

Village of Merrickville-Wolford

Water and Wastewater Infrastructure Master Plan Overview

This document provides an overview of the purpose of an infrastructure master plan, how it relates to the Class Environmental Assessment process requirements, recommendations that will result, and next steps. The Class EA process is followed for project and master plan work in Ontario to comply with the Environmental Assessment Act. Specific text from the guiding document for the completion of Class Environmental Assessments being the Municipal Class Environmental Assessment – Municipal Engineers Association, March 2023 is included in italics.

What is a master plan.

Master Plans are long range plans that integrate infrastructure requirements for existing and future land use with EA planning principles. These plans examine an infrastructure system(s) or group of related projects in order to outline a framework for planning for subsequent projects and/or developments over the long-term. This approach recognizes that there are real benefits in terms of better planning when long range comprehensive studies are undertaken over logical planning units, such as at the regional level, and that proponents who undertake such studies can build on the recommendations and conclusions contained in them. ¹

What are the benefits of proceeding with a master infrastructure plan verses an individual project assessment:

- As part of the supporting documents for the master plan, a condition assessment and recommendations for system condition improvements is provided to allow the Village to prioritize and develop order of magnitude budgeting for integrated (sewer, water, and road) projects. *(It is recognized, however, that in many cases it is beneficial to begin the planning process by considering a group of related projects, or an overall system, (e.g., water, wastewater and/or transportation network), or a number of integrated systems, (e.g., infrastructure master plan), prior to dealing with project specific issues. By planning in this way, the need and justification for individual projects and the associated broader context, are better defined.¹).*
- An assessment of storm, sanitary, and water systems to identify current needs and identify alternatives to address system deficiencies (combining stormwater outlets to minimize environmental impacts and installing the storm sewer at lower elevation to extend limits and collection of runoff for example). *(Long range infrastructure planning enables the proponent to comprehensively identify need and establish broader infrastructure options. The combined impact of alternatives is also better understood which may lead to other and better solutions. In addition, the opportunity to integrate with land use planning enables the proponent to look at the full impact of decisions from a variety of perspectives. ¹).*
- Big picture assessment of storm, sanitary, and water systems related to addressing population growth and development lands to ensure pipe sizing, outlets, etc. meet the future requirements for capacity and location. This will also provide clarity on triggers for major infrastructure projects. *(The scope of Master Plans is broad and usually includes an analysis of the system in order to outline a framework for future works and developments. Master Plans are not typically undertaken to address a site-specific problem. ¹).*
- Identify specific projects that will be required in the future but not necessarily to the level of detail required to satisfy the Class EA for the project at this time. A wastewater treatment plan expansion, for example. *(Master Plans typically recommend a set of works which are distributed geographically throughout the study area, and which are to be implemented over an extended period of time. While these works may be implemented as separate projects, collectively these works are part of a larger system. Master plans thus provide the context for the implementation or follow-up studies of the specific projects that make up the plan. Master Plan studies in essence conclude with a set of preferred alternatives and, therefore, by their nature, Master Plans will limit the scope of alternative which can be considered at a project specific level of assessment. ¹).*

Process / Methodology requirements.

The Master Planning process must follow, at a minimum, the same steps of the first two phases of the MCEA process:

- *Phase 1 – Problem or Opportunity*
 - *Identifies and describes the problem or opportunity that the Master Plan is addressing (strategy to address infrastructure requirements for population growth and system capacity and condition constraints).*
- *Phase 2 – Alternative Solutions*
 - *Identify alternative solutions to the problem/opportunity by taking into consideration the existing environment and establish the preferred alternative (planning for intensification and extension of services). This Phase also compiles an environmental inventory, identifies impacts, and outlines mitigation measures.*

Subsequent phases would only proceed where warranted and agreed upon by council. Examples of projects identified in the master plan that would require Phase 3 and Phase 4 work include: work within the Rideau River or plant construction or expansion beyond current capacities).

- Phase 3: Identification and evaluation of design concepts for the preferred solution. A detailed evaluation of the environmental effects and mitigation measures are addressed during this project Phase.
- Phase 4: Complete and place Environmental Study Report on Public Record. The Report will document Phases 1 through 3 and summarize the consultation undertaken throughout the planning process and is considered valid for a 10-year period.
- Phase 5: Implementation

Next Steps

The initial stages of the master plan development include:

- Discuss intentions with Ministry staff to aid in development of master plan terms of reference.
- Submit draft terms of reference to council then ministry.

There are options on how to complete a master plan and on the level of detail the master plan will provide. Our recommendation is to proceed under Approach #1 as defined in the Municipal Class Environmental Assessment document. Details are included below.

(Prior to commencing a Master Plan, proponents are urged to contact the Regional EA Coordinator at the ministry to discuss their proposed approach.

