2017 Excellence Award entry

Category: Special Waste

Organization Name: Lorain County Solid Waste Management District

Contact Person: Keith A. Bailey, District Director
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kbailey@loraincounty.us

Title of Entry: Lorain County Collection Center

Jurisdiction: Lorain County

Population: 301,356 based on 2010 Census

Cost per household: $5.18

Approximate Budget: $600,986.35
EXECUTIVE SUMMARY

The District operates and manages the collection center which provides proper disposal of categories of wastes that are difficult to process and/or recycle to all of the residents of Lorain County, with restricted participation for businesses. Our facility is always evolving and expanding our programs. Recently added programs include mobile document shredding, acceptance of cooking oil, curbside recycling, cardboard and end of life books. The District is currently preparing to undergo an expansion to better accommodate the increasing volume of participation. The buildout will include modifications to lane traffic and extending the unloading zone for personnel. It will also include educational classrooms for area students to learn about the importance of recycling and its impact on the environment. There will be allocated space for a baler so the mobile shred truck can offload onsite. Other districts have toured our facility to use as a role model for their residents.
This document follows the specific questions and headings provided in the SWANA Special Waste Awards Application. These include:

1. Design & Planning of Collection Facility/Management System
2. Use of Equipment/Systems and Technologies
3. Environmental Benefits & Regulatory Compliance
4. Worker Health & Safety
5. Performance, Economics and Cost Effectiveness
6. Public Acceptance, Appearance and Aesthetics

#1 - Design & Planning of Collection Facility/Management System:

The Collection Center was developed as a part of a long range solid waste management plan. For many years, the District held one day collections for household hazardous waste (HHW), electronic waste (E-Scrap) and tires. While these programs were successful, they were no longer a cost-effective way for the District to offer these services. Late in 2009, the District leased a significant portion of a County Port Authority owned building for the purpose of establishing a permanent drop-off facility for hazardous waste materials. The building was completely remodeled to accommodate the District needs. The Collection Center is designed to be a drive through for residents delivering their HHW, fluorescent bulbs, E-Scrap, tires and other acceptable materials inside the Collection Center building. Many factors were considered in the design process including: health and safety for employees and patrons, ample space for sorting/staging and packing materials, along with the ability for vendors to easily access the loading docks to pick up the trailers of materials. The District was conscientious of not having a negative impact on neighboring residents and businesses. As a result, the District has never received any complaints. This facility seamlessly fits in the Districts solid waste management plan and enables residents to not only divert materials from the landfill but also properly dispose of hazardous waste materials. It was important to have the Collection Center maintain the delivery and storage of accepted special waste under roof. Residents arrive at the facility and pass through the entrance and long corridor where they are instructed to move forward carefully to the unloading zone.

The Collection Center was awarded the 2013 Bronze Award from SWANA for Special Waste Collection. Since then, the Collection Center continues to evolve with new services for residents and the District has expanded its programs in addition to the volume of
participants. We are now servicing over 15,000 vehicles per year through our doors. The population for the County is just over 300,000.

The careful management of the materials brought to our facility has enabled us to keep costs and labor under control, allowing us to expand our services in recent years. The facility now accepts:

<table>
<thead>
<tr>
<th>Corrosives</th>
<th>Flammables</th>
<th>Reactives</th>
<th>Toxics</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-Scrap</td>
<td>Scrap Tires</td>
<td>Cooking Oils</td>
<td>Motor Oil</td>
</tr>
<tr>
<td>End of Life Books</td>
<td>Fluorescent Lamp &amp; Ballast</td>
<td>Onsite Personal Document Shredding</td>
<td>Cardboard &amp; Paper</td>
</tr>
<tr>
<td>Curbside Recyclables</td>
<td>Special Event Agricultural Tires</td>
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</tbody>
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The District has taken a forward-thinking approach to create a revenue stream for materials that can be sold directly. This helps to offset the facilities overall operating expenses.

