

# Ada County

Solid Waste  
Management Department



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## YEAR END REPORT FISCAL YEAR 2004

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**DECEMBER 2004**



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# EXECUTIVE SUMMARY

What a year. Fiscal Year 2004 was an amazing year for the Solid Waste Management Department. With the carry-over, and ultimate completion of the Phase 1 Closure Project, including start-up and operation of a landfill gas extraction system, and the selection of a new landfill location by the Board of Ada County Commissioners, the fiscal year flew past.

Last fiscal year, the department began closing a portion of the landfill that had reached its designed capacity. Roughly, 40 of the landfill's 110-acre disposal site received a 4½ to 5-foot earthen cover. The County's consulting engineers, CH2MHill, designed the cover that was installed by Earth Tech, Inc. Included in the closure project was installation of a landfill gas extraction system. This system captures landfill gas, a nuisance at landfills, for destruction by burning in an enclosed utility flare. During Fiscal Year 2004, the department spent about \$4.6 million on the closure project. Added to last year's expenditures for the closure project, Phase 1 cost roughly \$9.4 million.

Fiscal Year 2004 started with the Board of Ada County Commissioners (hereinafter Commissioners) examining long-range solid waste disposal options. With a myriad of options available, the Commissioners sought public input through a series of public information meetings. After many months of gathering information, the Commissioners decided that Ada County would remain in the landfill business by developing a new landfill on the County's property. The new landfill will be located north of the existing disposal site. Keeping with the desires of the public, the Commissioners chose the site as a long-term (greater than 50 years) solution.

As an Enterprise Fund, the Solid Waste Management Department receives no tax dollar support for its operations. The department relies solely upon revenue from disposal fees paid by customers using the landfill. Besides meeting its daily operation requirements, the department's revenue must be sufficient to meet long-term obligations and future needs. Current operating expenses, long-term obligations and future needs are weighed against the fees collected at the gates. Through careful fiscal management, Ada County enjoys some of the lowest disposal fees in the State.

The Solid Waste Management Department continually strives to build a partnership between Ada County and privately owned companies. By using carefully constructed contracts, Ada County provides its residents a high quality solid waste management and disposal system at reasonable cost. Where feasible and appropriate, the County prefers that private enterprise perform the work rather than enlarging government to meet the needs. At the landfill, the Solid Waste Management Department oversees six contracts - contracts totaling more than \$7 million paid to private companies.

The Solid Waste Management Department's ultimate goal for Fiscal Year 2004 was to provide first-rate, yet affordable service to the residents of Ada County. This report provides the reader the tools to determine whether or not this goal was achieved.

# DEPARTMENT MISSION

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

- *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,*
- *Enforcement of health codes regarding accumulation of solid waste, and,*
- *Educational materials for local schools and service groups.*



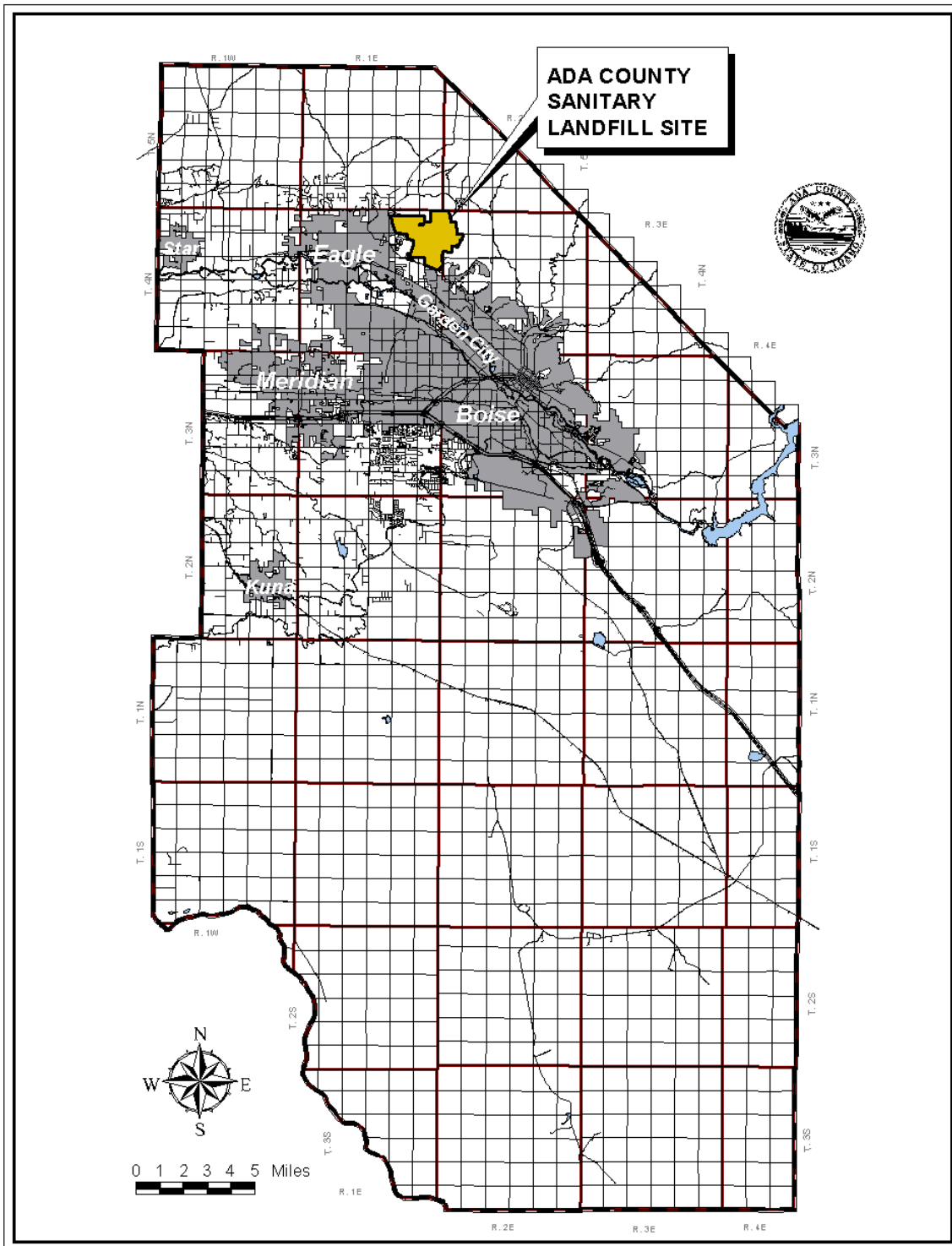


Figure 1 Ada County, Idaho



# ADA COUNTY SOLID WASTE MANAGEMENT DEPARTMENT

## SOLID WASTE MANAGEMENT

Ada County's Solid Waste Management Department is responsible for proper disposal of the over 800 million pounds of trash generated in Ada County annually. The department's primary duties include operational oversight of:

- The Hidden Hollow Sanitary Landfill;
- The County's Household Hazardous Materials Management Program;
- The landfill's environmental controls systems; and,
- The on-site recycling and diversion programs.

Included among these responsibilities are:

- Enforcement of County codes relating to human health, waste accumulation, unlawful disposal, uncovered and unsecured loads, and littering;
- Collection of landfill disposal fees;
- Issuance of burn permits of locations outside fire districts;
- Accounting for all department receipts and expenditures;
- Provision of public education and information about solid and hazardous waste, recycling, and waste reduction methods; and,
- Overseeing contracts with privately owned companies performing a variety of services and projects for the County.

To accomplish its responsibilities and duties, the department relies heavily on well-developed partnerships between Ada County and privately owned companies with which the County contracts for services. These contracts

range from engineering services to landfill operations and waste screening, to recycling projects, to hazardous material management, to final landfill cover construction. In all, more than \$7 million dollars was paid for contract services rendered to Ada County in Fiscal Year 2003-2004.

## THE DEPARTMENT

Although the department has the large responsibility of ensuring the proper disposal of Ada County's municipal solid waste, it does so with a minimal staff. The department employed a staff of 14, six of whom work part-time. All other personnel working at the Landfill are employees of the various contractors.

The Solid Waste Management Department is part of Ada County government. As such, the department Director answers directly to the Board of Ada County Commissioners. All daily operational decisions are under the discretion of the Director with long-term plans and needs discussed with the Commissioners. Besides daily operation and oversight of the previously mentioned contracts, the Director meets with the Ada County Treasurer to recommend contractual adjustments to the waste collection contract to the Commissioners.

## PUBLIC - PRIVATE PARTNERSHIP

Since opening the Hidden Hollow Sanitary Landfill in the spring of 1972, Ada County has contracted with privately owned companies for daily landfill operations. Over the years, the County has increased the number of private contractors performing work for the Solid Waste Management Department.

Initially, just daily landfill operations were covered. At the end of Fiscal Year 2004, the Solid Waste Management Department was overseeing six (6) contracts totaling more than \$7 million. These contracts for services covered engineering services, landfill closure, daily operations, waste screening, organics recycling, and hazardous waste management.

By contracting for services with privately owned companies, Ada County is able to ensure the most cost-effective service delivery for the County through competitive bids. This method has enable Ada County to provide its residents a solid waste management system with some of the lowest disposal fees in the State.

For more than thirty years, Ada County has proven that a public-private partnership works and works well. Ada County's Solid Waste Management Department provides the system-core management while the private sector provides the equipment and manpower to accomplish the tasks associated with safely managing more than 800 million pounds of trash annually.

This practice allows the department to control expenses for payroll and benefits. Besides providing job opportunities within the community and support to the local economy, using private contractors selected through competitive bidding, Ada County controls its overall disposal costs.

Before issuing any contract for services, Ada County issues a Request for Qualifications or a Request for Proposal. The Request specifies the criteria for qualification and the specifics for the work to be done under the

terms of the contract. Each contractor listed below competed with other firms for their contracts affording Ada County the opportunity to obtain the highest quality for the best price.

## THE CONTRACTORS

Through carefully written contracts, Ada County provides an effective, low-cost solid waste disposal system to its residents. The Solid Waste Management Department oversees six (6) contracts for services ranging from engineering services to waste screening services. Following is a description of the contracts and the contractors.

### LANDFILL CLOSURE (Phase I)

Roughly, 40 acres of the Hidden Hollow Sanitary Landfill has reached its designed capacity and the department will no longer bury waste there. As required by the Operating and Closure Plan for the landfill, the County is installing the final cover for that portion of the landfill. Ada County will close the Hidden Hollow Sanitary Landfill in three phases over the next 7 to 10 years.

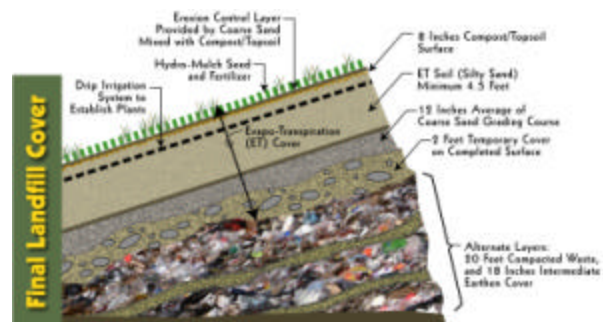


Figure 2 Evapo-Transpiration Cap

### ENGINEERING

CH2MHill, Inc. is the department's engineering consultant. They provide a variety of engineering services that includes annual operations, surveying, and rate of fill calculations, groundwater monitoring and reporting, final cover design and construction management, and new landfill design. During

Fiscal Year 2004, Ada County paid CH2MHill \$1.4 million for engineering services for major projects and for operational consultations.

