

Water and Wastewater Servicing Principles and Policies Paper

Water and Wastewater Master Study

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Town of Whitchurch-Stouffville

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1 Introduction

The Town of Whitchurch-Stouffville retained GM BluePlan Engineering to complete the Water and Wastewater Master Study which provides a review, evaluation and development of water and wastewater servicing strategies for servicing within the Town. The purpose of this report is to review the development of water and wastewater policies and guiding principles which are integral to provide guidance and direction to the master planning process.

1.1 Study Background and Objectives

Providing safe, reliable and sustainable water and wastewater services is an important matter to the public and to the municipalities in charge of planning, operating and maintaining the water and wastewater systems. Applying reasonable policies is essential to make sure that adequate planning and design principles are followed while developing servicing strategies, implementing the water and wastewater capital programs and system upgrades, as well as in the operation and maintenance of these systems.

Development of the water and wastewater principles and policies have been built on existing documentation and other related sources including:

- The Town of Whitchurch-Stouffville Official Plan
- Federal and Provincial policies and legislation
- Design and development standards
- Municipal By-Laws
- Existing municipal policies and procedures

The objectives of this Principles and Policy Paper include, but are not limited to:

- Providing direction for planning and identifying water and wastewater servicing issues that may have an impact to growth options
- Providing direction for normal operation and maintenance of the water and wastewater system (the policies do not replace normal operation and maintenance procedures or best practices)
- Providing direction for development of servicing strategies for the Water and Wastewater Master Servicing Plan Update
- Ensuring appropriate design and costing criteria are utilized for developing servicing strategies for the Water and Wastewater Master Plan Study
- Setting policies that are reasonably implemented
- Setting policies that are robust and sustainable

Although best management practices and criteria are updated over time, the context, intent and validity of the policies should remain intact.

“Policy is the overall guiding principle. Criteria is the tactical implementation of policy”

1.2 Approach

The approach in establishing and implementing the water and wastewater policies is as follows:

1. Establish overall guiding vision for the Master Servicing Plan Study as the foundation for related servicing policies.
2. Develop general policies as well as separate water and wastewater policies.
3. Address issues related to the full cycle of water and wastewater services from the water source to the customer, from the customer to the treated wastewater discharge and final discharge to recipient water body.
4. Highlight key criteria and best practices related to each policy.
5. Review and discuss principles and policy with the Town of Whitchurch-Stouffville.
6. Consolidate the general, water and wastewater policies in the Policy Paper.
7. Utilize the policy and/or best management practices, outlined in the Policy Paper to guide the development of servicing strategies for the Master Servicing Plan Study.
8. Implement and utilize the policies, guidelines and best practices within the day-today decision making for planning and operation of the water and wastewater systems.

2 Servicing Principles and Policies

As part of the Master Plan Study, specific servicing principles and policies have been developed to guide and provide direction for the development of water and wastewater servicing strategies. In general, the Town of Whitchurch-Stouffville is looking to build and maintain efficient, reliable, sustainable and well managed water and wastewater systems that provide high level of service to the public. In order to capture these goals, the servicing principles and policies as outlined below:

1. General Servicing Policies
2. Water Servicing Policies
3. Wastewater Servicing Policies

The above policies address a wide range of servicing needs. These policies have been developed to address current pressing issues such as climate change, wet weather management, energy management, infrastructure optimization, system security and resiliency.

The following sections provide details for each servicing policy.

2.1 General Servicing Policies

Policy No.	Policy Area	Policy Statement	Servicing Implications
G.01	Municipal Servicing	<i>"The Town of Whitchurch-Stouffville shall provide adequate municipal servicing for water and wastewater in accordance with the population and employment projections in the time horizon of the Official Plan."</i>	<ul style="list-style-type: none"> • Planning and design of servicing strategies will optimize use of existing infrastructure where possible • Infrastructure will be planned and designed in accordance with growth projections in the Town's Official Plan • Timing of growth will be reviewed with consideration to a reasonable implementation schedule for infrastructure required to meet the projected growth • Municipal servicing will be implemented using typical standards (MOECC Guidelines, Town of Whitchurch-Stouffville Standards Guidelines and Drawings)
G.02	Environmental Protection	<i>"The Town of Whitchurch-Stouffville shall consider, protect and endeavour to minimize impact to the natural, built and cultural environment and heritage of the community."</i>	<ul style="list-style-type: none"> • Servicing studies shall consider the York Region and Town of Whitchurch-Stouffville Official Plan Environmental and Heritage Policies • Services will be planned through the appropriate Environmental Assessment process to ensure full regard for the natural and cultural heritage
G.03	Planning Horizon	<i>"The Town of Whitchurch-Stouffville shall ensure that the design of water and wastewater infrastructure recognizes the potential for growth beyond the time horizon of the Official Plan."</i>	<ul style="list-style-type: none"> • Recognize that the service life of infrastructure may be 60 years or more • Consider, where appropriate, potential for growth beyond the time horizon of the Official Plan for the planning and sizing of infrastructure

