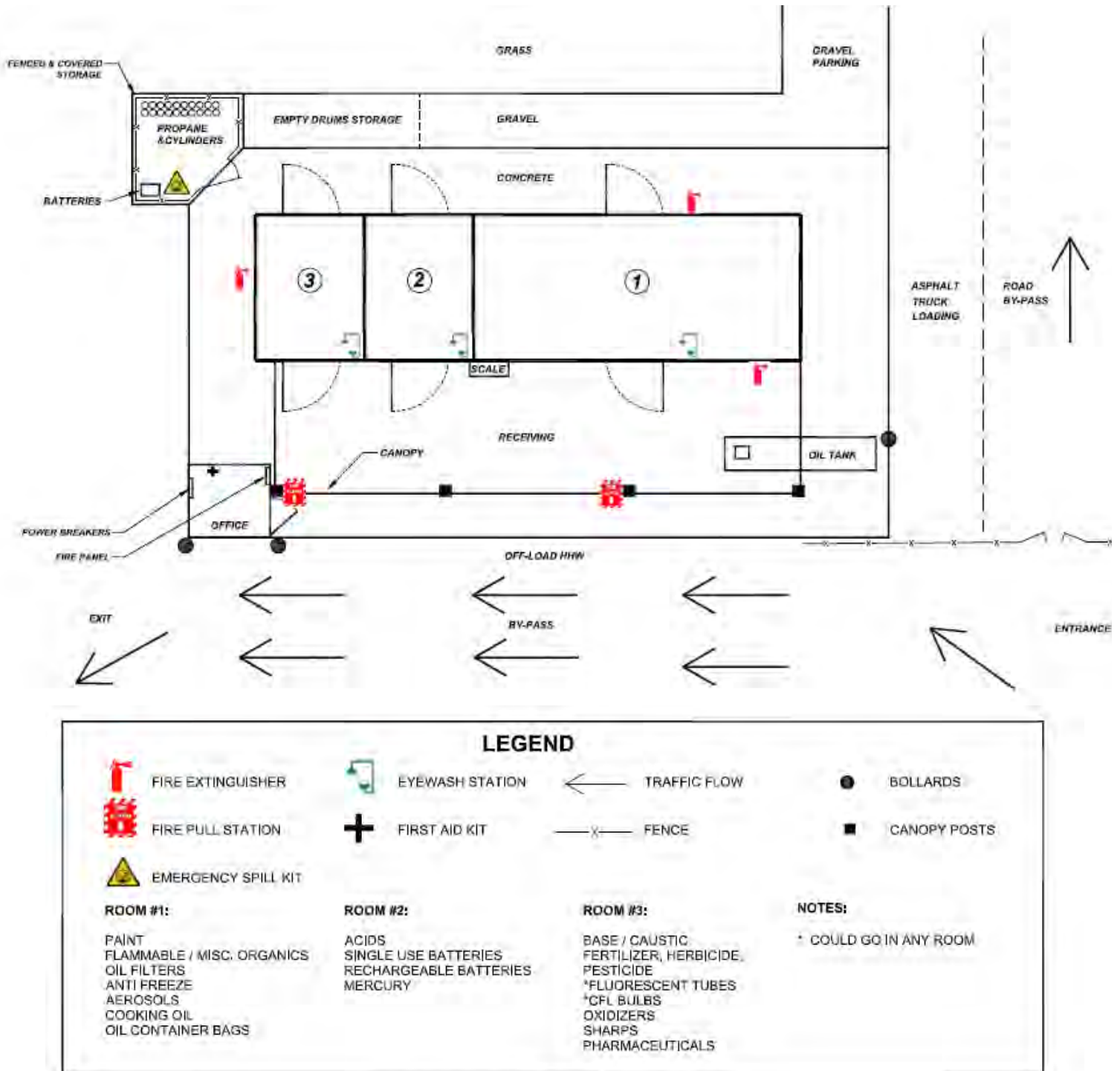
- 150 x 205 L drums
- 4500 L oil tank
- 80 compressed cylinders
- 80 lead acid batteries

A double-walled oil tank for collection of residential motor oil was installed at

the HHW depot for bulking oil received from residents providing appropriate secondary containment. The tank is 4500 L capacity and has a fill box, pump out and platform for loading. The tank meets all required standards for storage of non-hazardous liquid motor oil.