#### FINAL COVER CONSTRUCTION

Ada County chose Earth Tech, Inc. as the company to construct the first phase of the final cover. During Fiscal Year 2004, Ada County paid Earth Tech \$2,700,111. Earth Tech, Inc. completed its contractual obligations by the end of the fiscal year.

Ada County expended funds for the first phase of closure during Fiscal Year 2003 and Fiscal Year 2004.

#### LANDFILL OPERATIONS

Typically, the Solid Waste Management Department's largest contract is for daily operations at the landfill. 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.

Environmental Earthworks, Inc. provides all of the daily operations at the landfill. As required by the contract between Ada County and Environmental Earthworks, this contractor supplies all the equipment and personnel necessary to complete the work specified in the contract. Last fiscal year, Ada County paid Environmental Earthworks \$1,498,000.

#### ORGANICS RECYCLING

Ada County has operated a highly successful recycling program at the landfill since 1994. Customers are encouraged to separate their wood waste from their other waste for recycling. Originally, a 2-year pilot project, the wood recycling program proved popular and successful. From its modest beginnings with 10,000 cubic yards recycled the first year, Ada County's current contractor

recycled more than 121,000 cubic yards for Fiscal Year 2004.

Ada County contracts with Enviro-Progress, Inc. for wood and organics recycling. The County pays for material that Enviro-Progress hauls away from the landfill. Ada County pays Enviro-Progress \$4.57 per cubic yard. For Fiscal Year 2004, Ada County paid \$609,000 for wood waste and organics recycling.

#### HAZARDOUS WASTE MANAGEMENT

Since 1988, Ada County has proactively worked to keep household hazardous materials from entering the landfill. Starting with a one-day annual collection event, the popularity of the program grew to the point where Ada County saw the need for a permanent collection facility that was open year-round. In 1998, Ada County opened its Household Hazardous Material Collection Facility operated by a privately owned firm that was experienced in hazardous waste management.

In 1998, Ada County contracted with MSE Environmental for hazardous material management and disposal. MSE operates the facility according to an operations plan and contract documents. By the end of Fiscal Year 2004, Ada County paid MSE \$653,000.

#### WASTE SCREENING

To ensure that hazardous or dangerous wastes are not disposed in the landfill, Ada County contracts for waste screening services. Employees of Environmental Earthworks, Inc. interview landfill users and examine loads to intercept inappropriate material. Environmental Earthworks takes the hazardous material collected at the landfill disposal area to the household hazardous material facility for proper management and disposal. For services during Fiscal Year 2004, Ada County paid Environmental Earthworks \$193,000.

## STAFFING AND DIVISIONS

To accomplish its responsibilities, goals and mission, the department consists of three divisions identified by their primary objectives. The three divisions are: Solid Waste Division, Hazardous Waste Division, and Environmental Division. Although the department divisions define the division of labor, the three divisions 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 DIVISION

The Solid Waste Division is the largest division in the department. Under the direction of the Director are a Health Protection Officer, a Solid Waste Planner, two Account Clerks, two Maintenance Mechanics, and five part-time Cashiers. These employees:

- Operate and maintain the Landfill;
- Enforce Ada County codes relating to human health, waste accumulation, unlawful waste disposal, uncovered or unsecured loads, and littering;
- Issue burn permits for locales outside fire districts;
- Collect landfill disposal fees;
- Account for department receipts and expenditures;
- Oversee contracts for waste collection, landfill operation, wood waste recycling, and solid waste screening;
- Provide public education and outreach programs about solid and hazardous waste disposal, recycling, and waste reduction.

### THE STAFF

The Health Protection Officer (HPO) is a sworn deputy for the Ada County Sheriff who works for the Solid Waste Management Department. The HPO enforces, by vehicular

patrol and visual inspection, County ordinances and federal laws relating to solid waste, hazardous waste, and air pollution. With jurisdiction in the unincorporated areas of Ada County, the HPO patrols over 900 square miles. The HPO also serves as the first-line supervisor for the department. He ensures proper landfill operation, oversees maintenance projects, and acts under the department's Director's authority in resolution of questions and disagreements.

The Solid Waste Planner provides short and long range analysis and plan development 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.

Account Clerks perform the full range of record keeping work in the detailed maintenance of the financial status of the Solid Waste Management Department, maintain accurate details of daily receipts and transactions, and monitor charge account activities of approved customers, and accomplish secretarial duties for the department.

The Environmental Systems Supervisor oversees operation and maintenance of the landfill gas extraction system, 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.

Cashiers greet customers, charge and collect fees from landfill customers, maintain custody and account for money received.

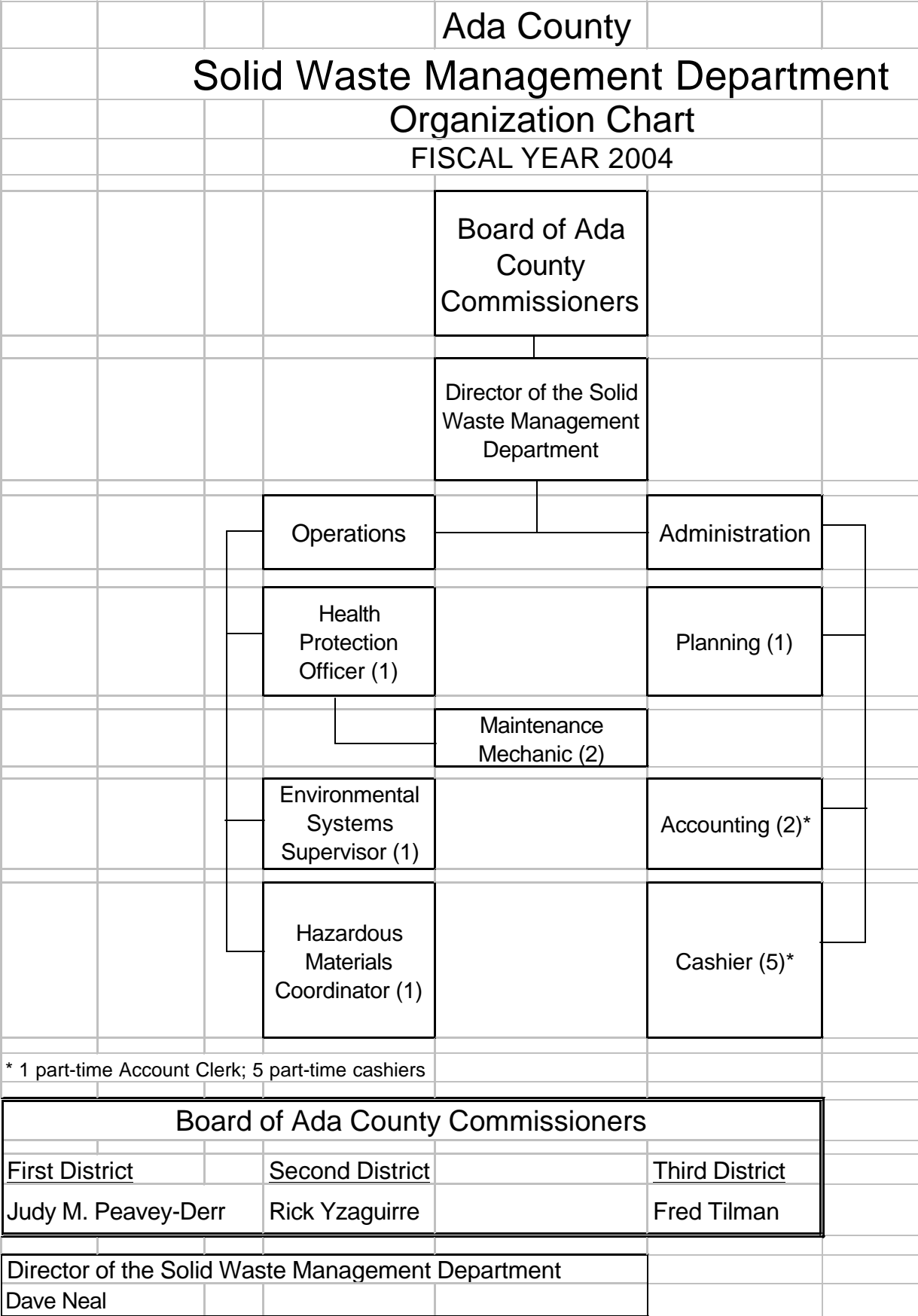


Figure 3 - Department Organization Chart



## OPERATION AND MAINTENANCE

Ada County owns 2,655 acres of land in the foothills northwest of the City of Boise. The main entrance to the Landfill is on Seaman's Gulch Road about 1½ mile north of Hill Road Parkway. Ada County acquired the land over a number of years. The Landfill sits on roughly 110 acres near the center of the property.

Several buildings are located on the landfill property, including the department's office, maintenance shop, hazardous material collection facility, cashiers' booths, and three

large storage buildings. The property is fenced with nearly 12 miles of barbwire fence.

Wind-blown litter is a constant problem for landfills. The Hidden Hollow Sanitary Landfill is no exception. Under the direction of department maintenance mechanics and temporary employees, inmates from the Ada County Sheriff's Inmate Labor Detail (S.I.L.D.) Program (an alternative sentencing program) perform litter gathering and other maintenance projects on the landfill property. Use of inmates from the S.I.L.D. program saves the department thousands of dollars each year in labor costs (FY 2004 - approximate savings of \$125,000).

