



Year End Report

Fiscal Year 2018





Ada County Solid Waste Management

2018 Year End Report

200 West Front Street

Boise Idaho 83702

208-577-4725

Adacountylandfill.com



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Solid Waste Management

Kurt Hunt, Director of Ada County Solid Waste Management

Theresa Rademacher, Deputy Director of Solid Waste Management

Justin McConnell, Landfill Operations Supervisor

Chad Schwend, Environmental Compliance Coordinator

Micah Munion, Landfill Technician III

David Dyer, Landfill Technician II

Cody Mendenhall, Landfill Technician II

Kenneth “Kenny” Butt, Landfill Technician I

Charles “Chuck” Silvers, Landfill Technician I

Richard Puzio, Landfill Technician I

Barbara “Barbie” Cogen, Office Supervisor

Mary Pera, Account Clerk II

Misty Toulouse, Account Clerk II

Barbara Burkhardt, Scalehouse Operator

Jay Camp, Scalehouse Operator

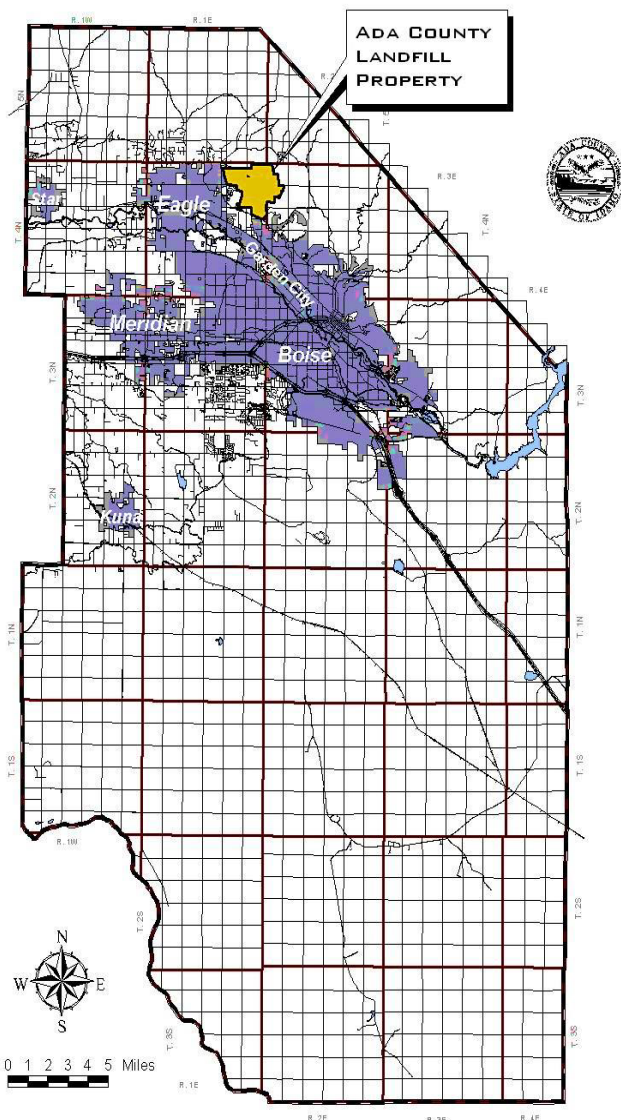
Cearah Munion, Scalehouse Operator

Marna Poulson, Scalehouse Operator

Mysti McFarlane, Scalehouse Operator

Jessie McMillian, Automotive Service Technician





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.

Since the Department is funded solely through an enterprise fund, Solid Waste does not receive any support from tax-dollars for the activities of the Department. 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. 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 2018 are:

- Full closure of the Hidden Hollow Cell
- Expanded the gas field to allow for more gas from The North Ravine Cell to be extracted
- Expansion of the North Ravine Cell
- Condensate pump replacement
- Rain Sheet
- Gas Collection expansion
- Purchased new equipment to ensure safe and effective operations

What We Do

The Department

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 Commissions. All daily operational decisions are under the discretion of the Deputy 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 20 – six of whom are part-time workers.

To accomplish its responsibilities, goals and mission, the Department consists of three functioning divisions within the department, 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* portion of the Department. 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, groundwater protection, and other environmental facilities located at the Hidden Hollow Sanitary Landfill. This function is also responsible for creating reports regarding systems function and operation.

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 department would fall apart were it not for the dedicated staff of the landfill. The landfill functions with nineteen employees, six of whom work part time.

The Director is responsible for overseeing all activities of the landfill. Additionally the Director is responsible for keeping the Board of County Commissioners apprised of all pertinent developments for the landfill.

The Deputy Director provides short, and long range analysis of wastes, revenue and expenses. The Deputy Director investigates developments for various solid and hazardous waste 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 Deputy Director is responsible for all personnel issues, financial compliance and tours of the landfill. The Deputy Director writes, reviews and updates policies and procedures. The updated procedures are often at the suggestion of staff for functionality.

The Environmental Compliance Coordinator oversees operation and maintenance of the landfill-gas extraction system, leachate collection and control systems, groundwater treatment, irrigation system, and other facilities located at the Landfill. This position is also responsible for creating reports regarding systems function and operation. Additionally this position is the main point of contact for the contractors for the Household Hazardous Waste Facility and the onsite Generators. The Environmental Compliance Coordinator is focused on the permits that allow the Landfill to operate; including air, operating, and groundwater. The Environmental Compliance Coordinator is the primary safety coordinator for the Landfill, ensuring that staff, customers and contractors stay safe.

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 Operations Supervisor oversees and conducts landfill technicians and identifies facility maintenance projects as needed.

The Landfill 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.

The Landfill Office Supervisor oversees all financial aspects of the business. This position oversees the Scalehouse Operators, Account Clerks, and any Administrative issues. The Office Supervisor functions as a support to the Scalehouse Operators with customer interaction, the Account Clerks and any customer support. The Office Supervisor fills in for any staff members who are unable work.

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 accomplishes secretarial duties for the Division. The Department, in order to create a separation of duties, employs two Account Clerks, one for Accounts Receivable, and one for Accounts Payable.

