Solid Waste Association of North America
Special Waste Management Excellence Award Submission
Residential Curbside Collection of Household Single-Use Batteries

Batteries dead? Recycle instead!

Joint Submission by the Regional Municipality of Durham and Raw Materials Company, Ontario, Canada
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Attachment No. 1 (Original Battery Bag Front/Back), Attachment No. 2 (Guinness World Records® Certificate), Attachment No. 3 (Examples of Communication Tactics)
Introduction

Durham Region is a leading Canadian community in the delivery of residential solid waste management services and the implementation of aggressive waste minimization and diversion programs.

Bordering the City of Toronto, Ontario, Canada to the east, Durham Region provides residential solid waste management services to over 600,000 people in 200,000 households over a diverse area of 2,537 km² (979 mi²) characterized by a variety of landscapes and communities. Durham Region includes the Cities of Oshawa and Pickering, the Towns of Ajax, and Whitby; the Municipality of Clarington and the Townships of Brock, Scugog and Uxbridge.

Durham partnered with Raw Materials Company to receive and process single-use batteries collected by this initiative.

Executive Summary

The Region of Durham has positioned itself as a leader in waste diversion with a focus on integrated waste management solutions and a goal of maximizing waste diversion. As Ontario landfills are reaching capacity, and some American states limit their border to Ontario waste, the Region has proactively investigated and implemented sustainable waste reduction and disposal opportunities, as it strives to reach 70 per cent waste diversion.

In addition to a successful Blue Box recycling and Green Bin source separated organics program, and the construction of a state of the art Energy-from-Waste facility, the Region’s Waste Management Department identified the need for an innovative, convenient, environmental solution for spent household single-use batteries in the form of a residential curbside battery collection program, using the existing curbside Blue Box program. On September 5, 2012, the initiative was approved by Regional Council. This was followed by an extensive advertising campaign and on November 12, 2012, Durham and Raw Materials Company, it’s battery processing partner, launched a Curbside Battery Recycling Program – the first of its kind for a Regional Municipality in Canada. The battery collection program has proven to be very successful. As a result of the program success, Durham Region has been awarded a Guinness World Records® certificate for the most batteries collected at one location in one day. Durham staff recovered more batteries in one week than it’s four hazardous waste drop-off facilities receive in one year.
1.0 Design of Collection Facility / Management System

1.1 Collection & Special Waste Management System

The Regional Municipality of Durham and Raw Materials Company implemented an extensive program for the curbside collection of household single-use batteries. Single-use household batteries were collected in a curbside program, with collection services being provided twice; once in the fall and once in the spring to coincide with the annual Fire Departments “Fall Back” and “Spring Ahead” daylight savings time changes along with promotion of changing batteries in smoke alarms and carbon monoxide detectors.

Local fire departments also partnered with the Region to make additional battery bags available at local fire halls for residents.

Prior to the first scheduled fall collection in 2012, Durham residents received a bright orange “zip-lock” battery collection bag in the mail with instructions on how to participate printed on the bag, along with a copy of the Durham Works newsletter, which provided additional information. The battery bag is an original concept of the Region of Durham and Raw Materials Company (RMC). Additional pictures of the bag are provided as Attachment No. 1.

To participate in the fall collection, residents were asked to collect household batteries, and place them loosely into the specially designed battery bag provided. Residents were instructed to place the sealed bag on top of their Blue Box on their regular collection day for a special collection during the week of November 12-16.

The sealed battery bags were then collected from the Blue Boxes by the Region’s collection contractors and placed into 76 litre (20 gallon) pails inside the cab of their collection vehicles. Once the pails were full, the drivers would radio their respective route supervisors who swapped out full pails with empty pails.

Prior to the second scheduled spring collection in 2013, Durham residents received a second battery bag affixed to their blue boxes two weeks prior to the scheduled battery collection the week of March 18-22.
1.2 Waste Management Centre (WMC)

The Region’s collection contractors played a vital role in managing the collected batteries from the curbside. Route supervisors delivered full drums of batteries in their pick up trucks to the Region’s recycling facility located at 4600 Garrard Road, in Whitby. Curbside collection vehicles also delivered any batteries they still carried to the WMC as they completed their routes at the end of the day.

