

7404 Wellington Road 34, Puslinch, ON N0B 2J0
Tel: (519) 763-1226 Fax: (519) 763-5846 admin@puslinch.ca



2a. Pursuing further discussions with the City, Grand River Conservation Authority, the Province and other stakeholders regarding whether the consumptive use of non-municipal water can grow to the additional 20,000 m³/day without being encumbered by Significant Risk issues to existing municipal wells or environmental constraints.

2b. Pursuing a method to allocate the useable non-municipal capacity water to the Townships/County in a formal manner.

3. Pursuing continued evaluation of impact to the natural environment by working with the City to utilize data from existing monitoring wells and identifying any new wells required to establish a monitoring network.

4. Pursuing the resolution of the measured streamflow reduction issue in the Eramosa River in the vicinity of Eden Mills:

By encouraging the City to expand their streamflow studies into the Eden Mills area at Indian Road; and By discussions during the regional water management group (consisting of representatives from the Township, County, City, all other affected municipalities, Lake Erie Source Protection Region, Grand River Conservation Authority, other affected Conservation Authorities and the Province).

5. Continuing discussions through the regional water management group and other channels on whether the significant risk level in the Wellhead Protection Area – Quantity could be reduced to moderate or low.

6. Pursuing with the City and the regional management group that all private wells within the area of influence of the City of Guelph wells should be evaluated for the inter-well movement of water between aquifers and those identified with water exchange between the aquifers should be retrofit or replaced.

7. Pursuing through the regional management group:

- a. The issue on whether the area under its jurisdiction qualifies for designation under the Ontario Water Resources Act for area management of the Permits to Take Water
- b. The undertaking of further studies and establish water management strategies to address cumulative impacts.



8. Forwarding the request for updated publication for all the large water users (above 50,000 L/day) including the City of Guelph and including how much water is being taken on a daily and on an annual basis to the Lake Erie Source Protection Region and Grand River Conservation Authority for consideration in their work plan and for discussion at planned regional water management meetings; and

That the resolution be forwarded to the City of Guelph Council, County of Wellington Council, Grand River Conservation Authority, and the Province.

CARRIED

As per the above resolution, please accept a copy of this correspondence for your information and consideration.

Sincerely,
Courtenay Hoytfox
Municipal Clerk

cc.
County of Wellington Council
Grand River Conservation Authority
Minister of the Environment, Conservation and Parks



REPORT ADM-2022-029

TO: Mayor and Members of Council

FROM: Kyle Davis, Risk Management Official
Stan Denhoed, Harden Environmental

MEETING DATE: May 25, 2022

SUBJECT: City of Guelph Water Supply Master Plan Comments

RECOMMENDATION

That Report ADM-2022-029 regarding “Guelph Water Supply Master Plan Comments” be received for information;

Summary

This report provides an update on the status of Township comments on the City of Guelph Water Supply Master Plan and the City of Guelph response. City of Guelph Council is scheduled to receive the Water Supply Master Plan on June 7, 2022. Staff continue to engage with the City of Guelph on future City water supply projects outlined in the City’s Water Supply Master Plan. Additionally, a regional water management group is scheduled to start in 2022 led by the Grand River Conservation Authority that will broaden the focus to overall water management in the area and engagement with other stakeholders. Staff recommendations are also included related to providing an appendix of large water users for residents’ information.

Resolution No. 2022-124

At their April 13, 2022 meeting, Council passed the following resolution:

Resolution No. 2022-124: Moved by Councillor Sepulis and
Seconded by Councillor Goyda

That Council receive Correspondence item 10.4 regarding the City of Guelph Water Supply Master Plan Comments prepared by Kyle Davis, Wellington Source Water Protection and Harden Environmental Services Ltd.; and

That Council directs staff to submit the comments and recommendations outlined in the report to the City of Guelph for review and response; and

That Wellington Source Water Protection and Harden Environmental report back to Council regarding discussions with the City of Guelph prior to a final report being presented to City of Guelph.

CARRIED

Staff provided a copy of this resolution, along with the referenced Township staff and consultant comments to the City of Guelph staff via email on April 26, 2022. Staff and City staff corresponded on this matter and City of Guelph staff provided a response to the Township on May 18, 2022. For Council's reference, a copy of the Township staff report from April 13, 2022 and the Harden Environmental comments are found [here](#).

