

Report to Infrastructure and Corporate Services Committee

To: Chair and Members
Infrastructure and Corporate Services Committee

From: Kelly Scherr, P.Eng., MBA, FEC
Deputy City Manager, Environment and Infrastructure

Subject: Pollution Prevention and Control Plan Update Study- Notice of Completion

Date: March 23, 2025

Recommendation

That on the recommendation of Deputy City Manager, Environment and Infrastructure, the following actions **BE TAKEN** with respect to the Pollution Prevention and Control Plan Update Study:

- (a) The Pollution Prevention and Control Plan Update Study Executive Summary attached as Appendix 'A', **BE RECEIVED**;
- (b) The Notice of Completion **BE FILED** with the Municipal Clerk; and
- (c) The Pollution Prevention and Control Plan Update Study report **BE PLACED** on public record for a 30-day review period;
- (d) Staff **BE DIRECTED** to report back to Council with a proposed implementation plan for a 'Point of Purchase' weeping tile disconnection program

Executive Summary

This report seeks to finalize the Pollution Prevention and Control Plan (PPCP) Master Plan Update study. The purpose of the report is not to obtain approval for the implementation of the proposed recommendations at this time. Rather, staff are recommending that Council receive the report and authorize the filing of the Notice of Completion for the study, thereby initiating the statutory 30-day public review period in accordance with the applicable environmental assessment requirements.

The PPCP Master Plan Update was initiated in 2023 to review and refine the City's long-term strategy for managing inflow and infiltration (I/I), reducing combined sewer overflows (CSOs), sanitary sewer overflows (SSOs) and pumping station bypasses, and improving overall wastewater system resiliency. The study was carried out in accordance with the Ministry of Environment, Conservation and Parks (MECP) Procedure F-5-5, which requires municipalities to capture and treat all dry weather flows and 90% of wet weather flows during the April to November period in a typical rainfall year.

After evaluating a range of mitigation strategies, the study recommends implementing a mandatory Point-of-Purchase weeping tile disconnection program as the preferred long-term strategy. This program would require disconnection upon property transfer, supported by inspections and a Certificate of Compliance. This structured approach will systematically reduce I/I over time and strengthen the overall resilience of the wastewater system.

Linkage to the Corporate Strategic Plan

This report supports the 2023-2027 Corporate Strategic Plan by contributing to the following outcomes:

- London is one of the greenest and most resilient cities in Canada in alignment with the Council-declared climate emergency and the Climate Emergency Action Plan.
 - London is more resilient and better prepared for the impacts of a changing climate.
- London's infrastructure and systems are built, maintained, and operated to meet the long-term needs of the community.
 - Infrastructure is built, maintained, and secured to support future growth and

protect the environment.

Analysis

1.0 Background Information

1.1 Previous Reports Related to this Matter

- Infrastructure and Corporate Services Committee – December 8, 2025 – Agenda Item #2 – Pollution Prevention and Control Plan Update Study – Notice of Completion
- Civic Works Committee - November 21, 2017 - Agenda Item # 7 - Pollution Prevention and Control Plan Update
- Civic Works Committee – May 24, 2017 – Agenda Item #9 – Pollution Prevention and Control Plan Phase Three - Consultant Appointment Continuation
- Civic Works Committee – March 8, 2016 – Agenda Item #11 – Pollution Prevention and Control Plan InfoWorks Modelling Consultant Appointments
- Civic Works Committee – August 25, 2014 – Agenda Item #13 – Pollution Prevention and Control Plan InfoWorks Modelling Consultant Appointment
- Civic Works Committee – February 3, 2014 – Agenda Item #4 – Pollution Prevention and Control Plan Consultant Appointment Continuation (ES2464-11)
- Civic Works Committee – May 14, 2012 – Agenda Item #12 – Consultant Appointment - Pollution Prevention and Control Plan Project ES5419

2.0 Discussion and Considerations

2.1 Existing Conditions

The City of London wastewater collection system includes approximately 1,450 km of sanitary sewers, 128 sewer overflows, 36 pumping stations, and five wastewater treatment plants.