At the WMC, the collected batteries were de-bagged by Regional staff and emptied onto a large receiving table before being loaded loosely into steel drums. Debagging the batteries allowed for maximum packing densities and a clean, residue free load for delivery to Raw Materials Company, the final processor.

Durham Region collected 39,000 kilograms (85,980 lbs) of batteries during the program. The first collection week in November 2012, resulted in the receiving of 24,000 kilograms (52,910 lbs) of single use alkaline batteries. This is roughly the same amount of batteries that the Region’s four waste management facilities collect in a one year period. The second collection week in March 2013, resulted in 15,000 kilograms (33,069 lbs) of batteries collected. The batteries received were shipped to Raw Materials Company for recycling.

1.3 Operational Plan Design

The curbside battery collection program was designed with two dedicated collection periods.

The collection services were provided twice; once in the fall and once in the spring to coincide with the annual “Fall Back” and “Spring Ahead” daylight savings time changes and the promotion of changing batteries in smoke alarms and carbon monoxide detectors.

Residents received bright orange battery bags with clear instructions on how they
could take part in this accessible collection program. To participate, residents were asked to collect their spent single-use batteries and place them inside their battery bag and seal the end for collection.

To facilitate collection, residents were instructed to set-out their batteries on top of their blue boxes on their regular collection day during each of the collection periods.

1.4 Cost Efficiency & Efficiency

The Region of Durham partnered with several key organizations to provide funding, promotion and services for the battery collection program. They included:

- **Raw Materials Company Inc. (RMC)**, a Canadian-owned company, located in Port Colborne, Ontario, provided the recycling services for the collected batteries. RMC is the only Stewardship Ontario approved processor to receive and recycle single-use batteries in Ontario;

- **Indaco Manufacturing Limited**, a local bag manufacturer of plastic and 100% compostable bags, provided the battery collection bags and recycled the bags after they were used to close the recycling loop;

- **Green For Life Environmental**, the Region’s contractor for blue box collection provided additional collection services in support of this recycling program;

- **Miller Waste Systems**, the Region’s contractor for blue box collection provided additional collection services in support of this recycling program;

- **Covanta Energy Corporation**, The Region’s Energy-from-Waste contractor provided financial support to provide the collection tools for this program;

- **Stewardship Ontario**, represents Ontario’s brand owners and importers funding Ontario’s Municipal Hazardous and Special Waste program under Ontario’s Waste Diversion Act.

Stewardship Ontario provided financing for transportation and processing operations as well as communications support to the battery collection program.
1.5 Innovation & the Durham Difference

The Region of Durham has positioned itself as a leader in waste diversion with a focus on integrated waste management solutions and a goal of maximizing waste diversion. As Ontario landfills are reaching capacity, the Region has proactively investigated and implemented sustainable waste reduction and disposal opportunities, as it strives to reach 70 per cent waste diversion.

Recent residential waste audits and manufacturing data suggest that Ontarians use up to 1 kilogram (3 lbs) of single-use batteries per person each year. Studies also suggest used batteries are the most hoarded waste item in homes today.

An average four person household can generate up to 5 kilograms (12 lbs) of waste single-use batteries annually. Most of these single-use batteries are alkaline and are either disposed of with household garbage or recycled through municipal hazardous waste facilities or special drop off days within our communities, or at participating retailers offering take back opportunities. Many are hoarded because residents are unsure how to properly manage them.

The Province of Ontario, Canada has designated single-use batteries as household hazardous waste under Phase 1 of the Municipal Hazardous and Special Waste (MHSW) program operated under the authority of the Waste Diversion Act.