Please refer to Figure 1 to illustrate the setup and flow of waste through the depot.

Residents dropping of HHW at the Humberstone Landfill Site are able to conveniently access the HHW depot without having to pass over the landfill scale, which serves all residents and businesses dropping off waste and recycling material at the adjacent drop-off depot; on a busy day, the scale can have 600-700 cars pass over it! The HHW is weighed when shipped off site for recycling or disposal.



### HUMBERSTONE HHW DROP OFF

Figure 1: Humberstone HHW Depot Design and Traffic Flow

### Thorold Yard HHW Depot

The Thorold HHW depot location was contoured with the surrounding area to ensure appropriate visibility, connection to existing road network, safety and storm water flow. The surface and storm water at the new depot flow into the existing drainage ditches along Thorold Stone Rd. Swales were installed along each side of the internal road to direct storm water to the ditches. The swales also prevent direct flow to the north toward the existing fire retention pond and adjacent wetland. An Environmental Impact Study was conducted prior to construction to obtain approval and permits from the Niagara Peninsula Conservation Authority to build.



Depot storage capacity of:

- 300 x 205 L drums
- 2 x 4,500 L oil tank
- 150 compressed cylinders
- 170 lead acid batteries

Please refer to Figure 2 to illustrate the setup and the flow of traffic through the depot. .

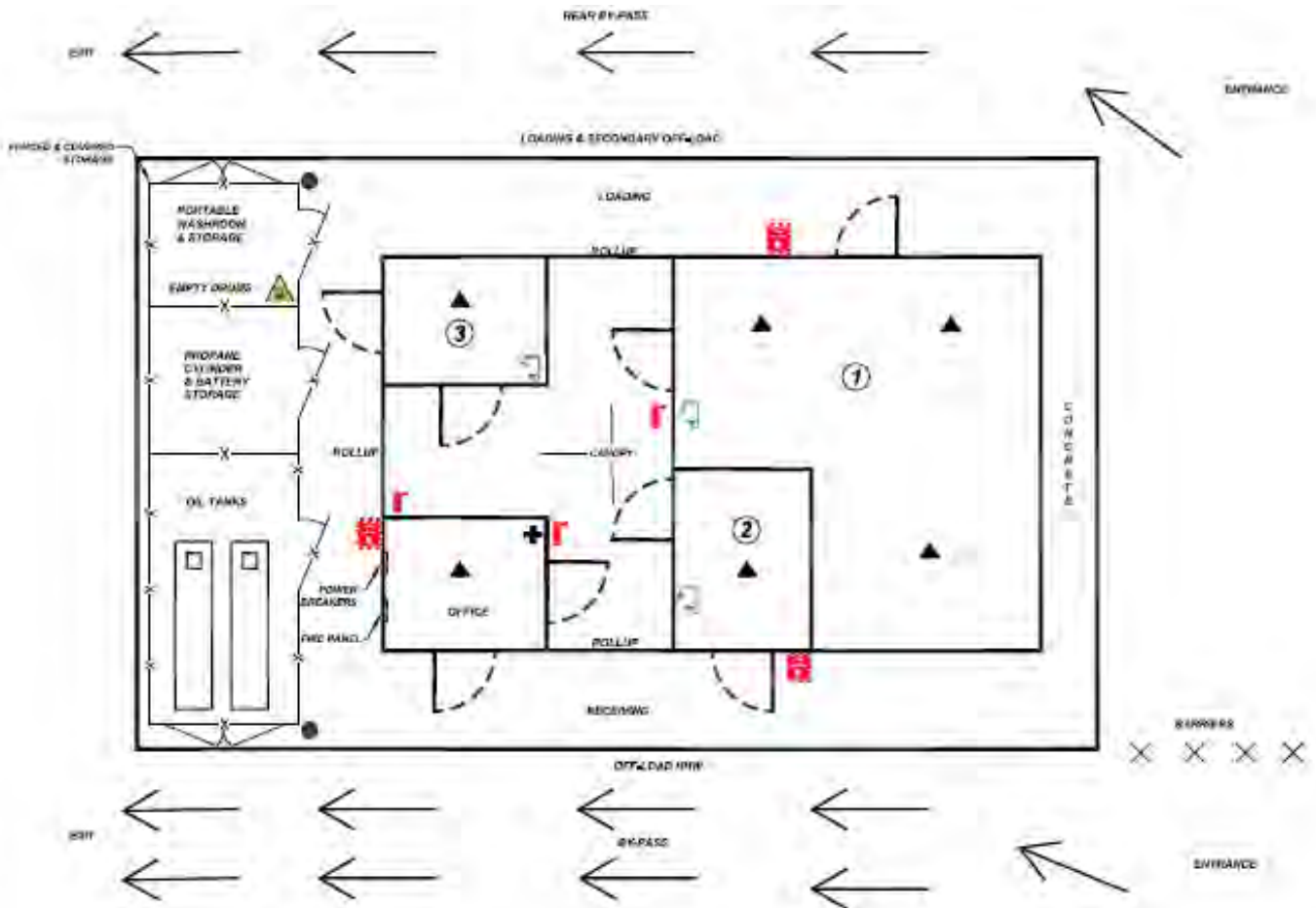
Included in the Thorold Yard HHW depot design is a secondary road behind the storage unit on the west side to accommodate any overflow traffic and is also used for transporting HHW. The lane can also be gated to prevent access when not required.