Policy No.	Policy Area	Policy Statement	Servicing Implications
G.04	Reserve Capacity	<i>“The Town of Whitchurch-Stouffville will endeavor to maintain sufficient reserve capacity in its water and wastewater infrastructure and facilities to provide operational flexibility and meet potential changes in servicing conditions.”</i>	<ul style="list-style-type: none"> • The Town will ensure appropriate coordination with the Region of York in regards of regional water and wastewater infrastructure that services the Town • Recognize there is a time frame required to implement expansion of the infrastructure and facilities and initiate planning, the Environmental Assessment process, design and construction for expansion with consideration of the in-service date • Day to day operation and maintenance of infrastructure and facilities requires flexibility for operating conditions, fluctuating flows, equipment shutdowns, maintenance, emergency operations and other unforeseen conditions • Inability to maintain adequate operating capacity will trigger future expansions or upgrades of the infrastructure • Additional capacity for infrastructure and facilities will consider full rated capacity and appropriate reserve capacity defined through design criteria
G.05	System Reliability and Security	<i>“The Town of Whitchurch-Stouffville shall endeavor to provide reliability, redundancy and security in its water and wastewater systems with attention to high risk and critical areas.”</i>	<ul style="list-style-type: none"> • Recognize that all systems are susceptible to some level of failure or breakdown, or need to be taken out of service for regular maintenance. It is reasonable to provide a level of reliability to ensure an acceptable level of service is maintained • System reliability will be further defined through design criteria
G.06	Location of Municipal Services and Facilities	<i>“The Town of Whitchurch-Stouffville shall locate all of its services and facilities on public property or on municipally-owned easements.”</i>	<ul style="list-style-type: none"> • The Town will ensure that any new and existing infrastructure be located within road right-of-ways, or on Town-owned property (including designated lots and easements) • Adequate property size will be maintained to facilitate all day-to-day activities and emergency response • Adequate property will be acquired to meet future infrastructure requirements

Policy No.	Policy Area	Policy Statement	Servicing Implications
G.07	Climate Change	<i>“The Town of Whitchurch-Stouffville shall be aware of and consider the potential impact of climate change on planning and sizing of infrastructure.”</i>	<ul style="list-style-type: none"> Water and wastewater infrastructure and facilities will be designed with consideration to the potential impacts to and from climate change
G.08	Energy Efficiency	<i>“The Town of Whitchurch-Stouffville shall design water and wastewater facilities with consideration to energy use.”</i>	<ul style="list-style-type: none"> Facilities will be planned and designed with consideration to minimize overall lifecycle costs, including capital and operating/maintenance costs Attention to energy use will provide significant opportunity to optimize lifecycle costs Alternative infrastructure strategies should be considered to minimize energy (ie: water storage vs pumping)
G.09	Integrated Infrastructure Program	<i>“The Town of Whitchurch-Stouffville shall coordinate and integrate the Master Plan program with Town and Regional planning, programs and policies where appropriate.”</i>	<ul style="list-style-type: none"> Coordination and integration will ensure servicing policies and strategies are aligned Key initiatives for integration include the York Region Water and Wastewater Master Plan and Town of Whitchurch-Stouffville Transportation Master Plan
G.10	Level of Service	<i>“The Town of Whitchurch-Stouffville shall outline the Level of Service Objectives through the Master Plan Study and endeavor to meet/exceed the minimum requirements as outlined in the objectives.”</i>	<ul style="list-style-type: none"> The Town will review and evaluate strategies developed through the Master Plan Study based on their ability to meet requirements outlined in the Level of Service Objectives

