



OPERATIONS COMMITTEE AGENDA

Operations Committee Meeting
Monday, June 15, 2020
Tom Davies Square - Committee Room C-11 / Electronic Participation

COUNCILLOR DEB MCINTOSH, CHAIR

Mark Signoretti, Vice-Chair

2:00 p.m. OPERATIONS COMMITTEE MEETING - COMMITTEE ROOM C-11 / ELECTRONIC PARTICIPATION

City of Greater Sudbury Council and Committee Meetings are accessible and are broadcast publically online and on television in real time and will also be saved for public viewing on the City's website at: <https://agendasonline.greatersudbury.ca>.

Please be advised that if you make a presentation, speak or appear at the meeting venue during a meeting, you, your comments and/or your presentation may be recorded and broadcast.

By submitting information, including print or electronic information, for presentation to City Council or Committee you are indicating that you have obtained the consent of persons whose personal information is included in the information to be disclosed to the public.

Your information is collected for the purpose of informed decision-making and transparency of City Council decision-making under various municipal statutes and by-laws and in accordance with the *Municipal Act, 2001, Planning Act, Municipal Freedom of Information and Protection of Privacy Act* and the City of Greater Sudbury's *Procedure By-law*.

For more information regarding accessibility, recording your personal information or live-streaming, please contact Clerk's Services by calling 3-1-1 or emailing clerks@greatersudbury.ca.

ROLL CALL

DECLARATIONS OF PECUNIARY INTEREST AND THE GENERAL NATURE THEREOF

REGULAR AGENDA

PRESENTATIONS

1. Report dated June 2, 2020 from the General Manager of Growth and Infrastructure regarding W/WW Energy Savings Update. **4 - 16**
(ELECTRONIC PRESENTATION) (FOR INFORMATION ONLY)
 - Michael Loken, Manager, Wastewater Treatment

(This presentation provides an update regarding energy management in wastewater facilities.)
2. Pothole Repair Study - Material Testing
(ELECTRONIC PRESENTATION) (FOR INFORMATION ONLY)
 - Miranda Edwards, Project Manager

(This presentation provides information regarding the status of the pothole material testing study.)

MEMBERS' MOTIONS

CORRESPONDENCE FOR INFORMATION ONLY

- I-1. Report dated May 29, 2020 from the General Manager of Growth and Infrastructure regarding Drinking Water Quality Management System. **17 - 21**
(FOR INFORMATION ONLY)

(This report provides information regarding the implementation and evaluation of the City's ongoing drinking water quality management system.)
- I-2. Report dated May 29, 2020 from the General Manager of Growth and Infrastructure regarding Residential Inflow & Infiltration Subsidy Program. **22 - 24**
(FOR INFORMATION ONLY)

(This report provides information regarding the Residential Inflow & Infiltration Subsidy Program.)
- I-3. Report dated May 27, 2020 from the General Manager of Growth and Infrastructure regarding Winter Control Operations Update Ending April 2020. **25 - 32**
(FOR INFORMATION ONLY)

(This report provides information regarding the financial results of the 2020 winter roads operations up to and including the month of April 2020.)

ADDENDUM

CIVIC PETITIONS

QUESTION PERIOD

ADJOURNMENT

Presented To:	Operations Committee
Presented:	Monday, Jun 15, 2020
Report Date	Tuesday, Jun 02, 2020
Type:	Presentations

For Information Only

W/WW Energy Savings Update

Resolution

For Information Only

Relationship to the Strategic Plan / Health Impact Assessment

This report supports initiatives to “Optimize Asset Service Lift through the Establishment of Maintenance Plans” (1.1) and “Demonstrate Innovation and Cost-Effective Service Delivery” (1.5) as laid out in the City of Greater Sudbury’s Strategic Plan for 2019-2027. More specifically, the data presented shows how Wastewater Treatment Operations continue to avoid significant utilities costs and perform critical equipment repairs and upgrades to enhance operational effectiveness.

Report Summary

The report provides an update concerning energy savings achieved by the Sudbury Wastewater Treatment Plant (WWTP) as part of the Industrial Conservation Initiative (ICI) and improvements in plant operations achieved through maintenance activities. This is an update to the presentation made to Operations Committee in March 2019.

Financial Implications

Energy savings achieved at the Sudbury WWTP continue to be sustainable, and will be included in the 2021 budgeting process.

Signed By

Report Prepared By

Michael Loken
Process Engineer
Digitally Signed Jun 2, 20

Division Review

Mike Jensen
Director of Water/Wastewater Services
Digitally Signed Jun 2, 20

Financial Implications

Steve Facey
Manager of Financial Planning & Budgeting
Digitally Signed Jun 2, 20

Recommended by the Department

Tony Cecutti
General Manager of Growth and Infrastructure
Digitally Signed Jun 2, 20

Recommended by the C.A.O.

Ed Archer
Chief Administrative Officer
Digitally Signed Jun 3, 20

Wastewater Energy Savings & Operational Update

Summary:

Over the past year, Wastewater Treatment has significantly benefitted from the work of operations and maintenance staff to repair significant equipment failures, assist in critical preventative maintenance and participate in the Industrial Conservation Initiative (ICI). Since the last presentation to Operations Committee in March of 2019, this work has resulted in the following accomplishments:

- \$421,000 in electricity cost avoidance at the Sudbury Wastewater Treatment Plant (WWTP) through participation in the ICI, an increase of \$121,000 over 2018;
- \$62,500 in anticipated annual electrical savings resulting from maintenance performed at the Sudbury Wastewater Treatment Plant in 2019;
- \$16,000 in anticipated annual electrical savings resulting from maintenance performed at the Walden Wastewater Treatment Plant in 2019, and;
- Significant repairs completed on process equipment at the Sudbury, Azilda and Lively Wastewater Treatment Plants by CGS maintenance personnel.