A major ongoing challenge in the City's sanitary system is the high level of inflow and infiltration (I/I) that occurs during rainfall and snowmelt events. A significant contributor to this issue is the large number of older homes with weeping tiles connected directly to the sanitary sewer system. These connections – common in homes built prior to 1985 – allow stormwater to enter the sanitary system, potentially leading to basement flooding, sewer overflows, and untreated discharges during wet weather events. It is estimated that up to 50,000 homes in London still have such connections, making them a key target for I/I reduction. A diagram illustrating weeping tile connections is provided in Appendix B.

2.2 Study Purpose

The primary purpose of the PPCP Update Study was to update the Phase 3 Implementation Plan from the 2018 PPCP, ensuring compliance with MECP's F-5-5 requirements and alignment with the City's long-term infrastructure strategy. The study aimed to:

- Assess current system performance against regulatory requirements,
- Identify high-priority overflow locations,
- Evaluate mitigation strategies, and
- Recommend an implementation plan that reduces untreated discharges while protecting against basement flooding.

The study follows MECP's F-5-5 requirement that municipalities capture and treat all dry weather flows and at least 90% of wet weather flows during a typical rainfall year. The framework included system performance evaluation, alternatives assessment, and development of a long-term mitigation strategy.

2.3 2018 PPCP Recommended Project Status Update

Since 2018, the City has made significant progress in reducing wet weather flows and improving sanitary system performance. Key accomplishments include:

- Sanitary Sewer Overflow (SSO) Reductions: Fourteen SSOs have been eliminated, although two additional SSOs that were not properly documented decades ago have been identified and will need to be eliminated.
- Sewer Separation: Over 8,960m of combined sewers have been separated throughout the City since 2017, with an additional 950m planned for 2026, for a total of over 9,900m. This includes over 2,900m of combined sewer separation in the downtown core.
- Basement Flooding Grant Program: Over 600 Basement Flooding Grant Program applications were approved and paid between 2018 and 2025. The Basement Flooding Grant Program provides financial assistance to homeowners to help reduce the risk of basement flooding. The program provides grant funding for backwater valve installation to protect from mainline sanitary sewer backup, along with weeping tile disconnection, sump pump installation, , and sump pump battery backup systems. These improvements help prevent groundwater and stormwater from entering the sanitary sewer system and reduce the likelihood of sewer backups during heavy rainfall events.
- Weeping Tile Disconnection Programs: Pilot programs were launched in several neighbourhoods, but experienced low homeowner participation. This is partly due to potential disruption to basements, and concerns regarding sump pump reliability and maintenance. In addition, limited homeowner awareness and the perceived lack of direct benefit may further reduce participation.
- Other Sewer Improvements: Construction of new and replacement sewers, including the advancement of the Cavendish Trunk Sewer Project—one of the key recommended actions from the 2018 PPCP Study.

These efforts have collectively strengthened London's wastewater infrastructure, improved system resilience, and supported ongoing compliance with MECP's F-5-5 requirements.

2.4 Alternatives Development and Evaluation

The PPCP Update Study evaluated a wide range of strategies to address inflow and infiltration and meet long-term wastewater management goals. The options considered included storage facilities, voluntary programs, disincentive-based approaches, and a mandatory Point-of-Purchase weeping tile disconnection program. The following includes additional information regarding these alternatives.

Storage Facilities

Storage tanks and/or pipes (above or below ground) temporarily store excess sewage during peak rainfall and release it once capacity becomes available, helping to reduce overflows. However, suitable urban locations are limited, and off-line systems may present odour and maintenance challenges.

Storage capacity can also be exceeded during extreme rainfall events. For example, the 4,300 m³ storage pipes located under White Oaks park were overwhelmed during the July 15–16, 2024 storms. While the system performed as designed, it could not fully mitigate impacts from the rainfall and subsequently filled before the storm event was over. The storage pipes then required more than 12 hours to drain, as the downstream sewer system was also at capacity. Storage systems are generally more effective for smaller rainfall events.

