TransAqua

GREATER MONCTON WASTEWATER COMMISSION

COMMISSION DES EAUX USÉES DU GRAND MONCTON

2020 ANNUAL REPORT

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1. INTRODUCTION

1.1 Mission and Vision

MISSION To collect and treat wastewater in a reliable, cost-efficient and environmentally responsible manner.

VISION To be an outstanding environmental steward supporting regional planning, economic development and quality of life for the communities of Dieppe, Moncton and Riverview.

1.2 History 1983-Present

The Greater Moncton Sewerage Commission (GMSC) was created by an order-in-council in 1983 in consultation with the three municipalities and the Government of New Brunswick.

From 1983 to 1995, the GMSC oversaw the construction of a primary chemically enhanced Wastewater Treatment Facility in Riverview NB at Outhouse Point and a 34.2 kms network of collector sewers intercepting more than 80 untreated outfalls and the construction of a major Wastewater Pumping Station along with eight smaller remote ones. GMSC began construction of its Compost Facility in 2005 on Delong Drive in Moncton and implemented a long-term sustainable Biosolids Management Program with a new innovative composting system.

The Greater Moncton Sewerage Commission changed its legal corporate name to the Greater Moncton Wastewater Commission (GMWC) in 2014 and introduced **TransAqua** as its new business name. TransAqua is bilingual and better conveys what the Commission does: transforming ("trans") wastewater ("aqua") and returning it to nature, i.e. the Petitcodiac River.

As the result of the federal government's Wastewater Systems Effluent Regulations (WSER-2012) that were enacted under the Fisheries Act in 2012, TransAqua's WWTF Upgrade and Modernization Project began construction in late 2016 upgrading from the primary chemically enhanced process to a 4-step feed secondary biological nutrient removal process. By the end of 2020, TransAqua is exceeding the federal effluent limit for Total Suspended Solids and getting closer to meeting the limit for Biochemical Oxygen Demand. Infrastructure Canada ($22,600,000) and the New Brunswick Regional Development Corporation ($22,600,000) are funding partners with TransAqua ($45,200,000) for this major Upgrade Project. By late 2021, TransAqua's effluent is expected to meet the Canadian Recreational Water Quality Guidelines.

The Commission remains focused on providing high quality treated wastewater and the beneficial reuse of biosolids to produce the highest quality compost in Canada. TransAqua takes its responsibility as an environmental steward very seriously and are committed to being part of the solution for a healthy and thriving Petitcodiac River and its ecosystem.

The Residential Unit Rate remained at $210 per unit since 2017. Aging assets that require replacement and additional infrastructure will require a long-term Rate Analysis to be completed in 2021 to ensure financial sustainability without creating rate shock.

The Commission continues to be proven as an effective partner with the City of Moncton, City of Dieppe and Town of Riverview as a number of Agreements (Service, Cost Sharing, Cost Recovery of the Commission's Expenses, Combined Sewer Overflow Reporting) have been ratified. TransAqua partnered with ECO360 for advertising with the Moncton Wildcats and ratified the Tri-Party (TransAqua/City of Dieppe/ Greater Moncton Roméo LeBlanc International Airport (YQM) Glycol De-Icing Fluid Agreement.

TransAqua's Computerized Maintenance Management System will provide valuable information including the timing and cost for replacement of all assets. The administration, operations and maintenance teams continue to meet current expectations and aim to anticipate future needs to the benefit of all ratepayers, stakeholders and the environment.

2. CHAIR'S REPORT

Despite a global pandemic, the TransAqua upgrade project continued to be the main focus for the Commission Board and staff in 2020. Several project phases are behind us and the remainder of the project is expected be completed by August 2021, on time and on budget. In December 2020, TransAqua announced that it had met the federal effluent guidelines for Total Suspended Solids and is very close for Carbonaceous Biochemical Oxygen Demand as mandated by legislation. The Board is very appreciative of the effort and work of the Management Team, all staff, contractors and the citizens of Greater Moncton in reaching this important milestone in the upgrade project.

In addition to the upgrade project in 2020 the Board and staff worked on furthering the aims and objectives of the strategic plan centered around the three pillars of environmental stewardship, sustainability and partnerships. Staff is working hard on numerous initiatives related to the strategic plan, including carrying out a Regional Wastewater and Combined Sewer Overflow Strategy, building the Fox Creek WWPS building and continuing work on the asset management plan. These types of projects keep the Board focused on the objectives contained in the strategic plan.

In 2020, David Muir retired as the long-time Riverview representative and Chair of TransAqua. Moncton representative Bryan Inglis also left the Commission after a 4-year mandate. Both David and Bryan will be missed for their experience and knowledge. They were replaced by Brenda Dore-Kidney (Moncton) and Gerald Lundquist (Riverview).

The General Managers' report contains much more detail on all TransAqua operations in 2020 and those interested in TransAqua should read his report and the entire annual report. I would like to thank the Commission Board and our staff for their hard work and diligence in 2020. It is due to their efforts that TransAqua has become the organization it is today with a state-of-the-art facility serving the needs of the tri-community for many years into the future.

Respectfully submitted,

Michel Desjardins
Chair

3. GENERAL MANAGER'S REPORT

3.1 2020 Overview

The Commission has completed the busiest year of construction for the WWTF Upgrade and Modernization Project! The four-step feed Biological Nutrient Removal (BNR) bioreactor, secondary clarifiers and sludge handling process was commissioned on December 8, 2020 and is now meeting the federal effluent regulations.

With the Commission's Mission and Vision in mind, the Management Team continued to focus on the four Strategic Perspectives of the 2019-2023 strategic priorities, primarily the upgrade of the facility to a point where effluent released into the Petitcodiac River complies with the federal wastewater regulations by 2020. The management team and their respective support staff have continued the great work and high standards for which the Commission is known.

The following projects were completed in 2020 in line with TransAqua's long-term strategic plan objectives:

- All required legislated and operational requirements were met in 2020 with the submission of National Pollutant Release Inventory, Combined Sewer Overflow Reports, quarterly Quality Monitoring Report through ERRIS and to NBDECC, the GMWC Annual Report, compost site groundwater monitoring wells analysis, AMEC/STANTEC river sampling program analysis and the BNQ virtual site visits to ensure compost conformity.
- TransAqua worked successfully with the Greater Moncton Roméo LeBlanc International Airport (YQM) and the City of Dieppe for the commissioning of YQM's new aircraft de-icing fluid system.
- Capital Projects outside of the WWTF Upgrade and Modernization Project completed in 2020 include the Fox Creek WWPS building structure and section of forcemain along Fox Creek Road and small section of Melanson Road.
- Completed the Cybersecurity Implementation Plan, including the IT/OT Strategic Plan and submitted the certification application to Cyber Canada;
- TransAqua's new Public Information Booth was unveiled at the February 19, 2020 at the Moncton Wildcats game.
- The laboratory passed the 2020 CALA Proficiency Testing in March and October;
- TransAqua negotiated a new rate structure with NB Power and partnered with NB Power to complete the Wastewater Heat Recovery Feasibility Analysis;
- TransAqua staff met its Safety Goal in 2020 of resolving 76% of all new safety issues brought forward to the Health and Safety Committee. In 2020, 19 new safety items were identified with 24 items being resolved with 9 outstanding safety items carrying over into 2021; and
- The TransAqua website (www.transaqua.ca) was updated on a regular basis.

TransAqua would like to thank all community members who took an active interest in TransAqua and its activities in 2020 and participating with our nationally recognized compost program that reintroduced over 9315 tonnes of compost in 2020 back into the local communities.

Respectfully submitted,

R. Kevin Rice, B.Sc., CET
General Manager

3.2 2019-2023 GMWC Strategic Plan Update

There are four Strategic Perspectives outlined in the 2019-2023 GMWC Strategic Plan: Provide Fiduciary Stewardship, Serve our Stakeholder, Manage Internal Processes & Promote Technology Innovations and Promote Learning / Growth. In 2020, several Strategic Initiatives to support the Strategic Priorities have been completed.