Because of the ever-increasing participation and positive community feedback, the District is now in the process of expanding our footprint within the building. The modifications will include re-routing the driver’s exit lane which will give additional space to staff for unloading vehicles and sorting materials for processing along with more storage rack space. Two classrooms are to be added for presentations to students from area schools on the importance of recycling and its impact on the environment. There will also be a baler room for staff to offload the shredded paper from our mobile document shred truck and bale the material onsite. This will then be stored and sold in volume by the truck load. This shows how the District has been able to evolve as the communities needs change or materials market changes.
The Collection Center is unique in several ways including:

✓ It provides service throughout the year to all Lorain County residents.
✓ Local businesses are also provided collection service for fluorescent bulbs, ballasts, cardboard and e-scrap.
✓ The County provides the labor force.
✓ The County retrofitted an old commercial building that hosted few tenants. This was a classic reuse/repurpose of an existing and previously unused site.
✓ The facility does not compete with the private sector and, in fact, is a partner with several private sector businesses.
✓ The Collection Center provides sensitive personal document shredding services for residents.
✓ The Collection Center has collected agricultural tires during special collections.
✓ The facility has been able to create a revenue stream by selling books, cardboard, lead acid batteries, printer cartridges, recyclable paper, scrap metal, and vegetable oil.

#2 - Use of Equipment/Systems and Technologies

Special consideration was given to ventilating and cooling, and emergency evacuation of dangerous fumes. These were addressed by a single custom-designed system. Strategically-placed holes were cut into the outer walls - holes that are each five feet square in size and are covered in heavy steel mesh on the outside, and equipped inside with a set of electrically-operated louvers. Each set of two louvered openings is remotely-controlled and linked to one of two powerful exhaust fans mounted on the roof. The fan in the center draws air in through the openings on the far wall, then up and out at ceiling level. The second fan, using a large ceiling-to-floor duct, draws fresh air at floor level across the unloading zone and the HHW sorting area and through the entire length of the entrance lanes. Two electrical control panels allow the staff to manually activate either or both systems as needed. A third control panel, entirely computerized, monitors three sets of sensors located throughout the building. One set detects the excessive presence of carbon monoxide; the second set does the same for nitrous oxide. This protects the staff and the public from a buildup of automotive exhaust gases. The final set of sensors will start the fans if the ambient temperature in the working area exceeds a programmable limit (currently set at 80 degrees F.). This provides automatic cooling on hot summer days.
District employees assigned to work at the Collection Center greet the residents during hours of operation (Mondays and Wednesdays noon to 6:00 p.m., and Saturdays 9:00 a.m. to 6:00 p.m.) and empty the special wastes from the vehicles. Residents are asked to provide their driver’s license to verify that they are Lorain County residents. Staff then swipe the license through a hand-held device to log resident’s information and the type of materials brought to the Collection Center. The electronic tablet was added to our center in 2016, the District developed the software in partnership with our vendor Emerge Knowledge creators of the Re-Trac System. The software allowed the District to monitor the data of community participation. The database is now showing additional value because it allows staff to monitor if our facility is being illegally dumped on by businesses trying to dispose of scrap tires. As part of the building expansion, the District will also upgrade the software utilized by the tablets to be Windows based.

Once removed from vehicles, special wastes are separated by type of material. Household hazardous waste materials are separated by type of material and placed in appropriate containers for shipping. Similarly, bulbs and ballasts are sorted and placed in shipping containers. The facility design includes rear docks where tires can be directly loaded onto trailers to transport to scrap tire recycling facilities.

The contractor ensures that District personnel are properly trained to store materials in the correct containers and that unidentified materials are segregated for later identification by the vendor.

The following equipment is used at the facility:

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Description</th>
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<tbody>
<tr>
<td>Bobcat</td>
<td>Automated Stretch Wrap Machine</td>
</tr>
<tr>
<td></td>
<td>Hydraulic Cardboard Baler</td>
</tr>
<tr>
<td></td>
<td>Electric Floor Sweeper and Floor Scrubber</td>
</tr>
<tr>
<td>Pallet Jack</td>
<td>Weight Scale</td>
</tr>
<tr>
<td></td>
<td>Gaylord Containers</td>
</tr>
<tr>
<td></td>
<td>Rack Storage System</td>
</tr>
<tr>
<td>Transfer Trailers</td>
<td>Fork Lift with Accessories</td>
</tr>
<tr>
<td></td>
<td>Tire Rim Changer</td>
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The automated stretch wrap machine has increased efficiency and lowered supply costs. Speed has increased in wrapping materials for shipment. Loads are more secure and uses less wrapping material than if done manually. The forklift provides the facility efficiency in
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storage of product and spacing. Trailers pulled to the back dock allow for the immediate loading of scrap tires and shipping once the trailer is loaded. The cardboard baler eliminates the need to flatten boxes and allows for the baling and selling of cardboard. The tire changer allows staff to safely remove the rims from tires dropped off at our facility. Rims are then taken to local scrap yard and sold. The floor sweeper and scrubber allows for the high level of cleanliness and maintenance.