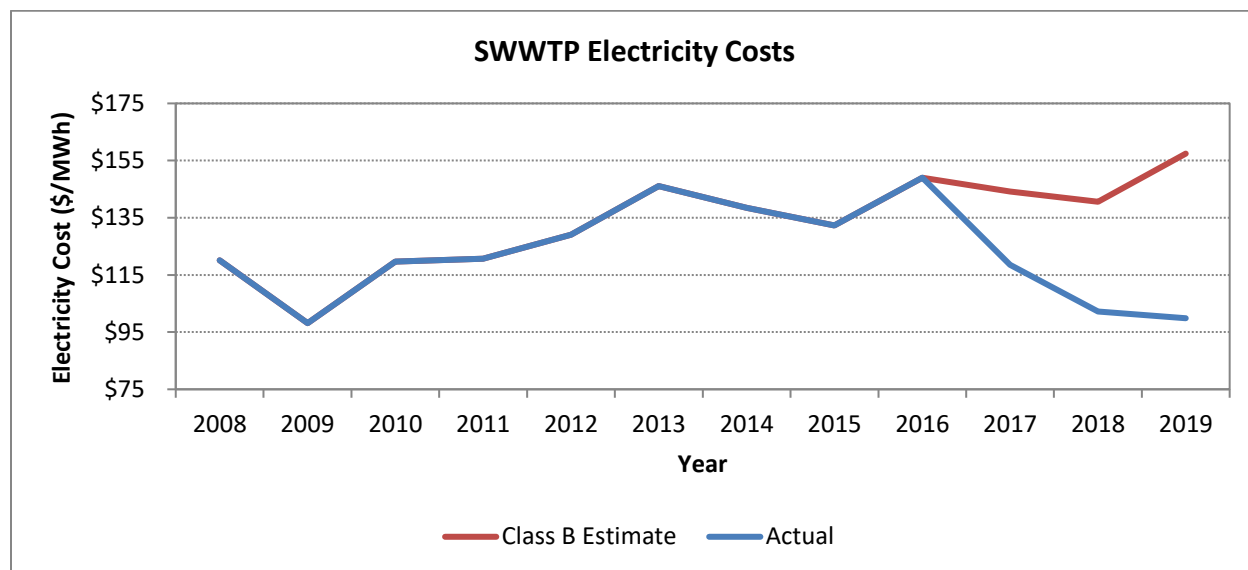
The work performed has had a significant impact on the cost of services delivered, and has been achieved while maintaining high quality treatment and effluent standards.

Cost Avoidance:

Global adjustment (GA) is the portion of total electricity costs that contributes to building new infrastructure, maintaining existing resources and funding conservation and management programs across Ontario. The GA charge for “Class A” industrial facilities, those with a peak demand of 1 Megawatt (MW) or greater, is determined by measuring the percentage contribution to the top five hours of peak electricity demand in Ontario from May 1st to April 30th each year. This value is then used to calculate a billing factor which determines the amount of total GA charges for the province (also known as the “Global Adjustment Pool”) that are allocated to each customer for the following year.

Due to the size of the annual Global Adjustment Pool, these charges can represent a significant portion of total energy billing. Within Water & Wastewater operations only one facility classifies as a “Class A” customer, the Sudbury Wastewater Plant, where approximately 60% of total billing from 2015-2019 was due to GA. In an effort to mitigate these expenses, the facility participates in the Independent Electricity System Operator of Ontario (IESO) Industrial Conservation Initiative (ICI) Program (also known as “peak power response” or “high five response”). By reducing consumption during the 5 peak demand hours, staff can significantly reduce the GA billing factor for the facility.

The participation in the ICI has resulted in lower utility costs for the Sudbury WWTP, and the additional savings achieved each year is a direct result of increased operator engagement and improved prediction/notification systems.



As can be seen in the chart above, actions taken by operators resulted in the cost per Megawatt-hour (MWh) in 2019 being lowered to \$100/MWh from the Class B rate of \$157/MWh. This represented approximately \$421,000 in cost avoidance, an increase of \$121,000 over the savings achieved in 2018.

Additionally, operators were able to curtail electricity consumption for all 5 identified peaks during the summer of 2019, which should result in an additional savings of 26% (approximately \$109,000) for the period from May 1st 2020 to April 30th 2021. Work continues on a project to install a new standby generator at the Sudbury WWTP, which will allow the facility to completely isolated from the power grid during peak periods to completely eliminate the GA charge.

Operational Savings:

In line with an initiative to make improvements through a preventative maintenance program, a tender was issued to clean critical process vessels at wastewater treatment facilities over a 3 year period. The justification for this contract was based on the success of work done in 2018, where savings of \$180,000/year were achieved through cleaning three of the eight aeration tanks at the Sudbury WWTP.

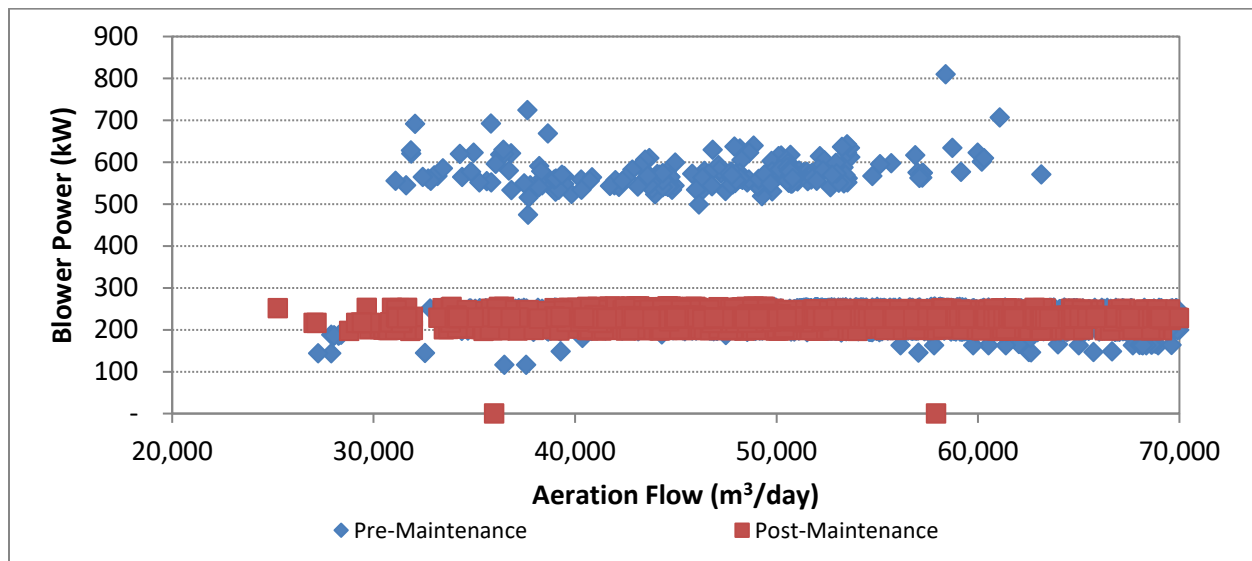
In 2019, the remaining two aeration tanks at the Sudbury WWTP (which had not been recently emptied) and both of the aeration tanks at the Walden WWTP were cleaned. Maintenance work completed included removing built up material, repairing broken or disconnected piping and replacing damaged aeration membranes and diffusers.

