



Year End Report

Fiscal Year 2016





Ada County Solid Waste Management

2015 Year End Report

200 West Front Street

Boise Idaho 83702

208-577-4725

Adacountylandfill.com



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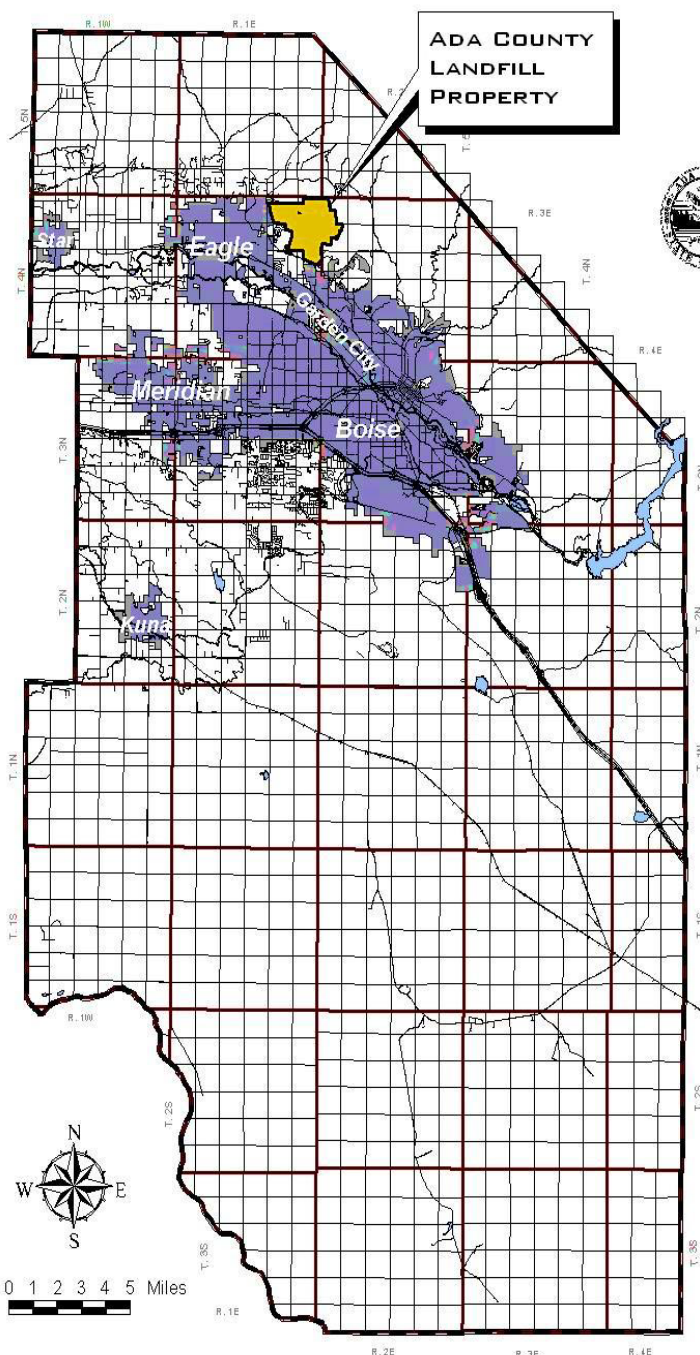
Solid Waste Management

Scott Williams, Director of Ada County Operations
Ted Hutchinson, Deputy Director of Solid Waste
Kenneth Wall, Hazardous Materials Coordinator
Kurt Hunt, Landfill Operations Coordinator
Theresa Rademacher, Administrative Specialist
Justin McConnell, Environmental Systems Coordinator
Mary Pera, Account Clerk
Micah Munion, Environmental Systems Technician
David Dyer, Landfill Technician
William "Billy" Martin, Landfill Technician
Cody Mendenhall, Landfill Technician
Barbara Burkhardt, Cashier
Kathy Hollandsworth, Cashier
Marna Hoiland, Cashier
Cearah Munion, Cashier
Jay Camp, Cashier
Douglas Cox, Construction Manager



Solid Waste Management seeks to pro-actively manage County waste disposal facilities, enforce applicable codes, and provide reasonably priced and environmentally acceptable methods for solid and hazardous wastes reduction and disposal for County residents and businesses. Services provided by the Division include:

Division Mission



- Maintenance of a sanitary landfill for acceptance of wastes generated by County residents,
- Operation of a permanent year-round facility for disposal of household and small business hazardous wastes,
- Contractual oversight of the franchised trash collection in unincorporated Ada County ensuring compliance with trash pick-up, recycling and rates,
- On-site recycling programs for wood, tires, automotive batteries, refrigerators and air conditioners,
- Educational resource for local schools and service groups.

Executive Summary

Landfill Economics

Ada County is required, under State of Idaho laws and regulations, to maintain a municipal solid waste disposal system. To meet these obligations, Ada County established the Solid Waste Enterprise Fund for development and operation of the disposal system. Charged with the responsibilities of complying with federal, state and local laws, rules and regulations, the County's Solid Waste Division oversees operation and management of the County's:

- Landfill Cells – Hidden Hollow and North Ravine;
- Household Hazardous Waste collection and disposal;
- Electronic, Wood, and organics recycling;
- Solid waste collection contract; and
- 2,700-acre multi-use Ada County Landfill Complex.

As an enterprise fund, Solid Waste does not receive any support from tax-dollars for the activities of the division. Responsibilities are met through collection of user fees assessed at the landfill gate. Those fees support all daily operations, payroll expense, long-term obligations (i.e., landfill closure and post-closure care), capital improvements, special waste collections, and diversion and recycling programs (i.e., household hazardous waste management, electronic recycling, and organics recycling).

Across the board, waste disposal volumes were fairly consistent over the last three years. Though the amount of waste has diminished, comparatively from historical levels, the amount of waste is remaining steady and for fiscal year 2016 there was a slight increase to the amount of waste that the division brought in. Division revenues are generated mostly through waste volumes and expenditures have been adjusted to compensate for the lower, yet steady, volumes.

Some of the expenditures that the Landfill has incurred during Fiscal Year 2016 are:

- The purchase of a new Ford F150 pickup truck to expand the landfill's fleet.
- Expanded the gas field to allow for more gas from of Hidden Hollow to be extracted.
- Remodeling the employee break area to accommodate larger staff and storage needs.
- Purchase of three 5 Ton dump trucks to be used in various projects around the landfill, primarily for the expansion of the gas field.
- Purchase of a utility trailer for use in the field to accommodate power, fuel and safety needs.
- Purchase of a portable water pump for use in the leachate ponds.
- Purchase of two 900 gallon storage tanks to be used onsite for fuel and water.
- Replaced analog cameras in the Scalehouse area with more efficient cameras and monitors.
- Replaced computers in Scalehouse
- Purchase of an Excavator to assist with field work.
- Purchase of a new Landtec Gem for the Environmental division to gain accurate field readings in the gas field.
- Purchase of a 96" grader to better maintain and build roads within the landfill.
- Changed the media in the new H2S scrubbers purchased in 2015.

What We Do

The Division

Solid Waste, as a division of the Ada County Operations Department, functions under Ada County's government. As such, the Operations Director reports to the Board of Ada County Commissioners. All daily operational decisions are under the discretion of the Director. Long-term plans for the landfill are discussed with and approved by the Board of Ada County Commissioners.

Although the Division has the large responsibility of ensuring proper disposal of Ada County's municipal solid waste, it does so with a staff of 16 – five of whom are part-time workers.

To accomplish its responsibilities, goals and mission, the division consists of three functions identified by their primary objectives. The three divisions are Solid Waste, Hazardous Waste, and Environmental. Although the functions define the division of labor, the three functions are closely allied and coordinated to achieve the common objectives of environmentally and fiscally sound management of Ada County's municipal solid waste management system.

Solid Waste

The oversight of the daily operations and landfill activities fall under the *Solid Waste* division. This function works directly with the onsite contractors in the daily receipt, placement and cover of the waste into the landfill or through the wood-waste recycling area.

Environmental

The *Environmental* division oversees operation and maintenance of the landfill-gas extraction system, leachate collection and control systems, and other environmental facilities located at the Landfill. This function is also responsible for creating reports regarding systems function and operations.

