

ANNUAL REPORT



2020



Alberta Capital Region
Wastewater Commission

Introduction

On behalf of the Alberta Capital Region Wastewater Commission, we are pleased to share with you some of our activities and accomplishments in 2020. We invite you to read the enclosed updates and reflect on how we continue to work towards ensuring that the ACRWC supports the economic and environmental viability of our region.

The ongoing adaptation to the COVID-19 pandemic dominated 2020. As an essential service, we needed to react quickly as information became available. Our goal from the outset was to ensure critical staff were safe so they could continue to keep the plant and transmission system running. The modifications to how we work was effective and no employees or contractors were exposed to the virus at our facilities. We have developed safe work practices and even discovered some improvements and efficiencies that will be a positive legacy of the pandemic.

Despite the pandemic, the ACRWC managed to meet our regulatory obligations as well as effectively deliver our capital program to ensure our assets are upgraded to meet the needs of this region.

The success of the past year is due to the commitment by the Board, our staff, our members, and our partners. Thank you to everyone for their efforts in helping the ACRWC achieve its goals.



Darren McCann
Chair



Mike Darbyshire
General Manager

Board of Directors

Each of our Member Municipalities appoints one member of their Council to the Board of Directors of the Commission.

Municipality	
City of Beaumont	Steven vanNieuwkerk
Town of Bon Accord	Lynn Bidney
City of Fort Saskatchewan	Brian Kelly
Town of Gibbons	Darren McCann
City of Leduc	Bill Hamilton
Leduc County	Rick Smith
Town of Morinville	Nicole Boutestein
Parkland County	Darrell Hollands
City of St. Albert	Ken MacKay
City of Spruce Grove	Stuart Houston
Town of Stony Plain	Harold Pawlechko
Strathcona County	David Anderson
Sturgeon County	Wayne Bokenfohr

At the Organization Meeting in November 2020, Brian Kelly was welcomed as the representative from Fort Saskatchewan replacing Gordon Harris. Darren McCann was acclaimed as Chair and David Anderson as Vice-chair.

Mission, Vision and Organizational Values

The Alberta Capital Region Wastewater Commission was established in 1985 to provide wastewater transmission and treatment to designated municipalities surrounding the City of Edmonton.

Vision Statement

The Alberta Capital Region Wastewater Commission is an environmental leader in wastewater management.

Mission Statement

The Alberta Capital Region Wastewater Commission provides responsible wastewater transmission and treatment for member municipalities.

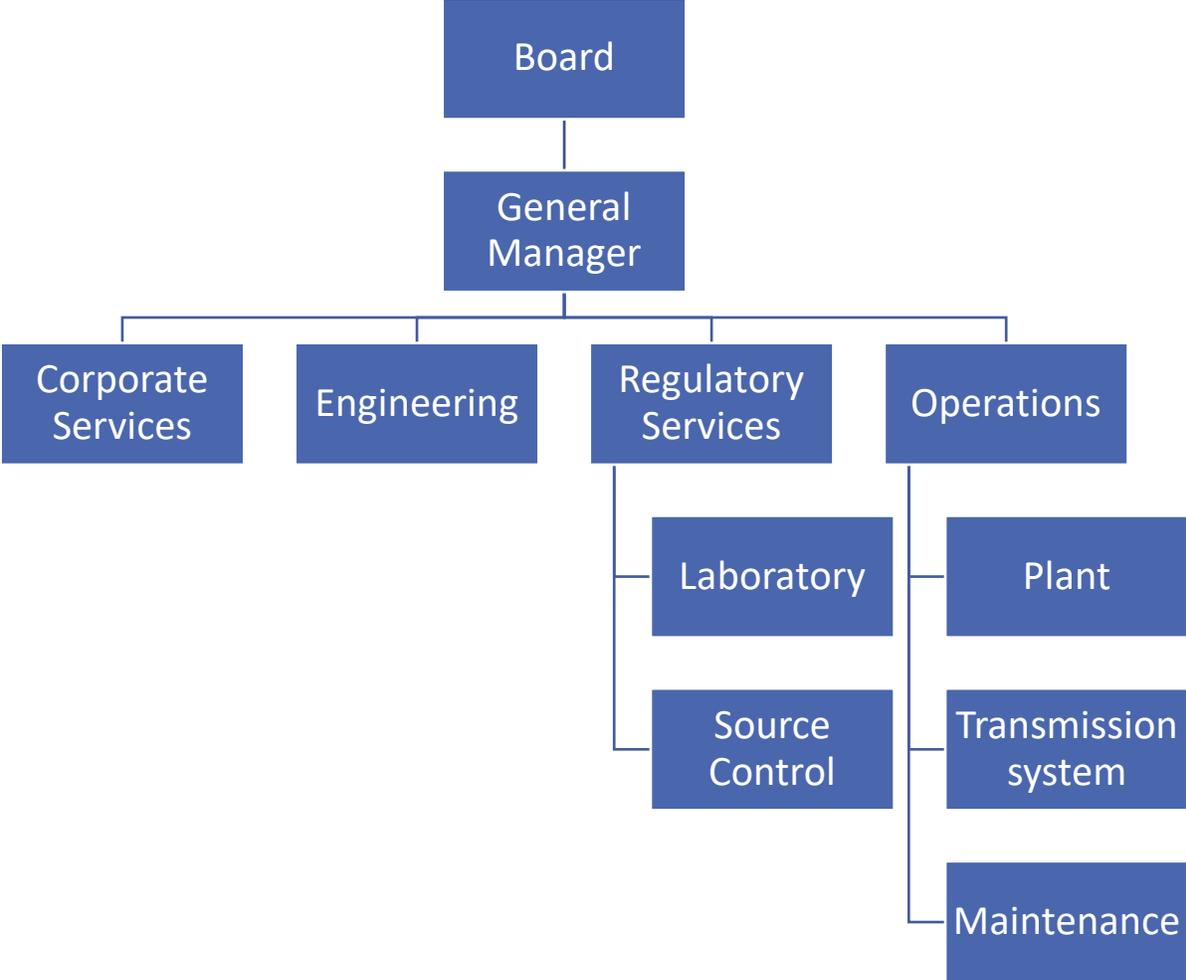
Values

The values expressed here are the guiding principles that help determine how the Commission will operate, both in public and privately.

<i>Accountability:</i>	We are accountable to those we serve, and we will focus on integrity in our governance.
<i>Communication:</i>	We will ensure that technical information, board plans, and progress are reported to our respective member municipalities, and request that member municipalities provide information to the Commission in a timely manner.
<i>Continuous Improvement:</i>	We are committed to meeting and exceeding provincial regulatory standards, and we encourage new ideas and approaches to provide excellent service delivery.
<i>Leadership:</i>	We will provide high-value service delivery and environmental protection that inspires our regional neighbors. We will be seen as leaders in our field of expertise.
<i>Reliability:</i>	We are committed to providing dependable service to member municipalities.

Organization

The ACRWC employed 48 full-time personnel in 2020. The organization is structured into four departments reporting to the General Manager who in turn reports to the Board of Directors.



Goals and Strategies

In its Strategic Plan, the Board has six *Pillars of Sustainability* to guide the goals and the strategies that flow from them.