1 **Provide Fiduciary Stewardship -** Staff have applied for Asset Management System funding from FCM. Its application is not expected to be reviewed until March 2021. The Province of New Brunswick informed the General Manager that TransAqua's accredited lab could not provide external laboratory services. Staff completed a Non-Potable Bulk Water Station Analysis that did not present a positive business case for ratepayers for its Return on Investment. In 2021, staff will be conducting a Rate Analysis to ensure long-term financial stability while providing a high level of service to ratepayers.

2 **Serve our Stakeholder -** With respect to Governance Leadership Objective, Three digital advertising campaigns were completed in 2020 for Compost, Win Your Water and Sewer Bill up to $1,000 and the 3 P's (Pee, Poo and Toilet Paper). New Composting Biosolids for a Greener Tomorrow, Fat's, Oil and Grease (FOG's), Garburator Use and Flushable Wipes brochures were developed. A new Public Information Booth was completed. The municipalities provided FOG "hot spots" and staff hand delivered the FOG brochure. TransAqua partnered with Eco360 for advertising with the Moncton Wildcats. TransAqua worked with the City of Dieppe and the Greater Moncton Roméo LeBlanc International Airport to create a new Tri-Party Glycol De-Icing Fluid Agreement that benefits the environment. Commissioners met its attendance goal for attending Commission Meetings. TransAqua was unable to host any Open Houses in 2020 due to the pandemic. The Commissioner Chair held a virtual meeting with Moncton Mayor and a Meeting with the Riverview Mayor and CAO. Another meeting was held with the Town of Riverview Council that included the Commission Chair and Treasurer. The Commission Secretary met with the City of Dieppe Mayor and CAO.

3 **Manage Internal Processes & Promote Technology Innovations -** The bioreactor construction was completed 4 weeks ahead of schedule. The bioreactor, secondary clarifiers and sludge handling equipment was commissioned on December 8, 2020. The NBDECC issued a new Approval to Operate with the recognition that the CBOD5 and TSS may be in non-compliance until the biomass reaches its optimum level. There were 11 compost lots sampled for analysis to meet the Category A classification in 2020. All 11 compost lots met Category A standard on the first sample meeting the 80% target. TransAqua partnered with NB Power to complete the Wastewater Heat Recovery Feasibility Study in 2020. TransAqua will be constructing this process in 2021 that expects to reduce TransAqua's secondary treatment GHG footprint by up to 22%. In 2021, TransAqua will make application to NB Power to partner with completing a Solar Power Feasibility Study. Beginning in 2021, a baseline energy consumption will be created for the new secondary treatment process and work will begin to measure the reduction in energy consumption once the Heat Recovery process is commissioned. The Asset Management Plan template and Asset Risk Assessment and Mitigation Plan will be developed in 2021.

4 **Promote Learning / Growth -** In 2020, a new Collective Agreement was ratified that included a new Classification structure that allows for Operators to progress from Class 1 to Class 4 Wastewater Treatment certification. Included are 2 crucial steps that allow for a Class 3 and Class 4 Operator-in-Training classification that gives these operators additional responsibility required for their long-term success. The General Manager has realigned the Organization Structure to include succession planning. The General Manager sourced an on-line Six Sigma training course due to the pandemic. The General Manager completed the Yellow Belt and Green Belt levels. Employee training has been a challenge in 2020 with the pandemic suspending a lot of in-person courses although virtual training did provide some relief. A number of operations personnel received on-site and virtual training for new equipment related to the Upgrade Project. Some training was available through virtual conferences. Later in 2020, the one day in-person First Aid / CPR training was held. Overall, the majority of personnel have achieved the minimum 40 hours of training in 2020.TransAqua submitted its cybersecurity certification application with Cyber Canada in November 2020 and is expecting its certification in early 2021. TransAqua expects to partner with Public Safety Canada's Cybersecurity team in 2021 to conduct testing of the new cybersecurity systems.

MONCTON Dieppe Riverview

3.3 Existing Assets and Condition

Currently, TransAqua's infrastructure consists of eight Remote Pumping Stations, 34.2 kms of trunk sewers and tunnels, a Main Pumping Station, a Wastewater Treatment Facility (WWTF) located at Outhouse Point in Riverview and a Composting Facility located in Moncton on a 140-hectare property.

3.3.1 Collector Sewer System

Eight Remote Pumping Stations along the collector sewer system are operated to pump wastewater to the WWTF and to protect low-lying areas from flooding during wet weather events. The 34.2 kms of trunk sewers and tunnels extend to the causeway around the traffic circle and all the way to Dover Road on the north side of the Petitcodiac River. On the Riverview side, it extends from the causeway to Mill Creek. The culminating achievement of this collector network is the 1.1-km-long tunnel under the riverbed from Bore Park to the Main Pumping Station. It is a 1.6-m diameter tunnel and is 22 m below the ground surface.

3.3.2 Main Pumping Station

The Main Pumping Station located on the plant site at Outhouse Point (property having been granted initially to a Mr. Robert Outhouse) is the heart of the collector sewer system, a point of collection for all lines and continuous pumping to the WWTF. The station is equipped with four non-clog type vertical centrifugal pumps, rated at 1020 L/s at 28.7 m head. The cylindrical structure extends 30 m below grade and 9 m above ground, much like a 10-storey building underground.

3.3.3 Wastewater Treatment Facility (WWTF)

The preliminary treatment building houses screening equipment, four grit tanks, grit handling equipment and chemical storage and feeding equipment. Four Primary Clarifiers provide solids settling. The Biological Nutrient Removal process occurs in the 4-step feed Bioreactor reducing nitrates, phosphorous and Carbonaceous Biochemical Oxygen Demand (CBOD5). The combined volume of the four primary clarifiers is 13 million litres or equivalent to five Olympic size swimming pools. The Septage Receiving Building has specialized equipment that receives regional (50km radius from the WWTF) septic tank waste (2020 – 12,130,000 litres), grinds it and removes the heavy solids before flowing into the fine screens.

The original three 39 metre diameter primary clarifiers were converted to become secondary clarifiers and 1 new secondary clarifier are used to provide additional settling helping to remove more solids from the effluent. The Dewatering Building houses dewatering centrifuges, screw conveyors, sludge storage and mixing tanks, rotary drum thickeners, lime silos and polymer equipment all of which transform the wastewater by-products (biosolids) extracted from wastewater into an important feedstock for the Composting Facility.

The original WWTF was commissioned in 1994 with a capacity of 115,000,000 litres per day. The upgraded WWTF is capable of processing flows ranging from a daily average of 90,000,000 to 143,000,000 (storm flow) litres per day.

3.3.4 Composting Facility

The composting process used by the Commission combines bottom positive aeration and a cover system on three large concrete thermophilic composting pads. The key to the composting process is the mix ratio of biosolids and wood waste consisting primarily of bark and ground forestry waste. The bulking material provides a source of carbon but is essential in obtaining a porosity that facilitates the migration of air for a thorough and complete aerobic process.

The Composting Facility has a capacity to process 15,000 tonnes of biosolids mixed with 15,000 tonnes of wood waste for a total of 30,000 tonnes of input materials per year that will accommodate additional biosolids due to the commissioning of secondary treatment in December 2020.

Compost curing and finishing take place on adjacent asphalt pads. The design concept is based on total containment of surface runoff from rainfall and snowmelt from the composting site flowing into an on-site retention pond together with leachate generated from the composting process and then flowing back to the wastewater treatment plant through sanitary sewers for treatment.

3.4 Wastewater Operations

In 2020, the WWTF treated more than 20,930,000,000 litres of wastewater or an average of 57,317,000 litres per day. At this flow rate, 23 Olympic-size swimming pools would be filled in a day. The wastewater treatment plant power consumption for 2020 was 5,496 MWh with an average monthly power bill of $51,115. An increase in power consumption in 2020 can be attributed to the WWTF Upgrade and Modernization Project for construction and the commissioning of the bioreactor blowers in December that is a high energy consumer.

Screening of large objects and removal of inorganics such as sand and gravel particles are accomplished through the septage receiving, screening and grit-removal processes. The materials removed are then transported to the Southeast Regional Service Commission waste management facility for disposal.

The existing enhanced primary treatment is designed to remove suspended solids and reduce biochemical oxygen demand to some extent. In 2020, the removal rate of Total Suspended Solids (TSS) was measured at 69%. Carbonaceous Biological Oxygen Demand ($CBOD_5$) is a measure of organic biodegradable matter which is partially removed (approximately 48%) with the current process. The planned plant upgrades to biological treatment would bring these removal rates to more than 95%.

