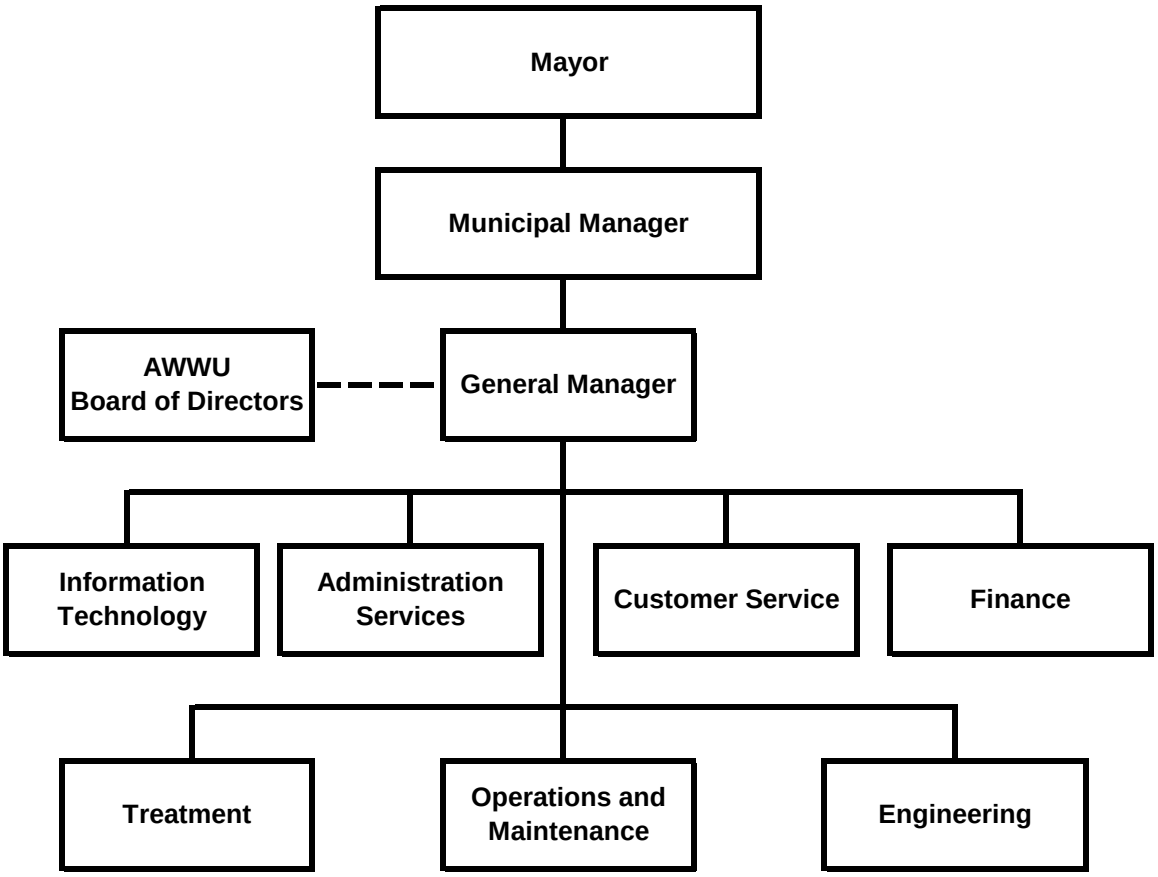
Anchorage Water & Wastewater Utility



Anchorage Water & Wastewater Organizational Overview

Overview

The Anchorage Water and Wastewater Utility (AWWU) is the largest water and wastewater utility in Alaska. AWWU currently serves the Municipality of Anchorage (Municipality) extending from Eklutna to as far south as Girdwood. Although they share one workforce, AWWU operates as two separate economic and regulated entities: the Anchorage Water Utility (AWU) and the Anchorage Wastewater Utility (ASU).

Figure 1. AWWU Headquarters

System Description

To provide water and sewer services, AWWU owns and operates five Treatment Facilities (2 water and 3 wastewater), approximately 1,600 miles of pipe, and over 325,000 square feet of facility space distributed throughout the Municipality. The certificated water service area covers 130.4 square miles in three distinct geographic areas, Northern Communities, the Anchorage Bowl, and Girdwood Valley. Estimates place the water service population at approximately 240,000 people via nearly 57,000 customer accounts. The certificated sewer service area is larger, encompassing nearly all of the Municipality. ASU currently provides sewer service to approximately 250,000 people via over 57,000 customer accounts. Additionally, AWWU receives septage pumped from on-site wastewater systems on lots in areas not directly connected to the sewer system.

Figure 2. Ship Creek Water Treatment Facility

AWU's three sources of water are Eklutna Lake, Ship Creek, and groundwater accessed through a system of wells in the Northern Communities, the Anchorage Bowl, and Girdwood Valley. Eklutna Water Treatment Facility (WTF) and the wells which supply Girdwood are operated year-round and serve as the primary supply source for the Anchorage and Girdwood water systems. The Ship Creek Water Treatment Facility and the remainder of the water wells are used to augment the primary water supply, mainly in times of peak demand, as well as provide redundancy to the Eklutna source for Eagle River and the Anchorage Bowl. Of these sources, the Eklutna WTF now provides approximately 86% of total water production for the Northern Communities/Eagle River and the Anchorage Bowl. In Girdwood, where system demand constitutes less than 2 percent of AWWU's total water production, all water produced and distributed is from two municipally-owned and managed wells.

ASU operates three wastewater treatment facilities to treat wastewater collected in three geographically separate but commonly managed sewer systems. The largest of these is the John M. Asplund Wastewater Treatment Facility (WWTF) located at Point Woronzof. The

Figure 3. Asplund Facility

Asplund WWTF was constructed in the early 1970's when Anchorage eliminated direct ocean discharges. It services the wastewater treatment needs of the Anchorage Bowl. The Asplund facility has received silver, gold, and platinum awards from the National Association of Clean Water Agencies for efficiency and environmental compliance. ASU is continually at work to maintain and enhance the facility. The Asplund facility operates in accordance with a National Pollution Discharge Elimination System (NPDES) permit administered by the U.S. Environmental Protection Agency (EPA). The permit, which expired in 2005 but has been administratively extended by EPA, allows discharge of effluent receiving primary treatment, in accordance with Section 301(h) of the Clean Water Act.

The Eagle River WWTF was originally built in the 1960's and upgraded several times. It services the public wastewater treatment and disposal needs within Eagle River and Chugiak. The Eagle River facility provides biological secondary treatment and discharges treated effluent to Eagle River. The Eagle River WWTF Permit has been administratively extended. The existing permit continues to be effective and enforceable until a new permit is issued by Alaska Department of Environmental Conservation (ADEC), which has assumed primacy from EPA over permits for wastewater discharge to fresh water.

Figure 4. Girdwood Wastewater Treatment Plant

The third facility is Girdwood WWTF. It was originally constructed in the 1970's and also has undergone several process modifications and upgrades. The Girdwood facility provides biological secondary treatment and discharges treated effluent to Glacier Creek under an administratively extended NPDES permit administered by the ADEC. The core facility is now at the end of its useful life. Phase 1 of plant replacement and upgrades was completed in 2014. Phase 2 of the plant replacement and upgrade is being planned to conform to discharge requirements of a new permit.

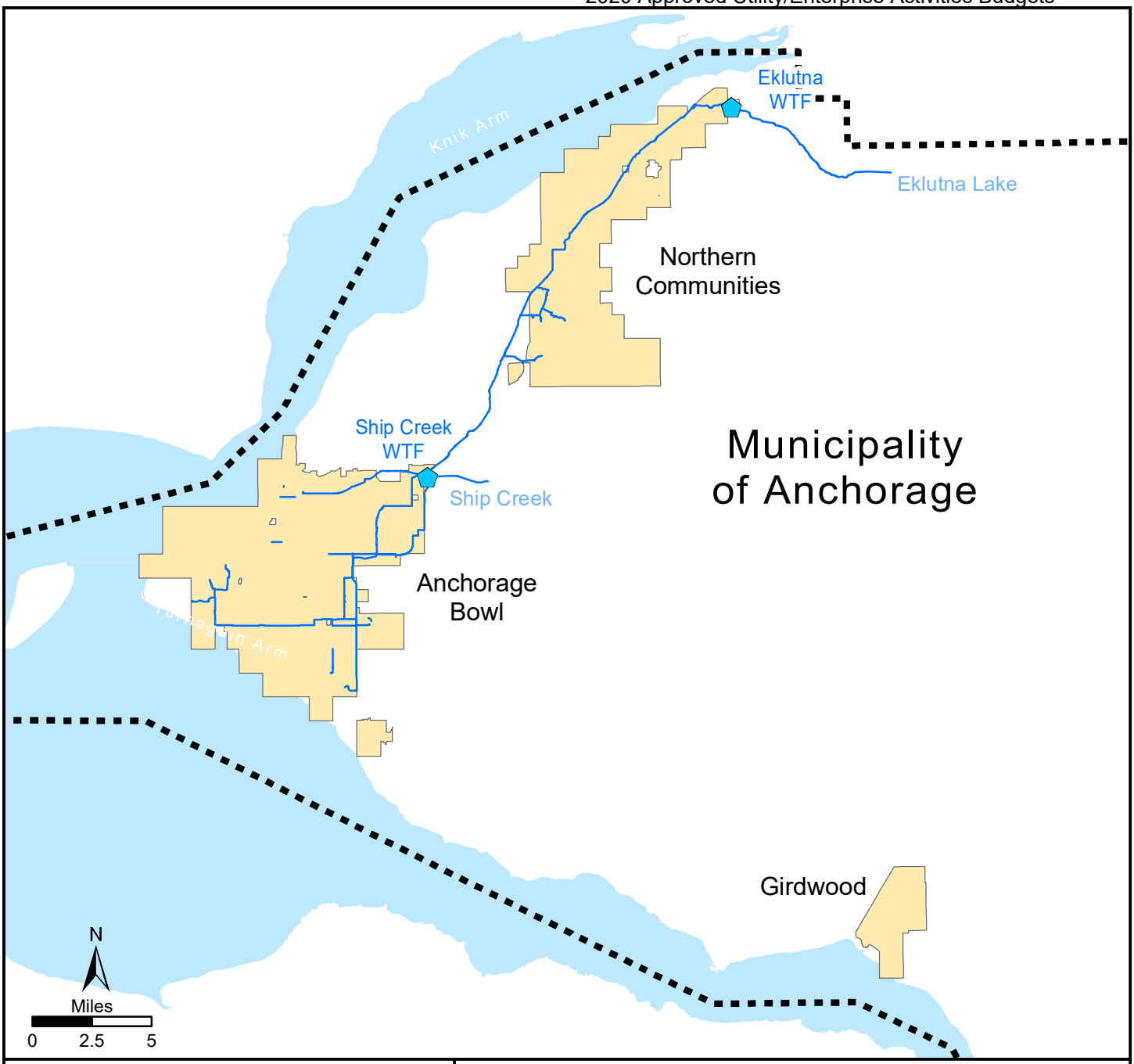
Over the past decade, investments in physical infrastructure have resulted in an increase in the value of AWU and ASU. From 2008 to present, plant in service has increased by 37% from $639.4 million to $874.2 million for AWU and by 40.5% from $486.5 million to $683.7 million for ASU. This growth is primarily a result of an increasing amount of investment in transmission and distribution assets (water pipelines) and collection plant assets (wastewater pipelines).