Sudbury WWTP Tank Cleaning:

To assess the savings achieved through tank cleaning at the Sudbury WWTP, process data was compared for periods before (15-May-2019 to 15-Jul-2019) and after (15-Sept-2019 to 15-Nov-2019) work was completed. These periods were chosen as they represented periods of similar influent flow rates and conditions:

Flow (m ³ /Day)	Pre Maintenance	Post Maintenance
Average	63,641	61,011
Maximum	152,921	156,587
Minimum	27,250	25,243

Data for the power consumed by the aeration blowers at the plant is shown in the graph below:



Based on the step change observed in the operating data, an estimated savings of \$62,500 per year will be achieved as a result of the work completed.

Walden WWTP Tank Cleaning:

Savings at the Walden WWTP were calculated using monthly electricity invoices as data from the Supervisory Control and Data Acquisition (SCADA) system is not available for the facility. In order to generate an estimate, invoices from October to January were compared for the past three years to ensure periods of similar influent flows and conditions were compared.

	Oct 2017 - Jan 2018	Oct 2018 - Jan 2019	Oct 2019 - Jan 2020
Average Flow (m ³ /day)	2,468	2,325	2,853
Maximum Daily Flow (m ³ /day)	5,383	6,331	5,552

Electricity Use (kWh/day)	529	477	501
Electricity Use (kWh/m ³)	0.88	0.85	0.72
% Savings:	18.5%	16.2%	

Average Savings:	17.3%
Calculation Factor:	0.75
Adjusted Savings:	13.0%

Although the savings are initially estimated at 17.3%, a more conservative value of 75% of the initial calculation was used for forecasting due to the limited data set available. Using a 3 year running average for total electrical consumption for the site, and the unit cost for the most recent year (2019), the following savings were then estimated:

	2017	2018	2019
Total Electricity Use:	694,976	702,999	677,788
Electricity Cost (\$)	\$122,211	\$122,456	\$120,457
Unit Cost (\$/kWh)	\$0.176	\$0.174	\$0.178

Estimated Annual Savings: 90,032 kWh/year
\$16,000/year

Critical Equipment Repairs

A number of key equipment failures occurred in 2019 which affected treatment operations. Most notably, the following events occurred:

- Azilda WWTP Fire – March 2019

A failure in a Motor Control Centre (MCC) resulted in a fire which damaged key electrical infrastructure at the facility. The root cause of the failure was identified as a starter motor for a blower that was approximately 40 years old.

As a result of the quick actions taken, the damage was limited and the repairs were completed in approximately 1 day. The dedication shown by the operations and maintenance personnel was recognized with four staff receiving the CAO's Service Award for 2019.

- Azilda WWTP Clarifier Failure – September 2019

In early fall, a part of the clarifier at the Azilda WWTP failed, resulting in a partial process shutdown. Prior to the capital upgrades completed at the facility in 2017 this would have resulted in a significant environmental impact, however, the

facility was able to continue operations in a limited fashion until repairs were completed as a result of additional equipment installed at the facility.

Wastewater employees were able to complete the repair, which required specialty parts and a crane to access the damaged equipment, and bring the facility fully back online within 5 days with no adverse environmental impacts.

- Sudbury WWTP Clarifier Failure – December 2019

The gearbox on #2 clarifier at the Sudbury plant failed in early December, which resulted in reduced plant capacity while repairs were made. An additional risk was presented due to the cold weather, as the effluent and sludge in the tank can cause significant damage as a result of freezing.

Operators were able to quickly empty the tank to mitigate the risk of damage, and repairs were made within one week to bring the unit back online.

- Lively WWTP – July & December 2019

The Lively plant, scheduled to be decommissioned in the coming years, suffered a number of failures on the clarifier and vessel walls, including issues with the baffles used to separate treatment chambers in the plant and a clarifier failure in late 2019. These failures all occurred during low flow periods, which allowed the influent to be diverted to the Walden WWTP while repairs were made.

Wastewater maintenance employees took these failures as an opportunity to address a number of deficiencies identified by operators. The repairs completed will allow this facility to operate effectively over the coming years until the planned shutdown of the plant.

It must be noted that in the past, equipment issues of this magnitude would often be dealt with through contract resources. Through resolving these issues with internal personnel, Wastewater treatment Operations was able to lower overall repair costs and reduce equipment downtime.

Wastewater Treatment Energy Savings & Operational Update

Operations Committee Update



Sudbury Wastewater Treatment Plant



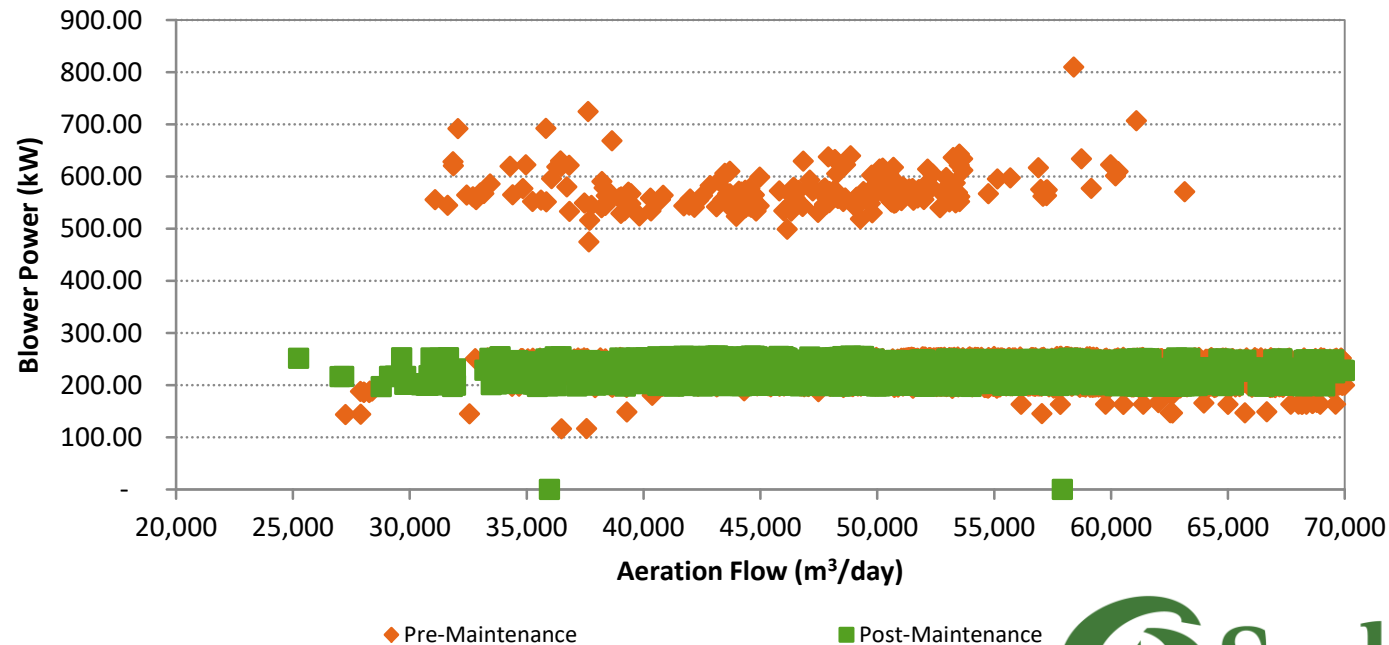
- ▶ Largest Wastewater Treatment Facility in the City of Greater Sudbury
- ▶ Services approximately 95,000 residents

