



## Town of Carleton Place Performance Report 2008/2009

The Ontario Clean Water Agency (OCWA) provides safe, reliable, environmentally responsible, and cost-effective water and wastewater services. OCWA manages water and wastewater systems throughout Ontario – ranging from complex treatment and collection for millions of users to single-well facilities for small, remote communities. As your service provider, OCWA works hard to maintain our in-depth knowledge of the Carleton Place operations.

OCWA is committed to ongoing cooperation, accountability and transparency to ensure a successful and active partnership with the Town of Carleton Place. With OCWA's Performance Report: 2008/2009, we invite you to review our operational years and to reflect on water and wastewater issues emerging for the Town of Carleton Place in 2010.





Wastewater Treatment Plant secondary clarifiers

Serving the community of Carleton Place has been our privilege for many years and the Ontario Clean Water Agency is pleased to report that 2008 and 2009 have been successful years of operations. Each year, OCWA and the Carleton Place municipal staff worked together to provide the Town and 9,700 people with an average of:

- ▶ 1,727,673,500 litres of water treated and purified for drinking
- ▶ 2,068,286,500 litres of wastewater treated, cleaned and returned to the water cycle














▶ **OCWA DELIVERS QUALITY SERVICE THROUGHOUT YOUR WATER AND WASTEWATER SYSTEMS.**

Water supply to the Town is from the Mississippi River. The Water Treatment Plant is a Level 3 Plant with ballasted microsand enhanced flocculation and sedimentation, dual media filters and chlorine disinfection.

Wastewater is treated via a Level 3 conventional activated sludge Wastewater Treatment Plant before being discharged to the Mississippi River. Biosolids are anaerobically digested and then land applied. OCWA also delivered quality service at your 9 sewage pumping stations.



**CARLETON PLACE WATER AND WASTEWATER FACILITIES**

-  OCWA Hub Office  
20 Bennett Street
-  Water Treatment Plant  
199 John Street
-  Wastewater Treatment Plant  
122 Patterson Crescent
-  Town Water Tower  
265 Nelson Street
-  Mississippi Quays Wastewater Lift Station  
1 McDiarmid Lane
-  Bridge Street Wastewater Lift Station  
340 Bridge Street
-  Charles Street Wastewater Lift Station  
137 Charles Street
-  Industrial Avenue Wastewater Lift Station  
146 Industrial Avenue
-  Findlay Wastewater Lift Station  
50 Findlay Avenue
-  Joseph Street Wastewater Lift Station  
325 Joseph Street
-  Princess Wastewater Lift Station  
57 Princess Street
-  Westview Heights Wastewater Lift Station  
94 Johnston Street
-  Carlgate Wastewater Lift Station  
97 Comba Drive

OCWA strives to exceed customer expectations. Working with Chief Administrative Officer Paul Knowles, Director of Public Works Dave Young, Roads Superintendent Brian Poutney, and Collection & Distribution Operator Ed Gibson helps us keep connected with community and council needs and to manage special circumstances such as the Drinking Water Quality Management Standard (DWQMS) and the growth in the community.

OCWA worked closely with Town staff to help develop the Water Distribution System Operational Plan required by the DWQMS. Utilizing OCWA's templates developed for the DWQMS, OCWA's Ottawa Valley Hub and Regional Compliance staff completed 10 workshops that covered all 21 elements.

The end product of that work is an Operational Plan that meets the requirements of the DWQMS submitted on time and at no additional cost to the Town of Carleton Place. The Town's plan for the water distribution system and OCWA's plan for the water treatment plant were compared to ensure all areas were covered and that nothing was overlooked.

Working in partnership with the Carleton Place Public Works staff, OCWA tests for free chlorine residual and collects bacteriological samples of newly constructed watermains prior to the new installations being put into service.

