



**The Corporation of the City of Stratford
Infrastructure, Transportation and Safety Sub-committee
Open Session
AGENDA**

Date: Monday, July 23, 2018

Time: 12:00 P.M.

Location: Council Chamber, City Hall

Sub-committee Present: Councillor McManus - Chair Presiding, Councillor Brown - Vice Chair, Councillor Beatty, Councillor Bunting, Councillor Henderson

Staff Present: Ed Dujlovic - Director of Infrastructure and Development Services, John Paradis - Fire Chief, Michael Humble - Director of Corporate Services, Michael Mortimer - Manager of Environmental Services, Tatiana Dafoe - Deputy Clerk, Jodi Akins - Council Clerk Secretary

Pages

1. Call to Order

The Chair to call the Meeting to Order.

2. Disclosure of Pecuniary Interest and the General Nature Thereof

The *Municipal Conflict of Interest Act* requires any member of Council declaring a pecuniary interest and the general nature thereof, where the interest of a member of Council has not been disclosed by reason of the member's absence from the meeting, to disclose the interest at the first open meeting attended by the member of Council and otherwise comply with the *Act*.

Name, Item and General Nature of Pecuniary Interest

3. Delegations

None scheduled.

4. Report of the Deputy Clerk

4.1 Prohibition of Cooking of Live Animals (ITS18-035)

6 - 9

Motion by _____

Staff Recommendations: THAT after consideration of legal advice, case law and legislation governing the humane treatment of animals, the request to adopt a by-law prohibiting the cooking of live animals be filed.

5. Report of the Manager of Environmental Services

5.1 2017 Stratford Water Pollution Control Plant Annual Report (ITS18-034)

10 - 59

Motion by _____

Staff Recommendation: THAT the 2017 Stratford Water Pollution Control Plant Annual Report be received for information.

6. Report of the Active Transportation Advisory Committee (ATAC)

6.1 Multi-Use Trail Recommendations (ATAC) (ITS18-041)

60 - 61

Motion by _____

ATAC Recommendation: THAT staff look into developing a Douro Street (Ontario to Romeo) multi-use trail and a McCarthy Road (Romeo to Mornington) multi-use trail;

THAT staff develop costing and designs and look into provincial funding for both projects;

AND THAT staff and the Parks Board extend the rail trail up to the sidewalk next to Confederation Garden, near Richard Monette Way.

Staff Recommendation: THAT in addition to the ATAC Recommendations, the Parks Board be contacted with respect to concerns regarding extending the rail trail up to the sidewalk next to Confederation Garden, near Richard Monette Way;

THAT the Douro Street (Ontario to Romeo) multi-use trail and a McCarthy Road (Romeo to Mornington) multi-use trail be referred to the

2019 Budget deliberations;

THAT the proposed design of the multi-use trails for Douro, McCarthy Road and extending the rail trail up to the sidewalk next to Confederation Garden be reviewed by the City's Accessibility Advisory Committee;

AND THAT the proposed multi-use trails and the extension of the rail trail be contingent on access to supporting financial resources.

- 6.2 ATAC Recommendation to Examine Site Plan Review Process (ITS18-042) 62 - 63**

Motion by _____

Staff Recommendation: THAT the report entitled "ATAC Recommendation to Examine Site Plan Review Process" be received for information.

7. Report of the Project Engineer

- 7.1 Rail Required All-Way Stop at Nile Street and Guelph Street (ITS18-037) 64 - 66**

Motion by _____

Staff Recommendation: THAT an all-way stop be installed at the intersection of Nile Street and Guelph Street;

AND THAT the Traffic and Parking By-law 159-2008, Schedule 11 – Through Streets, be amended by deleting:

Street	Between
Nile Street	From the south side of Shakespeare Street to the north side of East Gore Street

And adding:

Street	Between
Nile Street	From the south side of Shakespeare Street to the north side of Guelph Street
	From the south side of Guelph Street to the north side of East Gore Street

8. Report of the Fire Chief

8.1 2015 - 2017 Stratford Fire Department Community Report (ITS18-036) 67 - 108

Motion by _____

Staff Recommendation: THAT the 2015 - 2017 Stratford Fire Department Community Report be received for information.

9. Report of the Director of Infrastructure and Development Services

9.1 Parking Stalls at the Southeast Corner of Ontario Street and Waterloo Street South (ITS18-040) 109 - 110

Motion by _____

Staff Recommendation: THAT the two on-street parking stalls at 161 Ontario Street be removed.

10. Capital Project Update

Engineering to provide a verbal update on the status of various engineering capital projects.

11. Advisory Committee/Outside Board Minutes

There are no Advisory Committee/Outside Board minutes to be provided to Sub-committee at this time.

12. Next Sub-committee Meeting

The next Infrastructure, Transportation and Safety Sub-committee meeting is **Wednesday, August 29, 2018 at 12:00 noon** in the Council Chamber, City Hall.

13. Adjournment

Meeting Start Time:

Meeting End Time:

Motion by _____

Sub-committee Decision: THAT the Infrastructure, Transportation and Safety Sub-committee meeting adjourn.



MANAGEMENT REPORT

Date: June 27, 2018
To: Infrastructure, Transportation and Safety Sub-committee
From: Tatiana Dafoe, Deputy Clerk
Report#: ITS18-035
Attachments: None

Title: Prohibition of Cooking of Live Animals

Objective: To review whether or not the City has the authority to pass a by-law prohibiting the cooking of live animals.

Background: At the March 28, 2018 Infrastructure, Transportation and Safety Sub-committee (Sub-committee) meeting, a request was made for the City to adopt a by-law prohibiting the cooking of live animals including crustaceans, fish and mammals by any method including boiling, frying and air heating without first killing the animal quickly and humanely.

At the meeting, the Sub-committee requested staff check with restaurants to see if they serve lobster and if so, how they are cooked and to contact legal counsel to find out whether a ban on the cooking of live lobsters and other animals is within municipal jurisdiction.

Analysis: Staff consulted with the City's solicitor who indicated that the adoption of such a by-law would need to have a municipal purpose in order for it to be a valid exercise of municipal powers under the *Municipal Act, 2001*. There are no Canadian municipalities that have enacted a by-law regarding the boiling of live lobsters.

On March 1, 2018 Switzerland banned restaurants from throwing live lobsters into boiling water as part of a broader reform of the country's animal welfare regulations. Switzerland requires that lobsters and other crustaceans be stunned prior to being put to death. The government also prohibited the practice of transporting crustaceans on ice or in ice water, requiring that they be kept in their natural environment.

In the case of *Eng v Toronto (City)*, 2012 ONSC 6818 ("Eng") the Applicants challenged the validity of the City of Toronto's Shark Fin By-law seeking a declaration that the By-law was

ultra vires the City of Toronto and of no force and effect. The impugned Shark Fin By-law banned the possession, sale and consumption of shark fin or shark fin food products in the City of Toronto. In concluding that the By-law lacked a proper municipal purpose, the Court struck down the By-law.

In the *Eng* case the Superior Court judge cautioned municipalities against passing laws simply because it may be considered to be a good cause.

In considering the validity of municipal by-laws, courts have taken a deferential and generous approach, and there is a presumption of validity. The Supreme Court of Canada stated:

It is not enough that a particular issue has become a pressing concern in the opinion of a local community. This concern must relate to problems that engage the community as a local entity, not a member of the broader polity. It must be closely related to the immediate interests of the community within the territorial limits defined by the legislature in a matter where local governments may usefully intervene.¹

The boiling of live lobsters may be framed in a way that keeps it closely related to the interests of the community, since it does not in itself involve any outside actions, such as fishing. It is simply in regards to the method of cooking, which can be locally contained. In this way, the court may find that municipalities can intervene. However, any attempt to enact such a by-law should be made with awareness that a by-law cannot be enacted simply to fulfil a policy objective.²

As it relates to the power of a municipality to pass by-laws regarding animals, in *Eng* the Ontario Superior Court of Justice inferred the purpose of the by-law based on the Preamble. The Court did not consider products or food products of the animal to be “an ‘animal,’” and as such the ban was not a “ban with respect to animals” within the scope of municipal power. In the *Eng* case, the court found such a ban would be better suited and more appropriate for the provincial or federal government, and that it was *ultra vires* the municipality’s power. A prohibition on boiling live lobsters could be distinguishable from the *Eng* case as it would not be about a part of an animal, but the entire animal and the method of cooking.

If the prohibition on boiling live lobsters were to be enacted for the purposes of animal welfare, this would likely be better dealt with at the provincial or federal level, as it would have a wider ranging effect and could be dealt with as a criminal matter.

¹ 114957 *Canada Ltée (Spraytech, Société d'arrosage) v Hudson (Town)*, 2001 SCC 40 at para 53, [2001] 2 SCR 241 [emphasis added].

² *Eng v Toronto (City)*, 2012 ONSC 6818 at para 57 [*Eng*] at para 20.

The *Eng* case also defined the social well-being of the municipality, which is defined in the *Act* as “the ability of the inhabitants of the City to live together in the City as an urban society.”³ In that case, the Court found that the practice of shark-finning in distant oceans did not affect the ability of Torontonians to live together as an urban community and therefore could not be considered to relate to their social well-being.⁴ It could however be argued that since boiling live lobsters does not involve a practice that occurs outside the municipality, such as shark-finning, it does affect the ability of the inhabitants of a municipality to live together as a society. However, it is important to note the method of cooking food is highly personal and generally occurs in private homes. So, one could also argue that it has little bearing on the ability of the inhabitants of a municipality to live together in a community.

Eng also raised the concern that a ban regarding certain animals or animal by-products may have detrimental effects on the activities of certain population groups—in that case, on the Chinese community in Toronto.⁵ In addition, the Court stated that the ban on shark finning was “highly intrusive,” impacting the consumption in private residences, and carrying with it penalties for non-compliance.⁶ Any by-law prohibiting the boiling of live lobsters should be enacted to have the least detrimental effect on any defined group(s) of people.

While the shark fin and related products (*Eng*) case is different from this request, many of the principles of the decision remain the same. In order for the City to pass a by-law prohibiting the cooking of live animals it would need to be shown how a by-law governing the cooking of a specific type of animal relates to the social well-being of the City. The phrase “social well-being of the City” is not defined in the *Act* and the phrase must refer to the ability of the inhabitants of the City to live together in the City as an urban society. At this time it is not understood how the prohibition of cooking animals while alive affects the ability of residents in Stratford to live together as an urban community.

In addition, the human treatment of animals is governed by several pieces of legislation including the Criminal Code (being no cruelty to animals). These pieces of legislation supersede any municipal by-law and we recommend that it is appropriate for this issue to be dealt with at the provincial and/or federal level.

Due to case law and the governing of the humane treatment of animals through several pieces of legislation, staff do not recommend the consideration of a by-law prohibiting the cooking of certain animals while alive.

Financial Impact: There are no financial implications to be reported.

³ *Ibid* at para 74.

⁴ *Ibid*.


⁵ *Ibid* at para 91.

⁶ *Ibid* at para 90.

Staff Recommendations: THAT after consideration of legal advice, case law and legislation governing the humane treatment of animals, the request to adopt a by-law prohibiting the cooking of live animals be filed.



Tatiana Dafoe, Deputy Clerk



Michael Humble, Director of Corporate Services



Rob Horne, Chief Administrative Officer



MANAGEMENT REPORT

Date: June 27, 2018
To: Infrastructure, Transportation and Safety Sub-committee
From: Mike Mortimer, Manager of Environmental Services
Report#: ITS18-034
Attachments: OCWA's 2017 Annual Performance Report to City of Stratford Mar2018

Title: 2017 Stratford Water Pollution Control Plant Annual Report

Objective: To submit the 2017 Stratford Water Pollution Control Plant Annual Report to Sub-Committee and Council for their information.

Background: The Stratford Water Pollution Control Plant is owned by the City of Stratford, but operated under contract by Ontario Clean Water Agency (OCWA). OCWA has prepared the 2017 Annual Water Pollution Control Plant Report, which must be submitted annually to the Ministry of the Environment and Climate Change (MOECC), showing how the treatment plant performed throughout the year.

The report summarizes the operation for the Water Pollution Control Plant and reports on all the activities that occurred at the treatment plant throughout the year. The report also indicates how the plant met all of the Environmental Compliance Approval requirements for effluent discharge into the Avon River.

Analysis:

Total Flows - There was significantly more precipitation in 2017 (912.6 mm) than 2016 (673.6 mm). A review of data indicates that the rainfall totals occurred over a greater period of days in 2017.

The treatment plant treated a total of 7,259,334 m³ of effluent for an average daily flow of 19,916 m³ per day. The design capacity of the treatment plant is 30,660 m³ per day and based on the flows received for 2017, operated at 64.9% of the design capacity. This percentage increased from 57.1% in 2016 and can be attributed to the precipitation totals.

Overflow Events - During the 2017 year, the treatment plant had 7 events (2016- 6 events) where there was discharge from the wet weather equalization tank and discharge into the Avon River. These events were all due to flows caused by heavy precipitation and/or snow melt. A total of 535,947 m³ (2016 - 500,833 m³) was discharged for a total of

542.1 hours (2016 - 538.5 hours). The number of events and total discharge and times are very consistent with what was experienced in 2016.

During a flow exceedance, the excess flow is diverted to an equalization tank and contact chamber where appropriate chlorination of the flow is achieved. Upon leaving the chlorine contact chamber, the flow is then de-chlorinated prior to discharge into the Avon River.

Effluent Quality - The effluent discharges met all requirements for levels of removal for 2017:

- | | |
|----------------------------------|--------|
| • Carbonaceous Biological Demand | 98.0 % |
| • Total Suspended Solids | 97.8 % |
| • Total Kjeldahl Nitrogen | 96.1 % |
| • Total Phosphorus | 95.4 % |

Capital Projects - The capital projects undertaken for the 2017 year were as follows:

- Primary clarifier upgrades and structural rehabilitation, including rehabilitation of all four primary clarifiers, was completed in August 2017
- Aeration tank cleanout (tank 4)
- Installation of Variable Frequency Drive Screw Pumps on influent pumping station as part of the Clean Water and Wastewater Fund (Ontario) acceptance
- Replacement of progressive cavity pump
- Replacement of stainless steel Ultra Violet baffle
- Replacement of a number of valves
- Upgrade of the SCADA system (ongoing)

In summary, the Water Pollution Control Plant, operated by OCWA, has met and exceeded all Environmental Compliance Approval requirements for the 2017 operating year.

Financial Impact: Capital works and the cost of operating the Water Pollution Control Plant is financed through the Sanitary Sewer Surcharge rate.

Staff Recommendation: THAT the 2017 Stratford Water Pollution Control Plant Annual Report be received for information.



Mike Mortimer, Manager of Environmental Services



Ed Dujlovic, Director of Infrastructure and Development Services

A handwritten signature in black ink, reading "Rob Horne". The letters are cursive and fluid, with the first name "Rob" and last name "Horne" clearly distinguishable.

Rob Horne, Chief Administrative Officer

2017 Annual Performance Report



OCWA's 2017 ANNUAL PERFORMANCE REPORT

to the City of Stratford

March 31, 2018

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SECTION 1: EXECUTIVE SUMMARY

Overview

Water quality in the Avon River is essential to the health of local water fowl and the aquatic ecosystem of the Avon River Basin. 2017 marked another year of successful protection of that sensitive ecosystem at the City's Water Pollution Control Plant (WPCP). OCWA's plant operators made sure all effluent water quality targets were met and exceeded throughout 2017 despite a number of abnormally high rainfall events. This continues the string of good results our operators have consistently delivered to the City since 1958.



2017 Results

The Stratford WPCP consistently produced high quality effluent that met and exceeded all regulated limit requirements of the plant's Amended Certificate of Approval (Issued January 14, 2011; revoked May 23, 2017) and new Amended Environmental Compliance Approval (ECA) issued May 23, 2017. Removal rates for key effluent quality indicator parameters (i.e. CBOD5, TSS, TKN and Total Phosphorus) were all 95.4% or better for 2017. There were 12 days of abnormally high flows into the plant caused by excess precipitation in the area that led to 7 storm tank discharge events lasting a total of 23.3 days. There were no negative results or corrective actions required related to samples tested during the year.

In addition to meeting all regulatory limit targets, our top 10 highlights for 2017 are:

- Conducted comprehensive operations activities to monitor and control plant performance 24/7
- Minimized risk of exceedances impacting effluent quality through ongoing quality assurance
- Programmed maintenance, inspections and calibrations to underscore level of care of facility assets and equipment
- Successfully delivered 20 major repair and replacement projects valued at \$310,000, including the VFD installation on 3 of the Archimedean Screw Pumps located in the main lift station designed to improve energy savings.
- Delivered 4 significant improvement projects, including the replacement of a new VFD and raw sludge pump, Aeration Cell #4 cleanout, supply and install a new stainless steel UV baffle system in the filter building and a new auto flame circuit board in regards to the digester gas boiler system
- Continued to build community water awareness through our OneWater Program, provided education and contributed to a number local causes

- There were no service disruptions and we were responsive to all customer enquiries. This was due to our strong local presence, a presence backed up by OCWA's full team of emergency responders and technical experts
- Continued promoting a safe and healthy work environment for our staff, contractors and visitors
- Produced anaerobically stabilized biosolids meeting all the guidelines for agricultural use

Looking Ahead

The future looks bright as we all look forward to continued good results in 2018 and beyond. We will continue to improve our operating practices and technologies to better predict and prepare for extreme weather events and other factors impacting plant processes. We will also continue to help successfully implement repair, replacement and other capital projects aimed at sustaining or improving plant performance.

OCWA continually invests in their people and those systems that support our clients. There is great value in our remote monitoring, data collection and asset management system. We have completed a major investment to expand our data and asset management tools. With these systems, the City will have access to real time data with a view to trending and optimization. OCWA's migration to Maximo for our asset management system provides greater detail and timely accuracy for your equipment and assets. The Maximo system was implemented at the Stratford WPCP in late 2016.

One key project which began October 2016 and was completed November 2017 was the Primary Clarifier Upgrade and Structural Rehabilitation including replacement of mechanical equipment and valves. This means we will increase our resilience in the face of external factors such as climate change.

There are a number of recommendations for repair and replacement (requiring capital investment) in Section 8 of this report, and we propose formalizing our operational reporting to the Manager of Environmental Services on a quarterly basis rather than the current annual reporting.

Our partnership with the Stratford community is based on protecting the Avon River and broader environment through wastewater treatment, process optimization, and managing capital projects. We appreciate our long-term partnership with the City and look forward to continuing our successful collaboration.

REPORT PREPARED BY:

Marcel Misuraca
General Manager
Ontario Clean Water Agency

SECTION 2: PROTECTING THE ENVIRONMENT

When it comes to the environment, we align our programs with community expectations and goals to focus on protecting the Avon River watershed and keeping the local habitat healthy. Our operating procedures and Quality and Environmental Management System (QEMS) describe the activities we undertake to make sure compliance limits are met.

Operational Activities Conducted

Operational activity highlights during 2017 include:

- Performing more than 800 operator rounds
- Collecting and analyzing more than 3,000 samples in our on-site laboratory
- Collecting and sending more than 650 samples to external laboratories for detailed analysis of more than 50 parameters
- Updating all O&M procedures manuals
- Creating and updating SOP's (Standard Operating Procedures)
- Implementing our new process data management technology
- Accommodating internal process audits
- 12 health and safety audits
- Completing more than 950 preventive and corrective work orders
- Completing and submitting all required compliance reports – including this annual performance report
- Meeting on a regular basis with City representatives

All Regulatory Targets Met

The City of Stratford Water Pollution Control Plant is equipped and operated to meet stringent regulatory requirements from the Ministry of Environment and Climate Change (MOECC) and protect the river's aquatic environment. All effluent water regulated limits for the facility were met and exceeded in 2017.

