Pilot Project Guideline

City Of Barrie

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1. PURPOSE

The purpose of this document is to establish a consistent process for implementing Pilot Projects related to municipal infrastructure within the City. Pilot Projects provide an opportunity to evaluate new technologies, materials, products, construction methods, equipment, and operational practices in a controlled environment before broader implementation.

The intent is to encourage innovation while ensuring that Pilot Projects are planned, monitored, and evaluated using a standardized framework. The data collected during Pilot Projects will assist in making informed decisions regarding technologies which are not currently widely accepted for use within the City.

2. SCOPE

This guideline applies to all Infrastructure and Growth Management (IGM) stakeholders: internal and external who wish to trial technologies related to:

- Drinking Water Infrastructure
- Wastewater Infrastructure
- Transportation Infrastructure
- Stormwater Infrastructure

This guideline is to be followed closely with the New Technology Policy.

3. DEFINITIONS

Asset Owner:
Responsible for securing funding for the projects. Asset owners assume all risk and responsibility of implementing the proposed technology.

City:
Refers to the Corporation of the City of Barrie

Deviation:
A change to the materials, equipment, or other works from what was originally shown, specified, or approved in the project drawings or documents. A deviation must comply with applicable City standards and requirements and provide the same intended function and level of service as the originally specified works.

Emerging Technology:
A technology that has moved beyond the conceptual development and has undergone limited field or pilot testing but does not yet have an established performance record under municipal operating conditions. They present a moderate level of technical, operational or financial risk.

New Technology:
A method, material, process, system or equipment that has not been formally adopted into the City's Infrastructure Standards and for which no City recognized performance standard exists. New technologies may have limited to no operational history within municipal infrastructure and will typically present higher levels of technical, operational or financial risk.

Pilot Project:
A project undertaken to test and evaluate a new or emerging technology that is not currently recognized within the City's standards but has the potential to provide an equivalent or improved level of service.

Project Team:
Department specific team responsible for the design and implementation of the pilot project.

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5. PILOT PROPOSAL

5.1. PROJECT INITIATION:

Prior to moving forward with a Pilot, the content of the New Technology Policy must be considered in full. As per the New Technology Policy, all new and emerging technologies should first pass through a pilot process prior to consideration of City implementation.

Individual departments shall determine whether a proposed technology is appropriate for implementation as a Pilot Project, considering the specific circumstances, objectives, risks, and operational requirements of the proposed application.

Wherever possible, Pilot projects should be integrated into existing or planned projects where the technology is an appropriate fit with the project requirements. Occasionally, project teams may choose to conduct a pilot project that is not integrated into an existing or planned project.

Where a Pilot Project is considered appropriate, the project team shall complete the requirements outlined in this procedure prior to implementation.

5.2. BUDGET AND FUNDING:

Budget and funding are to be determined by the Asset Owner and are specific to the department implementing the Pilot Project. Source of funding is to be outlined under *Section 11.3: Pilot Technology*.

5.3. RISK MANAGEMENT:

Pilot Projects shall be implemented using a risk-based approach that balances innovation with public safety, regulatory compliance, and financial responsibility.

All new technologies shall include a risk mitigation strategy that addresses potential technical, environmental, and financial risks. A contingency plan must also be established should technology fail to perform as expected. Refer to the New Technology Policy for evaluating principles and risk management.

The Project Team shall determine the appropriate length of a trial based on the technology, project objectives, and evaluation criteria. Pilot projects should generally be structured to evaluate upfront construction or installation considerations and short- to medium-term operational performance. Caution should be exercised when considering pilot durations exceeding five (5) years, as extended trial periods may not provide an effective or practical means of evaluating the technology.

6. APPROVAL

The following are to be submitted to your direct supervisor or department head for approval prior to implementation of a new technology:

- Appendix 11.2: Pilot Technology
- Appendix 11.3: Risk Mitigation Strategy and Contingency Plan

Once direct approval has been obtained, a copy of the above shall be sent to the Standards Department by email at: Infrastructure.Standards@barrie.ca. A list of all previous and currently active pilots can be viewed by internal staff here.

GIS shall be notified by submitting an askIT ticket by email at: askIT@barrie.ca. The email should include accurate pilot locations, any applicable drawings for records, as well as timeframes for the installation and duration of the project. GIS shall be notified of any changes to the project status, including termination of the pilot period.

7. PILOT IMPLEMENTATION

During the implementation process, the estimated cost of the pilot shall be compared to the actual cost incurred. Costs must reflect specifically the pilot itself and not to the overall cost of the project in which the pilot is being implemented.

The ease of implementation should be documented as well as any challenges, additional resources, equipment, training, or any other factors not originally considered.

8. PILOT EVALUATION PERIOD

8.1. MONITORING AND INSPECTION:

The Project Team shall establish the frequency, timing and methodology for inspections based on the type, nature and risk associated with the pilot.

Inspection notes are to include, at minimum, the following, where applicable:

- Whether the technology is performing as intended;
- Any repairs/maintenance required;
    - Whether the required maintenance was anticipated;
    - Any unforeseen costs associated with the maintenance or repairs;
- Any changes to maintenance requirements, staff workload, service interruptions;
- Any changes in performance or condition;
- Any concerns noted such as potential hazards, public safety concerns, regulatory compliance etc.;

- Any corrective actions taken, including the nature of the action;
- Any other observations relevant to the inspection.