**Regulatory Compliance and Reporting**

Every day, OCWA coordinates testing of water and effluent. We send Exova Laboratories hundreds of samples every year. The results are summarized and submitted to the Ministry of the Environment (MOE) on behalf of the

**OCWA PLEDGES TO CONTINUE TO PROVIDE VALUE TO THE TOWN OF CARLETON PLACE BY:**

- Consistently delivering high quality drinking water
- Consistently meeting effluent criteria
- Adhering to environmental and health protection guidelines
- Managing the environmental regulatory reporting on behalf of the Town
- Exceeding the training required for our operators
- Maintaining and protecting your infrastructure assets
- Sharing of operational expertise to ensure optimization of operations
- Being cost effective

**REPORTING CRITERIA COVERS MANY OPERATIONAL ELEMENTS INCLUDING:**

- Flows
- Volumes treated
- Chemical usage
- Treatment requirements
- Public complaints
- Regulatory issues
- Health and safety
- All items in accordance with each Certificate of Approval and Permit to Take Water

Town of Carleton Place. OCWA samples for a multitude of parameters in accordance with relevant legislation and the Certificate of Approval unique to each facility.

Throughout 2008 and 2009, OCWA provided formal, comprehensive reports to the Town in a timely manner. OCWA ensures that you can always monitor performance and the condition of your facilities through thorough reports designed to satisfy the stringent requirements for reporting regular water quality results to the MOE.

OCWA has demonstrated our ability to manage operational expectations even while adapting to continual regulatory change through recent years. We are proud to report we have had no Orders against us from the regulatory agency in this area of our operations. As your operator, OCWA has never had a compliance fine or any serious environmental issues throughout our term. Any Provincial Officer Orders from the Ministry of the Environment have been addressed immediately and effectively.

## Regulatory Highlights

### Wastewater Treatment Plant

The plant effluent was in full compliance for 2008/09. There were no overflows or bypasses.

The storm tanks were put into service due to high flows caused by heavy rains and snow melt for 7 days in January 2008. They were utilized again in April for 18 days due to the spring melt. The tanks were not utilized in 2009.

In July 2008, a digester gas leak was found by OCWA staff while completing routine rounds. A gasket located on the secondary digester access hatch was found to be leaking. Staff immediately completed emergency repairs and reported the leak to the Town and the Spills Action Centre. OCWA staff developed and submitted a work plan to the Ministry of Environment and the Technical Standards and Safety Association (TSSA). When all necessary approvals had been received, the gasket replacement was successfully completed.

As a result of the gas leak, TSSA inspected the digester gas system. The boilers were deemed to be non-compliant due to the design and not being an approved digester gas boiler. OCWA has worked with the Town, TSSA and Stantec Consulting to develop a plan, design and replace the boilers. They will be replaced during the biosolids handling upgrade in 2010.

In July 2008, an aeration tank had to be taken out of service when the fasteners holding the aeration piping to the bottom of the tank failed. During the summer months there is a strict ammonia criteria on the plant effluent. The aeration system is critical in maintaining the effluent in compliance for ammonia. The aeration tank is a third of the aeration capacity for the facility. With that aeration tank out of service for approximately 2 weeks, OCWA staff were able to complete the repairs while working to keep the plant in compliance. This was achieved through continually making operational adjustments during the repair process and remedial action once the tank was back in service.



Operator Mandi Larose performs routine checks and sampling at WWTP

In September 2009 there was a failure of the sludge collection system on one of the secondary clarifiers. Due to the quick response by OCWA staff, the repair was completed before there was an adverse effect on the plant effluent.

### Water Treatment Plant

The MOE inspects water treatment systems annually. Both the water treatment facility operated by OCWA and the water distribution system operated by the Town are inspected. In 2008 and 2009 the Carleton Place water system received an Inspection Rating of 100% and 96.9% respectively.

These are very good scores that recognize the commitment of both the Municipal and OCWA Staff.

In December 2008 the distribution and residential lead sampling program began as legislated by the Province. This required Municipalities and Operating Authorities to take a number of samples from private residences, non-residences and the water distribution system determined by the population of the municipality. It was a daunting task to find and coordinate the volunteers to allow OCWA Staff to sample their homes for lead. A cooperative effort between the Town and OCWA resulted in 110 samples taken in 2008 and 81 samples taken in 2009. These included residential, non-residential, and hydrant samples.