Voluntary Source Control (Weeping Tile Disconnect) Programs

The City currently offers a voluntary weeping tile disconnection program designed to provide financial assistance to eligible residential properties. The program offers a grant covering up to 90% of eligible costs to reduce the financial burden on homeowners.

Despite this financial support, overall participation has been limited. Between 2020 and 2025, a total of 438 homes were disconnected, averaging approximately 73 homes per year.

Based on an estimated 50,000 properties that may have weeping tiles connected to the sanitary system, the annual participation rate is approximately 0.15%. At this pace, meaningful system-wide reduction in inflow and infiltration will not be achieved.

The limited success of the voluntary program is primarily due to low homeowner participation. Many homeowners are unaware of the program or do not fully understand the benefits of disconnection. Others may have concerns about construction impacts, ongoing maintenance of sump pumps, or potential out-of-pocket costs. Because the work occurs on private property and often within the home, the program also involves liability considerations, legal agreements, and significant staff coordination and administrative effort.

To improve awareness, the City has undertaken a range of targeted communication efforts over the years. These have included direct mailouts to properties, homeowner surveys, and in-person community meetings. Targeted outreach has often been most effective following significant rainfall or flooding events when residents are more aware of potential risks. These efforts aim to improve homeowner understanding of the risks associated with being connected and the benefits of participating in disconnection programs.

While the voluntary program has contributed to protection of individual homes who participate, it does not achieve participation levels sufficient to meaningfully reduce system-wide I/I. As participation relies entirely on homeowner initiative rather than regulatory requirement, the program has proven to be an incremental rather than transformative solution for long-term wastewater system resilience.

Disincentive-based Approaches

The PPCP Update Study also evaluated a disincentive-based approach that would apply a punitive charge to homeowners who choose not to disconnect their weeping tiles. This model is expected to achieve higher participation than voluntary program and could result in greater reductions in inflow and infiltration and localized basement flooding risk.

However, several challenges were identified. Participation would still rely on homeowner action, and the financial impact could disproportionately affect certain property owners. Unlike a Point-of-Purchase program, costs would not align with property transfer, raising affordability concerns.

Implementation would also be administratively complex, requiring inspections by the Building Division and coordination with other departments to apply and manage punitive charges through the billing system. While enforcement could shorten the overall program timeline, it introduces equity, legal, and administrative risks.

2.5 Point-of-Purchasing Weeping Tile Disconnection Program

The proposed mandatory Point-of-Purchase Program would require inspection of properties at the time of sale. If a weeping tile connection to the sanitary system is identified, the new homeowner must complete the disconnection within a specified period of time. The cost of completing the disconnection is typically in the range of \$5,000 to \$10,000. Compliance would be verified through re-inspection and the issuance of a certificate. An overview schematic illustrating the process for obtaining a Certificate of Compliance under the proposed Point-of-Purchase Disconnection Program is provided in Figure E-01 of the Executive Summary, included in Appendix A.

To implement the program, amendments to the City's by-law would be required, along with dedicated staffing for administration, inspections, disconnections, and enforcement.

This is a long-term solution that will take many years, possibly decades, to fully implement, but it provides a fair and practical approach to addressing a major source of inflow and infiltration. It will substantially reduce the risk of basement flooding and sewer overflows, prevent untreated discharges to rivers, improve long-term system resiliency, and provide sewer capacity for growth and intensification. Adopting this strategy positions the City as proactive in protecting public health, the environment, and regulatory compliance.

The proposed mandatory Point-of-Purchase Program does not mean the existing voluntary program would cease; rather, it is likely that budgets would be maintained for both.

The proposed funding model for the Point-of-Purchase Program would also be discussed at a later date, once a full implementation plan is developed. The cost could be the property owner's, or it could be subsidized either in part or full by the City on the basis that the removal of unwanted water from the sanitary system benefits the entire City, not just the individual property.