Organization

The General Manager's office is responsible for overall operation of AWWU. AWWU is organized into 7 divisions.

- The Information Technology Division provides support for all of AWWU's computers, network, and software systems.

- The Administration Services Division provides for training, safety, and internal and external communications.
- The Customer Service Division is responsible for responding to customer inquiries, billing and collections for both utilities, issuing of permits, and field service functions.
- The Finance Division is responsible for all general ledger and plant accounting, preparation of utility budgets and financial statements, and regulatory filings.
- The Treatment Division is responsible for day-to-day operation of the treatment facilities and water distribution system and for maintaining compliance with all state and federal regulations.
- The Operations and Maintenance (O&M) Division maintains the treatment facilities and repairs all water and sewer piping and lift stations. The O&M Division also operates the wastewater collection system and is responsible for AWWU's SCADA system.
- The Engineering Division is responsible for development and execution of AWWU's capital program and for system planning.



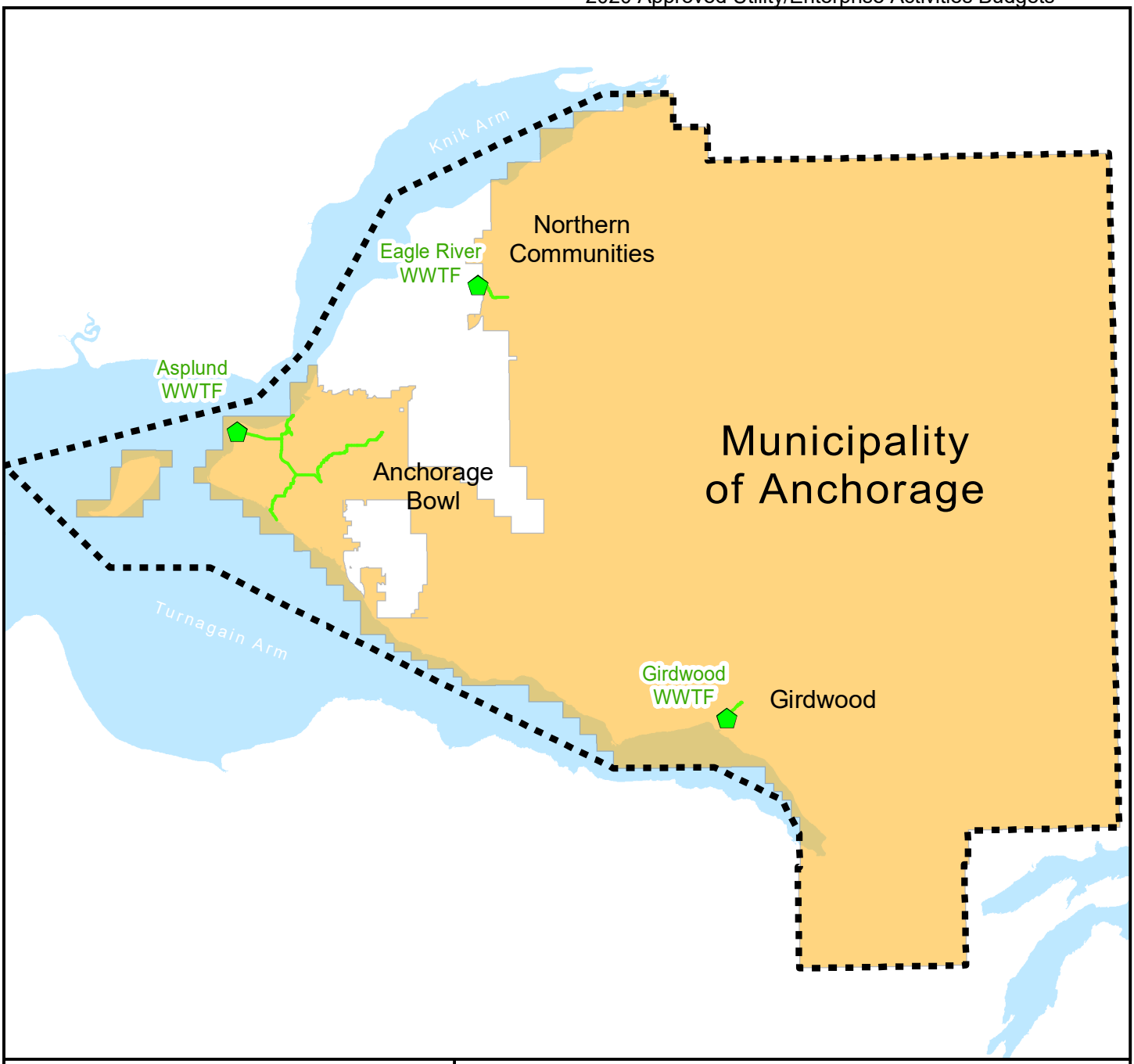
Municipality of Anchorage
Anchorage Water and Wastewater Utility

HAZARD RESPONSE PLAN

Water Service Area and Surface Water Sources

- Water Treatment Facility
- Water Transmission Main
- Municipality of Anchorage Boundary
- AWWU Water Service Area

Map Created: April 2018



Municipality of Anchorage
Anchorage Water and Wastewater Utility

HAZARD RESPONSE PLAN

Wastewater Service Area

- Wastewater Treatment Facility
- Sewer Interceptor
- Municipality of Anchorage Boundary
- AWWU Wastewater Service Area

Scale = NTS

Map Created: April 2018

Anchorage Water & Wastewater Utility
Business Plan

Vision
Excellence through innovation.

Mission
Providing safe and reliable water and wastewater service today and into the future.

Message
Anchorage Water & Wastewater Utility (AWWU) is investing to ensure reliable service, safeguard public health, and protect the environment, long into the future.

Services
AWWU is the largest water and wastewater utility in Alaska. AWWU currently serves the Municipality of Anchorage extending from Eklutna to as far south as Girdwood. Although they share one workforce, AWWU operates as two separate economic and regulated entities: the Anchorage Water Utility (AWU) and the Anchorage Wastewater Utility (ASU).

Business Goals
AWWU prepared an updated strategic plan in 2016. The plan includes the following goals:

- Be responsive to the needs of the community
- Be the model of innovation and efficiency in service to the public
- Be a responsible steward of ratepayer funds
- Be the employer of choice for existing and future staff

Commitments to Customers
AWWU has identified the following customer commitments which represent the outcomes or accomplishments of the Utilities' activities as viewed by the customer:

1. Provide safe drinking water that meets or exceeds all standards.
2. Protect the environment through appropriate wastewater collection, treatment, and disposal.
3. Provide reliable service.
4. Have timely, professional, and courteous interactions with customers.
5. Manage finances responsibly and transparently.
6. Set rates that fairly reflect the cost of providing service and maintaining infrastructure.
7. Deliver services affordably to promote a strong Anchorage economy.
8. Invest wisely to minimize risk and maintain service levels.
9. Continuously improve the efficiency of our operations.
10. Anticipate change and prepare for the future.

Performance Measures to Track Progress in Achieving Goals
AWWU measures progress in achieving these customer commitments using quantifiable performance measures, including the following:

1. Compliance with all State and Federal drinking water, wastewater and clean air standards.
2. Number of planned and unplanned water outages.
3. Sanitary sewer overflows.
4. Number of reportable injuries and accidents.
5. Execution of capital improvement budget.
6. Debt to equity ratio.

Anchorage Water & Wastewater Utility

Anchorage: Performance. Value. Results.

Mission

Supporting the public health, safety, and economic interests of the community by providing quality water and wastewater services in a responsible, efficient, and sustainable manner.

Core Services

- Reliably treat and distribute potable water for domestic, commercial, and firefighting uses throughout the certificated service area.
- Reliably collect, treat, and dispose of wastewater in accordance with laws and regulations that protect public health and the environment.

Accomplishment Goals

- Provide reliable service
- Provide safe drinking water that meets or exceeds all standards
- Protect the environment through appropriate wastewater collection, treatment, and disposal.
- Fiscal responsibility and transparency with utility finances.
- Timely, professional, and courteous interactions with customers.
- Rates that fairly reflect the cost of providing service and maintaining infrastructure
- Continuous improvement in the efficiency of our operations
- Anticipate change and be prepared for the future.

Performance Measures

Progress in achieving goals shall be measured by:

1. Compliance with all State and Federal drinking water standards /wastewater standards /Clean Air Act standards
2. Number of planned and unplanned water outages
3. Sanitary sewer overflows
4. Recordable incident rate (as compared to the standard incident rate for water and wastewater utilities)
5. Execution of capital improvement budget
6. Debt to equity ratio

Measure 1: Compliance with all State and Federal drinking water, wastewater, and clean air standards

Type
Effectiveness

Accomplishment Goals Supported
- Provide reliable service
- Provide safe drinking water that meets or exceeds all standards
- Protect the environment through appropriate wastewater collection, treatment, and disposal.

Definition
The number of regulatory requirements meeting compliance standards divided by the total number of regulatory requirements for the time period. The total number of regulatory requirements is the sum of daily, weekly, and monthly compliance standards.

Data Collection Method
All samples collected are compared with the State or Federal regulatory standards and any violations are noted and reported in accordance with permit stipulations.

Frequency
The percent compliance measurement will be calculated quarterly, using running totals for the calendar year.

Measured By
The Treatment Division will prepare a report from the water quality and laboratory databases that identifies any samples or reportable incidents that do not meet regulatory standards.

Reporting
The Treatment Division Director will update the report quarterly from the water quality and laboratory databases. The information will be displayed in tabular form.