The plant met the 2017 targets for the following important indicators of water quality:

- Carbonaceous Biochemical Oxygen Demand (CBOD₅) – we removed more than 98% of CBOD₅, the most important indicator of the amount of organic pollution in the wastewater effluent
- Total Suspended Solids (TSS) – we removed more than 97.8% of TSS, an indicator of the concentration of solid particles in the wastewater effluent and a determinant of the level of water clarity which, if reduced, can inhibit the ability of aquatic organisms to find food
- Total Kjeldahl Nitrogen (TKN) – we removed 96.1% of TKN (organic nitrogen + ammonia) a major component of total nitrogen. Nitrogen in the form of nitrates can encourage nuisance algae growth, lead to eutrophication in the river and have a toxic effect on amphibian species while un-ionized ammonia (calculated by the ammonia levels, pH and temperature) can be toxic to aquatic life at low concentrations

- Total Phosphorus (TP) – we removed more than 95.4% of phosphorous, which, though essential to the growth and survival of organisms, can, in excess amounts, stimulate nuisance algae and aquatic plant growth and cause eutrophication. Those organisms, in turn, can deplete oxygen levels as they decompose, resulting in potential adverse effects on aquatic fauna and restrictions on recreational use of waterways

Table 1.0 below shows a summary of the results achieved in 2017 against the Effluent Limits identified in the plant's Amended Certificate of Approval (C of A) Number 4926-8C5QZL (Issued January 14, 2011; revoked May 23, 2017) and the new Amended Environmental Compliance Approval (ECA) Number 0932-AJNJT4 issued May 23, 2017.

Table 1.1 below shows a summary of the results achieved in 2017 against the Effluent Objectives set in the plant's Amended Certificate of Approval Number 4926-8C5QZL (Issued January 14, 2011; revoked May 23 2017) and the ECA (Number 0932-AJNJT4) issued May 23, 2017. The final effluent pH did not meet the system design objectives for the months of June, July and September. The final effluent Total Phosphorous did not meet the monthly average objective in June, August and November. In house process monitoring and related process adjustments were made to strive to meet facility design objective values.

Table 1.0: Effluent Water Quality Parameters - Limits vs. Results

Effluent Quality Parameter	Certificate of Approval Effluent Concentration and Environmental Compliance Approval Limits	Average Annual Concentration Results & Maximum Monthly Concentration
Carbonaceous Biochemical Oxygen Demand (CBOD ₅ - mg/L)	10.0 mg/L – 15.0 mg/L (C of A) (summer – winter) 10.0 mg/L (ECA) monthly average	2.61 mg/L Max. Monthly Average: 4.0 mg/L
Total Suspended Solids (TSS – mg/L)	10.0 mg/L - 15.0 mg/L (C of A) (summer - winter) 10.0 mg/L (ECA) monthly average	2.43 mg/L Max. Monthly Average: 3.6 mg/L
Un-Ionized Ammonia	C of A & ECA 0.1 mg/L Monthly Average 0.2 mg/L Single Sample Result	0.0011 mg/L Max. Monthly Average: < 0.002 mg/L Maximum Single Sample: 0.004 mg/L
Total Phosphorous (TP - mg/L)	0.2 mg/L – 0.5mg/L (C of A) (summer - winter) 0.2 mg/L (ECA) monthly average	0.11 mg/L Max. Monthly Average: 0.15 mg/L
E-Coli (Geometric Mean Density in CFU per 100 ml)	200 per 100 ml (C of A) and (ECA)	3.09 per 100 ml Maximum Monthly GMD: 11.3 CFU / 100 ml
pH	6.0 - 9.5 Inclusive at all times (C of A) and (ECA)	Min-Max: 6.17-7.87
Dissolved Oxygen	Not less than 4.0 mg/L Monthly Average Concentration (C of A) and (ECA)	8.65 Minimum: 5.2 mg/L

Final Effluent Loading Limits		
Final Effluent Parameter	Limit (maximum permissible value unless otherwise indicated)	Loading Averaging Monthly Average Effluent & Maximum Concentration
CBOD	306 kg/d	Avg. 47.35 kg/d Max. 67.50 kg/d
Total Suspended Solids	306 kg/d	Avg. 45.85 kg/d Max. 80.82 kg/d
Total Phosphorus	6.1 kg/d	Avg. 1.97 kg/d Max. 2.90 kg/d
Un-ionized Ammonia	3.06 kg/d	Avg. 0.02 kg/d Max. 0.034 kg/d

Table 1.1: Effluent Water Quality Parameters - Design Objectives vs. Results

Effluent Quality Parameter	Certificate of Approval Effluent and the Environmental Compliance Approval Concentration Objectives	Average Annual Concentration Results
Carbonaceous Biochemical Oxygen Demand (CBOD ₅ - mg/L)	5.0 mg/L – 10.0 mg/L (summer – winter) (C of A) 5.0 mg/L (ECA) monthly average	2.6 mg/L Max. Monthly Average: 4.0 mg/L
Total Suspended Solids (TSS – mg/L)	5.0 mg/L - 10.0 mg/L (summer - winter) (C of A) 5.0 mg/L (ECA) monthly average	2.5 mg/L Max. Monthly Average: 3.6 mg/L
Un-Ionized Ammonia	0.08 mg/L (C of A) and (ECA)	0.0011 mg/l Max. Monthly Average: < 0.002 mg/L Maximum Single Sample: 0.004 mg/L

Total Phosphorous (TP - mg/L)	0.1 mg/L – 0.3mg/L (summer - winter) (C of A) 0.1 mg/L (ECA)	0.11 mg/L Max. Monthly Average: 0.15 mg/L
E-Coli (Geometric Mean Density in CFU per 100 ml)	150 per 100 ml (C of A) and (ECA)	3.09 per 100 ml Maximum Monthly GMD: 11.3 CFU / 100 ml
pH	6.5 - 9.0 Inclusive at all times (C of A) 6.5 - 8.5 inclusive (ECA)	Min-Max: 6.17-7.87
Dissolved Oxygen	5.0 mg/L (ECA)	8.65 Minimum: 5.2 mg/L

Bypasses Well-Managed Despite Heavy Rain Events

Eight (8) bypassing events occurred at the Stratford WPCP during the 2017 calendar year; these bypassing events occurred on January 3rd – 5th, January 11th – 15th, January 22nd to January 25th, February 22nd, March 1st, April 6th to April 10th, April 20th to 22nd and May 1st to May 8th 2017. All the bypassing events were the result of heavy area precipitation or snow melt except the February 22nd 2017 event. On February 22nd, 2017 the Tertiary Filters and UV System were bypassed because of an equipment failure issue.

Jan. 1-5 2017 Bypass Event: (Amended Certificate of Approval # 4926-8C5QZL applicable)

This bypass event lasted for 39.65 hours; a total of 31.5 m³ sewage underwent primary treatment but bypassed the facilities secondary treatment process. This bypass event was directly related to high flows into the facility; high flows were the result of heavy precipitation in the area and snow melt. Bypassed flow received chlorine disinfection & follow up de-chlorination; applicable samples were collected.

Jan. 11-15 2017 Bypass Event: (Amended Certificate of Approval # 4926-8C5QZL applicable)

This bypass event lasted for 93.5 hours; a total of 104.1 m³ sewage underwent primary treatment but bypassed the facilities secondary treatment process. This bypass event was directly related to high flows into the facility; high flows were the result of heavy precipitation in the area and snow melt. Bypassed flow received chlorine disinfection & follow up de-chlorination ; applicable samples were collected.

Jan. 22-25 2017 Bypass Event: (Amended Certificate of Approval # 4926-8C5QZL applicable)

This bypass event lasted for 69.5 hours; a total of 38.4 m³ sewage underwent primary treatment but bypassed the facilities secondary treatment process. This bypass event was directly related to high flows into the facility; high flows were the result of heavy precipitation in the area and snow melt. Bypassed flow received chlorine disinfection& follow up de-chlorination ; applicable samples were collected.

February. 22 2017 Bypass Event: (Amended Certificate of Approval # 4926-8C5QZL applicable)

This bypass event lasted for 1 hour; the volume bypassed could not be determined. Sewage underwent primary treatment & secondary treatment but bypassed the tertiary filters and UV disinfection. This bypass event was directly related to equipment failure and follow up equipment maintenance. Bypassed flow received chlorine disinfection& follow up de-chlorination ; applicable samples were collected.

Mar. 01-3,2017 Bypass Event: (Amended Certificate of Approval # 4926-8C5QZL applicable)

This bypass event lasted for 58.0 hours; a total of 75.7 m³ sewage underwent primary treatment but bypassed the facilities secondary treatment process. This bypass event was directly related to high flows into the facility; high flows were the result of heavy precipitation in the area and snow melt. Bypassed flow received chlorine disinfection& follow up de-chlorination ; applicable samples were collected.

Apr. 06-10,2017 Bypass Event: (Amended Certificate of Approval # 4926-8C5QZL applicable)

This bypass event lasted for 97.0 hours; a total of 71.5 m³ sewage underwent primary treatment but bypassed the facilities secondary treatment process. This bypass event was directly related to high flows into the facility; high flows were the result of heavy precipitation in the area. Bypassed flow received chlorine disinfection & follow up de-chlorination; applicable samples were collected.

Apr. 20-22,2017 Bypass Event: (Amended Certificate of Approval # 4926-8C5QZL applicable)

This bypass event lasted for 28.5 hours; a total of 22.8 m³ sewage underwent primary treatment but bypassed the facilities secondary treatment process. This bypass event was directly related to high flows into the facility; high flows were the result of heavy precipitation in the area. Bypassed flow received chlorine disinfection& follow up de-chlorination ; applicable samples were collected.

May 01-08,2017 Bypass Event: (Amended Certificate of Approval # 4926-8C5QZL applicable)

This bypass event lasted for 172.0 hours; a total of 155.9 m³ sewage underwent primary treatment but bypassed the facilities secondary treatment process. This bypass event was directly related to high flows into the facility; high flows were the result of heavy precipitation in the area. Bypassed flow received chlorine disinfection& follow up de-chlorination ; applicable samples were collected.

No Bypass, Overflow or abnormal discharge events occurred applicable to Amended Environmental Compliance Approval # 0932-AJNJT4 issued May 23, 2017

Processes Controlled to Produce Safe Effluent and Reusable Biosolids

Wastewater is collected from the more the than 32,000 residents as well as Stratford's industries, commercial establishments and institutions. The City's operators convey the wastewater using gravity and pumping to deliver it to the water pollution control plant. OCWA's operators then treat and manage the wastewater along the following path:

- Receiving the raw sewage influent into the plant for treatment during regular flow levels. If flows are too high to be able to be treated at the plant during heavy rainfall events the extra flow is diverted to the wet weather flow equalization tanks. When the rain subsides the wastewater is then diverted back into the plant to be treated

- Screening the raw wastewater to remove large objects
- Removing grit in the grit chambers
- Settling out larger particles in the primary clarifiers and removing the settled out materials (primary sludge) for further processing
- Using aeration to supply the oxygen needed to metabolize the microorganisms in the wastewater so they can break down the dissolved and suspended organic matter; thereby reducing their Biochemical Oxygen Demand (BOD) and wasting and returning excess materials (waste and return activated sludge) as needed to keep the process in perfect balance
- Final settling-out remaining particles and removing the settled materials using a rapid sludge removal process. Some of this sludge is returned back to the front of the aeration process (return activated sludge) while any excess (waste activated sludge) is further processed along with the sludge from the primary clarifiers
- Filtering or “polishing” the liquid effluent from the final settling tanks
- Disinfecting the liquid effluent using ultraviolet disinfection
- Sludge removed from the primary and final settling processes is digested and stabilized so that it is safe for eventual application to agricultural lands as a soil conditioner
- Phosphorus is removed during the treatment process through the addition of ferrous chloride chemicals at one or two points in the treatment process

Quality Assurance Part of Day-to-Day Operations

Effluent quality is assured on an ongoing basis by monitoring process parameters, analyzing the relationship between various parameters and examining any changes and trends that may have an impact on effluent quality.

Operators perform a number of daily tests for liquids processes. One example is the testing of the mixed liquor, a mixture of raw or settled wastewater and activated sludge within the aeration process. Tests include dissolved oxygen, pH, temperature, settling tests, and Mixed Liquor Suspended Solids (MLSS) and the results tell the operators about the health of the processes and their impact on the final effluent. Tests to monitor the ferrous chloride dosages and wasting volumes are also completed.

The solids processes are continuously monitored as well. Volatile acid and alkalinity tests are completed weekly on the primary digester to monitor the health of the digestion process.

Data collected from all the tests is analyzed and provides valuable information to the operator so that the appropriate adjustments in the treatment process can be made and corrective action can be taken before the plant gets close to reaching its effluent limits.

MOECC Inspections

An MOECC Inspection was completed on April 16, 2016.

There were a total of 7 Non-Compliances with Regulatory Requirements and Actions Required. 3 of the 7 Non-Compliances required no further actions; follow up actions were completed as required.

There were a total of 4 Recommendations and Best Practices.

SECTION 3: RESPONSIBLE FACILITY MAINTENANCE & STEWARDSHIP

The City of Stratford owns all wastewater facilities used to transport and treat Stratford's wastewater while the Ontario Clean Water Agency operates and maintains the facilities used to receive and treat the wastewater under contract to the City.

Facilities under OCWA's Stewardship

Wastewater system facilities and equipment under OCWA's stewardship extend from the influent structure to the final effluent point. The Water Pollution Control Plant (WPCP) is a conventional activated sludge facility which uses anaerobic digestion to stabilize its solids. Major facility components include the following:

- Raw sewage pumping station
- Wet weather flow equalization tanks (2)
- Overflow chlorination and de-chlorination system (1)
- Storm flow tanks (2)
- Grit removal chambers
- Primary settling basins (clarifiers)
- Aeration tanks equipped with fine pore ceramic diffusers (4)
- Final settling tanks (clarifiers) with rapid sludge removal (3)
- Filters
- Ultraviolet disinfection unit
- Anaerobic digesters
- Waste sludge system
- Chemical storage and delivery facility (2)
- Generator and standby diesel generator

Equipment required to properly operate and maintain the facilities, including:

- Mechanical Systems (e.g. pumps, valves, mixers, screens, augurs)

- Electrical systems (e.g. power supplies)
- Instruments
- Control systems (e.g. Supervisory Control & Data Acquisition Systems, programmable logic controllers)
- Information Technology Systems (e.g. work management systems, process data management system)

The wastewater system also includes 10 sanitary sewage pumping stations and 1 storm station located across the City which are operated and maintained by the City's Public Works Department.

Operations and Maintenance Work Prioritized and Scheduled

All operations and maintenance work at the plant was requested, scheduled, completed and documented using OCWA's Work Management System (WMS). As of December 2016 Maximo has been used. Work to be done is often identified by a plant operator, mechanic or electrician and documented using a work request. This work request is then approved to become a work order which is assigned to and completed by an appropriate staff member. Work orders can also be scheduled and generated automatically by the WMS in the case of planned or preventive work to be done (e.g. weekly sample taking or monthly pump lubrication).

The WMS/Maximo contains a lot of important data about valuable plant assets as well as the specific "job plans" whose instructions we follow to maintain those assets in the best way and with the right frequency. The system helps us identify when the assets reach the point when it is most cost-effective to perform rehabilitation or replacement.

The WMS/Maximo also contains the risk and impact-based priorities that help us determine the order in which to perform our maintenance and operational activities. The prioritization method in the system uses factors such as risk, safety, environmental, customer, operations, financial and urgency. This means that work requests are prioritized to ensure that top priority work is being pursued at all times.

There are three types of work orders used by plant staff to perform work:

1. **Emergency work** – which usually involves safety hazards, environmental concerns or major interruption of service. Repairs are often initiated without waiting for work orders to be processed
2. **Routine or Preventive** maintenance work – which does not require prioritizing, as it is always scheduled and built into the regular work schedule
3. **Breakdown or Corrective** maintenance work – which is prioritized, planned and scheduled into the regular preventive maintenance program

The preventive maintenance requirement and corrective maintenance work requests are added to the schedule according to the priority and workload of staff and availability of outside contractors. The following table shows the number of preventive work orders generated and completed in 2017.

Table 2: Word Orders for 2017

ROUTINE or PREVENTIVE MAINTENANCE WORK ORDERS GENERATED in 2017											
JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
69	65	43	53	59	46	42	42	44	63	50	42

As mentioned in the Executive Summary, OCWA's ongoing investment in our information technology and asset management tools will continue to provide sound monitoring and detailed support for asset protection and for the long-term health of your system.

Equipment Inspection & Instrument Calibration

There were a number of planned calibrations and inspections completed in 2017, including:

- Meters: influent meter, effluent meter, bypass meter and flow transmitters (calibrated by Pierce Services and Solutions Inc.)
- All hand-held and laboratory equipment (calibrated by Pierce Services and Solutions Inc.)
- Backflow preventers (inspected by Turner Plumbing and Heating)
- All lifting equipment/devices (inspected by Kone Cranes)
- All gas monitoring equipment (calibrated by Hetek Solutions Inc.)
- Emergency generator (inspected by Toromont)
- All fire extinguishers (inspected by Mobile Fire and Safety)
- In house meters for pH and dissolved oxygen (calibrated by OCWA operators as per manufacturer's instructions)
- Health and Safety (inspections completed monthly by OCWA Health and Safety Inspector ? / Representative?)

SECTION 4: CAPITAL PROJECTS AND PERFORMANCE IMPROVEMENTS

2017 Annual Capital Repair and Replacement Projects

The following is a summary of capital work undertaken by OCWA at the Stratford WPCP in 2017. This work was performed under OCWA's direction and coordinated in a way to ensure the plant continued to operate at an optimum level during any on-site construction activities. Each project was identified in the rolling 5-year capital improvement plan for the wastewater plant.

OCWA was responsible for identifying, designing and successfully implementing a number of important repairs and replacement projects on behalf of the City in 2017. The table below shows the projects and the benefits they produced for the City.

Table 3: Capital Projects for 2017 managed by OCWA

Capital Project	Maintain Day-To-Day Operations	Reduce Risk	Increase Efficiency	Reduce Cost	Improve Health & Safety
New hot water tanks	X	X	X	X	
New VFD screw pumps	X	X	X		X
Repairs to the storm tank flushing system	X	X	X	X	
Service agreements on generator, backflow preventers, fire extinguishers, etc	X	X	X	X	
New lunchroom flooring	X				X
Replacement of new gauges	X	X	X		
New auto flame circuit board digester gas boiler system	X	X	X		X
Emergency water main leak	X	X		X	X
Replacement of new VFD and sludge pump	X	X	X	X	
Replacement of new stainless steel UV Baffle	X	X			X
Replacement of a new progressive cavity pump	X	X	X		X
Filter building surface wash repair	X	X	X		
Aeration cleanout	X	X	X	X	
Replacement a number of valves	X				X
Upgrade of the SCADA system (ongoing) (2016, 2017)	X	X	X	X	X

2017 Improvement Projects

Four improvement projects were delivered in 2017 by OCWA's technical advisory staff as part of Stratford's ongoing commitment to improving the performance of its wastewater facility

- Plant Aeration # 4 Cleanout
- Installation of a new VFD and sludge pump
- Installation of a new stainless steel UV baffle
- New Auto Flame circuit board for the digester boiler system

Each is targeted at reducing the amount of energy required to run the facility, reduce the amount of chemicals required to achieve effluent quality targets and reduce the cost of both. The ultimate outcome is to deliver a significant reduction of the City's carbon footprint.

Plant Aeration Blower Upgrade

The OCWA technical advisory team successfully completed the installation of the Stratford WPCP turbo blower on March 20, 2014. The team did an initial engineering study in coordination with City management to determine the size and type of the blowers and estimate the anticipated annual energy reduction (293,000 kWh). The team's recommendations were then validated by a third party.

Significant energy savings and cost reductions have been achieved as a result of the turbo blower implementation, including:

- In 2014-15, 376,000 kWh of actual energy savings was achieved for a total of \$56,400 in cost savings
- In 2015-16, a reduction of 521,781 kWh of energy savings is anticipated for a total of \$78,267 in cost savings
- In 2016-17, 390,040 kWh of actual energy saving was achieved for a total of \$58,506 in cost savings. Considering the higher flows of 874,177m³ in 2017, the savings are reasonable.

Energy Audit

OCWA performed an Energy Audit at the plant in 2015 to identify all opportunities to improve the use of energy in addition to the use of the turbo blower and the VFD screw pumps. Additional recommendations to reduce energy usage in the plant were provided and taken into consideration for action in years to come.