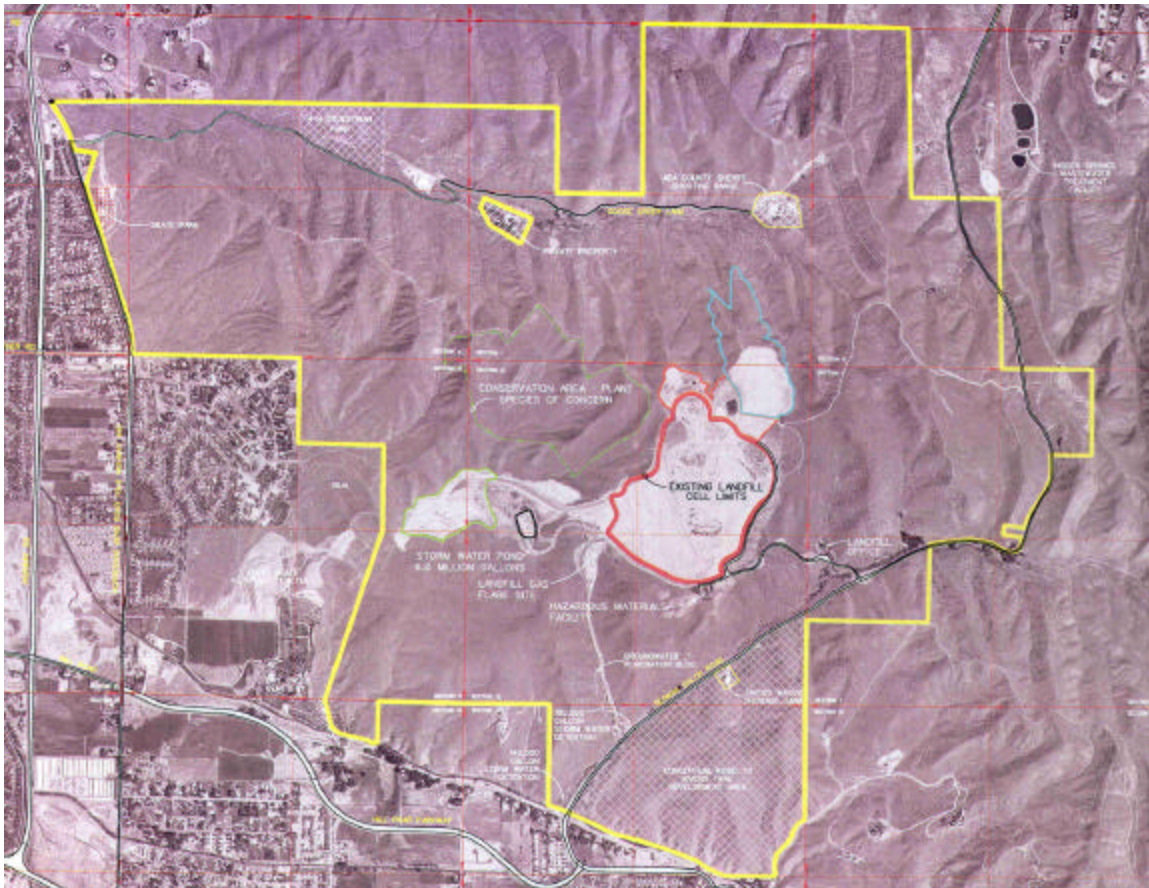


Figure 4 - Ada County's Landfill Property



## BURN PERMITS

For areas outside fire department or fire district boundaries (approximately 665 square miles), the Ada County Solid Waste Management Department is the issuing authority for burn permits. The department issues burn permits for weed control, field burning, maintenance of irrigation ditches, or removal of tree limbs and brush; or, if another practical method of disposal is unavailable. Ada County Code prohibits disposal of trash by burning (burn barrels).

## ACCOUNTING

Because the Solid Waste Management Department is an Enterprise Fund, the only revenue source for the department is the fee collected at the landfill gate. Customers are assessed a disposal fee at the gate. Fiscal Year 2004 saw more than 202,000 customers pass through the landfill gate. This represents an increase of 9.9% over last fiscal year.

The department's Account Clerks manage and track the monthly balances of more than 450 charge accounts. They also verify daily cash receipts and charges assessed by the cashiers.

Besides accounting for daily gate receipts and monthly charge accounts, the department is responsible for managing its annual budget. Since no tax dollars are expended for operation of the department, careful revenue and expenditure estimates have been calculated by the department to ensure that not only the operating budget is met, but that sufficient money is being saved by the department to meet long-term financial obligations required by Federal regulation.



Figure 5 - Welcome to Hidden Hollow Sanitary Landfill

## HAZARDOUS WASTE DIVISION

Recognizing a threat to the environment and to human health, Ada County established the Hazardous Waste Division to manage potentially hazardous material brought to the Landfill. The division is a direct descendant of annual household hazardous waste collection events held between 1989 and 1996. These highly successful and popular events were the result of cooperative efforts among Ada County, Boise City, the Central District Health Department, and the Ada County Highway District.

Because of the popularity and the increasing costs of the events, Ada County made the commitment to construct a permanent household hazardous material collection facility at the Landfill. In 1998, the County's Household Hazardous Material Collection Facility (Facility) opened. One County employee, a Hazardous Material Coordinator, oversees the operation of the Facility.

The Board of County Commissioners directed that any household hazardous material collected by local jurisdictions in Ada County could be brought to the facility and Ada County would pay the disposal costs. As part of its continuing support of the hazardous material collection program, the City of Boise purchased a van for use as a mobile collection site. Boise's very successful program has been copied, to a lesser extent, by the City of Meridian, City of Garden City, City of Eagle and by the City of Kuna.



Figure 6 - Ada County's Household Hazardous Materials Collection Facility

## HAZARDOUS MATERIAL MANAGEMENT

Located at the Landfill, Ada County's Household Hazardous Material Collection Facility accepts hazardous, potentially hazardous, or dangerous material from households in Ada County. Through a contract with a private firm specializing in hazardous material management (MSE Environmental), County residents may bring their household hazardous materials, such as, paints, pesticides, fertilizers, cleansers, solvents and automotive products to the Facility at no charge. Conditionally exempt small quantity generators (C.E.S.Q.G.) may qualify to use the Facility services at a nominal cost.

The Facility at the Landfill is open to Ada County residents each Friday and Saturday. The Facility accepts conditionally exempt small quantity generator waste by appointment only. Supplementing Landfill collection activities are collection activities in the cities of Boise, Meridian, and Kuna. For Fiscal Year 2004, more than 16,800 households were served by the collection program.

### COMPUTER MONITORS AND TELEVISIONS

Technology changes quickly. Today's modern computer is tomorrow's boat anchor. With rapid changes and obsolescence of electronics, Ada County disposes computer monitors and television sets through the Household Hazardous Material Management Program

Monitors and television sets, and other electronic devices containing a cathode ray tube, have up to eight pounds of lead in them. When the glass of the cathode ray tube is broken, the lead becomes leachable and is a hazard to human health and the environment.

Although these electronic devices are exempt from hazardous waste regulations (household exemption), Ada County proactively banned disposal of cathode ray tubes in the Landfill. The disposal option is management through the Program.

In Fiscal Year 2004, Ada County shipped more than 15,100 units (CRTs) to a recycling facility in Utah.



Figure 7 - CRTs ready for shipment to nxtcycle's™ processing center in Utah

### MOBILE COLLECTION AND EVENTS 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 City visits one of eight (8) sites around the City. More than 4,900 city households took advantage of the collection sites in this last fiscal year. This number is an increase over the prior year by nearly 1,100 participating households.

### City of Meridian

One day each month, 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 monthly event. Over 1,100 households took advantage of the Meridian collection site during Fiscal Year 2004.

The Meridian event is rather unique in its design. Meridian's trash collection company, Sanitary Services Company (SSC) collects recyclable commodities at curbside. Revenue from the sales of the commodities pays for the collection event with any money left over going to the City. The City has paid for playground equipment with the extra funds.

## 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 (Ada County's hazardous waste contractor - MSE Environmental) to manage the household hazardous material collected during the last day of the event. Each Fall, the City of Kuna and J&M Sanitation sponsor a one-day household hazardous material collection. Last fiscal year, over 600 households participated in the household hazardous material collection events.

## GARDEN CITY

On the second Tuesday of each month, residents of Garden City may take their household hazardous material to the old Garden City Hall site from noon until 7 P.M. As with the other mobile programs, Ada County accepts the material collected at the Garden City site. Last year, over 300 Garden City households took advantage of the program.

## COLLECTED MATERIALS

Hazardous material collected in the countywide program is taken to the County's Facility for processing and shipment to disposal facilities. Ada County's hazardous material contractor, MSE Environmental, categorized and processed 949,775 pounds of material.

MSE Environmental segregates into the material into following categories:

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

Due in large part to Ada County's priority for waste management, MSE Environmental strives to recycle/reuse as much of the collected material as possible. This past fiscal year saw 839,154 pounds (86.0%) recycled/reused, with 135,902 pounds (14.0%) destroyed by incineration.

## ENVIRONMENTAL DIVISION

Responsibility for monitoring conditions in, on, under, and around the Landfill falls to the Environmental Division. Areas monitored by the division include:

- Groundwater
- Surface water
- Air Quality

There are no permanently assigned Solid Waste Management Department employees in the Environmental Division. Monitoring is performed on a scheduled basis or on an "as needed" basis by either department staff or by the department's consulting engineer, CH2M Hill. The following functions are included in the monitoring program.

## GROUNDWATER MONITORING

As required under Federal and State regulations, Ada County monitors groundwater flowing under the Landfill to quantify water quality and to detect contaminants. Groundwater flowing away from the Landfill contains trace amounts of volatile organic compounds (VOCs). VOCs come from landfill gas that has contacted the groundwater. To rectify this problem, Ada County installed a system that extracts groundwater, removes the VOCs, and returns the groundwater to the aquifer. Since the groundwater system operations began in April 1998, over 42 million gallons of water have been treated.

## SURFACE WATER MONITORING

Federal and State regulations require the Solid Waste Management Department to manage run-on and runoff water that reaches the Landfill. Surface water controls include earthen berms that intercept and direct rainfall

and snowmelt into collection ditches and then into a containment pond.

New interceptor ditches are installed as the surface of the Landfill changes. These ditches not only direct the flow of water across the Landfill but also reduce erosion by slowing the water as it passes over the Landfill.

#### AIR QUALITY

A natural by-product of trash decomposition is landfill gas. Landfill gas consists of methane and carbon dioxide in nearly equal amounts. Methane and carbon dioxide are both odorless and colorless gases. However, other trace gases (sulfides) are quite odoriferous.

Because methane, in certain conditions, is explosive, care must be exercised at the Landfill to ensure that concentrations of landfill gas are not found outside of the landfill property. Several monitoring wells are located around the Landfill for the purpose of monitoring and recording landfill gas concentrations. As part of the Phase I Closure Project, a system to control the gas (collection and destruction) has been installed. This system is discussed in the next section of this report.

#### LANDFILL GAS – NUISANCE AND RESOURCE

Landfill gas is created as organic matter in the landfill decomposes. Through a 4-phase process, organic matter is broken down by bacteria naturally occurring in the waste and in the soil used as cover. Ultimately, in the 4<sup>th</sup> and final phase of decomposition, methane and carbon dioxide are produced at a fairly consistent rate in nearly equal concentrations. Included in this gaseous mix are minor amounts of other gases. These gases are smelly and obnoxious.

There are a number of reasons to control the gases created in a landfill. Principle among these is odor control. The odorous parts of landfill gas are pungent even at low concentrations. These odors can travel quite a distance before they are diluted enough to where humans cannot detect them. Also, as mentioned previously, in certain concentrations, methane is a highly explosive gas.



Figure 8 Installation of Header Pipe



## LANDFILL GAS EXTRACTION

Ada County's landfill gas extraction system consists of 52 gas wells installed in roughly 40 acres of closed landfill. Most of the wells are vertical wells drilled directly into the buried waste.



Figure 9 Landfill Gas Drill Rig

Where the buried waste is shallow and thin, horizontal wells (perforated pipes) are installed. Both vertical and horizontal wells are connected to header pipes that connect to the gas processing station. At the gas processing station, large pumps draw the gas from the landfill to one of two flare stacks.



Figure 10 Motors and Compressors

The gas is pumped into the flare stack where it is burned for destruction.



Figure 11 LF Gas Flare Station

Ada County is interested in finding an economically viable method of using the landfill gas captured at the Landfill. Presently, about 1,300 standard cubic feet per minute of landfill gas is being destroyed in the flare.

Alternatives to flaring the gas include fuel for electricity co-generation, such as a Caterpillar® generation set or a Capstone® micro-turbine, or as boiler fuel for steam generation for heat. There are other alternative uses for the gas, however, the costs associated with cleaning or pre-treating the gas may make those options cost prohibitive.