Each of the special wastes is managed with a concern for the environment and human health. This includes:

Household hazardous waste is sorted and packaged to carefully ship materials to the District's contractor. Household hazardous wastes are processed at the contractor's facility.

- Oil based paints are recycled into a fuel. Latex based paints are re-blended and sold.
- Corrosive materials and reactives are neutralized and they are landfilled after they are determined to be non-hazardous.
- Toxics are incinerated.

E-Scrap is collected and processed by the District's E-Scrap (R-2 certified) contractor. Other materials are scrapped for their metals, plastic and glass and are recycled.

Tires are collected and processed by the District's Scrap Tire vendor. The tires are shredded and returned to commerce as playground and track surfaces, tire derived fuel and other products.

#3 - Environmental Benefits & Regulatory Compliance

The Collection Center provides numerous human health environmental quality and resource conservation benefits. Assuming that much if not all of these materials would otherwise be included in household trash, the collection of household hazardous waste and ensuring proper recycling and disposal reduces the danger for waste collectors being splashed with chemicals on their body or eyes, inhaling fumes or potentially starting a fire in the rear hauler during collections. The diversion of tires to tire recyclers reduces the breeding of mosquitoes and opportunities for tire pile collections and fires. Tire fires are difficult to put out and cause potentially significant environmental damage to the air and ground water. Overall, the Collection Center's year around operation provides residents with environmental and recycling options that did not exist when the District held once a year collections. Residents have a permanent outlet for special waste materials.

The Collection Center only accepts waste from Lorain County residents. The Standard Operating Procedure clearly instructs employees not to accept waste from schools, businesses, government agencies or non-profits (except for fluorescent bulbs). The household hazardous waste is exempt under the Resource Conservation and Recovery Act (40 CFR 261.4) as a hazardous waste. The County contracts with a hazardous waste company that properly manages the flammables, corrosives, re-actives and toxics delivered by residents at the Collection Center. This is to ensure that all materials are properly managed and either recycled or disposed to meet environmental regulatory
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compliance. Scrap tires are delivered to a licensed scrap tire hauler and storage facility that recycles the tires in accordance with Ohio scrap tire laws. All other materials are properly reused, recycled or disposed in a licensed sanitary landfill facility.

The Collection Center's special waste collection enhances environmental quality by diverting the amount of toxic materials that are disposed in the District’s regional landfill.

<table>
<thead>
<tr>
<th>Year</th>
<th>Pounds Collected</th>
<th>Tons Collected</th>
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<tbody>
<tr>
<td>2010</td>
<td>1,736,965</td>
<td>868.483</td>
</tr>
<tr>
<td>2011</td>
<td>1,659,332</td>
<td>829.666</td>
</tr>
<tr>
<td>2012</td>
<td>2,045,629</td>
<td>1,022.815</td>
</tr>
<tr>
<td>2013</td>
<td>1,921,315</td>
<td>960.657</td>
</tr>
<tr>
<td>2014</td>
<td>1,944,265</td>
<td>972.133</td>
</tr>
<tr>
<td>2015</td>
<td>2,001,265</td>
<td>1,000.633</td>
</tr>
<tr>
<td>2016</td>
<td>2,256,073</td>
<td>1,128.037</td>
</tr>
<tr>
<td>TOTALS</td>
<td>13,564,844</td>
<td>6,782.422</td>
</tr>
</tbody>
</table>

The Collection Center serves as a centerpiece of education for residents and students to see how materials once landfilled are returned to commerce as a commodity. Educational tours are provided upon request.

The District received a Certificate of Excellence from Lorain County Beautiful for the 2010 Lorain County Beautiful Awards Renovation Finalist.

The District received the SWANA 2013 Excellence Award Bronze Winner for Special Waste Collection.
#4 - Worker Health & Safety

All part time employees take the HAZWOPER 8-hour refresher course annually. Employees also receive a 4-hour DOT HM 181/126-F training and a 4 hour RCRA Hazardous Waste Management Training annually. All part-time employees are fully trained and licensed fork lift drivers.

The Collection Center operates under a Standard Operating Procedures Manual (SOP Manual) which was developed prior to the opening of the operation. The manual includes the following sections.