Policy No.	Policy Area	Policy Statement	Servicing Implications
G.11	Region and Town Collaboration	<i>"The Town of Whitchurch-Stouffville and Region of York will endeavour to maintain consistent criteria, standards and policy with respect to approach and level of service for planning and design the water and wastewater systems to meet growth."</i>	<ul style="list-style-type: none"> • York Region has responsibility to plan, build, operate and maintain the trunk water and wastewater systems including major facilities while the Town of Whitchurch-Stouffville plan, build, operate and maintain the local distribution and collection systems • It is critical that consistent criteria be utilized when analyzing both trunk and local system capacity • The trunk and local systems are integrated and should be planned accordingly
G.12	Sustainability	<i>"The Town of Whitchurch-Stouffville will endeavour to undertake sustainable planning, designing, operation and maintenance of the Water and Wastewater Systems."</i>	<ul style="list-style-type: none"> • The Town will strive to plan, design, operate and maintain Water and Wastewater Systems that are Environmentally, Financially, Operationally, Legislatively, and Socially Sustainable • Financial Sustainability shall consider and utilize appropriate funding mechanisms including but not limited to Development Charges, local cost to development, rates and reserves to provide a long term balanced and equitable plan to fund the delivery of servicing

2.2 Water Servicing Policies

Policy No.	Policy Area	Policy Statement	Servicing Implications
W.01	Health & Safety	<i>"The Town of Whitchurch-Stouffville will promote health, productivity and safety of the community through design, construction and maintenance of the Town's potable water infrastructure."</i>	<ul style="list-style-type: none"> • The Town will prepare a comprehensive strategy to manage existing and future water servicing needs • Ensure that planning and implementation of the potable water systems are consistent with legislative policies and guidelines • Municipal servicing will be implemented under typical standards (MOE Guidelines, Town criteria and standards)
W.02	Raw Water Sources	<i>"The Town of Whitchurch-Stouffville shall endeavor to enhance, protect and maintain quality, quantity and safety of its raw water sources."</i>	<ul style="list-style-type: none"> • Monitoring of water sources is required to ensure safe yield limit of the water taking is occurring • The Town shall consider policies related to the International Joint Commission on the Great Lakes
W.03	Treatment & Distribution Water Quality	<i>"The Town of Whitchurch-Stouffville shall meet or exceed legislated water quality criteria."</i>	<ul style="list-style-type: none"> • Water quality will meet, at a minimum, all legislated criteria • Implement industry best practices to ensure water quality is maintained • Review the economics, reliability and water quality impacts of implementing new technology
W.04	Water Demand Projections	<i>"The Town of Whitchurch-Stouffville shall utilize a water demand projection methodology that recognizes recent water supply data and current consumption trends."</i>	<ul style="list-style-type: none"> • Forward-looking water demand projections in the Master Plan Study must appropriately identify future water needs to ensure the best estimate for infrastructure capacity and timing • The Town will utilize a starting point methodology based on recent water supply conditions • The Town will establish current water design criteria and standards for new growth

Policy No.	Policy Area	Policy Statement	Servicing Implications
W.05	Distribution Requirements	<i>“The Town of Whitchurch-Stouffville shall provide potable water at adequate pressure and flow to its customers.”</i>	<ul style="list-style-type: none"> • Provide pressures which meet current design criteria and standards • Review and optimize Pressure Zone Boundaries throughout the Town • Have an adequate combination of storage capacity, pumping capacity, and stand-by power to meet the desired level of service under emergency conditions
W.06	Fire Flow Requirements	<i>“The Town of Whitchurch-Stouffville shall consider the MOECC guidelines and the Fire Underwriters guidelines for establishing the acceptable level of fire flow.”</i>	<ul style="list-style-type: none"> • Provide pressures and flows which meet current design criteria and standards
W.07	Water Efficiency and Consumption Trends	<i>“The Town of Whitchurch-Stouffville shall be aware of the impacts water efficiency and conservation has on the water network.”</i>	<ul style="list-style-type: none"> • Continue to assess water demand conditions and determine reasonableness of trends (potential lower water use and consumption) • Utilize water efficiency studies where available • Apply where appropriate demand trends (efficiency) into future design criteria and growth forecasts • Apply awareness to how it will impact strategies and scheduling of future infrastructure
W.08	Water Supply and Distribution Security	<i>“The Town of Whitchurch-Stouffville shall plan, design, construct, operate and maintain the water system to balance level of service and security of supply to the customers.”</i>	<ul style="list-style-type: none"> • The Town shall continue to implement standards, criteria, and standard operating procedures for the water system • There is an awareness and integration between the Regional water system, local distribution system and water services on private property • The Town will maintain appropriate standards for the local water system to protect the public and private infrastructure