Used By
The Treatment Division Director and General Manager will use the information to gain a clearer understanding of performance of AWWU's treatment facilities and determine if changes in system operation or maintenance are required.

Results

Measure 1: Compliance with all State and Federal drinking water, wastewater, and clean air standards	Goal	2019 Q4	2019 Q3	2019 Q2	2019 Q1	Past Years 2018	2017	2016	2015	2014	2013
Safe Drinking Water Act Compliance (%)	100			100	100	99.8	97.6	100	100	100	100
Clean Water Act (NPDES permit) Compliance (%)	100							100	100		
-Asplund				94.5	96.8	99.7	100	100	100	100	99.8
-Eagle River				98.9	100	99.3	100	99.7	100	100	100
-Girdwood				97.8	100	100	100	99.7	99.5	99.8	99.3
Clean Air Act Compliance (%) (Asplund Incinerator)	100	100	100	97.3	100	100	100	99.99	99.998	100	99.998

Measure 2: Number of planned and unplanned water outages

Type
Effectiveness

Accomplishment Goal Supported

- Provide reliable service
- Provide safe drinking water that meets or exceeds all standards
- Protect the environment through appropriate wastewater collection, treatment, and disposal.
- Timely, professional, and courteous interactions with customers.
- Continuous improvement in the efficiency of our operations
- Anticipate change and be prepared for the future

Definition
A water outage is defined as a disruption in service to a service connection. A service connection serves one customer, although multiple people may be affected by the disruption in service to a residence or a business.

Data Collection Method
A tally is kept through each calendar month of the number of customers who experience planned and unplanned water service disruptions for a range of durations listed below. The outage is as reported to AWWU and confirmed by observation or analysis in the field.

Frequency
The measurement will be recorded at the beginning of each month for the preceding month.

Measured By
Number of customers who do not have water service for the following durations:

- Less than 4 hours
- Between 4 hours and 12 hours
- Greater than 12 hours

Disruptions are counted for planned activities (customers are given advance notice in writing) and unplanned (emergency) activities.

Reporting
The Strategic Asset Services Section will create a monthly report that will be show water outages numerically and graphically.

Used By
The O&M Division, Customer Service Division, and Strategic Asset Services Section and the General Manager will review these data monthly to evaluate adequacy of operation and maintenance approaches, customer service response and pipe condition.

Results

Measure 2: Number of planned and unplanned water outages (customers per month)	Goal (Affected customers per month)	2019 (monthly average)	4th Q 2019 (monthly average)	3rd Q 2019 (monthly average)	2nd Q 2019 (monthly average)	1st Q 2019 (monthly average)	Historical monthly average				
							2018	2017	2016	2015	2014
Planned Outages											
<4 hours	<20	**3**			0.3	5	10	10	5	18	27
4-12 hours	<20	**18**			36	0	16	71	8	23	37
>12 hours	0	**0**			0	0	3	0.2	0.2	0.2	0.6
Unplanned Outages											
<4 hours	<20	**21**			13	29	38	15	92	41	40
4-12 hours	<50	**48**			19	76	42	38	22	33	44
>12 hours	0	**4**			0.7	8	11	3	5	0.2	3

Measure 3: Sanitary Sewer Overflows

Type
Effectiveness

Accomplishment Goals Supported
- Provide reliable service.
- Timely, professional, and courteous interactions with customers.
- Protect the environment through appropriate wastewater collection, treatment, and disposal.
- Continuous improvement in the efficiency of our operations
- Anticipate change and be prepared for the future.

Definition
Total number of wastewater overflows onto the ground or wastewater back-ups into customer residences if caused by an obstruction in an AWWU sewer main, manhole, or cleanout. Overflows or backups that occur due to on-property blockages do not count.

Data Collection Method
The reportable number of sanitary sewer overflows is what is reported in writing to the EPA Region X office within a week of each occurrence.

Frequency
The measurement will be recorded each month for the previous month.

Measured By
Data collection is by direct observation by AWWU staff.

Reporting
The O&M Division will create a monthly report displaying overflow data numerically and graphically.

Used By
The O&M Division, Customer Service Division, and Strategic Asset Services Section and the General Manager will review these data monthly to evaluate adequacy of operation and maintenance approaches, customer service response and pipe condition.

Results

		2019				Historical monthly average					
	Goal	Q4	Q3	Q2	Q1	2018	2017	2016	2015	2014	2013
Measure 3: Sanitary Sewer Overflows (monthly)	<1.5			1.66	0.66	1.23	0.91	1.48	1.58	1.75	2.25

Measure 4: Number of reportable injuries and accidents

Type
Effectiveness

Accomplishment Goal Supported
- Provide reliable service
- Continuous improvement in the efficiency of our operations
- Anticipate change and be prepared for the future.

Definition
Number of Occupational Safety and Health Administration (OSHA) recordable incidents multiplied by 200,000 (# defined by OSHA as 100 employees working full-time for a year) divided by number of hours worked by all employees. Compare Recordable incident rate to standard industrial rate (SIR) for water and wastewater utilities.

Data Collection Method
Accident and near-miss reports.

Frequency
Annually.

Measured By
Safety Program Manager, Administrative Services Division.

Reporting
The Administrative Services Division will maintain an accident and near miss report on a monthly basis. Data will be compiled, summarized, and reported at the end of the year. Reportable incidence rates will appear mid-calendar year.

Used By
The Safety Manager, all Division Directors and the General Manager will use the report to monitor and adjust working practices and focus training and attention to hazardous situations.

Results

	Goal	2019	2018	2017	2016	2015	2014	2013
Measure 4: Number of reportable injuries and accidents (annual)	<4.60	*	7.1	4.45	6.30	6.26	6.37	4.48

* This information will not be available until 2nd Quarter 2020.

Note: Bureau of Labor Statistics (BLS) will normally post the previous year's incidence rate during the months of June or July. AWWU falls within the utilities sector of electric

power generation, transmission and distribution; natural gas distribution; and water, sewer, and other systems.

Update - from the Bureau of Labor Statistics (BLS): **Important note on future data:** Beginning with the 2016 reference year, the Survey of Occupational Injuries and Illnesses (SOII) will present a single release of national data on **November 9, 2017**. This release will include industry counts and rates along with case circumstances and worker characteristics for cases requiring days away from work. In previous years, these data were released separately. State data was released on November 28, 2017. A similar schedule will be followed in subsequent years.

Measure 5: Execution of Capital Improvement Budget

Type
Efficiency

Accomplishment Goal Supported
- Provide reliable service
- Fiscal responsibility and transparency with utility finances.
- Rates that fairly reflect the cost of providing service and maintaining infrastructure
- Continuous improvement in the efficiency of our operations
- Anticipate change and be prepared for the future.

Definition
The ratio (as a percent) of capital project dollars expended through the fiscal year divided by the planned expenditure for the year as indicated in the approved Capital Improvement Budget.

Data Collection Method
Project Managers input % complete data and expected completion dates for each project named in the capital improvement budget.

Frequency
Estimates of the completeness (% complete) of all ongoing projects will be reported through the AWWU Engineering Division Project Management group annually and with quarterly updates to yearly progress.

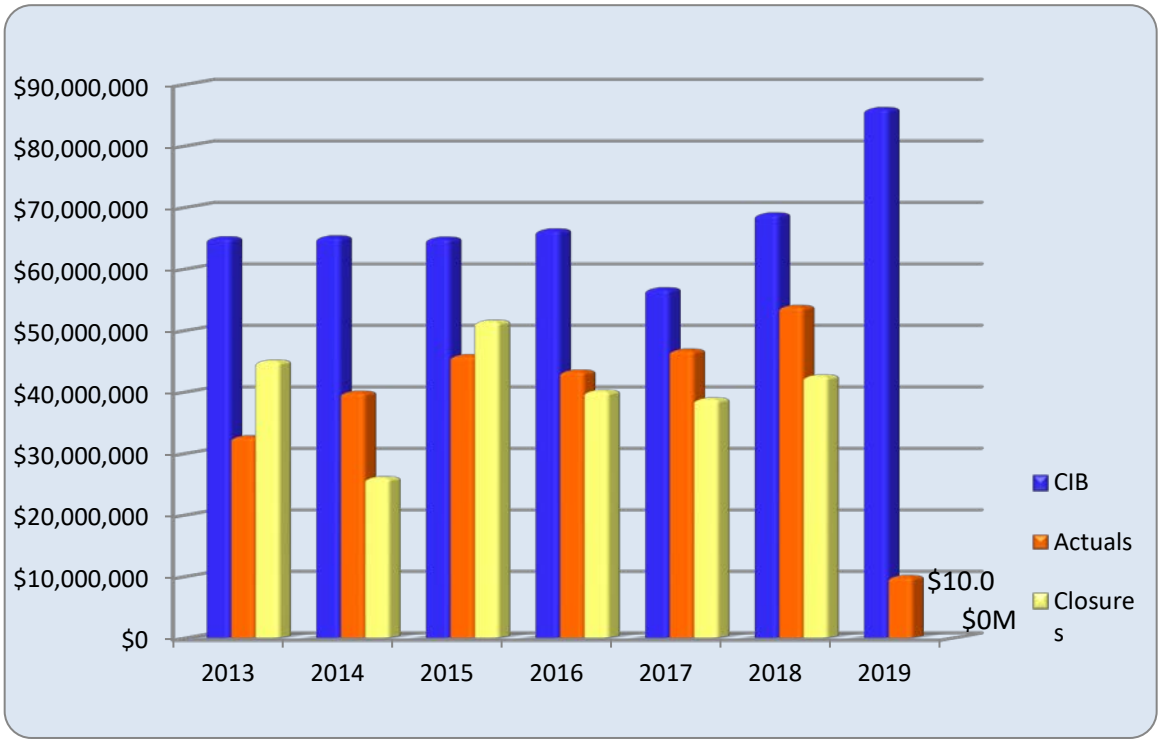
Measured By
The Engineering Division will keep track of this information using the ERP tracking and reporting system.

Reporting
The information will be displayed numerically and graphically in monthly reports.

Used By
The Engineering Director and General Manager will use this data to gauge progress on use of capital project funds.

Results

	Goal	2019	Historical Information					
			2018	2017	2016	2015	2014	2013
Measure 5: Execution of Capital Improvement Budget (annual)	75%	12%	78%	64%	65%	71%	61%	56%



Budget, Expenditures, and Closures through March 31, 2019
Note – No 2019 closure information is known at this time and is not reflected on this graph

Measure 6: Debt to Equity Ratio

Type
Effectiveness

Accomplishment Goal Supported
- Fiscal responsibility and transparency with utility finances.
- Anticipate change and be prepared for the future.