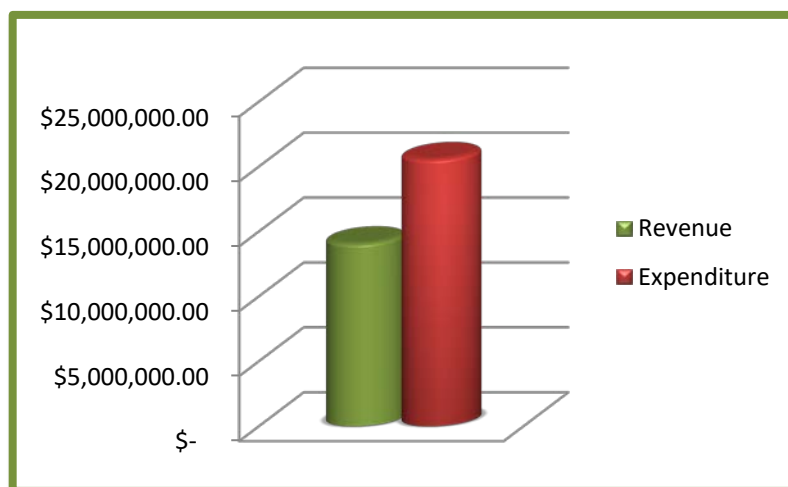
Scalehouse Operators greet customers, assess and collect fees from landfill customers, maintain custody and account for money received. The landfill employs six cashiers, each cashier works part time.

The Automotive Service Technician is responsible for the maintenance and repair of the Departments various and numerous pieces of machinery and vehicles.

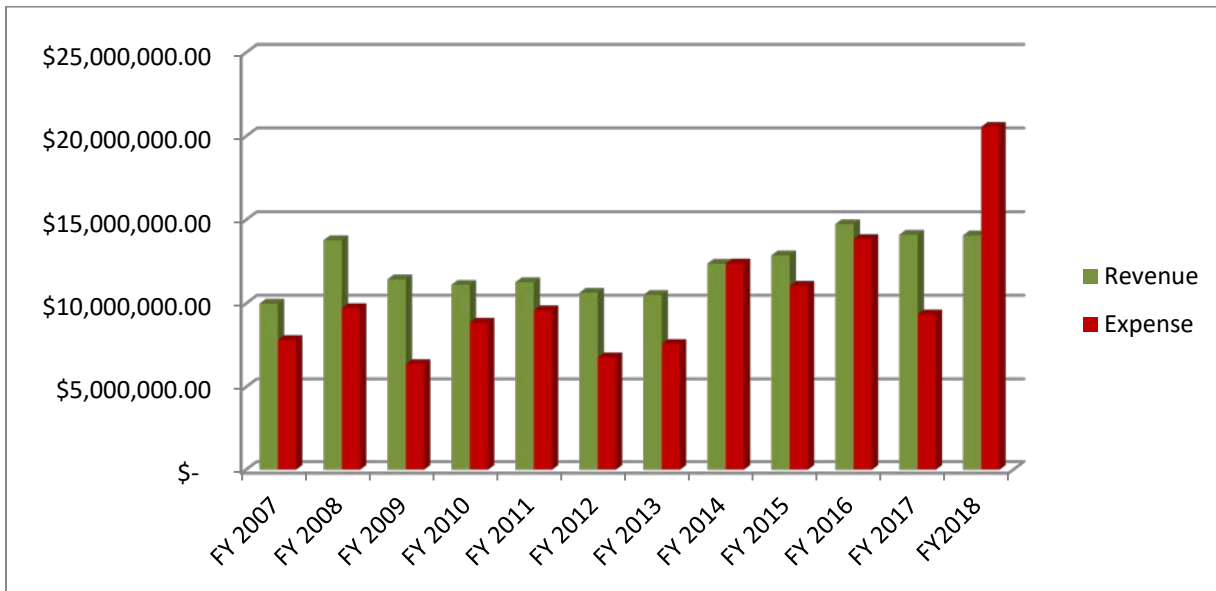
Supplementing the County's staff are temporary employees from a contracted employment services company. These supplemental employees help with supervising Sheriff Inmate Labor Details in grounds maintenance, litter control and onsite routine grounds maintenance.

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, current operations, and future development of projects and plans, are dependent upon the volume of waste that is dropped at the landfill. For Fiscal Year 2018 there was a significant amount of money spent, not only for the daily operations of the landfill, but also for the third expansion of the North Ravine Cell. The expenses to operate the division totaled \$10,565,718.06, in addition to this amount there was \$10,000,000 in capital while expenses for the expansion of the north ravine cell, taking the total expenditures to \$20,565,718.06 the revenue reported for Fiscal Year 2018 was \$14,074,240.68. While it appears that the department over extend spending by \$6,491,588.38, the extra monies spent were saved from prior years. Over the past years the department had successfully employed fiscal diligence in spending less than was brought in to facilitate the need to expand the landfill.



The following chart provides a ten year historical perspective of the revenue versus expense that the department has seen. As shown most of the past ten fiscal years the department has exhibited reasonable spending to facilitate future needs.

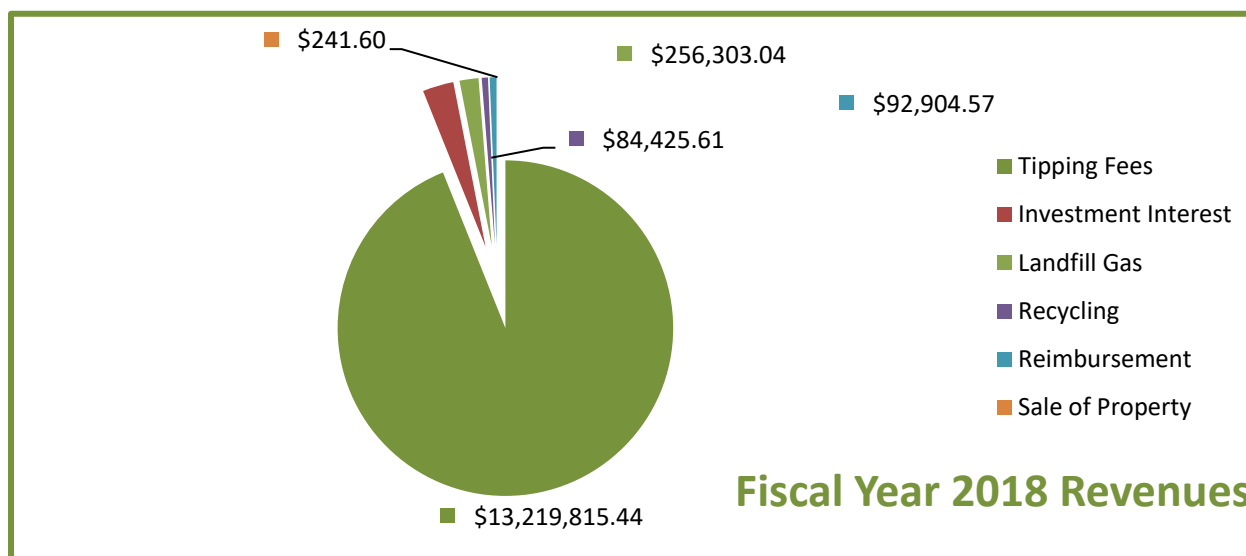


Revenue

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 2018 is no exception; gate fees were responsible for 94% of the total revenue for the landfill. These monies are accrued by the collection of municipal solid waste in the Cities of Boise, Meridian, Star, Garden City, Eagle, 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 \$13,219,815.44 for fiscal year 2018.