Hazardous Waste

The *Hazardous Waste* division oversees operation and maintenance of the County's hazardous materials collection program. This function works with the municipalities in the County to provide a seamless program for proper disposal of household hazardous wastes.

The Staff

These functions within the division would fall apart were it not for the dedicated staff of the landfill. The landfill functions with 16 employees, five of whom work part time.

The Deputy Director oversees the overall daily activities at the landfill. Providing short and long range analysis, plan developments for all functions and activities, conducts analysis of annual waste streams, recommends the development of new programs that result in diversion and/or reduction of the waste stream, and conducts studies of special areas of emphasis.

The Administrative Specialist is primarily responsible for ensuring the administrative office run smoothly. Additionally this position fills in on an as-needed basis for the account clerk and cashiers. This position also collects and maintains data for different programs and functions of the landfill in order to provide accurate reports on the different programs operating within the division.

An Account Clerk performs the full range of record-keeping work in the detailed maintenance of the financial status of Solid Waste Management Division, maintains accurate details of daily receipts and transactions, and monitors charge account activities of approved customers, and focuses on secretarial duties for the Division.

The Environmental Systems Coordinator oversees operation and maintenance of the landfill-gas extraction system, leachate collection and control systems, irrigation system, and other facilities located at the Hidden Hollow Sanitary Landfill. This position is also responsible for creating reports regarding systems function and operation.

The Environmental Systems Technician assists the Environmental Systems Coordinator with the maintenance of the environmental systems at the landfill. The Environmental Systems Technician takes gas readings from wells to determine pressure and levels of gases produced by the landfill.

The Hazardous Materials Coordinator oversees operation and maintenance of the County's hazardous materials collection program. This position works with the municipalities in the County to provide a seamless program for proper disposal of household hazardous wastes.

The Landfill Operations Supervisor oversees the daily operation and landfill activities. This position works directly with the onsite contractors in the daily receipt, placement and cover of the waste into the landfill or through the wood-waste recycling area. The Landfill Operations Coordinator supervises technicians and identifies facility maintenance projects as needed.

The Landfill Operations Technicians work across the division by performing hazardous waste screening, assisting with environmental monitoring, participation in the recycling activities and in miscellaneous landfill maintenance and operational activities.

Cashiers greet customers, assess and collect fees from landfill customers, maintain custody and account for money received. The landfill employs five cashiers, each cashier works part time.

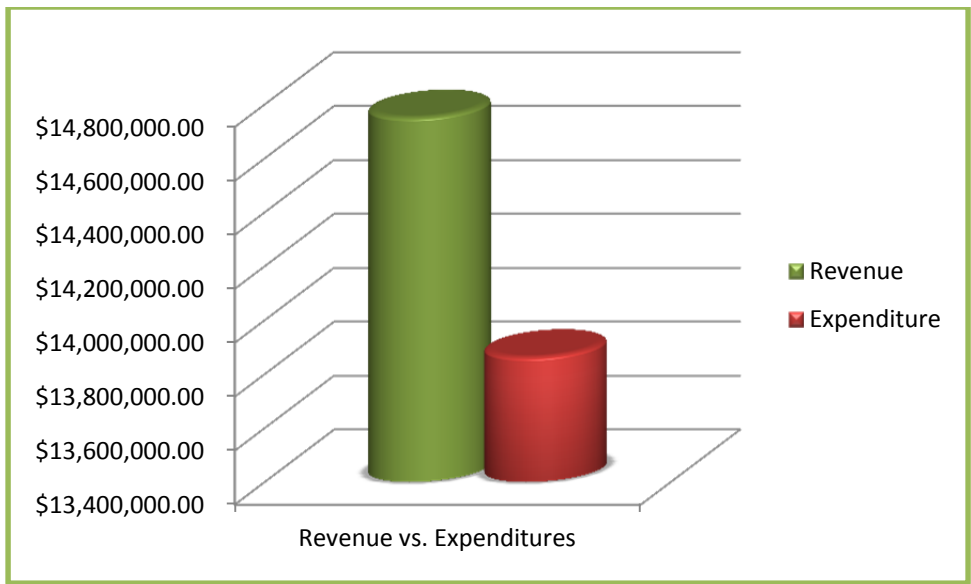
The Construction Manager, while not officially part of the landfill staff, oversees construction projects for Ada County Landfill. This position additionally oversees construction projects throughout the county for Ada County Operations.

Supplementing the County's staff are temporary employees from a contracted employment services company. These supplemental employees help with supervising Sheriff Inmate Labor Details in grounds maintenance, litter control, onsite routine grounds maintenance, administrative duties and cashier.

In Fiscal Year 2016 the landfill added a landfill technician position to the staff, bringing the total number of technicians to three. The addition of this position alleviated some of the burden of work and scheduling for the division.

Financial Health

The Financial Health examines expenditures and revenues, the impact of revenues on long-term planning, and scrutinizes the effects on landfill programs subsidized by landfill user fees. Because Solid Waste Management functions directly on the fees collected at the gate, the financial health of the division and current operational and future development of projects and plans, are dependent upon the volume of waste that is dropped at the landfill. Typically the landfill contributes to the enterprise fund, which supports all operations. For Fiscal Year 2016 this remained true. The expenses to operate the division totaled \$13,863,263.58, while the revenue reported for Fiscal Year 2016 was \$14,751,993.33; leaving an excess of \$888,729.755, all of which is placed in the enterprise fund for future obligations.

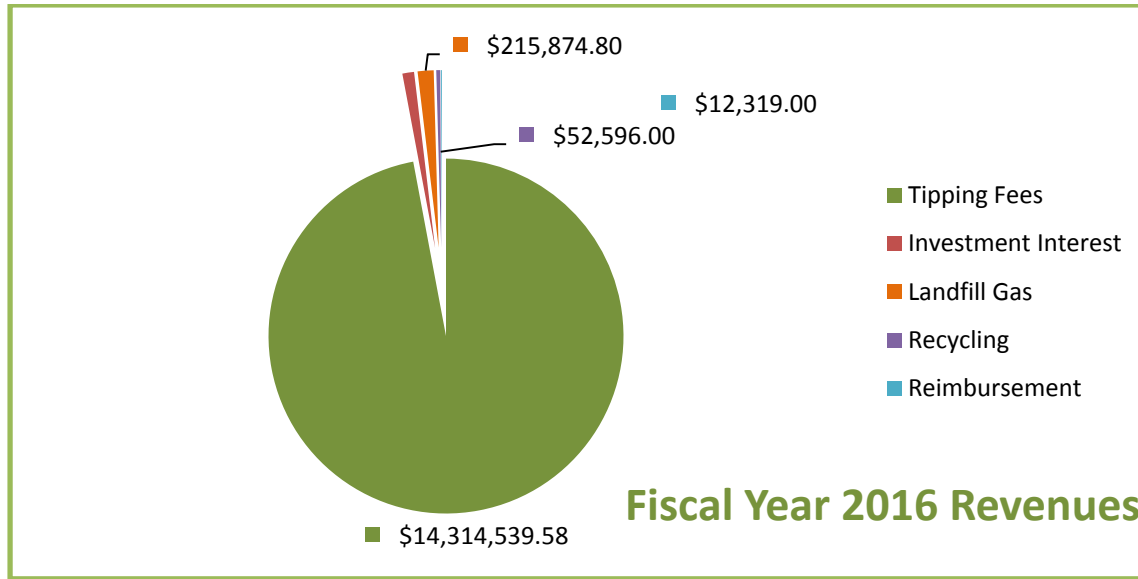


Revenue

Revenue, for the most part, is generated by the fees that are collected at the gate. Gate fees typically reflect the majority of the income for the landfill. Fiscal year 2016 is no exception; in fiscal year 2016 the gate fees were responsible for 97% of the total revenue for the landfill. These monies are accrued by the collection of municipal waste in the Cities of Boise, Meridian, Star, Garden City, and unincorporated Ada County. This total amount also reflects cash customers at the landfill gates and customers who have in-house charge accounts. The total amount of revenue from gate fees totaled \$14,314,539.58 for fiscal year 2016.

In addition to the fees collected at the gate, the remaining 3% of the revenue that is generated for the landfill include lease revenue, investment interests and the second largest revenue source, the sale of landfill gas for the production of electricity, and from the sale of recyclable materials. These revenue sources brought a total of \$280,756.80.