Regardless of the ultimate use of the gas, the flare station is an integral part of the system. The flare must always be ready in the event the alternative technology fails or if economic conditions changed making the alternate use uneconomical.

# LONG-TERM DEVELOPMENT

## THE NORTH RAVINE CELL

The current landfill cell (Hidden Hollow Sanitary Landfill) is nearing its designed capacity. By the year 2010, Ada County will need additional landfill capacity to meet its solid waste disposal obligations. Many options are available to Ada County for its long-term solid waste disposal needs.

To sort through the options and to obtain input from the public, the Commissioners undertook a public information/public education process. However, before the Commissioners took the process to the public, the Commissioners determined a set of criteria against which all options would be judged.

In the Fall of 2003, the Commissioners began a six-month, three-stage, decision-making process to identify the best way to expand solid waste capacity for Ada County. In Stage 1, the County educated the public about how Ada County manages solid waste through several outreach activities such as presentations to civic and government groups, tours, and community meetings. During Stage 2, several possible solid waste management options to meet the future capacity needs were identified.

Three public open houses were held to solicit feedback on the identified options and on the analysis used to determine the options. Through the process, the Commissioners determined there were four options for solid waste disposal. These options were:

- Option A: Landfill in Idaho (not owned by Ada County)
- Option B: New landfill in Idaho (owned by Ada County)
- Option C: New landfill at Hidden Hollow Sanitary Landfill (owned by Ada County)
- Option D: Out-of-state landfill (not owned by Ada County)

In Stage 3, the Commissioners, based on the results of Stages 1 and 2, the technical

information from the Design Consultant, and public input, selected Option C, develop a new landfill at Hidden Hollow Sanitary Landfill, as the preferred option. Option C met all of the criteria set by the Commission with an additional criterion for a long-term (greater than 50 years) solution.

With the selection of Option C, the Commissioners directed the Solid Waste Management Department and its consulting engineers to find a site within Ada County's Hidden Hollow property. After careful consideration, the department selected a site designated as the North Ravine as the location within the property that meets the criteria set by the Commissioners.

Future year-end reports will provide progress reports on the development of the new landfill. Design work began in Fiscal Year 2005 with construction expected to begin by 2007.

# FINANCIAL HEALTH

## REVENUE AND EXPENDITURES

Ada County's Solid Waste Management Department operates as an Enterprise Fund. As such, the department receives no tax dollars for support or operation. The department must pay for all expenses from disposal fees collected at the gate.

Fiscal Year 2004 was a bit of an anomaly in that the department's expenditures exceeded revenues. Fortunately, the department maintains a reserve fund for these events. Following are charts detailing the department's revenues (by source) and expenditures. Appendix H is a trend-graph comparing Revenue to Expenditure for a 5-year period.

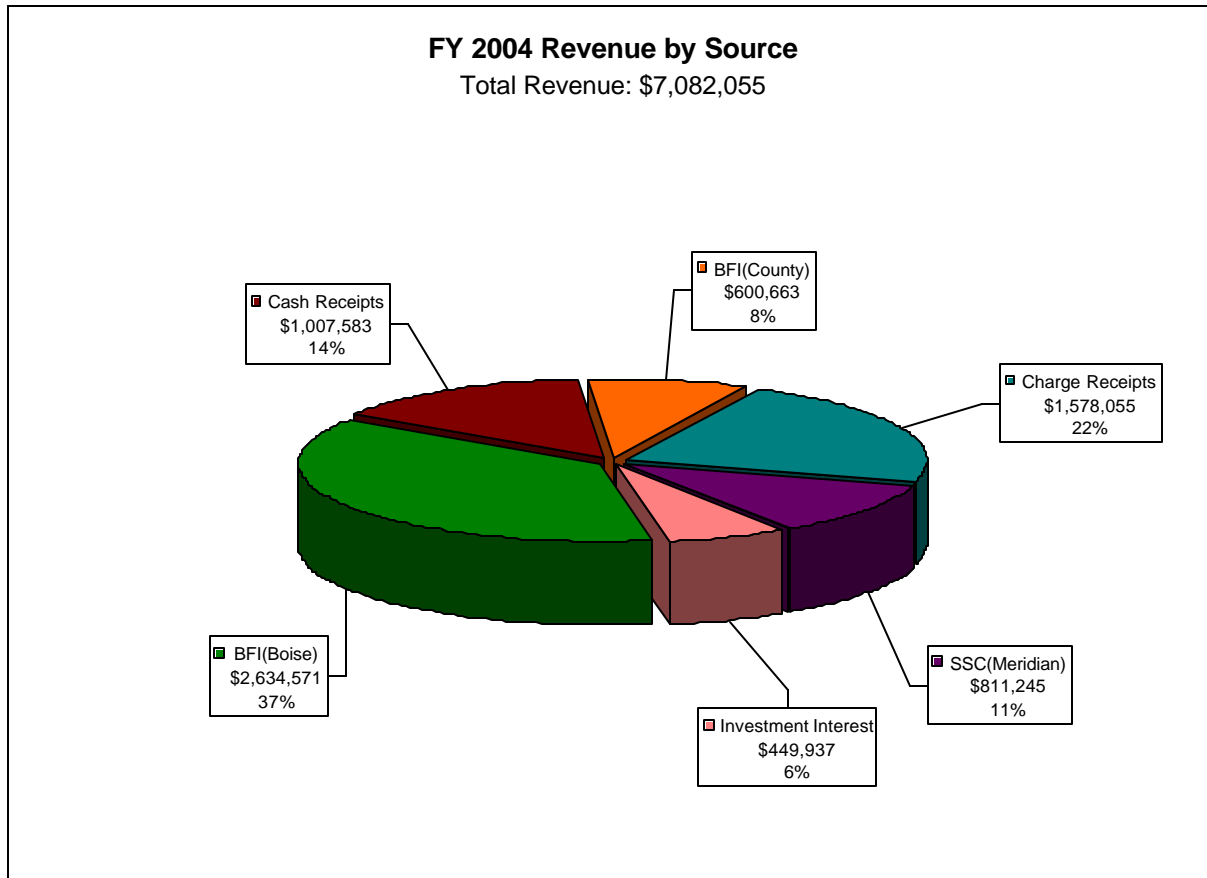


Figure 12 - FY 2004 Revenue by Source

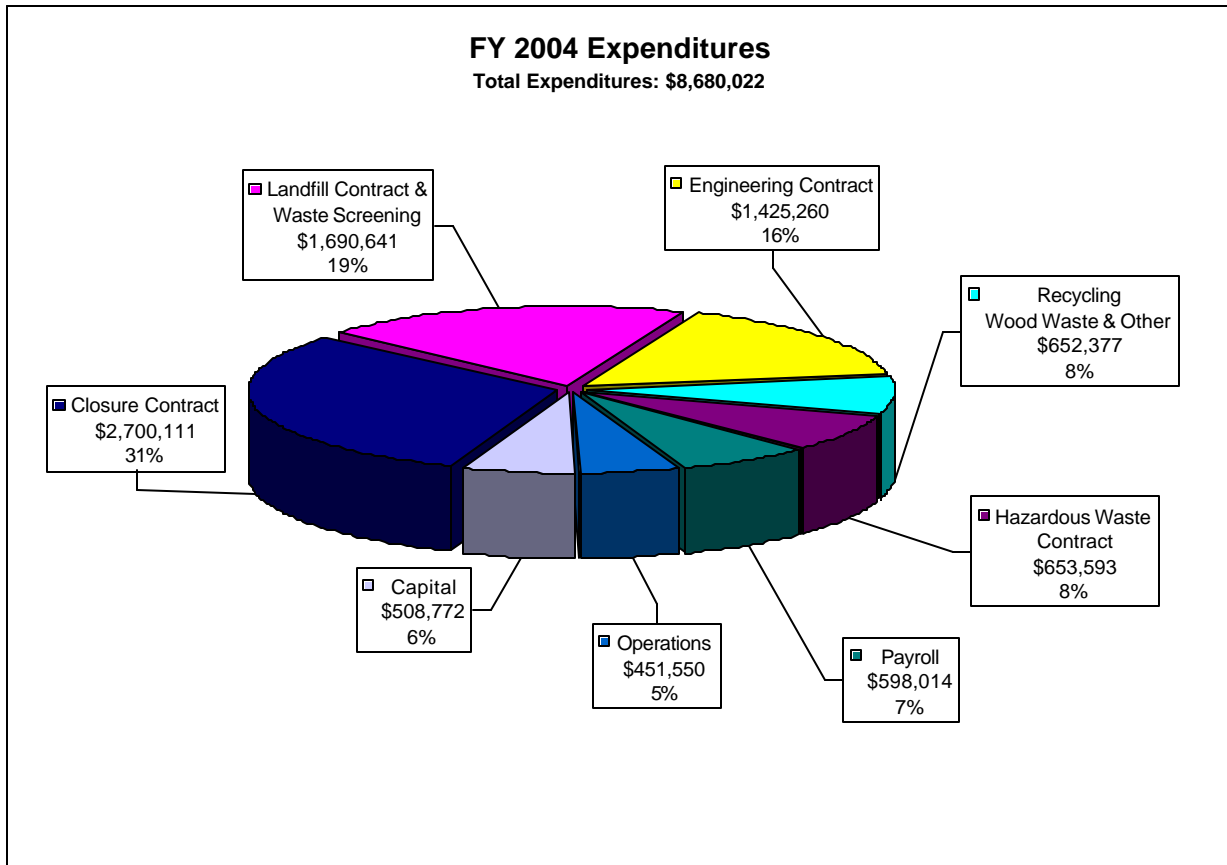


Figure 13 - Expenditures

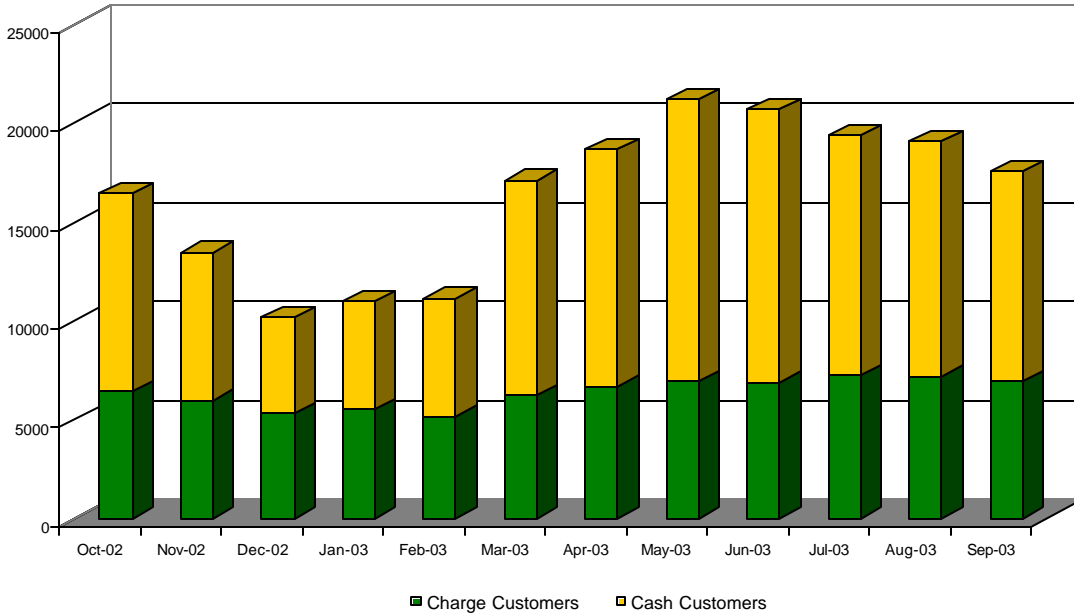
As mentioned before, Fiscal Year 2004 was unusual because expenditures exceeded revenues. The major construction project undertaken as Phase 1 of the landfill closure created this unusual situation.