Definition
The relative percentages of assets that are funded by debt and equity, respectively. The total of debt funding and equity funding equals 100%.

Data Collection Method
The calculation is performed by comparing debt and equity to assets annually.

Frequency
The measurement will be calculated annually upon completion of the Utility's audited financial statement.

Measured By
The Finance Division will calculate this ratio from financial statement data.

Reporting
The Finance Division manager will create and maintain an annual report. Trend information will be displayed in a table.

Used By
The information will be used by the Finance Division Director, General Manager, Board, and Administration to help evaluate debt financing levels.

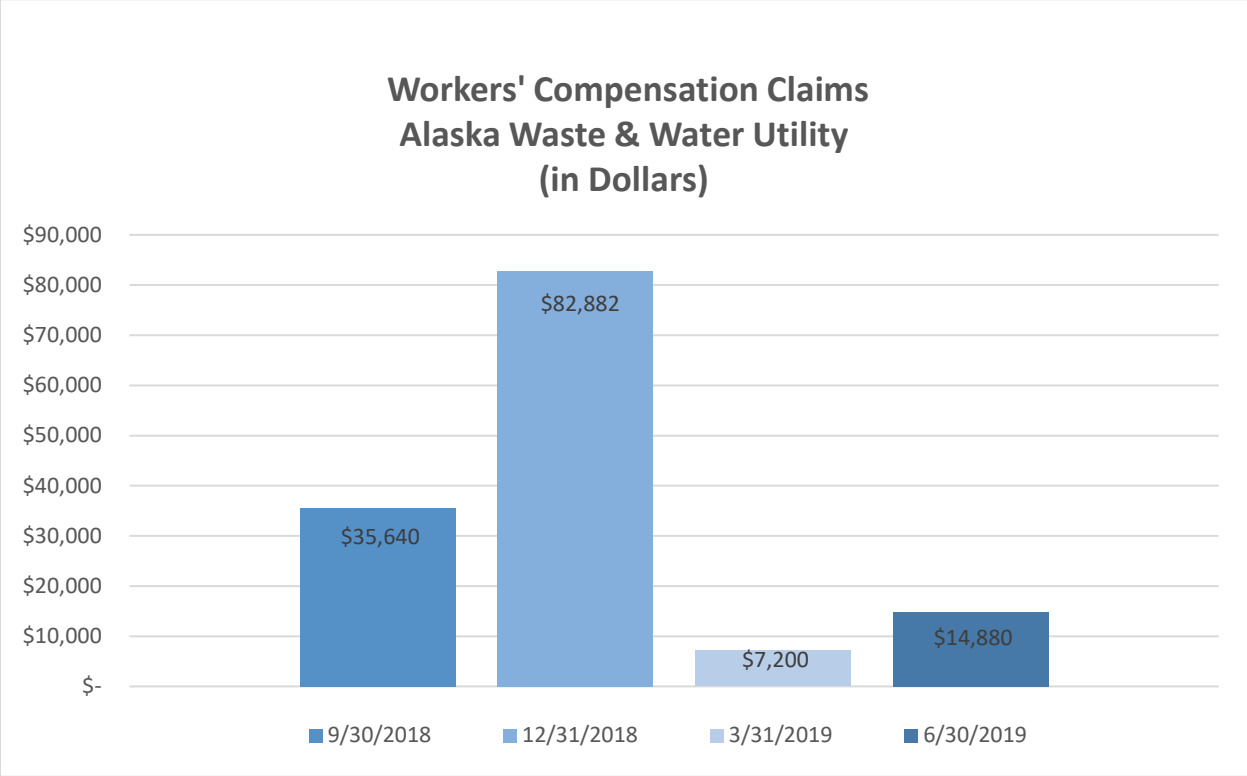
Results

Measure 6: Debt to Equity Ratio (annual)	Goal	2018	2017	2016	2015	2014	2013	2012
Water Utility	67/33	60/40	61/39	62/38	63/37	62/38	65/35	67/33
Wastewater Utility	67/33	65/35	64/36	67/33	67/33	65/35	67/33	66/34

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.



Anchorage Water & Wastewater
Highlights and Future Events

Infrastructure
At the current time, AWWU provides best-in-class service as measured against industry benchmarks such as drinking water compliance rate, water quality complaints, water pipeline breaks, unplanned service disruptions, compliance with discharge permits, collection system failures, and sewer overflows. However, the infrastructure required to provide water and sewer service is aging and will require continued annual capital investments to maintain service levels.

In aggregate, AWU's physical assets are considered to have about one-half of their useful lives consumed. The water transmission and distribution system pipe network consists of over 847 miles of pipe, has a weighted average age of over 36 years. Other AWU assets including reservoirs, wells, booster stations, and major valve vaults are of varying age, but in aggregate, have reached just over one-half of their useful lives and have undergone or have been scheduled for major re-investment over the next 5 years. Significant investment has been made in AWU's water treatment plants over the last 5 years to bring them current to technology, including an almost $20 million update of the Ship Creek Water Treatment Facility to maintain it as a regular supplemental and emergency treatment plant.

ASU's sewer pipe network consists of over 760 miles of pipe and has a weighted average age of 38 years, again reflecting just over one-half of the estimated useful lives of pipe and approximately three-fifths of the estimated useful lives of other sewer plant. Within Anchorage, more than $50 million of investment occurred at the JM Asplund Wastewater Treatment Facility (WWTF) over the past decade. In Eagle River, new process improvements and support systems (headworks, ultraviolet (UV) disinfection, mechanical and heating, ventilation, and air conditioning (HVAC) systems) worth over $20 million were built over the last ten years. The exception is the Girdwood WWTF, which is now over 30 years old and reaching the end of its useful life as documented by multiple studies performed since 2006. An approximate $24 million investment in new electrical generation, flow handling, and administrative space was completed in 2015. The second phase of upgrades to the Girdwood WWTF is pending regulatory approval of permit renewal by Alaska Department of Environmental Conservation (ADEC) prior to the project beginning.

AWWU has advanced its asset management program to manage the Utility's aging infrastructure. The primary components of AWWU's asset management program include:

- Risk based approach that categorizes AWWU's assets and evaluates each asset's class on the basis of consequence and likelihood of failure.
- Robust analysis of system performance and maintenance data to predict service lives of different asset classes.
- Business case analysis of major projects to determine solutions yielding lowest overall lifecycle costs.
- Use of state-of-the-art repair and rehabilitation technologies to reduce service disruption and reduce costs.
- Condition assessment monitoring and evaluation using both AWWU staff and specialized contractors.

Limited Customer Growth
The Anchorage economy and land-use development patterns and restrictions are such that AWWU does not anticipate significant customer growth rate for the foreseeable future. Limited customer growth represents a significant challenge for AWWU because there are few new customers to help cover the cost of maintaining infrastructure. Exacerbating the lack of customer growth is the repair and replacement of contributed plant. In the 1990's, over 70% of the plant in-service was contributed (i.e., given to AWWU or paid for by grants). Today that percentage is about 50% and decreasing steadily. Contributed plant is not included in rates for calculating depreciation costs and earning a return. However, repair and replacement of this considerable portion of our plant-in-service must be borne wholly by customers. With a very slow growth of the customer base, cost of this repair and replacement will increase over time for each customer.

There is very little AWWU can do to encourage significant customer growth without major changes in policy and community desires. Most of AWWU's customer growth will come from redevelopment of existing properties in the MOA, expansion in outlying areas (which require significant expenditures to extend infrastructure) and limited infill. Redevelopment and infill must comply with current codes and utility tariffs, which may require upgrades to existing utility service.

Debt
At the end of 2018, AWWU was carrying approximately $395.4 million in total net debt. AWWU can easily service this debt and the Utility maintains healthy operating margins and debt service coverage ratios. However, compared to peer utilities, AWWU has a significant amount of debt and finances much less of its capital program with equity.

Two major factors have contributed to AWWU's current debt/equity position. During the 1990's, AWWU did not have rate increases and had a very modest capital improvement budget (CIB). Additionally, during these years, reductions in workforce levels and improvements in worker productivity as a result of investments in appropriate technology allowed the Utility to operate effectively, but not accumulate equity.

Rate Increases Calculated, Requested and Approved

	Calculated Rate Increases		Requested Permanent Rate Increases		Approved Rate Increases		
	AWU	ASU	AWU	ASU	AWU	ASU	Reason For Requesting Increases Less Than The Calculated Increases
2004	14.2%	8.1%	14.2%	8.1%	13.6%	8.1%	The calculated increases were requested due to the change in the MUSA calculation.
2005	7.2%	6.8%	7.2%	6.8%	7.8%	3.0%	The calculated increases were requested due to the change in the MUSA calculation.
2006	12.4%	15.0%	8.9%	10.6%	6.5%	10.6%	Policy direction to limit rate increases requested to reduce impact on customers.
2007	15.0%	17.8%	14.5%	13.0%	7.0%	9.5%	Policy direction to limit rate increases requested to reduce impact on customers.
2008	-	-	-	-	-	-	Rate changes were not requested by AWWU for 2008.
2009	8.7%	8.0%	7.0%	6.5%	5.6%	6.5%	Policy direction to limit rate increases requested to reduce impact on customers.
2010	7.0%	9.5%	2.5%	2.5%	2.5%	2.5%	Policy direction to limit rate increases requested to reduce impact on customers.
2011	18.5%	26.2%	8.0%	15.0%	8.0%	15.0%	Policy direction to limit rate increases requested to reduce impact on customers.
2012	13.0%	16.6%	6.0%	11.0%	6.0%	11.0%	Policy direction to limit rate increases requested to reduce impact on customers.
2013	9.1%	6.8%	6.0%	4.5%	6.0%	4.5%	Policy direction to limit rate increases requested to reduce impact on customers.
2014	5.6%	6.7%	4.0%	5.5%	2.3%	4.3%	AWWU stipulated to permanent rates lower than the rates requested.
2015	-	-	-	-	-	-	Rate changes were not requested by AWWU for 2015.
2016	-	-	-	-	-	-	Rate changes were not requested by AWWU for 2016.
2017	-	11.9%	-	9.5%	-	9.5%	Policy direction to limit rate increases requested to reduce impact on customers.
2018	4.5%	4.2%	3.0%	2.5%	3.0%	1.0%	
2019	10.5%	8.3%	9.5%	7.0%	9.5%	7.0%	Approved as interim and refundable. A final decision is due March of 2020.