Total revenue for the landfill in fiscal year 2016 exceeded expectations, bringing in \$14,751,993.



Expenditures by Category

Solid Waste Management oversees a variety of projects to increase efficiency, and to promote environmentally friendly methods for disposing of municipal solid waste from Ada County. However, the majority of the expenditures that Solid Waste Management incurs are centered on daily landfill operations. There are six major categories of expenses for the landfill: Personnel Costs, Administrative Costs, Capital Costs, Hazardous Waste Costs, Environmental Control Costs and Capital Improvements. Over all the landfill spent \$13,863,263.58 for all of the expenses for operating and maintaining the landfill.

Operational Costs are the highest portion of spending at the landfill. Administrative costs include operational contracts for landfill operations, Hidden Hollow Closure, North Ravine Cell Expansion, various operational insurances, grounds maintenance, tire recycling, wood waste recycling and the daily operational costs associated with maintaining an office environment. In Fiscal Year 2016 the landfill spent \$9,756,810.51 in administrative costs.

Hazardous waste disposal is typically the second largest expense for the landfill. Stericycle is the County's hazardous waste contractor. As part of their contract they staff the Hazardous Waste Facility and the Mobile collection trucks, process all the waste received and monitor the free recycle for county residents. This contract represents 96% of the total amount spent for Hazardous Waste disposal. The Landfill paid Stericycle \$756,687.04 for the management and disposal of hazardous materials from Ada County citizens. The remainder of the money spent was to maintain the department with office supplies and trainings. The Hazardous Waste division spent a total of \$791,183.20 in Fiscal Year 2016.

Environmental Controls is traditionally third for the largest portion of landfill spending. However for Fiscal Year 2016 the Environmental Division spent more, primarily of capital expenses. Environmental Controls focus

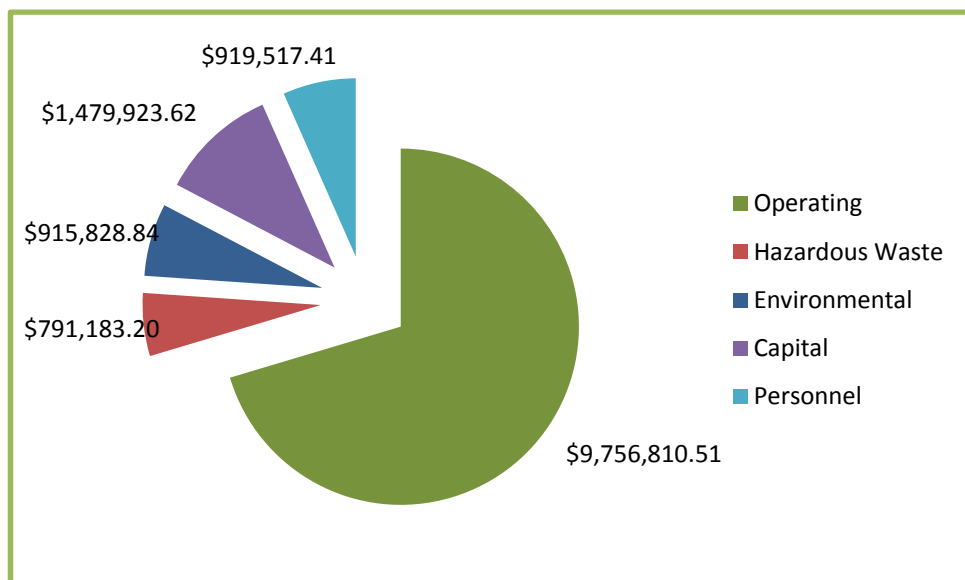
on landfill gas extraction systems and the immediate and long term environmental impact of the landfill. The two major portions of this budget are engineering services, provided by CH2MHill and gas collection. Part of the contractual obligations for CH2MHill is to report to the landfill regarding environmental issues and landfill capacity. Gas collection is provided by a system of pipes and wells that have been installed to extract landfill gas. The gas is, in turn, sold to a third party that uses the gas to generate electricity. Whatever gas is not sold is sent to the onsite flare system, where it is destroyed, with minimal emissions. The Landfill spent \$915,828.84 for Environmental Controls in fiscal year 2016. Part of that cost, \$15,565.65, was for Environmental Capital Costs; these capital costs were to install the elevated walkway on the H2S Scrubber tanks. To offset the cost of the Environmental program the landfill sells the gas that is collected the sale of which resulted in \$215,874.80.

Personnel costs are crucial to the functionality of the Landfill. The landfill operates with sixteen staff members, five of those are part time employees. Part of the personnel costs includes County provided benefits for employees. The landfill operates with the assistance of temporary employees contracted through a temporary employment agency, the cost of which is included in the Administrative Costs budget. For Landfill personnel the landfill spent \$919,517.41.

Capital Costs are physical, high cost, items purchased for the department, including vehicles, office furniture, computers and major equipment. During Fiscal Year 2016 there were several major purchases in Capital Costs. To name a few the landfill purchased a F150 pickup truck to increase the operational fleet, purchased an excavator, three 5-ton dump trucks and a road dozer, just to name a few. These pieces of machinery are essential to the functionality of daily operations for the landfill.

Capital Improvements segregated into two divisions, one is the Administrative Division and the other is the Environmental division. As discussed above, the Environmental Capital costs for Fiscal 2016 were focused on the installation of an elevated catwalk for the H2S Scrubbers, which the landfill installed in Fiscal Year 2014. For Administrative Capital Improvements the landfill spent \$1,007,180.63. These costs included a \$1,000,000 funding for the next phase of the North Ravine Cell, NRC III. The other Capital Improvement costs were for upgrading the antiquated analog surveillance equipment for the Scalehouse and for the remodel of the employee breakroom.

All of these Capital expenses cost the division \$1,479,923.62



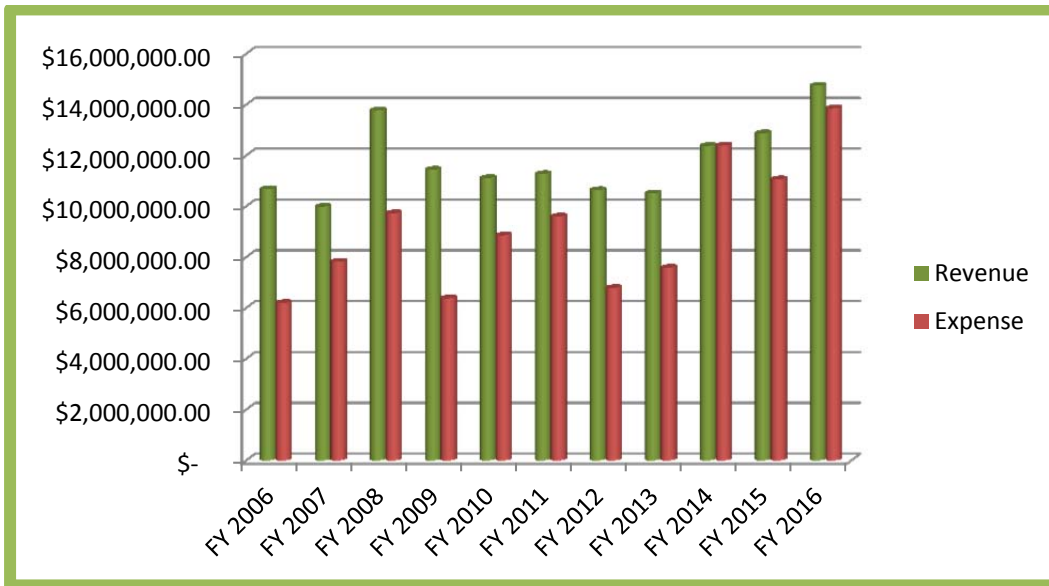
Enterprise fund

During Fiscal Year 2016, the landfill maintained the historical trend of spending less than was brought in; for this fiscal year the landfill was able to add \$888,729.75 to the enterprise fund. This reserve account is used for capital expenditures or special construction projects. This fund also holds funding for the long-term obligations for maintaining the landfill’s post closure care. This long term obligation requires Ada County to maintain and monitor the landfill for a minimum of thirty years after the final load has been left and the landfill cell closed.