Chemically assisted primary treatment uses chemical coagulants to increase the removal of settleable solids. Sludge is dewatered by centrifuge to increase dryness. Lime is then added to produce lime-stabilized biosolids. In 2020, 11,047 tonnes of biosolids with an average solids content of 27.2% were shipped from the WWTF to the Composting Facility.

The five-year historical operational data can be seen below in Table 1:

Table 1: 2016 – 2020 Historical WWTF Operational Data

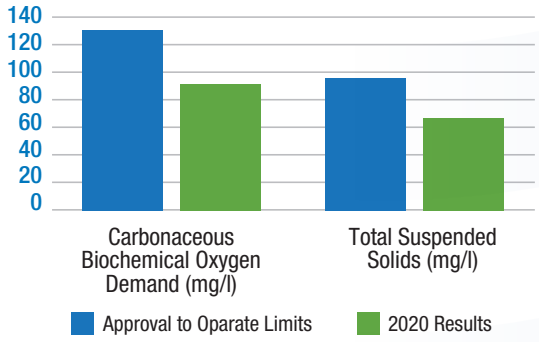
		2016	2017	2018	2019	2020
Annual volume	m^3	22,869,117	22,814,067	25,646,213	26,055,499	20,927,197
Daily average	m^3/day	62,554	62,531	70,352	71,047	57,317
Anionic polymer	tonnes	0.7	0.7	0.6	0.7	0.6
Cationic polymer	tonnes	13.4	13.5	13.5	12.3	12.0
Ferric sulfate	tonnes	452.7	427.5	406.6	447.7	230.9
Lime	tonnes	113.3	108.67	187.2	161.2	145.6
Power consumption	MW	5,063	5,139	6,105	6,332	5,584
Biosolids (Wet)	tonnes	11,311	11,128	11,183	11,188	11,047
Biosolids (Dry)	tonnes	3,169	3,082	3,154	3,105	3,009
Solids	%	28.0	27.7	28.2	27.8	27.2
Precipitation	mm	995	1052	1360	1,334	882
Cost / m^3	$	$0.21	$0.19	$0.19	$0.19	$0.37

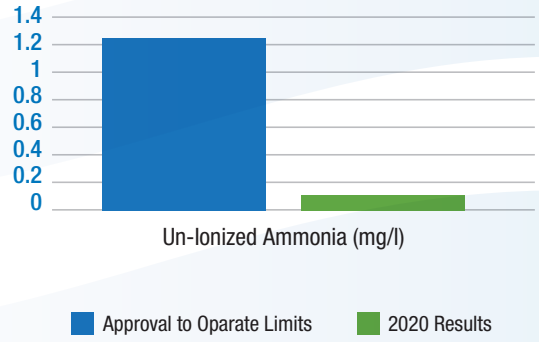
The total cost to treat 1 m^3 of wastewater in 2020 was $0.37 compared to $0.19 for many years. In 2020, some significant adjustments to our capital asset base were calculated. In 2012, assets were pooled together to comply with new legislation to capitalize assets. TransAqua, in its efforts to get the new Asset Management Plan in place, hired a contractor to un-pool all pooled assets. These assets were then reviewed for their life cycle, existence in the field and condition assessment. Numerous assets with a life cycle of 25 to 30 years were included with assets that have a life cycle of at least 60 years. Based on the analysis, TransAqua disposed of many assets in the process as they could not be located in the field and re-valued numerous assets for actual life cycle totaling $3,297,513 in changes to useful lives. In 2019, TransAqua's depreciation was valued at $2,075,099 compared to $5,809,354 in 2020. TransAqua also disposed of $4,667,374.54 in assets which had a remaining net book value of $880,774.52.

The WWTF Upgrade Project also contributed in $450,993.25 in demolition costs that was offset by $8,914.71 in the sale of miscellaneous metals. In December 2020, the Director of Finance also expensed several lines from the project upgrade that were considered expense versus capital; Construction Garbage fees (24K); Operating costs – washroom rentals and office space for safety coordinator (57K); Professional Fees consisting of feasibility study, preliminary design and design brief reports (327K). In 2020, this is a one-time exercise where all assets are now accounted for. Due to the Upgrade Project, increased operational costs on a go forward basis for the management of new assets will result in an increase in wastewater treatment cost. The secondary wastewater treatment process will also result in additional biosolids which will increase costs related to processing and transportation of biosolids and composting them.

3.4.1 Regulatory Compliance

In 2020 TransAqua effluent discharged to the Petitcodiac River met requirements set in the Transitional Authorization issued by the New Brunswick DECC in November 2014. This authorization sets conditions for effluent quality that are appropriate for the current Advanced Primary Treatment Process in place.





By the end of 2020, TransAqua discharge to the Petitcodiac River will meet the Wastewater System Effluent Regulations (WSER). These federal regulations require that WWTF effluent must not be acutely lethal and must also meet the following conditions at the final discharge point to be authorized to be discharged:

- The average carbonaceous biochemical oxygen demand (CBOD5) must not exceed 25 mg/L.
- The average concentration of total suspended solids (TSS) in the effluent must not exceed 25 mg/L.
- The average concentration of total residual chlorine in the effluent must not exceed 0.02 mg/L.
- The maximum concentration of un-ionized ammonia in the effluent should be less than 1.25 mg/L, expressed as nitrogen (N), at 15ºC ±1ºC.

TransAqua commissioned its new bioreactor and secondary clarifiers on December 8, 2020. At the end of 2020, TransAqua is meeting the federal regulations for TSS. By mid-January 2021, TransAqua is expected to meet the federal regulations for CBOD5.

3.4.2 Laboratory Operations

The TransAqua wastewater laboratory is located at the WWTF Operations Center. This laboratory produces essential data that enables personnel to determine wastewater characteristics, process efficiency and effluent quality. Adjustments and improvements to treatment processes can be done based on laboratory results. The Canadian Association for Laboratory Accreditation Inc. (CALA) provides laboratories with national accreditation that meet rigorous testing quality standards. As part of the accreditation process, laboratories are required to participate in biannual (March, October) Proficiency Testing for some of the following parameters that are currently being tested at the TransAqua laboratory:

- pH and temperature
- Total suspended solids (TSS) and volatile suspended solids (VSS)
- Five-day carbonaceous biochemical oxygen demand ($CBOD_5$)
- Chemical oxygen demand (COD)
- Ammonia
- Total Kjeldahl nitrogen (TKN)
- Total phosphorus (TP)
- Alkalinity

Table 2 outlines the Proficiency Testing Parameters and the scores received since this program began in 2016. Results must be higher than 70% to achieve proficiency.

Table 2: Proficiency Testing results

PARAMETER	OCTOBER 2018	MARCH 2019	OCTOBER 2019	MARCH 2020	OCTOBER 2020
Ammonia	98	92	88	96	98
$CBOD_5$	84	86	79	86	88
Total Suspended Solids	94	94	90	89	85
pH	88	87	90	91	92

TransAqua's laboratory participated in the 2020 CALA Proficiency Testing Program and passed all parameters that were required to be submitted. In 2018, upgrades to the Administration Building, including the laboratory, will allow the laboratory to apply for CALA accreditation. TransAqua's Certificate of Approval issued by the Province of New Brunswick requires certain parameters to be analyzed by a nationally accredited laboratory. By achieving the accreditation status, TransAqua's laboratory will meet the federal and provincial testing requirements.

3.5 Composting Operations

Wastewater treatment by-products, or biosolids, are used as a key ingredient in the TransAqua composting process. Up until recently, biosolids were considered to be 'waste' that required expensive disposal. Personal attitudes are quickly changing to realize that compost containing biosolids are nutrient rich and are being seen as a value added product that can be reintroduced to the earth for many uses.

Treatment of biosolids at the WWTF involves conditioning with liquid lime, dewatering by high-speed centrifuges followed by the addition of dry lime. All three centrifuges have completed their mechanical upgrades by the end of 2020 that will extend their life cycle by another 20 years and increase their processing capacity to deal with additional solids that will be generated by the secondary treatment process that was commissioned in December 2020.