<p>Environment</p> <p><i>Protect the North Saskatchewan River</i></p> <p><i>Anticipate and Respond to Climate Change</i></p>	<p>Performance Assurance</p> <p><i>Maintain Operational Capabilities through Appropriate Staffing</i></p> <p><i>Continue to Meet Service Needs of Members</i></p>	<p>Policy and Process</p> <p><i>Ensure Appropriate Information Transfer to Members</i></p> <p><i>Improve Reporting and Compliance with ACRWC Policies</i></p>
<p>Stewardship</p> <p><i>Improve Operations and Management Systems</i></p> <p><i>Develop Innovative Solutions that Achieve Long-term Financial Sustainability</i></p>	<p>Strategic Leadership</p> <p><i>Provide Leadership to the Province, Region, Members and other Wastewater Utilities</i></p>	<p>Understanding Stakeholders</p> <p><i>Raise Awareness about ACRWC Issues to Member Councils</i></p> <p><i>Engage with Stakeholders Relative to their Needs</i></p>

These goals are supported by specific strategies and performance measures outlined in the Strategic Plan document.

Highlights of Strategic Plan Performance

Environment

- The ACRWC met its obligations under our Provincial Operating Approval

Performance Assurance

- We concluded transition plans for critical positions to respond to the upcoming retirements of many of our senior staff.
- The pandemic presented us with an opportunity to challenge and update our Business Continuity Plan.
- We rolled out a new performance management program that includes improvements to documenting employee development.
- Our Asset Management Program continued to evolve with the creation of an Asset Management Strategy document and a review of how we identify critical assets.

Policy and Process

- The Board reviewed and updated its Communication Strategy.
- The ACRWC continued to improve on its communication goals by developing a reporting system so members can have more prompt information on the effects of rainfall and wet weather flows.

Stewardship

- The 2021 budget reflects up to date asset management information as well as an increase in the rate to offset the premature failure of our linear assets.

Strategic Leadership

- The ACRWC continues to take part at the Regional, Provincial and National levels to advocate on behalf of the ACRWC as well as share our knowledge and insights about wastewater treatment and environmental protection.
- A third-party consultant conducted a re-registration audit of our Environmental Management System. The audit was successful and resulted in a new three-year registration certificate to ISO 14001.
- The ACRWC continued to actively take part on Alberta Environment and Parks' Water Management Framework Advisory Committee:
 - Ongoing bi-weekly effluent monitoring occurred as part of an Effluent Characterization Program for municipal and industrial dischargers into the North Saskatchewan River.
 - At the request of the Province, we developed a sampling program for municipal dischargers to analyze pollutants not monitored during our Initial Effluent Characterization conducted in 2013/2014.

Understanding Stakeholders

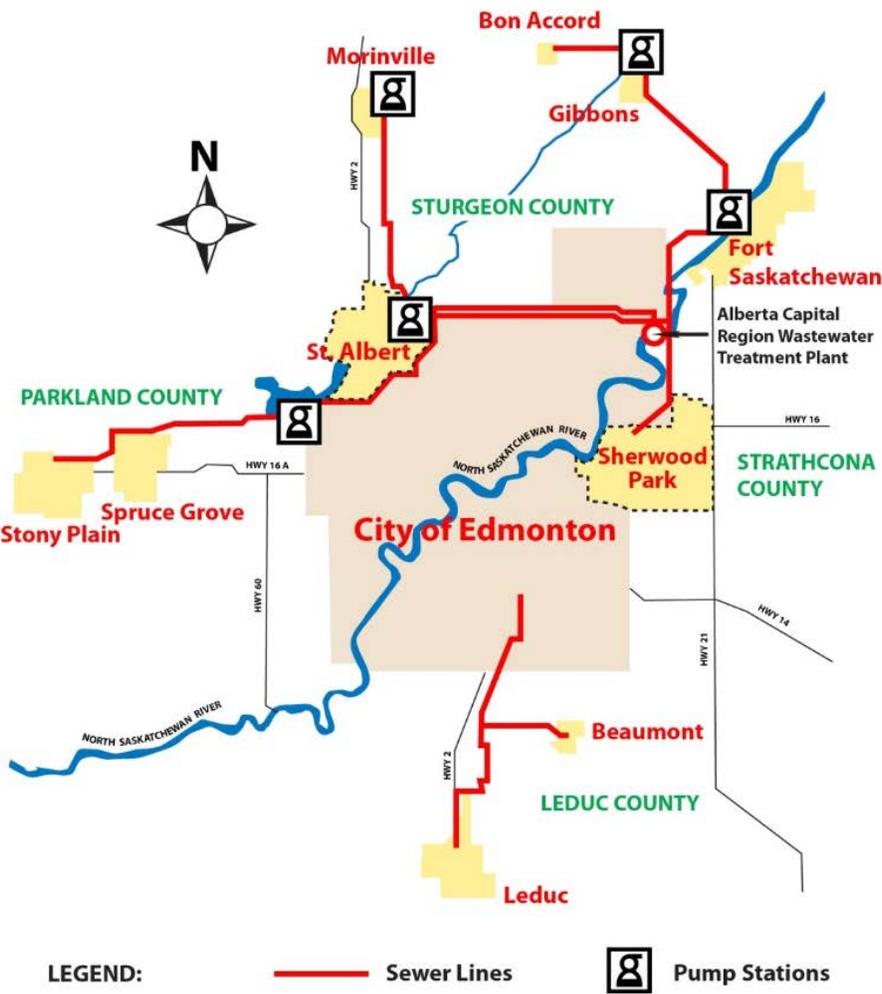
- The ACRWC implemented an Odour Complaint process and developed communication materials for landowners with ACRWC rights-of-way on their property.
- We implemented a communication plan to help our members with rolling out the Food Services Sector Code of Practice. The Code comes into force January 1, 2021.

Operations

The ACRWC operates a regional trunk system consisting of 138 km of gravity sewers, five pump stations and 58 km of pressure pipelines as well as a biological nutrient removal wastewater treatment plant. Treated effluent is discharged to the North Saskatchewan River. Biosolids are trucked to EPCOR's Clover Bar lagoons where they are put to beneficial use by applying it to agricultural and marginal land.

Through an agreement with EPCOR, our facility treats wastewater from portions of northeast Edmonton. In exchange EPCOR's Gold Bar facility treats the flow from our southern members.

