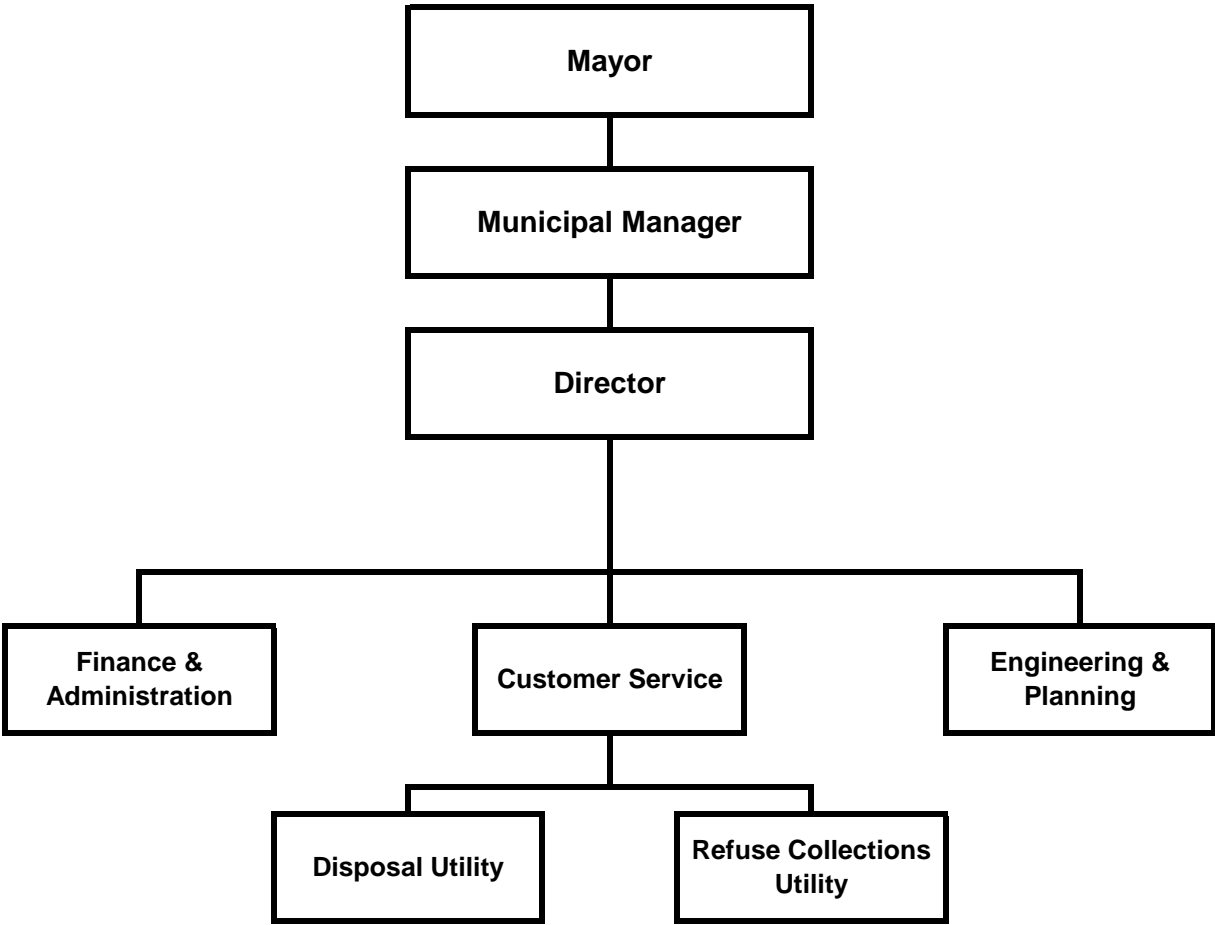


Solid Waste Services



Solid Waste Services Organizational Overview

The Municipality of Anchorage's (MOA) Solid Waste Services Department (SWS), comprised of the Refuse Collection Utility (RCU) and Solid Waste Disposal Utility (SWDU), is defined as a municipal utility by Anchorage Municipal Code [AMC 26.10.015]. The Utilities are self-funded and self-supporting by revenues derived from operations; primarily customer fees for services. No tax dollars are used by SWS operations. By Code and Municipal Charter, each utility is required to operate in accordance with general business standards common to the solid waste industry [Charter Article 16.01] and to provide a reasonable profit in accordance with industry standards [AMC 26.10.060].

To support the RCU and SWDU's, SWS has three additional operating divisions: Engineering & Planning; Customer Service; and, Administration. Each SWS supervisor reports to the Director.

Director

The Director is responsible for the overall management of SWS. The Director oversees operational decisions, with the Solid Waste and Recycling Advisory Commission (SWRAC) providing an overview of strategies, operating plans and budgets, along with offering input on solid waste issues, ordinances and policies.

Refuse Collection Utility

The RCU provides both residential and commercial service to the former City of Anchorage service area. The RCU has recently converted its customers to automated operations. There are approximately 200 customers which still receive manual can and bag pickup. This change is expected to be complete by 2017.

Commercial refuse collection consists of seven routes serviced Monday through Friday and four additional routes serviced on Saturdays. This equates to the servicing of over 5,000 dumpsters on a weekly basis. All commercial refuse collected is unloaded at the Central Transfer Station (CTS).

Residential refuse collection consists of 11 routes serviced Monday through Friday for over 10,000 customers. All residential refuse is collected and unloaded at CTS. Curbside Recycling is performed by two routes that service over 9,500 customers weekly. Mixed paper and cardboard recycling collection is also provided to more than 50 municipal offices on a weekly, bi-weekly, and monthly basis. All recycling is transported and unloaded at the Anchorage Recycling Center (ARC) and pays a recycling tipping fee.

All refuse and recycling collection activities are currently performed by 27 full time employees. The RCU fleet consists of: 10, 40 cubic yard commercial frontload vehicles; nine 27 cubic yard automated sideload vehicles; one 25 cubic yard rear loader; six light-duty support vehicles; and, one forklift. RCU vehicle maintenance employees repair and maintain this fleet within a warm storage facility located at the CTS. RCU employees are members of the Teamster's union with the vehicle maintenance employees being part of the International Brotherhood of Electrical Workers. All operators are required to participate in a pre-route safety-operations briefing, and daily Department of Transportation (DOT) required pre-shift and post-shift vehicle inspections.

Solid Waste Disposal Utility

The main function of the SWDU is to dispose of household and commercial refuse generated in the MOA. The refuse is brought to three locations: Girdwood Transfer Station (GTS); CTS; and, the Anchorage Regional Landfill (ARL). The SWDU has an extensive fleet of specialized equipment for the disposal of refuse that is maintained, operated and supported by highly skilled and trained staff.

GTS receives 750 tons of refuse annually. GTS has a paved area where solid waste is discarded into an enclosure containing a 120 cubic yard trailer for transfer to CTS. GTS accepts used oil and batteries from customers and these items are picked up by SWS's Household Hazardous Waste (HHW) contractors for proper disposal, recycling, or for reuse.

CTS is located between the old and new Seward Highways on 56th Avenue. Solid waste disposed of at CTS is transferred by SWS tractors pulling 120 cubic yard open top trailers, to ARL. An average of 800 tons per day of solid waste is transferred from CTS to ARL. CTS also has an HHW disposal location and accepts residential used oil, batteries and appliances that are picked up by contractors for proper disposal, recycling, or for reuse. Customers can drop off small quantities (less than 220 pounds per month) of unregulated hazardous waste not allowed to be disposed of at ARL. A total of 25 SWS operators perform the various duties and operations associated with CTS.

ARL is located near the intersection of the Glenn Highway and Hiland Road and is a 275-acre, award-winning, subtitle D landfill that typically processes approximately 1,200 tons of refuse daily. Currently, nine cells are constructed, with a total of 12 cells to be developed. Every day solid waste is compacted and then covered with soil using bulldozers. The cover material comes from the excavation of future cells. Each landfill cell is lined and contains a leachate (water) collection system. Leachate is collected and transported in pipelines at the bottom of the landfill to collection lagoons for pre-treatment by aeration to increase the oxygen levels at ARL. On average, three specially designed leachate tankers transport and dispose of 25M-gallons per year at the Anchorage Water & Wastewater Utility's Turpin Road dump station. ARL employees are responsible for the daily disposal of all of the MOA's refuse, the excavation and hauling of daily cover material, the installation and maintenance of landfill gas recovery wells and lines, the hauling of leachate, the building and maintaining of roads, snow removal, dust control and equipment repair. Located within a warm storage facility located at ARL, vehicle maintenance employees repair and maintain heavy equipment and SWDU vehicles. A total of 26 SWS operators and mechanics perform the various duties and operations associated with ARL. The main HHW facility is located at ARL and is operated by a contractor that serves the residential and small business customers.

In 2008, the SWDU established the MOA's recycling program which has seen increasing success. City-wide recycling has increased and trash disposed at the landfill has gone down decreased thus extending the life of the landfill. Funded from a recycling surcharge, the program promotes recycling and the recycling industry. One fulltime recycling coordinator answers public inquiries, and, in coordination with private and non-profit partners, prepares educational media (including social media) campaigns and events related to recycling throughout the MOA. The surcharge has funded the development of an expanded paved public recycling drop-off site at the landfill. ARL currently accepts aluminum cans, paper, plastic, and cardboard. The materials are then transported to the Anchorage Recycling Center.