**MONEY IN THE BANK**

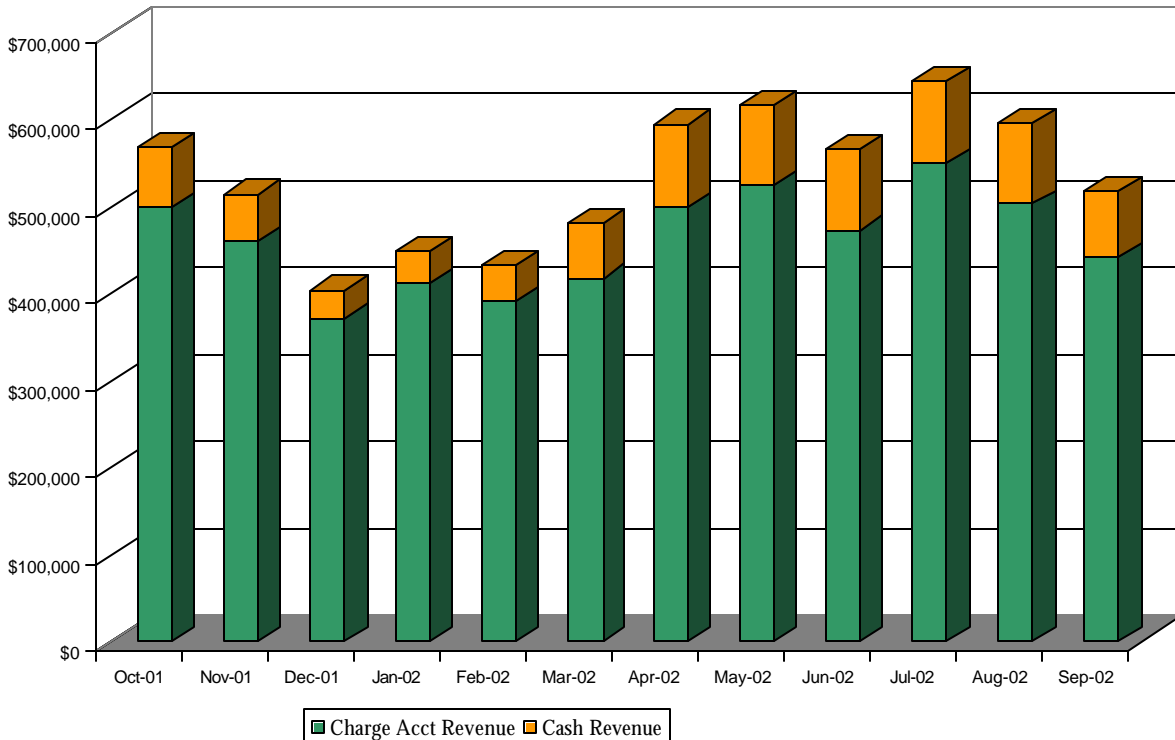
For many years, the department placed all revenues that exceed expenditures into a reserve fund. The department's reserve fund is for closure, post-closure, and long-term solid waste system projects. Presently, Ada County's reserve fund is sufficient to meet regulatory requirements for closure and post-closure care. Post-closure care is a minimum of 30 years after the landfill closes and includes monitoring and remediation of environmental issues that may arise after closure.



**Hidden Hollow Landfill**  
**FY 03 Customer Count**  
**Total Customers: 195,650**  
**Charge Customers: 76,478**  
**Cash Customers: 119,172**



**FY 2002 Revenue Source Comparison**



# WASTE MATERIAL

Waste entering the Hidden Hollow Sanitary Landfill arrives in all forms. However, for convenience and simplicity, this report classifies waste into four (4) basic categories:

- **Compacted Waste** - waste that arrives in a “packer” truck or commercial compactor.
- **Non-compacted Waste** - typically regular household trash; may be delivered by persons hauling their own waste.
- **Construction/Demolition Waste** - waste from any construction or demolition project. This waste type includes wood, metal, wallboard, rocks, concrete, dirt,

appliances, or any other material that does not compact well in the landfill. For the purposes of this report, asbestos-containing material is being included in this waste category although it has its own set of regulations and disposal standards.

- **Recyclable Wood** - wood waste placed in the wood recycling area. This material is recycled and not buried in the landfill.

The following chart shows the breakdown of materials received at the landfill in cubic yards.

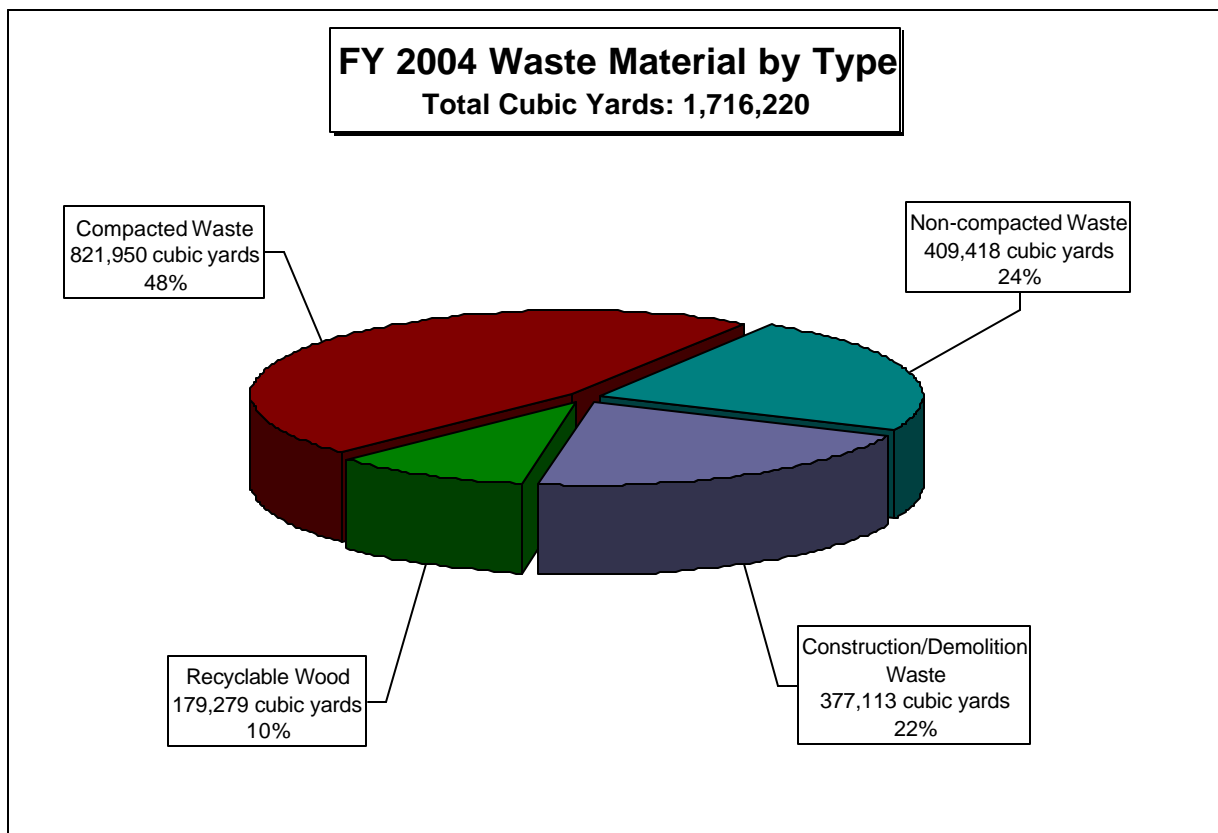


Figure 14 - Hidden Hollow Waste Types by Volume

# DIVERSION PROGRAMS

Diversion programs are efforts by the people and businesses of Ada County to reduce the quantities of reusable materials wasted by disposal in the Landfill. Much of the material in the waste-stream is recyclable or reusable.

Three highly successful diversion programs occur in Ada County:

- On-site recycling at the Landfill;
- Curbside recycling;
- And hazardous waste collection.

Following are descriptions of these diversion efforts.

## LANDFILL RECYCLING PROGRAMS

At the Landfill, recycling programs serve two highly useful needs. First, they provide environmentally sound methods of putting reusable resources back into the marketplace. Second, they reduce the amount of material actually being disposed in the Landfill.

### WOOD WASTE RECYCLING

Through the rate-structure at the Landfill, customers are encouraged to separate and recycle wood. The Wood Waste Recycling Program takes any wood, whether in a processed form or in its natural state. Wood received at the recycling area is chipped on-site and then shipped away from the Landfill for fuel at an electricity co-generation facility, compost feedstock, or landscaping. Through this diversion program, Ada County recovers a reusable resource normally lost to disposal. This program removes a resource that would take up considerable space in the Landfill.

Enviro-Progress, Inc., a privately owned company, holds the contract for the wood waste-recycling program. This company is responsible for managing the wood recycling area, chipping the wood, and shipping to end-

users. Enviro-Progress, Inc., must find its own markets for the chipped material.

The Wood Recycling Program is the most successful recycling program at the Landfill. By the end of Fiscal Year 2004, more than 59 million pounds (over 29,620 tons) of wood was hauled from the Landfill.

### USED TIRES

Ada County believes that used tires are a valuable resource that can be recycled. For the convenience of Ada County residents, the Landfill accepts limited quantities of tires at an additional fee. Ada County ships the tires from the area for recycling into other uses.