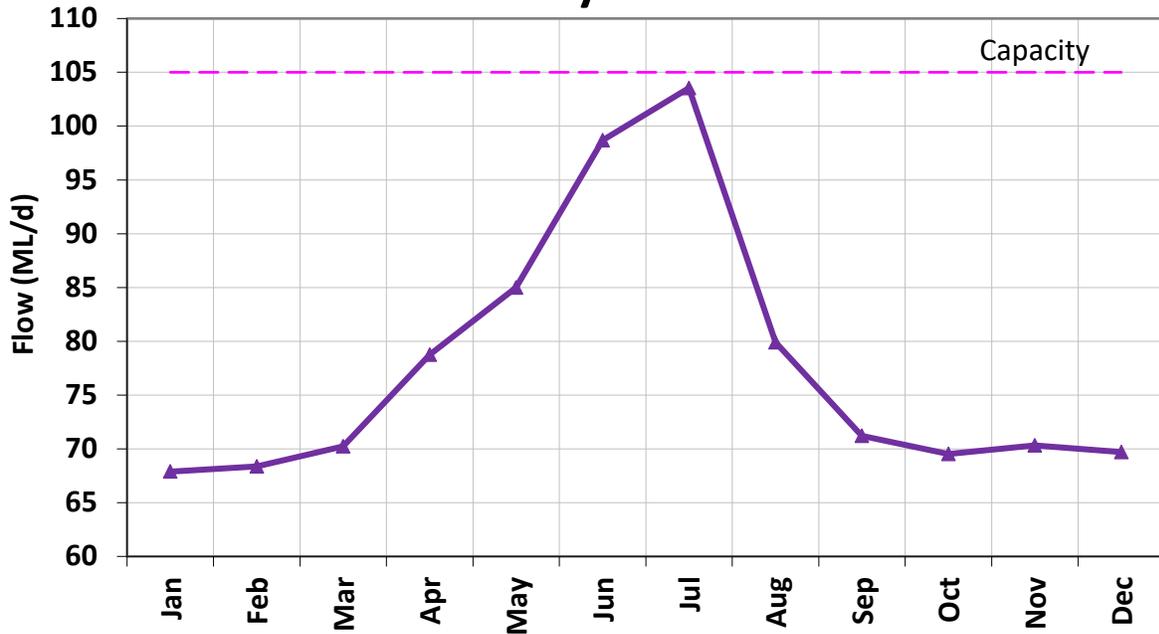
Wastewater Transmission Network



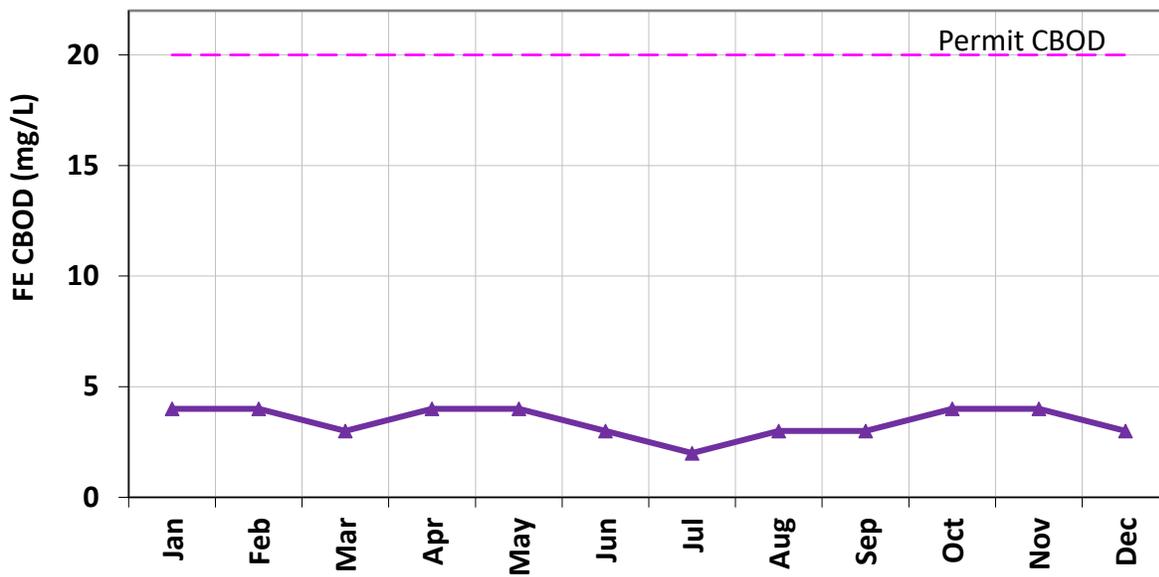
In 2020, our plant treated 77.87 million liters per day on average for a total of 28.5 billion litres over the course of the year. The wastewater treatment plant has a hydraulic capacity for 105 million liters per day.

The plant's effluent quality met all Provincial and Federal limits in all months of 2020.

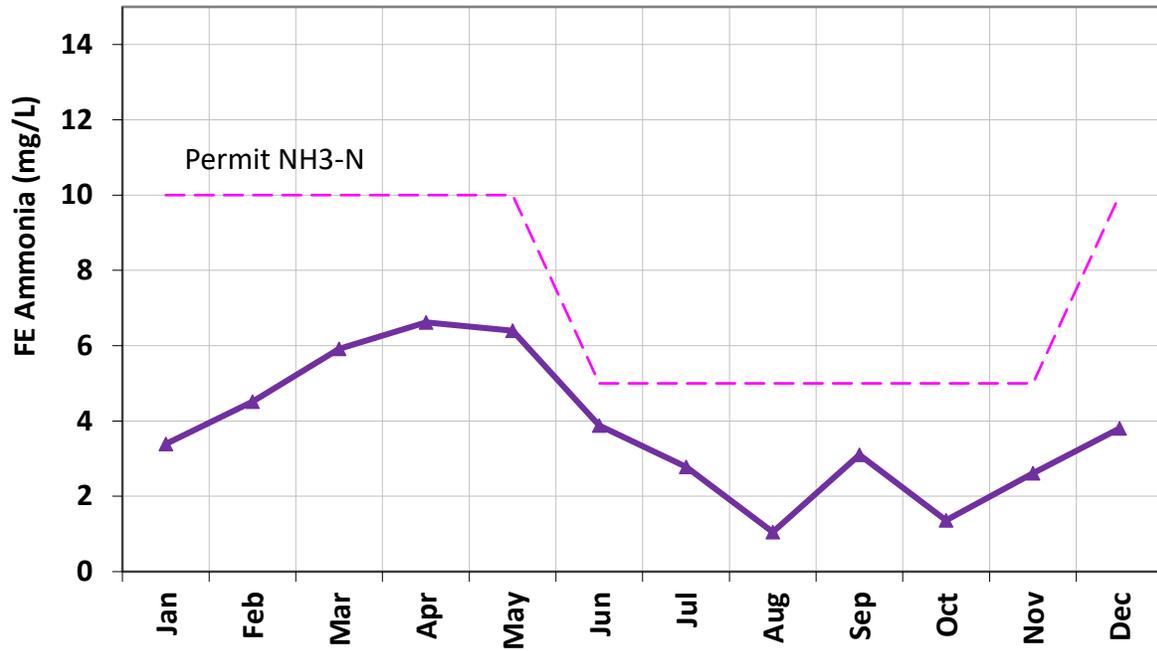
Monthly Influent Flow



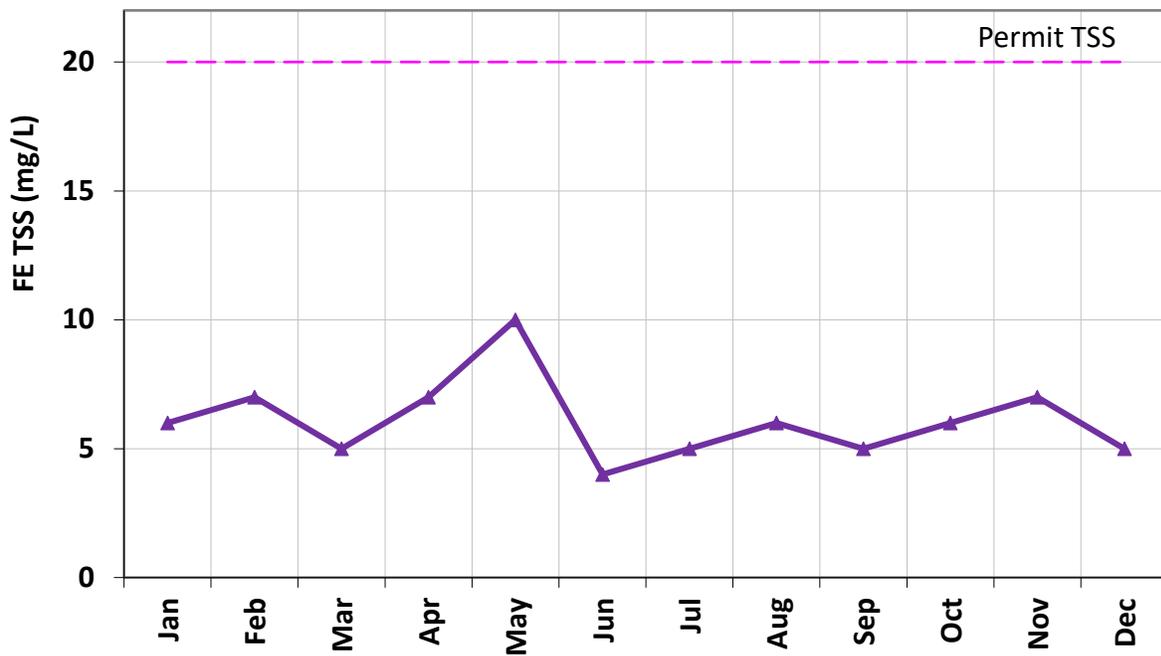
Monthly Effluent Carbonaceous Biological Oxygen Demand