2.3 Wastewater Servicing Policies

Policy No.	Policy Area	Policy Statement	Servicing Implications
WW.01	Health & Safety	<i>"The Town of Whitchurch-Stouffville will promote health, productivity and safety of the community through design, construction and maintenance of the Region's wastewater infrastructure."</i>	<ul style="list-style-type: none"> • The Town will prepare a comprehensive strategy to manage existing and future water servicing needs • Ensure that planning and implementation of the wastewater systems are consistent with legislative policies and guidelines • Municipal servicing will be implemented under typical standards (MOECC Guidelines, Town criteria and standards)
WW.02	Receiving Water Bodies	<i>"The Town of Whitchurch-Stouffville shall endeavor to enhance, protect and maintain quality, quantity and safety of its receiving water bodies."</i>	<ul style="list-style-type: none"> • Wastewater effluent discharges will meet, at a minimum, all legislated criteria • TheTown shall consider policies related to the International Joint Commission on the Great Lakes
WW.03	Wastewater Treatment and Collection Requirements	<i>"The Town of Whitchurch-Stouffville shall meet as a minimum the requirements of the Environmental Compliance Approvals set out by governing bodies and the appropriate legislated treatment and collection criteria."</i>	<ul style="list-style-type: none"> • Wastewater quality (air and effluent) will meet as a minimum all legislated criteria. • Manage wet weather conditions (inflow / infiltration) through asset management programs to minimize extraneous flows and maximize efficient use of available wastewater infrastructure • Implement industry best practices to ensure effluent quality is maintained • Review the economics, reliability and effluent quality impacts of implementing new technology
WW.04	Wastewater Flow Projections	<i>"The Town of Whitchurch-Stouffville shall utilize a wastewater flow projection methodology that recognizes recent wastewater flow and treatment data and current consumption trends."</i>	<ul style="list-style-type: none"> • Forward-looking wastewater flow projections in the Master Plan Study must appropriately identify future wastewater needs to ensure the best estimate for infrastructure capacity and timing • The Town will utilize a starting point methodology based on recent wastewater flow conditions • The Town will establish current wastewater design criteria and standards for new growth

Policy No.	Policy Area	Policy Statement	Servicing Implications
WW.05	Separated Wastewater and Stormwater Systems	<i>“The Town of Whitchurch-Stouffville shall plan and maintain separate wastewater and stormwater systems.”</i>	<ul style="list-style-type: none"> • The Town will continue to build, maintain, and operate separated wastewater and stormwater systems • The Town will endeavor as part of I & I reduction measures to identify and remediate existing sanitary sewer cross connections and implement strategy to prevent future cross connections and stormwater impact on the wastewater system
WW.06	Wastewater Collection and Pumping Systems	<i>“The Town of Whitchurch-Stouffville shall provide adequate reliability and security in wastewater pumping systems.”</i>	<ul style="list-style-type: none"> • Forcemain twinning should be considered and examined to provide adequate velocities during different phases of development and also to provide security in operation. • Adequate retention capacity should be provided in the sewer system • The Town shall consider adequate level of facility storage, system storage and standby power to manage emergency conditions
WW.07	Wet Weather Flow Criteria	<i>“The Town of Whitchurch-Stouffville shall utilize current wet weather flow criteria to determine peak wet weather flows and size wastewater infrastructure.”</i>	<ul style="list-style-type: none"> • Existing systems across the Town have a range of existing performance and levels of flow under wet weather flow conditions • Notwithstanding existing conditions, the Town shall consider planning for new growth consistently across all systems • The level of service under wet weather conditions will be established through the Master Plan Study design criteria • Consideration to environmental, social and financial factors as well as the feasibility for implementation should be given when determining the wet weather criteria

3 Policy Implementation

This Policy Document has been structured such that additional policies may be added as required. The policy statements themselves have been worded such that they should remain relevant over time, though these can also be edited as required.

It is anticipated that through technological innovations, regulatory changes, and updated servicing priorities, some of the criteria or best practices will require updating in the future. The policy structure should allow this to be done without necessarily having to edit the actual policy statement.

4 Summary

The Policy Document has been developed as part of the Town of Whitchurch-Stouffville Water and Wastewater Master Plan Study.

The general, water and wastewater principles and policies developed in this document will provide guidance and direction to the Master Plan process.

The policies and principles should also form part of the Town's day to day planning, design, construction, operations and maintenance practices for the water and wastewater systems.