In addition to the fees collected at the gate, the remaining 6% of the revenue that is generated for the landfill include investment interests, for \$420,550.42, the sale of landfill gas, \$256,303.04 for the production of electricity, from the sale of recyclable materials, \$84,425.61, general reimbursement \$92,904.57, and for this year the sale of property, \$241.60, the property that was sold was a Gator to the Operations Department. These revenue sources brought a total of \$854,425.24.

Total revenue for the landfill in Fiscal Year 2018 exceeded expectations, bringing in \$14,826,068.



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 \$9,359,195.54 for all of the expenses for operating and maintaining the landfill. The chart provides a glimpse of how the categories reflected in the spending at the landfill in fiscal year.

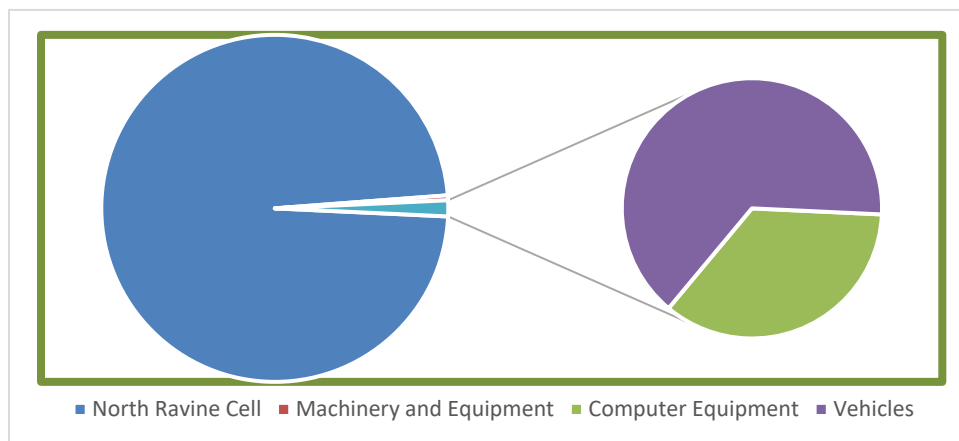
Operational Costs are the highest portion of spending at the landfill. Administrative costs include operational contracts for landfill operations, Hidden Hollow Closure, various operational insurances, grounds maintenance, tire recycling, wood waste recycling and the daily operational costs associated with maintaining an office environment. In Fiscal Year 2018, the landfill spent \$7,866,713.57 in operational costs.

Hazardous waste disposal; 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 recycling program for county residents. This contract represents 95% of the total amount spent for Hazardous Waste disposal. The Landfill paid Stericycle \$618,511.33 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 \$658,795.76 in Fiscal Year 2018.

Environmental Controls is traditionally third for the largest portion of landfill spending; however for Fiscal Year 2018, with a major horizontal pipe project the dollar amount puts the Environmental Division second in line. Environmental Controls focus on landfill gas extraction systems and the 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 \$810,042.05 for Environmental Controls in fiscal year 2018.

Personnel costs are crucial to the functionality of the Landfill. The landfill operates with nineteen staff members, six 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 division spent \$1,032,114.64.

Capital Costs are physical, high cost, items purchased for the department, including vehicles, office furniture, computers and major equipment, and for this year, the expansion of the North Ravine cell. The first line item falls under Machinery and Equipment. In this category there were several large purchases the division incurred.



For Fiscal Year 2018 the Solid Waste management Department spent \$10,198,052.04 for all Capital Expenses

Expansion

In Fiscal Year 2018 the Landfill, out of necessity, undertook the expansion of the North Ravine Cell. The expansion project, described in greater detail later on, will converge into fiscal year 2019. The Department facilitated this project by activating a separate fund from the general operational fund, known as fund 116. The separate fund, 117, was used only for expenses attributed to the expansion of the North Ravine Cell. By adding the additional fund the Department was better able to track and control the expenses associated with the expansion. A single transaction from 116 to 117 was made in Fiscal Year 2018; ultimately transferring \$10,000,000 from 116 to 117, thus funding the expansion with funds that were saved from conservative fiscal policy within the department.

Gas Field Expansion is part of the ongoing activities at the landfill. In Fiscal Year 2018, bid 18091 was awarded to Core and Main. The bid was awarded for \$229,747.07.

Vehicles During fiscal year 2018 the Department lost a pickup truck in a vehicular accident, necessitating the need for another vehicle. However instead of replacing the pickup truck with a similar vehicle the Department opted for an all-wheel drive Ford Explorer, the third row makes providing tours for small groups more convenient. This vehicle cost the department \$27,650.

In addition to the Explorer, a Jeep Cherokee was purchased for the use of administrative staff. This vehicle cost the department \$21,802.

Machinery and Equipment

The Ada County Landfill is encompassed within nearly 2,700 acres of land, not all is accessible by vehicle. To ease with transportation to hard to reach areas, the Department purchases all-terrain vehicles. In Fiscal Year 2018 the department purchased two new John Deere Gators, one is a standard two seat vehicle which cost \$19,300, the second is a four passenger vehicle, and cost slightly more at \$22,711.

The landfill is required under permit to conduct testing monthly for the gas field. The testing requires specialized pieces of equipment that can accurately conduct the tests for the gases that are an issue with landfill gas. Two of these pieces of equipment, known as GEM5000, were purchased in Fiscal Year 2018, each unit cost \$11,200. For the two units and all calibration and necessary attachments, the department spent \$23,994.11.

The Landfill finds that heavy equipment is a necessary part of the job and frequently need to purchase those pieces of heavy equipment. In Fiscal Year 2018 the landfill purchased a Track Loader from Barry Equipment for \$47,880.

Computer Equipment

The department needed a new switch for the servers that are housed on site. This system cost the Department \$18,596.46.