Once residents have placed their HHW material in leak-proof totes on the sorting table, the material is sorted based on chemical compatibility by a qualified attendant and placed into the properly labeled drum or container. The drums are filled to capacity, sealed, weighed and placed in the modular storage unit for future shipment.

All packaged HHW is stored inside the compartmentalized modular hazardous waste storage unit that separates HHW by chemical compatibility with fire rated walls:

- Motor oil is deposited into the designated oil tank located on the west end of the receiving area where cooking oil will be deposited into separate containers.
- Compressed cylinders and lead acid batteries are safely stored in designated outdoor locked storage cages.
- Sharps and needles will be deposited into an approved container for proper handling of sharps/needles. No other pathological waste is accepted.





LEGEND			
	FIRE EXTINGUISHER		EYEWASH STATION
	FIRE PULL STATION		FIRST AID KIT
	EMERGENCY SPILL KIT		TRAFFIC FLOW
			FENCE
			BOLLARDS
			HEAT DETECTOR
<b>ROOM #1:</b>	<b>ROOM #2:</b>	<b>ROOM #3:</b>	<b>NOTES:</b>
PAINT FLAMMABLE / MISC. ORGANICS OIL FILTERS ANTI FREEZE AEROSOLS COOKING OIL OIL CONTAINER BAGS	BASE / CAUSTIC SINGLE USE BATTERIES RECHARGEABLE BATTERIES PHARMACEUTICALS SHARPS MERCURY OXIDIZERS	FERTILIZER, HERBICIDE, PESTICIDE ACIDS *FLUORESCENT TUBES *CFL BULBS	* COULD GO IN ANY ROOM

**THOROLD YARD HHW DROP OFF  
(NOT TO SCALE)**

Figure 2: Thorold Yard HHW Depot Design and Traffic Flow

- **Describe the programs role in local community's integrated solid waste management effort.**

These HHW depots are essential to manage the disposal of HHW materials. With the elimination of HHW event days, these HHW depots provide consistent service across the region, allowing residents to dispose of their HHW year-round, with seamless traffic flow and minimal to no wait times.

- **Discuss the overall merits and impact of the special waste collection program.**

Niagara Region made a successful transition from HHW events days to permanent HHW depots and has seen a substantial increase in vehicles serviced (↑98%) and the volume of material (↑15%) received since opening in February 2016 at Humberstone Landfill Site and March 2016 at Thorold Yard. In 2016, Niagara Region collected 901 metric tonnes of HHW material and serviced 45,037 vehicles, compared to 782 metric tonnes of HHW material and 22,705 vehicles in 2015. In addition to the increase in material collected and vehicles processed, the HHW depots are open annually for a total of 5,498 hours, compared to the 117 hours for the event days in 2015 which is 4,599% increase in hours of operation.

The associated cost to operate the HHW depots is comparable to the previous budget required to operate the HHW events. The Region continues to receive positive feedback from residents regarding the improved customer service and vastly reduced wait time with the new permanent depots, compared to the event days. With the depots operating full time and located in close proximity to other Waste & Recycling Drop-off Depot locations, Niagara residents can conveniently dispose of a wide variety of materials. In addition, with consistent staff working at the HHW depots and rigorous waste screening procedures for the HHW attendants, Niagara Region can ensure the safe and proper handling of HHW, and continue to achieve the 87% recycling rate of all HHW material received at the HHW depots.