2.6 First Nation Consultation

The study was conducted in accordance with the Environmental Assessment Act (EAA) and the Municipal Class Environmental Assessment (MCEA) process. These frameworks require that planning and decision-making consider environmental, social, cultural, technical, and economic impacts.

As part of this process, Phases 1 and 2 of the MCEA included extensive public and Indigenous consultation. Engagement was carried out with the support of GEI Consultants, including early notifications, meetings, and ongoing updates.

Communities engaged included Chippewas of the Thames First Nation, Oneida Nation of the Thames, Munsee-Delaware Nation, and other communities identified by the MECF and Project Team.

Key outcomes:

- No concerns were raised regarding the proposed Point-of-Purchase Program;
- First Nations representatives expressed general support, emphasizing alignment with Indigenous values of protecting water resources and public health;
- Feedback focused primarily on communication preferences and administrative coordination.

2.7 Public Information Centre

A Public Information Centre was held on May 7, 2025, where the City presented the results of the PPCP Update Study, outlined the challenges posed by inflow and infiltration, and explained the range of alternatives considered. The session highlighted the preliminary preferred approach of implementing a mandatory weeping tile disconnection program at the time of property transfer.

Public attendance was limited. As noted above, separate consultation with First Nations communities was also carried out and confirmed support for measures that would improve water quality and protect the Thames River.

3.0 Key Issues/Considerations

The PPCP Update Study identifies several technical, operational, legal, and engagement considerations that must be addressed prior to implementing the Point-of-Purchase Weeping Tile Disconnection Program.

Approximately 50,000 pre-1985 properties are estimated to have weeping tiles connected to the sanitary system, contributing significantly to inflow and infiltration. The proposed program would help reduce peak wet-weather flows, basement flooding, and untreated discharges to the Thames River.

However, program success will depend on effective homeowner participation and adequate administrative capacity. Voluntary disconnection programs in London have historically achieved low participation, making a mandatory approach necessary but also more complex to administer. A mandatory program introduces equity and affordability challenges that will require clear funding policies and communication strategies.

Additional staffing would be required to support inspections, compliance verification, and customer service. A blended delivery model, combining City crews and licensed private contractors, is recommended to manage workload and maintain flexibility. Implementation

should be phased and coordinated with planned capital works to minimize disruption and maximize efficiency.

A legal review of the proposed by-law and enforcement mechanisms is required before the program is introduced. Continued Indigenous engagement and public outreach will also be essential to support transparency and maintain public confidence. Ongoing QA/QC, and data analysis are recommended to refine cost estimates, track progress, and evaluate program performance over time.

A full implementation plan and budget considerations would be subject to future Council approval. This plan would include staffing, communication, and potential financial incentives.

4.0 Financial Considerations

The PPCP Update Study estimates the lifetime cost of the Point-of-Purchase Weeping Tile Disconnection Program under various funding scenarios. Implementation will require additional staffing and is expected to span several decades depending on participation rates. No immediate financial decision is required; costs and financing model options would be considered at a later date after the development of the implementation plan, and brought forward for Council decision during the budget process.

5.0 Next Steps

The PPCP Master Plan Update Study is to be posted for a 30-day public review period. Upon completion of the 30 day review period, the final report including feedback received is submitted to the MECP. Submission of this report fulfills the City's obligation to complete the PPCP Master Plan Update but does not obligate the City to undertake the recommendations.

It is noted that the recommendation for a 'Point of Purchase' weeping tile disconnection program is an initiative which goes beyond MECP requirements for the PPCP. At this time staff are only looking for direction to further investigate the potential for such a program and are not specifically recommending implementation at this time.

If Council directs staff to investigate further, options for an implementation plan would be brought forward in early 2027. Council will then have the choice of whether or not to direct staff proceed with the development of a business case for consideration during the 2028-2031 Multi-Year Budget process. A final decision on the initiation of the program will not be made until that budget process.