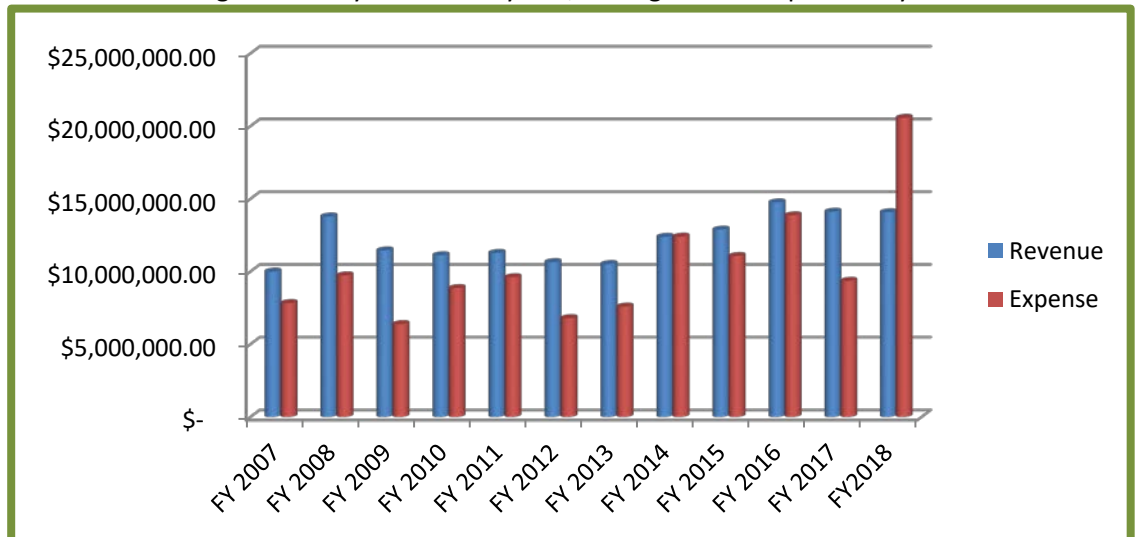
Office Remodel

Part of the expansion of the staff necessitated the remodel of the administrative office. There are six landfill technicians, and five must share an office space. The office that the technicians occupy was demolished and remodeled with full size lockers for each technician and a countertop desk for their computers and shelving for two way radios. This remodel cost \$13,123.

Enterprise fund

Historically the Department has been, through fiscally conservative spending, able to save monies for use later than the fiscal year they are acquired. From Fiscal year 2008 through Fiscal Year 2017 the department was able to preserve an average of \$2,725,000 per year. That preservation allows for projects, like the expansion of the North Ravine Cell to be funded without the assistance of the County general fund, or by borrowing the money from outside sources. These practices allow the Department to fully fund projects from the Enterprise Fund which sustains operations. The Department, for Fiscal Year 2018 exceeded the revenue collected at the gate by \$6,491,477.38, giving the impression that the Department is operating outside of budgeted parameters, however since the Department has been saving the money for several years, through fiscal responsibility the

money was already available and ready to spend for the projects. The graph shown below gives a visual for the conservative spending practices of the Department over the past ten fiscal cycles, and while it appears that the landfill exceeded the revenue income, the excess money was available prior to the beginning of the any Capital Projects.



Major Projects

Horizontal Pipes

During Fiscal Year 2018 the staff at the landfill installed horizontal gas collection pipes into the North Ravine Cell Landfill. This is an ongoing project and as the cell is filled up, there will always be more pipes to be installed. In Fiscal Year 2018 the staff at the landfill laid just under 9,000 feet of pipe for the expansion of the gas field, and spent approximately \$229,747.07.

Hidden Hollow Closure

In fiscal year 2017, after 45 years of accepting the waste for Ada County residents and businesses, the Hidden Hollow Cell accepted the last load of waste. While the last load was accepted in Fiscal Year 2017 the cell, in accordance with federal, and state guidelines, needed to be capped and closed so that no other waste could be put into the cell. Closing a landfill includes several major components, and one is not more important than the other. Notifying the Idaho Department of Environmental Quality of the closure and closure plan is the first part of closure. Secondly significant amounts of dirt must be placed on the landfill to keep waste in place. For the Hidden Hollow Cell hydroseed was put on the top of the capped landfill so that it will blend into the surrounding hills. The expense for the closure project cost the Department \$1,667,725.18. In Fiscal Year 2019 there will be additional costs for the closure of this landfill, as there will be horizontal wells drilled into the landfill to increase landfill gas extraction efficiencies.

NRC Expansion # 3

As the landfill continues to take waste in from Ada County residents and businesses, the space in the North Ravine Cell becomes limited in the current phase that is being used, Phase 2 currently, to ensure that the next phase is ready for waste when the construction of the cell must be engineered and designed prior to being built. The engineering for the NRC3 expansion took place in Fiscal Year 2017 and in Fiscal Year 2018, while the construction primarily took place in Fiscal Year 2018. For better tracking the Auditor's office created a fund specifically for the expansion of the North Ravine Cell; fund 117. To fund 117 there was a transfer from the Operating Fund in the amount of \$10,657,451. The engineering services for the expansion of the North Ravine Cell waste in Fiscal Year 2018 was \$204,189.63, while the construction, provided by Knife River, cost \$7,418,390. The project could not be completed in a single fiscal year, so there will be some additional costs that will reflect in the expenses for Fiscal Year 2019.

Condensate Pump

The Condensate Pump at the Flare reached its life expectancy during Fiscal Year 2018. The condensate pump collects the condensate from the flare and circulates it through the system to keep the mechanics cooled. While this piece of equipment is necessary for the successful operation of the flare, and consequently the efficient control of landfill gas, they are not inexpensive. The replacement for the condensate pump was \$13,025.

Rain Sheet

Once water penetrates the landfill, it ceases to be simply rainwater and now must be treated as leachate. To prevent snow and rain from entering the landfill through North Ravine Cell Phase 1 and the expanded Phase 3, a rain sheet was purchased and installed as part of the expansion project.

Four New Positions

With the expansion of the landfill there has been the need to expand the staff at the landfill.

Landfill Technician

Scalehouse Operator

Business Analyst

Environmental Compliance Coordinator

Two Retirements

In Fiscal Year 2018 the Ada County Landfill lost two long term, valued employees.

TED HUTCHINSON retired as the Deputy Director of Solid Waste in February 2018 after nearly two decades at the landfill.

KEN WALL retired as the Hazardous Materials Coordinator for the Solid Waste Division. Ken received recognition for twenty years of service at the landfill.

With these retirements, the Department has lost a significant amount of institutional knowledge, but the Department, wishes them long and fulfilling retirements.

Promotions

With these retirements, the opportunity for promotion presented itself in a small Department where it is often difficult.

KURT HUNT was promoted to Deputy Director after Ted Hutchinson's retirement.