The program also provides support for public space recycling and to the Anchorage School District (ASD) by collecting mixed paper from all their facilities. Recycling within the MOA is further supported through a grant for Christmas tree recycling, and a grant to offset the Port of Anchorage wharfage fees that the ARC pays to ship recyclables out of state. A large, but less visible effort is economic and business development grants. These funds are given to local recycling businesses for developing ideas for reusing materials in-state, such as glass, tires, construction and demolition debris, and organics.

Engineering and Planning

The Engineering and Planning Division consists of one engineer/manager and two engineering technicians. The group has the following main tasks:

- Planning, design and construction of new facilities;
- Major facility upgrades and repairs;
- Technical landfill operations;
- Landfill gas (LFG) collection system operation; and,
- Regulatory compliance.

The division is responsible for the planning, design and management of construction activities related to landfill expansion, LFG collection system expansion and maintenance, and landfill closure projects. The division relies on contracted engineering services for major design and construction projects. As the landfill development progresses, engineering efforts will turn more toward closure and reclamation projects such as capping, re-vegetation and storm water management. The current closure cost includes \$56M of closure construction work, and \$28M (both in 2015 dollars) of post closure care costs that will be conducted over a period of 30 years following the closure of ARL.

As SWS facilities age (many are over 30-years old), the division is responsible for the procurement of services for major repair and maintenance activities. These activities include periodic reconstruction of the CTS tipping floor, paving of roads and work areas at ARL, and rehabilitation of landfill gas and leachate wells and piping systems.

The division provides technical support to the SWDU ARL staff to improve landfill operations and maximize airspace utilization. The division helps re-engineer outer landfill slopes which recovers valuable landfill airspace and regularly monitors waste compaction and daily cover quantities in order to re-evaluate these estimates. The division provides support for planning fill operations, developing access roads, and efficiently mining cover materials from the site. As an example, the landfill crew, in addition to processing solid waste, can also mine gravel for current and future cover operations.

The LFG collection system currently supplies Doyon Utilities (DU) with gas to power turbines that provide power to Joint Base Elmendorf-Richardson. LFG activities at ARL include daily checks of key operating parameters, as well as routine maintenance of LFG well heads and monitoring equipment. The system currently requires a bi-weekly check and rebalancing of over 58 current gas collection points to optimize the efficiency of the gas collection system while maximizing the gas output delivered to DU.

The division is responsible for compliance with environmental regulations at ARL as well as three closed landfill sites. All sites have groundwater monitoring and reporting requirements, as well as solid waste permit compliance relating to operation or post-closure monitoring. The

Merrill Field landfill site has active landfill gas and leachate management systems which have both operational and regulatory reporting requirements. ARL operates under an active Class I landfill operating permit, as well as a Title V Air Quality operating permit, both issued by the Alaska Department of Environmental Conservation (ADEC). In addition to specific operating requirements, these permits require numerous inspections, as well as documentation and reporting requirements. Because ARL accepts asbestos wastes, it is regulated under National Emissions Standards for Hazardous Air Pollutants which requires inspection and documentation of every load of regulated material received. Both ARL CTS have Storm Water Pollution Prevention Plans approved by ADEC which have regular inspection, monitoring, sampling, and reporting requirements.

Customer Service

The Customer Service Division has two work groups; the Customer Service Call Center/Administration; and, the Scale house/Cash Booth. Both work groups, totaling 18 employees, are managed by one Senior Administrative Officer.

Customer Service Call Center/Administration

This work group is based out of the SWS Administration Building located at 1111 East 54th Avenue. This office is staffed with one Senior Administrative Officer, one Junior Administrative Officer, one Collector, one Code Enforcement Officer and three Account Representative III's. The SWS call center staff answer up to 160 calls per day and also maintain the SWS customer information system, which allows the invoicing of up to 12,350 customers monthly. These customers account on average more than \$2.1M in payments monthly to their accounts.

The SWS Code Enforcement officer ensures compliance within the SWS mandatory service area by actively facilitating corrective action in accordance to AMC's 14, 15, 21.07 and 26; while handling all in-house collections efforts for accounts that are 31 to 90 days past due. Once these accounts reach 90 days past due, they are transferred to the MOA third party collections company for further collective action.

Scale house and Cash Booth

The 12 employees of the Scale house and Cash Booth work group operate both the scale houses and cash booths at CTS, ARL, and GTS. Operating hours and days of operation vary by location, but overall this work group operates 363 days a year, including all MOA holidays except Christmas and New Year's Day. Opening shifts begin as early as 6 A.M. for the staff opening CTS, closers are often on duty until approximately 6 P.M.

This group are the smiling faces that greet both the residential and commercial disposal customers as they visit our disposal locations. These employees screen the customer's load prior to disposal, kindly educate many on safe disposal practices, enforce compliance with AMC and State Laws regarding litter prevention and the assessing of fees, and help monitor safety compliance. These team members assist over a quarter of a million customers that visit our facilities each year.

Administration

The Administration division provides support to all SWS employees. It is responsible for IT assistance, Safety, Finance & Accounting, Purchasing, Accounts Payable, as well as human

resources, labor relations, security, code enforcement, facility maintenance, and vehicle parts inventory functions.

The IT staff at SWS helps manage all the technology and computer systems that track loads, weights, customer accounts receivable, billing, revenues, as well as the upload of SWS data into MOA accounting systems. This group also researches, evaluates, and implements existing and emerging technologies when deemed necessary, fiscally responsible, and/or becomes critical to operations. IT staff are in the process of completing the implementation of an integrated on-board computer system for RCU vehicles which will improve customer service, efficiency and route optimization.

The Safety Section ensures that all operations are conducted in a safe manner. The Safety Section is responsible for compliance with OSHA safety standards by ensuring that the work environment is safe, as well as identifying and mitigating potential hazards for SWS employees and the public long before the hazard becomes an accident statistic. The Safety Officer inspects buildings, projects, equipment, operating practices and working conditions for compliance with various MOA, State and Federal safety codes and regulatory requirements. The Safety Officer coordinates safety programs in training, personal protective equipment, clothing and devices, as well as organizes and conducting seminars on first aid and OSHA required safety training. The Safety Officer prepares reports and makes recommendations for improvement. By analyzing data on accident rates and compensation claims, the Safety Officer develops methods to reduce costs, loss time, and personnel suffering.

The Finance and Accounting section manages the financial matters of SWS, including the accounting for revenues and expenses, the preparation of budgets, asset management, capital expenditures, as well as providing financial reports. The Purchasing and Accounts Payable section is responsible for the procurement of and the payment for all equipment, supplies, and contracts, in coordination with other MOA departments. Two employees process all accounts payable for SWS. Invoices are received, checked, account coded, approved, and entered into PeopleSoft for payment. Purchase orders are initiated at SWS: verifying proper account codes and funding, attaching all supporting documentation, obtaining proper department approval and then forwarding the packets to MOA Purchasing for final approval. Over 100 SWS timecards are processed each week into the PeopleSoft system from the Kronos timekeeping system to ensure proper pay and cost of service coding. Other support duties include: ordering office supplies; processing travel authorizations; expense reports; incoming and outgoing mail; maintaining files; providing administrative support to supervisors; and, to the SWRAC.

The SWS philosophy is to retain a small staff, while encouraging safety and dedication to a job well done.

Solid Waste Services Business Plan

Mission

Provide management of our solid waste resources to create a safe and sustainable waste system for the MOA in a way that is economical and environmentally responsible.

Services

The Refuse Collection Utility (RCU) provides garbage collection to the service area of the former City of Anchorage, which is approximately 20% of the population of the MOA. Since at least 1952, there has been mandatory service for all customers of the RCU service area. The RCU provides three types of service: commercial dumpster; automated roll cart service; and, can and bag service.

The Solid Waste Disposal Utility (SWDU) serves the entire MOA. The services include the disposal of solid waste, the collection of household hazardous waste, and the promotion of community recycling. Municipal solid waste is received at three transfer stations located within MOA. The waste is then transported by SWS from Central Transfer Station (CTS) to Anchorage Regional Landfill (ARL) for final disposal.

Business Goals

- Provide exceptional customer service for an equitable cost to the customer.
- Ensure facilities are safe for customers and SWS employees.
- Provide proper disposal of hazardous waste for commercial and residential generators.
- Promote community involvement through education and be responsive to the needs and concerns of municipal citizens.
- Use technology to optimize operations.
- Plan and prepare for current and future waste collection and disposal needs.
- Create incentives and programs to promote source reduction first, then recycling, then treatment, and finally disposal as the preferred means to handle waste.
- Research and explore new revenue options.

Strategies to Achieve Goals

SWS's strategic plan provides a framework to achieve results for customers.

RCU

1. Reduce refuse volumes by promoting waste reduction and increased curbside recycling diversion.
2. Reduce injuries associated with residential refuse collection.

SWDU

1. Optimize solid waste transfer truck utilization.

Performance Measures to Track Progress in Achieving Goals

Solid Waste Services measures progress in achieving these goals using sets of quantifiable performance measures.

RCU

1. Percent change in recyclable material diverted from the residential waste stream.
2. Percent change in worker injuries.

SWDU

1. Solid waste transfer truck payload weight.
2. Transfer Loads per driver shift.

Solid Waste Disposal Utility

Mission

Dispose of municipal solid waste generated within the MOA in compliance with state and federal regulations.

