

APPENDIX A

SUMMARY OF THE EXISTING MONITORING EQUIPMENT

Typical local hydrometric data includes measurements of the rain depth (mm, or mm/hour), streamflow measurements (m³/sec or lit/sec), and water temperature loggers. A rain gauge is used to measure the amount of rainfall, whereas a streamflow gauge is used to measure the flows in a creek system. Comparison of the rain gauge readings vs. streamflow flow readings provides an understanding of the existing hydrologic responses of the watersheds. Permanent streamflow temperature helps to identify and support local fish communities (cold water vs. warm water fish species) and to confirm the level of thermal impact resulting from development upstream. Appendix B provides additional details on the existing monitoring equipment.

Rain gauges:

There are 11 (eleven) rain gauges in total that collect data within the municipal boundaries. They provide sufficient coverage for the main urban areas (Acton and Georgetown), as well as for the lands allocated for future growth.

The Town does not own a rain gauge that can be used to obtain reliable rain data. The existing equipment belongs to Conservation Authorities (CH and CVC) as well as to the Region of Halton. Thus, data collection depends on maintenance by third parties, and the access is provided through two different platforms (CVC's platform and The Flood Forecasting and Operations (FFO) Group at CH uses DataCurrent (Smart City Water) as their Data Acquisition and Storage Platform).

In 2021, the Region of Halton installed a new rain gauge at the intersections of Fifth Line and Steels Ave., located one block west of the preferred location for the Town's future station. That was the reason for not including a rain gauge in the Town's package in 2022. Instead, the town was to evaluate the accessibility and computability of the data during 2023-2024. Up to now, it has been confirmed that there are challenges in not having a steam gauge coupled with a rain gauge. There is a potential need for a rain gauge coupled with the Town's station in the future due to potential limited access to the rain data that is not operated by the Town.

Overall, while the coverage appears sufficient, the Town's staff will evaluate the need for their rain gauges to ease access to data and to connect it to the stream flow gauges directly.

Streamflow gauges:

There are nine streamflow gauges that have the potential to provide local data to the Town owned and operated by CVC, CH and Survey Water Canada. Seven of those are local stream flow gauges, one is located just outside of the municipal boundary on

Credit River at King St. in Terra Cotta, and one is Scotch Block Dam outflow control structure flow measurement.

According to Appendix C – Monitoring Equipment Map, there is sufficient and accessible local data for most of the Credit River watershed, however, additional monitoring stations might still be beneficial for the Town and can be considered in the future.

In CH's jurisdiction (Sixteen Mile Creek watershed), there are no stream flow gauges. There is only a Scotch Block Dam outflow control structure (flow measurement system) installed at the downstream end of Scotch Block Dam that is owned by CH. Thus, there is an apparent lack of local data in Sixteen Mile Watershed where for majority of the future growth is set to happen.

Water temperature loggers:

There is an intensive water quality monitoring program in CVC and CH's watersheds, however, only one permanent water temperature logger is installed by CVC at Willow Park in Norval.

There are no permanent water temperature loggers installed in the Sixteen Mile Creek watershed.

Thus, there is an apparent lack of long-term local data and a need for local monitoring.