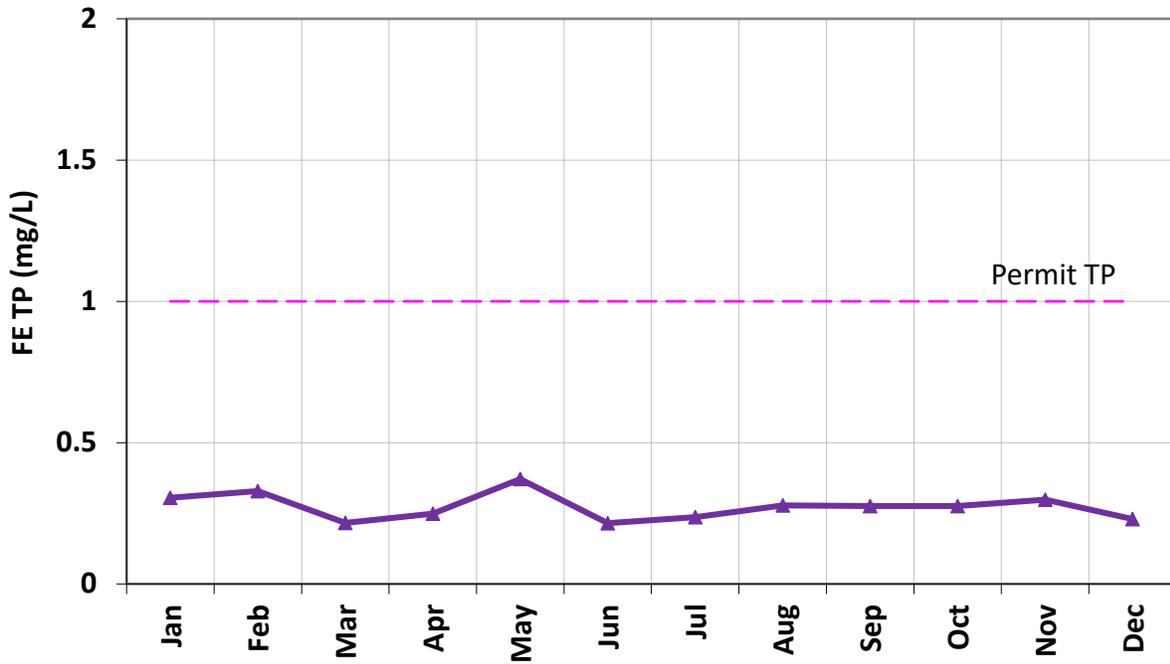
Monthly Effluent Ammonia



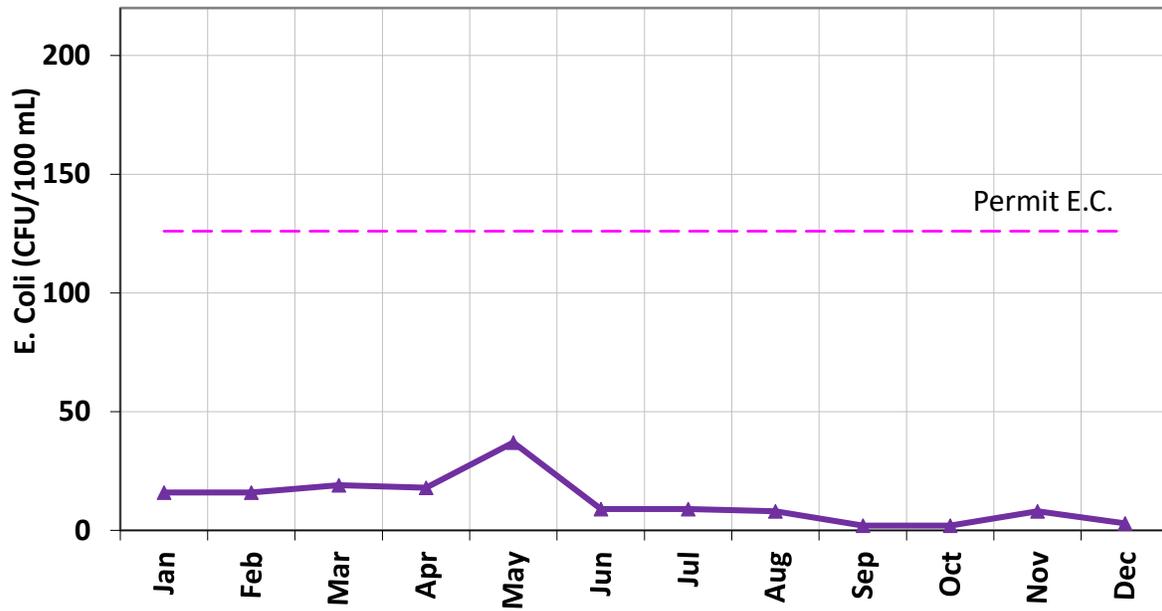
Monthly Effluent Total Suspended Solids



Monthly Effluent Total Phosphorus



Monthly Effluent E. Coli



Operational highlights

- A total of 7622 dry tonnes of biosolids were transported to the waste management center and put to beneficial use as compost or onto agricultural land.
- We consumed a total of about 18.5 million kWh over the course of the year.
- As part of our asset management program, the aeration blower controls were upgraded, Bioreactor 3 NMLQ pipe supports were replaced, and the Gibbon's station fuel storage system was replaced.
- Premature failure along the St Albert Regional Trunk due to hydrogen sulphide corrosion continues to be a problem. In 2020, two sewer pipe segments collapsed and were repaired or replaced through emergency response plan. There is a rehabilitation and upgrade strategy for the St Albert Regional Trunk and Outfall Trunk that has been implemented. Two sections of the trunk sewer were replaced in 2020 as planned.
- Camera inspection work continued in 2020 with inspections of the Beaumont gravity line and several sections of the St Albert Regional Trunk system. A part of the Southeast Regional Trunk Sewer was flushed at the Nisku transfer station due to ongoing solids build up that was discovered through the transmission inspection program. By proactively flushing areas that have shown historic build of material, we can manage the problem more cost effectively and avoid overflows due to material build up.
- Despite the amount of rainfall in 2020, we had no wet weather bypasses of raw wastewater, but did have several secondary bypasses at the plant. The volume and peak flow of wastewater generated in the region over the summer clearly shows that there continues to be significant volumes of inflow and infiltration making its way into the regional system. This reinforces our need to continue working with our member municipalities on our *Wet Weather Flow Management Strategy*.

Regulatory Services

Health & Safety Management System (HSMS)

- We developed pandemic response protocols and contingency plans to keep our essential services during the pandemic and supplied frequent communications to the entire organization about the fluid pandemic situation.
- Public Safety Canada conducted two vulnerability and dependency assessments as part of their voluntary Regional Resilience Assessment Program for owners and operators of critical infrastructure in Canada. Several key findings will improve our resilience to all hazards, such as cyber threats, accidental or intentional events, and natural catastrophes, and will inform our Business Continuity Plans.
- Enhanced HSMS internal audit criteria to incorporate all ten elements required under OHS legislation.

