# Functional Servicing Report
## Terms of Reference

### PREAMBLE

A Functional Servicing Report (FSR) provides a review of functional serviceability for a proposed development and determines the overall impact of a land development proposal (i.e., subdivision, site plan), proposed conversion, or changes of land uses and intensification, on the water supply and wastewater treatment and service capacities, and the storm drainage system.

The analysis is to include all affected existing infrastructure to ensure that there is sufficient capacity to support the demand generated by the proposed development. It also determines the required improvements to existing municipal servicing infrastructure, stormwater management systems, water balance, etc. as well as any mitigation measures to minimize negative impacts. Details of the location and nature of all existing infrastructure (water, sanitary, and storm) that is available to provide servicing to the proposed development is to be identified.

### REQUIRED BY LEGISLATION

- The Ontario Planning Act.

### WHO SHOULD PREPARE THIS REPORT?

A Functional Servicing Report (FSR) must be completed by a licensed Professional Engineer (P.Eng.) qualified in municipal engineering. All drawings and reports must be stamped, signed, and dated by a Professional Engineer licensed in the Province of Ontario.

### HOW SHOULD THIS REPORT BE PREPARED?

A Functional Servicing Report should include sufficient details for municipal staff to determine the infrastructure implications of servicing (water, wastewater, stormwater, site grading and utilities) on the proposed development. The submission should include reports, plans, computer modelling results and/or design calculations relating to the design, upgrades of municipal services and related reports.

A Functional Servicing Report should, at a minimum, contain these general headings and respective information as follows:

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## Terms of Reference

### Introduction

- Municipal address of the subject property.
- General site location of the subject property and neighbouring properties.
- Project Name (if applicable).
- Applicant and owner's contact information.
- Author's name, title, qualifications, company name / address and appropriate stamp.
- Brief description of the proposal.
- Overview of the study area.
- Purpose of the study.
- Location and context map.
- Reference to existing Master Environmental Servicing Plan (MESP) and master planning documents as applicable.

### Proposal Description and Context

- A description of the proposal, development statistics (such as number of units, site area), type of development proposed, height, parking areas, access points, location of amenity areas, proposed phasing etc.
- A description of the existing on-site conditions, as well as surrounding areas, roads, infrastructure, natural areas, buildings, parking areas, and Background developments that may have an impact on the proposal.
- Concept Plan and/or proposed servicing for the development including building location, parking, access, amenity areas, grading and natural features and any natural hazards.

### Minimum Investigation/Evaluation:

#### Water Supply and Distribution:

- Existing and proposed services and watermains (including size and location) and pressure zones.
- Hydrant flow pressure tests are to be undertaken to confirm capacities and available flow available to the subject property. Testing is to be coordinated with the Town of Bradford West Gwillimbury Water Department through Development Engineering.
- Demand calculations based on the Towns design criteria to support estimated consumption and confirm current supply and system capacities of the water distribution system (utilizing

modelling where applicable). Design parameters are to include for total population, per capita demand, and non-residential use demand and water demand criteria (maximum day, peak hour, minimum hour, fire flow).

- Water distribution concept plan, and phasing of development.
    - Demonstrate adequate supply and system capacity for the proposed change in land use or development and other area intensification projects, and the need for expansion and upgrades.
        - Note: Analysis of the watermain is to be undertaken, and the most current watermain model is to be obtained from the Town. The watermain model that is prepared to support the proposed development is to be submitted for review.
- Demonstrate conformity with Master Servicing Study, Master Environmental Servicing Plans (MESP) and other relevant studies as applicable.