#### **What is unique about this facility that takes it to the 'excellence' level?**

The construction of concrete modular hazardous waste storage facilities in Niagara Region were the first of its kind in Ontario, Canada. These facilities were constructed with extensive built-in safety features, and designed with customer service in mind. The design of the Thorold HHW depot even incorporated a contingency for heavy traffic flow, allowing the option to process vehicles at the back end of the depot.

In addition, the HHW depots are equipped with a sophisticated tracking system for depot operation, which allow the Niagara Region to meet their ECA from the MOECC including; daily inspections, refusals, spills, maintenance, and material volume tracking. This system also accounts for safety procedures including full depot operation manuals with the opportunity for offsite staff to monitor or review on an ongoing basis.

These depots are visited on a frequent basis from municipalities across Ontario to see the design and operational set up as well as other interested groups such as Communicates in Bloom, Municipal and Waste Association Committees. The depots were also featured as presentation topic at the Canadian Waste to Resource Conference in November 2016.

## 2.) Use of Equipment/Systems and Technologies

- **Describe equipment used at the facility, including its efficiency and effectiveness.**

There is a variety of equipment used for daily operations of the HHW depots. The material tracking database is used at the HHW depots to record daily and monthly inspections, refusals, spill, maintenance, and volume tracking. In addition, there are specialized storage compartments, based on chemical compatibility with built in spill containment, energy efficient LED lighting and use of photocell technology for exterior lighting and security, and explosion proof exhaust fans for air exchange within each storage unit. On site, there is also a drum scale for accurately weighing and tracking volume of material received and shipped including a ticket printer.

- **Demonstrate how the equipment is 'state of the art' and how it contributes to minimizing impact on human health, resource conservation and the environment.**

Further to safe and proper storage of hazardous waste in accordance with all laws, regulations and codes of the Province of Ontario, the HHW depots are equipped with features to minimize the impact on human health and the environment. Features such as built-in spill containment, double walled oil system, explosion proof smoke detection, fire resistant doors, mechanical aeration fan, and electronic forced air heaters help to minimize impacts on human health and the surrounding environment. The concrete modular design and partition walls with internal compartments for chemical compatibility also reduce risk. The concrete design, specifically designed features (extra wide doors, level entry/exit to permit moving pallets in and out) and the attention to detail during construction set these HHW depots apart from the typical depot style most commonly seen across Ontario.

- **Explain the facilities waste screening procedure based on materials collected.**

A qualified attendant inspects the HHW material to ensure it is an acceptable type, contained and labeled. The attendant confirms the origin of the HHW material brought to the depot with the resident, to ensure the material was generated within Niagara region and is residential. All acceptable, residential HHW from Niagara region is identified, sorted, packaged by chemical compatibility and stored in the modular storage unit for future shipping at the HHW depots. All residents are required to provide the name of the municipality they are bringing HHW from, and the attendant is responsible for recording the number of cars received daily. The HHW depot accepts the following waste classes:

- Paints, pigments and coatings
- Fertilizers
- Miscellaneous inorganic chemicals - Acids
- Miscellaneous inorganic chemicals - Bases
- Aliphatic Solvents - Antifreeze
- Petroleum distillates - Fuel
- Pesticides and Herbicides - Pesticides
- Oil and Lubricants - Motor oils
- Pharmaceuticals
- Miscellaneous Organic chemicals - Flammable/solvents
- Pathological Waste - Sharps/needles only
- Compressed gas and cylinders - Propane, helium

If HHW material arrives that is not labeled or easily identifiable, the attendant attempts to identify the HHW according to chemical category to which it may belong for packaging.

If the HHW is unacceptable or suspected to contain unacceptable HHW or is from a commercial source, it is refused and the resident is directed to alternate commercial HHW company for proper disposal. The following waste types are not accepted:

- Pathological (other than sharps)
- PCB's
- Radioactive
- Explosive / Ammunition

For any rejected HHW material, the attendant also records the license plate, type of material and why it was rejected. This information is recorded in the tracking database. In the event that by-law enforcement officers find the same material illegally dumped nearby, Niagara Region has the license plate to allow for further investigation.