Core Services

- Operate ARL
- Operate the solid waste transfer stations and transfer fleet
- Promote community recycling efforts

Accomplishment Goals

- Optimize solid waste transfer truck utilization

Performance Measures

- Solid waste transfer truck payload weight
- Transfer loads per driver shift

The following graph provides actual average payloads by month from January 2012 through June 2016.

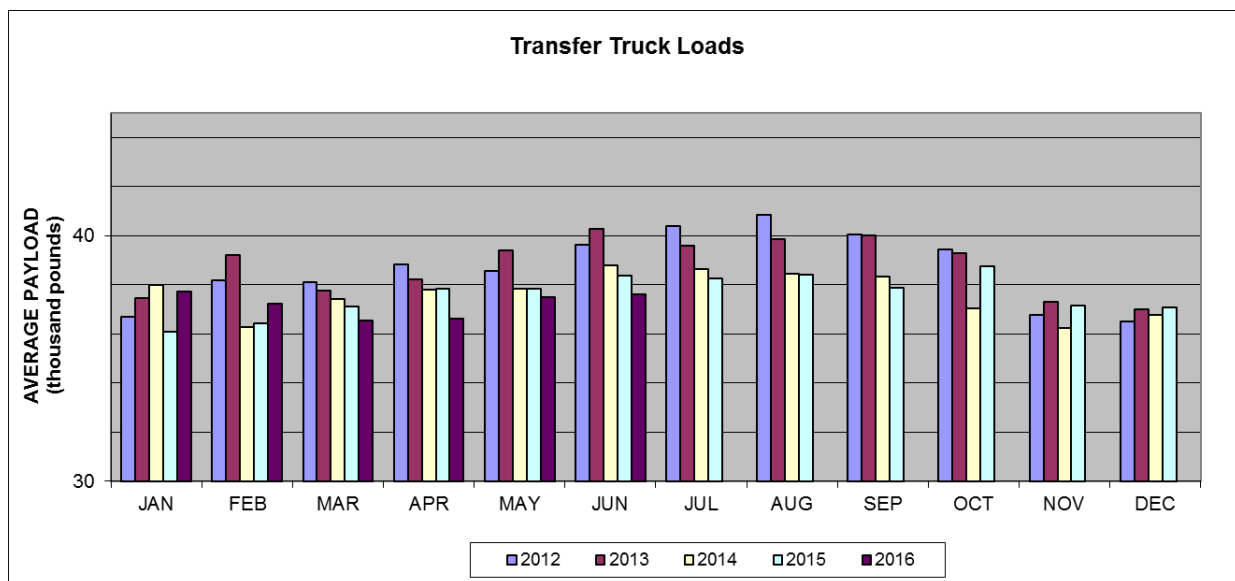


Table 1. Payload Data 2015 – 2016

<u>MONTH</u>	<u>AVERAGE WEIGHT</u>	<u>EXCEEDING TARGET</u>	<u>EXCEEDING TARGET (+/- 5%)</u>
APR-15	37,851	81%	94%
MAY-15	37,826	49%	81%
JUN-15	38,392	56%	85%
JUL-15	38,251	56%	84%
AUG-15	38,421	59%	87%
SEP-15	37,686	49%	80%
OCT-15	38,756	67%	89%
NOV-15	37,148	69%	87%
DEC-15	37,062	66%	87%
JAN-15	37,742	77%	92%
FEB-15	37,233	72%	88%
MAR-15	36,549	61%	86%
APR-15	36,628	79%	85%
MAY-15	37,502	45%	76%
JUN-15	37,605	45%	78%

Table 2. Loads per Driver Shift Data 2015 – 2016

<u>MONTH</u>	<u>SHIFTS \geq 5 LOADS</u>	<u>SHIFTS \geq 4 LOADS</u>
APR-15	32%	90%
MAY-15	63%	96%
JUN-15	78%	97%
JUL-15	72%	91%
AUG-15	79%	97%
SEP-15	65%	96%
OCT-15	63%	93%
NOV-15	36%	86%
DEC-15	36%	91%
JAN-16	26%	81%
FEB-16	23%	80%
MAR-16	30%	85%
APR-16	70%	97%
MAY-16	80%	96%
JUN-16	72%	92%

Measure: Average transfer payload rate.

Type

Efficiency

Accomplishment Goal Supported

Maximization of fleet utilization by ensuring that all transfer loads meet load targets (38,000 lbs in summer; 36,000 lbs in winter) whenever possible and that drivers ideally make five trips per day to the landfill.

Definition

This measure will improve utilization of the transfer fleet. Significant deviation from this measure may be an indication that the fleet is under-utilized or over-staffed.

Data Collection Method

All transfer trucks are weighed upon arrival at ARL. Truck number, driver identification, load weight and origin are recorded into our automated scale house database for each truck.

Frequency

Measurement is made for every truckload hauled to ARL. A summary report is produced on a weekly basis showing each load, by driver, by day.

Measured By

Weights are measured by the commercial scales at ARL which are certified for commerce by the State of Alaska. Truck number and driver identification are entered by the scale house staff, but weights are recorded directly from the scale to the database.

Reporting

A weekly report is prepared by the SWS IT group which summarizing the loads by driver, weight and day. Total loads and truck count are recorded in an Excel spread sheet which summarizes the sources of all loads entering the landfill by day, day of week, month and year.

Used

Data is used by the Director and Disposal Superintendent and Transfer Station General Foreman to schedule staffing and shifts and make decisions on fleet size and vehicle replacement.

Explanatory Information

Approximately 70 percent of all solid waste processed by the SWDU is received at CENTREAL TRANSFER STATION and then transported by our transfer fleet to ARL. Operation of our transfer fleet is one of the more costly operational activities of the utility. Each day, SWS processes an average of 800 tons of garbage through CENTREAL TRANSFER STATION. SWS operates a fleet of transfer trailers, each with a capacity of 120 cubic yards (cy). A trailer can carry a maximum payload of between 38,000 and 42,000 pounds depending on the vehicle weight. Actual payloads are often less than that, and depend on the

amount, type and condition of garbage received. Payloads are also further reduced when load restrictions are in force during spring thaw.

There are no national standards for transfer operations as each transfer station represents a unique combination of transfer equipment, haul distance and local garbage characteristics. SWS has tracked transfer operations since the inception of ARL. Our general goal for weekday operations is 38,000 pounds of payload per trailer in summer and 36,000 pounds in winter (November through April).

The optimal material for waste transfer operations is municipal solid waste from commercially collected residential and commercial garbage routes. These loads are soft, compressible and generally free of oversized materials. Loads of this material only could exceed the allowable axle load limits before reaching the volume capacity of the trailer. When frozen, the efficiency of packing these materials is reduced as the garbage tends to take on a more rigid structure. Loads tend to fill the trailer volume at between 36,000 pounds and 38,000 pounds in winter.

Loads containing construction and demolition debris, fabrication and warehouse wastes and loads hauled by individual homeowners and businesses tend to contain bulky objects and materials which do not pack well into the transfer trailers. Refuse received on Saturdays generally contains a much higher percentage of these less-optimal wastes due to the large number of residential users. Consequently load efficiencies on these days are significantly decreased and highly variable.

The time to load, unload and travel round trip between the CTS and landfill is approximately 105 minutes. On an ideal shift, a driver can make five round trips, including vehicle fueling, safety inspections and contract defined breaks. Traffic, tire maintenance, mechanical maintenance, wait times entering the landfill and timing of garbage arrival can reduce the number of trips per shift. While five trips is the optimal goal, four trips are considered common.

Refuse Collections Utility

Mission

Provide solid waste collection and disposal service to rate-paying customers within our defined service area.

Core Services

- Provide dumpster service to commercial and multifamily residential customers.
- Provide automated garbage and curbside recycle collection and disposal to residential customers.
- Provide manual garbage collection to residential customers not serviced by automated routes

Accomplishment Goals

- Reduce refuse disposal volumes by promoting waste reduction and increased curbside recycling diversion.
- Reduce injuries associated with residential refuse collection.

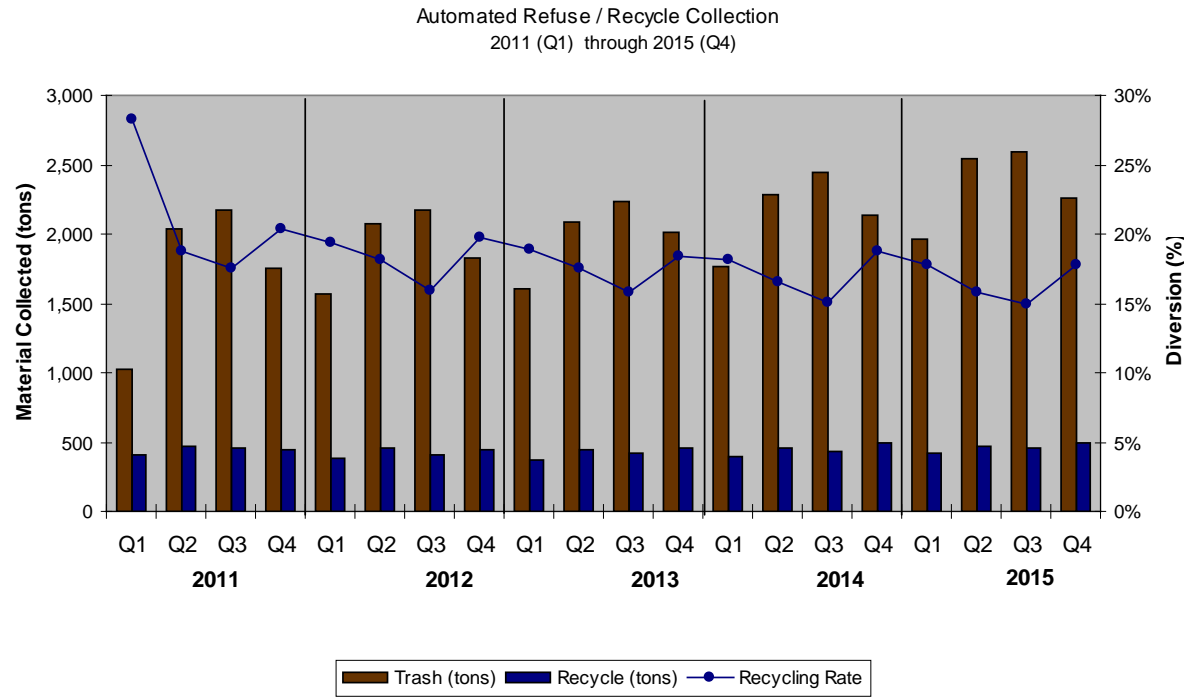
Performance Measures

Progress in achieving these goals will be measured by:

- Percent change in recyclable material diversion from the residential waste stream.
- Percent change in worker injuries

The following provides actual data from previous years which quantify these measures:

Waste and Recycle Tonnage



Workers Comp Losses 2011 - 2015
Municipal Refuse Collection Utility

As of 31 December 2015

Service Type	Injury Type	2011		2012		2013		2014		2015	
		Incidents	Losses	Incidents	Losses	Incidents	Losses	Incidents	Losses	Incidents	Losses
Manual Residential	TLI MO / RO	1	\$17,771	3	\$126,687	0	\$0	1	\$1,802	0	\$0
		1	\$98	3	\$2,426	2	\$81	1	\$173	0	\$0
Automated Residential	TLI MO / RO	0	\$0	0	\$0	3	\$52,992	0	\$0	0	\$0
		1	\$0	0	\$0	0	\$0	0	\$0	1	\$0
Commercial	TLI MO / RO	0	\$0	0	\$0	0	\$0	1	\$3,490	0	\$0
		0	\$0	7	\$3,246	2	\$154	1	\$552	1	\$0
Vehicle Maintenance	TLI MO / RO	0	\$0	0	\$0	1	\$5,473	0	\$0	0	\$0
		0	\$0	0	\$0	0	\$0	0	\$0	1	\$0
Other	TLI MO / RO	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
		4	\$2,806	0	\$0	1	\$1,379	1	\$0	1	\$0
Total	TLI MO / RO	1	\$17,771	3	\$126,687	4	\$58,465	2	\$5,292	0	\$0
		6	\$2,904	10	\$5,672	5	\$1,614	3	\$725	4	\$0

Total: \$0

TLI = Time lost incident

MO = Incident required medical attention but no lost time

RO = Incident required no medical attention or lost time

**Performance Measures Methodology Sheet
Refuse Collection Utility**

Measure: Improved safety for Refuse Collection Workers

Type

Effectiveness

Accomplishment Goal Supported

Reduce injuries for Refuse Collection Workers

Definition

SWS will provide fleet improvements and training to all RCU staff to improve operational safety of this group. We will track costs and lost time associated with worker injuries by operational activity.

Data Collection Method

All accident and injury related data is reported to and compiled by the Municipal Risk Manager's office in accordance with Municipal policies and procedures and Occupational Health and Safety Administration (OSHA) requirements.

Frequency

Data is collected on a per incident basis.

Measured By

Injuries and incidents are measured and reported per OSHA standard reporting requirements.

Reporting

The MOA Risk Management department provides monthly reports which detail losses by month and year-to-date. The SWS Safety Officer attributes incidents to job-specific activities.

Used

Data is used by the SWS Safety Officer and Director to identify high risk activities, perform job safety analyses, and develop training and safety system adjustments to focus on reducing incidents.

Explanatory Information

In 2008 SWS began implementation of automated refuse collection for residential customers. Currently 99% of all residential trash is collected by automated equipment.

Performance Measures Methodology Sheet Refuse Collection Utility

Measure: Increase curbside recycle diversion

Type

Effectiveness

Accomplishment Goal Supported

Achieve an overall recycle diversion rate of 20 percent for all residential customers.

Definition

RCU currently diverts between 16 percent and 20 percent of the waste stream from residential customers to recycle markets. We currently service greater than 98 percent of our customers on automated routes, with all residential refuse collection routes automated. Increasing diversion of recyclables reduces our operating costs.

Data Collection Method

All refuse and recycle loads are weighed by commercial scales at the Central Transfer Station. The diversion rate is calculated as the percentage of materials delivered to the recycle center out of all materials collected by the residential collection trucks. Customer participation is currently measured solely by subscription rate. SWS is evaluating means of estimating actual household participation by other measures, such as lift arm cycles on the recycle collection vehicles.

Frequency

All vehicles are weighed prior to unloading. Weights are automatically entered into our load management system, with scale house staff entering vehicle numbers on the weight transaction. Lift arms have an on-board cycle counter. Route drivers would record the beginning and ending count on the cycle counter for every shift.

Measured By

Weights are measured using the SWS commercial scales. Load counter data are recorded by route drivers on their daily route sheets. Diversion rate is calculated as the ration of tonnage diverted to total tonnage collected.

Reporting

Weight and arm cycle data are provided to the SWS Recycling Coordinator who reviews the data and calculates the diversion rates and household participation.

Used

Data is used by SWS to budget for disposal and recycle processing costs. Diversion and participation rates can be used to focus educational materials and customer outreach to better promote the program.

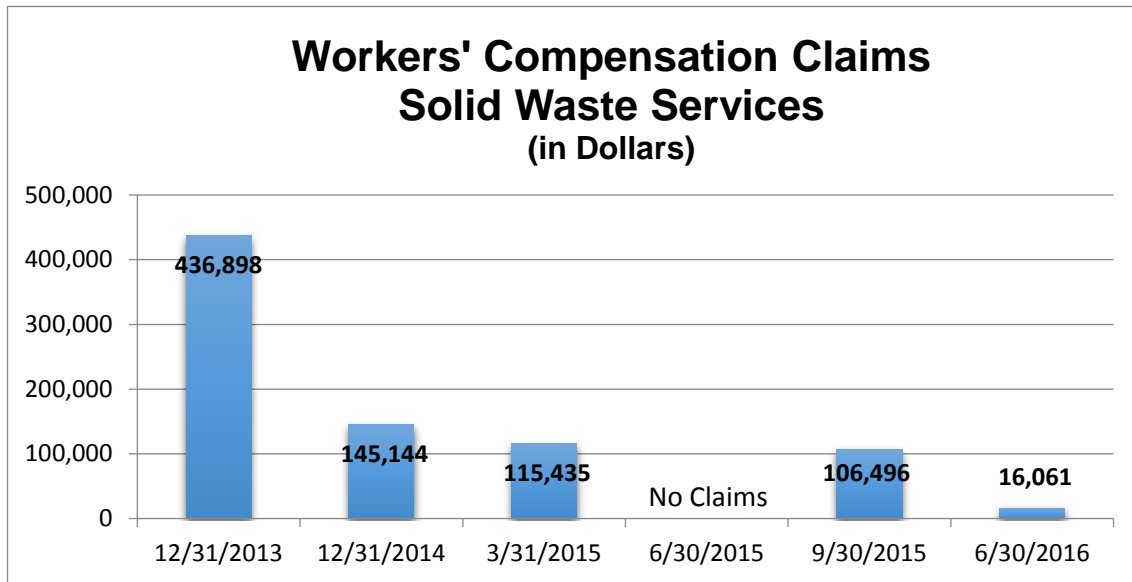
Explanatory Information

The automated refuse collection program includes a voluntary curbside recycling program which is provided to the customers at no additional charge. Source reduction and diversion of recyclables extends the life of the landfill. The RCU realizes a savings for each ton of recyclable materials diverted. The cost to dispose of refuse delivered to the CTS is \$68/ton whereas the cost to process recycled materials is currently \$60/ton.

PVR Measure WC: Managing Workers' Compensation Claims

Reducing job-related injuries is a priority for the Administration by ensuring safe work conditions and safe practices. By instilling safe work practices we ensure not only the safety of our employees but reduce the potential for injuries and property damage to the public. The Municipality is self-insured and every injury poses a financial burden on the public and the injured worker's family. It just makes good sense to WORK SAFE.

Results are tracked by monitoring monthly reports issued by the Risk Management Division.



Solid Waste Services Highlights and Future Events

Disposal Utility

To compare prior years to the 2017 budget, the Disposal Utility 2017 total budget is projected at \$22,426,121 compared to the 2016 Revised Budget of \$22,047,638 and the 2015 Pro-forma of \$20,873,294. The 2017 budget is 1.7% higher than the 2016 Revised Budget. This increase is due primarily to a contractual increase in salaries and benefits. The labor increase has been mostly offset by the reduction of the non-cash item, landfill closure costs. While the 2015 Care and Closure Estimate was utilized for the accruals in 2015, it was also determined the accrual formula did not accurately reflect the life expectancy of the landfill. With less tonnage being received and the extended life of the landfill, the annual accrual recognized has been considerably reduced.