Comprehensive Performance Evaluation (CPE)

In October 2014, OCWA delivered a Comprehensive Performance Evaluation Report (CPE) to the City. The CPE identified the health of the wastewater system and provided 25 recommendations for improvement in the areas of design, operation, maintenance, and administration. Those recommendations continue to be a source of potential capital projects.

SECTION 5: CLOSE COMMUNITY PARTNERSHIP

OCWA's staff is proud to be able to support the Stratford community through our education and awareness programs such as OCWA's OneWater Program as well as contributing to various important charitable. Examples of local outreach include:

- Providing 10-15 tours per year of the Stratford Water Pollution Control Plant for organizations such as elementary schools, high schools, Kiwanis members, Probus members, Energy & Environment committee and boy scouts
- Presenting our OneWater program for water literacy and good water stewardship to St. Ambrose School as part of the grade 8 water system curriculum
- Sponsoring local events such as:
 - Canadian Baseball Hall of Fame Golf Tournament (2015/2016)
 - Winterfest (2017,2016, 2015, 2014)
 - Santa Clause Parade (2017,2016, 2013,)

St. Ambrose School Tour



OCWA Staff Working on Aeration System

SECTION 6: RESPONSIVE CUSTOMER SERVICE

OCWA staff is committed to protecting the Stratford community and its environment 24 hours per day and 365 days per year. Our licensed wastewater operators provide that protection during regular working hours as well as on call every minute of every day in case of an emergency. In addition, they have ongoing access to OCWA's unique province-wide Operational Emergency Response Team as well as a team of technical and engineering experts who can be on site at a moment's notice.

Customer Enquiries

Our staff are always on hand to respond to any questions from City representatives. We use the latest in mobile and integrated technologies to access the necessary information quickly and effectively. We also analyze data and monitor trends to predict situations before they occur so information is shared with City staff before problems occur.

Essential Services Status Means No Labour Disruption

OCWA's operations staff are covered under an Essential Services Agreement that guarantees the City of Stratford will not experience any labour disruption during our partnership.

SECTION 7: SAFE & HEALTHY WORK ENVIRONMENT

The health and safety of our staff, our contractors and any visitors to the Stratford wastewater facilities is of paramount importance. We are committed to providing a safe and healthy workplace for all employees, regularly promoting awareness and providing training at every level of the organization. Our Occupational Health and Safety Policy set the foundation for the development, implementation and continuous improvement of our Occupational Health and Safety System and related programs. We also provide extensive training on everything from defensive driving to regulatory and facility-specific safety procedures. With health and safety at the core of our culture we make sure all our services are provided professionally and responsibly.

At Stratford we achieved our target of zero lost time incidents in 2017. Not only that, our local staff each completed their MOECC mandatory training included in 50 hours of operations training plus 20 hours of specific health, safety and emergency preparedness training.

OCWA Staff Working in Confined Space

SECTION 8: OCWA CAPITAL RECOMMENDATIONS FOR 2018

There are a number of operational recommendations for equipment rehabilitation and replacement required to ensure the plant continues to meet effluent compliance targets at an acceptable level of risk. We continue to consider a number of sources for the determination of capital priorities, including our Work Management System, the Comprehensive Performance Evaluation, the Energy Audit as well as the ongoing discussions with the City to make sure municipal priorities are considered. All projects are captured in an annually updated 10-year capital plan.

With the City's repair and replacement budget set at \$320,000, the following capital items are recommended for 2018:

1. Replace RAS flow meter.
2. Aeration #1 cleanout.
3. Replace filter building anthracite.
4. Lunchroom roof repair.
5. Replace O-rings and gaskets on aeration diffusers.
6. Repairs to the ferrous chloride piping system.
7. Main lift station roof repair
8. Replace grinders in raw sludge pumps.

Additional projects will be completed based on a clear cost-benefit as discussed with and approved by City staff.

SECTION 9: PLANT DESCRIPTION

Summary

The Stratford Water Pollution Control Plant (WPCP) is a conventional activated sludge facility with tertiary treatment. The plant receives raw effluent which is subject to pumping, screening, grit removal, and primary settling before it arrives at the aeration process (tanks are equipped with fine pore ceramic diffusers). The liquids are then sent on for final settling (with rapid sludge removal), before going through tertiary treatment (filtration and ultraviolet disinfection).

In addition, phosphorus is removed during the treatment process by injection of ferrous chloride at a single point in the process (dual point is available if required).

The solids are stabilized using two stage anaerobic digestion.

Wet weather flow is diverted from the distribution chamber to the wet weather flow equalization tanks and pumped back into the plant after the wet weather event for treatment.

Table 4: Stratford Water Pollution Control Plant

Plant Fact / Category	Description
Facility Type	Conventional activated sludge-sand filtration as tertiary treatment, with UV disinfection. Chlorination and de-chlorination of storm water discharges.
Design Capacity	30,660 m ³ /day
Receiving Water	Avon River
Certificate of Approval Number (Issued January 14, 2011; revoked May 23, 2017)	4926-8C5QZL
Environmental Compliance Approval Number (Issued May 23, 2017)	0932-AJNJT4
Plant Classification	WWT-IV

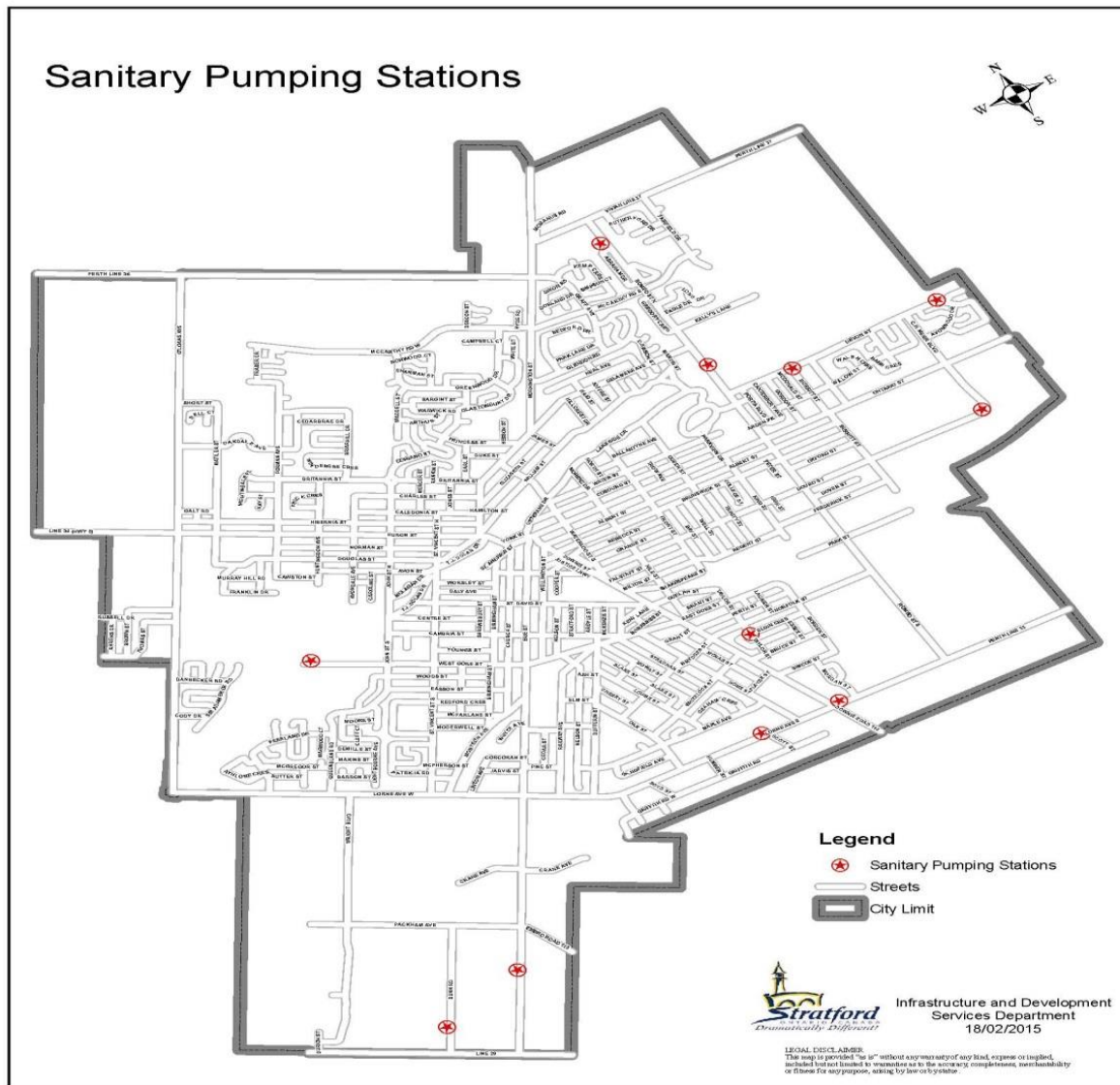
History

The improvements to the treatment facility were completed in 1996, 2004 and 2017. The 1996 improvements included the construction of a new wet weather flow equalization tank, the conversion of two former primary clarifiers to storm flow tanks, upgraded the sewage pumping facilities, 4 new aeration tanks with fine bubble diffusion, one new secondary clarifier, modifications to the existing 2 secondary clarifiers, new chemical storage and delivery facilities, a new standby diesel engine and a generator capable of supplying 100% standby power for the site, new return sludge and waste sludge systems, metering and UV. The 2004 improvements included the modification to wet weather flow equalization tank number 1 with baffle walls, the construction of wet weather flow equalization tank number 2, the addition of chlorination and de-chlorination facilities and miscellaneous controls, electrical equipment, instrumentation, piping, pumps and appurtenances essentials for the proper operation of the Water Pollution Control Plant. The 2017 the improvements include the primary clarifier upgrades and structural rehabilitation. A new diversion chamber was designed with the addition of 4 new stainless steel rotating mechanisms, scum removal system, new bridges, electronic actuators and electrical panels with SCADA control.

Raw Wastewater Collection

The wastewater is collected by gravity and directed to the 10 pump stations and 1 storm station located throughout the City of Stratford (see Fig. 1). The pump stations range from submersible pump operations to dry pit applications. All pump stations are equipped with 2 pumps ranging in size from 1.5 horsepower to 29.0 horsepower. Six (6) of the pumping stations are equipped with backup emergency generators while the other stations have stand by power hook ups for connecting an emergency generator. The pumps are controlled by a two level control systems, Miltronics Ultrasonic sensor and a float system. All pump stations are operated by the City of Stratford Public Works Department and are equipped with an alarm system.

Figure 1: Stratford Sanitary Pumping Stations



Raw Wastewater Lift (raw sewage pumping) Station

The raw domestic wastewater is pumped from the pump stations to the raw sewage lift station located inside the gate at the WPCP treatment facility from the Forman/O'Loane and the Erie/Brydges/Worsley trunk sewers. The lift station is equipped with four (4) Archimedean screw, each of the three (3) screws having a capacity of 427L/s to handle peak dry weather flows and one (1) screw having a capacity of 2,600L/s to handle wet weather flows.



Archimedean Screw

Wet Weather Flow Equalization Tanks and Facility

The storm tank and storm diversion system was commissioned and put into service in 1998. Under the new operation, excess flows are diverted to the two spare primary clarifiers and the new equalization tank and then to the chlorination contact tank during high flow events. Once all storage is full, excess flow begins to overflow the chlorination contact tank and the de-chlorinated primary treated effluent is discharged to the river. In these instances, the equalization tank acts as a primary clarifier (solids removal), providing primary treatment prior to the discharge to the Avon River.

Another storm tank was constructed beside the original tank on-site with a flushing system. Also, a chemical building was constructed for the pumping of the sodium hypochlorite for the disinfection of the discharge and sodium bisulphite for the dechlorination.

There are two wet weather flow equalization tanks, controlled by the Wet Weather Flow Distribution Chamber. Tank 1 is 3000m³ in capacity, with a sediment flushing system and a 300mm diameter outlet sewer connecting to the inlet sewer to the raw sewage lift station. The overflow from tank 1 enters tank 2 which has a capacity of 3000m³ with baffle walls to provide an additional function as a chlorine disinfection facility for emergency wet weather overflow prior to discharge to the Avon River. In the event of a discharge to the Avon River, de-chlorination is achieved.

The overflow chlorination and de-chlorination facility consists of: chlorination and de-chlorination process equipment, controls and sampling equipment. The chlorination system for disinfection of emergency wet weather overflow includes two (2) 15,000 L capacity sodium hypochlorite storage tanks and four (4) 13.4 L/minute capacity metering pumps (one standby), chemical feed lines to the primary dosing point at the inlet chamber of the wet weather flow equalization tank # 1, equipped with an in-line mixer and a backup dosing point at the equalization tanks distribution chamber. The de-chlorination system for the emergency wet weather overflow includes one (1) 3,000 L capacity sodium bisulphite storage tank and two (2) 4.0 L/minute capacity metering pumps (one standby), chemical feed lines to the primary dosing point at the discharge channel of the wet weather flow equalization tank # 2, equipped with an in-line mixer and a backup dosing point at the bypass channel of the wet weather flow equalization tank # 2.

A SCADA system monitors all the flows entering the storm tanks and adjusts the chemical feed rates to flow.



Chlorine Contact Chamber



Equalization Tank

Influent Works

The flow from the raw water lift station flows through the distribution chamber and into the screening building. The building consists of two (2) mechanical bar screens rated at a hydraulic peak flow of 450L/s, a dewatering screw auger to remove screenings, a grit handling facility and a metering chamber. The screening and the grit are removed and sent to the landfill site.



Automatic bar screens



Grit removal system

Primary Clarification

The primary treatment system consists of two (2) circular primary clarifiers, two (2) storm holding/waste storage tanks, the sludge collector mechanisms, two (2) primary sludge pumps rated at 10L/second, two (2) in-line sludge grinders, three (3) primary effluent submersible pumps rated at 210L/second and one (1) dewatering pump rated at 50L/second. The primary clarifiers are designed to remove settleable solids from the wastewater stream, thereby reducing the organic load on the downstream biological treatment process.

The flow from the inlet works enters the distribution chamber with activated sludge being added to the stream for co-settling through 2 of 4 primary clarifiers each rated at 1,500m³. The additional 2 clarifiers

can be used as either primary clarifiers, waste holding tanks or for additional wet weather flows. Settled sludge collects on the bottom of the primary clarifiers and is moved to the central hoppers by a rotating scraper mechanism. Scum and floatables from the surface of the clarifiers are collected by rotating surface skimmers and directed to the scum hoppers. Both the sludge and scum are pumped by two (2) sludge pumps and macerated through in-line grinders to the primary anaerobic digester.



Primary Clarifiers

Biological Treatment (Secondary Treatment)

The main purpose of the secondary treatment system is the removal of solids dissolved in the wastewater and removal of suspended solids that were not removed in the primary treatment. In the aeration process (activated sludge process) bacteria utilize organic matter in the presence of dissolved oxygen for cell growth. It is a biological treatment process that requires aerobic conditions and includes:

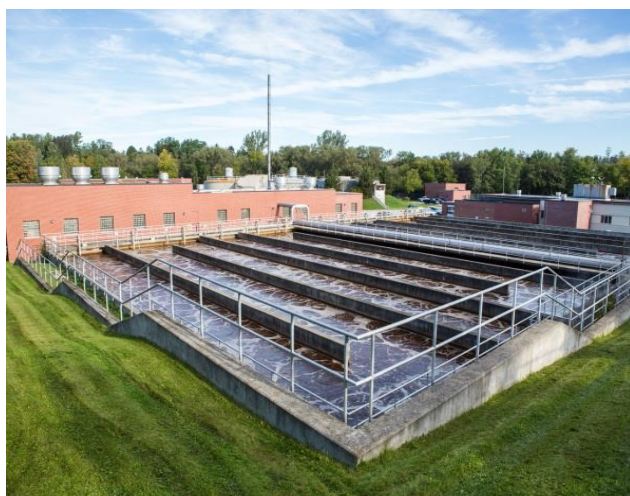
- **Carbonaceous Oxidation:** Biological conversion of carbonaceous matter in wastewater to cell tissue and various gaseous end products.
- **Nitrification:** Conversion of ammonia nitrogen to nitrites and then to nitrates.

The aeration system consists of four (4) aeration tanks. Each tank is divided into three passes to provide a plug flow aeration pattern. This flow pattern is usually recommended for nitrifying systems. It provides flexibility to vary the air supply within the tanks, favouring better oxygen transfer and Dissolved Oxygen (D.O.) control. It also optimizes power usage for aeration and improves sludge settle ability. Aeration and mixing is provided by 12 grids of 944 ceramic disc fine pore diffusers per tank, (1st pass 480, 2nd pass 284 and 3rd pass 180).

- **Air Supply System:** consists one (1) duty...APG Neuros 350HP Turbo Blower and two (2) standby. Hoffman 200HP centrifugal blowers that deliver air to the aeration tanks and the channel air system. The blowers have been designed to deliver compressed air to the aeration system.
- **Secondary Clarification:** There are three (3) circular secondary clarifiers. Mixed Liquor Suspended Solids (MLSS) enter the final clarifier influent distribution chamber and are distributed evenly to the three tanks. The symmetrical shape of the chamber and positioning of the weirs ensure an equal split of the flow to each clarifier. Mixed liquor enters each of the final clarifier via a feed pipe located at the base of the clarifier. The feed pipe discharges within a circular feed well which acts as a baffle to deflect the incoming flow downwards and reduces short circuiting.

The clarifier mechanism in each tank is classified as a rapid sludge removal type. The settled sludge is continuously removed from the tank bottom by pipes which are supported on two rotating trusses. Squeegees on the bottom of the trusses scrape the settled sludge towards the opening in the suction pipes. The eight (8) suction pipes enter the sludge return box from below. A butterfly valve on each pipe is used to control the sludge flow rate into the box from each withdrawal pipe.

The settled sludge from the final clarifiers is identified as **Return Activated Sludge** and is either returned to the main RAS header and further to the inlet chamber upstream of the aeration tanks or **Waste Activated Sludge** which is pumped to the discharge point in the primary settling tank inlet chamber for co-settling with the primary sludge which is pumped to the digester.



Aeration System



Air Supply

*Final Clarifiers*

Effluent Filtration

The effluent filtration system is rated at 30,660m³ per day, and consists of four (4) rapid filters provided with two (2) sub-surface agitators on each filter. The filters are designed to remove solids in the effluent discharged from the secondary clarifiers. In removing the solids, some of the residual BOD and phosphorus are also reduced. The solids accumulated in the filter are removed when the filters are backwashed and the backwash waste water is recycled to the primary clarifier inlet channel. In the process of recycling, many of the solids removed by filtration are removed in the second routing through the plant by physical, chemical or biological flocculation and resultant sedimentation. As a result, finely divided solids do not accumulate in the plant.

The four (4) filters are housed in rectangular concrete boxes arranged side by side. In the concrete boxes are longitudinal trenches with pipe connections that provide outlets for filtered effluent and also is the supply source for the backwash pump. The trenches are bridged by vitrified clay filter blocks that cover the floors of the filter boxes. On the filter blocks, three (3) layers of media are placed. Layer one consists of 310 mm of graded support gravel varying in size from 19 mm on the bottom to 2.5 mm on the top. Layer two is 350 mm of filter sand and layer three is 460 mm layer of anthracite. There are two rotating sub-surface agitators in each filter box. Each agitator arm is provided with 38 nozzles and is designed to mix the expanded media during the backwash operation in order to effectively scour the media and remove all accumulated solids. Water with at least 485 kPa is used to rotate the sub-surface agitator during the backwash operation.

In normal operation, secondary effluent is lifted by the Archimedean screws and flow into the filter box through the filter inlet gate. The effluent passes down through the filter media and is collected in the wet well beneath the filters and flow into the UV disinfection building channel. The rate of flow through the filters can be controlled for each filter by the filter rate control valve or by the filter inlet gate. Once passed through the filter, the effluent flows via channel to the final effluent disinfection process.

*Filter control room**Filter room**Filter model**Interior of a filter*

Final Effluent Disinfection

The effluent is directed to the open channel ultra-violet (UV) disinfection system before being finally discharged to the Avon River.

Filtered effluent flows to the UV channel where it is disinfected by the UV light. The UV system consists of two banks each comprised of 21 racks (modules) with 8 lamps per rack totaling 168 lamps per bank placed in series within one disinfection channel. In addition, one stand-by unit is stored in the UV system cleaning basin in case there is failure with the active UV banks.