### REFRIGERATION UNITS

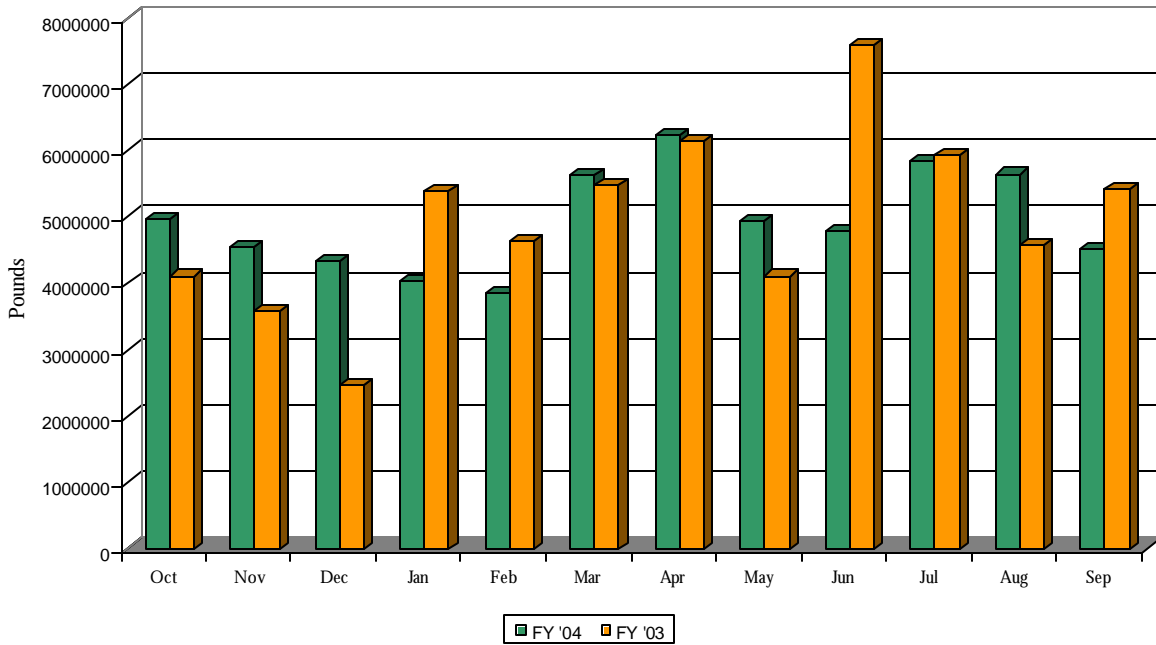
Unlike other appliances, refrigerators, freezers and air conditioners pose particular problems at landfills. Appliances with refrigeration units contain Freon, a "greenhouse gas" regulated by the US EPA. Deliberate or inadvertent release of Freon to the atmosphere violates Federal law and is subject to prosecution and severe fines. If placed in the landfill, the refrigeration unit can release its Freon when crushed by trash compaction equipment.

Besides Freon, the compressor motor in the refrigeration unit contains oil. Often the oil contains a known carcinogen, Poly-Chlorinated Biphenyl (PCB) and/or Chlorinated Fluorocarbons (CFC). Besides being a health risk, the oil is liquid and Federal law bans liquids from disposal in landfills. To address these issues, a privately owned firm, specializing in Freon recovery and compressor oil recovery, removes the refrigeration units from the Landfill.

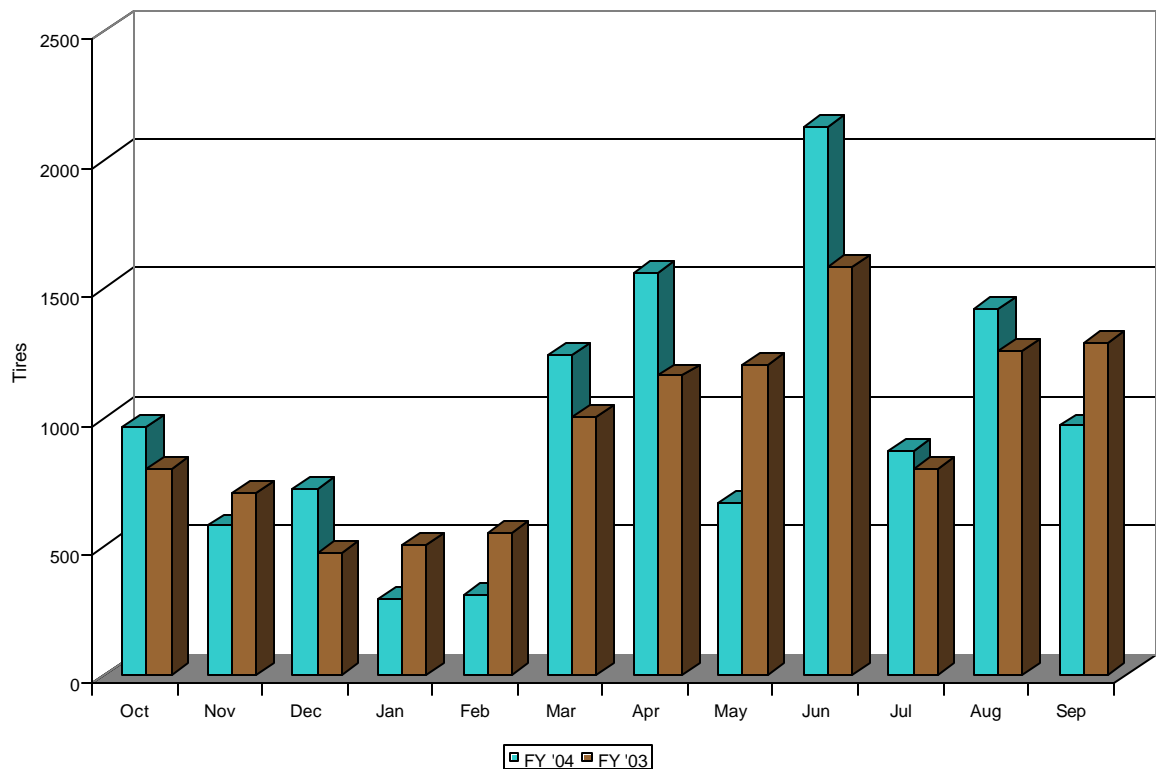
Although refrigeration units are of special concern, there is a positive side to collecting refrigeration units separately from the waste stream. Once a qualified firm removes the Freon and compressor oil, nearly 100% of the appliance is recyclable.

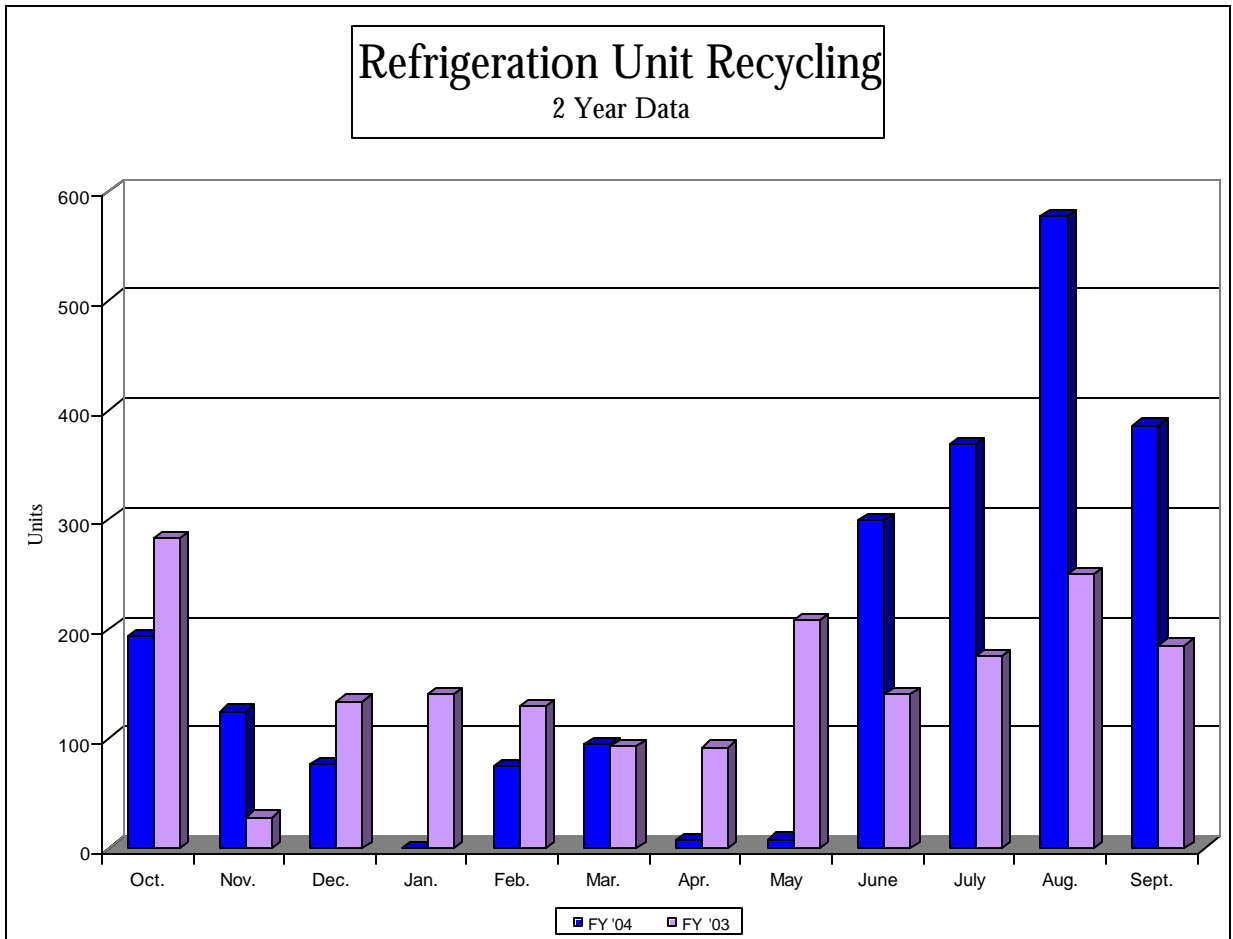
The following pages are graphic illustrations of the various landfill diversion programs.

### Wood Recycling Program 2 Year Data



### Waste Tire Recycling 2 Year Data





### COOPERATIVE DIVERSION PROGRAM

For several years, through a cooperative agreement between Ada County and BFI, BFI has been diverting waste to a privately owned landfill in Elmore County. Starting as a pilot program in 2001, BFI transports waste generated in the eastern portions of the County to the privately owned facility.

The purpose behind this agreement was to take some pressure off the Hidden Hollow Sanitary Landfill. The Landfill is nearing its designed capacity and diversion programs, such as this, help lengthen the time until a new landfill is required. For Fiscal Year 2004, BFI hauled over 132,880 cubic yards of waste to the landfill in Elmore County.

## HOUSEHOLD HAZARDOUS MATERIAL

A highly successful part of the on-site diversion/recycling efforts occurs at the Household Hazardous Materials Collection Facility. Ada County's hazardous materials contractor segregates material received in the program into basic categories. A large portion of the material is recyclable or reusable in some fashion. With the exception of the ReUse Program available at the Facility, the following materials are packaged and shipped to disposal facilities where a majority of the materials are recycled or reused.

Based on a waste management hierarchy set by Ada County, Ada County's contractor distributes materials collected in the Program in to the following categories:

- Reuse
- Recycle
- Incinerate
- Landfill

Fortunately, Ada County's hazardous materials contractor, MSE Environmental, reuses or recycles over 86% of the material collected (based on weight) with only 14% (by weight) being incinerated.

### REUSE PROGRAM

At the Facility, material arriving in its original container, is at least half full, is in good condition, and is not a banned material is placed on shelves and offered to the public free of charge. Ada County would rather see this material used up than disposed. More than 890 customers took advantage of the ReUse Program by picking up material.

### OIL-BASED PAINT

The Facility receives a large quantity of oil-based paint and other flammable liquids. Because these materials are flammable liquids, the contractor combines them for use as fuel supplement. The Facility shipped out more than 238,630 pounds of oil-based paint and flammable liquids collected in the Hazardous Materials Collection Program.

### AUTOMOTIVE BATTERIES

The largest single category of material received in the Program is automotive batteries. These are nearly 100% recyclable. A recycling company drains the acid and removes the lead cores. After cleaning, they mix the acid with new acid for use in new batteries. They melt down the lead cores to form new cores. Finally, they take the plastic cases, crush and melt them for use in forming new battery cases. Last year, the Facility shipped more than 204,000 pounds of batteries to the battery recycler.