The two items in the budget that are not appropriated by the Assembly are the non-cash items, depreciation and landfill closure expense, totaling \$5,787,910. Depreciation expense is projected at \$4,487,910 and the estimated landfill closure cost is \$1,300,000. Although the budget appropriation excludes non-cash items, both depreciation and landfill closure costs are included in the utility's financial statements.

Removing the \$5,787,910 of non-cash items from the total budget of \$22,426,121, results in a 2017 appropriation budget of \$16,638,211, a 6.3% increase over the 2016 Revised Budget (without non-cash items).

Total revenue for 2017 is projected at \$22,516,080, compared to the 2016 Revised Budget revenue of \$22,856,780. It is 1.5% lower than 2016 and reflects the Anchorage Economic Development Corporation's forecast of fewer demolition projects occurring throughout Anchorage. This is translated to less tonnage being moved to the landfill.

Net income of \$89,959 is forecast for 2017. With the higher anticipated expenses and less tonnage being received, an additional rate increase will likely be required in the very near future.

With a capital budget of \$5.44 million, the 2017 capital projects include several ARL replacement items with new technologies, and landfill equipment as well as replacing infrastructure.

Refuse Collection

To compare prior years to the Refuse Collection 2017 budget, the Refuse Collection's total operating budget is \$10,181,743. The 2015 pro forma was \$11,441,672, and the 2016 Revised Budget is \$10,120,668. The 2017 budget is 0.6% lower than the 2016 Revised Budget. There are two major areas effecting the Refuse Collection Budget. While there is a major increase of labor expenses due to contractual agreements, this is offset by the non-cash item of depreciation. Many Refuse Collection vehicles are ending their life expectancy and will need to be replaced in the near future.

The Refuse Collection budget authorization figure will exclude \$1,004,500 of depreciation. Although the budget appropriation excludes non-cash items, depreciation will be included in the utility's financial statements.

Removing the \$1,004,500 of depreciation from the total budget of \$10,181,743 results in a 2017 appropriation budget of \$9,177,243, 3.88% less more than the 2016 Revised Budget (without depreciation).

Total revenue for 2017 is projected at \$11,230,500, compared to the 2016 Revised Revenue of \$11,353,244, a 1.09% decrease. This indicates Solid Waste Services decision to delay its commercial recycling and roll-off services until sometime in the future. Without a rate increase revenues are expected to be relatively stable into the future.

The estimated Refuse Collection net income is \$1,048,757 and a capital budget of \$2.18 million is proposed. Capital expenses include the purchase of two automated side loader vehicles, two front loaders, building improvements, as well as dumpsters and roll-off cans for solid waste customers.

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Solid Waste Services External Impacts

Disposal

SWS is scheduled to construct two new landfill cells at the ARL before the end of 2020. SWS anticipates using State of Alaska Clean Water Loans with a low interest rate and 20-year term, whenever possible. It is unknown if the program will be funded in the future; if the eligible expenses related to landfill construction will further limit use of these funds for construction; or if SWS will be awarded loans based on the program scoring criteria. Currently the total cost of the landfill expansion is over \$22M, with potential loan amounts estimated at \$21M to cover those costs.

The landfill gas (LFG) to Energy project came into commercial operation in 2013. Revenue to the SWDU derived from the sale of landfill gas to Doyon Utilities (DU) is based upon the purchase price for natural gas as reported by Chugach Electric to the Regulatory Commission of Alaska. Future revenues anticipated from this project will be based upon gas price projections by Chugach Electric and other area utilities. As a result the actual revenue generated by this project will fluctuate dependent upon market price of natural gas in Southcentral Alaska. The MOA and Eklutna, Inc. are currently in litigation over potential revenue sharing from this project.

Currently DU Inc. holds an air quality permit which will allow continuous operation of up to six generating units at the LFG power plant on Joint Base Elmendorf-Richardson (JBER). The power plant currently operates five generating units, producing seven MW of power. In the summer months, power usage at Fort Richardson decreases below this capacity in off-peak hours. Because of the lower demand, one generating unit is shut down on evenings and weekends, resulting in decreased landfill gas consumption, seasonally. Currently, there is no energy integration between the Fort Richardson and Elmendorf sides of JBER. This limits the amount of revenue that can be generated by the project.

The current tonnage received at the landfill is dependent upon all refuse providers servicing the MOA. SWS is in the process of implementing a Recycling Education Program as well as recycling incentives. As a result, there is an expected decrease in the amount of refuse received by the ARL.

Since 1994 SWS has stored gravel generated from cell development activities on Fort Richardson land, initially by informal agreement. Off site storage of this material has significant implications to the efficient development and operation of the landfill site. SWS currently has over 4M-cy of material stored off-site, all of which will ultimately be needed in the construction and closure of the landfill. In 2009 SWS and JBER reached an agreement whereby SWS would formally lease the land in return for reduced tipping fees. The lease was formalized in 2014 but expires in 2019. An extension of this lease needs to be negotiated prior to expiration to ensure continued use of this property until the gravel is expended.

Leachate from the ARL is disposed of to Anchorage Water & Wastewater Utility's (AWWU) wastewater collection system. SWS hauls the leachate from the landfill to AWWU's Turpin Street septic hauler station. In recent years, SWS has hauled over 25M-gallons annually to this facility. The cost for this activity is driven by labor, fuel and vehicle O&M costs as well as AWWU disposal rates, all of which are continuously rising. SWS is in the process of initiating

design activities for a pipeline to allow direct discharge to the AWWU system. This system would pay for itself in less than seven years but has numerous political hurdles.

ARL and CENTRAL TRANSFER STATION facilities were all constructed in 1987. Consequently, many mechanical, electrical and structural components of these facilities are rapidly approaching or have exceeded their useful lives. Many of these systems are either life safety issues or critical to the continued operation of the facilities. SWS, has and will continue to incur significant capital and maintenance costs as these facilities and components are upgraded or replaced.

Solid Waste Services Workforce Projections

Division	2015	2016	2017	2018	2019	2020	2021	2022
Refuse Collection	26	26	26	27	27	27	27	27
Disposal	53	53	51	51	51	51	51	51
Administration	20	20	20	20	20	20	20	20
Total Full Time	99	99	97	98	98	98	98	98
Part time/Temp	4	4	6	6	6	6	6	6
Seasonal	7	7	7	7	7	7	7	7
Total Positions	110	110	110	111	111	111	111	111
Total FTE	108	108	107.6	107.6	107.6	107.6	107.6	107.6

2015 and 2016 values stated are historical budgeted positions and FTEs.

Solid Waste Services - Disposal
8 Year Summary
(\$ in thousands)

	2015	2016	2017	2018	2019	2020	2021	2022
Financial Overview	Actuals	Proforma	Proposed			Forecast		
Revenues	23,012	24,347	22,516	22,966	23,426	23,894	24,372	24,859
Expenses	22,522	20,220	23,441	23,675	23,912	24,151	24,393	24,637
Net Income (Loss)	490	4,127	(925)	(709)	(487)	(257)	(21)	223
Budgeted Positions	63(83)	63(83)	56(83)	56(83)	56(83)	56(83)	56(83)	56(83)
Capital Improvement Program	3,580	3,180	5,440	14,672	3,120	5,765	14,912	2,065
Bond Sales/ New Debt	6,523	-	-	11,807	-	-	10,872	-
Net Plant (12/31)	68,510	63,901	64,854	67,190	69,526	75,529	82,985	85,050
Utility Revenue Distribution	-	-	1,143	1,126	1,148	1,171	1,195	1,219
Net Assets (12/31)	56,860	60,987	60,062	59,353	58,866	58,609	58,589	58,811
Unrestricted Net Assets	53,844	57,971	57,046	56,337	55,850	55,593	55,573	55,795
General /Construction Cash Pool	6,259	8,851	5,222	8,709	2,995	(5,373)	(1,132)	(5,670)
Landfill Closure Cash Reserve**	31,101	32,479	33,779	34,923	36,888	38,853	40,818	41,818
Total Cash	37,360	41,330	39,001	43,632	39,883	33,480	39,686	36,148
**In 2008, a restricted account to fund landfill closure & post-closure was approved by the MOA Assembly.								
IGC's - General Government	2,211	2,122	2,667	2,774	2,885	3,000	3,120	3,245
MUSA - 1.25%	246	288	304	281	287	293	299	305
MUSA - Regular	701	824	908	941	973	1,057	1,162	1,191
Total Outstanding Debt	17,786	15,741	14,254	24,574	22,880	21,193	19,754	18,515
Total Annual Debt Service	2,242	2,303	1,745	2,100	2,078	2,056	1,586	1,570
Debt Coverage	0.22	1.79	(0.53)	(0.34)	(0.23)	(0.13)	(0.01)	0.14
Debt/Equity Ratio	21/67	18/67	16/67	28/67	26/67	24/67	23/67	21/67
Rate Percentage Change (CTS /ARL)								
Tipping Fee Rate per Ton (ARL / CTS)	\$58/\$68	\$58/\$68	\$58/\$68	\$58/\$68	\$58/\$68	\$58/\$68	\$58/\$69	\$58/\$68
Pickup Rate per Load	\$16	\$16	\$16	\$16	\$16	\$16	\$16	\$16
Car Rate per Load	\$6	\$6	\$6	\$6	\$6	\$6	\$6	\$6
Statistical/Performance Trends								
Tons Disposed	284,050	285,000	285,000	285,000	285,000	285,000	285,000	285,000
Vehicle Count	242,376	242,376	242,376	242,376	242,376	242,376	242,376	242,376

Certain actual financial figures above will not match the Comprehensive Annual Financial Report; the CAFR combines Disposal with Administrative and Vehicle Maintenance cost centers.