Ultraviolet Disinfection

Sludge Management System

The sludge stabilization system is a two-stage digestion process. The primary digester has a fixed cover and the secondary digester has a floating gasholder cover. The system has been designed so that either unit can function as a primary digester if necessary.

These are essentially four key elements to the anaerobic digestion system:

- Sludge feed and supernatant withdrawal
- Sludge recirculation and heating
- Gas system and digester mixing
- Sludge withdrawal

Primary sludge is pumped from the primary settling tanks to the primary digester. The primary digester is maintained at a constant level. When sludge is pumped into the digester, excess sludge overflows into the primary tank supernatant overflow box. The lowest pipe in the overflow box connects to the transfer line that leads to the secondary digester. The second highest pipe connects to the supernatant return line to the inlet works (acts as an emergency overflow). The third pipe in the box is the feed line for the box from the primary digester.

The primary digester is gas mixed. The gas compressor located in the gas pump room continuously moves gas through the diffusers located in the bottom cone of the tank. This induces a rolling motion in the digester that provides complete mixing in the unit. Sludge is heated by pumping it through the heat exchanger and back to the primary digester. The sludge recirculation pump operates continuously in duty/standby mode. Hot water is fed to the heat exchanger to heat the primary sludge and is turned on and off automatically.

Once sludge is transferred to the secondary digester, it settles and thickens in the tank. Gas that is produced is stored in the gas holder cover. Supernatant from the tank overflows in the secondary overflow box and is returned (by gravity) to the primary clarifier influent channel. Sludge can be sampled at various levels inside the digester by opening the appropriate valves in the sampling sink room.

Sludge is withdrawn from the bottom of the secondary digester and transferred to the sludge storage holding tank or sludge storage bed. Sludge is then withdrawn from the holding tank/bed and transferred to the truck loading bay by the transfer pumps. All sludge is removed and applied to agricultural land as per the NASM Guidelines.



2 Stage Anaerobic Digestion (Primary on the left and Secondary on the right, boiler room in the middle)



Sludge storage tank

Standby Power

The WPCP has an automatic standby generator which will operate the plant when there is a power failure. This allows for continuous running of the plant when power outages occur.



Emergency standby power

SECTION 10: FLOW AND WATER QUALITY DATA

Flow and water quality data at the Stratford WPCP is monitored as per the Certificate of Approval #4926-8C5QZL and Environmental Compliance Approval #0932-AJNJT4 requirements. Detailed monitoring data is supplied in [Appendix 4](#).

Raw Wastewater Flow & Discharge Data

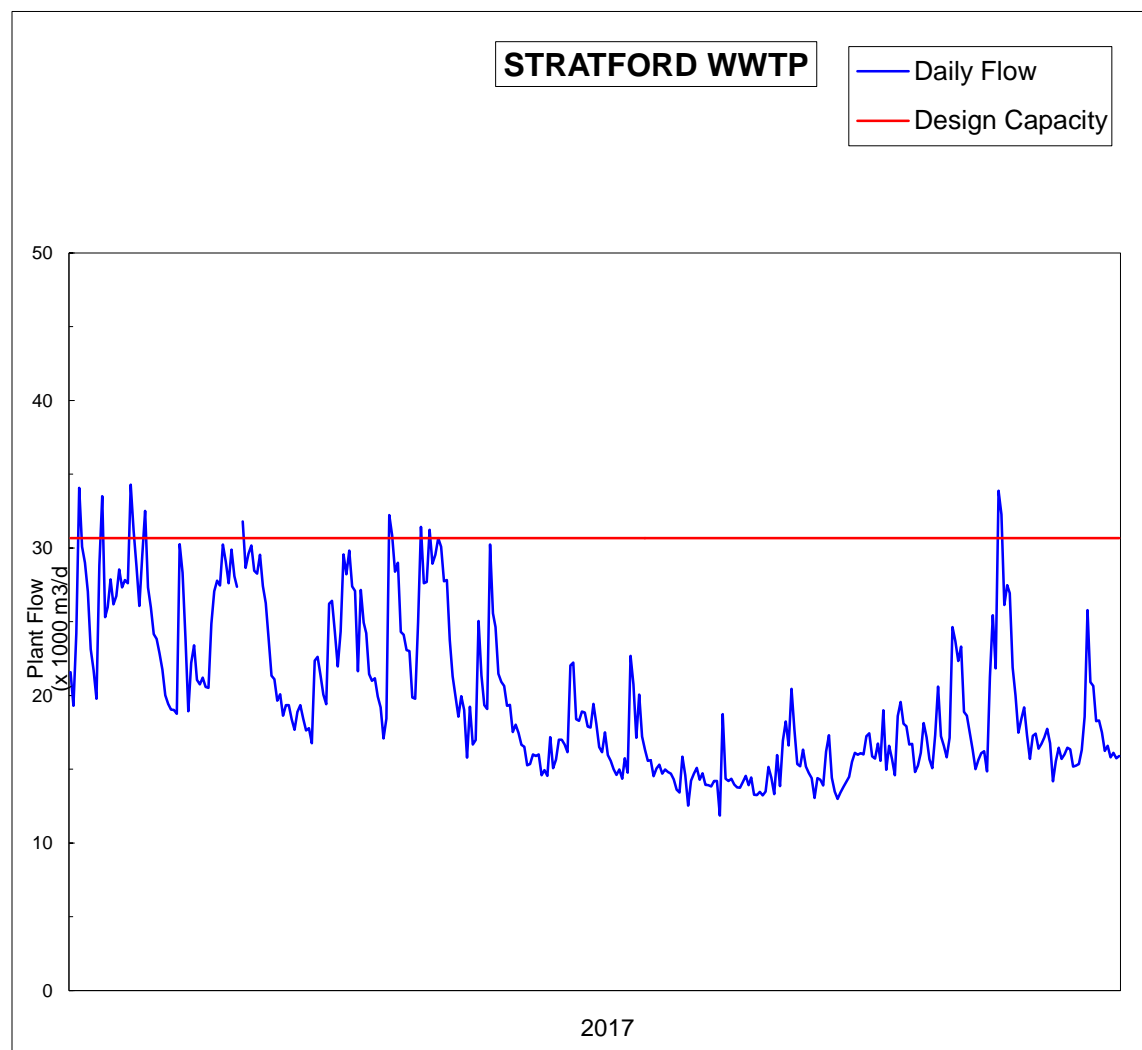
The table below summarizes the flow data for 2017.

Table 5: Stratford Water Pollution Control Plant Flows 2017

Flow Parameter	Value
Total Annual Wastewater Flow Treated (m ³)	7,259,334
Average Daily Raw Wastewater Flow (m ³ /d)	19,916
Average Daily Raw Wastewater Flow / Design Capacity (%)	64.9
Maximum Daily Flow (m ³)	34,280
Instances Flow Exceeded Design Capacity (#)	12
Instances C of A or ECA limits were exceeded (#)	0

The graph below shows the average daily flows during each month in 2017. There were 12 instances where the design flow of 30,660 was exceeded, these occurred throughout the year. Despite the higher flows, the plant was able to produce quality effluent without limit exceedances during these months as per approved certificate # 4926-8C5QZL and ECA #0932-AJNJT4

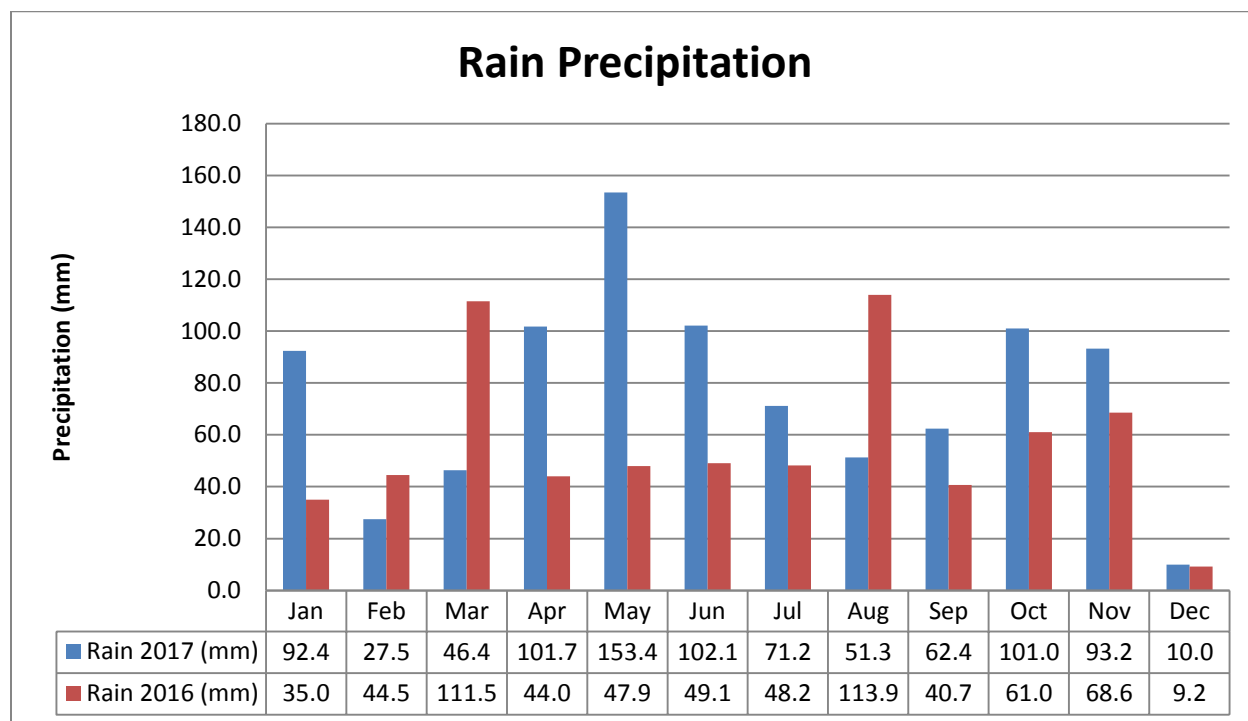
Graph 1: Average daily flows for each month in 2017



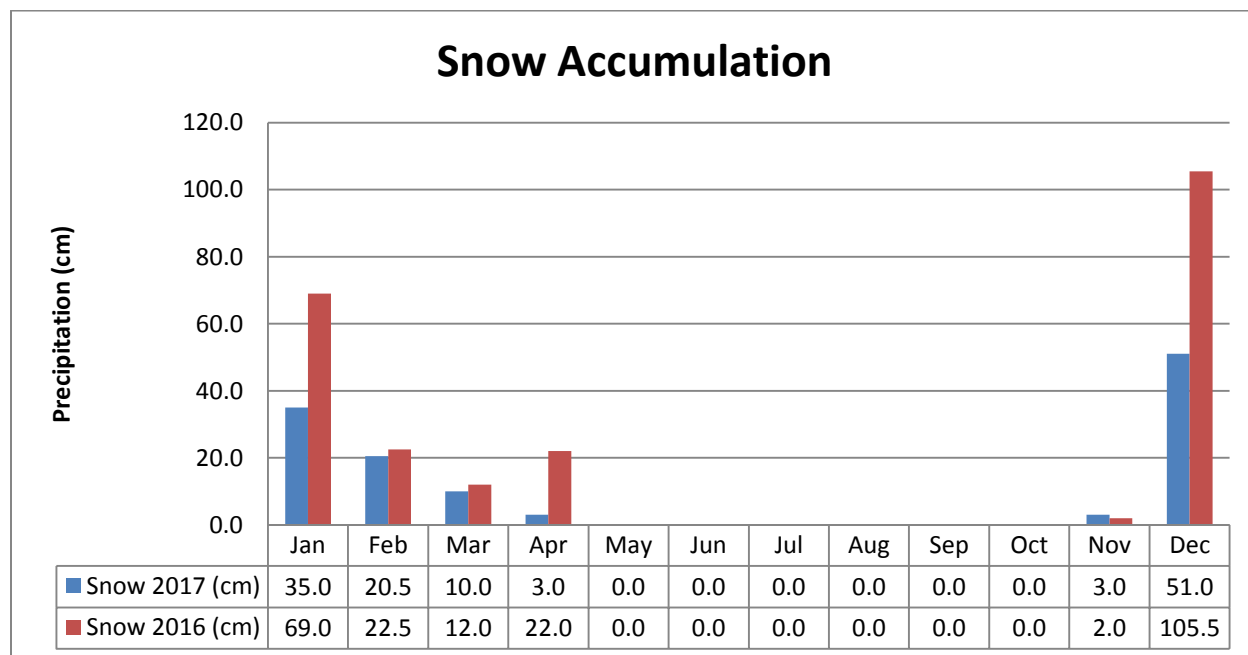
There were 7 events totaling 23.3 days of discharge from the wet weather flow equalization tanks in 2017 due to flows caused by heavy precipitation and or snow melt. All plant discharges received minimum primary treatment and were reported to the MOECC. A total of 535,947m³ was discharged for a total of 542.1 hours. A summary of plant bypasses from 2008 to 2017 is provided in [Appendix 2](#).

An Ultra Violet (UV) Disinfection bypass occurred in March due the replacement of the UV baffle. The bypass lasted for 2 days. Approval was granted by the MOECC London District Office.

Graph 2: Rain Data from Stratford WPCP Weather Station



Graph 3: Snow Data from Stratford WPCP Weather Station



Wastewater Quality

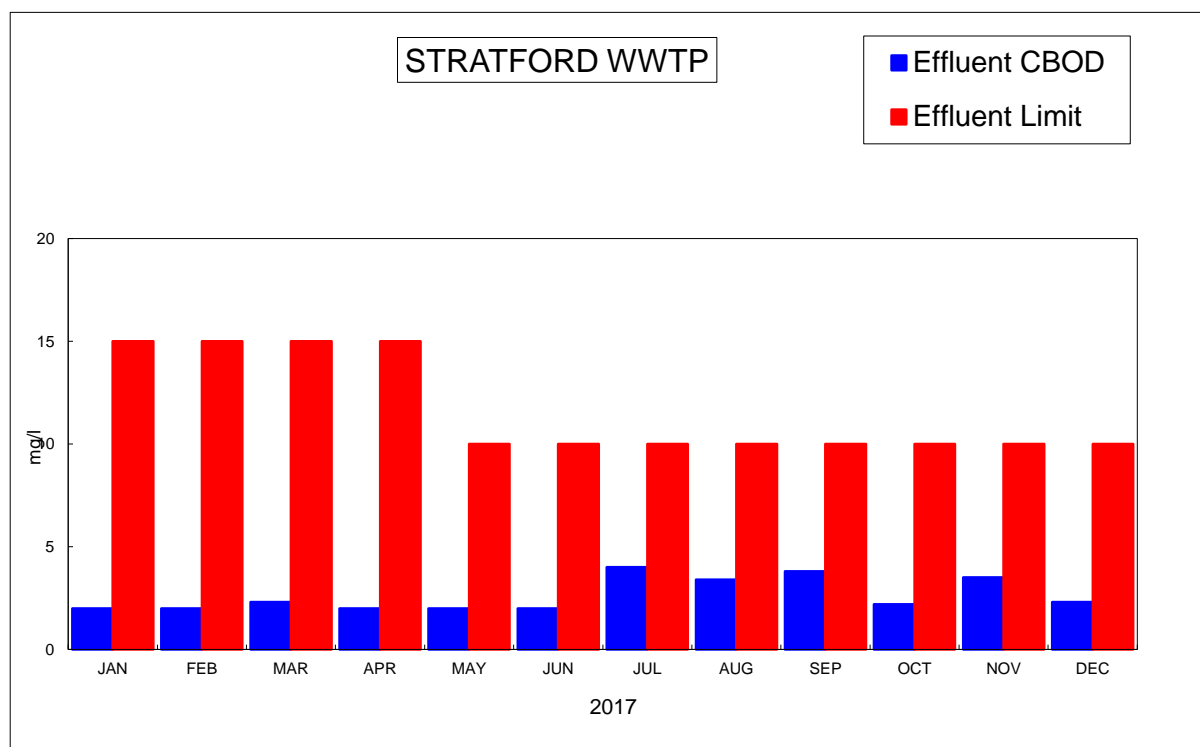
The raw wastewater is monitored for BOD₅, total suspended solids, total kjeldahl nitrogen and total phosphorus weekly by composite sample.

The final effluent is monitored and sampled and tested weekly for CBOD₅, total suspended solids, total phosphorus, and total ammonia nitrogen weekly by composite sample. E-coli and dissolved oxygen is monitored weekly by grab sample. Unionized ammonia is calculated weekly. PH and temperature are monitored daily by grab sample. The plant was designed based on typical raw water characteristics. Refer to [Appendix 4](#) for more detailed monthly results.

Carbonaceous Biochemical Oxygen Demand (CBOD₅)

The annual average raw sewage BOD₅ concentration to the plant was 132 mg/L with a maximum concentration of 174 mg/L. The annual final effluent CBOD concentration was 2.6mg/L with a maximum of 3.8mg/L.

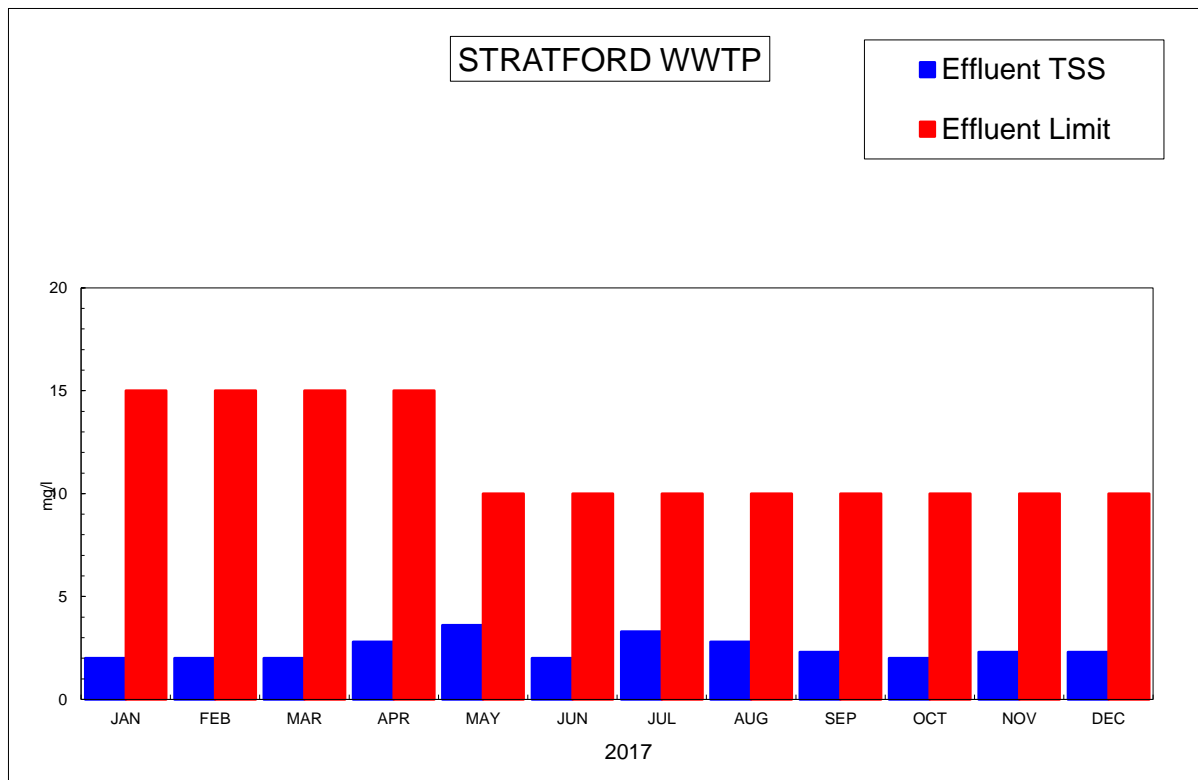
Graph 4: Final Effluent CBOD



Total Suspended Solids (TSS)

The annual average raw sewage total suspended solids (TSS) concentration to the plant was 111.0mg/L, with a maximum concentration of 171.5mg/L. The annual average final effluent TSS concentration was 2.4mg/L with a maximum concentration of 3.6mg/L.