To improve its debt position, AWWU must continue to request reasonable rates and at the same time control expenses. The budget provided in this package provides just such a balance.

Anchorage Water & Wastewater Utility
External Impacts

Wastewater Treatment Facilities Discharge Permits
The State of Alaska Department of Environmental Conservation (ADEC) assumed authority for permitting wastewater discharges for the Girdwood and Eagle River Wastewater Treatment Facilities (WWTF) in November 2008. The Eagle River WWTF permit was reissued by Alaska Department of Environmental Conservation (ADEC) in 2014, and was valid for at least five years has been administratively extended. The existing permit continues to be effective and enforceable until a new permit is issued by ADEC, which has assumed primacy from the U.S. Environmental Protection Agency (EPA) over permits for wastewater discharge to fresh water.

Authorization of discharge into marine waters from the Asplund WWTF remains under the auspices of the EPA. The EPA is currently evaluating the Utility's application for reauthorization of the permit allowing only primary treatment, in accordance with criteria set out in Section 301(h) of the Clean Water Act. Subsequent to the agency's determination that the Asplund discharge meets the 301(h) criteria, EPA will consult with the National Marine Fisheries Service (NMFS) on the effects of the permit reauthorization on endangered species (i.e., the Cook Inlet beluga whale). If NMFS finds that the discharge reauthorization is likely to jeopardize continued existence of the species or adversely modify critical habitat, NMFS may impose conditions on the permit to mitigate the effects on the species. Discussions with federal agencies to-date suggest that such a finding is unlikely.

Infrastructure
At the current time, AWWU provides best-in-class service as measured against industry benchmarks. However, the infrastructure required to provide water and sewer service requires continual annual capital investments to maintain service levels.

AWWU has advanced its asset management program to optimize spending on the Utility's infrastructure. AWWU performs business case analyses of major issues to determine solutions that lead to the lowest overall life cycle costs, as well as extensive condition assessment monitoring and evaluation using both AWWU staff and specialized contractors. This work is expected to provide best value to ratepayers in the long term.

Anchorage Water & Wastewater Utility
Workforce Projections

Division	2018	2019	2020	2021	2022	2023	2024	2025
Administrative Services	5	5	5	5	5	5	5	5
Customer Service	41	41	41	41	41	41	41	41
Engineering	40	40	40	40	40	40	40	40
Finance	21	21	21	21	21	21	21	21
General Manager	2	2	2	2	2	2	2	2
Information Technology	18	18	18	18	18	18	18	18
Operations and Maintenance	91	91	91	91	91	91	91	91
Treatment	64	65	65	65	65	65	65	65
Total Full Time	**282**	**283**	**283**	**283**	**283**	**283**	**283**	**283**
Part-time/Temporary	1	1	1	1	1	1	1	1
Seasonal	4	4	4	4	4	4	4	4
Interns	5	6	6	6	6	6	6	6
Total Part Time	**10**	**11**	**11**	**11**	**11**	**11**	**11**	**11**
Total Positions	**292**	**294**	**294**	**294**	**294**	**294**	**294**	**294**
Total FTE	**287.0**	**288.5**	**288.5**	**288.5**	**288.5**	**288.5**	**288.5**	**288.5**

Anchorage Water Utility
8 Year Summary
($ in thousands)

Financial Overview	2018 Actuals	2019 Proforma	2020 Approved	2021	2022	2023	2024	2025
				Forecast				
Revenues	61,705	66,927	66,327	68,739	71,088	73,918	76,848	79,518
Expenses	51,656	58,781	63,639	62,339	62,412	64,960	65,980	67,250
Net Income (Loss)	**10,049**	**8,146**	**2,688**	**6,400**	**8,676**	**8,958**	**10,868**	**12,268**
Budgeted Positions*	292	294	294	294	294	294	294	294
Capital Improvement Program	32,620	50,798	25,456	25,289	25,636	24,259	25,279	24,210
Transfers (Dividend)	-	-	1,630	820	1,440	2,020	2,200	2,610
New Debt	20,370	20,687	17,000	13,438	7,100	48,700	7,000	67,000
Net Capital Assets (12/31)	563,079	577,733	583,801	593,105	600,223	604,712	611,103	615,088
Net Position (12/31)	155,869	164,015	166,484	172,884	181,560	190,519	201,387	213,656
Operating Cash	37,717	37,281	30,485	24,712	23,150	19,865	18,898	19,229
Construction Cash Pool	2,930	4,209	6,754	6,126	184	36,927	31,268	26,083
Restricted Cash	209	250	-	2,251	2,335	2,422	2,513	2,608
Total Cash	**40,856**	**41,740**	**37,239**	**33,089**	**25,669**	**59,214**	**52,679**	**47,920**
Charges by Other Departments	2,131	2,367	2,491	2,541	2,592	2,643	2,696	2,750
Transfers (MUSA)	8,525	8,713	9,177	9,510	10,280	10,960	11,230	11,730
CCP Borrowings from GG	-	-	-	-	-	-	-	-
Total Outstanding LT Debt	237,840	245,535	249,155	248,803	240,855	272,712	262,910	252,373
Total Annual Debt Service	17,555	18,580	19,251	21,476	21,666	24,881	24,567	24,711
Debt Service Coverage (Bond)	2.84	3.29	2.94	2.66	2.47	2.13	2.38	2.53
Debt Service Coverage (Total)	1.48	1.58	1.36	1.33	1.39	1.29	1.40	1.47
Debt/Equity Ratio	60 / 40	60 / 40	60 / 40	59 / 41	57 / 43	59 / 41	57 / 43	54 / 46
Rate Change Percent	3.0%	7.0%	0.0%	3.5%	3.5%	3.5%	3.5%	3.5%
Single Family Rate	51.19	54.78	54.78	56.70	58.68	60.74	62.86	65.06
Statistical/Performance Trends								
Number of Accounts	56,528	56,641	56,641	56,783	56,925	57,067	57,210	57,353
Average Treatment (MGD)	22.2	22.3	22.3	22.4	22.4	22.5	22.5	22.6
Miles of Water Lines	847	849	851	853	856	858	860	862
Number of Public Hydrants	6,051	6,066	6,081	6,096	6,112	6,127	6,142	6,158

* Workforce Authorized per Budget is for both Water and Wastewater utilities.

MUSA - Municipal Utility Service Assessment

Anchorage Water Utility
Statement of Revenues and Expenses

	2018 Actuals	2019 Proforma	2019 Revised	20 v 19 $ Change	2020 Approved	20 v 19 % Chg
Operating Revenue						
Residential Sales	42,614,583	45,200,000	45,241,395	240,000	45,481,395	0.5%
Commercial Sales	12,479,206	13,550,000	13,508,485	60,000	13,568,485	0.4%
Public Authority Sales	4,903,964	5,250,000	5,250,120	-	5,250,120	0.0%
Miscellaneous	1,259,717	1,255,000	1,293,550	-	1,293,550	0.0%
Total Operating Revenue	**61,257,470**	**65,255,000**	**65,293,550**	**300,000**	**65,593,550**	0.5%
Non Operating Revenue						
Investment Income	360,144	1,607,160	630,000	18,000	648,000	2.9%
Other Income	87,138	64,627	5,000	80,050	85,050	0.0%
Total Non Operating Revenue	**447,282**	**1,671,787**	**635,000**	**98,050**	**733,050**	**15.4%**
Total Revenue	**61,704,752**	**66,926,787**	**65,928,550**	**398,050**	**66,326,600**	**0.6%**
Operating Expense						
Labor						
Salaries and Benefits	16,124,714	16,940,658	17,743,748	451,068	18,194,816	2.5%
Overtime	842,772	953,717	453,000	-	453,000	0.0%
Total Labor	16,967,486	17,894,375	18,196,748	451,068	18,647,816	2.5%
Non Labor						
Non Labor	9,039,988	9,576,855	10,253,434	290,789	10,493,734	2.3%
Travel	49,241	64,191	85,400	6,500	91,900	7.6%
Transfers (MUSA, Dividends, and Gross Rcpts)	8,524,748	8,712,813	8,710,762	2,096,738	10,807,500	24.1%
Depreciation and Amortization	11,467,581	13,256,200	14,382,000	(702,000)	13,680,000	-4.9%
Total Non Labor	29,081,558	31,610,059	33,431,596	1,692,027	35,073,134	4.9%
Total Direct Cost	**46,049,044**	**49,504,434**	**51,628,344**	**2,143,095**	**53,720,950**	**4.1%**
Charges by Other Departments	2,131,096	2,366,561	2,400,190	91,122	2,491,312	3.8%
Intradepartmental Overheads	(1,267,157)	(752,999)	(680,325)	9,882	(670,443)	0.0%
Total Operating Expense	**46,912,983**	**51,117,996**	**53,348,209**	**2,244,099**	**55,541,819**	**4.1%**
Non Operating Expense						
Interest on Bonded Debt	5,042,926	7,997,172	7,851,500	(328,478)	7,523,022	-4.2%
Amortization of Debt Expense	(842,988)	(883,889)	(879,478)	13,478	(866,000)	-1.5%
Other Interest Expense	1,353,411	1,491,310	2,085,000	315,000	2,400,000	15.1%
Interest During Construction	(810,494)	(941,855)	(1,230,000)	270,000	(960,000)	-22.0%
Total Non Operating Expense	**4,742,855**	**7,662,738**	**7,827,022**	**270,000**	**8,097,022**	**3.4%**
Total Expense (Function Cost)	**51,655,838**	**58,780,734**	**61,175,231**	**2,514,099**	**63,638,841**	**4.0%**
Net Income (Loss)	**10,048,914**	**8,146,053**	**4,753,319**	**(2,116,049)**	**2,687,759**	**-43.5%**
Appropriation:						
Total Expense			**61,175,231**	**2,514,099**	**63,638,841**	
Less: Non Cash Items						
Depreciation and Amortization			14,382,000	(702,000)	13,680,000	
Amortization of Debt Expense			(879,478)	13,478	(866,000)	
Interest During Construction			(1,230,000)	270,000	(960,000)	
Total Non-Cash			12,272,522	(418,522)	11,854,000	
Amount to be Appropriated (Cash Expense)			**48,902,709**	**2,932,621**	**51,784,841**	

Anchorage Water Utility
Reconciliation from 2019 Revised Budget to 2020 Proposed Budget

		Positions		
	Appropriation	**FT**	**PT**	**T**
2019 Revised Budget	61,175,231	283	1	10
Transfers by/to Other Departments				
- Charges by Other Departments	40,633	-	-	-
- GIS Licensing from Non Labor to Charges by Other Departments	50,489	-	-	-
Changes in Existing Programs/Funding for 2020				
- Salaries and Benefits Adjustments	442,598	-	-	-
- GIS Licensing from Non Labor to Charges by Other Departments	(50,489)	-	-	-
- Depreciation	(702,000)	-	-	-
- Interest During Construction	270,000	-	-	-
- Municipal Utility Service Assessment (MUSA)	466,738	-	-	-
2020 Continuation Level	**61,693,200**	**283**	**1**	**10**
2020 Proposed Budget Changes				
- Labor Upgrades for Customer Service Organization Change	8,470	-	-	-
- Software Maintenance	7,171	-	-	-
- Travel	6,500	-	-	-
- Operating Supplies	(3,000)	-	-	-
- Repair & Maintenance Supplies	(3,500)	-	-	-
- Briggs Bridge	300,000	-	-	-
- Dividend	1,630,000	-	-	-
2020 Proposed Budget	**63,638,841**	**283**	**1**	**10**
2020 Budget Adjustment for Accounting Transactions (Appropriation)				
- Depreciation and Amortization	(13,680,000)	-	-	-
- Amortization of Debt Expense	866,000	-	-	-
- Interest During Construction	960,000	-	-	-
2020 Proposed Budget (Appropriation)	**51,784,841**	**283**	**1**	**10**

Workforce Authorized per Budget is for both Water and Wastewater utilities.