As requested by the above resolution, staff and Harden Environmental reviewed the City of Guelph's response and offer the following summary. The City's response comprised of a cover letter from City staff and a technical memorandum by the City and their consultants. The City's consultant, AECOM and City staff provided a memorandum outlining the City's responses to the April 13, 2022 staff report and Harden Environmental comments. This memorandum also referenced and provided an abbreviated version of the City's previous response to the Township, Guelph / Eramosa Township and the County of Wellington dated February 11, 2022. The City notes that all of the correspondence including the comments received and responses will form part of the City's public consultation record prepared for the Water Supply Master Plan.

In summary, the City's May 18, 2022 response outlines the following:

- A discussion of the consultation and communication with the Township including continued cross boundary discussion;
- Future Township Water Supply Requirements and Population Growth
- Wellhead Protection Area Modelling and Early Evaluation of Preferred Alternatives
- Designation of Significant Risk Level to Wellhead Protection Area – Quantity
- Evaluation of Impact to Natural Environment
- Impact to Private Well Yields and Contaminant Movement Through Wells

Upon review of the City's response, staff and Harden Environmental note the following items or outstanding concerns for Council's consideration.

- There remains a concern about the unspecified changes to wellhead protection area delineation with increased municipal water takings especially as related to the selection of the preferred alternatives in the Water Supply Master Plan. The existing groundwater

model is a tool that could be used to evaluate this and the model results would help the Township to effectively comment on the Water Supply Master Plan preferred alternatives. The City has declined to do this prior to the adoption of the Water Supply Master Plan, however, commits to evaluating this during the Class Environmental Assessment for each water supply project. Our opinion is that the evaluation and ranking of alternatives in the Water Supply Master Plan should include the preliminary modeling in consideration that several, if not all, of the alternatives result in an increase in size of the Well Head Protection Areas in Wellington County and that the City should be committing to minimizing these increases outside of its municipal boundary. Thus, if not possible prior to adoption of the Water Supply Master Plan, it should occur as the first task.

- The Township will continue to work with the City on the Township future water supply requirements. The City noted that they are willing to incorporate data as it becomes available. The data available to date has been provided to the City, and there will be continued discussions with the City on this and other topics going forward. The City notes in their response that the 2018 [Tier 3 Threats Management Strategy report](#) identified additional non-municipal water capacity within the WHPA-Q up to 20,000 cubic metres per day consumptive use under drought conditions and that this additional capacity would be available to support the currently forecasted growth and water demand in the Townships. We would like to pursue further discussions with the City, Grand River Conservation Authority, the Province and other stakeholders regarding whether the consumptive use of non-municipal water can grow to the additional 20,000 m³/day without being encumbered by Significant Risk issues to existing municipal wells or environmental constraints. The Tier 3 Threats Management Strategy report indicates impacts to baseflow in streams, therefore the quantity of available water within environmental constraints is unknown. We should be pursuing a method to allocate the useable non-municipal capacity water to the Townships/County in a formal manner.
- Continued evaluation of impact to the natural environment is needed and the Township and City agree on this as an overall need. There will be further discussions on the details and who collects the data, evaluates the data and even what data is needed, however, there is general agreement from all parties on the continued need for this evaluation and data collection. Recent discussions with the City staff included an identification of monitoring wells in Puslinch Township that the City now has agreements in place to monitor. City staff and Township hydrogeologist will review these wells and Township hydrogeologist will identify any gaps that exist in the network that should be filled with new wells.
- Of note is that, there likely has been an impact from historical levels (stream flow, groundwater levels etc) that is difficult to measure or quantify. This impact is linked to all the growth and development (Township or City) that has occurred since European

settlement. As part of that growth and development, it should be recognized that there are implicit and explicit priorities of water use. This includes the Province's recently approved priorities of water use that has drinking water supply (municipal or private) as the first priority. Environmental uses such as protection of instream flows, groundwater levels are given equal priority, however, in practice and in the past before these explicit priorities, there has been an implicit priority of drinking water supply whether municipal or private. Growth in the Township water use is better poised to accommodate the apparent conflict between the equal priorities of drinking water/environmental water use given the minimal consumptive use factor for private water takings as water is returned to the groundwater through septic systems or other ways. Conversely, municipal groundwater use has a 100% consumptive use when returned to surface water through a municipal sewage treatment plant.