Conclusion

The PPCP Master Plan Update Study has identified I&I from weeping tiles connected to the sanitary sewer as one of the most significant contributors to sanitary overflows, basement flooding, and untreated discharges to rivers.

Following extensive technical analysis and consultation, the study recommends a mandatory Point-of-Purchase Weeping Tile Disconnection Program as the most effective long-term solution. This approach requires homeowners to complete disconnection at the time of property transfer, supported by inspections, Certificates of Compliance, and City oversight.

This program represents the most enforceable, sustainable, and equitable solution to address excess wet weather flows, comply with MECP's Procedure F-5-5, and protect both residents and the environment.

Staff recommend that the PPCP Update Study be posted for a 30-day public review period to provide residents, stakeholders, and interested parties an opportunity to review the findings and recommendations.

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Appendix 'A' – Executive Summary

Appendix 'B' – Diagram of Plumbing/Weeping Tiles

Appendix A Executive Summary

E.S.1. Introduction

The City of London is one of Ontario's fastest growing municipalities and is the largest urban centre within the Middlesex County area. It is located at the forks of the Thames River in central Western Ontario on the southwestern peninsula and within the Treaty territories of the Anishinaabeg and Haudenosaunee Confederacy. The Oneida Nation of the Thames, Chippewas of the Thames First Nation, and Munsee Delaware Nation are located south-west of the City.

The City is a single-tier municipality that owns and operates all its sewer system infrastructure. The existing sewer infrastructure includes approximately 1,450 km of sanitary sewers, 11.5 km of which are still combined. The PPCP update study was initiated by the City of London (City) in 2023 to build upon their ongoing efforts to improve the performance and resiliency of the City's sanitary and combined sewer infrastructure.

The "unwanted" water that contributes to possible increased overflows and bypasses comes from the inflow of stormwater via direct inflow connections, such as downspouts and weeping tiles, or the infiltration of groundwater into sewer pipes through joints and cracks. Overflow structures that exist in the system were originally built to protect homes from basement flooding caused by an excess of this unwanted water. The overflows and bypasses are a mixture of stormwater and untreated sewage that is then released to the receiving streams, including the Thames River and other tributaries.

E.S.2. Study Framework

The City of London (City) initiated a Pollution Prevention Control Plan (PPCP) Update Study in 2023 to review and update the Phase 3 Implementation Plan as recommended by the 2018 PPCP study. This study was aligned with the Municipal Engineers Association (MEA) Class Environmental Assessment (EA) process (satisfying Phases 1 and 2) and adhered to the Ministry of Environment, Conservation, and Parks (MECP) F-5-5 Procedure. The F-5-5 Procedure mandates municipalities with combined sewer systems to capture and treat all dry weather flows and 90% of wet weather flows during a seven-month period from April to November for an average year. The study's overarching goal was to update the long-term strategy for managing the wastewater system to proactively address untreated and partially treated sewage discharges and reduce the risk of basement flooding.

The City of London is located on traditional lands of the Anishinaabek, Haudenosaunee, Lūnaapéewak and Attawandaron. We acknowledge all the treaties that are specific to this area: the Two Row Wampum Belt Treaty of the Haudenosaunee Confederacy/Silver Covenant Chain; the Beaver Hunting Grounds of the Haudenosaunee NANFAN Treaty of 1701; the McKee Treaty of 1790, the London Township Treaty of 1796, the Huron Tract Treaty of 1827, with the Anishinaabeg, and the Dish with One Spoon Covenant Wampum of the Anishnaabek and Haudenosaunee. This fundamental recognition highlights Indigenous peoples as integral stewards of the land and contributors to society.

The City, as proponent to this PPCP Update Study, has a duty to consult with First Nations communities and played an active and lead role in consultation and engagement with the support of GEI Consultants Canada. The potentially affected First Nations communities, identified by both the MECP and the Project Team, include Aamjiwnaang First Nation, Bkejwanong First Nation (Walpole Island), Caldwell First Nation, Chippewas of the Kettle and Stony Point First Nation, Chippewas of the Thames First Nation, Oneida Nation of the Thames, Munsee-Delaware Nation, and Delaware Nation at Moraviantown. Appropriate communications with these Rights-Holders were maintained throughout the study.