### LATEX PAINT

Although not a hazardous material, the Program accepts latex paint. As a liquid, Federal law prohibits its disposal in landfills. There is a demand for the pigment found in latex paint. Ada County's contractor ships the paint to a facility in California where they dry the paint to recover the pigment. The California facility sells the pigment to companies that color cement with it. The Facility shipped 180,000 pounds of latex paint from the Facility last year.

### MOTOR OIL AND ANTI-FREEZE

Thermo-Fluids recycles the motor oil and anti-freeze collected in the Program. Last year, Thermo-Fluids picked up more than 114,200 pounds of motor oil and 23,800 pounds of anti-freeze.

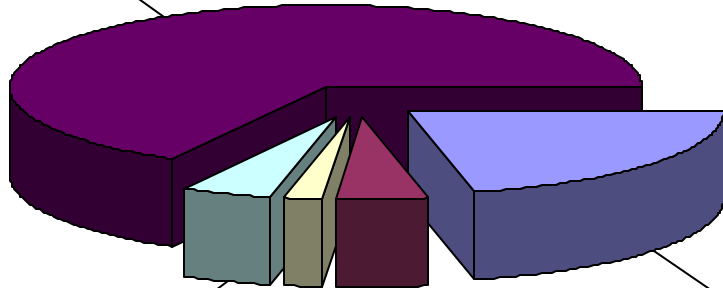
### OTHER ITEMS

The Program receives several other categories of material, although in lesser quantities. As with the categories listed above, these too are recycled or reused. Included in this category are cathode ray tube devices -- computer monitors and televisions. The Facility shipped more than 54,900 pounds of additional items.

The following charts summarize the fiscal year for the Household Hazardous Materials Collection Program.

**FY 2004 Household Hazardous Material  
Collection by Location**  
 Total Pounds Collected: 975,056  
 Total Households Served: 16,898

Ada County HHW  
 651,996 Pounds  
 66%  
 9,820 Households



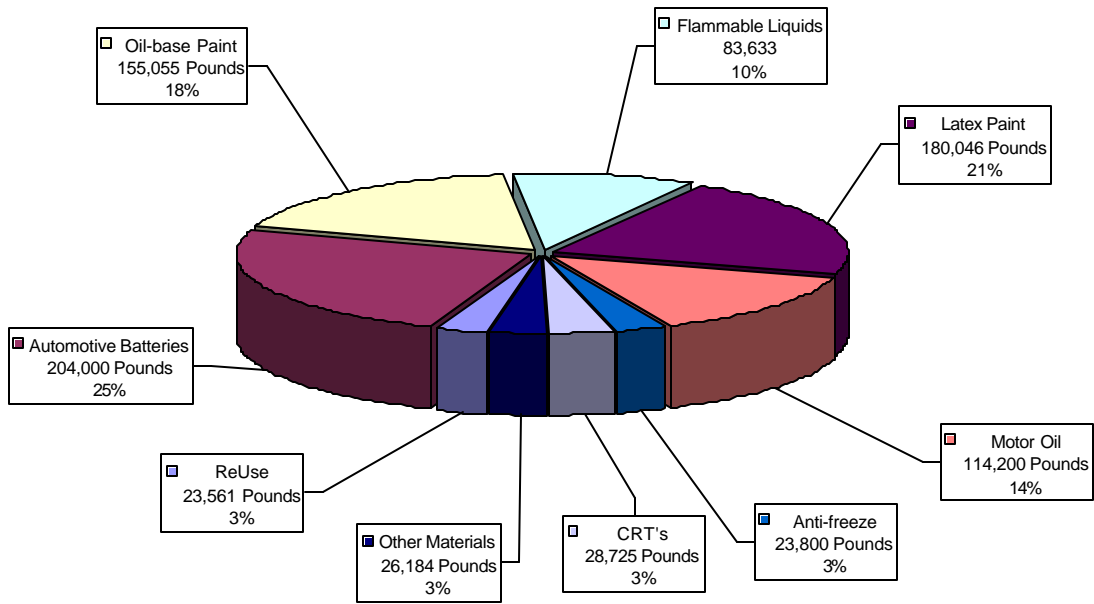
Kuna Events  
 45,476 Pounds  
 5%  
 602 Households

Garden City Mobile  
 19,226 Pounds  
 2%  
 373 Households

Meridian City Mobile  
 47,348 Pounds  
 5%  
 1,136 Households

Boise City Mobile  
 211,010 Pounds  
 22%  
 4,967 Households

**FY 2004 HHW Material Recycled**  
**Total Pounds Recycled: 839,154**





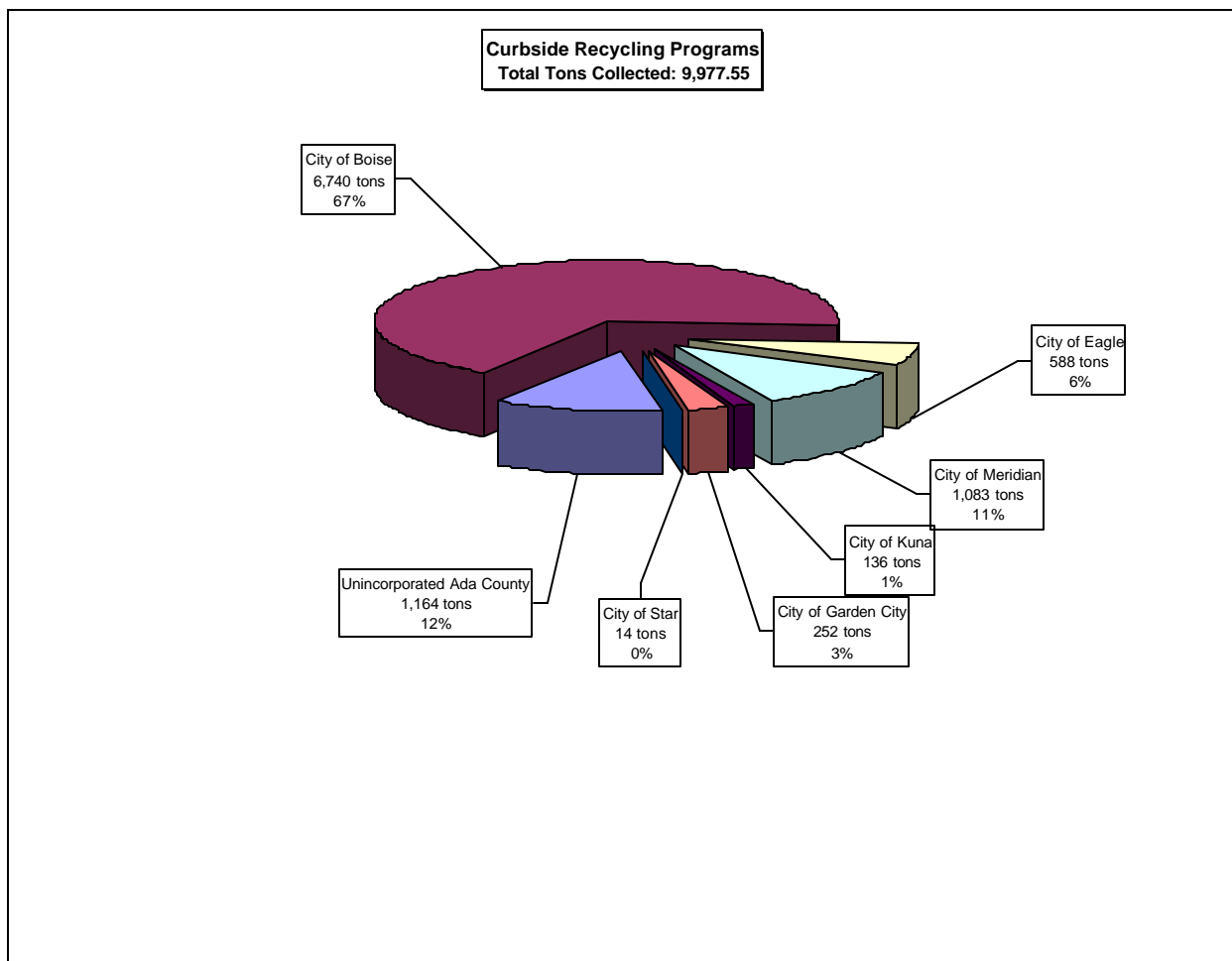
# CURBSIDE RECYCLING

Although curbside recycling is not an on-site landfill project, the Ada County Solid Waste Management Department encourages this activity as a method of waste diversion and reduction. Many residents in the County take advantage of the convenience of the curbside recycling programs.

Presently, Ada County is the only county within the State of Idaho where every single-family residence may access curbside

recycling. The department wishes to acknowledge the citizens of Ada County for their outstanding efforts in waste reduction and waste diversion.

Ada County and city residents placed over 9,978 tons of material at curbside for recycling. This number does not reflect the additional efforts of residents and businesses that take their recyclable commodities to recycle centers.





# APPENDICES

## Appendix - A

Ada County  
Curbside Recycling Program  
Commodities Collected by BFI  
(Measured in Tons)

<b>Commodity</b>	<b>Oct.</b>	<b>Nov.</b>	<b>Dec.</b>	<b>Jan.</b>	<b>Feb.</b>	<b>March</b>	<b>April</b>	<b>May</b>	<b>June</b>	<b>July</b>	<b>Aug.</b>	<b>Sept.</b>	<b>Total</b>	<b>%</b>	<b>Average</b>
<b>ONP</b>	59.77	58.51	57.98	44.07	46.78	48.86	59.68	54.31	55.91	48.19	44.9	51.15	630.11	54.11%	52.51
<b>MWP/OCC</b>	28.38	31.05	30.77	23.39	24.82	25.93	31.67	28.82	29.67	25.58	21.32	27.15	328.55	28.21%	27.38
<b>Plastic</b>	6.79	6.65	6.59	5	5.32	5.57	6.78	6.17	6.35	5.48	5.1	5.81	71.61	6.15%	5.97
<b>Tin</b>	3.13	3.06	3.03	2.3	2.44	2.54	3.12	2.84	2.92	2.52	2.35	2.67	32.92	2.83%	2.74
<b>Aluminum</b>	1.82	1.78	1.76	1.34	1.42	1.49	1.81	1.65	1.7	1.47	1.36	1.56	19.16	1.65%	1.60
<b>OMG</b>	10.58	7.08	7.02	5.34	5.66	5.91	7.23	6.58	6.77	5.83	7.95	6.19	82.14	7.05%	6.85
<b>TOTALS</b>	110.47	108.13	107.15	81.44	86.44	90.3	110.29	100.37	103.32	89.07	82.98	94.53	1164.49	100.00%	97.04

ONP = Newspaper

MWP/OCC = Recovered Paper/Cardboard Boxes

Plastic = #1, #2, #3

Tin = Steel "Tin" Cans

OMG = Magazines and Catalogs

## Appendix - B

City of Boise  
Curbside Recycling Program  
Commodities Collected by BFI  
(Measured in Tons)

