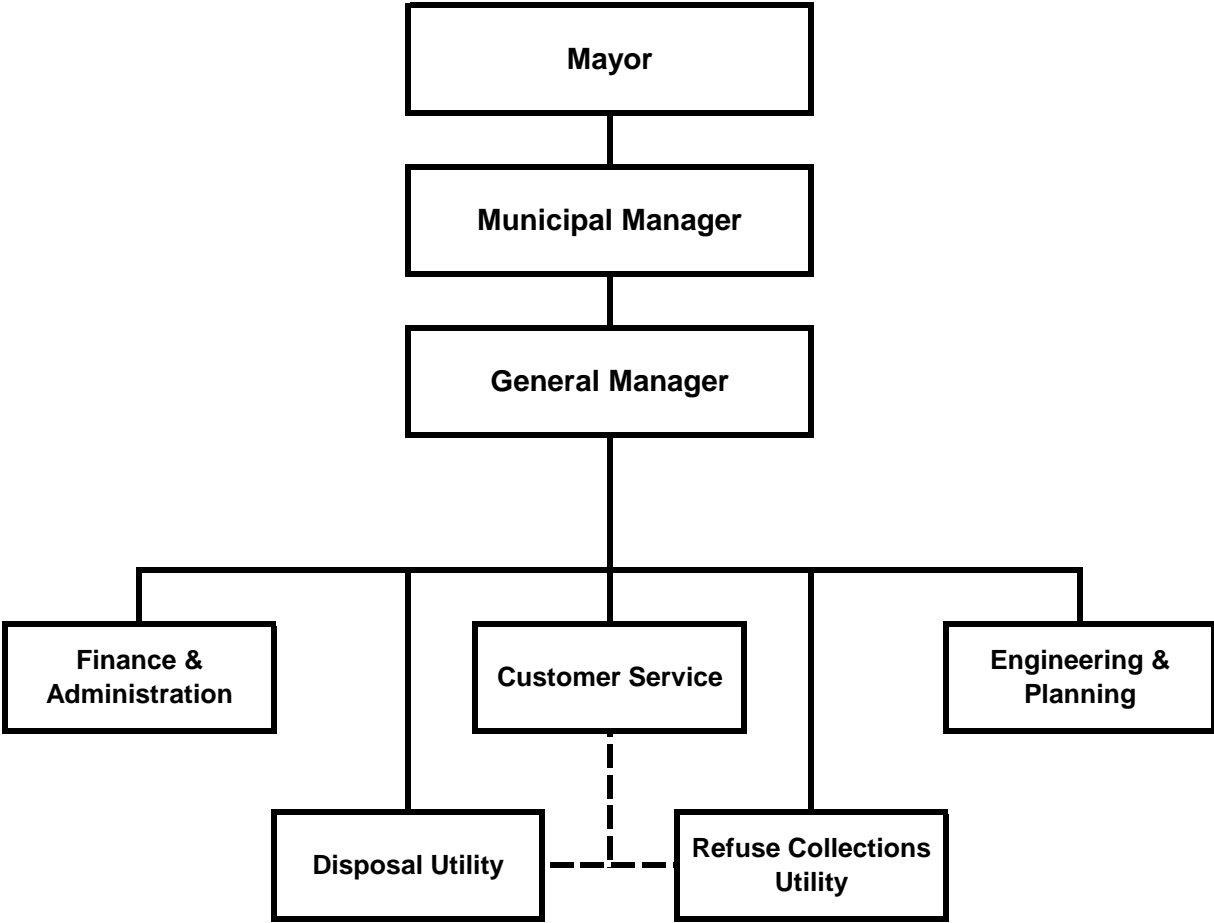


Solid Waste Services



Solid Waste Services Organizational Overview

The Municipality of Anchorage's (MOA) Department of Solid Waste Services (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, SWS has three additional operating divisions: Engineering & Planning; Customer Service; and, Administration. Each SWS supervisor reports to the General Manager.

General Manager

The General Manager is responsible for the overall management of SWS. The General Manager 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 (RCU)

The RCU provides both residential and commercial service to the former City of Anchorage service area. The RCU has converted 99% of its customers to automated operations. There are approximately 150 customers which still receive manual can and bag pickup. SWS is currently analyzing the best possible solution to automate all of its customers.

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: ten 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. Residential and Commercial collection operators are members of the local 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 (SWDU)

The main function of the SWDU is to dispose of household and commercial refuse generated within 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 which is not allowed to be disposed 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 near Eagle River. It 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.

City-wide recycling has increased and trash disposed at the landfill has gone down which has resulted in 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, one civil engineer, 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 a 7 MW electrical generating plant which provides 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 68 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 and 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 Administration and Call Center and the Scale House/Cash Booth. Both work groups, totaling 18 employees, are managed by one Senior Administrative Officer.

Customer Service Administration and Call Center

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 is the smiling face that greets 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 key performance indicator monitoring, 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.

SWS has one FTE involved in the monitoring and reporting of key performance indicators. This employee also researches, evaluates, and implements existing and emerging technologies when deemed necessary, fiscally responsible, and/or becomes critical to operations.

The SWS Safety Manager ensures that all operations are conducted in a safe manner. The Safety Manager 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 Manager inspects buildings, projects, equipment, operating practices and working conditions for compliance with various MOA, State and Federal safety codes and regulatory requirements. The Safety Manager 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 Manager prepares reports and makes recommendations for improvement. By analyzing data on accident rates and compensation claims, the Safety Manager 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 Department 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

Providing safe, efficient and innovative solid waste management for the Municipality of Anchorage (MOA).

Services

The Refuse Collection Utility (RCU) provides garbage and recycling collection to the former City of Anchorage service area, 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 four types of service: commercial dumpster; commercial recycling; automated garbage and recycling roll cart service; and, limited 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 the MOA. Waste generated in the community of Girdwood is transported from the Girdwood Transfer Station (GTS) to the Central Transfer Station (CTS) in Anchorage. All waste from the CTS is transported to the Anchorage Regional Landfill (ARL) for final disposal.