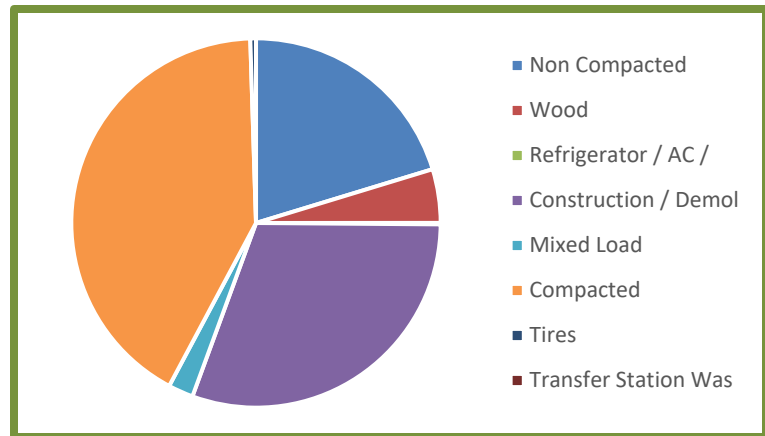
THERESA RADEMACHER had served as an Administrative Specialist for several years within the Department. When Theresa's skills and talents continued to shine, the promotion to Business Analyst was appropriate.

Nearly all of the seasoned Landfill Technicians were promoted through the tiered system, with the level three technician having been with the Landfill for five years and taken all required certifications.

Microwave Tower

To better facilitate communication between county departments and buildings throughout the county the landfill installed a microwave communications tower. This project allows signal between the Pine Street Campus, The Public Service Building, the Landfill and the Courthouse. This tower, for the betterment of the entire county staff, was installed above the Scalehouse at the landfill and cost the Solid Waste Department \$18,596.46.

Disposed Materials by Category and 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 96% 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 loads that would not generate a fee through the gate are loads of E-Waste. These can consist of up to 10 units or one single television. Additionally leaves and Christmas trees are taken, for limited periods, free of charge. The fee collected at the Scalehouse generated \$13,219,815.44 in revenue for fiscal year 2018.

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 2018 the landfill accepted 160,071.9 tons of compacted material, a reduction from Fiscal Year 2017. During Fiscal Year 2018 the new material type, Transfer Station Waste was introduced, further segregating this largely encompassing material type. Compacted waste is billed at \$11 per yard. For Fiscal Year 2018 compacted material resulted in \$4,982,206.72 of revenue for the landfill.
- **Transfer Station Waste** is waste generated from one of the two area transfer stations owned and operated by the waste hauler, Republic Services, one in South Boise and one in Western Meridian. This waste is collected at transfer stations and then consolidated into a transfer trailer and hauled to the landfill, these loads are currently billed at \$22 per ton for the waste. These trailers brought 145,955.5 tons of waste to the landfill and resulted in \$3,292,825.65 in revenue for Fiscal Year 2018.
- **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. Construction and demolition debris are billed at \$11 per yard for commercial customers, however for residential customers the material is billed at \$33 per ton. For fiscal year 2018 the landfill accepted 69,361.68 tons of construction and demolition debris; a slight decrease from fiscal year 2017. The revenue accumulated by Construction and demolition debris increased as a reflection of the increased volume and resulted in \$2,405,998.52.

- **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; in fiscal year 2018 the landfill accepted 45,724.47 tons and \$1,602,109.34. Non-Compacted waste is billed at \$5.50 per cubic yard for commercial customers and residential customers can expect to pay \$33 per ton for the material.
- **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. For Fiscal Year 2018 the landfill accepted 172,260 pounds of Christmas Trees and 8,850,117 pounds of leaves. For compensable material, the landfill accepted 15,924.45 tons of wood for recycling. Residential customers pay \$22 per ton for wood, while commercial customers will pay \$2.75 per cubic yard, with a four yard minimum; resulting in an income of \$371,190.92 for Fiscal Year 2018.
- **Household Hazardous Waste** is classified as anything with the potential to be hazardous to human health or environment. In this category are refrigerators, televisions 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. Conditionally Exempt small quantity generators may 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 2018 the Scalehouse accepted 35,340 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 2018 the landfill accepted approximately 4,711 tires, showing a revenue of \$16,488.50.
- **Refrigeration Units**, including refrigerators, freezers and air conditioners are charged at \$22 per item; the landfill only accepts 2 items per household per year for this category. For Fiscal Year 2018, the landfill accepted 1,388 refrigerators for an income of \$30,536.

In addition to these waste types, the landfill also charges for:

- Certificates of Disposal
- Asbestos Disposal

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 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 Board of County Commissioners.

Standard Discounts

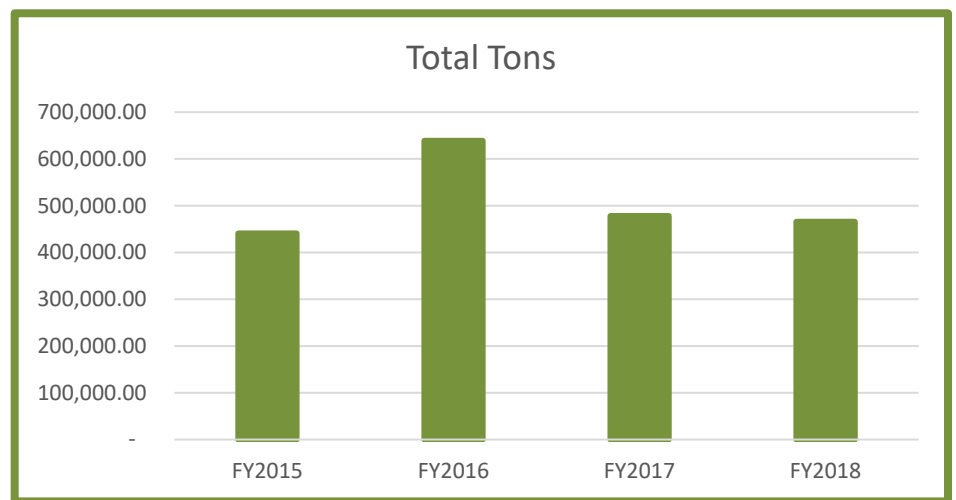
The one fee that is discounted for any customer, who utilizes the landfill services, is the rate for disposal of recyclable wood. Customers who separate their scrap wood and tree limbs from the rest of their load receive a considerable per yard discount on their disposal fees.

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. In fiscal year 2018, the landfill accepted 10,464,280 pounds of leaves and 15,620 pounds of Christmas Trees.

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

How much waste do we take?

In fiscal year 2018, the Ada County Landfill accepted 445,669.55 tons of waste, including wood waste.





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 its Household Hazardous Waste 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 2018, the County paid Stericycle \$618,511.33 for this service. Over the course of the year the Household Hazardous Waste Facility serviced 8,211 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 very small quantity business.

Collection of Hazardous Materials

Ada County Household Hazardous Waste Facility

The Household Hazardous Waste Facility, located at the Ada County Landfill, accepts hazardous waste from only 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, very small quantity generators (VSQG) (formally called conditionally exempt small quantity generators (CESQG)) may use the facility for a nominal fee. These generators (businesses) must produce less than 220 pounds of hazardous waste or 2.2 pounds of acutely hazardous waste per month. These very small generators are served at the Household Hazardous Waste Facility each Friday. During fiscal year 2018, the facility collected 782,638 pounds of hazardous waste.