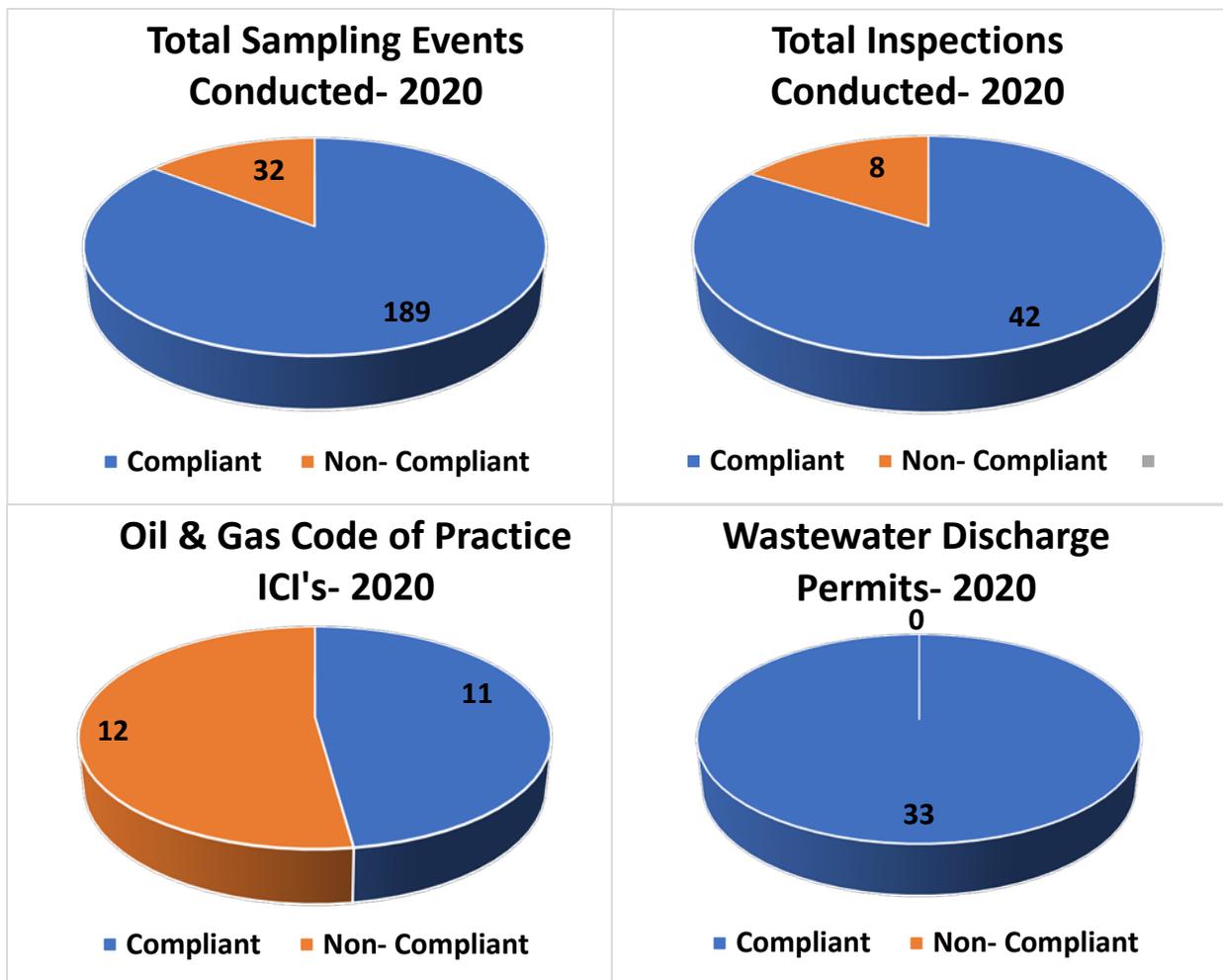
Laboratory Services

- A bi-annual assessment by the Canadian Association of Laboratory Accreditation to ISO/IEC 17025 International Standard for Testing and Calibration Laboratories resulted in very few identified non-conformities and we kept our accreditation.
- We conducted a biosafety internal audit measuring against the most recent edition of the Canadian Biosafety standard. The requirements to develop a Biosafety Manual and a Biosecurity plan were identified.
- Other protective measures were implemented based on hazard assessments to safely conduct Laboratory analysis and reporting during the pandemic.

Regional Source Control Program

- We worked closely with our members' technical staff and consultants to advance the elements of ACRWC's Wet Weather Strategy: Inflow and Infiltration (I&I) Assessments; Wet Weather Flow Management Plans; and compliance and verification of testing and inspection standards for new infrastructure.
- In collaboration with the municipalities in which they are located, we concluded negotiations of Waste Discharge Permits for three significant regional industrial dischargers. The combined discharge volumes from the three industrial facilities accounts for normally between 8% and 10% of the total ACRWC treatment facility's influent flow at any given time.
 - Wastewater Discharge Permits having the agreed upon terms and conditions for each were issued separately to all three industrial dischargers.

- The permittees have committed to improved self-monitoring and commitments toward reducing their adverse impacts to our transmission and treatment systems as identified within the Wastewater Discharge Permits.
- ACRWC Source Control staff will continue to check permit milestones and communicate with the permittees as needed.
- Although site inspections of Industrial, Commercial, and Institutional facilities had to be suspended due to the pandemic, additional protective measures were implemented based on hazard assessments so we could continue sampling of facilities.



Engineering

The ACRWC worked on the following projects in 2020. Current Construction Phase project updates can be found on our website at www.acrwc.ab.ca.

Planning

- Completed the Headworks Upgrade and Plant Area Wet Weather Management Conceptual Design.
- Initiated and conducted the Bioreactor System Upgrade Study, which will be concluded in 2021
- Completed Plant Alum Usage Optimization Study.
- Completed Parkland Gravity Trunk Rehabilitation/Replacement conceptual design.