The Regional Municipality of Durham accepts single-use batteries at its four (4) Waste Management Facilities and annual collection events held within area municipalities. In addition, many retailers in Durham also accept single-use batteries as part of Retailer Take Back Programs. Despite these options, the majority of waste single-use batteries generated in Durham Region and throughout Ontario are still being disposed of in landfill.

In 2012, the Region's Waste Management Department identified the need for an innovative, viable environmental solution for spent household single-use batteries. On November 12th, Durham launched a Curbside Battery Recycling Program – the first of its kind for a Regional Municipality in Canada.

Batteries contain many valuable resources. They include: zinc, manganese, steel and potassium. By recycling batteries, Durham residents are supporting the promotion of recycling while preserving our natural resources.

With authorization from Regional Council, staff entered into a partnership with Raw Materials Company (RMC), Covanta Energy Corporation (Covanta), Indaco Manufacturing Ltd. (Indaco), Green for Life Environmental (GFL), Miller Waste Systems and Stewardship Ontario (SO) to design a curbside collection of single use dry cell batteries for Durham Region residents.
Guinness World Records® Award

To raise awareness, participation and to maximize the “buzz” surrounding Durham’s new battery collection program, Durham Region contacted Guinness World Records® to inquire if a record exists for the most batteries collected.

Guinness World Records® advised that the current record for the most batteries collected in a 24-hour period at a single location, was 181 kilograms (400 lbs 14 oz). With this information, Durham planned its own record breaking attempt for Thursday, November 15, 2012.

On the morning of Thursday November 15, Durham Region staff set 38 empty steel drums on a legal truck weigh scale at its recycling centre located at 4600 Garrard Rd., in Whitby, Ontario, Canada. The scale was set to zero at 7:14 a.m. after the drums were placed on it and before the arrival of the first collection vehicle.

On the same morning, Durham Region’s two recycling collection contractors, Miller Waste Systems and Green For Life Environmental, started the day with empty collection vehicles and a horn-blowing ceremony at 6:30 a.m.

Each recycling collection vehicle was fitted with 76 litre (20 gallon) pails in the drivers’ cabs for drivers to place any batteries they collected from blue boxes on their regular collection routes.
Collection contractor supervisory staff, driving in pick-up trucks and cube-vans, swapped out their drivers’ full pails for empty ones or emptied the batteries from the drivers’ pails into 360 litre (95 gallon) tote containers while the collection vehicles were on their routes and delivered the collected batteries to the steel drums on Durham’s truck scale.

The first supervisor pick-up truck arrived at the truck scale at approximately 9:05 a.m. Its load of 430 kilograms (948 lbs) was printed on a weigh scale ticket at 9:16 a.m. This first load surpassed the existing Guinness World Record®.

All collection trucks returning to the recycling centre to empty their regular recycling loads also delivered any batteries they still had on board to the drums on the truck scale before unloading their regular recycling loads at the Waste Management Centre.

The final collection vehicle of the day arrived at the truck scale to deliver its batteries at approximately 6:00 p.m. The gross weight of 5,120 kilograms (11,221.5 lbs) was printed on the weigh scale ticket at 6:12 p.m. on Thursday, November 15, 2012.

After the collection on November 15th, Durham Region staff removed the zip-lock bags from the collected batteries prior to shipping the batteries to Raw Materials Company in Port Colborne, Ontario for recycling.
Staff removed 30 kilograms (66.1 lbs) of zip-lock bags from the 5,120 kilograms (11,221.5 lbs) gross battery weight resulting in a net weight of batteries for this record attempt claim of 5,090 kilograms (11,221 lbs 8 oz).

The removed zip-lock battery bags were weighed on the same truck scale used to weigh the collected batteries. As with the batteries, a container was placed on the truck weigh scale and the scale was zeroed out. The battery bags were placed in the container and a weigh scale ticket with the total weight of the bags was printed.

Durham’s Guinness Worlds Records® official claim was for 5,090 kilograms (11,221 lbs 8 oz) which is the gross weight of batteries; 5,120 kilograms (11,287.7 lbs) less the weight of the zip-lock bags; 30 kilograms (66.1 lbs).

