

## Peterborough Water Treatment Plant tour, Organizer's Report

Nanda Affonso, P.Eng., Executive of the Peterborough Chapter of PEO in conjunction with Christine van Tol, Analyst of Peterborough Water Treatment Plant organized two tours of 20 participants each to visit the Peterborough Water Treatment Plant. Pictures were taken by Sean Dunne, P.Eng., IEEE and PEO Executive. The tours took place on September 13<sup>th</sup> and September 20<sup>th</sup> at 10:30am for about 1.5 hours long. We had great attendance at the tours; we saw 13 attending the September 13<sup>th</sup> tour and 19 on September 20<sup>th</sup>.

The Plant is located on 1230 Water Street North, just south of the Riverview Park and Zoo, and it is operated by Peterborough Utilities Group. Their website is [http://www.peterboroughutilities.ca/Water/Water\\_Quality.htm](http://www.peterboroughutilities.ca/Water/Water_Quality.htm)

The tour was kicked off by Mrs. van Tol immediately across from the front entrance followed by a brief description of the Plant presented by John Armour in the conference room with presentation slides, map of the process and display of bench size filtration model. Then the group was toured by Mr. Armour to the Pilot Plant then by Mrs. van Tol to the Process Plant and Laboratory.

The Plant was built in 1920-1922 and saw its last expansion was in 1970. It has 420 kilometers of underground pipe. It is a conventional Plant meaning its process consists of coagulation, sedimentation, dual medial filtration, chlorine gas disinfection and it has a process waste facility.




The hydroelectric generation station located nearby provides power for the water pumps throughout the Plant. The water source of the Plant is the Otonabee River. The backup for the 4 pumps which bring water into the Plant is a natural gas generator and its backup is a diesel generator.

Another uniqueness to this facility is that it has a Pilot Plant. This is where new things can be tried without impacting the everyday water quality going to residents.

Due to several water conservation initiatives over the years, even with the growth in population in the City of Peterborough, the peak water usage is in the summer at 30 mega litres per day. In the winter it drops to 28 mega litres per day. The City pressure, water volume and quality are maintained by 2 storage tank reservoirs and 3 tanks all in different zones throughout the City. Staff collect samples daily and the Plant is operated 7/24 with operators working 12 hour-shifts. All together there are 20,000 water quality tests completed per year. Mrs. van Tol is also responsible for taking calls from residents and her best advice is, turn on the tap for 5 minutes to let the water flush out from the pipes.

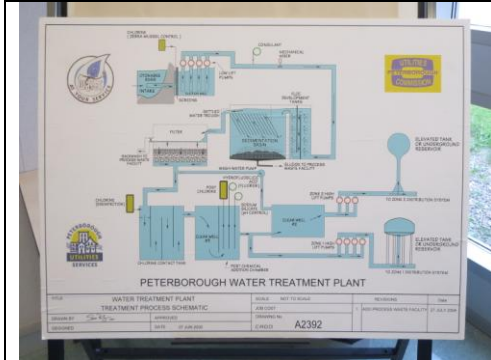
There are a number of Skilled Trades, Technicians, Analysts, Operators and Management Staff who work due diligently to ensure water quality follows the highest standards set by the Ministry of the Environment and Climate Change. The Peterborough Plant manages water for the City of Peterborough residents and operates the Millbrook Water Plant as well.

Finally, special arrangements allow Peterborough Utilities Group to fund the Zoo which is the only CAZA accredited Zoo that doesn't charge visitors. The Zoo is open all year-round. It was started with 2 alligators gifted to a Peterborough Utilities Engineer while in the USA for a work event. So, if you haven't, get out there and enjoy the trails, playground, splash pad, picnic area, water front and of course the animals!

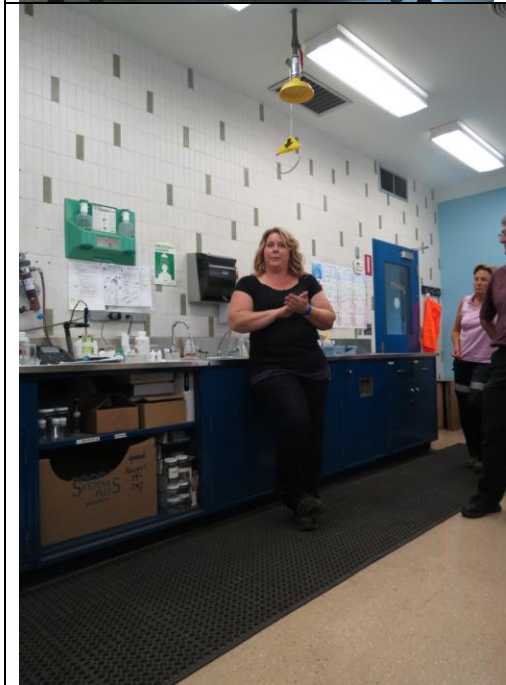
	<p>This picture was taken at the beginning of the tour, at the front entrance of the Peterborough Water Treatment Plant. Christine van Tol is giving an explanation on how water enters the Plant.</p>
	<p>Pictured here is one of the Water Pumps which brings water from the Otonabee River to the Plant, the underground pipe takes a 90 goes further, takes another 90, then it enters the Plant. This is the original entrance of the water when the Plant was build back in 1920-1922 and since the latest expansion of 1970 the water pick up point at the River didn't change.</p>
	<p>Pictured here is John Armour who gave us a detailed presentation with aids of the process.</p>



Mr. Armour showing us a bench size demonstration of the filtration process.



This is the Water Treatment Plant Process Flow Diagram.



Mrs. van Tol at the Laboratory for the final step of the tour.