E.S.3. Existing Conditions

Historically, building codes prior to 1985 allowed weeping tiles to be connected directly to sanitary sewers. This practice, however, leads to stormwater overloading the sanitary system during extreme rainfall events, causing untreated discharges from overflow outlets and pumping station bypasses.

Approximately 50,000 properties in the City are estimated to still have weeping tiles connected to the sanitary system, contributing significantly to inflow and infiltration (I&I).

The City has implemented various initiatives, including public education campaigns, a *Basement Flooding Grant Program* (offering up to 90% subsidy for disconnections and related works), and pilot weeping tile disconnection projects (e.g., Blanchard Crescent, Remy Crescent, Augusta Crescent). While these voluntary programs have demonstrated that source control through weeping tile disconnection is effective in reducing I&I and can be less expensive than large-scale infrastructure upgrades, they face significant challenges due to low homeowner participation rates.

The primary objective of the PPCP update study was to develop an implementation plan for a long-term solution that will limit the volume and frequency of untreated sewage discharges to the receiving streams from various sanitary sewer overflows (SSO) and pumping station bypasses throughout the City, while still maintaining an acceptable level of service and protection against basement flooding.

E.S.4. Study Approach, Methodologies and Results

A typical year rainfall analysis was conducted and based on a comprehensive assessment, 2018 was recommended as the new average year of rainfall. It most closely matched the average number of rainfall events, the average total annual rainfall depth, and the average peak rainfall intensities over the 22-year study period and showed the most typical distribution of rainfall events by intensity ranges.

The adoption of 2018 as the new typical year resulted in changes to the modelled overflow statistics compared to the previous PPCP, which used 2010. The updated hydraulic model was used to assess the City's wastewater system performance against F-5-5 criteria at all overflow locations. This step provided a current and accurate baseline for the PPCP Update Study.

The F-5-5 analysis identified overflow sites that showed overflow discharges for the 2018 typical year of rainfall in the hydraulic model. In addition, high-priority overflow sites were identified using a combination of criteria including the F-5-5 90% volumetric capture target, receiving water quality BioMAP status, and total annual overflow volume. The identified high-priority overflow locations were then used as the focus for developing and evaluating alternative mitigation strategies, with the ultimate goal of achieving F-5-5 compliance and reducing the volume and frequency of untreated wastewater discharges.

A total of 5 Waste Water Treatment Plant (WWTP) bypasses, 35 pumping station bypasses, and 128 sanitary sewer overflows were identified across the City's sanitary system. The F-5-5 percent capture rate of wet weather flows (using raw and secondary bypass for the WWTPs) was estimated. Only sanitary sewer overflows which showed overflow discharges for the 2018 typical year of rainfall in the hydraulic model were included for further analysis to determine high priority. This represents a total of 34 sanitary sewer overflows, of which 12 are grouped together under the Pall Mall System.

E.S.5. Evaluation of Mitigation Strategies

From the F-5-5 analysis, a list of high priority system overflow locations within the City were identified. An evaluation of the following alternatives was conducted to determine most suitable long-term strategy to implement for the City:

- Provision of storage
- Reconfiguration of overflow weirs
- Linear conveyance upsizing
- Pumping station capacity upgrades
- Weeping tile disconnection

Weeping tile disconnection, as a form of source control, will aim to reduce the City's frequency and volume of Combined Sewer Overflow (CSO) and SSO discharges beyond the F-5-5 90% compliance: eventually achieving 100% capture rate at most, if not all, high priority overflow sites. In comparison,

hard infrastructure measures, including upsizing sewers and constructing storage tanks, will only aim to achieve the minimum compliance target.