Solid Waste Services - Disposal

Statement of Revenues and Expenses

	2015 Actuals	2016 Proforma	2016 Approved	16 v 17 \$ Change	2017 Proposed	17 v 16 % Change
Operating Revenue						
Landfill Disposal Fees	18,888,106	19,836,876	19,220,405	-	19,220,405	0.0%
Hazardous Waste Fees	414,194	894,226	248,000	(63,000)	185,000	-25.4%
Community Recycling Residential	160,319	175,413	125,700	39,300	165,000	31.3%
Community Recycling Comercial	381,369	449,942	390,000	10,000	400,000	2.6%
Landfill Methane Gas Sales	2,337,599	1,408,316	1,950,000	(250,000)	1,700,000	-12.8%
Recycle Rebate	-	-	-	-	-	0.0%
Reimbursed Costs	235,057	29,425	200,000	(160,000)	40,000	-80.0%
Unsecured Loads	16,800	15,817	15,000	-	15,000	0.0%
Other	100,045	200,883	5,000	98,000	103,000	1960.0%
Total Operating Revenue	22,533,489	23,010,898	22,154,105	(325,700)	21,828,405	-1.5%
Non Operating Revenue						
Misc. non-operating Revenue	68,277	18,559	140,000	-	140,000	0.0%
Interest from cash pool	402,601	687,633	422,675	-	422,675	0.0%
Unrealized Gains/Losses	(140,960)	594,606	100,000	-	100,000	0.0%
Other Property Sales/Diposition of Assets	149,000	36,049	40,000	(15,000)	25,000	-37.5%
Capital Contributions/Grant Revenue	-	-	-	-	-	-
Total Non Operating Revenue	478,918	1,336,847	702,675	(15,000)	687,675	-2.1%
Total Revenue	23,012,408	24,347,745	22,856,780	(340,700)	22,516,080	-1.5%
Operating Expenses						
Labor						
Labor and Benefits	5,765,813	6,124,857	5,790,478	229,085	6,019,563	4.0%
Overtime	339,874	417,430	519,792	(104,792)	415,000	-20.2%
Total Labor	6,105,687	6,542,287	6,310,270	124,293	6,434,563	2.0%
Non Labor						
Non Labor	5,156,832	4,466,530	5,554,222	378,347	5,932,569	6.8%
Travel	6,032	1,392	5,000	1,700	6,700	34.0%
Landfill Closure Costs	4,037,769	1,378,118	1,964,896	(664,896)	1,300,000	-33.8%
Debt Service	183,124	258,033	265,753	(7,753)	258,000	-2.9%
Depreciation and Amoritzation	3,874,708	4,339,578	4,428,041	59,869	4,487,910	1.4%
Dividend Distribution	-	-	-	1,142,839	1,142,839	100.0%
MUSA	947,020	1,112,038	951,201	260,799	1,212,000	27.4%
Total Non Labor	14,205,484	11,555,690	13,169,113	1,170,905	14,340,018	8.9%
Total Direct Cost	20,311,171	18,097,977	19,479,383	1,295,198	20,774,581	6.6%
Charges from other departments	2,211,009	2,122,296	2,568,255	98,503	2,666,758	3.8%
Total Operating Expense	22,522,180	20,220,272	22,047,638	1,393,701	23,441,339	6.3%
Interest during Construction	-	-	-	-	-	0.0%
Total Non Operating Expense	-	-	-	-	-	0.0%
Total Expenses (Function Cost)	22,522,180	20,220,272	22,047,638	1,393,701	23,441,339	6.3%
Net Income	490,228	4,127,472	809,142	(1,734,401)	(925,259)	-214.4%
Appropriation						
Total Expenses			22,047,638	1,393,701	23,441,339	
Less: Non Cash items						
Landfill Care and Closure			1,964,896	(664,896)	1,300,000	
Depreciation and Amortization			4,428,041	59,869	4,487,910	
Total Non Cash			6,392,937	(605,027)	5,787,910	
Amount to be Appropriated (Cash Expenses)			15,654,701	1,998,728	17,653,429	

Solid Waste Services - Disposal

Reconciliation from 2016 Approved Budget to 2017 Proposed Budget

		Positions		
	Appropriation	FT	PT	T
2016 Approved Budget	22,047,638	53	4	6
Changes in Existing Programs/Funding for 2017				
- Non labor - contractual increases	103,347	-	-	-
- Additional Travel for Training	1,700	-	-	-
- Decrease in Landfill Closure Accrual	(664,896)	-	-	-
- Adjust Debt Service	(7,753)	-	-	-
- Depreciation and amortization	59,869	-	-	-
- Dividend Distribution	1,142,839	-	-	-
- Adjust MUSA	260,799	-	-	-
- Charges from Other Departments	98,503	-	-	-
2017 Continuation Level	23,042,046	53	4	6
2017 Proposed Budget Changes				
- Salary and benefits adjustments*	124,293	(2)	(4)	(1)
- Master/Strategic Plan for Department	50,000	-	-	-
- Additional Well Monitoring Contract for Landfill	225,000	-	-	-
2017 Proposed Budget	23,441,339	51	-	5
2017 Budget Adjustment for Accounting Transactions (Appropriation)				
- Depreciation and amortization	(4,487,910)	-	-	-
- Landfill Care and Closure	(1,300,000)	-	-	-
2017 Proposed Budget (Appropriation)	17,653,429	51	-	5

*Position changes due to alignment of Customer Service that belongs in Administration.

Solid Waste Services - Disposal
2017 - 2022 Capital Improvement Program
(in thousands)

Project Category	2017	2018	2019	2020	2021	2022	Total
ARL Improvements	675	11,807	1,250	-	10,872	-	24,604
CTS Improvements	1,500	-	-	-	-	-	1,500
Equipment & Vehicles	3,125	2,835	1,840	5,735	4,010	2,035	19,580
Girdwood Improvements	55	-	-	-	-	-	55
Office Equipment & Technology	85	30	30	30	30	30	235
Total	5,440	14,672	3,120	5,765	14,912	2,065	45,974

Funding Source	2017	2018	2019	2020	2021	2022	Total
Clean Water Loan	-	11,807	-	-	10,872	-	22,679
Commercial Loan	-	-	-	-	-	-	-
Equity/Operations	5,440	2,865	3,120	5,765	4,040	2,065	23,295
Total	5,440	14,672	3,120	5,765	14,912	2,065	45,974

Solid Waste Services - Disposal
2017 Capital Improvement Budget
(in thousands)

Project Title	Debt	State/Fed Grant	Equity/ Operations	Total
Tractors (5)	-	-	850	850
Trailers (4)	-	-	540	540
Wheel Loader	-	-	650	650
D8 Dozer/Crawler	-	-	950	950
Pickup Truck (2)	-	-	100	100
Light Plant	-	-	35	35
Office Equipment and technology purchase	-	-	25	25
Cash Register System (Scalehouses and Cash Booths)	-	-	60	60
ARL Warm Storage Heating	-	-	125	125
Litter Control System	-	-	400	400
ARL Perimeter Slope Interim Closures (4/5/6)	-	-	150	150
CTS Roof Replacement	-	-	1,300	1,300
Energy Efficiency	-	-	200	200
GDW Upgrade Video Monitoring Equipment	-	-	25	25
GDW Expansion of Trailer Bay	-	-	30	30
Total	-	-	5,440	5,440

**Solid Waste Services - Disposal Utility
Statement of Cash Sources and Uses**

	2015 Actual	2016 Proforma	2017 Proposed
Sources of Cash Funds			
Operating Income ¹	1,141,453	4,160,697	999,905
Depreciation, net of amortization	3,874,708	4,339,578	4,487,910
Amortization of Landfill Liability	4,037,769	1,378,118	1,300,000
Deferred Revenue	2,436	-	-
Capital Contribution	-	-	-
Interest Received	402,601	687,633	422,675
State of Alaska Loan Proceeds	6,522,916	-	-
Changes in Assets and Liability	55,411	-	-
Total Sources of Cash Funds	16,037,293	10,566,026	7,210,490
Uses of Cash Funds			
Capital Construction	4,375,915	3,180,000	5,440,000
Debt Principal Payment	2,058,508	2,045,398	1,486,613
Debt Interest Payments	183,124	258,033	258,000
Landfill Post Closure Cash Reserve Transfer	19,412,561	1,378,118	1,300,000
MUSA	947,020	1,112,038	1,212,000
Dividend Distribution	-	-	1,142,839
Total Uses of Cash Funds	26,977,128	7,973,587	10,839,452
Net Increase (Decrease) in Cash Funds	(10,939,834)	2,592,439	(3,628,962)
Cash Balance, January 1	17,198,759	6,258,925	8,851,364
Cash Balance, December 31	6,258,925	8,851,364	5,222,402
Detail of Cash and Investment Funds			
General Cash Less Customer Deposits	3,819,017	8,851,364	5,222,402
Construction Cash	2,439,908	-	-
Cash Balance, December 31	6,258,925	8,851,364	5,222,402
Landfill Post Closure Cash Reserve	31,100,929	32,479,047	33,779,047

Solid Waste Services - Refuse Collection 8 Year Summary

(\$ in thousands)