There were eight Adverse Water Quality Incidents reports through 2008 and 2009. OCWA staff responded to all incidents immediately taking the appropriate corrective action and completing all reporting requirements including to the Town of Carleton Place and the MOE. There were no health concerns relating to any of the incidents.



Some of the local operational staff



OCWA operator certificates and licences



Operator Kevin Sargent inspecting a high lift pump

## Drinking Water Quality Management Standard (DWQMS) Conformance

OCWA has developed operational plan materials to deal with all 21 elements of the DWQMS program. We are pleased to note that our Operational Plan has been accepted by the Town of Carleton Place. As your operator OCWA has met the prescribed date of September 1, 2009 in submitting the appropriate application and documentation.

We are currently awaiting the decision of the Canadian General Standards Board, having applied for limited scope full DWQMS accreditation for the Carleton Place Water Treatment facilities. In addition to this work, OCWA assisted Town staff in the development of the Operational Plan for the water distribution system operated by the Town of Carleton Place. Eleven workshops were provided by the Ottawa Valley Hub and Regional Compliance Team that enabled Town staff to work through all 21 elements to meet the requirements of the Plan.

This year, we will be completing all the supporting documentation, training staff, completing an internal audit and implementing the Operational Plan for the water treatment system. As always, OCWA will be available to assist the Town of Carleton Place to meet the ongoing review and improvement, auditing and reporting requirements to maintain your Operational Plan for the distribution system.



Aerial view of aeration tanks

## Operators Training and Certification

OCWA's Compliance and Training Department ensures that our Operators are kept apprised of all technological advancements in the wastewater treatment industry. In 2008 and 2009, all of OCWA's operators successfully maintained Certification under Regulations 128/04 and 129/04.

The Ottawa Valley Hub Operational Staff have exceeded the 50 hours of legislated annual training that is required under Regulation 128/04 (Certification of Drinking-Water System Operators and Water Quality).

All Hub Operational Staff have completed specialized training in accessibility and confined space training as per regulations introduced in recent years.

Complementing our corporate training programs, OCWA is also a training provider to the Walkerton Clean Water Centre and we currently provide training across the province for a number of Director-approved courses.

### MAINTENANCE HIGHLIGHTS 2008

4,084 work orders were issued  
100% of work orders issued were successfully completed.

Of the work orders issued, there were:

- 930 Preventative maintenance work orders
- 114 Operational maintenance work orders
- 63 Capital maintenance work orders
- 228 Corrective maintenance work orders
- 2,749 Weekly maintenance work orders

## Occupational Health & Safety

As an employer, OCWA takes occupational health and safety very seriously. We continually assess and adapt our Occupational Health & Safety System and conduct annual reviews of internal health and safety manuals. We routinely provide health and safety training to operational staff such as work area protection/traffic control, confined space, SCBA (self contained breathing apparatus) training, chlorine gas leak detection, fall arrest, propane handling, WHMIS training, and overhead crane operations.

In 2008, A Joint Health & Safety Committee (JHSC) was established as required by the Ontario Health & Safety Act. The Carleton Place JHSC members completed the Level 1 & 2 certification training. In 2009, our staff were outfitted with high visibility clothing as part of their standard uniform.

We have never had any serious Occupational Health & Safety incidents or any Ministry of Labour investigations throughout our many years in the Town of Carleton Place. OCWA's excellent health and safety record continued through 2008/2009.

## Operational Overview and Efficiencies

The Town of Carleton Place facilities are part of OCWA's operational Ottawa Valley Hub, which encompasses 9 municipal and 2 industrial clients with a total of 24 facilities. The Carleton Place facilities are supported by OCWA's Eastern regional and corporate resources. Operational services are delivered by OCWA staff — clean water experts who live and work in your community. The Ottawa Valley Hub Office is located in the Town of Carleton Place.

OCWA's Hub operational management structure has been refined over the last number of years, continually adjusting the support required to meet Ontario's new regulatory environment. OCWA operates the Carleton Place water and wastewater facilities in compliance with applicable regulations while enhancing the performance of your facilities.