City Mobile Collections

The partners involved in the hazardous materials program strive hard to make the program seamless throughout Ada County; using the same educational materials and vehicles. Stericycle has agreements with the cities of Ada County to offer mobile collections throughout each 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 through these events and the Facility; while the Cities incurs the expense of operating the mobile collection program. The City of Boise leases trucks to the other Cities specifically dedicated to the household hazardous waste program at a very nominal rate.

The City of Boise has ten (10) sites for mobile collection; each site is open one day per month for seven hours. There are 2-3 collection sites open each week in the City of Boise. The City of Meridian collections occur each Monday of the month, with the exception of holidays. This results in 3 to 5 collections each month. The sites are open for seven hours each Monday. The City of Eagle and the City of Kuna contract with Stericycle for quarterly collection on specific Wednesdays of the month. This results in 4 collection events per City per year. Each event is open for seven hours. All these collection locations are open to Ada County residence. Residences are able to utilize whichever location is most convenient to them.

The mobile collection program served 17,793 Ada County households, resulting in 661,538 pounds of household hazardous material diverted from landfill disposal. Below is a summary of the Cities' collection events.

Ada County Cities Collections Summary		
	Customers	Materials (P)
City of Boise	10174	372054
City of Meridian	6585	248726
City of Eagle	493	15235
City of Kuna	541	25523

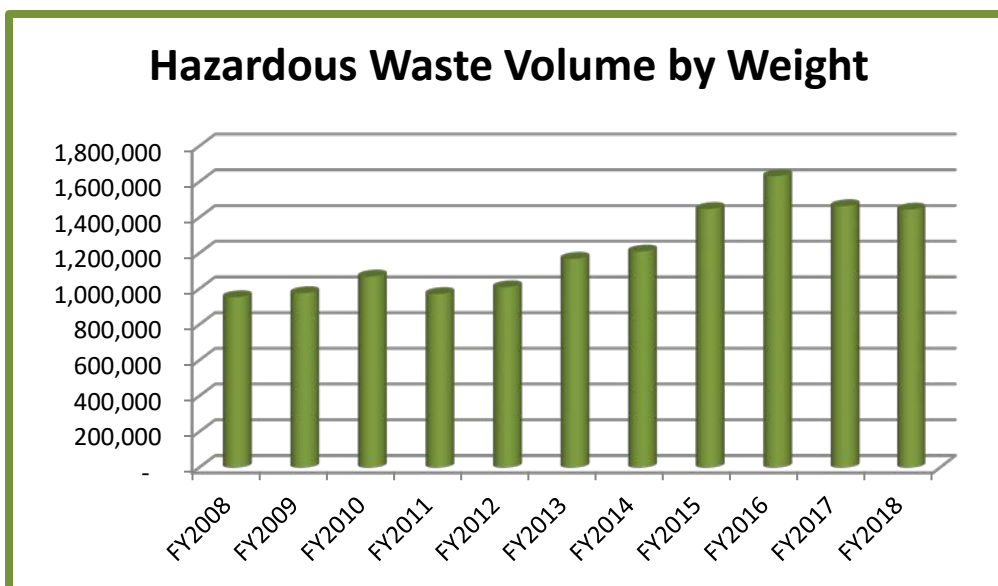
The success of the hazardous waste collection program is directly attributable to the partners who have committed to the health and safety of our environment through meticulous planning and execution of the program. Ada County sincerely wishes to thank the public and private agencies for their efforts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

- City of Boise
- Republic Waste Services of Idaho (City of Meridian)
- City of Eagle
- J&M Sanitation (City of Kuna)
- Ada County Highway District
- Idaho Department of Environmental Quality
- Central District Health Department

All hazardous waste (residential and commercial) that is generated through the hazardous waste program is processed through the Ada County Household Hazardous Waste Facility at the Ada County Landfill. In total the Facility processed 1.4 million pounds of hazardous waste in fiscal year 2018.

Processing of Collected Materials

Hazardous waste collected in the countywide program are 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 1,444,547 pounds of material; of that 1,385,032 pounds were recycled or beneficially reused by entities throughout the County. Some of that material was used for power generation, but specifically latex paint (664,419 pounds) was re-formulated into a recycled latex product and sold in specific markets. The remaining hazardous materials, 59,515 pounds, were processed through treatment or other disposal means. Below is a chart summarizing the total hazardous waste processed by the Facility each fiscal year.



Stericycle segregates hazardous and non-hazardous materials into some of the following categories:

- Reusable products
- Automotive batteries
- Oil-based paint
- Flammable liquids
- Latex paint
- Motor oil

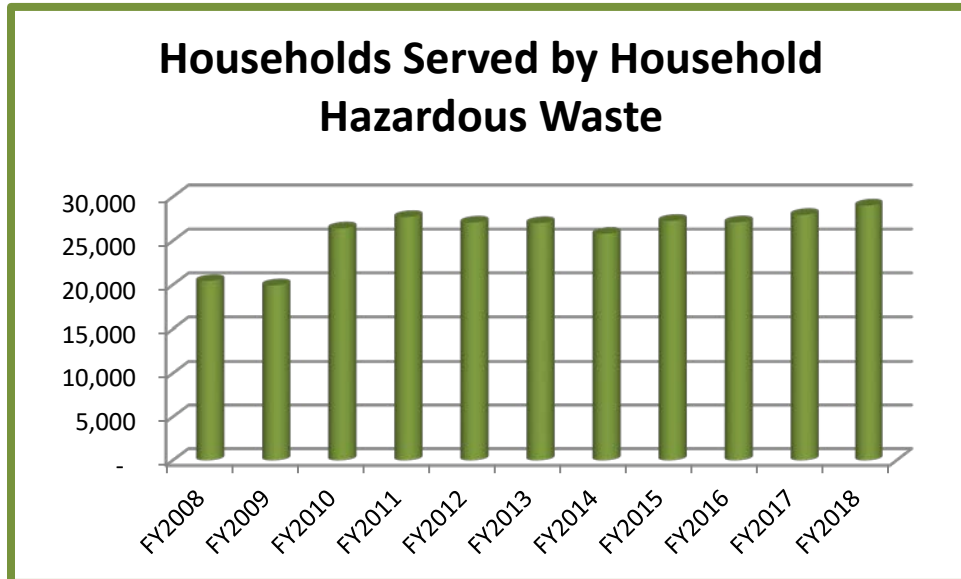
- Antifreeze
- Pesticides
- Oxidizers
- Corrosives

Reuse Materials

The Ada County Hazardous Waste Program operates a successful reuse program. As part of the processing of materials that are brought into the program; if it is found that a product meets certain criteria for reusability. It is cleaned and placed into the reuse area. In fiscal year 2018, the Facility processed 50,910 pounds of products that were eligible for reuse. Reusable products once placed in the reuse area are free for customers of the Ada County Facility to take home and use. This is not open for business use. The types of products that residences can take home include; latex paints, oil-based paints, automotive products, herbicides, pesticides, and fertilizers. This part of the hazardous materials program is very popular. Products are quickly depleted each week. In fiscal year 2019, the reuse area is being revamped to make it more user friendly and an evaluation is going to be performed to determine if more reuse can be diverted.

