



PUBLIC WORKS AND ENGINEERING

Staff Report

REPORT NO: PWE 2022-19

TO: Council

SUBMITTED BY: Jeff Molenhuis, P.Eng., Director of Public Works and Engineering

PREPARED BY: Bryan Bishop C.E.T. Manager of Engineering

REVIEWED BY: Sharon Chambers, CAO

DATE: April 25, 2022

SUBJECT: Infrastructure Standards and Specifications Manual for Public Works and Engineering

RECOMMENDATION:

THAT Report PWE 2022-19 Infrastructure Standards and Specifications (ISS) Manual for Public Works and Engineering be received for information; and further,

THAT the Infrastructure Standards and Specifications manual as detailed in Report PWE 2022-19, dated April 25, 2022 be endorsed; and further,

THAT the following actions with respect to the Infrastructure Standards and Specifications manual be taken:

- i) Staff be directed to utilize the Infrastructure Standards and Specifications manual in the review of municipal consents, development engineering applications and approval and design of capital infrastructure projects.
- ii) Staff are provided authority to update the Infrastructure Standards and Specifications manual regularly to ensure it remains current with standards and Township requirements.

SUMMARY:

This report outlines the comprehensive update of the Township's core Infrastructure Specifications and Standards document. The update included substantial collaboration and partnership with the Township of Woolwich, as well as industry consultation on the proposed updates to align with current regulations and best practices in engineering and operations.

BACKGROUND:

The Public Works and Engineering Department has a core mandate of infrastructure development, rehabilitation and maintenance. Development and municipal consent activity requires the balance of private interest for infrastructure approvals and process requirements with the Township's interest in promoting quality long term infrastructure and growth within the Township. A critical aspect of development related infrastructure approvals is establishing municipal standards and specifications to provide for confidence in the approval process. The engineering review process continually aims to better address the potential for competing interests of development activity with Township interests in providing high quality development, municipal consent approvals and capital infrastructure projects for the life cycle of the municipal assets.

Municipalities recognize the benefit of having standardized requirements for municipal consents, development engineering and capital infrastructure projects. Manuals of this nature provide staff and consultants with Township specific requirements to be used in addition to other regulations and requirements, such as Federal and Provincial legislation, the Region of Waterloo Design Guidelines and Supplemental Specifications for Municipal Services (DGSSMS) and Ontario Provincial Standards (OPS). Standardizing municipal requirements condenses the review time, brings consistency and confidence to the development process, which provides for better opportunities and positions to ensure higher quality constructed infrastructure and reduced long term maintenance requirements.

Considering efficiencies in services, the Township partnered with the Township of Woolwich to create standard document language that could be used by both municipalities in their own separate manuals. The manual aimed to include standard engineering development design requirements, infrastructure standards and useful links to submission and design requirements. Staff also reviewed other similar manuals created by area municipalities to ensure requirements in the Wilmot manual were in line with typical standards. Federal, Provincial and Regional requirements were considered to ensure no conflicts would be created. Partnering with Woolwich allowed for efficiencies in administration, consultation and overall process of developing this critical document.

Starting in 2020, draft versions of the document were circulated in three phases to industry stakeholders for comment, feedback and discussion. The manual was also circulated to internal Township staff for their comments and department inclusions. Many comments were received and considered during the creation of the final draft document that is attached to this report.

REPORT:

Included in the Manual

The manual includes engineering requirements for;

- Core municipal infrastructure specifications;
- Municipal Consent; and
- Development requirements including;
 - Engineering drawing submissions
 - road design,
 - underground services,
 - transportation impact studies
 - hydrogeological impact studies
 - lot grading,
 - sediment and erosion control,
 - stormwater management,
 - landscaping, and
 - fees and security.

The manual references standard drawings and specifications included in the DGSSMS and the OPS. There are some Township specific requirements that need greater oversight than what is offered in DGSSMS and OPS. Township specific standards have also been referenced in the manual.

The manual recognizes that there may be cases where specific issues prevent the standard design requirements from being followed. To this end, provisions for acceptance of design elements outside of the requirements included in the manual can be requested and considered by senior staff. Through understanding of how similar documents are used in area municipalities, such as Kitchener, Waterloo, Cambridge and Stratford, staff are confident that most development, municipal consent and infrastructure projects will be able to follow the requirements outlined in the manual.

A number of policies were included in the creation of the document. Below are a few of the policies established

- Water meter pit specifications;
- Street lighting;
- Topsoil thicknesses;
- Inflow and Infiltration performance testing;
- Stormwater management monitoring and securities;
- Public Works and Engineering fee basis; and
- Municipal consent process and specifications.

The ISS manual generally relates to public infrastructure which separates these components from private property building requirements, which generally fall under the jurisdiction of the Ontario Building Code. The scope of this document reflects the public infrastructure realm, and as such the evolving green building standards and processes for private building structures are not included in this document. In addition, Low Impact Development (LID) standards associated with development activity are not included in this document for two primary reasons. First, the inclusion of LID needs to consider a sub-watershed viewpoint as many LID activities are relevant to watershed characteristics. Second, the province is currently consulting the public on LID and green infrastructure standards. The intention is to utilize these standards in future manual updates; and prior to that time use current best practices to implement into development activity and capital works.

Implementing the Manual

Following its endorsement by Council, the manual will be accessible to the public through the Township's website. Information on the manual, and its use will also be included to ensure users are interpreting the manual as intended. Staff will be available for questions and consultation.

Updates to the Manual

Staff will review the Infrastructure Standards and Specifications manual regularly to ensure it meets the needs of the Township, while considering industry needs and changing standards. Notices of updates will be provided to the industry and general public, as well as tracked in the manual document to ensure transparency and consultation take place with respect to the document.

Interdepartmental Impacts:

Input from various Township departments was received in the creation of the manual, including Development Services, Parks Facilities and Recreation and Fire Services. The manual strives to provide up to date guidance to Township staff working with development approvals, municipal consents and capital infrastructure projects.

Ongoing analysis of development review and infrastructure design processes are necessary to address specific challenges and provide guidance to the development and construction community. It is important to balance these challenges with the interest of the Township to promote quality development and future maintenance of new infrastructure. The addition of the ISS will support corporate efforts to provide adequate customer service to the industry, and to achieve the broader objectives of the Township's Strategic Plan.

ALIGNMENT WITH THE TOWNSHIP OF WILMOT STRATEGIC PLAN:

This initiative supports the goals and strategies of enhancing *Responsible Governance* through Fiscal Responsibility, Active Communications, Infrastructure Investments, Service Reviews and Master Planning. It also supports *Economic Prosperity* through smart growth. Finally, this

initiative supports Quality of Life through Accessibility and Inclusivity, Active Transportation and Transit.

ACTIONS TOWARDS UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS:

- Goal 9: Industry, Innovation, and Infrastructure
- Goal 11: Sustainable Cities and Communities

FINANCIAL CONSIDERATIONS:

Ongoing review and updates to the Infrastructure Standards and Specifications manual are expected to have minimal impact on the Public Works and Engineering Services budgets.

ATTACHMENTS:

Attachment A – Infrastructure Standards and Specifications - DRAFT
Attachment B – Appendix
Attachment C – Standard Drawing Details