- **What do you do with the special waste collected? Have you incorporated source reduction, reuse and recycling in your disposal of wastes collected?**

The main goal of the Region's HHW program is to recycle any material where possible and dispose of non-recyclable material through registered disposal sites. 87% of all HHW material collected in 2016 was recycled! In terms of reuse, paint makes up the majority of material that is recycled and is reused by a local manufacturer who blends similar colours or old paint to manufacture new paint. Examples include Blue Moose Recycled Paint sold at Giant Tiger in Canada or Loop Recycled Paint sold at Wal-Mart.



Oil is the second largest volume received and is recycled as well. Both of these materials are 100% recycled. In the Region's transportation, disposal and recycling contract there is a requirement for reusing and recycling of any HHW where possible.

The following materials collected at the HHW depots are 100% recycled:

- Paint (drums, boxes, pails)
- Oil filters (labpack)
- Antifreeze (bulk drum)
- Propane Transport 20 lbs & bigger
- Propane cylinders (single use)
- Thermometers (Mercury devices)
- Fire extinguishers (metal)
- Fluorescent Tubes and Compact fluorescent Bulbs
- Vehicle batteries (lead acid)
- Waste oil
- Rechargeable batteries (drums)

3.) Environmental Benefit & Regulatory Compliance

- **Explain how the site complies with environmental laws and regulations, particularly those that are unique to your community**

Each HHW depot has an Environmental Compliance Approval (ECA), issued by the MOECC. The ECA is the license to operate, and is referred to for specific details. Copies of the ECA and Design & Operations Report are included in the Operation Manual at each depot for reference.

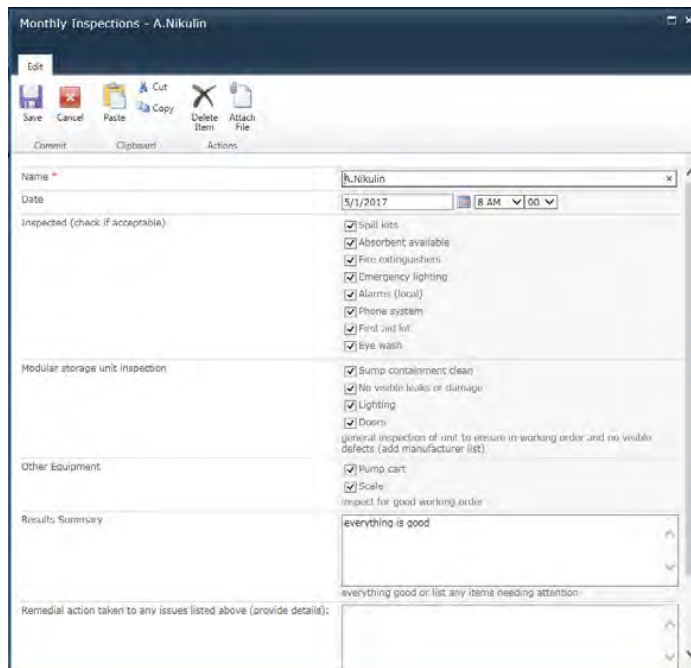
The ECA sets specific conditions for HHW at the depots. Some conditions include:

- daily tonnage and onsite storage limits
- time limits for storage
- prevention of adverse effects and potential environmental impacts
- secondary containment and spill prevention
- waste classes approved to accept / receive
- waste classes approved to generate / ship
- No Industrial, Commercial or Institutional (ICI) Hazardous Waste can be accepted
- Only approved material from Niagara region residents can be accepted.

To comply with the ECA, the data below are tracked daily:

- Container Summary
- Vehicle Count
- Daily Inspections
- Monthly Inspections
- Refusals
- Complaints
- Maintenance
- Spill/Use

- **Describe and include in supporting documentation any awards, letters of support or facility inspection data that provide third-party verification of your facilities regulatory record.**



The MOECC has completed an inspection of the Humberstone HHW depot and it is in compliance, the Thorold Yard HHW depot inspection is set to be scheduled in 2017. A ribbon cutting ceremony was held for the official opening of the HHW depots on March 14, 2016, supported by Regional Councilors, Regional Chair, Mayors, and members of the Regional waste management advisory committee. Figure 3 shows an example of the monthly inspections completed by staff, and are

Figure 3: Screen shot of monthly inspections

recorded in the material tracking system to ensure ongoing compliance is maintained.