Historical Program Use

The number of Ada County Residents that have utilized the Household Hazardous Waste Facility and mobile collection sites has steadily increased over the last decade. In fiscal year 2018, 29,004 households utilized the hazardous materials program. The following chart presents the trend in the number of households that have taken advantage of the Household Hazardous Waste program.



Televisions and Electronic Waste

At the beginning of fiscal year 2014, the Landfill adopted the responsibility for recycling of electronic waste (E-waste). The recycling of such units was, historically, the responsibility of the hazardous waste contractor. After a

proposal and an approval by the Board of Ada County Commissioners, the Landfill moved the E-waste program in-house.

During the 2017 fiscal year, the E-waste program experienced big changes. This was the result of notification of a contractor ending their role with the program and another contractor being awarded the E-waste program. Onsite Electronics Recycling was awarded the contract for the remaining months of fiscal year 2017. The structure of the new E-waste proposal caused the program expenses to experience a large jump due to E-waste shipped offsite was now an expense per pound. At the end of the 2017 fiscal year it was expected that the expenses seen in fiscal year 2017 would substantially increase in fiscal year 2018.

For fiscal year 2018, Ada County Landfill paid Onsite Electronics Recycling \$436,611.32 for recycling of cathode ray tube (CRT) televisions, flatscreen televisions, and CPUs. There were a total of 107 shipments of electronic waste to Onsite from the Ada County Landfill. The programs related expenses for forklift fuel and temporary labor was \$31,691.86. Total expenses for fiscal year 2018 related to the electronics program was \$468,303.18.

The Ada County Landfill does not charge customer for televisions that are brought to the landfill either over the scales or through the household hazardous waste program. This means that all televisions in Ada County will, at the end of their life, come to the landfill for recycling at a cost to the Ada County Landfill.

Environmental Compliance

The specialized systems at the landfill necessary to reduce the landfill's impact on the environmental are monitored daily. This includes systems to manage; landfill gas destruction, Hydrogen sulfide reduction, groundwater remediation, leachate management, and stormwater runoff/run-on. Each of these systems uses an array of specialized calibration and monitoring units. One full-time employee is responsible for these various systems to ensure compliance with regulations and operating requirements. He is supported by the Operations Supervisor's Landfill Technicians.

Landfill Gas Management

Landfill gas is the natural by-product when decomposition of organic materials occurs in landfills. Decomposition occurs in two different environments: aerobic (with Oxygen) or anaerobic (without Oxygen). Depending on the environment, the decomposition takes place differing landfill gases and quantities can be found. In



municipal landfills, anaerobic decomposition is preferred, because it results in less odors and the formation of primarily Methane (CH_4) (natural gas). Other gases are also formed through the process. These include Carbon dioxide (CO_2), Hydrogen sulfide (H_2S), Nitrogen (N_2), and other de minimis gases. The Landfill is primarily concerned with the Methane, Hydrogen sulfide, and Oxygen. Each of these gases has properties, such as: colorless, odorless, flammable, or corrosive, requiring the gases to be handled appropriately and not simply vented to the atmosphere.

Methane is heavier than air and flammable and is a greenhouse gas. It is a requirement that the Landfill appropriately destroys Methane and not let it escape to the atmosphere. Hydrogen sulfide is what gives the Landfill that distinctive landfill odor -- rotten egg smell. This gas must also be managed appropriately so the Landfill is not a nuisance to its neighbors. Hydrogen sulfide is also corrosive to engine parts during power generation. Oxygen is managed so that the landfill functions in an anaerobic environment and also to mitigate any subsurface combustion events.

In 2001, Ada County began the capture of Methane and the other gases, flaring the gases through two John Zink flares for destruction. In 2005, Ada County furthered best management of the gases with a contractor, LFG Development, to use the gas supply to fuel two engines, generating electricity that is sold to Idaho Power. In 2014, the landfill refined the landfill gas to remove high quantities H_2S so that the corrosivity of the gas would be less harsh on the power generation engines.

The Ada County Landfill continues to monitor the landfill gas to remain in compliance with the air permit obtained from Idaho Department of Environmental Quality. The gas provided to the contractor for power generation is enough to provide 3.2 mega-watts of power to Idaho Power. This power is enough for approximately 2400 homes. In fiscal year 2018, LDF Development paid Ada County approximately \$244,952.00 as part of the power generation contract.

Groundwater Management

The Ada County Landfill is made up of two Cells, Hidden Hollow Cell (HHC) and North Ravine Cell (NRC). The Landfill must monitor the groundwater under each of these Cells to ensure that contamination does not occur or if contamination occurs it is remediated.

The Hidden Hollow Cell began its operation in 1972. It wasn't until 1976 with the passage of the Resource Conservation and Recovery Act (RCRA) that environmental rules were put in place for the siting and operation of solid waste landfills. RCRA was established to deal with the large amounts of contamination that was occurring because best management practices for landfills were not established. The Ada County Landfill's Hidden Hollow Cell has suffered some groundwater contamination due to unfavorable disposal practices in the early years of its operations. The Ada County Landfill takes its roll of remediation of the groundwater under the HHC very seriously. The Landfill monitors the groundwater continually and has established a successful remediation program to remove pollutants before returning the water to the aquifer.



The North Ravine Cell is a state-of-the-art facility. The cell has established groundwater monitoring wells that are monitored twice per year, as required by Idaho Department of Environmental Quality. The cell is constructed with a bottom liner made up of a geosynthetic clay liner (GCL), which is a bentonite clay layer sandwiched between two layers of high-density polyethylene (HDPE), resulting in a very low permeability. On this bottom sheet is a layer constructed for the removal of leachate from the landfill cell. The leachate is removed thorough pumping to evaporation ponds. There have been zero instances of contamination beneath the NRC.

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, with the closure of the Hidden Hollow Cell, operations has continued in only one cell, lowering the contract expense.

For the services provided to Ada County through their contracts, for the maintenance of the landfill tipping area, Republic Services, Inc. was paid \$3,160,943.93.