Biosolids are transferred to the Composting Facility where they are mixed with green waste consisting of bark (from sawmills), ground forestry waste, wood chips and other green waste. The initial mixture is two parts of green waste to one part of biosolids by volume. Biosolids are much denser (heavier) than green waste.

In 2020, 11,047 tonnes of treated biosolids were processed along with approximately 8,392 tonnes of green waste. The initial mix produced 40 windrows which are 50 m long on the composting pad. Windrows spend a minimum of eight weeks on the active aerated pad and are turned over three times. The windrows are covered with a breathable cover during the initial phases and can reach temperatures of more than 70°C. The windrows are then moved and grouped into lots on the curing pad where they are conditioned and left to compost at a slower rate while cooling down. The complete process takes one year. Consequently, 2020's production will be available for use in 2021.

Processing and product usage in 2020 involved screening of the 2019 stockpiles (lots) for use by the general public, landscapers and local municipalities.

The public was able to pick up compost free of charge from the self-loading area. TransAqua expanded the self-loading area in 2020 to aid with the pandemic restrictions but also be able to support future compost growth. If customers required a small tractor to load their truck or trailer, a $15 / cubic yard fee was paid. Product was sold to landscapers and is also provided to the Greater Moncton area municipalities for their horticultural activities.

The five-year usage summary (tonnes) is shown in Table 3. There was approximately 7,480 tonnes of compost and soil conditioner available to the public in 2020.

Table 3: 2015 – 2020 Historical Compost Operational Data (tonnes)

Compost Clientele	2015	2016	2017	2018	2019	2020
Public pick-up	4,000	5,750	5,000	5,300	5,765	6,592
Commercial users	960	1,000	1,000	650	1,156	1,862
City of Moncton	800	40	130	100	186	220
City of Dieppe	200	60	60	10	60	-
Town of Riverview	96	150	60	100	166	54
Other Municipalities					190	193
Community projects (Donations)	400	200	200	160	339	14
Trials/tests/promotional	400	200	150	1,500	695	-
Miscellaneous/TransAqua	400	200	200	500	205	20
Annual compost output totals	7,256	7,600	7,400	8,320	8,773	9,315
Compost Lots created	13	17	13	13	13	13
End of Season Inventory	1,750	100	3,000	3,840	2,336	501

TransAqua was pleased that public, commercial and municipal participation in 2020 was once again the highest so far! To put this in a visual perspective, TransAqua could load approximately 600 to 700 dump trucks with compost every year. Once secondary treatment is commissioned, up to 25% more biosolids will be created that will be converted into compost and made available to the public as a value-added product.

3.5.1 BNQ Compost Certification

TransAqua's Composting Facility operation was developed on the basis of meeting BNQ standards (Bureau de normalisation du Québec).

The BNQ is a standard development organization which is part of the Centre de recherche industrielle du Québec (CRIQ). The BNQ was created in 1961 and is one of the four standards-development organizations accredited by the Standards Council of Canada and is therefore a member of the National Standards System.

The Commission went through the process of obtaining BNQ certification in 2009 for its Type "A" quality compost. This certification is under the Standard CAN/BNQ 0413-200/2016. Product certification level was upgraded to Type "AA" in 2011 – which is BNQ's highest certification level achievable in Canada for compost.

TransAqua's Biosolids Certificate of Conformity expires on January 31, 2021. TransAqua will not be renewing this certification in 2021 due to its high cost ($20,000 / year) and it is no longer required based on the continued success of the Compost Program. Ultimately, the compost testing laboratory results are submitted to the New Brunswick Department of Environment and Climate Change who reviews and approves the release of compost lots to the public based on the level of quality. The Canadian Council of Ministers of the Environment (CCME) Guidelines for Category A compost is nearly identical to BNQ's criteria for Type AA compost. TransAqua's produced 11 compost lots in 2020 whose compost quality met CCME's Guidelines for Category A compost on the first sample.

3.5.2 CQA Certification

TransAqua is a member of the Compost Council of Canada (CCC) and is also a member of its Compost Quality Alliance (CQA) Program. The CCC is active at continuing education through regional workshops and an annual conference. Although there is no regulatory requirement, TransAqua operators have received the Level 1 Compost Facility Operator certification through this organization.

3.6 Human Resources

In 2020, TransAqua employed a staff of 17, augmented in the summer months with university and college students from the local community. One person is working on contract to assist with Asset Management and Records systems. One additional Operator was hired in 2020 as planned to perform inspections and maintenance work as part of the upgraded WWTF. A person hired through the Youth Employment Fund assisted with updating the Operations Manuals, Lock Out / Tag Out SOP's for the new process equipment and developing Emergency Evacuation signage for the new process buildings.

The overall system of collector sewers and pumping stations, the WWTF and Composting Facility was overseen by the General Manager who is supported by a management and administration team, WWTF operators, maintenance personnel for mechanical and electrical systems, a laboratory technician and heavy equipment operators for the Composting Facility.

In addition to the General Manager position, the management team also consists of the Director of Finance and Administration (responsible for all in-house financial and administration activities), the Director of Technical Services (responsible for delivery of capital programs and engineering activities) retired in 2020 and was replaced internally by the Wastewater Systems Engineer (and Project Manager) to the new position of Director of Engineering and Operations and the Operations Manager.

The pandemic created difficulty in 2020 in TransAqua personnel's ability to complete training. In-person and virtual training initiatives that took place in 2020 includes numerous safety training courses (First Aid/CPR, Fall Arrest, JHSC and Confined Space Entry and Rescue), Wastewater Fundamentals (WEF), new Upgrade Project equipment specific training and Lean Six Sigma (yellow and green belt).

TransAqua remains an active member of the Canadian, Atlantic Canadian and Maritime Provinces Water and Wastewater Association (CWWA and ACWWA, MPWWA), the Canadian Network of Asset Management (CNAM), Atlantic Infrastructure Management Network (AIM), Water Environment Federation (WEF), Compost Council of Canada (TransAqua is a member of the Board of Directors) and the Chartered Professionals in Human Resources New Brunswick (CPHRNB).

3.7 Public Outreach

TransAqua plays a significant role in raising awareness of the importance of wastewater treatment on public health and the environment. TransAqua provides meaningful sponsorship including in-kind services throughout 2020 for the following industry and public organizations; GMCC, Fundy Biosphere Reserve, Light-Up Riverview and various schools.

TransAqua maintains a bilingual website, www.transaqua.ca, to promote its current communication strategy, to keep the local community informed of its operations and goals for the future, to allow for the public to register to receive information and update progress of the treatment plant upgrade. TransAqua also engages in weekly social media campaigns, a quarterly Newsletter, provide information to those people that have registered to receive information, radio advertising providing the "Tip of the Week", Open Houses and participate with international environmental initiatives (e.g. 4 Oceans).

The new Composting Biosolids for a Greener Tomorrow, Fat's, Oil and Grease (FOG's), Garburator use and Flushable Wipes brochures were unveiled in March 2020. The Technical Committee members provided FOG "hot spots" and staff hand delivered the FOG brochure to homes and business in the vicinity.

TransAqua unveiled its new Public Information Booth at the February 19, 2020 Moncton Wildcats game where all information brochures were received by the spectators. The "Win your Water and Sewer Bill up to $1,000" contest was popular with a very happy winner drawn in the third week of December.

Three digital campaigns were advertised in 2020 for compost, Win your Water and Sewer Bill up to $1000 and the 3P's.

TransAqua partnered with Eco360 and the Moncton Wildcats for washroom advertising, sharing a game sponsorship and to

participate in a game activation where TransAqua can set up its Public Information Booth.

During 2020, the public was invited to pick up Type "A" and "AA" compost; the highest nationally accredited quality compost at the Compost Facility off Delong Drive. TransAqua expects to increase its public compost advertising in 2021.

TransAqua entered into several partnerships in 2020 by participating and presenting at a Compost Council of Canada Operator Training session, submitting Letters of Support to Sentinelles Petitcodiac Riverkeeper, Petitcodiac Watershed Alliance and the Southeast Regional Service Commission for their Environmental Trust Fund applications, working with Eco360 on items of mutual benefit and with the Greater Moncton Roméo LeBlanc International Airport for the glycol de-icing fluid Project.