When the landfill has major projects planned the funding must be available to cover all expenses. The enterprise fund facilitates that need. The projects are budgeted when the division presents the budget to the board. These projects, when budgeted, increase the spending for the landfill for the year; this gives the impression that the landfill is operating outside of their capacity. However, the funding for these projects are taken from the Enterprise Fund and the division is never without funds, allowing the division to operate completely independently of tax payer monies.

On average for the reflected years the landfill put over \$2 million into the enterprise reserve fund each year.

The largest expense facing the division, with the exception of closing the Hidden Hollow Cell, is construction of the new North Ravine Cell (NRC) for future disposal. In September 2013, all waste was directed to the first stage of the North Ravine Cell, to allow settlement to occur in the Hidden Hollow Cell. During the period set aside for Hidden Hollow settlement, the division expanded the landfill gas extraction system. For fiscal year 2016 both landfill cells were used, facilitating the final stage of the Hidden Hollow Cell. In Fiscal year 2017 Hidden Hollow will be filled to capacity and all waste will be sent to the North Ravine Cell.



Major Projects

During Fiscal Year 2016, some of the major projects undertaken by the landfill were:

- Media Change out of the Hydrogen Sulfide Scrubber.
- Well drilling and line hookup in the gas field.
- Storm water pond maintenance.
- Communications Tower

Scrubber Media Change Out

The gas extraction system at the landfill was expanded to include a hydrogen sulfide extraction system, or an H₂S Scrubber. These scrubbers function with the use of iron sulfite media, which needs to be switched out periodically. During Fiscal Year 2016 the staff at the landfill changed the media out. This project became more expensive than anticipated as during the process of changing out the media one of the tank lids was damaged and needed to be replaced. The total cost for the media change out for Fiscal Year 2016 was \$227,834.50.



Well Drilling and Hook-up

During Fiscal Year 2016 ten new perimeter wells were added to the existing gas field in the Hidden Hollow Cell. These wells were drilled along the north and east side of the cell to alleviate the landfill gas seepage the division was experiencing in the buildings at the top of the hill, namely the Scalehouse and public restrooms. The payments for this project breached both fiscal year 2016, a payment of \$78,807, and fiscal year 2017, that final payment was for \$130,128; the total cost for this project totaled \$208,935.

Storm Water Pond Maintenance

The landfill has several storm water ponds on the property which required some maintenance. The landfill staff spent several weeks taking vegetation down to a manageable level and cleaning up the ponds. This project did not require any further funding from the division, it was designated as an operations project and was completed in house.

Communications Tower

In Fiscal Year 2016 the landfill undertook a project to install a new communications tower. This tower facilitates communications between county facilities, primarily those in the west end of the county to the main courthouse building in downtown Boise. This project, performed by Idaho Tower Construction Company cost the division \$127,563.15, though this payment was paid during fiscal year 2017.

The Landfill's Longevity

On the 2,700 acre property of the Ada County Landfill there are two active landfill cells: the Hidden Hollow Cell and the North Ravine Cell. The Hidden Hollow Cell has been in operation since 1972 and is in the final stages prior to full closure. For the duration of Fiscal Year 2015 the Hidden Hollow Cell rested; there was no waste put into the cell at all. This allowed the cell to settle, creating more space. In Fiscal Year 2016 the division operated both cells, allowing waste to be sent to the Hidden Hollow Cell once again. By allowing the cell to rest approximately 63,000 cubic yards of space was gained. During Fiscal Year 2016 there was approximately 462,200 compacted cubic yards placed in the Hidden Hollow Cell.

In addition to utilizing the Hidden Hollow Cell the division also employed The North Ravine Cell, the newer of the two cells. This cell, while being developed in stages, is operating the first two stages. In these two stages the landfill accepted 272,300 compacted cubic yards for disposal for Fiscal Year 2016. The volume that is reported for the North Ravine Cell for Fiscal Year 2016 includes over 70,000 cubic yards of contaminated waste soil from at City of Boise park project. While the landfill did not anticipate the addition of these loads, the waste that was accepted as standard practice did not overly exceed expectation.

Between the two cells the landfill accepted 734,500 cubic yards of waste after compaction.

Disposed Materials by Category

The Solid Waste Management tracks several types of waste: since this is how customers are charged these are the most common forms of waste accepted at the Ada County Landfill:

- **Compacted** waste is brought mostly by commercial carriers. This waste has been compacted in a vehicle and takes up less space when it initially arrives at the landfill. During fiscal year 2016 the landfill accepted 782,803.82 cubic yards of compacted material, this equates to 304,699.30 tons of compacted material. For Fiscal Year 2016 compacted material resulted in \$8,591,346.14 of revenue for the landfill.
- **Construction and Demolition** waste is the refuse that comes from constructing or demolishing a building or yard. This waste is delivered frequently by private builders and contractors. This waste also includes asbestos disposal which also includes certification of disposal and certification of burial. The landfill saw an increase of volume in this material from the previous year and in fiscal year 2016 accepted 211,471.02 cubic yards of construction and demolition debris; however, despite the increase in volume the weight decreased to 63,198.04 tons. The revenue accumulated by Construction and demolition debris increased as a reflection of the increased volume and resulted in \$2,439,326.66.
- **Non-Compacted** Waste is brought by average citizens of Ada County. These can be property owners, renters or anyone who has anything that needs to be disposed of. Non-Compacted waste includes several different categories of waste, however in fiscal year 2016 the landfill accepted 254,154.96 cubic yards of non-compacted waste totaling 53,200.92 tons and \$1,835,867.55.
- **Wood recycling** is a popular program at the landfill. This includes all branches from trees, clean lumber, and Christmas trees, which are accepted for free for a limited time after the holidays. This program also includes leaves that are accepted, free of charge during the fall. The program accepted 66,395.29 cubic yards, 12,901.03 tons in fiscal year 2016, for an income of \$331,841.42.
- **Household Hazardous Waste** is classified as anything with the potential to be dangerous to humans, environment or wildlife. In this category are included refrigerators, television sets with Cathode Ray Tubes (CRT), cleaners, oils, pesticides and herbicides. For the residents of Ada County disposing of all of these products free of charge, with the exception of refrigeration units, including air conditioners, freezers and refrigerators. Small quantity generator small businesses use this service as well, for a nominal fee. Typically these materials are taken to the Household Hazardous Waste Facility, however, at times when residents have only a small amount they are allowed to leave it at the recycling area for future processing. In fiscal year 2016 the Scalehouse accepted 15,160 pounds of hazardous waste.
- **Tire Recycling** is a program that the landfill employs to keep tires out of the landfill. Ada County has contracted with a local company to take the tires away and to apply them for different purposes. In fiscal year 2016 the landfill accepted approximately 473 tires.

Fees, Discounts, Waivers and Donations

As Solid Waste Management operates as an Enterprise Fund, the operations and finances are covered from the fees that are collected at the gate. The fees that are charged are determined by the Board of Ada County Commissioners and are applied to all customers equally; there are a few exceptions that are approved by the Board of Ada County Commissioners. Those exemptions for fees fall under categories.

Charitable Organizations

Many charitable organizations become inundated with items impossible for them to sell or to use, leaving the organization crippled with garbage. Because of the services they provide to the community, the Board of Ada County Commissioners has authorized a discounted rate for the waste they bring to the landfill. Without this discount, many of the organizations would be unable to continue to offer the community many of their important services.

Community Service Groups

Often, Community service Groups undertake projects to assist elderly or less fortunate individuals in maintenance of their homes and property. Typically a one-time project, there is often a considerable amount of trash collected by the groups. An organization may request from the Board a one-time fee waiver. An example of this fee waiver is the Paint the Town Organization's annual program.

Clean Up Projects

Different Community groups benefit the community by gathering litter and illegally discarded items in public areas. Oftentimes, the waste hauling companies in the communities donate their services to haul the collected trash. When these projects are undertaken, the County typically donates the disposal fees as authorized by the Commissioners.

Miscellaneous

The one fee that is discounted for any customer, who utilizes the landfill services, is the rate for disposal of recyclable wood. Customers who separate their scrap wood and tree limbs from the rest of their load receive a discount on their disposal fees.

For specified periods each year, the landfill accepts, at no charge, leaves and Christmas trees. When the Landfill has the need, these items are processed into compost at the landfill for re-vegetation projects and erosion-control projects.

As a standard practice the landfill accepts electronic waste (E-Waste) free of charge.