E.S.6. Evaluation of Weeping Tile Disconnection Program Approaches

Building upon the preferred mitigation strategy, four main approaches for weeping tile disconnection were reviewed:

1. **Voluntary:** Relies on homeowner initiative, often supported by financial incentives for those eligible. While offering flexibility, it suffers from low participation rates.
2. **Mandatory – City-Wide ("Point-of-Purchase"):** A "soft mandatory" approach where disconnection is required upon property purchase.
3. **Incentivized:** Uses additional incentives shown as a credit benefit on the homeowner's recurring wastewater bills to encourage disconnections. However, these are not enforced for compliance.
4. **Disincentivized:** Uses enforcement shown as a punitive charge on the homeowner's recurring wastewater bills to encourage disconnections.

Based on the results of the evaluation, the preferred disconnection approach was evaluated to be mandatory followed by disincentivized and incentivized, with the existing voluntary being the least preferred. Overall, implementing a city-wide Point-of-Purchase mandatory weeping tile disconnection program is preferred for the long term, allowing for enhanced enforcement and higher homeowner participation rates. Source control action at the homeowner level will ultimately play a significant role in the reduction of CSOs and SSOs to the Thames River and other receiving streams, as well as improve overall system resiliency.

E.S.7. Public Information Centre

A crucial component of this PPCP Update Study is public consultation, which aims to facilitate information exchange and gather feedback from the public and stakeholders. The first and only PIC was held in-person on May 7, 2025. Only two members of the public, outside of the Project Team, attended the in-person event. Attendees were encouraged to provide comments and questions during the event or through an online feedback form available for a three-week public comment period. Crucially, no comments related to the PIC materials were received by the Project Team, either through the feedback form or by email.

The core long-term strategy proposed at the PIC was the development of a mandatory Point-of-Sale weeping tile disconnection program, which aims to significantly reduce wet weather flow volumes at overflow locations. This approach was seen as the preferred disconnection strategy for its potential for enhanced enforcement and higher homeowner participation rates, ultimately improving system resiliency and reducing untreated discharges to the Thames River and other receiving streams.

E.S.8. Recommendations and Implementation Plan

After additional feasibility analysis and discussions with the City, the strategy shifted to be a mandatory Point-of-Purchase program, with a focus on the buyer instead of the seller. This would involve a new by-law or amendment to the existing by-law, requiring buyers of qualifying properties to disconnect their existing weeping tiles if connected to the municipal sanitary sewer system. An inspection would be triggered at the Point-of-Purchase (i.e., when the title transfer is flagged to the City), and a Certificate of Compliance would need to be obtained, requiring successful disconnection if applicable.

The overview schematic shown in **Figure E-1** outlines the process for obtaining a Certificate of Compliance under the proposed Point-of-Purchase Disconnection By-Law, once implemented. It details the transfer of ownership trigger, the necessary weeping tile inspection conducted by City staff, the actions required if weeping tiles are connected to the sanitary system, and the Certificate of Compliance validation period. The timeline for inspection and compliance will be assessed and determined. To implement the disconnection program, the City would need to hire additional Full Time Equivalent (FTE) with a broad range of skill sets.