3.8 Capital Works Program

3.8.1 TransAqua WWTF Upgrade and Modernization Project Update

The federal government enacted new Wastewater Systems Effluent Regulations (WSER-2012) under the Fisheries Act in July 2012 to harmonize regulatory and reporting requirements across Canada. This regulation came as a result of the Canadian Council of Ministers of the Environment's (CCME) Canada-wide strategy for management of municipal wastewater effluent.

The Bioreactor, Blower Building, Secondary Clarifiers and new Sludge Handling process was commissioned on December 8, 2020.

The Solids Load Out Building foundation is complete at the end of 2020 with construction expected to be complete by May 2021. The UV Building, Biofilter and centrifuge electrical upgrades will begin construction in spring 2021. The Site works (curbs, asphalt and landscaping) and full project is expected to be completed in August 2021.

3.8.2 Collector System

The Greater Moncton Wastewater Commission's Collector System is over 34.2 kms long and spans from the Causeway on both sides of the Petitcodiac River to Mill Creek on the Riverview side and around the traffic circle and along the dykes in Dieppe all the way to Dover Road. Most collector sewers were constructed between 1983-1990.

The Long-term Sustainable Wastewater Collection and Treatment Strategy (June 2010) identified wastewater conveyance improvements that will ensure that a robust collector system is maintained and can continue to provide a reliable service well into the future.

The new Bourque Road Forcemain Project installation was completed along Fox Creek Road and a small section of Melanson Road in 2020. TransAqua is partnering with the City of Dieppe to combine Dieppe's road reconstruction project with TransAqua's forcemain installation along Melanson and Bourque Roads in 2021 and 2022.

Any future work on expanding the GMWC collector sewer will need to be coordinated closely with area municipalities. In 2020, the Regional Wastewater and Combined Sewer Overflow Strategy Committee reviewed the Request for Qualifications submissions and issued the Request for Proposal document to three local engineering consultant firms. This Strategy will be awarded by the Commission to the successful bidder in early 2021. This will ensure that TransAqua, the Cities of Moncton and Dieppe and the Town of Riverview's current and future projects are reviewed, and opportunities identified in achieving an efficient and affordable Strategy.

3.8.3 Combined Sewer Overflows (CSO)

A Combined Sewer Overflow Long-term Strategy was developed to address overflows resulting during wet weather events. The older parts of Moncton and some smaller areas in Dieppe and Riverview contribute to the combined wastewater. The largest volumes originate from the older central parts of Moncton. As it is considered too costly to separate sewers in the built-up areas, a strategy was developed to meet the new federal regulations.

The Commission is required to monitor CSO discharges and report volumes discharged per CSO structure each month. An annual report is submitted to the federal and provincial regulatory bodies. The Commission uses hydraulic modeling software and actual plant measurements to estimate the volume of CSO discharge from its different structures along its collector system. Data such as hourly precipitation, pumping station levels, and dry weather flows are placed into the model to recreate collector system hydraulic conditions. The model is used to estimate discharge, frequency and duration of CSO events and to also estimate treated effluent discharges to the Petitcodiac River. The current CSO capture rate is determined annually. With the initiatives by municipalities and establishment of CSO assets by the commission, it will be possible to measure the increase in capture rate over time.

3.8.4. Plant Automation

The fire alarm panel integration project was completed in 2020 to connect all existing and new buildings to one central system. The last step to be completed in 2021 is that when a fire alarm is activated, a message will be sent to all employees and the Riverview Fire Department notifying them of the exact alarm location to allow for a faster response.

The separation of the SCADA and IT systems was completed in 2020 as they were integrated. The Cybersecurity Implementation Plan is nearly complete with an application submitted to Cyber Canada for certification.

The majority of new equipment as a result of the WWTF Upgrade and Modernization Project has been connected and programmed into the SCADA system allowing Operators to receive alarms when the equipment is not operating as designed. Work continues to make connections to critical equipment and upgrade existing systems.

3.8.5 Fox Creek WWPS Upgrade

The Fox Creek WWPS substructure upgrade in Dieppe was competed in 2020 with installation of the new and larger pumps happening in early 2021. The WWPS building construction began in September 2020 with completion scheduled for spring 2021.

3.9 Energy Sustainability

GMWC completed a Wastewater Heat Recovery Feasibility Study partnering with NB Power's Industrial Energy Efficiency Services Program. CBCL's Technical Memorandum indicates that GMWC could reduce its annual heating, ventilation and air conditioning (HVAC) energy consumption by 610,250 kWh/year and reduce annual greenhouse gases by 510 tons equivalent CO_2. GMWC's Wastewater Treatment Facility baseline energy consumption is approximately 5,166,520 kWh/year and is projected to consume a total of between 7,000,000 and 9,000,000 kWh / year with the new secondary biological treatment process. TransAqua will be constructing this process in 2021 that expects to reduce TransAqua's secondary treatment GHG footprint by up to 22%. Beginning in 2021, a baseline energy consumption will be created for the new secondary treatment process and work will begin to measure the reduction in energy consumption once the Heat Recovery process is commissioned.

TransAqua negotiated a new rate structure with NB Power in 2020 and will make application to NB Power to partner with completing a Solar Power Feasibility Study in 2021.

3.10 Pandemic Response

The pandemic changed how TransAqua operated in 2020. The WWTF Upgrade and Modernization Project was shut down for 3 weeks while staff developed and implemented the GMWC Pandemic Policy and GMWC Site Protocol and Contractor Protocol. COVID19 awareness sheets and one-way directional arrows were posted for stairwells. Additional washroom facilities and pandemic emergency kits including Personal Protective Equipment were placed throughout the construction site for the contractors. TransAqua's Operational Plan required approval by WorkSafe NB before any new equipment commissioning technicians from outside of New Brunswick could report to the site.

At the beginning of the pandemic and anytime Zone 1 was in the Red Phase, Staff who could work from home were encouraged to do so. Operations staff went home early once they completed their scheduled inspections, testing and maintenance. Many operational and Commission Meetings, including the 2019 Annual General Meeting were held using a virtual platform. A portable toilet and handwashing station was used at the Compost Facility for the public's safety. TransAqua only opened three of eight compost toilets with an increased frequency of cleaning and provision of new hand sanitizer stations.

4. TREASURER'S REPORT

This year has been a demanding year for TransAqua with numerous projects in progress including our major infrastructure projects, our review of capital assets, and the cyber security audit. As a result, actual revenue was $27,775,182 as of December 31, 2020 compared to a budget of $30,679,096 resulting in a revenue variance of $2,903,914 of which was attributed to a variance in grants.

We have capitalized $47,871,901.47 in new infrastructure relating to 4 projects that were commissioned as of December 31: Phase 4 - Dewatering/Sludge Thickening Building; Phase 3A - Bioreactor, 3B - Blower Building, and 3C Secondary Clarification & Return Activated Sludge. The project has been a success meeting the federal effluent regulations. As of December 31, we have issued $80,680,016 in purchase orders for the upgrade of the plant of which we have spent $75,195,261. From the $45,201,944 committed by INFC (26,601,944) and RDC ($22,600,000) for the upgrade project, we have received $37,852,954 in grant funding from the inception of the project.

In 2020, we calculated some significant adjustments to our capital asset base. In 2012, assets were pooled together to comply with the new accounting standards (PSAB). In our efforts to get the new Asset Management Plan in place, we hired a contractor to un-pool all of these assets. The assets were reviewed for useful lives, existence and an assessment of their current state. There was a need to re-value a number of assets totaling $3,297,513 due to changes in useful lives. Based on the analysis, we disposed of many assets as they were no longer in existence. Through the analysis it was discovered that $4,667,374.54 had to be disposed which had a remaining net book value of $880,774.52 which was included in the loss on disposal of assets. The project also contributed $450,933.25 in demolition costs that was offset by $8,914.71 in the sale of miscellaneous metals. Overall operating expenditures were over by $3,517,570 of which $3,297,513 came from the changes made after the capital asset review.

In addition, we undertook a cyber security audit to improve the resilience and integrity of our financial and operational assets. This certification will make TransAqua one of 6 in Canada to have Cyber Security Canada certification.