2019 Data:

- ▶ Average Flow: 60,600 m³/day
- ▶ Peak Flow: 247,000 m³/day
- ▶ Annual Flow: 22,130,000 m³

Sudbury Wastewater Treatment Plant Operational Savings

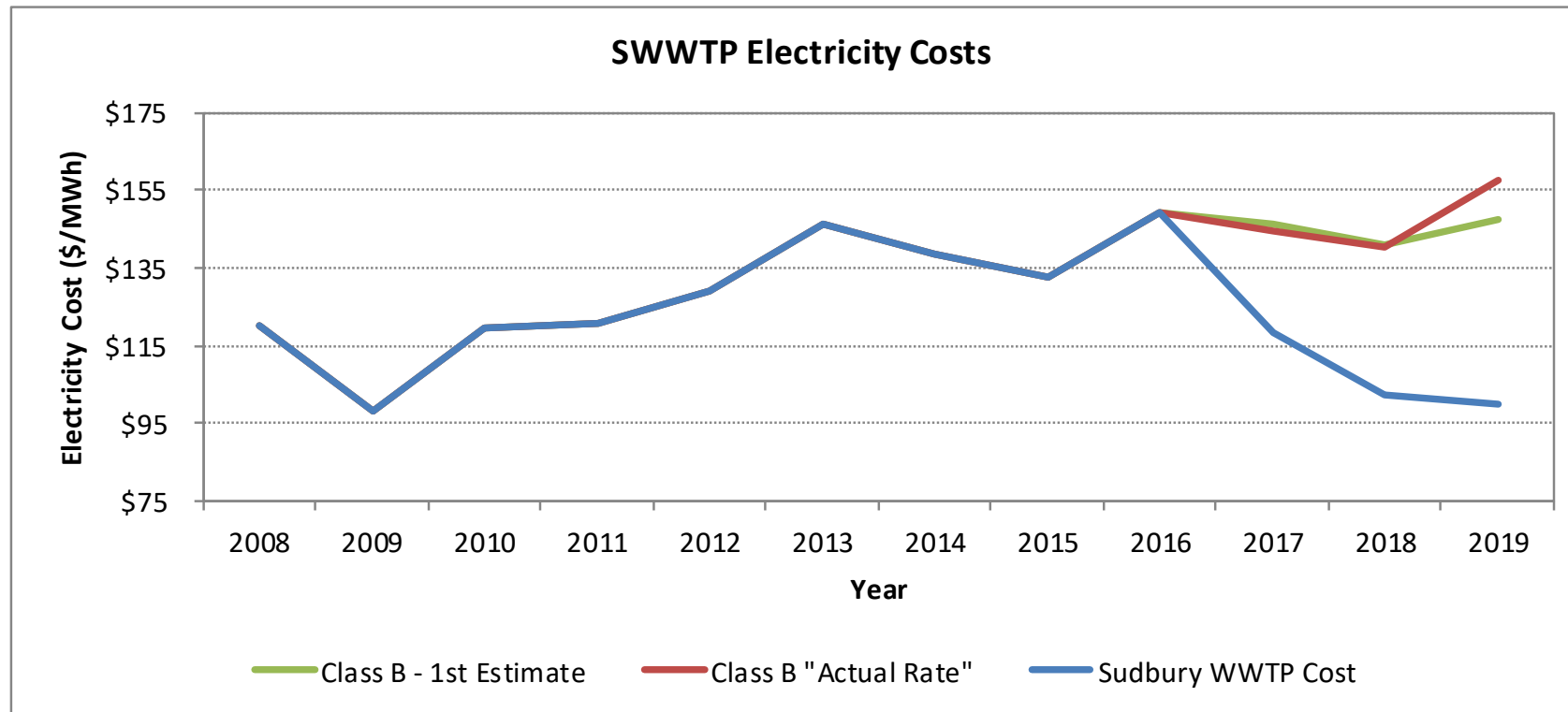
- ▶ Program to clean aeration tanks and repair critical equipment continued from 2018.
- ▶ Estimated \$62,500 annual savings work completed.



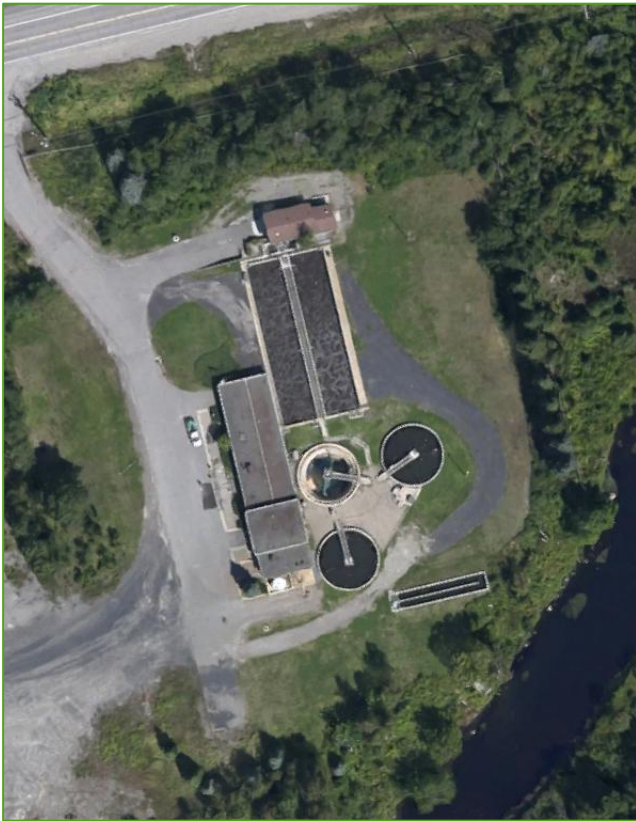
Sudbury Wastewater Treatment Plant Electricity Billing - Cost Avoidance