<b>Commodity</b>	<b>Oct.</b>	<b>Nov.</b>	<b>Dec.</b>	<b>Jan.</b>	<b>Feb.</b>	<b>March</b>	<b>April</b>	<b>May</b>	<b>June</b>	<b>July</b>	<b>Aug.</b>	<b>Sept.</b>	<b>Total</b>	<b>%</b>	<b>Average</b>
<b>ONP</b>	306.76	278.08	344.32	313.77	269.25	321.61	309.95	287.49	316.79	267.78	311.81	315.09	3642.7	54.05%	303.56
<b>MWP/OCC</b>	145.66	147.59	182.74	166.53	142.9	170.68	164.5	152.58	168.13	142.12	163.96	165.68	1913.07	28.39%	159.42
<b>Plastic</b>	34.87	31.61	39.14	35.66	30.6	36.67	35.23	32.68	36.01	30.44	35.32	35.69	413.92	6.14%	34.49
<b>Tin</b>	16.01	14.51	17.96	16.38	14.06	16.73	16.18	15.01	16.54	13.98	16.22	16.39	189.97	2.82%	15.83
<b>Aluminum</b>	10.27	9.32	11.54	10.51	9.02	10.76	10.39	9.63	10.62	8.97	10.41	10.52	121.96	1.81%	10.16
<b>OMG</b>	54.29	33.67	41.69	37.99	32.6	38.88	37.53	34.81	38.35	32.42	37.62	38.02	457.87	6.79%	38.16
<b>TOTALS</b>	567.86	514.78	637.39	580.84	498.43	595.33	573.78	532.2	586.44	495.71	575.34	581.39	6739.49	100.00%	561.62

ONP = Newspaper

MWP/OCC = Recovered Paper/Cardboard Boxes

Plastic = #1, #2, #3

Tin = Steel "Tin" Cans

OMG = Magazines and Catalogs

## Appendix - C

City of Eagle  
Curbside Recycling Program  
Commodities Collected by BFI  
(Measured in Tons)

Commodity	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Total	Average	
<b>ONP</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
<b>MWP/OCC</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
<b>Plastic</b>	0	0	0	For the City of Eagle, records for commodities collection are only kept for monthly totals.								0	0	0	0.00
<b>Tin</b>	0	0	0	For the City of Eagle, records for commodities collection are only kept for monthly totals.								0	0	0	0.00
<b>Aluminum</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
<b>OMG</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
<b>TOTALS</b>	47.5	44.48	55.7	45.66	42.2	49.57	51.04	46.42	50.19	50.19	47.41	57.89	588.25	49.02	

ONP = Newspaper

MWP/OCC = Recovered Paper/Cardboard Boxes

Plastic = #1, #2, #3

Tin = Steel "Tin" Cans

OMG = Magazines and Catalogs

## Appendix - D

City of Garden City  
Curbside Recycling Program  
Commodities Collected by BFI  
(Measured in Tons)

<b>Commodity</b>	<b>Oct.</b>	<b>Nov.</b>	<b>Dec.</b>	<b>Jan.</b>	<b>Feb.</b>	<b>March</b>	<b>April</b>	<b>May</b>	<b>June</b>	<b>July</b>	<b>Aug.</b>	<b>Sept.</b>	<b>Total</b>	<b>%</b>	<b>Average</b>
<b>ONP</b>	12.12	10.83	12.19	11.71	8.81	9.06	14.28	10.8	9.92	11	14.24	11.13	136.09	54.01%	11.34
<b>MWP/OCC</b>	5.75	5.75	6.47	6.22	4.67	4.81	7.58	5.73	5.27	5.84	7.56	5.91	71.56	28.40%	5.96
<b>Plastic</b>	1.38	1.23	1.39	1.33	1	1.03	1.62	1.23	1.13	1.25	1.62	1.27	15.48	6.14%	1.29
<b>Tin</b>	0.63	0.57	0.64	0.61	0.46	0.47	0.75	0.56	0.52	0.57	0.74	0.58	7.1	2.82%	0.59
<b>Aluminum</b>	0.41	0.36	0.41	0.39	0.3	0.3	0.48	0.36	0.33	0.37	0.48	0.37	4.56	1.81%	0.38
<b>OMG</b>	2.14	1.31	1.48	1.42	1.07	1.1	1.73	1.31	1.2	1.33	1.72	1.35	17.16	6.81%	1.43
<b>TOTALS</b>	22.43	20.05	22.58	21.68	16.31	16.77	26.44	19.99	18.37	20.36	26.36	20.61	251.95	100.00%	21.00

ONP = Newspaper

MWP/OCC = Recovered Paper/Cardboard Boxes

Plastic = #1, #2, #3

Tin = Steel "Tin" Cans

OMG = Magazines and Catalogs

# Appendix - E

City of Star  
 Curbside Recycling Program  
 Commodities Collected by BFI  
 (Measured in Tons)

Commodity	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
ONP													
MWP/OC C				No monthly commodity breakdown is available for the city of Star only the annual total.									
Plastic													
Tin													
Aluminum													
OMG													
<b>Totals</b>													<b>13.82</b>

ONP = Newspaper  
 MWP/OCC = Recovered Paper/Cardboard Boxes  
 Plastic = #1, #2, #3  
 Tin = Steel "Tin" Cans  
 OMG = Magazines and Catalogs



## Appendix - F

City of Meridian  
Curbside Recycling Program  
Commodities Collected by SSC  
(Measured in Tons)

Commodity	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
ONP/OMG	56.45	52.30	65.91	52.45	46.45	53.86	54.69	49.85	53.53	49.45	54.41	55.16	644.51
MWP/OCC	28.32	26.24	33.07	26.32	23.31	27.02	27.44	25.01	26.86	24.81	27.30	27.67	323.37
Plastic	5.82	5.39	6.79	5.40	4.79	5.55	5.64	5.14	5.52	5.10	5.61	5.68	66.43
Tin	2.76	2.56	3.23	2.57	2.28	2.64	2.68	2.44	2.62	2.42	2.67	2.70	31.57
Aluminum	1.53	1.41	1.78	1.42	1.26	1.46	1.48	1.35	1.45	1.34	1.47	1.49	17.44
Totals	94.88	87.90	110.78	88.16	78.09	90.53	91.93	83.79	89.98	83.12	91.46	92.70	1083.32

ONP/OMG = Newspaper/Magazines/Catalogs  
MWP/OCC = Recovered Paper/Cardboard Boxes  
Plastic = #1, #2, #3  
Tin = Steel "Tin" Cans

## Appendix - G

City of Kuna  
Curbside Recycling Program  
Commodities Collected by J&M Sanitation  
(Measured in Tons)

Commodity	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
ONP	5.65	6.04	7.43	7.35	6.75	7.16	7.53	6.79	7.43	6.17	7.57	7.05	82.92
MWP/OCC	.63	.67	.83	.82	.75	.80	.84	.76	.83	.69	.84	.79	9.25
Plastic	.58	.62	.77	.76	.70	.74	.78	.70	.77	.64	.78	.73	8.57
Tin	.28	.30	.36	.36	.33	.35	.37	.33	.36	.30	.37	.35	4.06
Aluminum	.15	.16	.20	.20	.18	.32	.20	.18	.20	.32	.20	.19	2.50
OMG	1.78	2.20	2.41	2.46	2.54	2.64	2.46	2.40	2.64	2.22	2.77	2.41	28.93
Totals	9.07	9.99	12.00	11.95	11.25	12.01	12.18	11.16	12.23	10.34	12.53	11.52	136.23

ONP = Newspaper

MWP/OCC = Recovered Paper/Cardboard Boxes

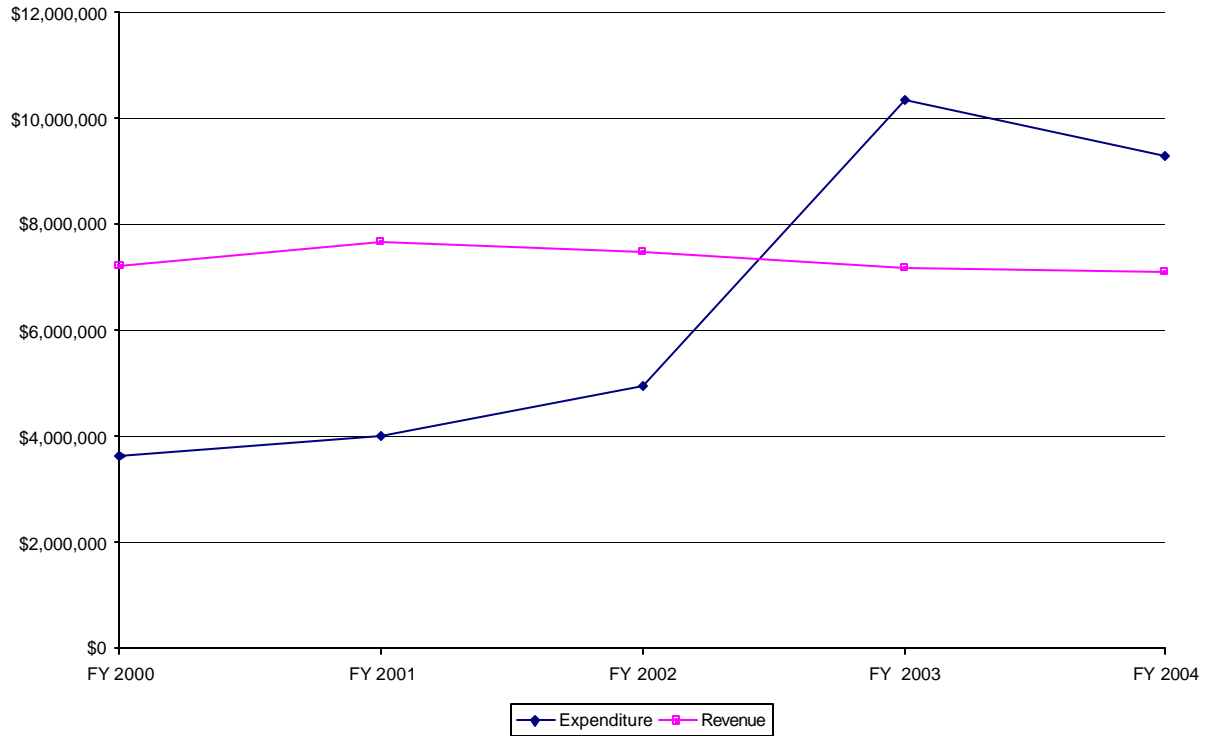
Plastic = #1, #2, #3

Tin = Steel "Tin" Cans

OMG = Magazines and Catalogs

# Appendix - H

## Revenue vs. Expenditure 5-year Trend



# SPECIAL THANKS

The Solid Waste Management Department wishes to acknowledge and to extend a special "Thank You" to the following people and companies who helped in the preparation of this report.

## THE BOARD OF ADA COUNTY COMMISSIONERS

Judy Peavey-Derr, Chairman  
Rick Yzaguirre, Commissioner  
Fred Tilman, Commissioner

## THE SOLID WASTE MANAGEMENT DEPARTMENT STAFF

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Paul Evans, Environmental Systems  
Supervisor  
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Kathie Van Curen, Account Clerk  
Judy Roell, Cashier  
Kathy Nelson, Cashier  
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Barbara Burkhardt, Cashier  
Jolie Rosenfield, Cashier

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## J&M SANITATION

Tim Gordon

## ENVIRO-PROGRESS, INC.

Devon Downs

## MSE Environmental

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## ENVIRONMENTAL EARTHWORKS, INC.

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