Business Goals and Guiding Principles

- Increase overall customer satisfaction rating.
- Reduce number of missed pick-ups by SWS.
- Decrease the per capita amount of trash disposed at ARL.
- Expand the lifespan of ARL and maximize airspace utilization.
- Fully maximize existing collection and transfer truck routes through the leveraging of technology.
- Reduce time loss accidents and workman compensation claims.
- Create opportunities for employee development via training opportunities.

Strategies to Achieve Goals

- Leverage SWS on-board vehicle computer systems.
- Install web-cams to provide real-time customer wait information.
- Streamline and improve CTS and ARL site traffic patterns.
- Invest in modernizing fleet and fuel technologies.
- Utilize alternative daily cover material and improve waste compaction.
- Communicate more effectively with employees about training opportunities and make them available.
- Promote the diversion of food waste, yard waste, metals, plastics, paper and cardboard.
- Improve recycling options for businesses and apartment buildings within the SWS service area.
- Standardize recycling outreach and labeling.

Performance Measures to Track Progress in Achieving Goals

- Decreased SWS at fault missed stops.
- Reduced wait times at SWS disposal facilities.
- Track vehicle miles per gallon.
- Monitor landfill waste to cover waste ratio.
- Employee annual hours of training.
- Average per capita waste generation.
- SWS collection area recycling rate.

Solid Waste Disposal Utility

Anchorage: Performance. Value. Results.

Mission

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

Core Services

- Operate the Anchorage Regional Landfill (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 December 2016.

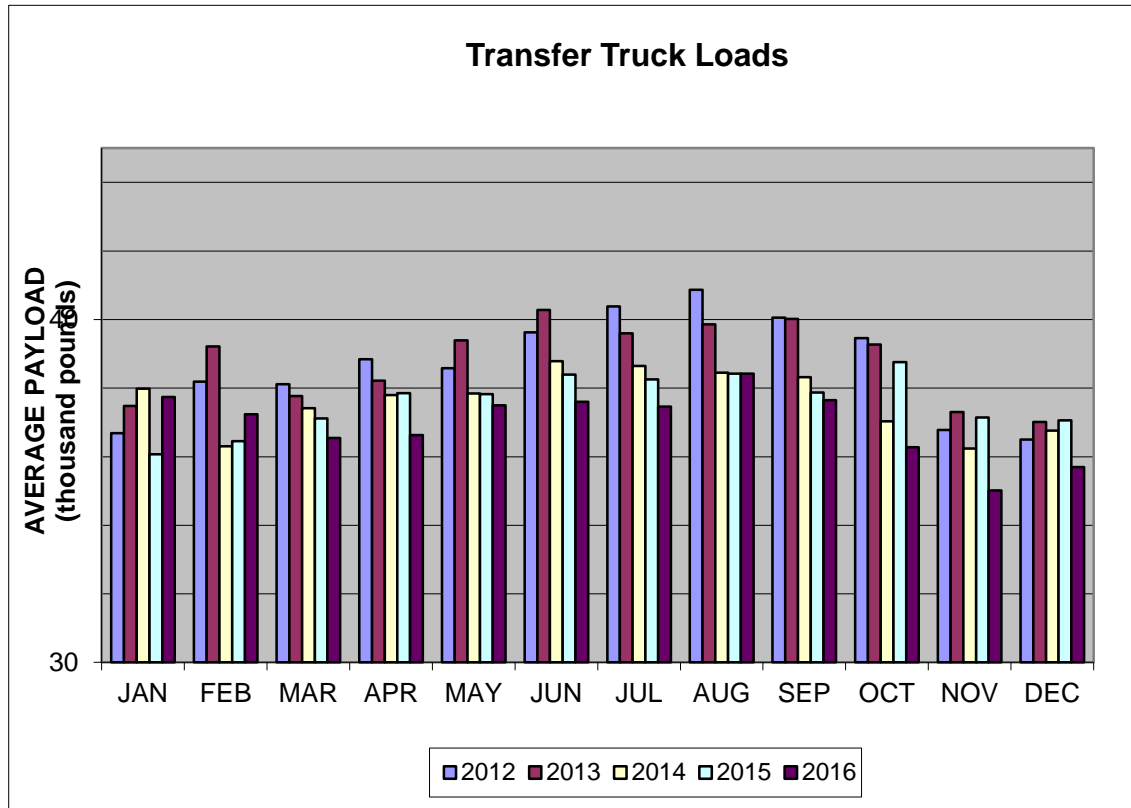


Table 1. Payload Data 2015 – 2016

<u>MONTH</u>	<u>AVERAGE WEIGHT</u>	<u>EXCEEDING TARGET</u>	<u>EXCEEDING TARGET (+/- 5%)</u>
OCT-15	38,756	67%	89%
NOV-15	37,148	69%	87%
DEC-15	37,062	66%	87%
JAN-16	37,742	77%	92%
FEB-16	37,233	72%	88%
MAR-16	36,549	61%	86%
APR-16	36,628	79%	85%
MAY-16	37,502	45%	76%
JUN-16	37,605	45%	78%
JUL-16	37,459	41%	76%
AUG-16	38,426	57%	87%
SEP-16	37,647	46%	74%
OCT-16	36,280	60%	83%
NOV-16	35,019	48%	72%
DEC-16	35,697	60%	75%

Table 2. Loads per Driver Shift Data 2015 – 2016

<u>MONTH</u>	<u>SHIFTS \geq 5 LOADS</u>	<u>SHIFTS \geq 4 LOADS</u>
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%
JUL-16	65%	92%
AUG-16	81%	90%
SEP-16	73%	95%
OCT-16	50%	88%
NOV-16	26%	66%
DEC-16	29%	86%

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 5 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 summarizes 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 Disposal Utility is received at the Central Transfer Station (CTS) 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 CTS. 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 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 Central Transfer Station 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 5 trips is the optimal goal, 4 trips are considered common.