Typical Fees

Starting off fiscal year 2015 was a new rate structure for the residential customers of the landfill. While commercial customers are still charged by the cubic yard, residential customers are now charged by the weight. The standard charge for residential customers is \$33 per ton for general waste, construction and demolition debris and for wood waste the charge is \$22 per ton. There is an \$11 minimum for all loads that minimum will cover up to 680 and 1,000 pounds, respectively.

As previously discussed the fees collected at the gate account for 97% of the income for the landfill. These fees are collected from every load that is brought to the landfill which generates a fee. The only standard loads that would not generate a fee through the gate are loads of E-Waste. Additionally leaves and Christmas trees are taken, for limited periods, free of charge. The fee collected at the Scalehouse generated \$14,751,993.33 in revenue for fiscal year 2016.

The largest waste type that the landfill accepts is *Compacted Waste*. This waste is billed at \$11 per cubic yard. This is typically waste brought in by a contracted waste hauler. For Fiscal Year 2016 the landfill collected \$8,591,346.14 for this waste.

Construction and Demolition Waste any waste that is generated, typically, as a result of constructing or demolishing a building or structure. This waste is billed at \$11 per cubic yard for commercial customers and \$33 per ton for residential customers. Construction and Demolition debris brought in \$2,439,326.66 of revenue in Fiscal Year 2016.

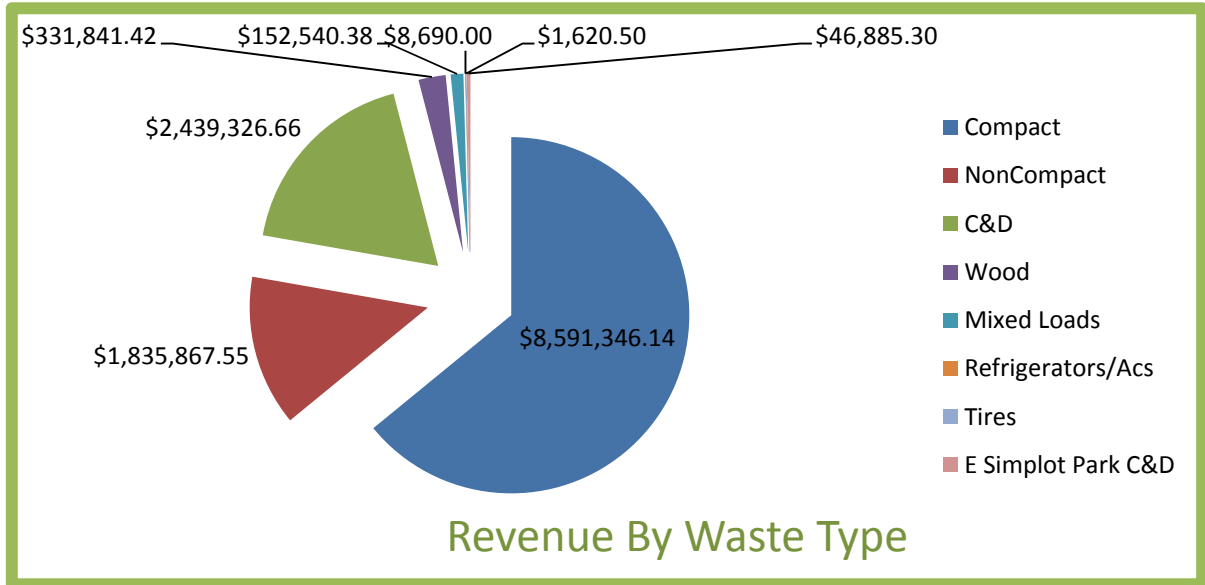
Non-Compacted Waste is typically brought to the landfill by residents and small businesses. As this is “typical household waste” or waste that has simply been brought without being compacted, there is a broad definition of what this waste can include. This waste is billed at \$5.50 per cubic yard for commercial customers and for residential customers the fee is \$33 per ton; however it also has an \$11 minimum for each load; that minimum will cover up to 680 pounds for each residential load. In Fiscal Year 2016 non-compacted waste generated \$1,835,867.55 of revenue.

Wood Recycling reflects the largest recycling program at the landfill. The wood is ground into mulch and is repurposed by the contractor. This material is billed at \$2.75 per cubic yard for commercial customer and \$22 per ton for residential customers; again there is an \$11 minimum for every load that the landfill accepts, for residential customers that minimum will cover up to 1,000 pounds. In Fiscal Year 2016 the landfill accepted \$331,841.42 for wood waste.

Hazardous Waste disposal is free for Ada County Residents, however occasionally there are some fees that are charged with the disposal of Hazardous Waste. These fees can include testing fees, or qualifying small businesses are charged to dispose of their hazardous waste. These fees are charged by the hazardous waste contractor, as they are the disposing party, and there is not any revenue for the landfill.

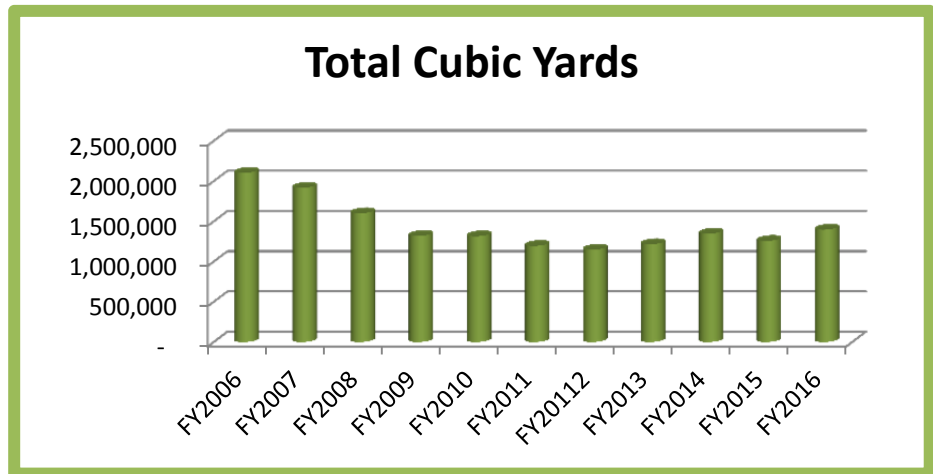
However, there are some materials that the landfill accepts which are deemed “hazardous”; refrigeration units, including refrigerators, freezers and air conditioning units fall under this category. For Fiscal Year 2016 the landfill accepted 1,255 refrigeration units for an income of \$27,610.

During Fiscal Year 2016 the City of Boise undertook a major project in the construction of the Ester Simplot Park, located on Whitewater Park Boulevard. This project increased volumes and income for the landfill which are not typically seen. This project alone was responsible for 199,171.54 tons, or 35,900.30 Yards of waste, for this project the landfill charged \$46,855.30 to the City of Boise.



How much waste do we take?

In fiscal year 2016 the Ada County Landfill accepted 1,396,721 yards of waste, including wood waste.



Until the beginning of 2012 the weight of the waste that was brought to the landfill was only estimated, until the installation of truck scales provided the ability to weigh waste that is bough the Ada County Landfill. In Fiscal year 2016, the landfill accepted 664,130.33 tons of waste, including wood waste. On average the Landfill accepted 45,159.19 tons of waste per month; this includes all types of waste coming into the landfill.



Hazardous Waste

Hazardous Materials Management

Since 1988, Ada County has proactively worked to keep household hazardous waste from entering the landfill. The initiative started with a one-day annual collection event. However, after some time the need for a facility to collect hazardous material throughout the year became a necessity. In 1998, the County opened the Household Hazardous Material Collection Facility. The facility is operated by an outside contractor experienced in hazardous waste management. Ada County currently contracts with Stericycle for hazardous material management and disposal. Stericycle operates the facility according to an operations plan and contract documents. For fiscal year 2016, the County paid Stericycle \$756,687.04 for this service. Over the course of the year the Household Hazardous Waste Facility serviced 7,729 households at the facility.

Built in 1998, Ada County's Household Hazardous Waste Facility currently accepts hazardous waste on Friday and Saturday, every week from both residents and small quantity business generators.

