

Summary of Proposed Amendments to the Explanatory Document for the Trent Source Protection Plan and Assessment Report

March 25, 2019

The Township of Asphodel-Norwood has completed upgrades to the Norwood Drinking Water System which has triggered a required update the Trent Source Protection Plan (SPP) and Assessment Report (AR) which were last updated and approved February 15, 2018. The Explanatory Document was prepared by the Trent Conservation Coalition Source Protection Committee (SPC) to supplement the SPP, in accordance with requirements of the General Regulation made under the Clean Water Act, 2006. It provides stakeholders, the general public, other interested parties, source protection authorities, and the Minister of the Environment, Conservation and Parks with information regarding policy decisions.

This summary document includes the proposed amendments (**highlighted in yellow**) listed below including comments received during pre-consultation. The entire Explanatory Document can be found at trentsourceprotection.on.ca under Resources, Reports & Legislation.

PROPOSED AMENDMENTS

[2.7 Consultation on New Threats](#)

In 2013, two additional technical studies were completed which identified new significant drinking water threats within the Trent Conservation Coalition Source Protection Region. The first was additional event based modeling for extreme events associated with the three Lake Ontario intakes (Bowmanville, Port Hope, and Cobourg); the second was wellhead protection area delineation for the Keene Heights drinking water system to include a new well dug in 2012. Both of these studies resulted in the identification of new significant drinking water threats and as such the relevant policies underwent additional public consultation to ensure the implementing bodies and impacted landowners were made aware of, and had an opportunity to comment on, the policies:

- Lake Ontario threats: Pre-consultation with municipalities and impacted landowners; formal public consultation period between November 18 and December 20, 2013
- Keene Heights threats: Pre-consultation with municipality; formal public consultation period between January 13 and February 14, 2014

In 2018, an updated groundwater model for the Norwood drinking water system was produced to include the decommissioning of one well, and two new wells to come online. This resulted in the delineation of a modified wellhead protection area (WHPA) and assignment of vulnerability scores to the modified WHPA. From this updated modelling, new significant drinking water threats within the Trent Conservation Coalition Source Protection Region were identified.

- Norwood threats: Pre-consultation with municipalities, First Nations and impacted landowners; formal consultation period between January 18, 2019, and February 28, 2019; formal public consultation between March 28, 2019, and May 3, 2019.

NORWOOD PRE-CONSULTATION: SUMMARY OF COMMENTS RECEIVED & TCC RESPONSE

The following text identifies the comments received during pre-consultation and provides a summary of how the comments were addressed by the TCC:

1) Reduced Level of Uncertainty

It is quite interesting to see the significant changes to the mapping using the new report with Surface to Well Advection Time (SWAT) information from D.M. Wills. A bit more work for Otonabee RMO to reach out to the newly impacted neighbouring landowners. I am glad to see a reduced level of uncertainty with the WHPA areas as the esker and bedrock definitely impact the groundwater there.

Response

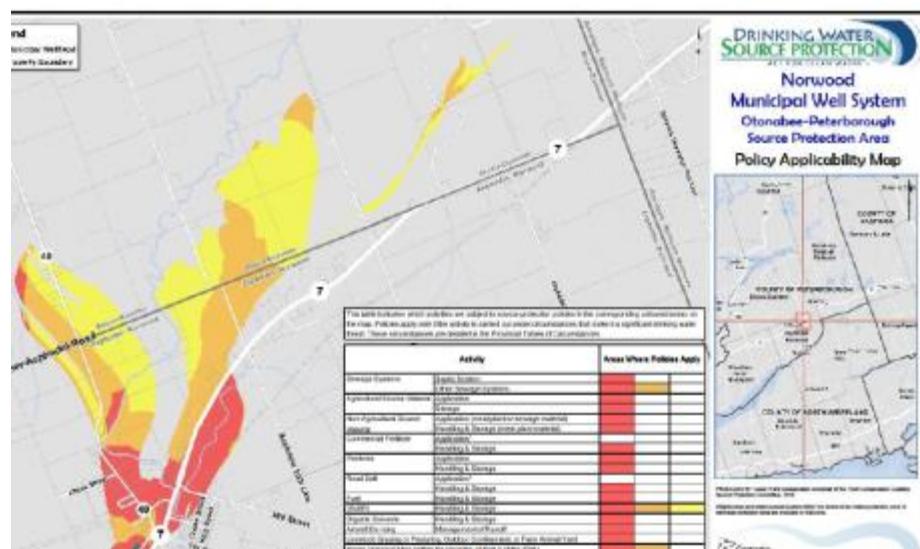
No response required.