- **Describe any regulatory citations received and how problems were corrected.**

There have been no regulatory citations received for any of the Region's HHW Depots.

#### 4.) Worker Health & Safety

- **Describe employee training frequency and topics. What safety procedures do you use and how do you enforce them? Include injury rates and what methods used to reduce injuries.**

Training takes place on a regular basis which includes an initial training and annual refreshers. There have been no injuries to date. In accordance with the operation permit, all personnel in charge of the operation of HHW depots are required to be:

- Trained, knowledgeable and qualified to receive, handle, document, segregate, store and ship
- Trained in the refusal procedures
- Trained on the Environmental Compliance Approval related to the HHW operation
- Trained in the applicable legislation including but not limited to Ontario Regulation 347 and Transportation of Dangerous Goods
- Trained in emergency procedures and equipment use
- Trained in the environmental concerns and Occupational Health and Safety related to HHW
- Trained in recording procedures related to daily records
- Trained in Inspection procedures related to Maintenance
- Trained in recording procedures related to public complaints
- Receive annual refresher training
- Any other staff or labourers, will be under the direct supervision of someone who has the required qualifications and training as required

#### 5.) Performance, Economics & Cost-Effectiveness

- **How do you measure success for the special waste collection facility?**

In 2015, a total of 782,701 kg of material was collected during HHW event days held by Niagara Region. This consisted of 14.5 separate days where residents would come to dispose of their HHW. During the 14.5 event days, 22,702 vehicles were serviced. In 2016, with the opening of the 2 new depots, 901,184 kg of material was collected and 45,037 vehicles were serviced, with the elimination of all event days. There was a significant decrease in the cost per vehicle for the entire HHW program, from \$8.39 net cost per vehicle (cost minus funding) in 2015, to \$2.30 net cost per vehicle in 2016.

The amount of customers, or vehicles serviced, along with the tonnage collected are indicators supporting the success of the program within its first year. It is expected the increase in residents serviced and tonnage is due to the increased convenience, paired with appropriately selected locations. Continued promotion and education is used to drive resident engagement and communicate the use of these HHW depots year-round rather than the previous event days where residents would experience long wait times on Saturdays, in order to properly dispose of their HHW.

- **Does your operation performance equal or exceed the goals and expectations you set? If not, what are your lessons learned, and what are you doing to improve?**

Niagara Region has exceeded its initial goals and targets for the HHW depots. The construction budget was \$1.5 million (to build one site), and the actual expenditure was \$1.47 million, 2% under budget, for the construction of two permanent HHW depots. In 2016, with opening the permanent HHW depots, Niagara achieved 45,307 vehicles served, exceeding the previous year by 98%. In 2016, with opening the HHW depots, Niagara received 901 metric tonnes HHW material, exceeding the previous year by 15%.

- **If you have a facility, how much downtime does it have, how long is each instance on average and what measures have been taken to reduce downtime?**

There is no downtime at the HHW depots; both operate Monday to Saturday, year-round. There are also measures in place in the contract to ensure contractor personnel are always available to ensure no downtime. A call-in procedure is used for attendant absences to ensure replacement attendants are available. The transportation, disposal and recycling contract allows for 24 hour service to ensure the site always maintains capacity to remain open.

- **How does your organization foster customer service? How do you determine whether you are doing a good job in responding to customer concerns?**

Niagara Region has a corporate customer service policy that involves putting the customer first, and enhancing ways we can interact with customers to make our services more accessible. Customer service is part of the ongoing annual training for staff operating the depots. Based on direct feedback from customers, they really enjoy the improved service level for safely disposing of their HHW and there have been no complaints thus far. In addition, there are customer service standards in the operation’s contract requiring the contracted operator to provide prompt, efficient, friendly and professional service that requires residents to be serviced no longer than 10 minutes after arrival.

I felt compelled to email you this “Amazing example of Customer Service Excellence” after my husband called me in complete wonderment today to report what stellar service he was provided with at the Thorold Hazardous Waste Management Drop off (morning of: June 15 2017)

**The Story:**  
So my husband was needing to drop off the old paint we had stored in the basement of the house we are moving from this week. He arrived at the Thorold Hazardous Waste Drop off site with little to no expectations of what he was met with!