All inspection records are to be included in the project folder to be evaluated at the end of the determined pilot period.

8.2. COMMUNICATION PLAN:

Any departments affected are to be notified of any required actions required based off the inspection, including any public notices, emergency contacts, and escalation protocols.

9. PILOT OUTCOME

Upon the completion of the agreed upon trial time, the Project Team shall evaluate the performance of the technology.

The evaluation shall consider, at a minimum:

- Whether the technology performed as intended and achieved the established objectives;
- What aspects of the technology worked well and what did not;
- Any challenges encountered during implementation, operation, inspection, or maintenance;
- Recommendations for changes or improvements if the technology is considered for future use;
- Any unexpected benefits;
- Any unexpected risks, limitations or impacts;
- Actual costs compared to the estimated Pilot Project costs;
- Any changes to operational, maintenance, or resource requirements;
- Any modifications to existing City standards, specifications required.

10. CLOSURE REPORT

Upon the conclusion of the pilot project, the Project Team shall complete a closure report. This report must compare the project outcome to the original objectives, performance goals and cost. The report is to include the findings from the monitoring and inspection reports, as well as the pilot outcome.

The closure report shall provide recommendations on future applications and provide adequate justification as to whether the overall recommended conclusion to the project should be:

- Adopt the product/technology

- Adopt the product/technology with modifications
- Further testing is required
- Reject the product/technology

Every Pilot Project shall also include lessons learned regardless of the outcome.

The closure report is to be sent to the Standards Department to be filed with the pilot project.

11. APPENDICES

11.1. PILOT TECHNOLOGY

11.1.1. PROPOSED TECHNOLOGY:

Owner:	Department implementing project	**Document status:**	Draft / For Review / Approved Draft

Technology / product name:	Enter product/technology name
Asset Owner:	Enter department and contact / source of funding
Infrastructure class:	Select Classification: Roads / stormwater / wastewater / drinking water / parks / facilities / fleet / other
Trial location(s):	Enter asset IDs, street names, facility names, GIS references, or project limits
Trial period:	Enter start date and end date

11.1.2. PILOT RATIONALE:

Existing Technology	Identify the existing technology, material, product, construction method, equipment, or operational practice that the proposed technology would replace, supplement, or improve.
Objectives and Benefits	Identify the intended purpose of the product or technology and the expected benefits or improvements.
Performance Goals	Identify performance goals the product or technology is expected to achieve during the Pilot.
Proposed Cost	Specify the expected cost of the product or technology.

11.1.3. ROLES AND RESPONSIBILITIES:

Project Team	Roles/Responsibilities	Name / Department
Asset owner	Confirm source of funding, service requirements, acceptable risk, asset management implications, licensing and long-term maintenance obligations.	Enter name / department
Technical lead	Prepare trial plan, coordinate design, verify installation, monitoring, and closure report.	Enter name / department

Operations / maintenance	Review maintainability, repairs, training needs, operating and maintenance costs, emergency response, and operational constraints.	Enter name / department
Procurement	Confirm procurement method and agreements.	Enter name / department
Legal / risk	Identify indemnification, warranties, and liability allocation.	Enter name / department
Involved Departments	Departments which will provide support to the project, or may be directly affected by the implementation of the pilot.	Enter name(s) / department(s)
Approver	Supervisor or Department Head which authorizes trial implementation and final decision.	Enter name / department

11.1.4. TECHNICAL RATIONALE:

Applicable standards and certifications	List applicable OPS, CSA, AWWA, ASTM, ISO, TAC, manufacturer certifications, third-party testing, or relevant agency approvals.

Comparable municipal use	Identify municipalities, agencies, or contractors that have used the technology and summarize relevant results.
Manufacturer / proponent guarantees	Summarize claimed benefits, limitations, conditions of use, warranties, service life, installation requirements, maintenance requirements, and exclusions.
Technical assumptions	State design, geotechnical, environmental, operational and maintenance assumptions.
Known limitations and uncertainties	Identify uncertainties or known limitations.
Permits and approvals	Identify required internal and external permits, e.g.: road occupancy, environmental permits, drinking water/wastewater approvals, railway/utility approvals, traffic control, ECA amendments, MECP approvals etc.
Design and installation requirements	Attach drawings and specifications and manufacturer installation instructions.

11.2. Risk Mitigation Strategy and Contingency Plan:

Insert a risk mitigation strategy that addresses potential technical, environmental, and financial risks here.

Include a contingency plan should technology fail to perform as expected.

11.3. TECHNOLOGY STATUS:

Status	Date / Comments
Proposed	
Under Review	
Approved for Pilot	
Active Pilot	
Pilot Complete	
Conditionally Accepted	
Accepted Standard	
Rejected	

11.4. DOCUMENT STATUS AND CHANGE LOG:

Over time it will be necessary for the City of Barrie to update this guideline as the regulations, design practices and technologies continue to evolve and change. It is the user's responsibility to check the City's website for the status and revisions of this standard. Standard Owners should immediately discard superseded and cancelled standards.

Revision No.	Date	Status (Under Review/Document Change)	Comment