- Operating Days and Hours
- Daily Startup Outline and Checklist
- Traffic Management
- Participant Management
- Material Unloading
- Material Packaging Procedures
- Waste Storage
- Daily Closing Outline and Checklist
- Shipping Procedures
- Equipment and Supplies
- Health and Safety, Security Procedures
- Training
- Employee Policies and Procedures

**The Operating Days and Hours Section** establish the collection days and hours. The employees work schedule is defined and requirements for scheduling enough staff are presented. The shipping and receiving hours are also defined in the SOP.

**Daily Startup Outline and Checklist Section** require employees to complete a checklist to open the Collection Center. This ranges from opening and verifying that the automatic doors are operational to ensuring any unauthorized drop-offs (while the Collection Center is closed) are retrieved. This checklist ensures the Collection Center is properly organized and safe and ready for business.

**Traffic Management Section** outlines how traffic will move through the Collection Center both incoming and outgoing. The SOP manual also identifies how employees are to stage vehicles to overflow parking areas on high volume days.
Participation Management Section identifies who can use the Collection Center. The Collection Center can accept materials from Lorain County residents. Businesses, schools, government agencies and non-profit organizations are restricted to certain programs and are not permitted to use the facility for the delivery of Household Hazardous Waste. Specific one time exceptions are listed on the current Authorized Actions list at the beginning of each shift.

This Section also outlines the participant on-site procedures including the identification with current driver's license, completion of the participant form and no idle policy for vehicles waiting for unloading.

Material Handling Section identifies the procedures for unloading HHW, Fluorescent bulbs/ballasts, scrap tires and all other materials. Some materials also require specific protective clothing such as Kevlar gloves for fluorescent bulbs or back support for heavy loads. The SOP also identifies what to do if breakage occurs.

Material Packaging Procedures Section educates employees how to prepare specific materials for off-site shipment. For Household Hazardous Waste materials this includes procedures for placing in lab packs. Unknown materials are placed in a special area for later identification by the Contractor's chemist. Ballasts are evaluated to determine if they contain PCB’s and placed in a shipping drum and Gaylord boxes. Other lamp types like U-Tubes are boxed in appropriate sized containers and sealed with tape. Electronics such as CPU's are placed on pallets and formed as a simple cube while monitors are stacked appropriately either face up or down as necessary to stabilize the pallet. Printers, scanners, small TV's are placed in a Gaylord box.

Waste Storage Section provides procedures on placing packaged materials on the storage racks. The East storage rack is designated for Household Hazardous Waste. Full Gaylord’s or pallets are placed in the storage rack until there are 24 ready for shipping. Scrap tires are ready for shipment once the trailer is full. Electronics are ready for shipping when there are 48 full pallet loads in the rack.

Daily Closing Outline and Checklist Section include procedures for employees to close the Collection Center. This includes cleaning procedures, policing for trash on the exterior of the building and securing all equipment, gates and lights.

Shipping Procedures Section confirms how to prepare and load trailers with materials. This includes safety procedures for chocking the wheels and assuring trailer jacks are adjusted properly. Procedures for operating the fork lift and loading trucks is also described. The SOP also includes requirements for the final paperwork and requires that the trucks are securely closed and the loading dock is clear.

Equipment and Supplies Section describes the inventory of supplies that are needed to ensure a smooth operation. All employees are responsible to communicate with the lead personnel to identify supplies that are needed. The solid waste district is responsible for all purchases. The SOP includes a list of general, spill and safety supplies routinely needed.
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Health and Safety Section provides overall emergency action/response guidelines for employees of facilities owned and operated by the Lorain County Board of Commissioners. Orientation and understanding the requirements of this plan (including evacuation locations, employee accountability, etc.) is the responsibility of the various elected officials and department heads. Knowledge of this plan and what to do during an emergency is the responsibility of the individual. The SOP identifies the following procedures for emergency contacts, fire, fire extinguisher usage, bomb threats, explosions, severe weather, chemical/hazardous materials release, spill response, earthquake, emergency utility, suspicious persons, armed intruders, medical emergencies and mail threats including biological agents etc.

Training Section includes safety training procedures. The HHW contractor is required to provide training sessions for District staff. Other safety procedures are detailed in appropriate sections of the SOP. Employees are to be trained on Hazardous Communications – Right to Know procedures and the SOP. Employees are required to sign a form that they have received the training and the forms are kept on file.

Employee Policies Section includes policies on professionalism, county property and goods, and proper housekeeping.