Collection of Hazardous Materials

Household Hazardous Waste Facility

The Household Hazardous Waste Facility, located at the Ada County Landfill, accepts hazardous waste from county residents. Stericycle is contracted to accept the materials from residents free of charge. Materials that are accepted include but are not limited to, paints, pesticides, fertilizers, cleansers, solvents and automotive products. Residents are welcome to bring their hazardous waste to the facility on Fridays and Saturdays. Additionally, conditionally exempt small quantity professional generators may use the facility for a nominal fee; these generators must produce less than 220 pounds of hazardous waste, or 2.2 pounds of acutely hazardous material. These conditionally exempt producers are served at the Household Hazardous Waste Facility by appointment only. During the hours of operation customers can leave hazardous waste at the facility. During fiscal year 2016 the facility collected 915,611 pounds of hazardous waste.

Mobile Collection of Hazardous Waste

Mobile Collection

Stericycle contracts with the cities of Ada County to offer mobile collection throughout the month. As an active partner in the proper disposal of hazardous material Ada County Solid Waste Management incurs the cost of properly disposing of the hazardous materials collected during these events, while the City of Boise incurs the expense of operating the mobile collection program. The City of Boise has eleven (11) sites for this mobile collection; each site is open one day per month. The city of Meridian contracts for each Monday of the month, with the exception of holidays. The city of Eagle contracts for quarterly collection and the city of Kuna contracts with their trash collector to provide quarterly collection as well. Through a collaborative effort with the City of Boise Mobile Collection Sites are available to Ada County Residents. The collection sites are on a rotating schedule, and visible on the City of Boise's website, curbit.cityofboise.com, and the Landfill's website, adacountylandfill.com for customers who wish to utilize the services.



The mobile collection program served 19,357 households in Ada County. During fiscal year 2016, the mobile collection sites collected over 717,000 pounds of hazardous waste.

The success of the hazardous materials collection program is directly attributable to the partners who have committed to the health and safety of our environment through meticulous planning and execution of the programs. Ada County sincerely wishes to thank the public and private agencies for their efforts and resources that have helped Ada County reduce the environmental threat to our community, namely:

- City of Boise
- City of Meridian
- City of Eagle
- Ada County Highway District
- Idaho Department of Environmental Quality
- Central District Health Department
- Republic Waste Services of Idaho
- City of Kuna

All hazardous waste that is generated in Ada County Households and qualifying small quantity business generators is processed through the Household Hazardous Waste Facility at the Ada County Landfill, regardless of how it was disposed of.

City of Boise

The City of Boise has been a long-time partner and supporter of the hazardous material collection program in Ada County. With the opening of Ada County's permanent facility, Boise City recognized an opportunity to provide a convenient service to its residents. Boise City purchased a van and equipped it for use as a mobile collection vehicle. Each week, the mobile collection van visits eleven (11) sites around the City. 9,220 households took advantage of the collection sites in fiscal year 2016, disposing of a total of 433,041 pounds of hazardous waste.

City of Meridian

Each Monday, residents in the Meridian area can take their household hazardous materials to the Meridian collection site. Through a cooperative agreement with the City of Boise, the City of Meridian is able to use the Boise's collection van for the weekly event. 5,840 households took advantage of the Meridian collection site during Fiscal Year 2016; as a community Meridian disposed of 229,654 pounds of hazardous material in Fiscal Year 2016.

City of Kuna

Another unique program happens within the City of Kuna. Each spring the City of Kuna promotes a weeklong community clean up. J&M Sanitation, the City's trash collection contractor, is a major contributor to the event by paying the hazardous waste firm to manage the household hazardous material collected during the last day of the event. The City of Kuna and J&M Sanitation also sponsor a quarterly household hazardous material collection. This fiscal year, 772 households participated in the household hazardous material collection events. The residents of Kuna disposed of 33,403 pounds of hazardous waste in Fiscal Year 2016.

City of Eagle

Quarterly, the City of Eagle sponsors collection locations for household hazardous waste. 525 residents in the Eagle area dropped off material during these collections. For Fiscal Year 2016 the residents of Eagle disposed of 19,848 pounds of hazardous materials.

Collected Materials

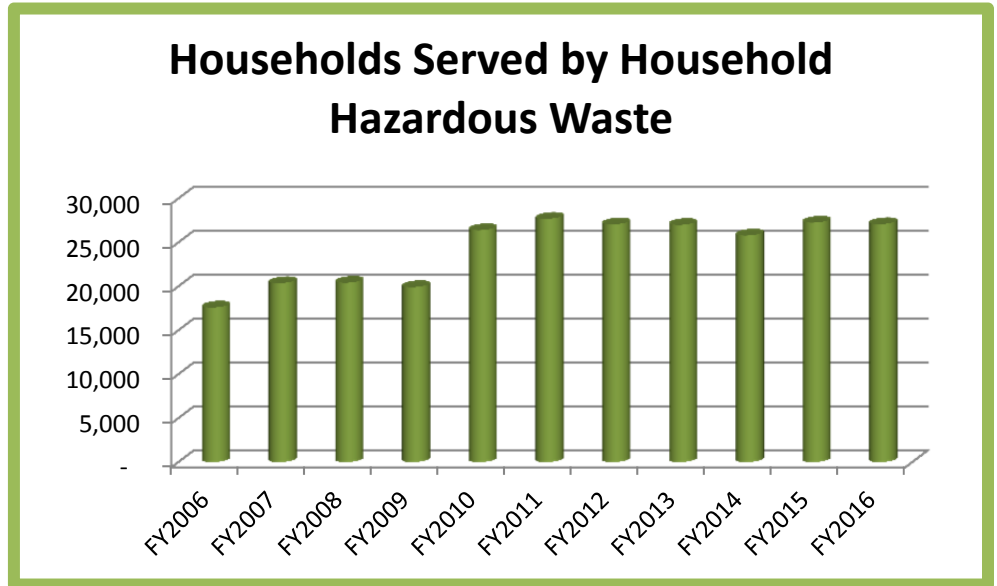
Hazardous material collected in the countywide program is taken to the County's Household Hazardous Waste Facility for processing and shipment to disposal facilities. Ada County's hazardous material contractor, Stericycle categorized and processed 1,632,770 pounds of material; of that 1,573,073 pounds were recycled by the community through the reuse program, 97% of the hazardous waste disposed of in the community. Much of the materials that are collected are partially used materials. Instead of disposing and destroying the materials they are placed in the Household Hazardous Waste Facility for County residents to take, free of charge, for their personal use.

Due in large part to Ada County's priority for waste management, Stericycle strives to recycle/reuse as much of the collected material as possible. This past fiscal year saw 1,573,073 pounds (97%) recycled/reused, with 59,697 pounds (3%) destroyed at an off-site incinerator.

Stericycle segregates the materials into categories:

- Reuse Program
- Automotive Batteries
- Oil-based Paint
- Flammable Liquids
- Latex Paint
- Motor Oil
- Antifreeze
- Pesticides
- Other

For the past decade the number of Ada County Residents that have utilized the Household Hazardous Waste Facility and Collection sites has increased. In Fiscal Year 2016, 27,086 households utilized the program. The following chart presents the trend in the number of households that have taken advantage of the Household Hazardous Waste program at the Landfill.



E-Waste

At the beginning of fiscal year 2014 the landfill adopted the responsibility of disposing of electronic waste (E-Waste). The disposal of such units was, historically, the responsibility of the Hazardous Waste Contractor. After a proposal from ECS Refining, and the approval of the Board of Ada County Commissioners, the landfill chose to change the program.

With these changes the landfill was able to accomplish three major goals. First the landfill was able to reduce the amount that was being spent on the disposal of televisions and computer monitors. Secondly the landfill was able to expand the number of different types of E-Waste from two to over 50 different items.

In Fiscal Year 2016 Ada County shipped 31,895 CRT Units, 1,594,763 pounds, and 521,267 pounds of mixed E-waste to a recycling facility. The County processed 111 shipments, totaling 1,906,922 pounds of E-Waste.

Reducing the expense

In fiscal year 2013 the landfill spent \$404,182.62 on the disposal of CRT units alone. This rate was based on an 18 cent per pound rate charged by the Hazardous Waste Contractor. During fiscal year 2014 the rate for the same service was being increased to 19 cents per pound. With the new E-Waste program and avoiding using the contractor the landfill was able to dispose of all E-Waste, not just CRT units for, on average, six cents per pound. For fiscal year 2016 the trend continued to show for the program the proposed rate from Stericycle was 19 cents per pound. For the Fiscal Year the landfill spent, \$116,238 for the shipment of E-Waste; reflecting, on average 6 cents per pound. With the average savings of 14 cents per pound the landfill saw an estimated avoided cost of \$362,315.18. The landfill shipped out 1,906,922 pounds of E-waste.