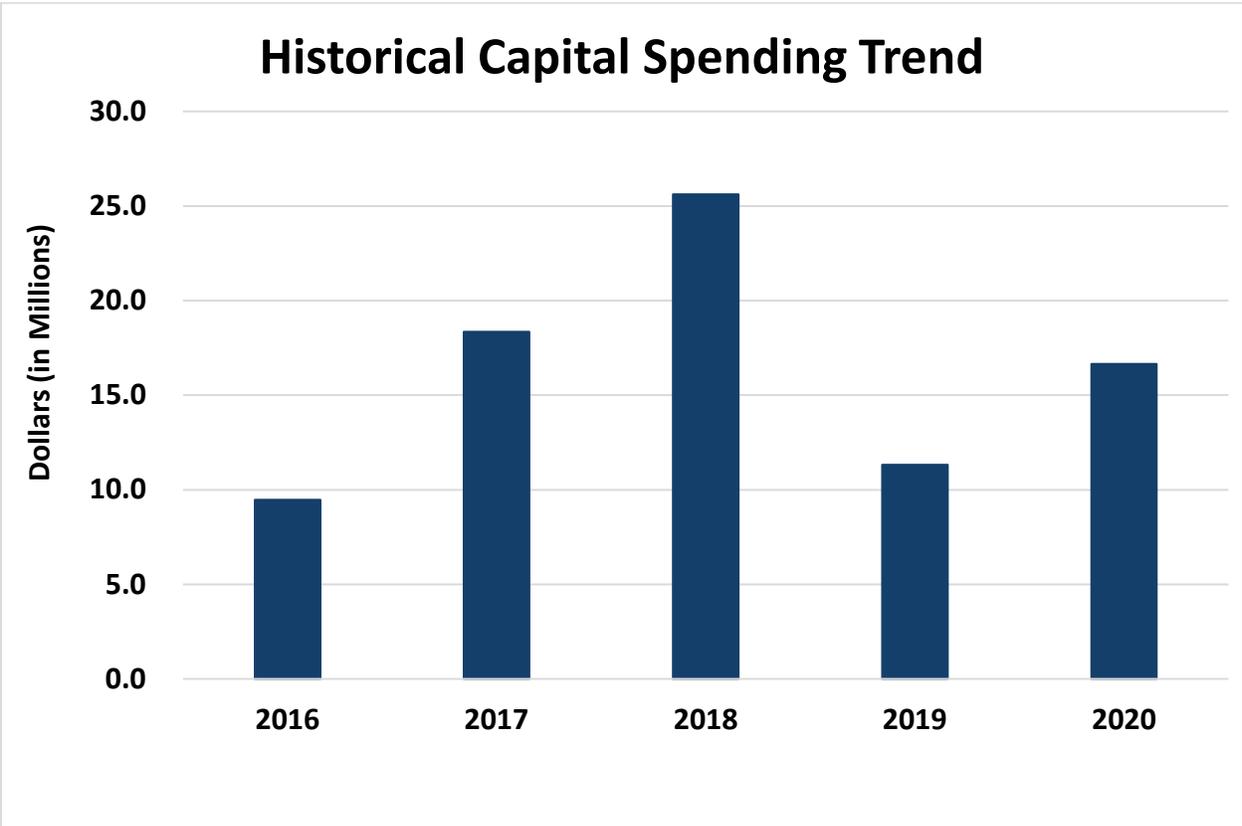
Designs

- Completed the detail design for Aeration Blower Addition at the Treatment Plant.
- Completed the design for Spruce Grove Wet Weather Flow Management Facility.
- Completed the design for Administration and Maintenance Building Extension.
- Started the design for Parkland Pump Station heating and ventilation upgrade.
- Completed the design for St. Albert Pump Station electrical and pump upgrade.
- Completed the design for breaker replacement at power substation #2.
- Initiated the detail design for Parkland Gravity Trunk Rehab/replacement.
- Started the replacement design of Biogas pipeline in digester room.

Construction

- Completed the 3rd Sewage Pump addition at the Gibbons Pump Station.
- Completed the replacement of the St Albert Regional Trunk and Outfall sections south of the Garrison and west of highway 28.
- Replaced high failure risk sections of START at west of 34 Street.
- Kicked off the work of installing the third Aeration Blower.
- Completed the emergency repairs for START at Bioway and 34 Street.
- Completed the rehabilitation of a section of Edmonton Gravity Truck under railway.
- Completed the rehabilitation of a section of SERTS South truck downstream of Leduc Transfer Station.
- Started the construction of the Waste Gas Flare Facility at the treatment plant.

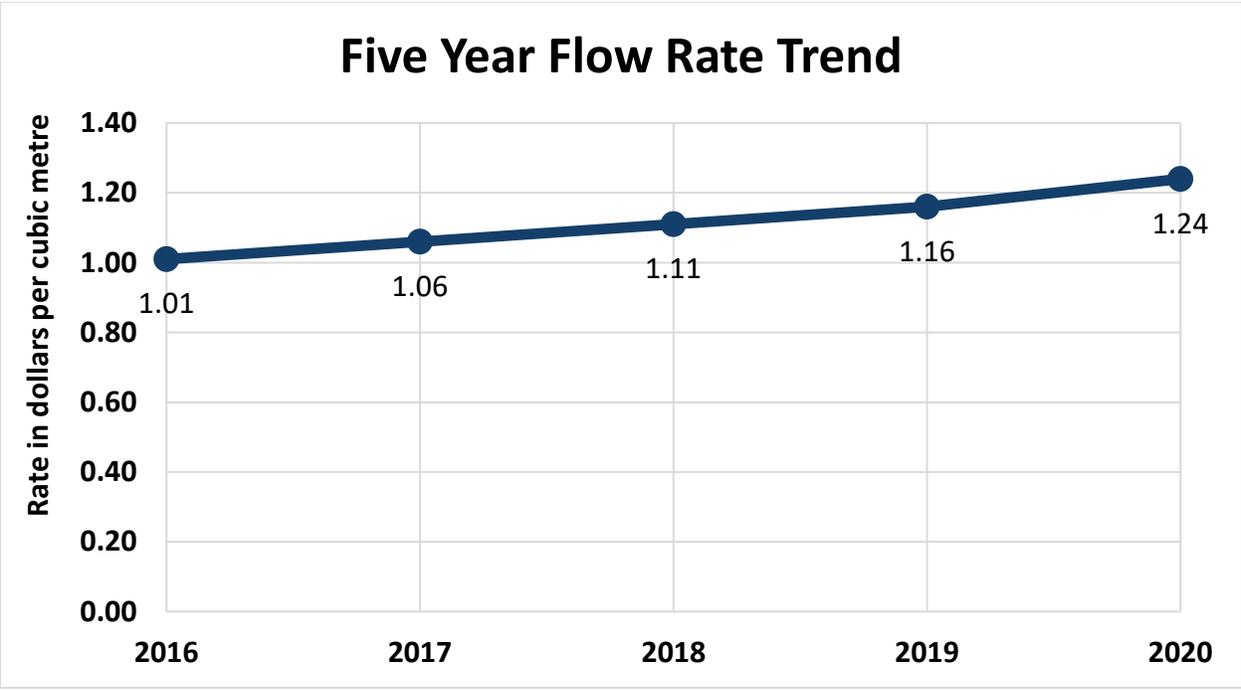
Capital spending in 2020 was \$16.7 million which was financed through the rate, grants, reserves, and debentures. The average capital spending over the last five years was \$16.3 million.



Financial

The ACRWC funds its revenue requirements primarily through the collection of flow rates based on bulk water consumption and an over-strength rate from industrial and commercial enterprises.

In 2020, the flow rate was \$1.24 per cubic meter. Over the last five years the annual increase has averaged 5%.

