



Minutes of the Source Water Protection Advisory Committee

Place: Council Chambers, recorded locally on Zoom
Date: Tuesday, March 26, 2024
Presiding Officer: Mayor Greg Henley
Councillors Present: Brenton Colborne, Paul Jones
Regrets: *Nil*

A quorum was present throughout the meeting.

Staff in attendance: Linda Cloney - CAO, Stan McDougall - Admin Assistant (recording secretary), Ruthann Brookins - Manager of Finance, and Nick Purdy – Public Works Supervisor.

Presenters and advisors in attendance:

Dillon Consulting: Sean DeRoche, Katherine MacCaull, and Bradley MacLean.
Town of Amherst: Andrew Fisher, Director of Planning and Strategic Initiatives, and Torben Laux

Press in attendance: Nil

1. Call to Order / Welcome and introductions.

At 5:57 PM, Mayor Henley called the first meeting of the 2024 Source Water Protection Advisory Committee to order and welcomed all in attendance at the meeting through round-table introductions.

2. Selection of Chair

Mayor Henley opened the floor for nominations for Chair. Councillor Jones nominated Mayor Henley to chair. Hearing of no additional nominations for Chair, Mayor Henley was elected Chair by acclamation.

3. Discussion Items:

3.1 Introduction to the Source Water Protection Plan and Why We Need a committee – Dillon Consulting presenting.

Bradley MacLean, Katherine MacCaull, and Sean DeRoche from Dillon Consulting all assisted in presenting Step 2: Town of Oxford Municipal Source Water Protection Plan to the committee.

Step 2 is delineating the source water protection area. The reason why all of this is now in force surrounds the events of Walkerton, Ontario which brought about provincial guidelines and enforcement surrounding source water protection. Groundwater is an excellent supply of water. However, it needs to be properly managed and protected.

The year 2000 model for the existing wellfield needed to be updated to meet the current provincial regulations for the province.

The four zones of a source water protection area were discussed with the committee. Zone 1 was identified as the highest protection area requiring the most risk management. Ownership of the land will allow for proper management, testing, and enforcement of land uses.

Managing, protecting, and expanding as needed were the key concepts to source water protection following the most current permitting requirements from the province.

The Town of Oxford currently has four, high-yield bedrock production wells. The supply is a good, older high-capacity supply requiring upkeep management and protection. The wellfield in Oxford is one of the higher-capacity wells in the province of Nova Scotia. The wellfield also contains four other wells that were test wells that did not yield the capacity of the production wells and were all kept for testing and monitoring purposes which are key for early detection of possible contamination.

The area surrounding the wellfield is mostly natural resources, forested area with some mixed-use agricultural areas. This was noted as an ideal setting for a wellfield.

Advanced computer modelling was conducted to identify updates to the wellhead protection area which, consists of 4 zones. These zones help identify the time it takes for rainwater to recharge the wells and identify areas of required protection for the wellfield. Zone 1 has a 2-year time of recovery and is identified as the most sensitive area for source water protection from contamination concerns. Zone 2 is a 5-year time of recovery; Zone 3 is 25 years and Zone 4 is a zone of contribution as outlined in Dillon's presentation.

It was noted that the model that was conducted in 2000 for the wellfield protection zones has not changed much since that time with only minor adjustments given up-to-date hydrology information to form a better representation of it today vs in 2000.

It was noted that Zone 4 is identified for hydrology work and the concern of the committee should be primarily that of Zone 1 to 3 for potential restrictions and land-use regulations. Information for those living in and around or driving through these zones is key by using signage for information and awareness to help avoid contamination to the wellfield through hazardous spills which could devastate a well for decades and involve costly treatment upgrades and additional monitoring until that contamination is dissipated.

Part of the committee's responsibilities is to put forward recommendations for these zones and the permitted uses in these zones including restrictions for things such as sanding versus salting in the area. However, salting is primarily a concern for Zone 1 and decreases the further you move out. Signage is key to allow for emergency contact information in case of a spill or other environmental concerns. Preventing future development that may pose a contamination risk such as gas stations, fuel depots, etc. is another consideration.

Surface water features in these zones are contributing factors to the groundwater supply. Surface water sources contain organisms that can affect groundwater supply. Upgrades were done to filter surface water before it enters the groundwater.

The most important item identified now is to protect and manage the land usage in those zones. The current regulations outline the process in step-by-step fashion.

The next step is planning and setting up land use restrictions for the protection of the PIDs in Zone 1. Acquisition or control over the PIDs in Zone 1 was recommended.

The committee requested an overlay of the PIDs that are contained in the wellfield and in specific Zone 1. Dillon was ready to submit the draft of Step 2 to the committee and will send this information to the committee shortly.

If more capacity was needed for the Town of Oxford, hydraulic testing of the wells could be conducted to investigate if they could produce more water. If the tests were positive the currently permitted amount of water may be increased but only if the need was identified. The key takeaway is the Town of Oxford is not permitted to use more water than the well is tested and permitted for. The other way to increase capacity is to drill additional wells if they are spaced in such a way as to not take water from adjacent wells which is typically a few hundred feet between wells. However, slight interference between wells is acceptable.

The Town of Oxford has not yet identified if increased capacity is required, and an analysis of the current distribution network is needed to address if increased capacity is possible within the current distribution network or if upgrades are required in the form of additional or larger supply lines.

