

TO:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON JULY 18, 2016
FROM:	JOHN BRAAM, P.ENG. MANAGING DIRECTOR, ENVIRONMENTAL & ENGINEERING SERVICES AND CITY ENGINEER
SUBJECT:	FLOODING MATTERS PHASE II

RECOMMENDATION

That on the recommendation of the Managing Director - Environmental & Engineering Services & City Engineer, the following actions BE TAKEN with respect to Phase II of the Flooding Matters Work Plan:

- a) the Civic Administration **BE DIRECTED** to implement action items identified as Immediate Delivery in Appendix 'A'; and,
- b) the Civic Administration **BE DIRECTED** to report back with a further detailed information on Moderate Delivery action items identified in Appendix 'B'.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

CWC Report of 2016-06-08, Item 16, Flooding Matters, Work Plan – Phase 1 (Investigation)

CWC Report of 2015-12-01, Item 10, Flooding Matters Work Plan Proposal

CWC Report of 2015-10-06, Item 6, Flooding Matters, Terms of Reference

CWC Report of 2015-07-20, Item 5, Update on Rainfall Event of June 23, 2015

CWC Report of 2014-09-22, Item 9, Update on Rainfall Event of September 10, 2014

CWC Report of 2012-08-22, Foundation Drain Disconnection to Mitigate Basement Flooding

BNEC Report of 2011-11-14, Foundation Drain Disconnection to Mitigate Basement Flooding

15-19 STRATEGIC PLAN

This report and its recommendations support the Strategic Plan under Building a Sustainable City – Strong and healthy environment, by finding new ways to help residents protect their basements from flooding.

BACKGROUND

Purpose

The purpose of this report is to respond to a June 14, 2016 Council meeting resolution affirming that on the recommendation of the Managing Director, Environmental and Engineering Services and City Engineer, the following actions be taken with respect to Phase I of the Flooding Matters Work Plan:

- a) the Civic Administration **BE DIRECTED** to report back on sump pump subsidy program communication enhancements; and,
- b) the Civic Administration **BE DIRECTED** to report back on any further research or answer any questions before consulting with the public.

Context and Summary of Phase I

Over the last few years, the City has experienced a number of high intensity, short duration rainfall events. One conclusion drawn from a recent staff review confirms Environment Canada data and published academic literature suggesting that extreme rainfall weather events are generally attributed to climate change and that municipalities across Canada have and will continue to experience these occurrences on a more frequent basis.

One of the negative outcomes of such extreme weather events is basement flooding. Unfortunately for some citizens of London the aftermath has resulted in significant property damage, substantial insurance claims and emotional distress. In some cases, citizens have been negatively impacted by multiple, extreme weather events.

DISCUSSION

The June 8, 2016 Civic Works Committee report provided the following summary of Phase I – Flooding Matters findings:

- Size of the rain induced problem -- approximately 25% of the total basement flooding calls received by Administration is attributed to short duration, high intensity rainfall
- Weeping tile disconnection for a large number of homes would cost in the 100s of millions of dollars, whether publically or privately funded
- Weeping tile disconnection is also associated with other issues, such as overflows and increased operating costs
- Hotspots are best identified on history as there are too many factors to realistically model and subject to a risk assessment
- London has a robust compassionate grant program when compared to other cities in Canada
- There are opportunities to educate the public on basement flooding and promote London's grant program
- There is a range of other conceptual approaches which have unknown feasibility relative to legal ability, liability and cost

Considering these, staff recommended as a starting point:

- raise the discussion level on basement flooding;
- connect the discussion to insurance protection; and,
- support present reactive and proactive programs

This Phase II report recommends 17 program enhancements identified from the accumulation of the Homes, Hotspots and Programs Phase I research categories (reference Appendix 'A' – Immediate Delivery Items). Not only can these enhancements be implemented immediately and without the addition of resources, but it is anticipated that they will produce immediate and favourable outcomes in the spirit of good customer service delivery.

Further, Appendix 'B' – Moderate Delivery Items, (Review and Report), identifies six further enhancements that are currently just out of Administration's reach in terms of available resources for immediate implementation. Per the second recommendation of this report, Civic Administration be directed to invest time and effort to determine the feasibility, legal ability and liabilities, and the extent of additional resources required to initiate these.

Finally and further to the initiatives identified in the attached Appendices 'A' and 'B', the Wastewater & Drainage Engineering Division is working concurrently on an initiative to prioritize identified high risk flooding areas, city wide. These potential, high risk flooding candidates meet specific criteria and are good candidates under Option 4a "Strategic, mandatory weeping tile disconnection" noted in the June 8, 2016 Civic Works Committee report. The greatest challenge of this initiative relates to property owner willingness to participate despite projected favourable outcomes and associated incentives offered by the City.

Using the Sherwood Forest Weeping Tile Disconnection pilot project as a model, it is anticipated that a significant investment of Councillor/Administration time and effort will be required. Three high risk flooding areas will be identified on a future Civic Works Committee report with a recommendation to direct Administration to canvas property owners to gauge their willingness to participate in the City's next Weeping Tile Disconnection project.

Conclusions

The June 8, 2016 Phase I Flooding Matters report provided the results of a wide range of staff study topics. It suggested a wide range of practical to theoretical approaches for consideration.

This Phase II report provides specific recommendations on two sets of action items: one set that can be implemented immediately within existing resources, and a second set to be evaluated further.

Concurrently, staff will continue to pursue more comprehensive approaches that follow the successful volunteer Sherwood Forest Weeping Tile Disconnection project while recognizing the challenges associated with citizen uptake and the level of time and effort required on the part of Administration and Ward Councillors.

Acknowledgements

This report was prepared with the assistance of Tom Copeland P.Eng., Wastewater & Drainage Engineering.