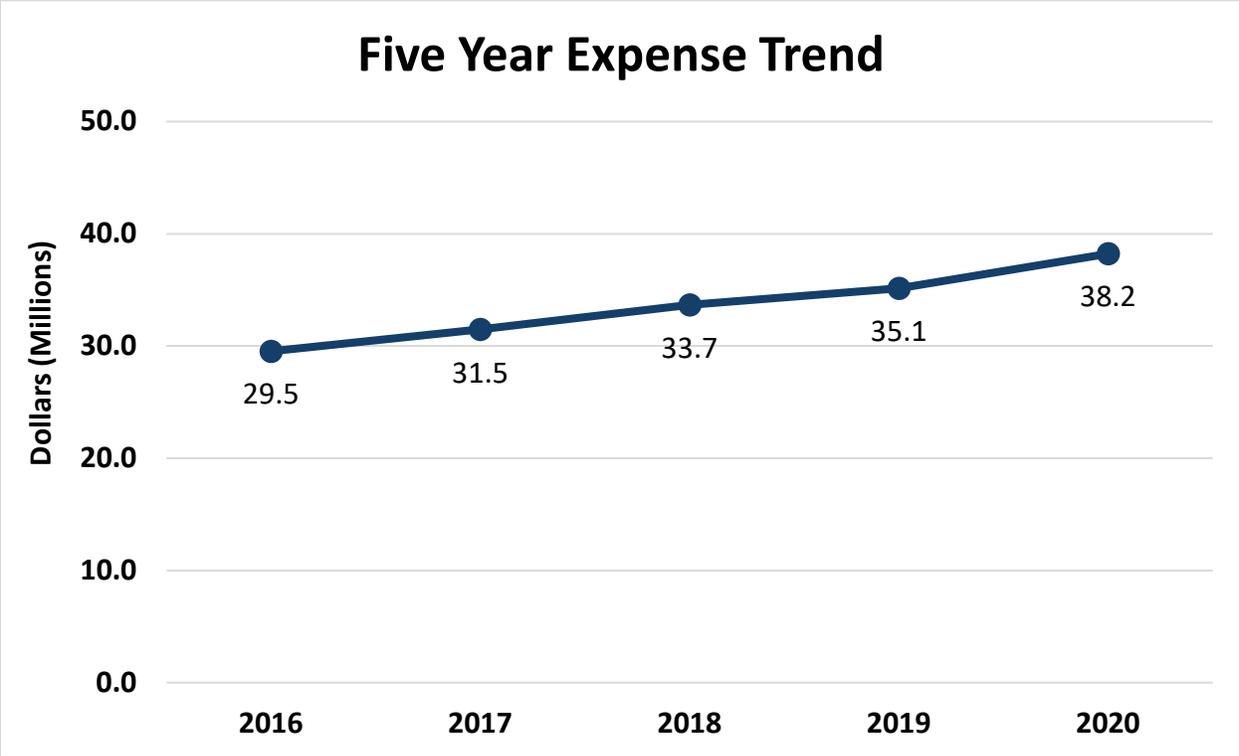
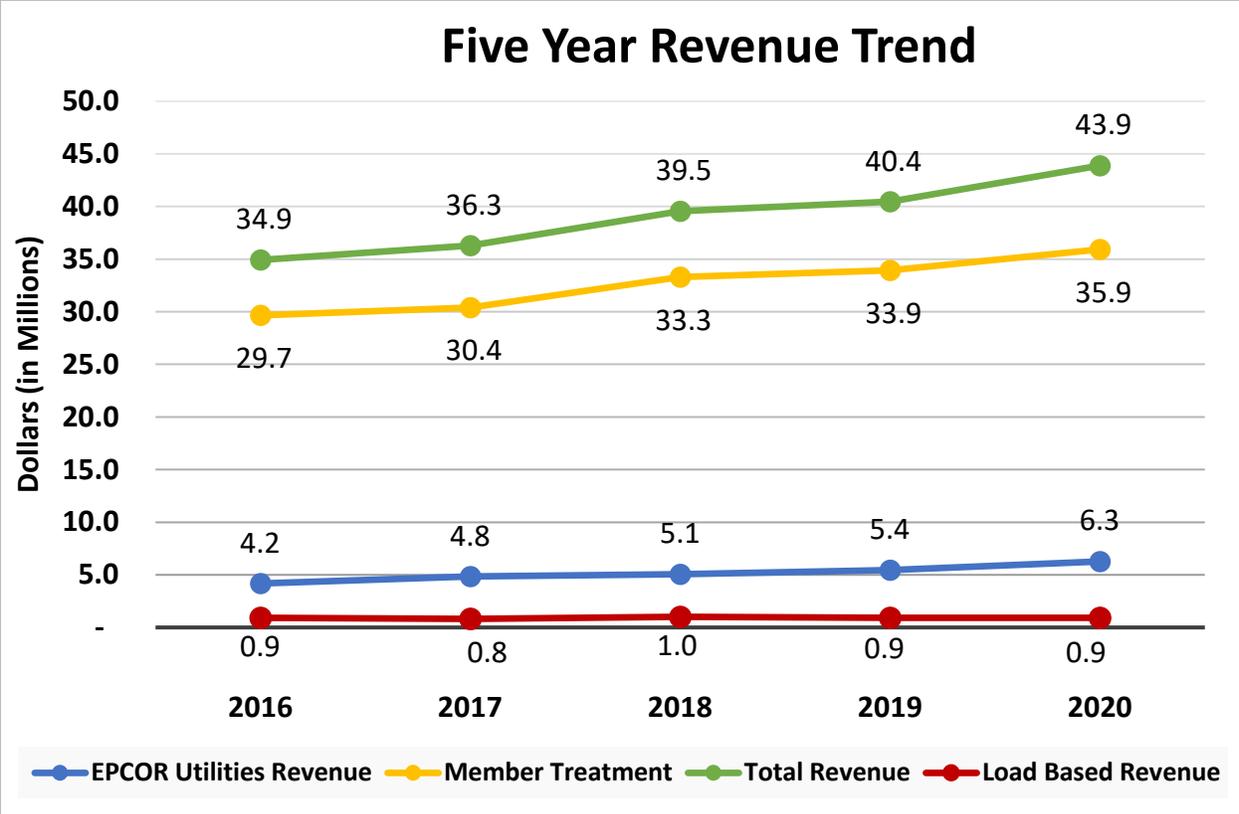


The 2020 over strength revenues for the year were \$0.9 million with the parameter rates of:

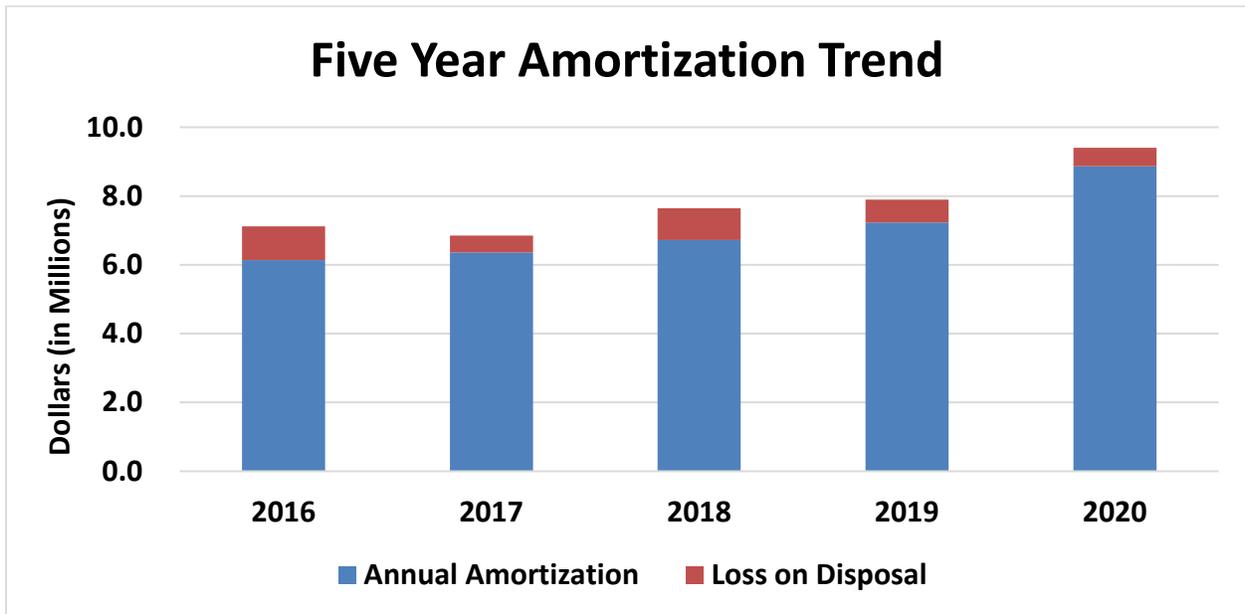
Chemical Oxygen Demand	\$ 0.33254/kg
Biological Oxygen Demand	\$ 0.33254/kg
Total Suspended Solids	\$ 0.26810/kg
Total Kjeldahl Nitrogen	\$ 2.02570/kg
Total Phosphorus	\$ 13.57010/kg
Oil and Grease	\$ 0.28150/kg