On February 2, 2013, Guinness World Records® confirmed that the Regional Municipality of Durham is now the official holder of the world record for the Most Batteries Collected in 24 Hours at One Location. The certificate is provided as Attachment No. 2.

2.0 Environmental Benefits & Regulatory Compliance

2.1 Human Health & the Environment

When used as intended, single-use batteries pose little to no danger to the public. Ontario’s Waste Regulation (O.Reg) 347 General – Waste Management allows for the collection and transportation of intact waste single-use batteries without the typical waste management approval requirements.
The Ontario Ministry of the Environment recognizes that single-use batteries are relatively inert materials and do not require rigorous oversight necessary for most hazardous wastes. Agreements with a permitted waste battery recovery facility are all that is required to permit Region-contracted Blue Box collection vehicles to include household single-use batteries as a collection item.

The main environmental benefit of this initiative is the avoidance of batteries being transported to landfill or Durham's future Energy-from-Waste facility for disposal. Instead, they remain in Ontario to be recycled responsibly through proper recycling and conservation of waste materials.

During the two collection periods, the Region collected 39,000 kilograms (85,980 lbs) of batteries. This translates into one fifty-three foot highway hauler of batteries being diverted from landfill on an annual basis from curbside collections.

### 2.2 Alternative Products, Source Reduction & Reuse

An average four person household can generate up to 5 kilograms (12 lbs) of waste single-use batteries annually.

Most of these single-use batteries are alkaline and are either disposed of with household garbage and then buried in landfill, recycled through municipal hazardous waste facilities or special drop off days within our communities, or returned to participating retailers offering take back opportunities.

Raw Materials Company is an international leader in the field of battery recycling.

They were formed to reflect their commitment to creating a safer environment through the proper and responsible recycling and conversion of waste material, specifically battery waste.

Their patented process, which operates under negative pressure effectively reclaims the mercury vapour, chlorine and ammonia while creating zero emissions.
Raw Material Company recovers the steel, zinc and manganese from each battery giving these materials another chance at life. They provide feedstock to the local steel industry and micro-nutrients to the local agricultural industry for biofuel crop production. Raw Material Company’s battery recycling technology is capable of recycling and recovering up to 92 per cent of the components found in spent single-use batteries, thus eliminating the need for the majority of battery wastes to enter the waste stream.

2.3 Integrated Waste Management System

In 1999, the Region approved a Long Term Waste Management Strategy Plan to guide the management of residential waste over the next 20 years. The focus of the plan was to establish home-grown integrated waste management solutions with a goal of maximizing waste diversion, standardizing collection services and dealing with residual waste through a state of the art Energy-from-Waste facility. With Ontario landfills reaching capacity and Durham’s future Energy-from-Waste facility poised to be operational in the spring of 2014, the Region continues to proactively investigate and implement sustainable waste reduction and disposal opportunities with a goal of diverting 70 per cent waste from disposal. To help in the Region’s diversion efforts, the Region’s Waste Management Department identified an
innovative and convenient environmental solution for household single-use batteries in the form of a curbside collection program.

2.4 Environmental Compliance

Provincial Regulations

All waste management facilities and sites used for the disposal or treatment of waste in Durham Region operate with an Environmental Compliance Approval (ECA) from the Ontario Ministry of the Environment (MOE). This is a requirement for the operating, establishing, altering, enlarging or extending of a waste management system or a waste disposal site. Environmental Compliance Approvals address the site-specific considerations relevant to the proposal; provide enforceable requirements that ensure protection of human health and the natural environment; comply with legislation and policy guidelines; and acknowledge issues that fall within the mandate of the ministry.

The MOE approvals program has been designed to ensure that all undertakings requiring approval are carried out in accordance with legislation, including the Ontario Water Resources Act, the Environmental Protection Act (EPA), the Pesticides Act, the Environmental Assessment Act and other associated regulations.