Increasing the opportunity

By increasing the number of different options for E-Waste recycling the landfill has diverted 521,267 pounds of additional waste from the landfill and minimally increasing the revenue for the landfill. After the initiation of the E-Waste program the landfill increased the number of acceptable items for E-Waste recycling from only CRT televisions and computer monitors to over 50 different items. These items include radios, servers, computers, telephones, non-hazardous medical equipment, printers and many more.

Customers can still drop off televisions and computer monitors at hazardous waste collection sites if they are smaller than 27 inches. The landfill will accept any size television during all hours of operation.

Increasing the longevity of the landfill

By taking electronic waste for free and recycling it the division is proactively removing them from the waste stream. This reduces the amount of waste that is sent to the landfill, allowing that space to be taken by something else.

Environmental Compliance

The Environmental Division oversees the specialized systems for landfill gas, groundwater remediation, leachate management, and other mechanical/electrical systems around the landfill. Two full-time employees are responsible for these various systems to ensure compliance with regulations and operating requirements.

Landfill Gas Management

From Nuisance to Resource

Landfill gas is the natural by-product of the decomposition of organic materials in landfills. It is only created when oxygen is depleted within the environment, or an anaerobic state. Primarily the composition includes two (2) colorless and odorless gases: carbon dioxide (CO_2) and methane (CH_4). Methane is also known as natural gas. Though together they formulate landfill gas, individually their characteristics are quite different.

Carbon dioxide is lighter than air and has many uses including use as a fire extinguisher. Methane is heavier than air and it has many uses including use as a fuel. In landfill gas, these two gases are created in nearly equal amounts. There are very small amounts of “trace gases” including sulfides that, unlike carbon dioxide and methane, are not odorless and is primarily responsible for the odor that landfill gasses produce, ultimately causing a nuisance for landfills.

Having half the BTU value of natural gas, the odors of the trace gases, and their tendency toward corrosiveness, landfill gas does not have many uses. Typically, landfills manage landfill gas by funneling it into an enclosed utility flare for destruction: Ada County embarked into this practice in 2001.

Nuisance to Useful

In 2005, the Board of Ada County Commissioners entered into an agreement for the utilization of the County’s landfill gas. The gas is used as fuel in an electricity co-generation facility. Presently, Ada County captures enough landfill gas for its contractor to generate roughly 3.2 mega-watts of electricity. Fortistar Energy, the Contractor for the landfill gas uses the gas produced at the County’s landfill: ultimately paying Ada County \$215,874.80 for the gas to produce enough energy to power approximately 2,400 homes.



Some Issues We Faced

Landfill Gas

During Fiscal Year 2015 the Hidden Hollow Cell was capped to allow for settling. The unexpected result of the capping was the migration of landfill gas. With the capping of the cell the landfill gas needed to find another route to leave the landfill. This migration of gas found its way into two of the landfill's buildings. First the landfill's Scalehouse, causing a minor environmental issue for the staff. Secondly, in the public restroom; as the men's room is used frequently the gas was able to vent out of the room, however the ladies' room is not used as frequently, therefore leaving the gas to sit in the room and build. There was an issue with a gentleman entering the ladies' room and lighting a cigarette. As landfill gas is flammable this caused the gas to ignite, damaging the building and causing injury to the customer. The landfill gas venting was corrected with the well drilling that took place during fiscal year 2016.

Fortistar Lawsuit

Fortistar Methane Group, the contractor who operates the electrical generators powered sought a lawsuit against the county regarding the quantity of landfill gas the entity received for use in their onsite generators for power. This lawsuit, sought extensive damages. This lawsuit was filed in calendar year 2013 and through mediation eventually resulted in a settlement; in this settlement the division agreed on \$2.2 Million.

Working Together

Public-Private Partnership

From the landfill's opening in the spring of 1972, Ada County has evaluated which services it could most economically perform in-house and which services it would be most cost effective to contract with privately-owned companies. This evaluation is reviewed regularly to ensure that revenues are being spent in the most cost-effective manner.

When it is determined to contract for services with privately-owned companies, Ada County is able to ensure the most cost-effective service delivery for the County through competitive bids. Before issuing any contract for services, the County issues a Request for Qualifications or a Request for Proposal. The request specifies the criteria for qualifications and the specifics of the work to be performed under the terms of the contract.

Through carefully written contracts, Ada County provides an effective, low-cost solid waste disposal system to the residents, businesses and institutions in the county.

The Contracts

Landfill Operations

Typically, Solid Waste Management's largest contract is for daily operations. This includes waste compaction, daily waste cover, intermediate cover, road construction and maintenance, as well as other incidental work keeping the landfill open and operating.

Republic Services, Inc. operates under this contract, and as required by the contract between Ada County and Republic Services, Inc. this contractor supplies all the equipment and personnel necessary to complete the work specified in the contract.

Since 2007, the County has been operating in both the North Ravine Cell and in Hidden Hollow Cell. While this operation of two cells can increase the daily operating expenses, it is necessary as the Hidden Hollow Cell reaches its volume capacity.

Additionally, the contract with Republic Services was amended in fiscal year 2014 to include transporting full roll off boxes of E-Waste to the hangar, and returning an empty one. This service, while instrumental to the success of the E-Waste program, cost \$4,612.14.

For the services provided to Ada County through their contracts, including the transportation of E-Waste, Republic Services, Inc. was paid \$3,863,230.98.

Engineering

CH2M HILL, Inc. is the Division's engineering consultant. They provide a full-range of engineering services that includes annual operations, surveying, rate-of-fill calculations, landfill gas system design, and support services. CH2M Hill operates under two different contracts, one for the operations of the landfill and another for the environmental impact of the landfill. The operations contract resulted in \$349,309.30 to CH2M Hill, Inc. For their services regarding the environmental contract CH2M Hill, Inc. received \$268,459.86. In fiscal year 2016, the County paid CH2M HILL an accumulative \$617,769.16 for their services for both the operations, and the environmental division.

Organics Recycling

Wood-waste recycling is a very popular and highly successful program at the landfill. Since 1994, landfill customers have been encouraged to separate their wood waste from their other waste for recycling. From its modest beginnings with 10,000 cubic yards of wood recycled the first year, the program has grown. Nearly 70,000 cubic yards of wood were recycled in fiscal year 2016, including the seasonal free Christmas tree disposal. **M.M. Demolition** is the contractor for wood and organics recycling. The County pays this firm for material that is chipped and



hauled away from the landfill; M.M Demolition is paid per cubic yard and they received for wood recycling for fiscal year 2016 was \$189,615.94.

Along with wood recycling, Ada County provides programs to encourage leaf and Christmas tree recycling. In the fall, residents can bring their leaves to the landfill at no charge during a six-week period. In addition, following Christmas, residents may bring their Christmas trees, free of charge, to the landfill for recycling. Even though the contractor charges to dispose of both of these items the landfill absorbs the cost to dispose of them as part of a community service for Ada County residents.