Solid Waste Refuse Collections Utility

Anchorage: Performance. Value. Results.

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.

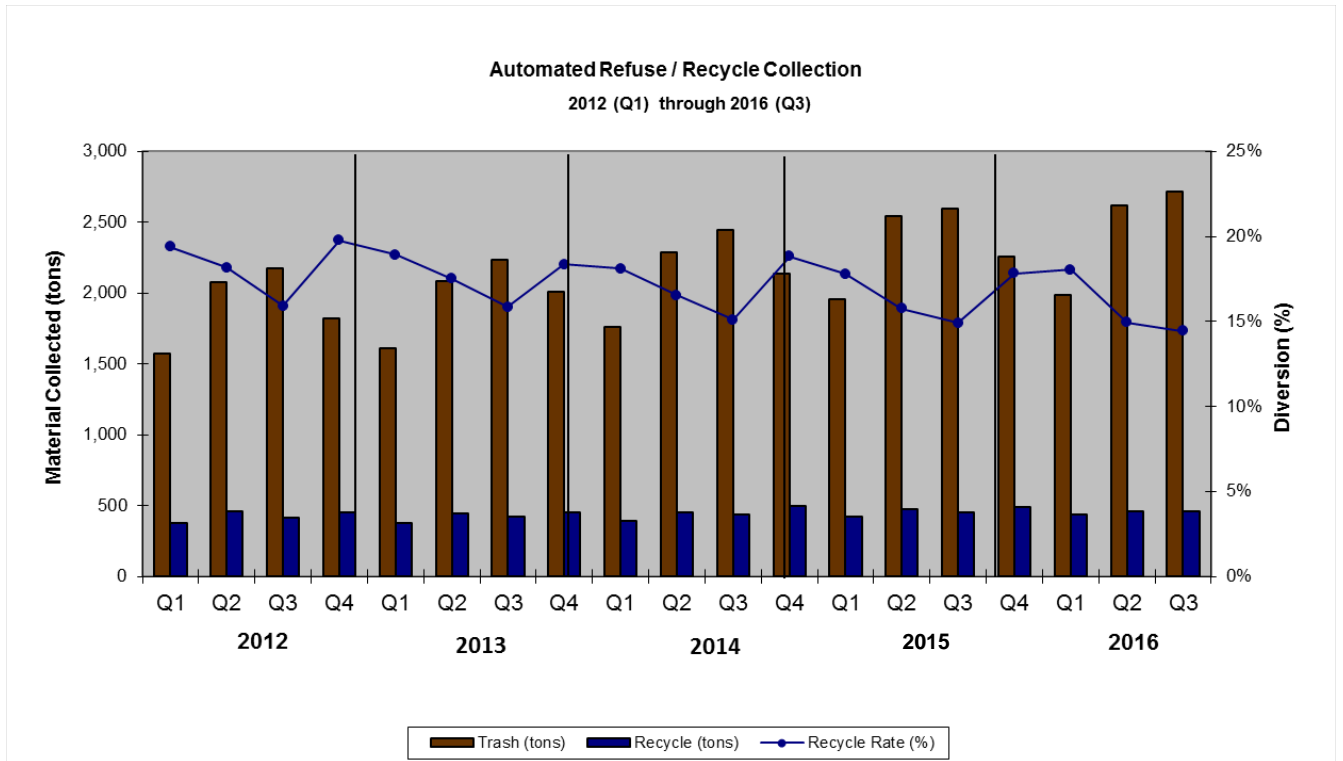
Performance Measures

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



As of 30 September
2016Workers Comp Losses 2011 - 2016
Municipal Refuse Collection Utility

Service Type	Injury Type	2012		2013		2014		2015		2016	
		Incidents	Losses	Incidents	Losses	Incidents	Losses	Incidents	Losses	Incidents	Losses
Manual Residential	TLI	3	\$126,687	0	\$0	1	\$1,802	0	\$0	0	\$0
	MO / RO	3	\$2,426	2	\$81	1	\$173	0	\$0	0	\$0
Automated Residential	TLI	0	\$0	3	\$52,992	0	\$0	0	\$0	0	\$0
	MO / RO	0	\$0	0	\$0	0	\$0	1	\$0	1	\$0
Commercial	TLI	0	\$0	0	\$0	1	\$3,490	0	\$0	0	\$0
	MO / RO	7	\$3,246	2	\$154	1	\$552	1	\$0	0	\$0
Vehicle Maintenance	TLI	0	\$0	1	\$5,473	0	\$0	0	\$0	0	\$0
	MO / RO	0	\$0	0	\$0	0	\$0	1	\$0	0	\$0
Other	TLI	0	\$0	0	\$0	0	\$0	0	\$0	1	\$102,422
	MO / RO	0	\$0	1	\$1,379	1	\$0	1	\$0	0	\$0
Total	TLI	3	\$126,687	4	\$58,465	2	\$5,292	0	\$0	1	\$0
	MO / RO	10	\$5,672	5	\$1,614	3	\$725	4	\$0	1	\$0

Total: \$102,422

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 Refuse Collection 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 Municipal 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

From 2002 through 2006, the Refuse Collection Utility incurred approximately \$860,000 in Worker's Compensation medical claims. In 2008 SWS began implementation of automated refuse collection for residential customers. Currently 90% 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