An annual report is prepared by facility operators for the Ministry of the Environment.

Transportation of Dangerous Goods (TDG)

The Transportation of Dangerous Goods (TDG) Act states that household single-use batteries are not classified as dangerous goods. The household battery exemption applies for two reasons: 1) shipped directly from Generator to Recycler and 2) Chemical is contained within the batteries. Although the household battery exemption is recognized within the Transportation of Dangerous Goods (TDG) Act, the exemption does not apply to a chemical waste storage facility stockpiling household single-use batteries. In this case, a bill of lading is requirement from a generator to a recycler. Regional staff followed the TDG Act to ensure worker safety, labeling, containment, site security, site storage plan, record keeping, fire plan, and minimizing environmental risk was adhered to at all times during the pilot program.

Waste Diversion Act 2002

The purpose of the Waste Diversion Act (WDA) is to promote the reduction, reuse and recycling of waste and to provide for the development, implementation and operation of waste diversion programs. The Ontario Minister of the Environment has designated Blue Box material, used tires, used oil material, waste electronic and
electrical equipment (WEEE) and municipal hazardous or special waste (MHSW) under the WDA. The Region is an approved collection agent under the Act for these designated materials.

**Durham Region By-Law 46-2011**

The Region of Durham By-Law 46-2011 regulates the receiving, dumping and disposing of waste in the Region. In the by-law it addresses all materials that are not suitable for landfill disposal. These items include: all Blue Box accepted items, organic waste, hazardous waste, radioactive waste and medical waste, as these items are accepted in other compost, recycling or reuse programs offered by the Region.

### 3.0 Program Planning

#### 3.1 Planning Process

The planning process for the implementation of the battery collection program included a recommendation from the Works Committee to Regional Council authorizing Regional staff to:

i) Initiate appropriate Regional processes to engage and secure individual contracts with project partners in order to collect and deliver single-use batteries to Raw Materials Company's processing facility located in Port Colborne, Ontario;

ii) Permit the negotiation and award of a sole source agreement with Raw Materials Company to receive and process single-use batteries collected by this initiative;

iii) Enter into partnership agreements with the Regional Municipality of Durham's existing solid waste management contractors wishing to co-sponsor the program, including Covanta Energy Corporation, Miller Waste Systems Ltd., Green For Life and Indaco Manufacturing Ltd.;

iv) Engage and execute partnership agreements with Stewardship Ontario and interested local area municipalities to implement the program and/or gain sponsorship support for this pilot project.

An advertising campaign was planned and executed to advise the public of the battery collection program. This included the distribution of the original battery bag to 200,000 residential homes in Durham Region.

Please refer to sections 1.5 and 7.0 for information on the tactics used to promote this initiative, including Guinness World Records® involvement in creating program awareness.
3.2 Effectiveness of the Planning Process

The integrated communication planning process was very effective in ensuring all Durham residents were aware of the collection periods and how to properly participate. As a result, the material received during the two collection periods was clean and dry with minimal contamination.

3.3 Managing Collected Batteries

The Waste Management Centre (WMC) at 4600 Garrard Road in Whitby was the delivery location for collected batteries. The Region’s curbside collection contractors delivered collected batteries to this centrally located site.

Green For Life (GFL) managed the collected batteries using 76 litre (20 gallon) pails. The Route Supervisors would switch out full pails with empty ones in the back of their pick-up trucks. The average weight of a 76 litre (20 gallon) litre pail of bagged batteries was 32 kilograms (71 lbs). GFL was able to operate using this collection method as they service the closest two municipalities (Whitby, Oshawa).

Miller Waste Systems operated using 360 litre (95 gallon) carts in the back of the Route Supervisors pick-up trucks. They would empty the filled 76 litre (20 gallon) pails directly into these carts.

Due to the long distances this contractor had to travel to manage collection in the remaining six municipalities (Pickering, Ajax, Brock, Scugog, Uxbridge, Clarington), this was the most efficient way of managing the collection. The average weight of a 360 litre (95 gallon) cart was 432 kilograms (952 lbs).