**Wastewater Collection and Treatment:**

- Existing and proposed services including size and location of existing sanitary sewers, and current capacities of the existing system. Sanitary drainage plans are to be utilized (if available).
- Wastewater flow generation calculations based on the Town design criteria to support estimated discharge and confirm current capacities of the wastewater collection / trunk systems, pumping stations and treatment facilities (utilizing modelling where applicable).
- Wastewater collection concept plan, and phasing of development.
    - Demonstrate adequate treatment and system capacity for the proposed change in land use or development, and other area intensification projects and the need for expansion and upgrades.
        - Note: instructions on how to demonstrate to be discussed with the Town.
- Demonstrate conformity with the Town's masterplan, MESP and other relevant studies as applicable.
- Assess compliance to municipal Consolidated Linear Infrastructure Environmental Compliance Approval (CLI ECA) (for existing municipal or to be municipally owned infrastructure) for pre-authorization.

**Stormwater Drainage:**

- Identify and describe, pre-development and post-development conditions, existing and proposed grading existing and proposed infrastructure, and their capacities etc.
- Identify the inlets (from upstream) and outlets (to downstream) for the minor and major systems, including overland flow routes.
- Identify all internal and external drainage areas under existing and future development conditions for minor and major flows.
- Identify constraints and potential opportunities – quantitative, qualitative, erosion sensitivity and environmental concerns related to stormwater for both interim and ultimate development conditions.
- Identify existing stormwater management requirements and/or criteria that apply specifically to the site (applicable watershed).
- Provide preliminary design calculations (including modelling) and drawings showing the size and concept location of Stormwater Management (SWM) facilities for stormwater quantity, quality, erosion, and water balance measures.
- Assess compliance to municipal Consolidated Linear Infrastructure Environmental Compliance Approval (CLI ECA) (for existing municipal or to be municipally owned infrastructure) for pre-authorization.

**Phasing Plan (if required):**

- Describe required phasing of development.
- Describe reasons for phasing if based on servicing availability, financial constraints, etc.).
- Show location of different phases and associated servicing infrastructure – existing and proposed water mains, wastewater, and stormwater management.

## Impacts and Mitigation Measures

### Water

- Indicate if off-site land or works are required (servicing easement, new watermain, etc.). Proposed servicing details including proposed connections and any expansion and/or upgrade required to municipal infrastructure to support the proposed development is to be identified.
- Identify if there is adequate capacity within the water distribution system.

### Wastewater

- Indicate if off-site land or works are required (servicing easement, new sewermain, etc.)
- Identify the required existing downstream sanitary system upgrades.
- Identify the need of any interim or permanent pumping station.

### Stormwater Drainage

- Stormwater information including all applicable details are to be provided in accordance with the scope of work and type of application and the terms of reference for a Stormwater Management Report is to be referenced to for additional information.
- Compliance with the Sewer Use By-Law 2013-68, as amended is to be demonstrated.
- Demonstration that the proposed stormwater management design conforms to the latest Town of Bradford West Gwillimbury Design Criteria Manual and the MECP Design Criteria.
- Indicate the design assumptions and the stormwater management schemes to manage the storm runoff including, matching pre and post development flows. quantity, quality, erosion control, water balance, and Low Impact Development (LID) techniques etc.
- Identify how the water balance requirement is to be achieved utilizing Low Impact Development (LID) techniques.
- Implementation of low impact development (LID's) as outlined with the Town of Bradford West Gwillimbury Official Plan By-Law 2021-17, as amended and accepted practices as outlined in the LSRCA guidance documents.
- Assess mitigation measures to minimize any negative impacts on the drainage system by applying appropriate on-site controls.
- Demonstrate that the proposal has maximized source control measures to reduce runoff from the site and maximized conveyance control measures to infiltrate and/or treat runoff as appropriate consistent with water quantity and quality objectives.

- Indicate if off-site land or works are required to implement the stormwater management proposal and comment to what extent (e.g., easements, dedication, land acquisition, etc.).
- Indicate the interim measures required for erosion, pond siltation and sedimentation, downstream works, and riparian flow considerations during the construction phase.
- Indicate if other agencies have jurisdiction and if their approvals or permits are required; provide record of approvals.
    - (e.g., Ministry of Transportation Ontario (MTO), Ministry of the Environment Conservation and Parks (MECP), Department of Fisheries and Oceans (DFO), Conservation Authorities (CAs), etc.).
- Indicate if the proposed development requires temporary (during construction) and/or permanent dewatering (restricted allowance by the Town). Describe the proposed discharge location(s) and impact mitigation measures if de-watering is required, recognizing that temporary and permanent dewatering discharges will not be permitted to the municipal sanitary system.