Refuse Collections 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

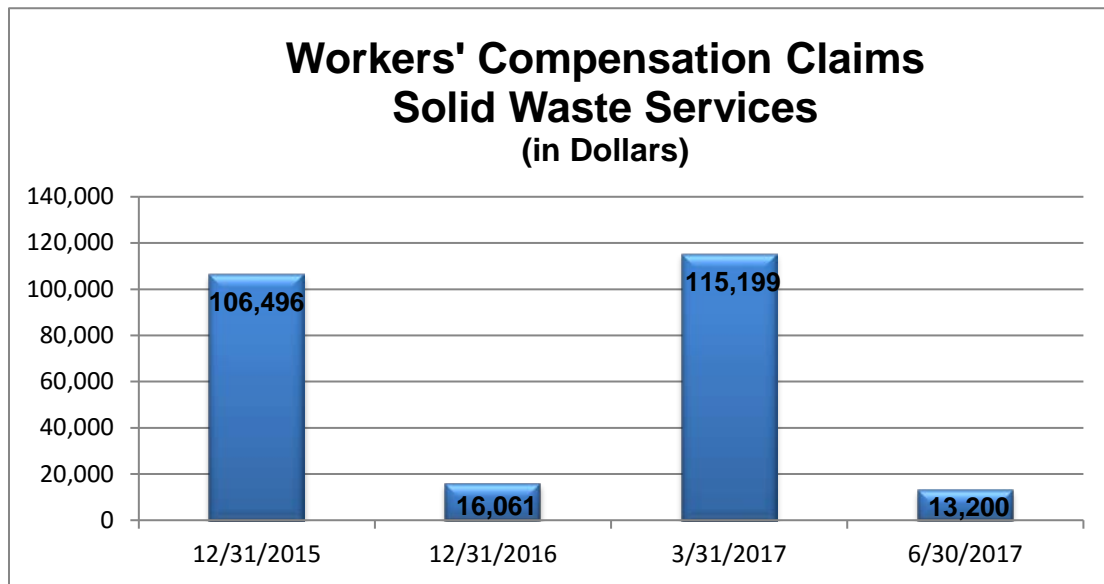
The automated refuse collection program includes a voluntary curbside recycling program which is provided to the customers at no additional charge. Source reduction and diversion of recyclables extends the life of the landfill. The Collection Utility realizes a savings for each ton of recyclable materials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

Approximately 13 percent of customers refused to have a recycling roll cart when they selected their automated service level. There are many other customers who have a recycling roll cart but do not use it.

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 2018 budget, the Disposal Utility 2018 total budget is projected at \$24,233,350 compared to the 2017 Revised Budget of \$23,922,239 and the 2017 Pro-forma of \$23,137,930. The 2018 budget is 1.3% higher than the 2017 Revised Budget. This increase is primarily due to the increase in the budgeted Municipal Utility Services Assessment.

The two items in the budget that are not appropriated by the Assembly are the non-cash items, depreciation and landfill closure expenses, totaling \$5,950,000. Depreciation expense is projected at \$4,650,000 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 \$5,950,000 of non-cash items from the total budget of \$24,233,350, results in a 2018 appropriation budget of \$18,283,350, a 0.8% increase over the 2017 Revised Budget (without non-cash items). This shows a straight-line budget which reflects the prediction similar to the Anchorage Economic Development Corporation (AEDC) projections.

Total revenue for 2018 is projected at \$22,772,605, compared to the 2017 Revised Budget revenue of \$22,751,080. It is 0.1% higher and also reflects the Anchorage Economic Development Corporation's forecast of a stagnant growth in the economy.

Net income of <\$1,460,745> is forecast for 2018. With the higher anticipated expenses and the same amount of tonnage being received, an additional rate increase will likely be required in the very near future.

With a capital budget of \$8.18 million, the 2018 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 2018 budget, the Refuse Collection's total operating budget is \$11,930,480. The 2017 pro forma is \$10,009,528, and the 2017 Revised Budget is \$10,694,907. The 2018 budget is 11.55% higher than the 2017 Revised Budget. There are two major areas effecting the Refuse Collection Budget. There is a major increase in both the dividends to be paid to the Municipality of Anchorage, and the Intra-Government Cost Transfers from Other Departments. Refuse Collection has purchased several new trucks which will increase the amount of depreciation.

The Refuse Collection 2018 Proposed Budget authorization figure will exclude \$1,017,000 of depreciation, a non-cash item. Although the budget appropriation excludes non-cash items, depreciation will be included in the utility's financial statements.

Removing the \$1,017,000 of depreciation from the total budget of \$11,930,480 results in a 2018 appropriation budget of \$10,913,480, 12.6% more than the 2017 Revised Budget (without depreciation).

Total revenue for 2018 is projected at \$11,445,000, compared to the 2017 Revised Revenue of \$11,290,500, a 1.37% increase. Refuse Collections is able to recognize additional Other Collection Revenues through its use of an On-Board Computer (OBC). This system allows a more accurate tracking of additional services. Additionally, Refuse Collections has instituted a new commercial recycling program. Without a rate increase revenues are expected to be relatively stable into the future.

The estimated Refuse Collection 2018 Proposed Budgeted net income is <\$485,480> and a capital budget of \$2.39 million is proposed. Capital expenses include the purchase of a compact front-loader, a side-loader, building improvements, as well as dumpsters and roll-off cans for solid waste customers. Refuse Collections is also requesting funding for additional bear carts and an electrical refuse vehicle.

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 Solid Waste Disposal Utility (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 the LFG project will fluctuate dependent upon market price of natural gas in Southcentral Alaska.

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 approximately seven (7) 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. A project is currently in the final phases of design to interconnect the Fort Richardson and Elmendorf electrical grids.

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 ARL.

Since 1994 SWS has stored gravel generated from cell development activities on leased land from Fort Richardson. SWS currently has over 4M-cy of material stored at this location which will all be used in the normal operation of the landfill. An extension of this lease needs to be negotiated prior to expiration in 2019 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 ARL to AWWU's Turpin Street septic hauler station. SWS has hauls over 25 million 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.