2) Change in Vulnerability Score

There is concern over the two new wells being in a WHPA that is subject to 35 threats, and why the change in vulnerability score near Highway 7 and 40 occurred.

Response

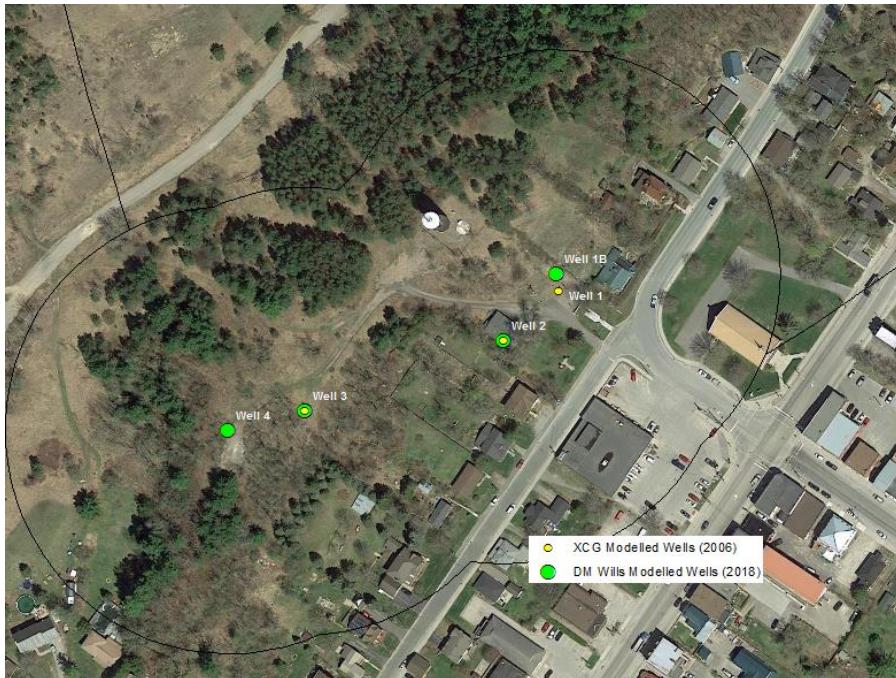
The more recent model that was used considered additional parameters allowing for more accurate representation of area. Soil type, groundwater flow etc. influence the vulnerability of an area and it can appear unusual when looking at the results from an 'above ground' perspective.



3) Map showing the location of all wells

Response

I have included a map that shows new and existing wells in the Q&A to be circulated shortly.



4) Why is well 1 being decommissioned, and what does that mean?

Response

Well #1 has relatively low permeability resulting in capacity concerns and there were also screen clogging problems due to the sediment in the area surrounding the well. Decommissioning (abandonment) of a well must meet requirements as per the Ontario Water Resources Act and O. Reg. 903, enforced by the Ministry of the Environment so that it does not pose a possible pathway to groundwater.

5) Asphalt Plant

Does the asphalt plant also have recycled asphalt storage on site? Some do, and does that introduce additional threats beyond the asphalt production?

Response

At this time all threats that have been identified are 'assessed or potential' threats that have been predicted by reviewing aerial maps, essentially a desk top assessment. All threats require verification by the Risk Management Official. This process has not taken place yet and it is unknown at this time

the if the asphalt plant has recycled asphalt storage on site but can be considered during the threat verification process.

6) New Threats

Do the new threats relate just to the new whpa delineation, or to the new well siting, or both. What are the changes in the numbers to Table 5.4-3?