### Utilities

- Commentary is to be provided within the FSR regarding the specific utility requirements for the proposed development. The applicant will be required to show all existing above ground and below grade utilities within the right-of-way and shall note that the proposed design may require revision to avoid conflict with utilities. Any utility relocation shall be shown on the drawings and is subject to approval by the respective utility provider. The relocation shall be done in coordination with the Town and the utility provider.

## Recommendations

- Summary of the identified water supply system, wastewater treatment and servicing and stormwater management strategy for the proposed development.

## Drawings and Supporting Information

- Submit all plans, reference reports, computer modelling results and calculations to support the proposed water servicing, wastewater servicing and stormwater management scheme within the report.
- In addition to being included within the report, all plans are to be submitted individually.

## WHAT ELSE SHOULD WE KNOW?

The scope of the study should be discussed with the Town as part of the pre-consultation process. A Functional Servicing Report should be based on established municipal engineering design principles, applicable guidelines (e.g., Ministry of the Environment Conservation and Parks Guidelines, LSRCA, and NVCA), regulations and by-laws and infrastructure information available from the Town. The FSR is to include all reports, design calculations, computer modeling and results, and drawings that are related to or in reference to the proposed development.

The level of detail required depends on the type of application and the size of the proposed development. For example, a report in support of an application for an Official Plan and/or Zoning By-law Amendment will be more conceptual than a report in support of an application for a Draft Plan of Subdivision, which will include more details, such as where lot, block or right-of-way dimensions are approved in principle. If one report is used for all applications, then the report shall be prepared with the required detail to support the most comprehensive application.

An Environmental Impact Study (EIS) may also be required to address the impact of development on water resources features or functions on- and off-site.

When a development is located adjacent to a roadway, the Functional Servicing Report should also address what the impact of storm drainage from the development has on the road and/or associated drainage system.

Depending on the proposed works and their proximity to valleys, significant slopes, and watercourses, the recommendations within a Functional Servicing Report may warrant additional natural heritage, geomorphic, geotechnical/slope stability studies in support of the proposed works.

The Town of Bradford West Gwillimbury's latest version of the Design Criteria Manual (DCM) is to be referenced for the preparation of the FSR.

The applicant / developer must ensure compliance with the Town of Bradford West Gwillimbury's Municipal Consolidated Linear Infrastructure Environmental Compliance Approvals for the assumption of any infrastructure.

## ADDITIONAL TERMS

If the proposed development is revised, the study/report shall reflect the revisions by an updated report or letter from the author indicating the changes and whether the recommendations and conclusions are the same (Note: this is subject to the extent of the revisions).

A peer review may be required. and all costs associated with the peer review may be the responsibility of the applicant.

If the submitted study is incomplete, is authored by an unqualified individual or does not contain adequate analysis, the applications will be considered incomplete and may be returned to the applicant.

## SUBMISSION INSTRUCTIONS

- Follows the Digital File Naming Convention.
- All submission materials shall be submitted through an FTP site.

## WHAT OTHER RESOURCES ARE THERE?

- Professional Engineers of Ontario – Why employ a professional engineer?
- Ministry of the Environment Stormwater Management Planning and Design Manual.
- MECP Design Criteria for Alterations Authorized under an Environmental Compliance Approval.
- The Town of Bradford West Gwillimbury Engineering Design Criteria Manual, as amended.
- The Town of Bradford West Gwillimbury Sewer Use By-Law, as amended
- Stormwater Management Criteria, LSRCA and NVCA as may be applicable.
- Low Impact Development (LID) Guidelines.
- Lake Simcoe Protection Act.

**About these Terms of Reference:**

These Terms of Reference were developed by the Town of Bradford West Gwillimbury based on the Terms of Reference prepared by York Region.

**Notes:**

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