ARL and CTS 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	2016	2017	2018	2019	2020	2021	2022	2023
Refuse Collection	26	26	26	26	26	26	26	26
Disposal	53	51	49	48	48	48	48	48
Administration	20	20	23	23	23	23	23	23
Total Full Time	99	97	98	97	97	97	97	97
Part time/Temp	4	6	6	6	6	6	6	6
Seasonal	7	7	6	7	7	7	7	7
Total Positions	110	110	110	110	110	110	110	110
Total FTE	108	107.6	105.3	105.3	105.3	105.3	105.3	105.3

2016 values stated are historical budgeted positions and FTEs.

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

Financial Overview	2016	2017	2018	2019	2020	2021	2022	2023
	Actuals	Proforma	Approved	Forecast				
Revenues	23,600	23,967	22,773	23,228	23,693	24,167	24,650	25,143
Expenses	20,709	23,138	24,233	24,475	24,720	24,967	25,217	25,469
Net Income (Loss)	2,891	829	(1,460)	(1,247)	(1,027)	(800)	(567)	(326)
Budgeted Positions	63(83)	56(83)	54(83)	54(83)	54(83)	54(83)	54(83)	54(83)
Capital Improvement Program	3,180	5,475	8,176	4,735	14,847	11,315	7,340	2,340
Bond Sales/ New Debt	-	-	-	11,807	-	-	10,872	-
Net Plant (12/31)	66,325	64,203	67,892	65,260	62,627	83,132	86,802	89,142
Dividend	-	1,144	750	665	650	700	700	700
Net Assets (12/31)	55,745	56,574	55,114	53,867	52,840	52,040	51,473	51,147
Unrestricted Net Assets	55,745	56,574	55,114	53,867	52,840	52,040	51,473	51,147
Future Landfill Closure Liability	31,101	33,045	33,945	34,845	35,745	36,645	37,545	38,445
General /Construction Cash Pool	9,936	11,723	7,575	12,469	2,834	(12,231)	(9,418)	(12,749)
Landfill Closure Cash Reserve**	32,408	33,552	34,302	34,845	35,745	36,645	37,545	38,445
Total Cash	42,344	45,275	41,877	47,314	38,579	24,414	28,127	25,696

**In 2008, a restricted account to fund landfill closure & post-closure was approved by the MOA Assembly.

IGCs - General Government	2,146	2,362	3,479	3,618	3,763	3,913	4,070	4,233
Utility Revenue Distribution	295	300	285	290	296	302	308	314
MUSA	810	1,347	1,372	979	939	1,247	1,302	1,337
Total Outstanding Debt	15,741	14,491	13,004	13,004	24,363	22,193	20,893	31,765
Total Annual Debt Service	2,311	1,729	1,690	1,650	2,178	2,178	2,156	2,658
Debt Coverage	1.25	0.48	(0.86)	(0.76)	(0.47)	(0.37)	(0.26)	(0.12)
Debt/Equity Ratio	19/67	18/67	16/67	16/67	31/67	29/67	27/67	42/67
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	330,805	310,052	305,000	305,000	305,000	305,000	305,000	305,000
Vehicle Count	240,328	239,840	240,000	240,000	240,000	240,000	240,000	240,000

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

	2016 Actuals	2017 Proforma	2017 Revised	18 v 17 \$ Change	2018 Approved	18 v 17 % Change
Operating Revenue						
Landfill Disposal Fees	19,467,740	19,476,565	19,220,405	-	19,220,405	0.0%
Hazardous Waste Fees	752,825	289,675	400,000	(100,000)	300,000	-25.0%
Community Recycling Residential	168,269	165,304	165,000	-	165,000	0.0%
Community Recycling Commercial	441,242	431,257	400,000	10,000	410,000	2.5%
Landfill Methane Gas Sales	1,671,692	1,820,180	1,700,000	150,000	1,850,000	8.8%
Recycle Rebate	90,650	-	-	-	-	0.0%
Reimbursed Costs	56,153	149,694	60,000	40,000	100,000	66.7%
Unsecured Loads	14,580	13,685	15,000	-	15,000	0.0%
Other	233,957	207,273	103,000	39,200	142,200	38.1%
Total Operating Revenue	22,897,108	22,553,633	22,063,405	139,200	22,202,605	0.6%
Non Operating Revenue						
Misc. non-operating Revenue	140,000	16,133	140,000	(120,000)	20,000	0.0%
Interest from cash pool	422,675	678,821	422,675	(22,675)	400,000	-5.4%
Unrealized Gains/Losses	100,000	411,465	100,000	-	100,000	0.0%
Other Property Sales/Disposition of Assets	40,000	307,393	25,000	25,000	50,000	100.0%
Capital Contributions/Grant Revenue	-	-	-	-	-	-
Total Non Operating Revenue	702,675	1,413,812	687,675	(117,675)	570,000	-17.1%
Total Revenue	23,599,783	23,967,445	22,751,080	21,525	22,772,605	0.1%
Operating Expenses						
Labor						
Labor and Benefits	6,206,085	5,839,144	6,019,563	(166,956)	5,852,607	-2.8%
Overtime	430,236	508,889	415,000	125,966	540,966	30.4%
Total Labor	6,636,321	6,348,033	6,434,564	(40,991)	6,393,573	-0.6%
Non Labor						
Non Labor	4,983,148	5,936,700	5,932,570	(204,170)	5,728,400	-3.4%
Travel	1,456	10,199	6,700	8,300	15,000	123.9%
Landfill Closure Costs	1,307,255	907,982	1,300,000	-	1,300,000	0.0%
Debt Service	258,033	258,033	258,000	2,000	260,000	0.8%
Depreciation and Amortization	4,271,662	4,523,269	4,487,910	162,090	4,650,000	3.6%
Dividend Distribution	-	1,143,934	1,142,839	(392,839)	750,000	100.0%
MUSA	1,105,279	1,647,448	1,396,367	260,633	1,657,000	18.7%
Total Non Labor	11,926,833	14,427,565	14,524,386	(163,986)	14,360,400	-1.1%
Total Direct Cost	18,563,154	20,775,598	20,958,950	(204,977)	20,753,973	-1.0%
Charges from other departments	2,145,520	2,362,332	2,963,289	516,088	3,479,377	17.4%
Total Operating Expense	20,708,674	23,137,930	23,922,239	311,111	24,233,350	1.3%
Interest during Construction						0.0%
Total Non Operating Expense	-	-	-	-	-	0.0%
Total Expenses (Function Cost)	20,708,674	23,137,930	23,922,239	311,111	24,233,350	1.3%
Net Income	2,891,109	829,515	(1,171,158)	(289,587)	(1,460,745)	24.7%
Appropriation						
Total Expenses			23,922,239	311,111	24,233,350	
Less: Non Cash items						
Landfill Care and Closure			1,300,000	-	1,300,000	
Depreciation and Amortization			4,487,910	162,090	4,650,000	
Total Non Cash			5,787,910	162,090	5,950,000	
Amount to be Appropriated (Cash Expenses)			18,134,329	149,021	18,283,350	