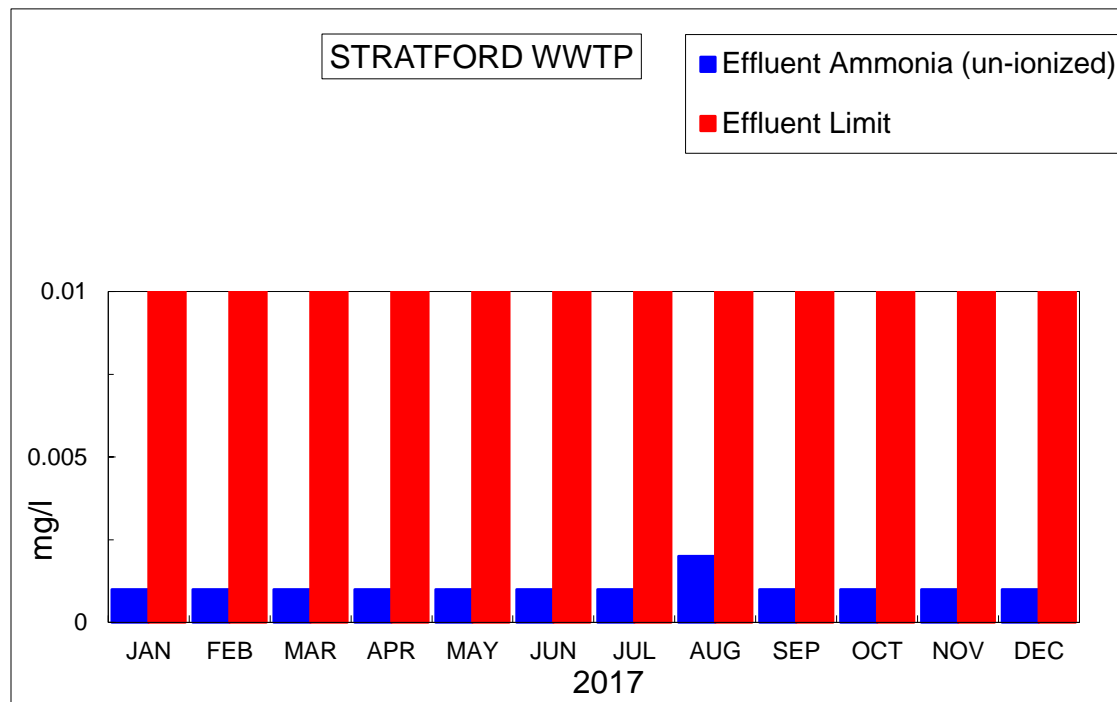
Graph 5: Final Effluent TSS



Total Kjeldahl Nitrogen(TKN) & Un-Ionized Ammonia

The annual average raw sewage total Kjeldahl nitrogen (TKN) concentration to the plant was 21.9 mg/L with a maximum concentration of 30.5 mg/L. The annual final effluent TKN concentration was 0.13 mg/L with a maximum concentration of .26 mg/L. The un-ionized ammonia level of the effluent was 0.0011 mg/L versus the limit of 0.1 mg/L.

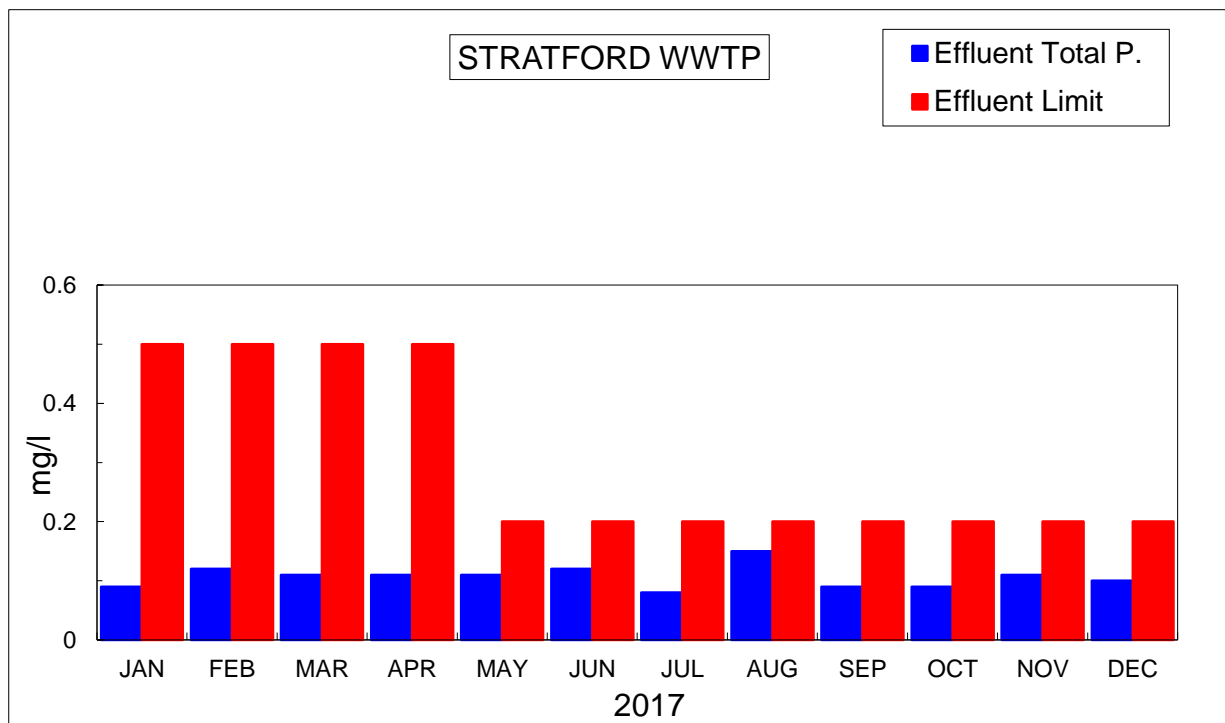
Graph 6: Final Effluent Un-ionized Ammonia



Total Phosphorous

The annual average raw sewage total phosphorus (TP) concentration to the plant was 2.4mg/L with a maximum concentration of 4.2mg/L. The annual average final effluent TP concentration was 0.11mg/L with the maximum being 0.15mg/L.

Graph 7: Final Effluent Total P.



Biosolids Quality

Biosolids produced at the Stratford WPCP are anaerobically-stabilized and land applied in accordance with the Ontario Guidelines for Sewage Biosolids Utilization on Agricultural Lands. All Biosolids sample analysis was carried out by SGS Lakefield Research Ltd. A summary of the analysis is provided in [Appendix 4](#).

Bartel Environmental Services has been contracted to haul and land apply all Biosolids produced at the WPCP. A total of 16,728 m³ was land applied to numerous sites located within Perth County. Monthly haulage volumes from the treatment plant can be found in the Annual Summary report in [Appendix 4](#). Based on the information, the hauled biosolids volume for 2018 is anticipated to be in the range 17,000 m³.

Biosolids Land Application

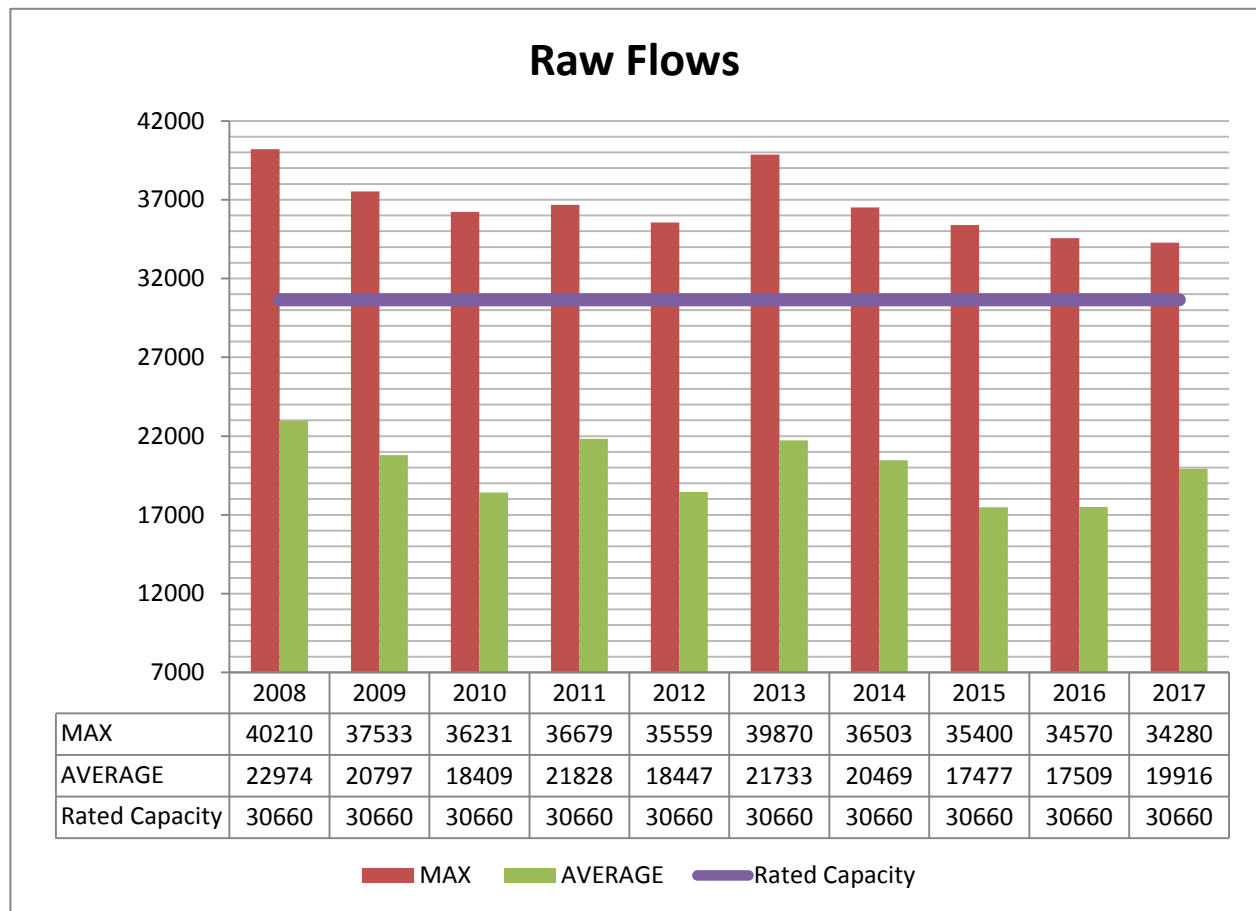
NASAM Plan Site ID	JAN	FEB	MAR	APR	MAY	JUN	JUL	Aug	SEP	OCT	NOV	DEC	TOTAL
21610			2974										2974m ³
22854					3014								3014m ³
22030					2026								2026 m ³
22370							2371			2297	620		5288m ³
5529								1022					1022m ³
22423											2404		2404m ³
TOTAL													16,728m³

Air Quality

There were no odour complaints in 2017.

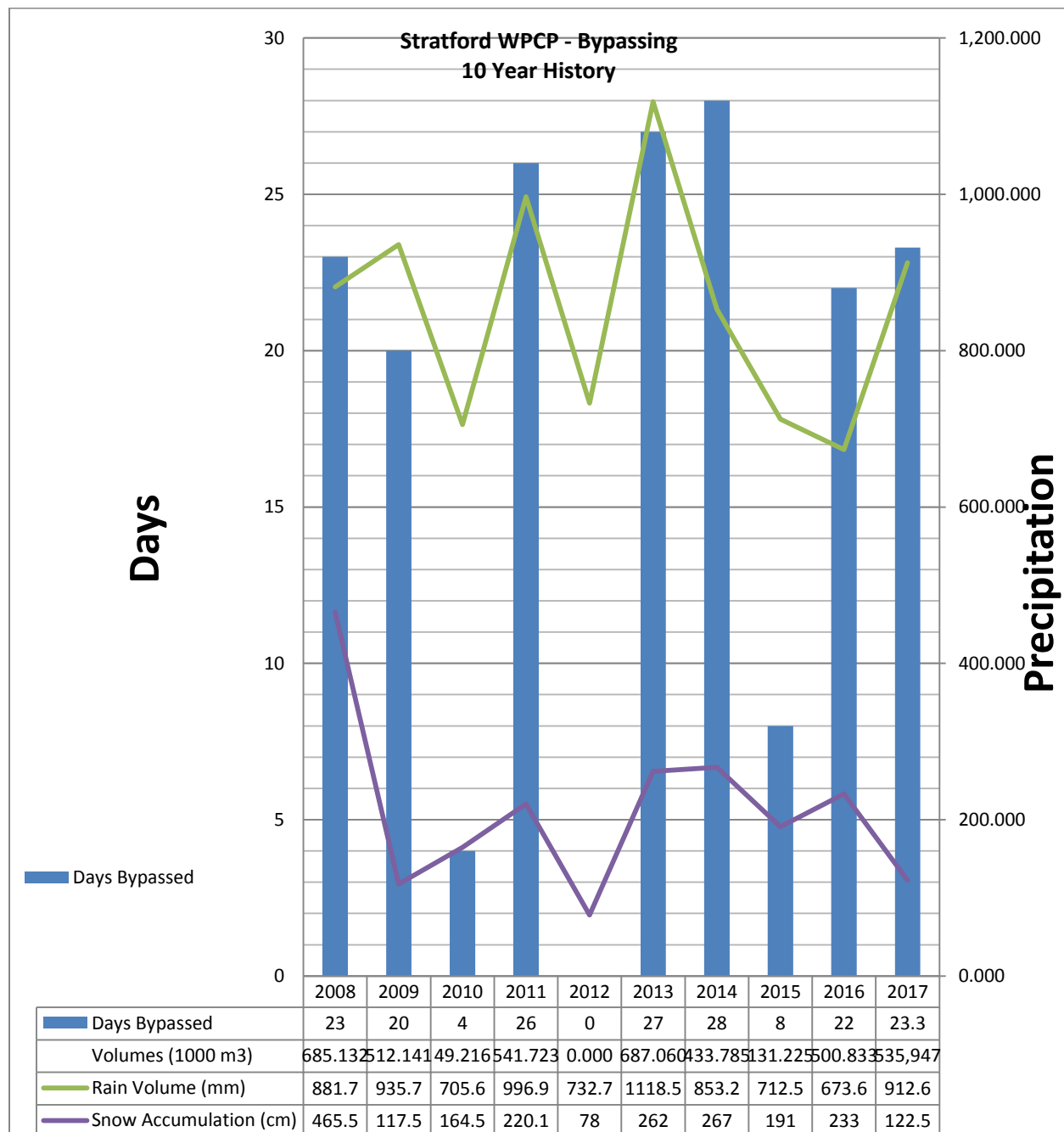
Appendix Cover Page

Appendix 1: Raw Sewage Influent Flows



Raw Water Influent Flows

Appendix 2: 10-Year Plant Bypass History



10-Year Bypass History

Appendix 3: Plant Performance Data

STRATFORD WASTEWATER TREATMENT PLANT 2017 Treatment Performance Results		
ANNUAL SUMMARY FOR 2017		
PLANT FLOWS		
Total Flow:	7,259,334 m ³	
Average Daily Flow:	19,916 m ³	
RAW SEWAGE QUALITY DATA (ANNUAL AVERAGE – mg/l)		ANNUAL LOADINGS
BOD:	132.0 mg/L	2,637.0 kg/day
TSS:	111.0 mg/L	2,219.0 kg/day
TKN:	21.9 mg/L	435.0 kg/day
Total Phosphorus:	2.4 mg/L	47.0 kg/day
EFFLUENT QUALITY DATA (ANNUAL AVERAGE – mg/l)		ANNUAL LOADINGS
CBOD:	2.6 mg/L	47.4 kg/day
TSS:	2.5 mg/L	45.9 kg/day
Ammonia:	0.13 mg/L	2.4 kg/day
TKN:	0.86 mg/L	17.1 kg/day
Total Phosphorus:	0.11 mg/L	2.0 kg/day
PERCENT REMOVAL		
CBOD:	98.0%	
TSS:	97.8%	
TKN:	96.1%	
Total Phosphorus:	95.4%	
SLUDGE REMOVED		
Total Volume:	16,728 m ³	
CHEMICALS USED		
Ferrous Chloride:	77,267 kg	

Appendix 4: Performance Assessment Report Details

Appendix 5: Glossary of Terms

Term	Acronym	Meaning in Relation to the Operational Compliance Report
Acute Lethality		Indicator of an effluent of a quality level such that it kills more than 50% of rainbow trout subjected to it for a period of a 96-hours
Adverse Water Quality Incident	AWQI	Reportable event that occurs when a regulated parameter (e.g. CBOD ₅) exceeds established targets
Biochemical Oxygen Demand	BOD ₅	Measure of the amount of oxygen needed by aerobic biological organisms in a body of water to break down organic material at a certain temperature over 5 days. Indicator of the level of organic materials present in water.
Bypass		Diversion of raw sewage around one or more unit processes in a pollution control plant. Diverted sewage can be stored to be treated later or sent upstream of the by-passed processes for release into the receiving waters with or without disinfection.
Bypass Event		Situation such as heavy precipitation that causes a plant bypass or plant overflow. An Event ends when there is no recurrence of a Bypass or Overflow in the 12-hour period following the last Bypass or Overflow. Two Events are separated by at least 12 hours during which there has been no recurrence of a bypass or overflow
Bypass, Primary	PrBy	Diversion of sewage that has subjected to grit removal and disinfection (but not primary, secondary or tertiary treatment) before being released into the receiving waters
Bypass, Secondary	ScBy	Diversion of sewage that has been subjected to grit removal and primary treatment (settling and primary sludge removal) and disinfection (but not secondary or tertiary treatment) before being released into the receiving waters
Bypass, Tertiary	TeBy	Diversion of sewage that has been subjected to grit removal, primary treatment, secondary treatment (e.g. aeration) and typically nitrogen and phosphorous removal and disinfection (but not tertiary treatment) before being released into the receiving waters

Term	Acronym	Meaning in Relation to the Operational Compliance Report
Carbonaceous Biochemical Oxygen Demand	CBOD ₅	Measure of the amount of oxygen needed by aerobic biological organisms in a body of water to break down organic material at a certain temperature over 5 days. Nitrification inhibited during the 5 day testing of unfiltered sample. Indicator of the level of organic materials present in water.
Certificate of Approval (Environmental Certificates of Approval)	CofA	Legal instrument issued by the MOECC which permits the construction or alteration and operation of certain categories of a water or wastewater system, or parts thereof. For wastewater systems, CofAs are being replaced with Environmental Certificates of Approval (ECAs)
Chlorine Residual		Concentration of chlorine remaining in the chlorinated water at the end of a given contact time that is available to continue to disinfect. Measured as Free Chlorine, Combined Chlorine and Total Chlorine
Coliform (Total Coliform)	TC	Group of waterborne bacteria consisting of three main groups with common characteristics that are able to grow in the media used in the total coliform (TC) test. This test is used as an indicator of contamination of raw water and treated water. The presence of even one colony forming unit (CFU) of TC in a microbiological sample is an AWQI
Combined Sewer Overflow	CSO	Discharge to the environment from a sewer system that conveys both sanitary sewage and storm water
Combined Sewer System		Sewage collection system which conveys sanitary sewage (domestic, commercial and industrial wastewaters) and stormwater runoff through a single-pipe system to a sewage treatment plant. Combined sewer systems which have been partially separated and in which roof leaders and/or foundation drains contribute stormwater inflow to the sewer system conveying sanitary flows are still defined as combined sewer systems in the Ministry Procedure F-5-5, "Determination of Treatment Requirements for Municipal and Private Combined and Partially Separated Sewer Systems"
Composite Sample		Quantity of undiluted effluent collected continually at an equal rate or at a rate proportionate to flow over a designated sampling period