- ▶ Global adjustment (GA) is the portion of electricity costs that contribute to building infrastructure, maintaining resources and funding conservation programs.
 - ▶ The factor used to calculate GA can be reduced through participation in the Industrial Conservation Initiative (ICI)
- ▶ 2017 cost avoidance: \$211,900
- ▶ 2018 cost avoidance: \$298,700
- ▶ 2019 cost avoidance: \$421,000
 - ▶ Electricity use curtailed for all 5 peaks in 2019; estimated 26% improvement in 2020
 - ▶ Reducing electrical costs allows for re-investment in facilities to complete necessary upgrade and repairs while also stabilizing rates.

Sudbury Wastewater Treatment Plant Electricity Billing - Cost Avoidance



Walden Wastewater Treatment Plant



- ▶ Aeration tanks cleaned as part of 3 year tender to address all critical process vessels in wastewater treatment facilities.
- ▶ Analysis of electricity bills shows a potential for 16,000/year in electricity savings.

Critical Equipment Repairs

- ▶ Wastewater Treatment maintenance and operations employees have responded to a number of critical equipment failures at our facilities over the past year, including:
 - ▶ Azilda WWTP - Fire (March 2019) and clarifier failure (September 2019)
 - ▶ Sudbury WWTP - Clarifier failure (December 2019)
 - ▶ Lively WWTP - Clarifier and baffle issues (July & December 2019)
- ▶ Through the dedication of our personnel these issues were resolved faster, and for a lower cost than engaging contract resources - and with no adverse environmental impacts.
 - ▶ Azilda fire response awarded CAO's Service Award for 2019

For Information Only

Drinking Water Quality Management System

Presented To: Operations Committee

Presented: Monday, Jun 15, 2020

Report Date: Friday, May 29, 2020

Type: Correspondence for Information Only

Resolution

For Information Only

Relationship to the Strategic Plan / Health Impact Assessment

This report supports the "Responsive, Fiscally Prudent, Open Governance" and Sustainable Infrastructure pillars of the Corporate Strategic Plan.

Report Summary

This report has been written to communicate the outcomes of the City's ongoing quality management system implementation and evaluation to Council. The results indicate that the City's operations are in conformance with the Ontario Drinking Water Quality Management System, the Safe Drinking Water Act, and its associated regulations.

Financial Implications

There are no financial implications associated with this report.

Signed By

Report Prepared By

Sarah Deadman
Quality Management Systems &
Training Coordinator
Digitally Signed May 29, 20

Manager Review

Julie Friel
Manager Water Treatment
Digitally Signed May 29, 20

Division Review

Mike Jensen
Director of Water/Wastewater Services
Digitally Signed May 29, 20

Financial Implications

Steve Facey
Manager of Financial Planning &
Budgeting
Digitally Signed Jun 1, 20

Recommended by the Department

Tony Cecutti
General Manager of Growth and
Infrastructure
Digitally Signed Jun 1, 20

Recommended by the C.A.O.

Ed Archer
Chief Administrative Officer
Digitally Signed Jun 2, 20

Drinking Water Quality Management System Report

BACKGROUND

The residents of the City of Greater Sudbury (CGS) demand and expect that the potable water they use daily is clean, safe and is of the highest quality, meeting or exceeding all of the provincial regulations found in the Safe Drinking Water Act of 2002.

Council's responsibility is to have an understanding that there is a direct link between the decisions and approvals Council makes concerning the operational, maintenance and allocation of capital funds for the drinking water systems. This report gives a broad overview of what is required to maintain a drinking water license and also gives a "top down" update on the health of our drinking water system for the year 2019.

Municipal Drinking Water Licensing Program

All owners of a municipal drinking water system must acquire and hold in good standing a license to operate their drinking water systems. A Municipal Drinking Water License is issued by the Ministry of Conservation and Parks (MECP) and must have:

- A Drinking Water Works Permit
 - A permit to establish or alter a drinking water system;
- A Permit to Take Water
 - A permit to take 50,000 L or more of source water per day;
- An Operational Plan
 - A plan prepared in accordance with the Drinking Water Quality Management Standard (DWQMS) developed by the MECP;
- Accreditation as an Operating Authority
 - A comprehensive audit and periodic review of the Operational Plan (OP) by an independent certified accreditation body appointed by the province; and
- A Financial Plan updated on a 5 year cycle maximum
 - A long-term strategic plan developed to ensure the financial sustainability of the drinking water system (the financial plan was recently updated in recent budget deliberations).

To assist in attaining the goals stated above the CGS has implemented a Quality Management System (QMS). Our QMS follows the requirements set out in the DWQMS, developed by the MECP. Our QMS was first accredited in 2010 and has received re-accreditation on an annual basis by a MECP approved third party body ever since. This management standard follows the principles found in the ISO 9001:2000 Quality Management Standard and uses the Hazard Analysis and Critical Control Points (HACCP) methodology to identify and mitigate risks through effective management of our drinking water right from water source to residential taps.

Of note is that the DWQMS has recently been updated with a second version produced by the MECP since first released and the CGS has attained accreditation under the revised standard.

City of Greater Sudbury Drinking Water Systems

The City of Greater Sudbury has successfully maintained six drinking water system (DWS) licenses for our residents since 2010 (Sudbury DWS, Valley DWS, Dowling DWS, Falconbridge DWS, Onaping/Levack DWS, & the Vermilion DWS).

Quality Management Standard Requirements

The Water/Wastewater Treatment & Compliance QMS details a set of comprehensive policies and procedures that ensures;

- Effective management of all aspects of the drinking water systems within the CGS;
- That continuous water testing is conducted (annually we conduct and test more than 10,000 samples); and
- A culture of continual improvement is fostered in our water treatment and distribution systems.