- Measured streamflow reduction in the Eramosa River in the vicinity of Eden Mills continues to be an unresolved issue. Although this issue was raised during the development of the Tier 3 groundwater model, the loss of river flow could not be explained or accommodated in the model. It continues to be our opinion that the loss of water from the river could be very impactful on the size and shape of well head protection areas in Guelph Eramosa and Puslinch Township and inform protective measures particularly for the Arkell Springs Well Field in Puslinch Township. The City will be undertaking streamflow studies and we encourage them to expand their studies into the Eden Mills area starting at Indian Road. Further discussion of this issue should occur during the regional water management group referenced below.
- There is continued discussion on whether the significant risk level in the Wellhead Protection Area – Quantity could be reduced to moderate or low. The memo from the City notes that the area of water taking must expand in order to minimize the potential for triggering a threat to their municipal water supply. The expansion can only occur outside of the City boundaries and the expansion results in lower water levels in the aquifers and reduced baseflow to streams. The Wellington County Official Plan clearly states a commitment to protection of water resources and further metrics should be developed to ensure that the expansion of the City of Guelph/Region of Waterloo/ private takings do not result in unacceptable impacts. For example, if the status quo in baseflow to Macrimmon Creek, Irish Creek, Badenoch Creek and Mill Creek is the metric, then no further expansion of water taking should be allowed. If a percentage of baseflow reduction, measured from non-pumping conditions is allowed, then there must be an accounting from the external municipal takers and private permit holders in Puslinch that places an upset limit on taking from this groundwater basin. It is important to note that ultimately, the Province has the authority to determine the appropriate metrics and

further discussion is needed. This discussion will continue through other channels such as the regional water management group discussed below and the continued Tier 3 water quantity project.

- The City does not recognize that their pumping of municipal wells is inducing the movement of groundwater from upper aquifers to lower aquifers via multiple aquifer penetrating wells. In our opinion, the lower water levels in the deeper aquifers is drawing water downwards and in the absence of the depressurization caused by the City municipal wells, the volume of movement would be negligible or caused only during pumping of the household pump and captured by the pump. Under this constant induced gradient, these wells represent a water quality threat to the lower aquifer and a water quantity threat to the upper aquifer. All private wells within the area of influence of the City of Guelph wells should be evaluated for this inter-well movement of water between aquifers and those identified with water exchange between the aquifers should be retrofit or replaced. Further discussions on this topic should also occur at the regional water management group.

Moving forward, staff and Harden Environmental will continue to work with our partner municipalities within the County of Wellington, with the City of Guelph, the Province, other municipalities and the Conservation Authorities to manage the shared water resource in this larger area. This resource extends past municipal boundaries and therefore, requires a broader approach to manage.

The Lake Erie Source Protection Region and Grand River Conservation Authority are organizing regional water management meetings as a result of draft policies in the Tier 3 water quantity policy work. These meetings will include representatives from the Township, County, City, all other affected municipalities, Lake Erie Source Protection Region, Grand River Conservation Authority, other affected Conservation Authorities and the Province and are planned to start in 2022. In addition to the specific County and City meetings that are also occurring, it is the plan that this increased collaboration will eventually lead to the satisfactory resolution of the above noted items and / or concerns. As noted above, there is common ground on a number of items although there are also outstanding concerns, some of which are best addressed at a larger group level than only between the City and the Township. Tied to this, could be discussion on whether the larger area qualifies for designation under the Ontario Water Resources Act for area management of the Permits to Take Water. As previously reported to Council, recent changes to that Act allow the Province to conduct further studies and establish water management strategies to address cumulative impacts. Along with the establishment of the wellhead protection area for quantity under the Clean Water Act framework, these two designations could assist in managing the shared water resources in this larger area in a collaborative manner. This builds on already existing initiatives at the Township and County level such as the Paris Galt moraine policies.

Resolution No. 2022-132

At their May 4, 2022 meeting, Council passed the following resolution:

Resolution No. 2022-132:

Moved by Councillor Bulmer and

Seconded by Councillor Goyda

That the Consent Agenda item 6.1.1 listed for MAY 4, 2022 Council meeting be received; and

That Council direct staff to request that the City of Guelph include an appendix in the Guelph Water Supply Master Plan of all the large water users (above 50,000 L/day) to better inform residents of how water taking in certain areas is being utilized and that the appendix also include how much water is being taken on a daily and on an annual basis.

The City of Guelph responded to this resolution and a copy of their response related to large water users on the municipal system is attached.