Each facility has a comprehensive manual detailing operations, maintenance, instrumentation, and emergency procedures. All procedures are treated as active documents, with annual reviews.

## Maintenance Overview

OCWA knows that a single asset can have the potential to disrupt the treatment process, cause failures, and, especially in the water/wastewater industry, jeopardize public health. In response, we employ a risk-based preventative maintenance framework. OCWA ensures that your assets are maintained to manufacturer's and/or industry standards while also prioritizing preventative maintenance based on risk. We achieve this through various tools and operational supports including OCWA's Work Management System (WMS). First implemented in the Carleton Place facilities in 1998, our WMS helps to extend equipment life, which in turn reduces costs and plays a key role in keeping your facilities operating in a safe and efficient manner.

Staff were receiving numerous turbidity alarms at the WTP due to a problem with the analyzers. The two filter effluent turbidity analyzers were replaced with newer more reliable units. This has reduced the potential for AWQIs and the number of emergency callbacks which has saved money. The remaining three turbidity analyzers will be replaced in 2009.

Silica sand is an important material used in the water treatment process at the plant. It is also a designated substance. To meet the legislated Health & Safety requirements for a designated substance, OCWA had an assessment completed to determine risk of exposure for plant staff.

*The Ministry of the Environment has introduced several regulatory changes into the operating environment of all water and wastewater facilities in Ontario. Alongside new water and training regulations, the Regulator is continuing to develop regulations for the Clean Water Act including source water protection. The Ontario Clean Water Agency actively monitors regulatory change and implements systems and responses through OCWA's various support divisions that provide added value to our municipal client base.*

*OCWA participates on various industry committees such as the Great Lakes Source Water Protection Committee, the Biosolids Utilization Committee, and the National Research Council (Infra-Guide) Committee on Best Practices. Along with international and national water-focused organizations, our presence on these committees helps us keep connected with area change and your distinct needs.*



WWTP primary clarifiers and process mixers used during high flow events – ready for action



Operator checking online monitoring equipment

### MAINTENANCE HIGHLIGHTS 2009

4,045 work orders were issued  
100% of work orders issued were successfully completed.

Of the work orders issued, there were:

- 957 Preventative maintenance work orders
- 108 Operational maintenance work orders
- 69 Capital maintenance work orders
- 202 Corrective maintenance work orders
- 2,709 Weekly maintenance work orders

During a routine maintenance inspection of the primary clarifiers, OCWA staff found the sludge collector plastic chains were wearing prematurely. OCWA received approval from the Town to replace the old chain with a lightweight stainless steel chain similar to one that we had successfully installed at another facility. While the initial cost of the stainless steel chain was higher than the regular plastic, the extended life span makes it more cost effective.

During the TSSA inspection of the digester gas system, it was found that the boilers were not approved to be used on digester gas and needed to be replaced with TSSA approved units. It was TSSA's intention to immediately shut down the digester gas system which would have caused a significant process upset and a non-compliance issues as well extremely bad odours. Since it would take some time before the approvals, finances and replacement work could be completed OCWA completed the repairs and upgrades to the existing boilers required by TSSA and obtained a temporary variance until the new boilers were in service. OCWA staff also worked closely with the Consulting Engineer and the Town of Carleton Place to arrive at a successful solution.

The remaining two filter effluent turbidity analyzers and the treated water analyzer were replaced at the water treatment facility.

The underground diesel fuel storage tank was removed and replaced by two double walled tanks inside the building at the water treatment facility.

### Capital Projects

OCWA advisory staff and technicians provide recommendations and active support to municipal staff on capital improvements. OCWA records information associated with critical equipment maintenance and breakdown to assist the Town of Carleton Place with your capital planning. Facility

components requiring upgrading or improvement are identified and brought to the Town's attention for consideration each year through five year capital forecast that is developed with the input of all OCWA staff.

Upgrades to the WTP will start in the spring of 2010. This will include adding a filter to waste capability to the filter backwash process, a spill containment berm for the polymer chemical tanks and the addition of a fourth primary coagulant storage tank.