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. For Fiscal Year 2018, two more contracts were added; one for the design of the closure of Hidden Hollow and one for the expansion of the North Ravine Cell. Because of the collective nature of the contracts they are not broken down, except for Operations and Environmental, additionally the North Ravine Cell expansion engineering was partially separated, and drawn from a second fund; this is discussed in more detail later. The operations contracts resulted in \$854,592.25 to CH2M Hill, Inc. For their services regarding the environmental contract CH2M Hill, Inc. received \$463,562.62. In fiscal year 2017, the County paid CH2M HILL an accumulative \$1,318,154.87 for their services for both the operations, and the environmental division. The expansion of the North Ravine cell, which only occurs every five years, requires engineering and design. For this expansion the engineering equated to \$827,506.20

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. 16,204.55 tons of wood were recycled in fiscal year 2018; additionally, the seasonal free Christmas tree disposal exceeded 86 tons.

The total weight for wood recycling and Christmas Trees exceeded 16,290 tons. **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 2018 was \$624,153.36.

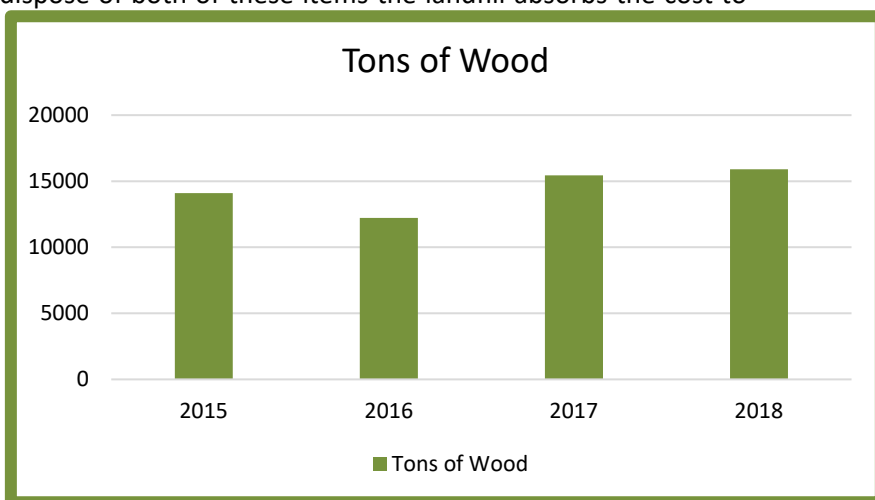
Along with wood recycling, Ada County provides programs to encourage leaf and Christmas tree recycling. In the fall, residents can bring their leaves to the landfill at no charge during a six-week period. In addition, following Christmas, residents may bring their Christmas trees, free of charge, to 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.

Wood Waste Recycling

For fiscal year 2018, the wood recycling program saw an increase in tons. With additional building in the area there was an increase of 455.38 tons from the previous year, this was also seen in the significant increase in construction and demolition waste brought to the landfill.

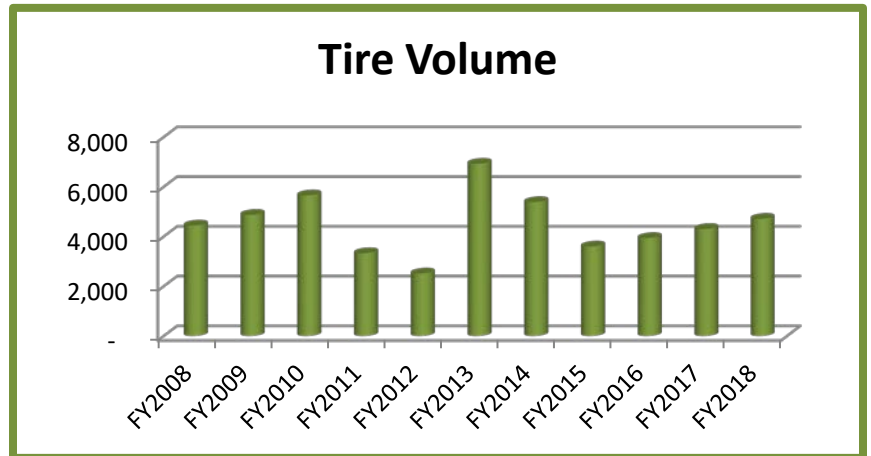
Household Hazardous Waste

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 peruse the reuse shelf during the business hours of the Hazardous Waste Facility, Fridays and Saturdays from 8:00 until 6:00. For Fiscal Year 2018, the Hazardous Waste Facility processed 1,444,547 pounds of Hazardous Waste.



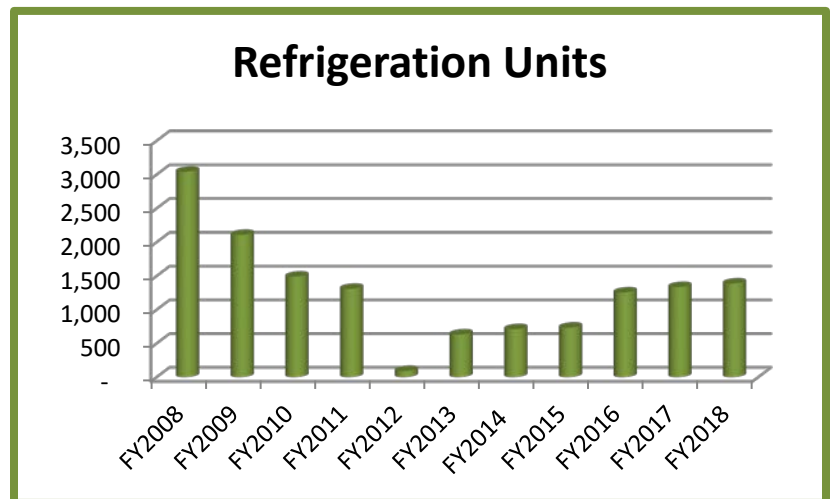
Tire Recycling

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 been increasing over the past few years, and in Fiscal Year 2018 the landfill took 4,711 tires from the public.



Refrigeration Unit Recycling

Appliances that use Freon are collected separately at the landfill because Freon is a greenhouse gas. Qualified technicians employed by Stericycle, the Hazardous Waste Contractor, at the landfill remove the Freon for recycling. In fiscal year 2018 the landfill accepted 1,388 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 2019

FY 2018-2019 will be a very exciting year for the Solid Waste Management Division. Some changes to watch for in the coming fiscal year include:

- The addition of more horizontal gas collection lines
- 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.
- Vertical Wells installed into the Hidden Hollow Cell to increase landfill gas extraction efficiency
- Reclassifications of current employees
- The divorce of the Landfill from the Operations Department, and promotions to accompany, including those listed in the cover portion of this report.
- Cost of Service Study
- The publication of a Strategic Management Plan
- Leachate Recirculation

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 all incoming waste is being directed to the North Ravine Cell and, again, the funds to continue expansion of this cell must be accrued prior to any construction.

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 and compliant 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.