Approach #1 – Broad Master Planning where identified projects are subject to project specific requirements

- *Approach #1 involves the Master Plan being undertaken with a broad scope and level of assessment. This involves analysis on a regional or systems scale, which enables the proponent to identify needs and establish broader infrastructure alternatives and solutions. The inventory of the natural, social and economic environments which are to be considered when assessing the alternative solutions may also be broader/more general.*
- *Specific projects that are required to achieve the preferred solution described in the Master Plan may be identified within the Master Plan document, however the level of detail at a project-specific level is minimal. Therefore, more detailed investigations at the project- specific level are required in order to fulfil the MCEA requirements for the specific Schedule B and C projects identified within the Master Plan. The Master Plan would therefore become the basis for, and be used in support of, future investigations for the specific Schedule B and C*

projects identified within it. For example, while the Master Plan may identify and recommend a series of transportation improvement projects, this would likely be done at a broad level, and additional work would be required to complete the MCEA process for the Schedule B or C projects (e.g., detailed inventory of the environment, impacts assessment and development of mitigation measures – all specific to a particular project). Please see Appendix 4 – “Master Plan Review and Updates” for more information on using the Master Plan as the basis for future investigations of Schedule B and C projects.

Documentation:

- *The Master Plan document would be prepared at the conclusion of the selection of broad preferred alternatives. A final public notice for the Master Plan (Notice of Master Plan) would be issued and the Master Plan document would be made available for public comment prior to being approved by the municipality.¹).*

¹*Municipal Class Environmental Assessment – Municipal Engineers Association, March 2023)*

At this time, we recommend council authorize staff to contact the MECP and develop the draft terms of reference for an Infrastructure Master Plan.

Re: Work Plan for Infrastructure Deficiencies

The Committee of the Whole of the Corporation of the Village of Merrickville-Wolford, at its meeting on March 10, 2025, passed the following motion regarding the Public Works Report: Work Plan for Infrastructure Deficiencies:

Moved by: Deputy Mayor Barr

Seconded by: Mayor Cameron

THAT the Committee of the Whole receive for information the report regarding the work plan for infrastructure deficiencies;

AND FURTHER THAT the Committee directs staff to bring the final request for the proposed Terms of Reference and applicable costs for a Master Plan for the Infrastructure Deficiencies as outlined in this report to the March 24th Regular Council Meeting.
Carried.

Initiatives to address on-going infiltration and pipe condition deficiencies

The master plan will take time to complete. In the interim, it is understood that the underground infrastructure has known deficiencies and infiltration is impacting the available capacity at the wastewater treatment plant. Council has directed staff to identify projects to address these known issues.

In this regard, staff, upon council approval, are proceeding with the completion of CCTV of the sanitary and storm piping in areas that have previously been identified with high sanitary sewer infiltration/inflow. Upon receipt of the data, a recommended project, based on pipe condition, inflow/infiltration, OCWA recommendations regarding repairs or replacement of watermain, and road and sidewalk assessments previously completed, will be identified.

Contingent on review with Village staff and council, and upon review of the CCTV 2025 video inspection, the initial project identified for construction work is Wellington Street from St. Patrick Street to St. Lawrence Street. This street is in the section of the Village with excessive sanitary sewer infiltration, aging watermain, and limited storm sewer infrastructure located only at the intersections.

The length of the street section is approximately 250m. Assuming replacement of sanitary, water, installation of storm sewer, road reconstruction, curbs and sidewalk one side, the estimated

construction value is in the range of \$2 million. This cost is based on a project completed in Perth in 2023 with similar characteristics.

An application for funding under the Health and Safety Water Stream under the Province of Ontario Municipal Housing Infrastructure Program could be submitted. The application period for the aforementioned funding stream has been deferred from February 12, 2025, to “a later date”.

An excerpt from the Provincial Health and Safety Water stream is provided below for reference, whereas staff are dedicated to work toward a funding submission for a reconstruction project, in the near future.

Overview

The Health and Safety Water funding stream will help municipalities and First Nations build, rehabilitate and expand aging water, wastewater, stormwater, flood and erosion infrastructure. These projects will help preserve the current housing supply and protect communities during extreme weather events.

We are providing \$175 million in funding through the Health and Safety Water Stream under the Municipal Housing Infrastructure Program.

The application period for the Health and Safety Water Stream is deferred from February 12, 2025, to a later date. More information will be shared here once available.

Eligibility

Applicants

All municipalities and First Nations are eligible to apply for funding.

Eligible projects

To be eligible for funding, projects must:

- protect or maintain housing units that are otherwise compromised by health and safety risks
- demonstrate that they will create climate resiliency and adaptation
- be new construction, rehabilitation or expansion
- have not started construction
- have a clear start and end date
- start no later than **September 30, 2025**, and must be completed by **March 31, 2029**
- include a capital component and may also include pre-construction planning and design work
- be in the process of, or completed, the design and planning phase

- meet all relevant provincial regulatory requirements and policy direction

Water infrastructure assets that are eligible for funding include:

- **drinking water**, for example:
 - treatment plants
 - reservoirs
 - local pipes, including the distribution system watermain and the municipal portion of service lines
 - pump stations
- **wastewater**, for example:
 - lagoon systems
 - pump stations
 - lift station
 - linear assets
 - treatment plants
 - storage tanks
 - collection systems
- **stormwater**, for example:
 - management facilities
 - linear assets, including conveyance piping, ditches and culverts
- **flood and erosion infrastructure, including shoreline protection works**, for example:
 - dams^{[footnote 1\[1\]](#)}
 - dykes^{[footnote 1\[1\]](#)}
 - channel conveyance improvements
 - riverine non-structural and structural erosion management
 - shoreline works