Onsite Recycling

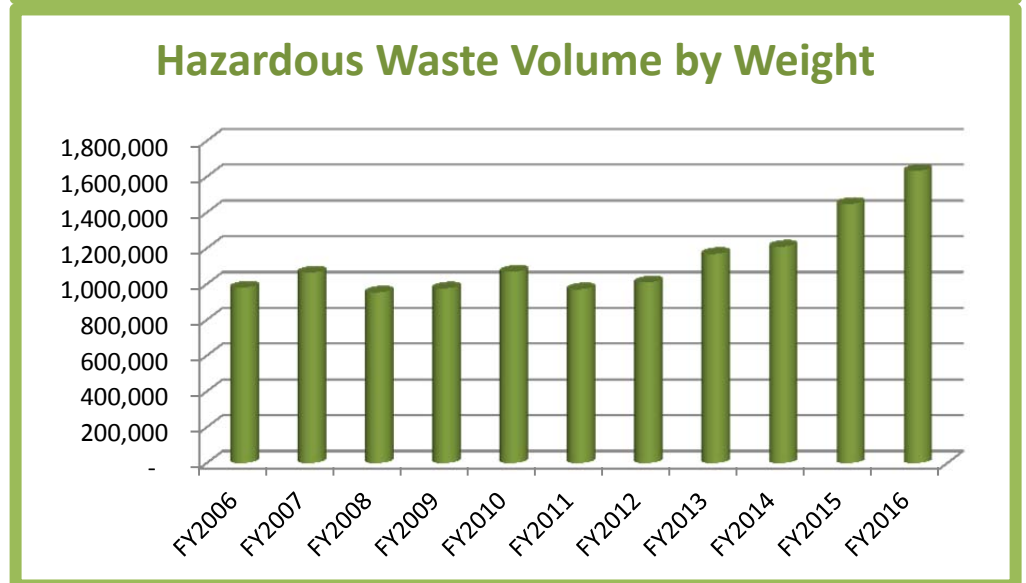
Wood Waste Recycling

The decreases in the past fiscal years reflect the effects of the collapse of the building industry. With less construction, there is less material for disposal. However, in fiscal year 2016 there was a relative reduction in wood waste recycling, however reflective of the prior year the change was not significant.



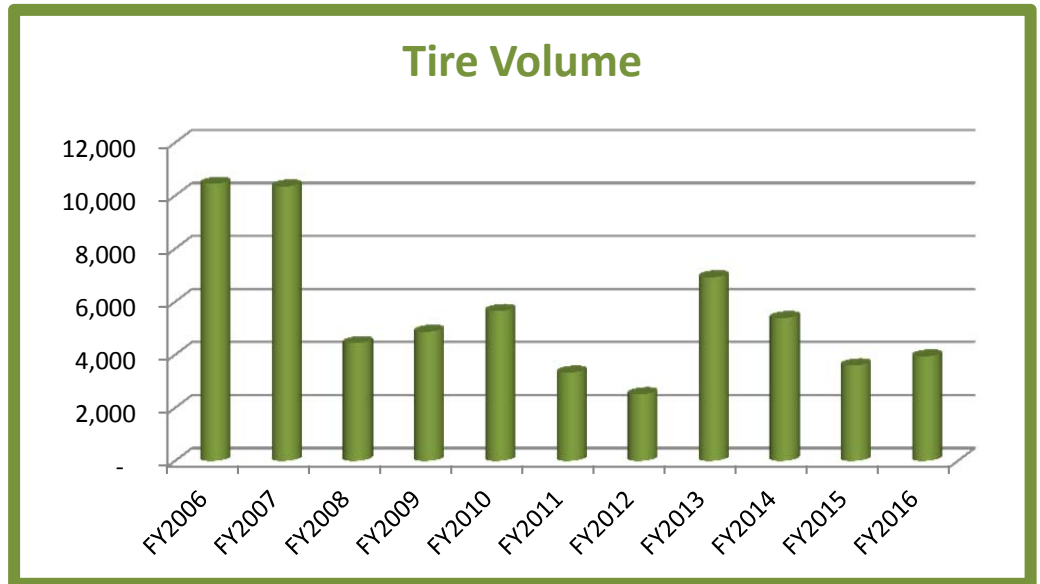
Household Hazardous Waste

Household hazardous waste is recycled or reused in a variety of ways depending on its composition. It can either be reused for its original intended purpose or used to make another product. Residents of Ada County are welcome to come and choose products from the reuse shelf during the business hours of the Hazardous Waste Facility, Fridays and Saturdays from 8:00 until 6:00.



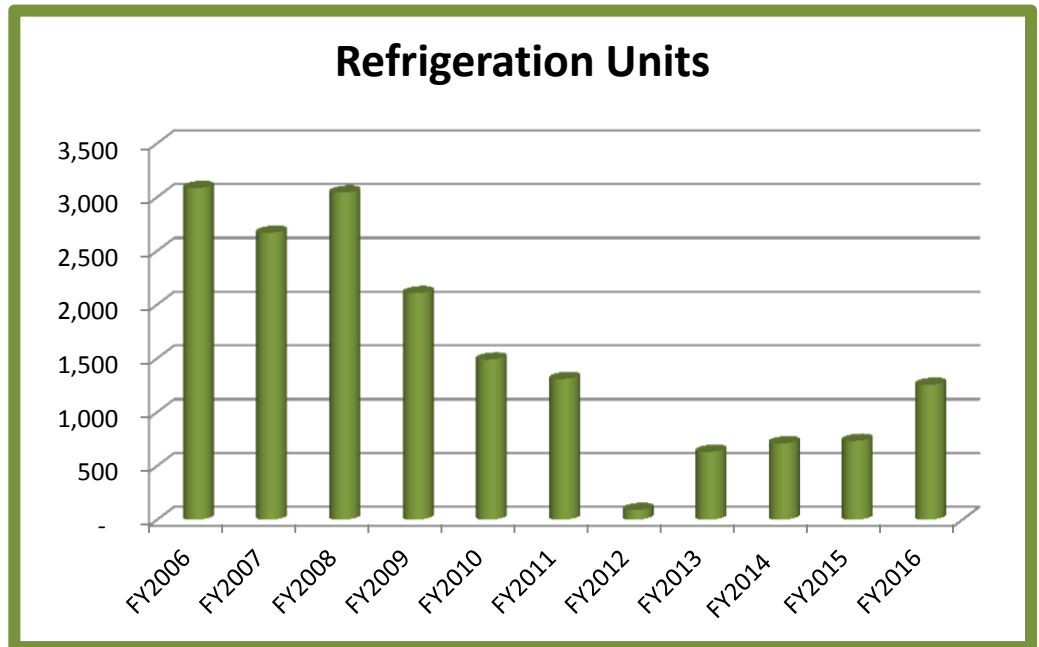
Tire Recycling

Tires delivered to the landfill are recycled through a privately owned company. The tires are used for various projects, such as athletic tracks, road base, and fuel in the process of making cement. Tire Recycling at the landfill has decreased considerably over the past few years. Although for Fiscal Year 2016 the landfill increased the number of tires slightly.



Refrigeration Unit Recycling

Appliances that use Freon are collected separately at the landfill because Freon is a greenhouse gas. If the Freon from these units were released to the atmosphere, the Freon would damage the ozone. Qualified technicians employed by Stericycle, the Hazardous Waste Contractor, at the landfill remove the Freon for recycling. In fiscal year 2016 the landfill accepted 1,255 refrigeration units; including refrigerators, freezers and air conditioners. The metal cases from the appliances are then shipped to a local metals recycler.



What to Expect in 2017

FY 2016-2017 will see many changes and projects at the Ada County Landfill. Some changes to watch for in the coming fiscal year include:

- The publication of two major Request for Proposals:
 - The first request will be to open the bidding process for the landfill operations contractor. This contract is currently held by Republic Services
 - The second request will be for an Electronics Waste contractor. The contractor who had been arranging for the disposal of electronic waste informed the division that they would no longer be able to fulfill their obligations of the contract.
- The addition of more horizontal gas collection lines
- Additional work on the leachate return lines for the North Ravine Cell
- Upgrade the main bypass line for the scrubber, bringing the line from 12 inches to 18 inches.
- The development of an in house account billing program. Currently we are using a product from Sage, and we have found this product to be more than what the division needs, and the problems we have encountered with the product have been more than was anticipated.

Synopsis

The operation of the Ada County Landfill by Solid Waste Management continues to concentrate on meeting daily obligations while looking to the demands of the future. The Hidden Hollow Cell has nearly reached its designed capacity and the County needs to ensure that funds are accrued in reserve to cover the extensive work that will be performed to place this cell into final closure. While we saw one stage of this process this year, there is still more to come. Currently the landfill is utilizing both landfill cells for disposal, with the intention of using all of the available space, until the cell reaches capacity.

Through careful planning, innovative cost-saving procedures and continual vigilance on the evolving regulatory requirements the division will ensure the Ada County Solid Waste Management continues its excellent record of operating the landfills in the most efficient manner, while meeting the needs of the community, now and in the future.

We are consistently looking for ways to reduce the amount of waste being deposited into the landfill. With the expansion of recycling programs we are ensuring that the North Ravine Cell will accommodate the needs of Ada County Citizens and businesses for another century or better.

Solid Waste Management thanks you for your interest in the progress of the division.