Respectfully submitted,

Jennifer Dingman, PhD
Treasurer

5. COMMISSION MEMBERS

MICHEL DESJARDINS

Representing Moncton

Current term to September 2024

- Chair of the Commission Board
- Member of Executive Committee

JENNIFER DINGMAN

PhD

Representing Riverview

Current term to August 2021

- Treasurer of the Commission Board
- Member of Finance, Audit and Governance Committee
- Member of Executive Committee

GERALD LUNDQUIST

Representing Riverview

Current term to October 2024

- Commission Member

BRENDA DORE-KIDNEY

Representing Moncton

Current term to September 2024

- Commission Member

JEAN-PIERRE OUELLETTE

Representing Dieppe

Current term to September 2023

- Commission Member
- Member of Finance, Audit and Governance Committee

YVES GAGNON

P. Eng., D. Sc.

Representing Dieppe

Current term to September 2022

- Secretary of the Commission Board
- Member of Executive Committee

6. 2020 AUDITED FINANCIAL STATEMENTS

GREATER MONCTON WASTEWATER COMMISSION

FINANCIAL STATEMENTS
DECEMBER 31, 2020

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Deloitte.

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INDEPENDENT AUDITOR'S REPORT

To the Chairman and Members of Greater Moncton Wastewater Commission

Report on the Audit of the Financial Statements Opinion

We have audited the financial statements of Greater Moncton Wastewater Commission (the "Commission") which comprise the statement of financial position as at December 31, 2020, and the statements of operations and accumulated surplus, changes in net financial assets and cash flows for the year then ended, and the notes to the financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of Greater Moncton Wastewater Commission as at December 31, 2020 and the results of its operations, and its cash flows for the year then ended in accordance with Canadian public sector accounting standards ("PSAS").

Basis for Opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards ("Canadian GAAS"). Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of our report. We are independent of the Commission in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with PSAS, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Commission's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Commission or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Commission's financial reporting process.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian GAAS will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Canadian GAAS, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Commission's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Commission's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Commission to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Deloitte LLP

Chartered Professional Accountants
February 18, 2021

GREATER MONCTON WASTEWATER COMMISSION

STATEMENT OF FINANCIAL POSITION
As at December 31, 2020

	2020 $	2019 $
Assets		
Cash		
Operating	**25,243,123**	14,919,461
Reserve funds	**1,051,129**	173,556
Accounts receivable		
General	**1,241,018**	946,429
Harmonized Sales Tax receivable	**475,877**	300,380
Accrued interest receivable	**81,035**	139,874
Investments (Note 3)	**15,801,967**	30,963,063
	43,894,149	47,442,763
Liabilities		
Accounts payable and accrued liabilities	**3,966,375**	3,903,797
Holdbacks payable	**3,992,237**	2,175,151
	7,958,612	6,078,948
Net assets	**35,935,537**	41,363,815
Non-financial assets		
Tangible capital assets (Note 7)	**107,671,350**	87,293,623
Prepaid expenses and deposits	**262,666**	206,068
	107,934,016	87,499,691
Accumulated surplus (Note 5)	**143,869,553**	128,863,506

Approved by the board and management

Michael Desjardins, Chair

Jennifer Dingman, Treasurer

Kevin Rice, General Manager

Jennifer Langille, Director of Finance

The accompanying notes are an integral part of the financial statements.

GREATER MONCTON WASTEWATER COMMISSION

STATEMENT OF OPERATIONS AND ACCUMULATED SURPLUS
Year ended December 31, 2020

	Budget (Unaudited) $ (Note 7)	2020 Actual $	2019 Actual $
Revenue			
User fees			
City of Moncton	8,346,660	8,346,660	8,342,040
City of Dieppe	2,404,290	2,404,290	2,461,200
Town of Riverview	1,750,350	1,750,350	1,732,920
	12,501,300	12,501,300	12,536,160
Grants	16,674,109	13,755,176	14,900,015
Interest income (Note 2)	1,131,074	1,116,800	1,100,616
Septic hauler and compost income	372,613	401,906	342,043
	30,679,096	27,775,182	28,878,834
Expenses			
Plant and operating expenses			
Impairment of tangible capital assets (Note 8)	—	3,297,513	—
Amortization of tangible capital assets	3,339,559	2,511,841	2,075,099
Salaries and benefits	1,707,747	1,680,630	1,737,941
Maintenance and operating	1,804,308	1,594,801	1,483,361
Loss on disposal of tangible capital assets	—	1,322,793	772,802
Electricity	733,918	623,948	705,974
Easement and property taxes	624,837	570,990	546,233
Insurance	189,050	203,693	178,881
Telephone	30,271	24,964	32,737
Vehicle	10,011	15,844	11,431
Consulting services	27,000	13,872	59,035
Miscellaneous (income)	391,139	(883)	82,320
	8,857,840	11,860,006	7,685,814
General expenses			
Professional fees and consulting	154,835	735,624	420,475
Office	45,822	69,083	46,041
Marketing and communications	94,804	54,853	65,749
Travel, training and education	67,649	22,423	43,675
Governance	26,815	21,964	20,118
Interest and bank charges	3,800	5,182	3,945
	393,725	909,129	600,003
Total expenses	9,251,565	12,769,135	8,285,817
Annual surplus	21,427,531	15,006,047	20,593,017
Accumulated surplus, beginning of year	—	128,863,506	108,270,489
Accumulated surplus, end of year (Note 5)	—	143,869,553	128,863,506

The accompanying notes are an integral part of the financial statements.

GREATER MONCTON WASTEWATER COMMISSION

STATEMENT OF CHANGES IN NET FINANCIAL ASSETS
Year ended December 31, 2020

	Budget (Unaudited) $	2020 Actual $	2019 Actual $
Annual surplus	**21,427,531**	**15,006,047**	20,593,017
Acquisition of tangible capital assets	**(10,421,249)**	**(27,067,855)**	(26,267,338)
Impairment of tangible capital assets	**—**	**3,297,513**	—
Adjustment for amortization on impaired capital assets	**—**	**(450,934)**	—
Amortization of tangible capital assets	**3,339,559**	**2,511,841**	2,075,099
Loss on disposal of tangible capital assets	**—**	**1,340,623**	786,795
Proceeds on sale of tangible capital assets	**—**	**(8,915)**	(13,993)
	(7,081,690)	**(20,377,727)**	(23,419,437)
Change in prepaid expenses and deposits	**26,935**	**(56,597)**	55,533
	(7,054,755)	**(20,434,325)**	(23,363,904)
Change in net financial assets	**14,372,776**	**(5,428,277)**	(2,770,888)
Net financial assets, beginning of year	**—**	**41,363,814**	44,134,702
Net financial assets, end of year	**14,372,776**	**35,935,537**	41,363,814

The accompanying notes are an integral part of the financial statements.

GREATER MONCTON WASTEWATER COMMISSION

STATEMENT OF CASH FLOWS
Year ended December 31, 2020

	2020 $	2019 $
Operating activities		
Annual surplus	**15,006,047**	20,593,017
Charges to income not involving cash		
Impairment of tangible capital assets	**3,297,513**	—
Amortization of tangible capital assets	**2,511,841**	2,075,099
Loss on disposal of tangible capital assets	**1,340,623**	786,795
Demolition Costs	**(450,935)**	—
	21,705,089	23,454,911
Change in non-cash assets and liabilities		
Accounts receivable	**(411,248)**	3,305,997
Prepaid expenses and deposits	**(56,597)**	55,533
Accounts payable and accrued liabilities	**62,578**	(1,008,499)
Holdbacks payable	**1,817,086**	33,374
	23,116,908	25,841,316
Investing activities		
Purchase of investments, net of maturities	**15,161,096**	—
Proceeds on sale of tangible capital assets	**(8,915)**	(13,993)
Acquisitions of tangible capital assets	**(27,067,855)**	(26,267,338)
	(11,915,673)	(26,281,331)
Net change in cash during the year	**11,201,234**	(440,015)
Cash, beginning of year	**15,093,017**	15,533,032
Cash, end of year	**26,294,251**	15,093,017
Cash consists of:		
Cash in bank, operating	**25,243,123**	14,919,461
Cash in bank, reserve funds	**1,051,129**	173,556
	26,294,252	15,093,017

The accompanying notes are an integral part of the financial statements.