Term	Acronym	Meaning in Relation to the Operational Compliance Report
Computerized Maintenance Management System (also known as Work Management System)	CMMS	See definition of Work Management System below
Contact Time	CT	The CT disinfection concept uses the combination of a disinfectant residual concentration (in mg/L) and the effective disinfectant contact time (in minutes), to quantify the capability of a chemical disinfection system to provide effective pathogen inactivation to the required level
Contaminant		Any solid, liquid, gas, odour, heat, sound, vibration, radiation or combination of any of them resulting directly or indirectly from human activities that causes or may cause an adverse effect
Disinfection		Destruction or inactivation of pathogenic and other kinds of microorganisms by physical or chemical means
Dissolved Oxygen	DO	Molecular (atmospheric) oxygen dissolved in water or wastewater
Environmental Certificate of Approval	ECA	Legal instrument, issued by the MOECC, which permits the construction or alteration and operation of wastewater systems, or parts thereof
Escherichia coli	E.coli	Species of bacteria naturally present in the intestines of humans and animals. If animal or human waste containing E. coli contaminates drinking water it may cause gastrointestinal disease in humans. Most types of E. coli are harmless, but some active strains produce harmful toxins and can cause severe illness. The presence of even one colony forming unit (CFU) of EC in a microbiological sample is an AWQI
Exceedance		Violation of a limit for a contaminant as prescribed by a regulation or legal instrument for a facility (e.g. Certificate of Approval)
Grab Sample		Quantity of undiluted sample collected at any given time

Term	Acronym	Meaning in Relation to the Operational Compliance Report
Material Safety Data Sheet	MSDS	Document that contains information on the potential hazards (health, fire, reactivity and environmental) and how to work safely with the chemical product.
Maximum Allowable Concentration	MAC	Concentration that represents the limit above which an exceedance occurs
Micrograms Per Litre (µg/L)	µg/l	Measure of the amount of a compound in a solution in terms of micrograms of the compound per litre of solution. It is equivalent to a part per billion in water
Milligrams Per Litre (mg/l)	mg/l	Measure of the amount of a compound in a solution in terms of milligrams of the compound per litre of solution; equivalent to a part per million in water
Mixed Liquor Suspended Solids	MLSS	Suspended solid particles in the mixed liquor of an aeration tank.
Non-Agricultural Source Material	NASM	Materials from non-agricultural sources that can be applied to agricultural land to provide valuable nutrients to soil and crops
Nitrate (NO ₃)/Nitrite(NO ₂)		MAC for Nitrate (NO ₃) is 10 mg/L (as nitrogen). The MAC for Nitrite is 1 mg/L (as nitrogen). NO ₃ and NO ₂ combined have a MAC of 10 mg/L. Nitrate is commonly found in source water, especially ground water. Nitrite can be formed in water systems from either ammonia or nitrate
Pathogen		An organism capable of causing illness or death
pH	pH	pH is a numerical measure of acidity, or hydrogen ion activity used to express acidity or alkalinity. Neutral value is pH 7.0, values below pH 7.0 are acid, and above pH 7.0 are alkaline
Phosphorus	Phos	Phosphorus is an essential nutrient that contributes to plant productivity. In excessive amounts, this nutrient may contribute to a buildup of nutrients (called eutrophication), which can in turn encourage the overgrowth of weeds, algae, and cyanobacteria (blue-green algae)

Term	Acronym	Meaning in Relation to the Operational Compliance Report
Rapid Sludge Removal	RSR	
Return Activated Sludge	RAS	Settled activated sludge collected in the secondary clarifier and returned to the aeration basin to mix with incoming raw or primary settled wastewater
Rotating Biological Contactor	RBC	a biological treatment process used in the treatment of wastewater following primary treatment. As a secondary treatment process, a RBC consists of a series of closely spaced, parallel discs mounted on a rotating shaft which is supported just above the surface of the waste water. Microorganisms grow on the surface of the discs where biological degradation of the wastewater pollutants takes place
Sanitary Sewer Overflow	SSP	a discharge to the environment from a sanitary sewer system
Sanitary Sewer System		a separate sewer system which conveys sanitary sewage (domestic, commercial and industrial wastewaters), infiltrated groundwater and limited amounts of stormwater where an adjoining separate storm sewer system exists as the primary collection system to receive stormwater flows from catch basins and other sources of stormwater
Sequencing Batch Reactors	SBR	a type of activated sludge process for the treatment of wastewater. SBR reactors treat wastewater such as sewage or output from anaerobic digesters or mechanical biological treatment facilities in batches. Oxygen is bubbled through the mixture of wastewater and activated sludge to reduce the organic matter (measured as biochemical oxygen demand (BOD) and chemical oxygen demand (COD)). The treated effluent may be suitable for discharge to surface waters or possibly for use on land
Supervisory Control And Data Acquisition	SCADA	Automated system used by operations staff to monitor and control wastewater equipment and processes to ensure all plant parameters stay within target ranges
Total Ammonia Nitrogen	TAN	Indicates the content of both un-ionized ammonia (NH ₃) and ionized ammonia (NH ₄ ⁺). NH ₃ is the principal form of toxic ammonia. Toxicity levels are both pH and temperature dependent

Term	Acronym	Meaning in Relation to the Operational Compliance Report
Total Kjeldahl Nitrogen	TKN	Indicates nitrogen content in the form of organic proteins or their decomposition product ammonia, as measured by the Kjeldahl Method
Total Suspended Solids	TSS	Particles larger than 2 microns found in water. Anything smaller than 2 microns (average filter size) is considered a dissolved solid. TSS in mg/L can be calculated as: (dry weight of residue and filter - dry weight of filter alone, in grams)/ mL of sample * 1,000,000
Un-ionized Ammonia	NH ₃	Ammonia is un-ionized, and has the formula NH ₃ . Ammonium is ionized, and has the formula NH ₄ ⁺ . The major factor that determines the proportion of ammonia or ammonium in water is water pH. The activity of ammonia also is influenced by temperature and ionic strength. This is important as the unionized NH ₃ is the form that can be toxic to aquatic organisms. The ionized NH ₄ is basically harmless to aquatic organisms.
Waste Activated Sludge	WAS	The excess growth of microorganisms which must be removed from the process to keep the biological system in balance.
Wastewater System Effluent Regulation	WSER	Federal regulation established under the Fisheries Act that includes mandatory minimum effluent quality standards that can be achieved through secondary wastewater treatment. Requirements for monitoring, record-keeping, reporting and toxicity testing
Work Management System (also known as Computerized Maintenance Management System)	WMS	<p>Software tool that allows staff to categorize work activities (Work Orders) into 4 types based on nature of work performed. These include corrective, preventive (e.g. weekly PM), capital, and operational. The work orders provide staff with all the information, instructions, and procedures that they need to complete the work.</p> <p>Contains a snapshot of the general overall condition, cost, criticality and life expectancy of equipment and plant assets. OCWA's uses the WMS to manage work, maintain equipment, and manage the assets within their care. Assets are registered within the WMS along with maintenance plans and schedules. As work orders containing this information are generated and closed, data is collected and used for reporting, and supporting modification of the preventive maintenance program.</p>



MANAGEMENT REPORT

Date: July 23, 2018
To: Infrastructure, Transportation and Safety Sub-committee
From: Active Transportation Advisory Committee
Report#: ITS18-041
Attachments: N/A

Title: Multi-Use Trail Recommendations (ATAC)

Objective: To request that staff look into developing costing and designs for multi-use trails on both Douro Street and McCarthy Road, as well as extending the current rail trail behind Gallery Stratford to connect with the sidewalk near Confederation Garden.

Background: The Active Transportation Advisory Committee (ATAC) has identified the need for active transportation routes along Douro Street, from Ontario to Romeo, and McCarthy Road, from Romeo to Mornington. A multi-use trail on Douro Street would be a good alternative to Ontario Street and used by locals, commuters and recreational users. Ontario Street is a connecting link and narrow and therefore poses additional challenges when changing/adding infrastructure. A multi-use trail on McCarthy Road is a good alternative to a bike lane or sharrows, as McCarthy Road infrastructure is not a priority at this time, as there are other roads that require repair more urgently.

The ATAC Committee feels that extending the rail trail the short distance to connect to the sidewalk near Confederation Garden (Richard Monette Way) would be a small project with a big impact. This would alleviate some active transportation issues during the Romeo Street bridge construction and close a gap in the trail system in Stratford. This area is heavily trafficked by both locals and tourists and the current change from gravel to grass poses numerous challenges for pedestrians.

Analysis: The Committee would like staff to provide costing for both (Douro and McCarthy) multi-use trail options and look into provincial funding for these projects. It would also like staff to consider completing the rail trail in the short term to close a gap in the active transportation system.

Financial Impact: Estimates are unknown at this time. The Treasurer's office noted that if there is work being proposed this year information regarding cost estimates, the funding

source and whether this is contained within the approved budget or not will be required. Projects identified for 2019 will be costed and considered during the 2019 budget process.

ATAC Recommendation: THAT staff look into developing a Douro Street (Ontario to Romeo) multi-use trail and a McCarthy Road (Romeo to Mornington) multi-use trail;

THAT staff develop costing and designs and look into provincial funding for both projects;

AND THAT staff and the Parks Board extend the rail trail up to the sidewalk next to Confederation Garden, near Richard Monette Way.

Staff Recommendation: THAT in addition to the ATAC Recommendations, the Parks Board be contacted with respect to concerns regarding extending the rail trail up to the sidewalk next to Confederation Garden, near Richard Monette Way;

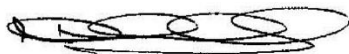
THAT the Douro Street (Ontario to Romeo) multi-use trail and a McCarthy Road (Romeo to Mornington) multi-use trail be referred to the 2019 Budget deliberations;

THAT the proposed design of the multi-use trails for Douro, McCarthy Road and extending the rail trail up to the sidewalk next to Confederation Garden be reviewed by the City's Accessibility Advisory Committee;

AND THAT the proposed multi-use trails and the extension of the rail trail be contingent on access to supporting financial resources.



Joan Thomson, Clerk



Michael Humble, Director of Corporate Services



Rob Horne, Chief Administrative Officer



MANAGEMENT REPORT

Date: August 29, 2018
To: Infrastructure, Transportation and Safety Sub-committee
From: Tatiana Dafoe, Deputy City Clerk
Report#: ITS18-042
Attachments: N/A

Title: ATAC Recommendation to Examine Site Plan Review Process

Objective: That active transportation requirements be more intentionally incorporated into the site plan review process.

Background: The Active Transportation Advisory Committee (ATAC) wishes to see a more explicit inclusion of active transportation requirements in the site plan review process. Other Ontario municipalities have implemented requirements for developers to include certain aspects of active transportation, including bike racks, in their site plan applications.

By including active transportation in the site plan review process, the City can better work toward future developments, meeting or even exceeding requirements. Requiring private developments to have active transportation elements will ensure that there are fewer gaps in the range of modal choices, such as bicycle parking.

At their meeting, ATAC passed the following motion:

“THAT Council request Community Services Department Staff and Infrastructure and Development Services Staff to examine building active transportation requirements into the site plan review process more explicitly and to report back to the appropriate Sub-committee.”


Analysis: Staff from Infrastructure and Development Services was consulted and they advised almost all developments have voluntarily included bicycle racks in their projects since 2013. The City is also in the process of reviewing the inclusion of bicycle parking requirements in the new Comprehensive Zoning By-law. This amendment would make bicycle parking mandatory, and therefore meets the intent of ATAC’s recommendation.

Financial Impact: There are no financial implications to be reported.

Staff Recommendation: THAT the report entitled "ATAC Recommendation to Examine Site Plan Review Process" be received for information.



Tatiana Dafoe, Deputy Clerk



Michael Humble, Director of Corporate Services



Rob Horne, Chief Administrative Officer



MANAGEMENT REPORT

Date: July 16, 2018
To: Infrastructure, Transportation and Safety Sub-committee
From: Taylor Crinklaw, Project Engineer
Report#: ITS18-037
Attachments: Photos Guelph and Nile Intersection

Title: Rail Required All-Way Stop at Nile Street and Guelph Street

Objective: To obtain Council approval for the installation of an all-way stop at the intersection of Nile Street and Guelph Street.

Background: In 2014, Transport Canada introduced Grade Crossing Regulations (GCR) and the associated Grade Crossing Standards (GCS) to increase safety of federally regulated at-grade rail crossings. As of November 2021, the City is required to adhere to the GCR and corresponding GCS. A pressing upgrade identified specifically by Transport Canada is for the installation of an all-way stop at the intersection of Nile Street and Guelph Street. This is the result of substandard site lines at the crossing.

Analysis: Nile Street and Guelph Street are considered to be local roads. The low traffic volumes would have negligible anticipated impacts.

Financial Impact: The cost to install the new stop signs is approximately \$1,200 and will be accommodated through the 2018 Budget for At Grade RR Crossings Improvements.

Staff Recommendation: **THAT an all-way stop be installed at the intersection of Nile Street and Guelph Street;**

AND THAT the Traffic and Parking By-law 159-2008, Schedule 11 – Through Streets, be amended by deleting:

Street	Between
Nile Street	From the south side of Shakespeare Street to the north side of East Gore Street

And adding:

Street	Between
Nile Street	From the south side of Shakespeare Street to the north side of Guelph Street
	From the south side of Guelph Street to the north side of East Gore Street



Taylor Crinklaw, Project Engineer



Ed Dujlovic, Director of Infrastructure and Development Services

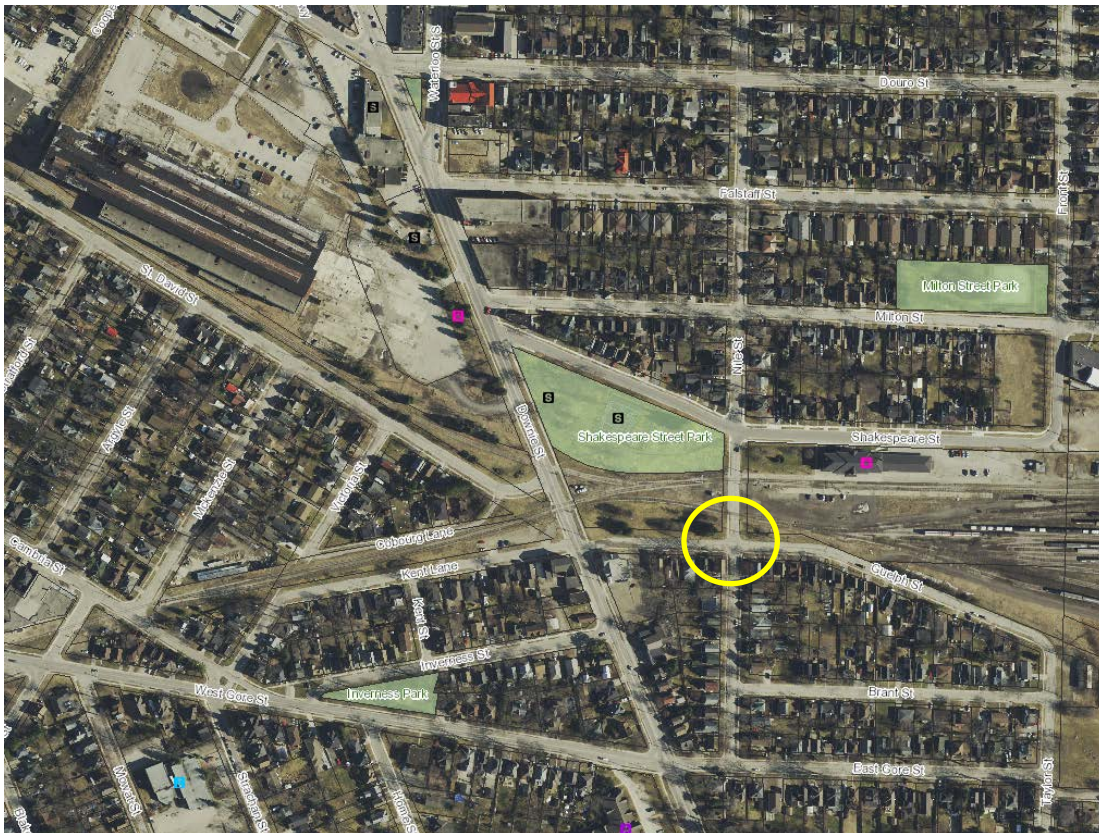


Rob Horne, Chief Administrative Officer

Photos of the Nile Street and Guelph Street Intersection



Looking north at the intersection of Nile Street and Guelph Street (Image from Google Street View).



Aerial map of proposed all-way stop at the Guelph Street and Nile Street intersection.



MANAGEMENT REPORT

Date: July 9, 2018
To: Infrastructure, Transportation and Safety Sub-committee
From: John Paradis, Fire Chief
Report#: ITS18-036
Attachments: 2015 - 2017 Stratford Fire Department Community Report

Title: 2015 - 2017 Stratford Fire Department Community Report

Objective: To present a 3 year Community Report between 2015 - 2017, which details achievements and information about the Stratford Fire Department, Emergency Management and the Stratford Municipal Airport.

Background: The Stratford Fire Department is pleased to provide this report detailing the statistical updates, accomplishments and hard work of Fire Department staff and Stratford Municipal Airport staff, all of which was possible due to the outstanding support received from Council and the community.

Analysis: The attached Community Report highlights the achievements made between the years 2015 – 2017.

Moving forward, the Stratford Fire Department plans to submit Annual Reports every year starting with this 2018 edition.

This Report will be posted on the City's website.

Financial Impact: There is no new or additional financial impact for the City associated with this report.

Staff Recommendation: **THAT the 2015 - 2017 Stratford Fire Department Community Report be received for information.**



John Paradis, Fire Chief



Rob Horne, Chief Administrative Officer



Stratford Fire Department

2015-2017

Report to the Community



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2014-2018

Back Row [Standing] L to R: Councillor Kathy Vassilakos, Councillor Graham Bunting, Councillor Tom Clifford, Councillor Brad Beatty

Front Row [Seated] L to R: Councillor Bonnie Henderson, Councillor George Brown, Councillor Kerry McManus, Mayor Dan Mathieson, Councillor Frank Mark, Councillor Danielle Ingram, Councillor Martin Ritsma



**Dan
Mathieson**

Message from the Mayor

**2015-2017
Community Report**

On behalf of the residents of Stratford, City Council and Staff, I would like to congratulate the Stratford Fire Department for another successful year protecting our lives and property. This group of dedicated and talented men and women do an outstanding job maintaining a high standard in both safety and protection.

We are proud of our Firefighters who respond to every emergency, often risking their own lives to protect us on a daily basis. They are outstanding public servants and represent the best of what commitment and dedication to public service truly means.

On behalf of the community of Stratford, thank you for your service and for making the Stratford Fire Department one we can depend on and be proud of.

Dan Mathieson, Mayor

A handwritten signature in black ink that reads "Dan Mathieson". The signature is written in a cursive, flowing style.



Rob Horne

Message from the CAO

**2015-2017
Community Report**

Dear Residents,

The Stratford Fire department has a rich history spanning more than a century. First organized in 1852, that history has created a legacy of protecting the lives and property of Stratford citizens, engaging the community in fire prevention initiatives, providing other emergency service roles, and supporting many charitable causes.

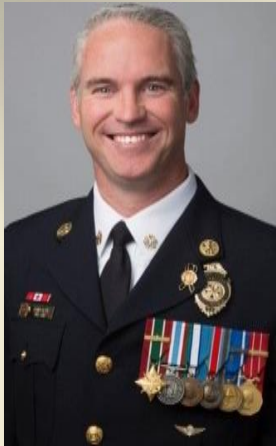
Relying on our legacy is not enough. We continuously seek new ways to improve our service, especially as we continue to grow, and recognizing the need to provide emergency response a widening variety of situations.

Success in the Stratford Fire Department is a reflection of the commitment of our professional fire fighters, both as individuals, and a part of a larger team at many levels. In fact, beyond the Department, the group plays important roles in advancing a number of forward-looking strategic initiatives. As the community welcomes a new municipal Council later this year, the Stratford Fire Department will have a direct hand in helping our elected officials to develop a new Strategic Plan. The Plan will be founded on our core principles, which include value for service, integrity and respect.

I hope you will spend a few minutes to review the many accomplishments achieved over the past three years, and described in this document.

Collectively, we have much to be proud of , as we continue to support a progressive and dynamic City of Stratford.

Rob Horne, Chief Administrative Officer



**John
Paradis**

Message from the Chief

**2015-2017
Community Report**

Dear Councillors and Residents,

It is with great honour I present this Community Report covering the past 3 years of success.