Water/Wastewater Treatment & Compliance ensures this is accomplished, in part, by conducting audits of the MECP approved OP, a document that details how the City will ensure compliance with the Safe Drinking Water Act.

The audits are conducted by both trained internal staff and by an MECP approved third party. The audit focus is on conformance to the OP and involves a comparison of what is stated in the OP to what is actually occurring in the field. Any non-conformances or opportunities for improvements (OFI) found are then required to be reported and acted upon.

KEY RESULTS FROM 2019 AUDITS

External Audits - In August 2019, a third party audit was conducted by NSF International Strategic Registrations and there were no non-conformances were found. There were three OFI's identified as indicated in the following areas;

- Competency – Investigate and implement continual improvement on staff competencies;
- Continual Improvement – develop methodology and procedure that permits staff to identify potential non-conformances; and
- Critical Control Points – implement control points in high risk areas where control points have not already been established.

Internal Audits – There were a total of three internal audits conducted resulting in one minor non-conformance. The non-conformance was related to how the documentation process is conducted for the maintenance and calibration of water testing devices. The documentation error was corrected and a solution was implemented to prevent further errors. A follow up inspection conducted by a QMS Representative verified the correction of the non-conformance.

Additionally there were five OFI's indicated as follows;

- With the new structure under Growth & Infrastructure the QMS policy requires an update to include Linear Infrastructure Services and the Infrastructure Capital Planning groups;
- Since an update by the MECP the DWQMS and subsequent CGS approval of QMS version 2, a re-endorsement from council is recommended;
- A review of the current method of documenting training records is recommended with the desired state to include an improved database able to deliver up to date training records and compliance reports;
- Update the OP to include the roles and responsibilities of the newly added Legislative Compliance Supervisor position; and
- Create links on the intranet Citylinks for information regarding the QMS, the OP, access to standard operating procedures, related forms; and
- Develop a clearer link between internal audits and the continual improvement process.

All of these OFI's have been discussed and action plans have been put into practice.

Management Review Summary

A document released in 2019 by the MECP highlighted the need for municipalities to consider the impacts of climate change, source water supply quantity issues, extreme weather events, vandalism, back-flow prevention within water distribution systems and a monitoring system with mitigation plans for algal blooms in the source water from Ramsey Lake.

As a result, the Water Management team, utilizing the techniques in the HACCP process, evaluated the risk presented by each scenario and incorporated monitoring procedures, preventative measures and mitigation response plans into the OP.

Management Review occurs annually to discuss any documented deficiencies, MECP inspections or any other issues that occurred in the drinking water systems in the previous year.

During the review it was noted that there would be a need to develop a standard procedure to enhance the existing documentation concerning blue green algae blooms in Ramsey Lake. Specifically, a detailed contingency plan indicating the required steps to be taken should the associated toxins from blue green algae be discharged from the treatment process at the David Street Water Treatment facility into the drinking water distribution system. The other item discussed was a way to track deviations of critical control points within our systems by use of preexisting form. Subsequently action plans were created and assigned for these improvements.

SUMMARY

The City of Greater Sudbury's

DWQMS has successfully maintained its accreditation for 2019 and transitioned to the updated version 2 of the DWQMS.

The Water & Wastewater Treatment and Compliance Division is committed to communicating the state of the drinking water system with City Council while continuing to make improvements to the CGS DWQMS.

For Information Only

Residential Inflow & Infiltration Subsidy Program

Presented To: Operations Committee

Presented: Monday, Jun 15, 2020

Report Date: Friday, May 29, 2020

Type: Correspondence for
Information Only

Resolution

For Information Only

Relationship to the Strategic Plan / Health Impact Assessment

Corporate Strategic Plan under Create a Healthier Community. More specifically, this report creates and continues a subsidy program and service which is designed to improve the health and well-being of our citizens of Greater Sudbury.

Report Summary

The Residential Inflow and Infiltration Subsidy Program is available to the citizens of Greater Sudbury as an incentive to aid citizens in protecting their residential properties from sewer backup and flooding while preventing some of the excessive amounts of Inflow and Infiltration from entering our treatment conveyance and facilities.

Financial Implications

There are no financial implications associated with this report.

Signed By

Report Prepared By

Mike Jensen
Director of Water/Wastewater Services
Digitally Signed May 29, 20

Financial Implications

Steve Facey
Manager of Financial Planning & Budgeting
Digitally Signed Jun 1, 20

Recommended by the Department

Tony Cecutti
General Manager of Growth and Infrastructure
Digitally Signed Jun 1, 20

Recommended by the C.A.O.

Ed Archer
Chief Administrative Officer
Digitally Signed Jun 2, 20

Update to the Residential Inflow and Infiltration Subsidy Program (RIISP)

BACKGROUND

Water/Wastewater Treatment & Compliance (W/WWT&C) administers the RIISP applications and also provides yearly updates on the program to the Operations Committee.

The original RIISP was initiated in 2010 and was available to the citizens of Greater Sudbury as an incentive to aid in protecting their residential properties from sewer backup and flooding. A second benefit is in preventing some of the excessive amounts of Inflow and Infiltration (I&I) from entering our treatment systems. I&I is essentially storm water and is a serious issue in most municipalities.

In Sudbury we often see flows at our wastewater treatment facilities that are a factor of 10 higher than an average day flow, all due to storm water. The additional capital expenditures to build facilities and extra operational costs for these infrequent occurrences places an enormous burden on the water rates. Additionally, when the flows are higher than treatment capacity and in order to prevent massive basement flooding the only alternative is to bypass untreated wastewater into the environment.

Any program, such as the RIISP, aids in the prevention of storm water reaching our treatment facilities. Table 1, Summary of Subsidies for Residential Inflow and Infiltration Subsidy Program, shows the inspections, approvals and subsidies granted.

Table 1 – Summary of Subsidies for Residential Inflow and Infiltration Program

	2014	2015	2016	2017	2018	2019	2020	TOTAL
# of Inspections	59	39	23	35	83	84	18	341
# of Approvals	38	28	17	25	67	78	7	260
Total Subsidy Paid	\$52,773	\$32,413	\$25,964	\$62,564	\$124,539	\$106,360	\$12,993	\$417,606

Of note is the increased amounts starting in 2017 and this was following additional increases in the amount of subsidy available as well as a greater effort in education and outreach.