3.2 Who should be invited to this committee, interested stakeholders?

The provincial guidelines were discussed, and it was identified that municipal members, community members, large users such as Oxford Frozen Foods, landowners around the wellfield, the county of Cumberland, planners, a member of the province, a member of the NSECC (Nova Scotia Department of Environment and Climate Change), and town residents. It was noted that Dillon Consulting and the representatives of the Town of Amherst provided answers and support only but did not comprise an actual member of the committee and would be ex officio.

3.3 Goals and Objectives of the Committee

The main goal and objective as described above is the protection of the water source through knowledge sharing, monitoring, risk management & security and land use restrictions.

3.4 Terms of Reference

Linda Cloney, CAO discussed the town of Trenton's Terms of Reference Document as a good example of one that could be applied to the Town of Oxford. The Mandate of the Terms of Reference was also discussed as well as what would constitute a consensus of the committee for decisions. The committee's role would be one of making recommendations to the Council, and the Council would be the deciding body. However, the Terms of Reference from the Town of Trenton is a good example of one that could be used.

3.5 Mandate

Discussed in item 3.4 above.

3.6 Step 2 – Delineate a Source Water Protection Area Boundary

Discussed in item 3.1 above. These are currently draft.

Any privately owned wells, or wells owned by the Town of Oxford, if not used were recommended to be formally decommissioned but should be included in the Source Water Protection Plan. The Pugwash Road and Sunset Avenue wells were given as examples. Any privately owned wells by the Town of Oxford, if the intent is to use them, should be followed by a notification to the province of the intent to use them. The committee indicated that the privately owned wells were not of the capacity to act as a primary source of water but could be used as backup sources of water when required.

It was also noted that protection for the wellfield is in place from the county. The NSECC does show the registered water supply, but no zones are showing on the map that is currently in place. The County of Cumberland will need to update with NSECC to update the mapping to include the zones on the provincial map for the wellfield on their website.

3.7 Water Wellfield reaching water withdrawal limits – discussion.

Some concerns have been raised regarding the amount of water used vs. availability for the tested availability of the wells. Some information suggests that there may be more than permitted usage, and some suggest there is less usage. Some of the variations may be due to leakage between the monitoring points or some of the monitoring systems may be out of date and are no longer accurate or otherwise out of calibration and may need upgrades. There is more discussion and investigation needed before determining anything.

Further discussion on what the wellfield can produce, what is it permitted to produce, and what has it been tested to produce along with distribution system analysis and monitoring system analysis involving the SCADA system is to be completed. Future development including the growth of Oxford Frozen Foods should all be investigated, understood, and included in the plan. Future growth may mean testing the wells at the higher predicted volume of water forecasted to determine if the wells could produce that demand or if it would require additional wells.

Some of these items can be answered on completion of the Water CAD study to understand what the system looks like and what information is coming from the SCADA system, which compiles all information and allows for forecasting with various scenarios including addressing areas of low and high pressure, etc.

The Water CAD model would address the flow rate of piping based on condition with a safety factor built in. Piping can be calibrated using data from SCADA to update its capacity.

The SCADA upgrade is continuing and was noted that these upgrades look to be completed between mid-April to May of 2024. The SCADA system needs to accurately provide data before further discussion is needed as currently there are questions on flow data not matching from SCADA versus metered accounts.

3.8 Next Steps

The committee's creation is the first step in the Source Water Protection Plan. The next steps were identified as:

SCADA updates are to be completed so data from users like Oxford Frozen Foods matches on both SCADA and their meters. Additional upgrades to the SCADA system may be required and may be future budget items. The committee will need to know what is currently being used first.

Pipe condition and size were discussed as likely the most limiting factor to the water system currently. Testing of the future volume of the wells may yield more capacity once it is known that more capacity is needed. The SCADA system upgrade will also help to identify this.

It was noted that Oxford Frozen Foods has undertaken steps to reduce their water intake which may factor in understanding future requirements and therefore should involve a representative to sit in on the committee. Several names were forwarded for the invitation.

Additionally, an update from the County to show current protection zones on the provincial map is required. A monitoring well network needs to be established meeting the reporting requirements for NSECC for an annual monitoring of production and observation wells. These are getting up to speed now as they are being completed by the Public Works Supervisor and the CAO.

Development of the Source Water Protection Plan through the committee was recommended to be done slowly and not in haste.

Identification of the owners of PIDs and others needed for the committee was also identified as a next step. A letter will go out to each identified owner to invite them to the committee.

A draft model of Step 2 will be sent to the committee as created by Dillon Consulting the beginning of April 2024.

Step 3 would involve working with planners, to identify land use, and risks involving properties in the zones are to be discussed further.

Step 4 would involve the formation of the Source Water Protection Plan document creation including a management plan including control of the zone 1 lands, bylaws, and includes a public interaction stage.

Step 5 would involve a monitoring plan including risk identification and future risk study that would involve yearly review and amendments would be required. Maintenance of the plan will be continued and updated as required. Identification of the need for more observation wells is generally completed in step 5. Observation wells are cheaper to drill than main wells.

4. Adjournment – Set meeting date.

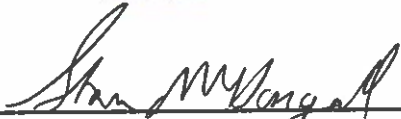
The committee agreed that the next meeting will occur once the SCADA upgrades are completed, and the County of Cumberland has communicated with NSECC to update the zones on the wellfield map.

Pipeline and wellfield easements should also be investigated to ensure they are in place which is more included in the planning stage.

The meeting adjourned at 7:24 PM



Mayor Greg Henley



Stan McDougall, Recording Secretary

Oct. 1 / 25

Date Approved