GREATER MONCTON WASTEWATER COMMISSION

NOTES TO THE FINANCIAL STATEMENTS
December 31, 2020

1. Purpose of organization

The Greater Moncton Wastewater Commission (the "Commission") is incorporated and operates under the provisions of the Province of New Brunswick Municipalities Act and the Clean Environment Act. As a municipality, the Commission is exempt from income tax under section 149(1)(c) of the Income Tax Act of Canada.

The Commission operates a wastewater treatment plant, wastewater collection system and composting facility in the greater Moncton region and provides wastewater treatment for the cities of Moncton and Dieppe and the town of Riverview.

2. Summary of significant accounting policies

The financial statements of the Commission are prepared in accordance with Canadian public sector accounting standards ("PSAS") and reflect the accounting policies enumerated below.

The focus of PSAS financial statements is on the financial position of the Commission and the changes thereto. The statement of financial position includes all of the assets and liabilities of the Commission.

Budget

The budget figures contained in these financial statements were approved by the Commission on November 21, 2019 and submitted to the Minister of Local Government. Certain budget figures have been reclassified to conform with PSAS financial statement presentation.

Fund accounting

Funds within the financial statements consist of general and capital funds. The Commission approves certain amounts to be set aside in capital funds for future operating and capital purposes.

Transfers between funds are recorded as adjustments to the appropriate fund balance.

Asset classification

Assets are classified as either financial or non-financial. Financial assets are assets that could be used to discharge existing liabilities or finance future operations and are not for consumption in the normal course of operations. Non-financial assets are acquired assets that do not normally provide resources to discharge existing liabilities, but instead are employed to deliver government services, may be consumed in the normal course of operations and are not for resale. Non-financial assets include prepaid expenses.

Revenue recognition

The Commission recognizes revenues from user fees, septic hauler and compost income as the services are rendered or the goods are sold, the price is fixed or determinable and collection is reasonably assured. Interest income is recognized on an accrual basis and recorded in the statement of fund balances as a direct increase to the capital fund.

Government transfers are recognized in the period in which the events giving rise to the transfer occur, providing transfers are authorized, any eligibility criteria have been met, and reasonable estimates of the amounts can be made.

2. Summary of significant accounting policies (continued):

Use of estimates

The preparation of the financial statements in conformity with PSAS requires management to make estimates that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amount of revenues and expenses during the reporting period. Actual results may differ from those estimates.

Financial instruments

The Commission's financial assets and liabilities are initially measured at fair value and subsequently carried at amortized cost with interest recorded in the statement of operations and accumulated surplus as earned.

Cash and cash equivalents

Cash and cash equivalents includes cash on hand and cash in banks not subject to other restrictions and with a term to maturity of three months or less at date of acquisition.

Tangible capital assets

Tangible capital assets are stated at cost less accumulated amortization. The Commission provides for amortization at rates designed to amortize the cost of the tangible capital assets over their estimated useful lives. Annually, amortization is calculated using the straight-line method over the estimated useful lives as follows:

Operations center	10 – 60 years
Treatment facilities	5 – 60 years
Collection system	10 – 75 years
Fleet	5 – 20 years
Computer hardware and software	3 – 5 years

Assets under construction are not amortized until the asset is available for productive use.

Accrued sick leave

The Commission provides for sick leave that accumulates at 1.25 days per month worked for full-time employees. The employees can accumulate up to a maximum of 150 days. On retirement, any employee having accrued sick leave will receive an allowance equal to fifty percent of the value at a rate of pay effective immediately prior to retirement.

The sick leave is an unfunded benefit. As such, there are no applicable assets. Benefits are paid out of accumulated surplus as they come due. The unfunded liability at December 31, 2020 of $174,098 ($238,798 in 2019) is recorded in accounts payable and accrued liabilities.

3. Investments

The details of the investments held by the Commission are as follows:

	2020 $	2019 $
Guarenteed investment certificate (2.75%, maturing November 2020)	—	5,053,699
Guarenteed investment certificate (2.75%, maturing November 2020)	—	5,053,699
Guarenteed investment certificate (2.75%, maturing November 2020)	—	5,053,699
Guarenteed investment certificate (2.90%, maturing May 2022)	**5,074,661**	5,074,660
Guarenteed investment certificate (2.85%, maturing September 2021)	**5,113,653**	5,113,653
Guarenteed investment certificate (2.85%, maturing September 2021)	**5,613,653**	5,613,653
	15,801,967	30,963,063

4. Post-employment benefits

The Commission sponsors an RRSP plan for substantially all its employees. The plan allows for RRSP contributions of 8% of employee salaries. Prior to December 31, 2016, the employees were not required to pay into the RRSP plan in order to obtain this benefit. Subsequently, in accordance with the collective agreement signed between the Commission and Canadian Union of Public Employees Local 5217 on May 1st, 2020, each employee will contribute a minimum percentage of salary each year (2% in 2017, 4% in 2018, 6% in 2019 (for 25 pay periods) with last pay of 2019 increasing to 7%, and 8% thereafter). There is no unfunded liability associated with this post-employment benefits payable.

5. Accumulated surplus

The accumulated surplus noted on the statement of financial position is the result of the excess of revenue over expenditures from the commencement of the Commission's operations to the date of financial position. The accumulated surplus is made up of the following:

	2020 $	2019 $
Net financial assets	**35,935,537**	41,363,815
Non-financial assets	**107,934,016**	87,499,691
	143,869,553	128,863,506

The net financial assets consist of cash flows necessary for day-to-day operations and capital funds held for future capital expenditures. The non-financial assets consist of tangible capital assets and prepaid expenses that the Commission has purchased or constructed.

6. Financial instruments and risk management

Market risk

Market risk is the risk that the fair value or future cash flows of the Commission's financial instruments will fluctuate because of changes in market prices. Market risk is comprised of currency risk, interest rate risk and other price risk. The Commission does not consider itself exposed to these risks.

Credit risk

Credit risk arises from the potential that a debtor will be unable to meet its obligations. The Commission conducts a thorough assessment of its debtors prior to granting credit and actively monitors the financial health of its debtors on a continuous basis. Credit risk arises primarily from cash, accounts receivable, and investments. There are no significant concentrations of credit risk.

Liquidity risk

The Company's objective is to have sufficient liquidity to meet its liabilities when due. The Company monitors its cash balances and cash flows generated from operations to meet its requirements. As at December 31, 2020, the most significant financial liabilities are accounts payable and accrued liabilities, and holdbacks payable.

7. Budgeted figures

Budget figures included in the financial statements were approved by the Board through the adoption of annual budgeting process. No adjustments have been made to the approved budgeted figures as presented on the Statement of Operations and Accumulated Surplus. The budget as presented on the face of the Statement of Operations and Accumulated Surplus is unaudited.

8. Tangible capital assets

	Land $	Operations centre $	Treatment facilities $	Collection system $	Fleet $	Computer hardware and software $	Assets under construction $	Total $
COST								
Balance – Beginning of year	558,365	3,685,554	67,186,422	34,386,679	1,325,590	218,217	30,265,328	137,626,155
Net additions during the year	—	71,167	48,214,761	206,935	112,298	146,442	—	48,751,605
Disposals during the year	—	(50,504)	(3,222,972)	(1,382,210)	(9,200)	(2,488)	(21,683,747)	(26,351,122)
Balance, end of year	**558,365**	**3,706,217**	**112,178,211**	**33,211,404**	**1,428,688**	**362,172**	**8,581,580**	**160,026,637**
ACCUMULATED AMORTIZATION								
Balance – Beginning of year	—	1,331,645	33,169,417	14,970,336	704,185	156,952	—	50,332,534
Amortization during the year	—	144,919	1,353,141	689,700	235,005	89,075	—	2,511,841
Impairment during the year	—	(73,976)	2,829,556	377,975	163,959	—	—	3,297,513
Accumulated amortization disposals	—	(50,504)	(3,097,351)	(628,613)	(9,200)	(932)	—	(3,786,600)
Balance, end of year	**—**	**1,352,084**	**34,254,762**	**15,409,398**	**1,093,948**	**245,096**	**—**	**52,355,288**
Net book value of tangible capital assets 2019	558,365	2,353,910	34,017,005	19,416,343	621,405	61,265	30,265,328	87,293,621
Net book value of tangible capital assets 2020	**558,365**	**2,354,133**	**77,923,449**	**17,802,007**	**334,740**	**117,076**	**8,581,580**	**107,671,350**

During 2020, the Commission unbundled certain components of tangible capital assets and has updated the estimated useful lives of those assets prospectively. Further, the Commission recorded an impairment related to tangible capital assets which reduced the net book value by $3,297,513.