The subsidies amounts for the program have not changed and the following is what we will offer for 2020-2021:

75% subsidy for the installation of backwater valves and sump pumps up to a maximum of \$1,500 for the Backwater Valve and \$1,875 for the Sump Pump;

100% subsidy for the installation of eaves trough extensions, to a maximum of \$10 per extender, with a maximum of four (4) extenders per property;

Offer 50% subsidy for purchase and install of rain barrels to a maximum of 2 per residential property and \$60 per barrel; and

Offer 50% subsidy for the lining of private sewer lateral lines to maximum of \$1100 per residential property;

Next Steps

We will not be requesting changes to any of the associated bylaws nor is there a request for additional funding as sufficient funding exists.

Staff will continue to attend opportunities in any form available (for example the Virtual Homeshow for 2020). Additionally the work of the newly created Asset Management Task Force, part of Infrastructure Capital Planning, will integrate and enhance the fundamental work the RIISP was intended to do in both preventing basement flooding while minimizing the amount of storm water that enters into our wastewater treatment systems.

For Information Only

Winter Control Operations Update Ending April 2020

Presented To: Operations Committee

Presented: Monday, Jun 15, 2020

Report Date: Wednesday, May 27, 2020

Type: Correspondence for Information Only

Resolution

For Information Only

Relationship to the Strategic Plan / Health Impact Assessment

This report refers to operational matters.

Report Summary

This report provides an overview of winter maintenance activities for the 2019-2020 winter control season up to and including the months of April 2020.

Financial Implications

This report provides the estimated financial results of the 2020 winter roads operations for the City's fiscal year between January and April 2020. As depicted in Table 3 below, the estimated result for 2020 to date is an over expenditure of approximately \$290,000. Any over or under expenditure in winter control will form part of the year end position.

Signed By

Report Prepared By

Randy Halverson
Director of Linear Infrastructure
Services
Digitally Signed May 27, 20

Division Review

Randy Halverson
Director of Linear Infrastructure
Services
Digitally Signed May 27, 20

Financial Implications

Steve Facey
Manager of Financial Planning &
Budgeting
Digitally Signed Jun 1, 20

Recommended by the Department

Tony Cecutti
General Manager of Growth and
Infrastructure
Digitally Signed Jun 1, 20

Recommended by the C.A.O.

Ed Archer
Chief Administrative Officer
Digitally Signed Jun 2, 20

Winter Control Update – April 2020

Background and Summary

This report is intended to provide a summary of winter maintenance activities for the month of April 2020, including financial variances. It is important to note that due to normal lags in receipt of costs related to these activities, final costs for this period may vary from the information reported at this time.

The City of Greater Sudbury's winter maintenance service levels are defined in Council approved winter control service policies as well as guidelines within the Minimum Maintenance Standards (MMS), O.Reg. 239-02.

During the month of April, there were favorable weather conditions that allowed Roads maintenance staff to focus on the spring cleanup program. Warmer temperatures in late March and throughout April resulted in less pothole issues.

Again this month, snow accumulation was less than the averages for the same period of time, resulting in less expense than budgeted for this period. The overall expenditures for fiscal year 2020 are now only slightly higher than projected for the first four months of 2020, estimated at approximately \$290,000 over budget.

Weather Statistics

As shown on table 1, from January to end of May there has been six major snow events and one freezing rain event that have required deployment of all available City and Contractor snow plowing equipment. Furthermore, table 1 highlights the statistical information for the 2020 winter season from Environment Canada including the 30 year normal (1981 – 2010) for snowfall. The total snow accumulation for the 2020 calendar year to date is 6.7 feet or 2.04 meters. The 30 year normal for the same period is 5.4 feet or 1.65 meters. This represents a 23.8% increase. The total snow accumulation for the 2019-2020 winter season, up to and including May 2020, is 11.4 feet or 3.47 meters compared to the 30 year normal of 8.6 feet or 2.63 meters. This represents a 31.9% increase. The statistical summary for the month of April shows snow accumulations less

than the 30 year normal averages while the snowfall for May reflects a higher than 30 year normal value.

Table 1 – 2020 Weather Statistics

Month	Snow Accumulation (cm's)	30 Year Normal (cm's)	Increase/(Decrease) Compared to 30 Year Normal (%)	Snow Event	Rain/Freezing Rain Event
Jan	70.8	59.5	19.0	2	1
Feb	78.2	51.7	51.2	2	0
Mar	30.8	34.9	(11.7)	1	0
Apr	7.9	16.9	(53.3)	0	0
May	16.4	1.9	76.3	1	0
Jun-Sep					
Oct					
Nov					
Dec					
Totals	204.1	164.9	23.8	6	1

Note: All weather data taken from Environment Canada website for weather station Sudbury A.

Winter Control Service Categories

1) Roadway Snow Plowing/Sanding/Salting

Includes work activities such as plowing, sanding, salting, anti-icing roads and winter stockpile management.

Status Update

For the April 2020 reporting period there was minimal snow resulting in less than normal plowing/sanding/salting through the month. The under expenditure highlighted in table 3 for this category is the result of less utilization of both Contracted and City plowing services since the beginning of the year (approximately \$222,000 for April alone). The winter event on May 7th and 8th resulted in an over expenditure of \$46,000 which is not shown in table 2 but will be included in future financial summaries.

Challenges

No significant challenges in this reporting period.

2) Snow Removal

Includes work activities such as bus stop clearing, snow removal with loaders, snow dump operation and snow bank removal in the downtown centres.

Status Update

There was minimal snow removal performed in the month of April. The majority of the over expenditure this year is associated with the snow removal with a loader activity which happened earlier in the winter season.

Challenges

There were no significant challenges during the April reporting period.

3) Winter Sidewalk Maintenance

Includes work activities such as sidewalk plowing and sanding.

Status Update

There was minimal winter sidewalk maintenance performed in the month of April. The majority of the over expenditure this year is associated with the additional requirements for sidewalk plowing/scraping/sanding due to weather conditions.

Challenges

There were no significant challenges during the April reporting period.

4) Roadway Snow Plowing with Graders/Loaders/4x4s

Includes work activities such as snow plowing with graders, 4x4s and loaders, municipal parking lot maintenance and snow fence maintenance.

Status Update

There was minimal snow plowing with Graders/Loaders/4x4's during the month of April. The majority of the over expenditure in this category for this year can be attributed to additional costs associated with the ice scraping with grader activity which happened earlier in the winter season.

Challenges

There were no significant challenges during the April reporting period.

5) Winter Ditching/Spring Clean Up

Includes work activities such as winter ditch maintenance and spring clean up with sweepers/flushers on roads and sidewalks.