	2015	2016	2017	2018	2019	2020	2021	2022
Financial Overview	Actuals	Proforma	Proposed	Forecast				
Revenues	11,100	11,630	11,230	11,230	11,230	11,230	11,230	11,230
Expenses	11,442	9,345	10,794	11,010	11,230	11,455	11,684	11,917
Net Income (Loss)	(341)	2,284	436	220	(0)	(225)	(454)	(687)
Budgeted Positions	27	27	27	28	28	28	28	28
Capital Improvement Program	1,047	1,595	2,180	1,535	1,040	1,855	1,535	1,495
Bond Sales	-	-	-	-	-	-	-	-
Net Plant (12/31)	2,956	2,764	3,844	3,979	3,619	4,074	4,209	4,304
Utility Revenue Distribution	2,543	500	570	562	562	562	562	562
Net Assets (12/31)	10,625	12,909	13,345	13,565	13,565	13,340	12,886	12,199
General/Construction Cash Pool	8,929	10,393	9,644	9,429	9,489	8,509	7,621	6,538
IGC's - General Government	1,532	1,483	2,219	2,263	2,309	2,355	2,402	2,450
MUSA - 1.25%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MUSA - Regular	52	40	52	60	65	74	76	78
Total Outstanding Debt	-	-	-	-	-	-	-	-
Total Annual Debt Service	-	-	-	-	-	-	-	-
Debt Service Coverage	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Debt/Equity Ratio	0/100	0/100	0/100	0/100	0/100	0/100	0/100	0/100
Residential Rate per month			\$14.10 - \$36.50 pay as you throw variable residential rates					
Commercial Rate (3Yd-1 per wk)	\$125.00	\$125.00	\$125.00	\$125.00	\$125.00	\$125.00	\$125.00	\$125.00
Statistical/Performance Trends								
Waste Collected (Tons)	36,026	36,747	36,500	36,500	36,500	36,500	36,500	36,500
Average Residential Services	12,230	12,230	12,230	12,230	12,230	12,230	12,230	12,230
Average Dumpsters Services	4,378	4,378	4,378	4,378	4,378	4,378	4,378	4,378

Solid Waste Services - Refuse Collection

Statement of Revenues and Expenses

	2015 Actual	2016 Proforma	2016 Approved	17 v 16 \$ Change	2017 Proposed	17 v 16 % Change
Operating Revenue						
Commercial	7,073,211	7,123,907	7,227,500	2,500	7,230,000	0.03%
Residential	3,366,183	3,583,760	3,273,000	90,500	3,363,500	2.77%
Dumpster Container Rental	464,195	475,238	461,244	8,756	470,000	1.90%
Other Collection Revenues	85,483	87,816	300,000	(225,000)	75,000	-75.00%
Total Operating Revenue	10,989,073	11,270,721	11,261,744	(123,244)	11,138,500	-1.09%
Non Operating Revenue						
Interest from Cash Pool	139,183	200,544	81,500	500	82,000	0.61%
Unrealized Gains & Losses	(35,819)	147,894	-	-	-	-
Misc. non-operating Revenue	7,864	10,364	10,000	-	10,000	0.00%
Total Non Operating Revenue	111,229	358,803	91,500	500	92,000	0.55%
Total Revenue	11,100,301	11,629,523	11,353,244	(122,744)	11,230,500	-1.08%
Operating Expenses						
Labor and Benefits						
Labor and Benefits	2,816,026	2,944,362	2,897,346	235,399	3,132,745	8.12%
Overtime	97,241	86,635	117,227	(4,227)	113,000	-3.61%
Total Labor	2,913,267	3,030,996	3,014,573	231,172	3,245,745	7.67%
Non Labor						
Non Labor	3,471,936	3,351,687	3,611,996	85,124	3,697,120	2.36%
Travel	1,544	6,436	3,000	3,000	6,000	100.00%
MUSA	51,828	39,785	51,652	348	52,000	0.67%
Dividends	2,542,778	500,000	500,000	70,000	570,000	14.00%
Depreciation and Amortization	928,211	933,570	1,285,905	(281,405)	1,004,500	-21.88%
Total Non Labor	6,996,297	4,831,478	5,452,553	(122,933)	5,329,620	-2.25%
Total Direct Cost	9,909,564	7,862,474	8,467,126	108,239	8,575,365	1.28%
Charges from Other Departments	1,532,108	1,483,166	1,653,542	565,300	2,218,842	34.19%
Total Operating Expense	11,441,672	9,345,640	10,120,668	673,539	10,794,207	6.66%
Non Operating Expense						
Total Non Operating Expense	-	-	-	-	-	0.00%
Total Expenses (Function Cost)	11,441,672	9,345,640	10,120,668	673,539	10,794,207	6.66%
Net Income	(341,371)	2,283,883	1,232,576	(796,283)	436,293	-64.60%
Appropriation						
Total Expenses			10,120,668	673,539	10,794,207	
Less: Non Cash items						
Depreciation and Amortization			1,285,905	(281,405)	1,004,500	
Total Non-Cash			1,285,905	(281,405)	1,004,500	
Amount to be Appropriated (Cash Expenses)			8,834,763	954,944	9,789,707	

Solid Waste Services - Refuse Collection

Reconciliation from 2016 Approved Budget to 2017 Proposed Budget

		Positions		
	Appropriation	FT	PT	T
2016 Approved Budget	10,120,668	26	-	1
Changes in Existing Programs/Funding for 2017				
- Salary and benefits adjustments	231,172	-	-	-
- Non-Labor Adjustments (Lower Depreciation due to Life of Assets)	85,124	-	-	-
- Travel	3,000	-	-	-
- Charges from other Depts	565,300	-	-	-
- Depreciation	(281,405)	-	-	-
- Adjust MUSA, Gross Receipts, Contributions	70,348	-	-	-
2017 Continuation Level	10,794,207	26	-	1
2017 Proposed Budget Changes				
- None	-	-	-	-
2017 Proposed Budget	10,794,207	26	-	1
2017 Budget Adjustment for Accounting Transactions (Appropriation)				
- Depreciation and amortization	(1,004,500)	-	-	-
2017 Proposed Budget (Appropriation)	9,789,707	26	-	1

Solid Waste Services - Refuse Collection
2017 - 2022 Capital Improvement Program
(in thousands)

Project Category	2017	2018	2019	2020	2021	2022	Total
Building Improvements	350	50	-	-	-	-	400
Containers/Dumpsters/Roll-offs & Lids	360	360	360	360	360	360	2,160
Data Processing	30	30	30	30	30	30	180
Office Equipment	5	5	5	5	5	5	30
Vehicle Replacement	1,435	1,090	645	1,460	1,140	1,100	6,870
Total	2,180	1,535	1,040	1,855	1,535	1,495	9,640

Funding Source	2017	2018	2019	2020	2021	2022	Total
Equity/Operations	2,180	1,535	1,040	1,855	1,535	1,495	9,640
Total	2,180	1,535	1,040	1,855	1,535	1,495	9,640

Solid Waste Services - Refuse Collection
2017 Capital Improvement Budget
(in thousands)

Project Title	Debt	State/Fed Grant	Equity/ Operations	Total
Frontloader (2)	-	-	650	650
Side loaders (2)	-	-	690	690
Forklift	-	-	35	35
Dumpsters	-	-	275	275
Lids	-	-	75	75
Residential Roll Carts	-	-	10	10
Dumpster Dolly (additional funding)	-	-	60	60
Replace Office Equipment	-	-	5	5
Replace Data Processing Equipment (Cash Registers)	-	-	30	30
Energy Efficiency Improvements	-	-	200	200
CTS Building Heating System/Chillers	-	-	150	150
Total	-	-	2,180	2,180

Solid Waste Services - Refuse Collection

Statement of Cash Sources and Uses

	2015 Actual	2016 Proforma	2017 Proposed
Sources of Cash Funds			
Operating Income	2,142,007	2,464,866	966,293
Depreciation, net of amortization	928,211	933,570	1,004,500
Interest Received	139,183	200,544	82,000
Changes in Assets and Liabilities	(336,610)	-	-
Total Sources of Cash Funds	2,872,791	3,598,980	2,052,793
Uses of Cash Funds			
Capital Construction	408,132	1,595,000	2,180,000
MUSA	51,828	39,785	52,000
Dividends	2,542,778	500,000	570,000
Total Uses of Cash Funds	3,002,738	2,134,785	2,802,000
Net Increase (Decrease) in Cash Funds	(129,947)	1,464,195	(749,207)
Cash Balance, January 1	9,058,892	8,928,945	10,393,140
Cash Balance, December 31	8,928,945	10,393,140	9,643,933
Detail of Cash and Investment Funds			
General Cash Less Customer Deposits	6,966,968	10,393,140	9,643,933
Construction Cash	1,961,977	-	-
Cash Balance, December 31	8,928,945	10,393,140	9,643,933

About Solid Waste Services

The Solid Waste Services Department (SWS) is composed of two utilities: 1) the Refuse Collections Utility (RCU); and, 2) the Solid Waste Disposal Utility (SWDU). The RCU provides refuse collection service to residential and commercial customers in the old “City of Anchorage” Service Area and the SWDU operates three transfer stations and the Anchorage Regional Landfill (ARL) providing affordable and environmentally responsible municipal solid waste disposal services for the entire Municipality of Anchorage (MOA). SWS is divided into three organizations: 1) Refuse Collections; 2) Solid Waste Disposal; and, 3) Administration (which is a support organization that fully charges out expenses to both Refuse Collections and Disposal Utilities).