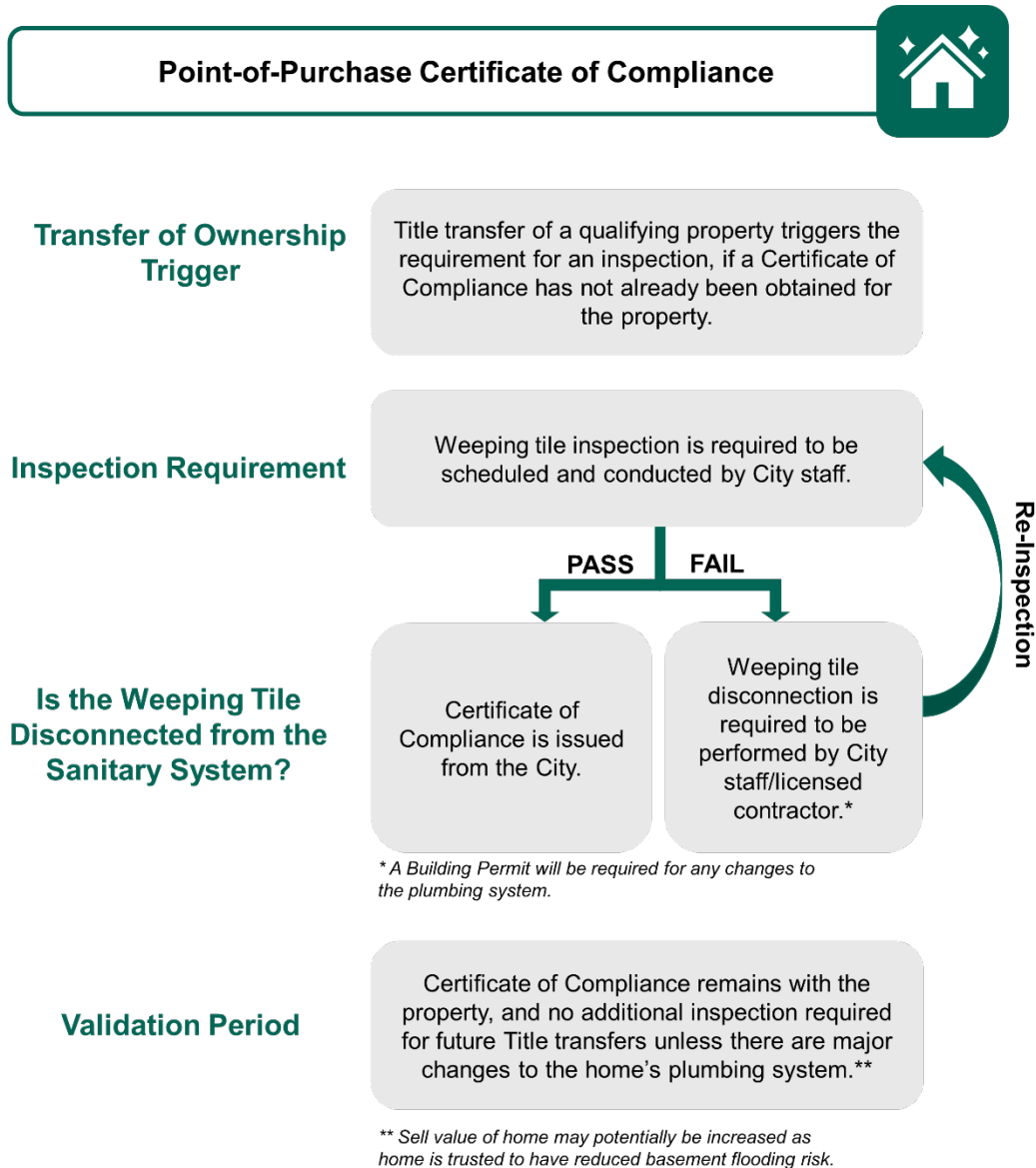


Figure E-1 Overview Schematic of the Point-of-Purchase Certificate of Compliance

An inspection is required for all single-family detached housing types to verify that no weeping tiles are connected to the municipal sanitary sewer system, if a Certificate of Compliance has not already been obtained for the property. Each inspection will require one Inspection and Compliance Officer. There are three potential scenarios encountered during the visual inspection, to determine whether there is an existing sump pump and pit and to confirm that the weeping tile is connected to it. Scenario 1 is the ideal system and results in a pass with no further inspections required. Scenarios 2 and 3 result in a fail and require a further assessment and report generation using secondary Building Sewer & Drain Inspections (BSDI).

An implementation schedule was developed to ensure that the Point-of-Purchase Disconnection By-law is executed in a structured and efficient manner, minimizing disruption to homeowners and optimizing resource allocation. In addition, it will be used to track the program's progress over time and allow opportunities for feedback from key parties to improve future iterations.

Appendix B Diagram of Plumbing/Weeping Tile