Staff also reviewed this resolution and report that such a summary already exists for permitted water takers (those with Permits to Take Water) and is present in two reports produced as part of the Guelph and Guelph / Eramosa Tier 3 study that was managed by the Lake Erie Source Protection Region and the Grand River Conservation Authority. The Township and County were part of the project team. The summary of information requested in the above Council resolution is contained in the Matrix Solutions Inc. report entitled [“City of Guelph and Township of Guelph / Eramosa Tier Three Water Budget and Local Risk Assessment”](#) dated March 2017. This information is contained in Tables 3-9, 3-10, 3-11, 6-1 and 6-2. Please note that these tables do not contain average daily water takings and instead provide average annual taking and / or maximum permitted rates. An average daily water taking, however, can be calculated from the average annual taking data provided. It is noted that the data in this report was current until 2008. This data was updated to 2016 in another Matrix Solutions Inc. report entitled [Guelph – Guelph / Eramosa Water Quantity Policy Development Study: Threats Management Strategy dated June 2018](#). The data in the June 2018 report was not provided by individual Permit to Take Water, however, was summarized and presented for the purposes of analysis in the report. Therefore, the most recent complete summary of information requested in the above Council resolution is available publicly in the March 2017 report and current until 2008.

In reviewing the Council resolution and the previous publication of this data publicly, it is staff's respectful suggestion that the update and publication of this information for permitted taking is not best suited as an appendix to the City of Guelph's Water Supply Master Plan. Instead, it is staff's recommendation that this request be forwarded to the Lake Erie Source Protection Region

and Grand River Conservation Authority for consideration in their work plan and for discussion at planned regional water management meetings. These planned meetings are a recommended policy approach in the draft Tier 3 water quantity policy work and would include representatives from the Township, County, City, all other affected municipalities, Lake Erie Source Protection Region, Grand River Conservation Authority, other affected Conservation Authorities and the Province. It is planned that these meetings will start in 2022.

Financial Implications

Not applicable

Applicable Legislation and Requirements

Clean Water Act

Environmental Assessment Act

Ontario Water Resources Act

Attachments

Attachment #1: Email from Dave Belanger, Water Supply Program Manager, City of Guelph to Courtenay Hoytfox, Clerk, Township of Puslinch dated May 18, 2022.

Courtenay Hoytfox

From: Dave Belanger <Dave.Belanger@guelph.ca>
Sent: Wednesday, May 18, 2022 12:53 PM
To: Courtenay Hoytfox
Cc: Scott Cousins; Emily Stahl; Wayne Galliher; Alexander, Matthew (Guelph); Kyle Davis
Subject: RE: Guelph Water Supply Master Plan Comments - Townships of Puslinch and Guelph / Eramosa

Thank you for your email. If we understand your request for information coming from Council Resolution 2021-132, you are asking for information on the daily and annual water use of City of Guelph based businesses which consume greater than 50 m³ per day from the municipal drinking water system to be published as part of the Water Supply Master Plan Update. Under the City's Terms of Collections for Water Customer Accounts, individual account consumption is confidential and cannot be freely released. As result the City is unable to publish this information.

The City does track this information by customer type (i.e., residential, and industrial/commercial/institutional (ICI)) and it is used, in summary, in support of the Water Supply Master Plan. The Annual Average Day Demand for residential and ICI customers is shown in Figure 3-1 and Table 3-4 in the WSMP Report for the period 2010 to 2019. As shown in the chart and table, the demands have been relatively consistent in this time period with a small decline through to about 2016 and a slight increase in the latter years while population has increased. The chart shows the effects of the City's conservation programs in keeping on water supply demand low while there are increases in people and employment in the City. The City will continue to use similar information on the distribution of water demand within the City in future updates to the WSMP.

For reference Figure 3-1 and Table 3-4 from the 2021 Water Supply Master Plan Update draft report have been provided below:

Figure 3-1: AAD Production, Demand, NRW & Population

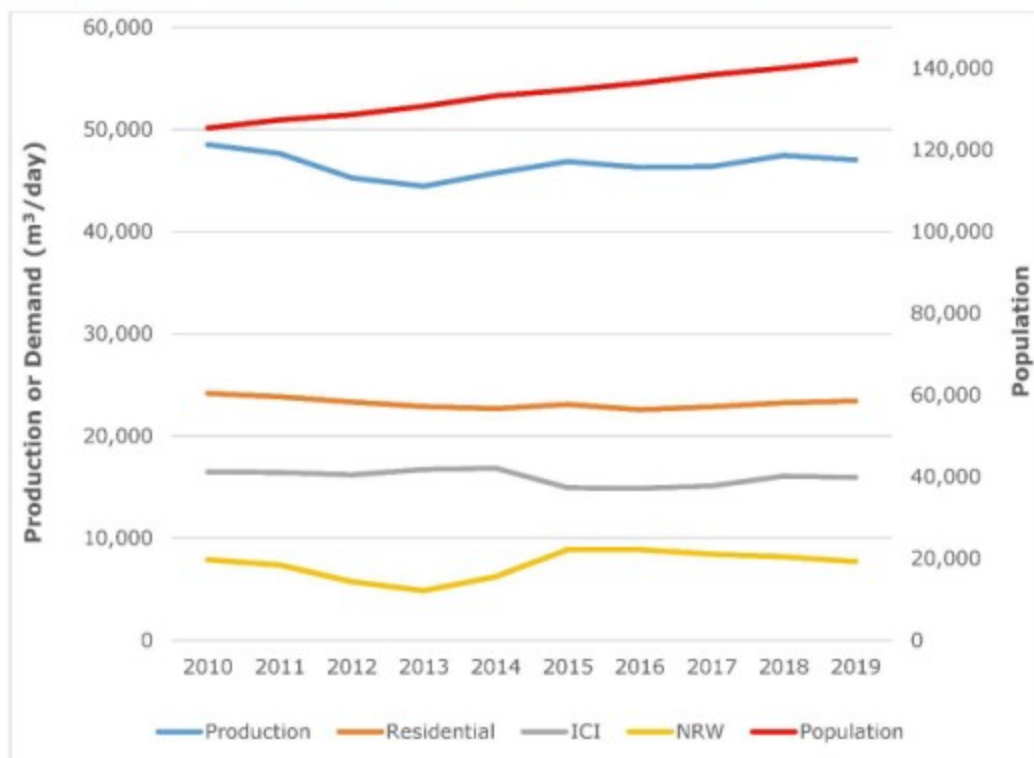


Table 3-4: Historical AAD Water Demands Based on Customer Type, m³/day

Customer Type	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Residential	24,160	23,843	23,324	22,875	22,655	23,084	22,564	22,843	23,233	23,408
ICI	16,482	16,425	16,186	16,700	16,835	14,930	14,862	15,104	16,069	15,924
Total	40,642	40,267	39,510	39,575	39,489	38,014	37,426	37,947	39,302	39,333

AAD – Annual Average Day, NRW – Non-Revenue Water

Dave Belanger, M.Sc., P.Geo. Water Supply Program Manager
Water Services
Infrastructure, Development and Enterprise
City of Guelph

T - 519-822-1260 x2186

F - 519-822-8837

E - Dave.Belanger@guelph.ca

From: Courtenay Hoytfox <choytfox@puslinch.ca>

Sent: May 6, 2022 1:46 PM

To: Kyle Davis <KDavis@centrewellington.ca>; Alexander, Matthew (Guelph) <Matthew.Alexander@aecom.com>

Cc: Aldo Salis <aldos@wellington.ca>; Glenn Schwendinger <gschwendinger@puslinch.ca>; Ian Roger

<iroger@get.on.ca>; Amanda Knight <aknight@get.on.ca>; Jenni Spies <jspies@get.on.ca>; Jeff Bunn <jbunn@puslinch.ca>; Scott Cousins <Scott.Cousins@guelph.ca>; Dwight Smikle <Dwight.Smikle@rjburnside.com>; Stan Denhoed <sdenhoed@hardenv.com>; Dave Belanger <Dave.Belanger@guelph.ca>; Emily Stahl <Emily.Stahl@guelph.ca>; Wayne Galliher <Wayne.Galliher@guelph.ca>

Subject: RE: Guelph Water Supply Master Plan Comments - Townships of Puslinch and Guelph / Eramosa

[EXTERNAL EMAIL] Do not click links or attachments unless you recognize the sender and know the content is safe.

Good afternoon, Puslinch Council recently met on May 4, 2022 and further discussed the Guelph Water Supply Master Plan. The following was resolved at the meeting:

Resolution No. 2021-132:

Moved by Councillor Bulmer and
Seconded by Councillor Goyda

That the Consent Agenda item 6.1.1 listed for MAY 4, 2022 Council meeting be received; and

That Council direct staff to request that the City of Guelph include an appendix in the Guelph Water Supply Master Plan of all the large water users (above 50,000 L/day) to better inform residents of how water taking in certain areas is being utilized and that the appendix also include how much water is being taken on a daily and on an annual basis.

CARRIED

As noted in the Council resolution, can City staff please advise on this request. Staff are hoping to report back to Puslinch Council at the upcoming May 25 meeting.

Thanks very much,



Courtenay Hoytfox
Municipal Clerk
Township of Puslinch
7404 Wellington Rd. 34, Puslinch, ON N0B 2J0
P: 519-763-1226 ext. 227/Fax: 519-763-5846 www.puslinch.ca



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