Anchorage Water Utility
2020 - 2025 Capital Improvement Program
(in thousands)

Project Category	2020	2021	2022	2023	2024	2025	Total
ADOT-MOA Emergency	1,000	1,000	1,000	1,000	1,000	1,000	6,000
IT Hardware/Software	1,925	1,475	1,450	1,425	1,425	1,425	9,125
Misc Equipment	450	600	700	2,850	1,700	1,850	8,150
Other Plant & Facilities	300	-	250	250	2,000	3,800	6,600
Transmission/Distribution System	17,075	11,175	14,828	14,861	14,955	11,485	84,379
Vehicles	1,000	1,000	1,000	1,000	1,000	1,000	6,000
Water Plant	3,706	10,039	6,408	2,873	3,199	3,650	29,875
Total	**25,456**	**25,289**	**25,636**	**24,259**	**25,279**	**24,210**	**150,129**

Funding Source	2020	2021	2022	2023	2024	2025	Total
Debt	14,456	14,289	15,636	14,259	15,279	14,210	88,129
Equity/Operations	11,000	11,000	10,000	10,000	10,000	10,000	62,000
Total	**25,456**	**25,289**	**25,636**	**24,259**	**25,279**	**24,210**	**150,129**

ADOT - State of Alaska Department of Transportation

Anchorage Water Utility
2020 Capital Improvement Budget
(in thousands)

Project Title	Debt *	State/Fed Grant	Equity/ Operations *	Total
AK Dept Of Transportation-MOA Emergency				
AK Dept Of Transportation-MOA-Emergency -Water 2020	-	-	1,000	1,000
AK Dept Of Transportation-MOA Emergency	**-**	**-**	**1,000**	**1,000**
Information Technology Hardware/Software				
Customer Information System Enhancements - Water	-	-	850	850
Geographic Information System Application Development	-	-	75	75
Information Technology Infrastructure	-	-	600	600
Miscellaneous Information Technology Systems	-	-	250	250
Work Management Software	-	-	150	150
IT Hardware/Software	**-**	**-**	**1,925**	**1,925**
Miscellaneous Equipment				
Facility Equipment	-	-	200	200
Supervisory Control and Data Acquisition Network Improvements	-	-	250	250
Miscellaneous Equipment	**-**	**-**	**450**	**450**
Other Plant & Facilities				
Headquarters Lighting Upgrades	300	-	-	300
Other Plant & Facilities	**300**	**-**	**-**	**300**
Transmission/Distribution				
475 Loop Conversion-Water	1,000	-	-	1,000
484 520 Zone Conversion	-	-	500	500
900 Reservoir & Transmission Main	2,750	-	1,000	3,750
Anchorage Townsite 5th 8th Water Upgrade	1,000	-	500	1,500
Bragaw 16th Debar Water	800	-	500	1,300
Dowling Rd Pressure Reducing Valve -Water	100	-	400	500
Girdwood St. Mortiz Emergency Generation	1,250	-	-	1,250
Girdwood Timberline Pressure Reducing Valve Upgrade	850	-	-	850
Girdwood Virgin Creek Sample Station	-	-	200	200
Glenn Square Pressure Reducing Valve Facility	1,700	-	1,000	2,700
Hillcrest Drive Rehabilitation -Water	1,000	-	1,000	2,000
Plant Oversize Improvement-Water	-	-	25	25
Reservoir Corrosion Control Upgrades	-	-	500	500
Upper Eagle River Fire Flow	-	-	1,000	1,000
Transmission/Distribution	**10,450**	**-**	**6,625**	**17,075**
Vehicles				
Heavy Rolling Stock	-	-	600	600
Vehicles	-	-	400	400
Vehicles	**-**	**-**	**1,000**	**1,000**
Water Plant				
Eklutna Water Treatment Facility Disinfection Improvements	704	-	-	704
Eklutna Water Treatment Facility Energy Recovery Station Control Improvements	500	-	-	500
Eklutna Water Treatment Facility Flouride Improvements	452	-	-	452
Facility Plant - Water 2020	750	-	-	750
Girdwood Well Rehabilitation	1,300	-	-	1,300
Water Plant	**3,706**	**-**	**-**	**3,706**
Total	**14,456**	**-**	**11,000**	**25,456**

* Debt and Equity/Operations funding amounts by category are estimates and subject to change as actual loans are awarded by the State of Alaska.

Anchorage Water Utility
Statement of Cash Sources and Uses

	2018 Actual	2019 Proforma	2020 Approved
Sources of Cash Funds			
Operating Income	22,039,105	22,842,000	20,731,000
Depreciation, net of amortization	11,467,581	13,256,000	13,680,000
Special Assessment Proceeds	307,718	300,000	300,000
State of Alaska Loan Proceeds	14,495,122	9,000,000	7,000,000
Bond/Other Loan Proceeds	5,874,622	11,686,000	10,000,000
Miscellaneous Non-Operating Revenues	31,438	64,000	10,000
Interest Received	521,839	1,607,000	630,000
Changes in Assets and Liabilities	1,156,439	3,021,000	(2,975,000)
Total Sources of Cash Funds	**55,893,864**	**61,776,000**	**49,376,000**
Uses of Cash Funds			
Capital Construction	26,399,311	29,407,000	25,456,000
Debt Principal Payment	10,865,992	11,796,000	12,194,000
Debt Interest Payments	6,914,237	6,784,000	7,057,000
Transfer To Escrow Account	1,378,288	4,200,000	-
MUSA	8,524,748	8,705,000	9,170,000
Total Uses of Cash Funds	**54,082,576**	**60,892,000**	**53,877,000**
Net Increase (Decrease) in Cash Funds	1,811,288	884,000	(4,501,000)
Cash Balance, January 1	39,044,808	40,856,096	41,740,096
Cash Balance, December 31	**40,856,096**	**41,740,096**	**37,239,096**
Detail of Cash and Investment Funds			
General Cash Less Customer Deposits	37,716,763	37,281,096	30,235,096
Construction Cash	2,930,212	4,209,000	6,754,000
Operating Fund Investment & Customer Deposits	209,121	250,000	250,000
Cash Balance, December 31	**40,856,096**	**41,740,096**	**37,239,096**

* This budgetary presentation does not include the effects of implementing Governmental Accounting Standards Board Statement No. 68, Accounting and Financial Reporting for Pensions and thus the revenues and expenses presented in this schedule differ from AWWU's GAAP basis financial statements.

Anchorage Wastewater Utility
8 Year Summary
($ in thousands)

Financial Overview	2018 Actuals	2019 Proforma	2020 Approved	2021	2022	2023	2024	2025
				Forecast				
Revenues	56,264	61,914	61,567	66,915	70,645	73,765	75,655	77,825
Expenses	46,905	54,470	59,426	60,117	59,952	63,462	64,462	65,170
Net Income (Loss)	**9,359**	**7,444**	**2,141**	**6,798**	**10,693**	**10,303**	**11,193**	**12,655**
Budgeted Positions*	292	294	294	294	294	294	294	294
Capital Improvement Program	36,000	43,055	26,250	24,650	24,425	25,750	24,875	25,050
Transfers (Dividend)	-	-	-	-	-	-	-	-
New Debt	20,529	23,417	17,900	18,707	7,300	67,700	7,400	7,500
Net Capital Assets (12/31)	428,053	433,215	440,024	449,706	456,873	465,472	471,786	478,246
Net Position (12/31)	100,726	108,171	110,157	116,955	127,648	137,952	149,145	161,800
Operating Cash	26,939	29,015	24,582	19,124	21,909	23,981	25,008	25,016
Construction Cash Pool	2,663	2,169	3,819	7,834	1,132	54,776	43,710	16,030
Restricted Cash	161	250	250	5,045	3,657	2,557	1,364	2,346
Total Cash	**29,763**	**31,434**	**28,651**	**32,003**	**26,698**	**81,314**	**70,082**	**43,392**
Charges by Other Depts	2,123	2,333	2,471	2,520	2,571	2,622	2,675	2,728
Transfers (MUSA)	6,241	6,255	7,268	6,490	6,650	6,760	6,880	6,990
CCP Borrowings from GG	-	-	-	-	-	-	-	-
Total Outstanding LT Debt	185,264	199,111	206,460	214,196	208,533	262,795	254,274	245,466
Total Annual Debt Service	13,263	14,082	15,370	17,708	18,741	21,443	23,656	23,762
Debt Service Coverage (Bond)	3.25	3.82	3.14	3.11	2.85	2.46	2.19	2.31
Debt/Equity Ratio	65 / 35	65 / 35	65 / 35	65 / 35	62 / 38	66 / 34	63 / 37	60 / 40
Rate Change Percent	0.98%	9.50%	0.00%	8.40%	5.60%	3.70%	1.90%	3.20%
Single Family Rate	45.02	49.30	49.30	53.44	56.43	58.52	59.63	61.54
Statistical/Performance Trends								
Number of Accounts	57,361	57,476	57,476	57,619	56,816	56,958	57,100	57,243
Average Treatment (MGD)	27.90	27.97	28.04	28.11	28.18	28.25	28.32	28.39
Miles of Wastewater Lines	760	762	764	766	768	770	771	773