9. Supplemental schedules

The Department of Environment and Local Government of New Brunswick has requested disclosures in addition to Canadian public sector accounting standards for monitoring purposes. The Commission has provided these disclosure requirements in the following pages.

GREATER MONCTON WASTEWATER COMMISSION

SCHEDULE OF ANNUAL SURPLUS – SCHEDULE 1
Year ended December 31, 2020 (Unaudited)

	Operating fund $	Capital fund $	Total $
2020 annual surplus	7,295,331	7,710,716	15,006,047
Adjustments to annual surplus for funding requirements			
Second previous year surplus	3,398,740	—	3,398,740
Transfer from operating to capital	(8,407,260)	8,407,260	—
Total adjustments to 2020 annual surplus	(5,008,520)	8,407,260	3,398,740
2020 annual fund surplus	2,286,811	16,117,976	18,404,787

GREATER MONCTON WASTEWATER COMMISSION

SCHEDULE 2 – SCHEDULE OF BUDGET BY FUND TO PUBLIC SECTOR ACCOUNTING
Year ended December 31, 2020 (Unaudited)

	Operating $	Amortization $	Capital fund $	Total $
Revenue				
User fees				
City of Moncton	8,346,660	—	—	8,346,660
City of Dieppe	2,404,290	—	—	2,404,290
Town of Riverview	1,750,350	—	—	1,750,350
Grant	—	—	16,674,109	16,674,109
Interest and miscellaneous	372,613	—	1,131,074	1,503,687
	12,873,913	**—**	**17,805,183**	**30,679,096**
Expenses				
Plant and operating expenses				
Easement and property taxes	624,837	—	—	624,837
Salaries and benefits	1,707,747	—	—	1,707,747
Amortization of tangible capital assets	—	3,339,559	—	3,339,559
Electricity	733,918	—	—	733,918
Telephone	30,271	—	—	30,269
Insurance	189,050	—	—	189,050
Maintenance and operating	1,804,308	—	—	1,804,306
Consulting services	27,000	—	—	27,000
Vehicle expense	10,011	—	—	10,011
Miscellaneous	391,139	—	—	391,139
	5,518,281	**3,339,559**	**—**	**8,857,836**
General				
Marketing and communications	94,804	—	—	94,804
Office expenses	45,822	—	—	45,822
Travel, training and education	67,649	—	—	67,648
Governance	26,815	—	—	26,815
Interest and bank charges	3,800	—	—	3,800
Professional fees and consulting	154,835	—	—	154,835
	393,725	**—**	**—**	**393,724**
Total Expenses	**5,912,006**	**3,339,559**	**—**	**9,251,563**
Surplus Subtotal	**6,961,907**	**(3,339,559)**	**17,805,183**	**21,427,531**
Fiscal services				
Second previous surplus	3,304,879	—	3,304,879	—
Transfers from operating fund to capital fund	(10,266,786)	—	(10,266,786)	—
	(6,961,907)	**—**	**(6,961,907)**	**—**
Annual surplus	**—**	**(3,339,559)**	**10,843,276**	**21,427,531**

7. 2020 Independent Audit Report

Schedule of federal and provincial capital expenditure claim submissions

GREATER MONCTON WASTEWATER COMMISSION

DECEMBER 31, 2020

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INDEPENDENT AUDITOR'S REPORT

To the Management of the Greater Moncton Wastewater Commission

Opinion

We have audited the schedule of federal and provincial capital expenditure claim submissions of the Greater Moncton Wastewater Commission (the "Commission") as at December 31, 2020, including a summary of significant accounting policies (collectively referred to as the "Schedule").

In our opinion, the financial information in the Schedule of the Commission is prepared, in all material respects, in accordance with the basis of accounting described in Note 1.

Basis for Opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards ("Canadian GAAS"). Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statement* section of our report. We are independent of the Company in accordance with the ethical requirements that are relevant to our audit of the financial statement in Canada, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Emphasis of Matter – Basis of Accounting and Restriction on Use

We draw attention to Note 1 to the Schedule, which describes the basis of accounting. The Schedule is prepared to assist the Commission to meet the requirements of the contribution agreements with the Regional Development Corporation and Infrastructure Canada. As a result, the Schedule may not be suitable for another purpose. Our opinion is not modified in respect of this matter.

Responsibilities of Management and Those Charged with Governance for the Schedule

Management is responsible for the preparation of the Schedule in accordance with Note 1, and for such internal control as management determines is necessary to enable the preparation of the Schedule that is free from material misstatement, whether due to fraud or error.

In preparing the Schedule, management is responsible for assessing the Commission's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Commission or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Commission's financial reporting process.

Auditor's Responsibilities for the Audit of the Schedule

Our objectives are to obtain reasonable assurance about whether the Schedule as a whole is free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian GAAS will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of this financial statement.

As part of an audit in accordance with Canadian GAAS, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statement, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates, if any, and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statement or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Company to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statement, including the disclosures, and whether the financial statement represents the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Deloitte LLP

Chartered Professional Accountants
February 18, 2021

GREATER MONCTON WASTEWATER COMMISSION

SCHEDULE OF FEDERAL AND PROVINCIAL CAPITAL EXPENDITURE CLAIM SUBMISSIONS
Year ended December 31, 2020

Claim #	Date Claimed	Period Covered	Total Claimed Eligible Costs	Provincial Claim	Provincial Total Project	Federal Claim	Federal Total Project	Total Claim
Claim balance beginning					**12,258,160**		**8,825,775**	
2020-33	January 31, 2020	Jan 1-31 2020	2,014,602	503,648	11,754,512	670,402	8,155,373	1,174,050
2020-34	February 26, 2020	Feb 1-29 2020	2,972,039	743,007	11,011,505	991,675	7,163,698	1,734,682
2020-35	March 17, 2020	Mar 1-14 2020	692,455	173,113	10,838,392	230,818	6,932,880	403,931
2020-36	April 30, 2020	Mar 15, 2020 to Apr 30, 2020	1,232,621	308,153	10,530,239	410,874	6,522,006	719,027
2020-37	May 28, 2020	May 1-31 2020	1,609,818	402,452	10,127,787	536,575	5,985,431	939,027
2020-38	June 30, 2020	Jun 1-30 2020	1,589,952	397,486	9,730,301	529,984	5,455,447	927,470
2020-39	July 30, 2020	Jul 1-31 2020	2,021,371	505,340	9,224,961	673,790	4,781,657	1,179,130
2020-40	September 1, 2020	Aug 1-31 2020	1,860,453	465,111	8,759,850	620,714	4,160,943	1,085,825
2020-41	September 28, 2020	Sep 1-30 2020	2,506,779	627,642	8,132,208	836,860	3,324,083	1,464,502
2020-42	October 29, 2020	Oct 1-31 2020	1,690,981	422,743	7,709,465	563,660	2,760,422	986,403
2020-43	November 29, 2020	Nov 1-30 2020	3,331,568	832,888	6,876,577	1,110,523	1,649,900	1,943,411
2020-44	December 30, 2020	Dec 1-31 2020	2,018,459	504,614	6,371,963	672,820	977,080	1,177,434
Claim balance ending					**6,371,963**		**977,080**	
			23,541,097	**5,886,197**		**7,848,695**		**13,734,892**

The accompanying note to the schedule are an integral part of this schedule.

NOTES TO THE SCHEDULE
December 31, 2020

1. Basis of accounting

The schedule of the Commission is prepared in accordance with the requirements as presented in article 9(b) of the contribution agreements of the Regional Development Corporation (“RDC”) and Infrastructure Canada (“IC”).

TransAqua

GREATER MONCTON WASTEWATER COMMISSION

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