Curbside batteries delivered to the WMC were either tipped onto a debagging platform using a loader bucket or tipped using a rotating drum clamp attachment on the forklift which attached to the drum.

To transfer and process the collected batteries, the Region had to follow Raw Material Company’s collection requirements.
Some of the main specifications for household single-use batteries collected include:

- Batteries must be debagged and stored loosely inside steel drums for shipping to Raw Materials Company;
- Batteries were to be intact, clean, dry, and with limited amounts of contamination.

3.4 Addressing Community Concerns

Storage Concerns

The Region received a concern related to the safe storage of batteries. Specifically, the exposed contacts of 9 Volt batteries may come into contact with conductive materials causing them to short circuit and overheat, causing a fire hazard.

The Region responded proactively by providing information on their battery web page under the Frequently Asked Questions (FAQs) section to educate residents on this topic. Batteries should be stored in a cool, dry location, away from any flammable material, prior to disposal.

Durham Region provided the following link to residents for further information: http://www.hrsdc.gc.ca/eng/labour/fire_protection/policies_standards/guidelines/safe_storage.shtml
4.0 Performance, Finance & Cost Effectiveness

4.1 Efficiency of the Operation

The household single-use battery collection program has proven to be very efficient. It was conducted during normal operating hours and no additional staffing was required to manage the receiving of batteries from our collection contractors. It successfully collected 39,000 kilograms (85,980 lbs) of batteries over two 1-week periods. This is double what Durham’s four Waste Management Facilities collect in one year combined.

4.2 Operational Performance

The program owes its success to the engagement of Durham residents and their commitment to diverting as much waste from disposal as possible.

Durham staff and Raw Materials Company were pleasantly surprised with the extremely low level of contamination received from the battery collection program.

The total contamination received was approximately 13.5 kilograms (30 lbs), or less than 0.0005%. Items received that were considered to be contaminants included ink cartridges, remote controls, smoke detectors, and carbon monoxide detectors. These items were recycled through the Region’s household hazardous waste programs.

4.3 Customer Service

The curbside battery collection program has increased accessibility and convenience to Durham’s residents. This has proven to be a driving factor in the success of the collection program. Durham Region’s corporate mission is to “meet the needs of our citizens through leadership, co-operation and service excellence.” The Region has outlined community strategic objectives in support of this corporate mission. The aim of these objectives is to focus on key strategic issues and address them. To address waste management concerns, residents have the option of calling the Regional Waste Management Call Centre located at the Durham Recycling Centre. The Call Centre monitors customer service satisfaction using customer relationship management software to record complaints and track the steps taken to resolve resident collection concerns.
4.4 Finance

The finances are typical of many revenue generating diversion collection programs. The program cost is significantly offset from revenue from the sale of batteries to Raw Materials Company, and from the avoided cost of sending the batteries to landfill for disposal. Raw Materials Company provided the Region with a “collection incentive fee” based on per pound collected for certain types of collected batteries. This revenue will partially offset the Region’s costs associated to implementing the program.

4.5 Budget

The battery collection program was financed from the generous support of the project partners and from the approved 2012 Solid Waste Management Operating budget.

The Region incurred some implementation costs for the program, however, these costs were minimized by the sponsorship opportunities as noted above (including revenues recovered from Raw Material Company, as RMC paid the Region on a per pound basis). The Region’s cost (net of all revenues and avoided landfill costs) to implement the program is estimated at $20,000, and was funded from the approved 2012 Solid Waste Management operating budget.

5.0 Utilization of Equipment / Systems & Technology

5.1 Equipment Utilized

Regional staff constructed a custom battery processing table to manage the incoming bagged batteries during the two collection weeks. A wheel loader bucket was used to capture delivered batteries before they were dumped on top of the battery table for debagging. A fork-lift with a rotating drum clamp was used to unload the batteries from their trucks and tip the batteries onto the processing table. Raw Materials Company supplied the 205 litre (54 gallon) steel drums for the loose, collected batteries.