In 2010 a sludge dewatering centrifuge will be constructed to increase the sludge handling capabilities at the WWTF. An odour control system installed to alleviate odours and expanded the digester gas boilers will be replaced to meet the TSSA standards.

## Resources and Value

The Ontario Clean Water Agency brings a comprehensive approach to water and wastewater services. With OCWA, the Town of Carleton Place has a provider who delivers product excellence for your community and whose corporate systems further support the operation and maintenance of your facilities. Summarized below are some of OCWA's value-added and operational support services that the Town benefits from.

- Cluster Manager stationed in Carleton Place to deal directly with facility issues on a 24-hour basis.
- Many Hub resources such as the maintenance service truck, Process Compliance Technician, Electrician, Utility Plant Instrumentation Technician, O&M Team Lead and Maintenance Foreman are all stationed in Carleton Place. The Town benefits by having the Ottawa Valley Hub and these hub resources available for immediate response in the event of an emergency or unusual circumstances.
- Trained and certified staff in the use of our IR and Vibration Analysis equipment as part of our maintenance program.
- Dedicated sales and service representatives to manage all client inquiries.
- Access to a network of operational compliance and support experts at the regional and corporate level and affiliated programs which includes:
  - Quality & Environmental Management System, Occupational Health & Safety System and an internal compliance audit system
  - Process Data Collection (PDC) facility operating information repository which consolidates field data, online instrumentation, and electronic receipt of lab test results for reporting, tracking and analysis
  - A Work Management System (WMS) that tracks and reports maintenance activities, and creates predictive and preventative reports
  - Outpost 5 wide-area SCADA system allows for process optimization and data logging, process trending, remote alarming and optimization of staff time.
- Client reporting which includes operational data, equipment inventory, financial statements, maintenance work orders and capital status reports.

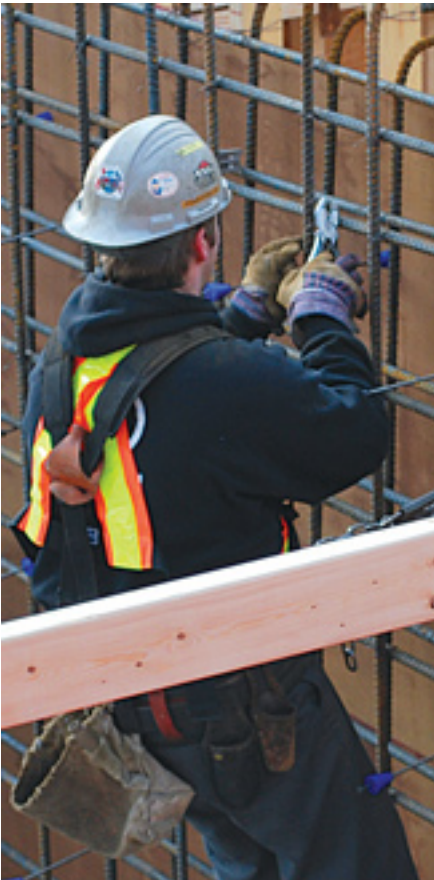
*Changing regulations, municipal growth, and infrastructure fatigue impact short- and long-term capital needs. The resolution of any major capital project requires input from all stakeholders. As your service provider, OCWA believes our role is to provide you with the best information related to the issue on which to make an informed decision. Once a decision is reached, OCWA supports the direction given and works collaboratively with all parties to ensure the successful completion of the project.*



Operational control room and Outpost computer



Tank construction for the dewatering facility upgrade



Construction crew member on upgrade project



Operator Mandi Larose and PCT Debbie Turner inspecting aluminum sulphate chemical feed panel

- Site specific Contingency Plans and Standard Operating Procedures.
- OCWA's Emergency Response Team (OERT) for Eastern Ontario is based out of Belleville providing for more immediate response to contingencies in your community. An OERT portable emergency generator is based out of Carleton Place. It is currently providing backup power for the Mississippi Mills water system.

## Emergency Preparedness and Response

OCWA has extensive emergency planning, preparation and response experience. Included in contingency planning for every facility are maintenance procedures. OCWA also has specialized contingency equipment and procedures and we work with municipalities to assist in communicating advisories and providing sound advice on remedial actions.