In the almost eight years of operations there has only been one minor injury. Employees are properly outfitted with steel toe shoes, fluorescent shirts or vests. There have been no OSHA violations or inspections.

#5 - Performance, Economics and Cost Effectiveness

The Collection Center is currently operating more efficiently than the one day events that were held prior to its opening in 2010. One day events had vehicle wait times of up to an hour. The Collection Center has minimal wait times with the busiest time immediately after facility opening.

The District operates within a budget established within the solid waste management plan and approved and authorized by the County Commissioners. The budget allocates funding for part time employees and management of the center. In addition, the budget covers equipment, supplies and the cost for vendor processing of the materials. The cost for operating the Collection Center is comparable to other permanent special waste collection facilities and in some cases lower.

Costs for the entire year are almost one half the costs of the one day events. Total tonnage at the Collection Center is many times more than the collection of materials at the one day collections.

The operational performance has exceeded the goals and expectations of the District. Materials collected are higher and costs are lower. In addition, the District collects more materials allowing the facility to contribute to achieving state mandated recycling goals. The facility contributes to the goal of recycling and reusing 25% of the residential waste stream.
#6 - Public Acceptance, Appearance and Aesthetics

The Collection Center is now managing approximately 15,000 vehicles annually. The public appreciates this service and facility. The facility is maintained and cleaned after every shift. The property outside is policed for litter and improperly delivered materials at the opening and closing each operating day. The facility aesthetically mixes well with the surrounding businesses and uses.

The Collection Center has been in operation since June 2010. To date, there have been no complaints from area residents or businesses regarding operations or traffic. The District maintains hours that are respectful of the area. The Collection Center closes at 6:00 p.m. on the dates it is open to the public.

The interior of the Center is kept clean and orderly, primarily for reasons of safety and efficiency, but also to leave a good impression with those who use its services. The exterior grounds are policed during every working shift, weather permitting. Exterior lighting is kept in good working order, the electronic sign is updated bimonthly, and all the directional lines and arrows, as well as all the curbs, are regularly repainted.

Special care is taken to prevent “after-hours” drop-offs of material in front of the gate or by the building entrance. District staff members driving by at any time and finding items outside will stop and move them into the Center. The materials are examined for identifying labels or markings. On several occasions, this has led to warning calls from the deputies of the Sheriff’s Environmental Crimes Unit.

Every operational day the team leader receives an email at the Collection Center outlining special cleaning and maintenance to be completed during the shift. These operational notes are defined daily. This includes the forklift, bobcat, stretch wrap machine, tire changer, and storage areas. Floor scrubber and sweeper are used every operational shift. The District Director inspects every operational day to ensure the facility is kept clean and aesthetically pleasing.

The District’s uses numerous public relations measures to educate the public about the Collection Center. The websites below presents information on the Collection Center including hours of operation, location and special collection days. There is also an electronic sign at the front of the Collection Center to advertise public information.

The general public has been very receptive of the Collection Center since it opened in June of 2010. The District has hosted special venues at the facility including:

- The “CAB” trailer program available for loan to local businesses, and organizations that want to perform community cleanups, beautification projects or plant community gardens in Lorain County. The District has 4 trailers available spring through fall. Groups may borrow the CAB trailer for 72 hours or longer if necessary. The trailers are equipped with lawn mower, leaf blower, trimmer, rotor tiller, pressure washer, rakes, shovels, garbage bags and flower bed gardening tools. The trailers and all equipment are picked up, returned and stored at the collection center.

http://www.loraincounty.us/commissioners-departments/solid-waste-management/cab

- The District also hosts special collections for agricultural tires. Areas targeted are in the rural townships. Participants are required to pre-register their tires for the event and receive scheduled times to arrive for drop off. The tires are collected and placed on trailers at the Collection Center.
The District has held one-day sensitive document shredding events for Lorain County residents in recent years in conjunction with a non-perishable food drive benefiting Second Harvest Food Bank. These events were held prior to the District obtaining a mobile document shredding truck of its own in 2016. Now, residents can drop off their sensitive documents for shredding on the three days per week the collection center is open for business.
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The District has partnered with our local Church of the Open Door to use our facility as a staging area for production and distribution of “garden soxx”. This program takes compost and packs it into a 2 foot long casing. This is distributed to underserved residents in our county along with vegetable starter plants, watering cans and recipe booklets. The program educates recipients on how to grow and cook with fresh fruits and vegetables for a healthier lifestyle.