The revenues and expenses for 2020:

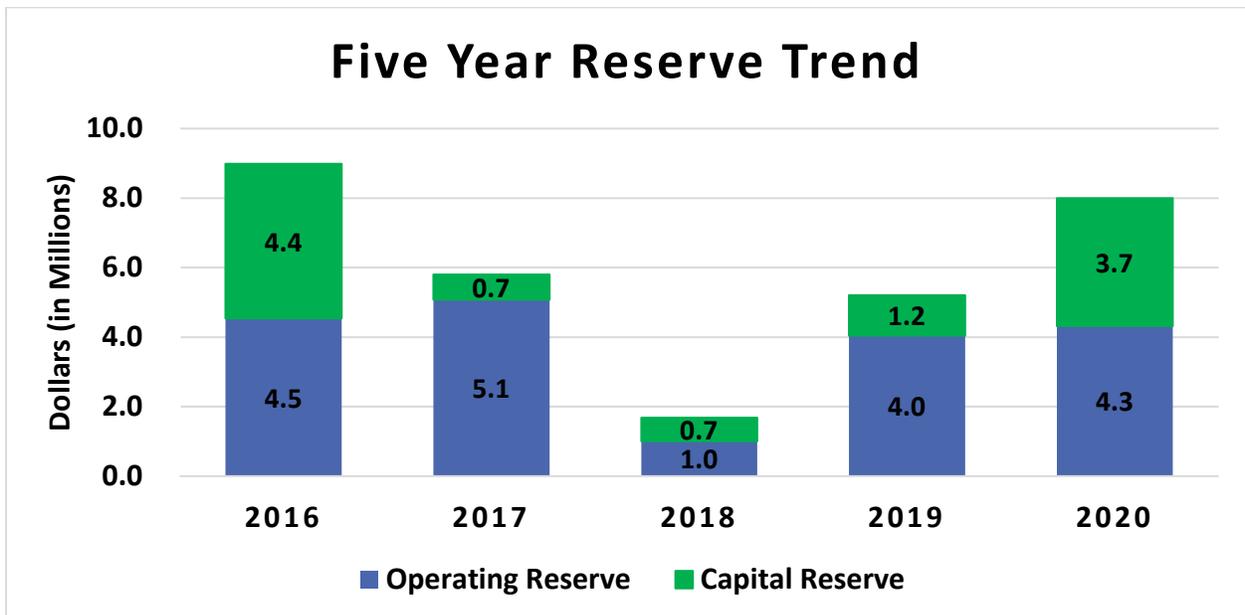
Total Revenues	\$43,890,000
Total Expenses	\$38,219,000
Surplus	\$ 5,671,000



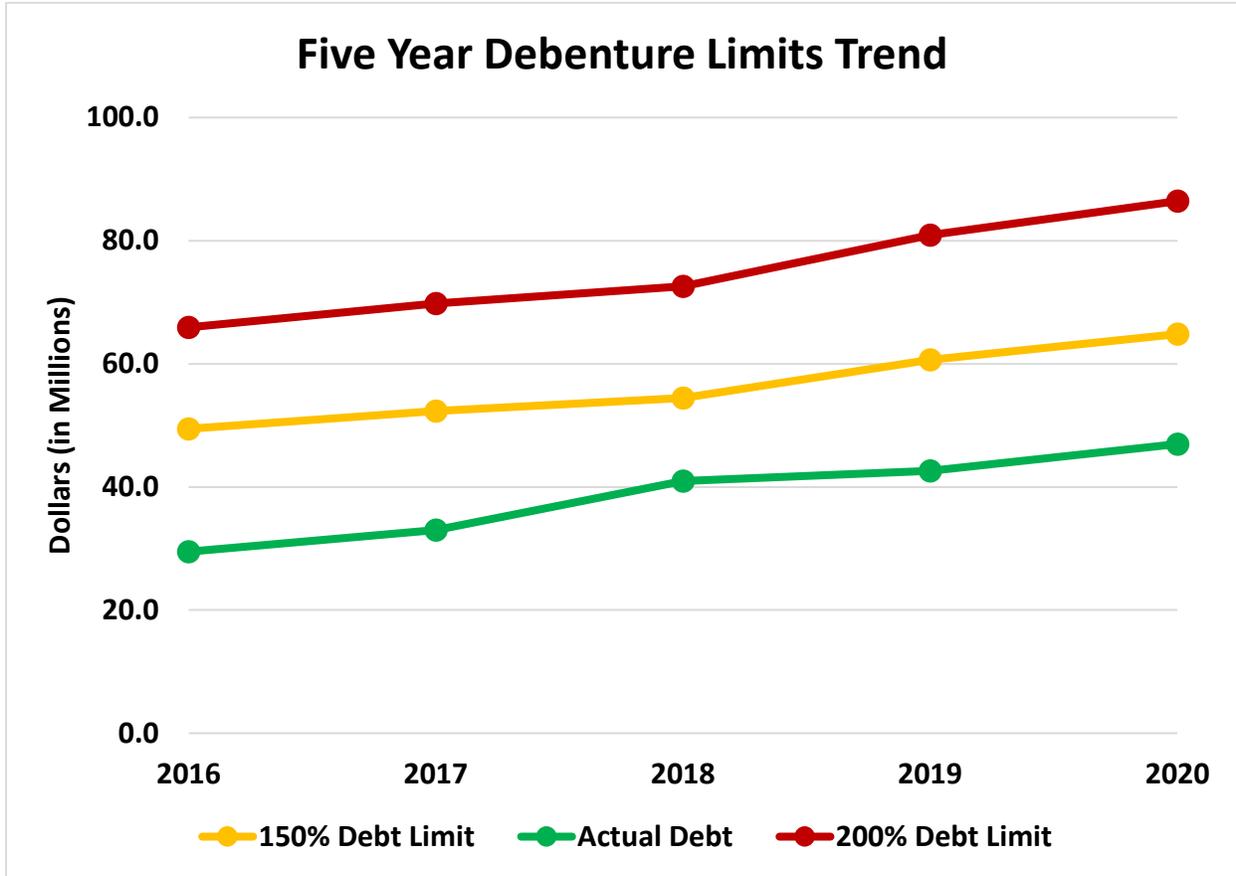
Amortization was \$9.4 million which was \$1.4 million over the budget. In April 2020, the Board changed the amortization useful life of computer systems from ten years to five to align ACRWC practices, which resulted in an additional \$0.3 million in annual amortization expense. In July 2020, an exercise was performed to determine the life expectancy of our concrete transmission system. This resulted in decrease in the useful life of our transmission system and an annual increase in amortization of \$1.1M.



The total reserves were \$8.0 million which included \$3.7 million in capital reserves and \$4.3 million in operating reserves. The operating reserves are at 10% of revenues which is compliant with our Board policy of 10% - 15% of revenues.



The total debentures in 2020 were \$47.0 million. The debt to revenue ratio increased from 105% to 109%. The Municipal Government Act has a debt to revenue limit of 200% for Commissions. The ACRWC has a self-imposed debt to revenue limit of 150%.



Our audited financial statements are on our website. [Please click here](#)