Solid Waste Services - Disposal

Reconciliation from 2017 Revised Budget to 2018 Approved Budget

	Appropriation	Positions		
		FT	PT	T
2017 Revised Budget	23,922,239	51	-	5
Changes in Existing Programs/Funding for 2018				
- Non labor - reduction on payment of landfill settlement	(204,170)	-	-	-
- Additional Travel for Training in new Landfill Technologies and Closures	8,300	-	-	-
- Adjust Debt Service	2,000	-	-	-
- Depreciation and amortization	162,090	-	-	-
- Dividend Distribution	(392,839)	-	-	-
- Adjust MUSA	260,633	-	-	-
- Charges from Other Departments	516,088	-	-	-
2018 Continuation Level	24,274,341	51	-	5
2018 Approved Budget Changes				
- Salary and benefits adjustments	(40,991)	(2)	-	-
2018 Approved Budget	24,233,350	49	-	5
2018 Budget Adjustment for Accounting Transactions (Appropriation)				
- Depreciation and amortization	(4,650,000)	-	-	-
- Landfill Care and Closure	(1,300,000)	-	-	-
2018 Approved Budget (Appropriation)	18,283,350	49	-	5

Solid Waste Services - Disposal
2018 - 2023 Capital Improvement Program
(in thousands)

Project Category	2018	2019	2020	2021	2022	2023	Total
Anchorage Regional Landfill Improvements	3,160	2,775	9,082	7,275	5,275	275	27,842
Central Transfer Station Improvements	1,850	-	-	-	-	-	1,850
Equipment & Vehicles	2,886	1,930	5,735	4,010	2,035	2,035	18,631
Girdwood Improvements	-	-	-	-	-	-	-
Office Equipment & Technology	280	30	30	30	30	30	430
Total	8,176	4,735	14,847	11,315	7,340	2,340	48,753

Funding Source	2018	2019	2020	2021	2022	2023	Total
Clean Water Loan	-	1,000	8,807	7,000	5,000	-	21,807
Commercial Loan	-	-	-	-	-	-	-
Equity/Operations	8,176	3,735	6,040	4,315	2,340	2,340	26,946
Total	8,176	4,735	14,847	11,315	7,340	2,340	48,753

Solid Waste Services - Disposal
2018 Capital Improvement Budget
(in thousands)

Project Title	Debt	State/Fed Grant	Equity/ Operations	Total
175 cfm Air Compressor	-	-	20	20
Alarm Panel Replacement	-	-	50	50
Anchorage Regional Landfill (ARL) Gas Emissions Monitoring Device	-	-	16	16
Annual Additional Gas Wells and Piping	-	-	175	175
ARL Energy Efficiency	-	-	100	100
ARL Scalehouse Scales	-	-	250	250
Central Transfer Station (CTS) Roof and Floor Upgrade	-	-	1,400	1,400
CTS Scalehouse Scales	-	-	250	250
D9 Dozer/Cat	-	-	1,200	1,200
Emergent Equipment Contingency	-	-	50	50
Engineering Design Contract	-	-	100	100
Fleet Focus	-	-	250	250
Gravel Processor Plant (Grizzly)	-	-	75	75
Leachate Force Main Construction	-	-	1,500	1,500
Leachate Pipeline Design	-	-	450	450
Leachate Pond Rebuild	-	-	450	450
Leachate Tankers (2)	-	-	290	290
Office Equipment and technology purchase	-	-	30	30
Pickup Truck (2)	-	-	90	90
Ramp Heating System	-	-	200	200
Reconstruct Fueling Island Pump	-	-	40	40
Scrap Metal Roll Off Containers (2)	-	-	30	30
Tractors (3)	-	-	525	525
Trailers (4)	-	-	540	540
Warm Storage Heating	-	-	45	45
White Water Truck	-	-	50	50
Total	-	-	8,176	8,176

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

	2016 Actual	2017 Proforma	2018 Approved
Sources of Cash Funds			
Operating Income ¹	3,551,746	4,160,697	244,147
Depreciation, net of amortization	4,271,662	4,523,269	4,650,000
Amortization of Landfill Liability	1,307,255	907,982	1,300,000
Deferred Revenue	(146,753)	-	-
Capital Contribution	-	-	-
Interest Received	422,675	687,633	422,675
State of Alaska Loan Proceeds	-	-	-
Changes in Assets and Liability	1,373,937	-	-
Total Sources of Cash Funds	10,780,522	10,279,581	6,616,822
Uses of Cash Funds			
Capital Construction	2,522,706	3,180,000	5,440,000
Debt Principal Payment	1,913,205	1,356,135	1,356,500
Debt Interest Payments	258,033	258,033	260,000
Landfill Post Closure Cash Reserve Transfer	1,307,255	907,982	1,300,000
MUSA	1,105,279	1,647,448	1,657,000
Dividend Distribution	-	1,143,934	750,000
Total Uses of Cash Funds	7,106,478	8,493,532	10,763,500
Net Increase (Decrease) in Cash Funds	3,674,044	1,786,049	(4,146,678)
Cash Balance, January 1	6,261,575	9,935,619	11,721,668
Cash Balance, December 31	9,935,619	11,721,668	7,574,990
Detail of Cash and Investment Funds			
General Cash Less Customer Deposits	8,037,137	11,721,668	7,574,990
Construction Cash	1,898,482	-	-
Cash Balance, December 31	9,935,619	11,721,668	7,574,990
Landfill Post Closure Cash Reserve	32,408,183	33,552,117	34,302,117

¹ Operating Income less Functional Costs plus Debt Interest, MUSA, and Dividends.

