

TO: WORKS COMMITTEE, CHAIRMAN BOBBITT

FROM: S. M. HATCHER, P. Eng., CAO

DATE: NOVEMBER 10, 2023

RE: WARD2 WELL 2, WELL 3 – MAINTENACE INTERVENTION

Your Worship and members of Council,

I wish to update and advise Sussex Council of Town Administrations progress in completing successful intervention of the water quality issues on the water supply wells, Well 2 and Well 3 in Ward 2. The following is a summary of events and milestones in the lead up to the completion of the required intervention and preventive maintenance to be scheduled in Ward 2.

To provide background:

1. *The Village of Sussex Corner was issued an Approval to Operate by the New Brunswick Department of the Environment. W-1832 was issued on March 23, 2020, and this document provided approval to operate a Drinking Water Distribution System in the period of April 01, 2020 to May 31, 2025 in accordance paragraph 8 (1) of the Water Quality Regulation 93-203 under the Clean Water Act.*
2. *The Village submitted a water quality sampling plan pursuant to the COA W-1832 for approval pursuant to Regulation 93-203 to both the Department of Health and the Department of the Environment and Local Government. Approval was granted to this sampling plan.*
3. *The test result of the laboratory is certified and was sent to the Village, the New Brunswick Department of Health and the New Brunswick Department of the Environment pursuant to Regulation 93-203. This has been normal practice in New Brunswick for decades. Test results for 2019, 2021, 2022 and 2023 showed increasingly elevated manganese results and appropriate intervention should have been introduced in 2021, and with expeditious speed following the 2022 test result once received and reviewed bythe Village. Clearly the trend was at issue.*

2019	2020	2021	2022	2023
14	21	70	91	146

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- 4. I draw Committee's attention to the trends of the manganese testing results for 2019, 2020, 2021, 2022 and 2023. A clear trend was evident, and an intervention of preventative maintenance was warranted once the aesthetic objective (AO) of 20 micrograms per liter was surpassed, and as well, a clear trending upward many times the AO annually is also clearly evident. These elevated readings would have been reported and included in the Village's annual report sent to the Director in accordance with Article 20 of COA W-1832 for each year the village operated its water distribution system. Such a significate report reporting to the Provincial Director the Village's Water Quality should have been reviewed at the Village's operations committee at the very least, and clear merit to review this report at the Council level to assess and implement corrective actions.*

What is being done by Sussex Council to mitigate the issues that have been identified?

The Town's work plan as approved by Sussex Council is currently being fully executed. To summarize our project steps and to provide insight on the status of the work plan and progress in execution thus far on the Ward 2 water supply wells.

1. Ward 2 water system upgrade on Leonard Drive is now complete. All testing and changeover of the services from the old line to the new watermain have been completed and the new main has been in service since November 01, 2023. Cleanup remains on Lenord Drive and the lower section of Cogle Road, but this project is essentially complete. The new Town now has options to feed potable water in areas of the new community should changes be necessary.
2. The temporary changeover of the supply wells from Ward 2 to the Ward 1 supply has been completed and the change in water supply has been in service for approximately 3 weeks. The service area experiencing this change is the subdivision off Main Street from All Seasons to Sussex Corner Elementary School. The water distribution system has been operating in this fashion since October 24th, 2023, to facilitate the opportunity to complete needed preventative maintenance on the Ward 2 - Well 3. No issues have been identified other than a margin drop in service pressure. All calls related to water color have ended. The Town will continue this method of operation until at least November 22, 2023.
3. Well 3 remediation began Monday November 6th 2023. The pump and poly feed lines were removed on that day. The pump assembly has

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been sent to Fredericton for assessment, service and / or replacement. On Tuesday, the well casing and screen were videoed using a remote operated vehicle (ROV). The well screen was severely encrusted. So much so the production rate of the well was measured at approximately 174 usgpm. The Town believes the pump rate will increase to +345 usgpm by the end of next week. This doubling of production, if necessary, will be a welcomed outcome as a result of the preventative maintenance. The well casing and well screen was wire brushed to remove the crusted areas on the screen on Wednesday November 08th, 2023. A finer less course wire brush will be used through Friday November 10th, 2023, to further clean the well. On Tuesday November 14th, 2023, the Town will take steps to begin the acidification of the well. This process is expected to take 4 to 5 days to complete. We are anticipating having this Well back in service and within compliance of the Canadian Drinking Water Guidelines by November 22, 2023.

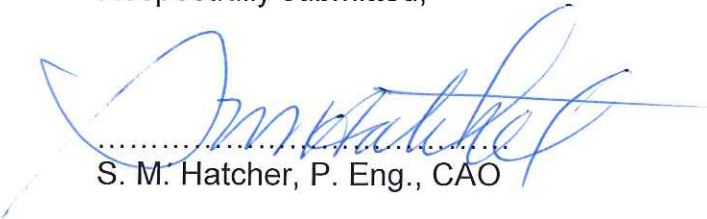
4. Ward 2 - Well 2 has been successfully remediated and our consultants believe they have successfully addressed the turbidity issues experienced when operating this production well. A continuous turbidity monitor has been purchased and is now installed. The Town is awaiting work to be completed by a local contractor to assist with some underground piping changes. This civil work is necessary to add a new Chlorine monitor on Well 2. This equipment has been required since April 2020 but had yet to be installed.
5. Work on the turbidity monitor and chlorine monitor for Ward 2 - Well 1 will be undertaken once Well 2 has been completed and back in service. This equipment has been required since April 2020 but had yet to be installed.
6. Work on the turbidity monitor and chlorine monitor for Ward 2 - Well 3 will be undertaken once Well 3 preventative maintenance work has been completed and the Well is back in service. This equipment has been required since April 2020 but had yet to be installed.

All in all everything is being executed without issues. This necessary intervention will assist in correcting water quality issues that were not addressed by the former Village of Sussex Corner as their reported testing began to exceed water quality parameters in late 2020, 2021 and 2022. The analysis and the consultants' final reporting will be used as the bases for

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future preventative intervention and continuously scheduled maintenance to address manganese and turbidity issues in future years.

Respectfully submitted,



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S. M. Hatcher, P. Eng., CAO