I have had the privilege of managing the Stratford Fire Department since March 09, 2015. During this time, I have developed a strong sense of pride for my staff and the City we serve. The men and women who comprise the Stratford Fire Department are amongst the most professional and highly trained fire service professionals in the Province today. They pride themselves on providing the best customer service, emergency response, prevention and risk mitigation possible to the citizens of Stratford. Our fire service professionals strive to respond to all emergency response needs of the community, quickly and efficiently, treating the customers with the highest level of professionalism, compassion and respect, while holding ourselves accountable to earn your trust.

The Stratford Fire Department has undertaken many positive changes, including internal policy revisions, Occupational Health and Safety initiatives, new Personal Protective Equipment and uniforms, vehicles and equipment, fire inspection and prevention, fire training revisions and strategic planning.

I would also like to thank the Mayor, City Council, and our CAO (past and present) for their unwavering support. Without their belief in our role within the community and corporation we would not be able to provide the services we have and enjoy today.

On behalf of the members of the Stratford Fire Department, we look forward to maintaining our stellar reputation for the years to come.

John Paradis, Fire Chief

A handwritten signature in blue ink, appearing to read 'John Paradis', written over a yellow rectangular background.



Message from the Deputy Chief

**2015-2017
Community Report**

**Neil
Anderson**

Dear Councillors and Residents,

I recently began my tenure as Deputy Chief in March 2017, and have rapidly become familiar with the City and the hazards presented within, which keeps the Stratford Fire Department always ready to respond to fight fires, perform rescue and preserve life, alongside our fellow Emergency Services organizations.

As Deputy Chief, my responsibility is the Operational and Tactical level response capabilities of the Stratford Fire Department, while supporting the Strategic requirements of the Fire Chief and City Council. Along with this comes, part in parcel, the Fire Department's commitment to community and customer service, through our Fire Prevention personnel and Dispatching staff, whom are second to none!

Our Firefighters are multi-faceted in their training and education, which includes medical responses, the response to a multitude of emergencies in our City, and the provision of Mutual Aid assistance, externally. We strive to provide the highest level of service delivery on a 24/7 basis.

This position also affords me the opportunity to act as the Community Emergency Management Coordinator for the City, with all three Alternate Coordinators also stemming from this Fire Department. This entails the implementation and maintenance of a Municipal Emergency Management Program, as required by the Emergency Management and Civil Protection Act and Ontario Regulation 380/04, which is exercised at least annually.

The Stratford Fire Department strives to be visible within the community, not just for emergency responses. We believe in engaging with the public and providing education on fire safety, which includes charity work and community events. If you see us, don't be shy to say "Hello" and ask us any fire safety questions you have, as we are your Fire Department.

Neil Anderson, Deputy Fire Chief

A handwritten signature in blue ink, enclosed in a light blue oval. The signature appears to be 'NA'.

City of Stratford

Population:

31,465

Streets:

187.76 km

116.67 miles

Fire Area:

7,041 acres

2,849 hectares

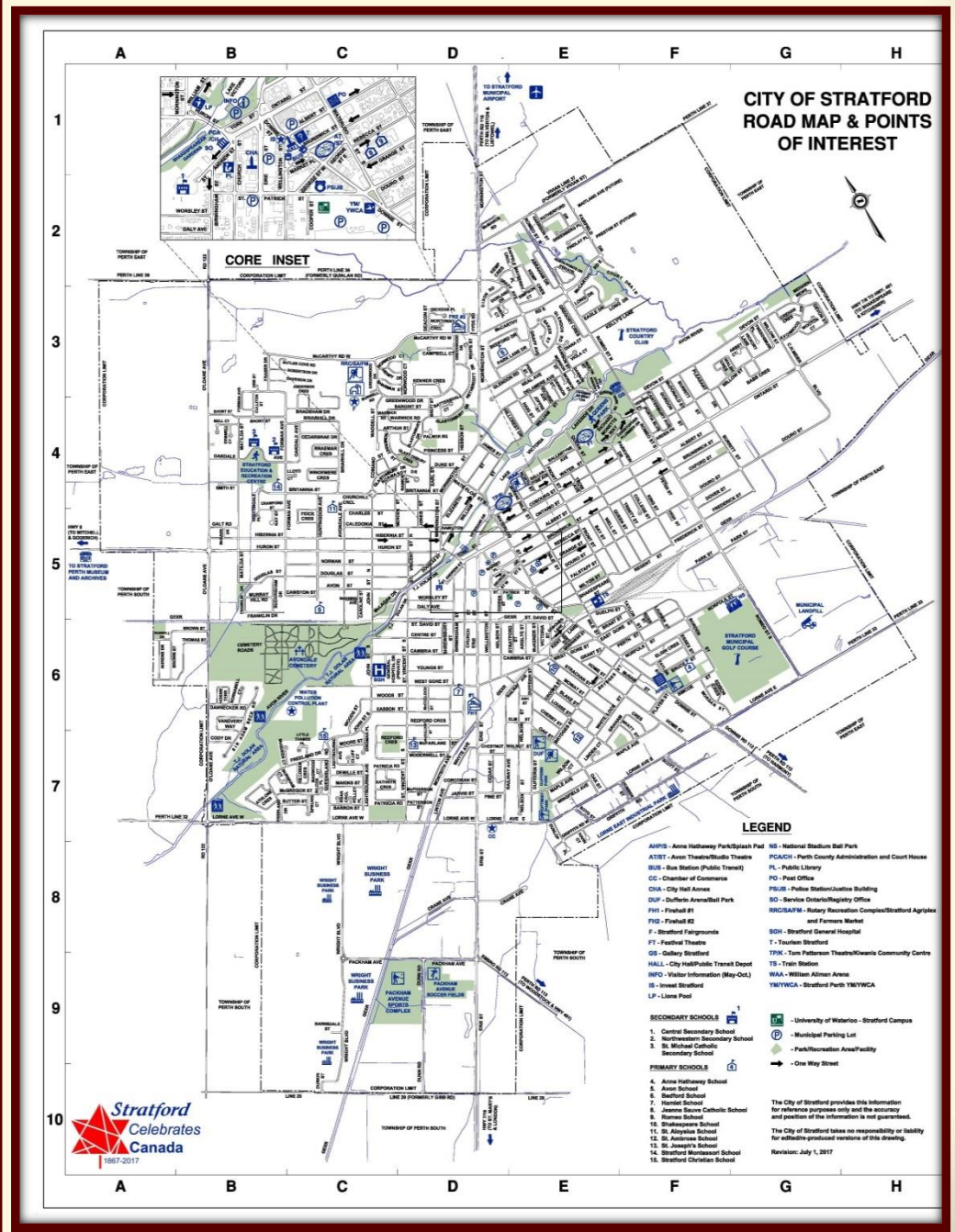
11 square miles

Hydrants:

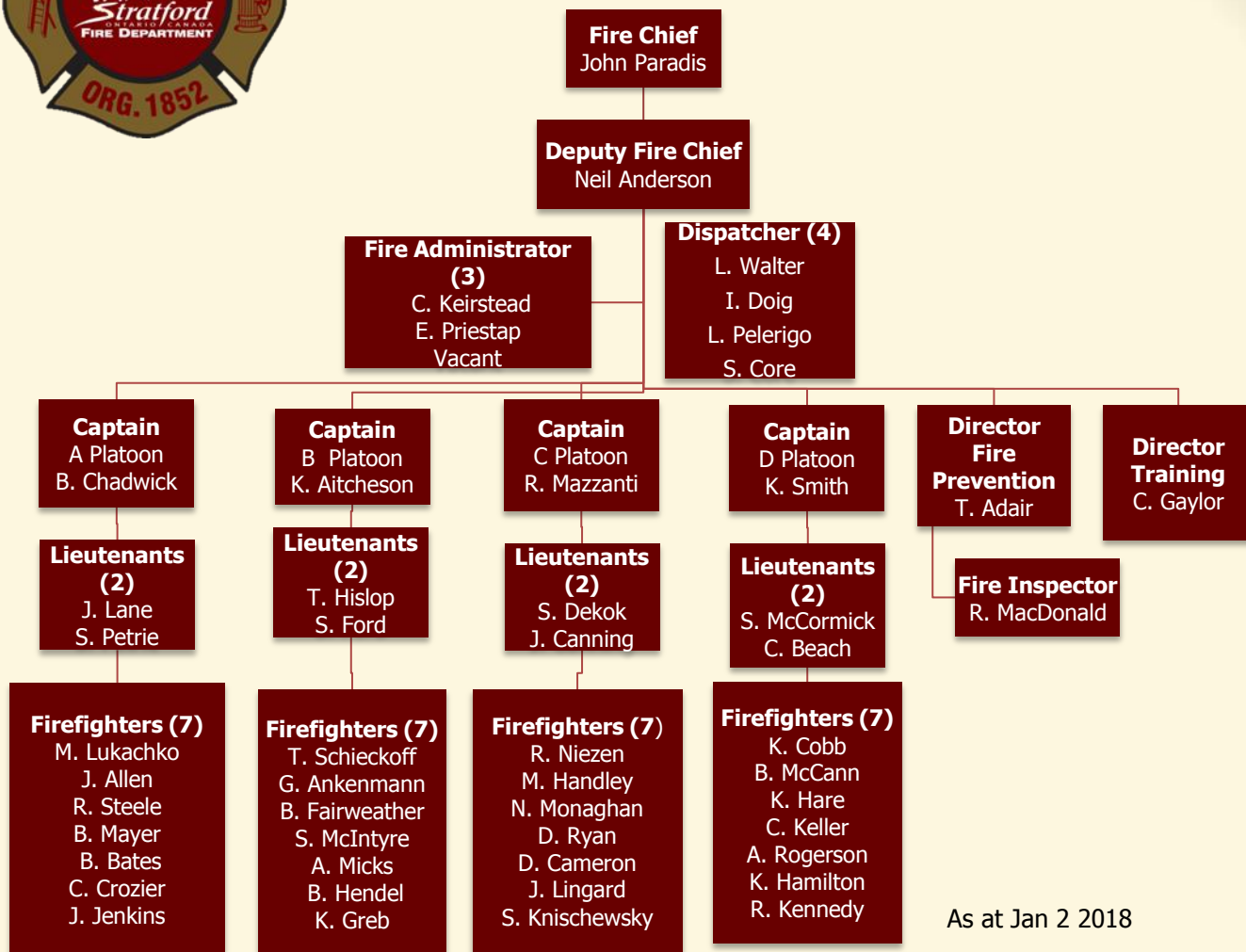
896 Public

109 Private

2016 Services
Statistics



Organization



Mission Statement

To provide a range of programs to protect the lives and property of the inhabitants of the City of Stratford from the adverse effects of fires, sudden medical emergencies or exposure to dangerous conditions, created by man or nature.

Communications



**Stratford Dispatch
Station 1 - 388 Erie Street**

PERTH COUNTY

North Perth:

- Atwood
- Monkton
- Listowel

Perth South:

- St. Marys

Perth East:

- Milverton
- Sebringville
- Shakespeare

West Perth:

- Mitchell

HURON COUNTY

Bluewater:

- Bayfield
- Brucefield
- Hensall
- Zurich

Central Huron:

- Clinton

Huron East:

- Brussels
- Grey
- Seaforth

South Huron:

- Dashwood
- Exeter
- Huron Park

Howick Township

Goderich:

- Emergency Backup

Did You Know ?

Stratford Dispatch is staffed 24/7 and provides dispatch services not only to the City of Stratford, but also to the 21 other Volunteer Fire Departments noted on the left.

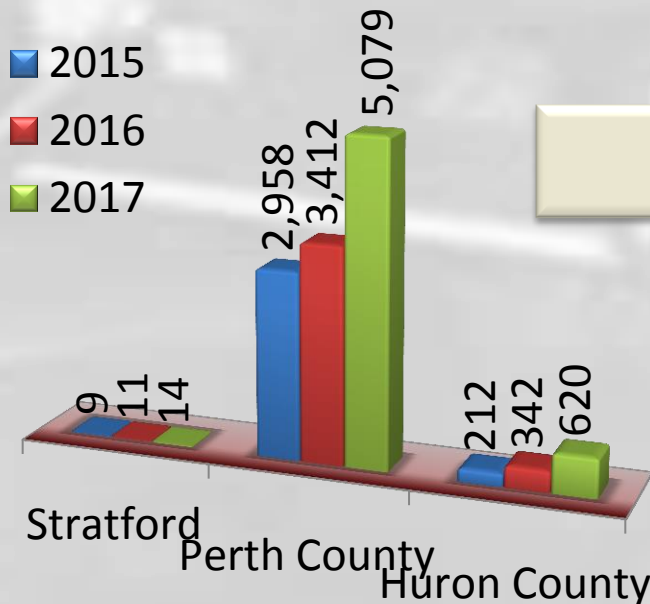
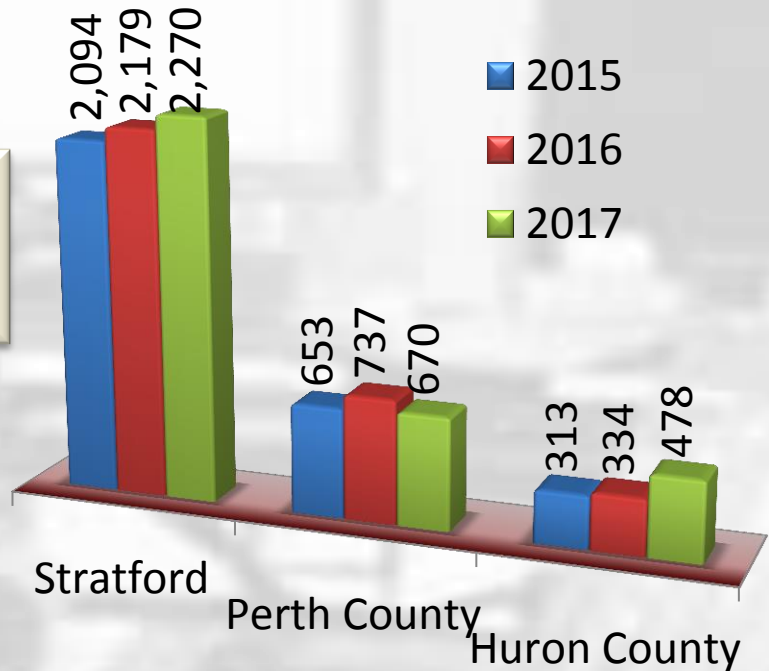
Stratford Fire Dispatchers & Fire Administrators



L-R: Lisa Walter, Emily Priestap, Shanna Core, Lillian Pelerigo, Ingrid Doig, Cathy Keirstead

Communications Statistics

Emergency Incidents processed by Stratford Dispatch



Controlled Burn Monitoring

Did You Know?
 Stratford Dispatchers monitor thousands of controlled burns in Perth & Huron County throughout the year.

Suppression

A Platoon



**L to R: Jake Jenkins, Lt. Scott Petrie, Rob Steele, Capt. Brent Chadwick,
Brad Mayer, Jeff Allen, Brian Bates, Chris Crozier
Absent: Lt. Jeff Lane, Mike Lukachko**

Suppression

B Platoon



**Back Row L to R: Scott McIntyre, Greg Ankenmann, Capt. Kevin Aitcheson,
Brent Hendel, Lt. Tom Hislop**
**Front Row L to R: Troy Schieckoff, Kurtis Greb, Lt. Steve Ford,
Brett Fairweather, Andrew Micks**

Suppression

C Platoon



**Back Row L to R: Rick Niezen, Capt. Rick Mazzanti, Lt. Steve Dekok,
Niall Monaghan, Mike Handley**
**Front Row L to R: Steve Knischewsky, Derek Ryan,
Lt. Jason Canning, Dave Cameron**
Absent: Justin Lingard

Suppression

D Platoon



L to R: Brad McCann, Lt. Shawn McCormick, Kevin Hare, Lt. Chris Beach, Capt. Kevin Smith, Kevin Cobb, Corey Keller, Kyle Hamilton, Andrew Rogerson, Rick Kennedy

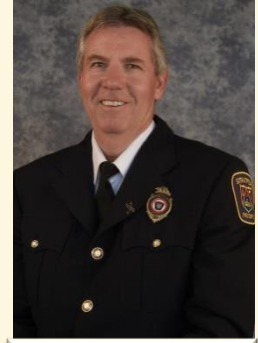
2015-2017 Staff Retirements



Capt. W. Adair
Jan 31, 2015



Capt. B. Wakelin
Jan 31, 2015



Capt. L. Landreth
Mar 31, 2015



Capt. P. Butson
Apr 30, 2015



Capt. E. Schuett
Dec 31, 2015



Capt. T. Cottenie
Apr 30, 2016



Disp. K.D. White
May 31, 2016



**Chaplain
T. Hastings**
Jul 6, 2016



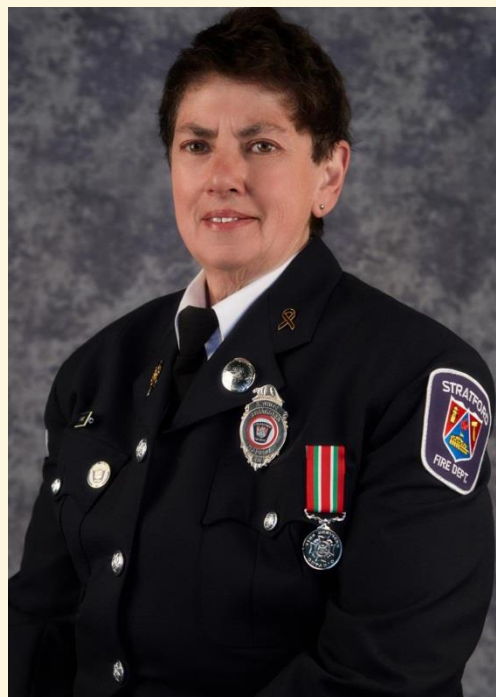
**Deputy Chief
M. Gornyczki**
Oct 12, 2016



Disp. M. Hansford
Feb 28, 2017

Remembering Kerry

Kerry Diane White started her career as a Dispatcher at the Fire Department in 1983. During her career, Kerry worked with firefighters, seeing many of them promoted from junior firefighters through to senior officers. The Department was a huge part of Kerry's life and she referred to everyone here as her extended family. She was very proud of her work and of the men and women she worked with. Kerry received the Ontario Fire Service medal in recognition of her years of fire service. She retired from the Department on May 31, 2016, after 33 years of dedicated service. Following a courageous fight with cancer, Kerry lost her battle on February 10, 2017.



**Disp. K.D. White
1944-2017**



Promotions & Transfers

Following the retirements in 2015, 2016 and 2017 the following promotions and transfers took place.

2015

- Lieutenant P. Butson promoted to Captain Feb 01, 2015
- Lieutenant B. Chadwick promoted to Captain Feb 04, 2015
- Lieutenant T. Cottenie promoted to Captain Apr 02, 2015
- Lieutenant R. Mazzanti promoted to Captain May 06, 2015
- Firefighter C. Gaylor promoted to Lieutenant Feb 04, 2015
- Firefighter J. Lane promoted to Lieutenant Feb 18, 2015
- Firefighter C. Beach promoted to Lieutenant Apr 02, 2015
- Firefighter J. Canning promoted to Lieutenant May 06, 2015

2016

- Director of Training K. Aitcheson transferred to Captain Feb 07, 2016
- Lieutenant C. Gaylor promoted to Director of Training Feb 08, 2016
- Lieutenant K. Smith promoted to Captain May 01, 2016
- Firefighter S. Petrie promoted to Lieutenant Jan 06, 2016
- Firefighter S. Ford promoted to Lieutenant May 01, 2016
- Fire Administrator L. Pelerigo transferred to Dispatcher Jun 01, 2016

2017

- Fire Administrator S. Core transferred to Dispatcher Mar 01, 2017

Recruitment

In the fall of 2015 and spring of 2016, Stratford Fire Department Management welcomed 6 new probationary firefighters.