53-foot trailers were used for temporary storage prior to shipping to Raw Materials Company processing facility located in Port Colborne, Ontario (Canada).
5.2 Efficiency & Effectiveness of Equipment

The use of existing equipment and the integration of the program into the normal operating procedures at the Waste Management Centre resulted in an efficient and effective use of personnel and equipment for the battery collection program implementation. The collection program was integrated into the existing blue box collection program without setting up a new collection system for batteries.

6.0 Worker Health & Safety

6.1 Safety Procedures

To ensure the Regional workplace is a healthy and safe working environment, Regional employees, contractors, constructors and sub-contractors must have knowledge of, and operate in compliance with, the Occupational Health and Safety Act and any other legislation pertaining to employee health and safety. Health & Safety needed to be addressed when receiving, stockpiling, processing, and shipping batteries during the program. The Ministry of Environment “Guidelines for Environmental Protection Measures and Waste Storage Facilities” was recommended to keep the essence of the Transportation of Dangerous Goods Act in place.

A fire safety plan was submitted to the Town of Whitby Fire Department. A site inspection followed with the local fire department inspector at the Waste Management Centre. Two (2) – 30 pound class D fire extinguishers were installed at the Waste Management Centre. A site plan indicating the stockpiling area, processing area, and sealed drum area was provided to the fire department. Raw Materials Company provided the Region with an empty 53 foot tractor trailer. This was also identified on the site plan.
On-site procedures were compiled and submitted with the fire safety plan to the local fire department and were approved. The fire plan was posted within the facility with exits marked.

Personal protective equipment was required when working on site during processing of collected batteries for shipment to Raw Materials Company. Safety boots exceeding CSA and ASTM standards, visible safety wear, dust masks, puncture proof gloves, hard hats (if working below dock area or entering a bin), and safety glasses (as required) were used in this well ventilated area.

6.2 Injury Rates

No injuries were reported related to the Region’s curbside battery collection program.

7.0 Public Acceptance, Appearance & Aesthetics

7.1 Overall Appearance & Maintenance of Facility

The Waste Management Centre (WMC) is a bright, organized and centrally located site that provided our contractors with a safe and efficient location to deliver collected batteries. Staff was responsible for keeping the WMC clean and free of debris during the collection periods.

Prior to the start of the collection program, inspections were conducted by a Transportation of Dangerous Goods Inspector and a Fire Inspector. Both were extremely satisfied with the site being in compliance in preparation for this initiative.

7.2 Public Relations & Public Education

To educate residents on the collection program, Durham Region utilized many different communication tactics to provide valuable and credible information to ensure all residents were educated on our diversion initiative. They included the following:

**Media Relations:**
Media Advisories, a Media Launch Event, News Releases, interviews with the media and Public Service Announcements were strategically issued to increase public awareness of the Battery Bag distribution and recycling program.

**Social Media:**
Promotion on Twitter, Facebook and YouTube for the battery collection program was ongoing. As each collection approached, the media messages planned intensified.
Print Advertising:
Newspaper advertising was utilized and print ads were scheduled accordingly. Posters were also distributed to our northern communities for posting in local stores, community centres and libraries.

Television:
Local television commercials were produced and aired on local television along with interview style segments on daily talk shows. Messaging all focused around the Battery Recycling Program. Regional Chair Roger Anderson participated.

Radio:
Radio ads ran on three local radio stations, weeks leading up to the launch date and afterwards to encourage participation in the Battery Recycling program. Radio interviews were also conducted.

Mobile Signs:
Thirty‐five (35) mobile signs were strategically placed throughout the Region along high traffic routes. The mobile signs focused on informing residents when to participate in the program along with contact information.

Public Education Campaign:
Durham Region’s website was also updated to include more information. All external promotional material and publications list the Region’s new website address to drive residents to our web site for further information: www.durham.ca/battery.