When he approached the site, he was greeted enthusiastically by a male who:

- Smiled
- Welcomed Him
- Asked if it was the first time he’d ever been – and yes it was, so he then explained the whole process of the disposals
- Asked if my husband was able to find the location easy enough and whether or not the way-finding/signage was appropriate
- Then he thanked my husband for stopping by
- Then he sent him on his way with yet another smile and encouragement for him to have a good day.
- *\*when the male’s work partner joined them at the drop off.. the two team members where congenial with each other and joked about “What was on the disposal agenda for the day”...*
- *WOW – they actually looked like they were enjoying their jobs and each other’s company – novel eh?!!*

Figure 4: Email from a satisfied resident about their experience at the Thorold HHW depot

- **Explain whether the facility operates within its budget and whether costs are appropriate. How long it has taken, or will take, for the organization to recoup costs. Explain how return on investment funds, are applied to enhancing programs, doing education outreach.**

The facilities operate within budget. It should be noted charges are based on volume for the recycling/disposal costs and costs for nine Phase 1 items (paint, single use batteries, antifreeze, empty oil and antifreeze containers, fertilizer, pesticides, solvents and pressurized cylinder are funded through MOECC Municipal Hazardous and Special Waste (MHSW) Program Plan. Other materials collected are paid for by Niagara Region. As volume increase, so does this portion of operating expense. The volume increases are accounted for during the annual budget process. By converting the program from event based to permanent depots, Niagara Region has seen a substantial decline in cost per vehicle in the annual operating budget.

Niagara Region uses a competitive procurement process to procure the third party contractors who operate the HHW depots and transport and dispose of the HHW collected. There is no specific return on investment; however the capital cost to develop the depots was considered during the program change and was part of the analysis considered for approval by Council. Niagara Region had a budget of \$1.5 million to construct one new HHW depot, and was able to open two new modular style HHW depots for the same cost. The HHW capital costs are amortized over a 20-year period.

Education and outreach costs are included as part of the annual operating budget. The HHW depots are advertised in local newspapers, annual Regional publications such as Green Scene, Collection Guides, website and various social media channels including acceptable materials, and hours of operation.

Featured Articles:

- [New Niagara Waste Depot ramps up convenience factor](#)
- [Hazardous Waste Depot opens in Thorold](#)

#### 6.) Public Acceptance, Appearance and Aesthetics

- **Provide evidence that the facility is a good neighbor. Describe your public relations program and the types of public education. What community concerns were raised?** Convenient, year-round access to the HHW depots will reduce the improper disposal of HHW in the garbage or down toilets and drains. This has a cascading positive impact on the environmental, as well as on the municipalities that are able to not only properly dispose of HHW, but also save virgin materials by recycling a large portion of the material received at the HHW depots. The HHW program is continuously promoted using a variety of marketing strategies, including social media, web, newsletters, brochures and print publications. In addition to promotion and education materials, Niagara Region staff promote the depots at events as part of their outreach efforts. The Orange Box is one of the promotional tools developed to support the HHW program, and is aimed at engaging residents in conversation



about the HHW depots. The Orange Box is designed to help residents safely collect, store and transport hazardous waste material to the nearest HHW depot. These boxes are equipped with a sticker that identifies acceptable materials, and has the drain holes plugged to safely contain any HHW material should there be a spill or leak in the containers. To receive an Orange Box, residents complete a survey and the results are utilized by Niagara Region staff to understand the best way to communicate with residents about programs and what potential barriers for proper disposal of HHW exist in the community. To date approximately



2100 Orange Boxes have been given away at special events across Niagara region, including during the opening weeks of the HHW depots to the first 100 visitors to each of the new HHW depots. To date staff has seen over 260 customers use the Orange Boxes to safely deliver HHW to the depots.

Prior to construction of the HHW depots, a component of the ECA was to engage in public consultation, notifying nearby residents that the depots were being constructed, and acted as an opportunity for residents to address any complaints or concerns. There were no concerns raised as there was a plan to meet compliance, and associated regulatory and safety requirements.

- **How do you ensure that the facility is clean and aesthetically pleasing?**

The concrete modular design fits with the purpose of the depot, and is industrial in appearance. Residents are encouraged through promotion and education materials to ensure contents are properly sealed to avoid spills or leaks when unloading their material. Depot staff often receives comments how nice the depot looks and is kept. The visual appearance provides confidence to residents that HHW is being properly handled. In the operation agreement, the company running the site must maintain cleanliness.