Status Update

There was significant work within this category during the month of April amounting to a year to date over expenditure of approximately \$95,000. The sidewalk and street sweeping programs were in full force during the month of April. The contracted portion of the sweeping program was completed by the second week of May with the in-house portion of the program set to end around the end of May.

Challenges

No significant challenges in this reporting period.

6) Miscellaneous Winter Maintenance

Includes work activities such as property restoration (plow damage), pothole patching, winter road patrol, employee standby, equipment standby, health and safety training (snow school), fringe benefits and tool repairs.

Status Update

Pothole patching is the only activity that has had any notable changes under this category during this reporting period. During the month of April, the temperatures were favorable and traffic volumes lower which resulted in the requirement for less pothole patching. This combination of effects resulted in an 82% decrease of 311 resident pothole complaints in April this year compared to April 2019. It also resulted in 36% fewer potholes compared to the same month last year.

The City placed over 1,770 tonnes of asphalt as of the end of April which would equate to 44,250 potholes filled assuming 40 kilograms of asphalt was placed into each pothole. Traditionally the City fills approximately 55,000 potholes annually.

Challenges

No significant challenges in this reporting period.

ACR Statistics

As noted in table 2, the number of resident related issues recorded in the ACR system during the month of April was significantly lower in all categories except for spring cleanup. Overall there was a 71% reduction in the number of ACR calls associated with winter control services when comparing our April 2020 values to the average April values (2016 – 2019). It is likely that the change in call volume for winter control issues is associated with two main factors; firstly, the favorable weather during the month of April and secondly, the reduction in traffic volume due to the global Pandemic.

Table 2 – ACR Statistics

ACR Category	Average April Call Volume (2016-2019)	April 2020 Call Volume
Potholes	447	112
Spring Cleanup	30	49
Roadway - Plowing	62	4
Roadway - Salting/Sanding	23	4
Sightlines	5	0
Cul de Sac - Plowing	9	0
Sidewalk/Stair - Plowing	9	0
Sidewalk/Stair - Sanding/Salting	4	0
Totals	589	169

Financials

The estimated financial results of the 2020 winter roads operations up to and including the month of April, 2020 are summarized below. As depicted in Table 3 below, the estimated results for the first four months of 2020 is an over expenditure of approximately \$290,000. Any over or under expenditure in winter control will form part of the year end position.

Table 5 describes a summary of Winter Maintenance Activities for the 2019/2020 winter, showing an over expenditure of approximately \$1.66M. It is important to note that all activity costs before January 2020 have been included in the 2019 fiscal year and have been accounted for in the 2019 year end position.

Table 3 – Financial Results

2020 Winter Summary					
As at April 30, 2020					
	Annual	2020 YTD			
	Budget	Budget	Actual	Variance	% Change YTD
Snow Plowing/Sanding/Salting	7,823,358	5,138,929	4,413,764	725,165	86%
Snow Removal	871,321	702,406	1,267,932	(565,525)	181%
Winter Sidewalk Maintenance	1,124,424	730,876	775,612	(44,736)	106%
Snow Plowing - Graders/Loaders/4x4s	933,969	716,195	935,762	(219,567)	131%
Winter Ditching/Spring Clean Up	2,279,958	1,822,624	1,917,589	(94,965)	105%
Miscellaneous Winter Maintenance	7,350,517	4,413,217	4,503,740	(90,523)	102%
Totals	20,383,547	13,524,248	13,814,400	(290,152)	102%

Table 4 – Miscellaneous Winter Maintenance Budget Breakdown

2020 Miscellaneous Winter Maintenance	
Expense Type	Annual Budget (millions \$)
Employee Benefits	1.57
Asphalt Patching	1.36
Internal Recoveries (HR, Finance, IT)	0.73
Standby (Contractor Services)	0.73
Health & Safety	0.17
Other (Road Patrol, Emergency Response, Tool Repair, Property Restoration, etc.)	0.58
Administration & Supervision	2.21
Total	\$ 7.35

Table 5 – 2019/2020 Winter Season Financial Summary

2019/2020 Winter Season Summary			
October, 2019 to April, 2020			
	Season Budget	Season Actual	Variance
Snow Plowing/Sanding/Salting	7,637,499	8,031,217	(393,718)
Snow Removal	931,577	1,428,019	(496,442)
Winter Sidewalk Maintenance	1,105,054	1,235,642	(130,588)
Snow Plowing - Graders/Loaders/4x4s	932,380	1,543,841	(611,461)
Winter Ditching/Spring Clean Up	1,846,021	2,032,071	(186,050)
Miscellaneous Winter Maintenance	6,620,006	6,463,700	156,306
Totals	19,072,537	20,734,490	(1,661,953)

Note: Of the \$1.66 million season-to-date deficit, \$1.37 million is attributable to 2019 and \$0.29 million is attributable to 2020.

Conclusion and Next Steps

The January through April 2020 period has presented relatively few challenges in the delivery of winter control services. The City had approximately 2.3 feet or 0.7 metres less snow this year over the same period last year which resulted in the need for fewer full call outs of City/Contractor staff to address snow accumulation on our roadways and is reflected in the under expenditure for snow plowing/sanding/salting category.

Through the month of May staff changed their operational activities from the winter program to the summer program. The summer program includes the following maintenance categories;

- Road Patrol – performing routine patrols to identify deficiencies (annual program)
- Road Surface Maintenance – examples; Asphalt Patching, Large Asphalt Patches, Gravel Patching, Gravel Grading and Dust Control for Roads
- Roadside Maintenance – examples; Gravel Grading for Shoulders, Tractor Mowing and Brushing and Curb and Sidewalk Maintenance
- Drainage and Structure Maintenance – examples; Roadside Culvert Installation, Driveway Culvert Installation, Storm Sewer Repairs, Storm Structure Cleaning and Storm Structure Adjustments
- Traffic and Safety Devices – examples; Line Painting, Traffic Sign Manufacture, Traffic Signal Maintenance, Railroad Crossing Maintenance and Street Lighting
- Forestry – examples; Tree Planting, Tree Pruning, Tree Removal and Stumping

At this time staff has commenced work within many of the maintenance categories listed above most notably line painting, tree planting, gravel grading and large asphalt patches.

The impact of the global pandemic has resulted in the need to make some modifications to the approach used on many of the work activities completed by personnel working in Linear Infrastructure Services. Regardless of these changes, at this time, staff plan on completing work in all maintenance categories this summer.