In 2004, the Ontario Clean Water Agency was designated by the Ministry of the Environment as a **First Responder to Water Quality Emergencies**. This designation not only demonstrates confidence in OCWA's emergency response capabilities but has also allowed OCWA to continue to expand upon our expertise and to develop emergency support systems such as our Mobile Response Unit.

OCWA's Mobile Response Unit consists of an onsite laboratory, confined space equipment, data communications equipment and an 85 KV emergency generator. OERT offers immediate access to highly trained staff

and emergency equipment, should a crisis arise.

OERT specialists including continue to receive intensive training, and challenge their emergency response skills through the testing of procedures and full scale mock emergency scenarios.

Our partners enjoy peace of mind in having an operator that always strives to be the most trusted provider of clean water services in Ontario. OCWA is continuously working to protect health and the environment while delivering best value to our clients.

## Responding to Your Needs

The Carleton Place WWTF was constructed in the early 1990's utilizing the best technology available at the time. There have been tremendous advancements in the equipment available today. OCWA continuously reviews the new technologies available to determine if any could be incorporated to improve the treated water or effluent quality at the Town's facilities or provide cost savings.

One area where advancements have been made that can benefit the Town of Carleton Place is in air blower technology. New blowers such as the turbo blower are much more efficient than the positive displacement blowers that are currently in use at the WWTF. Blower electrical costs can be as much as 50% of the total electrical cost of a WWTF. Turbo blowers can reduce that cost by up to 30%. They are also extremely quiet and low maintenance.

In 2010, OCWA will be assessing the feasibility of upgrading the Carleton Place WWTF blowers to turbo blowers in order to reduce hydro costs. Utilizing OCWA's team of process specialists, a proposal will be presented outlining the scope of work, project costs, estimated annual cost savings and payback period.

In today's municipal environment, balancing the need for compliant operations with minimizing the cost of operations and maintenance is always a challenge. As municipal officials review their options for their water and wastewater systems, it is important that they ensure their residents and stakeholders are receiving fair value for services rendered.

OCWA's corporate values and operational services include working to keep communication clear and ongoing with the Town of Carleton Place. Through our local Operations Manager, Cluster Manager, Account Services Representative, and Sales Representative, we will continue to listen and to gauge your community growth and changing priorities. OCWA pledges to keep the dialogue open and flexible so to effectively respond to industry shifts, new regulatory demands and your emerging needs in the coming years.

## Community Connections

OCWA's strength is our people: dedicated and highly trained professionals who contribute to the health of the Town of Carleton Place by providing essential water and wastewater services. In addition to this vital role, our staff participate in activities and events that strengthen communities.



Wastewater Treatment Plant



Water tower

We have always defined OCWA's role as steward to Ontario's most vital collective resource: **Water**. In the coming years, we will continue to amplify that role and our profile as **the most trusted provider of clean water services**. We plan to achieve this through actively listening to our clients, proactively communicating with our stakeholders, and by continuing to provide the excellent service our staff has become known for.

OCWA will continue to work towards our goal of being Ontario's most trusted service provider by ensuring that the Town of Carleton Place's assets are efficiently operated and maintained.



### Your Local OCWA Contacts

Brian Symondson, Operations Manager  
122 Patterson Crescent, Carleton Place, ON K7C 4P3  
613.253.1590

Andrew Trader, Cluster Manager  
122 Patterson Crescent, Carleton Place, ON K7C 4P3  
613.257.4990

Aimée Hennessy, Account Services Representative  
593 Norris Court, Kingston, ON K7P 2R9  
613.634.6292 x 227

André Ouellette, Sales Representative  
593 Norris Court, Kingston, ON K7P 2R9  
613.634.6292 x 221



**ONTARIO CLEAN WATER AGENCY**  
**AGENCE ONTARIENNE DES EAUX**

One Yonge Street, Suite 1700  
Toronto, Ontario M5E 1E5

1-800-667-OCWA [www.ocwa.com](http://www.ocwa.com)