Refuse Collections Utility

History

The RCU was originally a function of the former City of Anchorage Public Works Department. When the City and Borough merged in 1975, the RCU became an enterprise activity of the MOA.

Service

The RCU provides refuse collection to the service area of the former City of Anchorage, which is approximately 20% of the population of the MOA. Since at least 1952, there has been mandatory service for all occupants of the RCU service area. The RCU has four types of services: commercial dumpsters; automated roll cart service; can and bag service; and, curbside recycling. The RCU services over 5,000 dumpsters per week with six daily dumpster routes, and two Saturday routes to serve its commercial and multi-family residential customers.

As a result of an automated trash and recycling collection service that began in the fall of 2009, most SWS residential customers are serviced using automated vehicles and roll carts. In 2017, the final phase of automated collection rollout will be completed and the RCU will be servicing eight automated collection routes with approximately 250 customers remaining on can/bag service.

Regulation

The fees charged by the RCU are overseen by the Anchorage Municipal Assembly. The RCU is granted the exclusive right to collect solid waste within its defined service area by a Certificate of Public Convenience and Necessity which is issued by the Regulatory Commission of Alaska.

Environmental Mandates

Although there is no specific state or federal regulations governing refuse collection, the RCU must comply with a number of mandated regulations. These regulations include, but are not limited to: the Federal Clean Air Act; the Clean Water Act; and, the Occupational Safety and Health Administration. These regulations have and will continue to impact the economics and operations of the RCU.

Physical Plant

The RCU's truck fleet assets includes:

- 13 commercial refuse collection vehicles;
- 19 residential refuse and recycling vehicles (automated and can/bag); 9 automated / 2 Tomcats
- One rear load vehicle for MOA paper collection and recycling; and,
- 4 support vehicles (Route Supervisor vehicle, Flatbed, Box Truck and KB)

Currently, there is an average of 24,773 roll-carts and 1,977 dumpsters in service. The RCU maintains a 27,000 square foot building that contains vehicle maintenance, warm storage space, and administrative offices and it is located at the Central Transfer Station (CTS).

Future Planning Efforts

In 2015, the SWS RCU implemented an Automated Refuse Route Management System (ARRMS) with up-to-date route information and GPS to make refuse collection operations more efficient and cost effective. This project is still on-going and is expected to be fully operational in 2017. Specifically, this system will provide real-time information to management and customer service staff such as: photo-documented waste containers that are overfull; not placed on curbside, or are out of compliance in some manner; a method for drivers to document extra charges; provide automated communication between refuse collection vehicles and the back office systems; provide updated route information to refuse collection vehicle operators; track vehicle progress on route; integrate with SWS existing billing system; and, provide moving map displays for drivers that show customer and navigation information.

Solid Waste Disposal Utility

History

Municipal solid waste disposal was originally a function of the City Public Works Department, which operated the city landfill at Merrill Field. Under unification, the MOA acquired responsibility for five waste disposal sites from Peters Creek to Girdwood. The SWDU was formed to operate and maintain these sites, while managing solid waste disposal matters throughout the MOA. The five sites were closed and waste disposal was consolidated to a single site near Eagle River. The ARL, is an award winning, state-of-the-art, fully engineered landfill and was opened in 1987. ARL is the only operating landfill within the MOA.

Service

The SWDU serves the entire MOA. The services include the disposal of solid waste and collection of household hazardous waste. Municipal solid waste is received at three transfer stations located within MOA. The waste is then transported by the SWDU to ARL for final disposal.

The ARL has a total land area of approximately 275 acres and is being developed in phases called cells. Currently cells 1 through 7, 8a and 10 have been constructed, with cells 8b, 11, and 12 in process. There are two remaining cells that will begin development in 2020 with preliminary design starting in 2018. ARL is projected to have a total capacity in excess of 42.3 million cubic yards and should reach its capacity in 2060, dependent upon population growth, waste compaction, diversion of more recyclables and construction activities. In 2015, approximately 284k-tons were deposited in ARL, which represents approximately 23k-tons less than in 2014. Currently, because of the lack of new demolition projects in the construction industry and a more intense effort to recycle more, SWDU expects a decline in the tonnages again in 2016 and 2017.

The transfer stations located at Girdwood, midtown Anchorage (CTS), and ARL allow the SWDU to reduce traffic flow to the landfill and to restrict access to the working face of it. CTS receives the largest amount of solid waste, having received over 215k-tons in 2015 from almost 163k customers. This facility has an operating capacity of 1,600 tons per day. The 2015 quantity was 4,583 tons less than 2014. The SWDU operates a fleet of 29 transfer tractor and trailers that transport the solid waste from CTS with a capacity of 120 yards each.

The SWDU is responsible for post closure care and monitoring of former landfill sites at Merrill Field, Peters Creek (Loretta French Park), and International Airport Road (Javier de la Vega Park). At each of these sites, SWS must perform annual groundwater and landfill gas (LFG) migration monitoring. The SDWU operates an active LFG collection system at Merrill Field to mitigate migration of LFG to commercial buildings constructed along Merrill Field Drive. The SWDU also operates and maintains a leachate collection system along 15th Avenue to mitigate potential migration of groundwater contaminants to the Chester Creek system. Since no closure funds were ever designated for these sites, all post closure care activities must be funded out of the SDWU's annual operating budget.

The SWDU operates a 6,000 square foot hazardous waste collection facility built in 1989 at ARL. Through 2015, the facility has collected nearly 24M pounds of hazardous waste that otherwise may have been improperly disposed of at ARL, the storm drain system, or citizens' backyards.

Household hazardous waste can be dropped off at CTS (on Tuesday, Thursday and Saturday) or the Hazardous Waste Facility located at ARL (Tuesday through Saturday). The hazardous waste is then handled by a contractor that sorts and processes the waste in to proper containers. Hazardous products are shipped out of state to federally approved hazardous waste disposal sites. Other materials are rendered inert and landfilled, processed locally, or recycled. Anchorage residents bring household items such as paints, cleaners, and solvents to Reuse Centers at CTS or at ARL. The items are then stocked for other Anchorage residents to take home for reuse on household projects. SWS is also exploring the option of using waste oil collected from collection and transfer vehicles to use as fuel in heaters that will provide heat for warm storage locations at CTS and ARL.

Regulation

The SWDU is not economically regulated by any non-municipal agencies but is overseen by the Anchorage Municipal Assembly. However, SDWU operates under numerous permits and many EPA regulations. ARL is operated under a Solid Waste operating permit issued by the Alaska Department of Environmental Conservation (ADEC). This permit must be renewed every five years. ARL construction and certain operations must comply with the EPA Resource Conservation and Recovery Act (RCRA) subtitle D. The facility is also regulated under a Title V air emissions operating permit issued by ADEC. SWDU operates under two permits from AWWU for industrial water discharge, one for disposal of leachate from ARL and one for discharge of leachate contaminated groundwater at Merrill Field. ARL has permits from the U.S. Department of Fish and Wildlife and the Alaska Department of Fish and Game for bird management.

Environmental Mandates

SWDU must operate under, and comply with, numerous environmental mandates. These mandates have a significant economic impact on the cost of operations and construction for the Utility. The main environmental mandates that have a significant impact on the SWDU are RCRA subtitle D, the Clean Air Act, New Source Performance Standards (NSPS), the Clean

Water Act, SARA Title 3 (Super Fund), NESAP (asbestos), and NPDES (storm water discharge). In 2010, EPA added greenhouse gas monitoring and reporting requirements that affect both active and closed landfill sites. It is projected that the environmental mandates regarding operating and constructing a landfill will become even more stringent in the future.

Physical Plant

The SWDU's assets include:

Anchorage Regional Landfill

- 275 acres, estimated to last through the year 2060.
- 42.3 million cubic yard capacity.
- Phased construction of cells lasting four to five years each.
- Ten of the 12 landfill cells are constructed.
- Located on municipal land.
- Scale house and a 22,000 square-foot shop with an adjoining storage facility.
- Heavy equipment fleet: dozers, loaders, dump trucks, boom truck, water truck, leachate trucks, tankers, lube trucks, grader, and solid waste compactor.
- Two leachate storage and treatment lagoons with a 2.9M-gallon capacity.
- Gas collection facility with 700 square foot blower and flare station with a 2,000 cubic feet per minute capacity enclosed flare.
- Gas processing facility processes gas to fuel quality and transports it by pipeline to Doyon Utility's power generation system to produce electricity on adjacent military lands. MOA is currently in a 20-year agreement with Doyon, in which Doyon will generate electricity from methane gas to sell to military customers on Joint Base Elmendorf Richardson (JBER).

Three transfer stations provide intermediate disposal, easy access for public

- Cash booths at Girdwood, CTS, and the ARL public site.
- Two scale houses, one each at CTS and ARL.
- 29 transfer tractor and trailers haul from stations to landfill.

Hazardous waste management

- 6,000 square foot collection facility for household hazardous waste.

Merrill Field

- LFG collection system and leachate/groundwater collection system.

Future Planning Efforts

Future projects include:

- Development of remaining cells (cell 8c and 9) will occur by 2020 with an estimated cost of \$22.3M.
- Slop closure and storm water run off development is on-going.
- Expansion of gas collection system into cell 10 in 2015; cells 11 and 12 in 2020.
- Construction of pipeline to mitigate growing expense of hauling leachate.
- Master Planning for the development and growth of SWS.
- Strategic Planning for SWS.
- CTS Upgrade and Expansion.