PREPARED BY:	REVIEWED AND CONCURRED BY:
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July 11, 2016

Attach: Appendix 'A' – Immediate Delivery
Appendix 'B' – Moderate Delivery items

**APPENDIX 'A'
IMMEDIATE DELIVERY**

HOMES – Proactive Insurance Coverage

	Initiative	Additional Resources (Staff, financial)	Work Plan	Measurable(s)
1.	Embed pertinent flooding information inside “Homeowner Letters” delivered to property owners who are impacted by Capital construction projects	none	Staff extend basement flooding information in future homeowner letters	Information found in property owner pre-project communications
2.	Utilize available communication avenues to educate property owners on general insurance information	none		Posted FAQ’s, contact information provided by the Insurance Bureau of Canada (IBC) to City’s web site, property owner letters, kiosks, local media talk shows
3.	Continue to dialogue with the insurance industry and higher levels of government as appropriate until a viable solution is realized	none	Discussions are initiated by City staff.	Outcomes of discussions are reported out to Council through future information reports

HOT SPOTS – Proactive identification

	Initiative	Additional Resources (Staff, financial)	Work Plan	Measurable(s)
4.	Discuss data sharing with insurance companies without disclosing impacted property information	none	Discussions are initiated by City staff.	Outcomes of the discussions are reported out to Council through future information reports
5.	Develop a communications plan to promote more self-reporting of basement flooding, while assuring citizens that information received remains confidential	none	This plan will consider the ease of communicating a basement flooding incident to City staff.	A positive measurable would see the realization of a greater percentage of basement flooding occurrences reported

6.	Continue to accurately document significant rainfall events and use the information to update priorities.	none	Creation of a shared directory specific to basement flooding for City staff to access	A shared electronic file that enables City staff to input and extract data for the purposes of analysis, modelling, and information sharing without stigmatizing localized areas
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PROGRAMS – other cities

	Initiative	Additional Resources (Staff, financial)	Work Plan	Measurable(s)
7.	Posting Insurance Bureau of Canada contact information and FAQ's to the City's website	none	A discussion with the Insurance Bureau of Canada to gain permission to post IBC information.	IBC icon posted to the City's website to accompany current basement flooding information
8.	Additional Councillor/Civic Administration participation in local radio and television talk shows	none	City staff or elected officials to initiate discussion with local media firms (preferably pre-wet season)	As opportunities permit, property owners will hear basement flooding advice being offered
9.	Additional opportunities/participation in local events – kiosks in the annual Western Fair, Annual Home & Garden Show, emergency preparedness events, etc.	none	City staff to connect with special event organizers to make arrangements	Annual participation
10.	As opportunities permit, support academics who are leading initiatives related to climate change	none	City Administration connect with local academics	Proof of participation in published literature
11.	Provide property owner information specific to backwater valve maintenance	none	City staff work with Corporate Communications to develop a brochure	Literature posted to City's website, brochures provided after installation, kiosks
12.	Consider Low Impact Development (LID) strategies on new and retrofit construction initiatives	none	City staff to consider LIDS ideas in Capital and retrofit projects	Realization through implementation of LIDS on Capital and retrofit projects

PROGRAMS – Communication

	Initiative	Additional Resources (Staff, financial)	Work Plan	Measurable(s)
13.	Initiate a basement flooding campaign to inform property owners about downspout disconnections, backwater valves, window wells, grading around foundations, City's grant program	none	Corporate Communications and Wastewater & Drainage Engineering staff coordinate efforts to develop a brochure specific to basement flooding mitigation	Production of a brochure for distribution
14.	Develop a template that can be completed and posted through media avenues to provide warnings to Londoners prior to anticipated significant rainfall events	none	Corporate Communication to develop a template that can be posted prior to all anticipated significant rainfall events	Production of a template that can be referenced by property owners to implement basement flooding mitigation measures
15.	Develop an effective communication mechanism to provide property owners with current information during a significant rainfall event	none	In coordination with first line responders (Sewer Operations), Corporate Communications will issue media correspondences as appropriate. This is storm event specific.	Real time reporting to property owners through effective media channels
16.	Develop a post event information template to that can be completed post significant rainfall event that provides property owners with helpful information including contacts to deal with basement flooding issues	none	Corporate Communication to develop template in coordination with Wastewater & Drainage Engineering	Information posted to the City's website, local media avenues
17.	Post related third party basement flooding publications to the City's website.	none	Corporate Communications to coordinate with Wastewater & Drainage Engineering staff – post information to City's website.	Information links are shown on the City's website alongside other basement flooding information

APPENDIX 'B'
MODERATE DELIVERY ITEMS
(Review and Report)

PROGRAMS – other cities

	Initiative	Additional Resources (Staff,financial)	Work Plan	Measurable(s)
1.	Hold public drainage workshops	undetermined	City staff to connect with City of Kingston to gather more information. City staff to develop a generic basement flooding program and report back to Council with any anticipated additional resources, value and potential risks	Future information report provided to Council
2.	Develop flood prevention video	undetermined	Corporate Communication to lead this initiative with the support of Wastewater & Drainage Engineering and Sewer Operations staff	Basement flooding video posted to the City's website

MISCELLANEOUS

	Initiative	Additional Resources (Staff, financial)	Work Plan	Measurable(s)
3.	Identifying potential flooding risks on home inspection reports	undetermined	Working with local home inspection companies	undetermined
4.	Developing a mechanism to advise property owners on maintaining their homes to meet current Ontario Building Code standards	undetermined	undetermined	undetermined
5.	Expanding the City's current home visit water efficiency program to include basement flooding	undetermined	undetermined	undetermined
6.	Consider rate structuring change to encourage disconnection of weeping tiles for sanitary PDC's	undetermined	undetermined	undetermined