* Workforce Authorized per Budget is for both Water and Wastewater utilities.
General Government (GG)
Municipal Utility Service Assessment (MUSA)

Anchorage Wastewater Utility
Statement of Revenues and Expenses

	2018 Actuals	2019 Proforma	2019 Revised	20 v 19 $ Change	2020 Approved	20 v 19 % Chg
Operating Revenue						
Residential Sales	40,750,529	44,300,000	44,694,376	48,000	44,742,376	0.1%
Commercial Sales	12,230,558	13,000,000	13,056,235	12,000	13,068,235	0.1%
Public Authority Sales	1,992,562	2,400,000	2,249,389	-	2,249,389	0.0%
Miscellaneous	920,013	975,000	975,000	-	975,000	0.0%
Total Operating Revenue	**55,893,662**	**60,675,000**	**60,975,000**	**60,000**	**61,035,000**	0.1%
Non Operating Revenue						
Investment Income	243,378	1,094,213	409,950	32,050	442,000	7.8%
Other Income	126,668	144,606	90,050	-	90,050	0.0%
Total Non Operating Revenue	**370,046**	**1,238,819**	**500,000**	**32,050**	**532,050**	**6.4%**
Total Revenue	**56,263,708**	**61,913,819**	**61,475,000**	**92,050**	**61,567,050**	**0.1%**
Operating Expense						
Labor						
Salaries and Benefits	16,544,732	16,392,890	17,790,640	240,219	18,030,859	4.1%
Overtime	805,703	818,431	419,500	-	419,500	0.0%
Total Labor	17,350,435	17,211,321	18,210,140	240,219	18,450,359	1.3%
Non Labor						
Non Labor	11,637,647	12,415,418	13,822,155	(22,722)	13,748,944	-0.5%
Travel	61,860	72,504	90,800	6,500	97,300	7.2%
Transfers (MUSA and Gross Receipts)	6,241,155	6,255,187	6,262,181	1,005,319	7,267,500	16.1%
Depreciation and Amortization	8,590,514	12,430,800	12,495,000	785,000	13,280,000	6.3%
Total Non Labor	26,531,176	31,173,909	32,670,136	1,774,097	34,393,744	5.3%
Total Direct Cost	**43,881,611**	**48,385,230**	**50,880,276**	**2,014,316**	**52,844,103**	3.9%
Charges by Other Departments	2,123,442	2,332,713	2,355,169	115,990	2,471,159	4.9%
Intradepartmental Overheads	(1,963,987)	(867,775)	(789,795)	704	(789,091)	
Total Operating Expense	**44,041,066**	**49,850,168**	**52,445,650**	**2,131,010**	**54,526,171**	4.0%
Non Operating Expense						
Interest on Bonded Debt	3,649,090	6,467,802	6,000,000	(1,330,000)	4,670,000	-22.2%
Amortization of Debt Expense	(823,160)	(1,421,788)	(1,800,000)	1,040,000	(760,000)	-57.8%
Other Interest Expense	1,182,982	1,301,900	1,860,000	290,000	2,150,000	15.6%
Interest During Construction	(1,145,050)	(1,728,212)	(1,350,000)	190,000	(1,160,000)	-14.1%
Total Non Operating Expense	**2,863,862**	**4,619,702**	**4,710,000**	**190,000**	**4,900,000**	4.0%
Total Expense (Function Cost)	**46,904,928**	**54,469,870**	**57,155,650**	**2,321,010**	**59,426,171**	4.0%
Net Income (Loss)	**9,358,780**	**7,443,949**	**4,319,350**	**(2,228,960)**	**2,140,879**	-50.4%
Appropriation:						
Total Expense			**57,155,650**	**2,321,010**	**59,426,171**	
Less: Non Cash Items						
Depreciation and Amortization			12,495,000	785,000	13,280,000	
Amortization of Debt Expense			(1,800,000)	1,040,000	(760,000)	
Interest During Construction			(1,350,000)	190,000	(1,160,000)	
Total Non-Cash			9,345,000	2,015,000	11,360,000	
Amount to be Appropriated (Cash Expense)			**47,810,650**	**306,010**	**48,066,171**	

Anchorage Wastewater Utility
Reconciliation from 2019 Revised Budget to 2020 Approved Budget

	Appropriation	Positions FT	PT	T
2019 Revised Budget	57,155,650	283	1	10
Transfers by/to Other Departments				
- Charges by Other Departments	65,501	-	-	-
- GIS Licensing from Non Labor to Charges by Other Departments	50,489	-	-	-
Changes in Existing Programs/Funding for 2020				
- Salaries and Benefits Adjustments	231,749	-	-	-
- GIS Licensing from Non Labor to Charges by Other Departments	(50,489)	-	-	-
- Depreciation	785,000	-	-	-
- Allowance for Funds Under Construction (AFUDC)	190,000	-	-	-
- Municipal Utility Service Assessment (MUSA)	1,005,319	-	-	-
2020 Continuation Level	**59,433,219**	**283**	**1**	**10**
2020 Approved Budget Changes				
- Labor Upgrades for Customer Service Organization Change	8,470	-	-	-
- Software Maintenance	14,482	-	-	-
- Travel	6,500	-	-	-
- Operating Supplies	(3,000)	-	-	-
- Laundry & Sanitation Services	(3,500)	-	-	-
- Sludge Hauling	(60,000)	-	-	-
- Utility Teaming - PFAS in Wastewater Treatment Plants	30,000	-	-	-
2020 Approved Budget	**59,426,171**	**283**	**1**	**10**
2020 Budget Adjustment for Accounting Transactions (Appropriation)				
- Depreciation and Amortization	(13,280,000)	-	-	-
- Amortization of Debt Expense	760,000	-	-	-
- Interest During Construction	1,160,000	-	-	-
2020 Approved Budget (Appropriation)	**48,066,171**	**283**	**1**	**10**

Workforce Authorized per Budget is for both Water and Wastewater utilities.

Anchorage Wastewater Utility
2020 - 2025 Capital Improvement Program
(in thousands)

Project Category	2020	2021	2022	2023	2024	2025	Total
ADOT-MOA Emergency	1,000	1,000	1,000	1,000	1,000	1,000	6,000
Collection System	7,825	4,525	12,275	8,025	6,525	6,025	45,200
IT Hardware/Software	2,725	1,475	1,450	1,425	1,425	1,425	9,925
Misc Equipment	450	600	700	2,850	1,700	1,850	8,150
Other Plant & Facility	10,400	7,000	3,000	750	1,225	250	22,625
Vehicles	1,600	1,000	1,000	1,000	1,000	1,000	6,600
Wastewater Plant	2,250	9,050	5,000	10,700	12,000	13,500	52,500
Total	**26,250**	**24,650**	**24,425**	**25,750**	**24,875**	**25,050**	**151,000**

Funding Source	2020	2021	2022	2023	2024	2025	Total
Debt	16,250	14,650	14,425	15,750	14,875	15,050	91,000
Equity/Operations	10,000	10,000	10,000	10,000	10,000	10,000	60,000
Total	**26,250**	**24,650**	**24,425**	**25,750**	**24,875**	**25,050**	**151,000**

ADOT - State of Alaska, Department of Transportation

Anchorage Wastewater Utility
2020 Capital Improvement Budget
(in thousands)

Project Title	Debt *	State/Fed Grant	Equity/ Operations *	Total
AK Dept Of Transportation-MOA Emergency				
AK Dept Of Transportation-MOA-Emergency - Sewer 2020	-	-	1,000	1,000
AK Dept Of Transportation-MOA Emergency	**-**	**-**	**1,000**	**1,000**
Collection Systems				
Pump Station 2 Rehabilitation	1,975	-	2,325	4,300
W 72nd Avenue Trunk Upgrade	-	-	350	350
D-2-4 Trunk Improvements	-	-	1,300	1,300
King Street Septage Receiving Station	1,000	-	-	1,000
Laurence Court Sewer	-	-	250	250
West 8th, N - P Street Sewer	100	-	-	100
M Street Sewer	100	-	-	100
West 2nd Avenue Sewer	100	-	-	100
D & E Street Sewer	100	-	-	100
H & I Street Sewer	100	-	-	100
C & D Street Sewer	100	-	-	100
Plant Oversize and Betterments-Sewer 2020	25	-	-	25
Collection Systems	**3,600**	**-**	**4,225**	**7,825**
Information Technology Hardware/Software				
Customer Information System Enhancements SWR	**-**	**-**	850	850
Geographic Information System Application Development	**-**	**-**	75	75
Information Technology Infrastructure	**-**	**-**	600	600
Miscellaneous Information Technology Systems	**-**	**-**	250	250
Sewer Model Development	**-**	**-**	800	800
Work Management Software	**-**	**-**	150	150
IT Hardware/Software	**-**	**-**	**2,725**	**2,725**
Miscellaneous Equipment				
Facility Equipment	**-**	**-**	200	200
Supervisory Control and Data Acquisition Network Improvements	**-**	**-**	250	250
Miscellaneous Equipment	**-**	**-**	**450**	**450**
Other Plant & Facilities				
King Street Main Building Upgrade	1,000	-	-	1,000
King St Warm Vehicle Storage	9,400	-	-	9,400
Other Plant & Facilities	**10,400**	**-**	**-**	**10,400**
Vehicles				
Large Diameter Sewer Cleaning Equipment	-	-	600	600
Heavy Rolling Stock	-	-	600	600
Vehicles	-	-	400	400
Vehicles	**-**	**-**	**1,600**	**1,600**
Wastewater Plant				
Asplund Wastewater Treatment Facility Sludge Dewatering Replacement	500	-	-	500
Facility PLANT - Sewer 2020	750	-	-	750
Eagle River Wastewater Treatment Facility - Facility Plan Recommendations	500	-	-	500
Asplund Wastewater Treatment Facility Combined Heat to Power Conversion	500	-	-	500
Wastewater Plant	**2,250**	**-**	**-**	**2,250**
Total	**16,250**	**-**	**10,000**	**26,250**

* Debt and Equity/Operations funding amounts by category are estimates and subject to change as actual loans are awarded by the State of Alaska.