Response

A more recent model was used for this study and it is significantly different from the previous model used. The current model used has a high degree of confidence in their model predictions, whereas the previous model had a high degree of uncertainty. The two new wells may also have influenced the result of the delineation even though in close proximity to the existing wells. Regarding Table 5.4-3: Summary of Significant Threats for Groundwater Systems in the Trent Source Protection Areas (Listed by System), the number of parcels affected and the number of threats has increased with the new Well Head Protection Area and vulnerability scoring, approximately 35 assessed threats on 25 parcels. The assessed threats are considered preliminary and require verification by the Risk Management Official. The assessed threats were determined by examining aerial maps to predict locations of potential threats. Essentially a desk top study.

7) Data Not Available

The appendix that has the tables for the water quality tables and exceedences, tables 5.3-2 and 5.3-40 list sampling parameters and results but also states that sample data for wells 1b and 4 were not available.

Response

Table 5.3-2 (see below) identifies the range of years for which data was analysed to identify Drinking Water Issues. An Issue is based on an assessment of historical data and exists when a contaminant level in source water exceeds Ontario Drinking Water Standard OR demonstrates a rising trend that when extrapolated over 50-year, would exceed the same Standard. Given the lack of historical data for Wells 1A and 4, a potential Issues could not be fully assessed the footer reads “Data not available for Norwood Wells #1B and #4”.

Table 5.3-2: Data Sources Used for Assessment of Drinking Water Issues (XCG and Alpha Environmental Services)

Data Source	Water Type	Minden	Years on Record							
			Lutterworth Pines	Cardiff	Dyno Estates	Alpine Village / Pirates Glen	Buckhorn Lake Estates	Norwood ¹	Stirling	Keene Heights
Annual Reports	Raw & Treated	04-06, 08		06-08	06-08	06-08	06-07	03-08	03-08	03-07
Ministry of the Environment and Climate Change Drinking Water System Inspection Reports	Raw & Treated	00-03, 05-08		00-07	00-07	02-08	03-08	02; 05-06; 08-09	00-02; 04-05; 07-08	01-03; 05-07; 09
Certificates of Analysis	Raw & Treated	00-07	10	01-07	02-04	98,00; 06-07	06-07	05-08		
Drinking Water Information System	Raw & Treated	05-08		05-08	05-08	05-08	05-08	00-05	05-08	05-08
SWIP Data (MOECC's Drinking Water Inspection/Compliance Program)	Raw & Treated	00-07		00-07	00-07	00-07	03-07		01-07	00-07
Water Treatment Plant Water Quality	Raw & Treated	06-07		06-08						
Ministry of the Environment and Climate Change Laboratory Analysis	Raw & Treated	03, 06; 07		05-06	02-04	00, 03-05; 07-08	03-04; 06, 08			
Great Lakes Index Station Network (GLISN) – Station 462	Raw & Treated									
Ontario Clean Water Agency	Raw & Treated				06	03-08	06-08	02		
Grafton Hydrogeological Reports: Production Well Monitoring Program										
Lutterworth Pines Wellfield Evaluation Report	Raw		08							
Keene Hydrogeological Assessment for PTTW Application	Raw									13

¹Data not available for Norwood Wells #1B and #4

Table 5.3-40: Norwood Water Quality Standards Exceedances

Rationale	Water Type ¹	Years on Record ²	No. Exceedances ³	Standard		Drinking Water Issue (Natural)	Drinking Water Issue (Anthropogenic)	Rationale
				Value	Type ⁴			
Total Coliforms ⁵	Raw	2000 – 2008	Well #1: 0 – 7 Well #2: 0 – 4 Well #3: 0 – 3	0 cfu/100mL	MAC (Health)	YES	NO	• No detections since 2006 • Naturally occurring

¹Indicates if the data on record is for raw (untreated) or treated water, or water from the distribution system

²Standard types: MAC=Maximum Acceptable Concentration; AO=Aesthetic Objective; OG=Operational Guideline

³Parameter reported as a range of results in cfu/100mL

⁴Data not available for Wells #1B and #4