Functional Servicing Report

The purpose of this document is to provide a term of reference for the preparation of a Functional Servicing Report, which may be required as part of the submission of an application for Official Plan Amendment, Zoning By-law Amendment/Community Planning Permit, Draft Plan of Subdivision/Condominium, Site Plan, Consent and Minor Variance.

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), proposed conversion or changes of land uses and intensification, on the water and wastewater service capacities, and the storm drainage system. It also determines the required improvements to the municipal servicing infrastructure, stormwater management systems, water balance etc. as well as any mitigation measures to minimize negative impacts.

Required by Legislation

The Ontario Planning Act.

Who should prepare this report?

A Functional Servicing Report must be completed by a registered professional engineer qualified in municipal engineering. All drawings must be stamped, signed, and dated by a professional engineer, licensed in the Province of Ontario.

Why do we need this report?

A Functional Servicing Report is required to assist staff in determining if the existing water and wastewater services and stormwater management systems are adequate for the proposed development, or if services need to be upgraded.

How should this report be prepared?

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

A Functional Servicing Report should at a minimum contain:

- Location map and description of the subject property;
- Description of proposed development;
- External/future development requirements for municipal water and wastewater services;

- Illustration showing the proposed development, existing and proposed infrastructure and proposed servicing connection points and diameter for water, sanitary sewer (including identification of the connection manhole and storm sewer (if adjacent to a District Road));
- Rationale behind the proposed servicing plan and additional significant issues relevant to the development (i.e., high population densities, expected occupancy schedule);
- Originally allocated population densities for developed areas;
- Completed sanitary sewer design sheet;
- External sanitary sewer drainage plan;
- Calculations for sanitary sewer effluent;
- Calculations for domestic water demand;
- Calculations for fire flow requirements;
- Range of watermain operating pressures at ground level under the following conditions (note that if the pressure ranges vary significantly 21 throughout the development, a street-by-street table providing these operating ranges shall be provided):
  - Peak hour demand
  - Maximum day demand plus fire flow conditions
- Hydrant flow test(s);
- Signature and stamp of a professional engineer.

Every FSR should include a section titled "Design Basis" summarizing the assumptions used in the analysis.

Water Distribution

Water demands are to be calculated in accordance with the Design Criteria section. The FSR shall identify the demands of the proposed development and proposed water servicing plan. Confirmation of the suitability of the existing infrastructure to provide the supply of water necessary without reducing the service levels of the existing water supply system or any proposed changes to the existing system shall be identified in the FSR. The proposed development data may need to be entered into the District water and wastewater system models to confirm available capacity, depending on the size and type of development and potential impacts upon the capacity of District servicing infrastructure. Such modeling would be conducted in accordance with Section 1.3, Hydraulic Modelling Requirements, at the cost of the Applicant.

The details included in a FSR will depend on the type and scale of development.

The extent of an FSR should include, but may not be limited to, an examination of the development impacts on water treatment, pumping, storage, transmission and distribution watermains. At a minimum, the FSR shall include the following:

- Average day, maximum day and peak hour demand for the ultimate site or development requirements;

- Analysis of "maximum day plus fire flow" and "peak hour demand" conditions;
- Identification of capital improvements, if required, to meet the District's design criteria and the Ministry design guidelines for drinking water systems;
- Analysis of recorded nominal pressure ranges experienced in the distribution supply mains and comparative anticipated maximum and minimum pressures to be experienced within the proposed service area during periods of maximum and minimum flows;
- Analysis of pumping capacity and storage requirements for the appropriate pumping station(s) to meet the development's demands (where required);
- Total equivalent population to be serviced within the development and total lands to be serviced;
- Pressure zone(s) which will service the development and parts serviced by each zone. The servicing scheme should incorporate full looping of the water systems within each zone and any permanent pressure reducing valves at the pressure zone boundaries;
- Designation of lands external to the development which are to be serviced through the internal development infrastructure;
- Blend the designs with District's long-term and permanent infrastructure (needs and benefits, capital costs, operation and maintenance costs, financial responsibilities).

Wastewater Collection

Sanitary sewer effluent flows are to be calculated using the current version of this manual, specifically the Sanitary Sewer Design Criteria in Section 3.6.