Examples of the communication tactics above are included as Attachment No. 3.

7.3 Neighbour Relations

The Region strives to be good neighbours to all local area residents. There were no reported complaints pertaining to Waste Management Centre operations during the battery collection program.

The battery collection program has brought all Durham residents together along with creating awareness in Niagara Region, Peel Region, York Region, the City of Kingston and Thunder Bay, along with media coverage in the United States and as far away as Australia.

These municipalities are now investigating the implementation of a curbside battery collection program in their communities. Durham Region continues to receive informational requests on the program, and we continue to share our knowledge and expertise in residential curbside battery recycling.
8.0 Summary

Durham’s program for the curbside collection of single-use batteries has:

- Successfully diverted 39,000 kilograms (85,980 lbs) of batteries from landfill in its first year;
- Strongly encouraged residents to recycle spent household single-use batteries;
- Created worldwide awareness about the importance of battery recycling;
- Ensured that batteries were recycled locally and responsibly;
- Helped Durham Region move towards its 70 per cent waste diversion goal;
- Enabled staff to develop a process for similar future recycling campaigns;
- Provided feedstock for a local recycling industry and supported its viability;
- Supported the environmental goals of the Durham Region Strategic Plan in terms of enabling sustainable communities, and;
- Rewarded the Region of Durham with a Guinness World Record®.

Durham is very proud of this diversion initiative. The collection program has facilitated the gathering of important information such as cost, participation rates, set-out rates, generation rates, and residue rates that will be evaluated and used to determine appropriate service levels for a potential cost effective and efficient long-term diversion program.
Attachment No. 1 (Original Battery Bag Front/Back)

THE ORIGINAL BATTERY BAG
RECYCLE ALKALINE BATTERIES ONLY

COLLECTION NOVEMBER 12-16 ONLY

COLLECTION MARCH 18-22, 2013 ONLY

BATTERIES DEAD? RECYCLE INSTEAD!
ALKALINE BATTERY RECYCLING PROGRAM
brought to you by
The Region of Durham.
For more information on the program, please contact
the Region of Durham Works Department.
www.durham.ca/battery
1-800-667-5671

COLLECTION NOVEMBER 12-16 ONLY
COLLECTION MARCH 18-22, 2013 ONLY

PARTICIPATING SPONSORS

Batteries will be recycled.

Single-use, dry cell batteries ONLY:
The following single-use dry cell batteries are eligible for
collection from the public: alkaline-manganese, zinc carbon,
zinc air single-use batteries. No loose batteries in the
curbside recycling box please.

If information is required in an accessible format, please contact
the Region at: 1-800-667-5671
Attachment No. 2 (Guinness World Records® Certificate)

The most batteries collected in 24 hours at a single location is 5,090 kg (11,221 lb 8 oz) and was achieved by the Regional Municipality of Durham (Canada) in Whitby, Ontario, Canada, on 15 November 2012.
Attachment No. 3 (Examples of Communication Tactics)

Durham Works Newsletter

Durham Region now offers battery recycling with a special curbside collection!

The Region of Durham is pleased to introduce a new pilot program that allows residents to recycle their household batteries! The program offers residents the convenience of curbside collection for used or unwanted household batteries, while allowing battery materials to be recovered and reused in other technologies. This special collection service will only be provided twice a year, coinciding with daylight saving time changes.

Media Launch
Mobile Signs

Social Media – Facebook and Twitter
2013 SPECIAL WASTE MANAGEMENT EXCELLENCE AWARD

RELEASE FORM

Release Statement: I certify that the information provided in this 2013 Excellence Award application is accurate and correct to the best of my knowledge. I understand that nominations become the property of SWANA. SWANA reserves the right to publish any or all of my application. My signature gives SWANA the right to reprint or make available for purchase any portion of this application.

Printed Name of Representative: Craig Bartlett

Organization Name: Regional Municipality of Durham

Signature: [Signature]

Date: May 23, 2013