Anchorage Wastewater Utility
Statement of Cash Sources and Uses

	2018 Actual	2019 Proforma	2020 Approved
Sources of Cash Funds			
Operating Income	17,094,692	17,072,000	13,646,000
Depreciation, net of amortization	8,590,514	12,430,000	13,280,000
Special Assessment Proceeds	328,678	300,000	300,000
State of Alaska Loan Proceeds	11,752,715	11,000,000	7,900,000
Bond/Other Loan Proceeds	8,776,349	12,417,000	10,000,000
Miscellaneous Non-Operating Revenues	31,439	64,000	10,000
Interest Received	341,564	1,174,000	490,000
Changes in Assets and Liabilities	2,739,182	5,677,000	471,000
Total Sources of Cash Funds	**49,655,133**	**60,134,000**	**46,097,000**
Uses of Cash Funds			
Capital Construction	31,773,607	32,910,000	26,250,000
Debt Principal Payment	8,138,337	8,711,000	9,700,000
Debt Interest Payments	5,124,876	5,371,000	5,670,000
Transfer to Escrow Account	1,138,151	5,224,000	-
MUSA	6,241,155	6,248,000	7,260,000
Total Uses of Cash Funds	**52,416,126**	**58,464,000**	**48,880,000**
Net Increase (Decrease) in Cash Funds	(2,760,993)	1,670,000	(2,783,000)
Cash Balance, January 1	32,524,780	29,763,787	31,433,787
Cash Balance, December 31	**29,763,787**	**31,433,787**	**28,650,787**
Detail of Cash and Investment Funds			
General Cash Less Customer Deposits	26,939,768	29,014,787	24,581,787
Construction Cash	2,662,567	2,169,000	3,819,000
Operating Fund Investment & Customer Deposits	161,452	250,000	250,000
Cash Balance, December 31	**29,763,787**	**31,433,787**	**28,650,787**

* This budgetary presentation does not include the effects of implementing Governmental Accounting Standards Board Statement No. 68, Accounting and Financial Reporting for Pensions and thus the revenues and expenses presented in this schedule differ from AWWU's GAAP basis financial statements.

About Anchorage Water & Wastewater

Anchorage Water Utility History
From the first intake of water at Lower Ship Creek, and a few miles of woodstave water lines downtown more than 100 years ago, Anchorage's public water utility has grown into an enterprise with a net plant in service of approximately $543 million that delivers nearly 23 million gallons of water to customers each day. The original water system for Anchorage was installed by the Alaska Railroad in 1917. In 1921, the City purchased the water system and associated water rights from the Alaska Engineering Commission. As the City expanded by annexation, the water system was extended into new areas and independent water systems previously serving the annexed areas were acquired by the City. A 2.6 mile raw water line to Ship Creek was built in 1980 to replace an earlier raw water main originally constructed in 1962 for the Ship Creek Water Treatment Facility (WTF). In the 1950's, an aqueduct was drilled through the mountains north of Anchorage to supply water from Eklutna Lake to the Eklutna hydroelectric power plant along the Knik River. In 1985, AWWU tapped this aqueduct and connected a 7.8 mile long transmission main (intake portal) to provide water from the Lake to the Eklutna WTF. A 22 mile long water transmission main was constructed to distribute the treated water from Eklutna to Chugiak, Eagle River, and on into Anchorage.

Anchorage Sewer Utility History
The Alaska Engineering Commission first installed sewers in downtown Anchorage in 1916 along the lower bluff near the Alaska Railroad Depot. As Anchorage grew, construction of sewers continued and by the end of World War II, sewers were available in much of the area between Ship Creek and Chester Creek, west of Cordova Street. Greater Anchorage Area Borough (GAAB) was created in 1964, and was granted area wide sewer authority. The last major private sewer utility was acquired by the GAAB in 1972. Investment by the GAAB in the 1970's constructed the John M. Asplund (Asplund) Wastewater Treatment Facility (WWTF) for Anchorage, the Girdwood WWTF, and the Eagle River WWTF. The wastewater utility is now owned and governed by the Municipality of Anchorage as a result of unification of the City of Anchorage and the GAAB on September 15, 1975. The rivers, creeks and inlets downstream from Anchorage's wastewater treatment facilities are not adversely impacted by treated effluent, which is AWWU's principal measure of success. The Anchorage community benefits from the superior operation of the three wastewater treatment plants that serve its growing population. Anchorage's public wastewater utility has grown into an enterprise with a net plant in service of approximately $391 million.

Governance
AWWU has a seven-member Board of Directors as codified in Anchorage Municipal Code section 4.80.020. The Board is appointed by the Mayor to staggered 3-year terms, with nominees subject to Assembly approval. The Board, by code, makes recommendations to the Mayor, establishes procedures for customer complaints, and recommends changes in code to the Assembly that the Board deems necessary or desirable for the efficient operation of the Utility or for the benefit of its customers. The authority for operation and management of the Utility is under the control of the Mayor. The Board members are very experienced professionals in the fields of law, accounting, engineering, and public health, in addition to 2 at-large citizen members. Regular meetings are held monthly and are open to the public. Board meetings focus on Utility operations and highlights.

Economic Regulation and Accounting
Since 1970, both the Anchorage Water Utility (AWU) and the Anchorage Wastewater Utility (ASU) have been regulated by the Alaska Public Utilities Commission (APUC), which was renamed the Regulatory Commission of Alaska (RCA) on July 1, 1999. AWU and ASU each hold a Certificate

of Public Convenience and Necessity for serving portions of the Anchorage Bowl, Eagle River, and Girdwood. The RCA must approve all rates and tariffs prior to implementation. They also regulate service areas and service quality. The RCA is composed of five members appointed to six-year staggered terms by the Governor of the State of Alaska and confirmed by the State Legislature.

AWWU is an Enterprise Fund. Enterprise Funds are used to account for operations where costs of providing services to the general public on a continuing basis are financed or recovered primarily through user charges or where the governing body has decided that periodic determination of revenues earned, expenses incurred, and/or change in net assets is appropriate for capital maintenance, public policy, management control, accountability or other purposes.

AWWU applies all applicable provisions of the Governmental Accounting Standards Board (GASB) which has authority for setting accounting standards for governmental entities. The accounting records of the Utility conform to the Uniform System of Accounts prescribed by the National Association of Regulatory Utility Commissioners (NARUC). The accrual basis of accounting is used for Enterprise Funds. Revenues are recognized in the accounting period in which they are earned and become measurable. Expenses are recognized in the period incurred, if measurable.

Environmental Regulation

AWU's activities are dictated by a wide variety of environmental regulations administered by the Environmental Protection Agency (EPA) and the Alaska Department of Environmental Conservation (ADEC). Potable water produced by AWU must comply with the regulations promulgated under the Safe Drinking Water Act (SDWA). The SDWA is the main federal law governing the quality of drinking water in the United States. The ADEC has authority (primacy) to administer the SDWA regulations for the EPA. The SDWA sets standards for the chemical and microbial quality of drinking water and establishes requirements for informing the public.

ASU's activities are also dictated by a wide variety of environmental regulations administered by the EPA and the ADEC. All wastewater discharges must comply with the regulations promulgated under the Clean Water Act (CWA). The CWA is the main federal law governing discharges into the waters of the United States. The CWA requires that each treatment facility have a unique National Pollution Discharge Elimination System (NPDES) permit that specifies the discharge limits from each facility for a wide variety of chemical and biological constituents. The ADEC has authority (primacy) to issue and administer the NPDES permits for ASU's Eagle River and Girdwood WWTFs. Authority to issue and administer the 301(h) modification for the Asplund WWTF has been retained by EPA, due to the special conditions of this discharge as outlined in section 301(h) of the CWA. In addition to the CWA laws, ASU's sewage sludge incinerator must also comply with the provisions specified in Title V of the Clean Air Act (CAA). ADEC has primacy for the CAA and administers the permit for EPA.

Failure to comply with the regulations promulgated under the SDWA, CWA, and CAA can result in fines and/or compliance orders and criminal charges.

Physical Plant

The Asplund WWTF is one of the few facilities in the nation operating as a primary treatment facility under Section 301(h) of the CWA. The primary treatment provided by this facility removes up to 46% of the biological oxygen demand (BOD) and 80% of the solids from the influent wastewater meeting the criteria necessary for discharge to the marine waters of Cook Inlet.

The smaller Eagle River and Girdwood WWTFs provide advanced secondary treatment prior to discharge to Eagle River and Glacier Creek respectively. These facilities remove up to 99% of the pollutants from the incoming wastewater prior to discharge.

In 2018, the Asplund WWTF treated an average of 26.3 million gallons per day (mgd). The Eagle River WWTF treated an average 1.3 mgd and the Girdwood WWTF treated 0.3 mgd. The three facilities have a combined design capacity of 61.1 mgd. The wastewater collection system has approximately 760 miles of pipes.

The Asplund facility, built in 1972, is Alaska's largest wastewater treatment plant. As wastewater treatment technology and the demands of community growth have developed over the last two decades, utility operators and engineers have kept pace. The Asplund plant underwent major renovations in 1982, and expanded and upgraded again in 1989.

A facilities plan update was prepared in 1999. The 1999 facilities plan evaluated the existing condition of the Asplund facility and identified improvements necessary to meet the future needs of the community. The facilities plan identified over $40 million worth of improvements to the solids handling, headworks, administration, laboratory, incineration, and thickening processes and control and power systems. AWWU undertook a majority of the recommended Asplund projects. These projects, along with careful operation, have made Asplund a modern, state-of-the-art treatment facility. In 2014, an updated facilities plan was prepared for Asplund. The plan recommended over $17M of additional investment in Asplund over ten years' time to rehabilitate and maintain aging infrastructure. A significant portion of those recommendations have been completed since 2014 with more to be completed in 2019. ASU continues to maintain its smaller treatment plants. Additional projects at Eagle River and Girdwood are underway, all designed to replace, rehabilitate and provide for the near-term needs of the areas being serviced.

AWU's three sources of water are Eklutna Lake, Ship Creek and groundwater accessed through a system of wells in the Northern Communities, the Anchorage Bowl and Girdwood Valley. Eklutna WTF and the wells which supply Girdwood are operated year-round and serve as the primary supply sources for the two water systems. The Ship Creek WTF and the remainder of water wells are used to augment the primary water supply as well as provide redundancy to the Eklutna source for Eagle River and the Anchorage Bowl.

Of these sources, the WTF now provides, on average, 91 percent of total water production for the Northern Communities and the Anchorage Bowl. In Girdwood, where system demand constitutes less than 2 percent of AWWU's total water production, all water produced and distributed is from two wells.

Projects to maintain the surface water plants and AWU's wells are on-going. The purpose of these projects is multiple fold: to rehabilitate and upgrade facilities where equipment has reached the end of its useful life; to automate and increase operational efficiency of facilities; to increase yield from existing well sites; and to meet stricter federal and state regulations regarding water quality.