Probationary Firefighters (Hire date Nov 02, 2015)
L-R: Chief Paradis, J. Lingard, K. Greb, C. Crozier, R. Kennedy, DoT K. Aitcheson



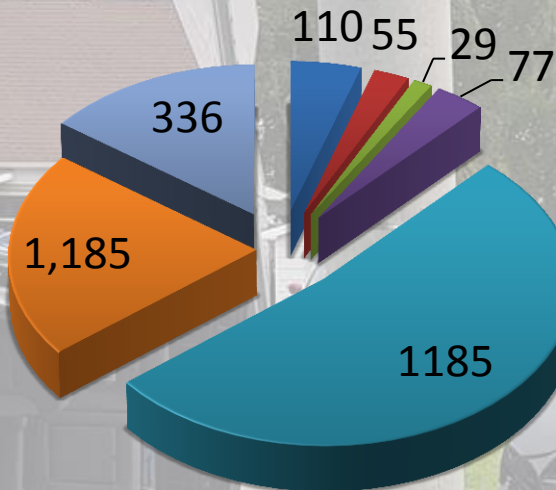
Probationary Firefighter J. Jenkins
(Hire date Jan 11, 2016) is welcomed by retiring
Captain E. Schuett



Probationary Firefighter S. Knischewsky
(Hire date May 02, 2016) with
Deputy Gornyczki and Chief Paradis

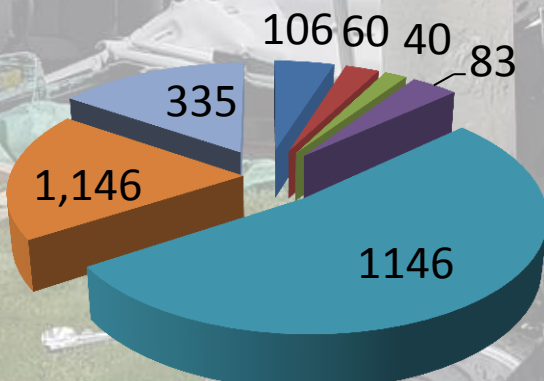
Incident Statistics

2017 – 2,270 Incidents

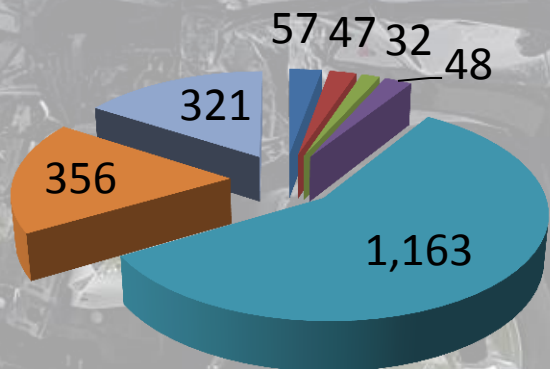


- Fire/Pre-Fire
- Open Burns
- Public Hazards
- Rescue
- Medicals
- Other Responses
- False CO/Fire

2016 – 2,179 Incidents



2015 – 2,094 Incidents



Medicals	Fire/ Pre-Fire	Open Burns	Public Hazards	Rescue	False Alarms	Other Response
Seizures, respiratory conditions, chest pains, excessive bleeding, drug or alcohol related, etc.	Residential, commercial and vehicle fires or explosions, pot on stove, overheating, lightning, fireworks.	Authorized and unauthorized burns.	Chemical spills, gas leaks, carbon monoxide, power lines.	Vehicle accidents, water rescues, extrication.	System malfunction, prank calls, accidental activation, perceived emergency, false CO.	Assist other agency, incident not found, call cancelled en route.
						20

Incidents



Average Response Times En route to on scene (Minutes)

2017 – 2.44

2016 – 3.05

2015 – 2.43

Stratford Dollar Loss

2017 - \$1,959,825

2016 - \$1,684,400

2015 - \$704,350





Training





C. Gaylor
Director of Training

Training

The Training Division is responsible for planning and implementing training. Hundreds of hours are spent each year training in-house and through attending specialized courses. We have successfully aligned our Department to meet the National and Provincial standards in qualifications. Part of this position includes succession planning to prepare staff for future advancement, providing them with some of the tools needed to make life and death decisions. The Department is proud of the staff and the commitment demonstrated to successfully complete Provincial and National accredited programs.

By investing in courses to produce in-house trainers, the Department has saved \$114,000 in course fees. In addition, we have also generated approximately \$10,000, in the last 18 months, through instructing outside agencies.

Our in-house trainers are certified in the following courses:

Instructor Level Trainers:

- **Emergency Medical Responder (EMR)**
- **Ice Water Rescue**
- **Swift Water Rescue**
- **General Core Rescuer**
- **Pump Operator**

Qualified Staff

- **8 staff qualified to act as Captain**
- **18 firefighters qualified to act as Lieutenant**





T. Adair
DFP



R. MacDonald
FI

Fire Prevention

The Fire Prevention Division is comprised of the Director of Fire Prevention (DFP) and a Fire Inspector (FI). In many respects, they are the face of the Fire Department and the first point of contact with business owners, external and internal partners, agencies and members of the public. They handle many requests throughout the year and their dedication to prevention and fire safety is evident. Our Prevention and Public Education programs support and enhance safety for the community and residents of Stratford. The annual inspections completed by our firefighters are a key component in enhancing our community's fire safety and knowledge.

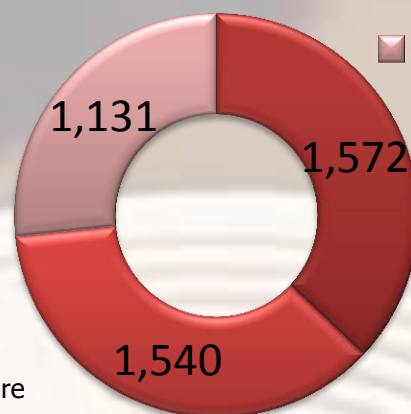
Inspections or reports completed by Fire Prevention staff include the following:

- Public Requests
- Complaints
- Fire Investigations
- Licensing
- Fire Safety Plan Reviews
- Safety Concerns
- Retrofits
- Bed and Breakfasts
- Record Searches
- Attend Fire Safety Drills
- Site Plan Review/ Meetings
- Alcohol Gaming Agency Letter of Approval
- Public Education
- Municipal Freedom of Information Requests
- Emergency Management Planning
- Part 1 Tickets
- Business License Review

Annual Inspections

Completed by Suppression Firefighters

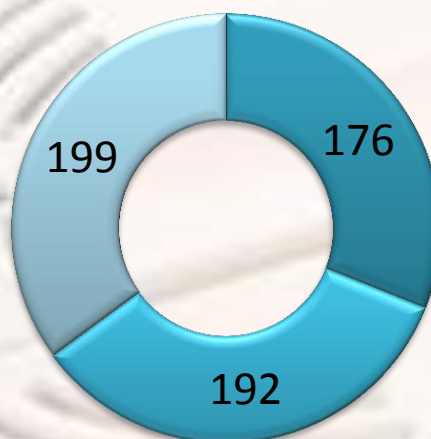
- 2015
- 2016
- 2017



Inspections

Completed by the Fire Prevention Division

- 2015
- 2016
- 2017



Open Air Burning By-law

The Open Air Burning By-Law regulates the setting of open fires, including establishing the times during which open fires may be set. Here are some things YOU need to know about the Open Air Burning Bylaw 5-2006 (also known as Recreational Burning).

When is a Recreational Burn Authorized?

- Between the hours of 4pm-11pm
 - No wind, rain, fog or smog
 - Approved materials being burned
 - Proper size and enclosure
 - 5m clearance from buildings, structures, wires & combustible material
 - Extinguishing agent readily available
 - Supervised
- *See Bylaw 5-2006 for full details before burning.



Did You Know?

If you are having an open air burn (brush, stumps, etc.) in the City of Stratford, a Burn Permit is required and can be purchased at Station 1 – 388 Erie St. during regular business hours.

94
Awesome Grade 1 class visit @AHPs_Hawks talking about #firesafety #fireprevention. Kids should know their address know their smoke/CO alarms work know their #2waysout



Public Education



Public Education

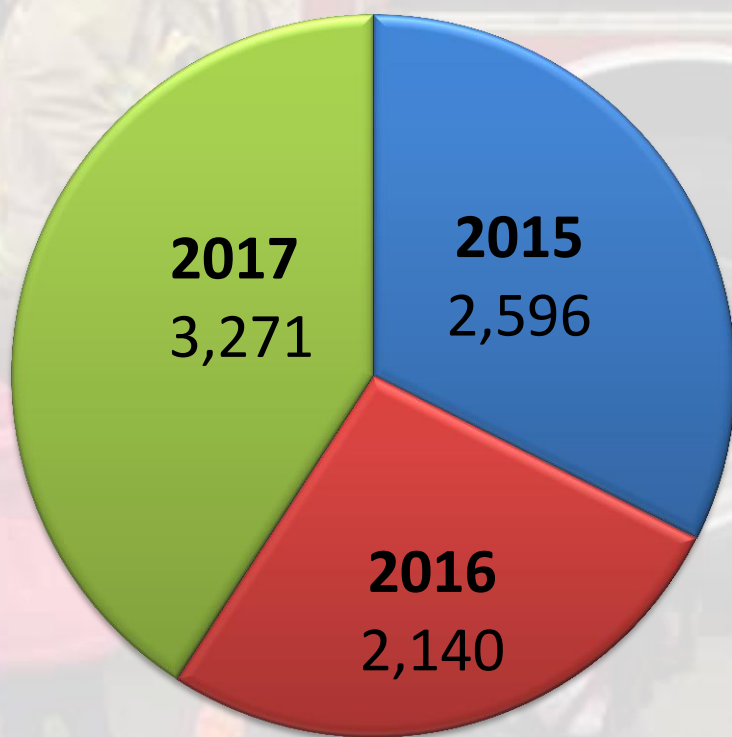
Public Education is a key component of fire prevention. Fire Prevention and Suppression staff take part in educating residents of all ages, from school-aged children to senior citizens.

Whenever firefighters are on scene, it is our policy not to leave a house without a working smoke alarm and/or carbon monoxide alarm.

Public Education Initiatives:

- Station Tours
- Fire Extinguisher Training
- Fire Safety Talks
- Fire Safety House
- Community Events
- Public Relations
- Adopt-a-School
- Summer Reading Club
- Ride-to-School
- Older and Wiser
- Chief for the Day
- Workplace Health & Safety Blitz Day
- Home Fire Safety Program
- Meet the Mayor Luncheon
- Swing into Summer Safety
- TAPP-C (The Arson Prevention Program for Children)

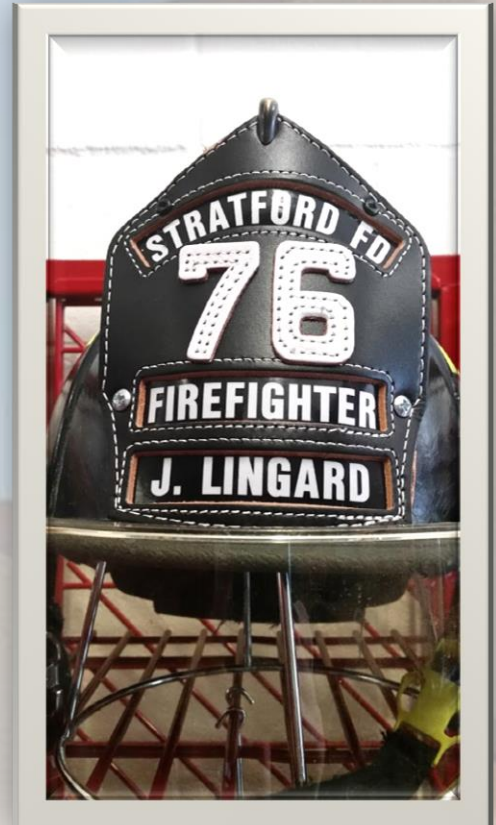
Education Program Attendees



Upgrades to Stations & Equipment

The past three years have seen many upgrades to the Department. Some of those upgrades include:

- Active 911 smart phone application
- New firefighting helmets
- New MSA breathing apparatus
- New bunker gear racks
- New portable radios
- Thermal Imaging Camera (TIC)
- Generator upgrades
- Flashhoods/Extrication gloves
- Bunker gear dryer
- Extrication struts
- Flammable liquid lockers (2)
- Washer and dryer for both Stations
- New snow blowers



Upgrades to Stations & Equipment



New Vehicles



Engine 1

Rescue 1



Engine 3



Chief 1



Unit 1



Emergency Management

The following information is available on the City Website at: <http://www.stratfordcanada.ca/en/livehere/emergencypreparedness.asp>

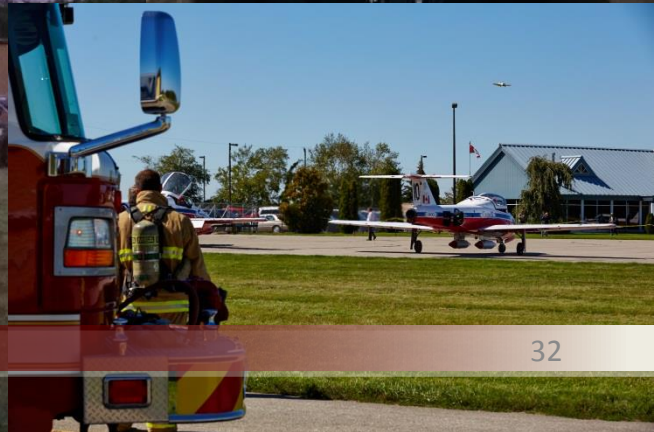
In the event the Mayor declares a City emergency, the Stratford Emergency Response Plan ensures a coordinated response for the Stratford community. The plan provides key officials, agencies and departments within the City of Stratford with a general guideline to the initial response to an emergency and an overview of their responsibilities.

Emergency Management Ontario (EMO) provides resources to support planning efforts, information about current emergency-related events, training opportunities, resources for educators, and more.

Emergency Preparedness Information:

- **3 Steps to Emergency Preparedness**
- **Earthquakes**
- **Emergency Guide for People with Disabilities or Special Needs**
- **Emergency Preparedness Guide**
- **Farm Animals**
- **Floods**
- **Lightning Safety for Outdoor Venues**
- **Pocket Guide to Emergencies**
- **Power Outages**
- **Severe Storms**





Stratford Municipal Airport (CYSA)

3022 Perth Line 40 | Stratford ON | N5A 6S2

Tel 519-272-0933

Did You Know ?

- Stratford Municipal Airport has operated since 1964.
- The Stratford Fire Chief is the City Director responsible for the Airport.
- Mr. Andy Woodham has been the Operations Manager for the past 31 years.

Airport Facts

- 480 Acres
- 2 Asphalt Runways
- 8,000-10,000 annual aircraft movements
- 44 commercial and private aircraft on-site in leased space



L to R: Andy Woodham, Airport Manager;
Elaine B., Office Manager;
David Tepker & David Lyons, Flight Instructors

**The Airport is managed by
Stratford Air Services Ltd.
(519-271-4881) offering:**

- **Introductory Flights**
- **Ground School Classes**
- **Recreational Pilot Permits**
- **Private Pilot Licences**
- **Commercial Pilot Licences**



165 Years of Firefighting 1852-2017

The Stratford Fire Department has an impressive collection of historical artifacts permanently on display at the Stratford Perth Museum. Retired Lieutenant Rick Micks has spent countless committed hours carefully maintaining and logging artifacts and setting up displays. His contribution and dedication to the collection of our history is invaluable. We encourage you to take a trip to the museum to see the history of our City's Fire Service, through Rick's labour of love, and take a walk back in time.

Fire Department's Historical Collection:

Where:

Stratford Perth Museum
4275 Huron Road, RR#5
Stratford, ON N5A 6S6
(Highway #8, just west of Stratford)

Hours:

Summer (May 12th to Thanksgiving)
9 a.m. - 5 p.m. every day

Winter (October to May)

Mon. through Sat. 10 a.m. - 4 p.m.

Sundays and holidays: Noon - 4 p.m.

Admission:

Adults: \$7

Seniors & Students: \$6

Children 12 & under: \$5

Children 5 and under: free

Family \$20 (2 adults & 2 children)

Museum Members FREE

HST not included



Employee of the Year

Employee of the Year award is presented to a member of the Fire Department who exemplifies community service.



2015

Awarded to Firefighter Mike Lukachko in 2015 for his research, contribution and dedication to see through the implementation of the Lightweight Truss By-law, by Stratford City Council, in 2015.



2016

Awarded to Firefighter Rick Kennedy in 2016, who moved to Stratford and in a very short amount of time became involved in many community groups, assisting youth and adults.



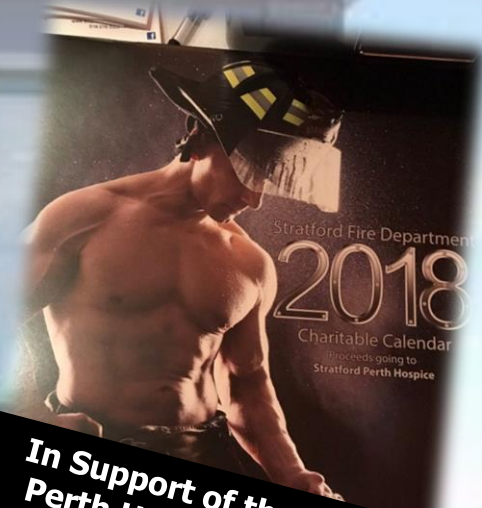
2017

Awarded to Firefighter Brett Fairweather in 2017, for his fundraising commitment throughout the year to many organizations such as Easter Seals, Movember (Prostate Cancer), Cystic Fibrosis and, the successful Stratford Firefighter Calendar. Proceeds from calendar sales have been donated to the Stratford Perth Rotary Hospice.

Community Involvement



Supporting Muscular Dystrophy



In Support of the Stratford Perth Hospice Foundation



Supporting the Red Cross



Supporting United Way



Movember Campaign in support of Prostate Cancer

Stratford Perth
Rotary
Hospice



**Local Food Banks
"Stuff the Truck"**







Acknowledgements

The Stratford Fire Department wishes to acknowledge the contribution and permission of use of photos from the following:

Stratford Beacon Herald

Brilliant Images

The City of Stratford website

We hope you enjoyed reading our
Community Report

108

Remembering our past...



...planning our future.

We invite you to contact us:

Emergencies: 911
Fire Chief: 519-271-3212
Deputy Chief: 519-271-3212
Administration: 519-271-3212
Fire Prevention: 519-271-3212 x230
Training: 519-271-3212 x231
TTY: 519-271-5421

Follow us on twitter:

@StratfordFire2



Stratford Fire Department | 388 Erie Street | Stratford ON N5A 2N4



MANAGEMENT REPORT

Date: July 16, 2018
To: Infrastructure, Transportation and Safety Sub-Committee
From: Ed Dujlovic, Director of Infrastructure and Development Services
Report#: ITS18-040
Attachments: None

Title: Parking Stalls at the Southeast Corner of Ontario Street and Waterloo Street South

Objective: To consider options with regard to the two on-street parking stalls at 161 Ontario Street in front of the Queen's Inn.

Background: Concerns have been brought forward to City staff from the Stratford Police Services concerning the two on-street parking spots on Ontario Street in front of the Queen's Inn. The police have reported that for the years 2016 to 2017 there were 14 reported motor vehicle accidents.

City Staff has also communicated with the owner of the Queen's Inn. The owner indicated that they have also witnessed mirrors on parked vehicles being damaged on numerous occasions. They are not in need of the parking spots as they have their own parking lot.

The parking spots have a width of 2.15 m and the minimum standard is 2.5 m. The adjacent driving lanes are 3.15 m and 2.9 m in width for the centre and curb lane respectively. The minimum width for a driving lane is 3.0 m.

Analysis: There are two options available in dealing with this issue. The first is to no longer allow parking in this location. This would require the removal of the meter head and pole and the change out of an existing sign.

The second option is to widen the existing parking spots to meet minimum requirements. This would require the removal of the existing curb and sidewalk, along with the removal of two trees. Reinstatement would include curb and asphalt. In order to replace the trees, the two existing planting beds would have to be widened.

Financial Impact: The cost would be approximately \$300 for labour and materials to remove the two parking spots which would be financed from current operating budgets. In

order to make the existing parking spots safe to use, the costs would be approximately \$15,000 and funding for this option would have to be referred to the 2019 budget for approval.

Staff Recommendation: THAT the two on-street parking stalls at 161 Ontario Street be removed.



Ed Dujlovic, Director of Infrastructure and Development Services



Rob Horne, Chief Administrative Officer