Solid Waste Services - Refuse Collection 8 Year Summary

(\$ in thousands)

Financial Overview	2016	2017	2018	2019	2020	2021	2022	2023
	Actuals	Proforma	Approved	Forecast				
Revenues	11,290	11,640	11,445	11,500	11,500	11,500	11,500	11,500
Expenses	9,854	10,010	11,930	12,169	12,412	12,660	12,913	13,172
Net Income (Loss)	1,436	1,630	(485)	(669)	(912)	(1,160)	(1,413)	(1,672)
Budgeted Positions	27	27	27	27	27	27	27	27
Capital Improvement Program	1,595	2,180	2,385	1,780	1,805	1,535	1,495	1,405
Bond Sales	-	-	-	-	-	-	-	-
Net Plant (12/31)	3,521	2,891	4,176	4,556	4,961	5,096	5,191	5,196
Dividend	500	556	1,270	750	600	625	630	630
Net Assets (12/31)	10,202	11,832	11,347	10,678	9,766	8,606	7,193	5,521
General/Construction Cash Pool	8,929	8,145	6,715	5,366	3,749	2,154	346	(1,631)
IGCs - General Government	1,435	1,483	2,560	2,611	2,663	2,717	2,771	2,826
Utility Revenue Distribution	-	-	-	-	-	-	-	-
MUSA	40	36	37	57	62	64	65	65
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

	2016 Actual	2017 Proforma	2017 Revised	18 v 17 \$ Change	2018 Approved	18 v 17 % Change
Operating Revenue						
Commercial	7,112,349	7,115,447	7,230,000	70,000	7,300,000	0.97%
Residential	3,429,052	3,617,397	3,413,500	36,500	3,450,000	1.07%
Dumpster Container Rental	474,691	476,289	470,000	5,000	475,000	1.06%
Other Collection Revenues	48,865	146,157	85,000	45,000	130,000	52.94%
Total Operating Revenue	11,064,957	11,355,290	11,198,500	156,500	11,355,000	1.40%
Non Operating Revenue						
Interest from Cash Pool	173,206	169,427	82,000	(2,000)	80,000	-2.44%
Unrealized Gains & Losses	42,035	104,405	-	-	-	-
Misc. non-operating Revenue	9,662	11,131	10,000	-	10,000	0.00%
Total Non Operating Revenue	224,903	284,963	92,000	(2,000)	90,000	-2.17%
Total Revenue	11,289,860	11,640,253	11,290,500	154,500	11,445,000	1.37%
Operating Expenses						
Labor and Benefits						
Labor and Benefits	2,905,625	2,992,644	3,132,745	46,821	3,179,566	1.49%
Overtime	93,661	124,944	113,000	12,000	125,000	10.62%
Total Labor	2,999,286	3,117,588	3,245,745	58,821	3,304,566	1.81%
Non Labor						
Non Labor	3,917,067	3,834,944	3,696,620	35,380	3,732,000	0.96%
Travel	4,514	11,018	6,000	4,000	10,000	66.67%
MUSA	39,785	35,927	35,927	1,073	37,000	2.99%
Dividends	500,000	555,629	570,000	700,000	1,270,000	122.81%
Depreciation and Amortization	958,156	971,256	1,004,500	12,500	1,017,000	1.24%
Total Non Labor	5,419,522	5,408,774	5,313,047	752,953	6,066,000	14.17%
Total Direct Cost	8,418,808	8,526,362	8,558,792	811,774	9,370,566	9.48%
Charges from Other Departments	1,435,300	1,483,166	2,136,115	423,799	2,559,914	19.84%
Total Operating Expense	9,854,108	10,009,528	10,694,907	1,235,573	11,930,480	11.55%
Non Operating Expense						
Total Non Operating Expense	-	-	-	-	-	0.00%
Total Expenses (Function Cost)	9,854,108	10,009,528	10,694,907	1,235,573	11,930,480	11.55%
Net Income	1,435,752	1,630,725	595,593	(1,081,073)	(485,480)	-181.51%
Appropriation						
Total Expenses			10,694,907	1,235,573	11,930,480	
Less: Non Cash items						
Depreciation and Amortization			1,004,500	12,500	1,017,000	
Total Non-Cash			1,004,500	12,500	1,017,000	
Amount to be Appropriated (Cash Expenses)			9,690,407	1,223,073	10,913,480	

Solid Waste Services - Refuse Collection

Reconciliation from 2017 Revised Budget to 2018 Approved Budget

	Appropriation	Positions		
		FT	PT	T
2017 Revised Budget	10,694,907	26	-	1
Changes in Existing Programs/Funding for 2018				
- Salary and benefits adjustments	58,821	-	-	-
- Non-Labor Adjustments (increase in contracted services for Hybrid vehicle)	35,380	-	-	-
- Travel (Additional leadership training)	4,000	-	-	-
- Depreciation	12,500	-	-	-
- Adjust MUSA, Gross Receipts, Contributions	701,073			
- Charges from other Departments	423,799	-	-	-
2018 Continuation Level	11,930,480	26	-	1
2018 Approved Budget Changes				
- None	-	-	-	-
2018 Approved Budget	11,930,480	26	-	1
2018 Budget Adjustment for Accounting Transactions (Appropriation)				
- Depreciation and amortization	(1,017,000)	-	-	-
2018 Approved Budget (Appropriation)	10,913,480	26	-	1