The details included in a FSR will depend on the type and scale of development. The extent of the FSR should include the following at a minimum:

- Any assumption used to reach a conclusion must be clearly outlined;
- Any deviation from this manual should be clearly referred to the authority accommodating such deviation;
- The FSR should illustrate how it conforms to current and future District infrastructure planning initiatives;
- Where the servicing strategy deviates from District infrastructure planning, the FSR should identify the benefits to the District system in terms of costs and servicing;
- The FSR should take into account the drainage scheme for the external lands;
- The need for any ancillary wastewater pumping stations shall be examined and, if required, shall comply with associated District standards.

Impacts and Mitigation Measures

Water:

- Indicate if off-site land or works are required (servicing easement, new sewer within the other jurisdiction lands e.g., MTO, Hydro, etc.).

Wastewater:

- Indicate if off-site land or works are required (servicing easement, new sewer within the other jurisdiction lands e.g., MTO, Hydro, etc.)
- Identify the required existing downstream sanitary system upgrade
- Identify the need of any interim or permanent pumping station and the ownership of the proposed pumping station.

Recommendations

- Summary of the identified Water Supply System, Wastewater Servicing and Stormwater Management strategy for the proposed development.
- Proposal of actions to support the development and any special considerations or conditions that should be imposed
- Any recommendations or conditions that should form part of the development approval

Drawings and Supporting Information

- Submit all plans, reference reports, computer modeling results and calculations to support the proposed water servicing, wastewater servicing and stormwater management scheme.

What else should we know?

The scope of the study should be discussed with the district and/or area municipal planning staff and or other staff or agencies as part of the consultation process.

A Functional Servicing Report should be based on established District Municipality of Muskoka Design Criteria and Standards Manual, applicable guidelines (e.g., Ministry of the Environment Conservation and Parks Guidelines), regulations and by-laws and infrastructure information available from the local municipality and District.

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 the proximity to the 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.

Hydraulic Modelling Requirements

The available water and wastewater capacity of the District's supply, collection and treatment systems is required to be confirmed for all multi-unit development applications over ten (10) units before comments are provided by the District on such applications. The District has prepared water supply system and sewer network capacity models in order to help fulfill this requirement. The demand data for a proposed development, as

provided by an Applicant, will be entered into the District's models in order to confirm adequate level of service is maintained, or alternatively, to determine any upgrades required to the District's systems in order to service the development. Fees to perform this modeling exercise are the responsibility of the Applicant. The costs of any necessary upgrades or modifications to the District's water and wastewater systems as determined by the modeling results will be the responsibility of the Applicant, unless the upgrades/modifications are included in the District's Development Charge By-Law.

Modelling report results will expire with expiration of Draft Plan approval or 2 years from report date, whichever comes first.

The District Water and Wastewater Hydraulic Modelling Guidelines Document is included in Appendix A of the District Municipality of Muskoka Design Criteria and Standard Manual and should be referred to for further information.

Additional Terms

To be identified by the District and/or Area Municipality where proposed development is located.

Study Submission Instructions

To be identified by the District and/or Area Municipality where proposed development is located.

What other resources are there?

Ministry of the Environment Stormwater Management Planning and Design Manual
Design Guidelines for Drinking Water Systems, MECP
District Municipality of Muskoka Design Criteria and Standards Manual
Professional Engineers of Ontario
Ontario Professional Planners Institute (OPPI)
Ontario Planning Act, R.S.O. 1990
Provincial Planning Statement 2024 (PPS)
Muskoka Official Plan (MOP)
Applicable Area Municipal Official Plans:
Town of Huntsville Official Plan
Town of Bracebridge Official Plan
Town of Gravenhurst Official Plan
Township of Lake of Bays Official Plan
Township of Muskoka Lakes Official Plan
Township of Georgian Bay Official Plan

About these Terms of Reference

The need and scope for this report will be decided by the District and/or Area Municipality during initial pre-consultation process with input from partner agencies. This pre-consultation process may include:

- Determination if this report is applicable
- Confirmation of criteria within these Terms of Reference that are appropriate for your development project
- Identification of specific technical components that need to be addressed
- Identification of detailed standards to be met

Notes:

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 or not the recommendations and conclusions are the same (Note: this is subject to the extent of the revisions).

A peer review may be required. The cost of the peer review will be borne by the applicant.

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