Solid Waste Services - Refuse Collection
2018 - 2023 Capital Improvement Program
(in thousands)

Project Category	2018	2019	2020	2021	2022	2023	Total
Building Improvements	420	80	-	-	-	-	500
Containers/Dumpsters/Roll-offs & Lids	360	360	360	360	360	360	2,160
Data Processing	135	30	30	30	30	30	285
Office Equipment	5	5	5	5	5	5	30
Vehicle Replacement	1,465	1,055	1,410	1,140	1,100	1,010	7,180
Total	2,385	1,530	1,805	1,535	1,495	1,405	10,155

Funding Source	2018	2019	2020	2021	2022	2023	Total
Equity/Operations	2,385	1,530	1,805	1,535	1,495	1,405	10,155
Total	2,385	1,530	1,805	1,535	1,495	1,405	10,155

Solid Waste Services - Refuse Collection
2018 Capital Improvement Budget
(in thousands)

Project Title	Debt	State/Fed Grant	Equity/ Operations	Total
Additional OBC Change Orders	-	-	40	40
Central Transfer Station (CTS) Building Carpet Replacement	-	-	60	60
Compact Frontloader	-	-	250	250
CTS Building Heating System/Chillers	-	-	190	190
Dumpsters	-	-	275	275
Electric Sideloader and charging system	-	-	600	600
Emergent Equipment Purchase	-	-	50	50
Energy Efficiency Improvements	-	-	120	120
Fleet Focus	-	-	75	75
Lids	-	-	75	75
Mechanic's Truck	-	-	65	65
Mobile Cart Washer	-	-	125	125
Pickup Dump Truck	-	-	70	70
Replace Data Processing Equipment	-	-	20	20
Replace Office Equipment	-	-	5	5
Residential Roll Carts	-	-	10	10
Side loaders	-	-	355	355
Total	-	-	2,385	2,385

Solid Waste Services - Refuse Collection Statement of Cash Sources and Uses

	2016 Actual	2017 Proforma	2018 Approved
Sources of Cash Funds			
Operating Income	1,750,634	826,060	1,155,319
Depreciation, net of amortization	958,156	971,256	1,017,000
Interest Received	173,206	169,427	80,000
Misc Non-Operating Revenue	9,662	11,131	10,000
Changes in Assets and Liabilities	(523,177)	-	-
Total Sources of Cash Funds	2,368,481	1,977,874	2,262,319
Uses of Cash Funds			
Capital Construction	1,819,733	2,180,000	2,385,000
MUSA	39,785	35,927	37,000
Dividends	500,000	555,629	1,270,000
Total Uses of Cash Funds	2,359,518	2,771,556	3,692,000
Net Increase (Decrease) in Cash Funds	8,963	(793,682)	(1,429,681)
Cash Balance, January 1	8,929,644	8,938,607	8,144,925
Cash Balance, December 31	8,938,607	8,144,925	6,715,244
Detail of Cash and Investment Funds			
General Cash Less Customer Deposits	6,976,630	8,144,925	6,715,244
Construction Cash	1,961,977	-	-
Cash Balance, December 31	8,938,607	8,144,925	6,715,244

About Solid Waste Services

The Department of Solid Waste Services (SWS) is composed of two utilities, the Refuse Collections Utility (RCU) and 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: Refuse Collections; Solid Waste Disposal; and 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 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. Approximately 150 commercial customers remain on can/bag service and will remain on that service until a rate is established for commercial roll-cart 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 include:

- 11 commercial refuse collection vehicles;
- 10 residential refuse and recycling vehicles (automated and can/bag); 8 automated / 2 Tomcats

- One rear load vehicle for MOA paper collection and recycling; and,
- 7 support vehicles (General Foreman Vehicle, Refuse Collections Leadman Vehicle, Expeditor Vehicle, Mechanics' Truck, 1 ton tilt Flatbed with lift gate, Box Van, and a 2 ton Flatbed)

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 December 2016 the RCU began utilizing an Automated Refuse Route Management System (ARRMS) to provide real time route information and GPS vehicle locations to make customer service and operations more efficient and cost effective. Specifically, this system provides real-time information to management and customer service staff such as: photo-documented waste containers that are overfull; not placed on curbside; 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 ultimately closed and waste disposal was consolidated at ARL. ARL, is an award winning, state-of-the-art, fully engineered landfill. The facility was opened in 1987 and is the only operating municipal solid waste 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, 8b, 10 - 12 have been constructed. There are two remaining cells that will begin development in about 2020 with preliminary design starting in 2019. ARL is projected to have a total capacity in excess of 45.1 million cubic yards and should reach its capacity in 2050, dependent upon population growth, waste compaction, diversion of more recyclables and construction activities. In 2016, approximately 330,000 tons were deposited in ARL, which represents approximately 46,000 tons more than in 2015. This increase was due to some major construction projects which required extensive hazardous soils disposal. SWDU currently expects an average of approximately 300,000 tons in 2017 and 2018.

The transfer stations located at Girdwood, midtown Anchorage (CTS), and ARL allow the SWDU to reduce traffic flow to the landfill and restrict access to the working face. CTS receives the largest amount of solid waste, having received over 223,000 tons in 2016 from almost 161,000 customers. This facility has an operating capacity of 1,600 tons per day. The 2016 quantity was 7,473 tons more than 2015. The SWDU operates a fleet of 29 transfer tractor and trailers that transport the solid waste from CTS with a capacity of 120 cubic 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 24 million 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 into 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. 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 2050.
- 45.1 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, water truck, leachate trucks, tankers, lube trucks, grader, excavator and solid waste compactor.
- Two leachate storage and treatment lagoons with a 2.9 million 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 \$22.3 million.
- Slope closure and storm water run off development is on-going.
- Expansion of gas collection system into cells 10, 11 and 12 by 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.